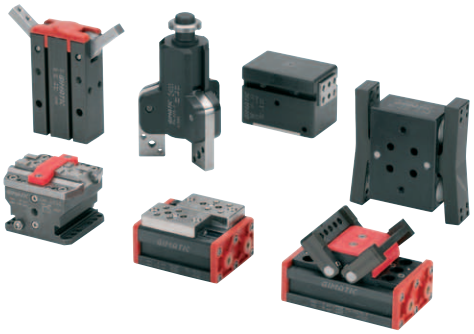
Gimatic Handling



IT-EN 2015

Pinze pneumatiche
Pneumatic grippers



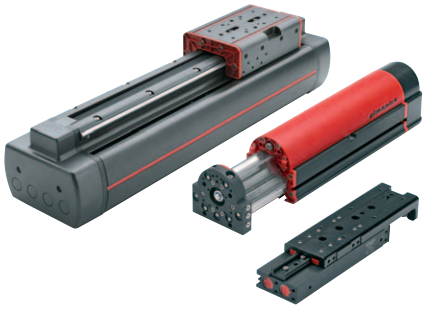
27

Pinze ad espansione
Air hands



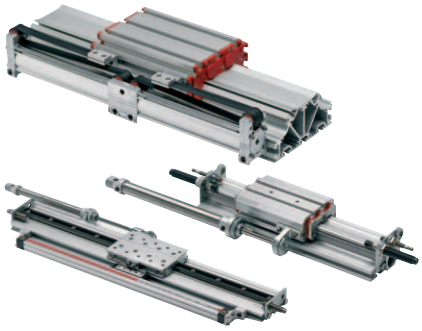
427

Attuatori lineari
Linear actuators



449

Guide lineari
Linear guidances

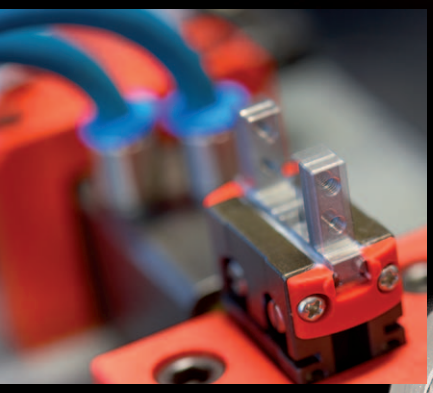


679

Unità rotanti
Rotary units



801



PROTAGONISTA IN QUALITÀ E INNOVAZIONE

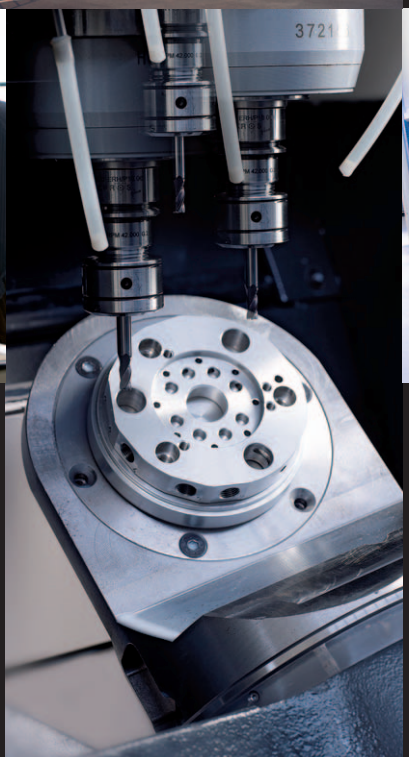
Gimatic nasce nel 1985 dalla passione di tre soci che hanno dato vita a una realtà dinamica, sempre attenta agli sviluppi del mercato e alle esigenze dei propri clienti. Oggi è un'azienda che riveste il ruolo da protagonista nel mercato dell'handling.
Un'azienda specializzata nella manipolazione pneumatica: dal 1986, anno della registrazione del primo brevetto di pinza pneumatica, Gimatic ha, infatti, registrato a oggi oltre 170 brevetti. Gimatic possiede società commerciali sparse in tutto il mondo e può contare su una rete capillare, organizzata e affidabile di distributori.

LEADER IN QUALITY AND INNOVATION

Gimatic was founded in 1985 by three partners who created a dynamic reality, always attentive to market developments and the needs of its customers. Today the company is a leader in the handling market.
The company specializes in pneumatic handling: since 1986, the year the company filed their first patent for a pneumatic gripper, Gimatic has filed over 170 patents. Gimatic has sales companies around the world and relies on a widespread, organized, stable network of distributors.









Pinze parallele a 2 griffe
2-jaw parallel grippers
2-Backen-Parallelgreifer
Pinces parallèles à 2 mâchoires
Pinzas paralelas de 2 mordazas
Pinças paralelas de 2 mordentes



Per applicazioni pesanti - Heavy duty
Für Hochleistungsanwendungen - Pour applications lourdes
Para aplicaciones pesadas - Elevada energia interna

MG P. 42	F [N]	s [mm]	m [g]	
MG-0010	70	2x2.6	60	
MG-0011	36	2x4.6	65	
MG-0012	140	2x1.2	60	
MG-0025	140	2x4.3	160	
MG-0025-NC	(2)	2x4.3	(2)	(1)
MG-0025-NO	(2)	2x4.3	(2)	(1)
MG-0026	80	2x7.4	170	
MG-0026-NC	(2)	2x7.4	(2)	(1)
MG-0026-NO	(2)	2x7.4	(2)	(1)
MG-0027	260	2x2	150	
MG-0027-NC	(2)	2x2	(2)	(1)
MG-0027-NO	(2)	2x2	(2)	(1)
MG-0050	320	2x5.7	370	
MG-0050-NC	(2)	2x5.7	(2)	(1)
MG-0050-NO	(2)	2x5.7	(2)	(1)
MG-0051	180	2x9.9	380	
MG-0051-NC	(2)	2x9.9	(2)	(1)
MG-0051-NO	(2)	2x9.9	(2)	(1)
MG-0052	600	2x2.7	350	
MG-0052-NC	(2)	2x2.7	(2)	(1)
MG-0052-NO	(2)	2x2.7	(2)	(1)
MG-0075	500	2x9.5	940	
MG-0075-NC	(2)	2x9.5	(2)	(1)
MG-0075-NO	(2)	2x9.5	(2)	(1)
MG-0076	320	2x16.4	980	
MG-0076-NC	(2)	2x16.4	(2)	(1)
MG-0076-NO	(2)	2x16.4	(2)	(1)
MG-0077	1080	2x4.5	900	
MG-0077-NC	(2)	2x4.5	(2)	(1)
MG-0077-NO	(2)	2x4.5	(2)	(1)
MG-0100	900	2x11.8	1500	
MG-0100-NC	(2)	2x11.8	(2)	(1)
MG-0100-NO	(2)	2x11.8	(2)	(1)
MG-0101	420	2x20.5	1600	
MG-0101-NC	(2)	2x20.5	(2)	(1)
MG-0101-NO	(2)	2x20.5	(2)	(1)
MG-0102	1540	2x5.5	1400	
MG-0102-NC	(2)	2x5.5	(2)	(1)
MG-0102-NO	(2)	2x5.5	(2)	(1)
MG-0103	2400	2x2.9	1400	
MG-0103-NC	(2)	2x2.9	(2)	(1)
MG-0103-NO	(2)	2x2.9	(2)	(1)

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém



Per applicazioni pesanti - Heavy duty
Für Hochleistungsanwendungen - Pour applications lourdes
Para aplicaciones pesadas - Elevada energia interna

GM P. 60	F [N]	s [mm]	m [g]	
GM-0010	70	2x2.6	70	
GM-0011	36	2x4.6	75	
GM-0012	140	2x1.2	70	
GM-0025	140	2x4.3	200	
GM-0025-NC	(2)	2x4.3	(2)	(1)
GM-0025-NO	(2)	2x4.3	(2)	(1)
GM-0026	80	2x7.4	210	
GM-0026-NC	(2)	2x7.4	(2)	(1)
GM-0026-NO	(2)	2x7.4	(2)	(1)
GM-0027	260	2x2	190	
GM-0027-NC	(2)	2x2	(2)	(1)
GM-0027-NO	(2)	2x2	(2)	(1)
GM-0050	320	2x5.7	370	
GM-0050-NC	(2)	2x5.7	(2)	(1)
GM-0050-NO	(2)	2x5.7	(2)	(1)
GM-0051	180	2x9.9	380	
GM-0051-NC	(2)	2x9.9	(2)	(1)
GM-0051-NO	(2)	2x9.9	(2)	(1)
GM-0052	600	2x2.7	350	
GM-0052-NC	(2)	2x2.7	(2)	(1)
GM-0052-NO	(2)	2x2.7	(2)	(1)
GM-0075	500	2x9.5	1050	
GM-0075-NC	(2)	2x9.5	(2)	(1)
GM-0075-NO	(2)	2x9.5	(2)	(1)
GM-0076	320	2x16.4	1100	
GM-0076-NC	(2)	2x16.4	(2)	(1)
GM-0076-NO	(2)	2x16.4	(2)	(1)
GM-0077	1080	2x4.5	1000	
GM-0077-NC	(2)	2x4.5	(2)	(1)
GM-0077-NO	(2)	2x4.5	(2)	(1)
GM-0100	900	2x11.8	1600	
GM-0100-NC	(2)	2x11.8	(2)	(1)
GM-0100-NO	(2)	2x11.8	(2)	(1)
GM-0101	420	2x20.5	1700	
GM-0101-NC	(2)	2x20.5	(2)	(1)
GM-0101-NO	(2)	2x20.5	(2)	(1)
GM-0102	1540	2x5.5	1600	
GM-0102-NC	(2)	2x5.5	(2)	(1)
GM-0102-NO	(2)	2x5.5	(2)	(1)
GM-0103	2400	2x2.9	1580	
GM-0103-NC	(2)	2x2.9	(2)	(1)
GM-0103-NO	(2)	2x2.9	(2)	(1)

(2)
Consultare il fabbricante
Consult Factory
Fragen Sie den Hersteller
Consulter l'usine
Consulte con el fabricante
Consultar a fábrica

Pinze parallele a 2 griffe
2-jaw parallel grippers
2-Backen-Parallelgreifer
Pinces parallèles à 2 mâchoires
Pinzas paralelas de 2 mordazas
Pinças paralelas de 2 mordentes



Hi-energy inside
Hohe Innenenergie - Énergie élevée à l'intérieur
Alta energía interior - Elevada energia interna

MGX	P. 28	F [N]	s [mm]	m [g]	
MGX2005		180	2x2.5	95	
MGX2005-NC		(2)	2x2.5	96	(1)
MGX2005-NO		(2)	2x2.5	96	(1)
MGX2508		290	2x4	150	
MGX2508-NC		(2)	2x4	153	(1)
MGX2508-NO		(2)	2x4	153	(1)
MGX3210		460	2x5	270	
MGX3210-NC		(2)	2x5	276	(1)
MGX3210-NO		(2)	2x5	276	(1)
MGX3214	NEW	320	2x7.3	270	
MGX3214-NC	NEW	(2)	2x7.3	276	(1)
MGX3214-NO	NEW	(2)	2x7.3	276	(1)
MGX4015		750	2x7.5	545	
MGX4015-NC		(2)	2x7.5	560	(1)
MGX4015-NO		(2)	2x7.5	560	(1)
MGX5020		1300	2x10	900	
MGX5020-NC		(2)	2x10	930	(1)
MGX5020-NO		(2)	2x10	930	(1)
MGX6030		1660	2x15	1525	
MGX6030-NC		(2)	2x15	1590	(1)
MGX6030-NO		(2)	2x15	1590	(1)



gimapick

S	P. 78	F [N]	s [mm]	m [g]	
S25		200	2x5.3	400	
S25-NC		(2)	2x5.3	(2)	(1)
S25-NO		(2)	2x5.3	(2)	(1)



IP67

SX	P. 88	F [N]	s [mm]	m [g]	
SX2510		390-500	2x5	260	
SX2520		390-500	2x10	310	
SX4020		1000-1300	2x10	750	
SX4020-NC		(2)	2x10	(2)	(1)
SX4040		1000-1300	2x20	900	
SX5030		1600-2100	2x15	1300	
SX5030-NC		(2)	2x15	(2)	(1)
SX5060		1600-2100	2x30	1700	
SX6340		2500-3400	2x20	2800	
SX6340-NC		(2)	2x20	(2)	(1)
SX6380		2500-3400	2x40	3500	



Corsa lunga - Long stroke
Langer Hub - Course longue
Carrera larga - Curso longo

SH	P. 98	F [N]	s [mm]	m [g]	
SH6360		1600	2x30	2600	
SH63120		1600	2x60	5200	
SH63120NC		(2)	2x60	(2)	(1)
SH8080		2500	2x40	5000	
SH80150		2500	2x75	8880	



Il miglior prezzo - The best price
Der beste preis - Le meilleur prix
El mejor precio - O melhor preço

SZ	P. 110	F [N]	s [mm]	m [g]	
SZ12		50	2x4	94	
SZ12-NC		(2)	2x4	(2)	(1)
SZ16		90	2x6	153	
SZ16-NC		(2)	2x6	(2)	(1)
SZ25		230	2x10	446	
SZ25-NC		(2)	2x10	(2)	(1)
SZ32		380	2x12.5	722	
SZ32-NC		(2)	2x12.5	(2)	(1)
SZ40		620	2x15	1135	
SZ40-NC		(2)	2x15	(2)	(1)



Corsa lunga - Long stroke
Langer Hub - Course longue
Carrera larga - Curso longo

PQ	P. 120	F [N]	s [mm]	m [g]
PQ1608		120	2x4	63
PQ2012		180	2x6	110
PQ2516		300	2x8	200
PQ3015		400	2x7.5	330
PQ3523		560	2x11.5	610
PQ4533		920	2x16.5	1270
PQ5047		1340	2x23.5	2430
PQ6063		1860	2x31.5	4900

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém

(2)
Consultare il fabbricante - Consult Factory
Fragen Sie den Hersteller - Consulter l'usine
Consulte con el fabricante - Consultar a fábrica

Pinze parallele a 2 griffe
2-jaw parallel grippers
2-Backen-Parallelgreifer
Pinces parallèles à 2 mâchoires
Pinzas paralelas de 2 mordazas
Pinças paralelas de 2 mordentes



Corsa lunga - Long stroke
Langer Hub - Course longue
Carrera larga - Curso longo

PE	P. 136	F [N]	s [mm]	m [g]	
PE-1610		200	2x5	200	
PE-1625		200	2x12.5	250	
PE-1640		200	2x20	350	
PE-1680		200	2x40	500	
PE-16150		200	2x75	900	
PE-16200		200	2x100	1200	
PE-2520		460	2x10	700	
PE-2520-NC		(2)	2x10	(2)	(1)
PE-2540		460	2x20	980	
PE-2540-NC		(2)	2x20	(2)	(1)
PE-2560		460	2x30	1285	
PE-25100		460	2x50	1235	
PE-25200		460	2x100	2080	
PE-4520		1400	2x10	1840	
PE-4520-NC		(2)	2x10	(2)	(1)
PE-4520-NO		(2)	2x10	(2)	(1)
PE-4540		1400	2x20	2250	
PE-4540-NC		(2)	2x20	(2)	(1)
PE-4540-NO		(2)	2x20	(2)	(1)
PE-4560		1400	2x30	2715	
PE-4560-NC		(2)	2x30	(2)	(1)
PE-4560-NO		(2)	2x30	(2)	(1)
PE-4580		1400	2x40	3330	
PE-4580-NC		(2)	2x40	(2)	(1)
PE-4580-NO		(2)	2x40	(2)	(1)
PE-45200		1800	2x100	3800	



SP	P. 200	F [N]	s [mm]	m [g]
SP-20	NEW	65-70	2x4	105
SP-25	NEW	110-120	2x6	210
SP-32	NEW	200-220	2x8	380
SP-40	NEW	320-350	2x10	600

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém

(2)
Consultare il fabbricante
Consult Factory
Fragen Sie den Hersteller
Consulter l'usine
Consulte con el fabricante
Consultar a fábrica



Pinze universali - Universal grippers
Universalgreifer - Pinces universelles
Pinzas universales - Pinças universais

DH	P. 158	F [N]	s [mm]	m [g]
DH1905		136-150	2x2.5	87
DH1905-NC		194-92	2x2.5	100
DH1905-NO		78-208	2x2.5	98
DH2208		180-200	2x4	148
DH2208-NC		256-124	2x4	188
DH2208-NO		104-276	2x4	184
DH2204		360-400	2x2	150
DH2204-NC		510-250	2x2	190
DH2204-NO		210-550	2x2	186
DH2712		260-290	2x6	255
DH2712-NC		368-182	2x6	325
DH2712-NO		150-400	2x6	315
DH2706		520-580	2x3	260
DH2706-NC		736-364	2x3	330
DH2706-NO		300-802	2x3	320
DH3516		440-500	2x8	460
DH3516-NC		616-318	2x8	550
DH3516-NO		264-684	2x8	540
DH3508		880-1000	2x4	470
DH3508-NC		1234-634	2x4	560
DH3508-NO		530-1366	2x4	550
DH4420		730-810	2x10	780
DH4420-NC		1000-534	2x10	990
DH4420-NO		452-1088	2x10	960
DH4410		1460-1620	2x5	800
DH4410-NC		2014-1066	2x5	1010
DH4410-NO		904-2176	2x5	980
DH5526		1110-1250	2x13	1350
DH5526-NC		1562-802	2x13	1750
DH5526-NO		664-1698	2x13	1700
DH5512		2400-2700	2x6	1370
DH5512-NC		3372-1732	2x6	1770
DH5512-NO		1436-3666	2x6	1720
DH6632		1640-1840	2x16	2630
DH6632-NC		2260-1222	2x16	3430
DH6632-NO		1018-2464	2x16	3300
DH6616		3280-3680	2x8	2670
DH6616-NC		4520-2444	2x8	3470
DH6616-NO		2036-4928	2x8	3340
DH8750		2840-3120	2x25	4990
DH8750-NC		3858-2106	2x25	6920
DH8750-NO		1826-4136	2x25	6750
DH8728		5000-5500	2x14	5050
DH8728-NC		6794-3708	2x14	6980
DH8728-NO		3216-7286	2x14	6810

Pinze parallele a 2 griffe
2-jaw parallel grippers
2-Backen-Parallelgreifer
Pinces parallèles à 2 mâchoires
Pinzas paralelas de 2 mordazas
Pinças paralelas de 2 mordentes



Per alte velocità - High speed
Für Hochgeschwindigkeitsanwednungen - Pour machine à haute vitesse
Para altas velocidades - Para alta velocidade

HS	P. 214	F [N]	s [mm]	m [g]	
HS-2012		110-120	2x5.8	144	
HS-2518		166-180	2x8.8	270	



Protette contro le polveri - Protected against powders
Gegen Staub geschützt - Protégées contre les poussiè
Protegidas contra el polvo - Protegidas contra o pó

XP	P. 224	F [N]	s [mm]	m [g]	
XP-20		170-200	2x4	160	
XP-20-NC		(2)	2x4	(2)	(1)
XP-20-NO		(2)	2x4	(2)	(1)
XP-26		220-240	2x6.6	300	
XP-26-NC		(2)	2x6.6	(2)	(1)
XP-26-NO		(2)	2x6.6	(2)	(1)



Pinza ad aghi - Needle gripper
Nadelgreifer - Pinces à aiguilles
Pinzas de agujas - Pinças de agulhas

PT25	P. 242	F [N]	s [mm]	m [g]
PT25		90	2x7	165



Ora con sensori regolabili - Now with adjustable sensors
Jetzt mit einstellbaren Sensoren - Maintenant avec capteurs réglables
Ahora con sensores regulables - Agora com sensores ajustáveis

SGP-S	P. 244	F [N]	s [mm]	m [g]
SGP-20S		40-46	2x2	33
SGP-25S		94-104	2x3	43
SGP-32S		120-134	2x4	86
SGP-40S		146-160	2x6	170



Disegno compatto - Compact design
Kompakte Konstruktion - Dessin compact
Diseño compacto - Design compacto

JP	P. 258	F [N]	s [mm]	m [g]
JP-25		240-270	2x4.75	240
JP-32		600-700	2x6	450
JP-45		930-1000	2x9.45	1050



Pinze universali - Universal grippers
Universalgreifer - Pinces universelles
Pinzas universales - Pinças universais

GS	P. 270	F [N]	s [mm]	m [g]	
GS-10		28-36	2x2.3	45	
GS-10-NC		40-24	2x2.3	45	(1)
GS-10-NO		18-46	2x2.3	45	(1)
GS-16		86-100	2x3.4	98	
GS-16-NC		116-70	2x3.4	99	(1)
GS-16-NO		60-126	2x3.4	99	(1)
GS-20		186-212	2x5.2	207	
GS-20-NC		228-170	2x5.2	209	(1)
GS-20-NO		134-264	2x5.2	209	(1)
GS-25		254-282	2x7.2	365	
GS-25-NC		(2)	2x7.2	(2)	(1)
GS-25-NO		190-346	2x7.2	369	(1)
GS-32		430-500	2x11	645	
GS-32-NC		(2)	2x11	(2)	(1)
GS-32-NO		(2)	2x11	(2)	(1)
GS-40		614-700	2x15	1155	
GS-40-NC		(2)	2x15	(2)	(1)
GS-40-NO		(2)	2x15	(2)	(1)

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém

(2)
Consultare il fabbricante
Consult Factory
Fragen Sie den Hersteller
Consulter l'usine
Consulte con el fabricante
Consultar a fábrica

Pinze radiali a 2 griffe
2-jaw radial-acting grippers
2-Backen-Winkelgreifer
Pinces radiale à 2 mâchoires
Pinzas radiales de 2 mordazas
Pinças radiais de 2 mordentes



XR	P. 224	C [Ncm]	s	m [g]
XR-20		300-320	2x92°	140
XR-26		600-640	2x92°	260



Per applicazioni pesanti - Heavy duty
Für Hochleistungsanwendungen - Pour applications lourdes
Para aplicaciones pesadas - Elevada energia interna

PS	P. 288	C [Ncm]	s	m [g]
PS-0030		400	2x91°	750
PS-0050		1200	2x91°	1670



Coppia costante - Constant torque
Konstantes Drehmoment - Couple constant
Par constante - Binário constante

PS-P	P. 298	C [Ncm]	s	m [g]
PS-0016-P		200	2x90°	320
PS-0025-P		560	2x90°	650
PS-0045-P		3600	2x90°	2700



GX-S	P. 312	C [Ncm]	s	m [g]
GX-10S		52-70	2x90°	70
GX-16S		210-240	2x90°	140
GX-20S		420-460	2x90°	290
GX-25S		800-860	2x90°	510

Pinze angolari a 2 griffe
2-jaw angular-acting grippers
2-Backen-Winkelgreifer
Pinces angulaire à 2 mâchoires
Pinzas angulares de 2 mordazas
Pinças angulares de 2 mordentes



Pinze universali - Universal grippers
Universalgreifer - Pinces universelles
Pinzas universales - Pinças universais

GW	P. 326	C [Ncm]	s	m [g]	
GW-10		16-22	2x20°	39	
GW-10-NC		(2)	2x20°	(2)	(1)
GW-10-NO		8-30	2x20°	39	
GW-16		72-90	2x20°	88	
GW-16-NC		36-66	2x20°	89	
GW-16-NO		48-114	2x20°	89	
GW-20		156-178	2x20°	180	
GW-20-NC		(2)	2x20°	(2)	(1)
GW-20-NO		104-230	2x20°	182	
GW-25		320-356	2x20°	300	
GW-25-NC		(2)	2x20°	(2)	(1)
GW-25-NO		(2)	2x20°	(2)	(1)



XA	P. 224	C [Ncm]	s	m [g]	
XA-20		92-100	2x30°	140	
XA-20-NC		(2)	2x30°	(2)	(1)
XA-20-NO		(2)	2x30°	(2)	(1)
XA-26		158-170	2x30°	250	
XA-26-NC		(2)	2x30°	(2)	(1)
XA-26-NO		(2)	2x30°	(2)	(1)



Corsa regolabile - Stroke adjustment
Einstellbarer - Course réglable
Carrera regulable - Curso ajustável

AA	P. 340	C [Ncm]	s	m [g]
AA-25-NO		250-50	2x14°	105



Non autocentrante - Non-selfcentering
Nicht selbstzentrierend - Non autocentrante
No autocentrante - Não auto-centrante

PB	P. 346	C [Ncm]	s	m [g]
PB-0010		180	2x11°	100
PB-0020		800	2x7°	350



A 2 o 3 griffe - 2 or 3 jaws
2- oder 3-Backen - À 2 ou 3 mâchoires
De 2 o 3 mordazas - A 2 ou 3 mordentes

PN	P. 356	C [Ncm]	s	m [g]
PN-010-2		30	2x19°	32
PN-010-3		30	3x19°	36
PN-016-2		114	2x19°	105
PN-016-3		114	3x19°	115
PN-025-2		498	2x19°	340
PN-025-3		498	3x19°	400
PN-040-2		1302	2x19°	910
PN-040-3		1302	3x19°	1040



TFA	P. 368	C [Ncm]	s	m [g]
TFA10-25		34	2x12.5	12
TFA14-25		96	2x12.5	30
TFA20-25		430	2x12.5	95
TFA20-25S		430	2x12.5	120

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém

(2)
Consultare il fabbricante
Consult Factory
Fragen Sie den Hersteller
Consulter l'usine
Consulte con el fabricante
Consultar a fábrica

Pinze parallele a 3 griffe
3-jaw parallel-acting grippers
3-Backen-Parallelgreifer
Pinces parallèles à 3 mâchoires
Pinzas paralelas de 3 mordazas
Pinças paralelas de 2 mordentes



Pinze universali - Universal grippers
Universalgreifer - Pinces universelles
Pinzas universales - Pinças universais

TH	P. 388	F [N]	s [mm]	m [g]
TH2725		261-285	3x2.5	117
TH2725-NC		345-201	3x2.5	140
TH2725-NO		177-369	3x2.5	139
TH3304		381-426	3x4	237
TH3304-NC		504-303	3x4	293
TH3304-NO		255-552	3x4	285
TH3302		750-855	3x2	240
TH3302-NC		1005-603	3x2	296
TH3302-NO		510-1098	3x2	288
TH4506		735-795	3x6	430
TH4506-NC		969-564	3x6	540
TH4506-NO		507-1026	3x6	530
TH4503		1470-1590	3x3	440
TH4503-NC		1932-1125	3x3	550
TH4503-NO		1011-2043	3x3	530
TH5408		1050-1140	3x8	760
TH5408-NC		1380-825	3x8	930
TH5408-NO		735-1470	3x8	920
TH5404		2130-2280	3x4	770
TH5404-NC		2757-1650	3x4	940
TH5404-NO		1470-2940	3x4	930
TH7610		2160-2280	3x10	1420
TH7610-NC		2793-1638	3x10	1870
TH7610-NO		1500-2931	3x10	1840
TH7605		4290-4500	3x5	1430
TH7605-NC		5550-3258	3x5	1880
TH7605-NO		2982-5826	3x5	1850
TH9613		3480-3630	3x13	2450
TH9613-NC		4452-2652	3x13	3230
TH9613-NO		2484-4620	3x13	3140
TH9606		7500-7860	3x6	2490
TH9606-NC		9639-5739	3x6	3270
TH9606-NO		5379-9999	3x6	3180
TH12516		5640-6150	3x16	4920
TH12516-NC		7041-4773	3x16	6640
TH12516-NO		4260-7554	3x16	6460
TH12508		11220-12210	3x8	4990
TH12508-NC		13965-9465	3x8	6710
TH12508-NO		8451-14979	3x8	6530



T	P. 378	F [N]	s [mm]	m [g]
T30		315-345	3x3	325
T40		540-600	3x5	745
T63		1320-1440	3x9	1680



Protette contro le polveri - Protected against powders
Gegen Staub geschützt - Protégées contre les poussiè
Protegidas contra el polvo - Protegidas contra o pó

XT	P. 224	F [N]	s [mm]	m [g]	
XT-20		171-201	3x3.6	210	
XT-20-NC		(2)	3x3.6	(2)	(1)
XT-20-NO		(2)	3x3.6	(2)	(1)
XT-26		219-240	3x6.6	350	
XT-26-NC		(2)	3x6.6	(2)	(1)
XT-26-NO		(2)	3x6.6	(2)	(1)



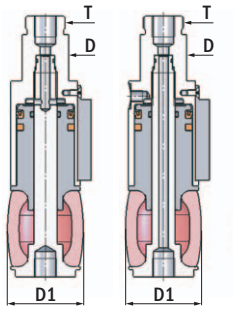
SXT	P. 416	F [N]	s [mm]	m [g]	
SXT2505		585-750	3x5	430	
SXT4008		1500-1950	3x8	1100	
SXT4008-NC		(2)	3x8	(2)	(1)
SXT5012		2400-3150	3x12	2000	
SXT5012-NC		(2)	3x12	(2)	(1)
SXT6315		3600-4950	3x15	3800	
SXT6315-NC		(2)	3x15	(2)	(1)

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém

(2)
Consultare il fabbricante
Consult Factory
Fragen Sie den Hersteller
Consulter l'usine
Consulte con el fabricante
Consultar a fábrica

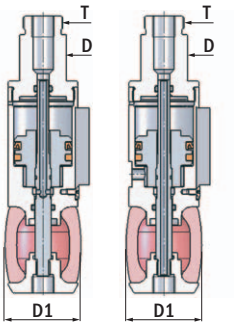
Pinze ad espansione
Air hands
ID Innengreifer
Préhenseurs intérieurs
Pinzas de expansión
Pegas interiores

MFD...CL MFD...HL



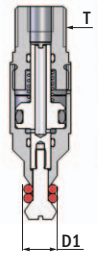
MFD	P. 428	T	D [mm]	D1 [mm]	m [g]
MFD08S01CL		M12x1	Ø14	Ø8÷Ø11	15
MFD08E02CL		M12x1	Ø14	Ø8÷Ø11	15
MFD08S01HL		M12x1	Ø14	Ø8÷Ø11	15
MFD08E02HL		M12x1	Ø14	Ø8÷Ø11	15
MFD10S01CL		M12x1	Ø14	Ø10.5÷Ø14	16
MFD10E02CL		M12x1	Ø14	Ø10.5÷Ø14	16
MFD10S01HL		M12x1	Ø14	Ø10.5÷Ø14	16
MFD10E02HL		M12x1	Ø14	Ø10.5÷Ø14	16
MFD12S01CL		M12x1	Ø14	Ø13÷Ø17	17
MFD12E02CL		M12x1	Ø14	Ø13÷Ø17	17
MFD12S01HL		M12x1	Ø14	Ø13÷Ø17	17
MFD12E02HL		M12x1	Ø14	Ø13÷Ø17	17
MFD14S01CL		M12x1	Ø14	Ø15÷Ø19.5	17
MFD14E02CL		M12x1	Ø14	Ø15÷Ø19.5	17
MFD14S01HL		M12x1	Ø14	Ø15÷Ø19.5	17
MFD14E02HL		M12x1	Ø14	Ø15÷Ø19.5	17
MFD16S01CL		M12x1	Ø14	Ø17÷Ø21	17
MFD16E02CL		M12x1	Ø14	Ø17÷Ø21	17
MFD16S01HL		M12x1	Ø14	Ø17÷Ø21	17
MFD16E02HL		M12x1	Ø14	Ø17÷Ø21	17
MFD18S01CL		M12x1	Ø14	Ø19.5÷Ø25	28
MFD18E02CL		M12x1	Ø14	Ø19.5÷Ø25	28
MFD18S01HL		M12x1	Ø14	Ø19.5÷Ø25	28
MFD18E02HL		M12x1	Ø14	Ø19.5÷Ø25	28
MFD22S01CL		M12x1	Ø14	Ø24÷Ø31.5	43
MFD22E02CL		M12x1	Ø14	Ø24÷Ø31.5	43
MFD22S01HL		M12x1	Ø14	Ø24÷Ø31.5	43
MFD22E02HL		M12x1	Ø14	Ø24÷Ø31.5	43
MFD27S01CL		M17x1	Ø20	Ø28÷Ø37	79
MFD27E02CL		M17x1	Ø20	Ø28÷Ø37	79
MFD27S01HL		M17x1	Ø20	Ø28÷Ø37	79
MFD27E02HL		M17x1	Ø20	Ø28÷Ø37	79
MFD33S01CL		M17x1	Ø20	Ø34÷Ø45	118
MFD33E02CL		M17x1	Ø20	Ø34÷Ø45	118
MFD33S01HL		M17x1	Ø20	Ø34÷Ø45	118
MFD33E02HL		M17x1	Ø20	Ø34÷Ø45	118
MFD41S01CL		M27x1	Ø30	Ø42÷Ø54	280
MFD41E02CL		M27x1	Ø30	Ø42÷Ø54	280
MFD41S01HL		M27x1	Ø30	Ø42÷Ø54	280
MFD41E02HL		M27x1	Ø30	Ø42÷Ø54	280
MFD47S01CL		M27x1	Ø30	Ø48÷Ø60	280
MFD47E02CL		M27x1	Ø30	Ø48÷Ø60	280
MFD47S01HL		M27x1	Ø30	Ø48÷Ø60	280
MFD47E02HL		M27x1	Ø30	Ø48÷Ø60	280
MFD51S01CL		M27x1	Ø30	Ø54÷Ø68	490
MFD51E02CL		M27x1	Ø30	Ø54÷Ø68	490
MFD51S01HL		M27x1	Ø30	Ø54÷Ø68	490
MFD51E02HL		M27x1	Ø30	Ø54÷Ø68	490
MFD63S01CL		M27x1	Ø30	Ø66÷Ø85	800
MFD63E02CL		M27x1	Ø30	Ø66÷Ø85	800
MFD63S01HL		M27x1	Ø30	Ø66÷Ø85	800
MFD63E02HL		M27x1	Ø30	Ø66÷Ø85	800

MFU...CL MFU...HL



MFU	P. 428	T	D [mm]	D1 [mm]	m [g]
MFU08S01CL		M12x1	Ø14	Ø8÷Ø11	16
MFU08E02CL		M12x1	Ø14	Ø8÷Ø11	16
MFU08S01HL		M12x1	Ø14	Ø8÷Ø11	16
MFU08E02HL		M12x1	Ø14	Ø8÷Ø11	16
MFU10S01CL		M12x1	Ø14	Ø10.5÷Ø14	17
MFU10E02CL		M12x1	Ø14	Ø10.5÷Ø14	17
MFU10S01HL		M12x1	Ø14	Ø10.5÷Ø14	17
MFU10E02HL		M12x1	Ø14	Ø10.5÷Ø14	17
MFU12S01CL		M12x1	Ø14	Ø13÷Ø17	18
MFU12E02CL		M12x1	Ø14	Ø13÷Ø17	18
MFU12S01HL		M12x1	Ø14	Ø13÷Ø17	18
MFU12E02HL		M12x1	Ø14	Ø13÷Ø17	18
MFU14S01CL		M12x1	Ø14	Ø15÷Ø19.5	20
MFU14E02CL		M12x1	Ø14	Ø15÷Ø19.5	20
MFU14S01HL		M12x1	Ø14	Ø15÷Ø19.5	20
MFU14E02HL		M12x1	Ø14	Ø15÷Ø19.5	20
MFU16S01CL		M12x1	Ø14	Ø17÷Ø21	20
MFU16E02CL		M12x1	Ø14	Ø17÷Ø21	20
MFU16S01HL		M12x1	Ø14	Ø17÷Ø21	20
MFU16E02HL		M12x1	Ø14	Ø17÷Ø21	20
MFU18S01CL		M12x1	Ø14	Ø19.5÷Ø25	35
MFU18E02CL		M12x1	Ø14	Ø19.5÷Ø25	35
MFU18S01HL		M12x1	Ø14	Ø19.5÷Ø25	35
MFU18E02HL		M12x1	Ø14	Ø19.5÷Ø25	35
MFU22S01CL		M12x1	Ø14	Ø24÷Ø31.5	50
MFU22E02CL		M12x1	Ø14	Ø24÷Ø31.5	50
MFU22S01HL		M12x1	Ø14	Ø24÷Ø31.5	50
MFU22E02HL		M12x1	Ø14	Ø24÷Ø31.5	50
MFU27S01CL		M17x1	Ø20	Ø28÷Ø37	100
MFU27E02CL		M17x1	Ø20	Ø28÷Ø37	100
MFU27S01HL		M17x1	Ø20	Ø28÷Ø37	100
MFU27E02HL		M17x1	Ø20	Ø28÷Ø37	100
MFU33S01CL		M17x1	Ø20	Ø34÷Ø45	130
MFU33E02CL		M17x1	Ø20	Ø34÷Ø45	130
MFU33S01HL		M17x1	Ø20	Ø34÷Ø45	130
MFU33E02HL		M17x1	Ø20	Ø34÷Ø45	130
MFU41S01CL		M27x1	Ø30	Ø42÷Ø54	300
MFU41E02CL		M27x1	Ø30	Ø42÷Ø54	300
MFU41S01HL		M27x1	Ø30	Ø42÷Ø54	300
MFU41E02HL		M27x1	Ø30	Ø42÷Ø54	300
MFU47S01CL		M27x1	Ø30	Ø48÷Ø60	300
MFU47E02CL		M27x1	Ø30	Ø48÷Ø60	300
MFU47S01HL		M27x1	Ø30	Ø48÷Ø60	300
MFU47E02HL		M27x1	Ø30	Ø48÷Ø60	300
MFU51S01CL		M27x1	Ø30	Ø54÷Ø68	500
MFU51E02CL		M27x1	Ø30	Ø54÷Ø68	500
MFU51S01HL		M27x1	Ø30	Ø54÷Ø68	500
MFU51E02HL		M27x1	Ø30	Ø54÷Ø68	500
MFU63S01CL		M27x1	Ø30	Ø66÷Ø85	785
MFU63E02CL		M27x1	Ø30	Ø66÷Ø85	785
MFU63S01HL		M27x1	Ø30	Ø66÷Ø85	785
MFU63E02HL		M27x1	Ø30	Ø66÷Ø85	785

Micro pinze ad espansione
ID expansion grippers
Mikro-Innengreifer
Micro doigt de préhension à expansion
Micropinzas de expansión
Micro pinça de preensão de expansão



IFU...RT P. 446	T	D1 [mm]	m [g]
IFU04S01RT	M10x1	Ø4.5÷Ø5.4	7
IFU04N03RT	M10x1	Ø4.5÷Ø5.4	7
IFU05S01RT	M10x1	Ø5.6÷Ø6.7	7
IFU05N03RT	M10x1	Ø5.6÷Ø6.7	7
IFU06S01RT	M10x1	Ø6.6÷Ø7.6	8
IFU06N03RT	M10x1	Ø6.6÷Ø7.6	8
IFU07S01RT	M10x1	Ø7.6÷Ø8.7	9
IFU07N03RT	M10x1	Ø7.6÷Ø8.7	9

Slitte
Slides
Schlitten
Tables de translation
Correderas
Corrediças



Per applicazioni pesanti - Heavy duty
Für Hochleistungsanwendungen - Pour applications lourdes
Para aplicaciones pesadas - Elevada energia interna

Z	P. 464	F [N]	s [mm]	m [g]	
Z-0825		37-50	25	230	(3)
Z-0825-D		37-50	25	270	(4)
Z-0825-DS		37-50	25	254	(5)
Z-0850		37-50	50	320	(3)
Z-0850-D		37-50	50	360	(4)
Z-0850-DS		37-50	50	344	(5)
Z-1650		170-200	50	620	(3)
Z-1650-D		170-200	50	730	(4)
Z-1650-DS		170-200	50	700	(5)
Z-16100		170-200	100	1010	(3)
Z-16100-D		170-200	100	1120	(4)
Z-16100-DS		170-200	100	1090	(5)
Z-16150		170-200	150	1340	(3)
Z-16150-D		170-200	150	1450	(4)
Z-16150-DS		170-200	150	1420	(5)
Z-2050-D		300-330	50	1300	(4)
Z-2050-DS		300-330	50	1236	(5)
Z-20100-D		300-330	100	1950	(4)
Z-20100-DS		300-330	100	1886	(5)
Z-20150-D		300-330	150	2500	(4)
Z-20150-DS		300-330	150	2436	(5)
Z-20200-D		300-330	200	3100	(4)
Z-20200-DS		300-330	200	3036	(5)

(3)
Senza deceleratori
Without shock-absorbers
Ohne Stoßdämpfer
Sans amortisseurs de chocs
Sin amortiguadores
Sem amortecedores

(4)
Con deceleratori
With shock-absorbers
Mit Stoßdämpfer
Avec amortisseurs de chocs
Con amortiguadores
Sem amortecedores

(5)
Solo su richiesta, senza deceleratori, ma predisposta
Only on request, without shock-absorbers, but with prearrangement
Nur auf Anfrage, ohne Stoßdämpfer, für Stoßdämpfer vorbereitet
Seulement en option, sans décélérateurs, mais prédisposée
Sólo bajo pedido, sin amortiguadores, pero preparada para su instalación
Apenas mediante solicitação, sem amortecedores, mas predisposta



Pinza integrata con slitta - Grippers integrated with slide
Integrierte Schlitten-Greif-Einheit - Pinces combinées avec translation
Pinza integrada con corredera - Pinças combinadas com corrediça

ZX	P. 450	F	s	m [g]
PZX-265		110-130 N 93-105 N	2x4 mm 50 mm	640
AZX-265		50-56 Ncm 93-105 N	2x34° 50 mm	615
RZX-265		180-200 Ncm 93-105 N	2x92° 50 mm	625



Mini-slitte - Mini-slides
Mini-Schlitten - Mini-glissières
Minicorredera - Mini-corrediças

ZE-P	P. 518	F [N]	s [mm]	m [g]
ZE0610P		10-13	10	90
ZE0620P		10-13	20	105
ZE0630P		10-13	30	120
ZE1010P		33-40	10	150
ZE1020P		33-40	20	175
ZE1030P		33-40	30	200
ZE1610P		100-110	10	265
ZE1620P		100-110	20	295
ZE1630P		100-110	30	340

Slitte
Slides
Schlitten
Tables de translation
Correderas
Corrediças



Slitte a ricircolo di sfere - Slides recirculating ball-bearings
Schlitten mit Kugelumlaufführung - Tables de translation, guidage à billes
Corredera de recirculación de bolas - Corrediça de rolamentos de esferas recirculantes

ZA	P. 484	F [N]	s [mm]	m [g]
ZA0610		22-29	10	100
ZA0620		22-29	20	120
ZA0630		22-29	30	135
ZA0640		22-29	40	170
ZA0650		22-29	50	205
ZA0810		38-51	10	170
ZA0820		38-51	20	185
ZA0830		38-51	30	215
ZA0840		38-51	40	270
ZA0850		38-51	50	310
ZA0875		38-51	75	450
ZA1210		101-122	10	390
ZA1220		101-122	20	390
ZA1230		101-122	30	395
ZA1240		101-122	40	440
ZA1250		101-122	50	535
ZA1275		101-122	75	715
ZA12100		101-122	100	955
ZA1610		196-217	10	645
ZA1620		196-217	20	645
ZA1630		196-217	30	650
ZA1640		196-217	40	710
ZA1650		196-217	50	820
ZA1675		196-217	75	1150
ZA16100		196-217	100	1475
ZA16125		196-217	125	1800
ZA2010		309-339	10	1100
ZA2020		309-339	20	1110
ZA2030		309-339	30	1110
ZA2040		309-339	40	1210
ZA2050		309-339	50	1360
ZA2075		309-339	75	1745
ZA20100		309-339	100	2320
ZA20125		309-339	125	2845
ZA20150		309-339	150	3370





Slitte a ricircolo di sfere - Slides recirculating ball-bearings
Schlitten mit Kugelumlaufführung - Tables de translation, guidage à billes
Corredera de recirculación de bolas - Corrediça de rolamentos de esferas recirculantes

ZV	P. 530	F [N]	s [mm]	m [g]	
ZV25030DS		238-265	30	610	
ZV25030DSKP		238-265	30	660	
ZV25030DSKL		238-265	30	660	(1)
ZV25060DS		238-265	60	730	
ZV25060DSKP		238-265	60	780	
ZV25060DSKL		238-265	60	780	(1)
ZV25100DS		238-265	100	1000	
ZV25100DSKP		238-265	100	1050	
ZV25100DSKL		238-265	100	1050	(1)
ZV25150DS		238-265	150	1320	
ZV25150DSKP		238-265	150	1370	
ZV25150DSKL		238-265	150	1370	(1)
ZV25200DS		238-265	200	1635	
ZV25200DSKP		238-265	200	1685	
ZV25200DSKL		238-265	200	1685	(1)
ZV40050DS	NEW	617-678	50	1950	
ZV40050DSKP	NEW	617-678	50	2000	
ZV40100DS	NEW	617-678	100	2710	
ZV40100DSKP	NEW	617-678	100	2760	
ZV40150DS	NEW	617-678	150	3130	
ZV40150DSKP	NEW	617-678	150	3180	
ZV40200DS	NEW	617-678	200	3540	
ZV40200DSKP	NEW	617-678	200	3590	

(1)
Articolo disponibile a richiesta, non gestito a magazzino
Item available upon request, not in stock
Artikel auf Wunsch lieferbar, nicht am Lager
Article disponible sur demande, non géré par le magasin
Artículo disponible bajo pedido, no gestionado en el almacén
Artigo disponível mediante solicitação, ausente do armazém

Attuatori lineari
Linear actuators
Lineareinheiten
Vérins linéaires
Actuadores lineales
Actuadores lineares



gimapick

M25

P. 562

	F [N]	s [mm]	m [g]	
M2550	222-265	50	2800	(7)
M2550E	222-265	50	2750	(8)
M25100	222-265	100	3400	(7)
M25100E	222-265	100	3350	(8)
M25160	222-265	160	3900	(7)
M25160E	222-265	160	3850	(8)
M25200	222-265	200	4700	(7)
M25200E	222-265	200	4640	(8)
M25300	222-265	300	5600	(7)
M25300E	222-265	300	5530	(8)
M25400	222-265	400	6400	(7)
M25400E	222-265	400	6250	(8)

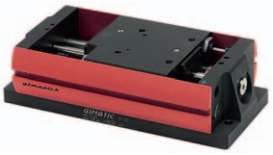


gimapick

P25

P. 586

	F [N]	s [mm]	m [g]	
P2550	222-265	50	3300	(7)
P2550E	222-265	50	3250	(8)
P25100	222-265	100	3900	(7)
P25100E	222-265	100	3850	(8)



gimapick

D32

P. 598

	F [N]	s [mm]	m [g]	
D3250	400	50	2300	(7)
D32100	400	100	3300	(7)

Unità di traslazione lineare
Pneumatic linear slide
Pneumatische Lineareinheit
Unité linéaire pneumatique
Unidad de traslación lineal
Unidade linear pneumática



L40

P. 606

	F [N]	s [mm]	m [g]	
L40-0300	350	300	10400	(7)
L40-0500	350	500	13200	(7)
L40-0800	350	800	17000	(7)
L40-1000	350	1000	19800	(7)
L40-1500	350	1500	26600	(7)
L40-2000	350	2000	33400	(7)

(7)
Nel prezzo sono inclusi due deceleratori
The price includes two shock-absorbers
Preis einschließlich zwei Stoßdämpfer
Le prix comprend les deux amortisseurs de chocs
En el precio se incluyen dos amortiguadores
O preço inclui dois amortecedores

(8)
Nella serie E non sono presenti i canali per la distribuzione integrata dell'aria compressa e mancano i deceleratori.
In the E series there are neither integrated air leads nor shock-absorbers.
In der E-Ausführung sind Druckluftkanäle und Stoßdämpfer nicht enthalten.
La série E n'est pas équipée de connections pneumatique ni d'amortisseurs de chocs.
La serie E no está equipada con canales para la distribución integrada del aire comprimido ni con amortiguadores.
A série E não está equipada de conexões pneumáticas nem de amortecedores.

Interfacce
Interfaces
Schnittestellen
Interfaces
Interfaces
Interfaces



P. 636	m [g]
A25	540



P. 640	m [g]
A26	500



P. 644	m [g]
A27	750



P. 648	m [g]
A28	600



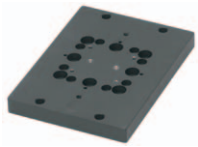
P. 651	m [g]
C31	360



P. 651	m [g]
C32	440



P. 655	m [g]
i25	120



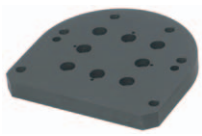
P. 658	m [g]
i26	350



P. 660	m [g]
i27	150



P. 662	m [g]
i28	400

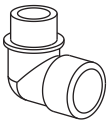


P. 663	m [g]
i29	340

Connessioni
Connections
Verbindungen
Connections
Conexiones
Conexões



P. 675	m [g]
M2550-9	2



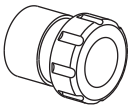
P. 677	m [g]
PMA-TEA-BVWD-P112	10



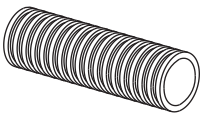
P. 675	m [g]
M2550-26	3



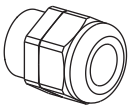
P. 677	m [g]
TEAFLEX-D22	5



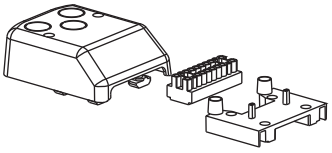
P. 676	m [g]
PMA-TEA-BFIO-P112T	8



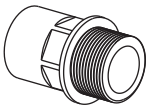
P. 677	m [g]
PMA-TEA-PIST-12B	32



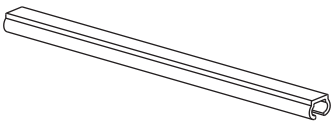
P. 676	m [g]
TEAFLEX-PKN11M6x2.5	10



P. 669	m [g]
H25	100



P. 676	m [g]
PMA-TEA-BVND-P112	6



	m [g]
ABP-5-5	5

Guide lineari serie ZVL
Linear guides (series ZVL)
Linearführungen (Baureihe ZVL)
Guides linéaires (série ZVL)
Guías lineales (serie ZVL)
Guias lineares (série ZVL)



Per cilindri senza stelo Festo DGC-K-18
For Festo DGC-K-18 rodless cylinders
Für Festo Zylinder DGC-K-18 ohne Kolbenstange
Puor cylindres sans tige Festo DGC-K-18
Para cilindros sin vástago Festo DGC-K-18
Para cilindros sem haste Festo DGC-K-18

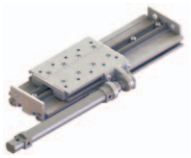
	P. 680	s [mm]	m [g]
ZVL250200	NEW	200	1330
ZVL250300	NEW	300	1530
ZVL250500	NEW	500	1940



Per cilindri senza stelo Festo DGC-K-32
For Festo DGC-K-32 rodless cylinders
Für Festo Zylinder DGC-K-32 ohne Kolbenstange
Puor cylindres sans tige Festo DGC-K-32
Para cilindros sin vástago Festo DGC-K-32
Para cilindros sem haste Festo DGC-K-32

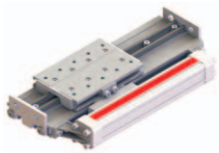
	P. 680	s [mm]	m [g]
ZVL400200	NEW	200	3700
ZVL400300	NEW	300	4100
ZVL400500	NEW	500	4900
ZVL400700	NEW	700	5800
ZVL401000	NEW	1000	7000

Guide lineari serie LZ
Linear guides (series LZ)
Linearführungen (Baureihe LZ)
Guides linéaires (série LZ)
Guías lineales (serie LZ)
Guias lineares (série LZ)



Per cilindri ISO 6432 Ø12, Ø16
For ISO 6432 cylinders Ø12, Ø16
Für Zylinder ISO 6432 Ø12, Ø16
Pour cylindres ISO 6432 Ø12, Ø16
Para cilindros ISO 6432 Ø12, Ø16
Para cilindros ISO 6432 Ø12, Ø16

	P. 688	s [mm]	m [g]
LZ00-0050		50	645
LZ00-0100		100	750
LZ00-0160		160	875
LZ00-0200		200	965



Per cilindri senza stelo Origa OSP-P10, OSP-P16
For Origa OSP-P10, OSP-P16 rodless cylinders
Für Origa Zylinder OSP-P10, OPS-P16 ohne Kolbenstange
Puor cylindres sans tige Origa OSP-P10, OSP-P16
Para cilindros sin vástago Origa OSP-P10, OSP-P16
Para cilindros sem haste Origa OSP-P10, OSP-P16

	P. 688	s [mm]	m [g]
LZ01-0200		200	1070
LZ01-0300		300	1290
LZ01-0400		400	1500

Guide lineari serie LP
Linear guides (series LP)
Linearführungen (Baureihe LP)
Guides linéaires (série LP)
Guías lineales (serie LP)
Guias lineares (série LP)



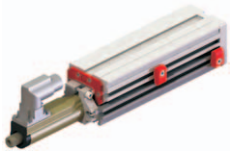
Per cilindri ISO 6432 Ø12, Ø16 - For ISO 6432 cylinders Ø12, Ø16
Für Zylinder ISO 6432 Ø12, Ø16 - Pour cylindres ISO 6432 Ø12, Ø16
Para cilindros ISO 6432 Ø12, Ø16 - Para cilindros ISO 6432 Ø12, Ø16

	P. 704	s [mm]	m
LP00		0÷1500 (9)	575g + 2.28g/mm



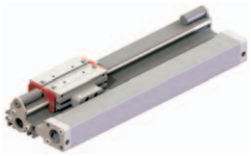
Per cilindro senza stelo Origa OSP-P16 - For Origa OSP-P16 rodless cylinder
Für Origa Zylinder OPS-P16 ohne Kolbenstange - Puor cylindre sans tige Origa OSP-P16
Para cilindros sin vástago Origa OSP-P16 - Para cilindros sem haste Origa OSP-P16

	P. 704	s [mm]	m
LP01		0÷1500 (9)	640g + 2.28g/mm



Per motori lineari LinMot P01-23 - For linear motor LinMot P01-23
Für Linearmotoren LinMot P01-23 - Puor moterus linéaires LinMot P01-23
Para motores lineales LinMot P01-23 - Para motores lineares LinMot P01-23

	P. 704	s [mm]	m [g]
LP02-0050		50	800
LP02-0100		100	1000

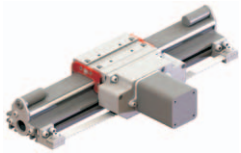


Per cilindro senza stelo Festo DGC-K-18 e per motorilineari LinMot
For Festo DGC-K-18 rodless cylinder and for linear motor LinMot
Für Festo Zylinder DGC-K-18 ohne Kolbenstange und LinMot Linearmotoren
Pour cylindre sans tige Festo DGC-K-18 et pours moteurs linéaires LinMot
Para cilindro sin vástago Festo DGC-K-18 y para motores lineales LinMot
Para cilindros sem haste Festo DGC-K-18 e para motores lineares LinMot

	P. 704	s [mm]	m
LP03		0÷1500 (9)	685g + 2.28g/mm

i
Interasse carrelli
Carrier interaxis
Achsabstand Laufwagen
Entre-axes chariots
Distancia entre eje de los carros
Entre eixo carreiras

(9)
E' possibile ordinare qualsiasi lunghezza di guida con step di 1mm
It is possible to order any guidance length in 1mm steps
Es ist möglich, jede Führungslänge mit jeweils 1mm Längeunterschied zu bestellen
Il est possible de commander n'importe quelle longueur de glissière avec step de 1mm
Se puede solicitar cualquier longitud de guía con pasos de 1 mm
É possível encomendar qualquer comprimento de corrediça com passos de 1mm



Trasmissione a omega, completa di calettatore per alberi Ø10
Omega transmission, with Ø10 shaft locking assembly
Omegaantrieb vollständig mit Spannsatz für Wellen Ø10
Transmission à omega, complète de élément de serrage pour arbres Ø10
Transmisión de omega, dotada con elemento de bloqueo para ejes de Ø10
Transmissão de ómega, com montagem de bloqueio de mandril Ø10

	P. 704	s [mm]	m
LP06		0÷1500 (10)	1300g + 2.3g/mm



Trasmissione a cinghia e pulegge, completa di calettatore per alberi Ø10
Belt drive and pulleys, with Ø10 shaft locking assembly
Riemenantrieb und Riemenscheiben, vollständig mit Spannsatz für Wellen Ø10
Transmission par courroie et poulies, complète de élément de serage pour arbres Ø10
Transmisión por correa y poleas, dotada con elemento de bloqueo para ejes de Ø10
Transmissão por correia e roldanas, com montagem de bloqueio de mandris Ø10

	P. 704	s [mm]	m
LP07		0÷1500 (10)	1470g + 2.33g/mm



Con due carrelli autocentranti - With two self-centering carriers
Mit zwei selbstzentrierenden Laufwagen - Avec deux chariots autocentrants
Con dos carros autocentrantes - Com duas carreiras auto-centrantes

	P. 704	i [mm]	m
LP08		96÷1500 (9)	940g + 2.34g/mm

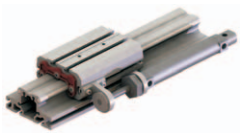


Con cilindro senza stelo Ø25 a trascinamento magnetico
With rodless cylinder Ø25 magnetically coupled
Mit magnetisch gekoppeltem Zylinder ohne Kolbenstange Ø25
Avec cylindre sans tige Ø25 à traction magnétique
Con cilindro sin vástago Ø25 de arrastre magnético
Com cilindros sem haste Ø25 com tracção magnética

	P. 704	s [mm]	m [g]
LP10-0300		300	1970
LP10-0500		500	2500
LP10-1000		1000	3860
LP10-1500		1500	5200

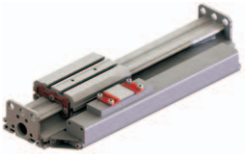
(10)
E' possibile ordinare qualsiasi lunghezza di guida con step di 100mm
It is possible to order any guidance length in 100mm steps
Es ist möglich, jede Führungslänge mit jeweils 100mm Längeunterschied zu bestellen
Il est possible de commander n'importe quelle longueur de glissière avec step de 100mm
Se puede solicitar cualquier longitud de guía con pasos de 100 mm
É possível encomendar qualquer comprimento de corrediça com passos de 100mm

Guide lineari serie LL
Linear guides (series LL)
Linearführungen (Baureihe LL)
Guides linéaires (série LL)
Guías lineales (serie LL)
Guias lineares (série LL)



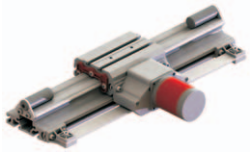
Per cilindri ISO 6432 Ø20, Ø25, Ø32
For ISO 6432 cylinders Ø20, Ø25, Ø32
Für Zylinder ISO 6432 Ø20, Ø25, Ø32
Pour cylindres ISO 6432 Ø20, Ø25, Ø32
Para cilindros ISO 6432 Ø20, Ø25, Ø32
Para cilindros ISO 6432 Ø20, Ø25, Ø32

	P. 728	s [mm]	m
LL00		0÷5830 (9)	1560g + 4.2g/mm
LL00-0100		100	2020g
LL00-0160		160	2260g
LL00-0200		200	2440g
LL00-0250		250	2650g
LL00-0350		350	3060g
LL00-0400		400	3290g
LL00-0500		500	3710g



Per cilindri senza stelo Ø25
For rodless cylinders Ø25
Für Zylinder ohne Kolbenstange Ø25
Pour cylindres sans tige Ø25
Para cilindros sin vástago Ø25
Para cilindros sem haste Ø25

	P. 728	s [mm]	m
LL01		0÷5740 (9)	1980g + 4.2g/mm
LL01-0300		300	3240g
LL01-0400		400	3660g
LL01-0500		500	4090g
LL01-0800		800	5360g
LL01-1000		1000	6200g



Trasmissione a omega, completa di calettatore per alberi Ø12
Omega transmission, with Ø12 shaft locking assembly
Omega-Antrieb vollständig mit Spannsatz für Wellen Ø12
Transmission à omega, complète de élément de serrage pour arbres Ø12
Transmisión de omega, dotada con elemento de bloqueo para ejes de Ø12
Transmissão Omega, com montagem de bloqueio de mandril de Ø12

	P. 728	s [mm]	m
LL06		0÷5700 (10)	3220g + 4.3g/mm

i
Interasse carrelli
Carrier interaxis
Achsabstand Laufwagen
Entre-axes chariots
Distancia entre eje de los carros
Entre eixo carreiras



Trasmissione a cinghia e pulegge, completa di calettatore per alberi Ø12
Belt drive and pulleys, with Ø12 shaft locking assembly
Riemenantrieb und Riemenscheiben, vollständig mit Spannsatz für Wellen Ø12
Transmission par courroie et poulies, complète de élément de serrage pour arbres Ø12
Transmisión por correa y poleas, dotada con elemento de bloqueo para ejes de Ø12
Correia e roldanas, com montagem de bloqueio de mandril de Ø12.

	P. 728	s [mm]	m
LL07		0÷1500 (10)	3660g + 4.4g/mm



Con due carrelli autocentranti
With two self-centering carriers
Mit zwei selbstzentrierenden Laufwagen
Avec deux chariots autocentrants
Con dos carros autocentrantes
Com duas carreiras auto-centrantes

	P. 728	i [mm]	m
LL08		140÷2000 (9)	3000g + 4.3g/mm



Per cilindro senza stelo Ø25 a trascinamento magnetico
For rodless cylinder Ø25 magnetically coupled
Für magnetisch gekoppeltem Zylinder ohne Kolbenstange Ø25
Pour cylindre sans tige Ø25 à traction magnétique
Para cilindro sin vástago Ø25 de arrastre magnético
Para cilindros sem haste Ø25 acoplado magneticamente

	P. 728	s [mm]	m
LL10-0300		300	3600g
LL10-0500		500	4550g
LL10-1000		1000	6900g
LL10-1500		1500	9250g

(9)
E' possibile ordinare qualsiasi lunghezza di guida con step di 1mm
It is possible to order any guidance length in 1mm steps
Es ist möglich, jede Führungslänge mit jeweils 1mm Längeunterschied zu bestellen
Il est possible de commander n'importe quelle longueur de glissière avec step de 1mm
Se puede solicitar cualquier longitud de guía con pasos de 1 mm
É possível encomendar qualquer comprimento de corrediça com passos de 1mm

(10)
E' possibile ordinare qualsiasi lunghezza di guida con step di 100mm
It is possible to order any guidance length in 100mm steps
Es ist möglich, jede Führungslänge mit jeweils 100mm Längeunterschied zu bestellen
Il est possible de commander n'importe quelle longueur de glissière avec step de 100mm
Se puede solicitar cualquier longitud de guía con pasos de 100 mm
É possível encomendar qualquer comprimento de corrediça com passos de 100mm

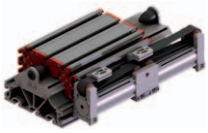
Guide lineari serie LMX / LMY
Linear guides (series LMX / LMY)
Linearführungen (Baureihe LMX / LMY)
Guides linéaires (série LMX / LMY)
Guías lineales (serie LMX / LMY)
Guias lineares (série LMX / LMY)

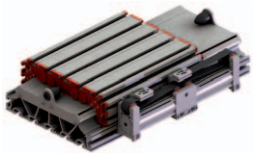




Per cilindri ISO 6431 Ø40 e Ø50 e per cilindro senza stelo Ø32
For ISO 6431 cilinders Ø40 and Ø50 and for rodless cylinders Ø32
Für Zylinder ISO 6431 Ø40 und Ø50 und für Zylinder ohne Kolbenstange Ø32
Pour cylindres ISO 6431 Ø40 et Ø50 et pour cylindres sans tige Ø32
Para cilindros ISO 6431 Ø40 y Ø50 y para cilindros sin vástago Ø32
Para cilíndros ISO 6431 Ø40 e Ø50 e para cilíndros sem haste Ø32

	P. 766	s [mm]	m
LMY01		0÷5700 (9)	6100g + 11.06g/mm
LMX01		0÷5600 (9)	11800g + 16.4g/mm





Con cilindro pneumatico e trasmissione a cinghia
With pneumatic cylinder and belt drive
Mit pneumatischem Zylinder und Riemenantrieb
Avec cylindres pneumatique et transmission par courroie
Con cilindro neumático y transmisión por correa
Com cilíndro pneumático e correia de transmissão

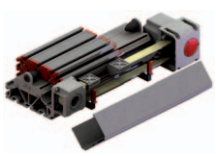
	P. 766	s [mm]	m [g]
LMY03-0300		300	11350
LMY03-0500		500	14000
LMY03-0800		800	18000
LMY03-1000		1000	20600
LMY03-1500		1500	27200
LMY03-2000		2000	33800
LMX03-0300		300	18150
LMX03-0500		500	21850
LMX03-0800		800	27450
LMX03-1000		1000	31150
LMX03-1500		1500	40400
LMX03-2000		2000	49700

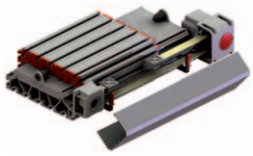




Trasmissione a omega, completa di calettatore per alberi Ø16
Omega transmission, with Ø16 shaft locking assembly
Omegaantrieb, vollständig mir Spannsatz für Wellen Ø16
Transmission à omega, complète de élément de serrage pour arbres Ø16
Transmisión de omega, dotada con elemento de bloqueo para ejes Ø16
Transmissão Omega com montagem de bloqueio de eixo de Ø16

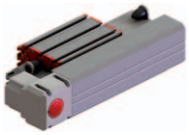
	P. 766	s [mm]	m
LMY06		0÷5700 (10)	9000g + 11.15g/mm
LMX06		0÷5600 (10)	14700g + 16.5g/mm

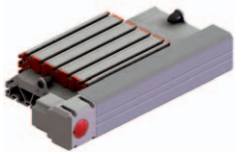




Con trasmissione destra a cinghia e pulegge, completa di calettatore per alberi Ø16
With right belt drive and pulleys, with Ø16 shaft locking assembly
Mit rechtem Riemenantrieb und Riemenscheiben, vollständig mir Spannsatz für Wellen Ø16
Avec transmission droite par courroie et puolies, complète de élément de serrage pour arbres Ø16
Con transmisión derecha por correa y poleas, dotada con elemento de bloqueo para ejes Ø16
Correia de transmissão direita e roldanas, com montagem de bloqueio de eixo de Ø16

	P. 766	s [mm]	m
LMY07D		0÷2700 (10)	9400g + 13g/mm
LMX07D		0÷2600 (10)	15100g + 18.2g/mm





Con trasmissione sinistra a cinghia e pulegge, completa di calettatore per alberi Ø16
With left belt drive and pulleys, with Ø16 shaft locking assembly
Mit linkem Riemenantrieb und Riemenscheiben, vollständig mir Spannsatz für Wellen Ø16
Avec transmission gauche par courroie et puolies, complète de élément de serrage pour arbres Ø16
Con transmisión izquierda por correa y poleas, dotada con elemento de bloqueo para ejes Ø16
Correia de transmissão esquerda e roldanas, com montagem de bloqueio de eixo de Ø16

	P. 766	s [mm]	m
LMY07S		0÷2700 (10)	9400g + 13g/mm
LMX07S		0÷2600 (10)	15100g + 18.2g/mm

(9)
E' possibile ordinare qualsiasi lunghezza di guida con step di 1mm
It is possible to order any guidance length in 1mm steps
Es ist möglich, jede Führungslänge mit jeweils 1mm Längeunterschied zu bestellen
Il est possible de commander n'importe quelle longueur de glissière avec step de 1mm
Se puede solicitar cualquier longitud de guía con pasos de 1 mm
É possível encomendar qualquer comprimento de corrediça com passos de 1mm

(10)
E' possibile ordinare qualsiasi lunghezza di guida con step di 100mm
It is possible to order any guidance length in 100mm steps
Es ist möglich, jede Führungslänge mit jeweils 100mm Längeunterschied zu bestellen
Il est possible de commander n'importe quelle longueur de glissière avec step de 100mm
Se puede solicitar cualquier longitud de guía con pasos de 100 mm
É possível encomendar qualquer comprimento de corrediça com passos de 100mm

Pinza parallela integrata con attuatore rotante
Parallel gripper integrated with swiveling unit
Mit Drehantrieb integrierter Parallelgreifer
Pince parallèle intégrée avec vérin rotatif
Pinza paralela integrada con actuador rotativo
Pinça paralela integrada com atuador rotativo



gmix

PRP	P. 802	F	s	m [g]	
PRP1806	NEW	120/135 N 90 Ncm	2x3 mm 45°/90°/135°/180°	320	(11)
PRP3516	NEW	440/500 N 350 Ncm	2x8 mm 45°/90°/135°/180°	1580	(11)

(11)
Articolo in preparazione
Under construction
Demnächst erhältlich
En cours de réalisation
Artículo en preparación
Em construção

Attuatori rotanti
Swivelling units
Schwenkeinheiten
Unités rotatives
Actuadores rotatorios
Actuadores rotativos



gmix

AR	P. 814	C [Ncm]	s	m [g]	
AR25180	NEW	90	45°/90°/135°/180°	225	(11)
AR40180	NEW	350	45°/90°/135°/180°	950	(11)



gimapick

R	P. 824	C [Ncm]	s	m [g]
R20		113	180°	400
R32		434	180°	1000
R63		2244	180°	3400
R21		113	180°/90°	500
R33		434	180°/90°	1200
R64		2244	180°/90°	3200

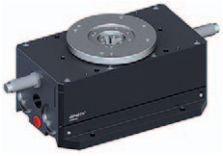


RT	P. 842	C [Ncm]	s	m [g]
RT-10		28	190°	235
RT-12		56	190°	560
RT-20		198	190°	965
RT-25		397	190°	1680
RT-35		779	190°	2475
RT-45		1669	190°	5250
RT-63		3926	190°	8185

Tavole rotanti
Rotary indexing tables
Rundschalteinheiten
Tables rotatives
Mesas rotatorias
Mesas de indexação rotativas



ITSC	P. 856	C [Ncm]	s	m [g]
ITSC-164		136	4x90°	320
ITSC-164A		136	4x90°	320
ITSC-166		167	6x60°	320
ITSC-166A		167	6x60°	320
ITSC-168		181	8x45°	320
ITSC-168A		181	8x45°	320
ITSC-454		2290	4x90°	3740
ITSC-454A		2290	4x90°	3740
ITSC-456		2644	6x60°	3740
ITSC-456A		2644	6x60°	3740
ITSC-458		2821	8x45°	3960
ITSC-458A		2821	8x45°	3960



TRB	P. 870	C [Ncm]	s	m [g]	
TRB05003C		7000	3x120°	13000	(7)
TRB05003A		7000	3x120°	13000	(7)
TRB05004C		7000	4x90°	13000	(7)
TRB05004A		7000	4x90°	13000	(7)
TRB05006C		7000	6x60°	13000	(7)
TRB05006A		7000	6x60°	13000	(7)
TRB05008C		7000	8x45°	13000	(7)
TRB05008A		7000	8x45°	13000	(7)
TRB05012C		7000	12x30°	13000	(7)
TRB05012A		7000	12x30°	13000	(7)

(7)
Nel prezzo sono inclusi due deceleratori
The price includes two shock-absorbers
Preis einschließlich zwei Stoßdämpfer
Le prix comprend les deux amortisseurs de chocs
En el precio se incluyen dos amortiguadores
O preço inclui dois amortecedores

Tutte le forze e le coppie sono riferite ad una pressione di 6 bar.
Le forze, o le coppie, delle pinze sono totali.

All forces and torques are related to a pressure of 6 bar.
The forces, or the torques, of the grippers are total values.

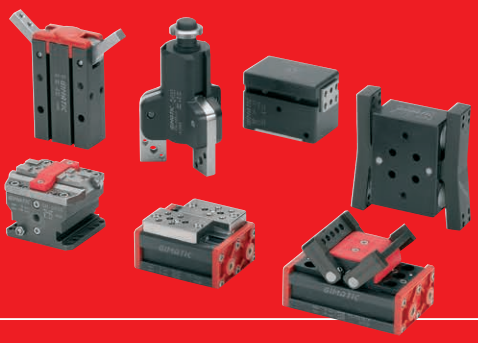
Alle Kräfte und Drehmomente beziehen sich auf einen Druck von 6 bar.
Die Kräfte oder die Drehmomente der Greifer sind Gesamtwerte.

Les données relatives à la force et au couple sont rapportées à la pression de 6 bars.
Les forces, ou les couples, des pinces de préhension sont totales.

Todas las fuerzas y los pares se refieren a una bresión de 6 bar.
Las fuerzas o los pares de las pinzas son totales.

Todas as forças e binários fazem referência à pressão de 6 bar.
As forças, ou os binários, das pinças são valores totais.

F [N]	**C** [Ncm]	**s** [mm]	**m** [g]
Forza	Coppia	Corsa	Peso
Force	Torque	Stroke	Weight
Kraft	Drehmoment	Hub	Gewicht
Force	Couple	Course	Poids
Fuerza	Par	Carrera	Peso
Força	Binário	Curso	Peso



Pinze pneumatiche
Pneumatic grippers

Pinze ad espansione
Air hands

Attuatori lineari
Linear actuators

Guide lineari
Linear guidances

Unità rotanti
Rotary units

MGX

Pinza pneumatica a 2 griffe ad azione parallela autocentrante serie MGX

- Profilo piatto.
- Guida robusta.
- Elevata forza di serraggio.
- Peso ed ingombri ridotti.
- Precisione dimensionale elevata.
- Disponibile anche con molla in chiusura (-NC) o in apertura (-NO).
- Grasso alimentare FDA-H1.

2-jaw parallel self-centering pneumatic gripper series MGX

- *Flat profile.*
- *Robust guide.*
- *High gripping force.*
- *Small weight and dimensions.*
- *High dimensional accuracy.*
- *Spring closed (-NC) or spring open (-NO) option.*
- *Food grade grease FDA-H1.*

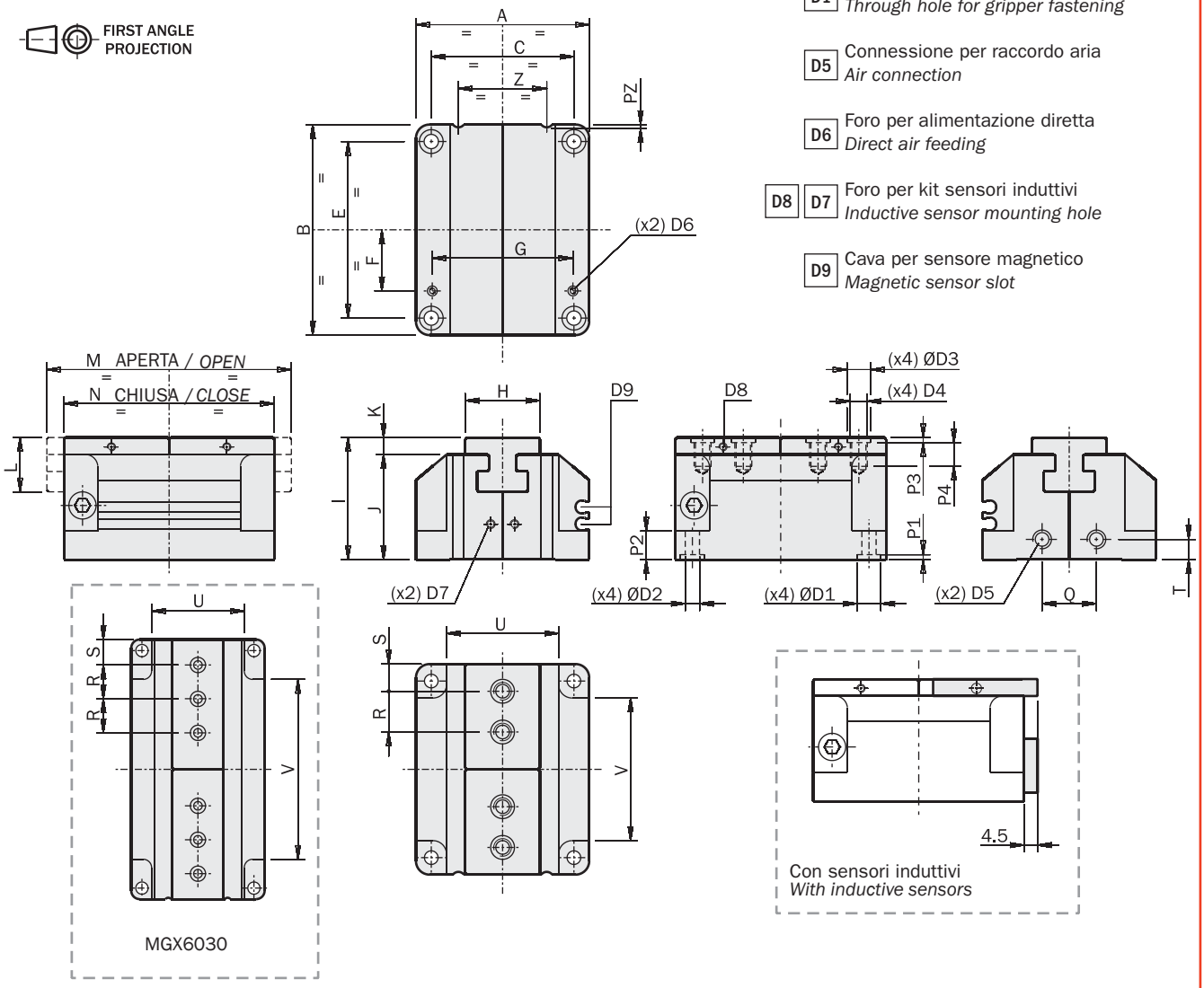


NEW

	MGX2005	MGX2508	MGX3210	MGX3214	MGX4015	MGX5020	MGX6030
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*						
Pressione di esercizio *Operating pressure range*	1 ÷ 8 bar						
Temperatura di esercizio *Operating temperature range*	5° ÷ 50°C.						
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	90 N	145 N	230 N	160 N	375 N	650 N	830 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	180 N	290 N	460 N	320 N	750 N	1300 N	1660 N
Corsa totale (±0.3 mm) *Total stroke*	5 mm	8 mm	10 mm	14.6 mm	15 mm	20 mm	30 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz	3 Hz	3 Hz	2 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	5 cm^3	10 cm^3	22 cm^3	22 cm^3	48 cm^3	86 cm^3	169 cm^3
Tempo di apertura / chiusura senza carico *Opening / Closing time without load*	7 ms	10 ms	20 ms	20 ms	50 ms	70 ms	140 ms
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	95 g	150 g	270 g	270 g	545 g	900 g	1525 g

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION



D1 Foro passante per fissaggio pinza
Through hole for gripper fastening

D5 Connessione per raccordo aria
Air connection

D6 Foro per alimentazione diretta
Direct air feeding

D8 **D7** Foro per kit sensori induttivi
Inductive sensor mounting hole

D9 Cava per sensore magnetico
Magnetic sensor slot

		MGX2005	MGX2508	MGX3210	MGX3214	MGX4015	MGX5020	MGX6030
A		35.8	42	51	51	61.2	70	78.6
B		44	55	62	62	93	118	153
C	±0.04	28.3	33	42	42	51	58	66
D1		Ø5 H7	Ø7 H7	Ø7 H7	Ø7 H7	Ø7 H7	Ø9 H7	Ø9 H7
D2		Ø3.2	Ø4.2	Ø4.2	Ø4.2	Ø5.2	Ø6.2	Ø6.2
D3		Ø5 H7	Ø7 H7	Ø7 H7	Ø7 H7	Ø9 H7	Ø12 H7	Ø9 H7
D4		M3	M4	M5	M5	M6	M8	M6
D5		M5	M5	M5	M5	M5	G1/8"	G1/8"
D6		M3	M3	M3	M3	M3	M3	M3
E	±0.02	36.5	46	52	52	80	105	140
F		12.5	15.5	18	18	27.5	37	43.5
G		27.2	33.6	41.4	41.4	49.6	58.6	67.6
H	±0.05	14	16	22	22	25	28	30
I		26	28.5	36	36	42	49	58
J		22	24	31	31	37	43	51
K		4	4.5	5	5	5	6	7
L		11.2	12.7	16	16	20	25	29
M		49	63	72	76	108	138	183
N		44	55	62	62	93	118	153
P1		1.2	1.5	1.5	1.5	1.5	2	2
P2		5.5	6	8.4	8.4	9	10	13.5
P3		1.2	1.5	1.5	1.5	2	2.5	2.5
P4		5	5.2	7	7	9	12	12
Q		11	12	16	16	31.2	32	40
R	±0.02	9	10	12	12	12	24	20
S		5.5	6	8	8	12.5	14	15
T		5.8	6	6	6	6	8	8
U		20.8	24	33	33	41.2	46	54.6
V		29	37	42	42	65	88	106
Z		17	20	26	26	30	33	35
PZ		0.5	0.5	0.8	0.8	0.8	0.8	0.8

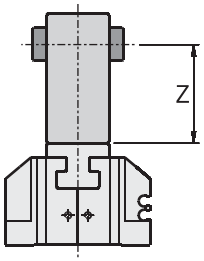
MGX

Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

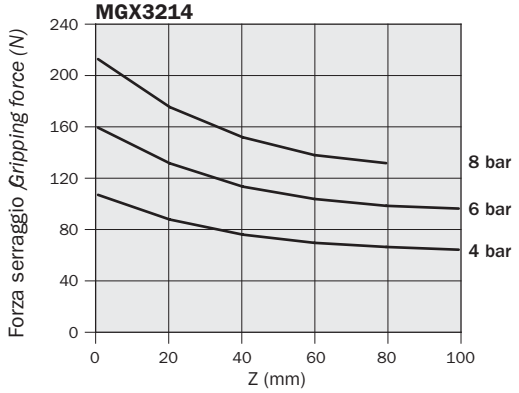
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.



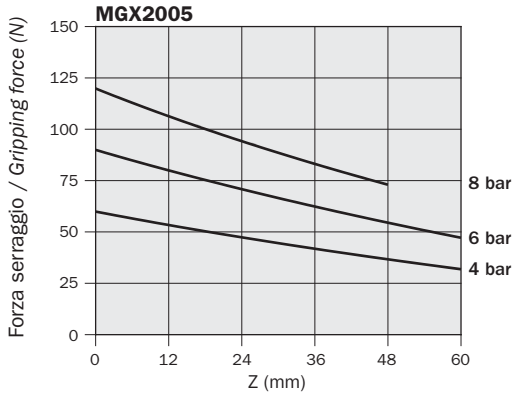
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

The force shown in these graphs refers to one jaw.
The total force is double.

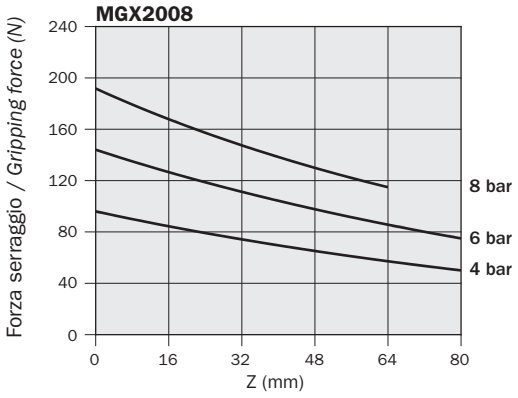
MGX3214



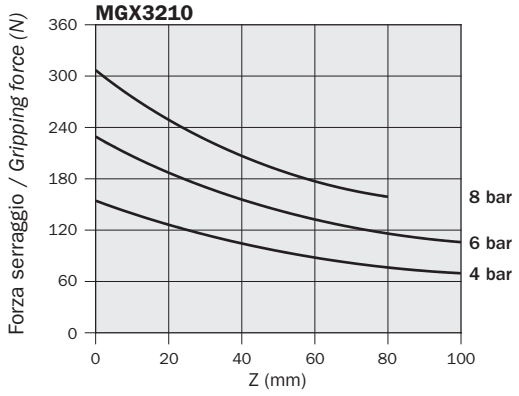
MGX2005



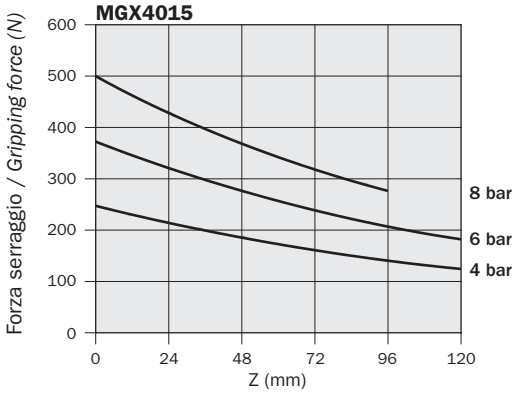
MGX2008



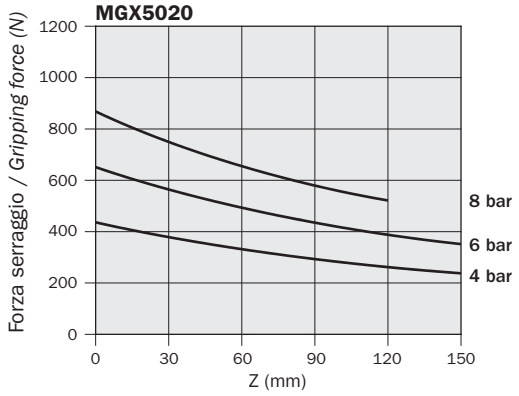
MGX3210



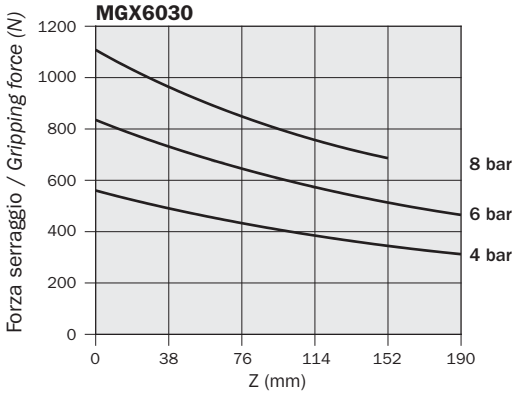
MGX4015



MGX5020



MGX6030



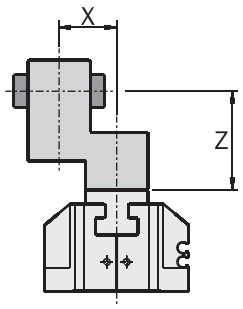
03/2015

Forza di serraggio

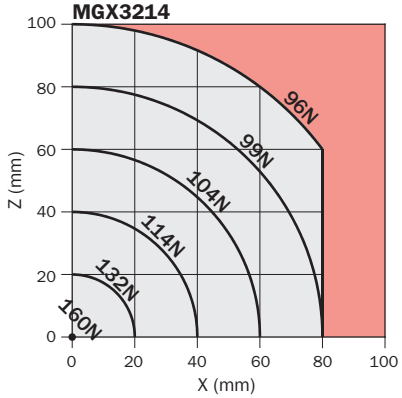
I grafici mostrano la forza per griffa espressa dalla pinza a 6 bar in funzione del braccio Z e del disassamento del punto di presa X.
Diminuire la pressione a 5bar, se la pinza è impiegata nella zona rossa.

Gripping force

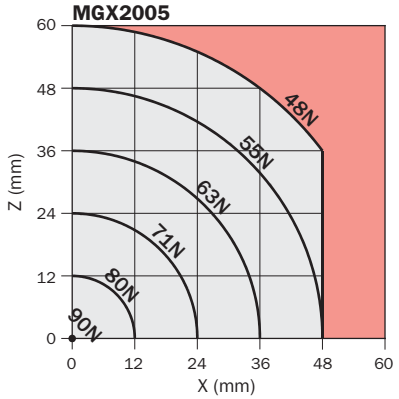
The graphs show the gripping force on each jaw, as a function of the gripping tool length Z and the overhanging X at 6 bar. Decrease the air pressure to 5bar, if the gripper is used in the red area.



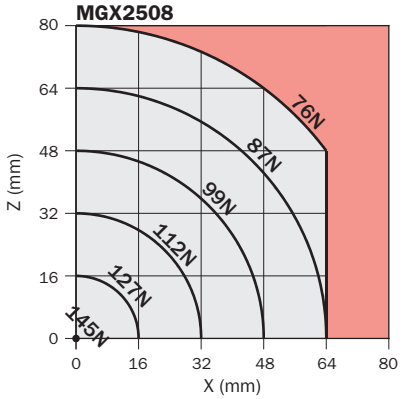
MGX3214



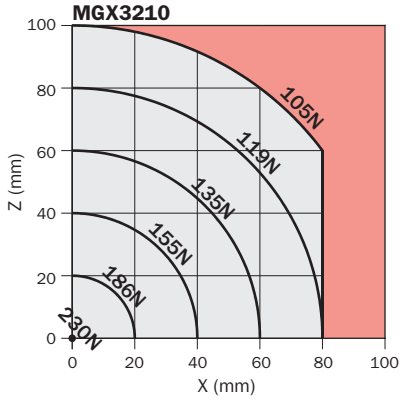
MGX2005



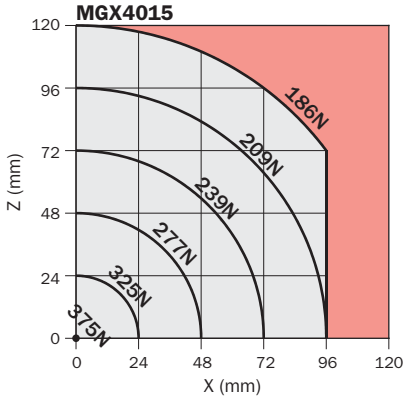
MGX2508



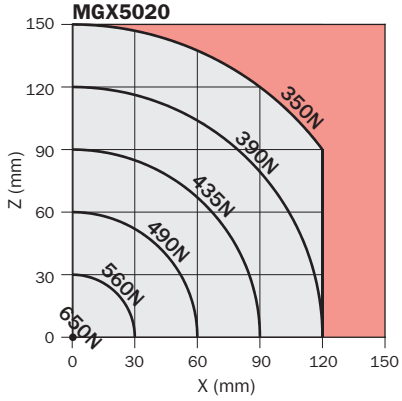
MGX3210



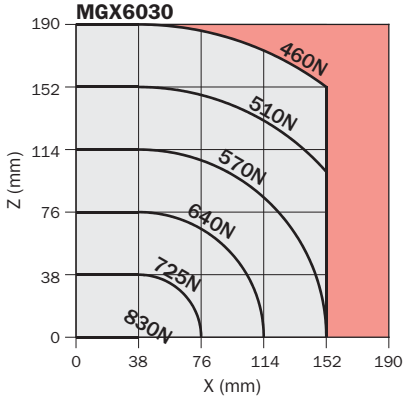
MGX4015



MGX5020



MGX6030



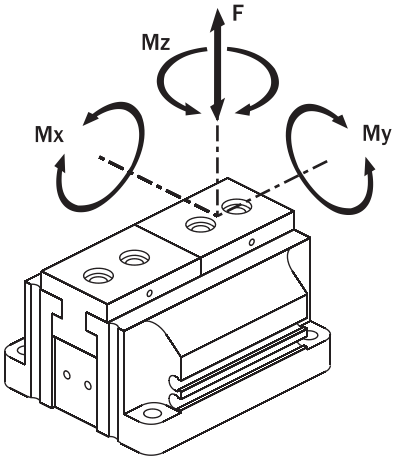
MGX

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti di deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means still jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment.
If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



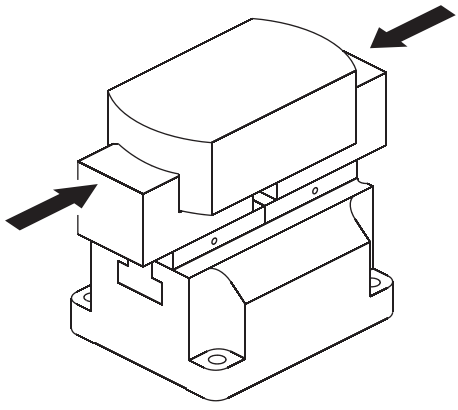
	MGX2005	MGX2508	MGX3210	MGX3214	MGX4015	MGX5020	MGX6030
F s	300 N	400 N	650 N	500 N	1000 N	1500 N	2000 N
Mx s	4 Nm	8 Nm	15 Nm	12 Nm	30 Nm	65 Nm	110 Nm
My s	12 Nm	24 Nm	55 Nm	40 Nm	70 Nm	95 Nm	155 Nm
Mz s	3 Nm	6 Nm	12 Nm	10 Nm	24 Nm	48 Nm	90 Nm
F d	2 N	3 N	6 N	5 N	10 N	17 N	25 N
Mx d	6 Ncm	13 Ncm	34 Ncm	25 Ncm	47 Ncm	80 Ncm	155 Ncm
My d	6 Ncm	13 Ncm	34 Ncm	25 Ncm	47 Ncm	80 Ncm	155 Ncm
Mz d	6 Ncm	13 Ncm	34 Ncm	25 Ncm	47 Ncm	80 Ncm	155 Ncm
m	100 g	200 g	400 g	400 g	600 g	1000 g	1500 g

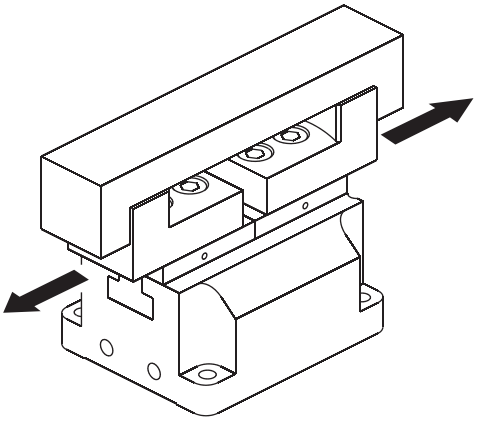
Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.

Gripping

The gripper is double-acting for either internal or external gripping applications.



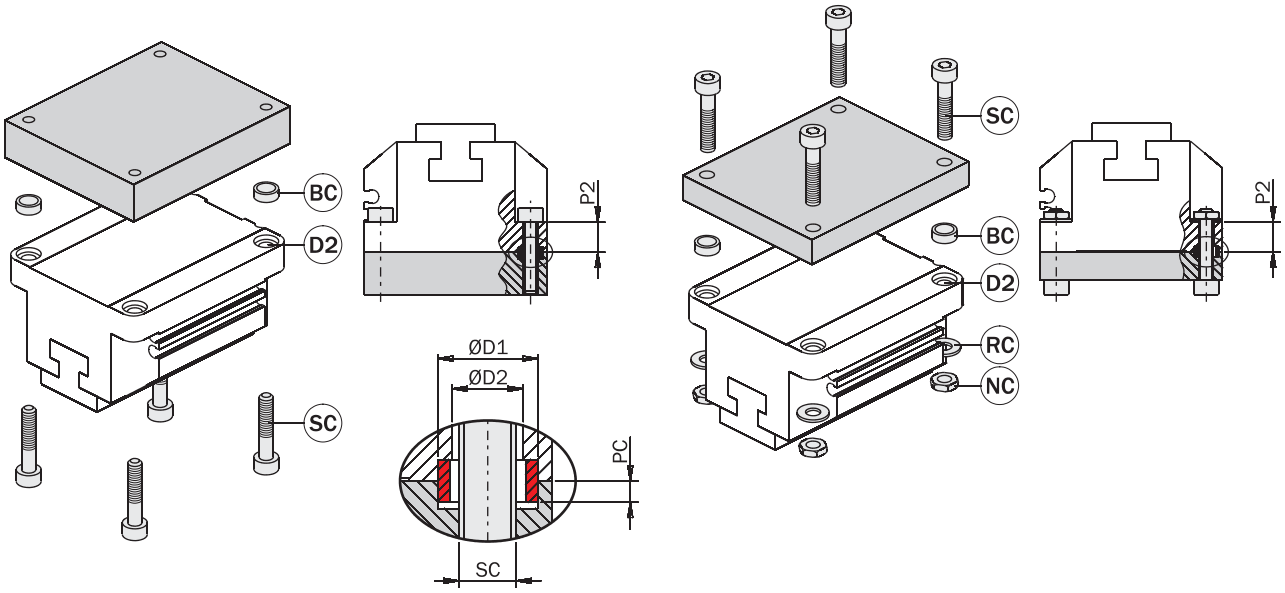


Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
E' possibile fissare la pinza sia dall'alto che dal basso.
Utilizzare 4 viti (SC) e 2 boccole di centraggio (BC).
Nella confezione della pinza sono fornite 4 boccole di centraggio per le dita di presa e 2 boccole per il corpo.

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
It can be fastened from the top or from the bottom.
Use 4 screws (SC) and 2 centering sleeves (BC).
4 centering rings for the gripping tools and 2 centering sleeves for the housing are supplied in the packaging.



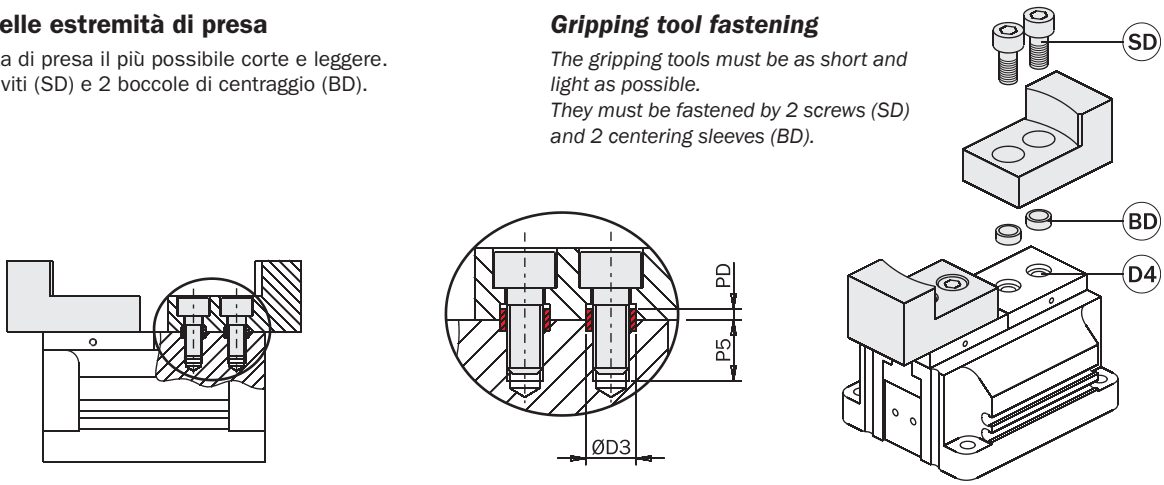
	MGX2005	MGX2508	MGX3210	MGX3214	MGX4015	MGX5020	MGX6030
D1	Ø5 H7 mm	Ø7 H7 mm	Ø7 H7 mm	Ø7 H7 mm	Ø7 H7 mm	Ø9 H7 mm	Ø9 H7 mm
D2	Ø3.2 mm	Ø4.2 mm	Ø4.2 mm	Ø4.2 mm	Ø5.2 mm	Ø6.2 mm	Ø6.2 mm
SC	M3	M4	M4	M4	M5	M6	M6
PC	1.2 mm	1.5 mm	1.5 mm	1.5 mm	1.5 mm	2 mm	2 mm
P2	5.5 mm	6 mm	8.4 mm	8.4 mm	9 mm	10 mm	13.5 mm
NC	M3 CH5.5	M4 CH7	M4 CH7	M4 CH7	M5 CH8	M6 CH10	M6 CH10
RC	Ø6 mm	Ø8 mm	Ø8 mm	Ø8 mm	Ø9 mm	Ø11 mm	Ø11 mm

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle con 2 viti (SD) e 2 boccole di centraggio (BD).

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be fastened by 2 screws (SD) and 2 centering sleeves (BD).



	MGX2005	MGX2508	MGX3210	MGX3214	MGX4015	MGX5020	MGX6030
D3	Ø5 H7 mm	Ø7 H7 mm	Ø7 H7 mm	Ø7 H7 mm	Ø9 H7 mm	Ø12 H7 mm	Ø9 H7 mm
SD	M3	M4	M5	M5	M6	M8	M6
P5	6.2 mm	6.7 mm	8.5 mm	8.5 mm	11 mm	14.5 mm	14.5 mm
PD	1.2 mm	1.5 mm	1.5 mm	1.5 mm	2 mm	2.5 mm	1.5 mm

Sensori

Il rilevamento della posizione di lavoro può essere effettuato con sensori magnetici (opzionali), che rilevano il magnete sul pistone, oppure con sensori induttivi (opzionali), che rilevano la presenza delle sfere (SY) inserite nell'appendice (Y).
Due appendici regolabili possono essere fissate alla griffa con le due viti (TY) fornite.
I sensori induttivi devono avere diametro 4mm.

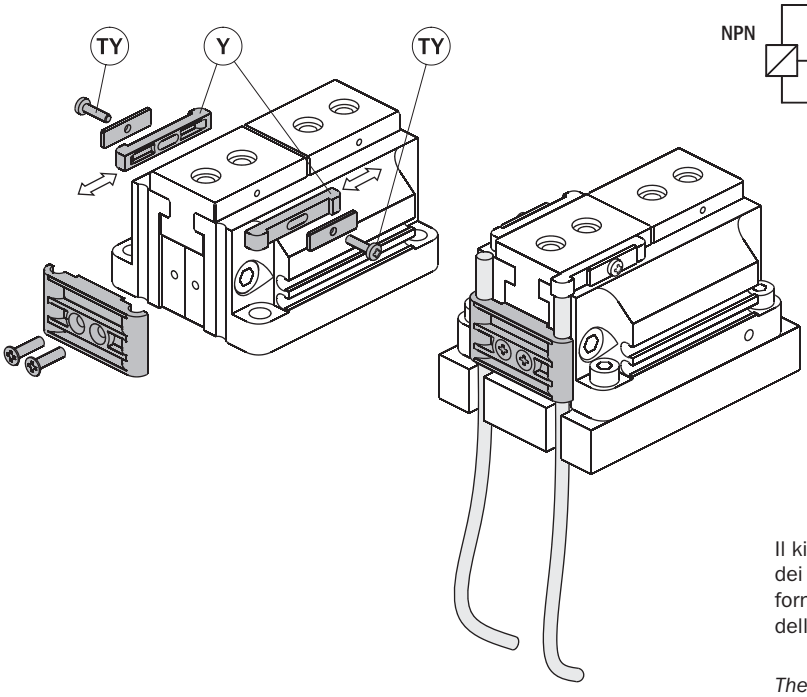
Sensors

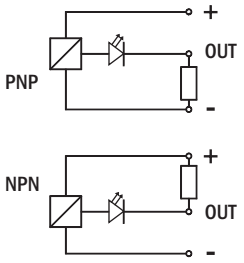
The operating position can be checked by magnetic sensors (optional), detecting the magnet of the piston, or by inductive sensors (optional), detecting the ball (SY) in the appendix (Y).
Two adjustable appendixes can be mounted on the jaw using the supplied screws (TY).
Use 4mm diameter inductive sensors.

Codici di ordinazione dei sensori induttivi:

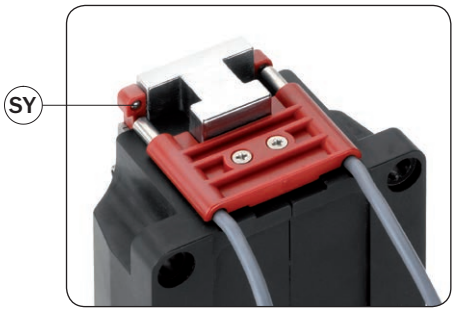
Ordering codes of the inductive sensors:

SI4M225-G	NPN	Cavo 2.5m / *2.5m cable*
SI4N225-G	PNP	Cavo 2.5m / *2.5m cable*









Il kit per il fissaggio dei sensori induttivi è fornito nella confezione della pinza.

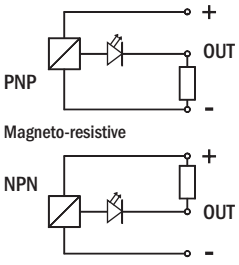
The accessories to fix the inductive sensors are supplied in the packaging.

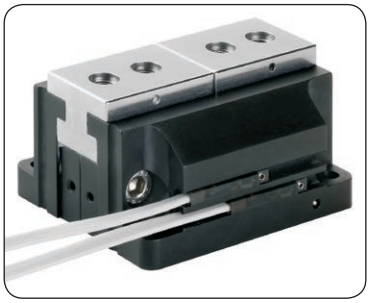


I sensori magnetici utilizzabili sono i codici Gimatic:

The magnetic sensors from Gimatic are the codes:

SS4N225-G	PNP	Cavo 2.5m / 2.5m cable
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector



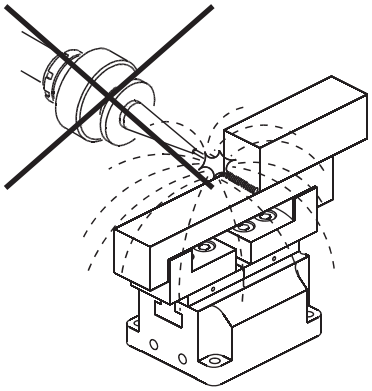


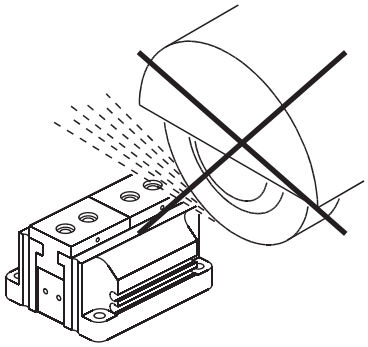
Avvertenze

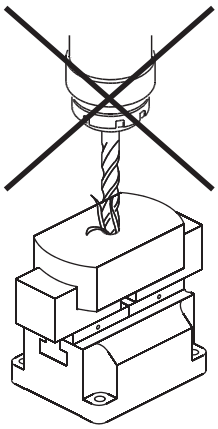
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
Never let personnel or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.







Manutenzione

La pinza va ingrassata ogni 10 milioni di cicli con:
• BERULUB FG-H 2 EP
(Lubrificante NSF H1 Registrazione No. 140486).

La figura sotto mostra il gioco massimo delle griffe.

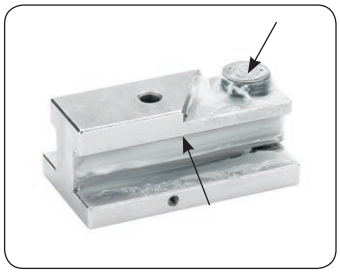
Maintenance

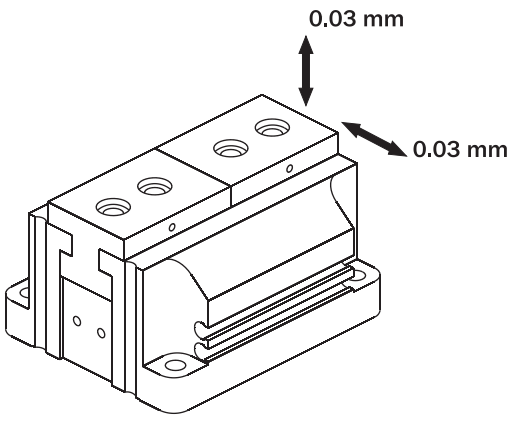
Grease the gripper after 10 million cycles with:
• *BERULUB FG-H 2 EP*
(Lubricant NSF H1 Registration No. 140486).

The picture below shows the jaw maximum backlash.









Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Oppure si alimenta direttamente dai fori inferiori (G e H) rimuovendo i tappi (E e F) e montando altri tappi (non forniti) nei fori laterali (P e R).

Aria compressa in P - H: apertura della pinza.
Aria compressa in R - G: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

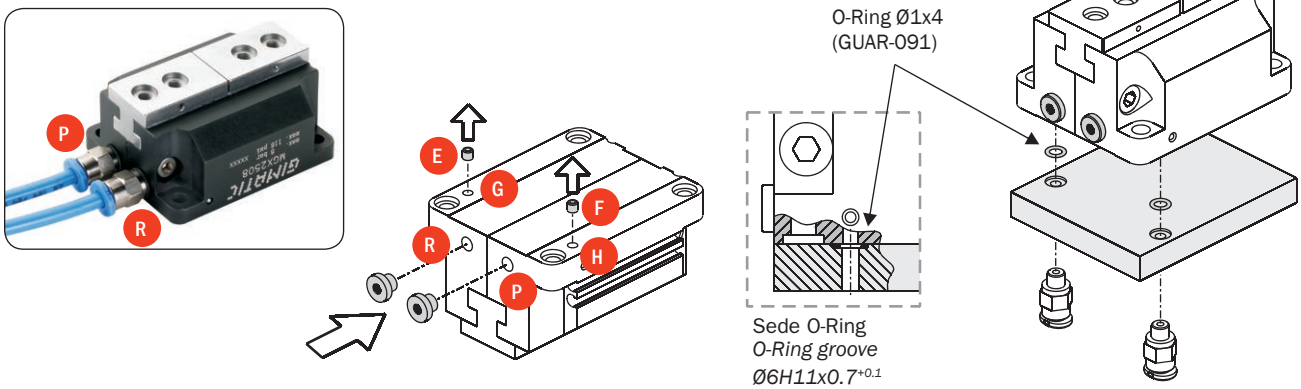
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

Or it can be accomplished directly by the bottom air ports (G and H) removing the plugs (E and F) and providing other plugs (not supplied) for the lateral air ports (P and R).

Compressed air in P - H: gripper opening.
Compressed air in R - G: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

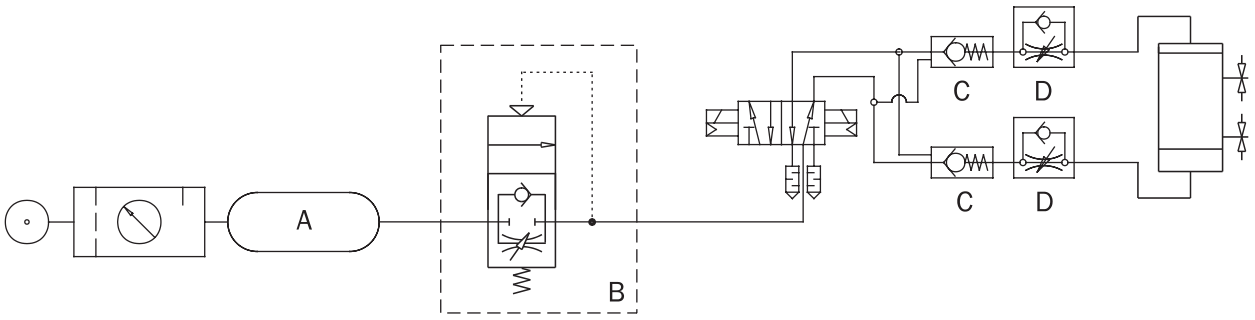
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Versioni a molla

A richiesta è disponibile la versione con la molla in chiusura (-NC) o in apertura (-NO), che in assenza d'aria garantisce circa un quarto della forza disponibile a 6 bar.

Spring option

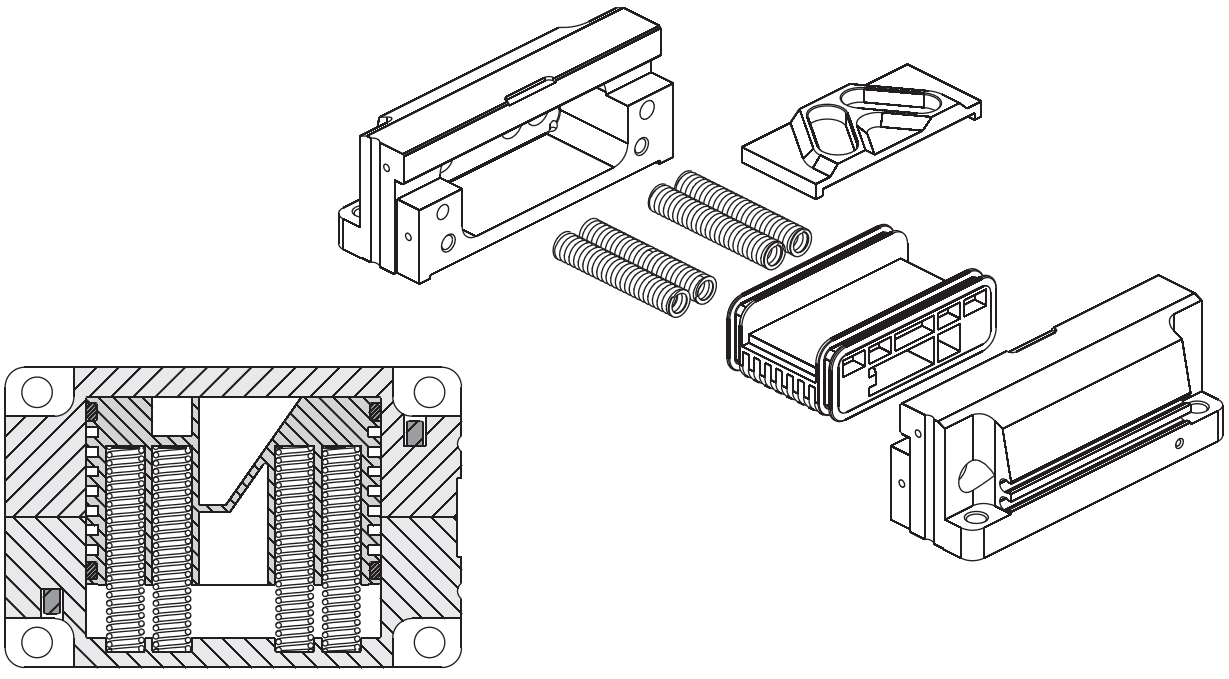
It is also available, on request, with a closing (-NC) or opening (-NO) spring, providing, after a pressure black-out, about one fourth of the output force at 6 bar.

	MGX2005-NC	MGX2508-NC	MGX3210-NC	MGX3214-NC	MGX4015-NC	MGX5020-NC	MGX6030-NC
Forza di chiusura per griffa a 6 bar *Closing force at 6 bar each jaw*	114÷121 N	179÷195 N	285÷306 N	199÷213 N	467÷510 N	792÷871 N	1016÷1110 N
Forza di apertura per griffa a 6 bar *Opening force at 6 bar each jaw*	59÷66 N	95÷111 N	154÷175 N	107÷122 N	240÷283 N	429÷508 N	550÷644 N
Forza di chiusura per griffa a 0 bar *Closing force at 0 bar each jaw*	24÷31 N	34÷50 N	55÷76 N	38÷53 N	92÷135 N	142÷221 N	186÷280 N
Forza di apertura per griffa a 0 bar *Opening force at 0 bar each jaw*	0 N	0 N	0 N	0 N	0 N	0 N	0 N

	MGX2005-NO	MGX2508-NO	MGX3210-NO	MGX3214-NO	MGX4015-NO	MGX5020-NO	MGX6030-NO
Forza di chiusura per griffa a 6 bar *Closing force at 6 bar each jaw*	59÷66 N	95÷111 N	154÷175 N	107÷122 N	240÷283 N	429÷508 N	550÷644 N
Forza di apertura per griffa a 6 bar *Opening force at 6 bar each jaw*	114÷121 N	179÷195 N	285÷306 N	199÷213 N	467÷510 N	792÷871 N	1016÷1110 N
Forza di chiusura per griffa a 0 bar *Closing force at 0 bar each jaw*	0 N	0 N	0 N	0 N	0 N	0 N	0 N
Forza di apertura per griffa a 0 bar *Opening force at 0 bar each jaw*	24÷31 N	34÷50 N	55÷76 N	38÷53 N	92÷135 N	142÷221 N	186÷280 N

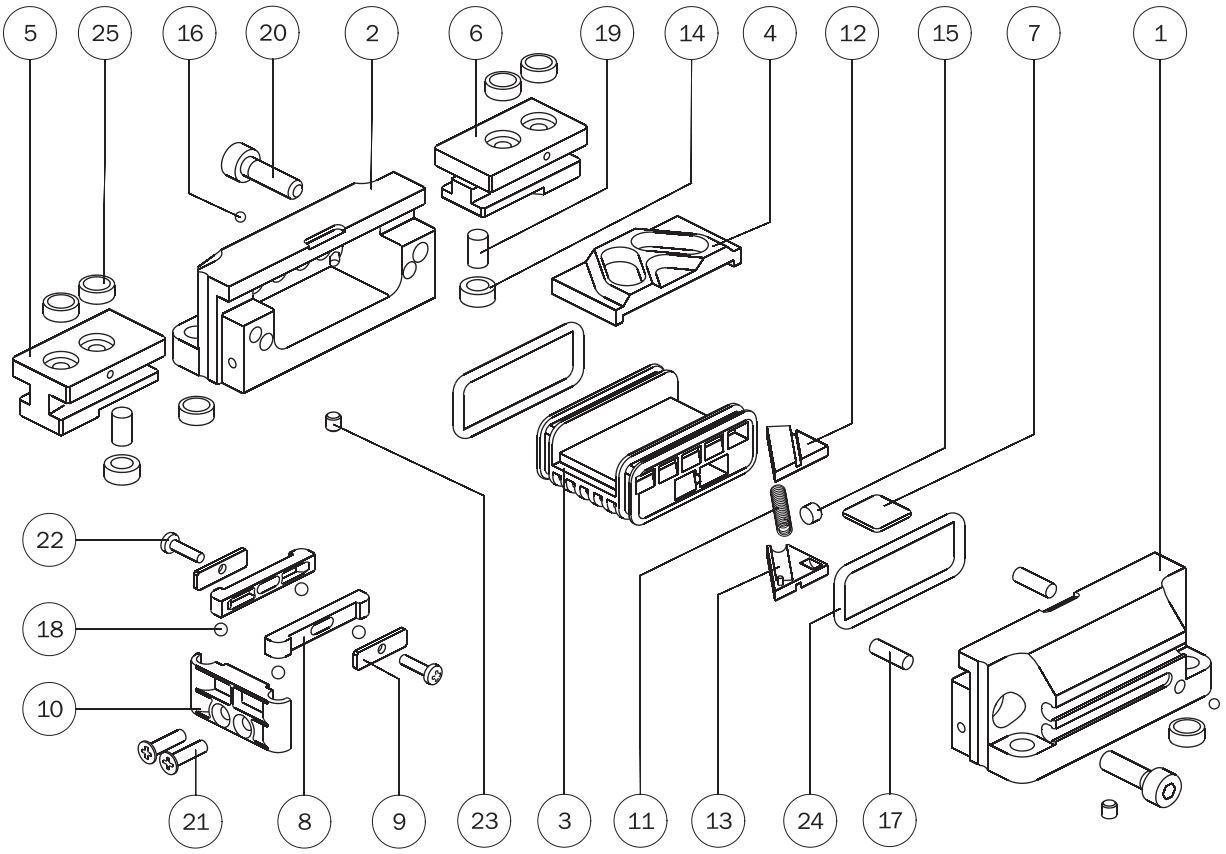
Nelle versioni con le molle la lunghezza massima delle estremità di presa deve essere ridotta del 20%.
Nelle versioni con le molle la minima pressione di utilizzo é 3.5bar.

In the spring versions the maximum gripping tool length should be 20% shorter.
In the spring versions the minimum operating pressure is 3.5bar.



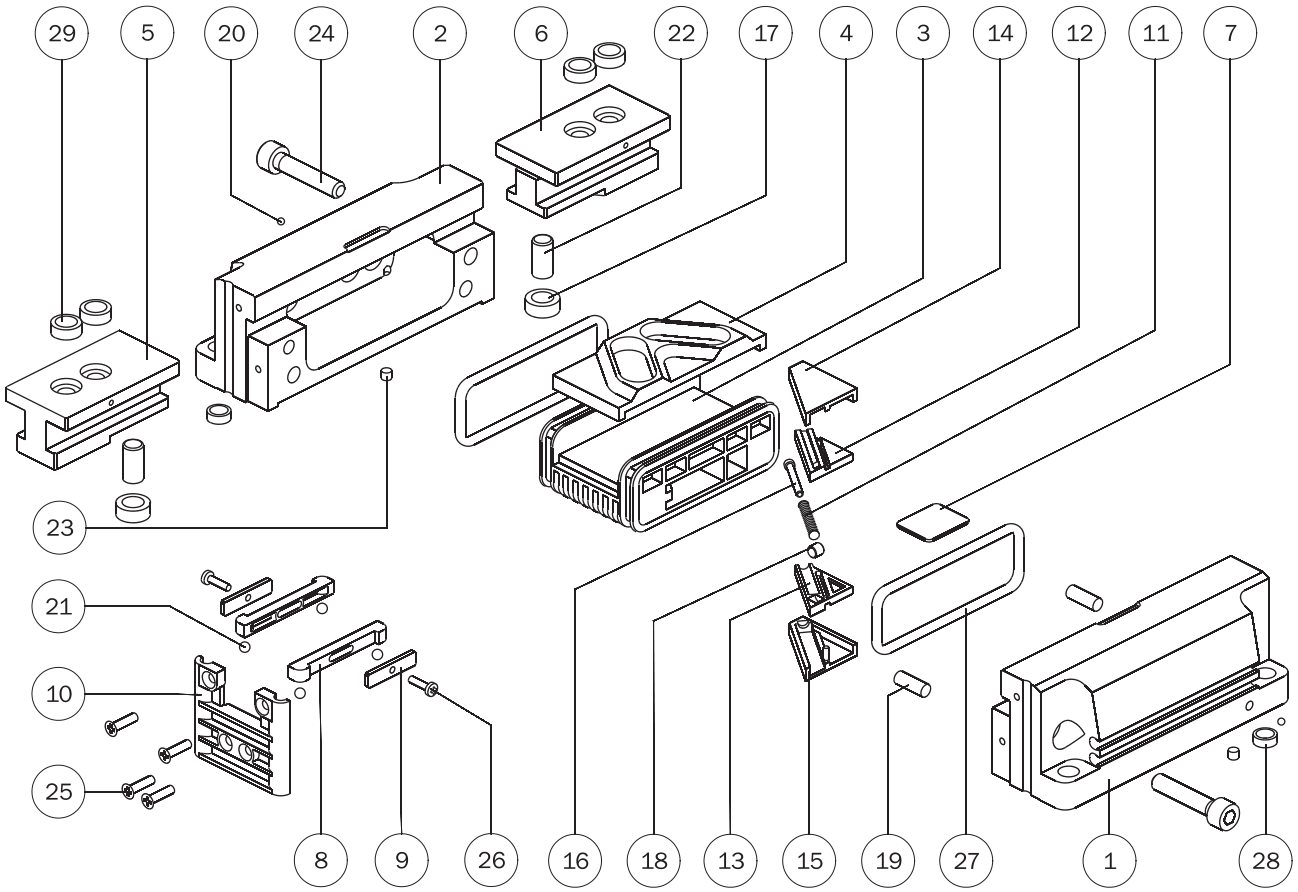
MGX

Elenco delle parti / *Part list*



		MGX2005	MGX2508		
1	Semicorpo sinistro	MGX2005-01	MGX2508-01	*Left half body*	*1*
2	Semicorpo destro	MGX2005-02	MGX2508-02	*Right half body*	*2*
3	Pistone	MGX2005-03	MGX2508-03	*Piston*	*3*
4	sore	MGX2005-20	MGX2508-20	*Slider*	*4*
5	Griffa sx	MGX2005-21	MGX2508-21	*Left jaw*	*5*
6	Griffa dx	MGX2005-22	MGX2508-22	*Right jaw*	*6*
7	Protezione	MGF2005-07	MGF2508-07	*Protection*	*7*
8	Piastrina portasfera	MGX2005-08	MGX2508-08	*Ball holder*	*8*
9	Piastrina di fissaggio	MGX2005-09	MGX2508-09	*Fixing plate*	*9*
10	Sede per sensori induttivi	MGX2005-10	MGX2508-10	*Inductive sensor housing*	*10*
11	Molla	MGX2005-12	MGX2508-12	*Spring*	*11*
12	Portamagnete superiore	MGX2005-13	MGX2508-13	*Upper magnet housing*	*12*
13	Portamagnete inferiore	MGX2005-14	MGX2508-14	*Lower magnet housing*	*13*
14	Rotella	MGX2005-23	MGX2508-23	*Roller*	*14*
15	Magnete	EPP12-13	EPP12-13	*Magnet*	*15*
16	Sfera	Ø2 DIN5401A	Ø2 DIN5401A	*Ball*	*16*
17	Spina di riferimento	Ø3x10 mm	Ø3x10 mm	*Dowel pin*	*17*
18	Sfera	Ø2.5 DIN5401A	Ø2.5 DIN5401A	*Ball*	*18*
19	Rullino	Ø3x5.8 mm DIN5402	Ø4x7 mm DIN5402	*Dowel pin*	*19*
20	Vite	M3x12 mm DIN912 INOX A2	M4x14 mm DIN912 INOX A2	*Screw*	*20*
21	Vite	M2.5x10 mm DIN965A INOX A2	M2.5x10 mm DIN965A INOX A2	*Screw*	*21*
22	Vite	M2x8 mm DIN7985 INOX A2	M2x8 mm DIN7985 INOX A2	*Screw*	*22*
23	Vite senza testa	M3x3 mm DIN913 Z/B	M3x3 mm DIN913 Z/B	*Grub screw*	*23*
24	O-Ring	Ø1.78x17.17 HNBR (GUAR-076H)	Ø1.78x23.52 HNBR (GUAR-008H)	*O-Ring*	*24*
25	Boccola	ZBH-5	ZBH-7	*Bush*	*25*

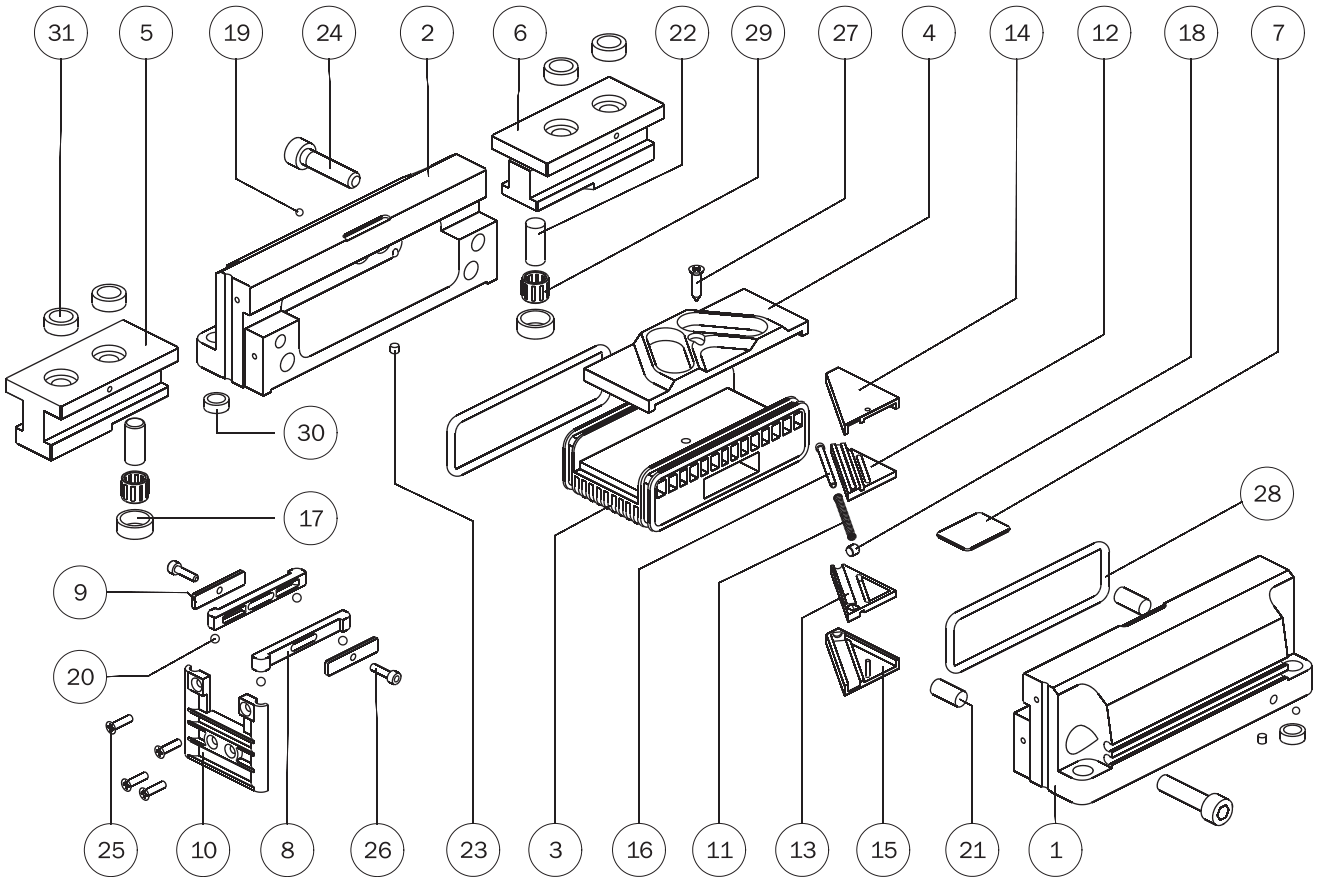
Elenco delle parti / *Part list*



		MGX3210	MGX3214	MGX4015		
1	Semicorpo sinistro	MGX3210-01	MGX3214-01	MGX4015-01	*Left half body*	*1*
2	Semicorpo destro	MGX3210-02	MGX3214-02	MGX4015-02	*Right half body*	*2*
3	Pistone	MGX3210-03		MGX4015-03	*Piston*	*3*
4	Cursore	MGX3210-20	MGX3214-20	MGX4015-20	*Slider*	*4*
5	Griffa sx	MGX3210-21	MGX3214-21	MGX4015-21	*Left jaw*	*5*
6	Griffa dx	MGX3210-22	MGX3214-22	MGX4015-22	*Right jaw*	*6*
7	Protezione	MGX3210-07	MGX3214-07	MGF4015-07	*Protection*	*7*
8	Piastrina portasfera	MGX3210-08		MGX4015-08	*Ball holder*	*8*
9	Piastrina di fissaggio	MGX3210-09		MGX4015-09	*Fixing plate*	*9*
10	Sede per sensori induttivi	MGX3210-10		MGX4015-10	*Inductive sensor housing*	*10*
11	Molla	MGX3210-12		MGX4015-12	*Spring*	*11*
12	Portamagnete superiore	MGX3210-13		MGX4015-13	*Upper magnet housing*	*12*
13	Portamagnete inferiore	MGX3210-14		MGX4015-14	*Lower magnet housing*	*13*
14	Supporto superiore	MGX3210-15		MGX4015-15	*Upper support*	*14*
15	Supporto inferiore	MGX3210-16		MGX4015-16	*Lower support*	*15*
16	Perno guida	-		MGX4015-19	*Guide pin*	*16*
17	Rotella	MGX3210-23		MGX4015-23	*Roller*	*17*
18	Magnete	EPP12-13		R63-180-20	*Magnet*	*18*
19	Spina di riferimento	Ø3x12mm DIN6325		Ø4x12mm DIN6325	*Ball*	*19*
20	Sfera	Ø2 DIN5401A			*Dowel pin*	*20*
21	Sfera	Ø2.5 DIN5401A		Ø3 AA DIN5401A	*Ball*	*21*
22	Rullino	Ø5x10mm DIN5402		Ø6x12mm DIN5402	*Dowel pin*	*22*
23	Vite senza testa	M3x3 mm DIN913 Z/B			*Screw*	*23*
24	Vite	M5x20mm DIN912 INOX A2		M5x25mm DIN912 INOX A2	*Screw*	*24*
25	Vite	M2.5x10mm DIN965A INOX A2			*Screw*	*25*
26	Vite	M2x8mm DIN7985 INOX A2			*Grub screw*	*26*
27	O-Ring	Ø2.62x28.25 HNBR (GUAR-107H)		MGX4015-18	*O-Ring*	*27*
28	Boccola	ZBH-7			*Bush*	*28*
29	Boccola	ZBH-7		ZBH-9	*Bush*	*29*

MGX

Elenco delle parti / *Part list*



		MGX5020	MGX6030		
1	Semicorpo sinistro	MGX5020-01	MGX6030-01	*Left half body*	*1*
2	Semicorpo destro	MGX5020-02	MGX6030-02	*Right half body*	*2*
3	Pistone	MGX5020-03	MGX6025-03	*Piston*	*3*
4	Cursore	MGX5020-20	MGX6030-20	*Slider*	*4*
5	Griffa sx	MGX5020-21	MGX6030-21	*Left jaw*	*5*
6	Griffa dx	MGX5020-22	MGX6030-22	*Right jaw*	*6*
7	Protezione	MGF5020-07	MGX6030-07	*Protection*	*7*
8	Piastrina portasfera	MGX5020-08	MGX6025-08	*Ball holder*	*8*
9	Piastrina di fissaggio	MGX5020-09	MGX6030-09	*Fixing plate*	*9*
10	Sede per sensori induttivi	MGX5020-10	MGX6025-10	*Inductive sensor housing*	*10*
11	Molla	MGX6025-12	MGX6025-12	*Spring*	*11*
12	Portamagnete superiore	MGX5020-13	MGX6025-13	*Upper magnet housing*	*12*
13	Portamagnete inferiore	MGX5020-14	MGX6025-14	*Lower magnet housing*	*13*
14	Supporto superiore	MGX5020-15	MGX6025-15	*Upper support*	*14*
15	Supporto inferiore	MGX5020-16	MGX6025-16	*Lower support*	*15*
16	Perno guida	MGX6025-19	MGX6025-19	*Guide pin*	*16*
17	Rotella	MGX5020-23	MGX6030-23	*Roller*	*17*
18	Magnete	R63-180-20	R63-180-20	*Magnet*	*18*
19	Sfera	Ø2.5 DIN5401A	Ø2.5 DIN5401A	*Ball*	*19*
20	Sfera	Ø3 AA DIN5401A	Ø3 AA DIN5401A	*Ball*	*20*
21	Spina di riferimento	Ø6x14 DIN6325	Ø6x14 DIN6325	*Dowel pin*	*21*
22	Rullino	Ø7x16 DIN5402	Ø7x14 DIN5402	*Dowel pin*	*22*
23	Vite senza testa	M3x3 mm DIN913 Z/B	M3x3 mm DIN913 Z/B	*Grub screw*	*23*
24	Vite	M6x25 DIN912 INOX A2	M8x30 DIN912 INOX A2	*Screw*	*24*
25	Vite	M2.5x10 DIN965A INOX A2	M2.5x10 DIN965A INOX A2	*Screw*	*25*
26	Vite	M2.5x10 DIN912 INOX A2	M2.5x10 DIN912 INOX A2	*Screw*	*26*
27	Vite	M2.9x13 DIN7982 INOX A2	M2.9x13 DIN7982 INOX A2	*Screw*	*27*
28	O-Ring	MGX5020-18	MGX6030-18	*O-Ring*	*28*
29	Gabbia a rullini	CUSC-029	CUSC-029	*Roller cage*	*29*
30	Boccola	ZBH-9	ZBH-9	*Bush*	*30*
31	Boccola	ZBH-12	ZBH-9	*Bush*	*31*

Note / *Notes*

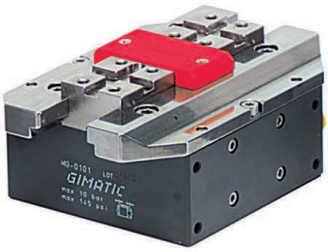
MG

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie MG)

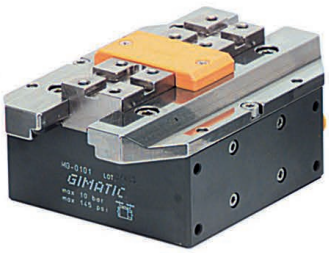
- Azionamento a doppio effetto.
- Costruzione robusta: grande durata e affidabilità senza manutenzione.
- Possibilità di scelta su un'ampia gamma di corse e forze di serraggio.
- Forza di serraggio costante su tutta la corsa in apertura ed in chiusura.
- Profilo piatto.
- Predisposta per sensori induttivi.

2-jaw parallel self-centering pneumatic gripper (series MG)

- *Double acting.*
- *The rugged construction lends itself to heavy duty applications for a trouble free long life without maintenance.*
- *Wide choice of gripping force and stroke length options.*
- *The gripping force is constant on both directions along total stroke.*
- *Flat profile.*
- *Prepared for mounting inductive sensors.*



MG-0100



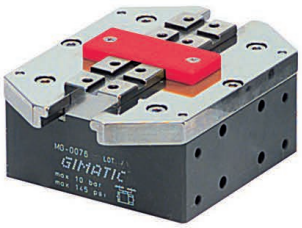
MG-0101



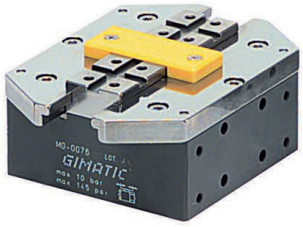
MG-0102



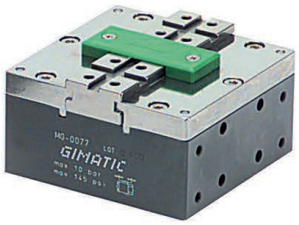
MG-0103



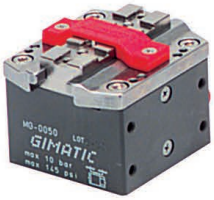
MG-0075



MG-0076



MG-0077



MG-0050



MG-0051



MG-0052



MG-0025



MG-0026



MG-0027



MG-0010



MG-0011

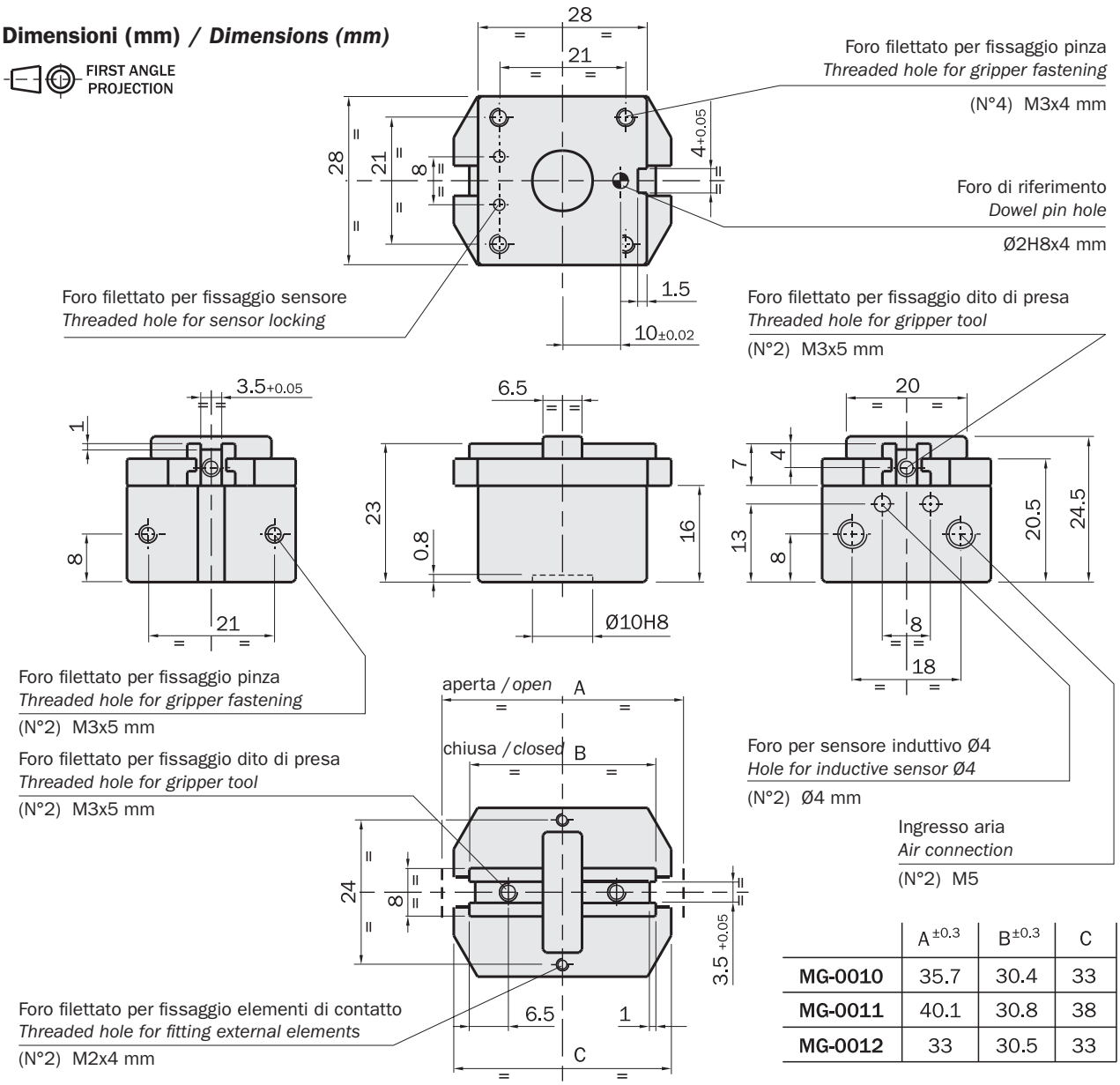


MG-0012

	MG-0010	MG-0011	MG-0012
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2÷8 bar		
Temperatura di esercizio *Operating temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	35 N	18 N	70 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	70 N	36 N	140 N
Corsa totale (±0.3 mm) *Total stroke*	5.3 mm	9.3 mm	2.5 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	1.5 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.03 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	60 g	65 g	60 g

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

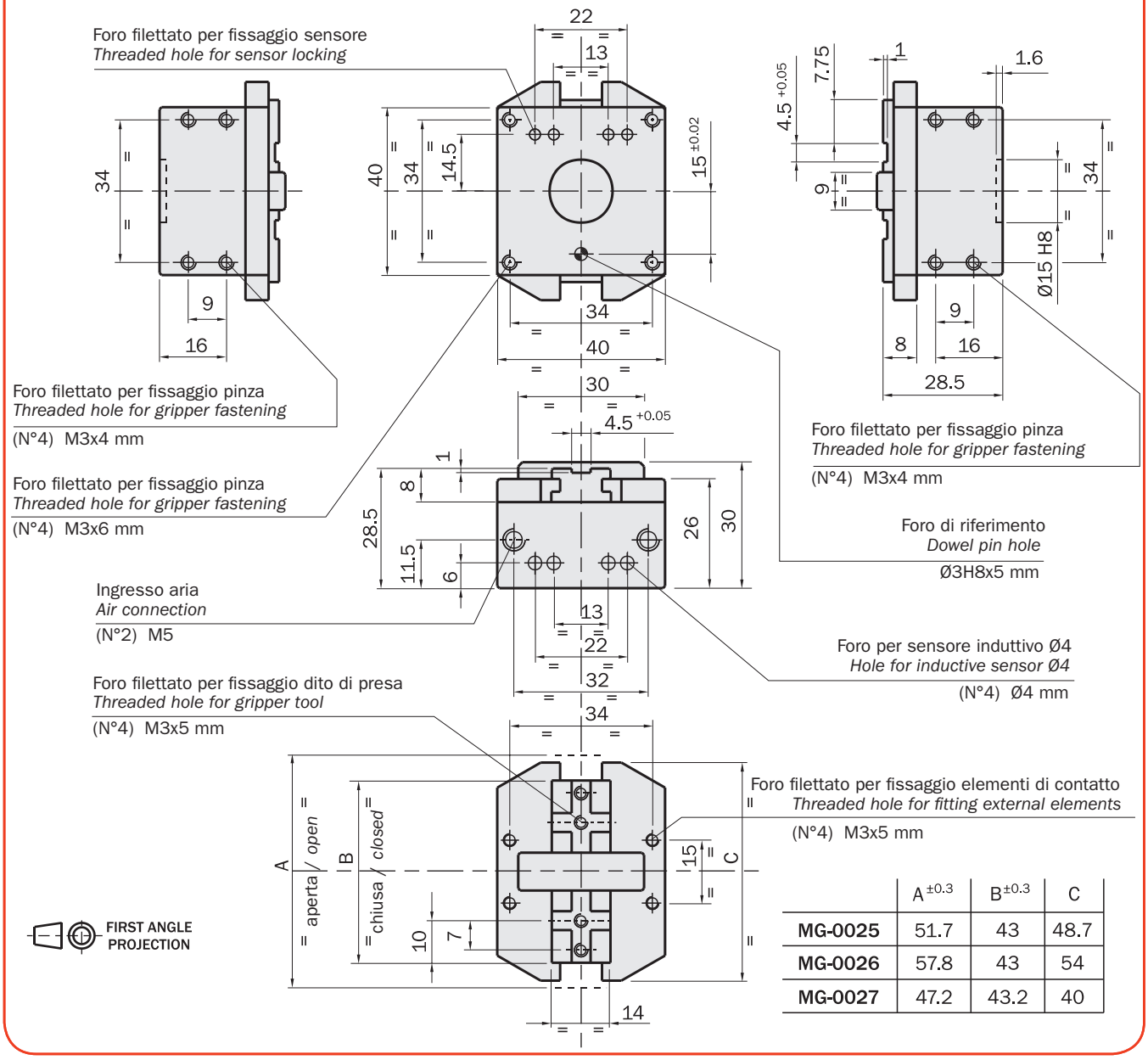


	A ±0.3	B ±0.3	C
MG-0010	35.7	30.4	33
MG-0011	40.1	30.8	38
MG-0012	33	30.5	33

MG

	MG-0025	MG-0026	MG-0027
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2÷8 bar		
Temperatura di esercizio *Operating temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	70 N	40 N	130 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	140 N	80 N	260 N
Corsa totale (±0.3 mm) *Total stroke*	8.7 mm	14.8 mm	4 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	3.4 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.05 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	160 g	170 g	150 g

Dimensioni (mm) / *Dimensions (mm)*

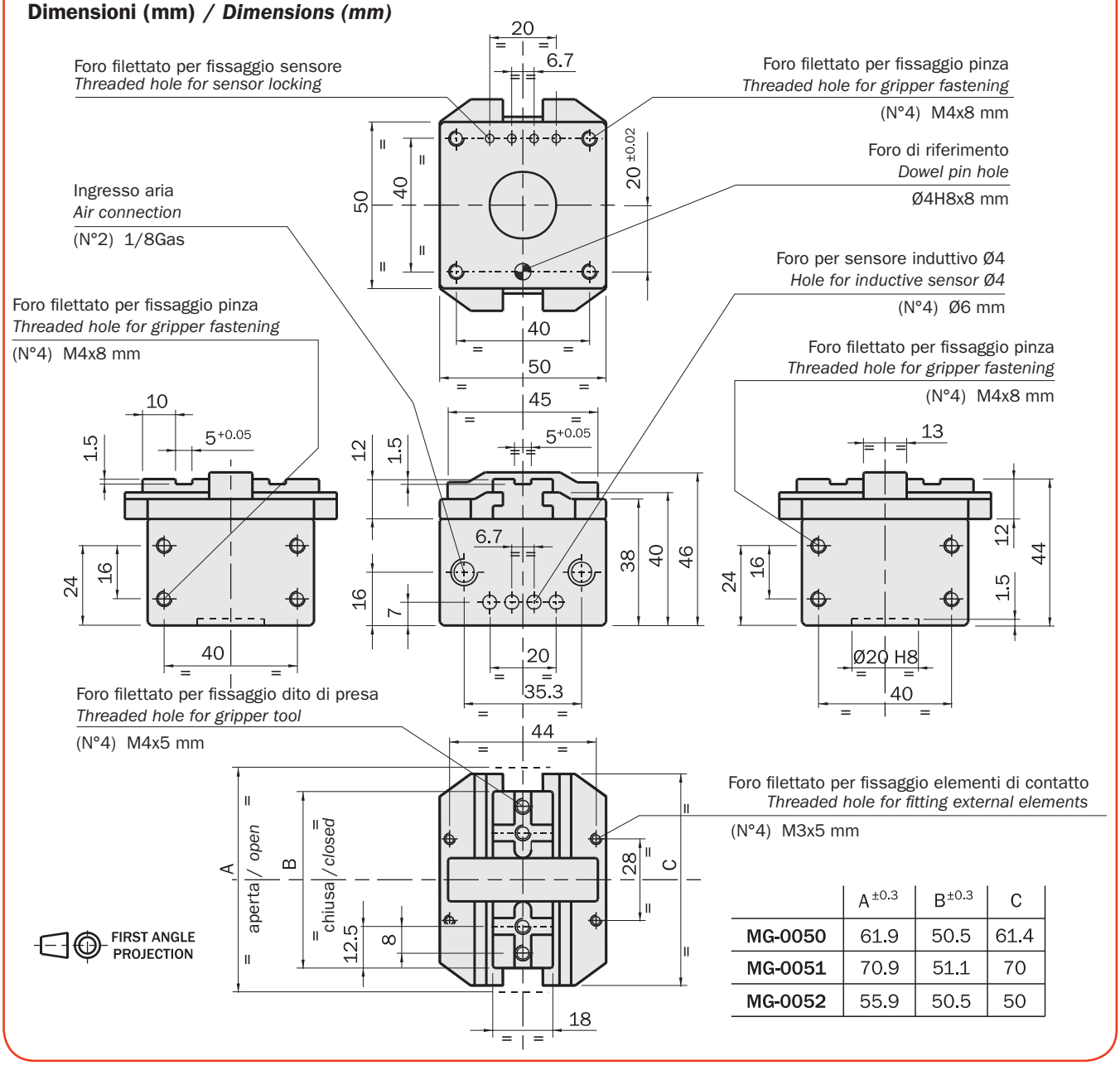


	A ±0.3	B ±0.3	C
MG-0025	51.7	43	48.7
MG-0026	57.8	43	54
MG-0027	47.2	43.2	40

03/2015

	MG-0050	MG-0051	MG-0052
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2÷8 bar		
Temperatura di esercizio *Operating temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	160 N	90 N	300 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	320 N	180 N	600 N
Corsa totale (±0.3 mm) *Total stroke*	11.4 mm	19.8 mm	5.4 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	12 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.09 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	370 g	380 g	350 g

Dimensioni (mm) / *Dimensions (mm)*

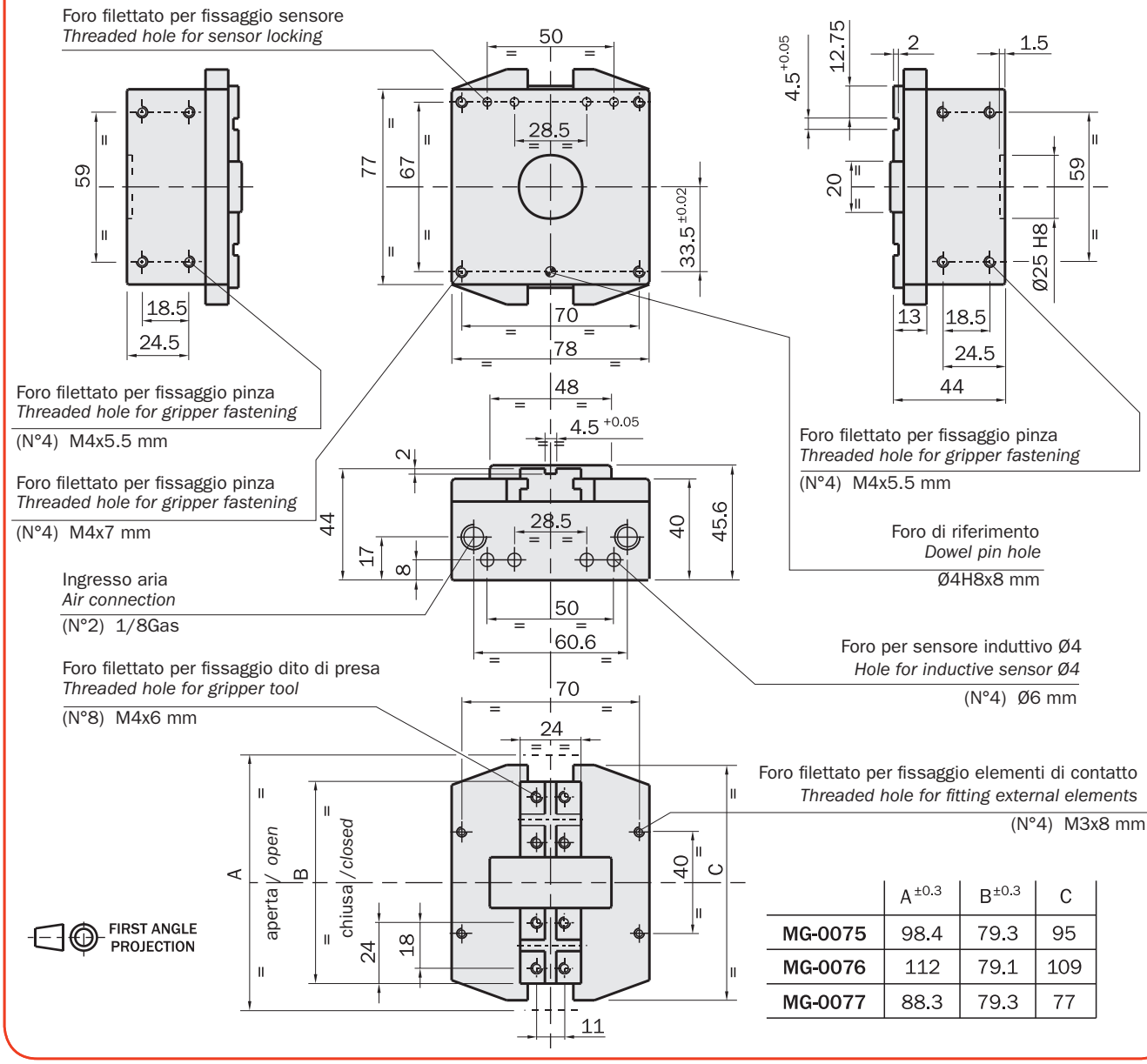


	A ±0.3	B ±0.3	C
MG-0050	61.9	50.5	61.4
MG-0051	70.9	51.1	70
MG-0052	55.9	50.5	50

MG

	MG-0075	MG-0076	MG-0077
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2÷8 bar		
Temperatura di esercizio *Operating temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	250 N	160 N	540 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	500 N	320 N	1080 N
Corsa totale (±0.3 mm) *Total stroke*	19.1 mm	32.9 mm	9 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	34 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.14 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	940 g	980 g	900 g

Dimensioni (mm) / *Dimensions (mm)*

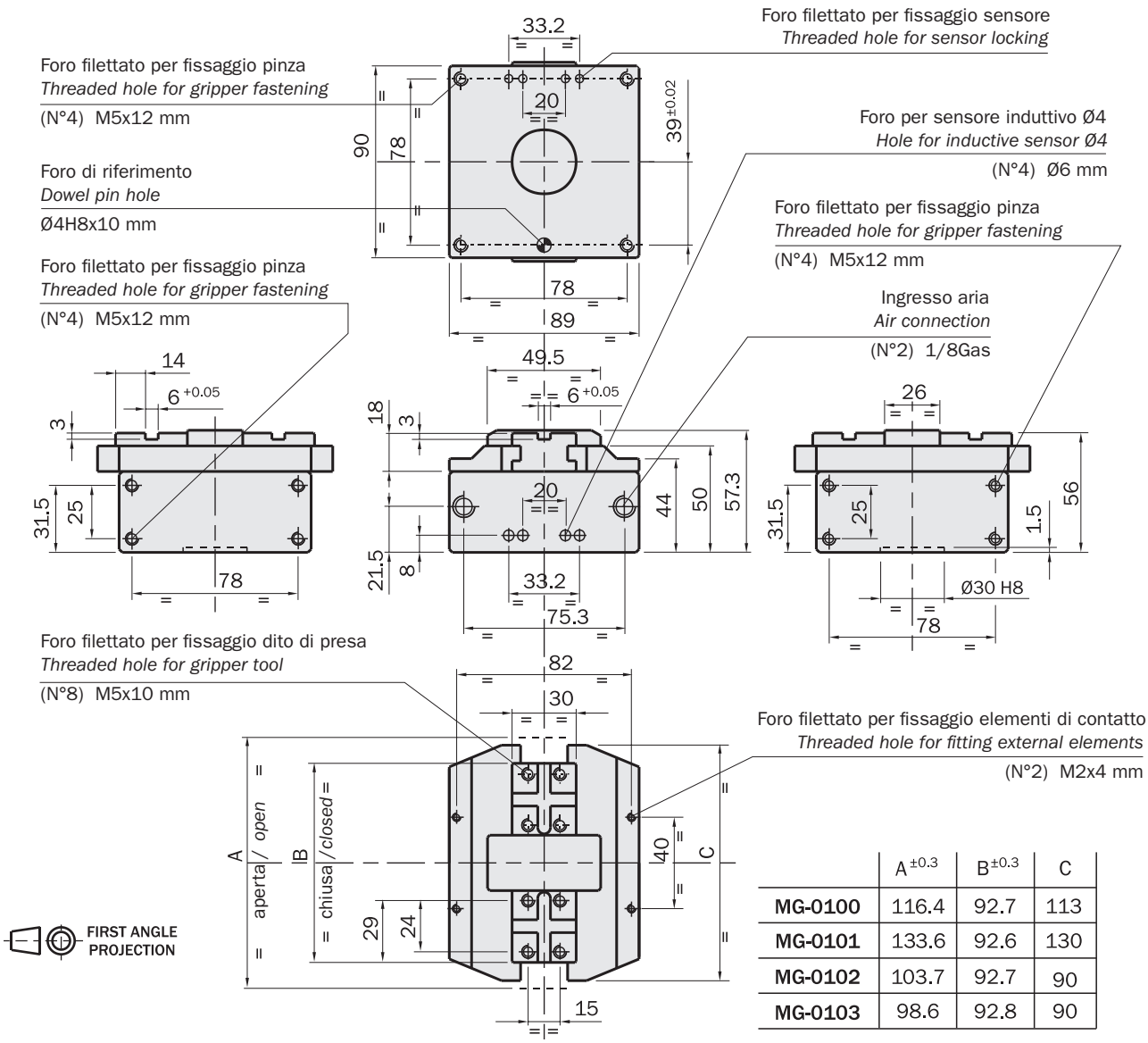


	A ±0.3	B ±0.3	C
MG-0075	98.4	79.3	95
MG-0076	112	79.1	109
MG-0077	88.3	79.3	77

03/2015

	MG-0100	MG-0101	MG-0102	MG-0103
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2÷8 bar			
Temperatura di esercizio *Operating temperature range*	5÷60 °C.			
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	450 N	210 N	770 N	1200 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	900 N	420 N	1540 N	2400 N
Corsa totale (±0.3 mm) *Total stroke*	23.7 mm	41 mm	11 mm	5.8 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz			
Consumo d'aria per ciclo *Cycle air consumption*	61 cm^3			
Tempo di chiusura senza carico *Closing time without load*	0.14 s			
Ripetibilità *Repetition accuracy*	0.02mm			
Peso *Weight*	1500 g	1600 g	1400 g	1400 g

Dimensioni (mm) / *Dimensions (mm)*



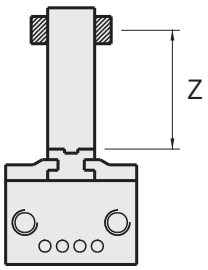
	A ±0.3	B ±0.3	C
MG-0100	116.4	92.7	113
MG-0101	133.6	92.6	130
MG-0102	103.7	92.7	90
MG-0103	98.6	92.8	90

Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

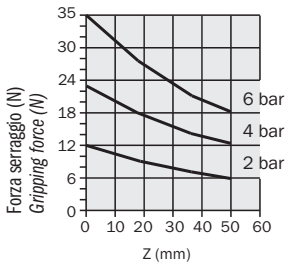
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.



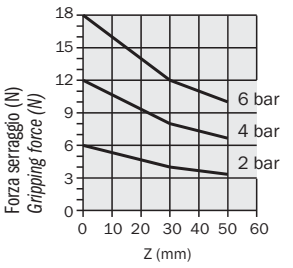
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

The force shown in these graphs refers to one jaw.
The total force is double.

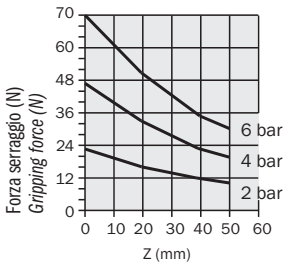
MG-0010



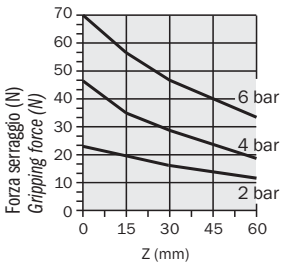
MG-0011



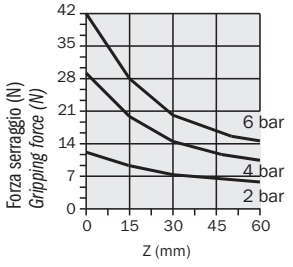
MG-0012



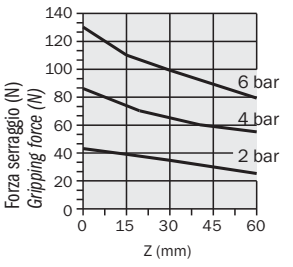
MG-0025



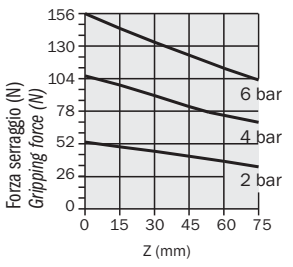
MG-0026



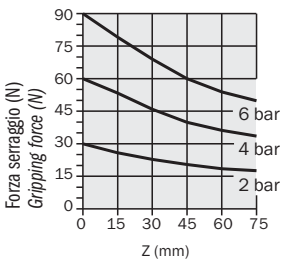
MG-0027



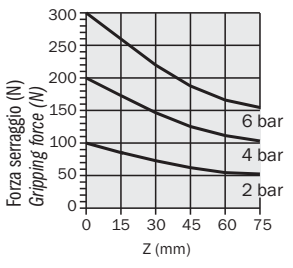
MG-0050



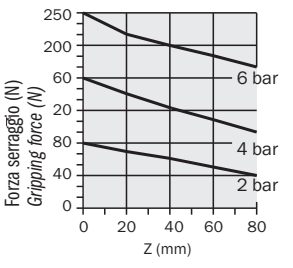
MG-0051



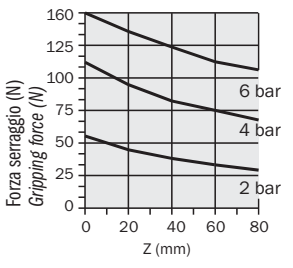
MG-0052



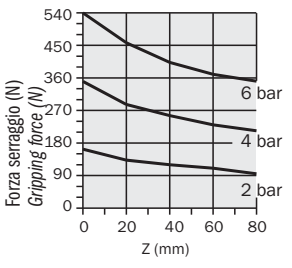
MG-0075



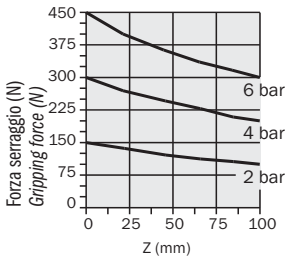
MG-0076



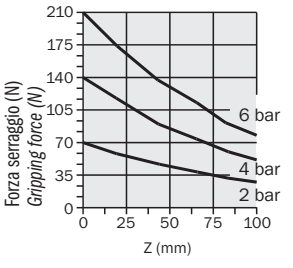
MG-0077



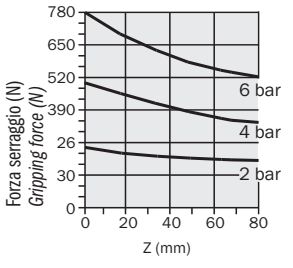
MG-0100



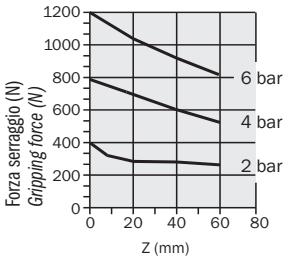
MG-0101



MG-0102



MG-0103

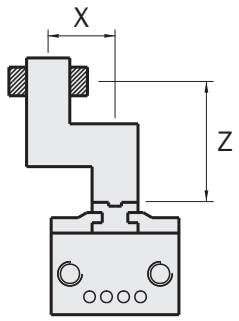


Forza di serraggio

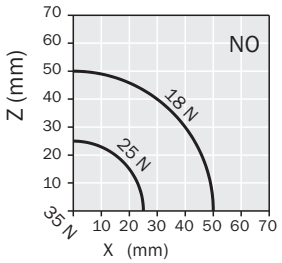
I grafici mostrano la forza per griffa espressa dalla pinza a 6 bar in funzione del braccio Z e del disassamento del punto di presa X.

Gripping force

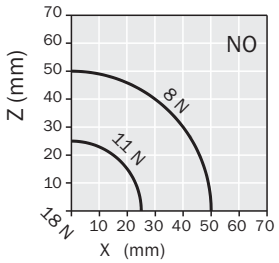
The graphs show the gripping force on each jaw, as a function of the gripping tool length Z and the overhanging X at 6 bar.



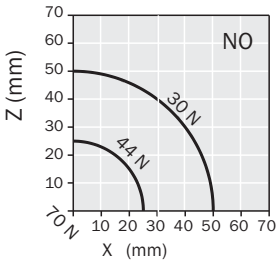
MG-0010



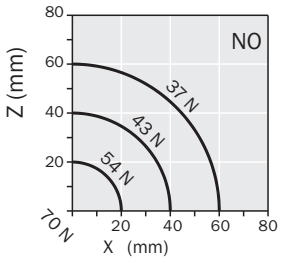
MG-0011



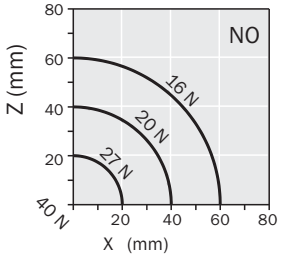
MG-0012



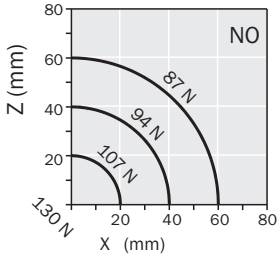
MG-0025



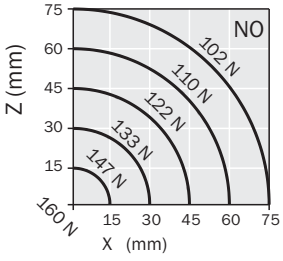
MG-0026



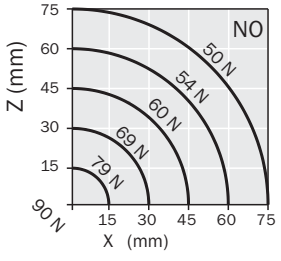
MG-0027



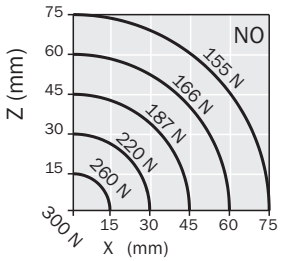
MG-0050



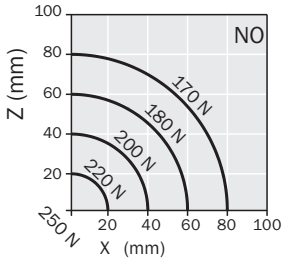
MG-0051



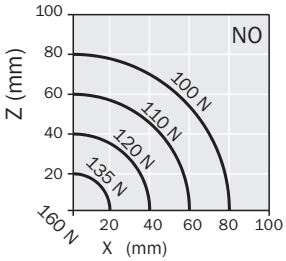
MG-0052



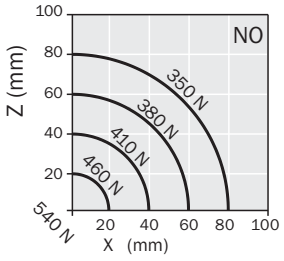
MG-0075



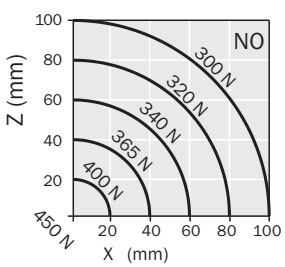
MG-0076



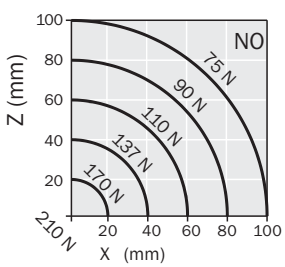
MG-0077



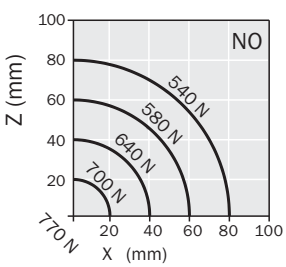
MG-0100



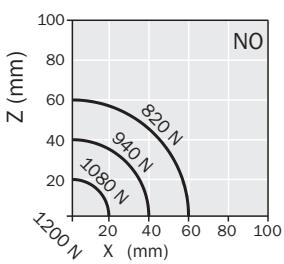
MG-0101



MG-0102



MG-0103



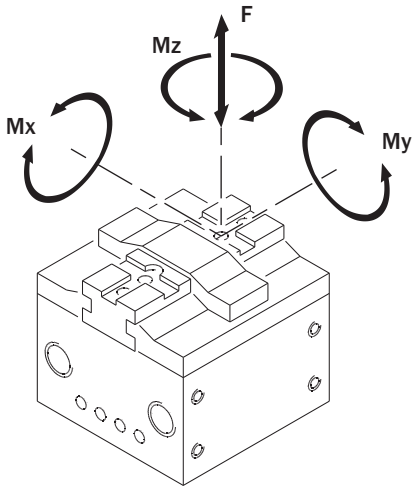
MG

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti di deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means still jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment.
If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



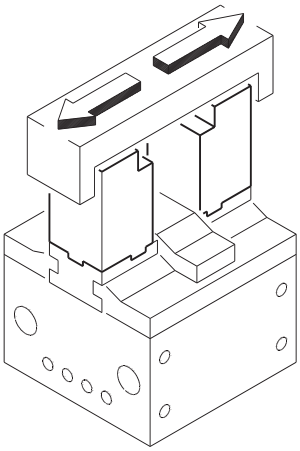
	MG-0010-11-12	MG-0025-26-27	MG-0050-51-52	MG-0075-76-77	MG-0100-101-102-103
F s	50 N	200 N	400 N	800 N	1000 N
Mx s	2 Nm	6 Nm	12 Nm	28 Nm	50 Nm
My s	2 Nm	6 Nm	12 Nm	28 Nm	50 Nm
Mz s	2 Nm	6 Nm	12 Nm	28 Nm	50 Nm
F d	1 N	3 N	4 N	8 N	10 N
Mx d	2 Ncm	6 Ncm	12 Ncm	20 Ncm	30 Ncm
My d	2 Ncm	6 Ncm	12 Ncm	20 Ncm	30 Ncm
Mz d	2 Ncm	6 Ncm	12 Ncm	20 Ncm	30 Ncm
m	50 g	200 g	300 g	400 g	500 g

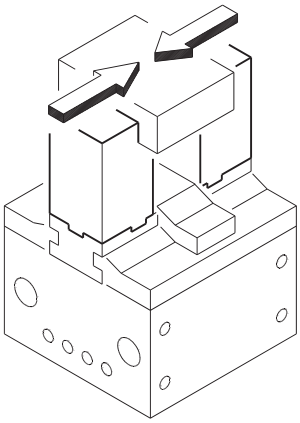
Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.

Gripping

The gripper is double-acting for either internal or external gripping applications.



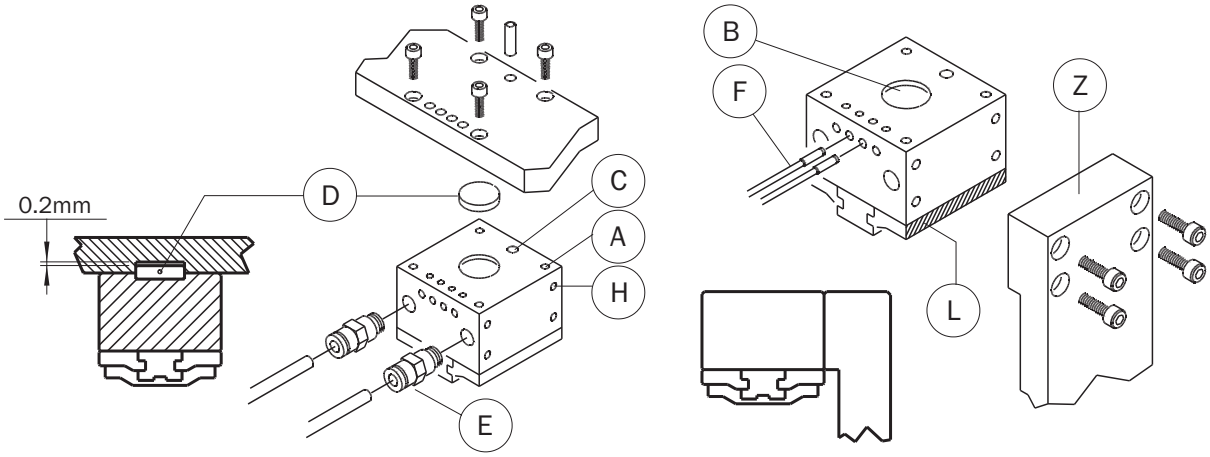


Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i quattro fori filettati (A) sul fondo del corpo, oppure i quattro sul fianco (H).
In quest'ultimo caso si deve evitare di comprimere le guide (L) con la piastra di fissaggio (Z).
Per il posizionamento di precisione utilizzare il foro spina (C) e la lamatura centrale (B), nella quale va inserita, con gioco assiale, una pastiglia di centraggio (D).
Lasciare lo spazio necessario per i raccordi dell'aria (E) e per il posizionamento dei sensori (F).

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper, use the four threaded holes (A) on the base of the gripper or the four holes on the side (H). In the latter case, be careful not to press the guides (L) against the fixing plate (Z).
The gripper must be aligned using the dowel pin hole (C) and the centering spot face (B), in which the centering disc (D) must be fitted with axial backlash.
Allow room to mount the air fittings (E) and the sensors (F).



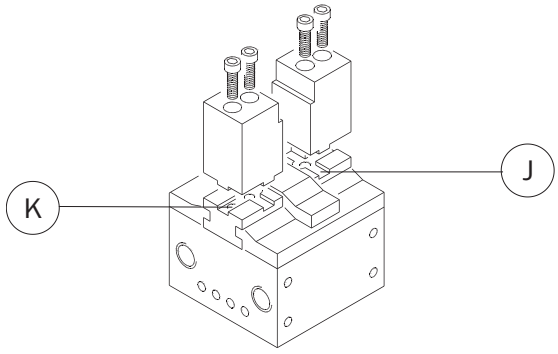
	MG-0010-11-12	MG-0025-26-27	MG-0050-51-52	MG-0075-76-77	MG-0100-101-102-103
A	M3x4 mm	M3x6 mm	M4x8 mm	M4x7 mm	M5x12 mm
B	Ø10H8x0.8 mm	Ø15H8x1.6 mm	Ø20H8x1.5 mm	Ø25H8x1.5 mm	Ø30H8x1.5 mm
C	Ø2H8x4 mm	Ø3H8x5 mm	Ø4H8x8 mm	Ø4H8x8 mm	Ø4H8x10 mm
E	M5	M5	G1/8	G1/8	G1/8
F	Ø4 mm	Ø4 mm	Ø4 mm	Ø4 mm	Ø4 mm
H	-	M3x4 mm	M4x8 mm	M4x5.5 mm	M5x12 mm

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Per il centraggio sulle griffe utilizzare le scanalature calibrate (J) e per il fissaggio i fori filettati (K).

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using the threaded holes (K) and the key slots (J) on the jaws.



	MG-0010-11-12	MG-0025-26-27	MG-0050-51-52	MG-0075-76-77	MG-0100-101-102-103
J	3.5 $^{+0.05}$ x1 mm	4.5 $^{+0.05}$ x1 mm	5 $^{+0.05}$ x1.5 mm	4.5 $^{+0.05}$ x2 mm	6 $^{+0.05}$ x3 mm
K	M3x5 mm	M3x5 mm	M4x5 mm	M4x6 mm	M5x10 mm

MG

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori induttivi (opzionali) di diametro 4mm, che rilevano la posizione del cursore interno.

Per il montaggio:
1- Togliere i tappi di protezione solo dalle posizioni che si vogliono utilizzare.
2- Calzare il sensore utilizzando, dove previsto, l'apposita guaina di riduzione (A), inclusa nella confezione insieme con le viti senza testa (B).
3- Inserire il sensore a fondo nel foro, quindi bloccarlo avvitando la vite senza testa, dal fondo del corpo.
Attenzione a non danneggiare il sensore serrando eccessivamente la vite senza testa.

Sensors

The operating position can be checked by inductive sensors Ø4mm (optional), that detect the inner cursor.

For mounting:
1- Remove the plastic plugs only from the sensor holes which have to be used.
2- For sensor installation use the grub screws (B) and, where necessary, the plastic reduction sleeve (A): both are included in the gripper packaging.
3- The sensor must be completely inserted into its hole and locked by the grub screw. Be careful not to damage it by overtightening.

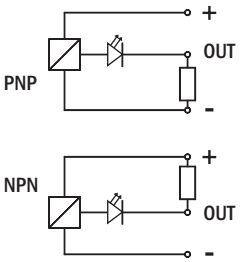
Codici di ordinazione dei sensori induttivi:

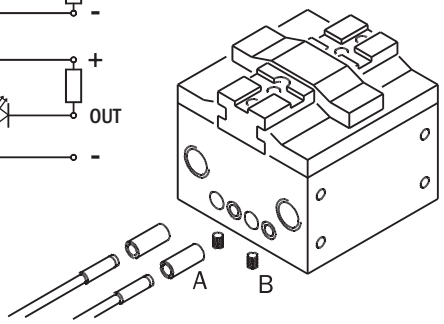
Ordering codes of the inductive sensors:

SI4M225-G	NPN	Cavo 2.5m / 2.5m cable
SI4N225-G	PNP	Cavo 2.5m / 2.5m cable

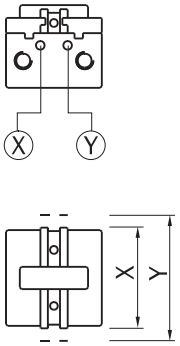
Usare i diagrammi seguenti come guida per il campo di intervento dei sensori.
Use the following diagrams as guides for correct sensor positioning.





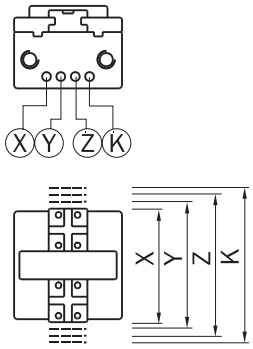


MG-0010/11/12



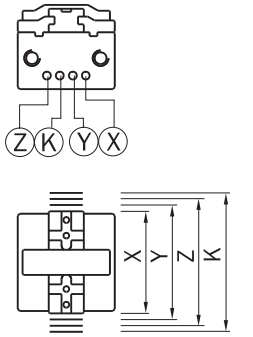
	MG-0010	MG-0011	MG-0012
X	30.6 +3	31 +6	30.6 +1.9
Y	35.6 -3.4	39.8 -5.8	33 -1.9

MG-0025/26/27



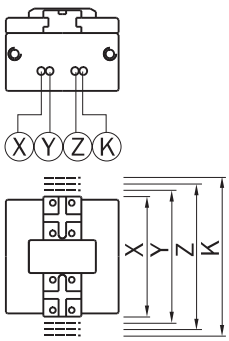
	MG-0025	MG-0026	MG-0027
X	43.4 +2.5	43 +3.3	43.2 +1.4
Y	46.9 +4.1	49.3 +6.2	45 +2.1
Z	48.1 -3.9	51.8 -7.3	47.3 -1.3
K	51.6 -2.4	57.8 -4.3	45.5 -1.9

MG-0050/51/52



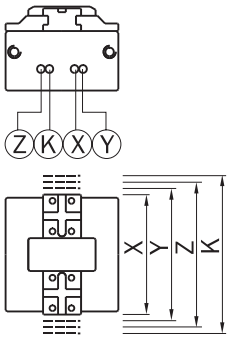
	MG-0050	MG-0051	MG-0052
X	50.5 +3	50.5 +4.5	50.5 +1.5
Y	50.5 +10.5	50.5 +17.5	50.5 +4.5
Z	62.5 -3.5	70 -4.5	56 -1.5
K	62.5 -11	70 -17.5	56 -4.5

MG-0075/76/77



	MG-0075	MG-0076	MG-0077
X	79.5 +4.9	79.2 +8.4	79.6 +2.4
Y	87 +9.7	91.6 +17.6	83.2 +4.5
Z	91 -10	99.3 -17.7	88.5 -2.1
K	98.2 -4.7	112.1 -8.6	85 -4.5

MG-0100/101/102/103



	MG-0100	MG-0101	MG-0102	MG-0103
X	92.5 +2	92.8 +5.2	92.8 +1.5	92.9 +0.7
Y	97.5 +5	100 +11	94.5 +3	94.3 +1.1
Z	106.5 -5	126 -11	102 -3	97.5 -1.2
K	114 -2.5	133.5 -5	103.8 -1.5	98.6 -0.5

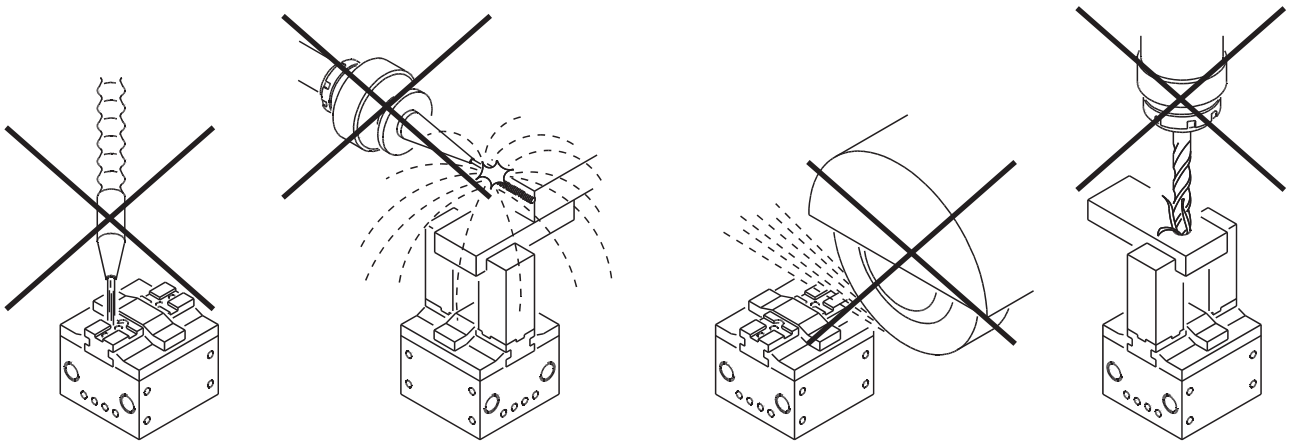
03/2015

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

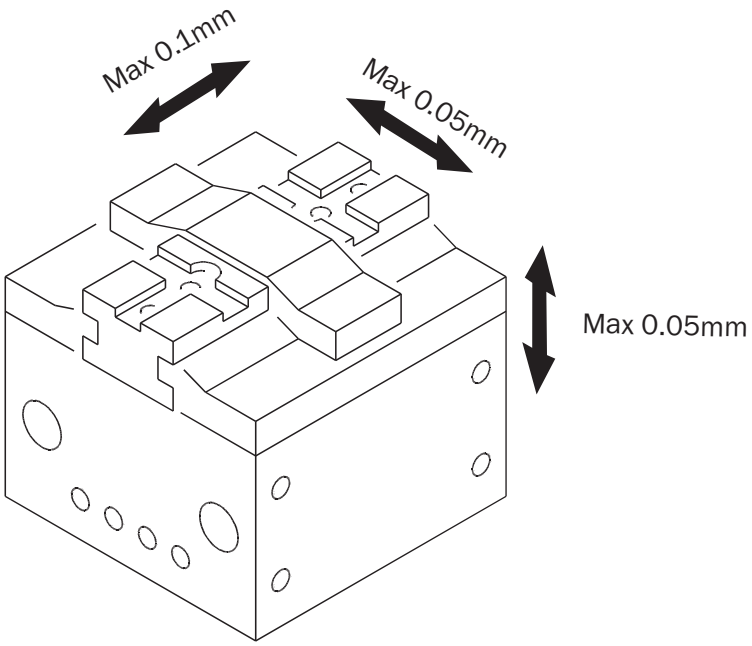
La pinza va ingrassata ogni 40 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

Maintenance

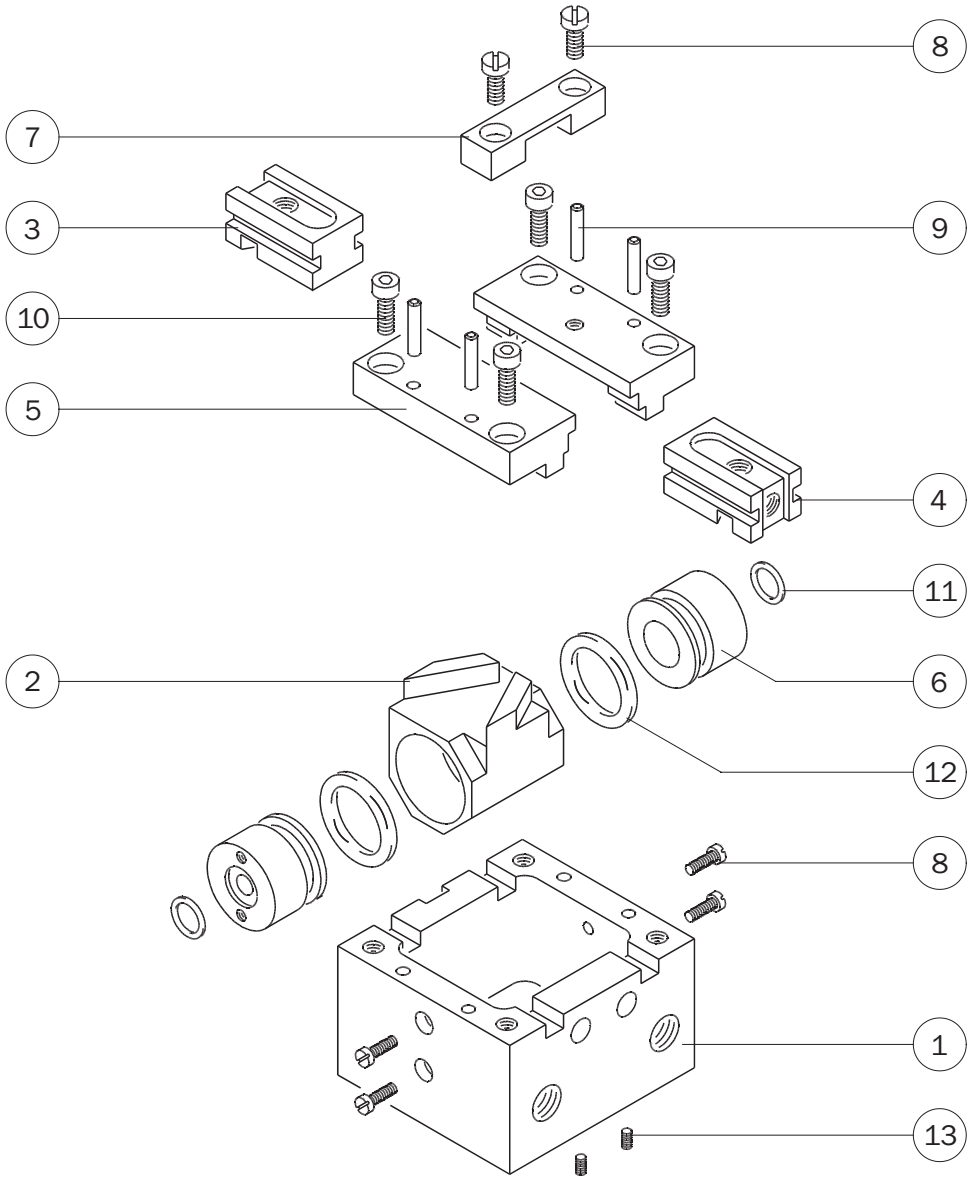
Grease the gripper after 40 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.



MG

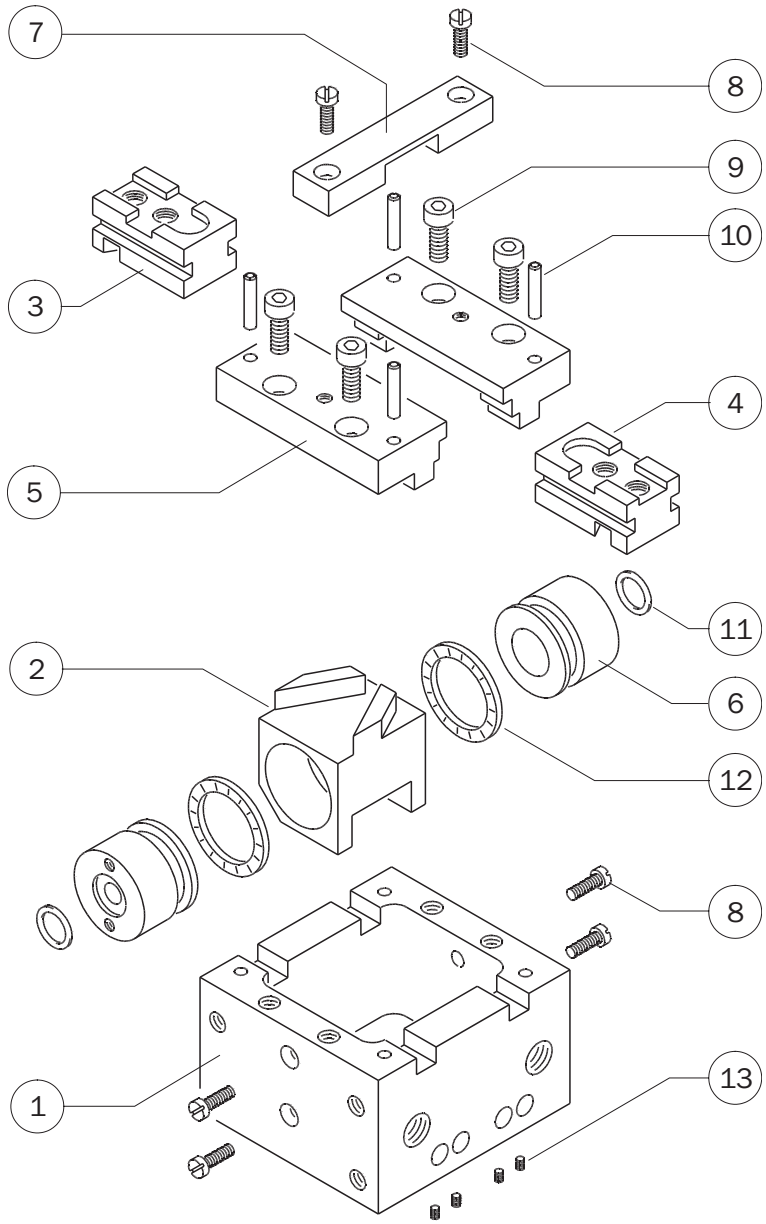
Elenco delle parti / *Part list*



		MG-0010	MG-0011	MG-0012		
1	Corpo pinza		MG-0010-1		*Gripper housing*	*1*
2	Cursore	MG-0010-2	MG-0011-1	MG-0012-1	*Slider*	*2*
3	Griffa destra	MG-0010-4D	MG-0011-2D	MG-0012-2D	*Ringht jaw*	*3*
4	Griffa sinistra	MG-0010-4S	MG-0011-2S	MG-0012-2S	*Left jaw*	*4*
5	Guida	MG-0010-3	MG-0011-3	MG-0010-3	*Guidance block*	*5*
6	Pistone		MG-0010-5		*Piston*	*6*
7	Protezione	MG-0010-6	MG-0011-6	MG-0012-6	*Cover*	*7*
8	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*8*
9	Spina di riferimento		SPINA-020 (Ø2x8 mm DIN6325)		*Dowel pin*	*9*
10	Vite		VITE-097 (M3x5 mm DIN912 INOX A2)		*Screw*	*10*
11	O-RING		GUAR-021 (Ø1x5)		*O-RING*	*11*
12	O-RING		GUAR-020 (Ø1.5x8.5)		*O-RING*	*12*
13	Vite senza testa		VITE-018 (M3x4 mm DIN913 INOX A2)		*Grub screw*	*13*

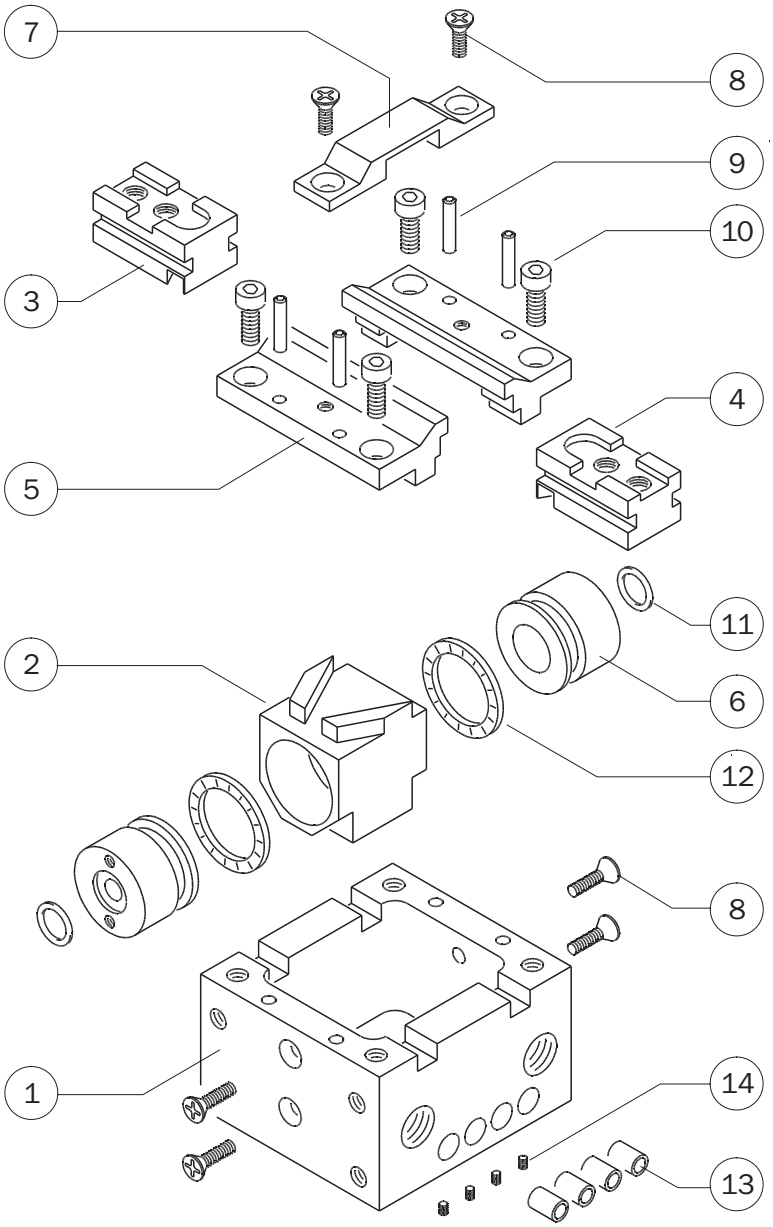
03/2015

Elenco delle parti / *Part list*



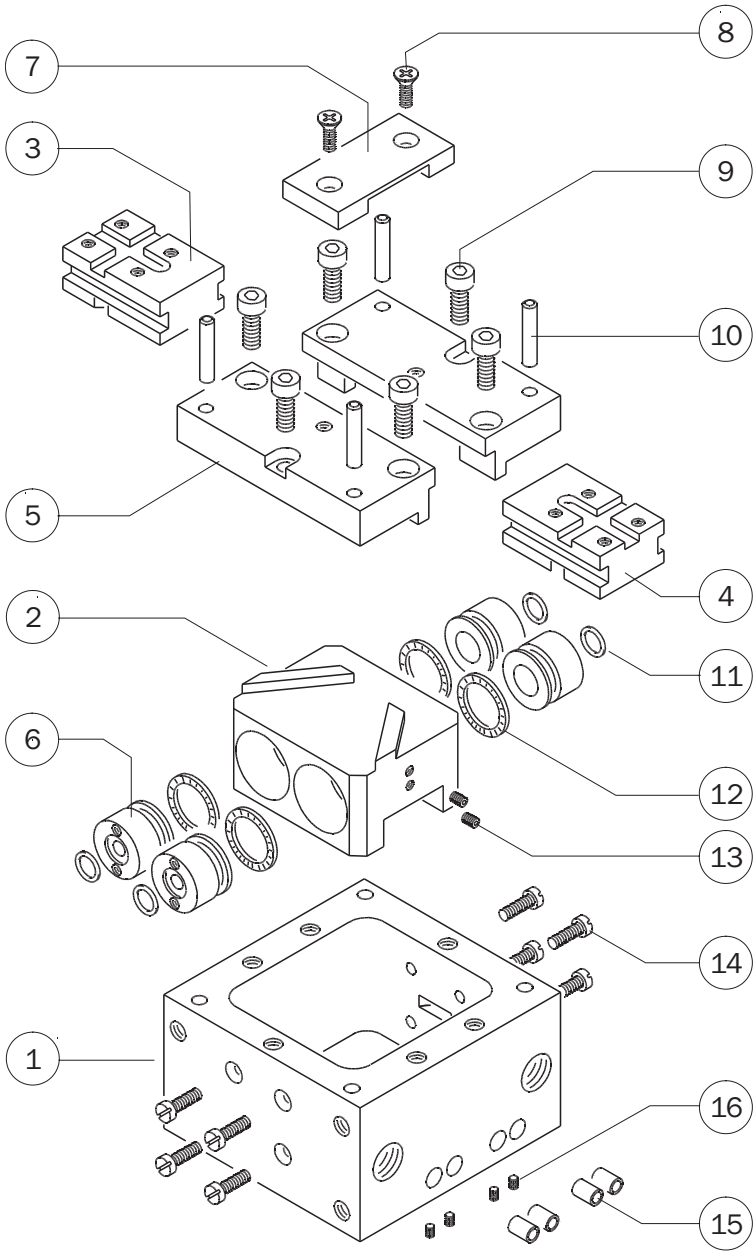
		MG-0025	MG-0026	MG-0027		
1	Corpo pinza		MG-0025-1		*Gripper housing*	*1*
2	Cursore	MG-0025-2	MG-0026-1	MG-0027-1	*Slider*	*2*
3	Griffa destra	MG-0025-4D	MG-0026-2D	MG-0027-2D	*Ringht jaw*	*3*
4	Griffa sinistra	MG-0025-4S	MG-0026-2S	MG-0027-2S	*Left jaw*	*4*
5	Guida	MG-0025-3	MG-0026-3	MG-0027-3	*Guidance block*	*5*
6	Pistone		MG-0025-6		*Piston*	*6*
7	Protezione	MG-0025-5	MG-0026-5	MG-0027-5	*Cover*	*7*
8	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*8*
9	Vite		VITE-017 (M3x6 mm DIN912 INOX A2)		*Screw*	*9*
10	Spina di riferimento		SPINA-020 (Ø2x8 mm DIN6325)		*Dowel pin*	*10*
11	O-RING		GUAR-021 (Ø1x5)		*O-RING*	*11*
12	Guarnizione dinamica		GUAR-002P (16x9x2.5)		*Dynamic gasket*	*12*
13	Vite senza testa		VITE-018 (M3x4 mm DIN913 INOX A2)		*Grub screw*	*13*

Elenco delle parti / *Part list*



		MG-0050	MG-0051	MG-0052		
1	Corpo pinza		MG-0050-1		*Gripper housing*	*1*
2	Cursore	MG-0050-2	MG-0051-1	MG-0052-1	*Slider*	*2*
3	Griffa destra	MG-0050-4D	MG-0051-2D	MG-0052-2D	*Ringht jaw*	*3*
4	Griffa sinistra	MG-0050-4S	MG-0051-2S	MG-0052-2S	*Left jaw*	*4*
5	Guida	MG-0050-3	MG-0051-3	MG-0052-3	*Guidance block*	*5*
6	Pistone		MG-0050-6		*Piston*	*6*
7	Protezione	MG-0050-5	MG-0051-5	MG-0052-5	*Cover*	*7*
8	Vite		VITE-012 (M3x10 mm DIN965A INOX A2)		*Screw*	*8*
9	Spina di riferimento		SPINA-022 (Ø3x12 mm DIN6325)		*Dowel pin*	*9*
10	Vite		VITE-009 (M4x8 mm DIN912 INOX A2)		*Screw*	*10*
11	O-RING		GUAR-022 (Ø1.5x11)		*O-RING*	*11*
12	Guarnizione dinamica		GUAR-003M (25x18x2.4)		*Dynamic gasket*	*12*
13	Riduzione per sensore	MG-0050-7	MG-0051-7	MG-0052-7	*Plastic adapter*	*13*
14	Vite senza testa		VITE-018 (M3x4 mm DIN913 INOX A2)		*Grub screw*	*14*

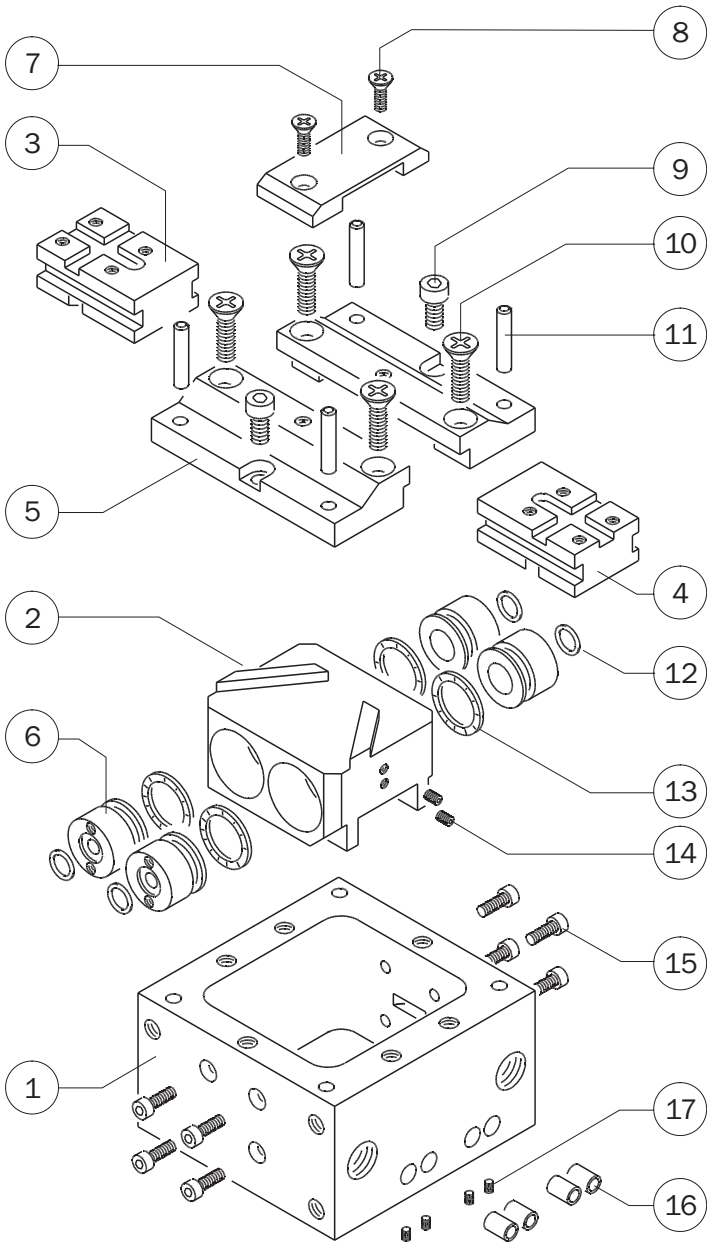
Elenco delle parti / *Part list*



		MG-0075	MG-0076	MG-0077		
1	Corpo pinza		MG-0075-1		*Gripper housing*	*1*
2	Cursore	MG-0075-2	MG-0076-1	MG-0077-1	*Slider*	*2*
3	Griffa destra	MG-0075-4D	MG-0076-2D	MG-0077-2D	*Ringht jaw*	*3*
4	Griffa sinistra	MG-0075-4S	MG-0076-2S	MG-0077-2S	*Left jaw*	*4*
5	Guida	MG-0075-3	MG-0076-3	MG-0077-3	*Guidance block*	*5*
6	Pistone		MG-0075-6		*Piston*	*6*
7	Protezione	MG-0075-5	MG-0076-5	MG-0077-5	*Cover*	*7*
8	Vite		VITE-012 (M3x10 mm DIN965A INOX A2)		*Screw*	*8*
9	Vite		VITE-020 (M4x10 mm DIN912 INOX A2)		*Screw*	*9*
10	Spina di riferimento		SPINA-022 (Ø3x12 mm DIN6325)		*Dowel pin*	*10*
11	O-RING		GUAR-037 (Ø1.78x11.11)		*O-RING*	*11*
12	Guarnizione dinamica		GUAR-003M (25x18x2.4)		*Dynamic gasket*	*12*
13	Vite senza testa		VITE-043 (M4x8 mm DIN913 INOX A2)		*Grub screw*	*13*
14	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*14*
15	Riduzione per sensore	MG-0050-7	MG-0051-7	MG-0052-7	*Plastic adapter*	*15*
16	Vite senza testa		VITE-018 (M3x4 mm DIN913 INOX A2)		*Grub screw*	*16*

MG

Elenco delle parti / *Part list*



		MG-0100	MG-0101	MG-0102	MG-0103		
1	Corpo pinza	MG-0100-1				*Gripper housing*	*1*
2	Cursore	MG-0100-2	MG-0101-2	MG-0102-2	MG-0103-2	*Slider*	*2*
3	Griffa destra	MG-0100-3D	MG-0101-3D	MG-0102-3D	MG-0103-3D	*Ringht jaw*	*3*
4	Griffa sinistra	MG-0100-3S	MG-0101-3S	MG-0102-3S	MG-0103-3S	*Left jaw*	*4*
5	Guida	MG-0100-4	MG-0101-7	MG-0102-7	MG-0102-7	*Guidance block*	*5*
6	Pistone	MG-0100-5				*Piston*	*6*
7	Protezione	MG-0100-6	MG-0101-6	MG-0102-6	MG-0103-6	*Cover*	*7*
8	Vite	VITE-022 (M3x12 mm DIN965A INOX A2)				*Screw*	*8*
9	Vite	VITE-020 (M4x10 mm DIN912 INOX A2)				*Screw*	*9*
10	Vite	VITE-015 (M5x16 mm DIN912 INOX A2)				*Screw*	*10*
11	Spina di riferimento	SPINA-019 (Ø4x14 mm DIN6325)				*Dowel pin*	*11*
12	O-RING	Ø1.78x15.60 (GUAR-023)				*O-RING*	*12*
13	Guarnizione dinamica	GUAR-024P (30x21x3)				*Dynamic gasket*	*13*
14	Vite senza testa	VITE-043 (M4x8 mm DIN913 INOX A2)				*Grub screw*	*14*
15	Vite	VITE-016 (M3x10 mm DIN912 INOX A2)				*Screw*	*15*
16	Riduzione per sensore	MG-0050-7	MG-0051-7	MG-0052-7	MG-0103-7	*Plastic adapter*	*16*
17	Vite senza testa	VITE-018 (M3x4 mm DIN913 INOX A2)				*Grub screw*	*17*

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

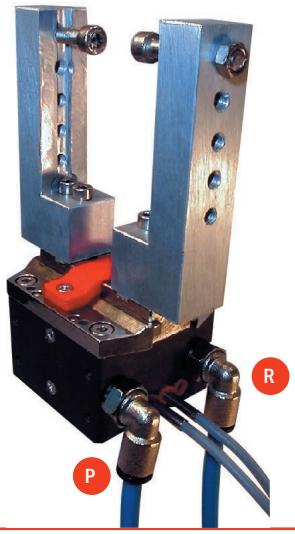
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

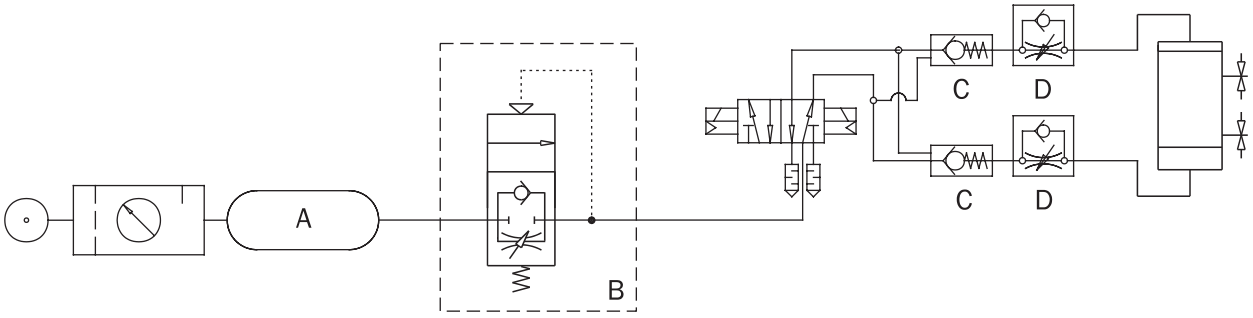
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



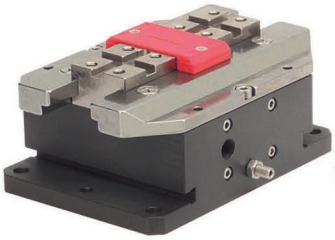
GM

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie GM)

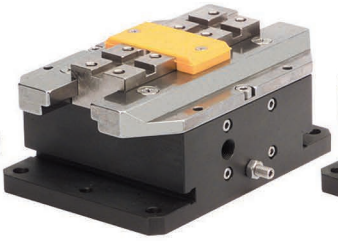
- Azionamento a doppio effetto.
- Costruzione robusta: grande durata e affidabilità senza manutenzione.
- Possibilità di scelta su un'ampia gamma di corse e forze di serraggio.
- Forza di serraggio costante su tutta la corsa in apertura ed in chiusura.
- Profilo piatto.
- Fissaggio semplificato attraverso una flangia dotata di fori passanti.
- Regolazione della corsa.
- Sensori magnetici opzionali.

2-jaw parallel self-centering pneumatic gripper (series GM)

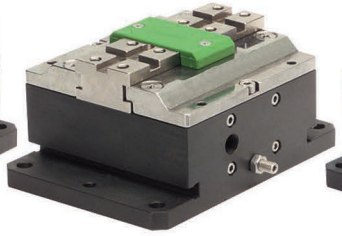
- *Double acting.*
- *The rugged construction lends itself to heavy duty applications for a trouble free long life without maintenance.*
- *Wide choice of stroke length and gripping force options.*
- *The gripping force is constant on both directions along the total stroke.*
- *Flat profile.*
- *Easy fastening by through holes on the flange.*
- *Stroke adjustment.*
- *Optional magnetic sensors.*



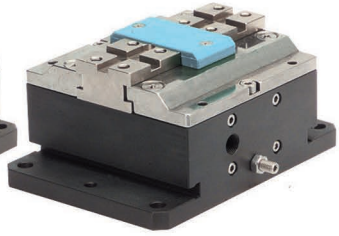
GM-0100



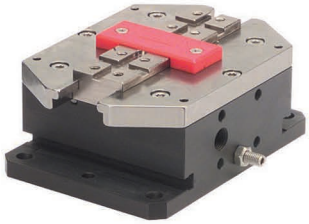
GM-0101



GM-0102



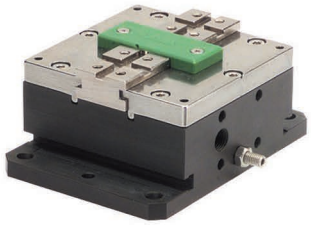
GM-0103



GM-0075



GM-0076



GM-0077



GM-0050



GM-0051



GM-0052



GM-0025



GM-0026



GM-0027



GM-0010



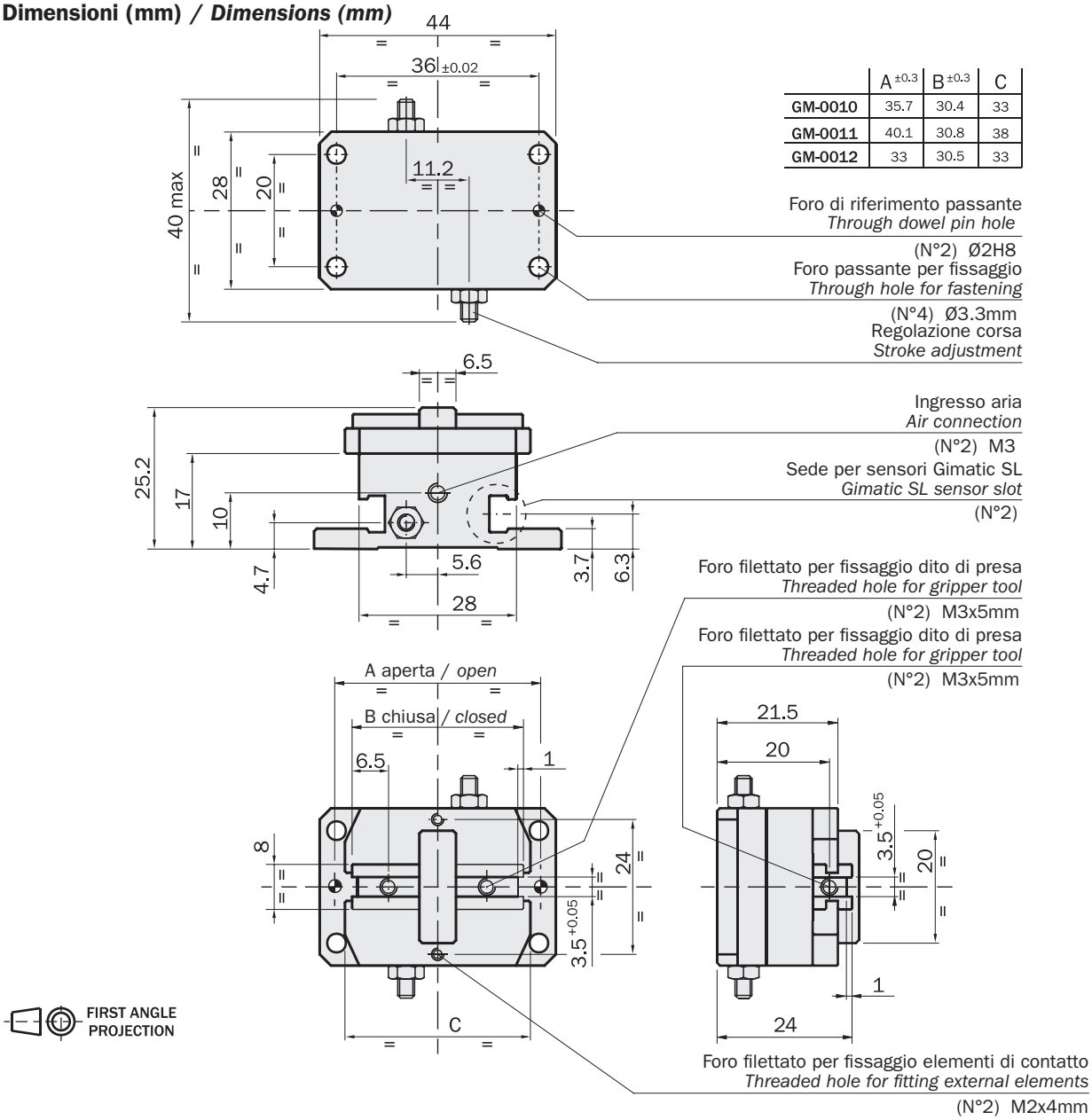
GM-0011



GM-0012

	GM-0010	GM-0011	GM-0012
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2÷8 bar		
Temperatura di esercizio *Temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	35 N	18 N	70 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	70 N	36 N	140 N
Corsa totale (±0.3 mm) *Total stroke*	5.3 mm	9.3 mm	2.5 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	1.5 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.03 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	70 g	75 g	70 g

Dimensioni (mm) / *Dimensions (mm)*



	A ±0.3	B ±0.3	C
GM-0010	35.7	30.4	33
GM-0011	40.1	30.8	38
GM-0012	33	30.5	33

Foro di riferimento passante
Through dowel pin hole
(N°2) Ø2H8
Foro passante per fissaggio
Through hole for fastening
(N°4) Ø3.3mm
Regolazione corsa
Stroke adjustment

Ingresso aria
Air connection
(N°2) M3
Sede per sensori Gimatic SL
Gimatic SL sensor slot
(N°2)

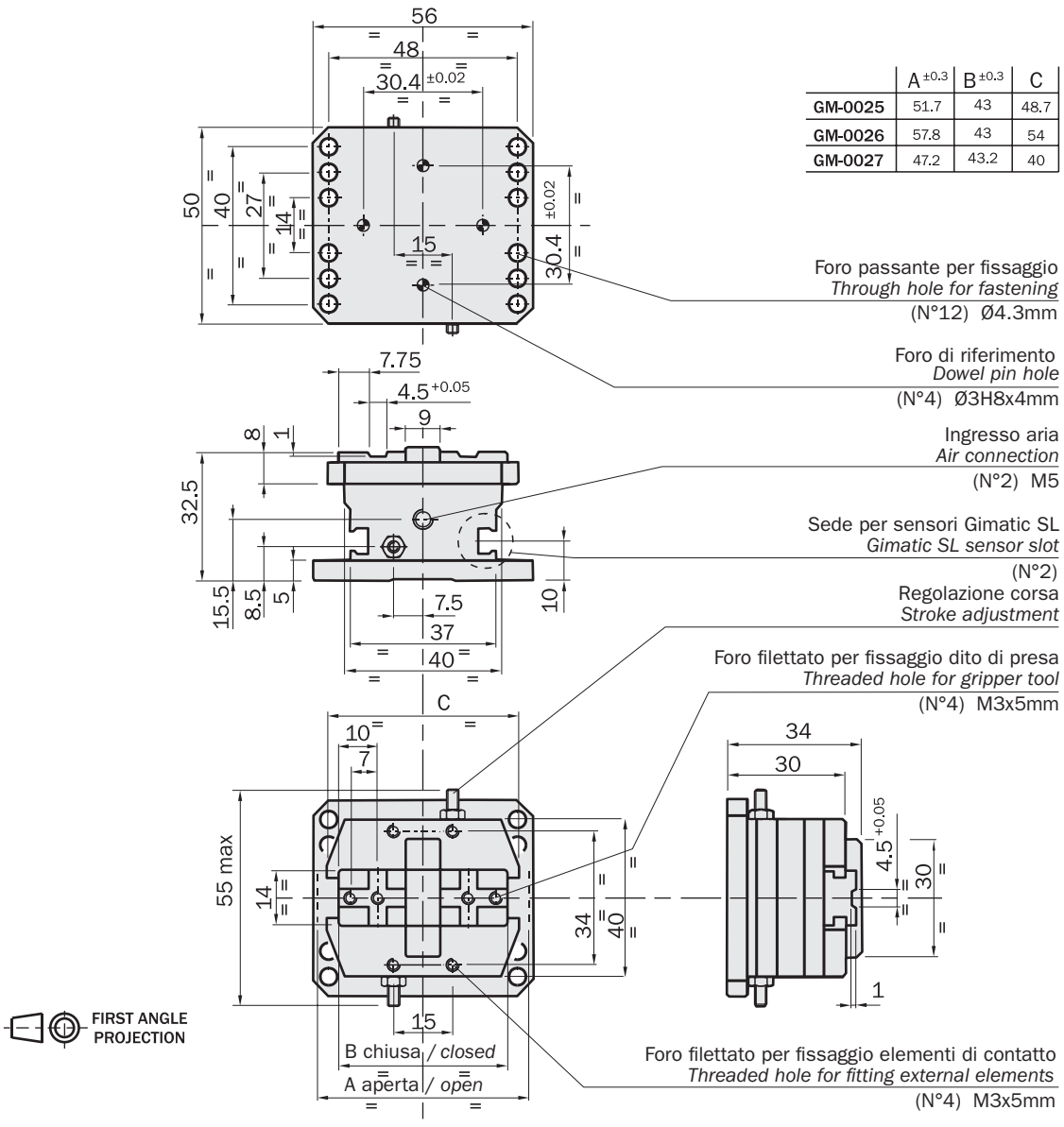
Foro filettato per fissaggio dito di presa
Threaded hole for gripper tool
(N°2) M3x5mm
Foro filettato per fissaggio dito di presa
Threaded hole for gripper tool
(N°2) M3x5mm

Foro filettato per fissaggio elementi di contatto
Threaded hole for fitting external elements
(N°2) M2x4mm

GM

	GM-0025	GM-0026	GM-0027
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2÷8 bar		
Temperatura di esercizio *Operating temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	70 N	40 N	130 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	140 N	80 N	260 N
Corsa totale (±0.3 mm) *Total stroke*	8.7 mm	14.8 mm	4 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	3.4 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.05 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	200 g	210 g	190 g

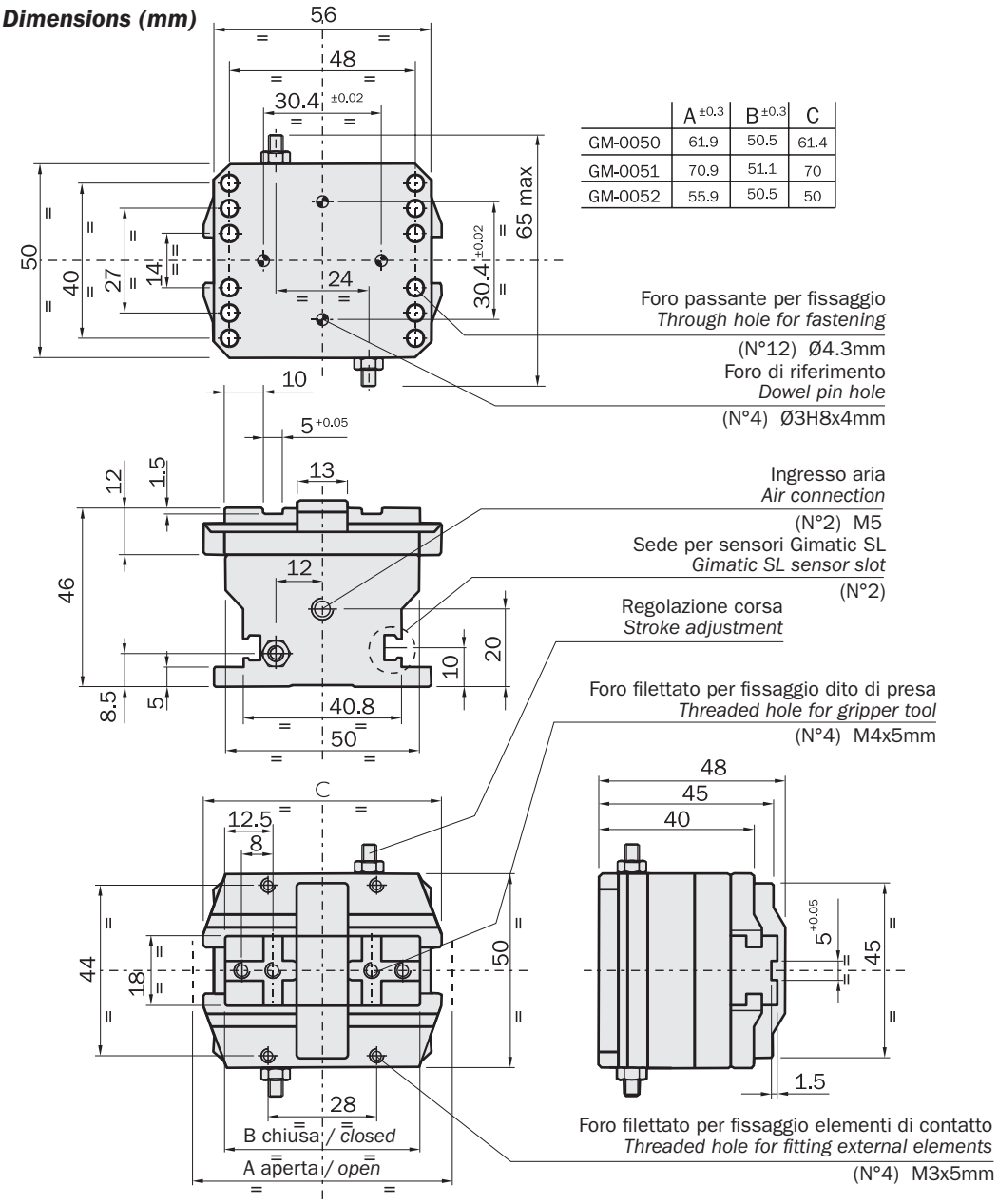
Dimensioni (mm) / *Dimensions (mm)*



	A ±0.3	B ±0.3	C
GM-0025	51.7	43	48.7
GM-0026	57.8	43	54
GM-0027	47.2	43.2	40

	GM-0050	GM-0051	GM-0052
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2÷8 bar		
Temperatura di esercizio *Temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	160 N	90 N	300 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	320 N	180 N	600 N
Corsa totale (±0.3 mm) *Total stroke*	11.4 mm	19.8 mm	5.4 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	12 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.09 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	370 g	380 g	350 g

Dimensioni (mm) / *Dimensions (mm)*



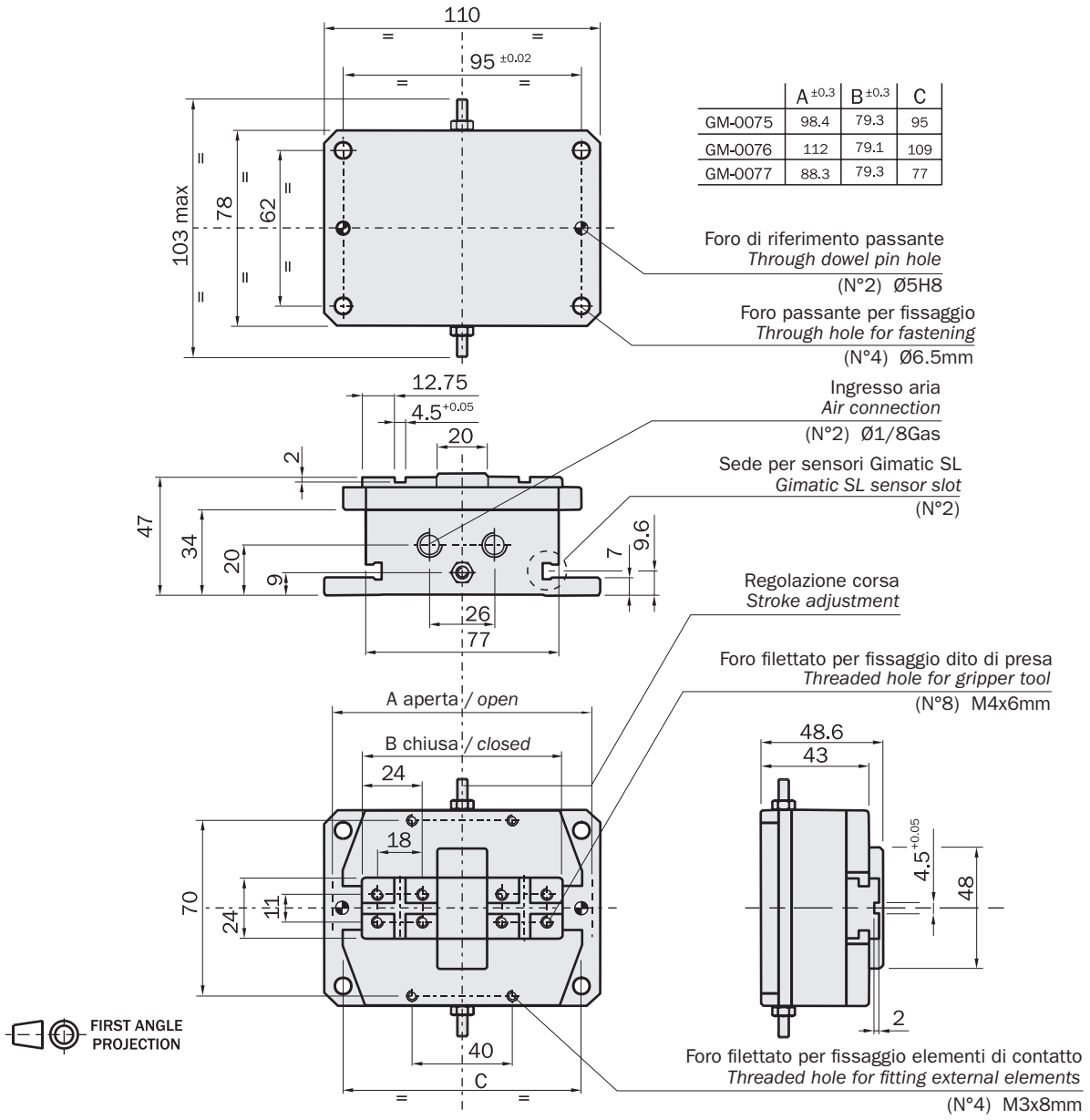
	A ±0.3	B ±0.3	C
GM-0050	61.9	50.5	61.4
GM-0051	70.9	51.1	70
GM-0052	55.9	50.5	50

FIRST ANGLE PROJECTION

GM

	GM-0075	GM-0076	GM-0077
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2÷8 bar		
Temperatura di esercizio *Temperature range*	5÷60 °C.		
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	250 N	160 N	540 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	500 N	320 N	1080 N
Corsa totale (±0.3 mm) *Total stroke*	19.1 mm	32.9 mm	9 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz		
Consumo d'aria per ciclo *Cycle air consumption*	34 cm^3		
Tempo di chiusura senza carico *Closing time without load*	0.14 s		
Ripetibilità *Repetition accuracy*	0.02 mm		
Peso *Weight*	1050 g	1100 g	1000 g

Dimensioni (mm) / *Dimensions (mm)*

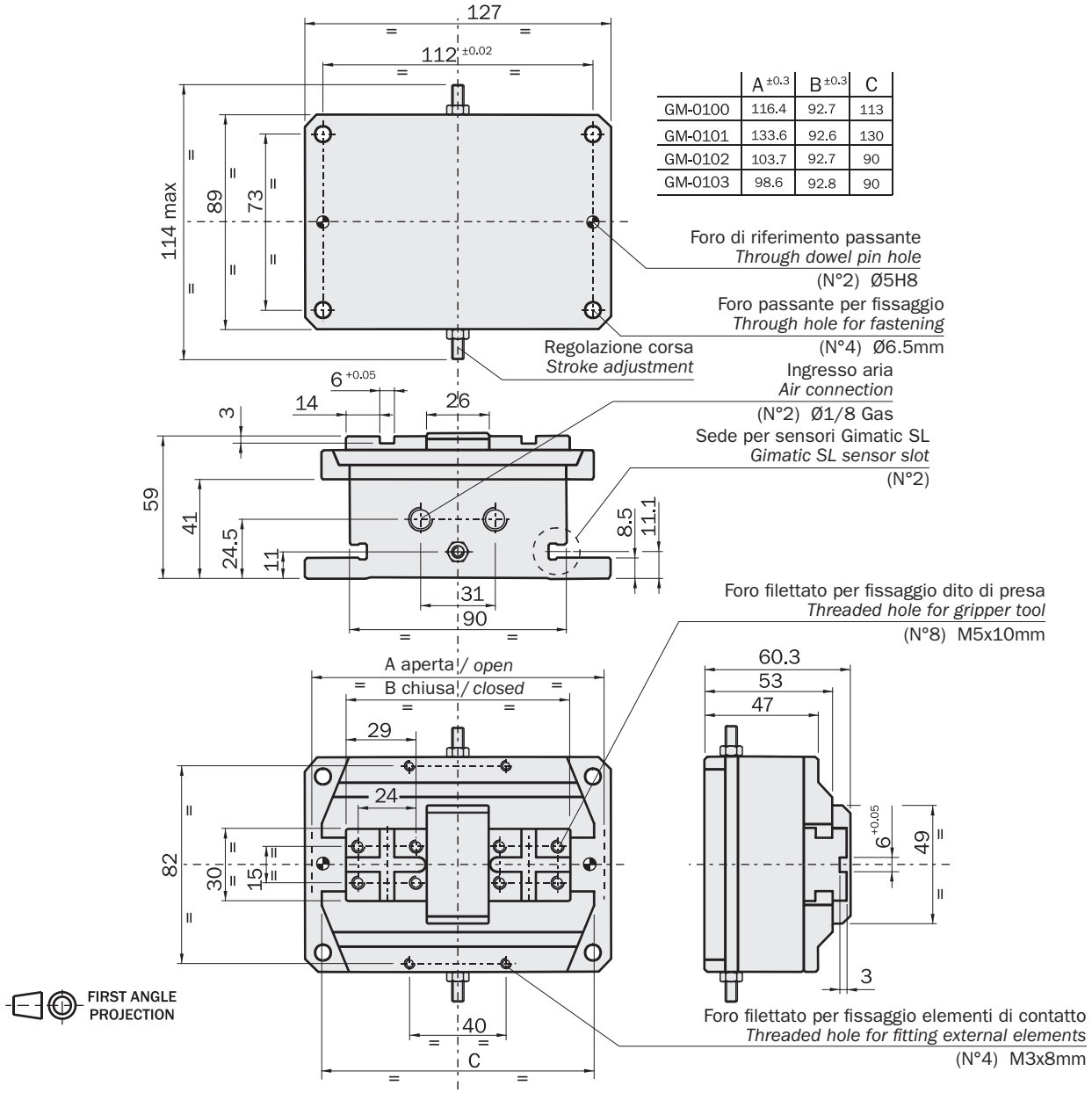


	A ±0.3	B ±0.3	C
GM-0075	98.4	79.3	95
GM-0076	112	79.1	109
GM-0077	88.3	79.3	77

03/2015

	GM-0100	GM-0101	GM-0102	GM-0103
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Pressure range*	2÷8 bar			
Temperatura di esercizio *Temperature range*	5÷60 °C.			
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	450 N	210 N	770 N	1200 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	900 N	420 N	1540 N	2400 N
Corsa totale (±0.3 mm) *Total stroke*	23.7 mm	41 mm	11 mm	5.8 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz			
Consumo d'aria per ciclo *Cycle air consumption*	61 cm^3			
Tempo di chiusura senza carico *Closing time without load*	0.14 s			
Ripetibilità *Repetition accuracy*	0.02 mm			
Peso *Weight*	1600 g	1700 g	1600 g	1580 g

Dimensioni (mm) / *Dimensions (mm)*



	A ±0.3	B ±0.3	C
GM-0100	116.4	92.7	113
GM-0101	133.6	92.6	130
GM-0102	103.7	92.7	90
GM-0103	98.6	92.8	90

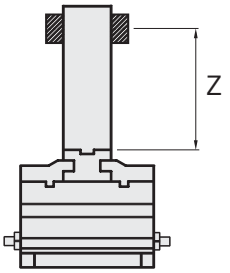
GM

Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

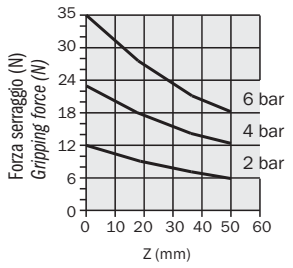
The graphs show the gripping force on each jaw, as a function of the operating pressure and gripping tool length Z.



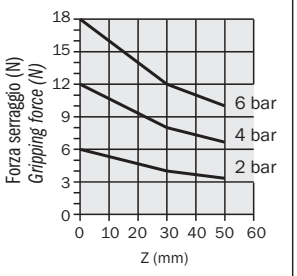
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

***The force shown in these graphs refers to one jaw.
The total force is double.***

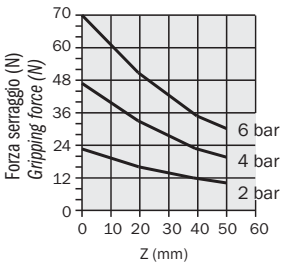
GM-0010



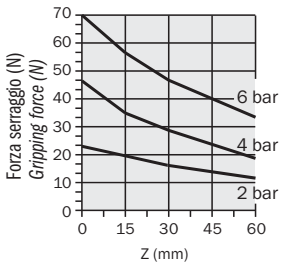
GM-0011



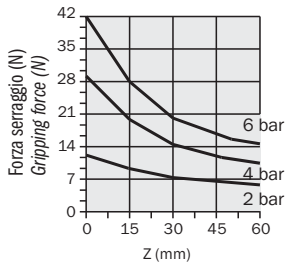
GM-0012



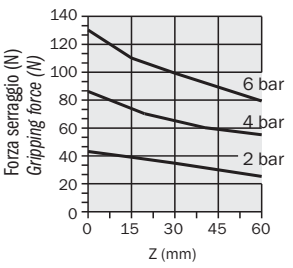
GM-0025



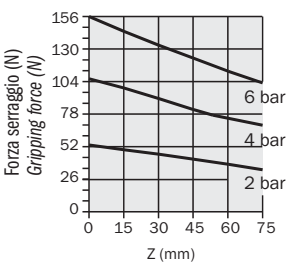
GM-0026



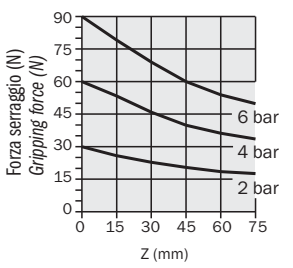
GM-0027



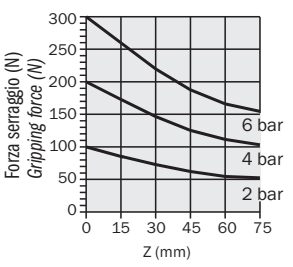
GM-0050



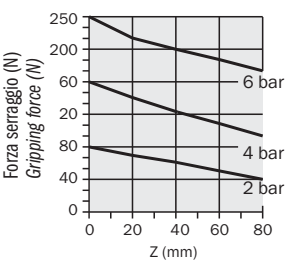
GM-0051



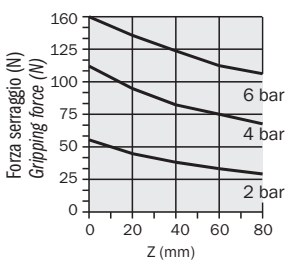
GM-0052



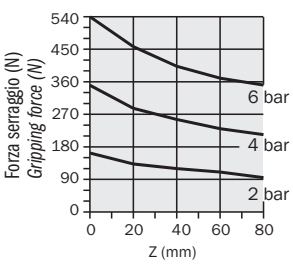
GM-0075



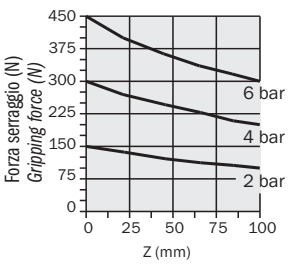
GM-0076



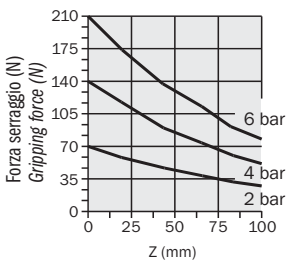
GM-0077



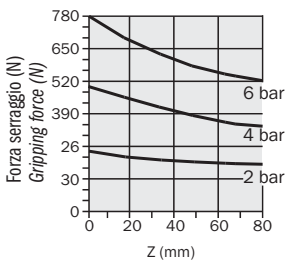
GM-0100



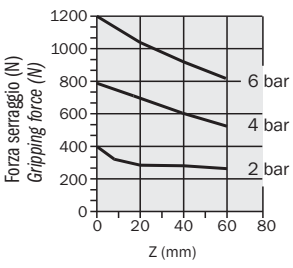
GM-0101



GM-0102



GM-0103

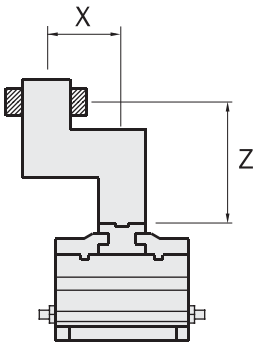


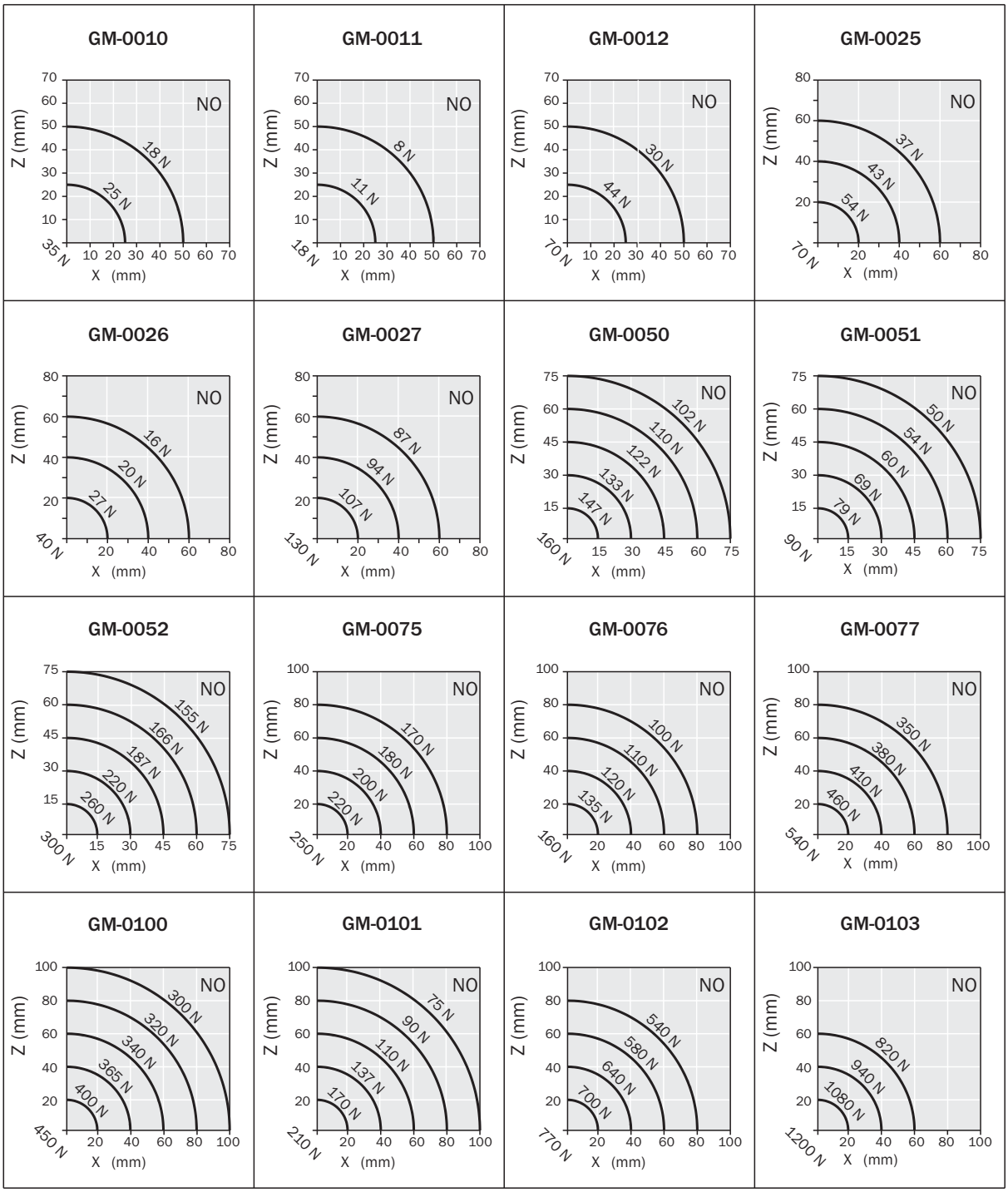
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza a 6 bar in funzione del braccio Z e del disassamento del punto di presa X.

Gripping force

The graphs show the gripping force on each jaw, as a function of the gripping tool length Z and overhanging X at 6 bar.





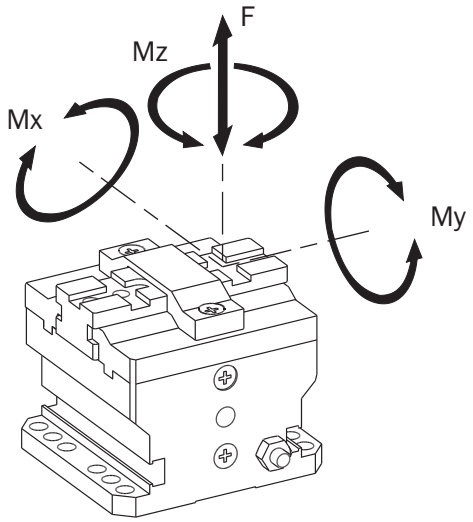
GM

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means still jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment.
If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



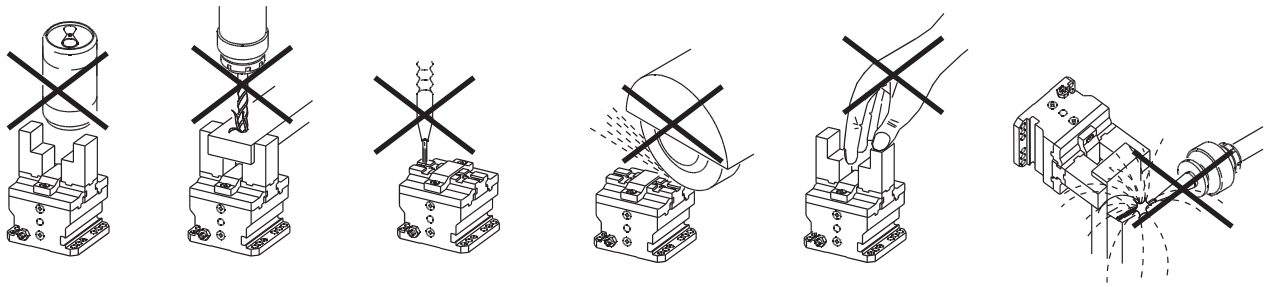
	GM-0010-11-12	GM-0025-26-27	GM-0050-51-52	GM-0075-76-77	GM-0100-101-102-103
F s	50 N	200 N	400 N	800 N	1000 N
Mx s	2 Nm	6 Nm	12 Nm	28 Nm	50 Nm
My s	2 Nm	6 Nm	12 Nm	28 Nm	50 Nm
Mz s	2 Nm	6 Nm	12 Nm	28 Nm	50 Nm
F d	1 N	3 N	4 N	8 N	10 N
Mx d	2 Ncm	6 Ncm	12 Ncm	20 Ncm	30 Ncm
My d	2 Ncm	6 Ncm	12 Ncm	20 Ncm	30 Ncm
Mz d	2 Ncm	6 Ncm	12 Ncm	20 Ncm	30 Ncm
m	50 g	200 g	300 g	400 g	500 g

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks.
Make sure that nobody can place his/her hand between the gripper tools and there are no objects in the path of the gripper.
The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.

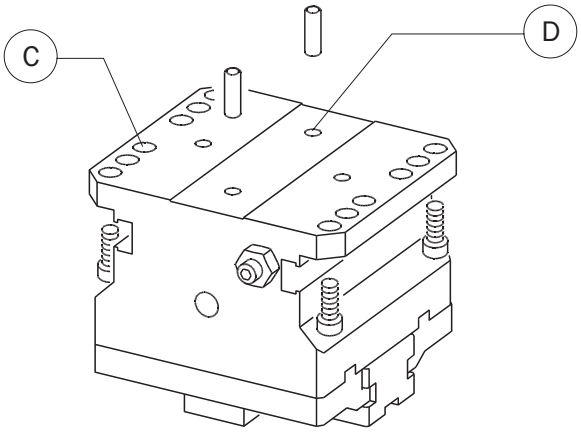


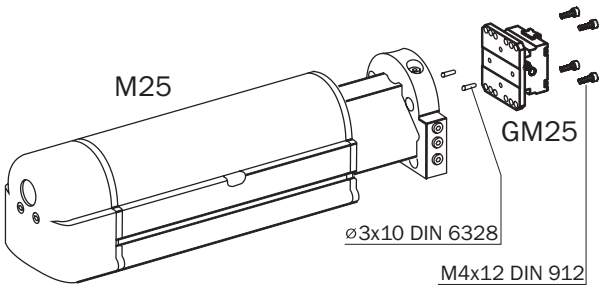
Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza montare quattro viti nei fori passanti (C) e due spine nei relativi fori (D).
Le pinze GM-0025/26/27 e GM-0050/51/52 sono integrabili con il sistema di manipolazione Gimapick senza ricorrere a nessuna interfaccia.
Lasciare lo spazio necessario per i raccordi dell'aria.

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper, insert four screws into the through holes (C) and two dowel pins into the proper holes (D).
The grippers GM-0025/26/27 e GM-0050/51/52 can be mounted on the handling system Gimapick without any interface plate.
Allow room to mount the air fittings.





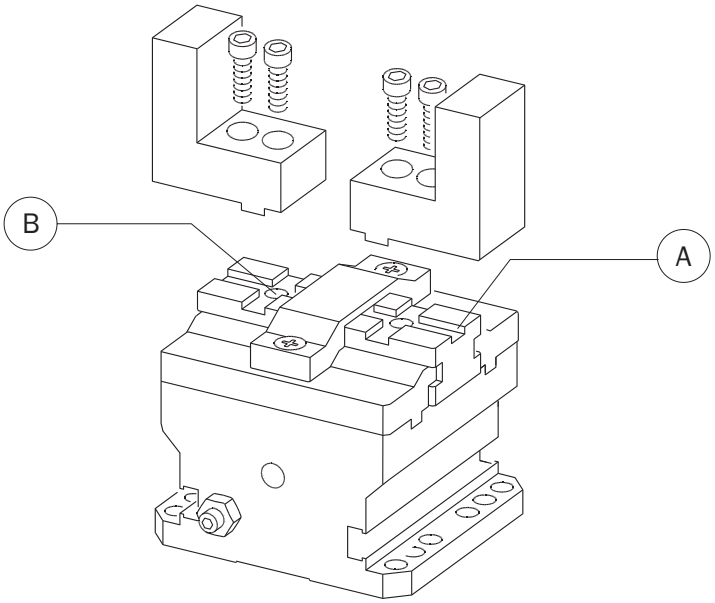
	GM-0010-11-12	GM-0025-26-27	GM-0050-51-52	GM-0075-76-77	GM-0100-101-102-103
C	Ø3.3 mm	Ø4.3 mm	Ø4.3 mm	Ø6.5 mm	Ø6.5 mm
D	Ø2H8	Ø3H8x4 mm	Ø3H8x4 mm	Ø5H8	Ø5H8

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Per il centraggio sulle griffe utilizzare le scanalature calibrate (A) e per il fissaggio i fori filettati (B).

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using the threaded holes (B) and the key slots (A) on the jaws.



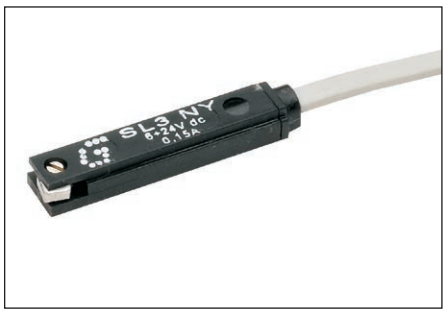
	GM-0010-11-12	GM-0025-26-27	GM-0050-51-52	GM-0075-76-77	GM-0100-101-102-103
A	$3.5^{+0.05}$ x 1 mm	$4.5^{+0.05}$ x 1 mm	$5^{+0.05}$ x 1.5 mm	$4.5^{+0.05}$ x 2 mm	$6^{+0.05}$ x 3 mm
B	M3x5 mm	M3x5 mm	M4x5 mm	M4x6 mm	M5x10 mm

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sul cursore.

Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

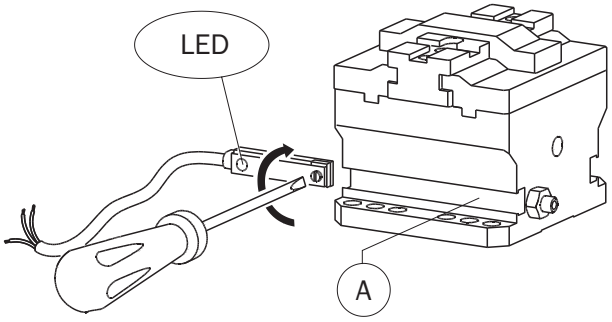
I sensori utilizzabili sono:



SL4N225-G	PNP	Cavo 2.5m / 2.5m cable
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector

Sono tutti dotati di un cavo a tre fili e di un led.

La sequenza qui illustrata mostra come fissare nella cava (A) il sensore con il grano (C) ed il dado (B).

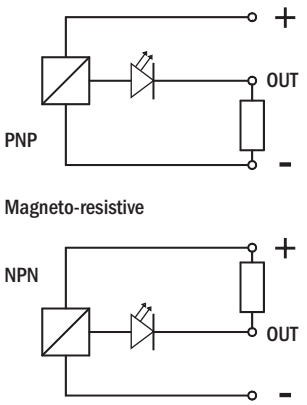


Sensors

The operating position can be checked by magnetic sensors (optional), that detect the magnets on the inner cursor.

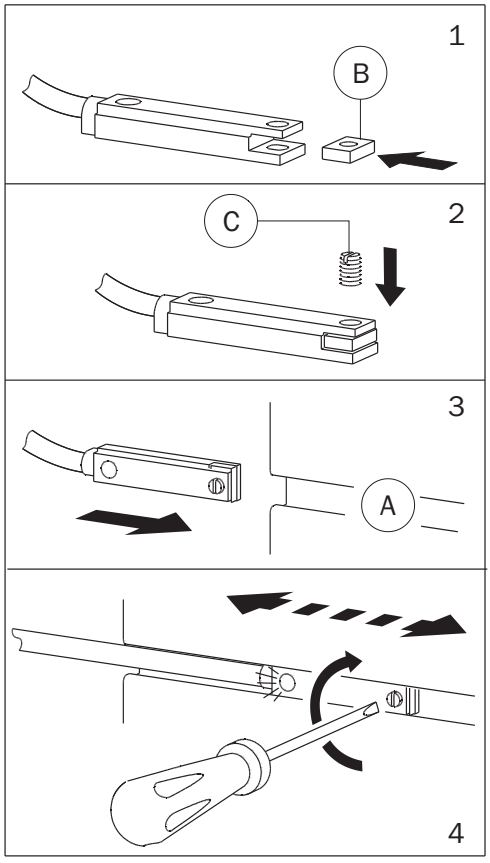
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Use sensors:



They are all provided with a three-wire cable and a lamp.

Below you can see how to lock the sensor in its groove (A) with the screw (C) and the nut (B).

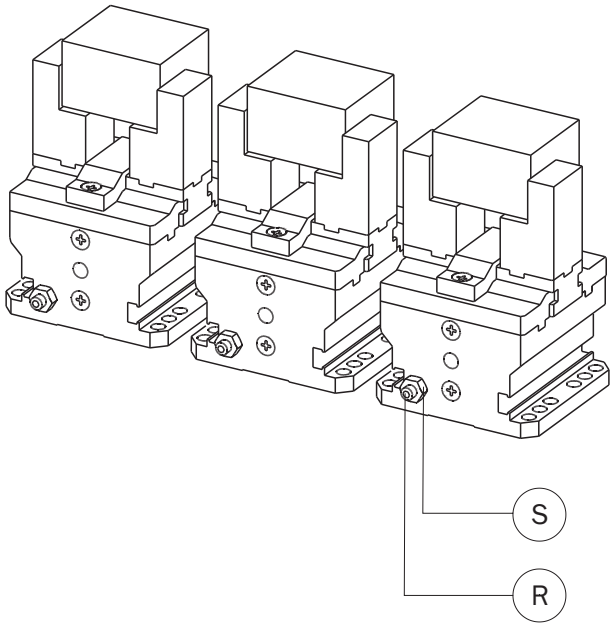


Regolazione della corsa

Avvitando i due grani (R) si riduce la corsa delle griffe.
Allentare il dado (S), eseguire la regolazione agendo sul grano con una chiave a brugola, ribloccare il dado.

Stroke adjustment

You can reduce the jaw stroke by screwing the two grub screws (R). Unloose the nut (S), adjust the stroke using an Allen wrench, and then tighten it again.



Manutenzione

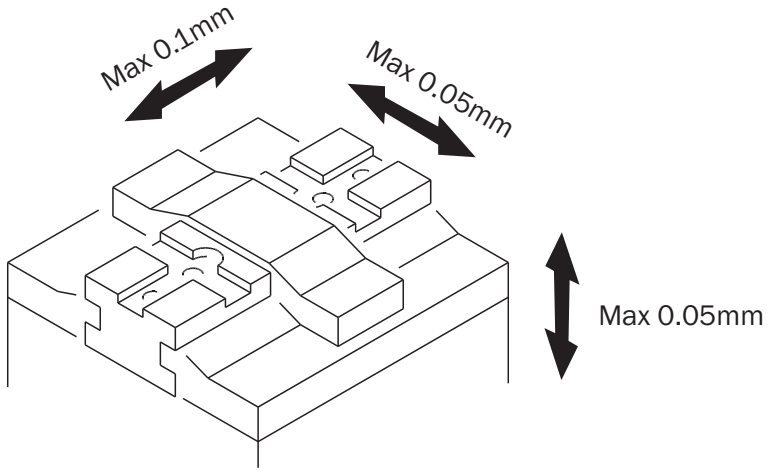
La pinza va ingrassata ogni 40 milioni di cicli con:
- Molykote DX (parti metalliche)
- Molykote PG75 (guarnizioni)

Il gioco delle griffe è indicato qui sotto.

Maintenance

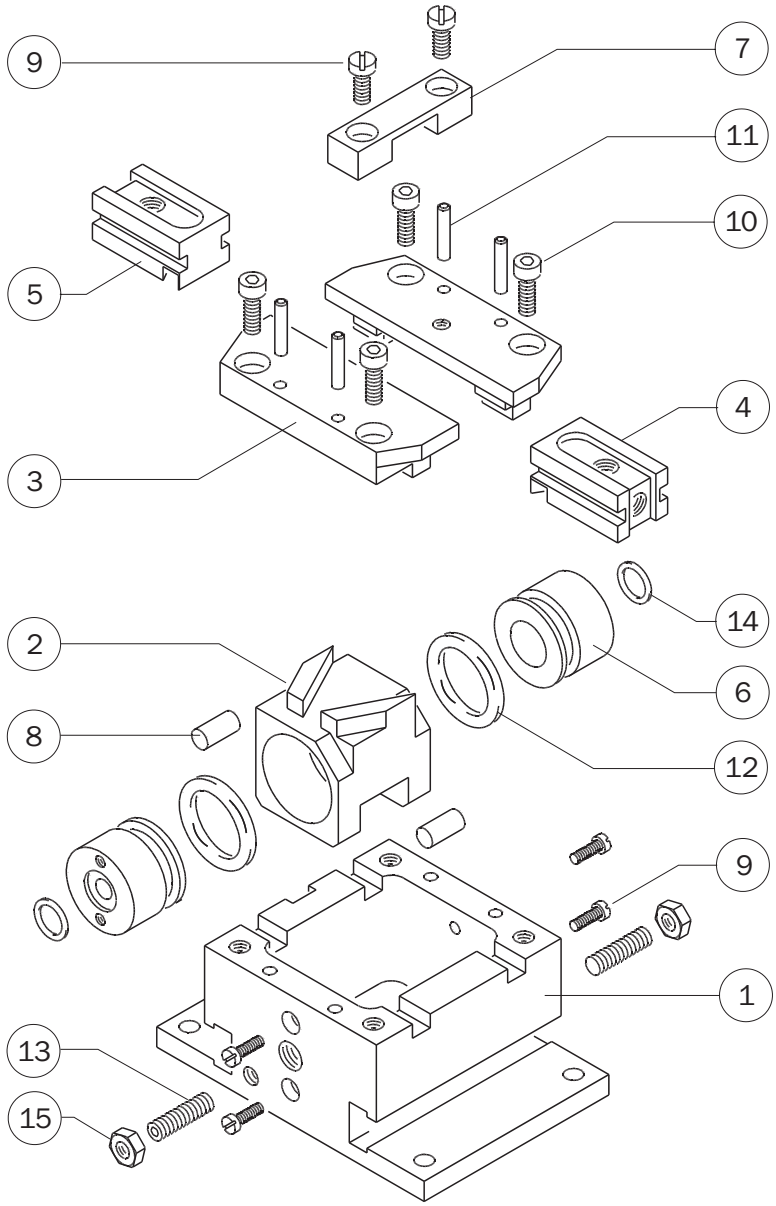
Grease the gripper after 40 million cycles with:
- *Molykote DX (metal on metal)*
- *Molykote PG75 (gaskets)*

The figure below shows the jaw backlash.



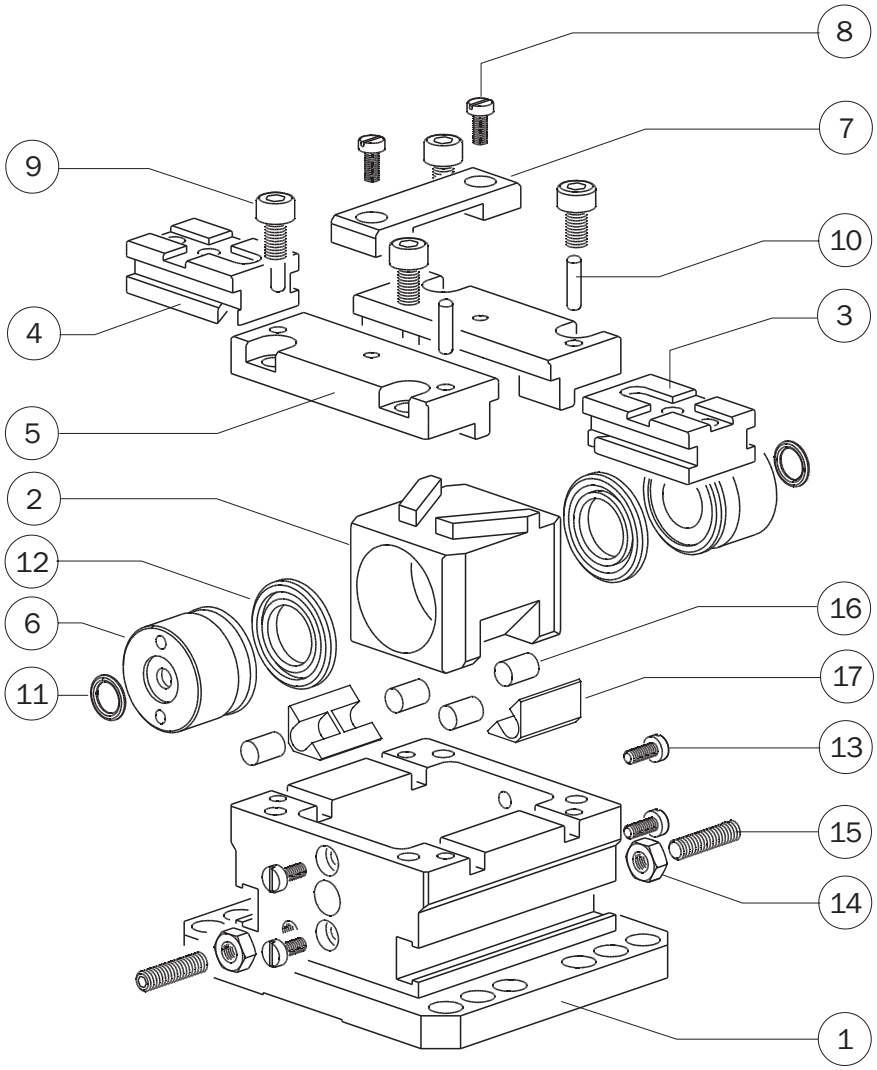
GM

Elenco delle parti / *Part list*



		GM-0010	GM-0011	GM-0012		
1	Corpo pinza		GM-0010-1		*Gripper housing*	*1*
2	Cursore	MG-0010-2	MG-0011-1	MG-0012-1	*Slider*	*2*
3	Guida	MG-0010-3	MG-0011-3	MG-0010-3	*Guidance block*	*3*
4	Griffa destra	MG-0010-4D	MG-0011-2D	MG-0012-2D	*Right jaw*	*4*
5	Griffa sinistra	MG-0010-4S	MG-0011-2S	MG-0012-2S	*Left jaw*	*5*
6	Pistone		MG-0010-5		*Piston*	*6*
7	Protezione	MG-0010-6	MG-0011-6	MG-0012-6	*Cover*	*7*
8	Magnete		PAR-06-7		*Magnet*	*8*
9	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*9*
10	Vite		VITE-097 (M3x5 mm DIN912 INOX A2)		*Screw*	*10*
11	Spina di riferimento		SPINA-020 (Ø2x8 mm DIN6325)		*Dowel pin*	*11*
12	O-RING		GUAR-020 (1.5x8.5)		*O-RING*	*12*
13	Vite senza testa		VITE-025 (M3x10 mm DIN913 INOX A2)		*Grub screw*	*13*
14	O-RING		GUAR-021 (1x5)		*O-RING*	*14*
15	Dado		VITE-073 (M3 DIN934 INOX A2)		*Nut*	*15*

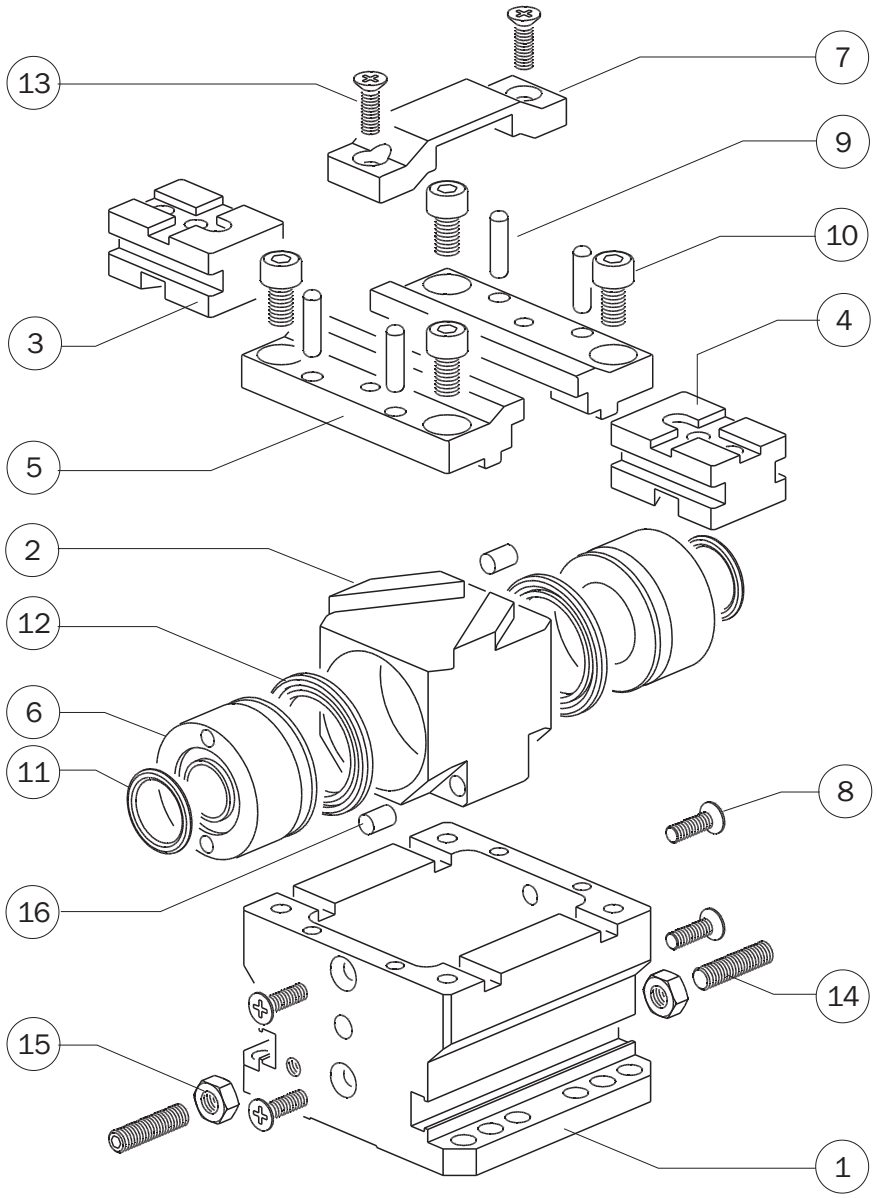
Elenco delle parti / *Part list*



		GM-0025	GM-0026	GM-0027		
1	Corpo pinza		GM-0025-1		*Gripper housing*	*1*
2	Cursore	MG-0025-2	MG-0026-1	MG-0027-1	*Slider*	*2*
3	Griffa destra	MG-0025-4D	MG-0026-2D	MG-0027-2D	*Right jaw*	*3*
4	Griffa sinistra	MG-0025-4S	MG-0026-2S	MG-0027-2S	*Left jaw*	*4*
5	Guida	MG-0025-3	MG-0026-3	MG-0027-3	*Guidance block*	*5*
6	Pistone		MG-0025-6		*Piston*	*6*
7	Protezione	MG-0025-5	MG-0026-5	MG-0027-5	*Cover*	*7*
8	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*8*
9	Vite		VITE-017 (M3x6 mm DIN912 INOX A2)		*Screw*	*9*
10	Spina di riferimento		SPINA-020 (Ø2x8 mm DIN6325)		*Dowel pin*	*10*
11	O-RING		GUAR-021 (1x5)		*O-RING*	*11*
12	Guarnizione dinamica		GUAR-002P (16x9x2.5)		*Dynamic gasket*	*12*
13	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*13*
14	Dado		VITE-073 (M3 DIN934 INOX A2)		*Nut*	*14*
15	Vite senza testa		VITE-131 (M3x12 mm DIN913 Z/B)		*Grub screw*	*15*
16	Magnete		PAR-06-7		*Magnet*	*16*
17	Inserto portamagnete		GM-0025-3		*Magnet housing*	*17*

GM

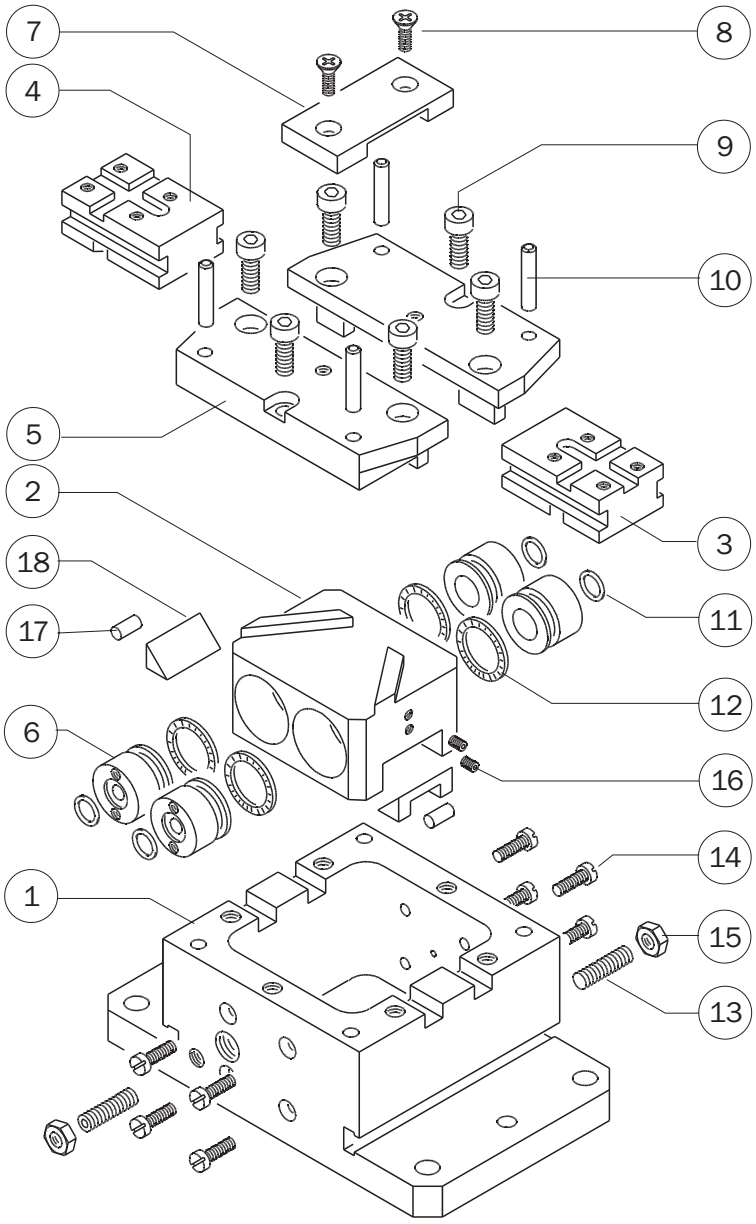
Elenco delle parti / *Part list*



		GM-0050	GM-0051	GM-0052		
1	Corpo pinza	GM-0050-1			*Gripper housing*	*1*
2	Cursore	MG-0050-2	MG-0051-1	MG-0052-1	*Slider*	*2*
3	Griffa sinistra	MG-0050-4S	MG-0051-2S	MG-0052-2S	*Left jaw*	*3*
4	Griffa destra	MG-0050-4D	MG-0051-2D	MG-0052-2D	*Right jaw*	*4*
5	Guida	MG-0050-3	MG-0051-3	MG-0052-3	*Guidance block*	*5*
6	Pistone	MG-0050-6			*Piston*	*6*
7	Protezione	MG-0050-5	MG-0051-5	MG-0052-5	*Cover*	*7*
8	Vite	VITE-012 (M3x10 mm DIN965A INOX A2)			*Screw*	*8*
9	Spina di riferimento	SPINA-022 (Ø3x12 mm DIN6325)			*Dowel pin*	*9*
10	Vite	VITE-009 (M4x8 mm DIN912 INOX A2)			*Screw*	*10*
11	O-RING	GUAR-022 (1.5x11)			*O-RING*	*11*
12	Guarnizione dinamica	GUAR-003M (25x18x2.4)			*Dynamic gasket*	*12*
13	Vite	VITE-012 (M3x10 mm DIN965A INOX A2)			*Screw*	*13*
14	Vite senza testa	VITE-119 (M4x20 mm DIN913 INOX A2)			*Grub screw*	*14*
15	Dado	VITE-067 (M4 DIN934 INOX A2)			*Nut*	*15*
16	Magnete	K-020-13			*Magnet*	*16*

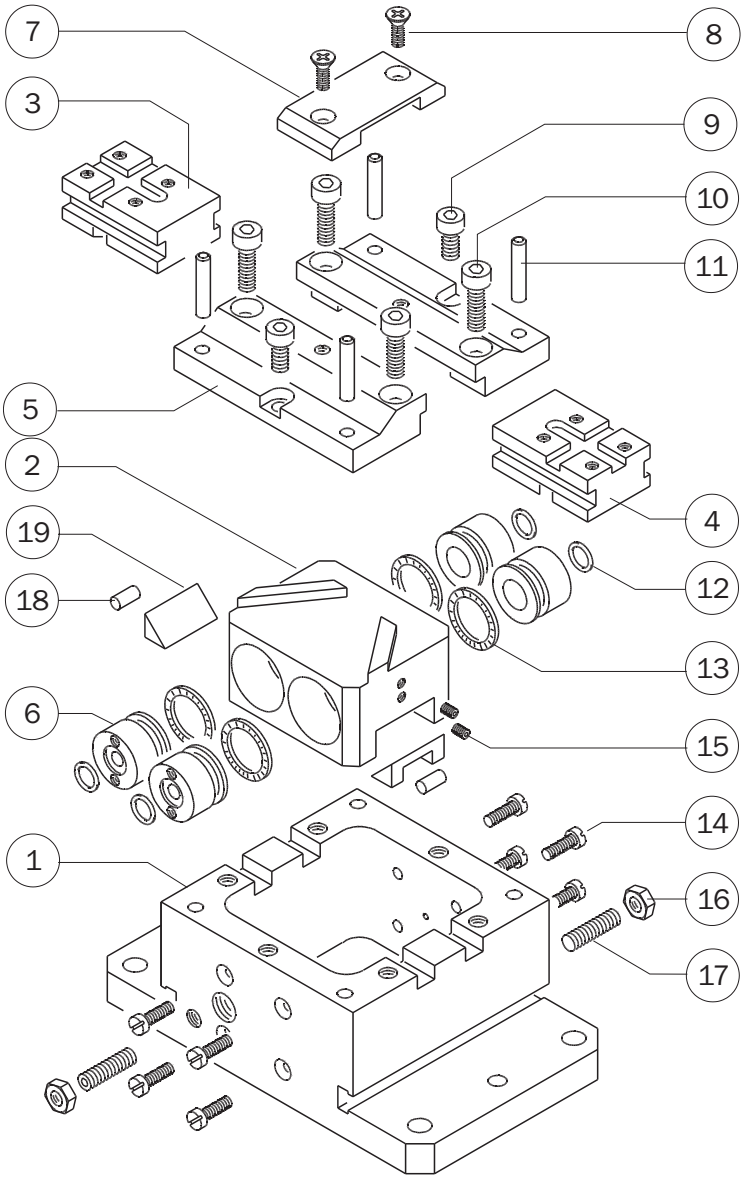
03/2015

Elenco delle parti / *Part list*



		GM-0075	GM-0076	GM-0077		
1	Corpo pinza		GM-0075-1		*Gripper housing*	*1*
2	Cursore	MG-0075-2	MG-0076-1	MG-0077-1	*Slider*	*2*
3	Griffa destra	MG-0075-4D	MG-0076-2D	MG-0077-2D	*Right jaw*	*3*
4	Griffa sinistra	MG-0075-4S	MG-0076-2S	MG-0077-2S	*Left jaw*	*4*
5	Guida	MG-0075-3	MG-0076-3	MG-0077-3	*Guidance block*	*5*
6	Pistone		MG-0075-6		*Piston*	*6*
7	Protezione	MG-0075-5	MG-0076-5	MG-0077-5	*Cover*	*7*
8	Vite		VITE-012 (M3x10 mm DIN965A INOX A2)		*Screw*	*8*
9	Vite		VITE-020 (M4x10 mm DIN912 INOX A2)		*Screw*	*9*
10	Spina di riferimento		SPINA-022 (Ø3x12 mm DIN6325)		*Dowel pin*	*10*
11	O-RING		GUAR-037 (1.78x11.11)		*O-RING*	*11*
12	Guarnizione dinamica		GUAR-003M (25x18x2.4)		*Dynamic gasket*	*12*
13	Vite senza testa		VITE-036 (M5x20 mm DIN913 INOX A2)		*Grub screw*	*13*
14	Vite		VITE-056 (M2x5 mm DIN84A INOX A2)		*Screw*	*14*
15	Dado		VITE-037 (M5 DIN934 INOX A2)		*Nut*	*15*
16	Vite senza testa		VITE-043 (M4x8 mm DIN913 INOX A2)		*Grub screw*	*16*
17	Magnete		FES-16-3-9		*Magnet*	*17*
18	Inserto portamagnete		GM-0075-3		*Magnet housing*	*18*

Elenco delle parti / *Part list*



		GM-0100	GM-0101	GM-0102	GM-0103		
1	Corpo pinza	GM-0100-1				*Gripper housing*	*1*
2	Cursore	MG-0100-2	MG-0101-2	MG-0102-2	MG-0103-2	*Slider*	*2*
3	Griffa destra	MG-0100-3D	MG-0101-3D	MG-0102-3D	MG-0103-3D	*Right jaw*	*3*
4	Griffa sinistra	MG-0100-3S	MG-0101-3S	MG-0102-3S	MG-0103-3S	*Left jaw*	*4*
5	Guida	MG-0100-4	MG-0101-7	MG-0102-7	MG-0102-7	*Guidance block*	*5*
6	Pistone	MG-0100-5				*Piston*	*6*
7	Protezione	MG-0100-6	MG-0101-6	MG-0102-6	MG-0103-6	*Cover*	*7*
8	Vite	VITE-022 (M3x12 mm DIN965A INOX A2)				*Screw*	*8*
9	Vite	VITE-020 (M4x10 mm DIN912 INOX A2)				*Screw*	*9*
10	Vite	VITE-015 (M5x16 mm DIN912 INOX A2)				*Screw*	*10*
11	Spina di riferimento	SPINA-019 (Ø4x14 mm DIN6325)				*Dowel pin*	*11*
12	O-RING	GUAR-023 (1.78x15.6)				*O-RING*	*12*
13	Guarnizione dinamica	GUAR-024P (30x21x3)				*Dynamic gasket*	*13*
14	Vite senza testa	VITE-043 (M4x8 mm DIN913 INOX A2)				*Grub screw*	*14*
15	Vite	VITE-016 (M3x10 mm DIN912 INOX A2)				*Screw*	*15*
16	Dado	VITE-037 (M5 DIN934 INOX A2)				*Nut*	*16*
17	Vite senza testa	VITE-036 (M5x20 mm DIN913 INOX A2)				*Grub screw*	*17*
18	Magnete	FES-16-3-9				*Magnet*	*18*
19	Inserto portamagnete	GM-0100-3				*Magnet housing*	*19*

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

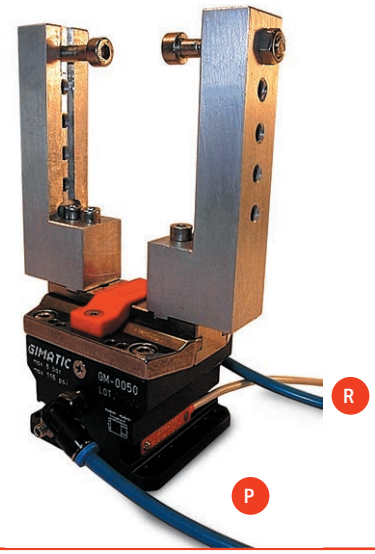
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

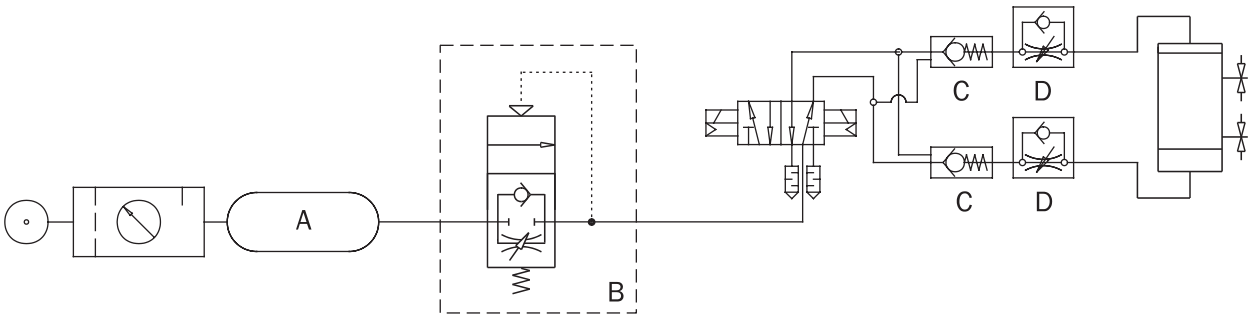
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on the compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



S

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie S)

- Vincitore al concorso IF Design Award 1999 di Hannover.
- Integrabile con gli altri elementi del Gimapick.
- Azionamento a doppio effetto (a semplice effetto su richiesta).
- Alimentazione dell'aria compressa possibile direttamente dalla piastra di fissaggio.
- Fissaggio semplificato attraverso una flangia dotata di fori passanti.
- Elevata forza di serraggio e basso peso.
- Sensori magnetici opzionali.

2-jaw parallel self-centering pneumatic gripper (series S)

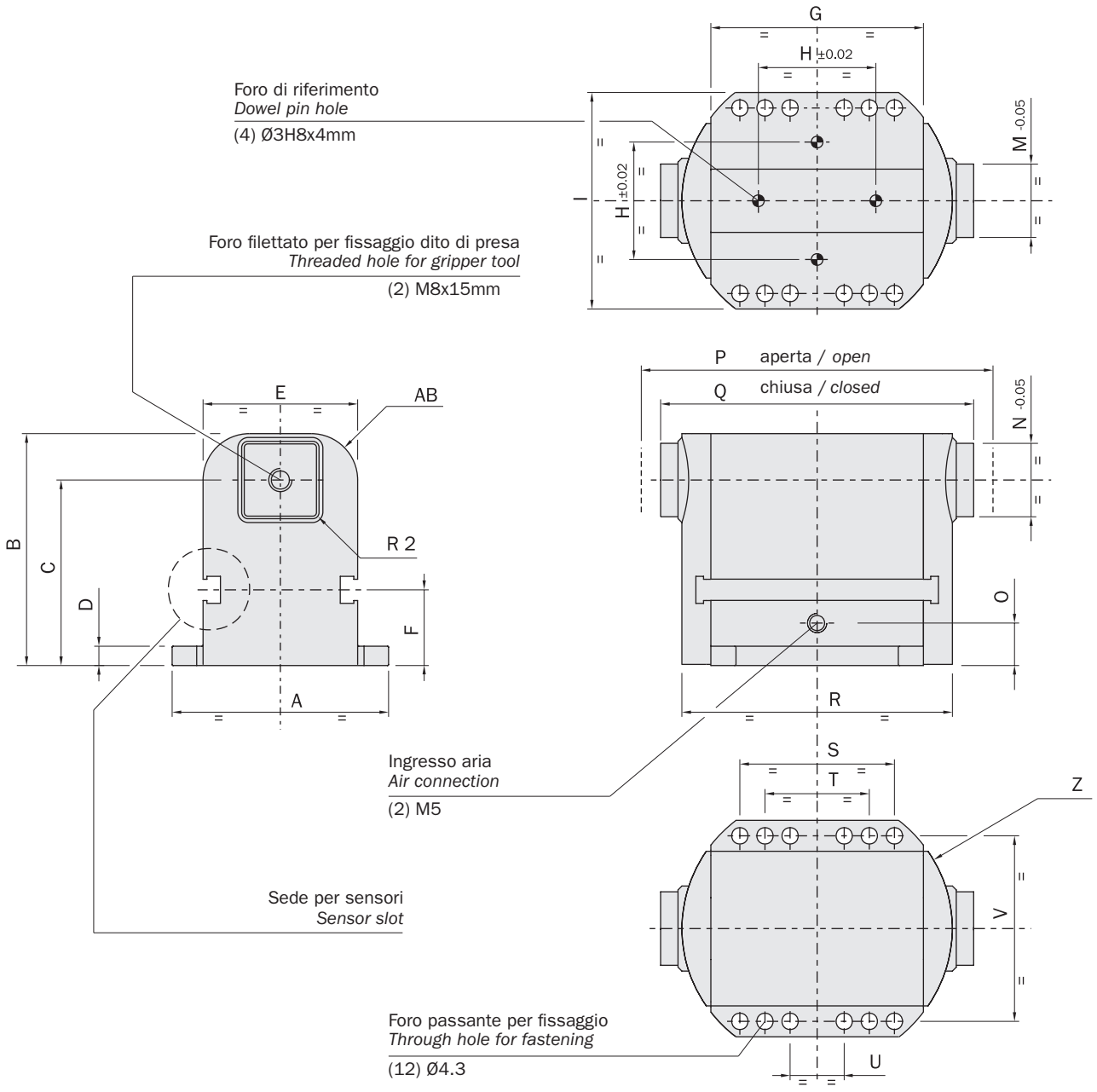
- *Hannover IF Design Award 1999 winner.*
- *Modular with Gimapick system.*
- *Double acting (single acting on request).*
- *Air feeding possible directly from the fixing plate.*
- *Easy fastening by through holes on the flange.*
- *High gripping force and low weight.*
- *Optional magnetic sensors.*



	S25
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	100 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	200 N
Corsa totale (±0.3 mm) *Total stroke*	10.6 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz
Consumo d'aria per ciclo *Cycle air consumption*	14 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.01 s
Ripetibilità *Repetition accuracy*	0.02 mm
Peso *Weight*	400 g

Dimensioni (mm) / *Dimensions (mm)*

	A	B	C	D	E	F	G	H ±0.02	I	M -0.05	N -0.05	O	P	Q	R	S	T	U	V	Z	AB
S25	56	60	48	5	40	19.6	55	30.4	56	18	18	11	91	80.4	Ø70	40	27	14	48	R 35	R 12



FIRST ANGLE PROJECTION

Serraggio

Le pinze pneumatiche della serie S sono costruite per serrare e tenere un carico.
Il principio di azionamento si basa su un unico pistone solidale ad una delle griffe, l'altra invece è azionata da una leva.
La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.

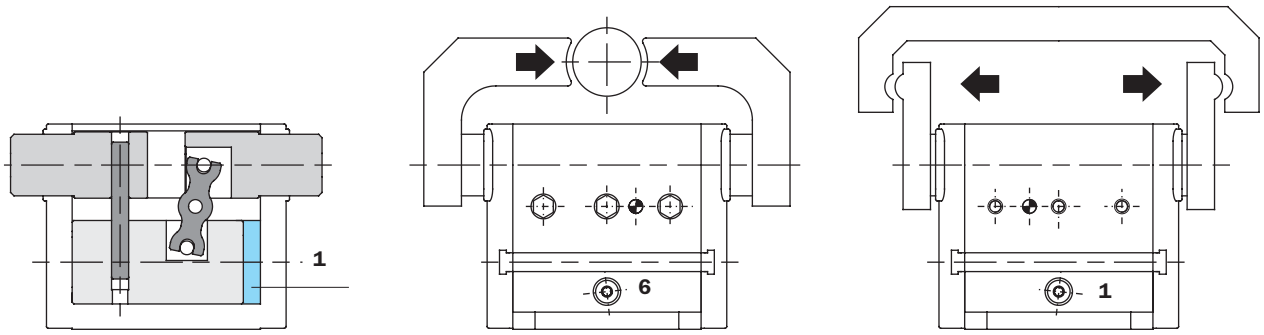
A richiesta è disponibile la versione a semplice effetto con la molla in chiusura (NC) o in apertura (NO).

Gripping

These are pneumatic grippers for handling.
The functional principle is based on a single piston which is integral with one of the jaws.
The other one, running in opposite direction, is moved by a lever.
The gripper is double-acting for either internal or external gripping applications.

The single-acting version is available on request with a closing (NC) or opening (NO) spring.

Camera in pressione
Pressurized chamber

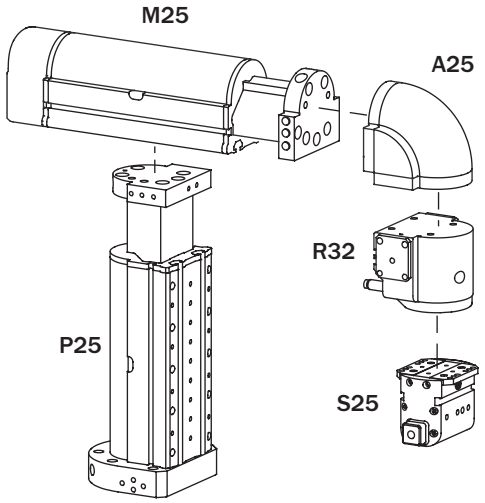


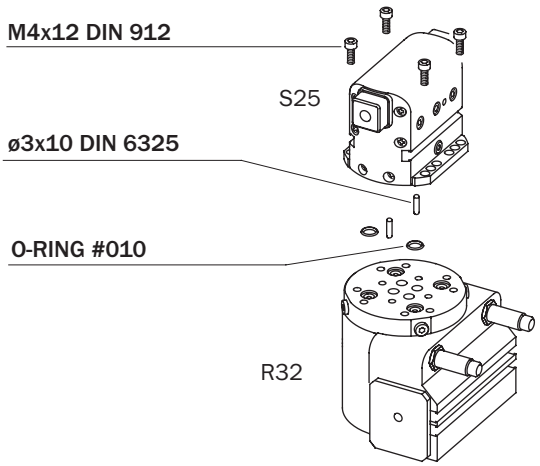
Esempi di applicazione

Queste pinze sono facilmente integrabili con gli elementi del sistema Gimapick.

Application examples

These grippers can be easily mounted with Gimapick elements.





Forza di serraggio

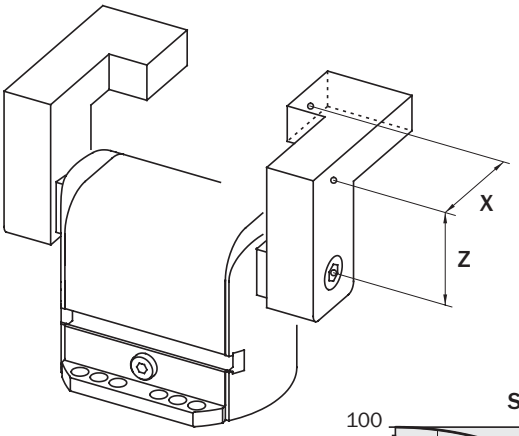
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).

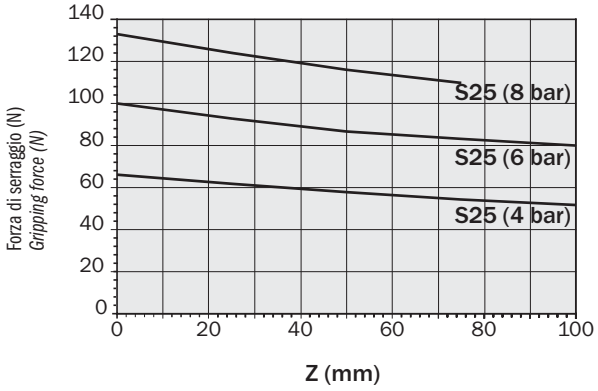
Gripping force

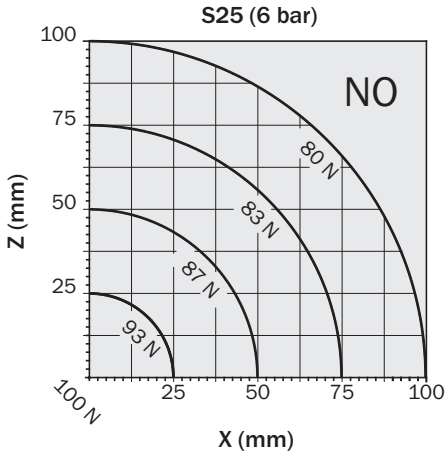
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).

La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

The force shown in these graphs refers to one jaw.
The total force is double.





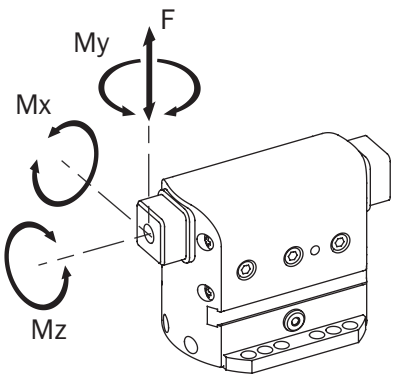


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment.
If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



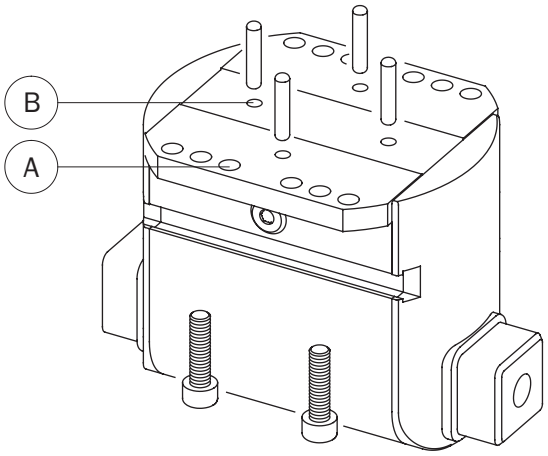
	S25
F s	300 N
Mx s	8.3 Nm
My s	8.3 Nm
Mz s	8.3 Nm
F d	3 N
Mx d	8 Ncm
My d	8 Ncm
Mz d	8 Ncm
m	150 g

Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per il fissaggio è necessario utilizzare almeno quattro viti nei fori passanti (A) e due spine nei fori calibrati (B).

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper, insert at least four screws into the through holes (A) and two dowel pins in the holes (B).



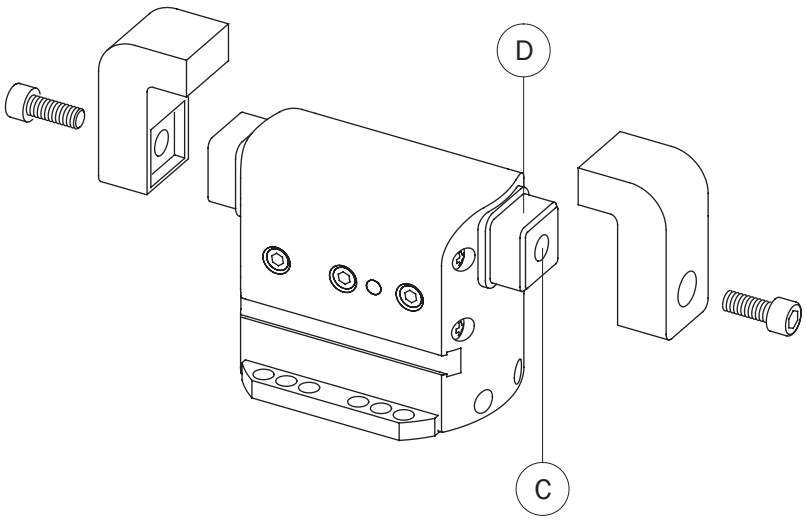
	S25
A	Ø4.3 mm
B	Ø3H8x4 mm

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle sulle griffe calzandole sulla sagoma calibrata (D) e bloccandole con una vite nel foro filettato (C) centrale.

Gripping tool fastening

The gripping tools must be as short and light as possible.
Fit them to the jaws by centering the square calibrated profile (D) and locking with a screw through the threaded middle hole (C).



	S25
C	M8x15 mm
D	$18^{-0.05}$ x $18^{-0.05}$ mm

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

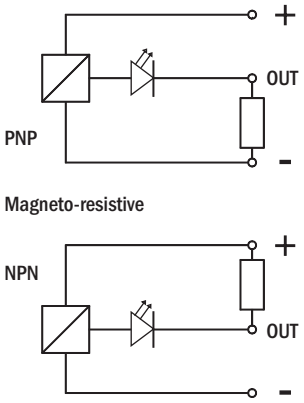
Sensors

The operating position is detected by proximity magnetic sensors (optional) through the magnet placed on the piston.
Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

I sensori utilizzabili sono:

The sensors that can be used are:





			S25
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)
SS3N225-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)
SS3M225-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.



Connessione pneumatica

La pinza può essere alimentata con aria compressa dai fori laterali (S) montandovi i raccordi dell'aria ed i relativi tubi (non forniti), oppure direttamente da quelli sul fondo (P) o (Q).

Aria compressa in 1: apertura della pinza.
Aria compressa in 6: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

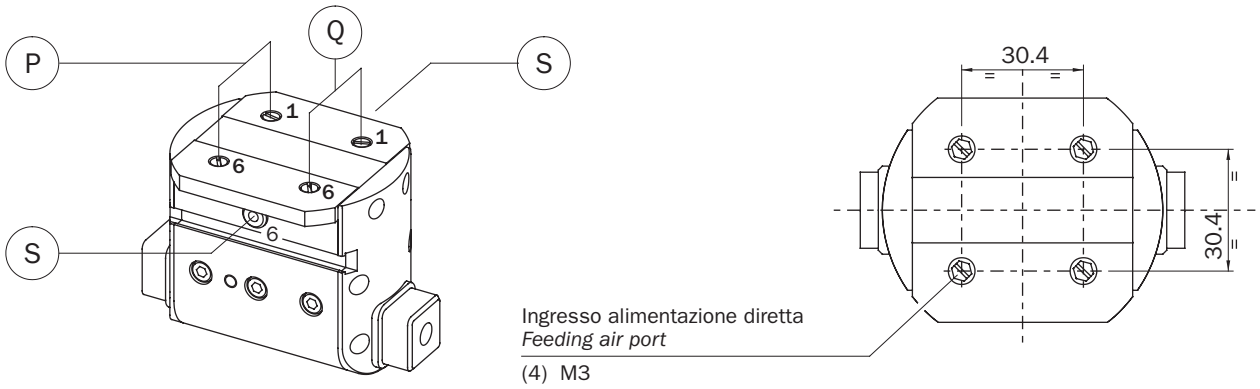
Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (S) with fittings and hoses (not supplied), or directly on the bottom air ports (P) or (Q).

Compressed air in 1: gripper opening.
Compressed air in 6: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

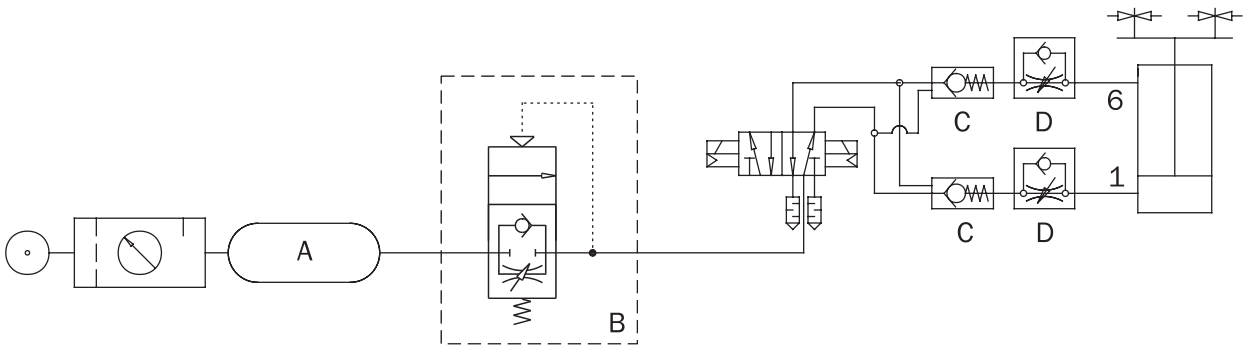
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

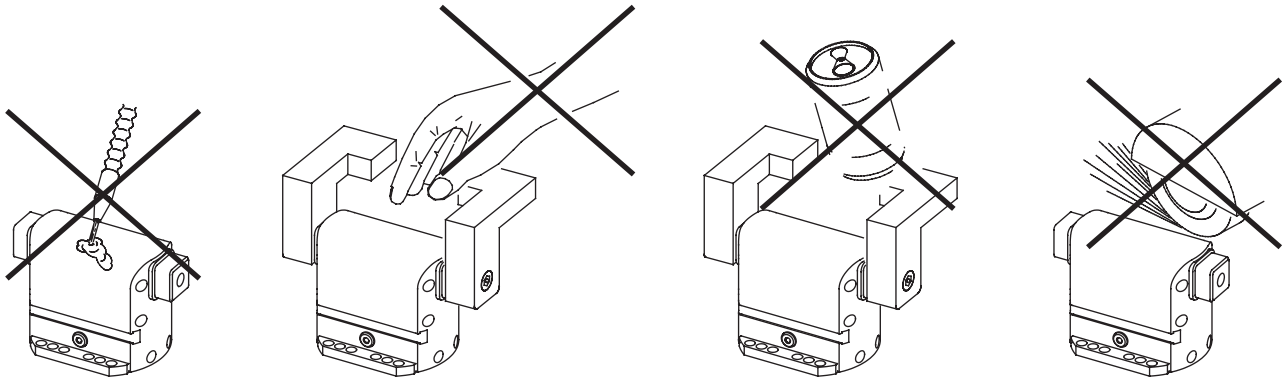


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

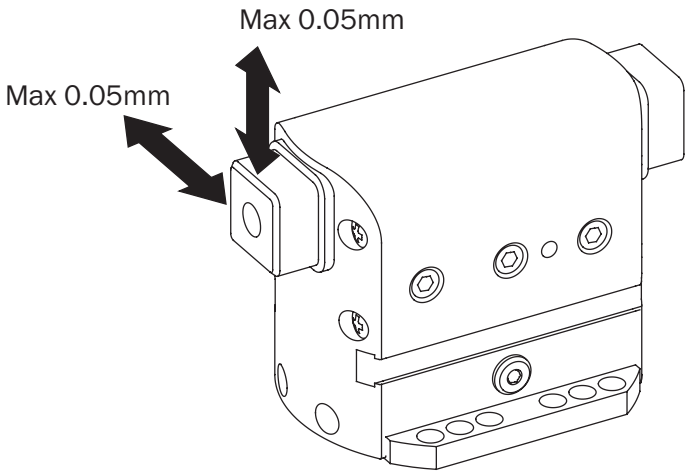
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche)
- Molykote PG75 (guarnizioni)

Il gioco delle griffe è indicato qui sotto.

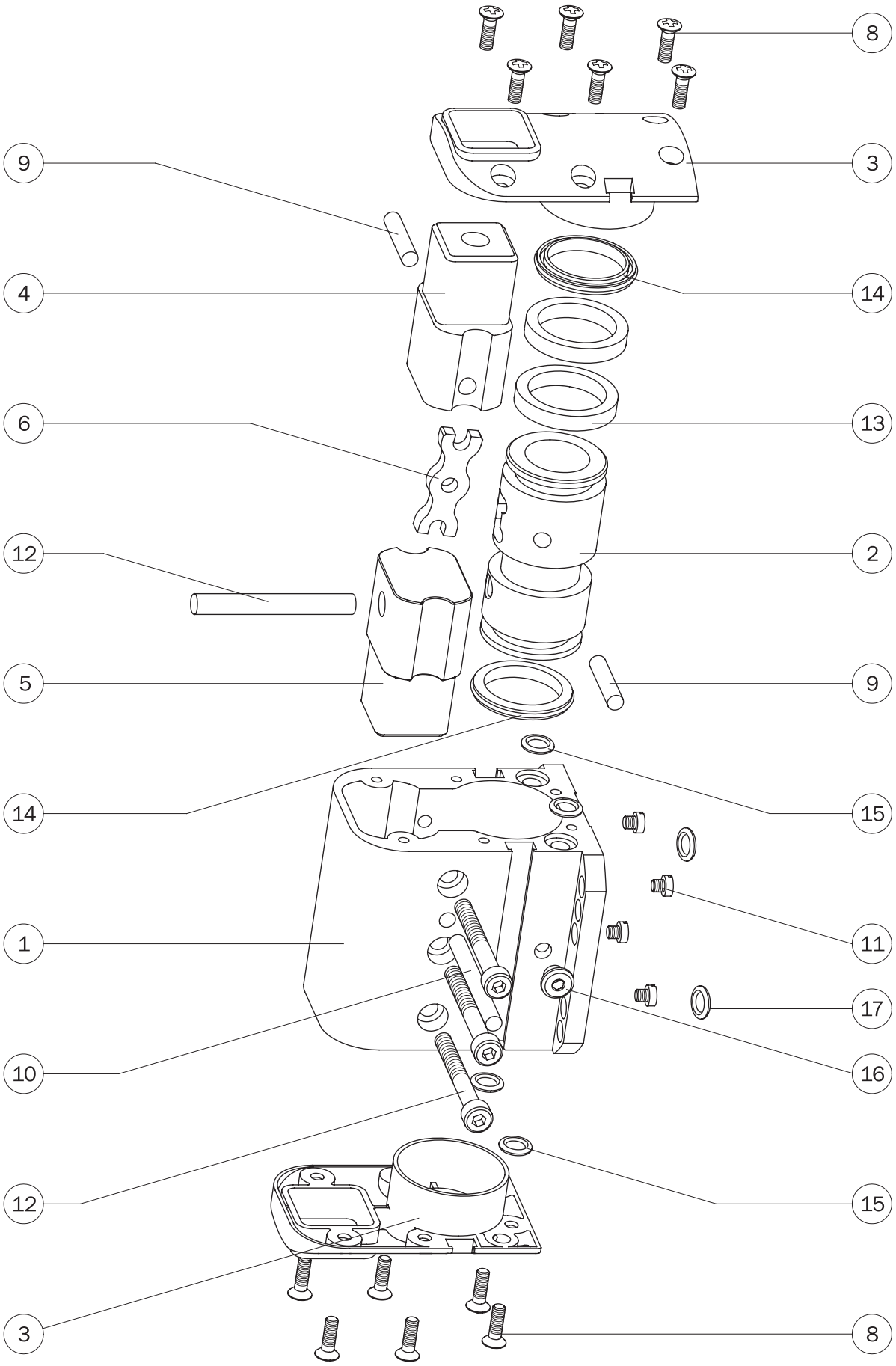
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal)*
- *Molykote PG75 (gaskets)*

The figure below shows the jaw backlash.



Vista esplosa / *Exploded view*



Elenco delle parti / *Part list*

		S25		
1	Corpo pinza	S25-1	*Gripper housing*	*1*
2	Pistone	S25-2	*Piston*	*2*
3	Testata	S25-3	*Head*	*3*
4	Griffa	S25-4	*Jaw*	*4*
5	Griffa	S25-5	*Jaw*	*5*
6	Leva	S25-6	*Lever*	*6*
7	Vite	VITE-117 (M4x35 mm INOX A2 DIN912)	*Screw*	*7*
8	Vite	VITE-116 (M3x10 mm INOX A2 DIN966A)	*Screw*	*8*
9	Spina di riferimento	SPINA-012 (Ø4x20 mm DIN6325)	*Dowel pin*	*9*
10	Spina di riferimento	SPINA (Ø4x39.8 mm DIN5402)	*Dowel pin*	*10*
11	Tappo	DT - 205	*Plug*	*11*
12	Spina di riferimento	SPINA-013 (Ø5x40 mm DIN6325)	*Dowel pin*	*12*
13	Magnete	PS-0025-P07	*Magnet*	*13*
14	Guarnizione	GUAR-064 (25x19x3.5)	*Gasket*	*14*
15	O-RING	GUAR-029 (Ø1.78x4.48)	*O-RING*	*15*
16	Tappo	107 - M5	*Plug*	*16*
17	O-RING	GUAR-039 (Ø1.78x6.07)	*O-RING*	*17*

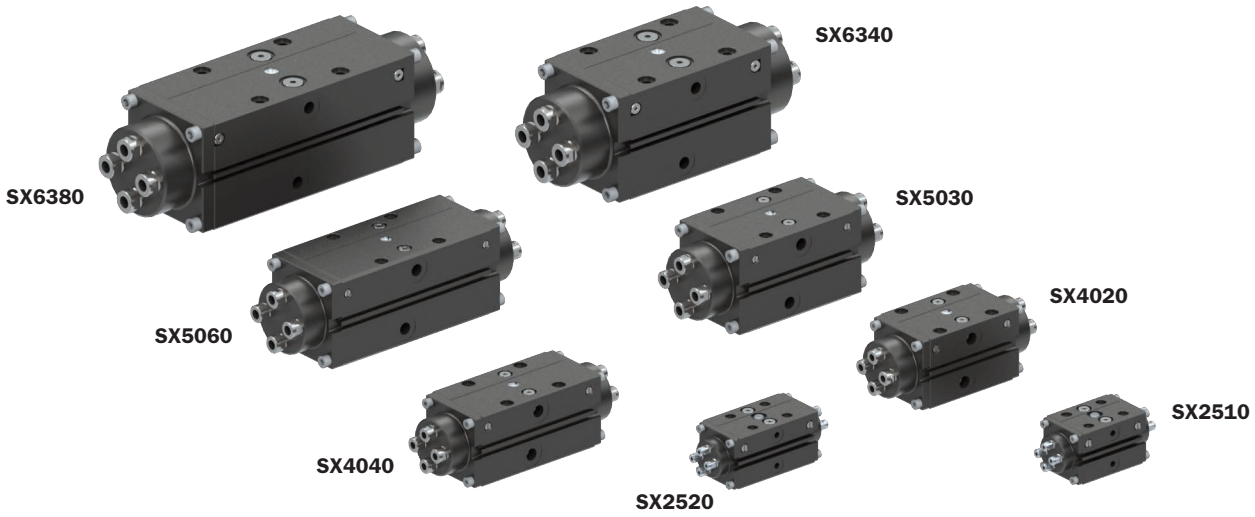
SX

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie SX)

- Azionamento a doppio effetto (normale chiusa su richiesta).
- Forza di serraggio elevata.
- Grado di protezione IP67.
- Colonne sigillate con doppio O-Ring.
- Adatta per ambienti difficili.
- Sensori magnetici opzionali.
- Disponibili su richiesta con grasso alimentare FDA-H1 e guarnizioni per alte temperature (fino a 100°C.).

2-jaw self-centering pneumatic parallel gripper (series SX)

- *Double acting (normally closed on request).*
- *High gripping force.*
- *Protection class: IP67.*
- *Double O-Ring sealing on the columns.*
- *Suitable for harsh environments.*
- *Optional magnetic sensors.*
- *Available upon request with food grease FDA-H1 and with high temperature (up to 100°C.) seals.*

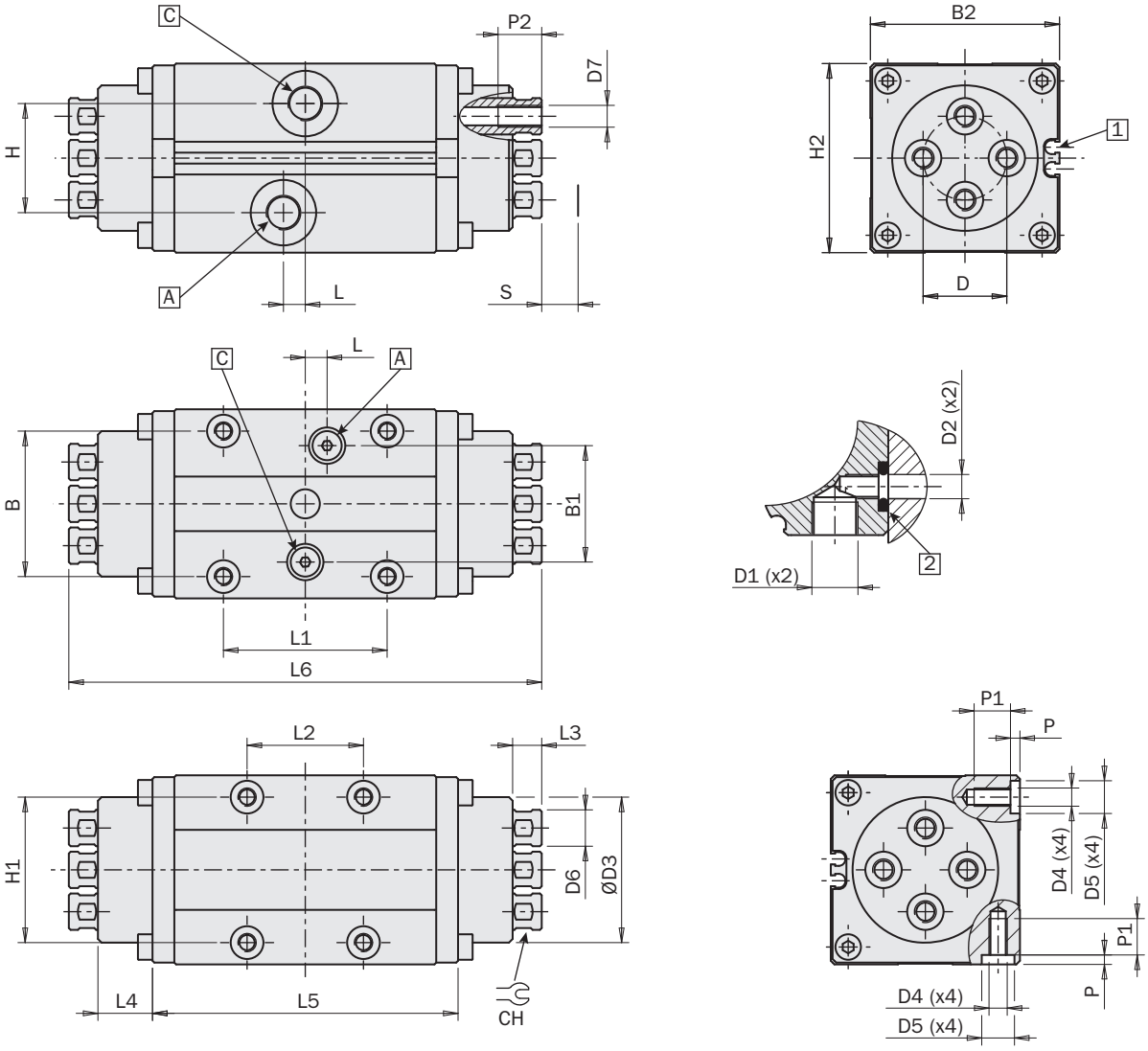


	SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*							
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar							
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C							
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	250 N	250 N	650 N	650 N	1050 N	1050 N	1700 N	1700 N
Forza di serraggio totale in apertura a 6 bar *Total opening gripping force at 6 bar*	500 N	500 N	1300 N	1300 N	2100 N	2100 N	3400 N	3400 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	195 N	195 N	500 N	500 N	800 N	800 N	1250 N	1250 N
Forza di serraggio totale in chiusura a 6 bar *Total closing gripping force at 6 bar*	390 N	390 N	1000 N	1000 N	1600 N	1600 N	2500 N	2500 N
Corsa totale (±0.5 mm) *Total stroke*	10 mm	20 mm	20 mm	40 mm	30 mm	60 mm	40 mm	80 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	2 Hz	2 Hz	2 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	11 cm^3	20 cm^3	50 cm^3	95 cm^3	115 cm^3	220 cm^3	230 cm^3	450 cm^3
Tempo di apertura / chiusura senza carico *Opening / Closing time without load*	0.03 s	0.05 s	0.03 s	0.08 s	0.06 s	0.10 s	0.20 s	0.30 s
Ripetibilità *Repetition accuracy*	0.05 mm							
Peso *Weight*	260 g	310 g	750 g	900 g	1300 g	1700 g	2800 g	3500 g

03/2015

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION



		SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
B	±0.02	23	23	40	40	50	50	60	60
B1		22.5	22.5	32	32	38	38	45	45
B2		38	38	52	52	64	64	79	79
D	±0.02	15	15	Ø23	Ø23	Ø33	Ø33	Ø38	Ø38
D1		M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
D2		M5	M5	M5	M5	M5	M5	G1/8	G1/8
D3		27	27	Ø40	Ø40	Ø50	Ø50	Ø63	Ø63
D4		M4	M4	M5	M5	M6	M6	M8	M8
D5	H8	7	7	Ø9	Ø9	Ø9	Ø9	Ø12	Ø12
D6	f7	Ø6	Ø6	Ø10	Ø10	Ø12	Ø12	Ø16	Ø16
D7		M3	M3	M6	M6	M8	M8	M10	M10
H		22.5	22.5	30	30	40	40	45	45
H1	±0.02	23	23	40	40	50	50	60	60
H2		38	38	52	52	64	64	79	79
L		-	-	6	6	10	10	10	10
L1	±0.02	30	30	45	45	50	50	70	70
L2	±0.02	30	30	32	32	35	35	50	50
L3		7.5	7.5	8	8	8.5	8.5	9.5	9.5
L4		7.5	7.5	15	15	18	18	26	26
L5		59	73	84	110	106	146	133	185
L6		89	103	130	156	159	199	204	256
P		2.1	2.1	2.6	2.6	2.6	2.6	2.6	2.6
P1		6.5	6.5	10	10	10	10	15	15
P2		6	6	12	12	20	20	20	20
S (x2)		5	10	10	20	15	30	20	40
CH		5	5	9	9	11	11	14	14

1
Sede per sensori
Sensor seat

2
O-Ring (non fornito)
O-Ring (not supplied)

A
Aria compressa in A: apertura della pinza.
Compressed air in A: gripper opening.

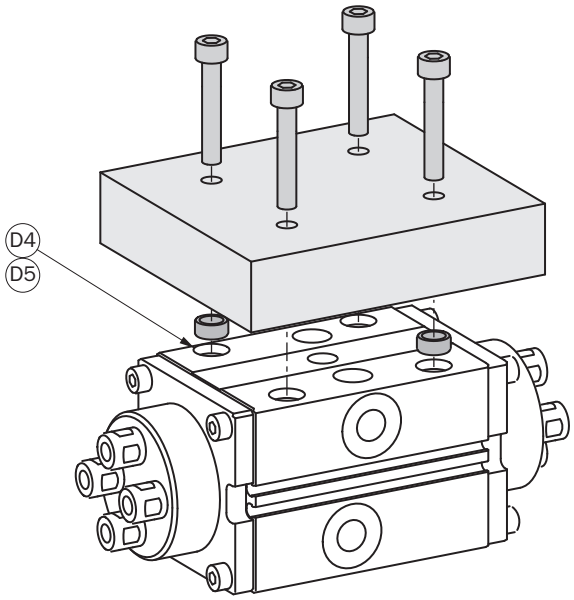
C
Aria compressa in C: chiusura della pinza.
Compressed air in C: gripper closing.

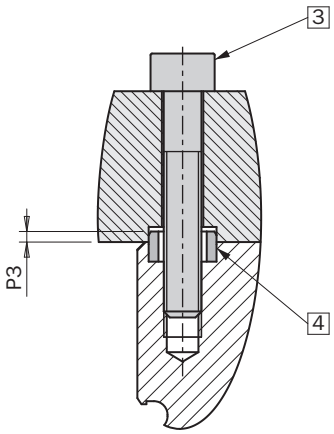
Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza usare quattro viti [3] nei fori filettati (D4) e due boccole [4] nei fori calibrati (D5).

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.
Use 4 screws [3] in the threaded holes (D4) and 2 centering sleeves [4] in the spot faces (D5).





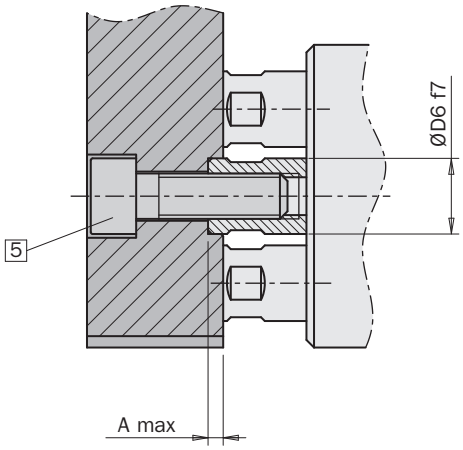
	SX25	SX40	SX50	SX63
[3]	M4	M5	M6	M8
[4]	Ø7h7 x 5.3 x 3	Ø9h7 x 6.4 x 4	Ø9h7 x 6.4 x 4	Ø9h7 x 6.4 x 4
P3	$1.2^{-0.2}$	$1.4^{-0.2}$	$1.4^{-0.2}$	$2.4^{-0.2}$

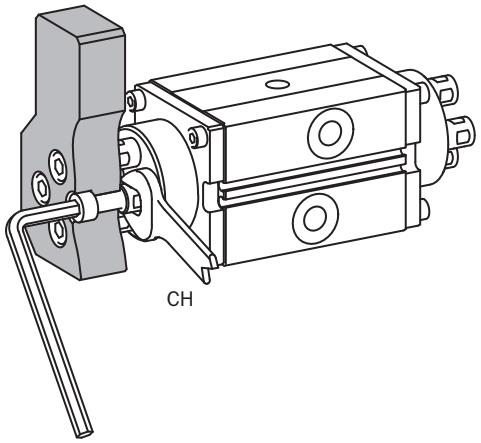
Fissaggio delle estremità di presa

Questa pinza è priva di griffe e le dita di presa vanno montate direttamente sulle colonne.
Costruire le dita di presa il più possibile corte e leggere.
Fissarle con quattro viti [5] nei fori filettati (D7) delle colonne.
Realizzare lamature di centraggio per due delle quattro colonne (D6).
Tenere la colonna con la chiave, per evitare di svitarla.

Gripping tool fastening

This gripper has no jaws and the gripping tools have to be fastened directly on the columns.
The gripping tools must be as short and light as possible.
They must be fastened with four screws [5] in the threaded holes (D7) of the columns.
Drill centering holes for two of the four columns (D6).
Hold the column with a wrench key, to avoid unscrewing it.

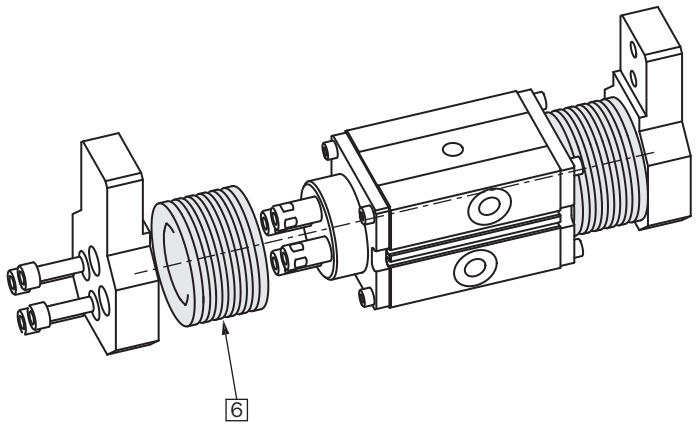


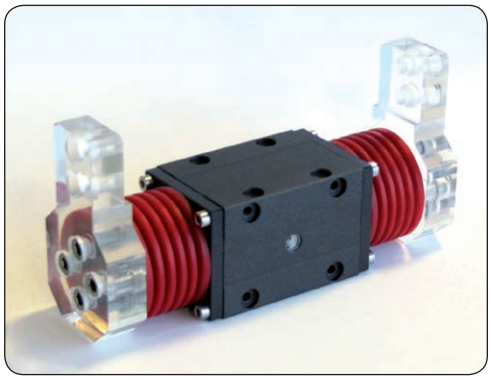


	SX25	SX40	SX50	SX63
A	1.5	2	2	2
[5]	M3	M6	M8	M10

Come opzione è disponibile un soffietto in Silicone [6] per proteggere le colonne.
Codice SX25S01 per la pinza SX2510.
Codice SX40S01 per la pinza SX4020.
Codice SX50S01 per la pinza SX5030.
Codice SX63S01 per la pinza SX6340.

An optional bellow in silicone [6] is available to protect columns.
Code SX25S01 for the gripper SX2510.
Code SX40S01 for the gripper SX4020.
Code SX50S01 for the gripper SX5030.
Code SX63S01 for the gripper SX6340.



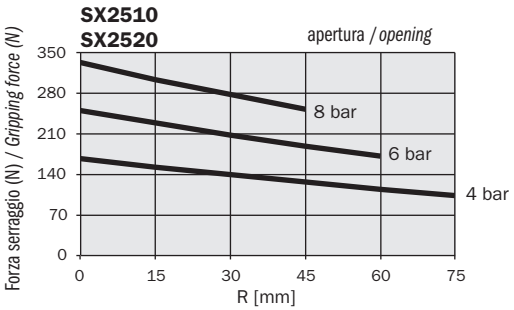


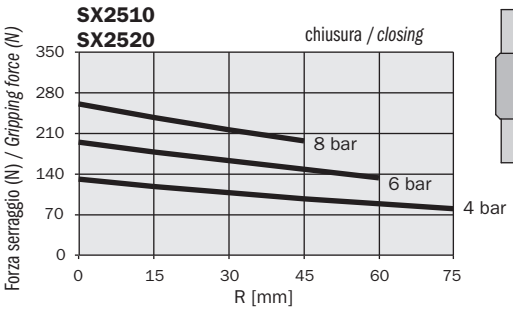
Forza di serraggio

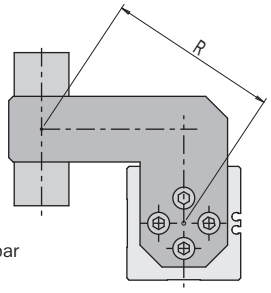
I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione e della distanza R del punto di presa.

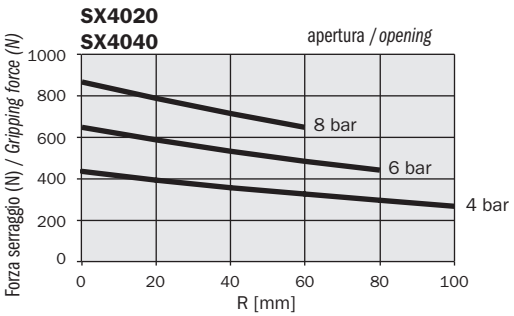
Gripping force

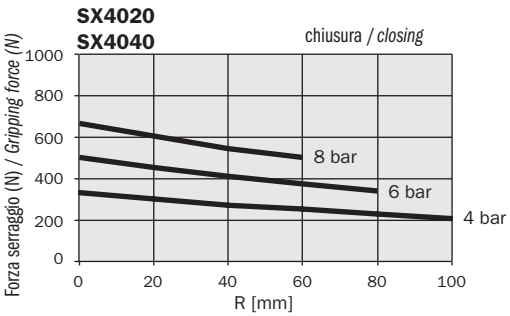
The graphs show the medium gripping force on each jaw, as a function of the operating pressure and the distance R of the gripping point.

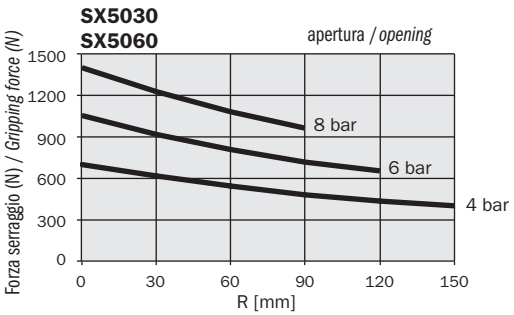


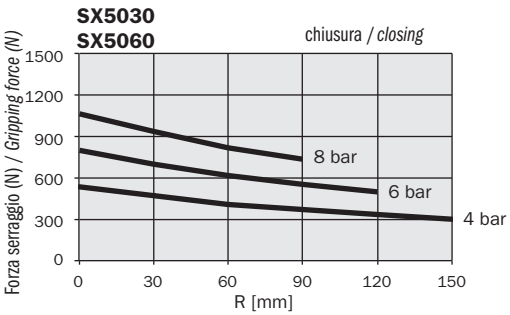


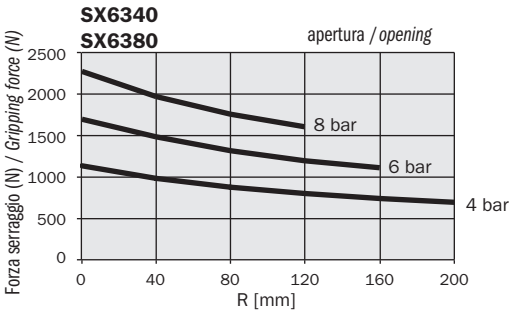


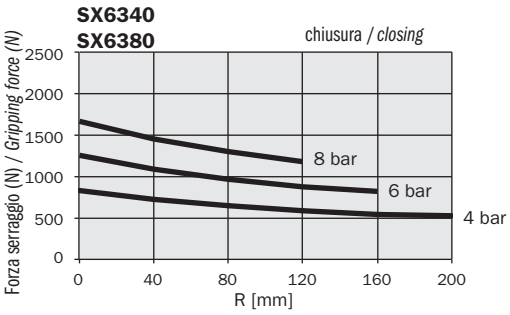












La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il doppio.

The force shown in these graphs refers to one jaw. The total force is double.

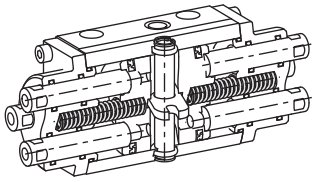
Versioni a molla

A richiesta è disponibile la versione con la molla in chiusura (-NC) che in assenza d'aria garantisce circa un decimo della forza disponibile a 6 bar.

Spring option

A version with a normally closed (-NC) spring is also available, on request. In the case of a pressure black-out, the spring provides about one tenth of the output force at 6 bar.

	SX4020-NC	SX5030-NC	SX6340-NC
Forza di chiusura per griffa a 6 bar *Closing force on each jaw at 6 bar*	527÷556 N	903÷966 N	1379÷1448 N
Forza di apertura per griffa a 6 bar *Opening force on each jaw at 6 bar*	592÷621 N	889÷952 N	1517÷1586 N
Forza di chiusura per griffa a 0 bar *Closing force on each jaw at 0 bar*	35÷64 N	96÷159 N	116÷185 N
Forza di apertura per griffa a 0 bar *Opening force on each jaw at 0 bar*	0 N	0 N	0 N

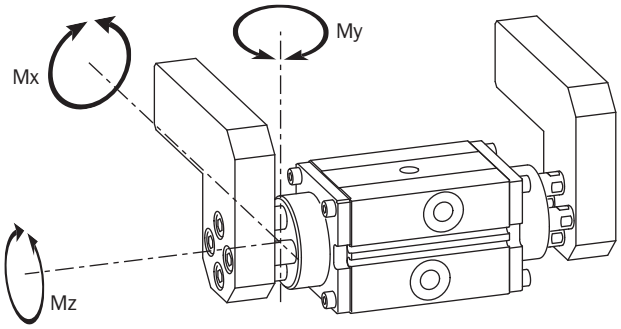


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
Mx s, My s, Mz s, are the maximum permitted static loads, that is when the jaws are still.
Mx d, My d, Mz d, are the maximum permitted dynamic loads, that is when the jaws are operating.
m is the maximum permitted weight of each gripping tool, when the gripper operates without speed adjustment. If the weight exceeds the permitted value, the jaw speed must be decreased by means of flow controllers (not supplied).



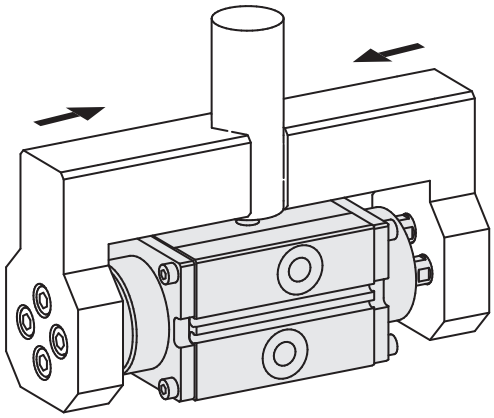
	SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
Mx s	10 Nm	10 Nm	40 Nm	40 Nm	90 Nm	90 Nm	190 Nm	190 Nm
My s	10 Nm	10 Nm	40 Nm	40 Nm	90 Nm	90 Nm	190 Nm	190 Nm
Mz s	5 Nm	7 Nm	20 Nm	30 Nm	40 Nm	60 Nm	100 Nm	150 Nm
Mx d	0.1 Nm	0.1Nm	0.5 Nm	0.5 Nm	1.2 Nm	1.2 Nm	2.7 Nm	2.7 Nm
My d	0.1 Nm	0.1Nm	0.5 Nm	0.5 Nm	1.2 Nm	1.2 Nm	2.7 Nm	2.7 Nm
Mz d	0.1 Nm	0.1Nm	0.5 Nm	0.5 Nm	1.2 Nm	1.2 Nm	2.7 Nm	2.7 Nm
m	400 g	400 g	700 g	700 g	1400 g	1400 g	2100 g	2100 g

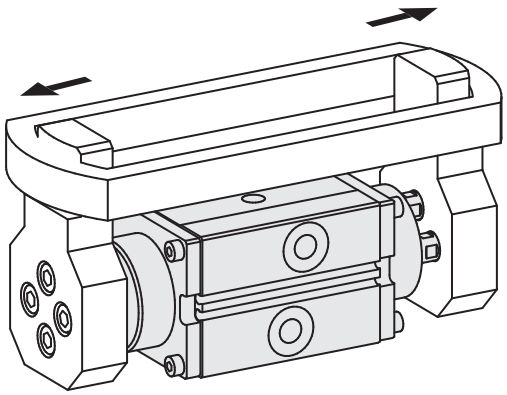
Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.
La forza di serraggio è maggiore in apertura.

Gripping

The gripper is double-acting for either internal or external gripping applications. The gripping force is higher when opening.





SX

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

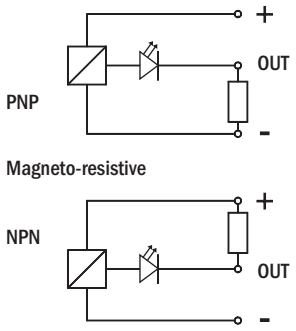
I sensori utilizzabili sono:

Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

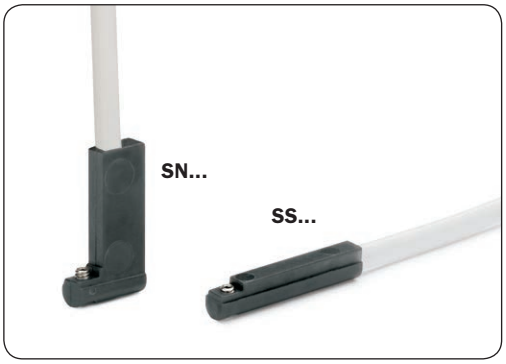
The sensors that can be used are:

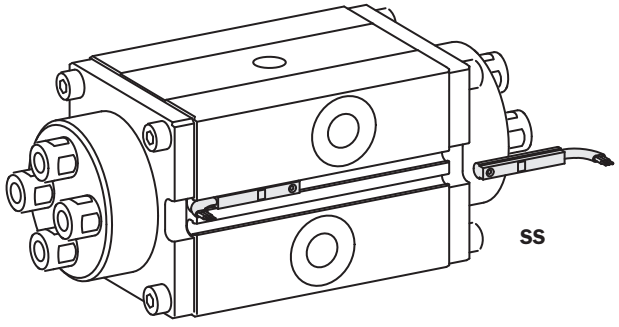
			SX
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

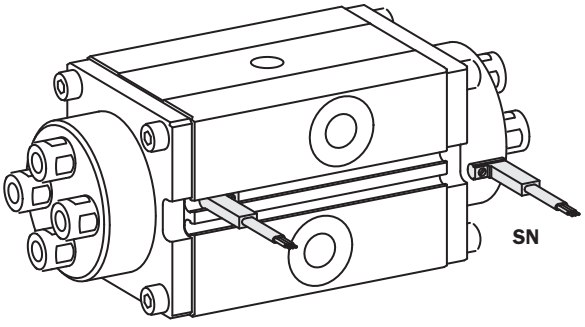


Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a 3-wire flat cable and a LED.





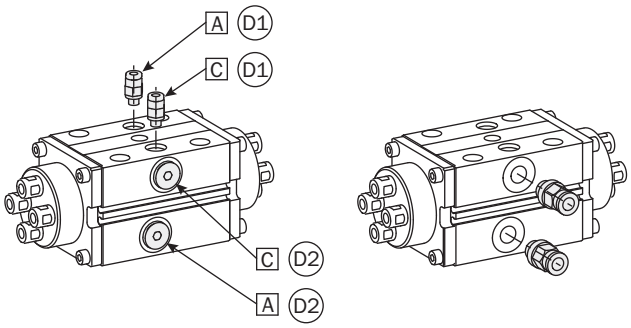


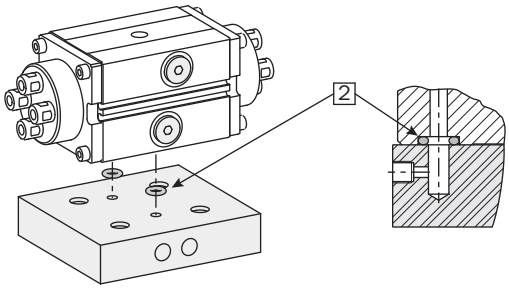
Connessione pneumatica

La pinza può essere alimentata con aria compressa dai fori laterali montando i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure si può alimentare direttamente dalla piastra di fissaggio rimuovendo i tappi e interponendo degli O-Ring (non forniti).
Aria compressa in A: apertura della pinza.
Aria compressa in C: chiusura della pinza.
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The gripper can be fed with compressed air from the side air ports with fittings and relevant hoses (not supplied).
Alternatively, compressed air can be supplied directly from the mounting plate, after removing the plugs and placing O-rings (not supplied) in between.
Compressed air in A: gripper opening.
Compressed air in C: gripper closing.
Compressed air must be supplied filtered (5÷40 µm), not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the gripper.
The pneumatic circuit must be pressurized gradually, to avoid uncontrolled movements.





	SX25	SX40	SX50	SX63
[2]	Ø2.62x5.23	Ø2.62x5.23	Ø2.62x5.23	Ø1.78x15.6
D1	M5	G1/8	G1/8	G1/8
D2	M5	M5	M5	G1/8

Circuito pneumatico

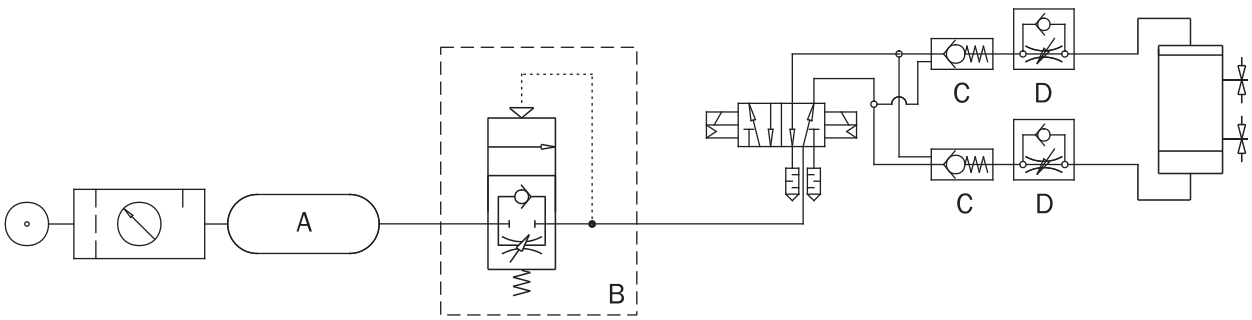
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure fluctuations.
2- Pressurizing with empty gripper.
3- Sudden absence of pressure.
4- Excessive operation speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controllers (D).

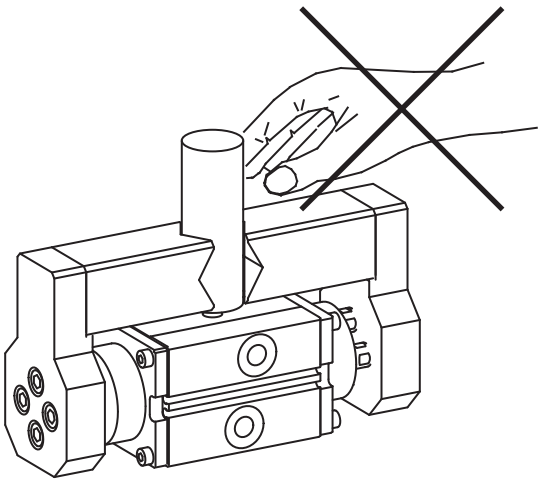


Avvertenze

Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let personnel or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

La pinza va ingrassata ogni 5 milioni di cicli con:
- BERULUB FG-H 2 EP
  (Lubrificante NSF H1 Registrazione No. 140486).

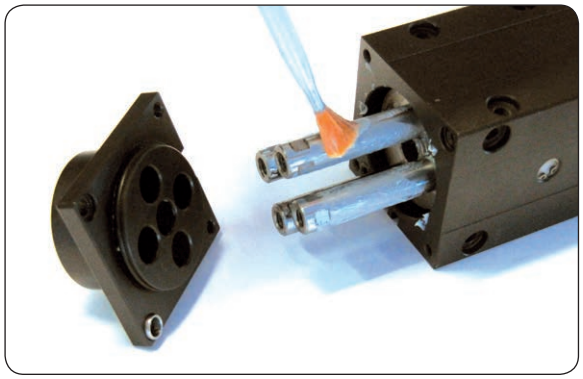
Dopo aver rimosso le testate, si possono ingrassare le colonne e sostituire gli O-Ring.
Quello interno è in NBR [8], quello esterno in Viton [9].
Tirando le colonne, si possono anche rimuovere i pistoni e si può accedere al meccanismo.

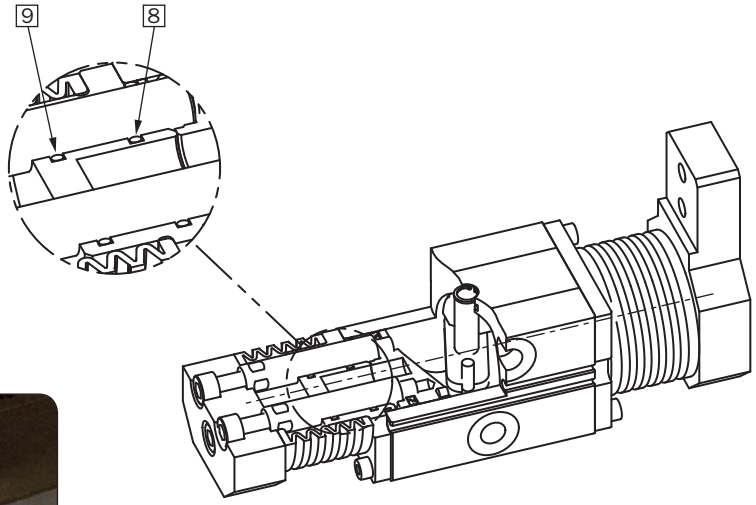
Maintenance

Grease the gripper after 5 million cycles with:
- *BERULUB FG-H 2 EP*
  (Lubricant NSF H1 Registration No. 140486).

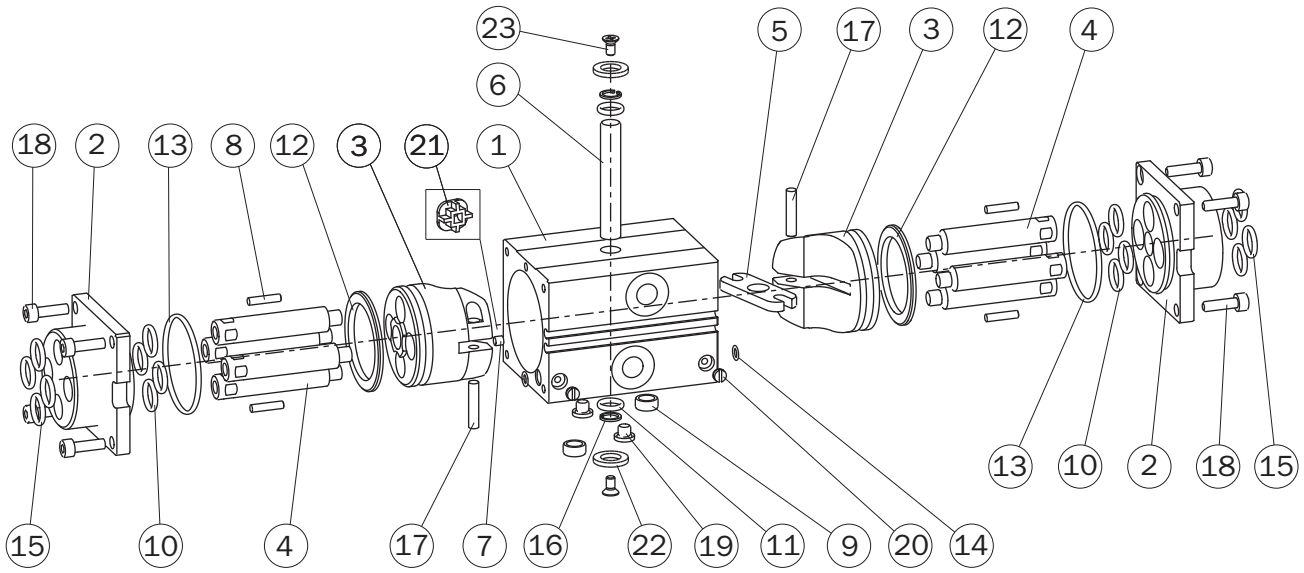
After removing the end caps, the columns can be greased and the O-Rings can be replaced.
The inner O-Ring is in NBR [8], the outer one in Viton [9].
By pulling the columns, also the pistons can be removed and the mechanism can be accessed.







Elenco delle parti / *Part list*



		SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380		
1	Corpo pinza	SX2510-01	SX2520-01	SX4020-01	SX4040-01	SX5030-01	SX5060-01	SX6340-01	SX6380-01	*Gripper body*	*1*
2	Testata	SX2520-02		SX4040-02		SX5060-02		SX6380-02		*End cap*	*2*
3	Pistone	SX2510-04	SX2520-04	SX4020-04	SX4040-04	SX5030-04	SX5060-04	SX6340-04	SX6380-04	*Piston*	*3*
4	Colonna	SX2510-06	SX2520-06	SX4020-06	SX4040-06	SX5030-06	SX5060-06	SX6340-06	SX6380-06	*Column*	*4*
5	Leva	SX2520-05		SX4040-05		SX5060-05		SX6380-05		*Lever*	*5*
6	Spina	SX2520-07		SX4040-07		SX5060-07		SX6380-07		*Pin*	*6*
7	Magnete	EPP12-13		R63-180-20		R63-180-20				*Magnet*	*7*
8	Spina di riferimento	SPINA-065 (Ø2.5x10 DIN6325)		SPINA-007 (Ø3x14 DIN6325)		SPINA-042 (Ø3x16 DIN6325)		SPINA-097 (Ø4x21.8 DIN5402)		*Dowel pin*	*8*
9	Boccola	ZBH-7 (390677)		ZBH-9 (343453)				ZBH-12 (354236)		*Bush*	*9*
10	O-Ring	GUAR-039H (Ø1.78x6.07)		GUAR-186H (Ø1.78x9.75)		GUAR-095H (Ø1.78x11.89)		GUAR-023H (Ø1.78x15.6)		*O-Ring*	*10*
11	O-Ring	GUAR-039H (Ø1.78x6.07)		GUAR-045H (Ø1.78x7.66)				GUAR-065H (Ø1.78x9.25)		*O-Ring*	*11*
12	Guarnizione dinamica	GUAR-061H (Ø2.62x20.29)		GUAR-006P (40x31x3)		GUAR-015P (50x41x3)		GUAR-068 (63x51x4)		*Dynamic gasket*	*12*
13	O-Ring	GUAR-025 (Ø1.78x21.95)		GUAR-062 (Ø1.78x34.65)		GUAR-017 (Ø1.78x47.35)		GUAR-146 (Ø1.78x60.05)		*O-Ring*	*13*
14	O-Ring	GUAR-082 (Ø1x3)		GUAR-091 (Ø1x4)		GUAR-029 (Ø1.78x4.48)		GUAR-011 (Ø1.78x5.28)		*O-Ring*	*14*
15	O-Ring	GUAR-039V (Ø1.78x6.07)		GUAR-186V (Ø1.78x9.75)		GUAR-095V (Ø1.78x11.89)		GUAR-023V (Ø1.78x15.6)		*O-Ring*	*15*
16	Anello elastico per interni	-		SEEGER-008 (Ø8 DIN472 INOX)				SEEGER-038 (Ø10 DIN472 Z/B)		*Snap-ring*	*16*
17	Spina di riferimento	SPINA-042 (Ø3x16 DIN6325)		SPINA-012 (Ø4x20 DIN6325)				SPINA-115 (Ø5x36 DIN6325)		*Dowel pin*	*17*
18	Vite	VITE-016 (M3x10 DIN912 INOX A2)		VITE-004 (M4x14 DIN912 INOX A2)		VITE-015 (M5x16 DIN912 INOX A2)		VITE-011 (M6x20 DIN912 INOX A2)		*Screw*	*18*
19	Tappo	107-M5						107-G1/8		*Plug*	*19*
20	Tappo	DT-205						107-M5		*Plug*	*20*
21	Portamagnete	-				R63-180-16				*Magnet housing*	*21*
22	Distanziale	SX2520-11		-		-		-		*Spacer*	*22*
23	Vite	VITE-058 (M2.5x5 DIN965 INOX A2)		-		-		-		*Screw*	*23*

SH

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie SH)

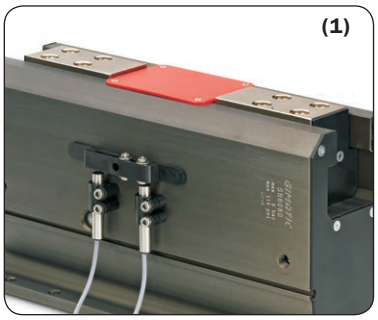
- Azionamento a doppio effetto.
- Meccanismo di autocentraggio esclusivo.
- Predisposta per sensori magnetici ed induttivi (1).
- Basso peso ottenuto con una costruzione interamente in lega leggera (2).

2-jaw parallel self-centering pneumatic gripper (series SH)

- *Double acting.*
- *Exclusive self-centering system.*
- *Ready for magnetic and inductive sensors (1).*
- *Light weight, due to its alloy construction (2).*



SH8080 SH80150



(1)



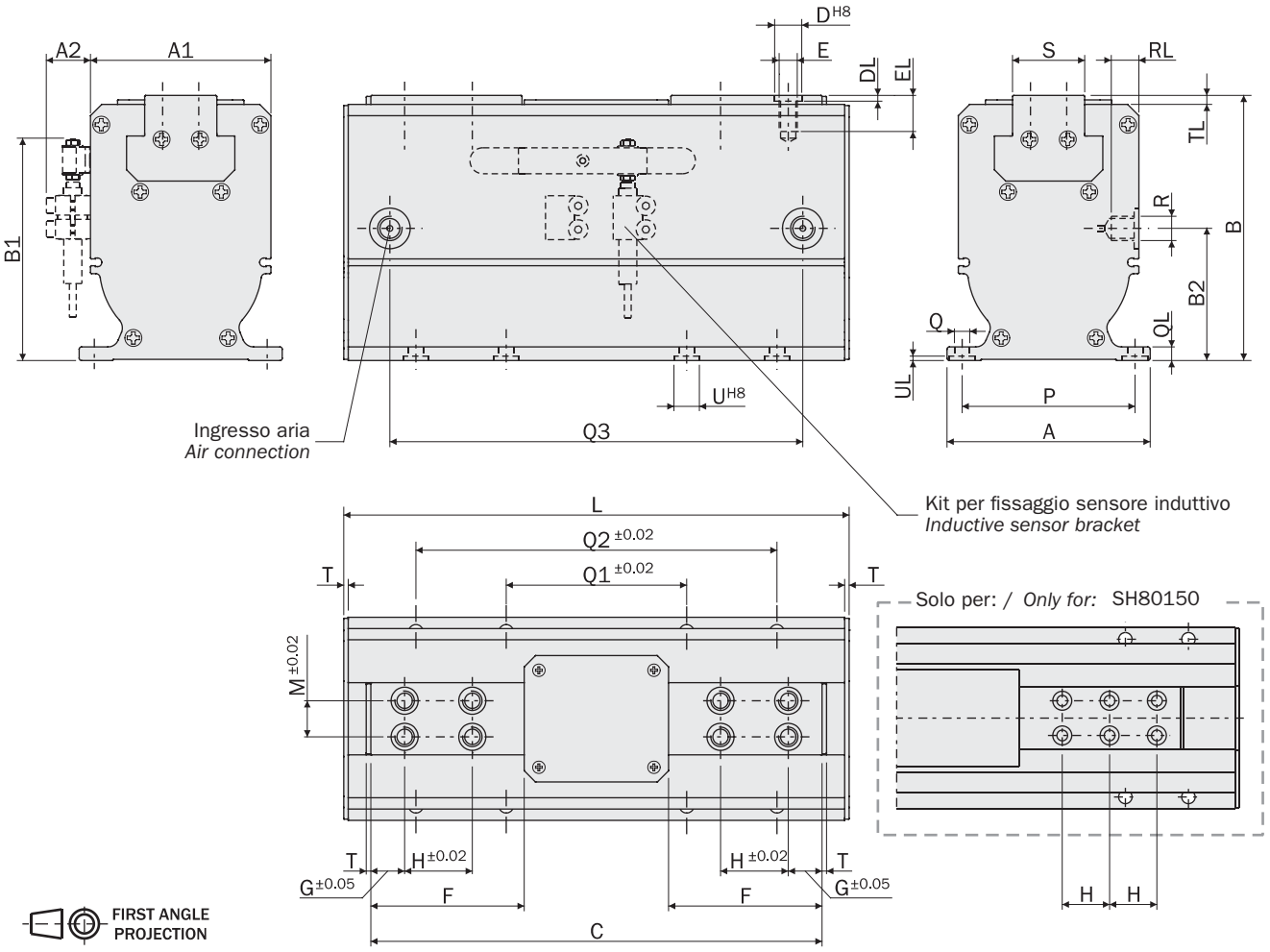
SH6360 SH63120



(2)

	SH6360	SH63120	SH8080	SH80150
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	1 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.			
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	800 N		1250 N	
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	1600 N		2500 N	
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	800 N		1250 N	
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	1600 N		2500 N	
Corsa totale ±1 mm *Total stroke*	60 mm	120 mm	80 mm	150 mm
Tempo di chiusura senza carico *Closing time without load*	0.2 s	0.3 s	0.4 s	0.6 s
Peso *Weight*	2.6 kg	5.2 kg	5 kg	9 kg

Dimensioni (mm) / *Dimensions (mm)*



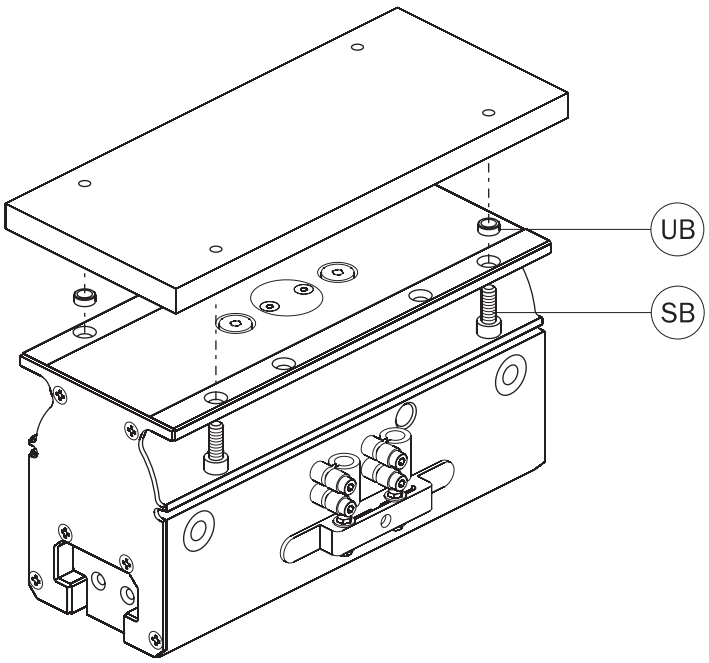
	SH6360	SH63120	SH8080	SH80150
A	90	90	115	115
A1	80	80	95	95
A2	19.5	19.5	19.5	19.5
B	117.5	117.5	161	161
B1	98	98	121.5	121.5
B2	58.5	58.5	72.5	72.5
C	200	270	240	360
D H8	Ø12 H8	Ø12 H8	Ø12 H8	Ø12 H8
DL	2.6	2.6	2.6	2.6
E	M8	M8	M8	M8
EL	16	16	16	16
F	68	73	78	102.5
G ±0.05	15	15	15	15
H ±0.02	30	30	30	30
L	224	394	284	434
M ±0.02	16	16	22	22
P	77	77	100	100
Q	Ø6.5	Ø6.5	Ø8.5	Ø8.5
QL	6	6	8	8
Q1 ±0.02	80	80	140	140
Q2 ±0.02	160	160	220	220
Q3	183	353	240	390
R	1/8"Gas	1/8"Gas	1/8"Gas	1/8"Gas
RL	8	8	8	8
S	32	32	40	40
T	2	2	2	2
TL	4	4	4	4
U H8	Ø9 H8	Ø9 H8	Ø12 H8	Ø12 H8
UL	2.6	2.6	2.6	2.6

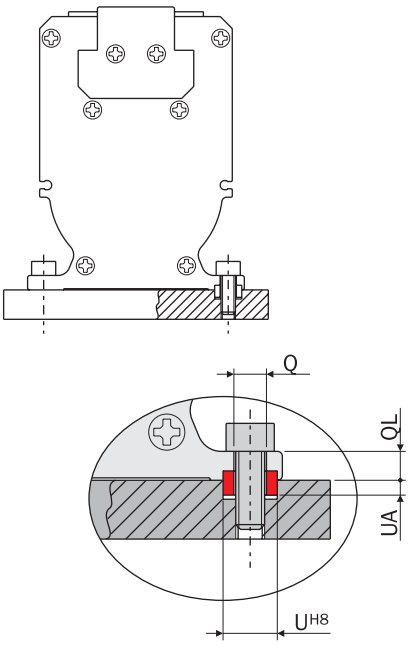
Fissaggio

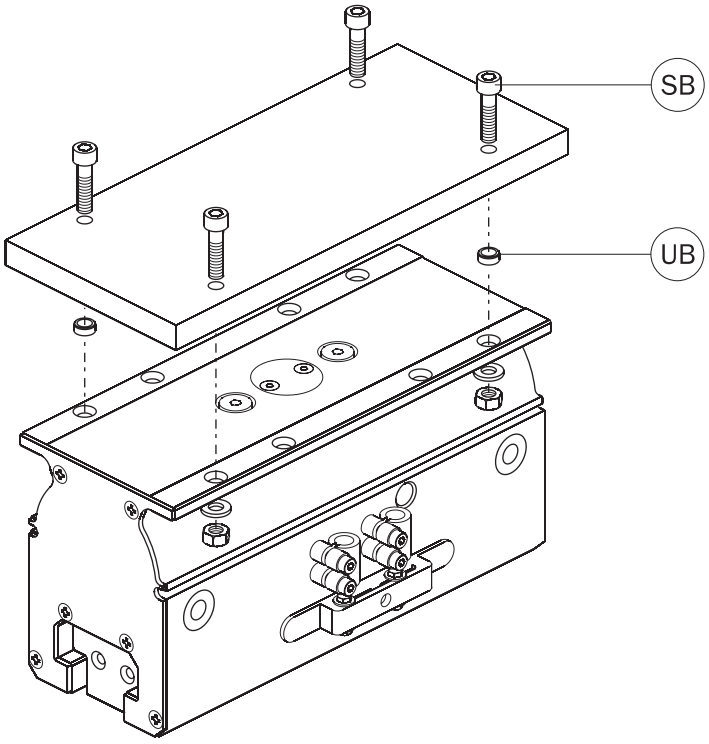
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
La flangia permette il fissaggio sia dall'alto che dal basso.
Utilizzare almeno 4 viti (SB) e 2 boccole di centraggio (UB).

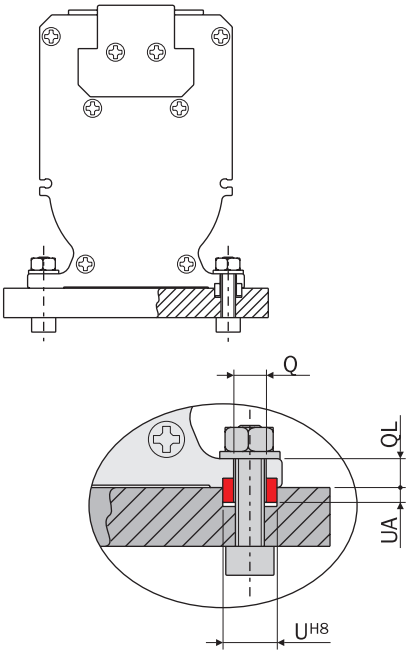
Fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.
The flange allows the gripper fastening both from the top and from the bottom.
Use at least 4 screws (SB) and 2 centering sleeves (UB).



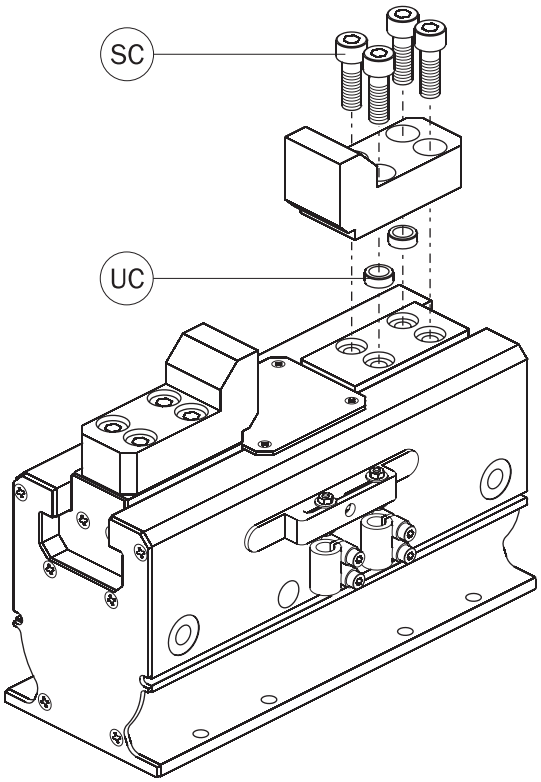


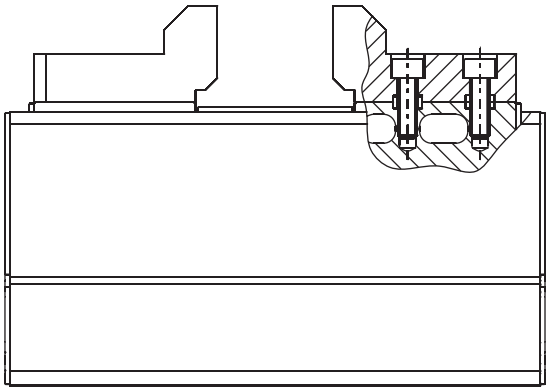


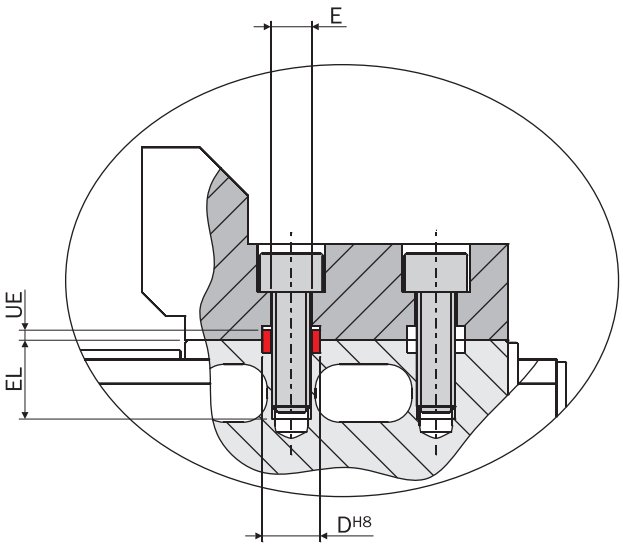


Costruire le dita di presa il più possibile corte e leggere.
Fissarle con 4 viti (SC) e almeno 2 boccole di centraggio (UC).

The gripping tools must be as short and light as possible.
They must be fastened by 4 screws (SC) and at least 2 centering sleeves (UC).









Nella confezione della pinza sono fornite 4 boccole di centraggio (UC) per le dita di presa e 2 boccole (UB) per il corpo.

4 centering rings (UC) for the gripping tools and 2 centering sleeves (UB) for the housing are supplied in the packaging.

	SH6360 / SH63120	SH8080 / SH80150
SB	M6	M8
UB	Ø9 H=4	Ø12 H=5
Q	Ø6.5	Ø8.5
QL	6	8
U	Ø9 H8	Ø12 H8
UA	1.4	2.4
SC	M8	M8
UC	Ø12 H=5	Ø12 H=5
D	Ø12 H8	Ø12 H8
UE	2.4	2.4
E	M8	M8
EL	16	16

Forza di serraggio

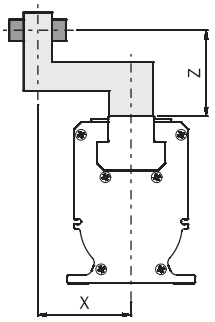
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.
La pinza è a doppio effetto e può quindi essere usata per afferrare un pezzo sia dall'esterno che dall'interno.
La forza di serraggio è la stessa in apertura e in chiusura.

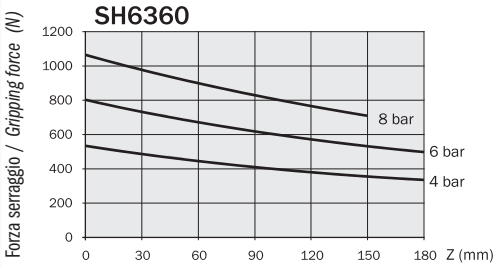
Gripping force

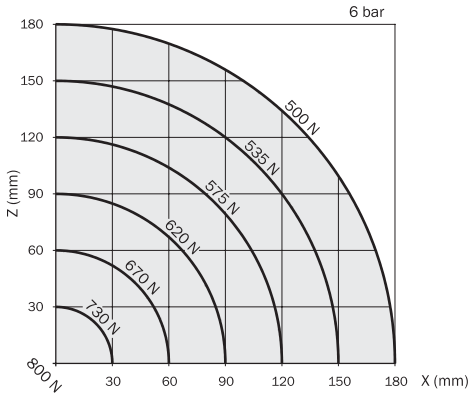
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.
The gripper is double-acting for either external or internal gripping applications.
The gripping force is the same in both directions.

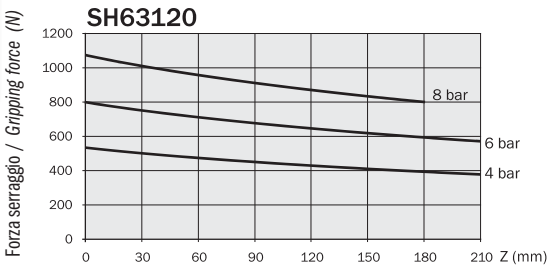
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il doppio.

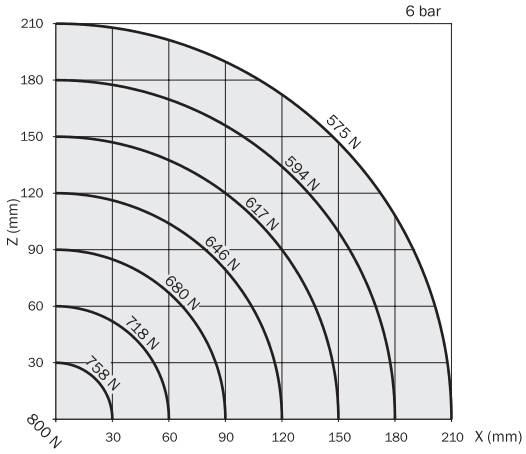
The force shown in these graphs refers to one jaw. The total force is double.

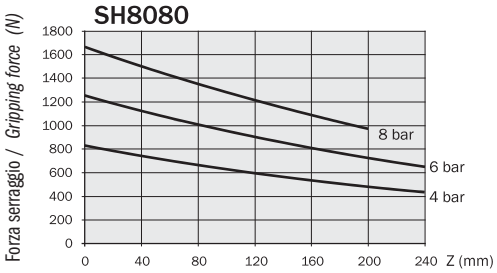


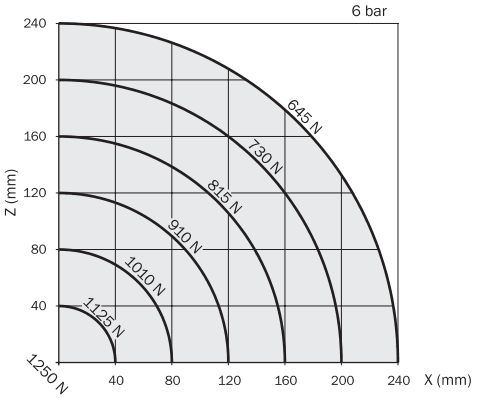


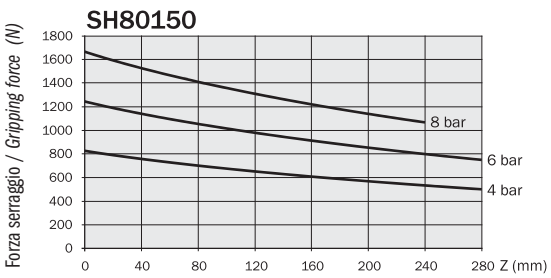


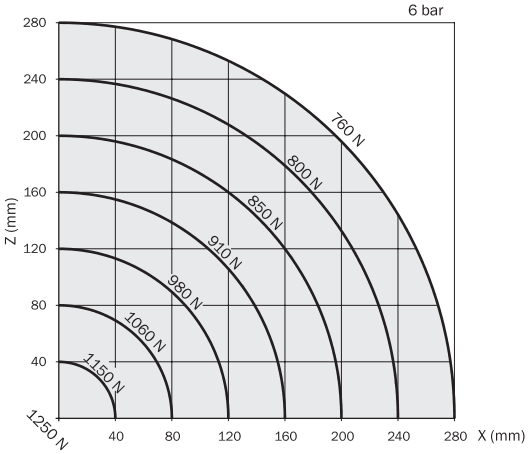










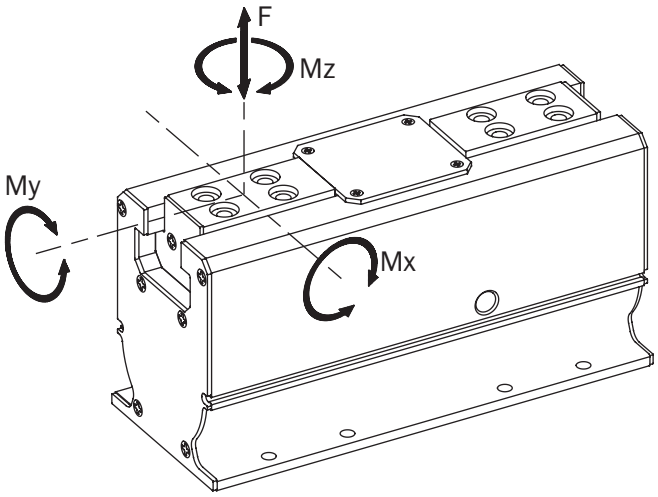


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.



	SH6360	SH63120	SH8080	SH80150
F s	2000 N	3000 N	4000 N	6000 N
Mx s	100 Nm	150 Nm	200 Nm	300 Nm
My s	50 Nm	75 Nm	100 Nm	150 Nm
Mz s	100 Nm	150 Nm	200 Nm	300 Nm
F d	20 N	30 N	40 N	60 N
Mx d	2 Nm	3 Nm	4 Nm	6 Nm
My d	1 Nm	1.5 Nm	2 Nm	3 Nm
Mz d	2 Nm	3 Nm	4 Nm	6 Nm
m 0.9s	-	-	4 kg	6 kg
m 0.6s	2 kg	2.5 kg	3 kg	4 kg
m 0.4s	1.5 kg	1.8 kg	2 kg	-
m 0.3s	1 kg	1.2 kg	-	-
m 0.2s	0.7 kg	-	-	-

Sensori

Il rilevamento della posizione di lavoro può essere effettuato con sensori magnetici (opzionali), che rilevano i magneti sul pistone, oppure con sensori induttivi (opzionali), che rilevano la presenza delle viti inserite nell'appendice (J).
Questa si fissa alla griffa, per mezzo dell'apposita vite (K) presente nel kit per i sensori induttivi.
I sensori induttivi devono avere diametro 4mm.

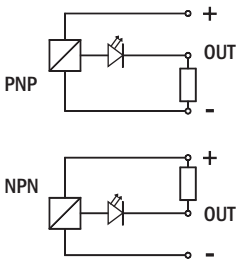
Sensors

The operating position can be checked by magnetic sensors (optional), detecting the magnets on the piston, or by inductive sensors (optional), detecting the screws on the appendix (J). This is to fix on the jaw, with the screw (K) supplied in the accessory pack for the inductive sensors.
Use 4mm diameter inductive sensors.

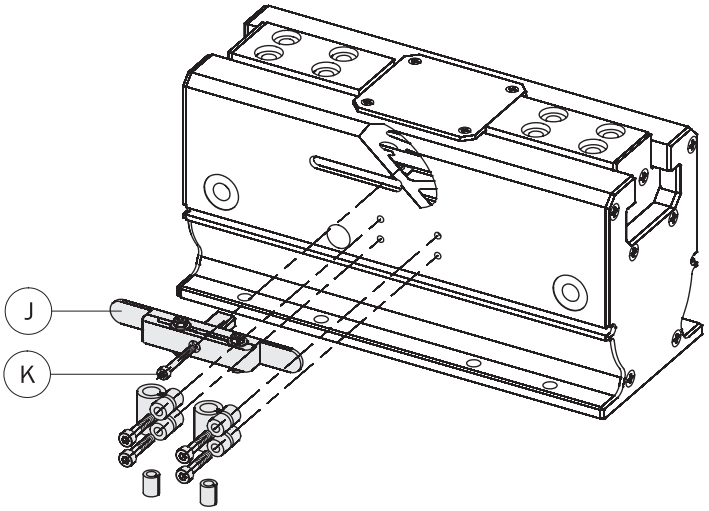
Codici di ordinazione dei sensori induttivi:

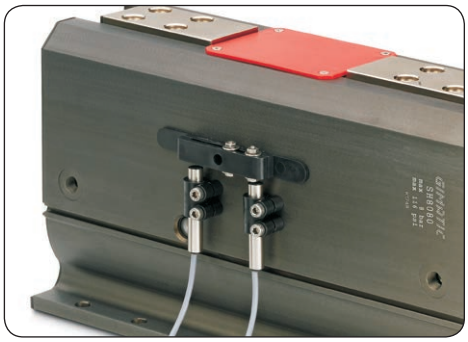
Ordering codes of the inductive sensors:

SI4M225-G	NPN	Cavo 2.5m / 2.5m cable
SI4N225-G	PNP	Cavo 2.5m / 2.5m cable











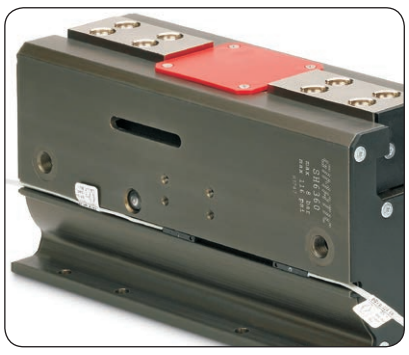
Il kit per il fissaggio dei sensori induttivi è fornito nella confezione della pinza.

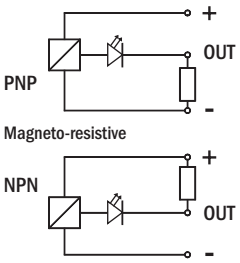
The accessories to fix the inductive sensors are supplied in the packaging.

I sensori magnetici utilizzabili sono i codici Gimatic:

The magnetic sensors from Gimatic are the codes:

SN4N225-G	PNP	Cavo 2.5m / 2.5m cable
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector





Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in P: apertura della pinza.
Aria compressa in R: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

Compressed air in P: gripper opening.
Compressed air in R: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

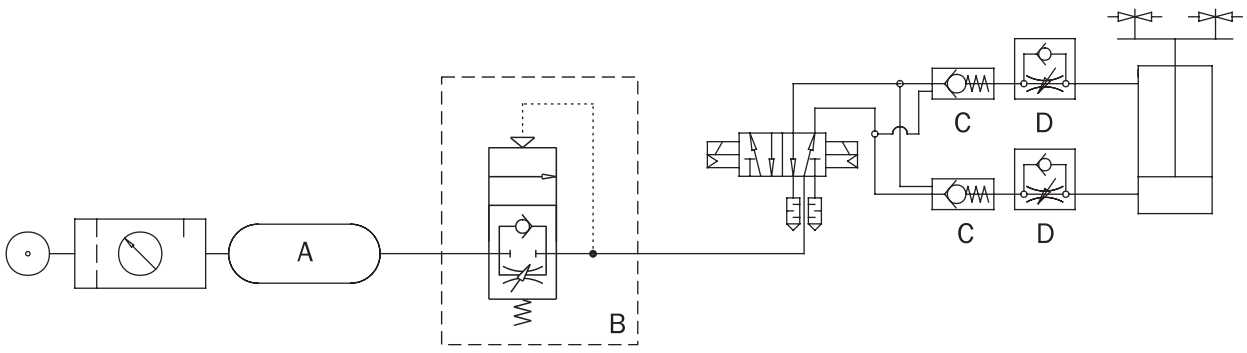
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



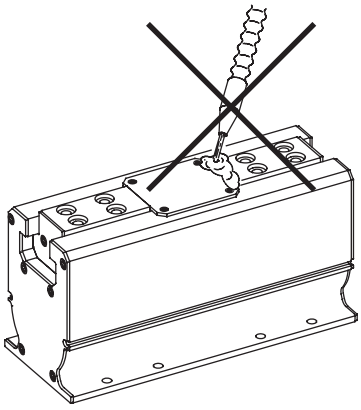
SH

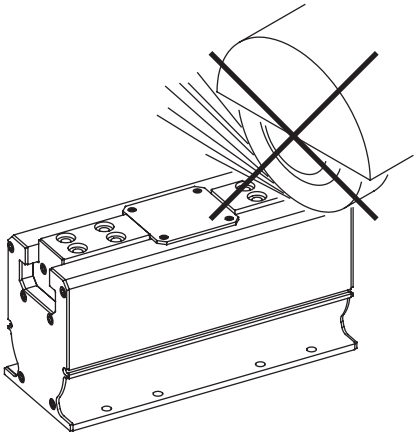
Avvertenze

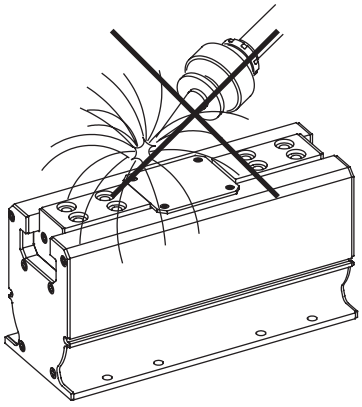
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the gripper come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
Never let non-authorized persons or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.







Manutenzione

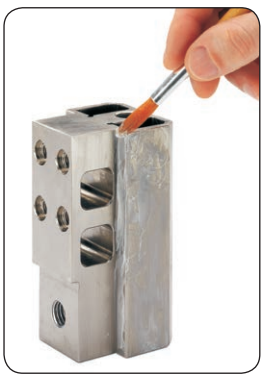
La pinza va ingrassata ogni 5 milioni di cicli con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Maintenance

Grease the gripper after 5 million cycles with:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*



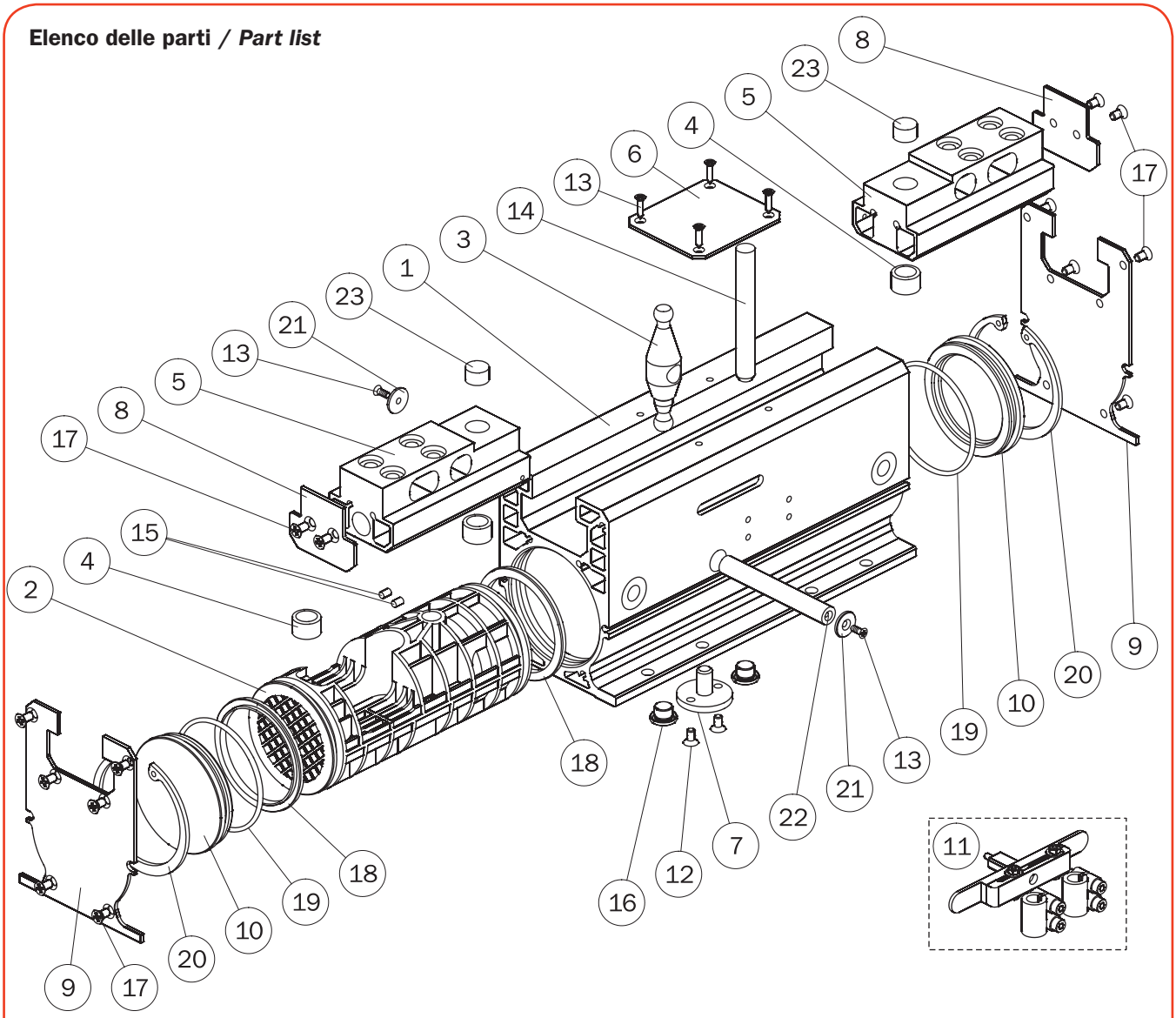








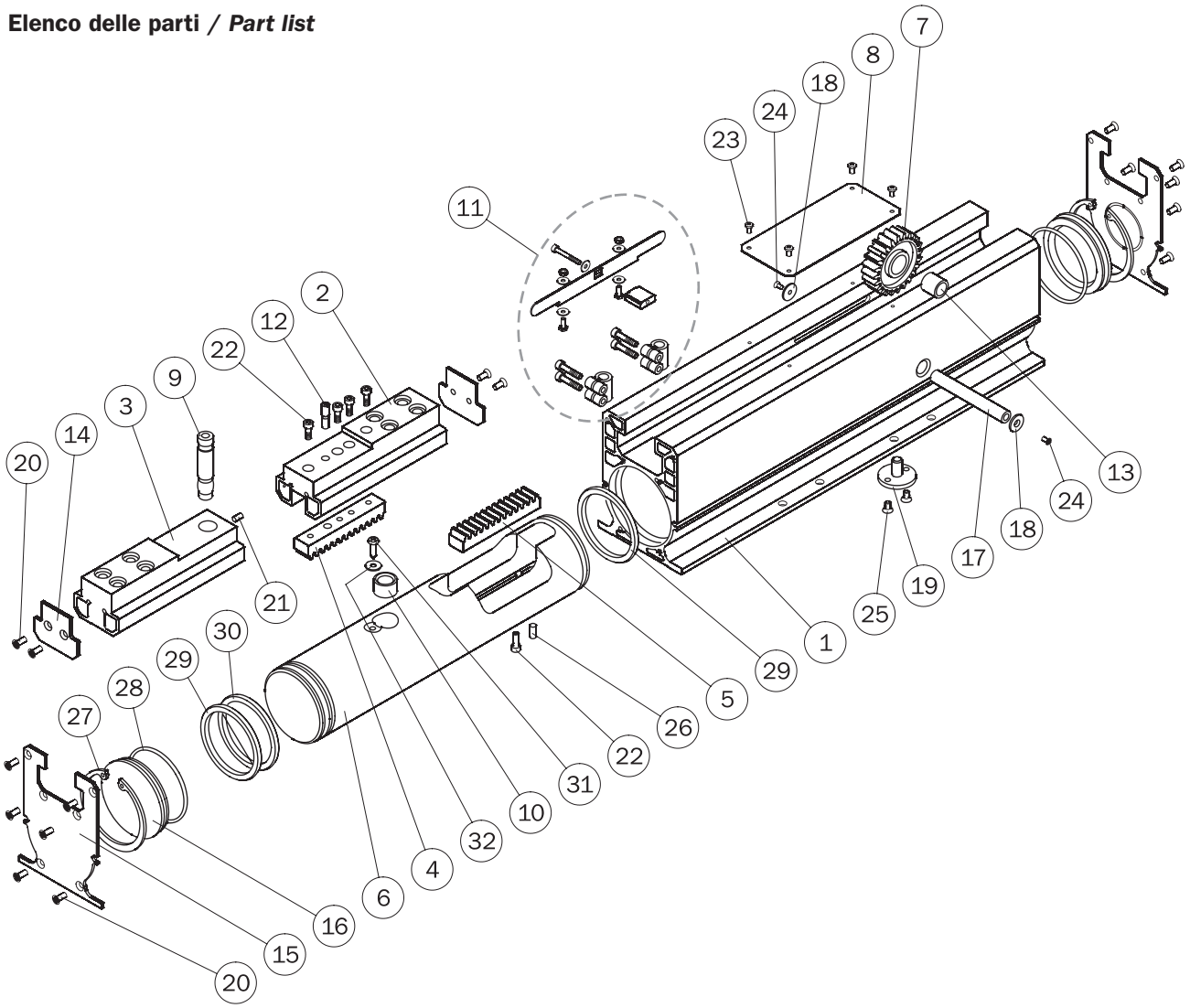
Elenco delle parti / *Part list*



		SH6360	SH8080		
1	Corpo pinza	SH6360-01	SH8080-01	*Gripper housing*	*1*
2	Pistone	SH6360-05	SH8080-05	*Piston*	*2*
3	Leva	SH6360-03	SH8080-03	*Lever*	*3*
4	Boccola	SH6360-10	SH8080-10	*Bush*	*4*
5	Griffa	SH6360-02	SH8080-02	*Jaw*	*5*
6	Copertura	SH6360-08	SH8080-08	*Upper cover*	*6*
7	Finecorsa	SH6360-09	SH8080-09	*End-stroke device*	*7*
8	Coperchio griffa	SH6360-11	SH8080-11	*Jaw cover*	*8*
9	Coperchio corpo	SH6360-13	SH8080-13	*Housing cover*	*9*
10	Tappo	SH6360-04	SH8080-04	*Plug*	*10*
11	Supporto sensori	SHC001	SHC000	*Sensor bracket*	*11*
12	Vite	VITE-305 (M4x8 mm UNI5933 Z/B)	VITE-305 (M4x8 mm UNI5933 Z/B)	*Screw*	*12*
13	Vite	VITE-035 (M3x8 mm DIN965A INOX A2)	VITE-035 (M3x8 mm DIN965A INOX A2)	*Screw*	*13*
14	Spina di riferimento	SH6360-21	SH8080-21	*Dowel pin*	*14*
15	Magnete	PAR-06-7	PAR-06-7	*Magnet*	*15*
16	Tappo	107-G1/8	107-G1/8	*Plug*	*16*
17	Vite	VITE-319 (M4x8 mm DIN7500M)	VITE-319 (M4x8 mm DIN7500M)	*Screw*	*17*
18	Guarnizione dinamica	GUAR-049E (63x53x4.5)	GUAR-128 (Ø2.62x58.42) GUAR-135 (Ø3.53x71.44)	*Dynamic gasket*	*18*
19	O-Ring	GUAR-128 (Ø2.62x58.42)	GUAR-132 (Ø2.62x75.87)	*O-Ring*	*19*
20	Seeger	SEEGER-004N (Ø65 DIN472)	SEEGER-026 (Ø82 DIN472)	*Snap-ring*	*20*
21	Rondella	SH8080-06	SH8080-06	*Washer*	*21*
22	Spina di riferimento	SH6360-07	SH8080-07	*Dowel pin*	*22*
23	Tappo	SH6360-14	VITE-341 (M14x20 DIN 913)	*Plug*	*23*

SH

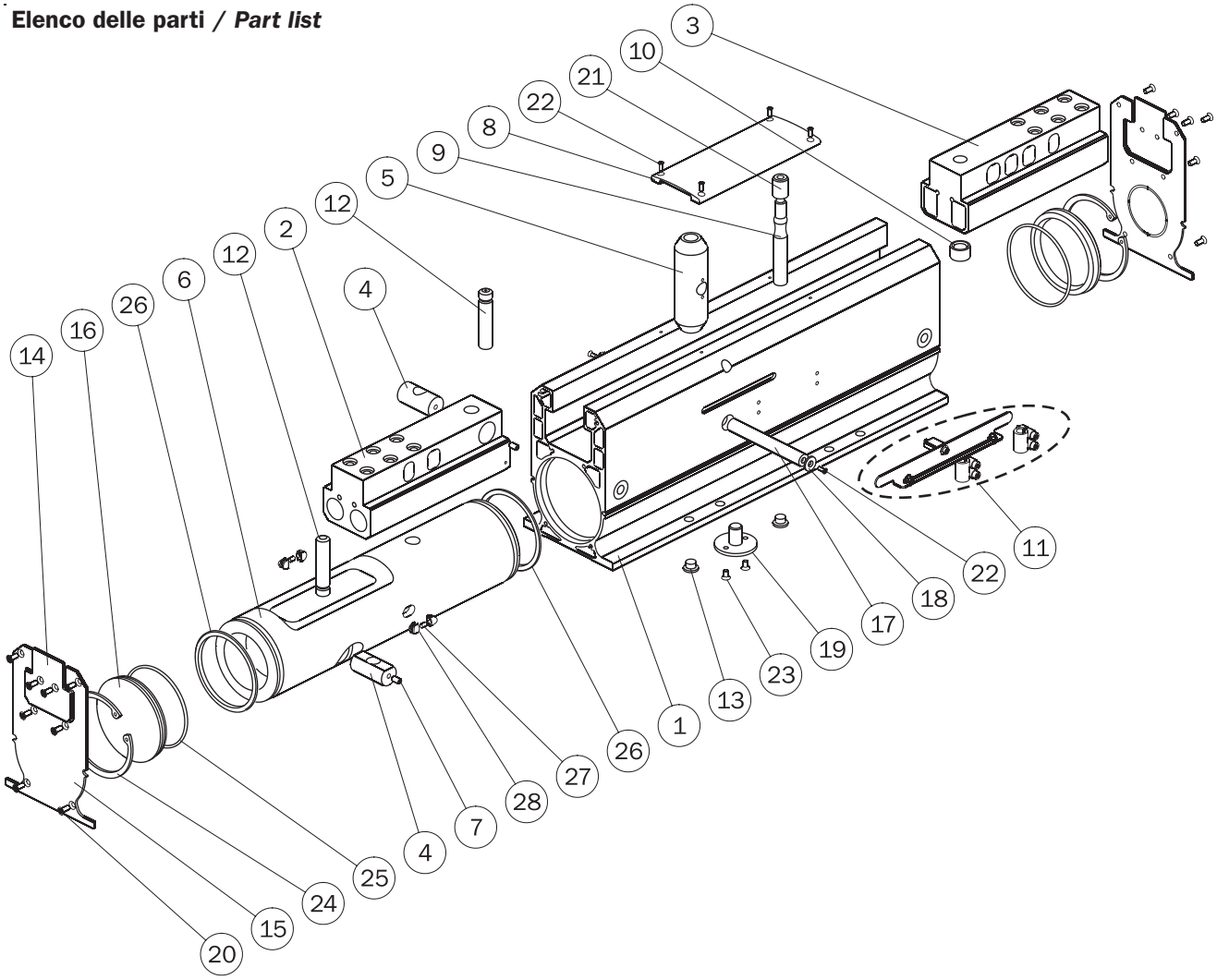
Elenco delle parti / *Part list*



		SH63120		
1	Corpo pinza	SH63120-01	*Gripper housing*	*1*
2	Griffa sinistra	SH63120-02	*Left jaw*	*2*
3	Griffa destra	SH63120-03	*Right jaw*	*3*
4	Cremagliera griffa	SH63120-04	*Jaw rack*	*4*
5	Cremagliera pistone	SH63120-05	*Piston rack*	*5*
6	Pistone	SH63120-06	*Piston*	*6*
7	Pignone	SH63120-07	*Pinion*	*7*
8	Copertura	SH63120-08F	*Upper cover*	*8*
9	Spina di riferimento	SH63120-09	*Dowel pin*	*9*
10	Boccola	SH8080-10	*Bush*	*10*
11	Supporto sensori	SHC002	*Sensor bracket*	*11*
12	Centraggio	SH63120-13	*Screw*	*12*
13	Bussola	SH63120-14	*Bushing*	*13*
14	Coperchio griffa	SH6360-11	*Jaw cover*	*14*
15	Coperchio corpo	SH6360-13	*Housing cover*	*15*
16	Tappo	SH6360-04	*Plug*	*16*
17	Spina di riferimento	SH6360-07	*Dowel pin*	*17*
18	Rondella	SH8080-06	*Washer*	*18*
19	Finecorsa	SH6360-09	*End-stroke device*	*19*
20	Vite	VITE-319 (M4x8 mm DIN7500M Z/B)	*Screw*	*20*
21	Vite senza testa	VITE-043 (M4x8 mm DIN913 INOX A2)	*Grub screw*	*21*
22	Vite	VITE-029 (M4x12 DIN912 INOX A2)	*Screw*	*22*
23	Vite	VITE-082 (M3x6 mm DIN7985A INOX A2)	*Screw*	*23*
24	Vite	VITE-139 (M3x6 mm DIN965A INOX A2)	*Screw*	*24*
25	Vite	VITE-305 (M4x8 mm UNI5933 Z/B)	*Screw*	*25*
26	Spina di riferimento	SPINA-044 (Ø5x12 mm DIN6325)	*Dowel pin*	*26*
27	Seeger	SEEGER-004N (Ø65 DIN472)	*Snap-ring*	*27*
28	O-Ring	GUAR-128 (Ø2.62x58.42)	*O-Ring*	*28*
29	Guarnizione dinamica	GUAR-049E (63x53x4.5)	*Dynamic gasket*	*29*
30	Magnete	T63-10	*Magnet*	*30*
31	Vite	VITE-005 (4.2x16 mm DIN7981)	*Screw*	*31*
32	Rosetta	VITE-281 (M4)	*Washer*	*32*

03/2015

Elenco delle parti / *Part list*



		SH80150		
1	Corpo pinza	SH80150-01	*Gripper housing*	*1*
2	Griffa sinistra	SH80150-21	*Left jaw*	*2*
3	Griffa destra	SH80150-02	*Right jaw*	*3*
4	Piede dello stelo	SH80150-22	*Rod foot*	*4*
5	Bilanciere telescopico	SH80150-03	*Telescopic balance*	*5*
6	Pistone	SH80150-05	*Piston*	*6*
7	Vite senza testa	VITE-141 (M5x10 mm DIN914 INOXA2)	*Grub screw*	*7*
8	Copertura	SH80150-08	*Upper cover*	*8*
9	Spina di connessione	SH8080-21	*Connection pin*	*9*
10	Boccola	SH8080-10	*Bush*	*10*
11	Supporto sensori	SHC003	*Sensor bracket*	*11*
12	Stelo di trasmissione	SH80150-23	*Transmission rod*	*12*
13	Tappo	107-G1/8	*Plug*	*13*
14	Coperchio griffa	SH8080-11	*Jaw cover*	*14*
15	Coperchio corpo	SH8080-13	*Housing cover*	*15*
16	Tappo	SH8080-04	*Plug*	*16*
17	Fulcro del bilanciere	SH8080-07	*Balance pivot*	*17*
18	Rondella	SH8080-06	*Washer*	*18*
19	Finecorsa	SH8080-09	*End-stroke device*	*19*
20	Vite	VITE-319 (M4x8 mm DIN7500M Z/B)	*Screw*	*20*
21	Vite senza testa	VITE-341 (M14x20 mm DIN913)	*Grub screw*	*21*
22	Vite	VITE-035 (M3x8 DIN965A INOX A2)	*Screw*	*22*
23	Vite	VITE-305 (M4x8 mm UNI5933 Z/B)	*Screw*	*23*
24	Seeger	SEEGER-026 (Ø82 DIN472)	*Snap-ring*	*24*
25	O-Ring	GUAR-132 (Ø2.62x75.87)	*O-Ring*	*25*
26	Guarnizione dinamica	GUAR-126 (80x70x4.5)	*Dynamic gasket*	*26*
27	Magnete	PAR-06-7	*Magnet*	*27*
28	Porta magnete	RT-12-07	*Magnet housing*	*28*

SZ

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie SZ)

- Azionamento a doppio effetto.
- Su richiesta con molla in chiusura.
- Meccanismo di autocentraggio esclusivo.
- Diverse possibilità di fissaggio e alimentazione.
- Sensori magnetici opzionali.

2-jaw parallel self-centering pneumatic gripper (series SZ)

- *Double acting.*
- *Spring closed, upon request.*
- *Exclusive self-centering system.*
- *Various options for fastening and feeding.*
- *Optional magnetic sensors.*



SZ32



SZ40



SZ12



SZ16

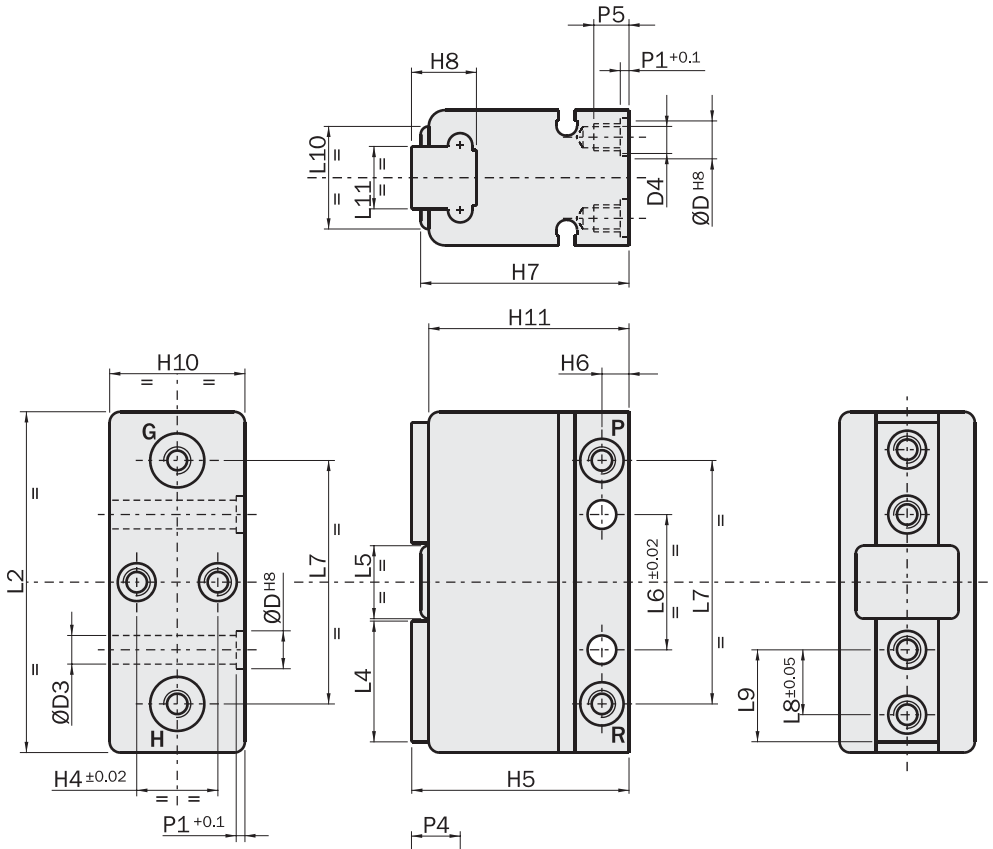


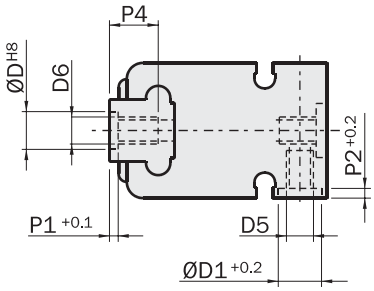
SZ25

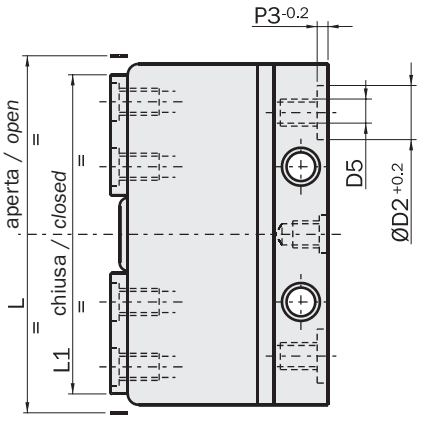
	SZ12	SZ16	SZ25	SZ32	SZ40
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar				
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.				
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	25 N	45 N	115 N	190 N	310 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	50 N	90 N	230 N	380 N	620 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	25 N	45 N	115 N	190 N	310 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	50 N	90 N	230 N	380 N	620 N
Corsa totale (±0.4 mm) *Total stroke*	8 mm	12 mm	20 mm	25 mm	30 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz	2 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	1 cm^3	3 cm^3	12 cm^3	24 cm^3	48 cm^3
Tempo di apertura / chiusura senza carico *Opening / Closing time without load*	0.02 s	0.04 s	0.05 s	0.07 s	0.12 s
Peso *Weight*	0.094 kg	0.153 kg	0.446 kg	0.732 kg	1.135 kg

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION







	SZ12	SZ16	SZ25	SZ32	SZ40
D H8	Ø7	Ø7	Ø9	Ø9	Ø12
D1 +0.2	Ø8	Ø8	Ø8	Ø15.6	Ø15.6
D2 +0.2	Ø10	Ø10	Ø10	Ø19	Ø19
D3	Ø4.3	Ø5.3	Ø6.3	Ø6.3	Ø8.3
D4	M5	M5	M6	M6	M8
D5	M5	M5	M5	1/8"G	1/8"G
D6	M4	M5	M6	M6	M8
H4 +0.02	13	15	24	29	35
H5	33.2	40.2	55	70.5	78.5
H6	5	5	7	7	9
H7	32.5	38.5	53	68.5	76.5
H8	9	12	15	19	19
H10	22	25	37	42	51
H11	31	37	51.5	67	75
L	59	71	102	117	146
L1	51	59	82	92	116
L2	52	63	92	105	130
L4	19.3	22.3	29.8	32.3	41.8
L5	11.4	13.5	21.4	26.4	31.4
L6 ±0.02	22	25	50	55	70
L7	38	45	73	84	104
L8 ±0.05	9	12	16	18	24
L9	14	17	23	25	33
L10	18	19	29	34	37
L11	10	11.5	18	20	22
P1 +0.1	1.6	1.6	2.1	2.1	2.6
P2 +0.2	1.8	1.8	1.8	3	3
P3 -0.2	2	2	2	1.3	1.3
P4	6.5	9	14	15	16
P5	6.5	6.5	11	11	15

(D5) Ingresso aria
Air connection

(G) (P) Aria compressa in G/P: apertura della pinza
Compressed air in G/P: gripper opening

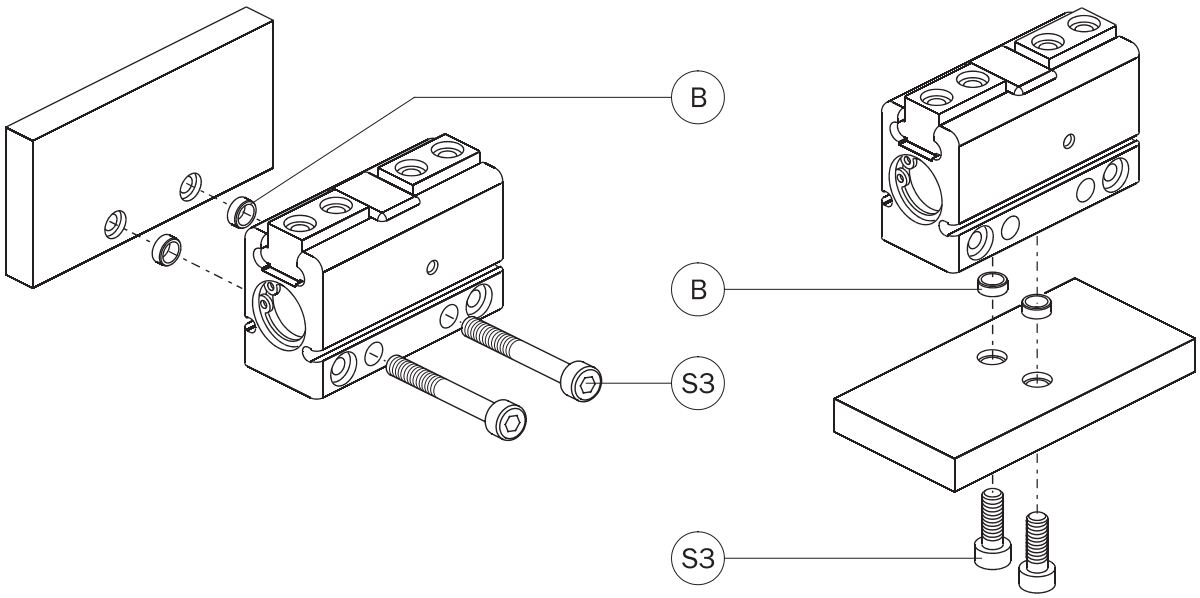
(H) (R) Aria compressa in H/R: chiusura della pinza
Compressed air in H/R: gripper closing

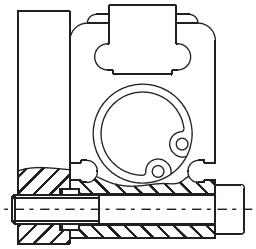
Fissaggio

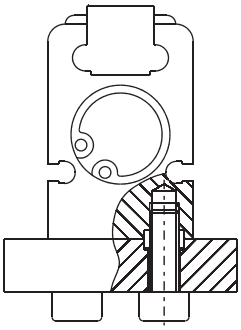
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Si può fissare su un lato o sul fondo.
Utilizzare 2 viti (S3) e 2 boccole di centraggio (B).

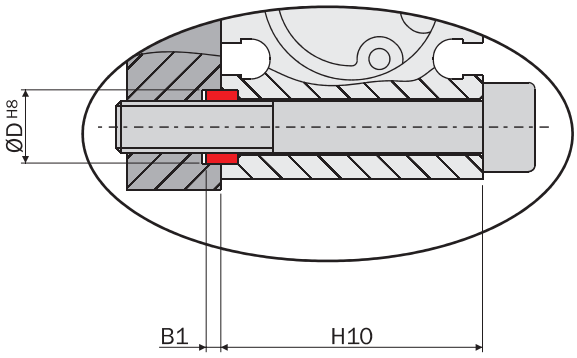
Fastening

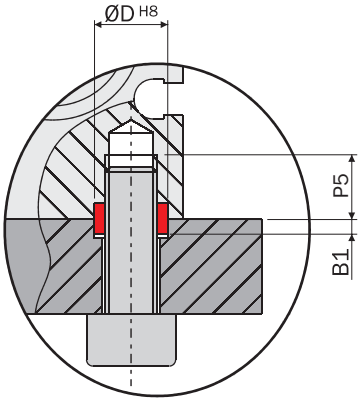
The gripper can be fastened to a static or moving part.
When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.
It can be fastened to one side or to the base.
Use 2 screws (S3) and 2 centering sleeves (B).





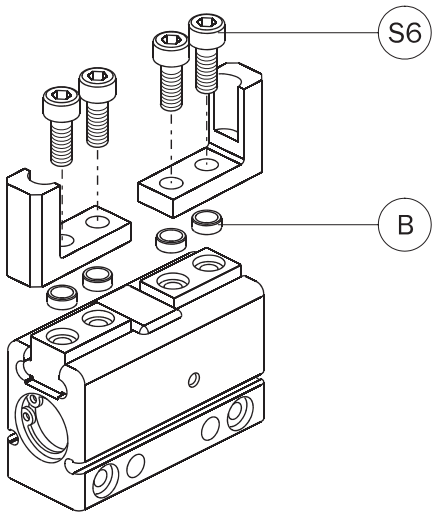


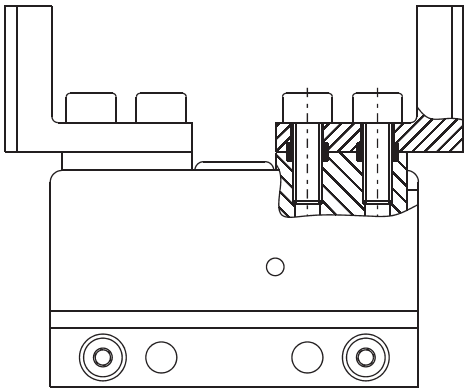


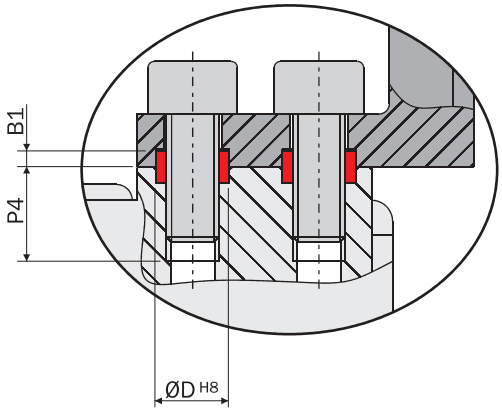


Costruire le dita di presa il più possibile corte e leggere.
Fissarle con 2 viti (S6) e 2 boccole di centraggio (B).

The gripping tools must be as short and light as possible.
They must be fastened by 2 screws (S6) and 2 centering sleeves (B).









Nella confezione della pinza sono fornite 4 boccole di centraggio (B) per le dita di presa e 2 boccole (B) per il corpo.

4 centering sleeves (B) for the gripping tools and 2 centering sleeves (B) for the housing are supplied in the packaging.

	SZ12	SZ16	SZ25	SZ32	SZ40
B	Ø7 H=3	Ø7 H=3	Ø9 H=4	Ø9 H=4	Ø12 H=5
B1	1.4	1.4	1.9	1.9	2.4
D	Ø7 H8	Ø7 H8	Ø9 H8	Ø9 H8	Ø12 H8
S3	M5	M5	M6	M6	M8
P5	6.5	6.5	11	11	15
H10	22	25	37	42	51
S6	M4	M5	M6	M6	M8
P4	6.5	9	14	15	16

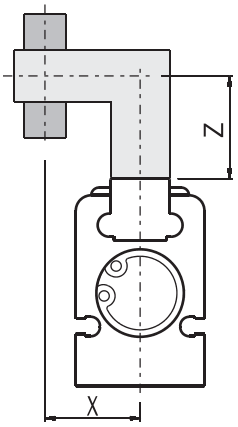
SZ

Forza di serraggio

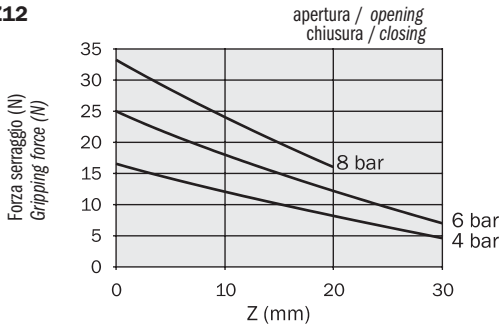
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

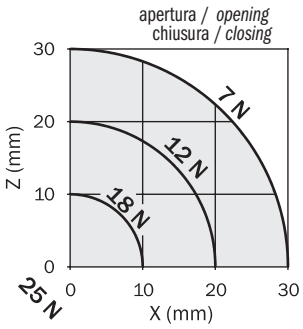
Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

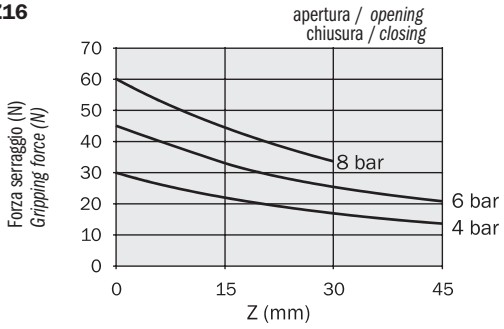


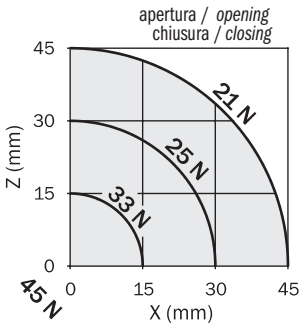
SZ12



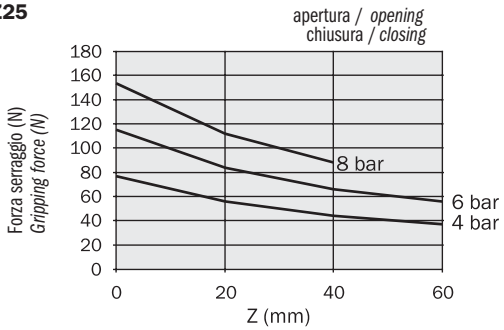


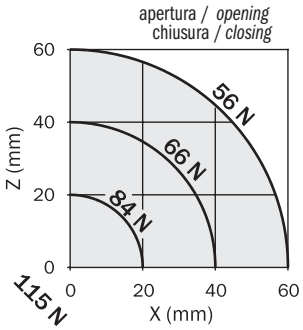
SZ16



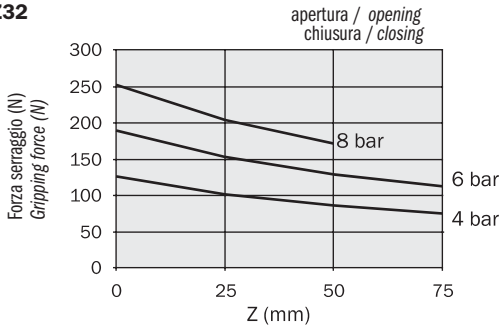


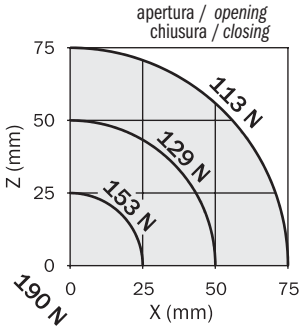
SZ25



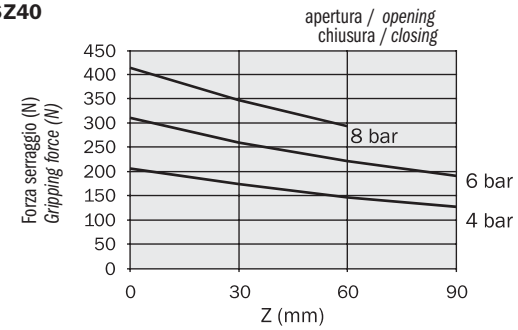


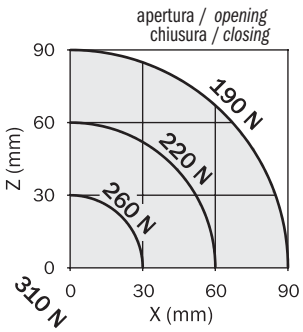
SZ32





SZ40





La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

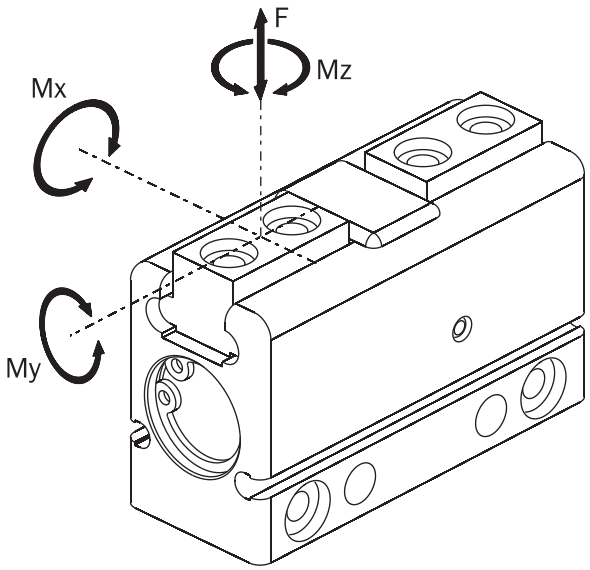
The force shown in these graphs refers to one jaw.
The total force is double.

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.



	SZ12	SZ16	SZ25	SZ32	SZ40
F s	30 N	70 N	100 N	300 N	600 N
Mx s	0.3 Nm	1.5 Nm	3 Nm	9 Nm	18 Nm
My s	0.2 Nm	1 Nm	2 Nm	6 Nm	12 Nm
Mz s	0.3 Nm	1.5 Nm	3 Nm	9 Nm	18 Nm
F d	0.6 N	1.4 N	2 N	4 N	6 Nm
Mx d	0.6 Ncm	3 Ncm	6 Ncm	12 Ncm	18 Ncm
My d	0.4 Ncm	2 Ncm	4 Ncm	8 Ncm	12 Ncm
Mz d	0.6 Ncm	3 Ncm	6 Ncm	12 Ncm	18 Ncm
m 0.3s	-	-	200 g	400 g	600 g
m 0.2s	-	140 g	160 g	210 g	300 g
m 0.12s	60 g	120 g	140 g	180 g	240 g
m 0.07s	50 g	100 g	120 g	150 g	-
m 0.05s	40 g	80 g	100 g	-	-
m 0.04s	30 g	60 g	-	-	-
m 0.02s	20 g	-	-	-	-

SZ

Sensori

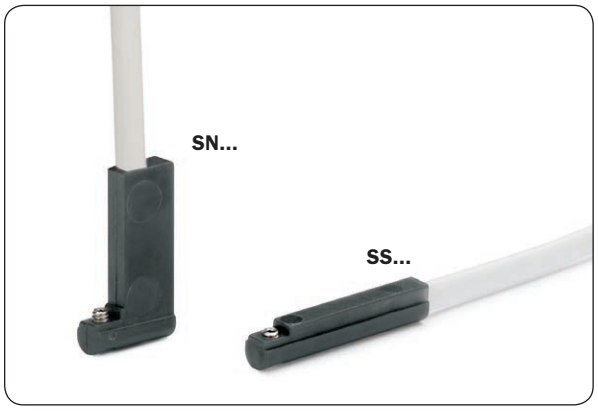
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

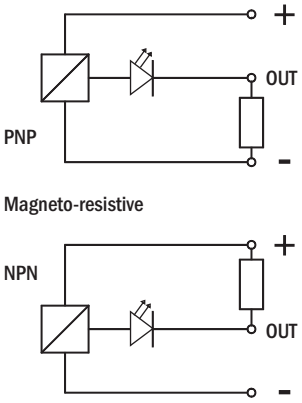
I sensori utilizzabili sono:

Sensors

The operating position is detected by proximity magnetic sensors (optional) through a magnet placed on the piston.
Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

The sensors that can be used are:





			SZ12	SZ16	SZ25	SZ32	SZ40
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑



Connessione pneumatica

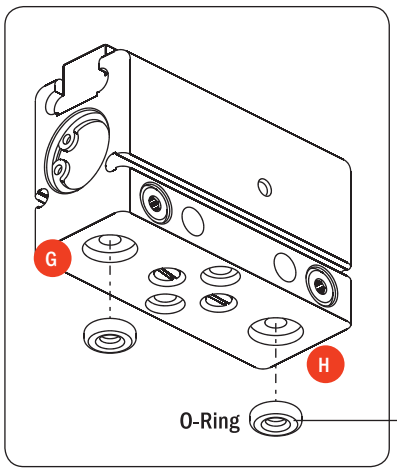
La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure si alimenta direttamente dai fori inferiori (G e H) rimuovendo i tappi (E e F).
Aria compressa in P - H: apertura della pinza.
Aria compressa in R - G: chiusura della pinza.

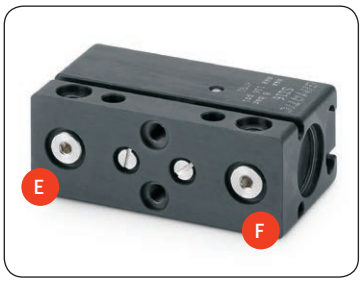
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

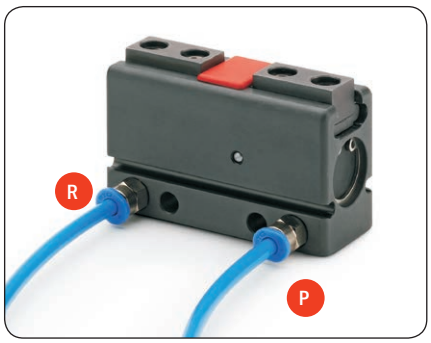
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).
Or it can be accomplished directly by the bottom air ports (G and H) removing the plugs (E and F).
Compressed air in P - H: gripper opening.
Compressed air in R - G: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.







SZ12	SZ16	SZ25	SZ32	SZ40
Ø2.62x5.23	Ø2.62x5.23	Ø2.62x5.23	Ø1.78x15.6	Ø1.78x15.6

Circuito pneumatico

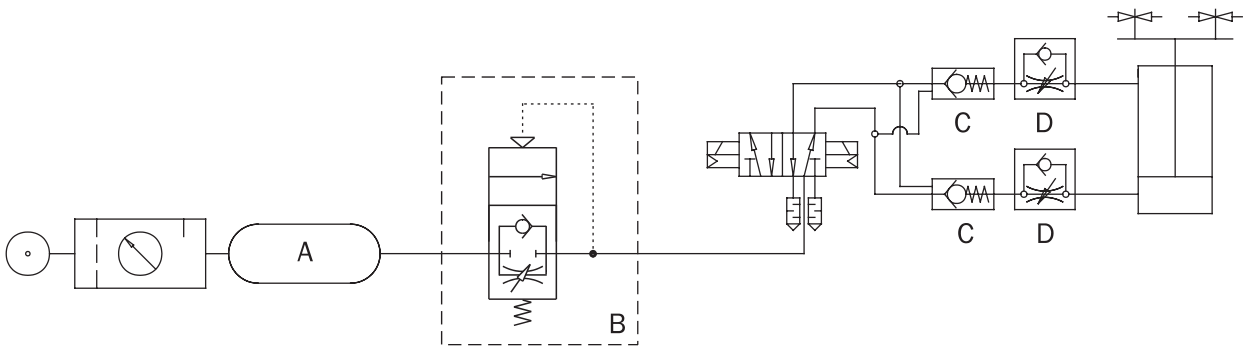
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



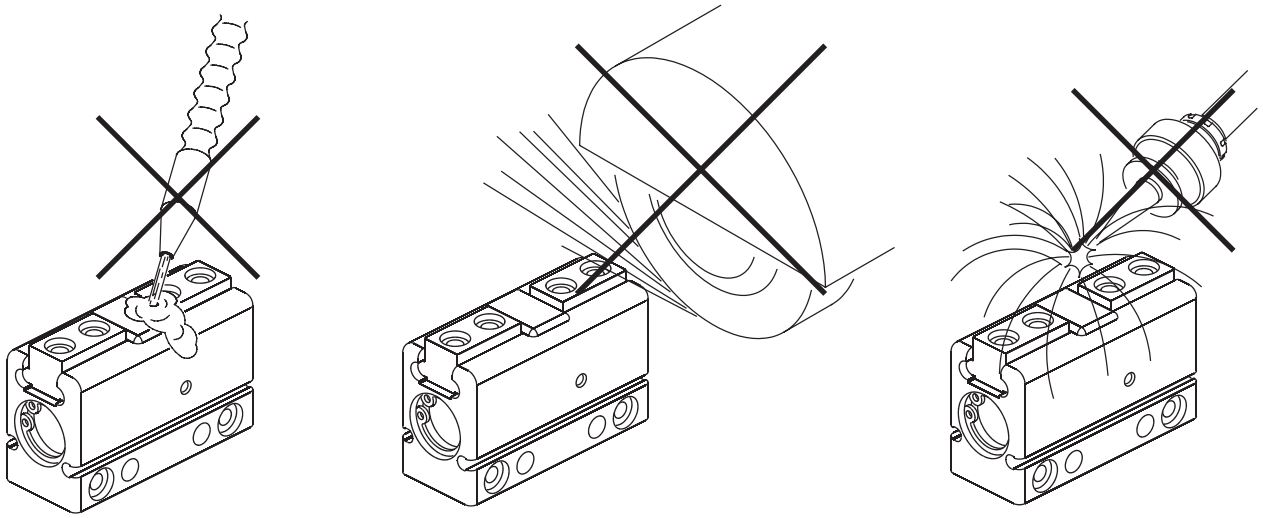
SZ

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the gripper come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
Never let non-authorized persons or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

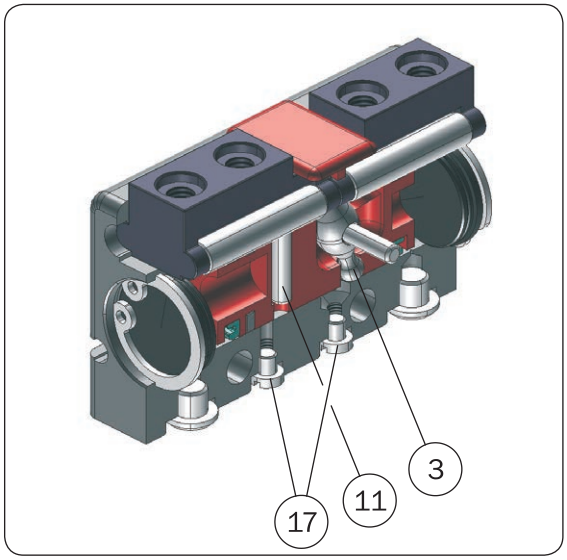
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

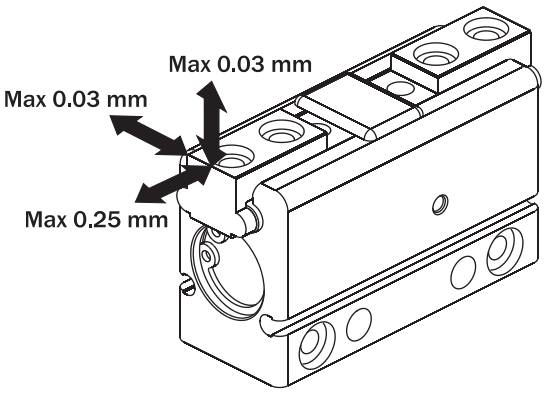
I tappi 17 vanno rimossi solo se occorre smontare le parti 3 e 11.

Maintenance

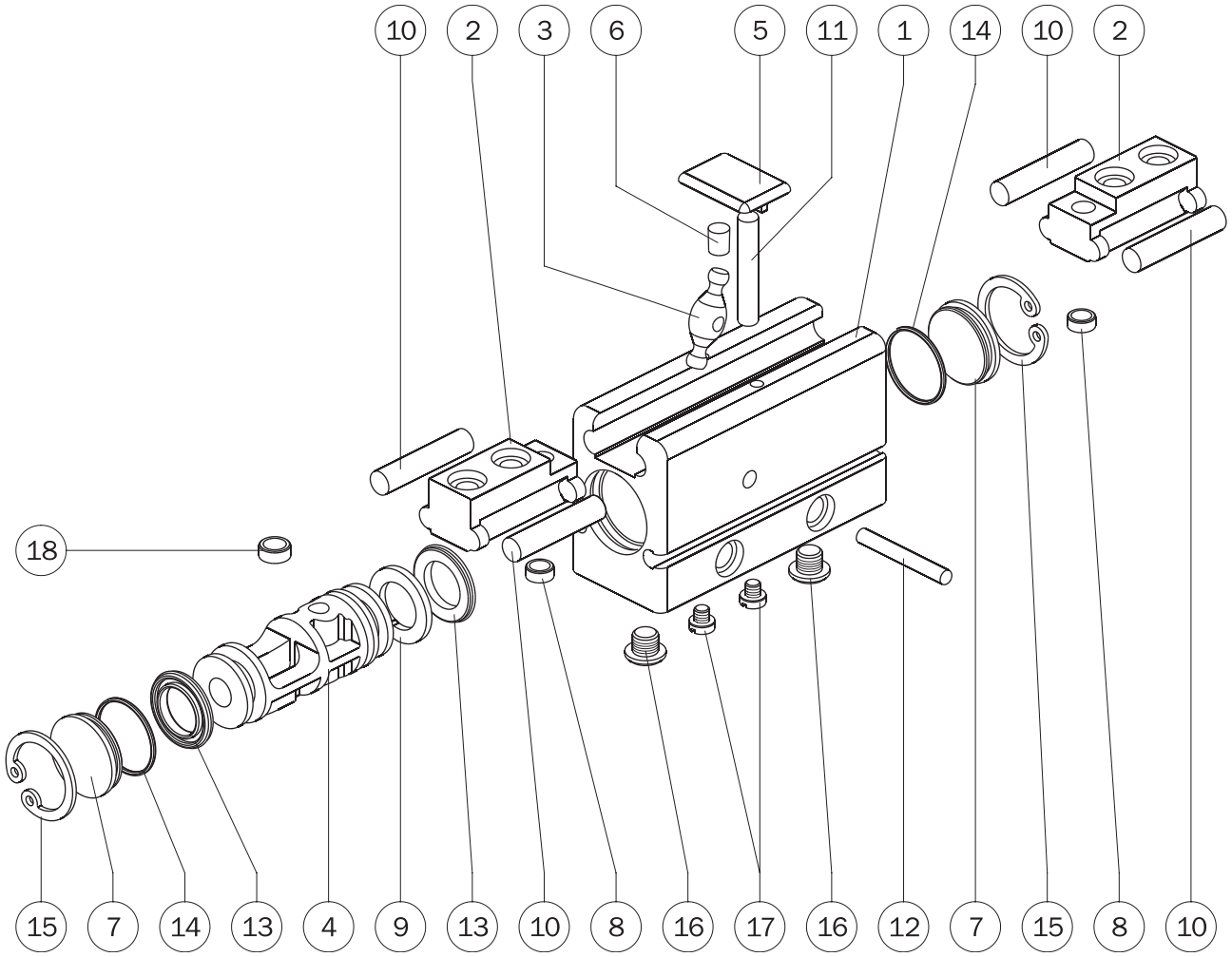
Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

The plugs 17 must be removed only if it is necessary to disassemble the parts 3 and 11.





Elenco delle parti / *Part list*



		SZ12	SZ16	SZ25	SZ32	SZ40		
1	Corpo pinza	SZ12-01	SZ16-01	SZ25-01	SZ32-01	SZ40-01	*Gripper housing*	*1*
2	Griffa	SZ12-02	SZ16-02	SZ25-02	SZ32-02	SZ40-02	*Jaw*	*2*
3	Leva	SZ12-03	SH16-03	SZ25-03	SZ32-03	SZ40-03	*Lever*	*3*
4	Pistone	SZ12-04	SH16-04	SZ25-04	SZ32-04	SZ40-04	*Piston*	*4*
5	Copertura	SZ12-05	SZ16-05	SZ25-05	SZ32-05	SZ40-05	*Cover*	*5*
6	Tappo griffa	SZ12-06	SH16-06	SZ25-06	SZ25-06	SZ40-06	*Plug*	*6*
7	Coperchio	SZ12-09	GS-16-06	GS-25-06	SZ32-09	SZ40-09	*End cap*	*7*
8	Boccola	SZ12-10	SZ16-10	SZ32-10	SZ32-10	SZ40-10	*Bush*	*8*
9	Magnete	HP-12-7	PAR-16-10B	PAR-25-10B	FES-32-3-5	RAD-40-10	*Magnet*	*9*
10	Spina di riferimento	Ø4x21.8 DIN 5402	Ø5x23.8 DIN 5402	Ø6x36 DIN 6325	Ø8x40 DIN 6325	Ø8x50 DIN 6325	*Dowel pin*	*10*
11	Spina di riferimento	Ø3x18 DIN 6325	Ø4x24 DIN 7	Ø6x36 DIN 6325	Ø6x40 DIN 6325	Ø8x50 DIN 6325	*Dowel pin*	*11*
12	Spina di riferimento	Ø2.5x20 DIN 6325	Ø3x24 DIN 6325	Ø5x36 DIN 6325	Ø5x40 DIN 6325	Ø6x50 DIN 6325	*Dowel pin*	*12*
13	Guarnizione dinamica	12x7x3 (GUAR-018)	16x10x3 (GUAR-051)	25x19x3.5 (GUAR-064)	32x24x3.5 (GUAR-063)	40x32x3.5 (GUAR-112E)	*Dynamic gasket*	*13*
14	O-Ring	Ø1.78x9.25 (GUAR-065)	Ø1x14 (GUAR-084)	Ø1.78x21.95 (GUAR-025)	Ø1.78x28.3 (GUAR-016)	Ø1.78x34.65 (GUAR-062)	*O-RING*	*14*
15	Seeger	Ø13 DIN 472	Ø17 DIN 472	Ø26 DIN 472	Ø33 DIN 472	Ø41 DIN 472	*Snap-ring*	*15*
16	Tappo	107-M5	107-M5	107-M5	107-G1/8	107-G1/8	*Plug*	*16*
17	Tappo	DT-205	DT-205	DT-205	107-M5	107-M5	*Plug*	*17*
18	Boccola	-	-	-	SZ32-10	SZ40-10	*Bush*	*18*

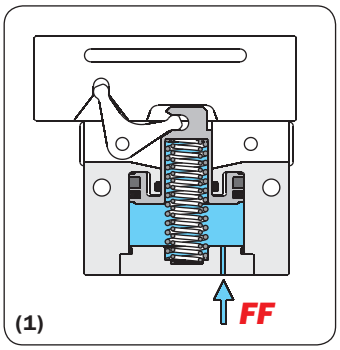
PQ

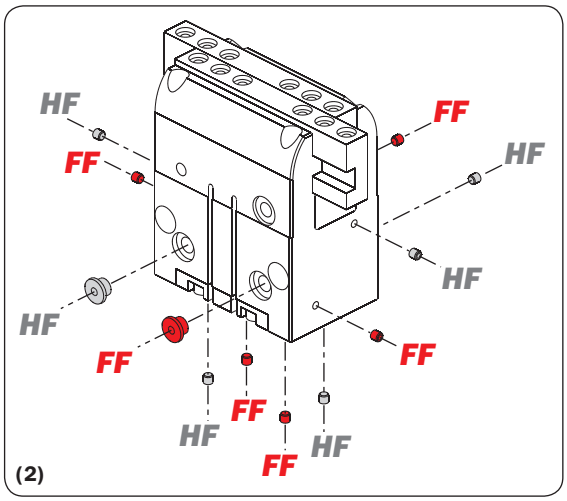
Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie PQ)

- Guida robusta.
- Corsa lunga.
- Molle integrate (1).
- Diverse possibilità di fissaggio ed alimentazione (2).
- Disponibili su richiesta con grasso alimentare FDA-H1 e guarnizioni per alte temperature (fino a 100°C.).

2-jaw self-centering pneumatic parallel gripper (series PQ)

- *Robust guide.*
- *Long stroke.*
- *Integrated springs (1).*
- *Various fastening and air feeding options (2).*
- *Available upon request with food grease FDA-H1 and with high temperature (up to 100 °C.) seals.*






PQ6063


PQ5047


PQ1608


PQ2012


PQ2516


PQ3015


PQ3523


PQ4533

	PQ1608	PQ2012	PQ2516	PQ3015	PQ3523	PQ4533	PQ5047	PQ6063
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*							
Pressione di esercizio *Operating pressure range*	3.5 ÷ 8 bar							
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C							
Forza di serraggio per griffa (6 bar in FF) *Gripping force on each jaw (6 bar in FF)*	60 N	90 N	150 N	200 N	280 N	460 N	670 N	930 N
Forza di serraggio totale (6 bar in FF) *Total gripping force (6 bar in FF)*	120 N	180 N	300 N	400 N	560 N	920 N	1340 N	1860 N
Corsa totale (±0.5 mm) *Total stroke*	8 mm	12 mm	16 mm	15 mm	23 mm	33 mm	47 mm	63 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	2 Hz	2 Hz	2 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	2 cm^3	4 cm^3	8 cm^3	12 cm^3	23 cm^3	55 cm^3	114 cm^3	210 cm^3
Tempo di serraggio (aria in FF) *Gripping time (air in FF)*	20 ms	40 ms	40 ms	60 ms	60 ms	100 ms	140 ms	190 ms
Tempo di rilascio (aria in HF) *Release time (air in HF)*	20 ms	50 ms	50 ms	110 ms	110 ms	160 ms	230 ms	400 ms
Ripetibilità *Repetition accuracy*	0.02 mm							
Peso *Weight*	63 g	110 g	200 g	330 g	610 g	1270 g	2430 g	4900 g

Molle

Questa pinza è dotata di molle sotto il pistone.
Per questo motivo e anche per via dello stelo, la massima forza di serraggio si ha con l'aria compressa in FF.
Può essere usata sia a doppio effetto che a semplice effetto.
Le molle possono essere rimosse, seguendo la procedura mostrata nelle foto.
Senza molle la forza di serraggio indicata si riduce:

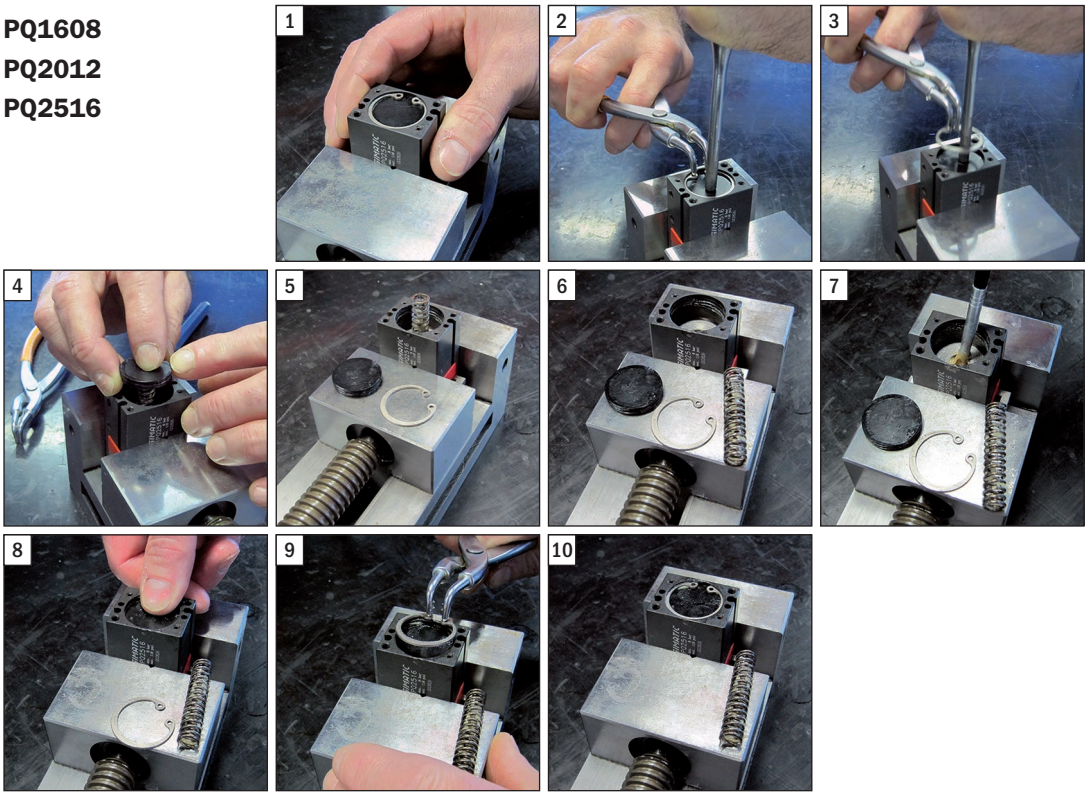
- del 18% con aria in FF;
- del 37% con aria in HF.

Springs

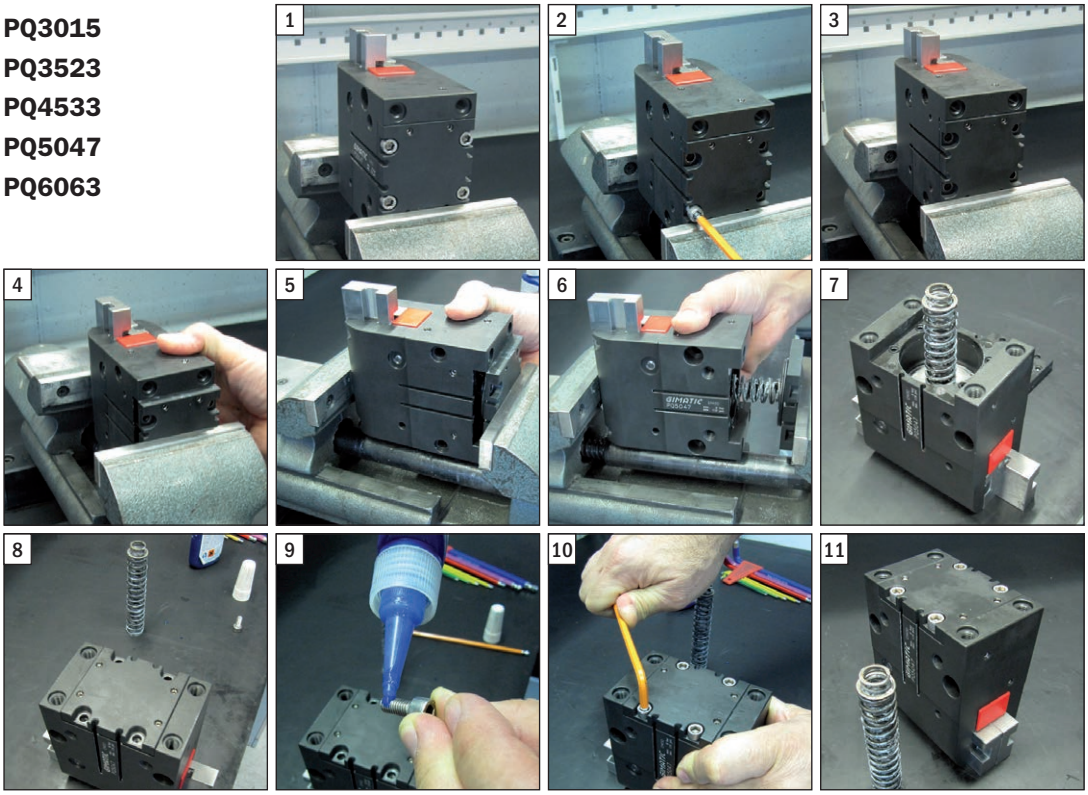
This gripper is provided with springs under the piston. For this reason and because of the piston rod, its maximum gripping force is achieved with compressed air in FF. The gripper can operate either in single-effect mode or double-effect mode. The springs can be removed, following the procedure illustrated in the photos. Without springs the resulting gripping force is:

- *18% lower with compressed air in FF;*
- *37% lower with compressed air in HF.*

PQ1608
PQ2012
PQ2516



PQ3015
PQ3523
PQ4533
PQ5047
PQ6063



Dimensioni (mm) / *Dimensions (mm)*

Z1 Lamatura boccola per centraggio del dito di presa
Spot face for the centering sleeve of the gripping tool

Z2 Foro filettato per fissaggio del dito di presa
Threaded hole for the gripping tool fastening

Z6 Foro passante per fissaggio laterale della pinza
Through hole for the gripper side fastening

Z9 Foro filettato per fissaggio della pinza sulla base
Threaded hole for the gripper fastening on the bottom

Z12 Lamatura boccola per centraggio del corpo pinza
Spot face for the centering sleeve of the gripper body

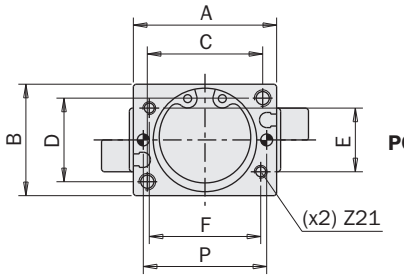
Z21 Fori per alimentazione diretta dal fondo
Ports for direct air supply from the bottom

Z22 Fori per alimentazione
Air supply ports

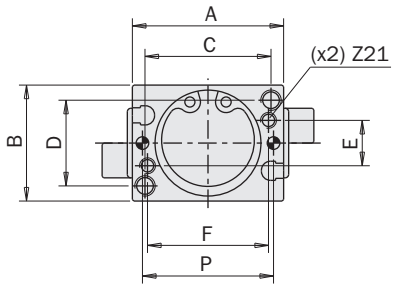
Z23 Fori per alimentazione
Air supply ports

Z24 Cave per sensori magnetici
Magnetic sensor slots

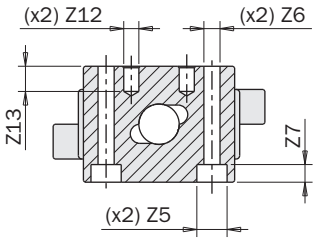
	PQ1608	PQ2012	PQ2516
A	24	30	36
B	18	23	28
C ±0.02	20	25	29
D ±0.02	14	17	21
E	7	9	16
F	19.4	24	28
G	11	13.8	16
H	44	46.5	57
I	32.5	32.5	37.5
J	43.5	46	56
K	17.5	22.4	27
L	32	42	52
M	4	6	8
N	11	13,5	18
O ±0.02	26	26.5	28.5
P	21	26	31
Q	7.5	8.5	11
R ±0.02	17	21	24
S	13.5	15.3	16
T	7	7.5	8
U	3.7	4	8
V	5.5	6.9	8
W	13	17	21
X	9	11	13
Y ±0.02	6	8	9
Z1	Ø5 H8	Ø5 H8	Ø6 H8
Z2	M3	M3	M4
Z3	1.2	1.2	2.5
Z4	4	5	7.5
Z5	Ø5	Ø6	Ø6
Z6	Ø2.6	Ø3.2	Ø3.2
Z7	3	3.5	3.5
Z8	Ø2 H7	Ø2.5 H7	Ø3 H7
Z9	M3	M4	M4
Z10	5	6	6
Z11	3	5	5
Z12	Ø2.5 H7	Ø3 H7	Ø3 H7
Z13	3	5	5
Z21	M2.5	M3	M3
Z22	M3	M3	M5
Z23	M2.5	M3	M3

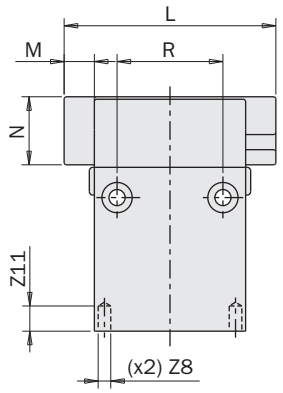


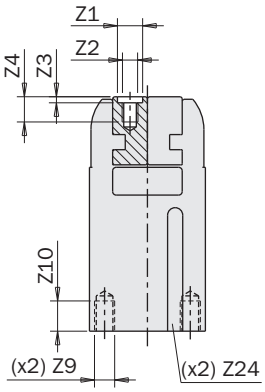
PQ2516

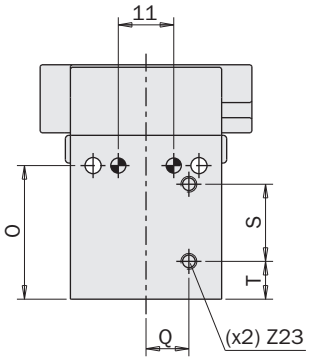


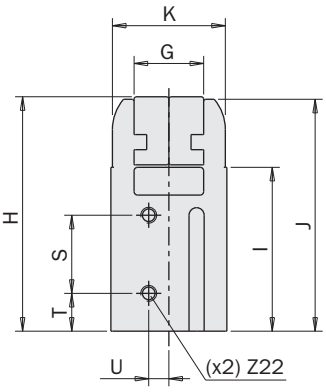
PQ1608
PQ2012

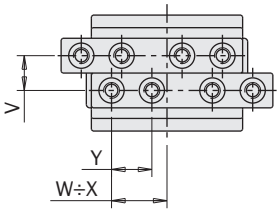










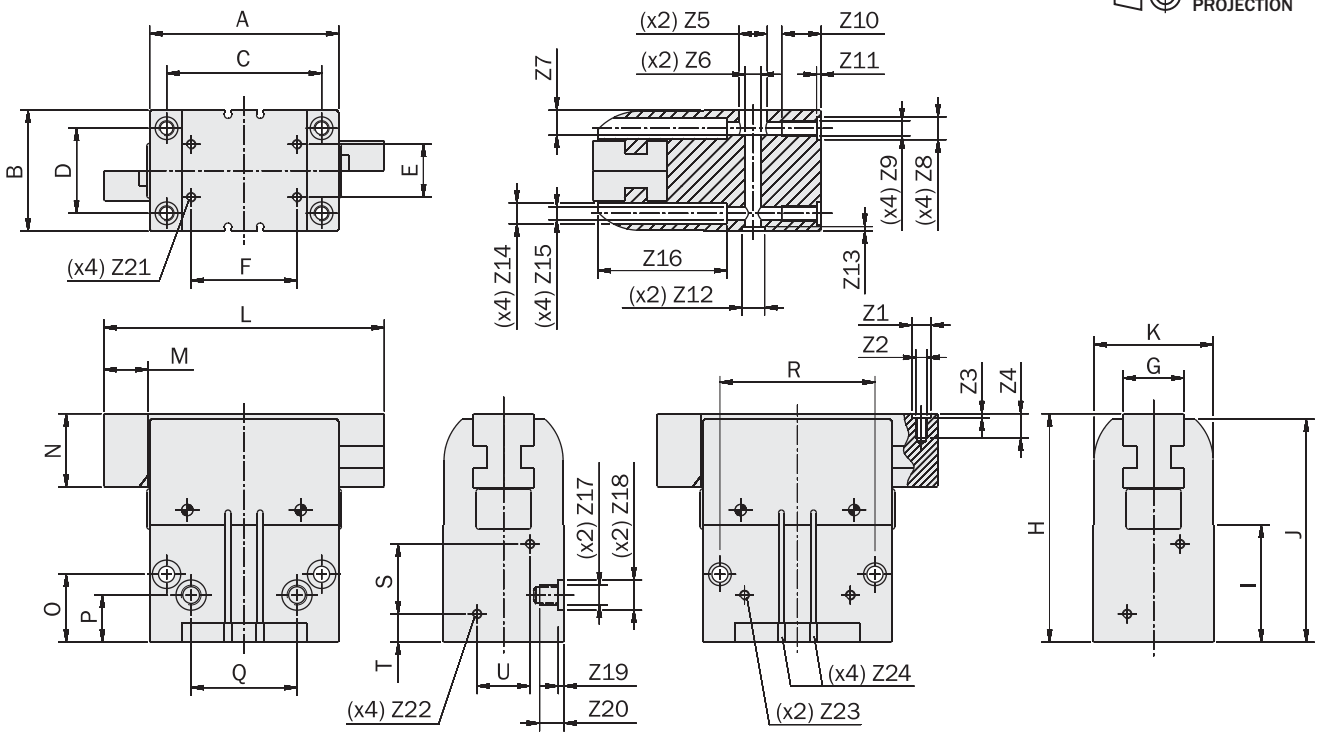


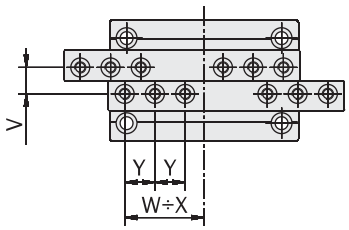
FIRST ANGLE PROJECTION

03/2015

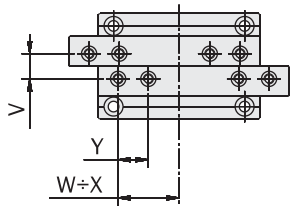
Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION





PQ4533
PQ5047
PQ6063



PQ3015
PQ3523

	PQ3015	PQ3523	PQ4533	PQ5047	PQ6063
A	50	64	80	100	125
B	38	42	50	64	80
C ±0.02	42	52	66	82	100
D ±0.02	27	32	38	45	56
E	20	18	26	28	34
F	28	36	44	56	70
G	20	24	28	32	42
H	55	70	93	121	156
I	30	38	45	62	85
J	53	68	90	118	153
K	37.6	41.6	49	63	79
L	65.5	87.5	118.5	148.5	191.5
M	7.5	11.5	16.5	23.5	31.5
N	18	22	33	39	45
O ±0.02	25	22	34	36	55
P	17	25	24	25	40
Q	28	35	44	56	70
R ±0.02	42	52	66	82	100
S	-	-	-	37	44
T	-	-	-	15	24
U	-	-	-	28	34
V	8	10	12	14	16
W	24.8	35.7	52.2	65.6	79.8
X	17.3	24.2	35.7	42	48.3
Y ±0.02	10	12	14	16	20
Z1	Ø5 H8	Ø6 H8	Ø8 H8	Ø10 H8	Ø12 H8
Z2	M3	M4	M5	M6	M6
Z3	1.2	2.5	2.5	2.5	2.5
Z4	7.2	9.5	11.5	13	12.5
Z5	Ø6	Ø9	Ø11	Ø15	Ø15
Z6	Ø3.5	Ø5.2	Ø6.6	Ø8.5	Ø8.5
Z7	10	10	9	13.2	17
Z8	Ø6 H8	Ø8 H8	Ø10 H8	Ø12 H8	Ø12 H8
Z9	M4	M5	M6	M8	M8
Z10	10.5	14	18	21	22.5
Z11	2.5	2.5	2.5	2.5	2.5
Z12	Ø6 H8	Ø8 H8	Ø10 H8	Ø12 H8	Ø12 H8
Z13	2.5	2.5	2.5	2.5	2.5
Z14	Ø6	Ø7.5	Ø9	Ø11	Ø11
Z15	Ø3.3	Ø4.2	Ø5	Ø6.8	Ø6.8
Z16	22	38	45	68	82
Z17	M5	M5	M5	G1/8“	G1/8“
Z18	-	-	Ø10	Ø16	Ø18
Z19	-	-	2.5	3	3
Z20	5	5	9.3	13	16.3
Z21	M3	M4	M5	M5	M5
Z22	-	-	-	M5	M5
Z23	M5	M5	M5	M5	M5

Z1 Lamatura boccola per centraggio del dito di presa
Spot face for the centering sleeve of the gripping tool

Z2 Foro filettato per fissaggio del dito di presa
Threaded hole for the gripping tool fastening

Z6 Foro passante per fissaggio laterale della pinza
Through hole for the gripper side fastening

Z9 Foro filettato per fissaggio della pinza sulla base
Threaded hole for the gripper fastening on the bottom

Z12 Lamatura boccola per centraggio del corpo pinza
Spot face for the centering sleeve of the gripper body

Z15 Foro passante per fissaggio della pinza sulla base
Through hole for the gripper fastening on the bottom

Z17 Connessione principale per raccordi dell’aria
Main port for air fittings

Z21 Fori per alimentazione diretta dal fondo
Ports for direct air supply from the bottom

Z22 Fori per alimentazione
Air supply ports

Z23 Fori per alimentazione
Air supply ports

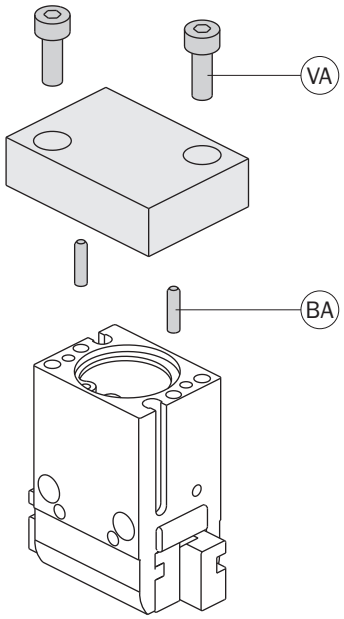
Z24 Cave per sensori magnetici
Magnetic sensor slots

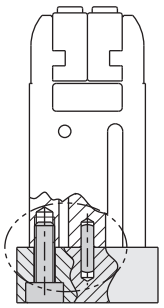
Fissaggio della pinza

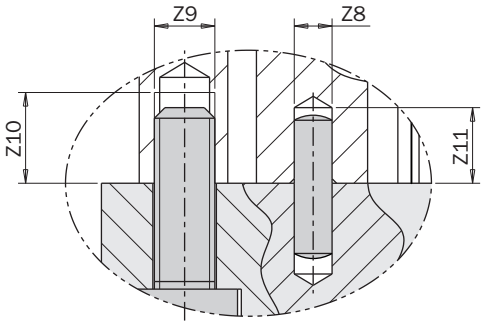
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
E' possibile fissare la pinza sul fondo utilizzando due viti (VA) e due spine (BA).
Si può anche fissare su un fianco utilizzando due viti (VB) e due spine (BB).

Gripper fastening

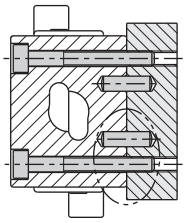
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.
The gripper can be mounted from the bottom using two screws (VA) and two dowel pins (BA).
It can also be mounted on the side using two screws (VB) and two dowel pins (BB).

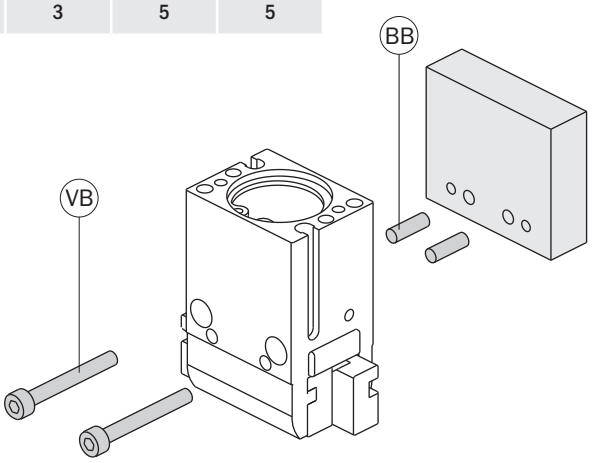


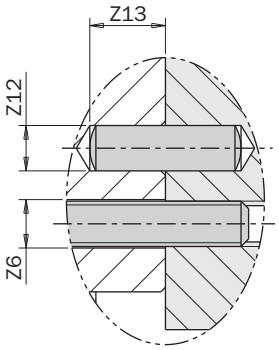




	PQ1608	PQ2012	PQ2516
Z6	Ø2.6	Ø3.2	Ø3.2
Z8	Ø2 H7	Ø2.5 H7	Ø3 H7
Z9	M3	M4	M4
Z10	5	6	6
Z11	3	5	5
Z12	Ø2.5 H7	Ø3 H7	Ø3 H7
Z13	3	5	5





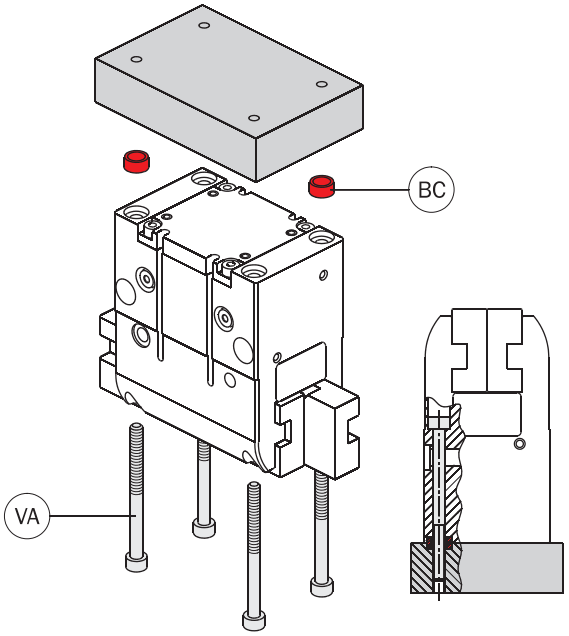


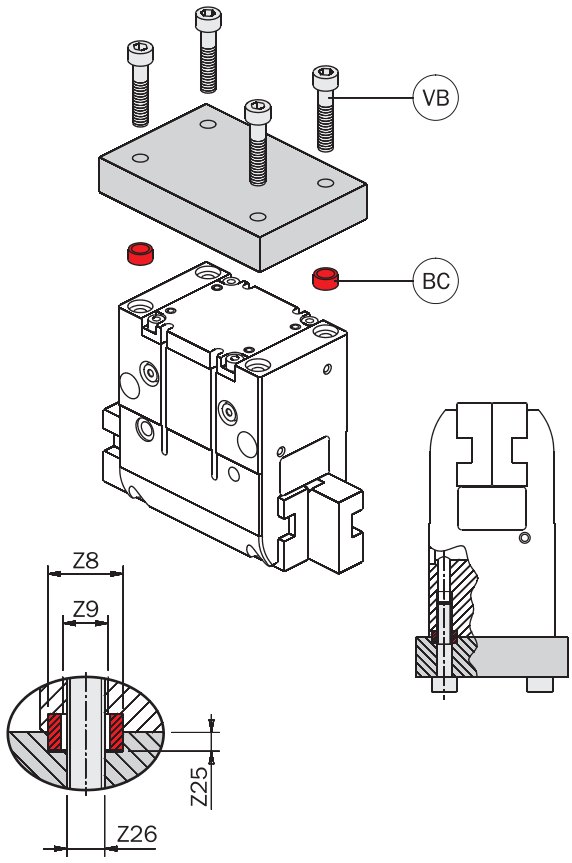
Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
E' possibile fissare la pinza sia dall'alto che dal basso.
Utilizzare 4 viti (VA o VB) e 2 boccole di centraggio (BC).
Nella confezione della pinza sono fornite 4 boccole di centraggio per le dita di presa (BD) e 2 boccole per il corpo (BC).
Si può anche fissare su un fianco con 2 due viti (VL) e 2 boccole (BC).

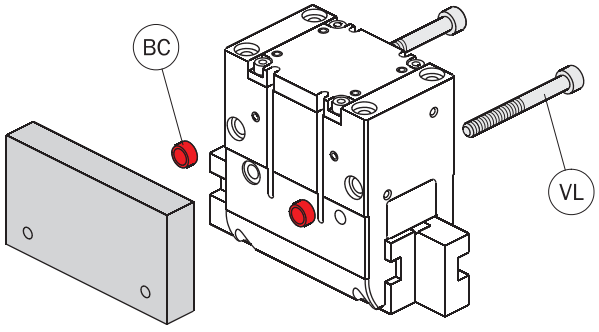
Gripper fastening

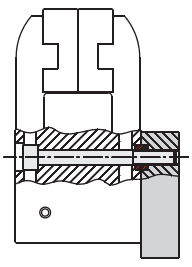
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.
The gripper can be fastened either from the top or from the bottom.
4 centering sleeves for the gripping tools (BD) and 2 centering sleeves for the body (BC) are supplied in the package.
The gripper can also be fastened on one side by 2 screws (VL) and 2 centering sleeves (BC).

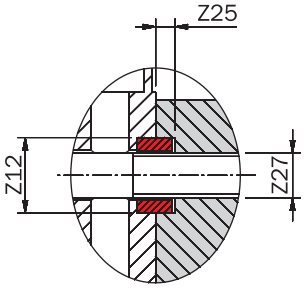




	PQ3015	PQ3523	PQ4533	PQ5047	PQ6063
Z8	Ø6 H8	Ø8 H8	Ø10 H8	Ø12 H8	Ø12 H8
Z9	M4	M5	M6	M8	M8
Z12	Ø6 H8	Ø8 H8	Ø10 H8	Ø12 H8	Ø12 H8
Z25	2.8	2.5	2.5	2.5	2.5
Z26	M3	M4	M5	M6	M6
Z27	M3	M5	M6	M8	M8





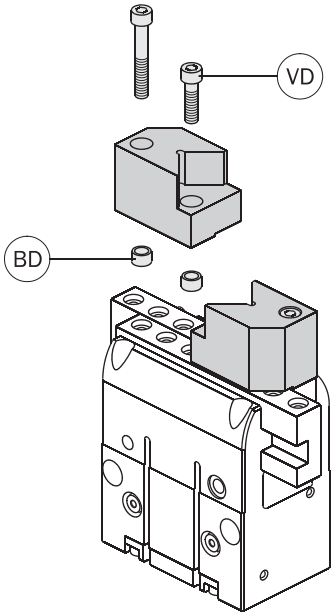


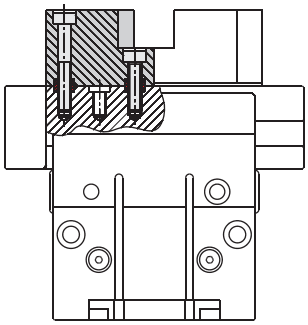
Fissaggio delle estremità di presa

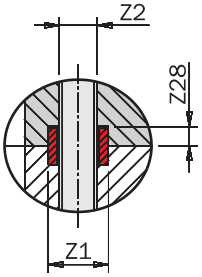
Costruire le dita di presa il più possibile corte e leggere.
Fissarle con 2 viti (VD) e 2 boccole di centraggio (BD).
Per ottenere la massima forza di serraggio, le estremità di presa vanno fissate come indicato nelle illustrazioni, a seconda che la pinza sia usata per serrare il carico dall'esterno o dall'interno.

Fitting the gripping tools

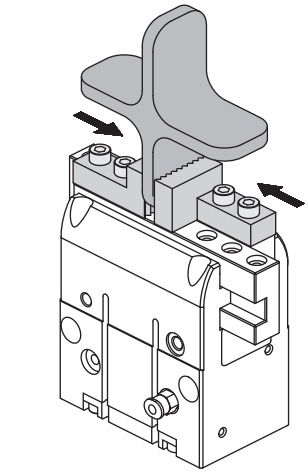
The gripping tools must be as short and light as possible.
They must be fastened by 2 screws (VD) and 2 centering sleeves (BD).
To achieve the maximum gripping force, the gripping tools should be fastened as shown in the pictures below, depending on whether the gripper is used for outside or inside gripping.

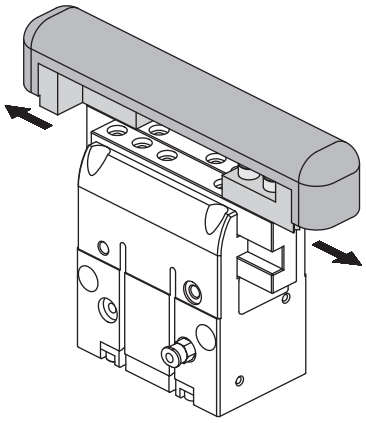


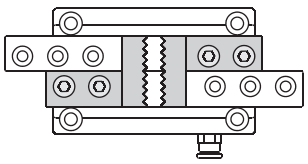


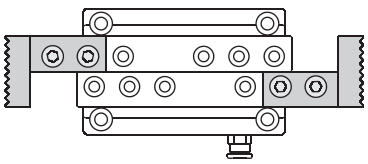


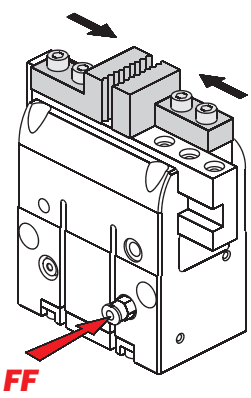
	PQ1608	PQ2012	PQ2516	PQ3015	PQ3523	PQ4533	PQ5047	PQ6063
Z1	Ø5 H8	Ø5 H8	Ø5 H8	Ø5 H8	Ø6 H8	Ø8 H8	Ø10 H8	Ø12 H8
Z2	M3	M3	M4	M3	M4	M5	M6	M6
Z28	1.2	1.2	2.5	1.2	2.8	2.5	2.5	2.5

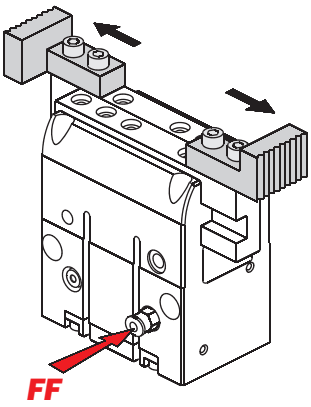












Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

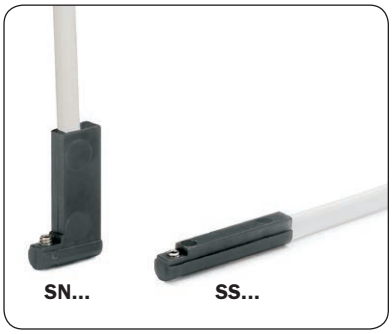
I sensori utilizzabili sono:

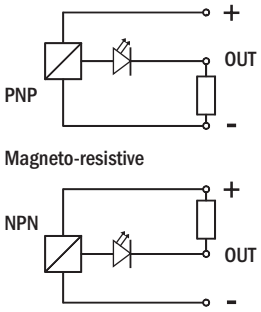
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:

			PQ16 PQ20 PQ25	PQ30	PQ35 PQ45 PQ50 PQ60
SN4N225-G	PNP	Cavo 2.5m / 2.5m Cable	☑	☑	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m Cable	☑	☑	☑
SN3N203-G	PNP	Connettore M8 / Snap M8 plug connector	☑	☑	☑
SN3M203-G	NPN	Connettore M8 / Snap M8 plug connector	☑	☑	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m Cable	☐	☑ (1)	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m Cable	☐	☑ (1)	☑
SS3N203-G	PNP	Connettore M8 / Snap M8 plug connector	☐	☑ (1)	☑
SS3M203-G	NPN	Connettore M8 / Snap M8 plug connector	☐	☑ (1)	☑

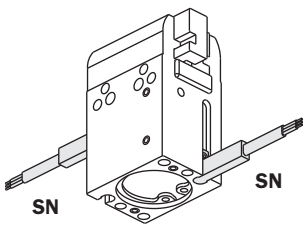




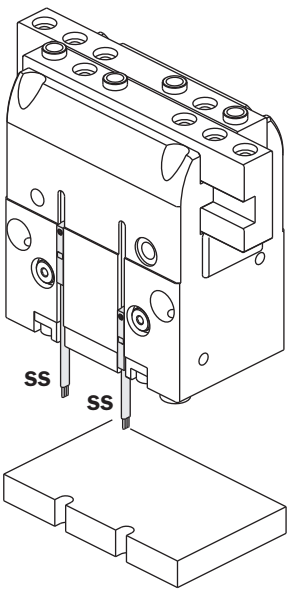
Sono tutti dotati di un cavo piatto a tre fili e di un led.

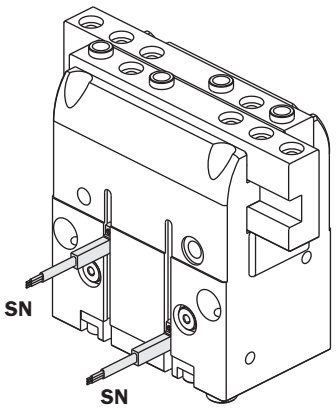
They are all provided with a 3-wire flat cable and a LED.

PQ1608
PQ2012
PQ2516

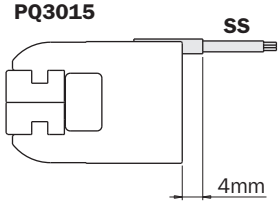


PQ3015
PQ3523
PQ4533
PQ5047
PQ6063





PQ3015



(1)
Sulla PQ3015 i sensori SS sporgono 4mm.

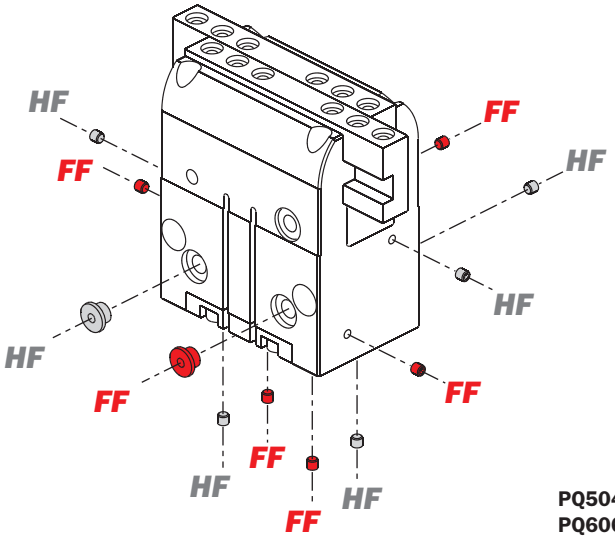
(1)
On the PQ3015 the SS sensors protude 4mm.

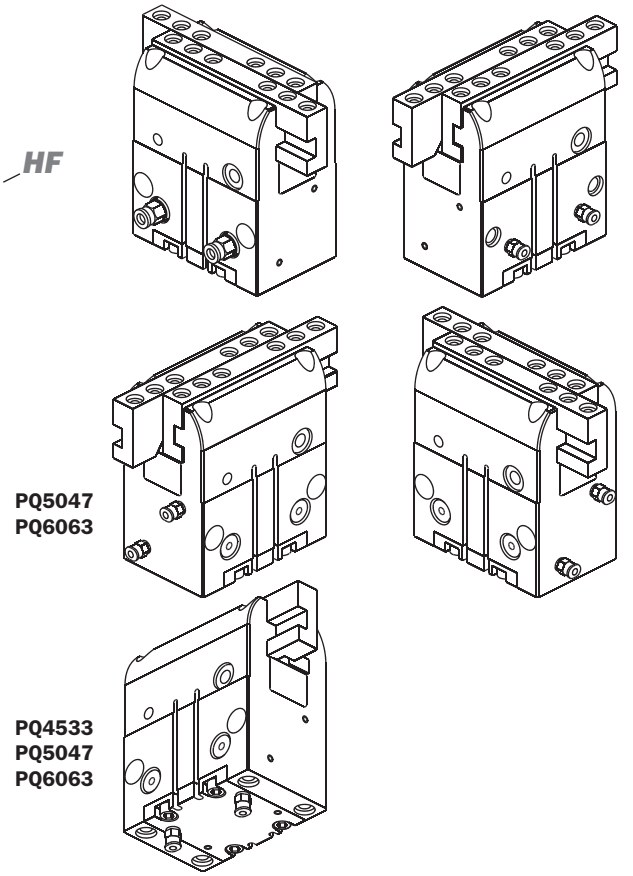
Connessione pneumatica

Questa pinza ha varie opzioni di alimentazione.
Tutte le connessioni sono inizialmente tappate. Bisogna rimuovere solo due tappi.
Alimentando da una delle connessioni FF si avrà il serraggio migliore con tutta la forza della pinza.
Se la pinza viene usata a semplice effetto, sulla connessione FF va avvitato un filtro per evitare l'aspirazione di sporco dall'esterno.
Si possono usare dei raccordi o fornire l'aria compressa attraverso la piastra di fissaggio e gli O-Ring indicati (GG).
Tubi, raccordi, filtri e O-Ring non sono forniti.
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza. L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

This gripper has several options for air feeding.
All ports are initially plugged. Only two plugs have to be removed.
If the compressed air is supplied through one of the FF ports, the gripper will operate with its full force.
If the gripper is used in the single-acting mode, fit a filter at the FF port to prevent suction of dirt from outside.
Compressed air can be supplied through fittings or through the mounting plate and the O-rings shown (GG).
Hoses, fittings, filters and O-Rings are not supplied.
Compressed air must be supplied filtered (5÷40 µm), not necessarily lubricated. The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



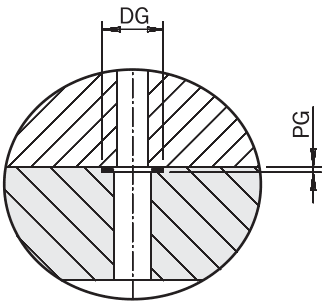


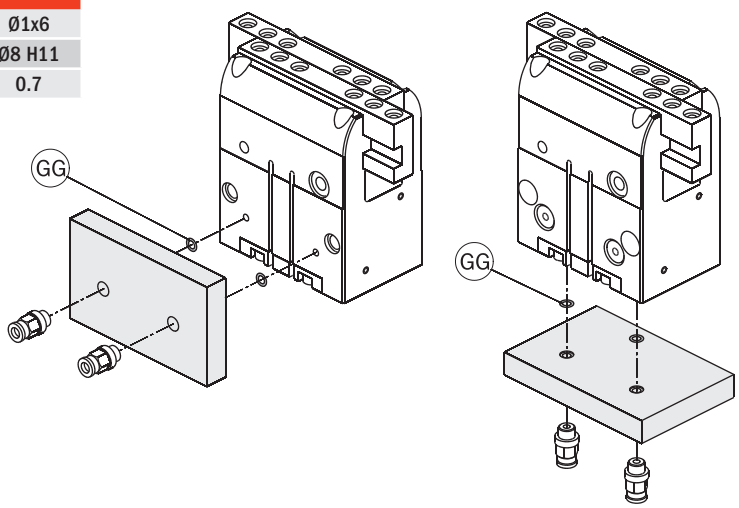
PQ5047
PQ6063

PQ4533
PQ5047
PQ6063

	PQ1608	PQ2012	PQ2516
GG	Ø1x2.5	Ø1x2.5	Ø1x3
DG	Ø4.5 H11	Ø4.5 H11	Ø5 H11
PG	0.7	0.7	0.7

	PQ3015	PQ3523	PQ4533	PQ5047	PQ6063
GG	Ø1x4	Ø1x5	Ø1x6	Ø1x6	Ø1x6
DG	Ø6 H11	Ø7 H11	Ø8 H11	Ø8 H11	Ø8 H11
PG	0.7	0.7	0.7	0.7	0.7





Circuito pneumatico

Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione;
2- Riempimento pinza vuota all'avvio;
3- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A);
2- Valvola di avviamento progressivo (B);
3- Regolatore di flusso (C).

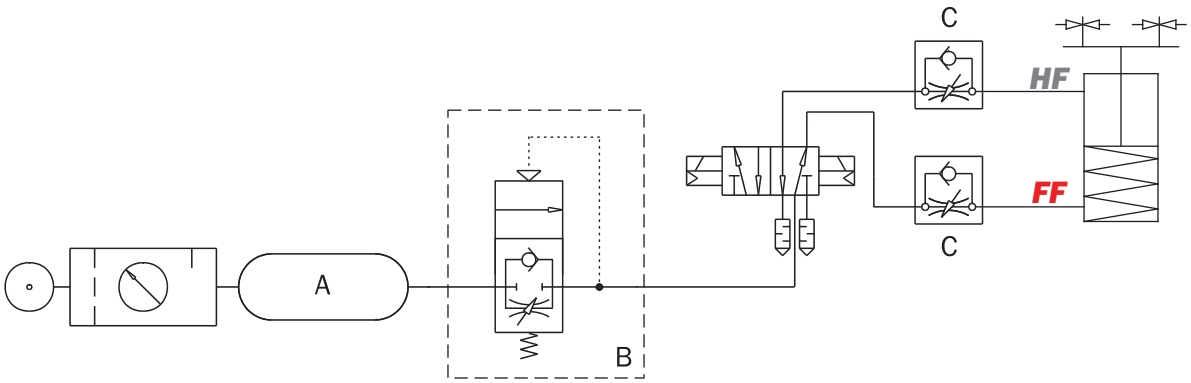
Pneumatic circuit

Possible problems on a compressed air supply circuit:
1- Pressure variation.
2- Pressurizing with empty gripper.
3- Excessive operating speed.

Possible solutions:
1- External air tank (A).
2- Start-up valve (B).
3- Flow controller (C).

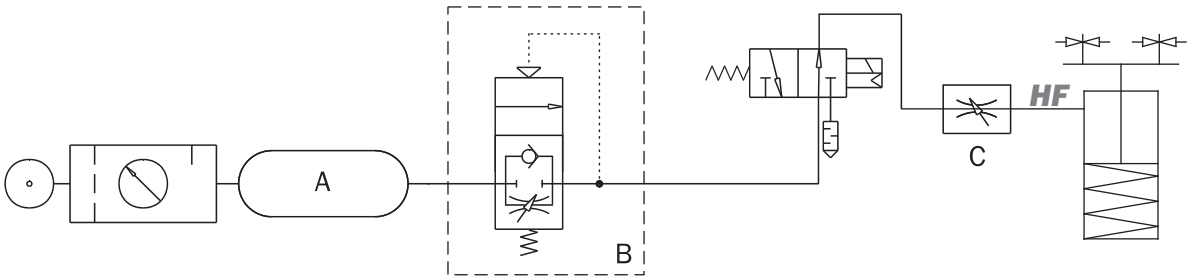
La pinza può funzionare sia a semplice effetto che a doppio effetto.
Quest'ultima soluzione (circuito sotto indicato, con valvola 5/2) è consigliata quando è necessaria una forza di serraggio elevata.

The gripper can operate either in single-effect mode or double-effect mode.
The double-effect mode (see circuit below, with 5/2 valve) is recommended when the highest gripping force is required.

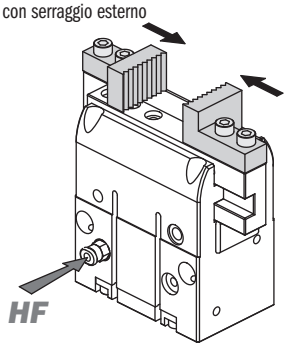


Per un funzionamento a semplice effetto, con molla di reset, il circuito pneumatico deve essere come quello sotto indicato, con valvola 3/2.

For single-effect operation with reset spring, the pneumatic circuit must be similar to that shown below, with a 3/2 valve.

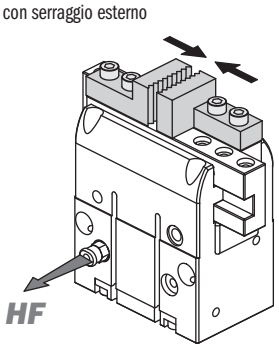


Normalmente aperta
con serraggio esterno



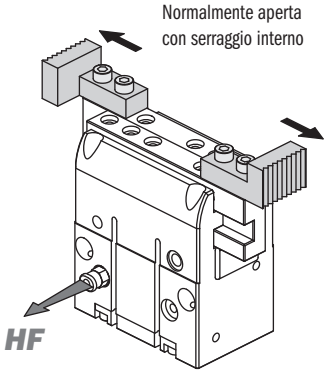
Normally open with outside gripping

Normalmente chiusa
con serraggio esterno



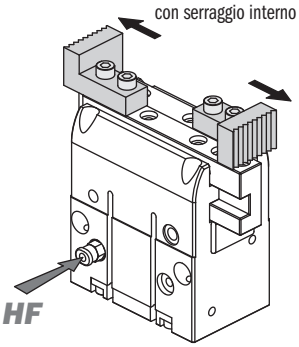
Normally closed with outside gripping

Normalmente aperta
con serraggio interno



Normally open with inside gripping

Normalmente chiusa
con serraggio interno



Normally closed with inside gripping

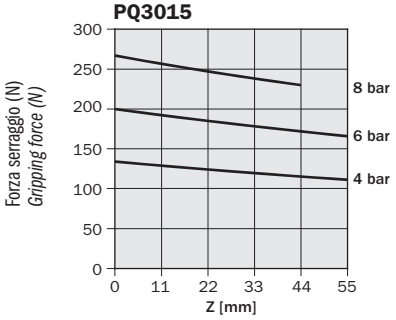
Forza di serraggio

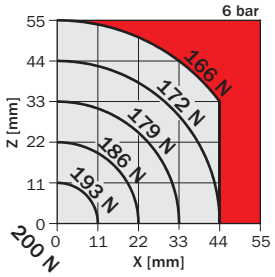
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X, quando l'aria compressa è fornita in FF.
Se l'aria compressa è fornita in HF la forza si riduce del 50%.

Gripping force

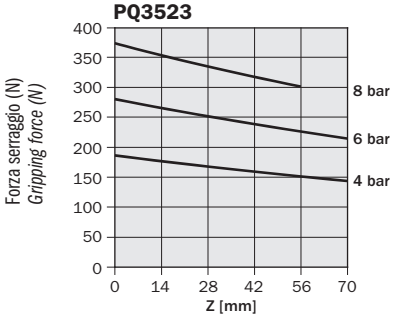
The graphs show the gripping force on each jaw, as a function of the operating pressure, the lever arm length Z and the misalignment of gripping point X, when compressed air is supplied to FF.
If compressed air is supplied to HF the gripping force is 50% lower.

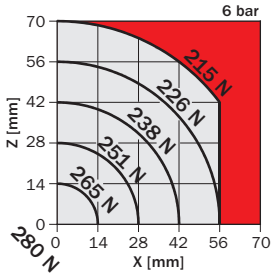
PQ3015



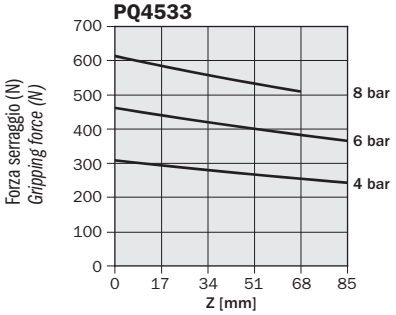


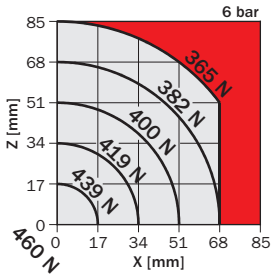
PQ3523



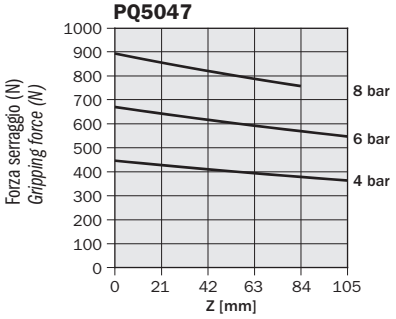


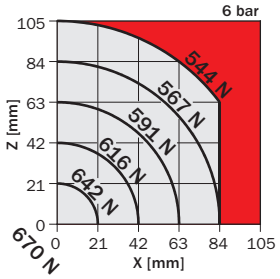
PQ4533



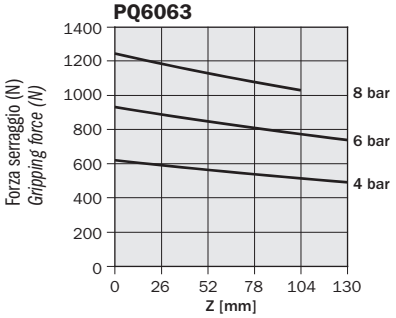


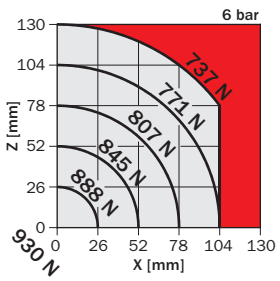
PQ5047

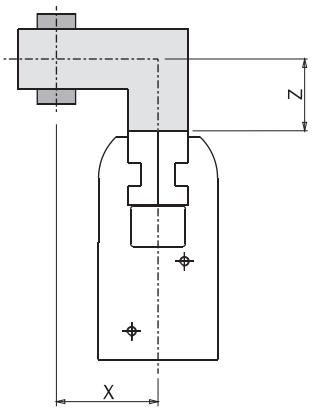




PQ6063







La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

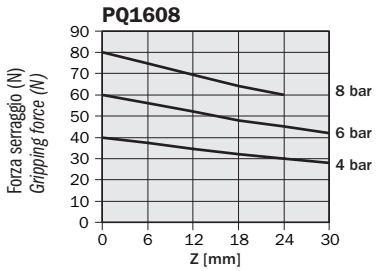
The force shown in these graphs refers to one jaw.
The total force is double.

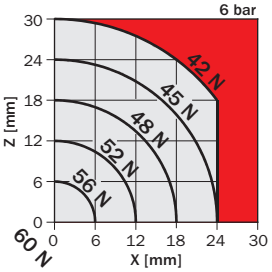
Forza di serraggio

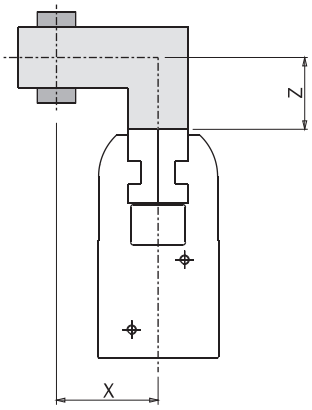
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X, quando l'aria compressa è fornita in FF.
Se l'aria compressa è fornita in HF la forza si riduce del 50%.

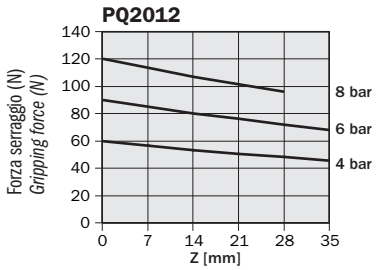
Gripping force

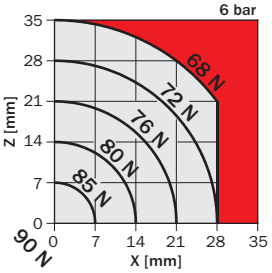
The graphs show the gripping force on each jaw, as a function of the operating pressure, the lever arm length Z and the misalignment of gripping point X, when compressed air is supplied to FF.
If compressed air is supplied to HF the gripping force is 50% lower.

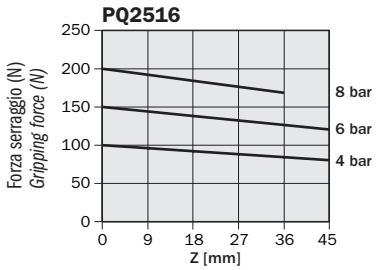


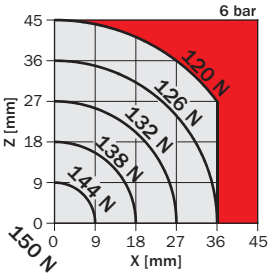












La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

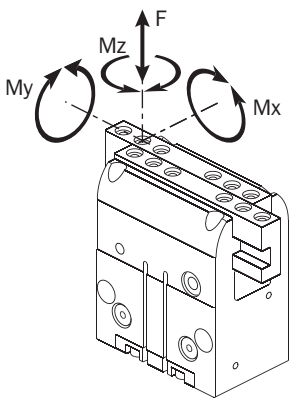
The force shown in these graphs refers to one jaw.
The total force is double.

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are the maximum permitted static loads, that is when the jaws are still.
F d, Mx d, My d, Mz d, are the maximum permitted dynamic loads, that is when the jaws are operating.
m is the maximum permitted weight of each gripping tool, when the gripper operates without speed adjustment. If the weight exceeds the permitted value, the jaw speed must be decreased by means of flow controllers (not supplied).



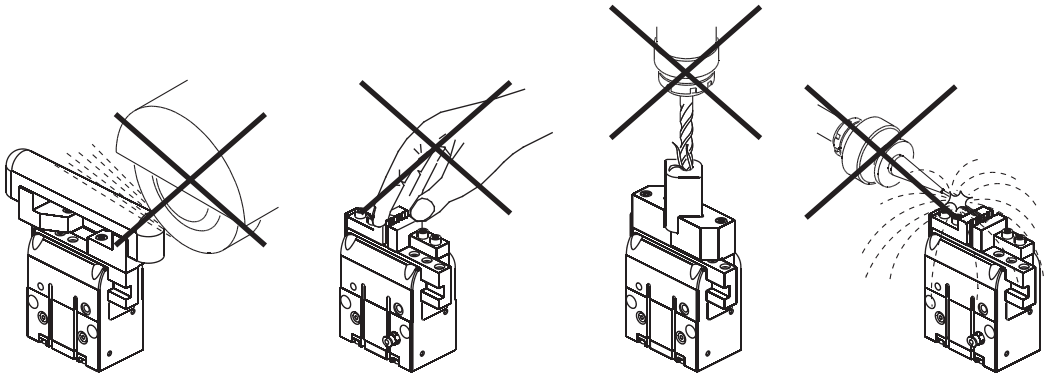
	PQ1608	PQ2012	PQ2516	PQ3015	PQ3523	PQ4533	PQ5047	PQ6063
F s	50 N	120 N	250 N	400 N	800 N	1200 N	1600 N	2000 N
Mx s	1.5 Nm	2.5 Nm	6 Nm	10 Nm	17 Nm	35 Nm	64 Nm	105 Nm
My s	1.5 Nm	2.5 Nm	6 Nm	10 Nm	17 Nm	35 Nm	45 Nm	55 Nm
Mz s	1 Nm	2 Nm	5 Nm	8 Nm	14 Nm	28 Nm	50 Nm	85Nm
F d	0.5 N	1.2 N	2.5 N	4 N	8 N	12 N	18 N	25 N
Mx d	1 Ncm	2 Ncm	5 Ncm	8 Ncm	14 Ncm	28 Ncm	64 Ncm	145 Ncm
My d	1 Ncm	2 Ncm	5 Ncm	8 Ncm	14 Ncm	28 Ncm	64 Ncm	145 Ncm
Mz d	1 Ncm	2 Ncm	5 Ncm	8 Ncm	14 Ncm	28 Ncm	64 Ncm	145 Ncm
m	35 g	75 g	150 g	250 g	400 g	750 g	1400 g	2400 g

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the gripper come into contact with corrosive substances or abrasive powders as they may damage the gripper.
Never let non-authorized persons or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

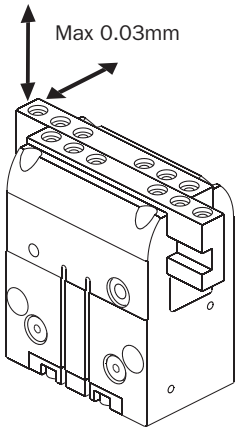
La pinza va ingrassata ogni 10 milioni di cicli con:
- BERULUB FG-H 2 EP
  (Lubrificante NSF H1 Registrazione No. 140486).

Il gioco delle griffe è indicato qui sotto.

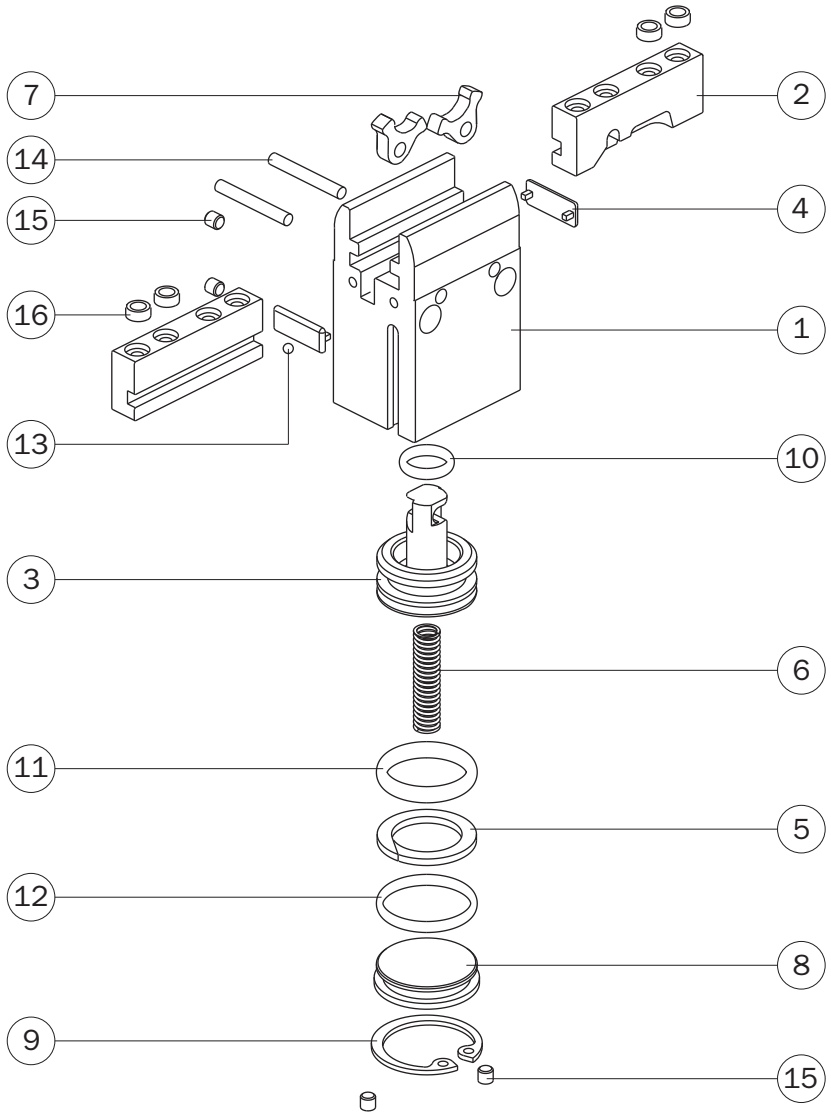
Maintenance

Grease the gripper after 10 million cycles with:
- *BERULUB FG-H 2 EP*
  (Lubricant NSF H1 Registration No. 140486).

The figure below shows the jaw backlash.



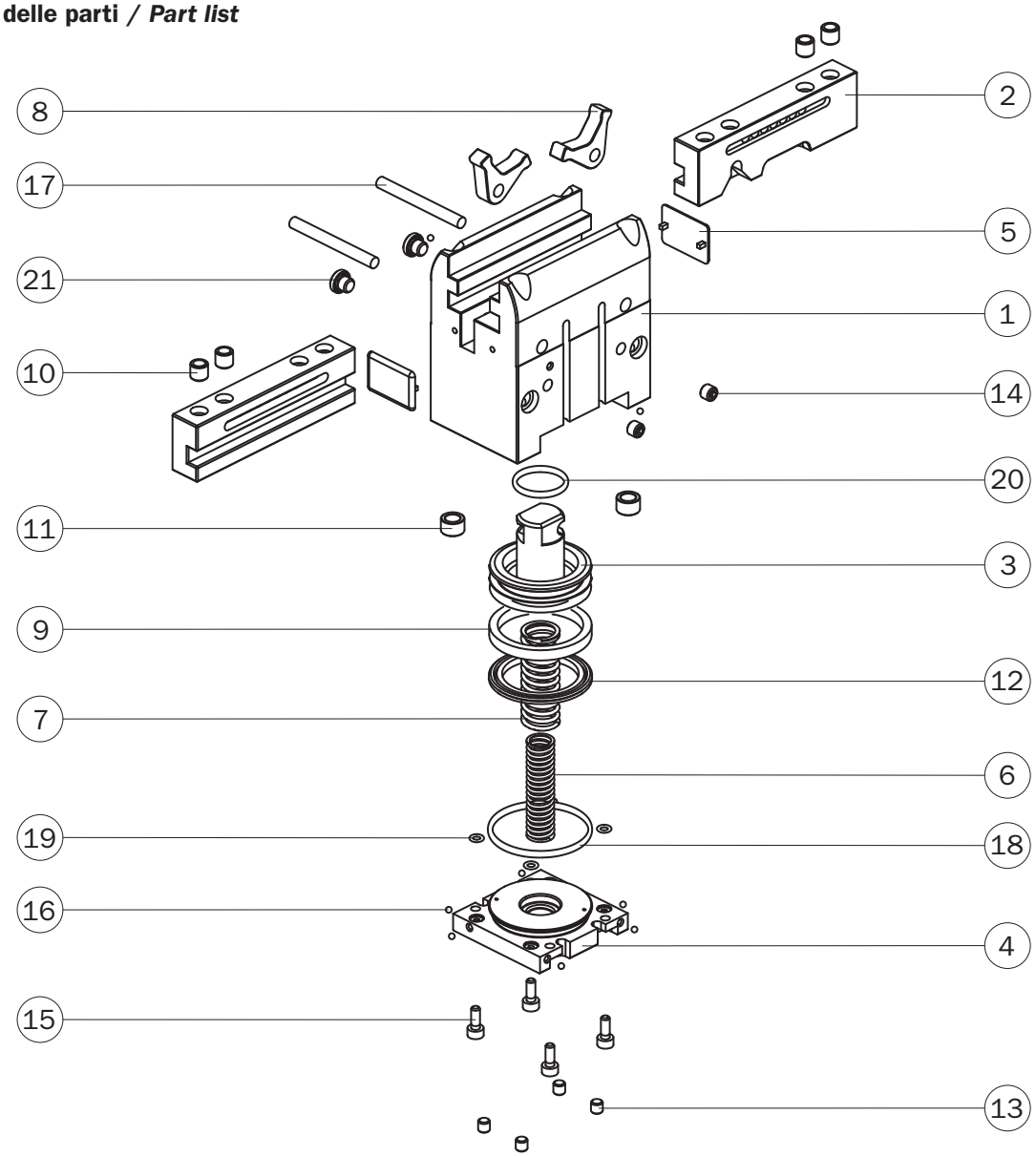
Elenco delle parti / *Part list*



		PQ1608	PQ2012	PQ2516		
1	Corpo pinza	PQ1608-01	PQ2012-01	PQ2516-01	*Gripper housing*	*1*
2	Griffa	PQ1608-02	PQ2012-02	PQ2516-02	*Jaw*	*2*
3	Pistone	PQ1608-04	PQ2012-04	PQ2516-04	*Piston*	*3*
4	Copertura	PQ1608-08	PQ2012-08	PQ2516-08	*Protection*	*4*
5	Magnete	PAR-16-10B	PQ2012-09	PAR-25-10B	*Magnet*	*5*
6	Molla	PQ1608-20	PQ2012-20	PQ2516-11	*Spring*	*6*
7	Leva	PQ1608-03	DH2208-05	PQ2516-03	*Lever*	*7*
8	Fondello	GS-16-06	GS-20-06	PQ2516-06	*Back end plate*	*8*
9	Anello elastico	SEEGER-016	SEEGER-005	SEEGER-001N	*Retaining ring*	*9*
10	O-Ring	GUAR-039H (Ø1.78x6.07)	GUAR-045H (Ø1.78x7.66)	GUAR-037H (Ø1.78x11.11)	*O-Ring*	*10*
11	Guarnizione dinamica	GUAR-116H (Ø2.62x10.77)	GUAR-105H (Ø2.62x15.08)	GUAR-061H (Ø2.62x20.29)	*Dynamic gasket*	*11*
12	O-Ring	GUAR-084 (Ø1x14)	GUAR-076 (Ø1.78x17.17)	GUAR-025 (Ø1.78x21.95)	*O-Ring*	*12*
13	Sfera	SPINA-084 (Ø2 DIN5401A)	SPINA-084 (Ø2 DIN5401A)	SPINA-084 (Ø2 DIN5401A)	*Ball*	*13*
14	Spina di riferimento	SPINA-087 (Ø2x18 DIN6325)	SPINA-077 (Ø2.5x20 DIN6325)	SPINA-053 (Ø3x28 DIN6325)	*Dowel pin*	*14*
15	Vite senza testa	VITE-414 (M2.5x3 DIN913)	VITE-229 (M3x3 DIN913)	VITE-179 (M3x4 DIN913)	*Grub screw*	*15*
16	Boccola	ZBH-5	ZBH-5	SGP-32-09	*Bush*	*16*

PQ

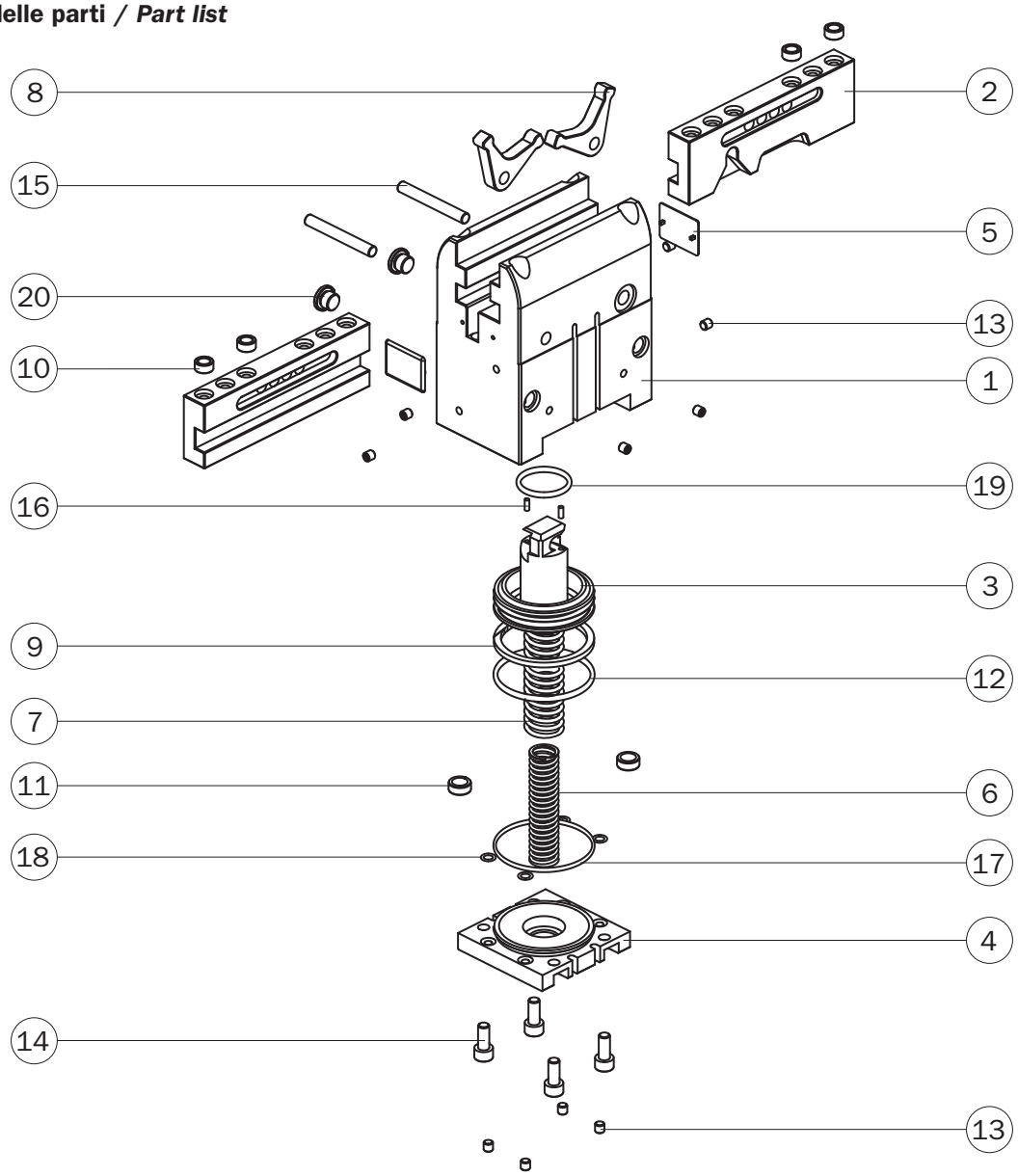
Elenco delle parti / *Part list*



		PQ3015	PQ3523	PQ4533		
1	Corpo pinza	PQ3015-01	PQ3523-01	PQ4533-01	*Gripper housing*	*1*
2	Griffa	PQ3015-02	PQ3523-02	PQ4533-02	*Jaw*	*2*
3	Pistone	PQ3015-04	PQ3523-04	PQ4533-04	*Piston*	*3*
4	Fondello	PQ3015-05	PQ3523-05	PQ4533-05	*Back end plate*	*4*
5	Copertura	SZ12-05	PQ3523-08	PQ4533-08	*Protection*	*5*
6	Molla	-	PQ3523-10	PQ4533-10	*Spring*	*6*
7	Molla	PQ3015-11	PQ3523-11	PQ4533-11	*Spring*	*7*
8	Leva	PAR-20-8C	PAR-25-8C	PQ4533-03	*Lever*	*8*
9	Magnete	T30-10	PAR-35-10B	PS-0045-P10	*Magnet*	*9*
10	Boccola	ZBH5	SGP-32-09	LP23-62	*Bush*	*10*
11	Boccola	SGP-32-09	LP32-62	PQ5047-07	*Bush*	*11*
12	Guarnizione dinamica	GUAR-024P (30x21x3)	GUAR-005P (35x26x3)	GUAR-026P (45x36x3)	*Dynamic gasket*	*12*
13	Vite senza testa	VITE-229 (M3x3 DIN913)	VITE-415 (M4x4 DIN913)	VITE-197 (M5x4 DIN913)	*Grub screw*	*13*
14	Vite senza testa	VITE-197 (M5x4 DIN913)	VITE-197 (M5x4 DIN913)	VITE-197 (M5x4 DIN913)	*Grub screw*	*14*
15	Vite	VITE-031 (M3x8 DIN912)	VITE-031 (M3x8 DIN912)	VITE-020 (M4x10 DIN912)	*Screw*	*15*
16	Sfera	SPINA-084 (Ø2 DIN5401A)	SPINA-084 (Ø2 DIN5401A)	SPINA-092 (Ø3 DIN5401A)	*Ball*	*16*
17	Spina di riferimento	SPINA-073 (Ø4x36 DIN6325)	SPINA-132 (Ø4x40 DIN 6325)	SPINA-013 (Ø5x40 DIN6325)	*Dowel pin*	*17*
18	O-Ring	GUAR-086 (Ø1x25)	GUAR-009 (Ø1.78x31.47)	GUAR-027 (Ø1.78x41)	*O-Ring*	*18*
19	O-Ring	GUAR-082 (Ø1x3)	GUAR-082 (Ø1x3)	GUAR-091 (Ø1x4)	*O-Ring*	*19*
20	O-Ring	GUAR-007H (Ø1.78x14)	GUAR-023H (Ø1.78x15.6)	GUAR-070H (Ø2.62x18.72)	*O-Ring*	*20*
21	Tappo M5	107-M5	107-M5	107-M5	*M5 Plug*	*21*

03/2015

Elenco delle parti / *Part list*



		PQ5047	PQ6063		
1	Corpo pinza	PQ5047-01	PQ6063-01	*Gripper housing*	*1*
2	Griffa	PQ5047-02	PQ6063-02	*Jaw*	*2*
3	Pistone	PQ5047-04	PQ6063-04	*Piston*	*3*
4	Fondello	PQ5047-05	PQ6063-05	*Back end plate*	*4*
5	Copertura	SZ25-05	SZ40-05	*Protection*	*5*
6	Molla	PQ5047-10	PQ6063-10	*Spring*	*6*
7	Molla	PQ5047-11	PQ6063-11	*Spring*	*7*
8	Leva	PQ5047-03	PQ6063-03	*Lever*	*8*
9	Magnete	PQ5047-06	T63-10	*Magnet*	*9*
10	Boccola	PQ5047-07	ZBH-12	*Bush*	*10*
11	Boccola	ZBH-12	ZBH-12	*Bush*	*11*
12	Guarnizione dinamica	GUAR-182H (Ø2.62x48.89)	GUAR-068 (63x51x4)	*Dynamic gasket*	*12*
13	Vite senza testa	VITE-069 (M5x5 DIN913)	VITE-069 (M5x5 DIN913)	*Grub screw*	*13*
14	Vite	VITE-115 (M6x14 DIN912)	VITE-159 (M8x20 DIN912)	*Screw*	*14*
15	Spina di riferimento	SPINA-166 (Ø6x50 DIN6325)	SPINA-182 (Ø8x70 DIN6325)	*Dowel pin*	*15*
16	Rullino	SPINA-055 (Ø2.5x7 DIN5402)	SPINA-149 (Ø2.5X9.8 DIN 5402)	*Dowel pin*	*16*
17	O-Ring	GUAR-162 (Ø1.78x50.52)	GUAR-146 (Ø1.78x60.05)	*O-Ring*	*17*
18	O-Ring	GUAR-021 (Ø1x5)	GUAR-098 (Ø1x6)	*O-Ring*	*18*
19	O-Ring	GUAR-074H (Ø2.62x25.07)	GUAR-189H (Ø2.62x31.42)	*O-Ring*	*19*
20	Tappo G1/8	107-G1/8	107-G1/8	*G1/8 Plug*	*20*

PE

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie PE)

- Azionamento a doppio effetto (a semplice effetto su richiesta per PE-25... e PE-45...).
- Assenza di organi di trasmissione: elevato rendimento e affidabilità.
- Possibilità di scelta su un'ampia gamma di corse.
- Forza di serraggio costante su tutta la corsa in apertura ed in chiusura.
- Basso peso ottenuto con una costruzione interamente in lega leggera.

2-jaw parallel self-centering pneumatic gripper (series PE)

- *Double acting (single acting upon request for PE-25... and PE-45...).*
- *High efficiency and reliability due to the lack of driving parts.*
- *Wide choice of stroke length options.*
- *The gripping force is constant on both directions along total stroke.*
- *Light weight; due to its alloy construction.*



PE-4580



PE-4560

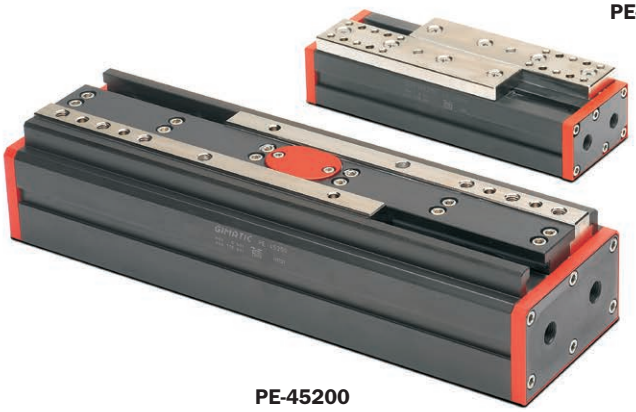


PE-4540



PE-4520

PE-25100



PE-45200



PE-25200



PE-2560



PE-2540



PE-2520



PE-16200



PE-16150



PE-1680



PE-1640



PE-1625



PE-1610

	PE-1610	PE-1625	PE-1640	PE-1680	PE-16150	PE-16200
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	2÷8 bar					
Temperatura di esercizio *Operating temperature range*	5÷60 °C.					
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	100 N					
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	200 N					
Corsa (±0.25 mm) *Stroke*	2x5 mm	2x12.5 mm	2x20 mm	2x40 mm	2x75 mm	2x100 mm
Frequenza max funzionamento *Maximum working frequency*	3 Hz	2 Hz	2 Hz	2 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	7 cm^3	14 cm^3	21 cm^3	39 cm^3	71 cm^3	97 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.05 s	0.1 s	0.2 s	0.4 s	0.5 s
Ripetibilità *Repetition accuracy*	0.03 mm	0.03 mm	0.03 mm	0.03 mm	0.03 mm	0.03 mm
Peso *Weight*	200 g	250 g	350 g	500 g	900 g	1200 g

Forza di serraggio

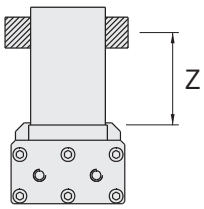
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio Z e del disassamento del punto di presa X.

Gripping force

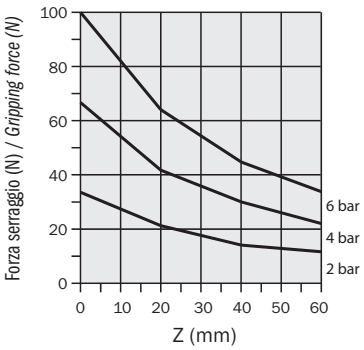
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

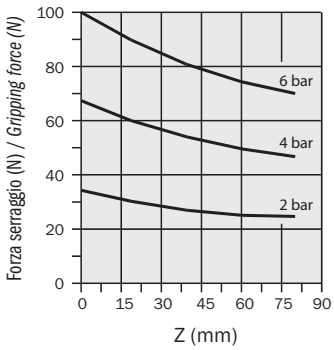
The force shown in these graphs refers to one jaw.
The total force is double.

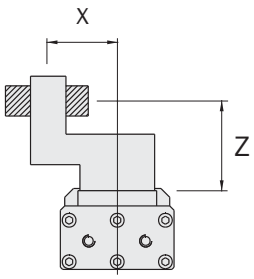


PE-1610

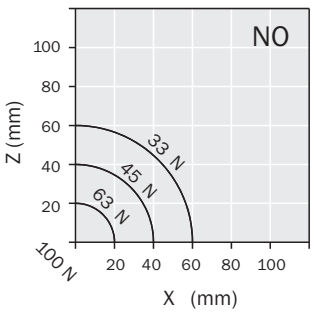


PE-1625/40/80/150/200

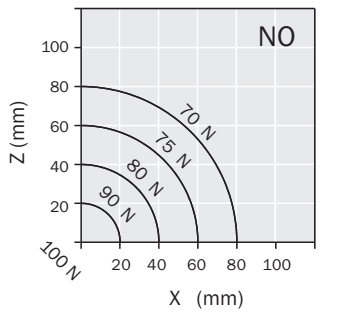




PE-1610 (6 bar)



PE-1625/40/80/150/200 (6 bar)



	PE-2520	PE-2540	PE-2560	PE-25100	PE-25200
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Operating pressure range*	2÷8 bar				
Temperatura di esercizio *Operating temperature range*	5÷60 °C.				
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	230 N				
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	460 N				
Corsa (±0.25 mm) *Stroke*	2x10 mm	2x20 mm	2x30 mm	2x50 mm	2x100 mm
Frequenza max funzionamento *Maximum working frequency*	3 Hz	2 Hz	2 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	44 cm^3	74 cm^3	102 cm^3	146 cm^3	263 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.04 s	0.06 s	0.08 s	0.17 s
Ripetibilità *Repetition accuracy*	0.04 mm	0.04 mm	0.04 mm	0.04 mm	0.04 mm
Peso *Weight*	700 g	980 g	1285 g	1235 g	2080 g

Forza di serraggio

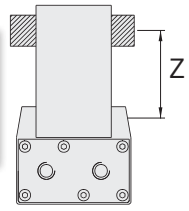
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio Z e del disassamento del punto di presa X.

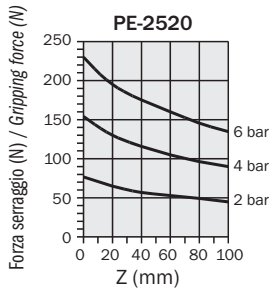
Gripping force

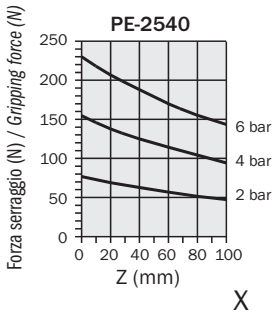
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

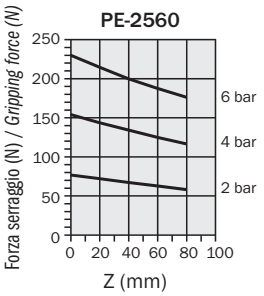
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il doppio.

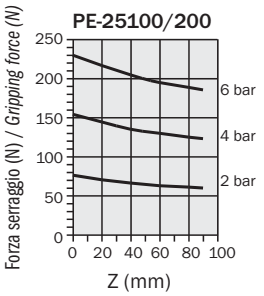
The force shown in these graphs refers to one jaw. The total force is double.

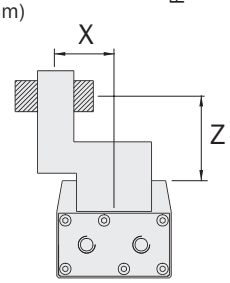


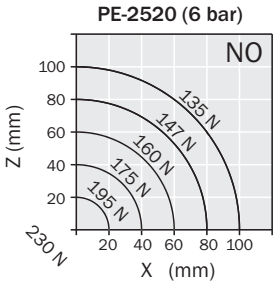


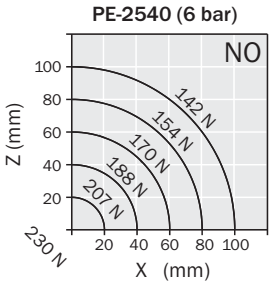


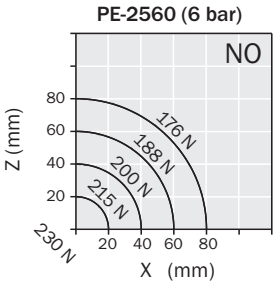


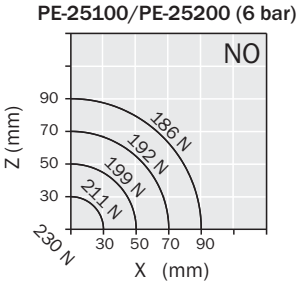












	PE-4520	PE-4540	PE-4560	PE-4580	PE-45200
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Operating pressure range*	2÷8 bar				
Temperatura di esercizio *Operating temperature range*	5÷60 °C.				
Forza di serraggio per griffa a 6 bar *Gripping force at 6 bar on each jaw*	700 N	700 N	700 N	700 N	900 N
Forza di serraggio totale a 6 bar *Total gripping force at 6 bar*	1400 N	1400 N	1400 N	1400 N	1800 N
Corsa (±0.25 mm) *Stroke*	2x10 mm	2x20 mm	2x30 mm	2x40 mm	2x100 mm
Frequenza max funzionamento *Maximum working frequency*	3 Hz	2 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	132 cm^3	208 cm^3	257 cm^3	371 cm^3	940 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.05 s	0.1 s	0.15 s	0.2 s	0.2 s
Ripetibilità *Repetition accuracy*	0.04 mm	0.04 mm	0.04 mm	0.04 mm	0.04 mm
Peso *Weight*	1840 g	2250 g	2715 g	3300 g	3800 g

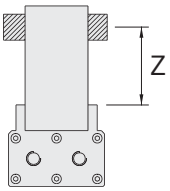
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio Z e del disassamento del punto di presa X.

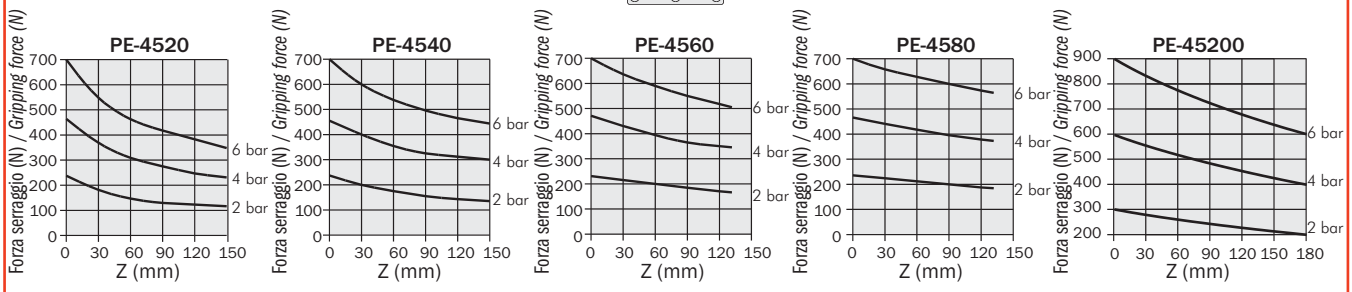
Gripping force

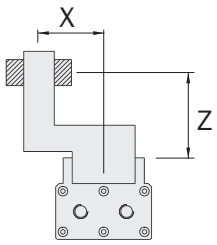
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

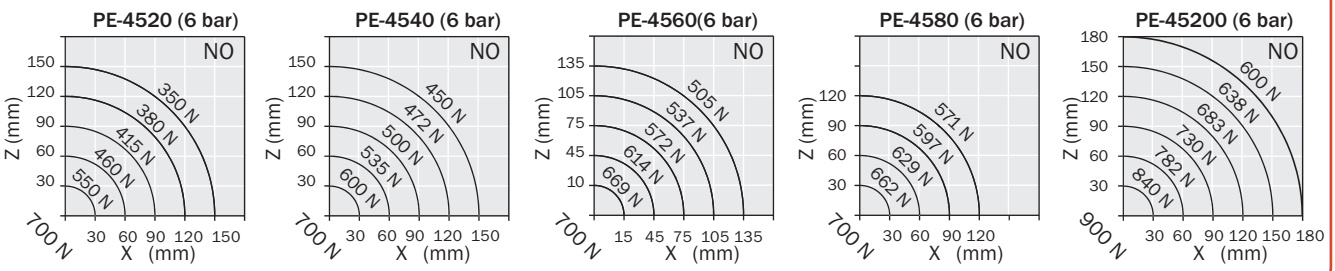
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il doppio.



The force shown in these graphs refers to one jaw. The total force is double.

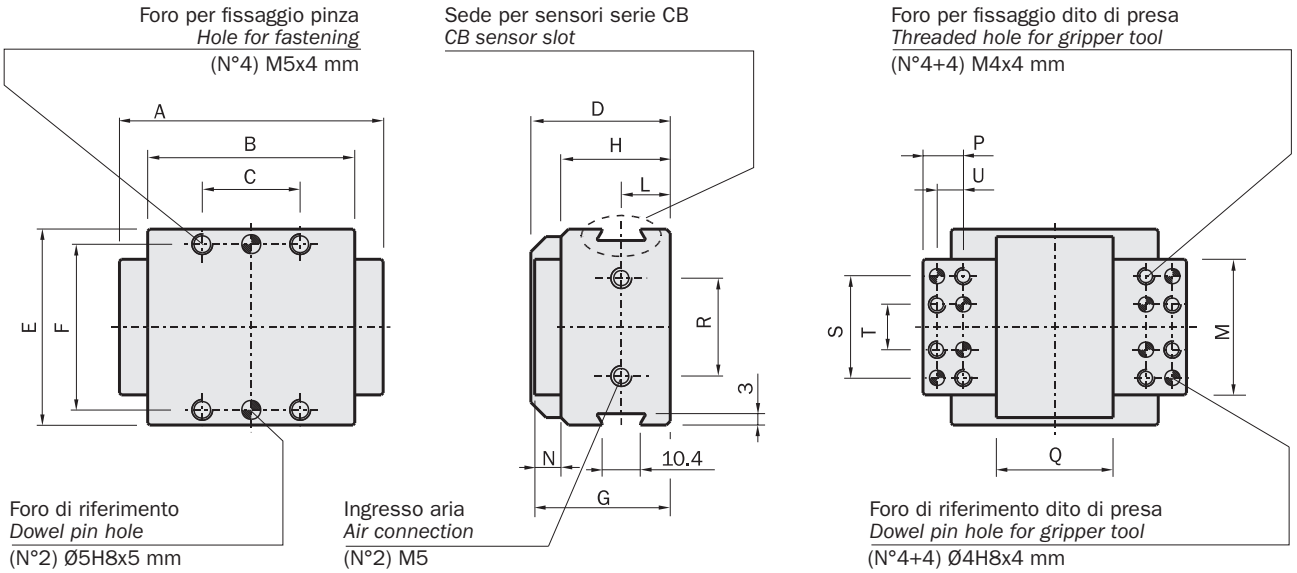




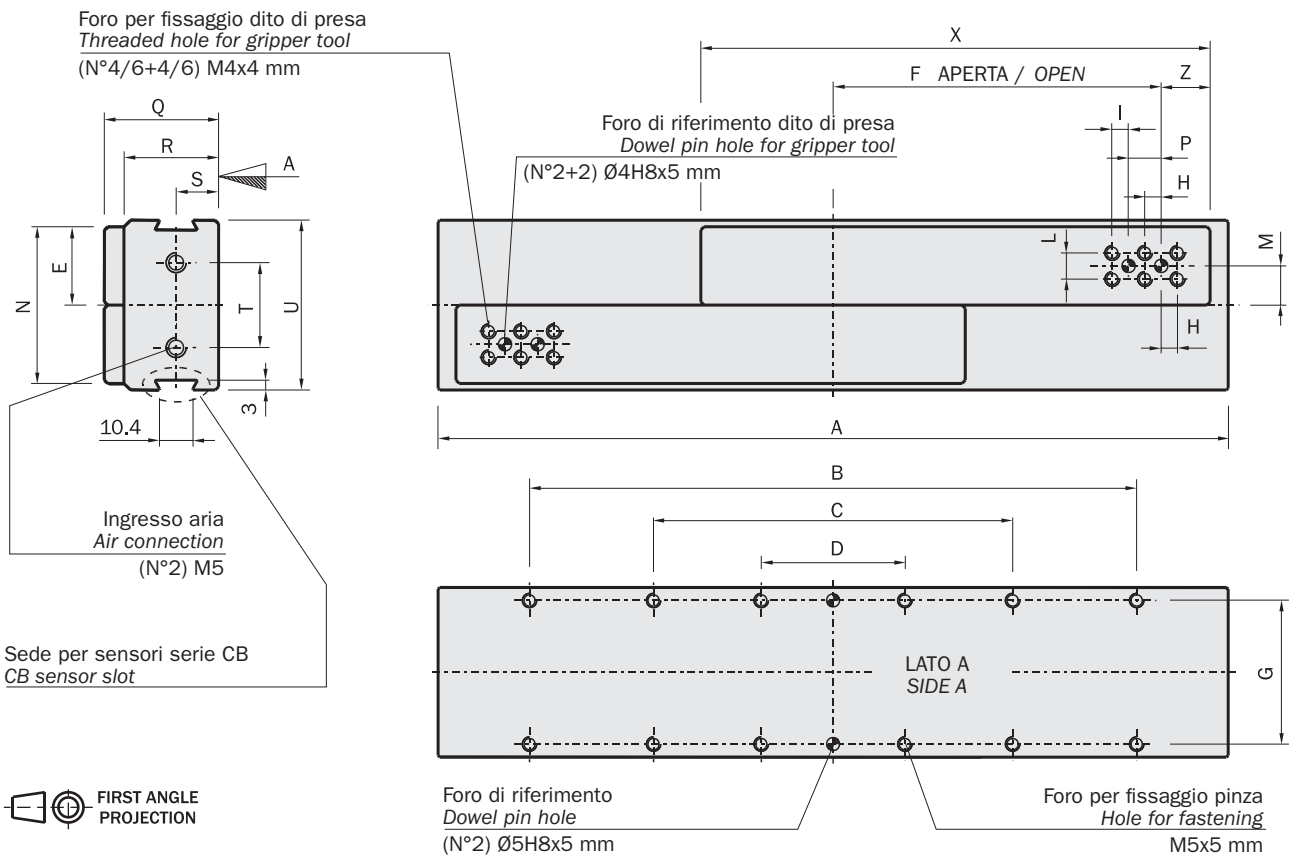


Dimensioni (mm) / *Dimensions (mm)*

	A	B	C	D	E	F ±0.02	G	H	L	M	N	P	Q	R ±0.02	S ±0.02	T ±0.02	U ±0.02
PE-1610	62	60	26	37	52	44	36	29	13	36	7	11.75	31	26	27	12	7



	A	B	C	D	E	F	G ±0.02	H	I	L	M	N	P ±0.02	Q	R	S	T	U	X	Z
PE-1625	70	-	-	26	24	12.5	44	5	-	12	12	48	12	37	29	13	26	52	41.5	14.5
PE-1640	99	-	-	60	24	26.5	44	5	-	8	12	48	10	37	29	13	26	52	63	15
PE-1680	155	-	-	60	24	54.5	44	5	5	8	12	48	10	37	29	13	26	52	99	15
PE-16150	263	-	200	60	24	108.5	44	5	5	8	12	48	10	37	29	13	26	52	172	15
PE-16200	337	280	200	60	24	145.5	44	5	5	8	12	48	10	37	29	13	26	52	221	15

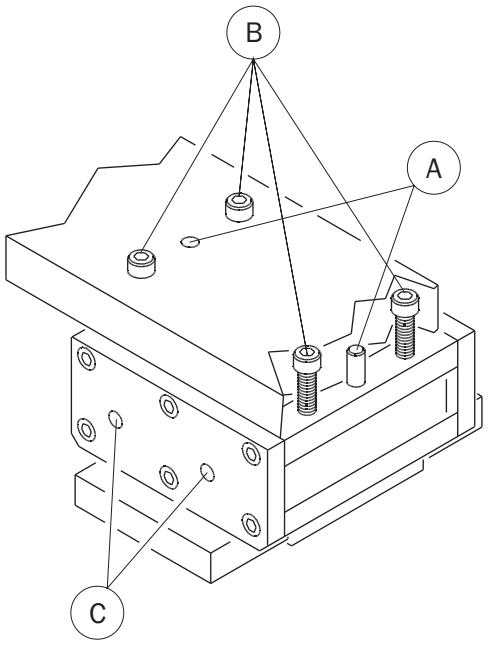


Fissaggio della pinza

La pinza PE-16... può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i due fori calibrati (A) ed almeno quattro fori filettati (B) presenti sulla base inferiore del corpo pinza.
Lasciare lo spazio necessario per i raccordi dell'aria (C) e per il posizionamento dei sensori nelle cave laterali.

Fixage de la pince

La pince PE-16...peut être montée en position fixe ou sur des pièces mobiles. Dans ce cas il faut considérer la force d'inertie à laquelle la pince et sa charge sont soumises.
Le fixage est obtenu avec deux trous calibrés (A) et quatre trous taraudés (B) placés sur la base inférieure du corps.
Laisser un espace nécessaire pour les raccords de l'air (C) et les capteurs.



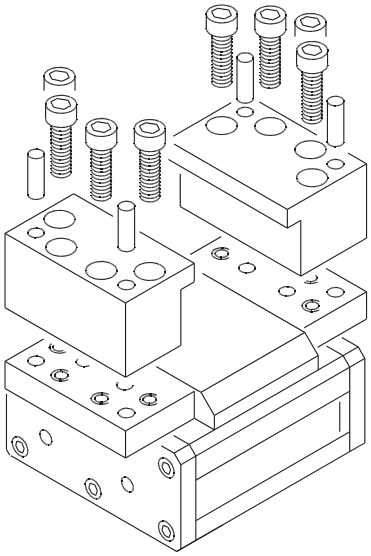
		PE-16...
A	Fori calibrati *Dowel pin holes*	Ø5H8x5 mm
B	Fori filettati *Threased holes*	M5x5 mm
C	Fori filettati per raccordi aria *Threaded holes for air fittings*	M5

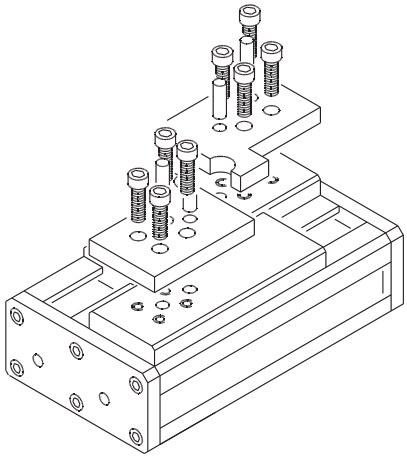
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle su ciascuna griffa utilizzando almeno due viti e due spine di centraggio.

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using at least two screws and two dowel pins per jaw.



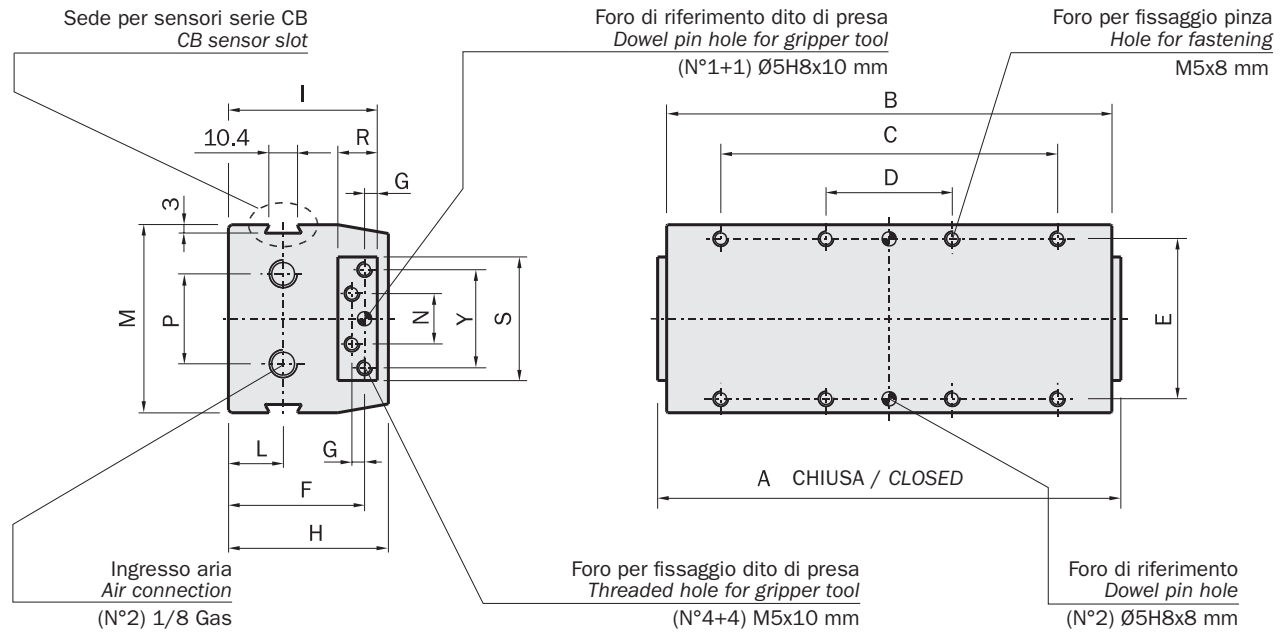


	PE-1610
Fori calibrati *Dowel pin holes*	Ø4H8x4 mm
Fori filettati *Threaded holes*	M4x4 mm

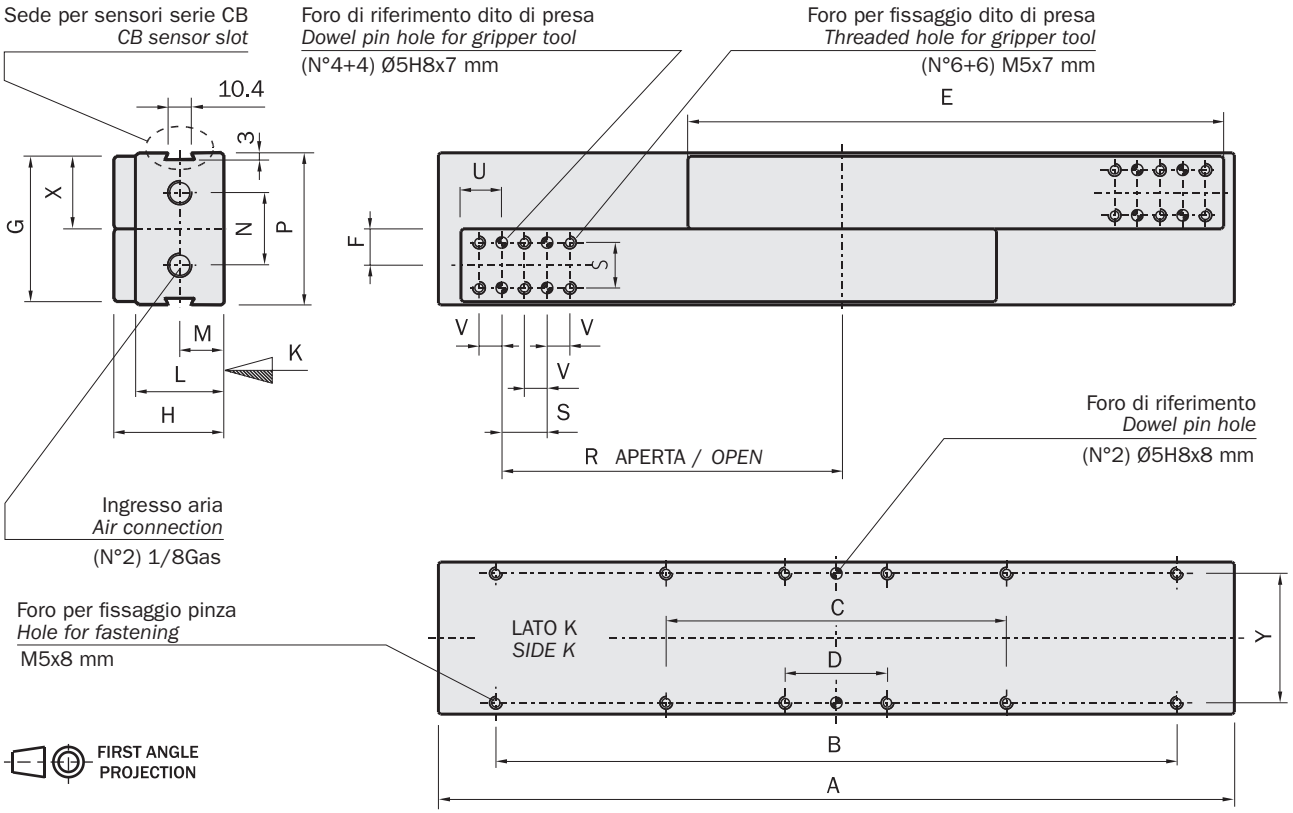
	PE-1625/40/80/150/200
Fori calibrati *Dowel pin holes*	Ø4H8x5 mm
Fori filettati *Threaded holes*	M4x4 mm

Dimensioni (mm) / *Dimensions (mm)*

	A	B	C	D	E ±0.02	F	G ±0.02	H	I	L	M	N	P	Y	R -0.05	S -0.05
PE-2520	90	83.6	-	45	57	48.5	4.5	57	53	19.5	67	18	32	35	14	44
PE-2540	130	123.6	-	45	57	48.5	4.5	57	53	19.5	67	18	32	35	14	44
PE-2560	165	158.6	120	45	57	48.5	4.5	57	53	19.5	67	18	32	35	14	44



	A	B	C	D	E	F	G	H	L	M	N	P	Y ±0.02	R	S ±0.02	U	X	V
PE-25100	200.6	-	150	45	136	16	64	48.5	39	19.5	32	67	57	75	20	18	32	10
PE-25200	350.6	300	150	45	236	16	64	48.5	39	19.5	32	67	57	150	20	18	32	10

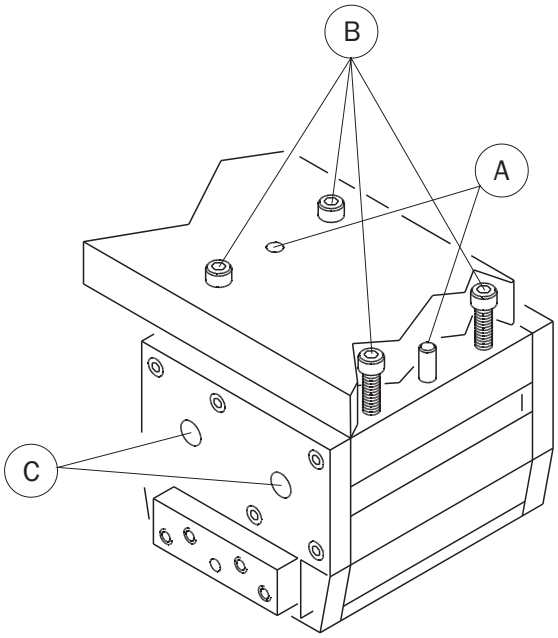


Fissaggio della pinza

La pinza PE-25... può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i due fori calibrati (A) ed almeno quattro fori filettati (B) presenti sulla base inferiore del corpo pinza.
Lasciare lo spazio necessario per i raccordi dell'aria (C) e per il posizionamento dei sensori nelle cave laterali.

Gripper fastening

The gripper PE-25... can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper, use the two dowel pin holes (A) and at least four threaded holes (B) on the base of the gripper.
Allow room to mount the air fittings (C) and the sensors.



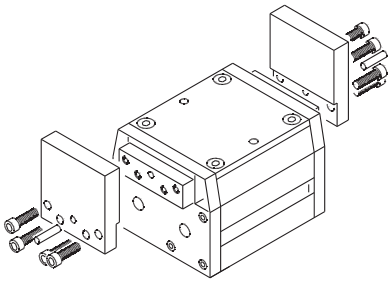
		PE-25...
A	Fori calibrati *Dowel pin holes*	Ø5H8x8 mm
B	Fori filettati *Threaded holes*	M5x8 mm
C	Fori filettati per raccordi aria *Threaded holes for air fittings*	G1/8

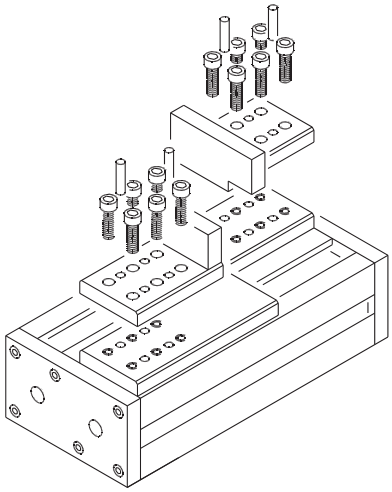
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle su ciascuna griffa utilizzando almeno due viti e due spine di centraggio.

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using at least two screws and two dowel pins per jaw.



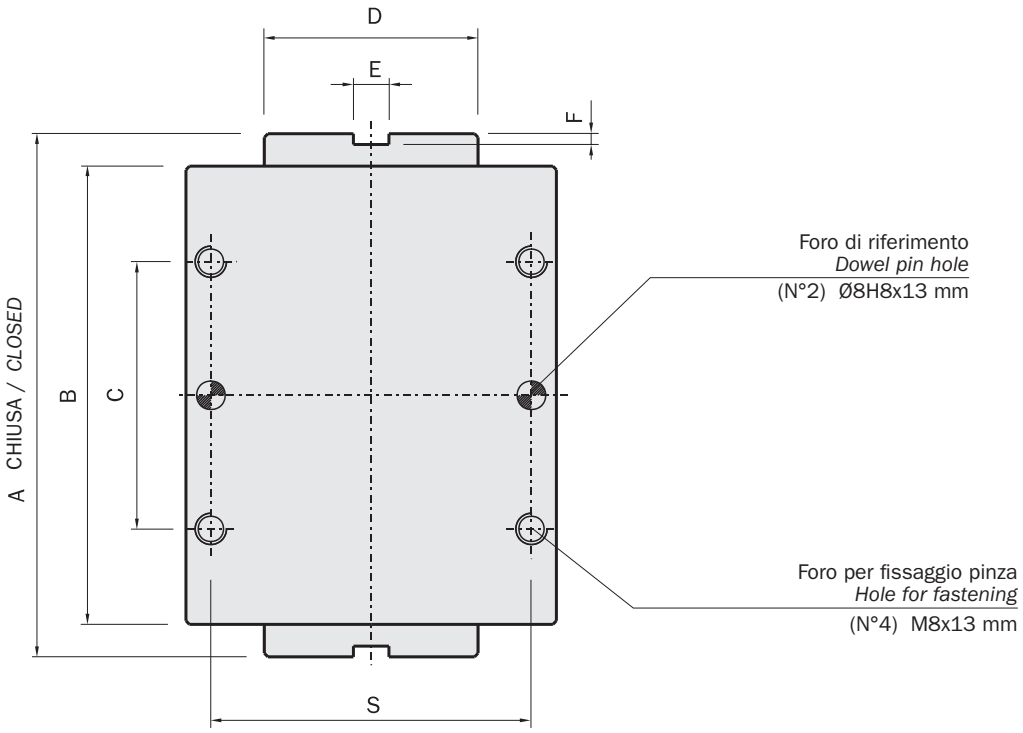


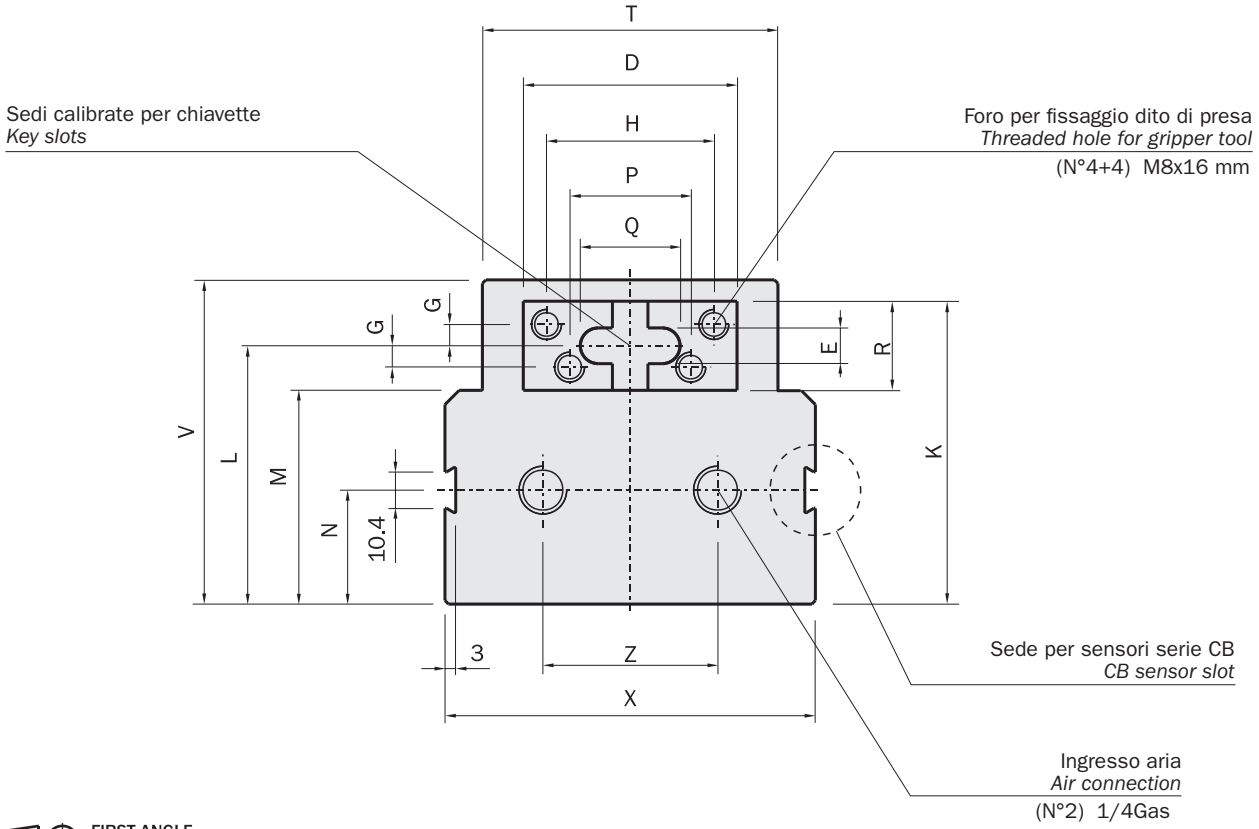
	PE-2520/2540/2560
Fori calibrati *Dowel pin holes*	Ø5H8x10 mm
Fori filettati *Threaded holes*	M5x10 mm

	PE-25100/25200
Fori calibrati *Dowel pin holes*	Ø5H8x7 mm
Fori filettati *Threaded holes*	M5x7 mm

Dimensioni (mm) / *Dimensions (mm)*

	A	B	C	D -0.05	E +0.05	F	G	H	L	M	N	P	Q	R -0.05	S ±0.02	T	V	X	K	Z
PE-4520	110	100.6	50	60	10	3	6	47	72.5	60	32	34	28	25	90	83	91	104	85	49
PE-4540	140	128.6	75	60	10	3	6	47	72.5	60	32	34	28	25	90	83	91	104	85	49
PE-4560	170	160.6	90	60	10	3	6	47	72.5	60	32	34	28	25	90	83	91	104	85	49
PE-4580	210	200.6	90	60	10	3	6	47	72.5	60	32	34	28	25	90	83	91	104	85	49





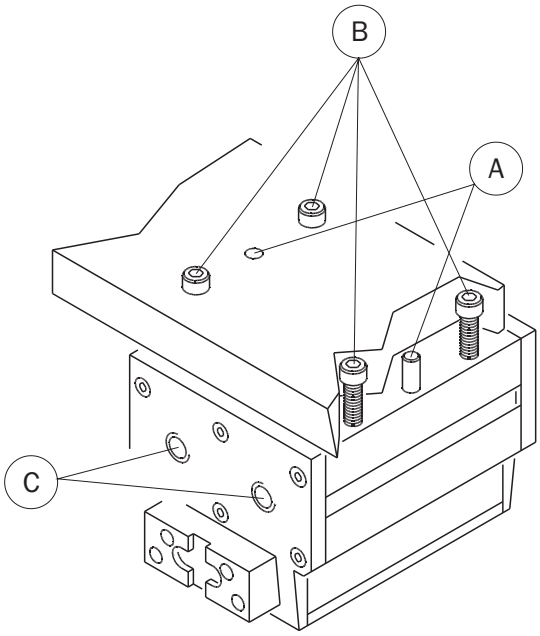
FIRST ANGLE PROJECTION

Fissaggio della pinza

La pinza PE-45... può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i due fori calibrati (A) ed almeno quattro fori filettati (B) presenti sulla base inferiore del corpo pinza.
Lasciare lo spazio necessario per i raccordi dell'aria (C) e per il posizionamento dei sensori nelle cave laterali.

Gripper fastening

The gripper PE-45... can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper, use the two dowel pin holes (A) and at least four threaded holes (B) on the base of the gripper.
Allow room to mount the air fittings (C) and the sensors.



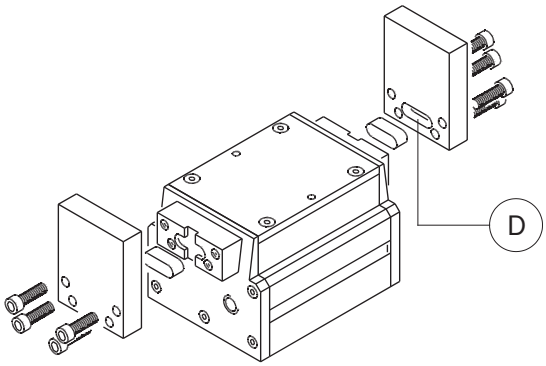
		PE-45...
A	Fori calibrati *Dowel pin holes*	Ø8H8x13 mm
B	Fori filettati *Threaded holes*	M8x13 mm
C	Fori filettati per raccordi aria *Threaded holes for air fittings*	G1/4

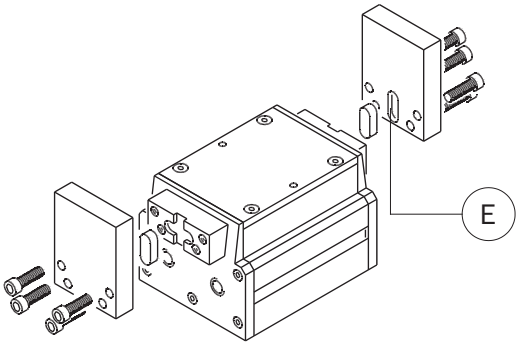
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle su ciascuna griffa utilizzando almeno due viti delle 4 viti.
Per il centraggio di precisione posizionare le linguette nelle sedi sulle griffe.

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using at least two of four screws.
They must be centered using the key-slots on the jaws.



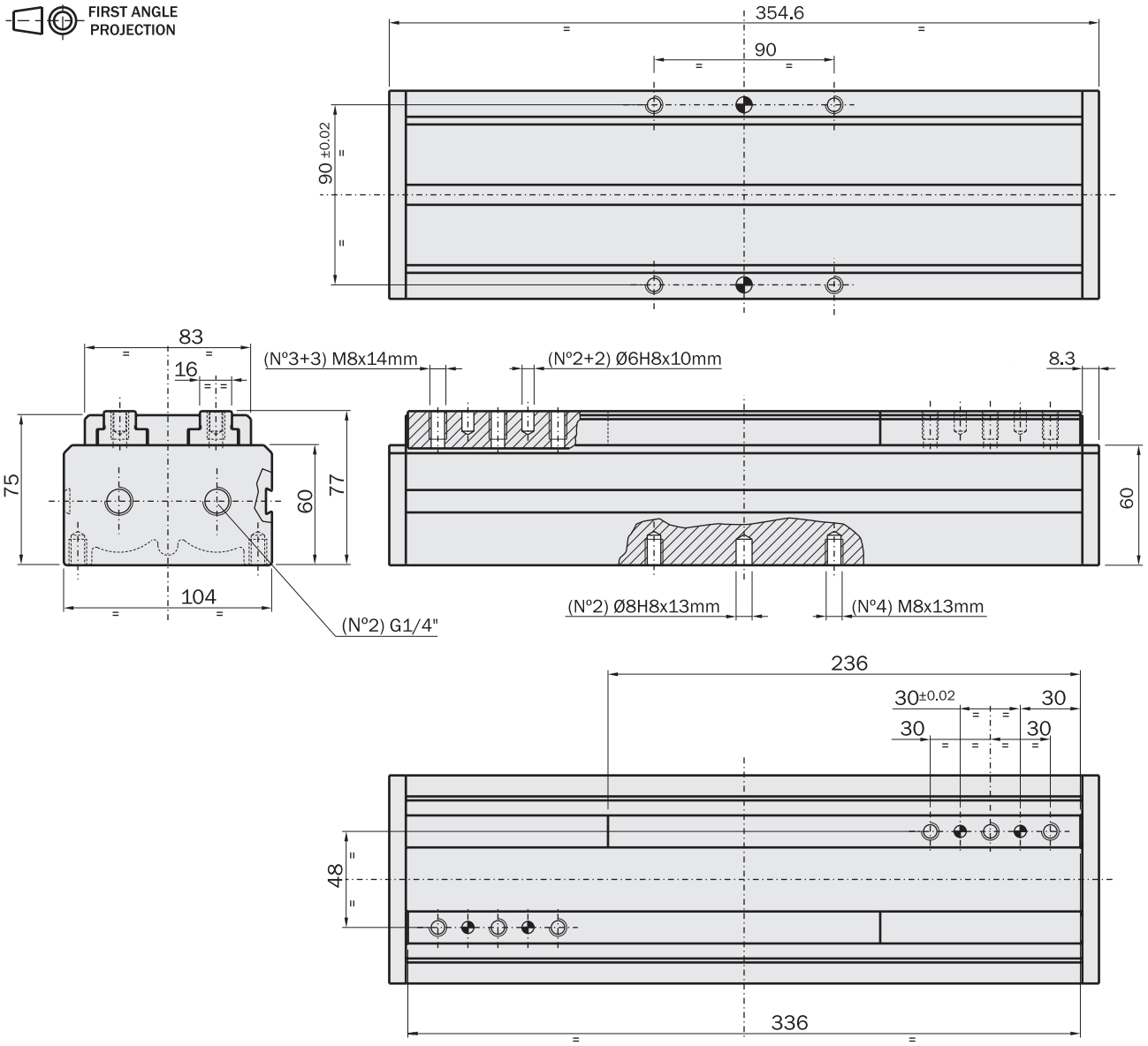


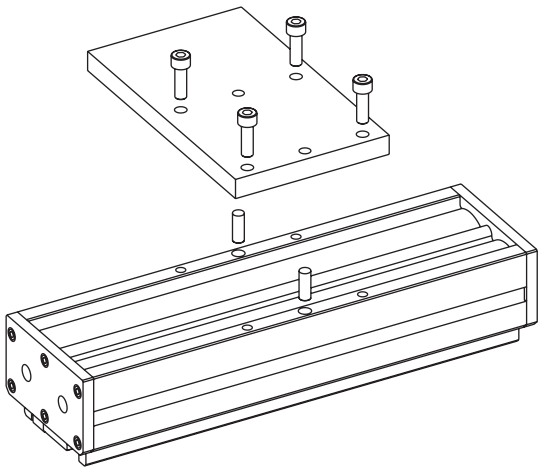
Sede linguetta D *Key-slot D*	$10^{+0.05}$ x 28 x 3 mm
Fori filettati *Threaded holes*	M8x16 mm

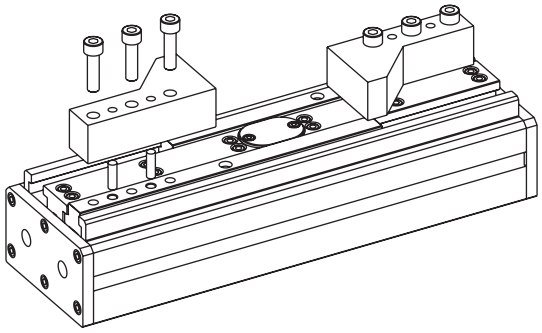
Sede linguetta E *Key-slot E*	$10^{+0.05}$ x 25 x 3 mm
Fori filettati *Threaded holes*	M8x16 mm

Dimensioni (mm) / *Dimensions (mm)*

PE-45200





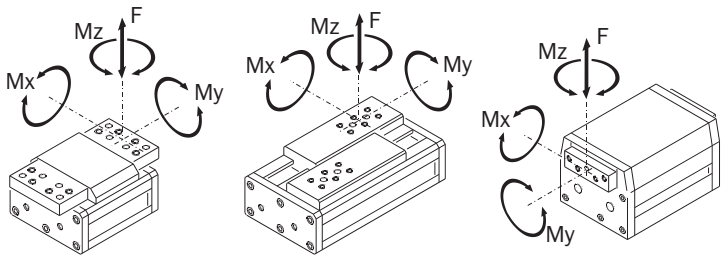


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.



	PE-1610	PE-1625	PE-1640	PE-1680	PE-16150	PE-16200
F s	48 N	166 N	166 N	163 N	163 N	163 N
Mx s	2.4 Nm	5.6 Nm	5.6 Nm	5.6 Nm	5.6 Nm	5.6 Nm
My s	2.4 Nm	2.9 Nm	2.9 Nm	2.9 Nm	2.9 Nm	2.9 Nm
Mz s	2.4 Nm	5.6 Nm	5.6 Nm	5.6 Nm	5.6 Nm	5.6 Nm
F d	0.48 N	1.7 N	1.7 N	1.6 N	1.6 N	1.6 N
Mx d	2.4 Ncm	5.6 Ncm	5.6 Ncm	5.6 Ncm	5.6 Ncm	5.6 Ncm
My d	2.4 Ncm	2.9 Ncm	2.9 Ncm	2.9 Ncm	2.9 Ncm	2.9 Ncm
Mz d	2.4 Ncm	4 Ncm	4 Ncm	4 Ncm	4 Ncm	4 Ncm
m 0.8s	-	166 g	166 g	163 g	163 g	163 g
m 0.5s	-	108 g	108 g	106 g	106 g	106 g
m 0.3s	48 g	93 g	93 g	91 g	-	-
m 0.2s	31 g	83 g	83 g	81 g	-	-
m 0.1s	24 g	60 g	60 g	-	-	-

	PE-2520	PE-2540	PE-2560	PE-25100	PE-25200	
F s	326 N	326 N	326 N	300 N	300 N	
Mx s	14 Nm	15 Nm	18 Nm	21 Nm	21 Nm	
My s	5 Nm	5 Nm	5 Nm	6 Nm	6 Nm	
Mz s	14 Nm	15 Nm	18 Nm	21 Nm	21 Nm	
F d	3.3 N	3.3 N	3.3 N	3 N	3 N	
Mx d	14 Ncm	15 Ncm	18 Ncm	21 Ncm	21 Ncm	
My d	5 Ncm	5 Ncm	5 Ncm	6 Ncm	6 Ncm	
Mz d	14 Ncm	15 Ncm	18 Ncm	21 Ncm	21 Ncm	
m 0.5s	-	-	-	300 g	300 g	
m 0.3s	326 g	326 g	326 g	195 g	195 g	
m 0.2s	212 g	212 g	212 g	150 g	150 g	
m 0.1s	163 g	163 g	163 g	105 g	-	

	PE-4520	PE-4540	PE-4560	PE-4580	PE-45200	
F s	730 N	730 N	730 N	730 N	700 N	
Mx s	69 Nm	86 Nm	88 Nm	88 Nm	110 Nm	
My s	41 Nm	41 Nm	41 Nm	41 Nm	40 Nm	
Mz s	69 Nm	86 Nm	88 Nm	88 Nm	110 Nm	
F d	7 N	7 N	7 N	7 N	14 N	
Mx d	69 Ncm	86 Ncm	88 Ncm	88 Ncm	110 Ncm	
My d	41 Ncm	41 Ncm	41 Ncm	41 Ncm	80 Ncm	
Mz d	69 Ncm	86 Ncm	88 Ncm	88 Ncm	110 Ncm	
m 0.5s	-	-	-	700 g	1400 g	
m 0.4s	-	700 g	700 g	450 g	1000 g	
m 0.3s	700 g	450 g	450 g	350 g	700 g	
m 0.2s	450 g	350 g	350 g	300 g	500 g	
m 0.1s	350 g	300 g	300 g	-	-	

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sui pistoni.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

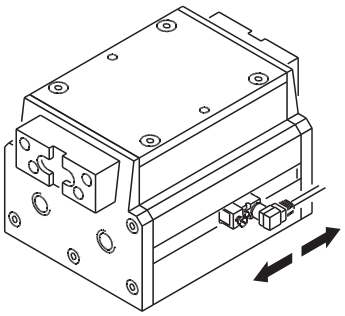
Per il montaggio:
1- Inserire il dado quadrato (A) nella propria sede sull'adattatore "S 00".
2- Infilare l'adattatore nella guida sulla pinza.
3- Calzare il sensore sull'adattatore.
4- Fare scorrere nella guida fino a raggiungere la posizione di lavoro desiderata (led acceso).
5- Bloccare con la vite (B), facendo attenzione a non serrarla eccessivamente.

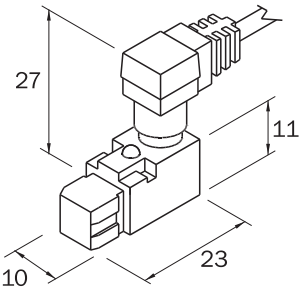
Sensors

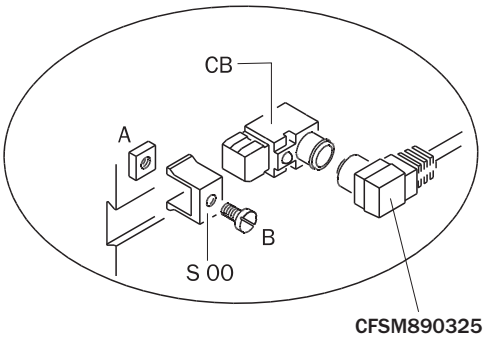
The operating position can be checked by magnetic sensors (optional), that detect the magnets on the pistons inside. Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

For mounting:
1- Insert the square nut (A) in its seat on the "S 00" bracket.
2- Insert the bracket into the groove.
3- Insert the sensor into the bracket.
4- Run the sensor until the lamp is on.
5- Lock the bracket with the screw (B) but don't over-tighten it.

	CB3N2-G	CB3M2-G
Tensione di alimentazione (DC) *DC power supply*	6 ÷ max 30 V	
Tipo sensore *Sensor type*	PNP	NPN
Massima corrente *Max current*	250 mA	
Potenza *Power*	6 W	
Temperatura di esercizio *Operating temperature*	-10° ÷ +70° C.	
Tempo di eccitazione *Response time "ON"*	0.8 µs	
Tempo di diseccitazione *Response time "OFF"*	0.3 µs	
Valore di eccitazione *Operate point*	40 GAUSS	
Valore di diseccitazione *Dropout point*	35 GAUSS	
Vita elettrica *Life time*	10^9 IMP	
Resistenza di contatto *Contact resistence*	-	
Resistenza agli urti *Max admitted shock*	30 G	
Grado di protezione *Environmental protection degree*	IP 67	
Caduta di tensione diretta *Voltage drop*	1 V	

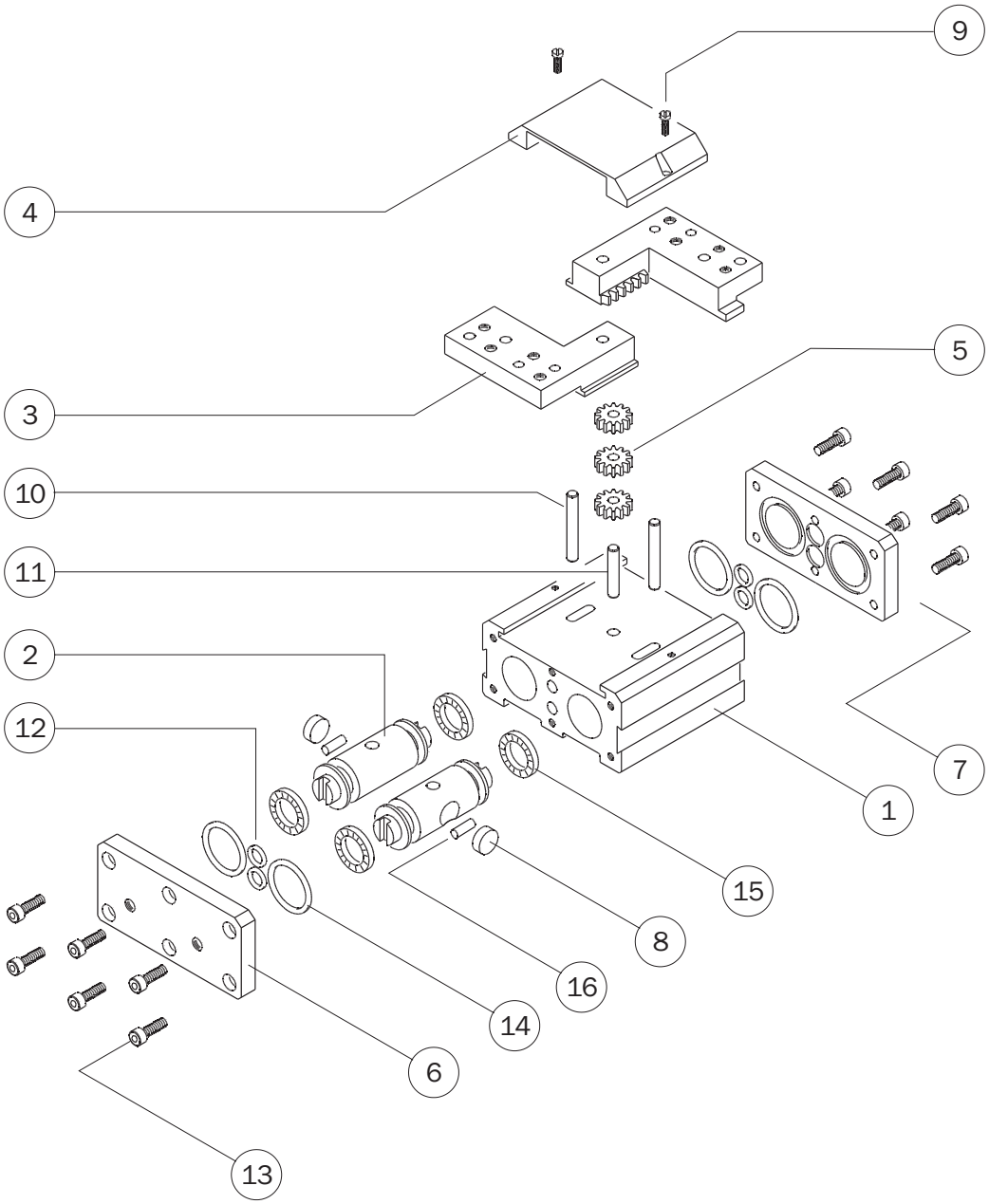






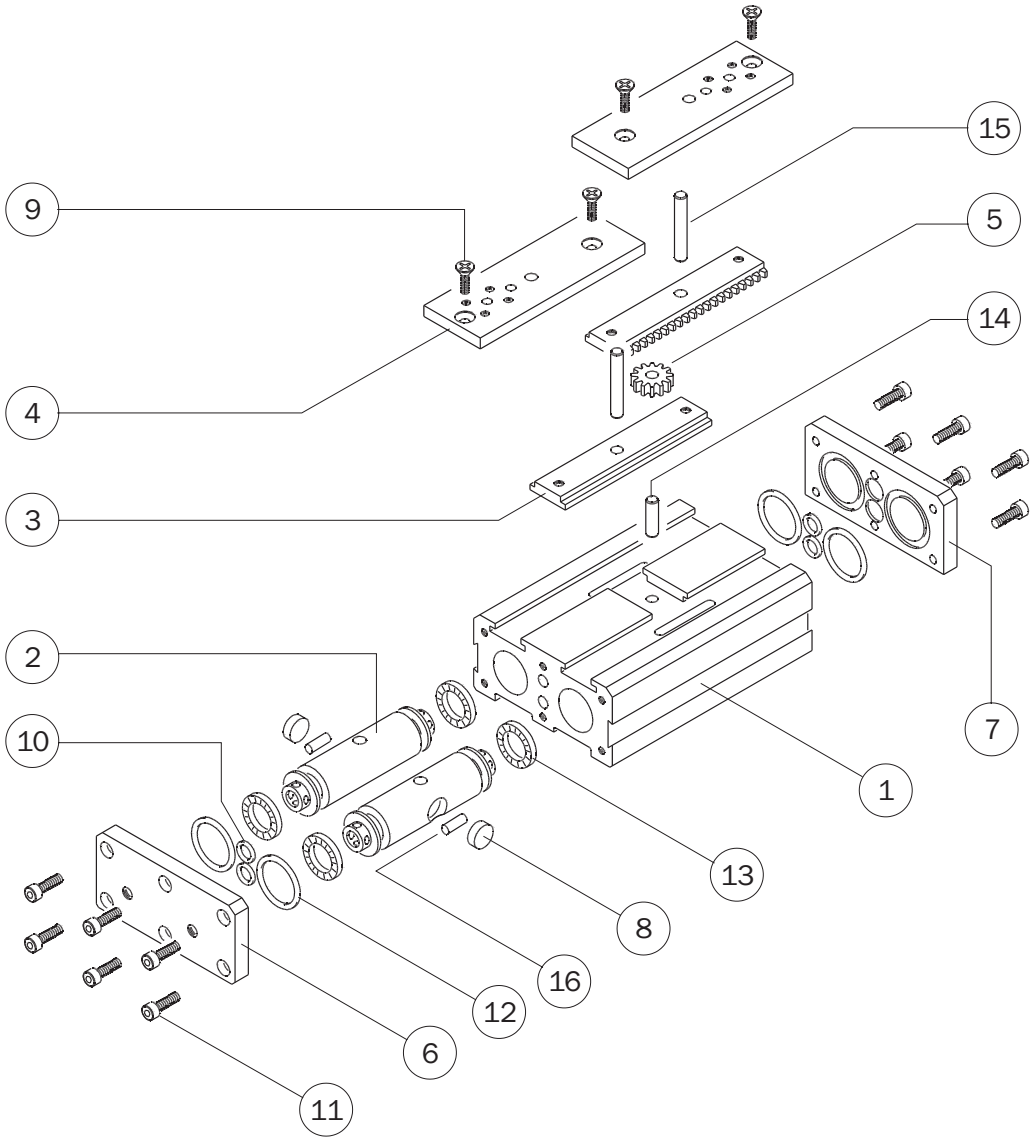
CFSM890325

Elenco delle parti / *Parts list*



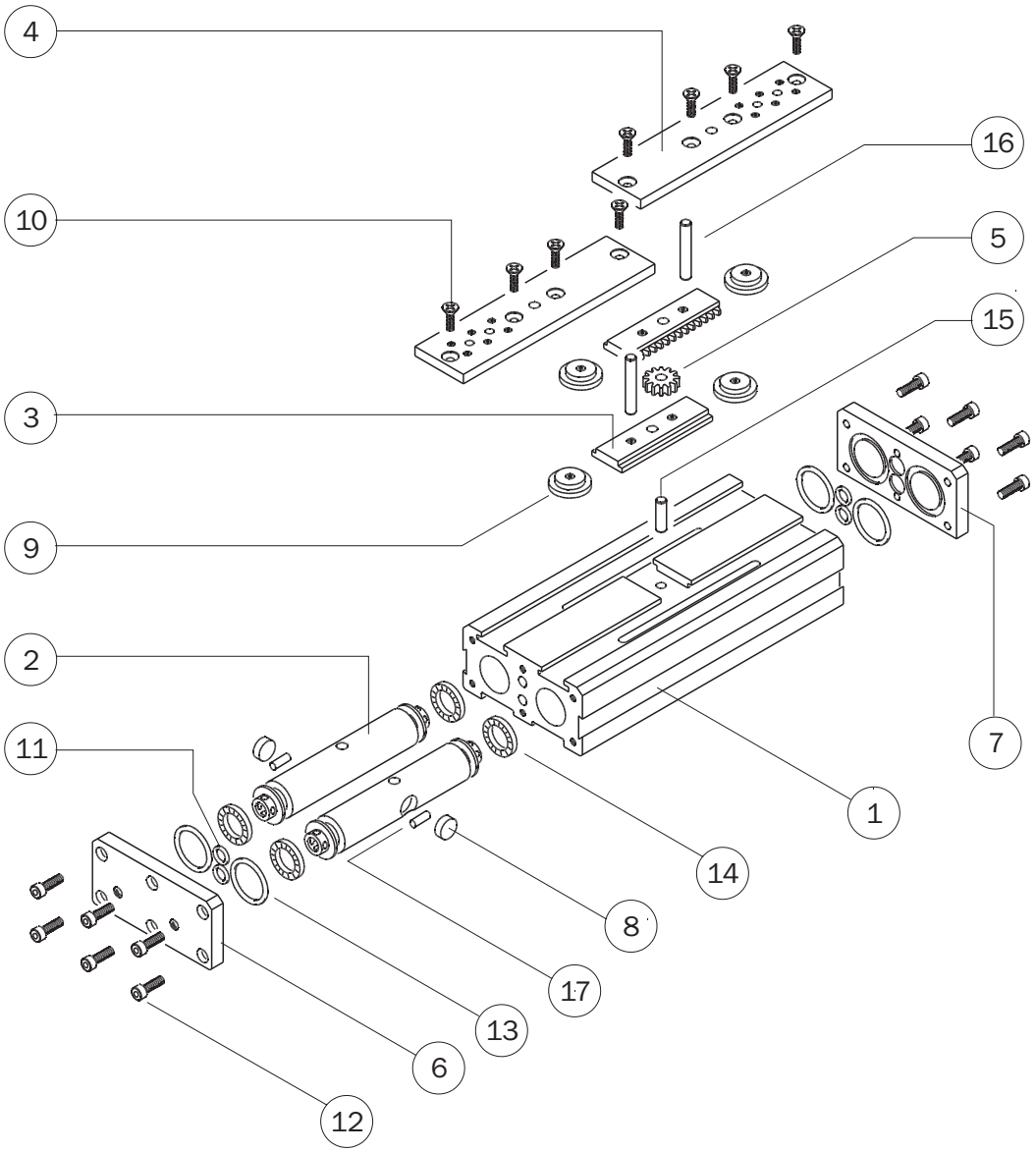
		PE-1610		
1	Corpo pinza	PE-1610-01	*Gripper housing*	*1*
2	Pistone	PE-1610-02	*Piston*	*2*
3	Griffa	PE-1610-03	*Jaw*	*3*
4	Protezione	PE-1610-04	*Protection*	*4*
5	Pignone	PE-1640-06	*Pinion*	*5*
6	Testata aperta	PE-1680-05AL	*Open end plate*	*6*
7	Testata chiusa	PE-1680-05ALC	*Closed end plate*	*7*
8	Inserto portamagnete	PE-1610-05	*Magnet housing*	*8*
9	Vite	VITE-056 (M2x5 mm DIN84A INOX A2)	*Screw*	*9*
10	Spina di riferimento	SPINA-012 (Ø4x20 mm DIN6325)	*Dowel pin*	*10*
11	Spina di riferimento	SPINA-019 (Ø4x14 mm DIN6325)	*Dowel pin*	*11*
12	O-Ring	GUAR-029 (Ø1.78x4.48)	*O-Ring*	*12*
13	Vite	VITE-031 (M3x8 mm DIN912 INOX A2)	*Screw*	*13*
14	O-Ring	GUAR-023 (Ø1.78x15.6)	*O-Ring*	*14*
15	Guarnizione dinamica	GUAR-002P (16x9x2.5)	*Dynamic gasket*	*15*
16	Magnete	PAR-06-7	*Magnet*	*16*

Elenco delle parti / *Part list*



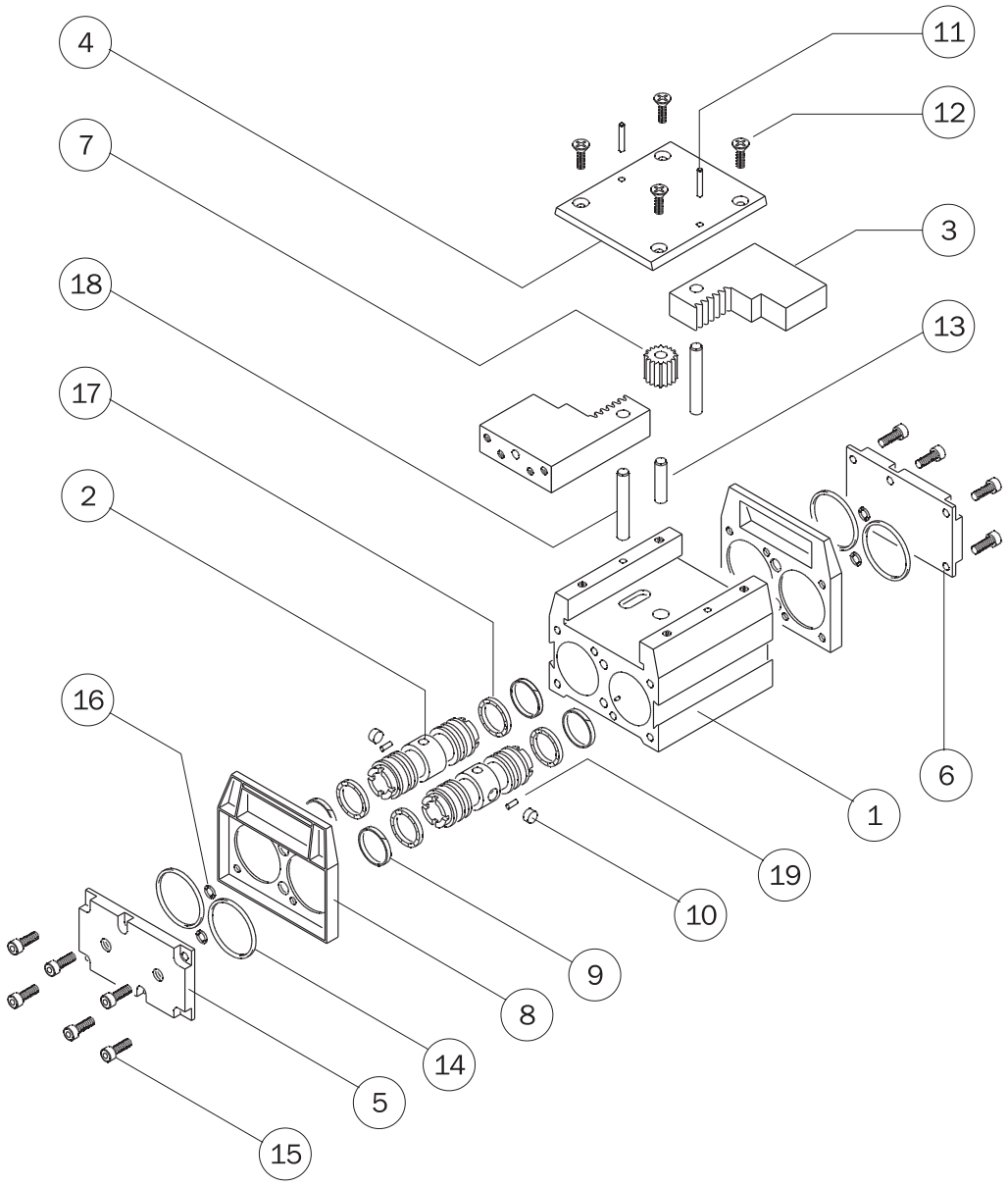
		PE-1625	PE-1640		
1	Corpo pinza	PE-1625-01	PE-1640-01	*Gripper housing*	*1*
2	Pistone	PE-1625-02	PE-1640-02	*Piston*	*2*
3	Cremagliera	PE-1625-03	PE-1640-03	*Rack*	*3*
4	Griffa	PE-1625-04	PE-1640-04	*Jaw*	*4*
5	Pignone	PE-16150-06		*Pinion*	*5*
6	Testata aperta	PE-1680-05AL		*Open end plate*	*6*
7	Testata chiusa	PE-1680-05ALC		*Closed end plate*	*7*
8	Inserto portamagnete	PE-1610-05		*Magnet housing*	*8*
9	Vite	VITE-012 (M3x10 mm DIN965A INOX A2)		*Screw*	*9*
10	O-Ring	GUAR-029 (Ø1.78x4.48)		*O-Ring*	*10*
11	Vite	VITE-031 (M3x8 mm DIN912 INOX A2)		*Screw*	*11*
12	O-Ring	GUAR-023 (Ø1.78x15.6)		*O-Ring*	*12*
13	Guarnizione dinamica	GUAR-002P (16x9x2.5)		*Dynamic gasket*	*13*
14	Spina di riferimento	SPINA-034 (Ø4x8 mm DIN6325)		*Dowel pin*	*14*
15	Spina di riferimento	SPINA-033 (Ø4x25 mm DIN6325)		*Dowel pin*	*15*
16	Magnete	PAR-06-7		*Magnet*	*16*

Elenco delle parti / *Part list*



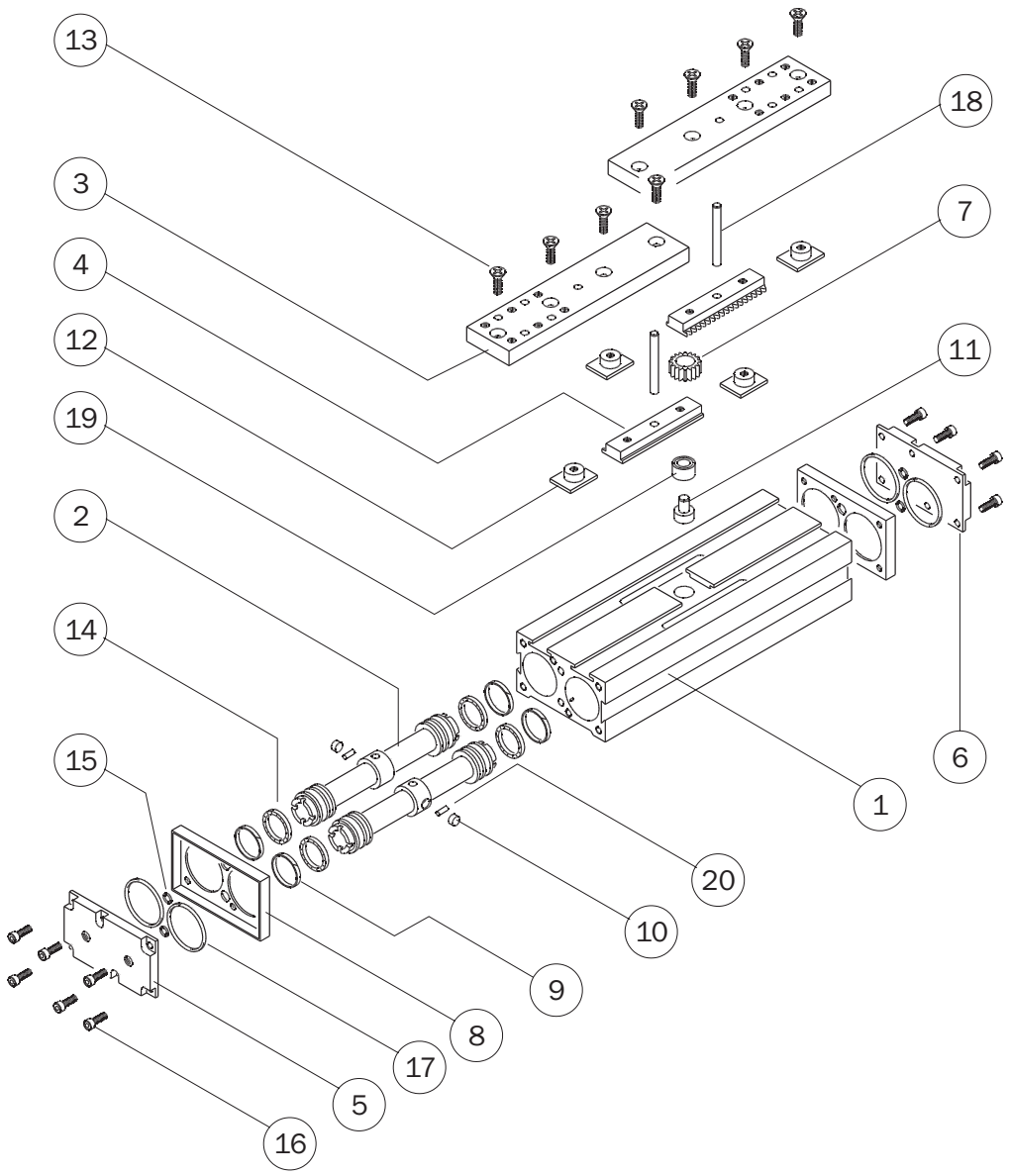
		PE-1680	PE-16150	PE-16200		
1	Corpo pinza	PE-1680-01	PE-16150-01	PE-16200-01	*Gripper housing*	*1*
2	Pistone	PE-1680-02	PE-16150-02	PE-16200-02	*Piston*	*2*
3	Cremagliera	PE-1680-03	PE-16150-03	PE-16200-03	*Rack*	*3*
4	Griffa	PE-1680-04	PE-16150-04	PE-16200-04	*Jaw*	*4*
5	Pignone	PE-16150-06			*Pinion*	*5*
6	Testata aperta	PE-1680-05AL			*Open end plate*	*6*
7	Testata chiusa	PE-1680-05ALC			*Closed end plate*	*7*
8	Inserto portamagnete	PE-1610-05			*Magnet housing*	*8*
9	Pattino guida	PE-1680-08			*Guide profile*	*9*
10	Vite	VITE-012 (M3x10 mm DIN965A INOX A2)			*Screw*	*10*
11	O-Ring	GUAR-029 (Ø1.78x4.48)			*O-Ring*	*11*
12	Vite	VITE-031 (M3x8 mm DIN912 INOX A2)			*Screw*	*12*
13	O-Ring	GUAR-023 (Ø1.78x15.6)			*O-Ring*	*13*
14	Guarnizione dinamica	GUAR-002P (16x9x2.5)			*Dynamic gasket*	*14*
15	Spina di riferimento	SPINA-034 (Ø4x8 mm DIN6325)			*Dowel pin*	*15*
16	Spina di riferimento	SPINA-033 (Ø4x25 mm DIN6325)			*Dowel pin*	*16*
17	Magnete	PAR-06-7			*Magnet*	*17*

Elenco delle parti / *Part list*



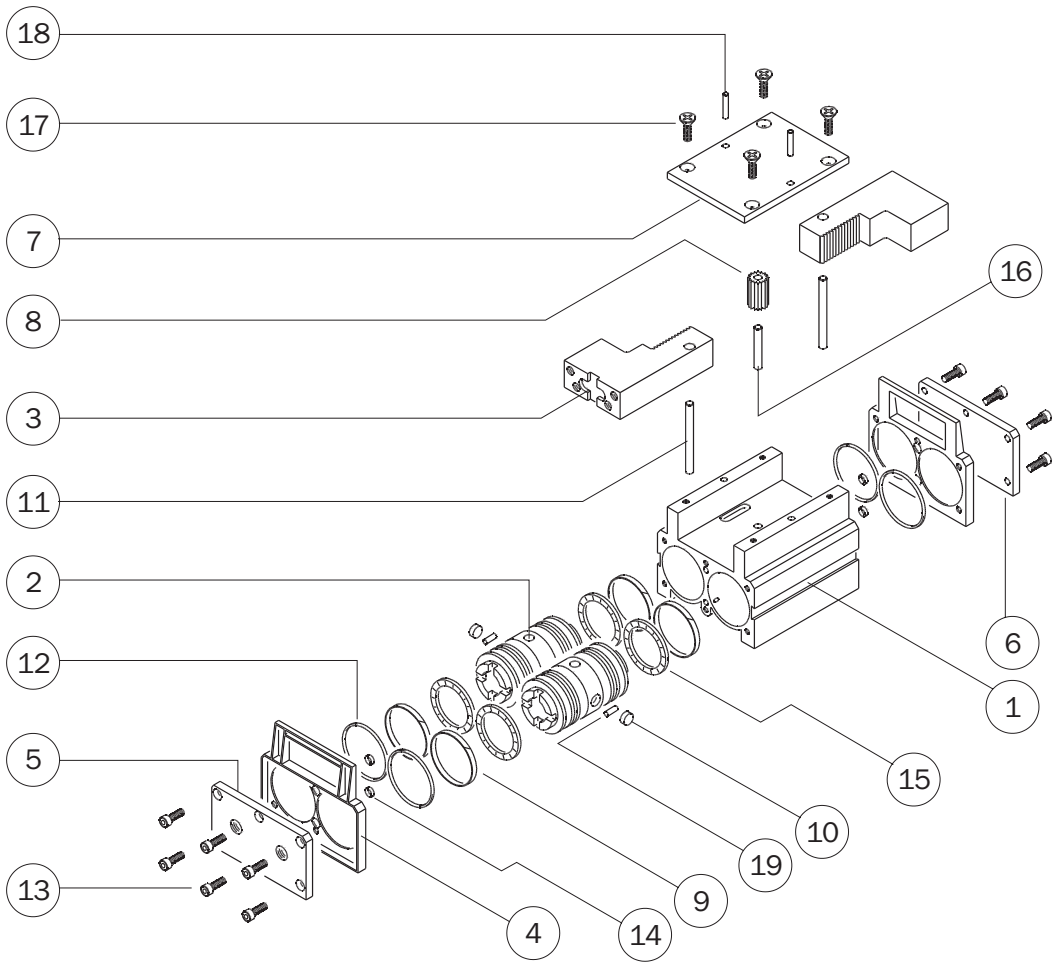
		PE-2520	PE-2540	PE-2560		
1	Corpo pinza	PE-2520-01	PE-2540-01	PE-2560-01	*Gripper housing*	*1*
2	Pistone	PE-2520-02	PE-2540-02	PE-2560-02	*Piston*	*2*
3	Griffa	PE-2520-03	PE-2540-03	PE-2560-03	*Jaw*	*3*
4	Copertura	PE-2520-04	PE-2540-04	PE-2560-04	*Cover plate*	*4*
5	Testata aperta	PE-2520-05A			*Open end plate*	*5*
6	Testata chiusa	PE-2520-05C			*Closed end plate*	*6*
7	Pignone	PE-2520-07			*Pinion*	*7*
8	Profilo	PE-2520-08			*Seal profile*	*8*
9	Fascia di guida	PE-25100-08			*Piston guidance ring*	*9*
10	Inserto portamagnete	PE-2520-09			*Magnet housing*	*10*
11	Spina di riferimento	SPINA-016 (Ø4x10 mm DIN6325)			*Dowel pin*	*11*
12	Vite	VITE-390 (M4x8 mm DIN84A INOX A2)			*Screw*	*12*
13	Spina di riferimento	SPINA-018 (Ø8x20 mm DIN5402)			*Dowel pin*	*13*
14	O-Ring	GUAR-030 (Ø1.78x25.12)			*O-Ring*	*14*
15	Vite	VITE-020 (M4x10 mm DIN912 INOX A2)			*Screw*	*15*
16	O-Ring	GUAR-029 (Ø1.78x4.48)			*O-Ring*	*16*
17	Guarnizione dinamica	GUAR-003M (25x18x2.4)			*Dynamic gasket*	*17*
18	Spina di riferimento	SPINA-032 (Ø6x40 mm DIN6325)			*Dowel pin*	*18*
19	Magnete	PAR-06-7			*Magnet*	*19*

Elenco delle parti / *Part list*



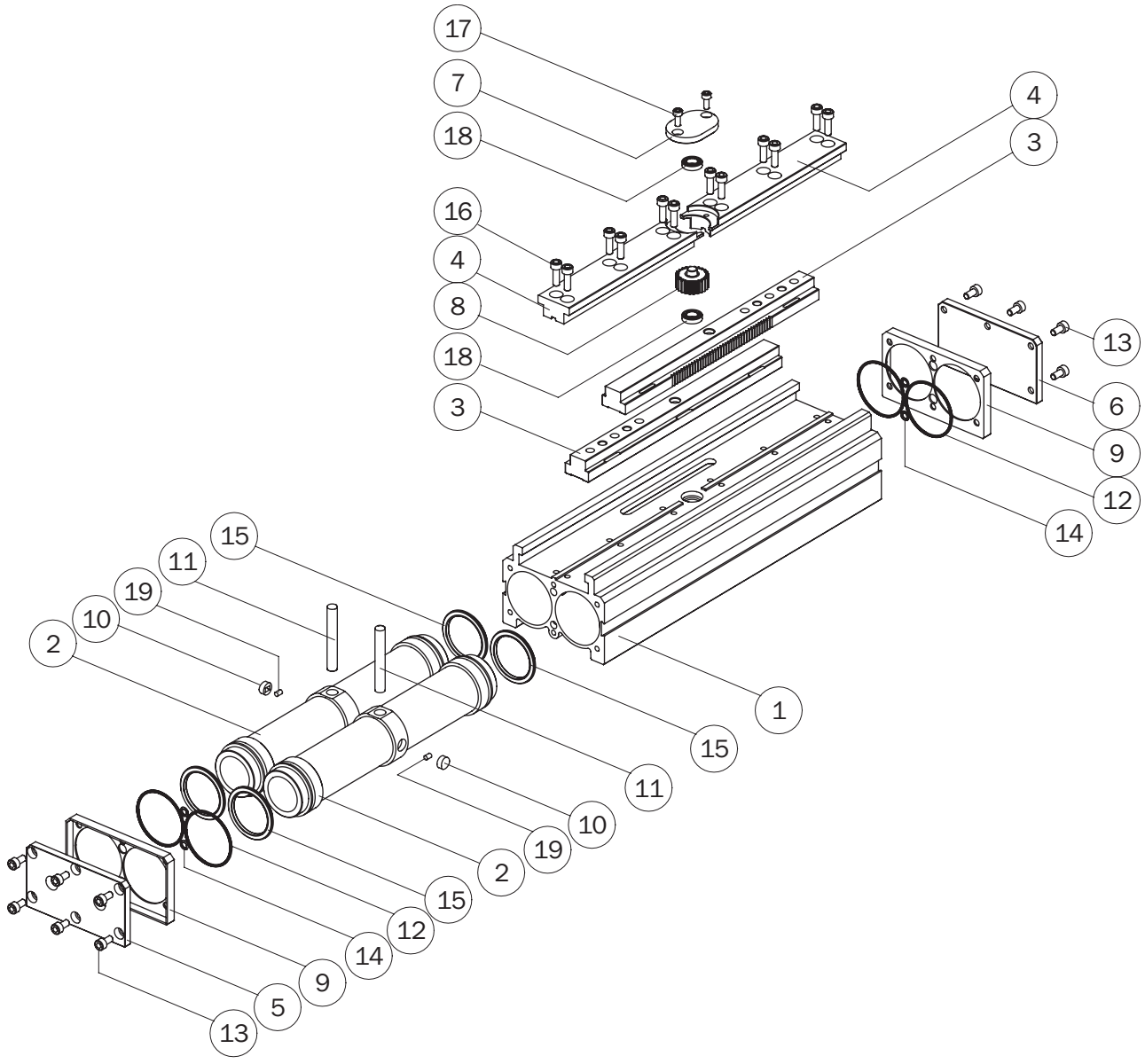
		PE-25100	PE-25200		
1	Corpo pinza	PE-25100-01	PE-25200-01	*Gripper housing*	*1*
2	Pistone	PE-25100-02	PE-25200-02	*Piston*	*2*
3	Griffa	PE-25100-03	PE-25200-03	*Jaw*	*3*
4	Cremagliera	PE-25100-07	PE-25200-07	*Rack*	*4*
5	Testata aperta	PE-2520-05A		*Open end plate*	*5*
6	Testata chiusa	PE-2520-05C		*Closed end plate*	*6*
7	Pignone	PE-25100-05		*Pinion*	*7*
8	Profilo	PS-0025-P09		*Seal profile*	*8*
9	Fascia di guida	PE-25100-08		*Piston guidance ring*	*9*
10	Inserto portamagnete	PE-2520-09		*Magnet housing*	*10*
11	Perno	PE-25100-10		*Pin*	*11*
12	Pattino guida	PE-25100-09		*Guide profile*	*12*
13	Vite	VITE-030 (M5x12 mm DIN965 INOX A2)		*Screw*	*13*
14	Guarnizione dinamica	GUAR-003M (25x18x2.4)		*Dynamic gasket*	*14*
15	O-Ring	GUAR-029 (Ø1.78x4.48)		*O-Ring*	*15*
16	Vite	VITE-020 (M4x10 mm DIN912 INOX A2)		*Screw*	*16*
17	O-Ring	GUAR-030 (Ø1.78x25.12)		*O-Ring*	*17*
18	Spina di riferimento	SPINA-030 (Ø6x36 mm DIN6325)		*Dowel pin*	*18*
19	Cuscinetto radiale	CUSC-045 (Ø3x10x4)		*Radial ball busching*	*19*
20	Magnete	PAR-06-7		*Magnet*	*20*

Elenco delle parti / *Part list*



		PE-4520	PE-4540	PE-4560	PE-4580		
1	Corpo pinza	PE-4520-01	PE-4540-01	PE-4560-01	PE-4580-01	*Gripper housing*	*1*
2	Pistone	PE-4520-02	PE-4540-02	PE-4560-02	PE-4580-02	*Piston*	*2*
3	Griffa	PE-4520-03	PE-4540-03	PE-4560-03	PE-4580-03	*Jaw*	*3*
4	Profilo	PE-4520-04				*Seal profile*	*4*
5	Testata aperta	PE-4520-05A				*Open end plate*	*5*
6	Testata chiusa	PE-4520-05A				*Closed end plate*	*6*
7	Copertura	PE-4520-06	PE-4540-04	PE-4560-04	PE-4580-04	*Cover plate*	*7*
8	Pignone	PE-4520-09				*Pinion*	*8*
9	Fascia di guida	PE-45120-08				*Piston guidance ring*	*9*
10	Inserto portamagnete	PE-4520-10				*Magnet housing*	*10*
11	Spina di riferimento	SPINA-029 (Ø8x40 mm DIN6325)				*Dowel pin*	*11*
12	O-Ring	GUAR-028 (Ø1.78x44.17)				*O-Ring*	*12*
13	Vite	VITE-027 (M5x10 mm DIN912 INOX A2)				*Screw*	*13*
14	O-Ring	GUAR-029 (Ø1.78x4.48)				*O-Ring*	*14*
15	Guarnizione dinamica	GUAR-026P (45x36x3)				*Dynamic gasket*	*15*
16	Spina di riferimento	SPINA-030 (Ø6x36 mm DIN6325)				*Dowel pin*	*16*
17	Vite	VITE-026 (M5x16 mm DIN965A INOX A2)				*Screw*	*17*
18	Spina di riferimento	SPINA-028 (Ø5x10 mm DIN6325)				*Dowel pin*	*18*
19	Magnete	PAR-06-7				*Magnet*	*19*

Elenco delle parti / *Part list*



		PE-45200		
1	Corpo pinza	PE-45200-01	*Gripper housing*	*1*
2	Pistone	PE-45200-02	*Piston*	*2*
3	Griffa	PE-45200-03	*Jaw*	*3*
4	Guida centrale	PE-45200-04	*Central guidance*	*4*
5	Testata aperta	PE-4520-05A	*Open end plate*	*5*
6	Testata chiusa	PE-4520-05C	*Closed end plate*	*6*
7	Piastra supporto cuscinetto	PE-45200-06	*Bearing cover*	*7*
8	Pignone	PE-45200-09	*Pinion*	*8*
9	Profilo	PS-0045-P09	*Seal profil*	*9*
10	Inserto portamagnete	PE-4520-10	*Magnet housing*	*10*
11	Spina di riferimento	SPINA-058 (Ø8x60 mm DIN6325)	*Dowel pin*	*11*
12	O-Ring	GUAR-028 (Ø1.78x44.17)	*O-Ring*	*12*
13	Vite	VITE-027 (M5x10 mm DIN912 INOX A2)	*Screw*	*13*
14	O-Ring	GUAR-029 (Ø1.78x4.48)	*O-Ring*	*14*
15	Guarnizione dinamica	GUAR-026P (45x36x3)	*Dynamic gasket*	*15*
16	Vite	VITE-015 (M5x16 mm DIN912 INOX A2)	*Screw*	*16*
17	Vite	VITE-020 (M4x10 mm DIN912 INOX A2)	*Screw*	*17*
18	Cuscinetto radiale	CUSC-011 (Ø8xØ16x4 ISB 618/B)	*Ball bearing*	*18*
19	Magnete	PAR-06-7	*Magnet*	*19*

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

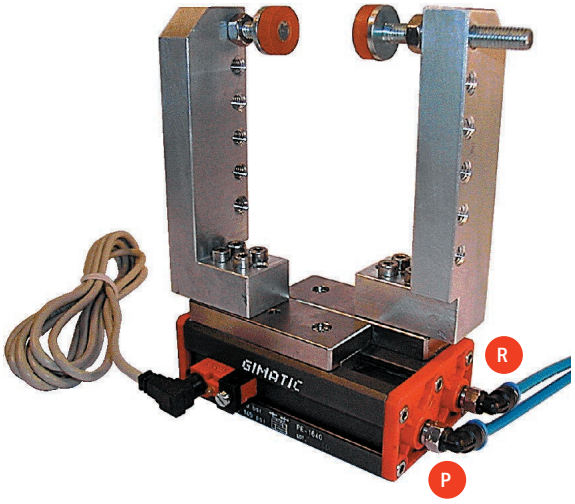
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

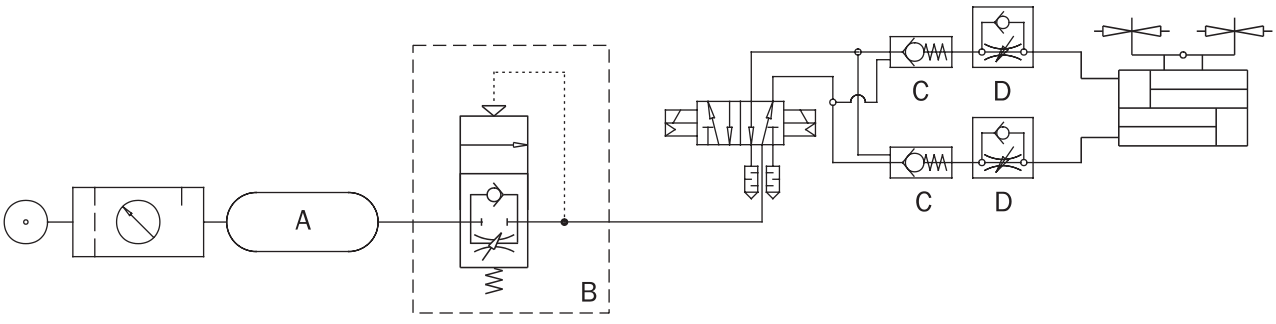
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Manutenzione

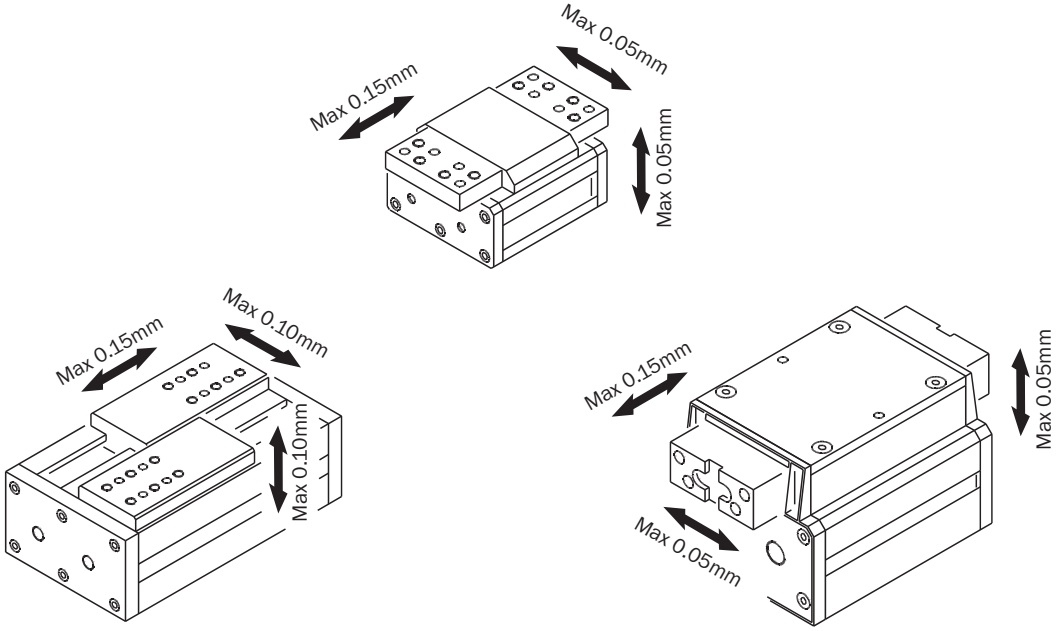
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.

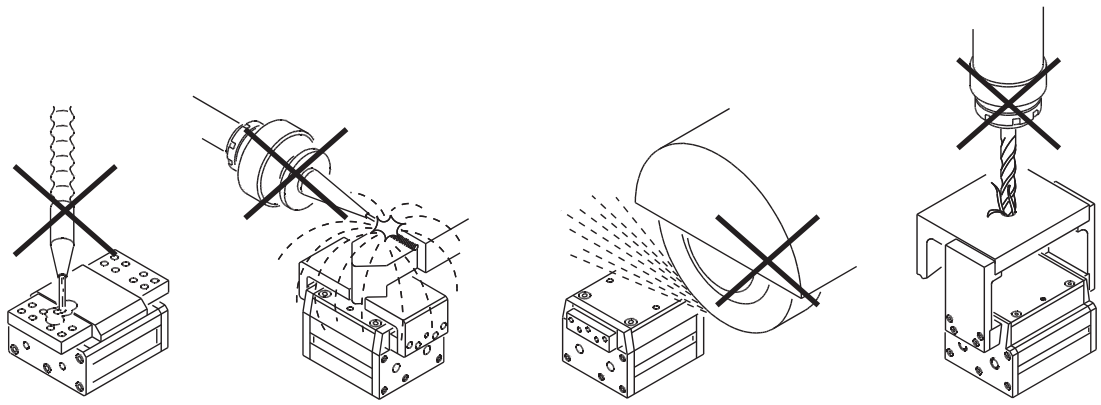


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



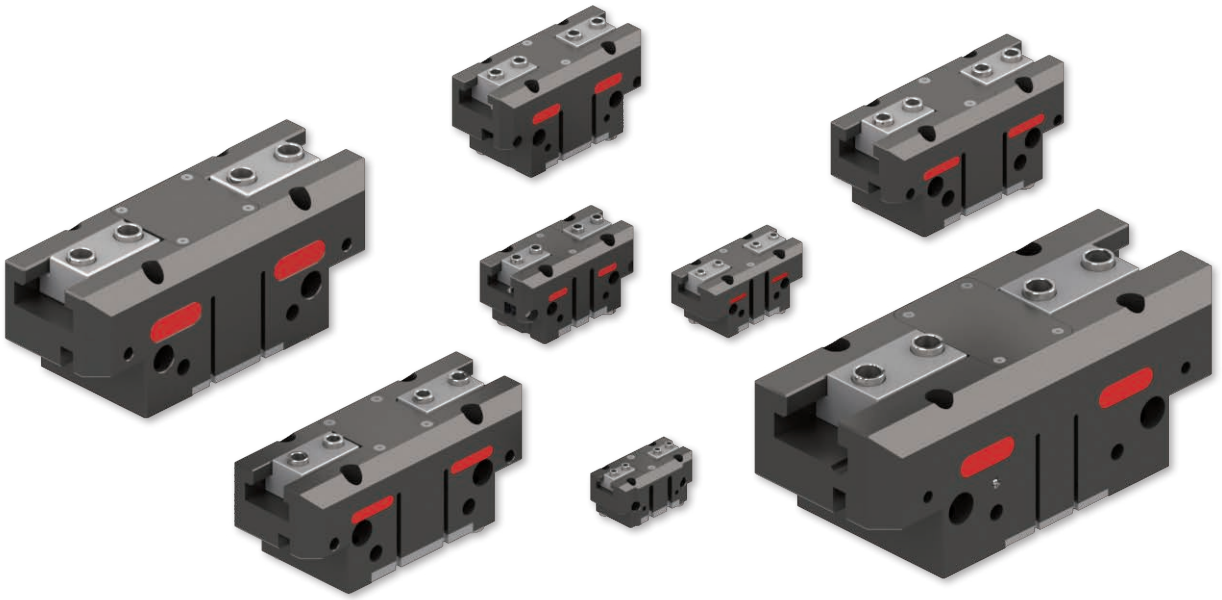
DH

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie DH)

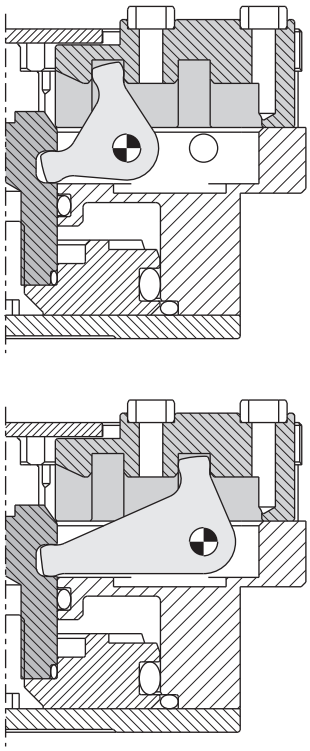
- Azionamento a doppio effetto, con molle opzionali (in chiusura o apertura).
- Corsa lunga o corsa corta (1).
- Possibilità di fissaggio frontale con viti passanti (2).
- Meccanismo di trasmissione ad alta efficienza (1).
- Sensori magnetici o induttivi opzionali (3).
- Grasso alimentare FDA-H1 e guarnizioni per alta temperatura (fino a 100°C.).

2-jaw self-centering pneumatic parallel gripper (series DH)

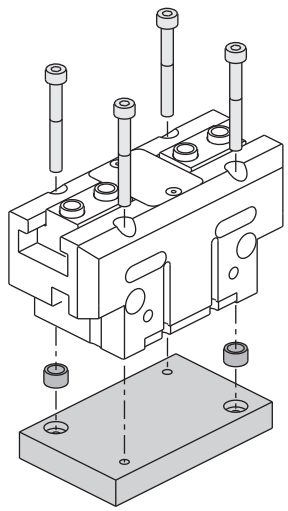
- *Double acting with optional springs (normally closed or normally open).*
- *Long stroke or short stroke (1).*
- *Possibility of front fastening with through screws (2).*
- *High efficiency force transmission (1).*
- *Optional magnetic or inductive sensors (3).*
- *Food grade grease FDA-H1 and seals for high temperature (up to 100 °C.).*



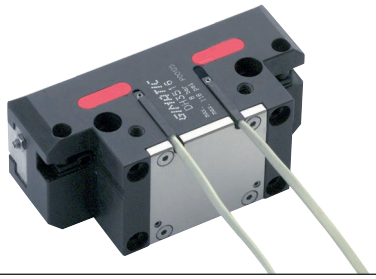
[1]



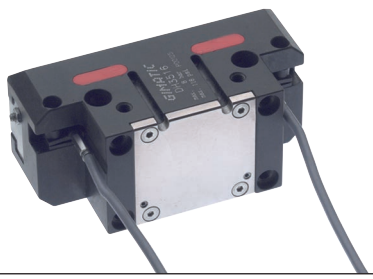
[2]



[3]



[3]



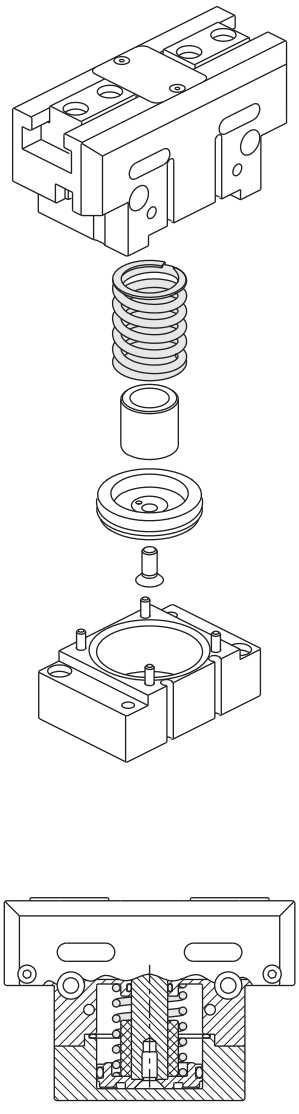
Molle opzionali

Tutte le pinze DH sono disponibili con o senza molla.
Le versioni a molla possono essere normalmente chiuse (NC) o normalmente aperte (NO).
In entrambi i casi è necessario un corpo addizionale e la pinza è più alta della versione senza molla.
Le molle sono calcolate per una vita superiore ai 10 milioni di cicli e forniscono, in assenza d'aria, una forza di ritenzione pari a circa un terzo della forza normale a 6bar.

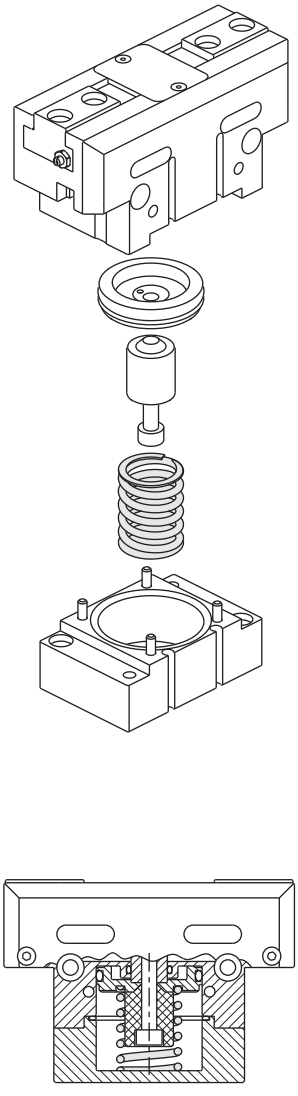
Optional springs

All DH grippers are available with or without spring.
The spring versions can be normally closed (NC) or normally open (NO).
In both cases an additional body is necessary and the gripper is taller than the version without spring.
The springs are designed for a life time higher than 10 million cycles and they provide a retention force, after a pressure black-out, about one third of the output force at 6bar.

DH...-NC



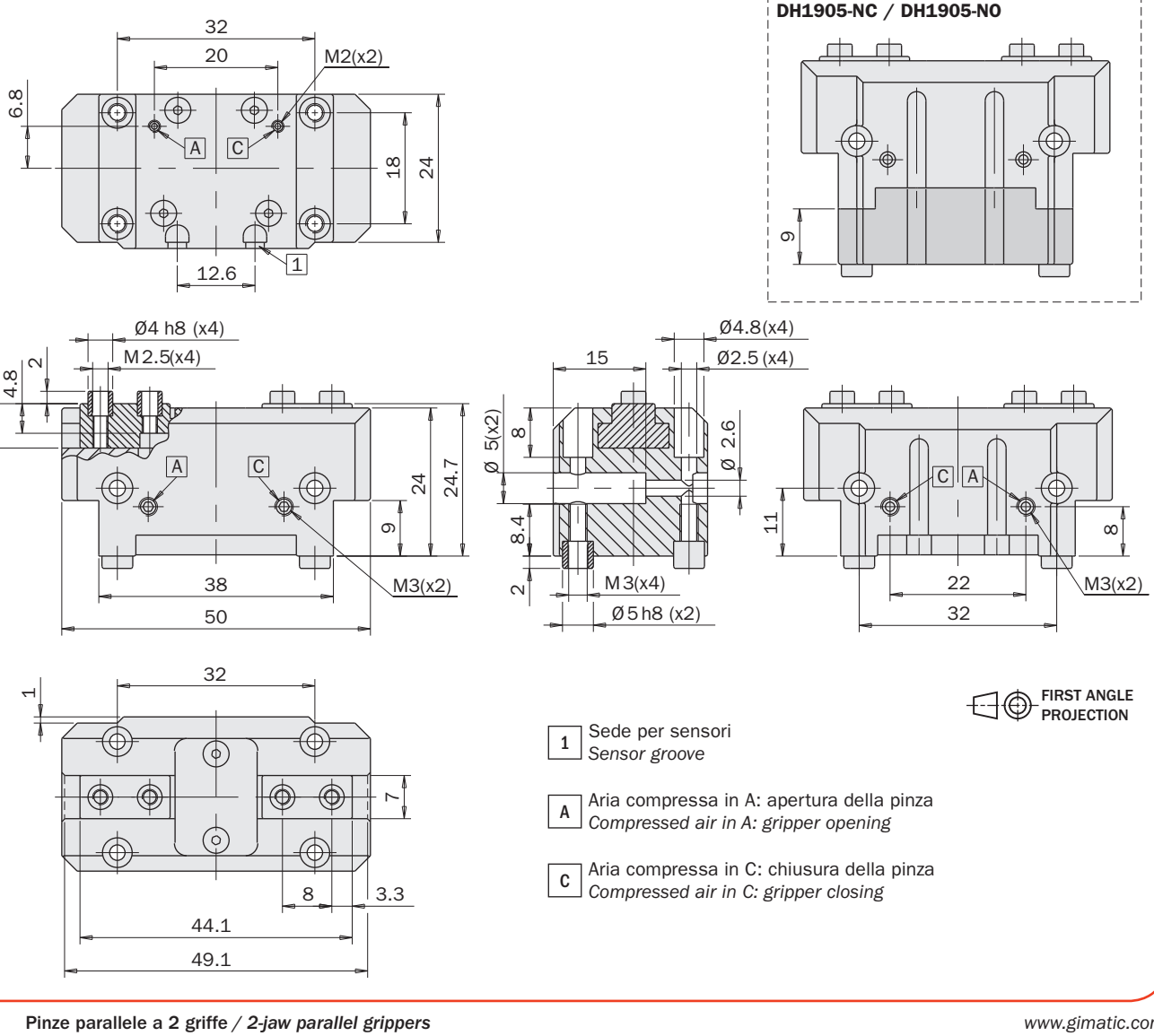
DH...-NO



DH

	DH1905	DH1905-NC	DH1905-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.		
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	75N	43 ÷ 49N	101 ÷ 107N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	150N	86 ÷ 98N	202 ÷ 214N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	68N	94 ÷ 100N	36 ÷ 42N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	136N	188 ÷ 200N	72 ÷ 84N
Corsa totale ±0.3mm *Total stroke*	5mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	3Hz		
Consumo d'aria per ciclo *Cycle air consumption*	2cm³	3cm³	3cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.01s / 0.01s	0.01s / 0.02s	0.02s / 0.01s
Ripetibilità *Repetition accuracy*	0.02mm		
Peso *Weight*	87g	100g	98g

Dimensioni (mm) / *Dimensions (mm)*



FIRST ANGLE PROJECTION

1 Sede per sensori
Sensor groove

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

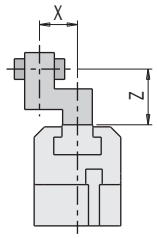
C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

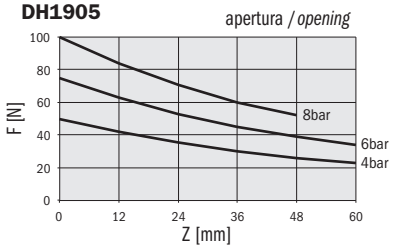
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

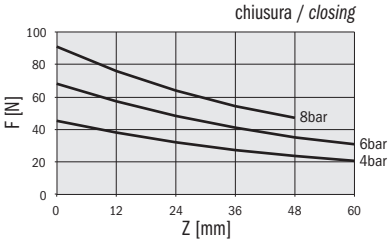


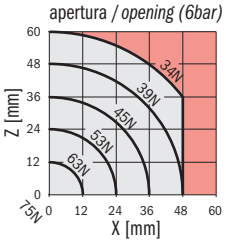
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

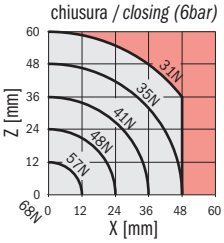
The force shown in these graphs refers to one jaw.
The total force is double.

DH1905

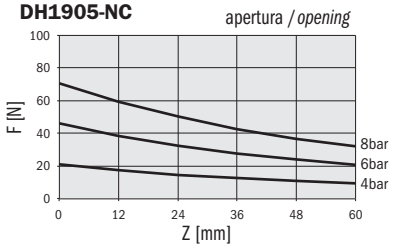


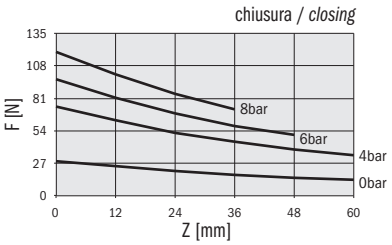


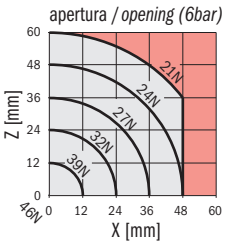


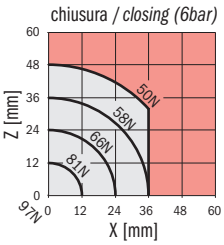


DH1905-NC

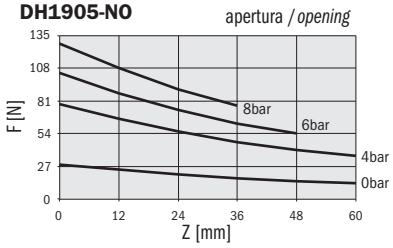


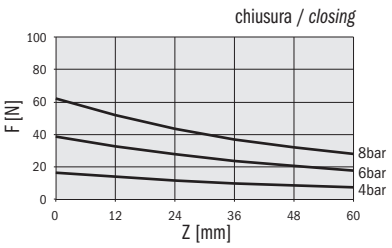


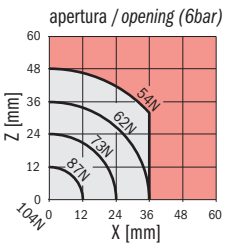


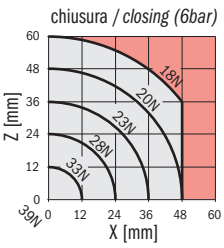


DH1905-NO





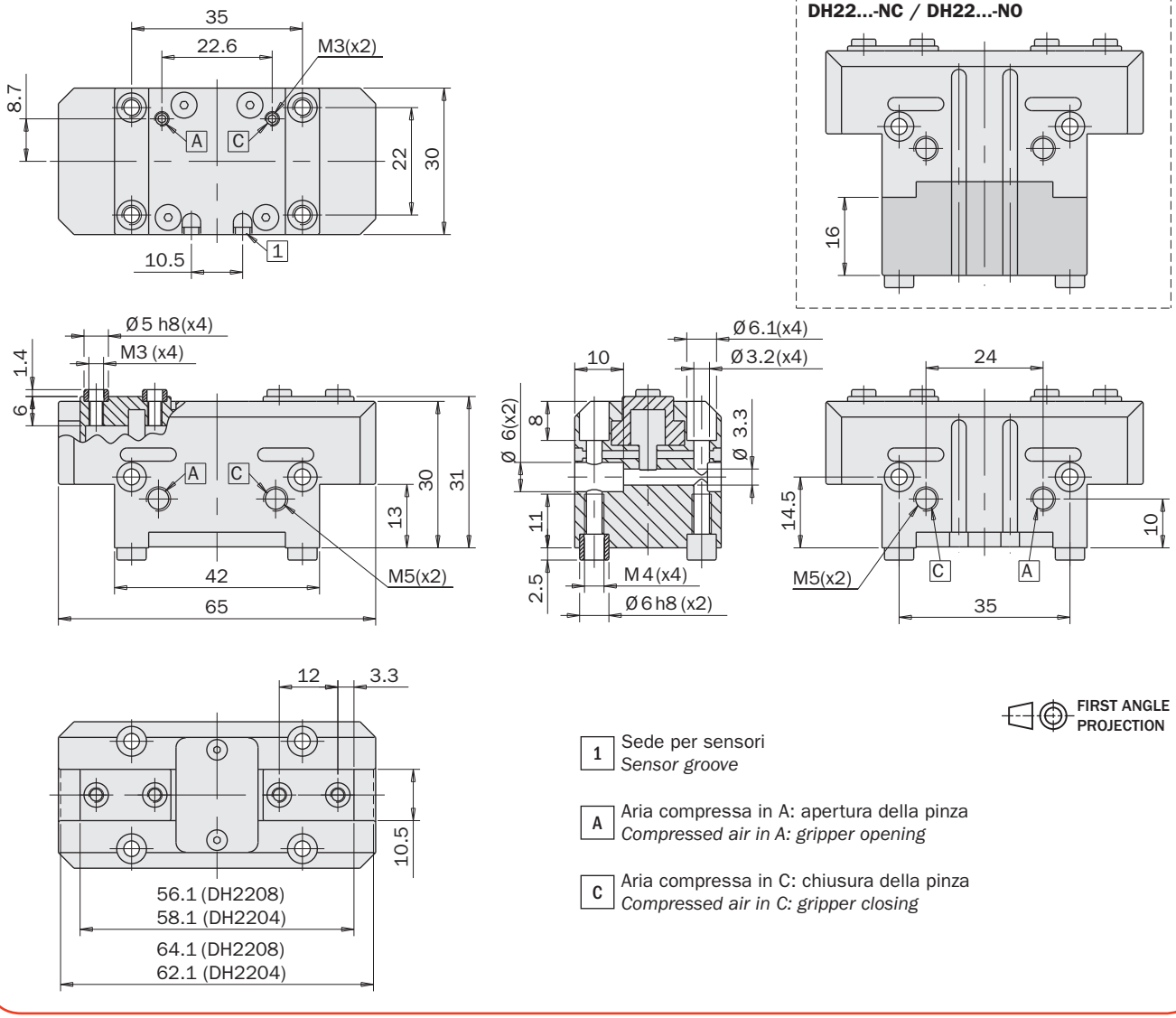




DH

	DH2208	DH2208-NC	DH2208-NO	DH2204	DH2204-NC	DH2204-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	2 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	100N	58 ÷ 67N	134 ÷ 142N	200N	116 ÷ 133N	267 ÷ 284N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	200N	116 ÷ 134N	268 ÷ 284N	400N	232 ÷ 266N	534 ÷ 568N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	90N	123 ÷ 132N	48 ÷ 56N	180N	247 ÷ 264N	96 ÷ 113N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	180N	246 ÷ 264N	96 ÷ 112N	360N	494 ÷ 528N	192 ÷ 226N
Corsa totale ±0.3mm *Total stroke*	8mm			4mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	3Hz					
Consumo d'aria per ciclo *Cycle air consumption*	4cm³	7cm³	7cm³	4cm³	7cm³	7cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.02s / 0.02s	0.02s / 0.03s	0.03s / 0.02s	0.02s / 0.02s	0.02s / 0.03s	0.03s / 0.02s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	148g	188g	184g	150g	190g	186g

Dimensioni (mm) / *Dimensions (mm)*



FIRST ANGLE PROJECTION

1 Sede per sensori
Sensor groove

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

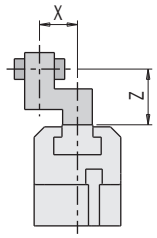
03/2015

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

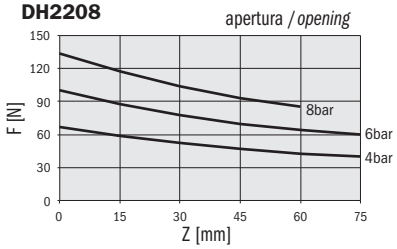
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

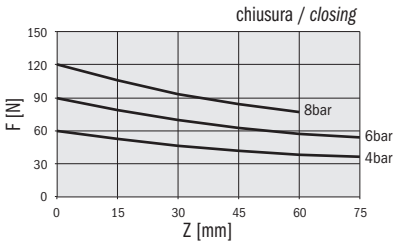


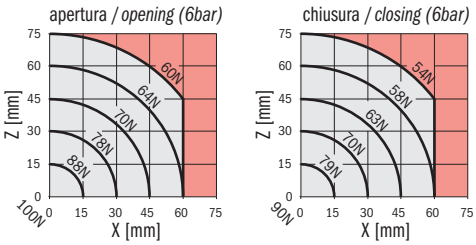
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

The force shown in these graphs refers to one jaw. The total force is double.

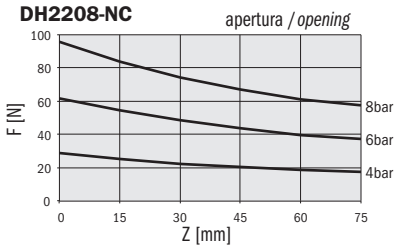
DH2208

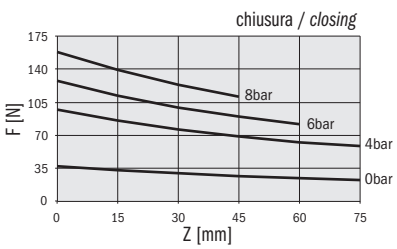


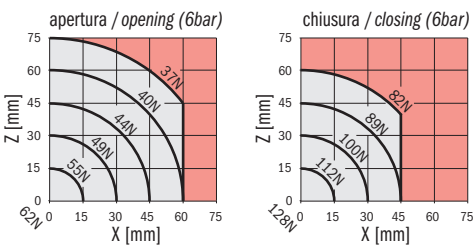




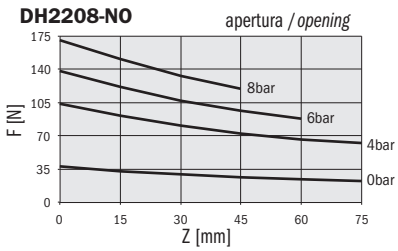
DH2208-NC

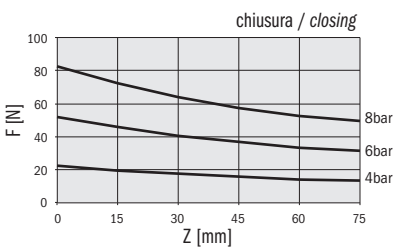


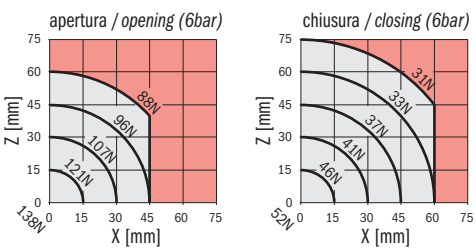




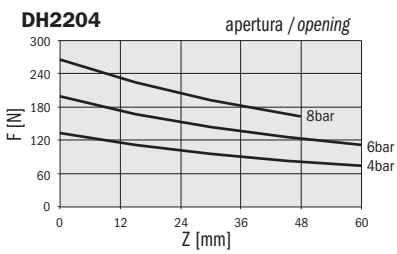
DH2208-NO

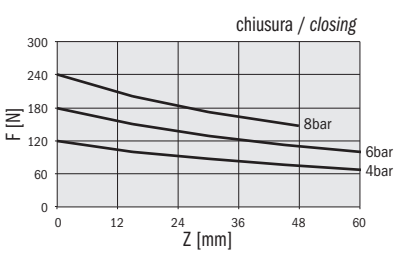


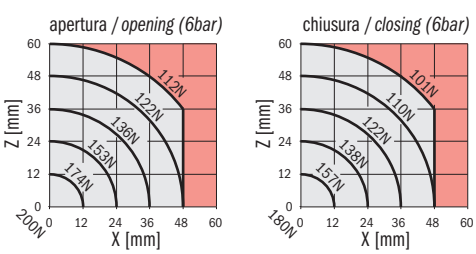




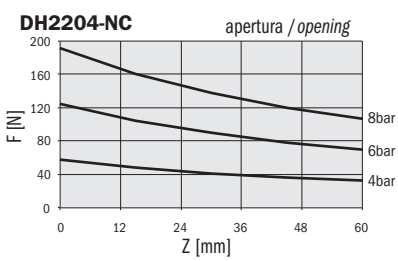
DH2204

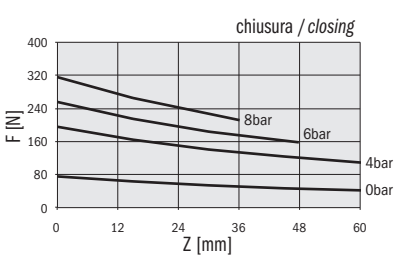


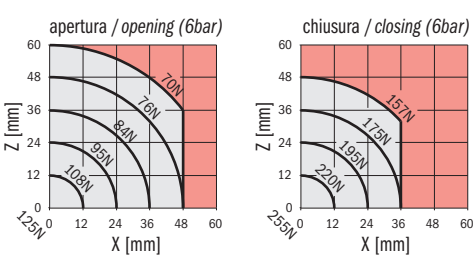




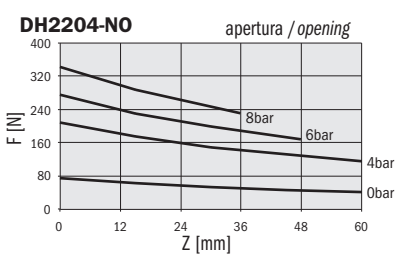
DH2204-NC

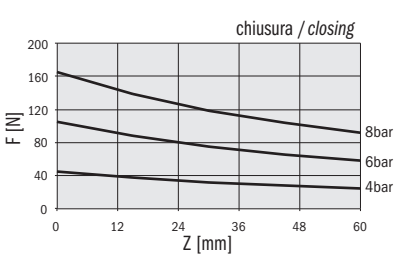


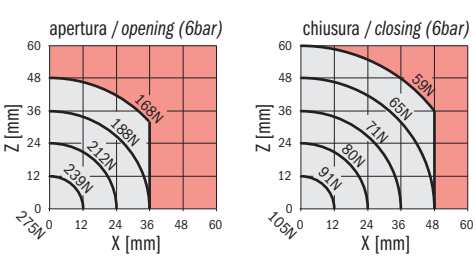




DH2204-NO



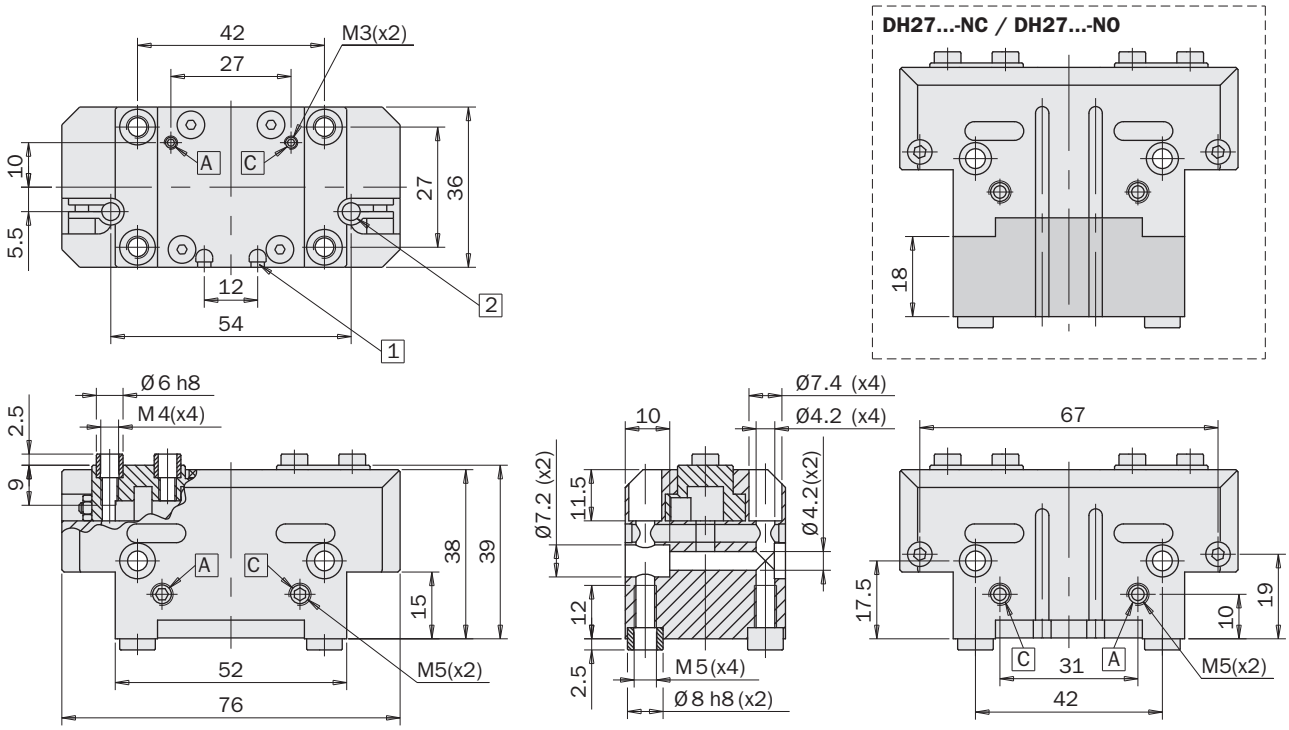


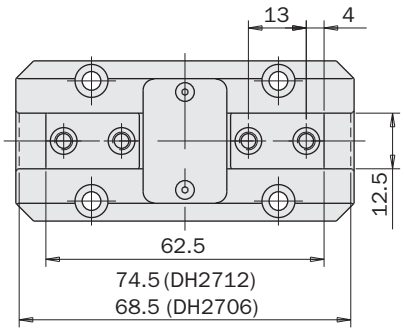


DH

	DH2712	DH2712-NC	DH2712-NO	DH2706	DH2706-NC	DH2706-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	2 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	145N	85 ÷ 97N	194 ÷ 206N	290N	170 ÷ 194N	389 ÷ 413N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	290N	170 ÷ 194N	388 ÷ 412N	580N	340 ÷ 388N	778 ÷ 826N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	130N	178 ÷ 190N	69 ÷ 81N	260N	356 ÷ 380N	138 ÷ 162N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	260N	356 ÷ 380N	138 ÷ 162N	520N	712 ÷ 760N	276 ÷ 324N
Corsa totale ±0.3mm *Total stroke*	12mm			6mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	3Hz					
Consumo d'aria per ciclo *Cycle air consumption*	9cm³	13cm³	13cm³	9cm³	13cm³	13cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.03s / 0.03s	0.03s / 0.04s	0.04s / 0.03s	0.03s / 0.03s	0.03s / 0.04s	0.04s / 0.03s
Ripetibilità *Repetition accuracy*	0.02mm					
Peso *Weight*	255g	325g	315g	260g	330g	320g

Dimensioni (mm) / *Dimensions (mm)*





FIRST ANGLE PROJECTION

1 Sede per sensori
Sensor groove

2 Porta sensori induttivi Ø4
Ø4 inductive sensor holder

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

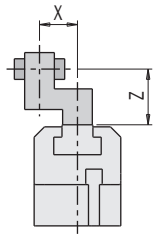
03/2015

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

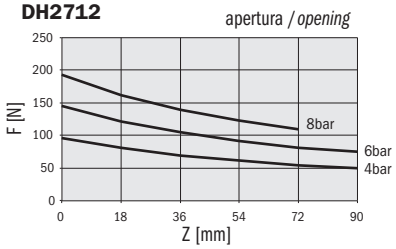
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

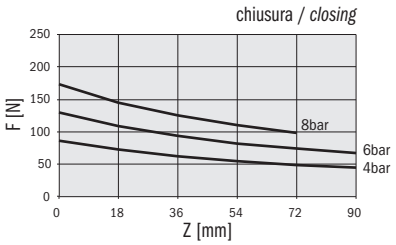


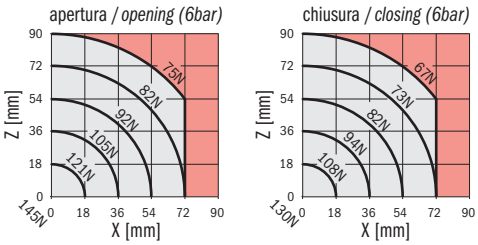
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

The force shown in these graphs refers to one jaw. The total force is double.

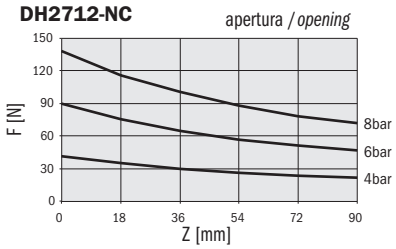
DH2712

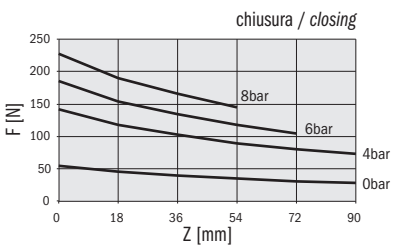


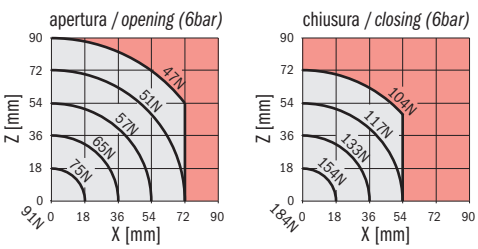




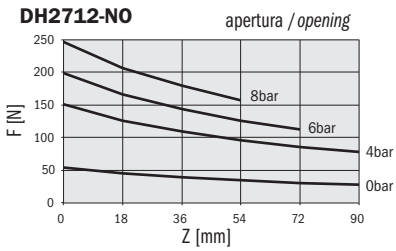
DH2712-NC

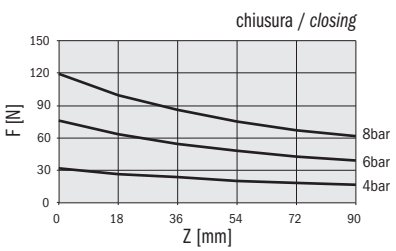


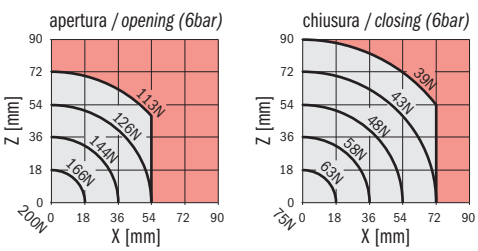




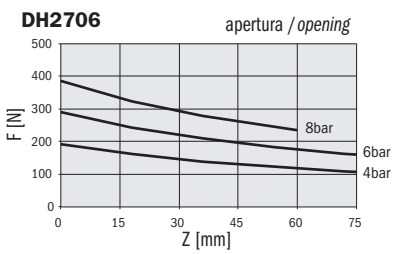
DH2712-NO

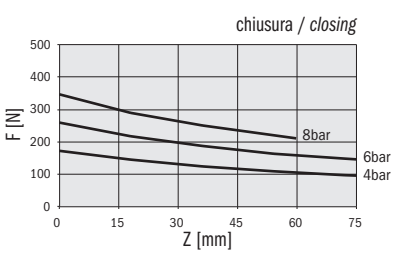


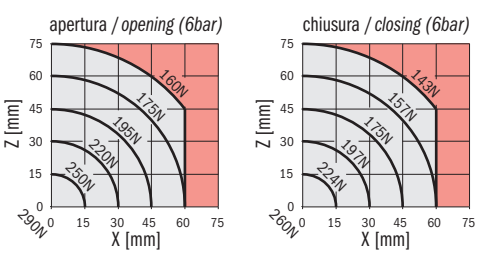




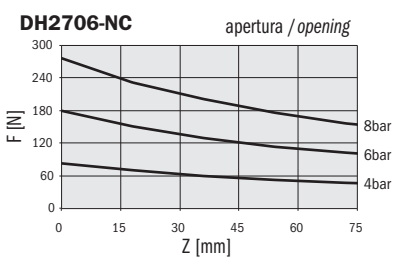
DH2706

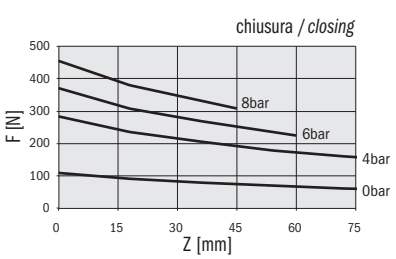


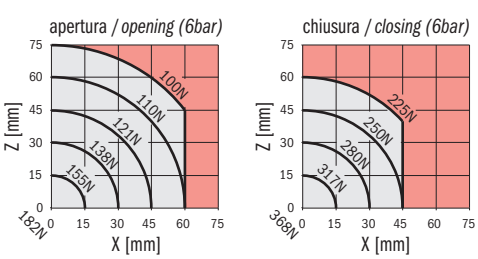




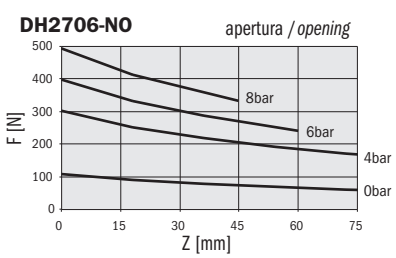
DH2706-NC

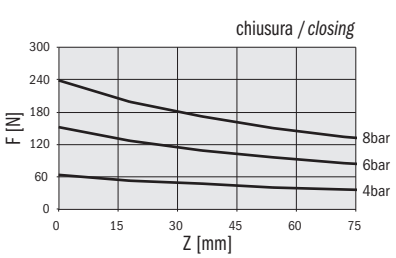


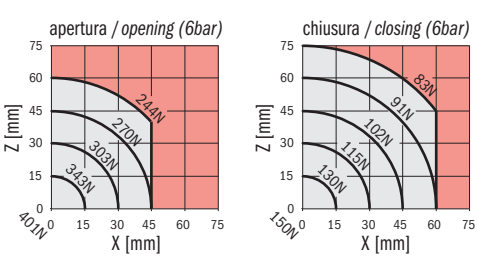




DH2706-NO



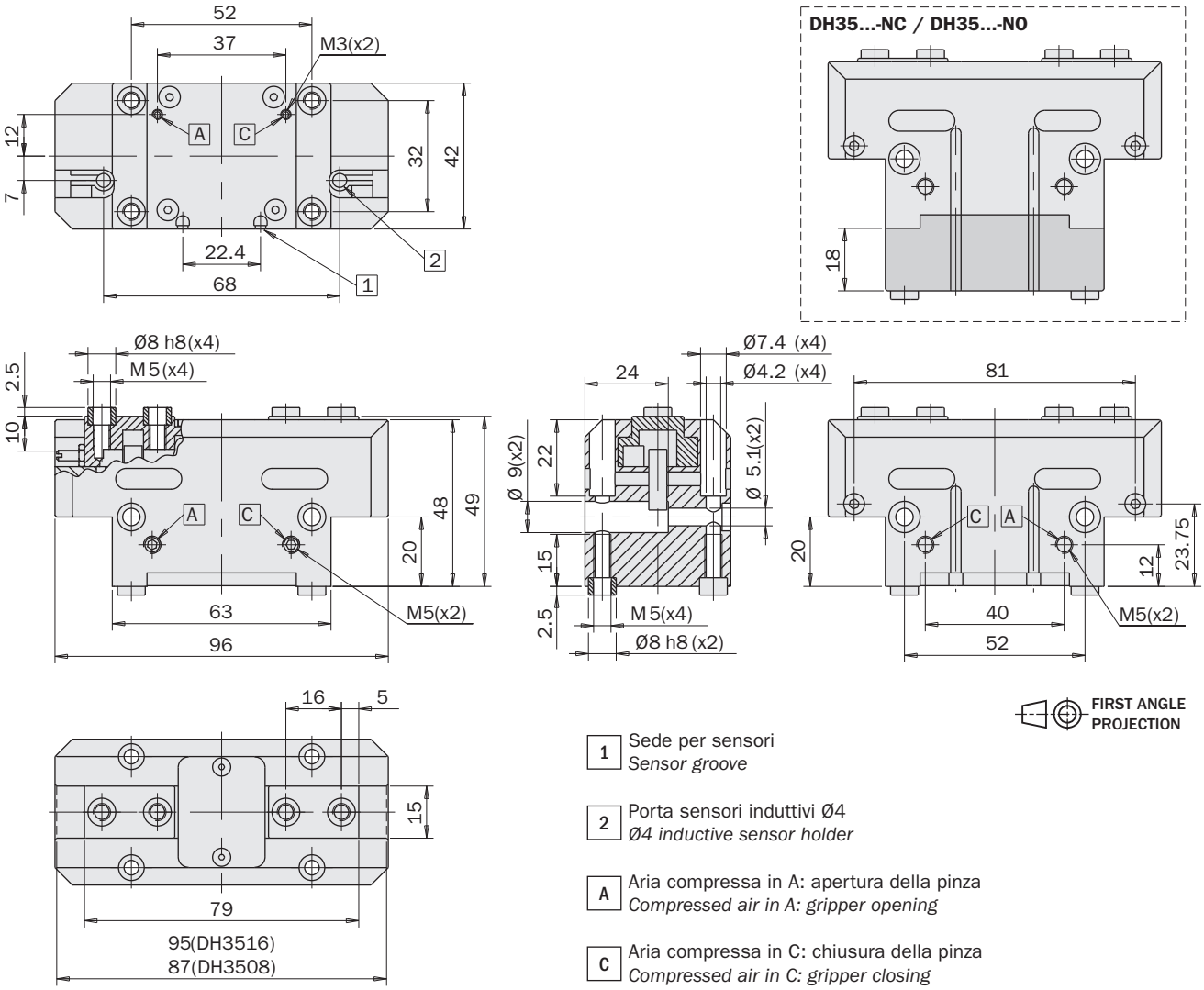




DH

	DH3516	DH3516-NC	DH3516-NO	DH3508	DH3508-NC	DH3508-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	250N	140 ÷ 177N	323 ÷ 360N	500N	280 ÷ 353N	647 ÷ 720N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	500N	280 ÷ 354N	646 ÷ 720N	1000N	560 ÷ 706N	1294 ÷ 1440N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	220N	298 ÷ 319N	122 ÷ 143N	440N	595 ÷ 639N	244 ÷ 287N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	440N	596 ÷ 638N	244 ÷ 286N	880N	1190 ÷ 1278N	488 ÷ 574N
Corsa totale ±0.3mm *Total stroke*	16mm			8mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	3Hz					
Consumo d'aria per ciclo *Cycle air consumption*	18cm³	25cm³	25cm³	18cm³	25cm³	25cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.03s / 0.03s	0.03s / 0.04s	0.04s / 0.03s	0.03s / 0.03s	0.03s / 0.04s	0.04s / 0.03s
Ripetibilità *Repetition accuracy*	0.02mm					
Peso *Weight*	460g	550g	540g	470g	560g	550g

Dimensioni (mm) / *Dimensions (mm)*



FIRST ANGLE PROJECTION

1 Sede per sensori
Sensor groove

2 Porta sensori induttivi Ø4
Ø4 inductive sensor holder

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

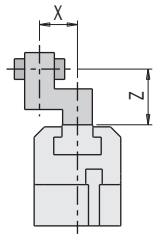
C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

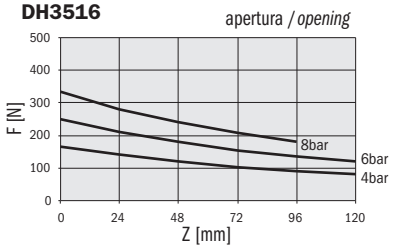
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

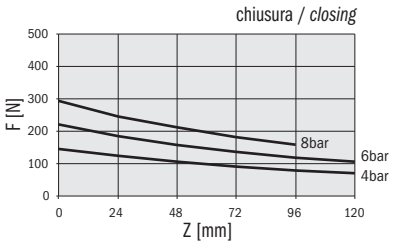


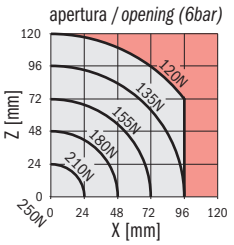
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

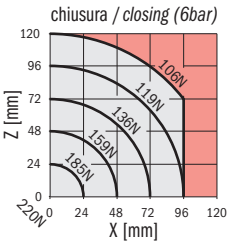
The force shown in these graphs refers to one jaw. The total force is double.

DH3516

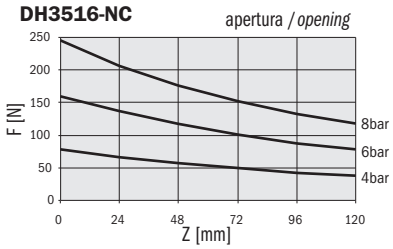


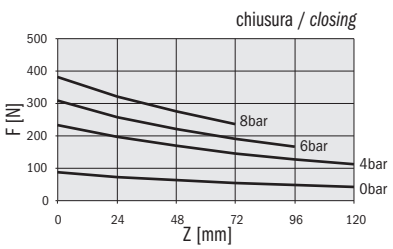


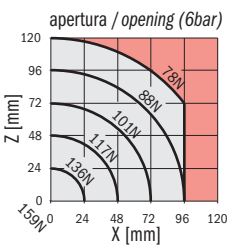


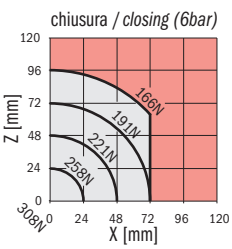


DH3516-NC

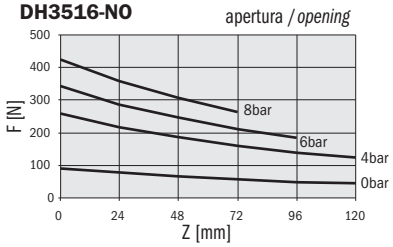


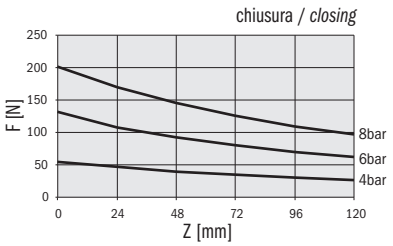


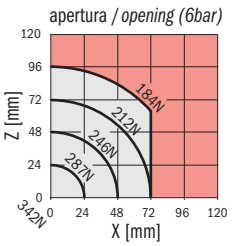


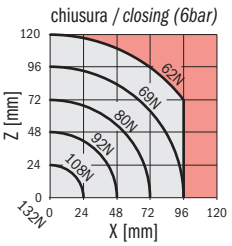


DH3516-NO

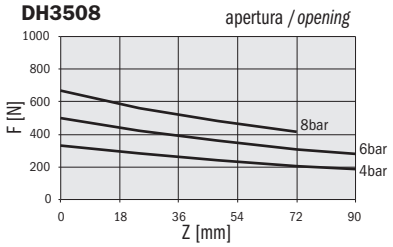


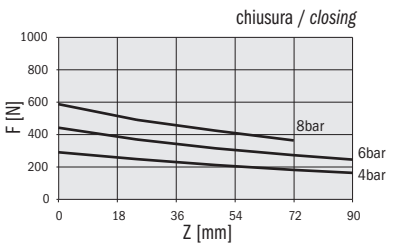


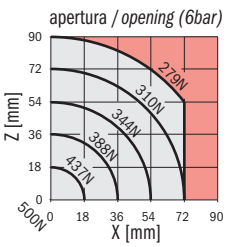


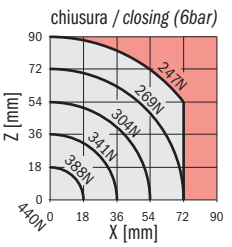


DH3508

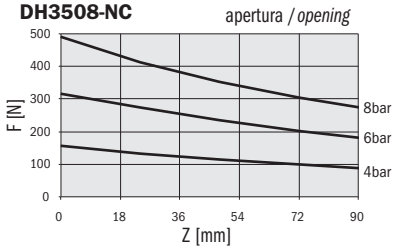


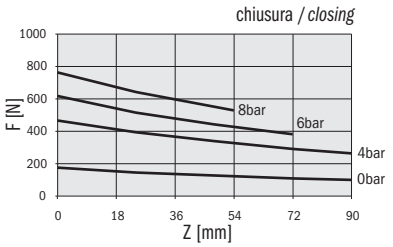


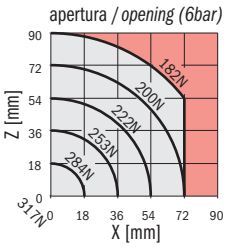


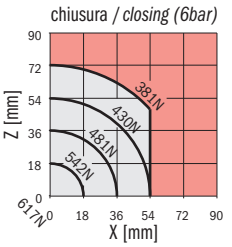


DH3508-NC

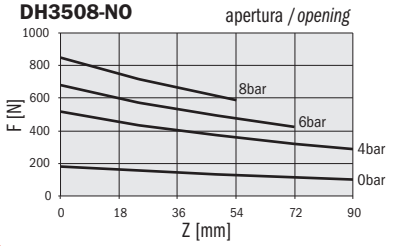


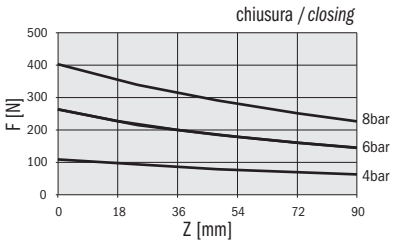


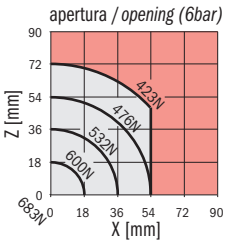


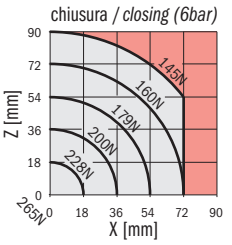


DH3508-NO





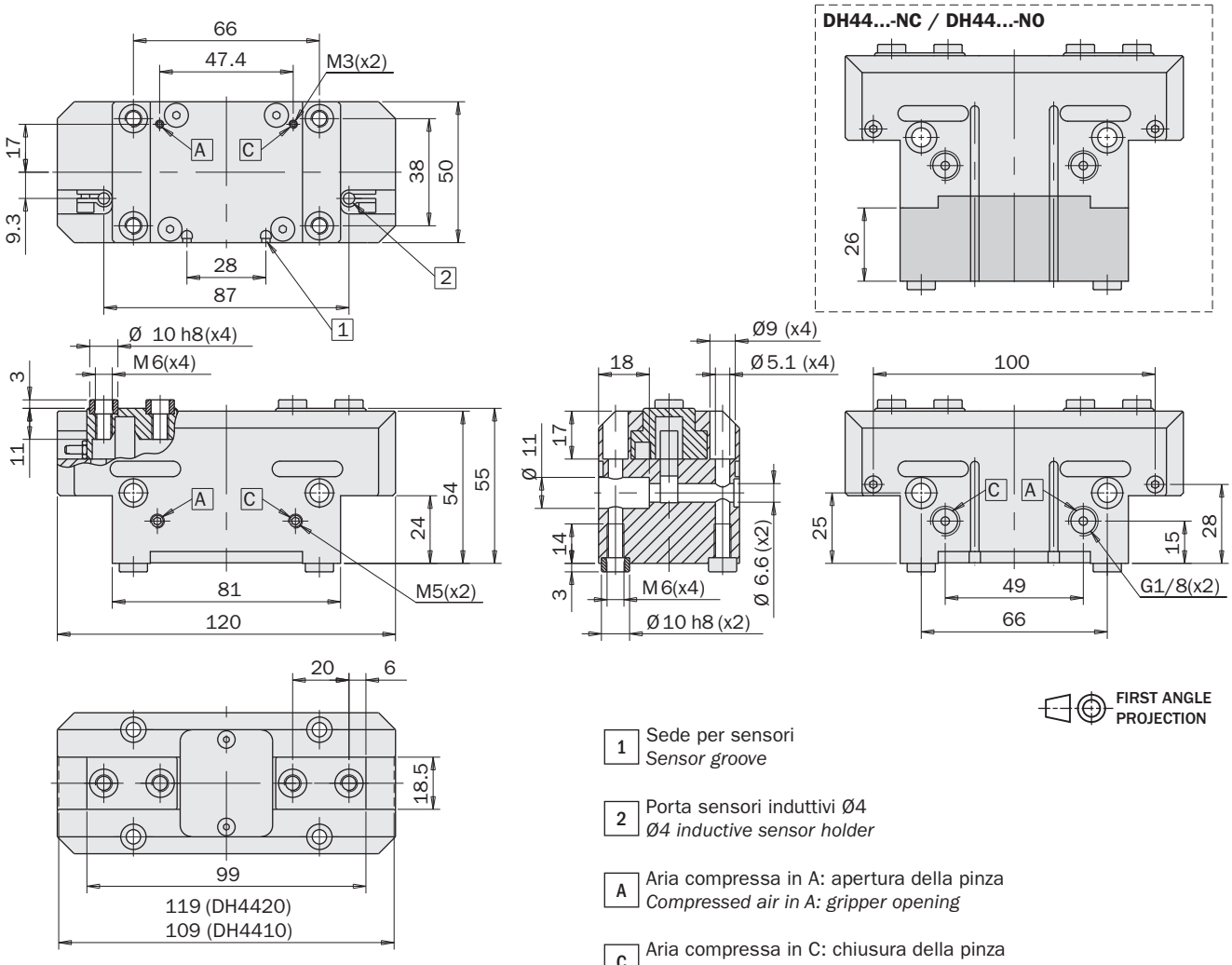




DH

	DH4420	DH4420-NC	DH4420-NO	DH4410	DH4410-NC	DH4410-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	405N	236 ÷ 298N	513 ÷ 575N	810N	472 ÷ 595N	1027 ÷ 1150N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	810N	472 ÷ 596N	1026 ÷ 1150N	1620N	944 ÷ 1190N	2054 ÷ 2300N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	365N	472 ÷ 534N	195 ÷ 257N	730N	945 ÷ 1068N	390 ÷ 513N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	730N	944 ÷ 1068N	390 ÷ 514N	1460N	1890 ÷ 2136N	780 ÷ 1026N
Corsa totale ±0.3mm *Total stroke*	20mm			10mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	2Hz					
Consumo d'aria per ciclo *Cycle air consumption*	36cm³	52cm³	52cm³	36cm³	52cm³	52cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.08s / 0.08s	0.06s / 0.13s	0.13s / 0.06s	0.08s / 0.08s	0.06s / 0.13s	0.13s / 0.06s
Ripetibilità *Repetition accuracy*	0.02mm					
Peso *Weight*	780g	990g	960g	800g	1010g	980g

Dimensioni (mm) / *Dimensions (mm)*



1 Sede per sensori
Sensor groove

2 Porta sensori induttivi Ø4
Ø4 inductive sensor holder

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

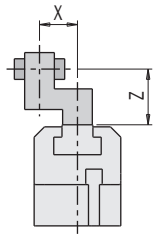
03/2015

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

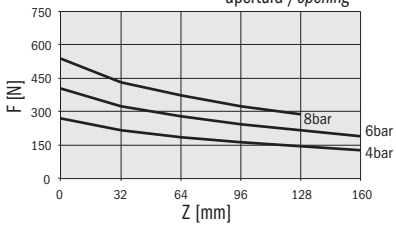
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

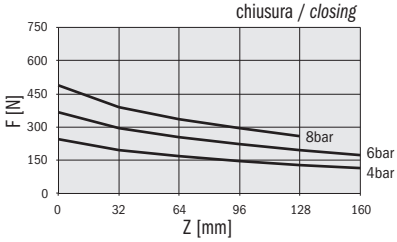


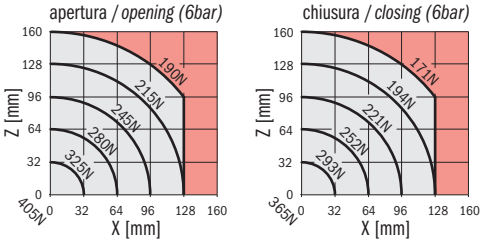
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

The force shown in these graphs refers to one jaw. The total force is double.

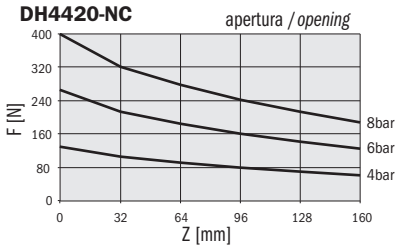
DH4420

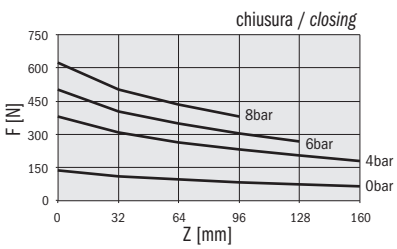


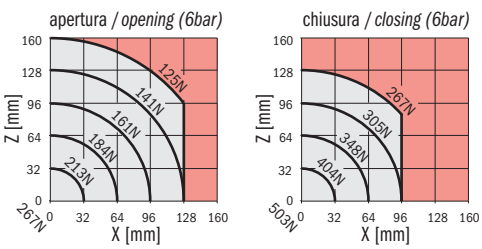




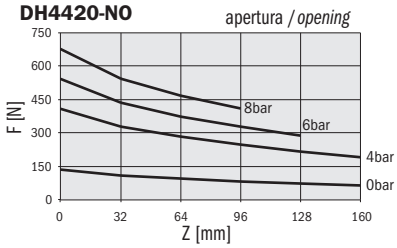
DH4420-NC

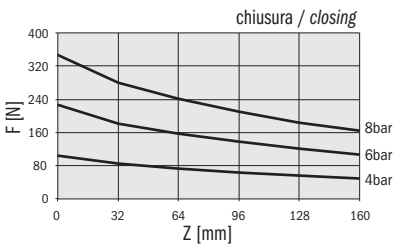


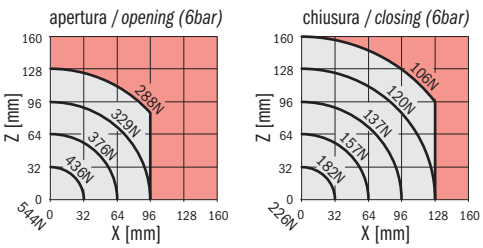




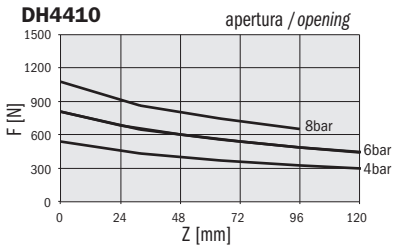
DH4420-NO

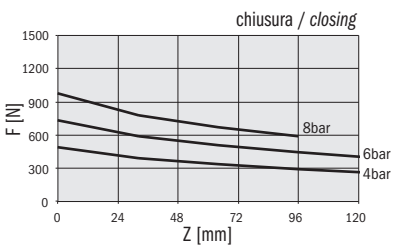


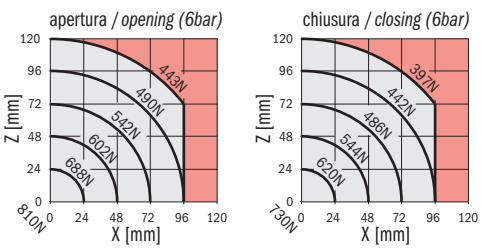




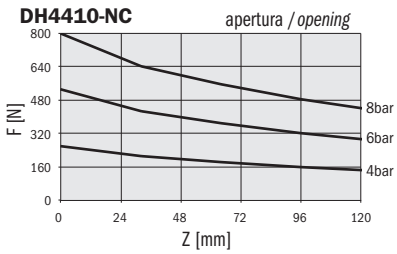
DH4410

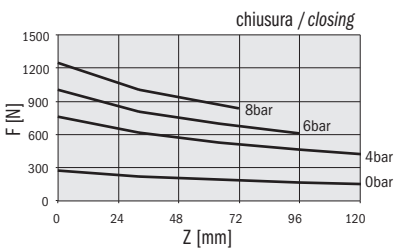


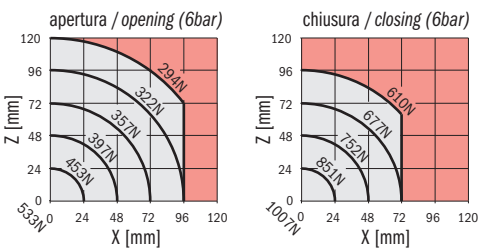




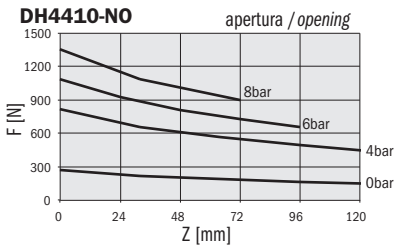
DH4410-NC

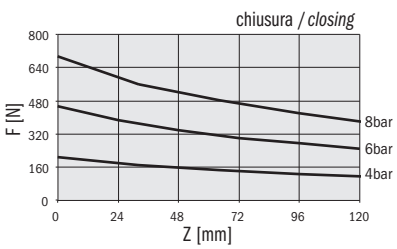


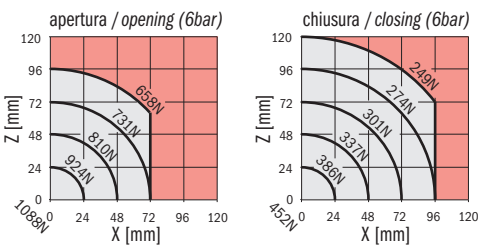




DH4410-NO



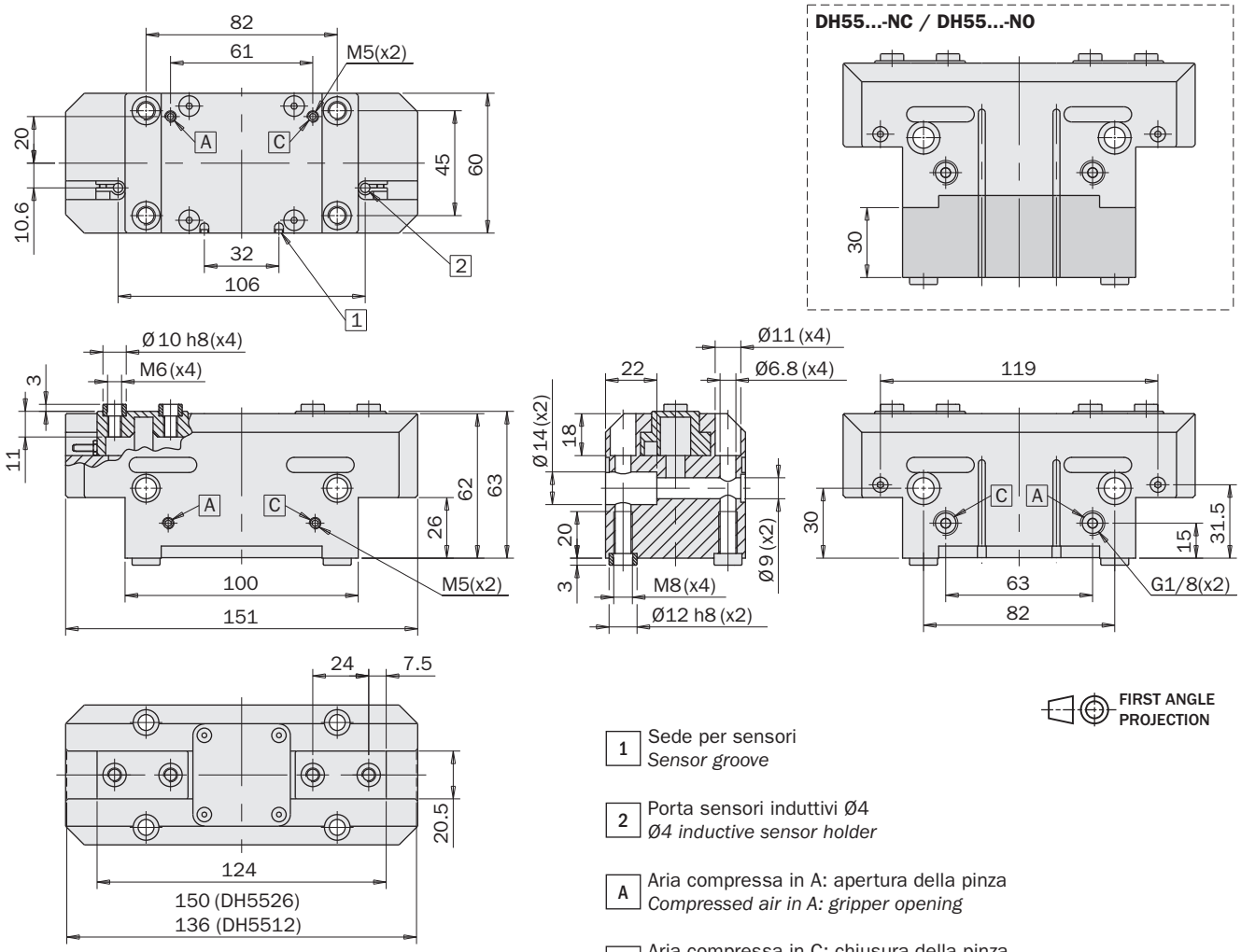




DH

	DH5526	DH5526-NC	DH5526-NO	DH5512	DH5512-NC	DH5512-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	625N	359 ÷ 443N	807 ÷ 891N	1350N	774 ÷ 957N	1742 ÷ 1924N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	1250N	718 ÷ 886N	1614 ÷ 1782N	2700N	1548 ÷ 1914N	3484 ÷ 3884N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	555N	739 ÷ 823N	290 ÷ 375N	1200N	1595 ÷ 1777N	627 ÷ 809N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	1110N	1478 ÷ 1646N	580 ÷ 750N	2400N	3190 ÷ 3554N	1254 ÷ 1618N
Corsa totale ±0.3mm *Total stroke*	26mm			12mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	2Hz					
Consumo d'aria per ciclo *Cycle air consumption*	70cm³	97cm³	97cm³	70cm³	97cm³	97cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.11s / 0.11s	0.08s / 0.13s	0.13s / 0.08s	0.08s / 0.08s	0.06s / 0.13s	0.13s / 0.06s
Ripetibilità *Repetition accuracy*	0.02mm					
Peso *Weight*	1350g	1750g	1700g	1370g	1770g	1720g

Dimensioni (mm) / *Dimensions (mm)*



FIRST ANGLE PROJECTION

1 Sede per sensori
Sensor groove

2 Porta sensori induttivi Ø4
Ø4 inductive sensor holder

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

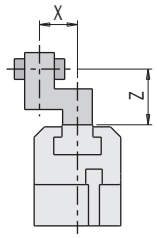
03/2015

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

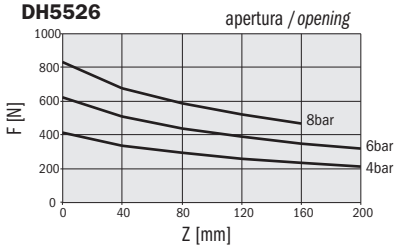
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

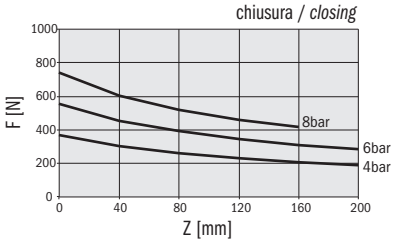


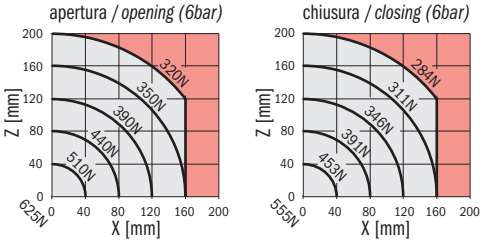
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

The force shown in these graphs refers to one jaw. The total force is double.

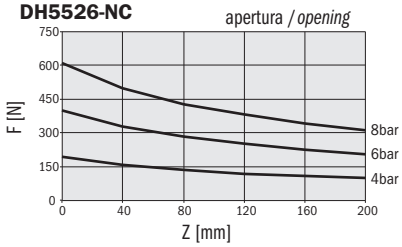
DH5526

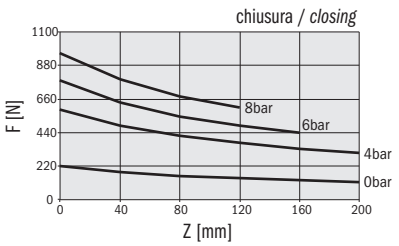


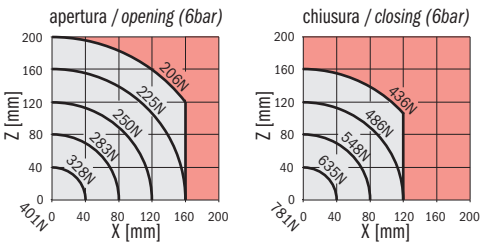




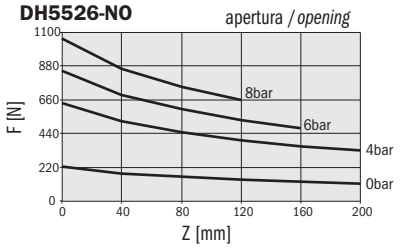
DH5526-NC

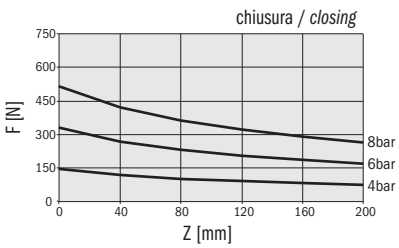


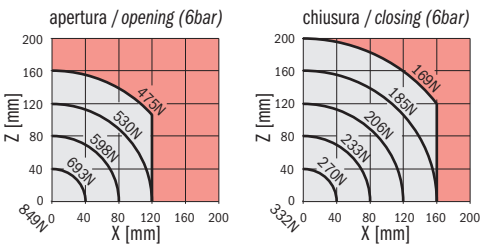




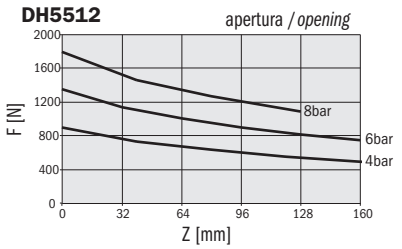
DH5526-NO

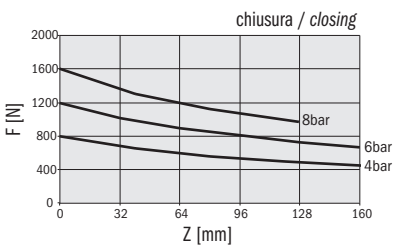


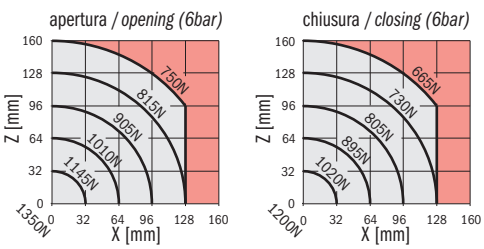




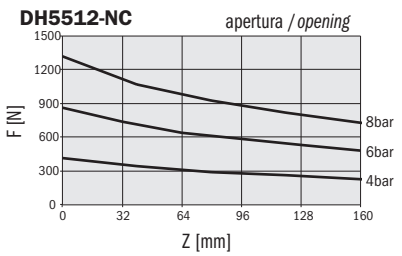
DH5512

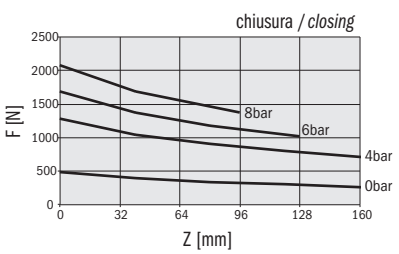


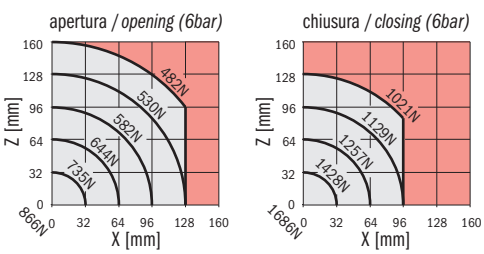




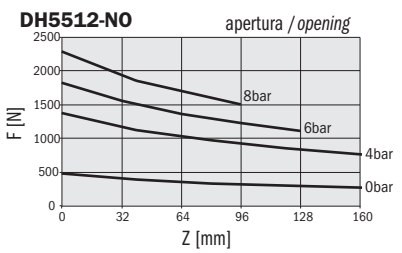
DH5512-NC

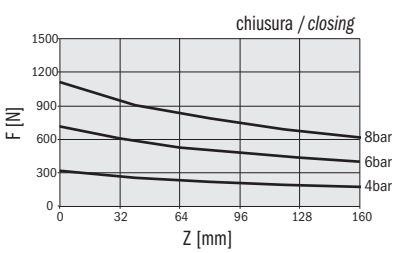


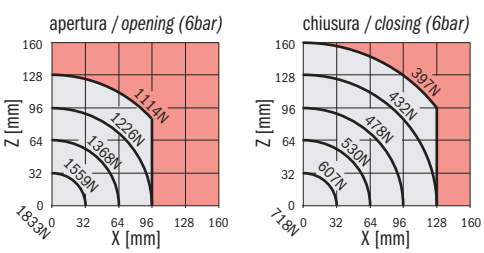




DH5512-NO



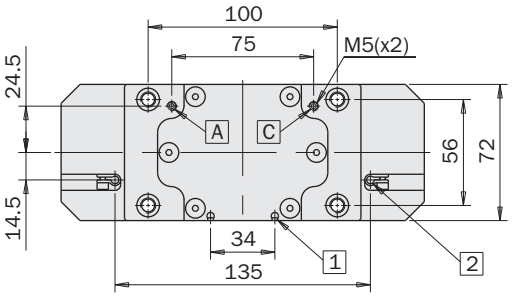


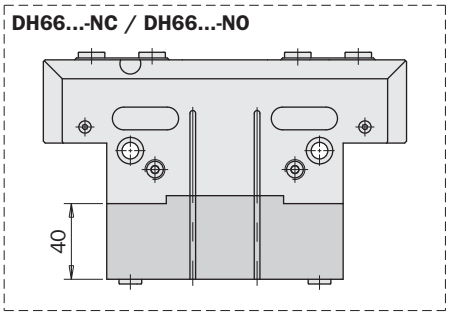


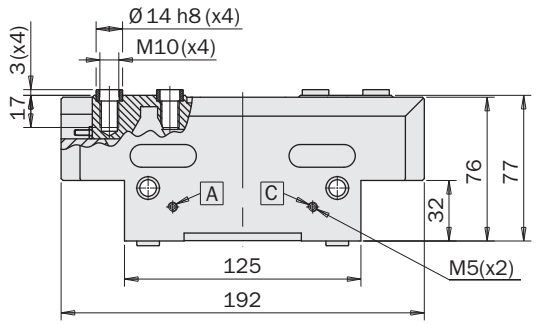
DH

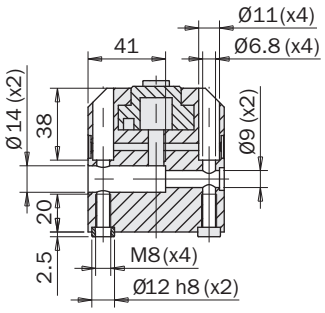
	DH6632	DH6632-NC	DH6632-NO	DH6616	DH6616-NC	DH6616-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	920N	559 ÷ 663N	1180 ÷ 1284N	1840N	1119 ÷ 1326N	2361 ÷ 2568N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	1840N	1118 ÷ 1326N	2360 ÷ 2568N	3680N	2238 ÷ 2652N	4722 ÷ 5136N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	820N	1078 ÷ 1181N	457 ÷ 560N	1640N	2156 ÷ 2363N	914 ÷ 1121N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	1640N	2156 ÷ 2362N	914 ÷ 1120N	3280N	4312 ÷ 4726N	1828 ÷ 2242N
Corsa totale ±0.3mm *Total stroke*	32mm			16mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	2Hz					
Consumo d'aria per ciclo *Cycle air consumption*	127cm³	178cm³	178cm³	127cm³	178cm³	178cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.15s / 0.15s	0.12s / 0.18s	0.18s / 0.12s	0.15s / 0.15s	0.12s / 0.18s	0.18s / 0.12s
Ripetibilità *Repetition accuracy*	0.02mm					
Peso *Weight*	2630g	3430g	3300g	2670g	3470g	3340g

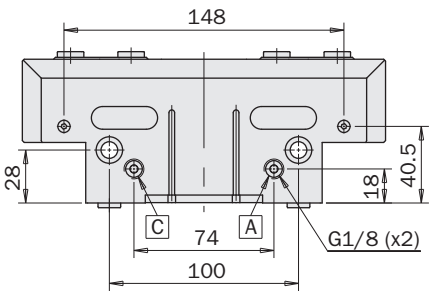
Dimensioni (mm) / *Dimensions (mm)*

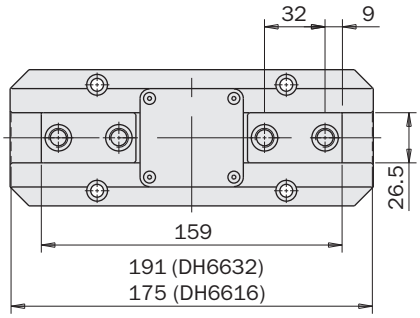












FIRST ANGLE PROJECTION

1 Sede per sensori
Sensor groove

2 Porta sensori induttivi Ø4
Ø4 inductive sensor holder

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

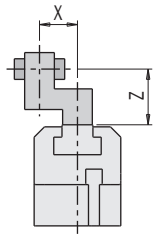
03/2015

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

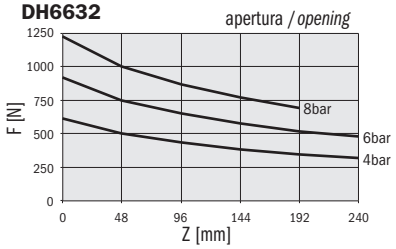
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

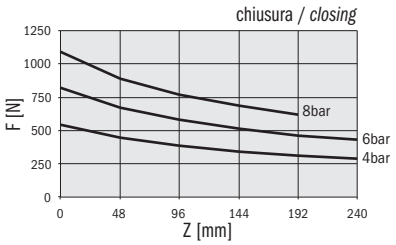


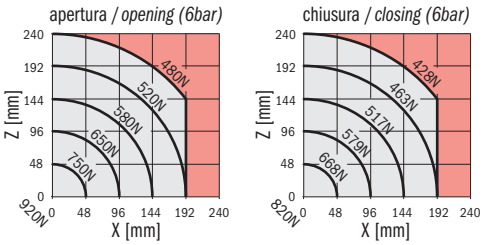
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

The force shown in these graphs refers to one jaw. The total force is double.

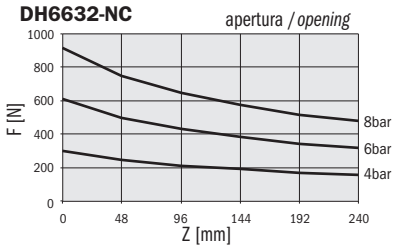
DH6632

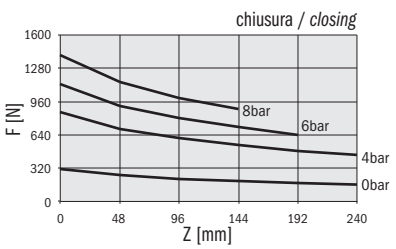


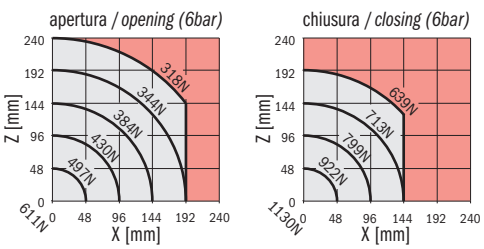




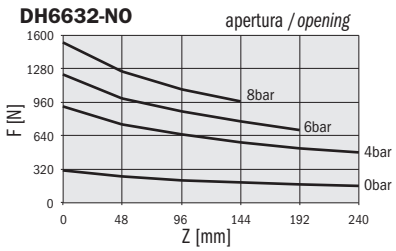
DH6632-NC

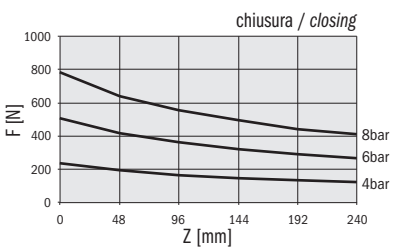


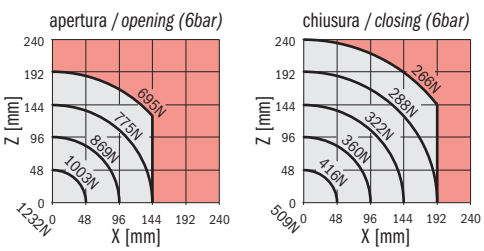




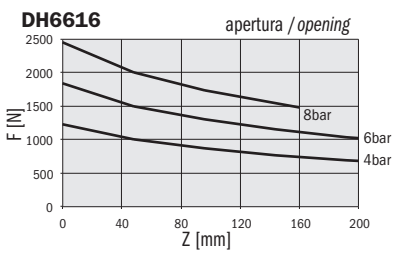
DH6632-NO

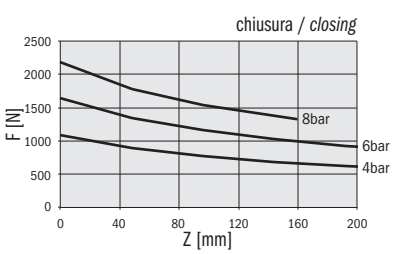


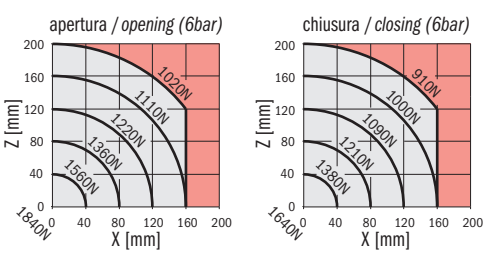




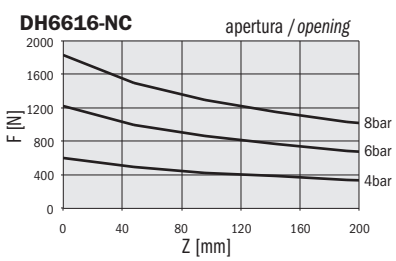
DH6616

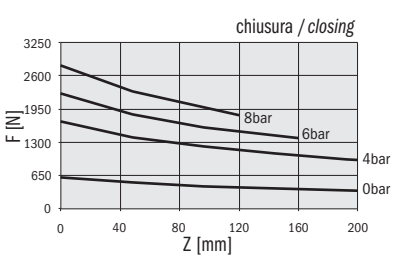


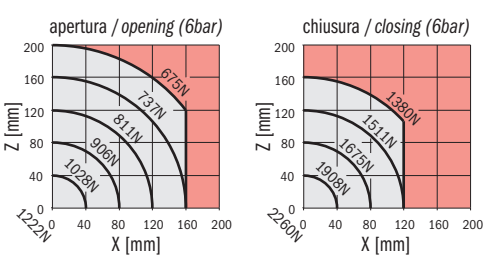




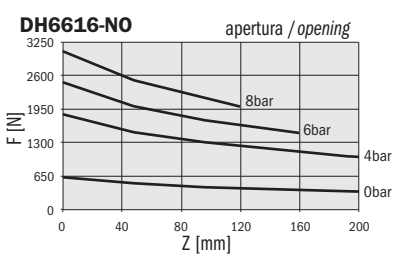
DH6616-NC

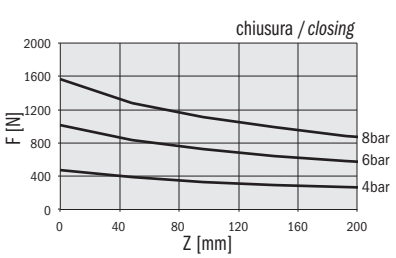


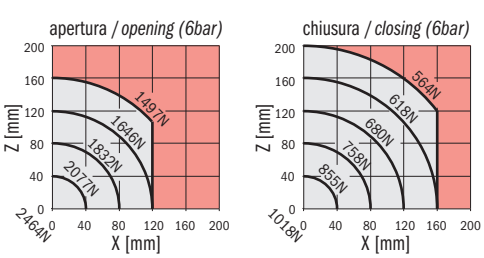




DH6616-NO



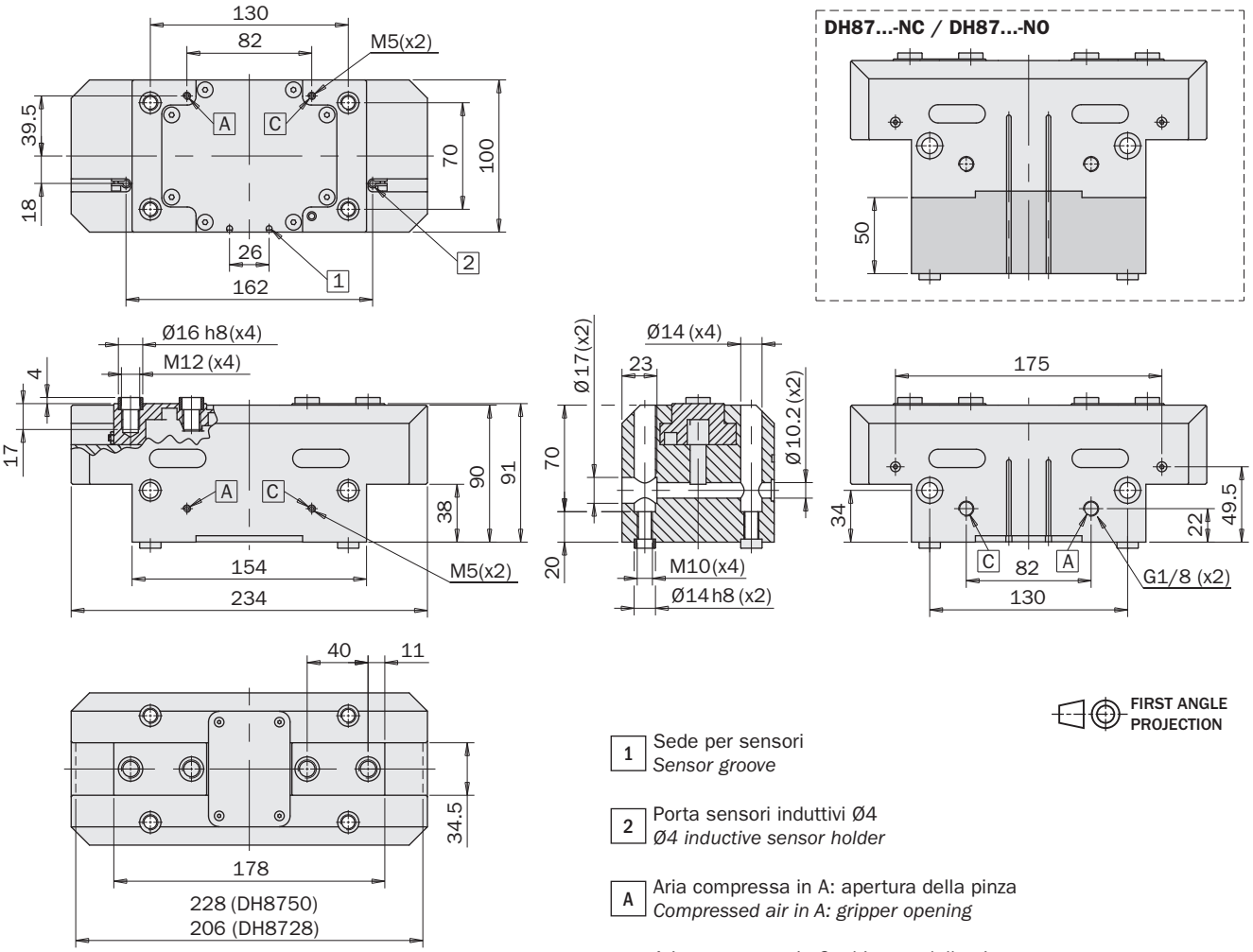




DH

	DH8750	DH8750-NC	DH8750-NO	DH8728	DH8728-NC	DH8728-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar	1.5 ÷ 8bar	4 ÷ 8bar	4 ÷ 8bar
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	1560N	977 ÷ 1129N	1992 ÷ 2144N	2750N	1720 ÷ 1988N	3509 ÷ 3776N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	3120N	1954 ÷ 2258N	3984 ÷ 4288N	5500N	3440 ÷ 3976N	7018 ÷ 7552N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	1420N	1853 ÷ 2005N	837 ÷ 989N	2500N	3263 ÷ 3531N	1475 ÷ 1742N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	2840N	3706 ÷ 4010N	1674 ÷1978N	5000N	6526 ÷ 7026N	2950 ÷ 3484N
Corsa totale ±0.3mm *Total stroke*	50mm			28mm		
Frequenza max funzionamento continuativo *Maximum working frequency*	1Hz					
Consumo d'aria per ciclo *Cycle air consumption*	347cm³	472cm³	472cm³	347cm³	472cm³	472cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.21s / 0.21s	0.19s / 0.31s	0.31s / 0.19s	0.21s / 0.21s	0.19s / 0.31s	0.31s / 0.19s
Ripetibilità *Repetition accuracy*	0.02mm					
Peso *Weight*	4990g	6920g	6750g	5050g	6980g	6810g

Dimensioni (mm) / *Dimensions (mm)*



1 Sede per sensori
Sensor groove

2 Porta sensori induttivi Ø4
Ø4 inductive sensor holder

A Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

C Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

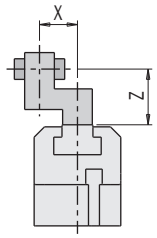
03/2015

Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

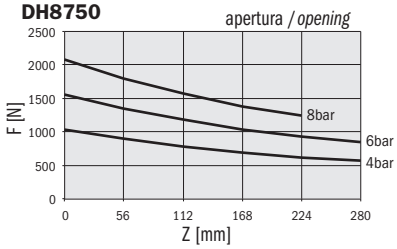
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure, the gripping tool length (Z) and the overhanging (X).
Decrease the air pressure if the gripper is used in red area.

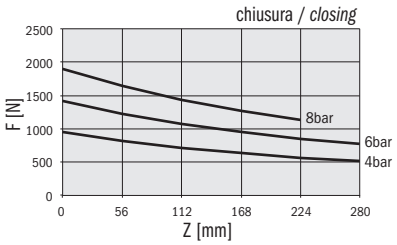


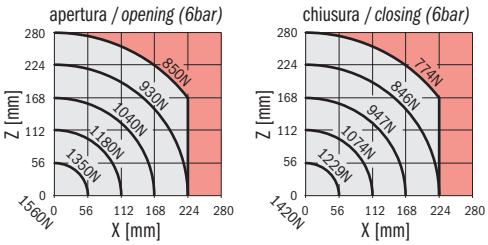
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

The force shown in these graphs refers to one jaw.
The total force is double.

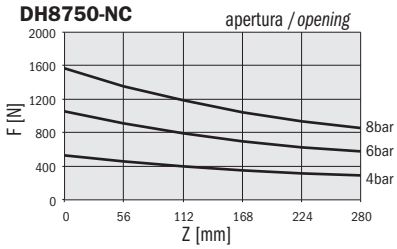
DH8750

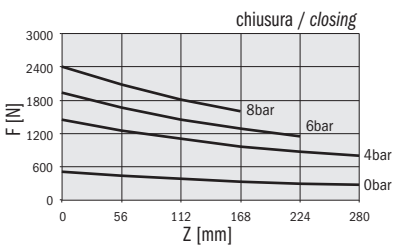


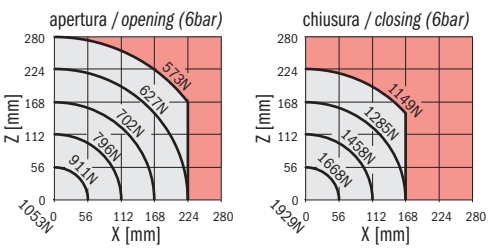




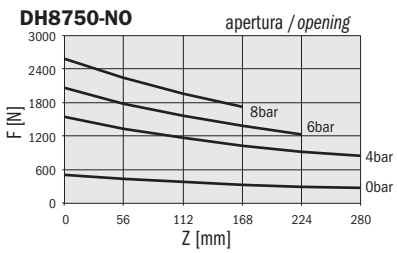
DH8750-NC

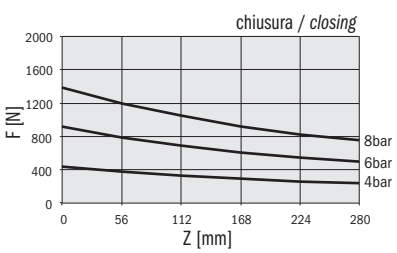


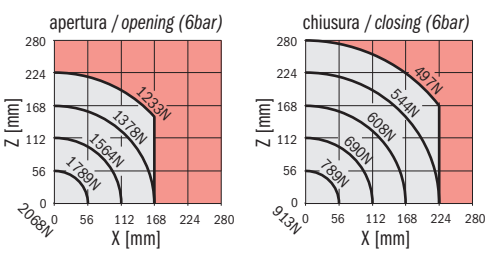




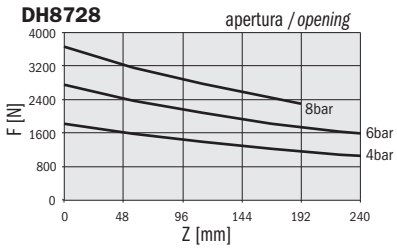
DH8750-NO

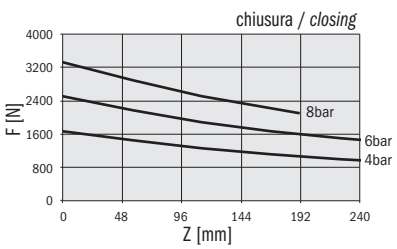


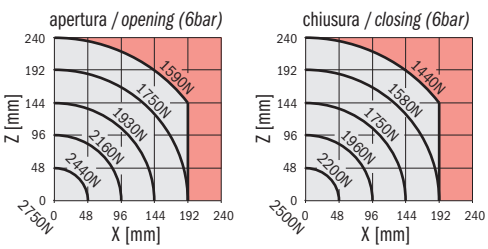




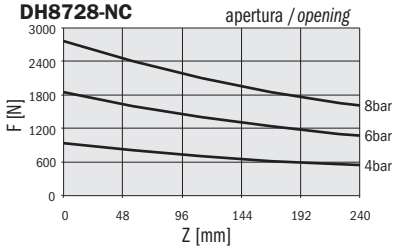
DH8728

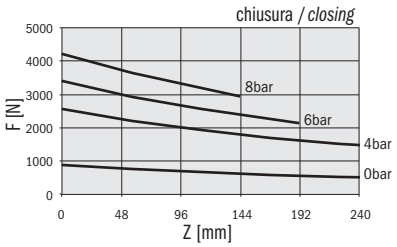


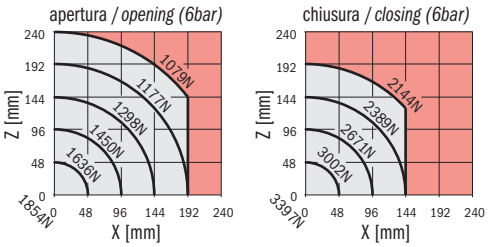




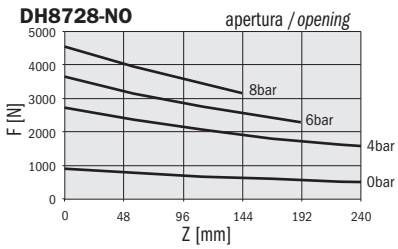
DH8728-NC

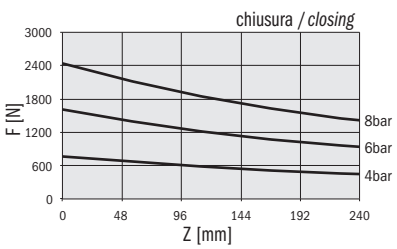


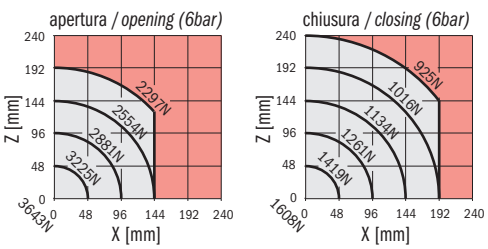




DH8728-NO







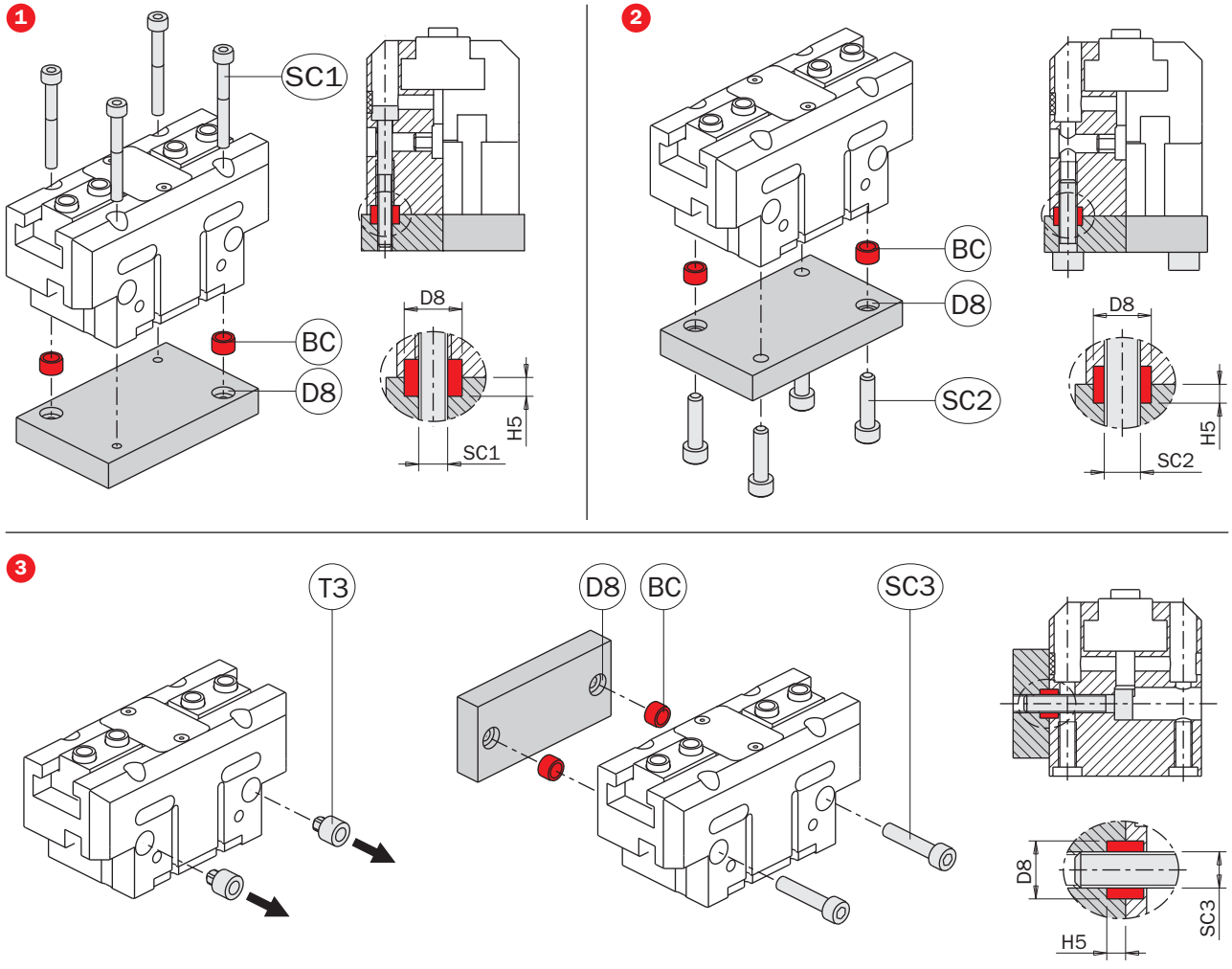
DH

Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
1) Per fissare la pinza sul fondo, usare quattro viti (SC1) attraverso i fori passanti.
2) Il fissaggio sul fondo è possibile anche con quattro viti (SC2) passanti attraverso la piastra di fissaggio ed avvitate nella pinza.
3) Per fissare la pinza su un lato, usare due viti (SC3) attraverso i fori passanti dopo aver rimosso i tappi di protezione (T3).
In ogni caso utilizzare per il centraggio le due boccole (BC), fornite nella confezione. Rispettare le dimensioni nella tabella (D8 e H5) per le loro sedi nella piastra di fissaggio.

Gripper fastening

The gripper can be fastened to a static or moving part.
When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.
1) To fasten gripper to base, use four screws (SC1) in the through holes.
2) To fasten gripper to base, you can also use four screws (SC2) through the mounting plate, screwed in the gripper.
3) To fasten the gripper side, use two screws (SC3) in the through holes, after removing the protection plugs (T3).
In every case, put the two centering sleeves (BC), which are supplied in the package. Check the dimensions in the table (D8 and H5) for their housings in the mounting plate.



		DH19...	DH22...	DH27...	DH35...	DH44...	DH55...	DH66...	DH87...
D8	H8	Ø5	Ø6	Ø8	Ø8	Ø10	Ø12	Ø12	Ø14
H5	+0.1 +0.2	2	2.5	2.5	2.5	3	3	2.5	4
SC1		M2.5	M3	M4	M4	M5	M6	M6	M8
SC2		M3	M4	M5	M5	M6	M8	M8	M10
SC3		M2.5	M3	M4	M5	M6	M8	M8	M10

Fissaggio delle estremità di presa

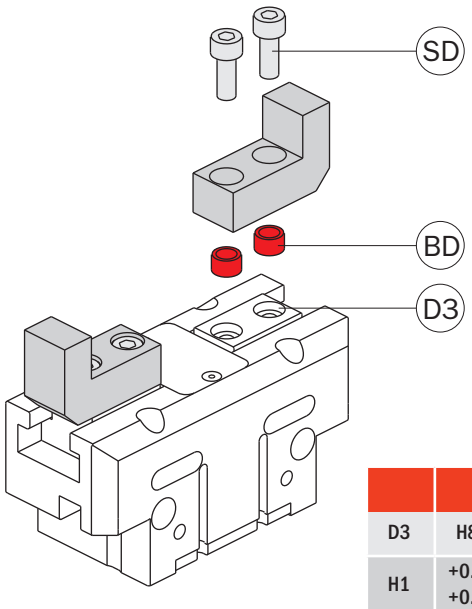
Costruire le dita di presa il più possibile corte e leggere.
Fissarle con due viti (SD) e due boccole di centraggio (BD) nei fori calibrati (D3) delle griffe.

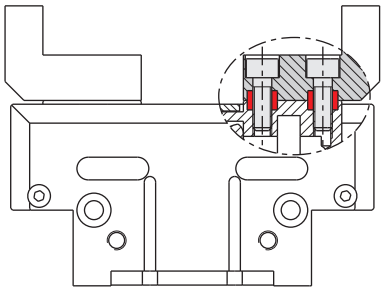
Nella confezione della pinza sono fornite 4 boccole di centraggio (BD) per le dita di presa e 2 boccole (BC) per il corpo.

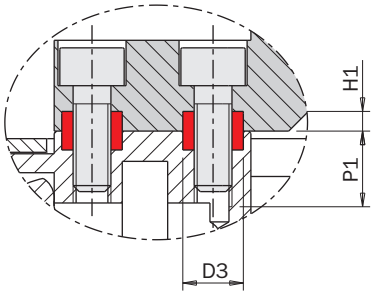
Gripping tool fastening

The gripping tools must be as short and light as possible. They must be fastened by two screws (SD) and two centering sleeves (BD) in the calibrated holes (D3) of the jaws.

4 centering rings (BD) for the gripping tools and 2 centering sleeves (BC) for the housing are supplied in the packaging.









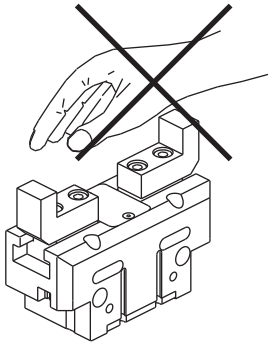
		DH19...	DH22...	DH27...	DH35...	DH44...	DH55...	DH66...	DH87...
D3	H8	Ø4	Ø5	Ø6	Ø8	Ø10	Ø10	Ø14	Ø16
H1	+0.1 +0.2	2	1.4	2.5	2.5	3	3	3	4
P1		5	6	8	9.5	11	11	17	17
SD		M2.5	M3	M4	M5	M6	M6	M10	M12

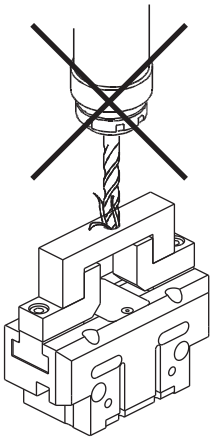
Avvertenze

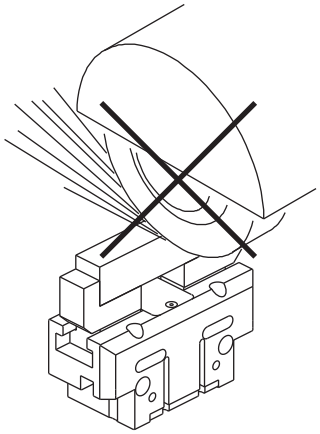
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.





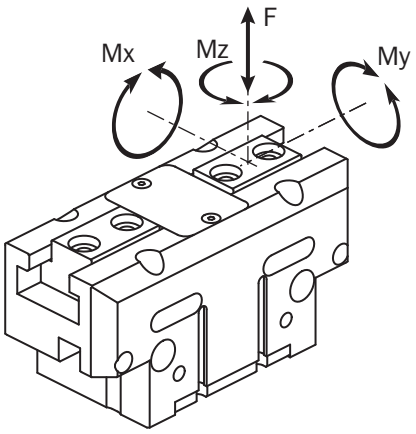


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment. If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



	DH1905 DH1905-NC DH1905-NO	DH2208 DH2208-NC DH2208-NO	DH2204 DH2204-NC DH2204-NO	DH2712 DH2712-NC DH2712-NO	DH2706 DH2706-NC DH2706-NO	DH3516 DH3516-NC DH3516-NO	DH3508 DH3508-NC DH3508-NO
F s	200N	350N	350N	600N	600N	900N	900N
Mx s	2.5Nm	5Nm	7.5Nm	8Nm	13Nm	18Nm	30Nm
My s	2.5Nm	7.5Nm	7.5Nm	13Nm	13Nm	30Nm	30Nm
Mz s	2Nm	4Nm	6Nm	6.5Nm	10Nm	15Nm	23Nm
F d	2N	4N	4N	6N	6N	9N	9N
Mx d	0.06Nm	0.12Nm	0.12Nm	0.25Nm	0.25Nm	0.5Nm	0.5Nm
My d	0.06Nm	0.12Nm	0.12Nm	0.25Nm	0.25Nm	0.5Nm	0.5Nm
Mz d	0.06Nm	0.12Nm	0.12Nm	0.25Nm	0.25Nm	0.5Nm	0.5Nm
m	100g	180g	180g	350g	350g	600g	600g

	DH4420 DH4420-NC DH4420-NO	DH4410 DH4410-NC DH4410-NO	DH5526 DH5526-NC DH5526-NO	DH5512 DH5512-NC DH5512-NO	DH6632 DH6632-NC DH6632-NO	DH6616 DH6616-NC DH6616-NO	DH8750 DH8750-NC DH8750-NO	DH8728 DH8728-NC DH8728-NO
F s	1500N	1500N	2500N	2500N	4000N	4000N	7000N	7000N
Mx s	40Nm	60Nm	80Nm	125Nm	145Nm	215Nm	350Nm	400Nm
My s	60Nm	60Nm	80Nm	80Nm	145Nm	145Nm	200Nm	200Nm
Mz s	30Nm	45Nm	65Nm	95Nm	115Nm	165Nm	280Nm	300Nm
F d	15N	15N	25N	25N	40N	40N	70N	70N
Mx d	1Nm	1Nm	2Nm	2Nm	4Nm	4Nm	8Nm	8Nm
My d	1Nm	1Nm	2Nm	2Nm	4Nm	4Nm	8Nm	8Nm
Mz d	1Nm	1Nm	2Nm	2Nm	4Nm	4Nm	8Nm	8Nm
m	1100g	1100g	2100g	2100g	3500g	3500g	6500g	6500g

Sensori (opzionali)

Il rilevamento della posizione di lavoro può essere effettuato con sensori magnetici che rilevano il magnete sul pistone, oppure con sensori induttivi (diametro 4mm), che rilevano una parte metallica (M) la cui posizione nella griffa è regolabile.

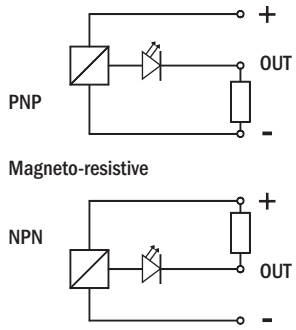
I sensori magnetici utilizzabili sono i codici Gimatic:

Sensors (optional)

The operating position can be checked by magnetic sensors which detect a magnet on the piston, or by inductive sensors (4mm diameter), which detect a metal part (M) in an adjustable position into the jaw.

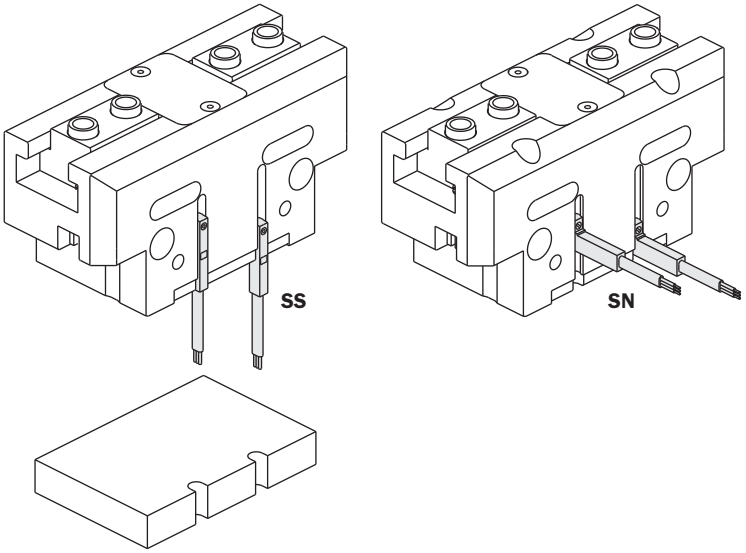
The magnetic sensors from Gimatic are the codes:

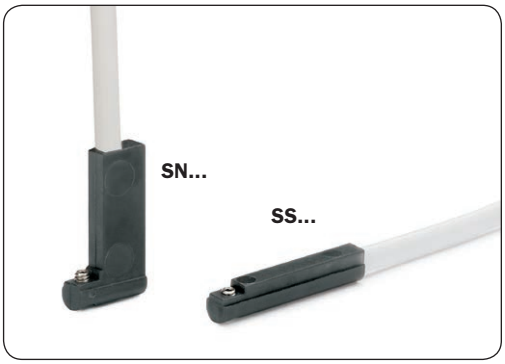
			DH
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑



Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a 3-wire flat cable and a LED.

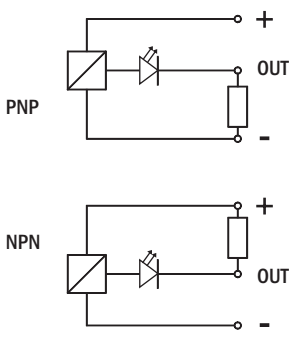




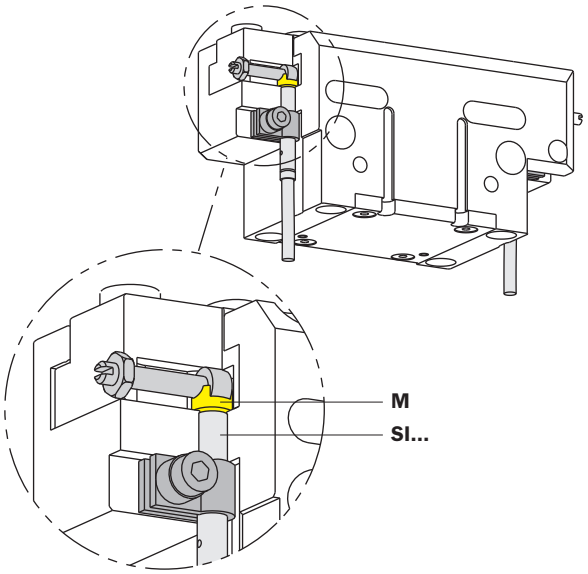
Sensori induttivi regolabili (non per DH19 e DH22):

Adjustable inductive sensors (not for DH19 and DH22):

			DH27 DH35 DH44 DH55 DH66 DH87
SI4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SI4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑





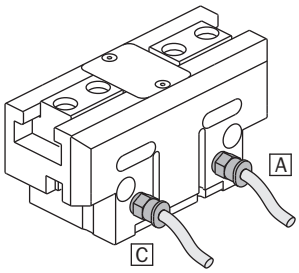


Connessione pneumatica

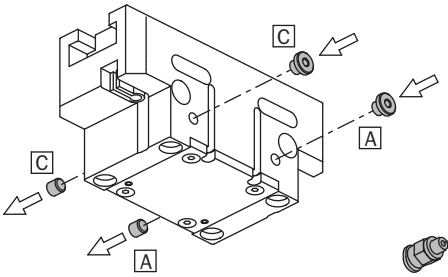
La pinza può essere alimentata con aria compressa dai fori principali sul fianco, montando i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure si può alimentare direttamente dalla piastra di fissaggio rimuovendo i tappi e interponendo degli O-Ring (non forniti).
Questo è possibile, dopo aver tappato i fori principali, sia con la pinza fissata sul fondo, sia con la pinza fissata sul fianco.
Rispettare le dimensioni indicate nella tabella per le sedi degli O-Ring nella piastra di fissaggio.
Aria compressa in A: apertura della pinza.
Aria compressa in C: chiusura della pinza.
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

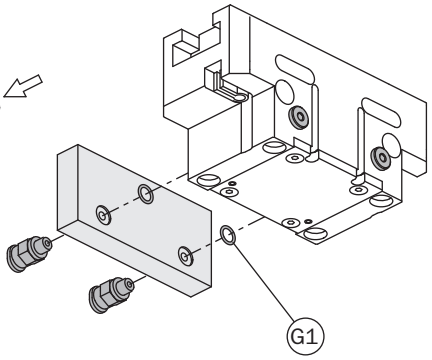
Compressed air feeding

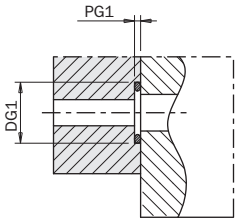
The compressed air feeding can be accomplished by the main lateral air ports on the gripper side, after mounting fittings and hoses (not supplied).
Or the compressed air can be supplied directly by the mounting plate, through O-Rings (not supplied), after removing the plugs.
This is possible with the gripper fastened on the bottom, or on one side, after plugging the main air ports.
Check the dimensions in the table for the housings of the O-Rings in the mounting plate.
Compressed air in A: gripper opening.
Compressed air in C: gripper closing.
Compressed air must be supplied filtered (5÷40µm), not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

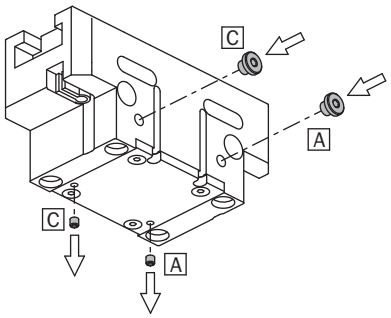


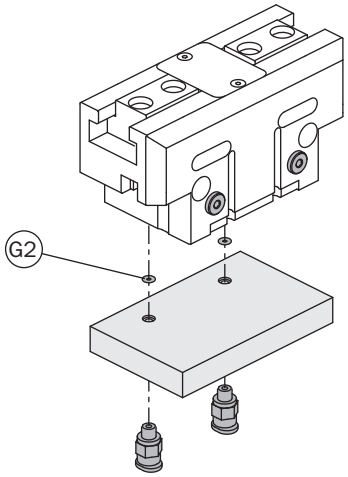
		DH19...	DH22...	DH27...	DH35...	DH44...	DH55...	DH66...	DH87...
G1		O-Ring 1x3 (GUAR-082)	O-Ring 1x5 (GUAR-021)						
DG1	H11	Ø5 mm	Ø7 mm						
PG1	+0.1	0.7 mm							
G2		O-Ring 1x3 (GUAR-082)					O-Ring 1x5 (GUAR-021)		
DG2	H11	Ø5 mm					Ø7 mm		
PG2	+0.1	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.5 mm	0.5 mm	0.5 mm	0.7 mm

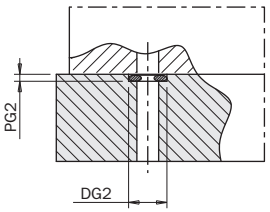












Circuito pneumatico

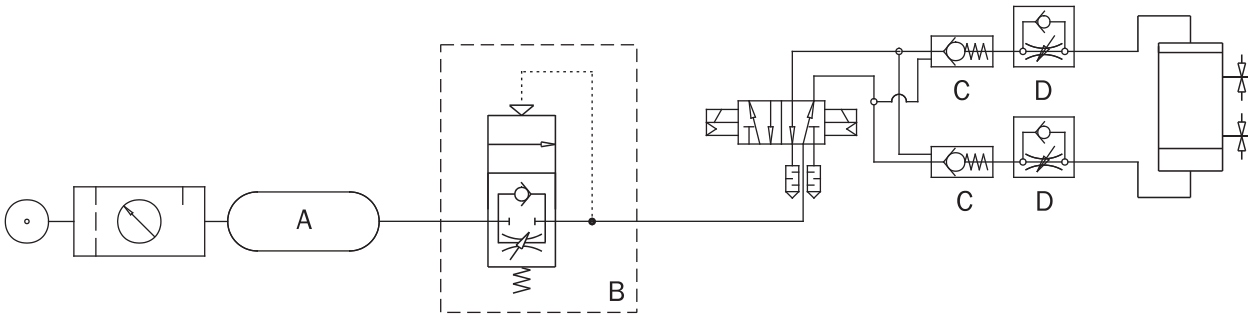
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty gripper.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Manutenzione

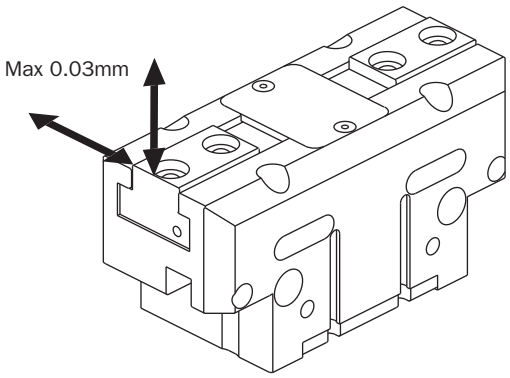
La pinza va ingrassata ogni 10 milioni di cicli con:
• BERULUB FG-H 2 EP
(Lubrificante NSF H1 Registrazione No. 140486).

La figura sotto mostra il gioco massimo delle griffe.

Maintenance

Grease the gripper after 10 million cycles with:
• *BERULUB FG-H 2 EP*
(Lubricant NSF H1 Registration No. 140486).

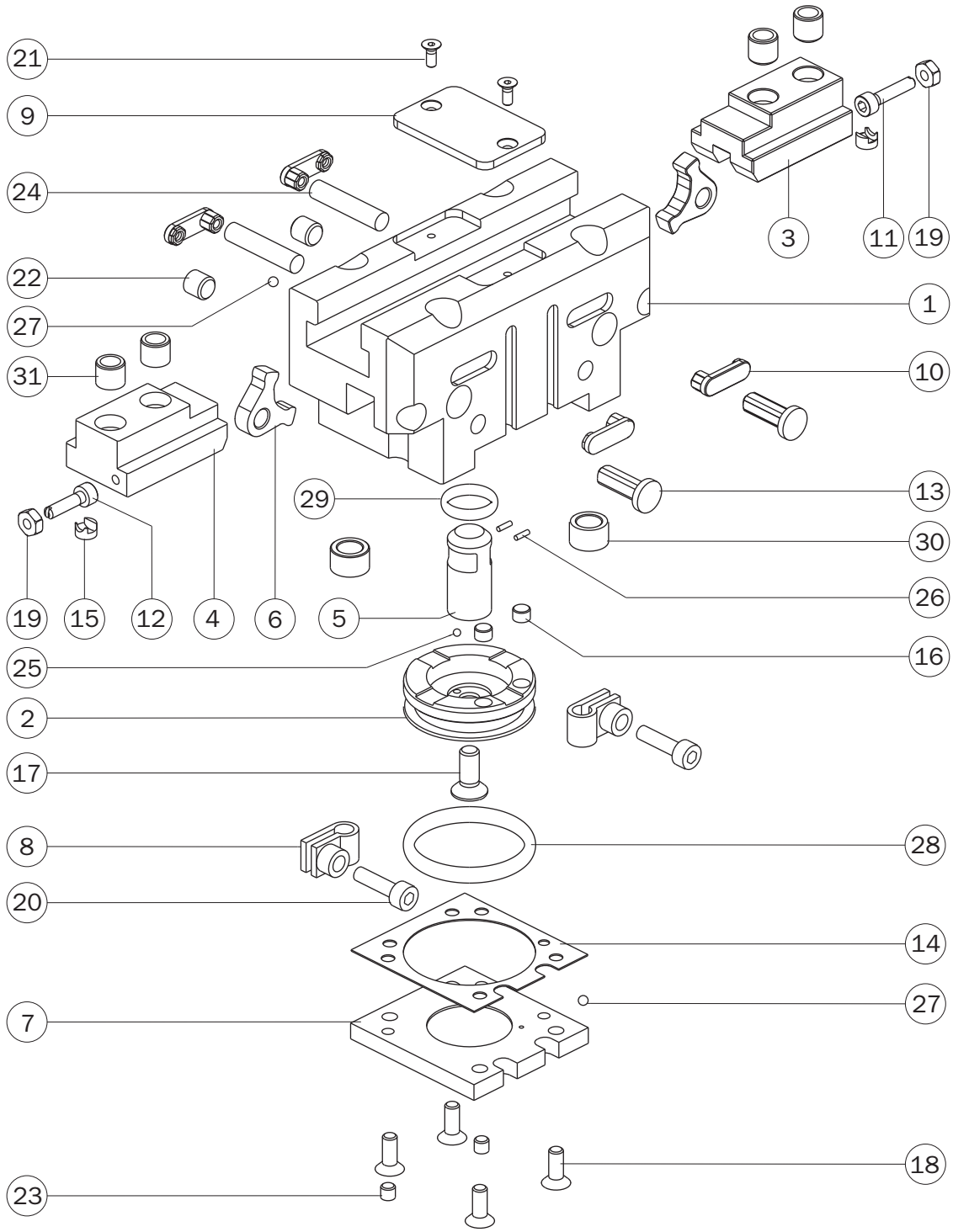
The picture below shows the jaw maximum backlash.



DH

Vista esplosa / *Exploded view*

DH19
DH22
DH27



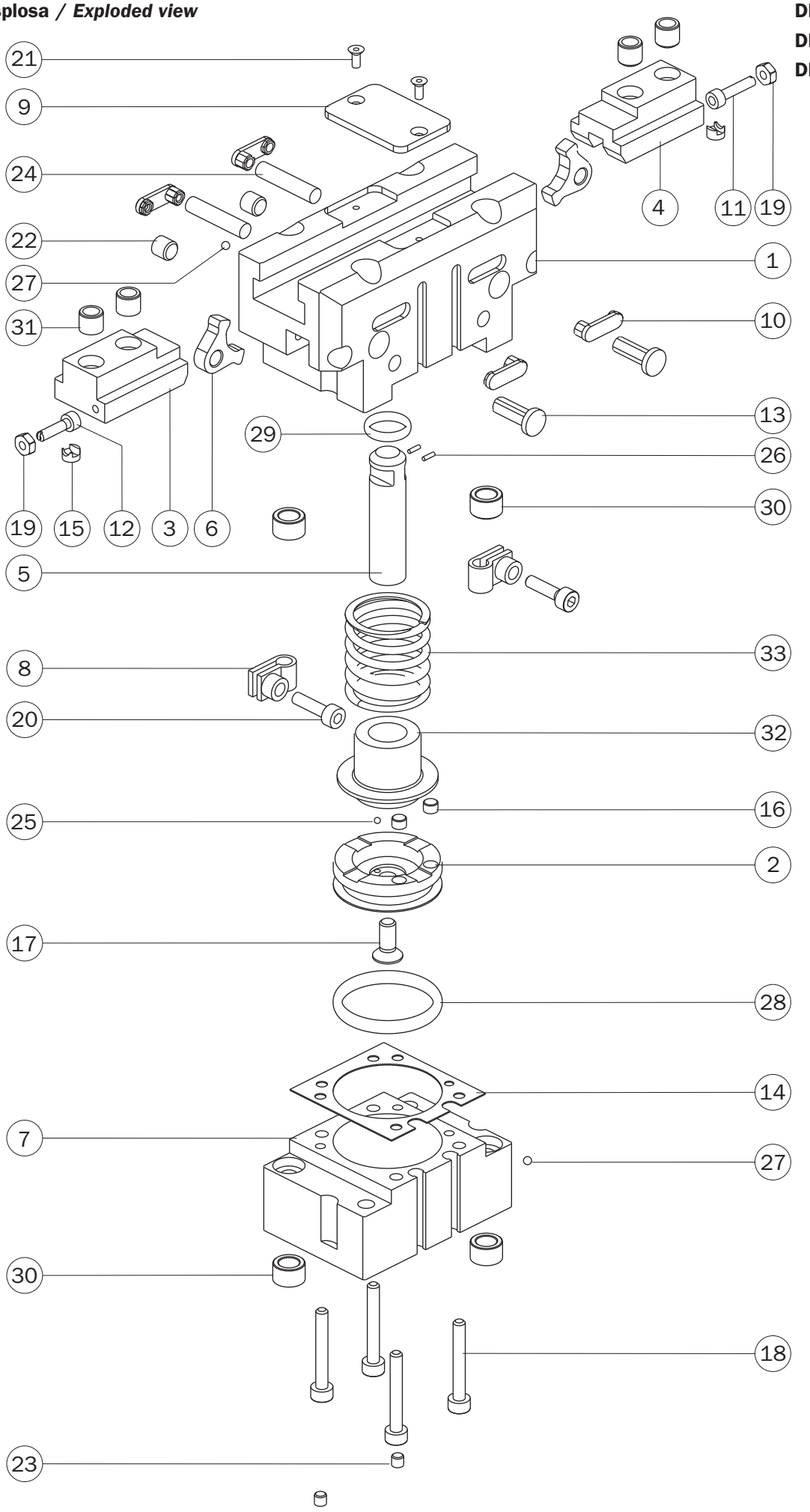
Elenco delle parti / *Part list*

		DH1905	DH2208	DH2204	DH2712	DH2706		
1	Corpo pinza	DH1905-01	DH2208-01		DH2712-01		*Gripper housing*	*1*
2	Pistone	DH1905-04	DH2208-02		DH2712-02		*Piston*	*2*
3	Griffa destra	DH1905-03	DH2208-03		DH2712-03D		*Right jaw*	*3*
4	Griffa sinistra	DH1905-03	DH2208-03		DH2712-03S		*Left jaw*	*4*
5	Stelo	-	DH2208-04		DH2712-04		*Piston rod*	*5*
6	Leva	DH1905-05	DH2208-05	DH2204-05	DH2712-05	DH2706-05	*Lever*	*6*
7	Fondello	DH1905-06	DH2208-06		DH2712-06		*Bottom end plate*	*7*
8	Supporto per sensori induttivi	-	-		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH1905-08	DH2208-08		DH2712-08		*Top cover*	*9*
10	Tappo	-	DH2208-13		DH2712-13		*Plug*	*10*
11	Vite di regolazione	-	-		DH2712-14		*Adjustment screw*	*11*
12	Vite di regolazione	-	-		DH2712-15	DH2712-16	*Adjustment screw*	*12*
13	Tappo di protezione	-	DH2208-17		DH2712-17		*Protection plug*	*13*
14	Guarnizione fondello	DH1905-18	DH2208-18		DH2712-18		*Seal*	*14*
15	Trascinatore per sensore	-	-		DH2712-19		*Sensor activator*	*15*
16	Magnete	EPP12-13					*Magnet*	*16*
17	Vite	-	VITE-035 M3x8 DIN965A		VITE-028 M4x10 DIN965A		*Screw*	*17*
18	Vite	VITE-238 M2x5 DIN7991	VITE-234 M2.5x6 DIN7991		VITE-306 M3x8 UNI5933		*Screw*	*18*
19	Dado	-	-		VITE-210 M2.5 DIN934		*Nut*	*19*
20	Vite	-	-		VITE-014 M3x12 DIN912		*Screw*	*20*
21	Vite	VITE-238 M2x5 DIN7991					*Screw*	*21*
22	Vite senza testa	VITE-229 M3x3 DIN913	VITE-197 M5x4 DIN913		VITE-069 M5x5 DIN913		*Grub screw*	*22*
23	Vite senza testa	VITE-432 M2x2.5 DIN913	VITE-229 M3x3 DIN913				*Grub screw*	*23*
24	Spina di riferimento	SPINA-077 2.5x20 DIN6325	SPINA-069 2.5x17.8 DIN5402		SPINA-012 4x20 DIN6325		*Dowel pin*	*24*
25	Sfera	-	SPINA-180 Ø1.5 DIN5401A				*Ball*	*25*
26	Spina di riferimento	-	SPINA-111 4x3.8 DIN5402				*Dowel pin*	*26*
27	Sfera	SPINA-084 Ø2 DIN5401A					*Ball*	*27*
28	O-Ring	GUAR-023H 1.78x15.6	GUAR-206H 2.62x17.13		GUAR-032H 2.62x21.89		*O-Ring*	*28*
29	O-Ring	GUAR-039H 1.78x6.07	GUAR-012H 1.78x6.75		GUAR-013H 1.78x8.73		*O-Ring*	*29*
30	Boccola	SGP-25-09	SGP-32-09		LP23-62		*Bush*	*30*
31	Boccola	SGP-20-09	ZBH-5		SGP-32-09		*Bush*	*31*

DH

Vista esplosa / *Exploded view*

DH19...-NC
DH22...-NC
DH27...-NC



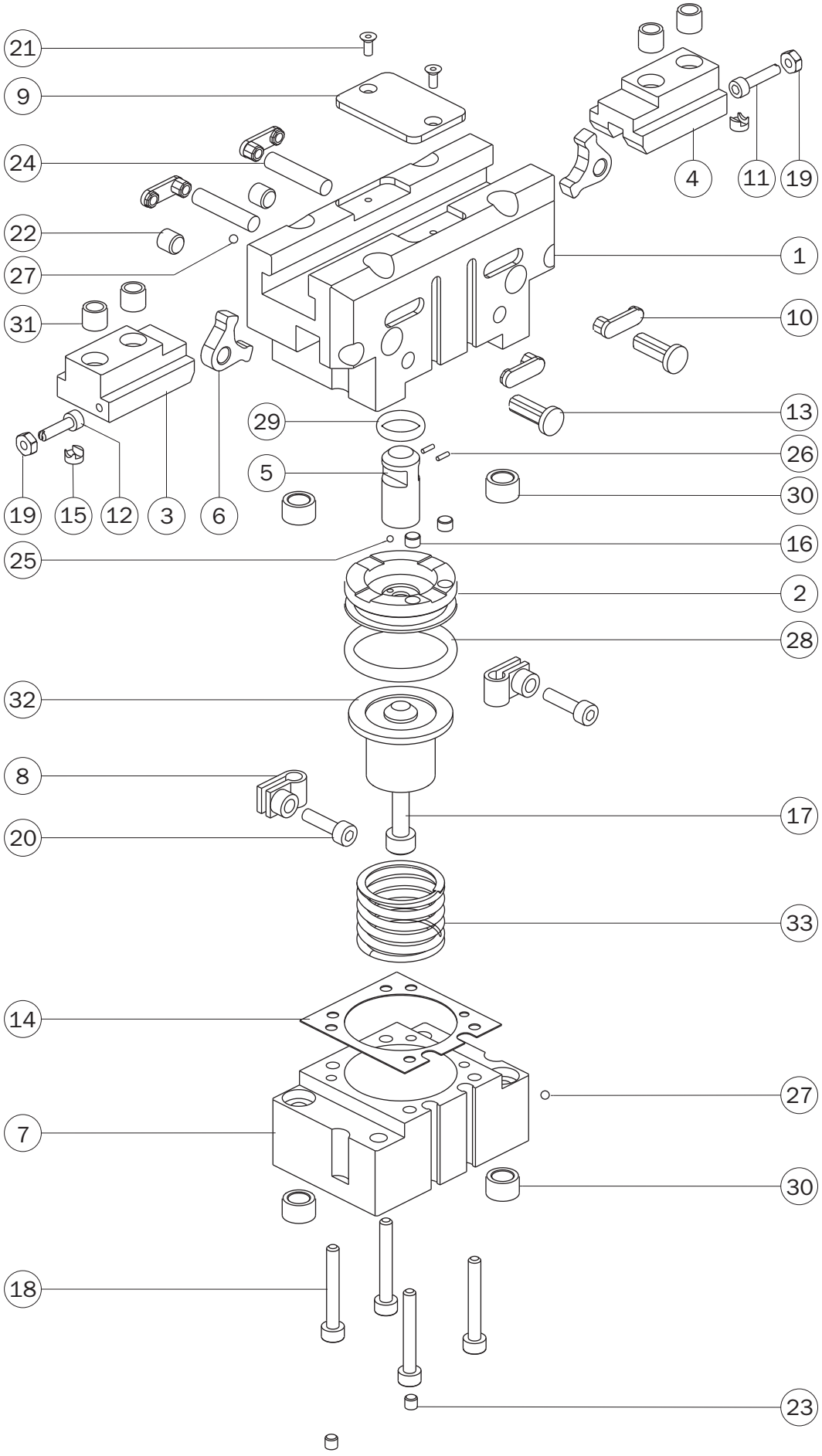
Elenco delle parti / *Part list*

		DH1905-NC	DH2208-NC	DH2204-NC	DH2712-NC	DH2706-NC		
1	Corpo pinza	DH1905-01	DH2208-01		DH2712-01		*Gripper housing*	*1*
2	Pistone	DH1905-10	DH2208-02		DH2712-02		*Piston*	*2*
3	Griffa destra	DH1905-03	DH2208-03		DH2712-03D		*Right jaw*	*3*
4	Griffa sinistra	DH1905-03	DH2208-03		DH2712-03S		*Left jaw*	*4*
5	Stelo	-	DH2208-10		DH2712-10		*Piston rod*	*5*
6	Leva	DH1905-05	DH2208-05	DH2204-05	DH2712-05	DH2706-05	*Lever*	*6*
7	Corpo addizionale	DH1905-09	DH2208-09		DH2712-09		*Additional body*	*7*
8	Supporto per sensori induttivi	-	-		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH1905-08	DH2208-08		DH2712-08		*Top cover*	*9*
10	Tappo	-	DH2208-13		DH2712-13		*Plug*	*10*
11	Vite di regolazione	-	-		DH2712-14		*Adjustment screw*	*11*
12	Vite di regolazione	-	-		DH2712-15	DH2712-16	*Adjustment screw*	*12*
13	Tappo di protezione	-	DH2208-17		DH2712-17		*Protection plug*	*13*
14	Guarnizione fondello	DH1905-18	DH2208-18		DH2712-18		*Seal*	*14*
15	Trascinatore per sensore	-	-		DH2712-19		*Sensor activator*	*15*
16	Magnete	EPP12-13					*Magnet*	*16*
17	Vite	-	VITE-035 M3x8 DIN965A		VITE-028 M4x10 DIN965A		*Screw*	*17*
18	Vite	VITE-433 M2x16 DIN7991	VITE-445 M2.5x20 DIN912		VITE-164 M3x22 DIN912		*Screw*	*18*
19	Dado	-	-		VITE-210 M2.5 DIN934		*Nut*	*19*
20	Vite	-	-		VITE-014 M3x12 DIN912		*Screw*	*20*
21	Vite	VITE-238 M2x5 DIN7991					*Screw*	*21*
22	Vite senza testa	VITE-229 M3x3 DIN913	VITE-197 M5x4 DIN913		VITE-069 M5x5 DIN913		*Grub screw*	*22*
23	Vite senza testa	VITE-432 M2x2.5 DIN913	VITE-229 M3x3 DIN913				*Grub screw*	*23*
24	Spina di riferimento	SPINA-077 2.5x20 DIN6325	SPINA-069 2.5x17.8 DIN5402		SPINA-012 4x20 DIN6325		*Dowel pin*	*24*
25	Sfera	-	SPINA-180 Ø1.5 DIN5401A				*Ball*	*25*
26	Spina di riferimento	-	SPINA-111 4x3.8 DIN5402				*Dowel pin*	*26*
27	Sfera	SPINA-084 Ø2 DIN5401A					*Ball*	*27*
28	O-Ring	GUAR-023H 1.78x15.6	GUAR-206H 2.62x17.13		GUAR-032H 2.62x21.89		*O-Ring*	*28*
29	O-Ring	GUAR-039H 1.78x6.07	GUAR-012H 1.78x6.75		GUAR-013H 1.78x8.73		*O-Ring*	*29*
30	Boccola	SGP-25-09	SGP-32-09		LP23-62		*Bush*	*30*
31	Boccola	SGP-20-09	ZBH-5		SGP-32-09		*Bush*	*31*
32	Distanziale -NC	DH1905-11	DH2208-11		DH2712-11		*Spacer -NC*	*32*
33	Molla	DH1905-20	FES-32-20C		DH2712-20		*Spring*	*33*

DH

Vista esplosa / *Exploded view*

DH19...-NO
DH22...-NO
DH27...-NO



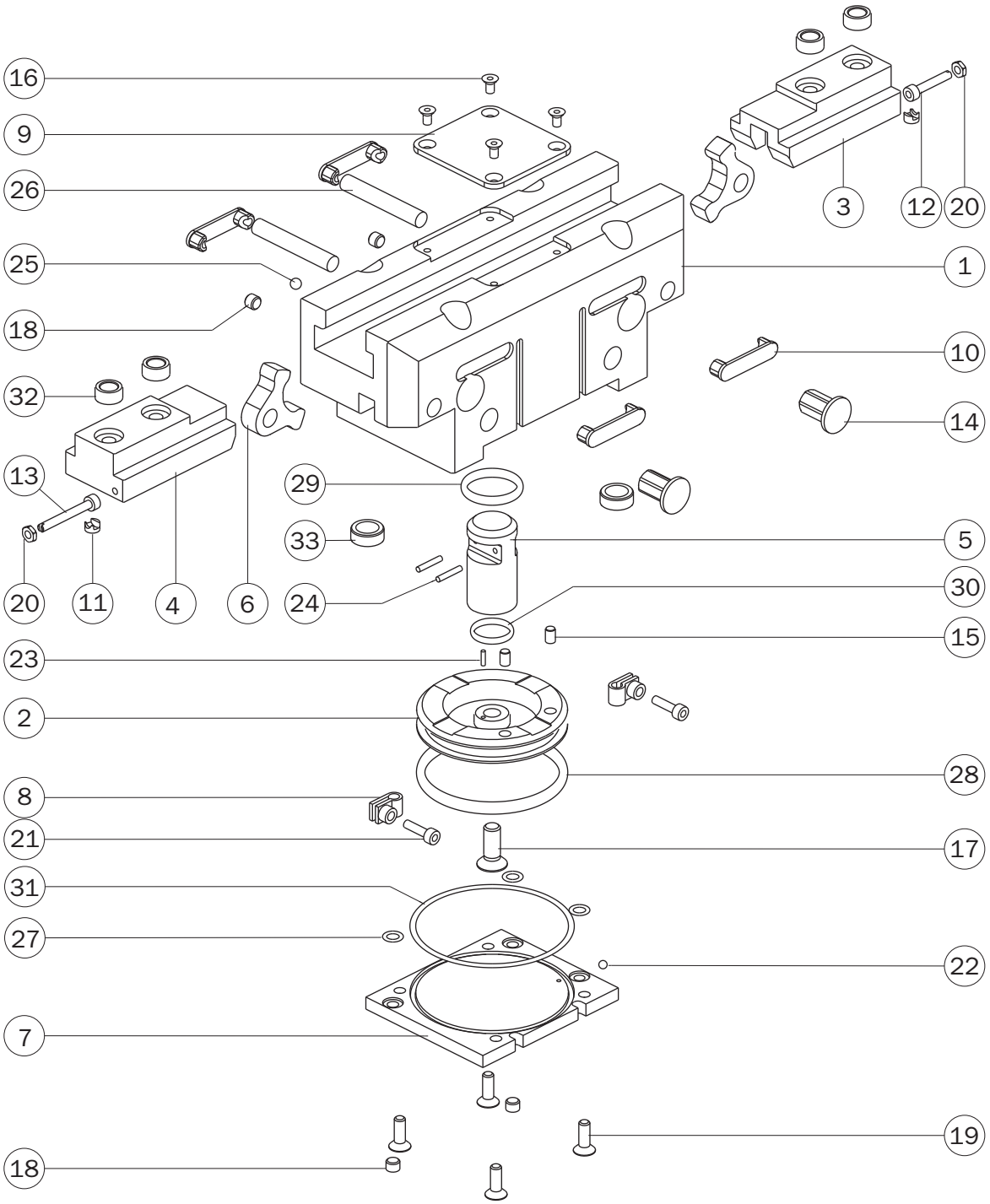
Elenco delle parti / *Part list*

		DH1905-NO	DH2208-NO	DH2204-NO	DH2712-NO	DH2706-NO		
1	Corpo pinza	DH1905-01	DH2208-01		DH2712-01		*Gripper housing*	*1*
2	Pistone	DH1905-10	DH2208-02		DH2712-02		*Piston*	*2*
3	Griffa destra	DH1905-03	DH2208-03		DH2712-03D		*Right jaw*	*3*
4	Griffa sinistra	DH1905-03	DH2208-03		DH2712-03S		*Left jaw*	*4*
5	Stelo	-	DH2208-04		DH2712-04		*Piston rod*	*5*
6	Leva	DH1905-05	DH2208-05	DH2204-05	DH2712-05	DH2706-05	*Lever*	*6*
7	Corpo addizionale	DH1905-09	DH2208-09		DH2712-09		*Additional body*	*7*
8	Supporto per sensori induttivi	-	-		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH1905-08	DH2208-08		DH2712-08		*Top cover*	*9*
10	Tappo	-	DH2208-13		DH2712-13		*Plug*	*10*
11	Vite di regolazione	-	-		DH2712-14		*Adjustment screw*	*11*
12	Vite di regolazione	-	-		DH2712-15	DH2712-16	*Adjustment screw*	*12*
13	Tappo di protezione	-	DH2208-17		DH2712-17		*Protection plug*	*13*
14	Guarnizione fondello	DH1905-18	DH2208-18		DH2712-18		*Seal*	*14*
15	Trascinatore per sensore	-	-		DH2712-19		*Sensor activator*	*15*
16	Magnete	EPP12-13					*Magnet*	*16*
17	Vite	-	VITE-050 M3x16 DIN912		VITE-258 M4x20 DIN912		*Screw*	*17*
18	Vite	VITE-433 M2x16 DIN7991	VITE-445 M2.5x20 DIN912		VITE-164 M3x22 DIN912		*Screw*	*18*
19	Dado	-	-		VITE-210 M2.5 DIN934		*Nut*	*19*
20	Vite	-	-		VITE-014 M3x12 DIN912		*Screw*	*20*
21	Vite	VITE-238 M2x5 DIN7991					*Screw*	*21*
22	Vite senza testa	VITE-229 M3x3 DIN913	VITE-197 M5x4 DIN913		VITE-069 M5x5 DIN913		*Grub screw*	*22*
23	Vite senza testa	VITE-432 M2x2.5 DIN913	VITE-229 M3x3 DIN913				*Grub screw*	*23*
24	Spina di riferimento	SPINA-077 2.5x20 DIN6325	SPINA-069 2.5x17.8 DIN5402		SPINA-012 4x20 DIN6325		*Dowel pin*	*24*
25	Sfera	-	SPINA-180 Ø1.5 DIN5401A				*Ball*	*25*
26	Spina di riferimento	-	SPINA-111 4x3.8 DIN5402				*Dowel pin*	*26*
27	Sfera	SPINA-084 Ø2 DIN5401A					*Ball*	*27*
28	O-Ring	GUAR-023H 1.78x15.6	GUAR-206H 2.62x17.13		GUAR-032H 2.62x21.89		*O-Ring*	*28*
29	O-Ring	GUAR-039H 1.78x6.07	GUAR-012H 1.78x6.75		GUAR-013H 1.78x8.73		*O-Ring*	*29*
30	Boccola	SGP-25-09	SGP-32-09		LP23-62		*Bush*	*30*
31	Boccola	SGP-20-09	ZBH-5		SGP-32-09		*Bush*	*31*
32	Distanziale -NO	DH1905-12	DH2208-12		DH2712-12		*Spacer -NO*	*32*
33	Molla	DH1905-20	FES-32-20C		DH2712-20		*Spring*	*33*

DH

Vista esplosa / *Exploded view*

DH35
DH44
DH55



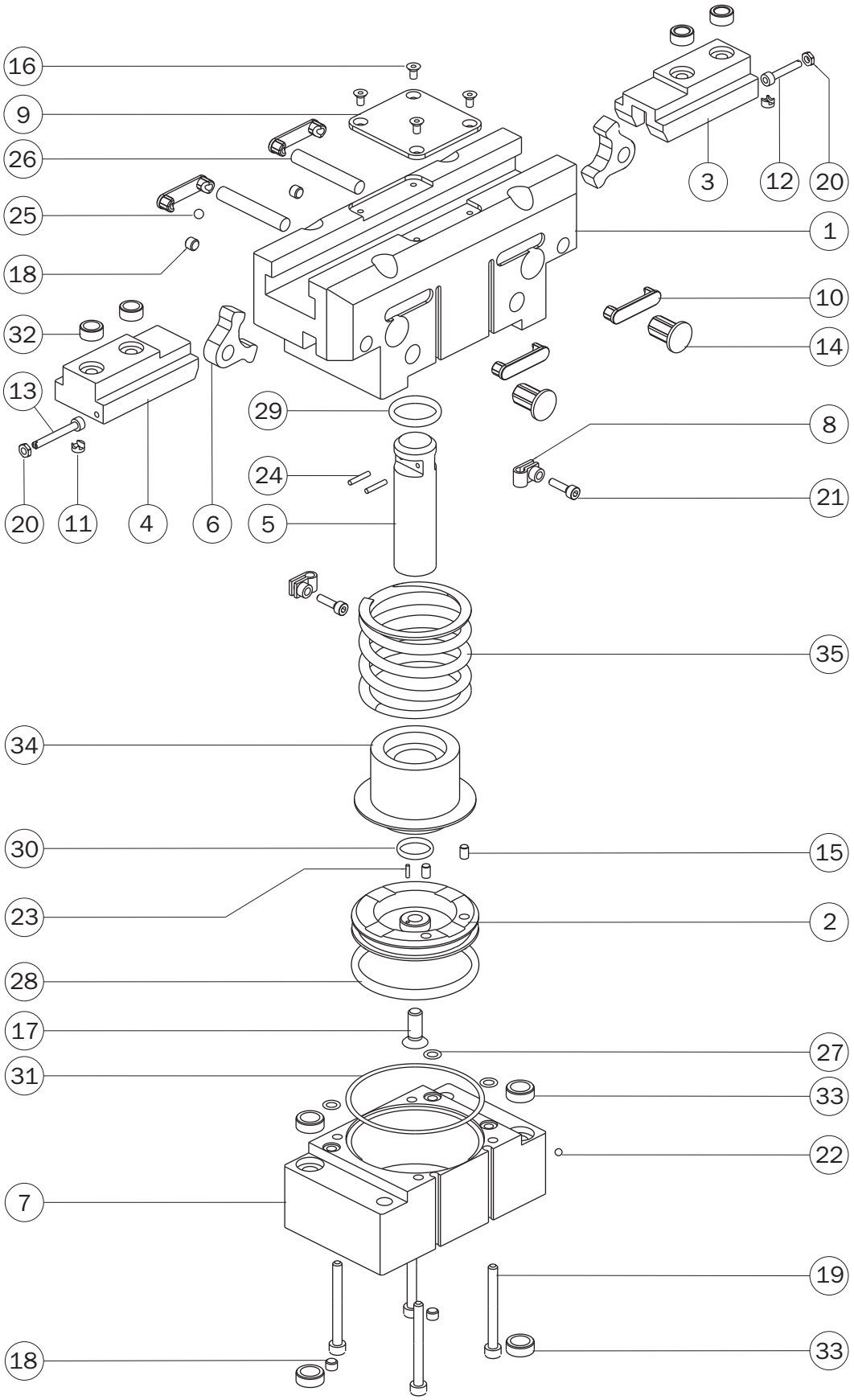
Elenco delle parti / *Part list*

		DH3516	DH3508	DH4420	DH4410	DH5526	DH5512		
1	Corpo pinza	DH3516-01		DH4420-01		DH5526-01		*Gripper housing*	*1*
2	Pistone	DH3516-02		DH4420-02		DH5526-02		*Piston*	*2*
3	Griffa destra	DH3516-03D		DH4420-03D		DH5526-03D		*Right jaw*	*3*
4	Griffa sinistra	DH3516-03S		DH4420-03S		DH5526-03S		*Left jaw*	*4*
5	Stelo	DH3516-04		DH4420-04		DH5526-04		*Piston rod*	*5*
6	Leva	DH3516-05	DH3508-05	DH4420-05	DH4410-05	DH5526-05	DH5512-05	*Lever*	*6*
7	Fondello	DH3516-06		DH4420-06		DH5526-06		*Bottom end plate*	*7*
8	Supporto per sensori induttivi	DH3516-07		DH3516-07		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH3516-08		DH4420-08		DH5526-08		*Top cover*	*9*
10	Tappo	DH3516-13		DH4420-13		DH5516-13		*Plug*	*10*
11	Trascinatore per sensore	DH3516-14		DH3516-14		DH3516-14		*Sensor activator*	*11*
12	Vite di regolazione	TH5408-09		TH5408-09	TH5408-09	DH5526-14		*Adjustment screw*	*12*
13	Vite di regolazione	TH5408-10		TH7610-09	TH5408-10	TH9613-09		*Adjustment screw*	*13*
14	Tappo di protezione	DH3516-17		DH4420-17		DH5526-17		*Protection plug*	*14*
15	Magnete	EPP12-13		PAR-06-7		FES-16-3-9		*Magnet*	*15*
16	Vite	VITE-234 M2.5x6 DIN7991		VITE-233 M3x6 UNI5933				*Screw*	*16*
17	Vite	VITE-030 M5x12 DIN965A		VITE-054 M6x16 DIN965A				*Screw*	*17*
18	Vite senza testa	VITE-229 M3x3 DIN913		VITE-069 M5x5 DIN913		VITE-197 M5x4 DIN913		*Grub screw*	*18*
19	Vite	VITE-188 M3x10 UNI5933		VITE-305 M4x8 DIN7991		VITE-426 M4x12 UNI5933		*Screw*	*19*
20	Dado	VITE-148 M3 DIN439B						*Nut*	*20*
21	Vite	VITE-014 M3x12 DIN912						*Screw*	*21*
22	Sfera	SPINA-084 Ø2 DIN5401A				SPINA-092 Ø3 DIN5401A		*Ball*	*22*
23	Spina di riferimento	SPINA-084 Ø2 DIN5401A				SPINA-187 Ø1.5x5.8 DIN5402		*Dowel pin*	*23*
24	Spina di riferimento	SPINA-054 Ø3x14 DIN6325		SPINA-005 Ø2x10 DIN6325		SPINA-024 Ø2x12 DIN6325		*Dowel pin*	*24*
25	Sfera	SPINA-084 Ø2 DIN5401A		SPINA-203 Ø4 DIN5401A				*Ball*	*25*
26	Spina di riferimento	SPINA-072 Ø5x24 DIN6325		SPINA-115 Ø5x36 DIN6325		SPINA-032 Ø6x40 DIN6325		*Dowel pin*	*26*
27	O-Ring	GUAR-172 1x2.5		GUAR-091 1x4		GUAR-087 1x5.5		*O-Ring*	*27*
28	O-Ring	GUAR-150H 2.62x29.82 HNBR		GUAR-201H 2.62x39.34		GUAR-160H 3.53x47.22		*O-Ring*	*28*
29	O-Ring	GUAR-037H 1.78x11.11		GUAR-007H 1.78x14		GUAR-034H 2.62x17.86		*O-Ring*	*29*
30	O-Ring	-		-		GUAR-047 1.78x12.42		*O-Ring*	*30*
31	O-Ring	GUAR-205 2x35		GUAR-028 1.78x44.17		GUAR-219 1.5x55		*O-Ring*	*31*
32	Boccola	LP23-62		PQ5047-07				*Bush*	*32*
33	Boccola	LP23-62		PQ5047-07		ZBH-12		*Bush*	*33*

DH

Vista esplosa / *Exploded view*

DH35...-NC
DH44...-NC
DH55...-NC



03/2015

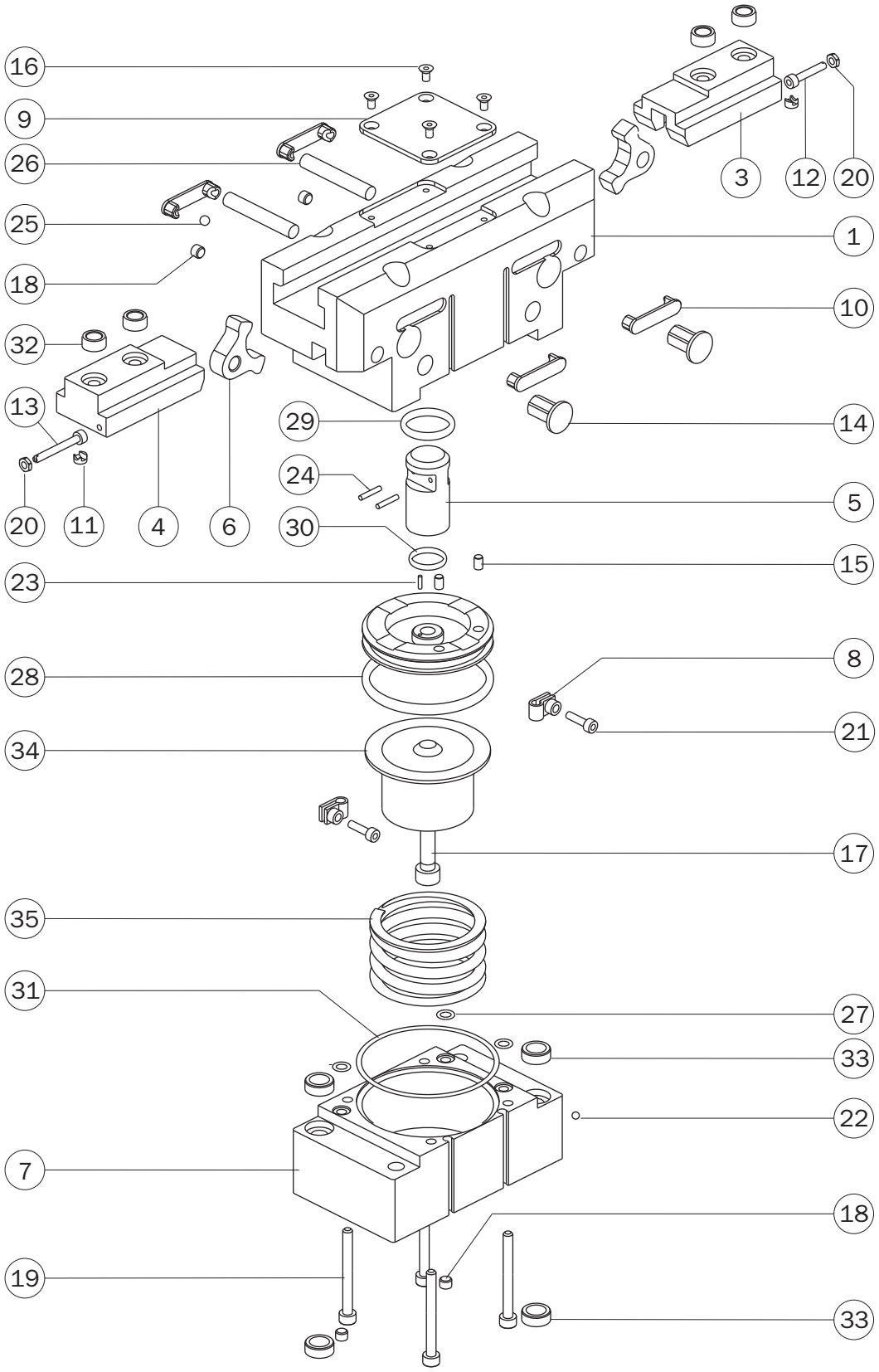
Elenco delle parti / *Part list*

		DH3516-NC	DH3508-NC	DH4420-NC	DH4410-NC	DH5526-NC	DH5512-NC		
1	Corpo pinza	DH3516-01		DH4420-01		DH5526-01		*Gripper housing*	1
2	Pistone	DH3516-02		DH4420-02		DH5526-02		*Piston*	2
3	Griffa destra	DH3516-03D		DH4420-03D		DH5526-03D		*Right jaw*	3
4	Griffa sinistra	DH3516-03S		DH4420-03S		DH5526-03S		*Left jaw*	4
5	Stelo	DH3516-10		DH4420-10		DH5526-10		*Piston rod*	5
6	Leva	DH3516-05	DH3508-05	DH4420-05	DH4410-05	DH5526-05	DH5512-05	*Lever*	6
7	Corpo addizionale	DH3516-09		DH4420-09		DH5526-09		*Additional body*	7
8	Supporto per sensori induttivi	DH3516-07		DH3516-07		DH3516-07		*Inductive sensor holder*	8
9	Protezione superiore	DH3516-08		DH4420-08		DH5526-08		*Top cover*	9
10	Tappo	DH3516-13		DH4420-13		DH5516-13		*Plug*	10
11	Trascinatore per sensore	DH3516-14						*Sensor activator*	11
12	Vite di regolazione	TH5408-09		TH5408-09	TH5408-09	DH5526-14	DH5526-15	*Adjustment screw*	12
13	Vite di regolazione	TH5408-10		TH7610-09	TH5408-10	TH9613-09		*Adjustment screw*	13
14	Tappo di protezione	DH3516-17		DH4420-17		DH5526-17		*Protection plug*	14
15	Magnete	EPP12-13		PAR-06-7		FES-16-3-9		*Magnet*	15
16	Vite	VITE-234 M2.5x6 DIN7991		VITE-233 M3x6 UNI5933				*Screw*	16
17	Vite	VITE-030 M5x12 DIN965A		VITE-054 M6x16 DIN965A				*Screw*	17
18	Vite senza testa	VITE-229 M3x3 DIN913		VITE-069 M5x5 DIN913		VITE-197 M5x4 DIN913		*Grub screw*	18
19	Vite	VITE-251 M3x25 DIN912		VITE-121 M4x30 DIN912		VITE-190 M4x40 DIN912		*Screw*	19
20	Dado	VITE-148 M3 DIN439B						*Nut*	20
21	Vite	VITE-014 M3x12 DIN912						*Screw*	21
22	Sfera	SPINA-084 Ø2 DIN5401A				SPINA-092 Ø3 DIN5401A		*Ball*	22
23	Spina di riferimento	SPINA-084 Ø2 DIN5401A				SPINA-187 Ø1.5x5.8 DIN5402		*Dowel pin*	23
24	Spina di riferimento	SPINA-054 Ø3x14 DIN6325		SPINA-005 Ø2x10 DIN6325		SPINA-024 Ø2x12 DIN6325		*Dowel pin*	24
25	Sfera	SPINA-084 Ø2 DIN5401A		SPINA-203 Ø4 DIN5401A				*Ball*	25
26	Spina di riferimento	SPINA-072 Ø5x24 DIN6325		SPINA-115 Ø5x36 DIN6325		SPINA-032 Ø6x40 DIN6325		*Dowel pin*	26
27	O-Ring	GUAR-172 1x2.5		GUAR-091 1x4		GUAR-087 1x5.5		*O-Ring*	27
28	O-Ring	GUAR-150H 2.62x29.82 HNBR		GUAR-201H 2.62x39.34		GUAR-160H 3.53x47.22		*O-Ring*	28
29	O-Ring	GUAR-037H 1.78x11.11		GUAR-007H 1.78x14		GUAR-034H 2.62x17.86		*O-Ring*	29
30	O-Ring	-		-		GUAR-047 1.78x12.42		*O-Ring*	30
31	O-Ring	GUAR-205 2x35		GUAR-028 1.78x44.17		GUAR-219 1.5x55		*O-Ring*	31
32	Boccola	LP23-62		PQ5047-07				*Bush*	32
33	Boccola	LP23-62		PQ5047-07		ZBH-12		*Bush*	33
34	Distanziale -NC	DH3516-11		DH4420-11		DH5526-11		*Spacer -NC*	34
35	Molla	DH3516-20		DH4420-20		DH5526-20		*Spring*	35

DH

Vista esplosa / *Exploded view*

DH35...-NO
DH44...-NO
DH55...-NO



03/2015

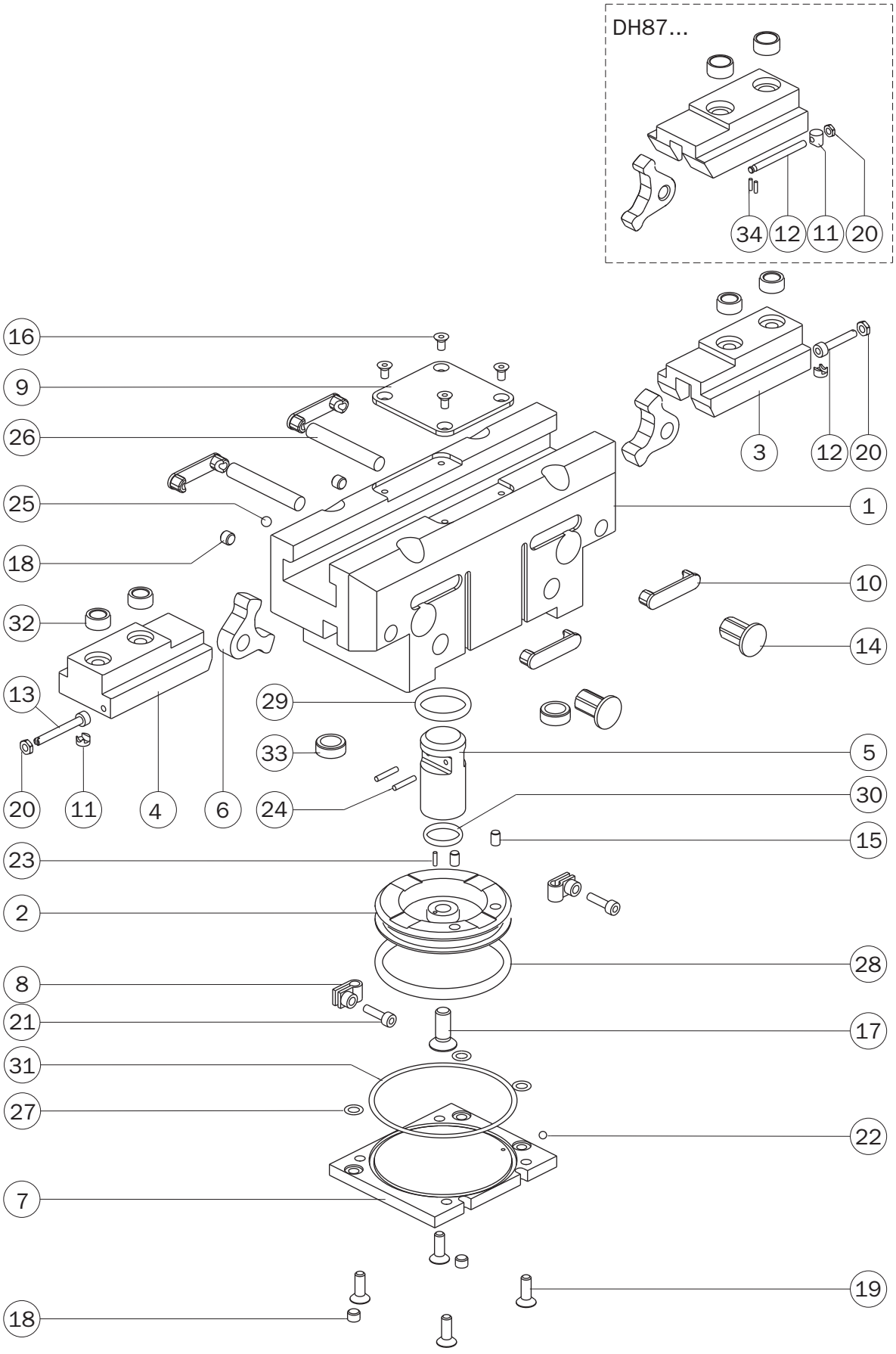
Elenco delle parti / *Part list*

		DH3516-NO	DH3508-NO	DH4420-NO	DH4410-NO	DH5526-NO	DH5512-NO		
1	Corpo pinza	DH3516-01		DH4420-01		DH5526-01		*Gripper housing*	1
2	Pistone	DH3516-02		DH4420-02		DH5526-02		*Piston*	2
3	Griffa destra	DH3516-03D		DH4420-03D		DH5526-03D		*Right jaw*	3
4	Griffa sinistra	DH3516-03S		DH4420-03S		DH5526-03S		*Left jaw*	4
5	Stelo	DH3516-04		DH4420-04		DH5526-04		*Piston rod*	5
6	Leva	DH3516-05	DH3508-05	DH4420-05	DH4410-05	DH5526-05	DH5512-05	*Lever*	6
7	Corpo addizionale	DH3516-09		DH4420-09		DH5526-09		*Additional body*	7
8	Supporto per sensori induttivi	DH3516-07		DH3516-07		DH3516-07		*Inductive sensor holder*	8
9	Protezione superiore	DH3516-08		DH4420-08		DH5526-08		*Top cover*	9
10	Tappo	DH3516-13		DH4420-13		DH5516-13		*Plug*	10
11	Trascinatore per sensore	DH3516-14						*Sensor activator*	11
12	Vite di regolazione	TH5408-09		TH5408-09	TH5408-09	DH5526-14	DH5526-15	*Adjustment screw*	12
13	Vite di regolazione	TH5408-10		TH7610-09	TH5408-10	TH9613-09		*Adjustment screw*	13
14	Tappo di protezione	DH3516-17		DH4420-17		DH5526-17		*Protection plug*	14
15	Magnete	EPP12-13		PAR-06-7		FES-16-3-9		*Magnet*	15
16	Vite	VITE-234 M2.5x6 DIN7991		VITE-233 M3x6 UNI5933				*Screw*	16
17	Vite	VITE-065 M5x25 DIN912		VITE-192 M6x30 DIN912		VITE-355 M6x35 DIN912		*Screw*	17
18	Vite senza testa	VITE-229 M3x3 DIN913		VITE-069 M5x5 DIN913		VITE-197 M5x4 DIN913		*Grub screw*	18
19	Vite	VITE-251 M3x25 DIN912		VITE-121 M4x30 DIN912		VITE-190 M4x40 DIN912		*Screw*	19
20	Dado	VITE-148 M3 DIN439B						*Nut*	20
21	Vite	VITE-014 M3x12 DIN912						*Screw*	21
22	Sfera	SPINA-084 Ø2 DIN5401A				SPINA-092 Ø3 DIN5401A		*Ball*	22
23	Spina di riferimento	SPINA-084 Ø2 DIN5401A				SPINA-187 Ø1.5x5.8 DIN5402		*Dowel pin*	23
24	Spina di riferimento	SPINA-054 Ø3x14 DIN6325		SPINA-005 Ø2x10 DIN6325		SPINA-024 Ø2x12 DIN6325		*Dowel pin*	24
25	Sfera	SPINA-084 Ø2 DIN5401A		SPINA-203 Ø4 DIN5401A				*Ball*	25
26	Spina di riferimento	SPINA-072 Ø5x24 DIN6325		SPINA-115 Ø5x36 DIN6325		SPINA-032 Ø6x40 DIN6325		*Dowel pin*	26
27	O-Ring	GUAR-172 1x2.5		GUAR-091 1x4		GUAR-087 1x5.5		*O-Ring*	27
28	O-Ring	GUAR-150H 2.62x29.82 HNBR		GUAR-201H 2.62x39.34		GUAR-160H 3.53x47.22		*O-Ring*	28
29	O-Ring	GUAR-037H 1.78x11.11		GUAR-007H 1.78x14		GUAR-034H 2.62x17.86		*O-Ring*	29
30	O-Ring	-		-		GUAR-047 1.78x12.42		*O-Ring*	30
31	O-Ring	GUAR-205 2x35		GUAR-028 1.78x44.17		GUAR-219 1.5x55		*O-Ring*	31
32	Boccola	LP23-62		PQ5047-07				*Bush*	32
33	Boccola	LP23-62		PQ5047-07		ZBH-12		*Bush*	33
34	Distanziale -NO	DH3516-12		DH4420-12		DH5526-12		*Spacer -NO*	34
35	Molla	DH3516-21		DH4420-20		DH5526-20		*Spring*	35

DH

Vista esplosa / *Exploded view*

DH66
DH87



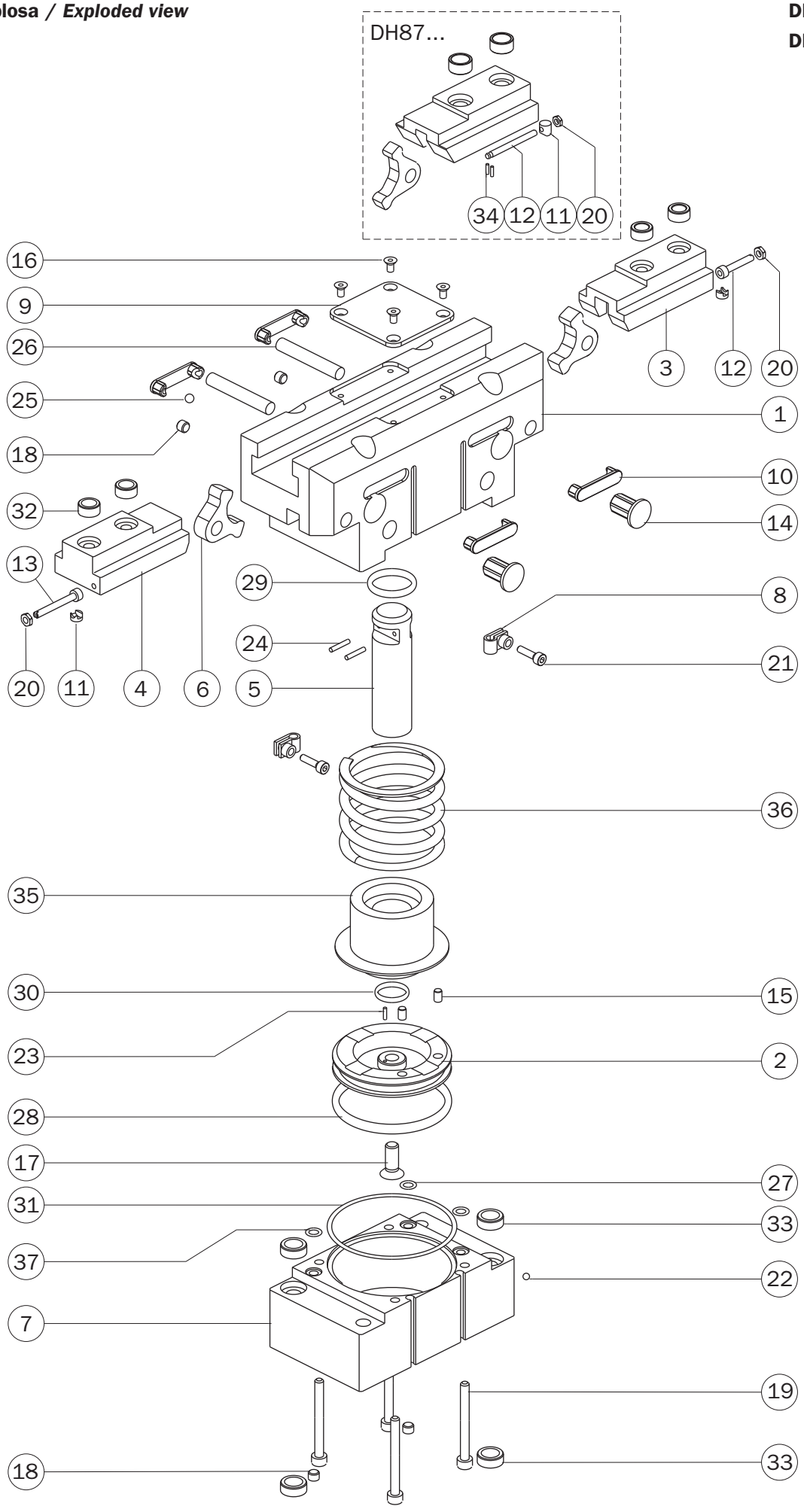
Elenco delle parti / *Part list*

		DH6632	DH6616	DH8750	DH8728		
1	Corpo pinza	DH6632-01		DH8750-01		*Gripper housing*	*1*
2	Pistone	DH6632-02		DH8750-02		*Piston*	*2*
3	Griffa destra	DH6632-03D		DH8750-03D		*Right jaw*	*3*
4	Griffa sinistra	DH6632-03S		DH8750-03S		*Left jaw*	*4*
5	Stelo	DH6632-04		DH8750-04		*Piston rod*	*5*
6	Leva	DH6632-05	DH6616-05	DH8750-05	DH8728-05	*Lever*	*6*
7	Fondello	DH6632-06		DH8750-06		*Bottom end plate*	*7*
8	Supporto per sensori induttivi	DH3516-07		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH6632-08		DH8750-08		*Top cover*	*9*
10	Tappo	DH6632-13		DH8750-13		*Plug*	*10*
11	Trascinatore per sensore	DH3516-14		DH8750-18		*Sensor activator*	*11*
12	Vite di regolazione	TH7610-09		DH8750-15		*Adjustment screw*	*12*
13	Vite di regolazione	TH12516-10	TH9613-09	DH8750-15		*Adjustment screw*	*13*
14	Tappo di protezione	DH6632-17		DH8750-17		*Protection plug*	*14*
15	Magnete	R63-180-20		FES-16-3-9		*Magnet*	*15*
16	Vite	VITE-233 M3x6 UNI5933		VITE-306 M3x8 UNI5933		*Screw*	*16*
17	Vite	VITE-328 M8x20 DIN7991		VITE-440 M8x25 DIN7991		*Screw*	*17*
18	Vite senza testa	VITE-069 M5x5 DIN913				*Grub screw*	*18*
19	Vite	VITE-290 M5x12 DIN7991		VITE-430 M5x12 DIN5933		*Screw*	*19*
20	Dado	VITE-148 M3 DIN439B		VITE-134 M4 DIN439B		*Nut*	*20*
21	Vite	VITE-014 M3x12 DIN912				*Screw*	*21*
22	Sfera	SPINA-084 Ø2 DIN5401A		-		*Ball*	*22*
23	Spina di riferimento	SPINA-005 Ø2x10 DIN6325				*Dowel pin*	*23*
24	Spina di riferimento	SPINA-009 Ø2x16 DIN6325		SPINA-002 Ø3x20 DIN6325		*Dowel pin*	*24*
25	Sfera	SPINA-203 Ø4 DIN5401A				*Ball*	*25*
26	Spina di riferimento	SPINA-029 Ø8x40 DIN6325		SPINA-211 Ø8x55 DIN6325		*Dowel pin*	*26*
27	O-Ring	GUAR-021 1x5		-		*O-Ring*	*27*
28	O-Ring	GUAR-197H 3.53x59.92		GUAR-198H 3.53x78.97		*O-Ring*	*28*
29	O-Ring	GUAR-032H 2.62x21.89		GUAR-199H 2.5x26		*O-Ring*	*29*
30	O-Ring	GUAR-023 1.78x15.6		GUAR-052 1.78x20.35		*O-Ring*	*30*
31	O-Ring	GUAR-075 1.78x15.6		GUAR-200 1.78x94.97		*O-Ring*	*31*
32	Boccola	TH12516-09		DH8750-14		*Bush*	*32*
33	Boccola	ZBH-12		TH12516-09		*Bush*	*33*
34	Spina di riferimento	-		SPINA-020 Ø2x8 DIN6325		*Dowel pin*	*34*

DH

Vista esplosa / *Exploded view*

DH66...-NC
DH87...-NC



03/2015

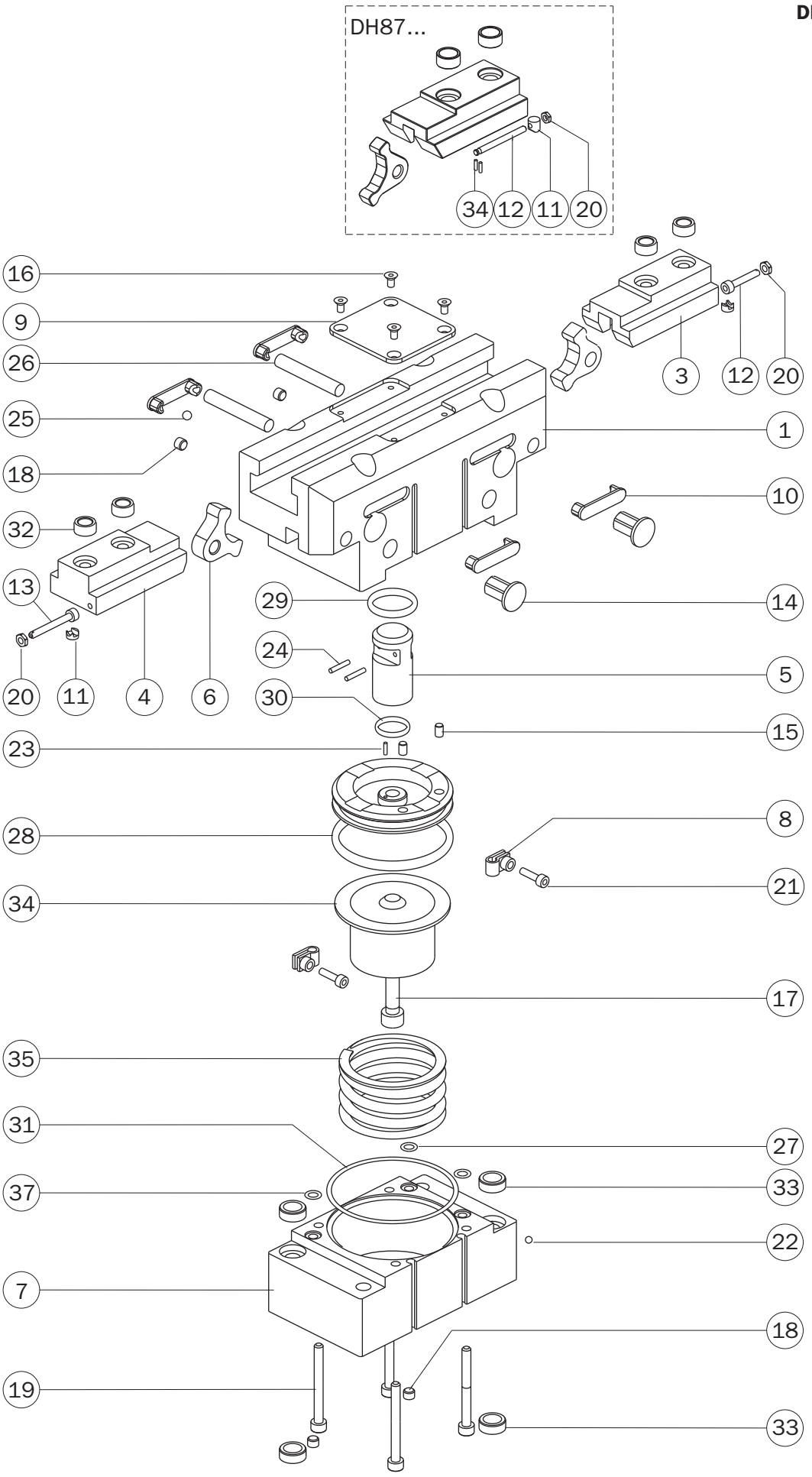
Elenco delle parti / *Part list*

		DH6632-NC	DH6616-NC	DH8750-NC	DH8728-NC		
1	Corpo pinza	DH6632-01		DH8750-01		*Gripper housing*	*1*
2	Pistone	DH6632-02		DH8750-02		*Piston*	*2*
3	Griffa destra	DH6632-03D		DH8750-03D		*Right jaw*	*3*
4	Griffa sinistra	DH6632-03S		DH8750-03S		*Left jaw*	*4*
5	Stelo	DH6632-10		DH8750-10		*Piston rod*	*5*
6	Leva	DH6632-05		DH8750-05	DH8728-05	*Lever*	*6*
7	Corpo addizionale	DH6632-09		DH8750-09		*Additional body*	*7*
8	Supporto per sensori induttivi	DH3516-07		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH6632-08		DH8750-08		*Top cover*	*9*
10	Tappo	DH6632-13		DH8750-13		*Plug*	*10*
11	Trascinatore per sensore	DH3516-14		DH8750-18		*Sensor activator*	*11*
12	Vite di regolazione	TH7610-09		DH8750-15		*Adjustment screw*	*12*
13	Vite di regolazione	TH12516-10	TH9613-09	DH8750-15		*Adjustment screw*	*13*
14	Tappo di protezione	DH6632-17		DH8750-17		*Protection plug*	*14*
15	Magnete	R63-180-20		FES-16-3-9		*Magnet*	*15*
16	Vite	VITE-233 M3x6 UNI5933		VITE-306 M3x8 UNI5933		*Screw*	*16*
17	Vite	VITE-328 M8x20 DIN7991		VITE-440 M8x25 DIN7991		*Screw*	*17*
18	Vite senza testa	VITE-069 M5x5 DIN913				*Grub screw*	*18*
19	Vite	VITE-439 M5x50 DIN7991		VITE-381 M5x60 DIN912		*Screw*	*19*
20	Dado	VITE-148 M3 DIN439B		VITE-134 M4 DIN439B		*Nut*	*20*
21	Vite	VITE-014 M3x12 DIN912				*Screw*	*21*
22	Sfera	SPINA-084 Ø2 DIN5401A		-		*Ball*	*22*
23	Spina di riferimento	SPINA-005 Ø2x10 DIN6325				*Dowel pin*	*23*
24	Spina di riferimento	SPINA-009 Ø2x16 DIN6325		SPINA-002 Ø3x20 DIN6325		*Dowel pin*	*24*
25	Sfera	SPINA-203 Ø4 DIN5401A				*Ball*	*25*
26	Spina di riferimento	SPINA-029 Ø8x40 DIN6325		SPINA-211 Ø8x55 DIN6325		*Dowel pin*	*26*
27	O-Ring	GUAR-021 1x5		GUAR-091 1x4		*O-Ring*	*27*
28	O-Ring	GUAR-197H 3.53x59.92		GUAR-198H 3.53x78.97		*O-Ring*	*28*
29	O-Ring	GUAR-032H 2.62x21.89		GUAR-199H 2.5x26		*O-Ring*	*29*
30	O-Ring	GUAR-023 1.78x15.6		GUAR-052 1.78x20.35		*O-Ring*	*30*
31	O-Ring	GUAR-075 1.78x15.6		GUAR-200 1.78x94.97		*O-Ring*	*31*
32	Boccola	TH12516-09		DH8750-14		*Bush*	*32*
33	Boccola	ZBH-12		TH12516-09		*Bush*	*33*
34	Spina di riferimento	-		SPINA-020 Ø2x8 DIN6325		*Dowel pin*	*34*
35	Distanziale -NC	DH6632-11		DH8750-11		*Spacer -NC*	*35*
36	Molla	DH6632-20		DH8750-20 DH8750-21		*Spring*	*36*
37	O-Ring	-		GUAR-098 1x6		*O-Ring*	*37*

DH

Vista esplosa / *Exploded view*

DH66...-NO
DH87...-NO



Elenco delle parti / *Part list*

		DH6632-NO	DH6616-NO	DH8750-NO	DH8728-NO		
1	Corpo pinza	DH6632-01		DH8750-01		*Gripper housing*	*1*
2	Pistone	DH6632-02		DH8750-02		*Piston*	*2*
3	Griffa destra	DH6632-03D		DH8750-03D		*Right jaw*	*3*
4	Griffa sinistra	DH6632-03S		DH8750-03S		*Left jaw*	*4*
5	Stelo	DH6632-04		DH8750-04		*Piston rod*	*5*
6	Leva	DH6632-05		DH8750-05	DH8728-05	*Lever*	*6*
7	Corpo addizionale	DH6632-09		DH8750-09		*Additional body*	*7*
8	Supporto per sensori induttivi	DH3516-07		DH3516-07		*Inductive sensor holder*	*8*
9	Protezione superiore	DH6632-08		DH8750-08		*Top cover*	*9*
10	Tappo	DH6632-13		DH8750-13		*Plug*	*10*
11	Trascinatore per sensore	DH3516-14		DH8750-18		*Sensor activator*	*11*
12	Vite di regolazione	TH7610-09		DH8750-15		*Adjustment screw*	*12*
13	Vite di regolazione	TH12516-10	TH9613-09	DH8750-15		*Adjustment screw*	*13*
14	Tappo di protezione	DH6632-17		DH8750-17		*Protection plug*	*14*
15	Magnete	R63-180-20		FES-16-3-9		*Magnet*	*15*
16	Vite	VITE-233 M3x6 UNI5933		VITE-306 M3x8 UNI5933		*Screw*	*16*
17	Vite	VITE-384 M8x30 DIN912		VITE-208 M8x40 DIN912		*Screw*	*17*
18	Vite senza testa	VITE-069 M5x5 DIN913				*Grub screw*	*18*
19	Vite	VITE-439 M5x50 DIN7991		VITE-381 M5x60 DIN912		*Screw*	*19*
20	Dado	VITE-148 M3 DIN439B		VITE-134 M4 DIN439B		*Nut*	*20*
21	Vite	VITE-014 M3x12 DIN912				*Screw*	*21*
22	Sfera	SPINA-084 Ø2 DIN5401A		-		*Ball*	*22*
23	Spina di riferimento	SPINA-005 Ø2x10 DIN6325				*Dowel pin*	*23*
24	Spina di riferimento	SPINA-009 Ø2x16 DIN6325		SPINA-002 Ø3x20 DIN6325		*Dowel pin*	*24*
25	Sfera	SPINA-203 Ø4 DIN5401A				*Ball*	*25*
26	Spina di riferimento	SPINA-029 Ø8x40 DIN6325		SPINA-211 Ø8x55 DIN6325		*Dowel pin*	*26*
27	O-Ring	GUAR-021 1x5		GUAR-091 1x4		*O-Ring*	*27*
28	O-Ring	GUAR-197H 3.53x59.92		GUAR-198H 3.53x78.97		*O-Ring*	*28*
29	O-Ring	GUAR-032H 2.62x21.89		GUAR-199H 2.5x26		*O-Ring*	*29*
30	O-Ring	GUAR-023 1.78x15.6		GUAR-052 1.78x20.35		*O-Ring*	*30*
31	O-Ring	GUAR-075 1.78x15.6		GUAR-200 1.78x94.97		*O-Ring*	*31*
32	Boccola	TH12516-09		DH8750-14		*Bush*	*32*
33	Boccola	ZBH-12		TH12516-09		*Bush*	*33*
34	Spina di riferimento	-		SPINA-020 Ø2x8 DIN6325		*Dowel pin*	*34*
35	Distanziale -NO	DH6632-12		DH8750-12		*Spacer -NO*	*35*
36	Molla	DH6632-20		DH8750-20 DH8750-21		*Spring*	*36*
37	O-Ring	-		GUAR-098 1x6		*O-Ring*	*37*

SP

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie SP)

- Azionamento a doppio effetto.
- Meccanismo di regolazione del gioco esclusivo.
- Grande durata e affidabilità senza manutenzione.
- Diverse possibilità di fissaggio e alimentazione.
- Sensori magnetici opzionali.

2-jaw self-centering parallel pneumatic gripper (series SP)

- *Double-acting drive.*
- *Exclusive backlash adjusting system.*
- *Maintenance-free long life and reliability.*
- *Various mounting and feeding options.*
- *Optional magnetic sensors.*



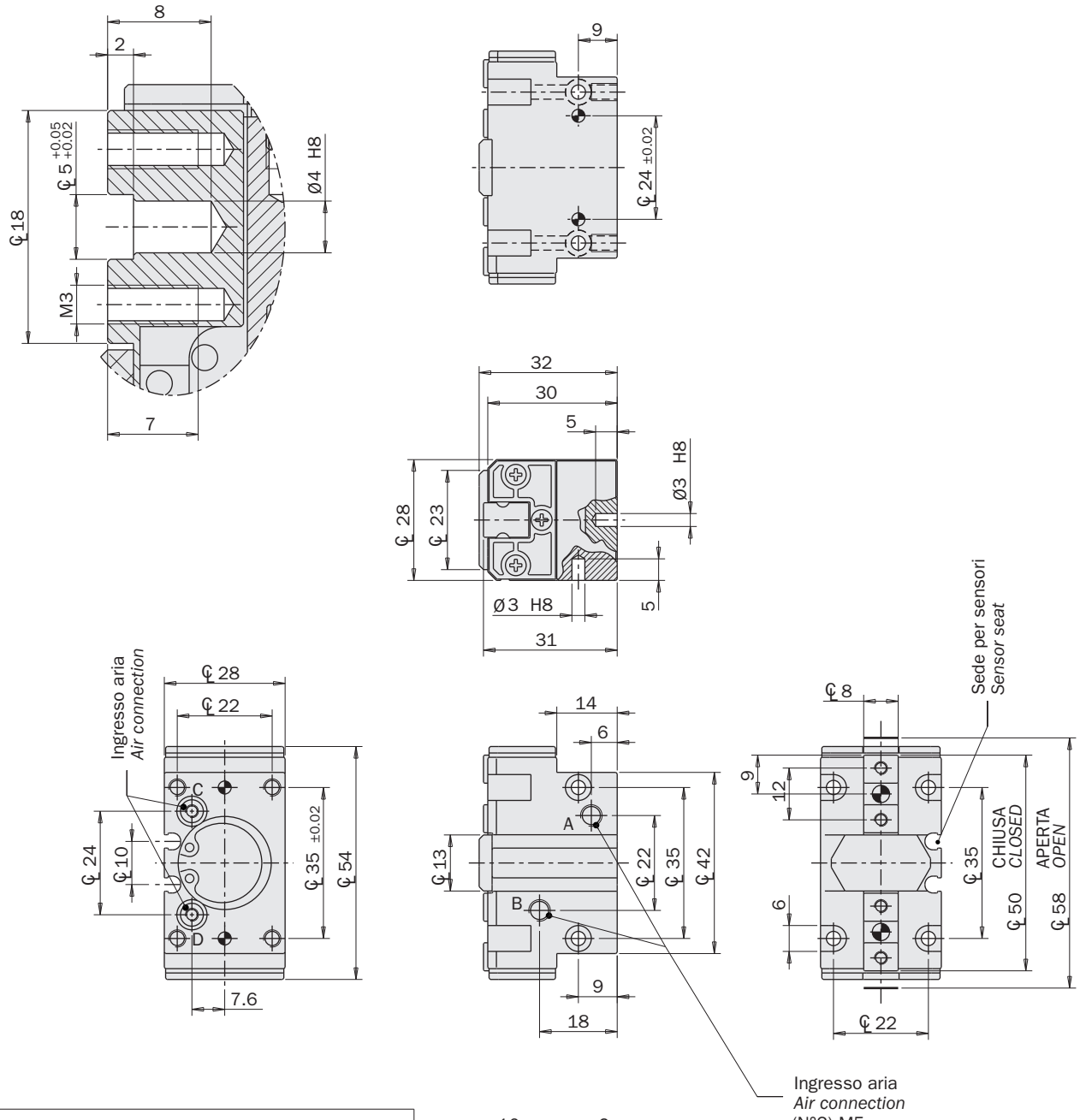
SP-20 **SP-25** **SP-32** **SP-40**

	NEW SP-20	NEW SP-25	NEW SP-32	NEW SP-40
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.			
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	70 N	120 N	220 N	350 N
Forza di serraggio totale in apertura a 6 bar *Total opening gripping force at 6 bar*	140 N	240 N	440 N	700 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	65 N	110 N	200 N	320 N
Forza di serraggio totale in chiusura a 6 bar *Total closing gripping force at 6 bar*	130 N	220 N	400 N	640 N
Corsa totale (±0.2 mm) *Total stroke*	8 mm	12 mm	16 mm	20 mm
Frequenza max funzionamento continuativo *Maximum continuous operating frequency*	3 Hz	2 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	3 cm^3	6 cm^3	13 cm^3	31 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.03 s	0.05 s	0.05 s	0.05 s
Tolleranza max ripetibilità *Maximum repeatability tolerance*	±0.02 mm	±0.02 mm	±0.02 mm	±0.02 mm
Peso *Weight*	105 g	210 g	380 g	600 g

Dimensioni (mm) / *Dimensions (mm)*

SP-20

Dettaglio griffa sezionata
Jaw cross section

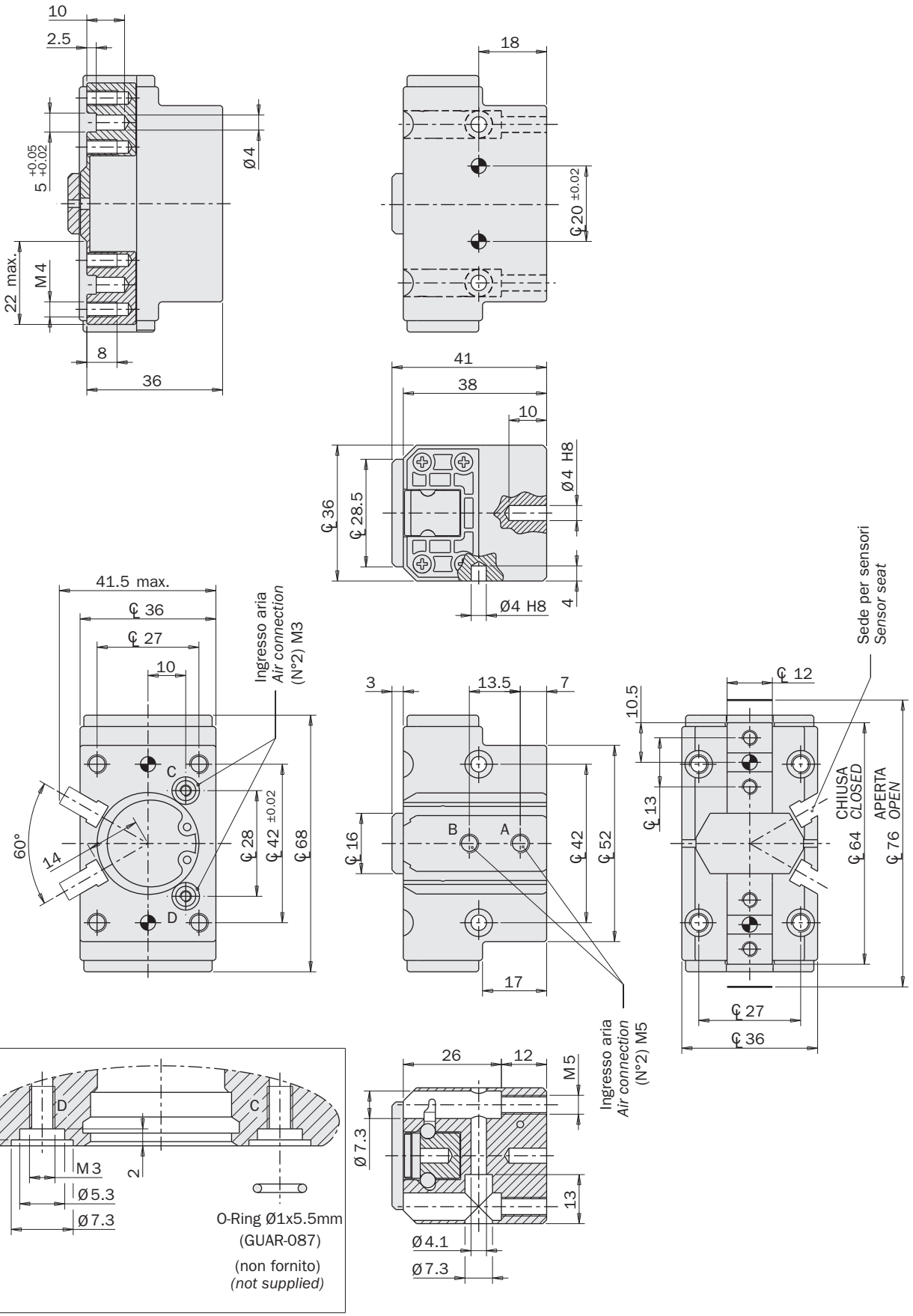


FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

SP-25

Dettaglio griffa sezionata
Jaw cross section

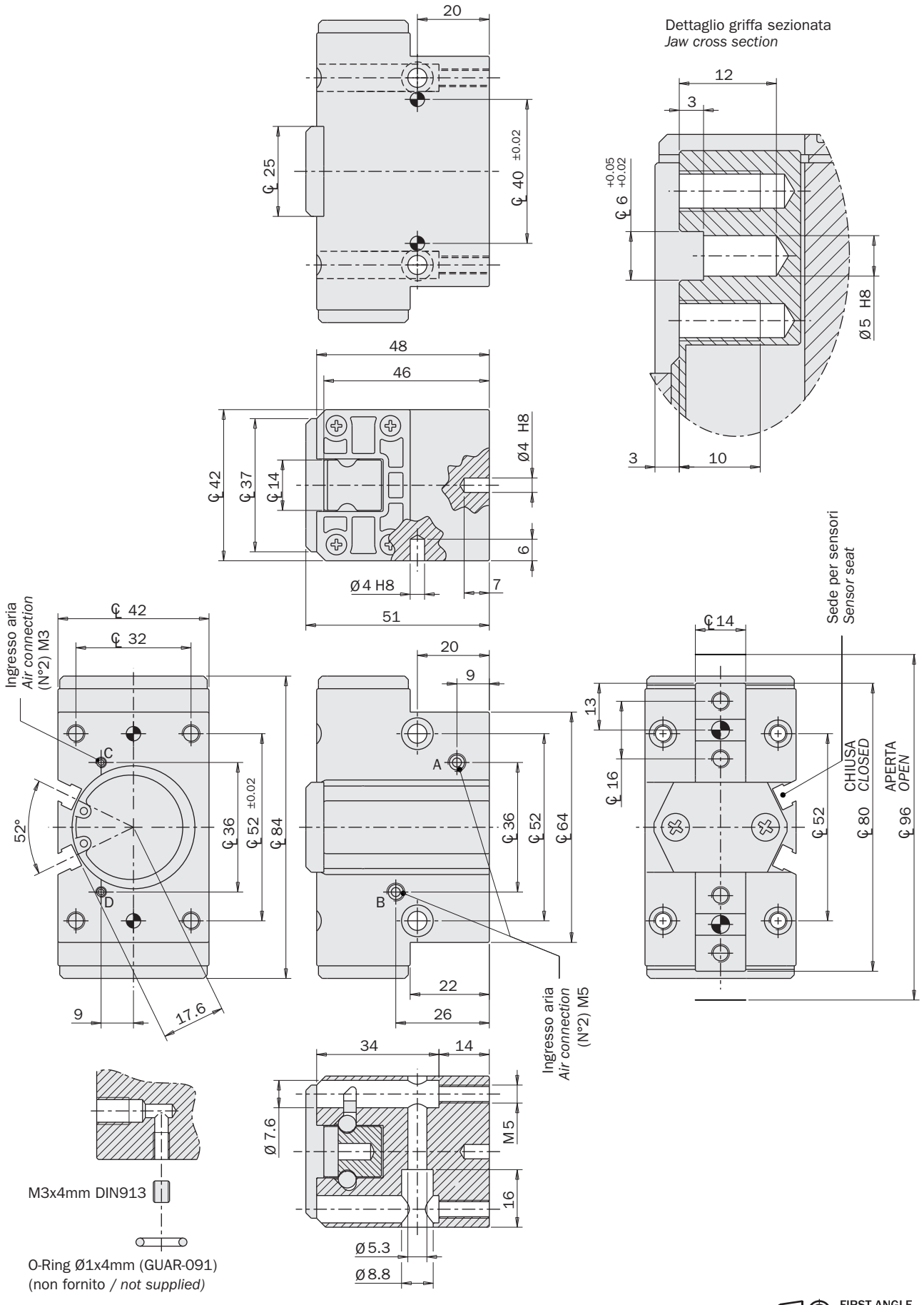


FIRST ANGLE PROJECTION

03/2015

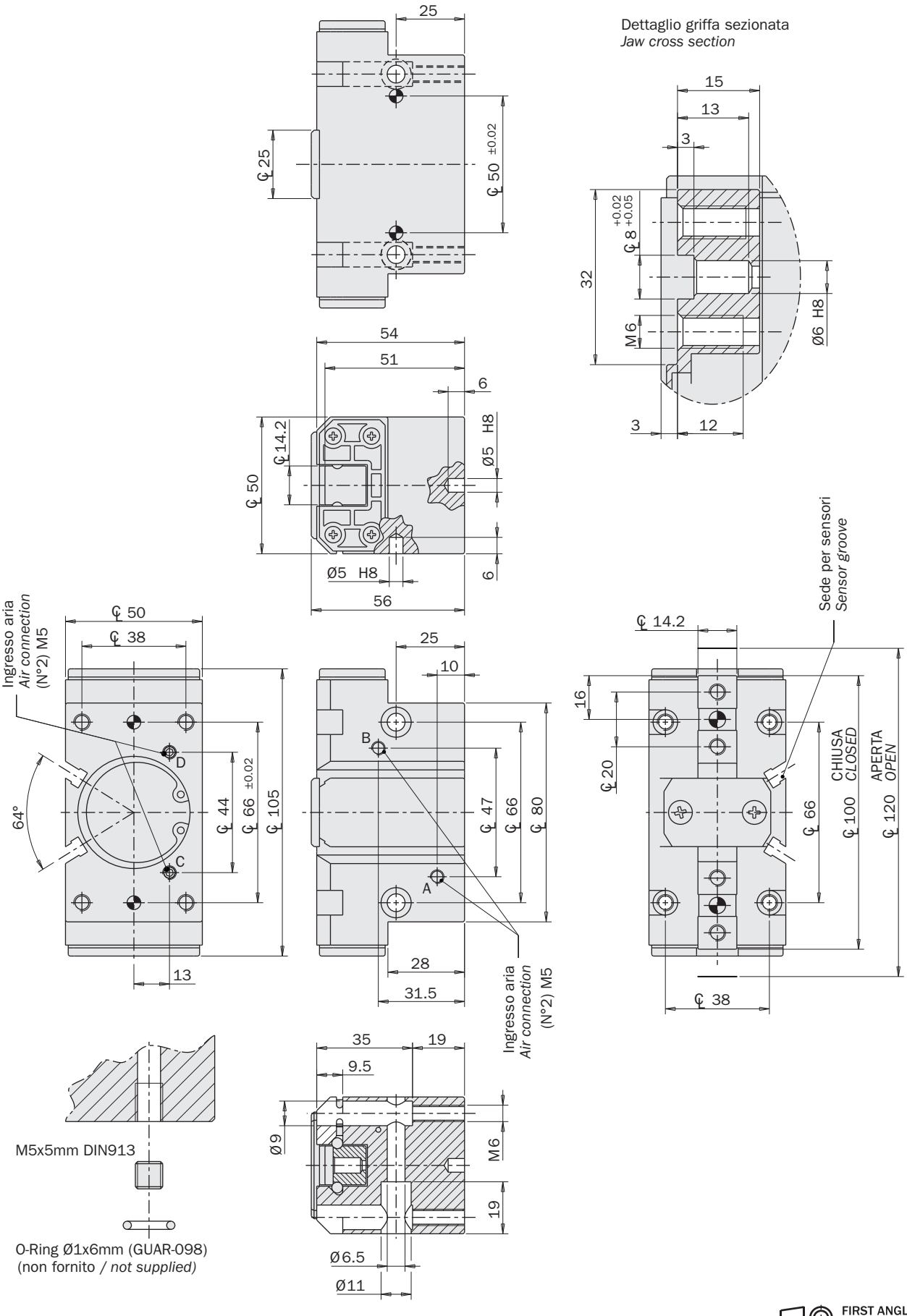
Dimensioni (mm) / *Dimensions (mm)*

SP-32



Dimensioni (mm) / *Dimensions (mm)*

SP-40



FIRST ANGLE PROJECTION

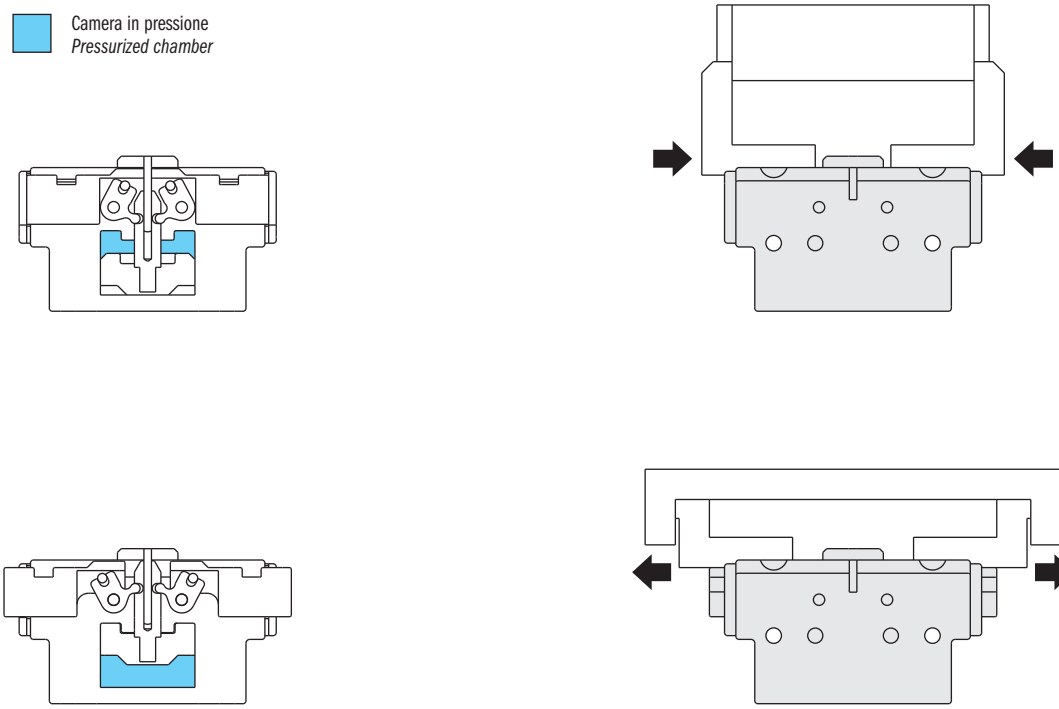
03/2015

Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.
La forza di serraggio è maggiore in apertura.

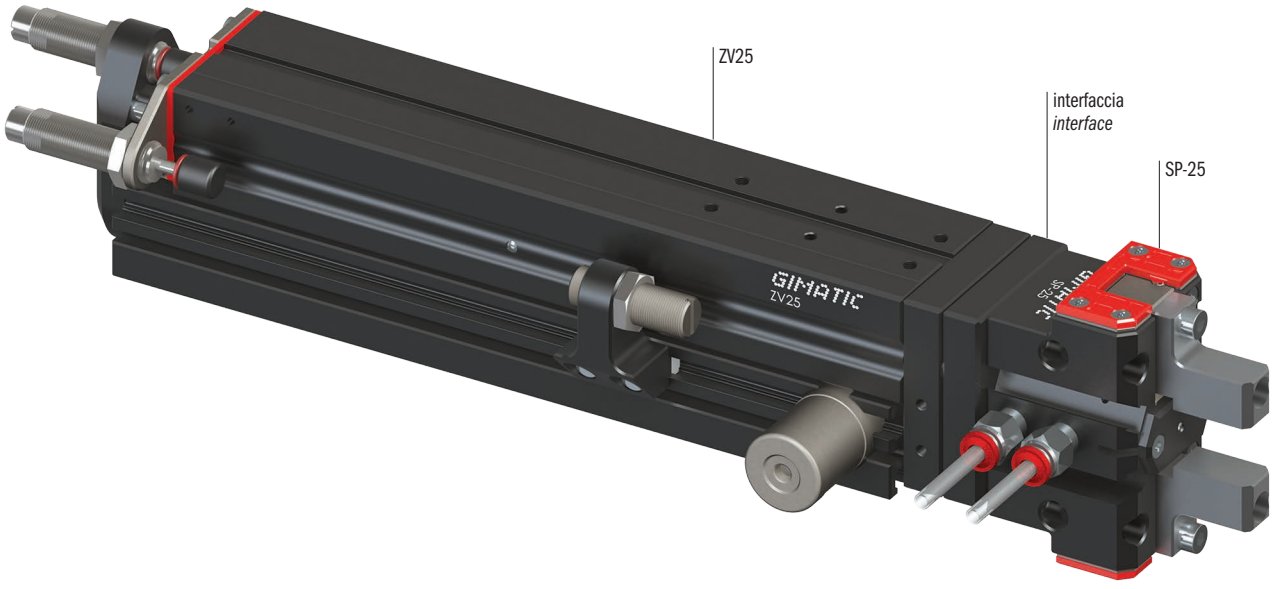
Gripping

The gripper is double-acting for either internal or external gripping applications.
The gripping force on opening is higher..



Esempio di applicazione

Application example



Fissaggio

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.

1- Per fissare la pinza su un lato montare due viti nei fori passanti (C) e due spine nei fori calibrati (A).

2- Per fissare la pinza sul fondo usare quattro viti passanti attraverso i fori (B) e due spine nei fori calibrati (D).

3- Il fissaggio sul fondo è possibile anche usando le due spine nei fori calibrati (D) e quattro viti passanti nella piastra e avvitate in (E).

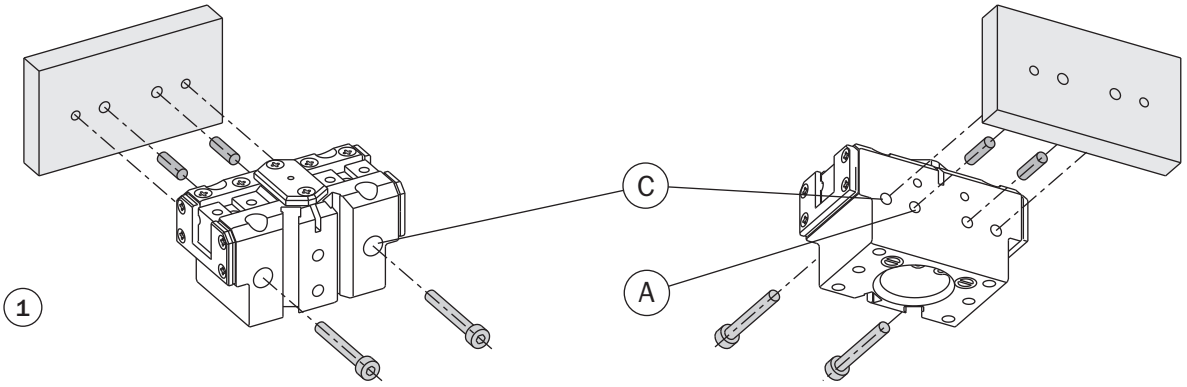
Fastening

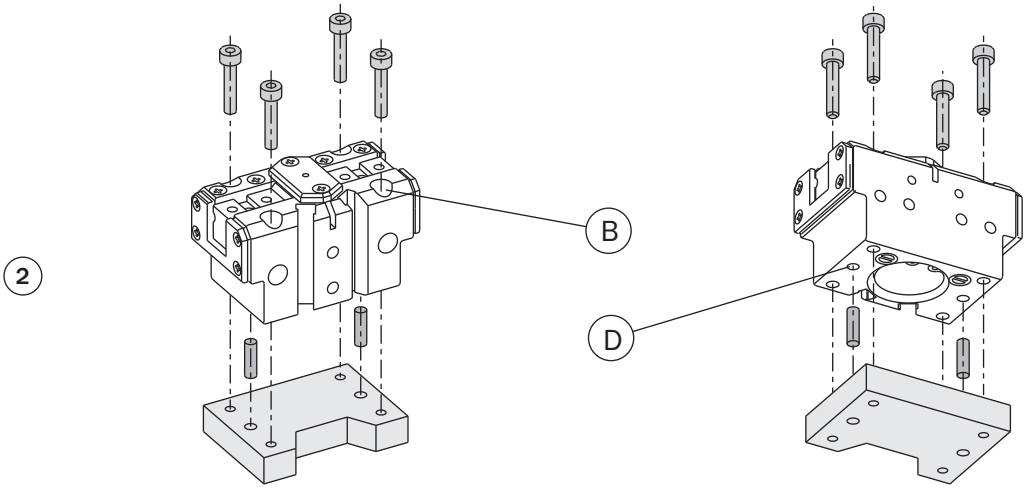
The gripper can be fastened to a static or moving part. When on a moving part, attention must be paid to the inertial force to which the gripper and its load are subjected.

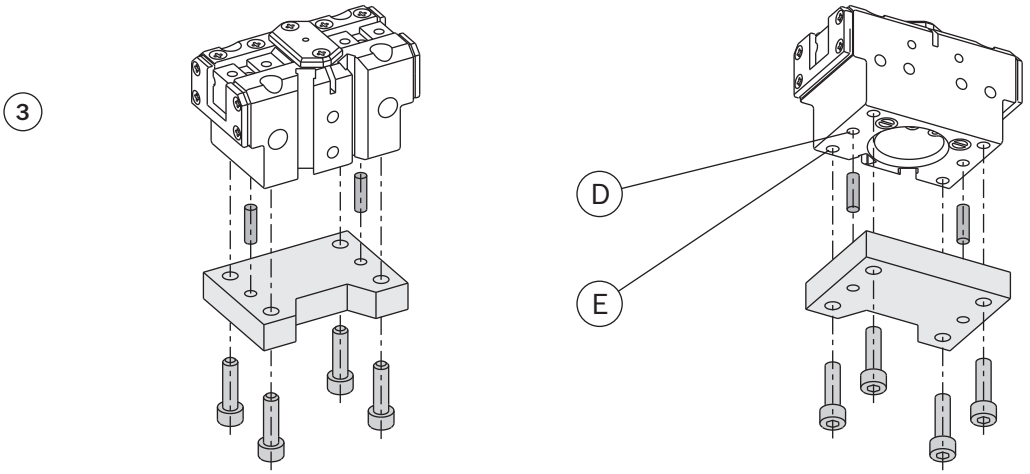
1- To fasten the gripper on its side, insert two screws in the through holes (C) and two dowel pins in the dowel pin holes (A).

2- To fasten the gripper on its bottom, insert four screws in the through holes (B) and two dowel pins in the dowel pin holes (D).

3- The gripper can be fastened on its bottom also with the two dowel pins in the dowel pin holes (D) and four screws through the plate and screwed in (E).

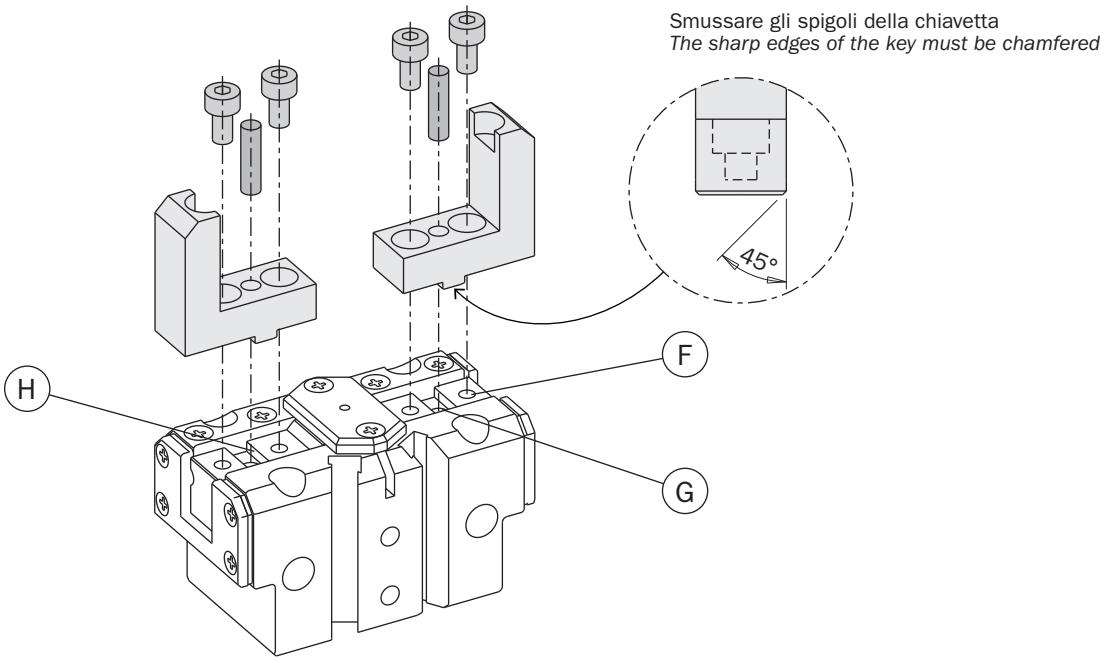






Costruire le dita di presa il più possibile corte e leggere.
Fissarle con due viti nei fori filettati (F).
Per il centraggio sulle griffe utilizzare le scanalature calibrate (H) ed i fori spina calibrati (G).

The gripping fingers must be as short and light as possible.
Fasten them with two screws in the threaded holes (F).
For a precise positioning on the jaws use the key slots (H) and the dowel pin holes (G).



	SP-20	SP-25	SP-32	SP-40
A	Ø3H8 x 5 mm	Ø4H8 x 4 mm	Ø4H8 x 6 mm	Ø5H8 x 6 mm
B	Ø3.3 mm	Ø4.2 mm	Ø4.2 mm	Ø5 mm
C	Ø3.3 mm	Ø4.2 mm	Ø5.3 mm	Ø6.5 mm
D	Ø3H8 x 5 mm	Ø4H8 x 10 mm	Ø4H8 x 7 mm	Ø5H8 x 6 mm
E	M4x6 mm	M5x12 mm	M5x14 mm	M6x19 mm
F	M3x7 mm	M4x8 mm	M5x10 mm	M6x12 mm
G	Ø4H8 x 6 mm	Ø4H8 x 6.5 mm	Ø5H8 x 9 mm	Ø6H8 x 10 mm
H	$5\ ^{+0.02}_{+0.05}$ x 2 mm	$5\ ^{+0.02}_{+0.05}$ x 2.5 mm	$6\ ^{+0.02}_{+0.05}$ x 3 mm	$8\ ^{+0.02}_{+0.05}$ x 3 mm

Forza di serraggio

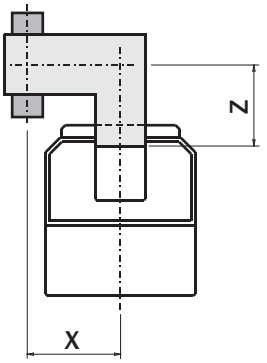
I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

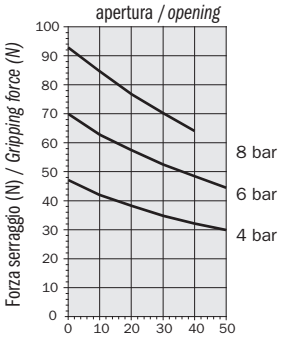
Gripping force

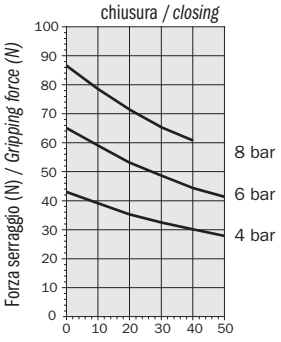
The graphs show the average gripping force on each jaw, as function of the operating pressure, of the gripping tool length Z and of the off-set position of the gripping point X.

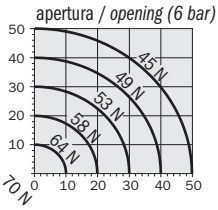
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

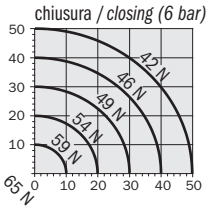
The force shown in these graphs refers to one jaw.
The total force is double.

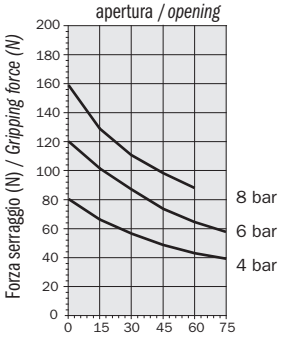


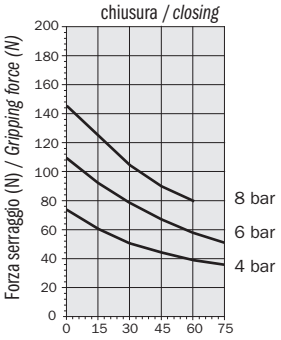


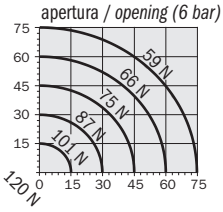


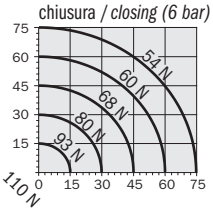


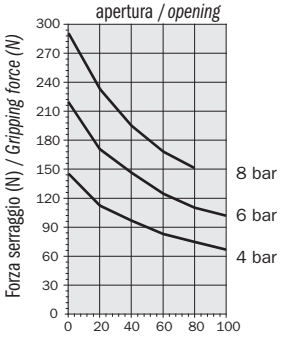


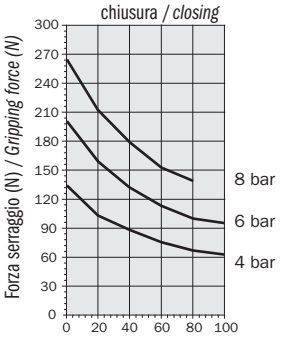


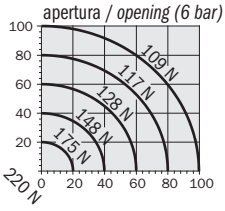


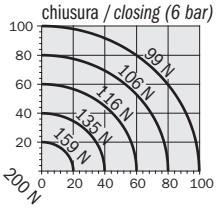


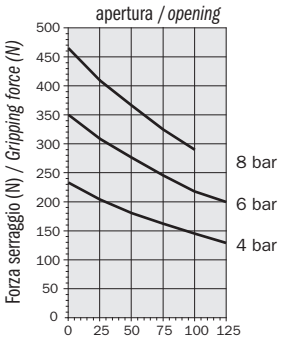


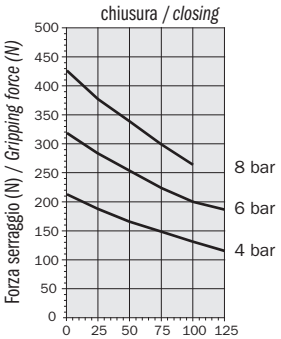


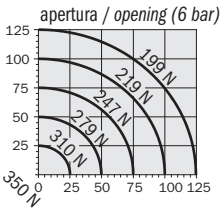


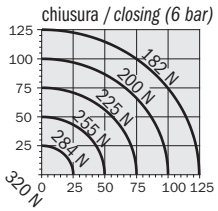










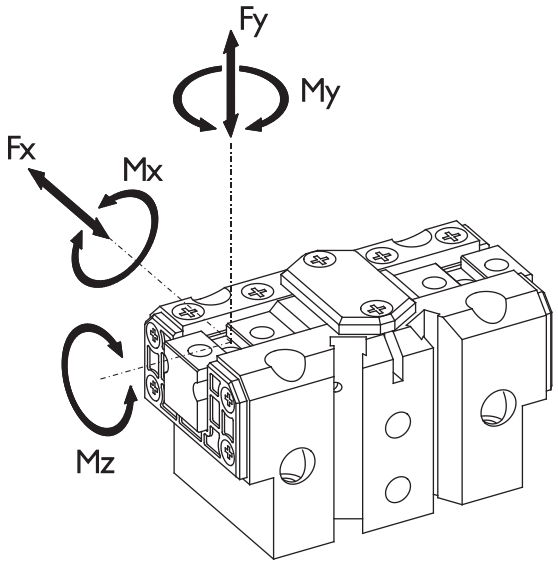


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for the maximum permitted loads.
Excessive forces or torques can damage the gripper, cause operation problems and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are the maximum permitted loads under static conditions, that is with motionless jaws.
F d, Mx d, My d, Mz d, are the maximum permitted loads under dynamic conditions, that is with running jaws.
m, is the maximum permitted weight of each gripping finger, when the gripper works without speed adjustment. If the weight of the gripping fingers is over the permitted value, it is necessary to decrease the jaw speed by acting on the flow controllers (not supplied).



	SP-20	SP-25	SP-32	SP-40
Fx s	100 N	200 N	300 N	400 N
Fy s	100 N	200 N	300 N	400 N
Mx s	3 Nm	6 Nm	13 Nm	30 Nm
My s	3 Nm	6 Nm	13 Nm	30 Nm
Mz s	3 Nm	6 Nm	13 Nm	30 Nm
Fx d	1 N	2 N	3 N	4 N
Fy d	1 N	2 N	3 N	4 N
Mx d	5 Ncm	12 Ncm	24 Ncm	40 Ncm
My d	5 Ncm	12 Ncm	24 Ncm	40 Ncm
Mz d	5 Ncm	12 Ncm	24 Ncm	40 Ncm
m	100 g	200 g	300 g	400 g

SP

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.

Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

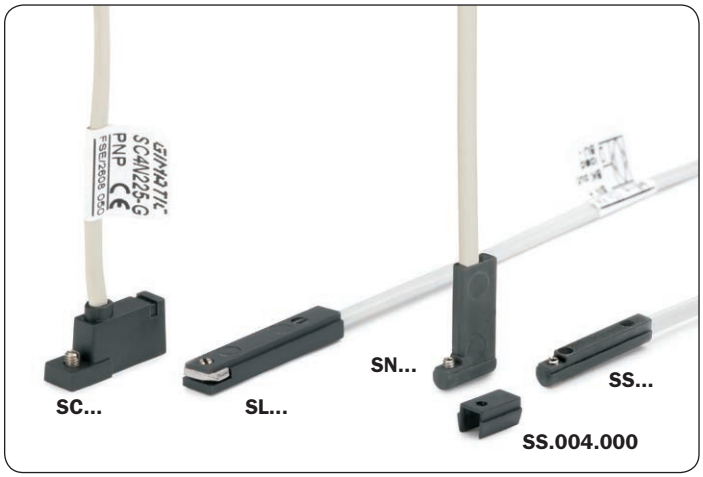
I sensori utilizzabili sono:

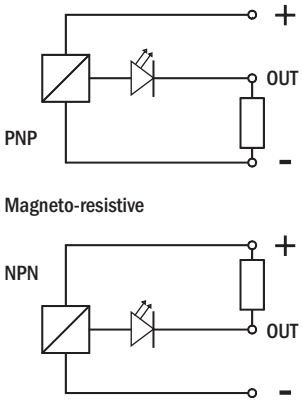
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.

The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:



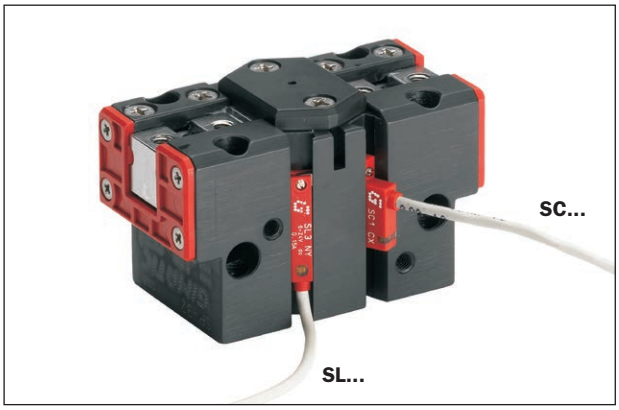


			SP-20	SP-25 / SP-32 /SP-40
SC4N225Y	PNP	Cavo 2.5m / 2.5m cable	☐	☑
SC3N203Y	PNP	Connettore M8 / M8 connector	☐	☑
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☐	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☐	☑
SL3N203-G	PNP	Connettore M8 / M8 connector	☐	☑
SL3M203-G	NPN	Connettore M8 / M8 connector	☐	☑
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑ (*)
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑ (*)
SN3N203-G	PNP	Connettore M8 / M8 connector	☑	☑ (*)
SN3M203-G	NPN	Connettore M8 / M8 connector	☑	☑ (*)
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑ (*)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑ (*)
SS3N203-G	PNP	Connettore M8 / M8 connector	☑	☑ (*)
SS3M203-G	NPN	Connettore M8 / M8 connector	☑	☑ (*)

(*)
Utilizzando l'adattatore SS.004.000 fornito con il sensore.

(*)
Using the adapter SS.004.000 supplied with the sensor.





Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (A e B) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure si alimenta direttamente dai fori inferiori (C e D) rimuovendo i tappi.

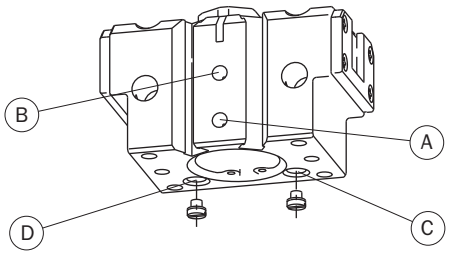
Aria compressa in A o C: apertura della pinza.
Aria compressa in B o D: chiusura della pinza.

Pneumatic connection

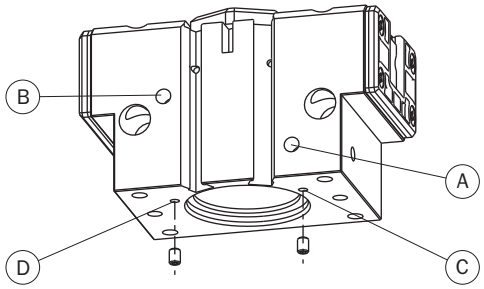
The gripper is driven by compressed air through the side ports (A and B) using air fittings and relevant hoses (not supplied).
Alternatively, the gripper is fed through the lower holes (C and D), after removing the caps.

Compressed air in A or C: gripper opening.
Compressed air in B or D: gripper closing.

SP-20/SP-25



SP-32/SP-40



Circuito pneumatico

Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

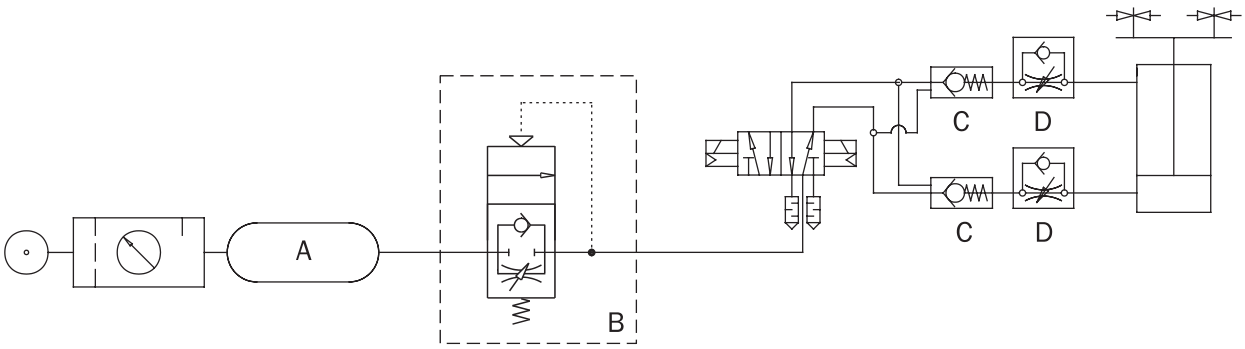
Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variations.
2- Pressurising the empty gripper at start-up.
3- Sudden lack of pressure.
4- Excessive drive speed.

Possible solutions to the above issues:
1- External compressed air storage (A).
2- Start-up valve (B).
3- Safety valves (C).
4- Flow controllers (D).

The gripper is driven by filtered compressed air (5÷40 µm) not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the entire service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

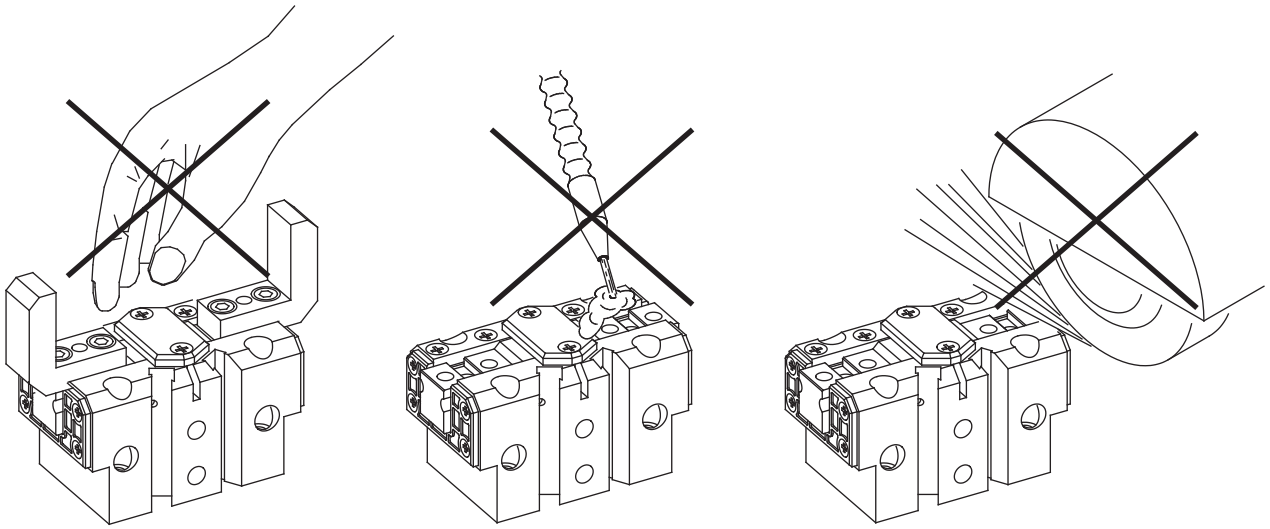


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they will damage the gripper.
Never let non-authorised persons or objects be within the operating range of the gripper.
Never operate the gripper on a machine that does not comply with the safety standards and laws of your country.

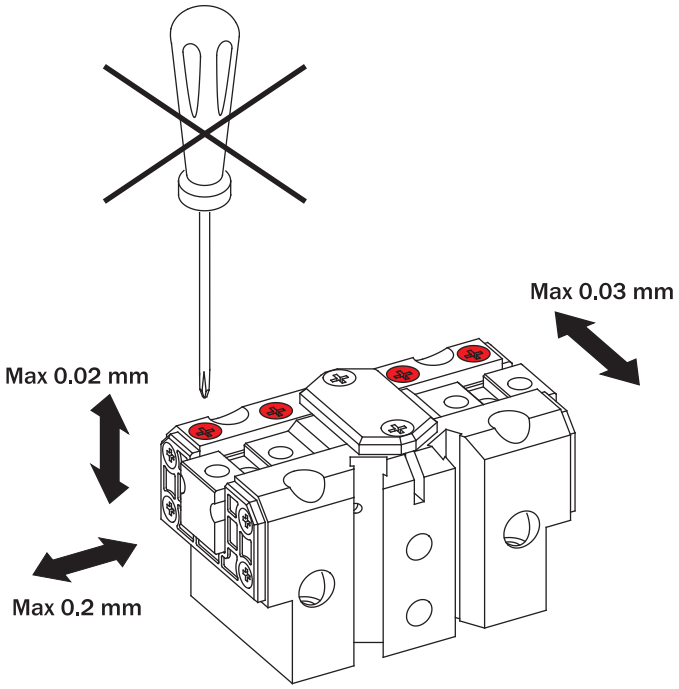


Manutenzione

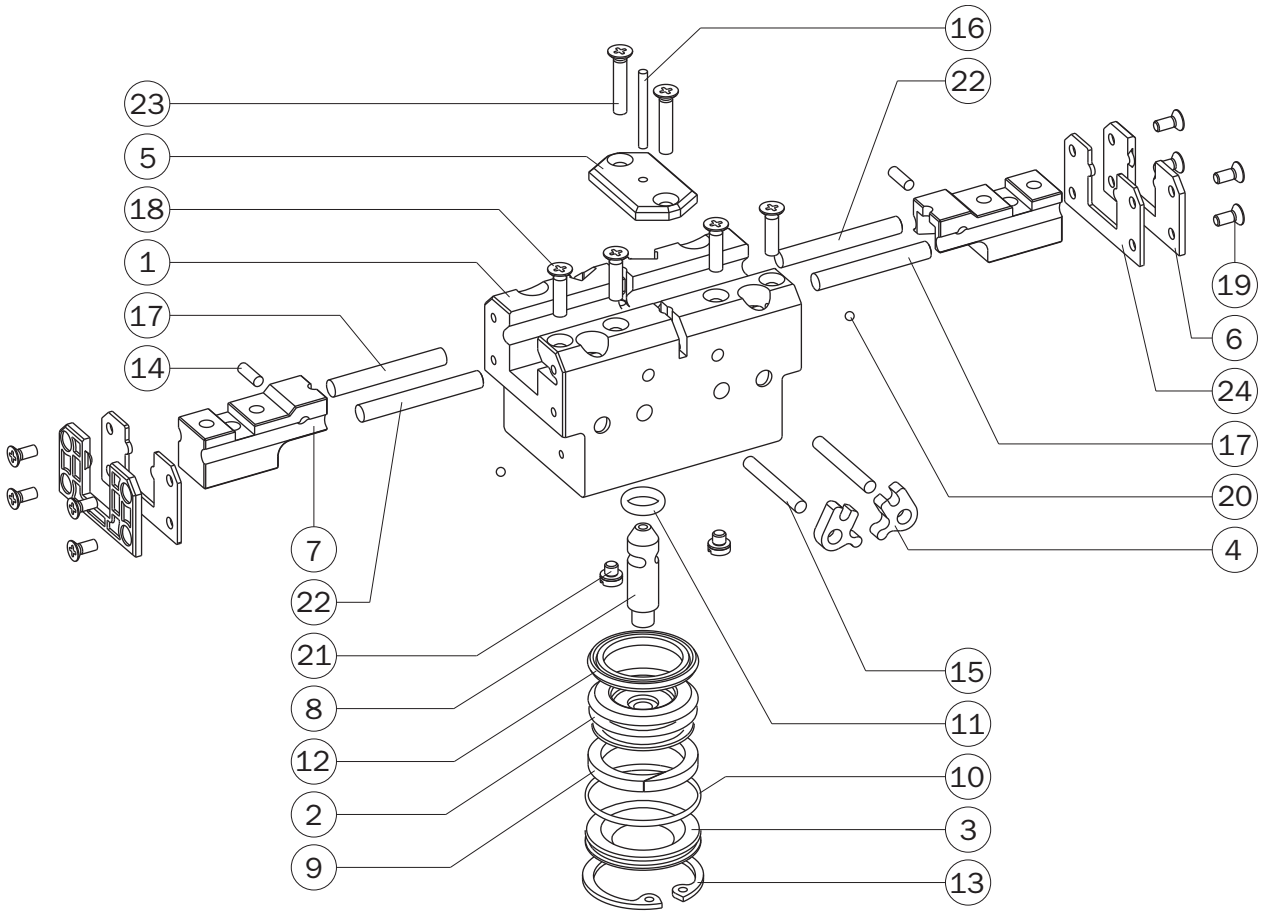
La pinza è esente da manutenzione per 10 milioni di cicli.
Il gioco delle griffe, indicato qui sotto, viene regolato in fabbrica.
NON USARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.

Maintenance

The gripper is maintenance-free for 10 million cycles.
The play of the jaws, indicated below, is factory-set.
NEVER USE THE ADJUSTING SCREWS TO MODIFY IT.



Elenco delle parti / *Part list*



		SP-20	SP-25	SP-32	SP-40		
1	Corpo pinza	SP-20-1	SP-25-1	SP-32-1	SP-40-1	*Gripper body*	*1*
2	Pistone	SP-20-2	SP-25-2	SP-32-2	SP-40-2	*Piston*	*2*
3	Fondello	SP-20-3	SP-25-3	SP-32-3	SP-40-3	*Back end plate*	*3*
4	Leva	SP-20-4	SP-25-4	SP-32-4	SP-40-4	*Lever*	*4*
5	Copertura	SP-20-5	SP-25-5	SP-32-5	SP-40-5	*Closing plate*	*5*
6	Protezione	SP-20-6	SP-25-6	SP-32-6	SP-40-6	*Cover plate*	*6*
7	Griffa	SP-20-7	SP-25-7	SP-32-7	SP-40-7	*Jaw*	*7*
8	Stelo	SP-20-8	SP-25-8	SP-32-8	SP-40-8	*Rod*	*8*
9	Magnete	SP-20-9	PAR-25-10B	T30-10	T40-10	*Magnet*	*9*
10	O-Ring	Ø1x19 (GUAR-078)	Ø1x24 (GUAR-090)	Ø1.78x29.87 (GUAR-054)	Ø1.78x31.47 (GUAR-009)	*O-Ring*	*10*
11	O-Ring	Ø1.78x4.48 (GUAR-029)	Ø1.78x6.75 (GUAR-012)	Ø1.78x9.25 (GUAR-065)	Ø1.78x11.89 (GUAR-095)	*O-Ring*	*11*
12	Guarnizione dinamica	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	32x23x3 (GUAR-004P)	40x13x3 (GUAR-006)	*Dynamic gasket*	*12*
13	Anello elastico per interni	Ø21 mm DIN 472	Ø26 mm DIN 472	Ø33 mm DIN 472	Ø41 mm DIN 472	*Retaining ring*	*13*
14	Rullino	Ø2x5.8 mm DIN 5402	Ø2.5x7.8 mm DIN 5402	Ø3x10 mm DIN 6325	Ø4x11.8 mm DIN 5402	*Pin*	*14*
15	Spina di riferimento	Ø2x20 mm DIN 6325	Ø3x24 mm DIN 6325	Ø3x33.5 mm DIN 6325	Ø4x39.8 mm DIN 5402	*Dowel pin*	*15*
16	Spina di riferimento	Ø1.5x13.8 mm DIN 5402	Ø2x20 mm DIN 6325	Ø2.5x24 mm DIN 6325	Ø2.5x20 mm DIN6325	*Dowel pin*	*16*
17	Spina di riferimento	Ø3x24 mm DIN 6325	Ø4x30 mm DIN 6325	Ø5x36 mm DIN 6325	Ø4x50 mm DIN 6325	*Dowel pin*	*17*
18	Vite	M2.5x10 mm DIN 965A	M3x12 mm DIN 965A	M4x20 mm DIN 965A	M4x16 mm DIN 965A	*Screw*	*18*
19	Vite	M2.5x5 mm DIN 965A	M2.5x6 mm DIN 965A	M3x8 mm DIN 965A	M3x8 mm DIN 965A	*Screw*	*19*
20	Sfera	Ø2 mm AA DIN 5401A	Ø2 mm AA DIN 5401A	Ø2 mm AA DIN 5401A	Ø2 mm AA DIN 5401A	*Ball*	*20*
21	Tappo	DT-205 (M3)	DT-205 (M3)	M3x4 mm DIN 913	M5x5 mm DIN 913	*Cap*	*21*
22	Spina	Ø3x24 mm DIN 6325	Ø4x32 mm DIN 6325	Ø5x40 mm DIN 6325	Ø4x45 mm DIN 6325	*Dowel pin*	*22*
23	Vite	M2.5x10 mm DIN 965A	M3x16 mm DIN 965A	M4x20 mm DIN 965A	M4x16 mm DIN 965A	*Screw*	*23*
24	Protezione metallica	SP-20-10	SP-25-10	SP-32-10	SP-40-10	*Protection metal plate*	*24*

HS

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie HS)

- Progettata per macchine ad alta velocità.
- Tempo di chiusura / apertura ridottissimo.
- Basso peso.
- Grande durata e affidabilità senza manutenzione.
- Corsa lunga.
- Possibilità di ridurre la corsa (su richiesta).
- Sensori magnetici opzionali.

2-jaw parallel self-centering pneumatic gripper (series HS)

- *Specially suited for high speed machines.*
- *Very short closing/opening time.*
- *Low weight.*
- *Trouble free long life without maintenance.*
- *Long stroke.*
- *Reduced stroke (upon request).*
- *Optional magnetic sensors.*



HS-2012



HS-2518

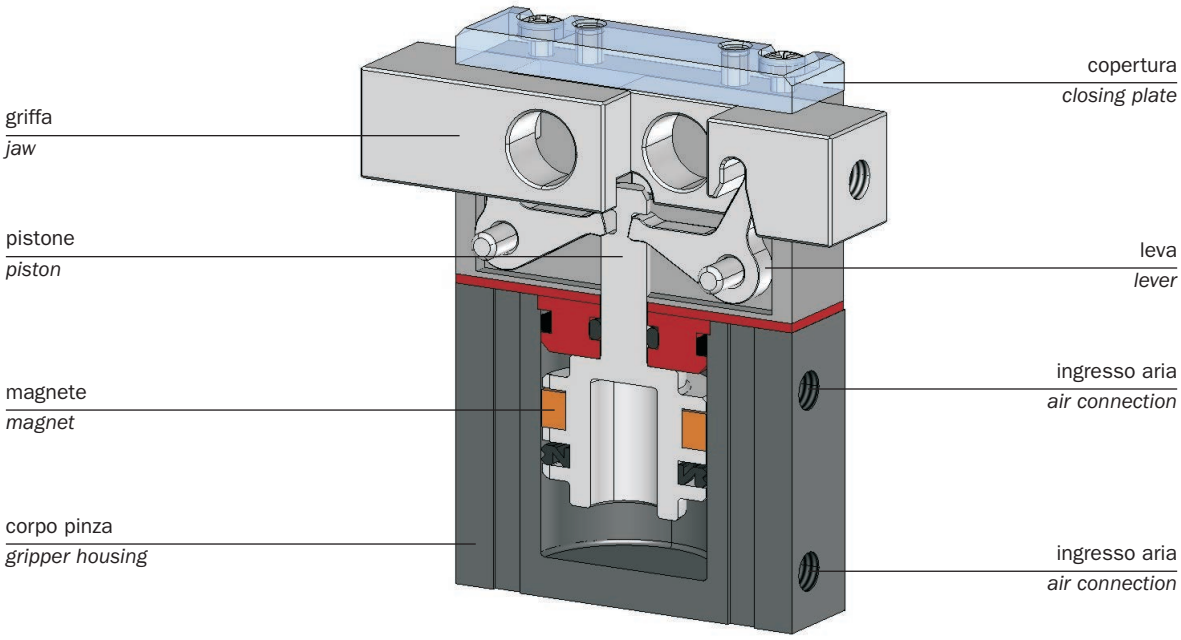
	HS-2012	HS-2518
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.	
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	60 N	90 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	120 N	180 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	55 N	83 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	110 N	166 N
Corsa totale (±0.3 mm) *Total stroke*	11.6 mm	17.6 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	6 Hz	5 Hz
Consumo d'aria per ciclo *Cycle air consumption*	5 cm^3	12 cm^3
Tempo minimo di chiusura / apertura *Closing / opening time minimum*	0.007 s	0.018 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm
Peso *Weight*	144 g	270 g

Schema di funzionamento

Le griffe sono azionate tramite leve dallo stelo del pistone.

Lay-out

The gripper is driven by the piston rod, that operates the jaws by levers.



Riduzione della corsa

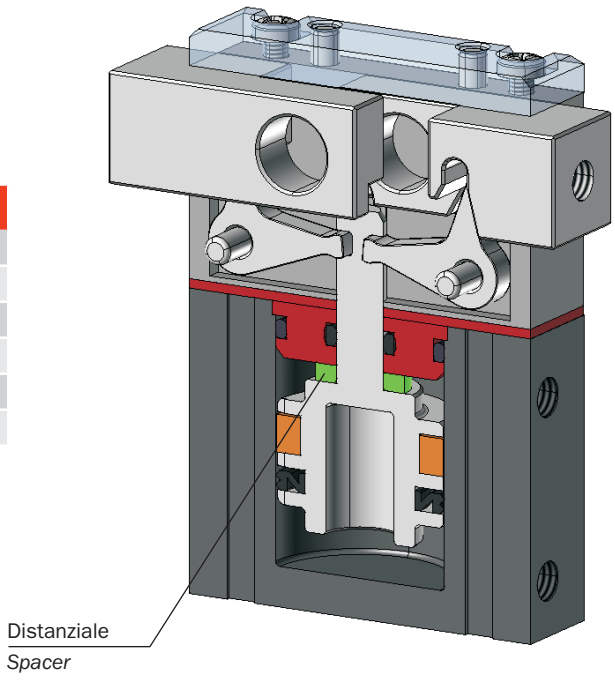
È possibile ridurre la corsa con distanziali che limitano l'apertura delle griffe.
In questo modo diminuisce ulteriormente il tempo di apertura e chiusura della pinza.

Stroke reduction

The stroke can be reduced by spacers which limit the jaw opening. In this way the opening and closing time can be further decreased.

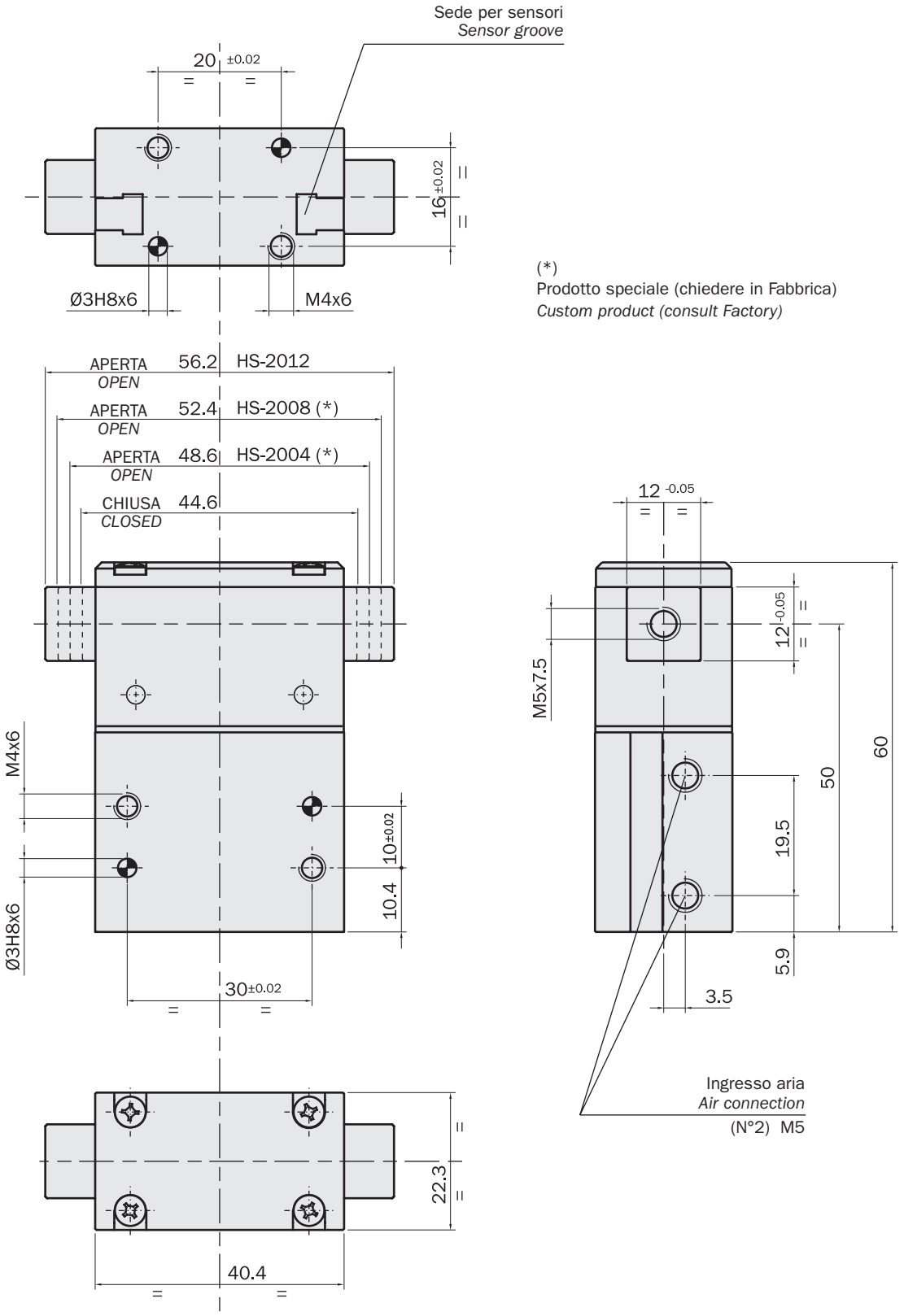
	Distanziale / *Spancer*	Corsa / *Stroke*
HS-2012	/	2 x 5.8 mm
HS-2008 (*)	1 x XP-16-3	2 x 3.9 mm
HS-2004 (*)	2 x XP-16-3	2 x 2 mm
HS-2518	/	2 x 8.9 mm
HS-2512 (*)	1 x XA-26-3	2 x 6.1 mm
HS-2506 (*)	2 x XA-26-3	2 x 3.25 mm

(*)
Prodotto speciale (chiedere in Fabbrica)
Custom product (consult Factory)



Dimensioni (mm) / *Dimensions (mm)*

HS-2012



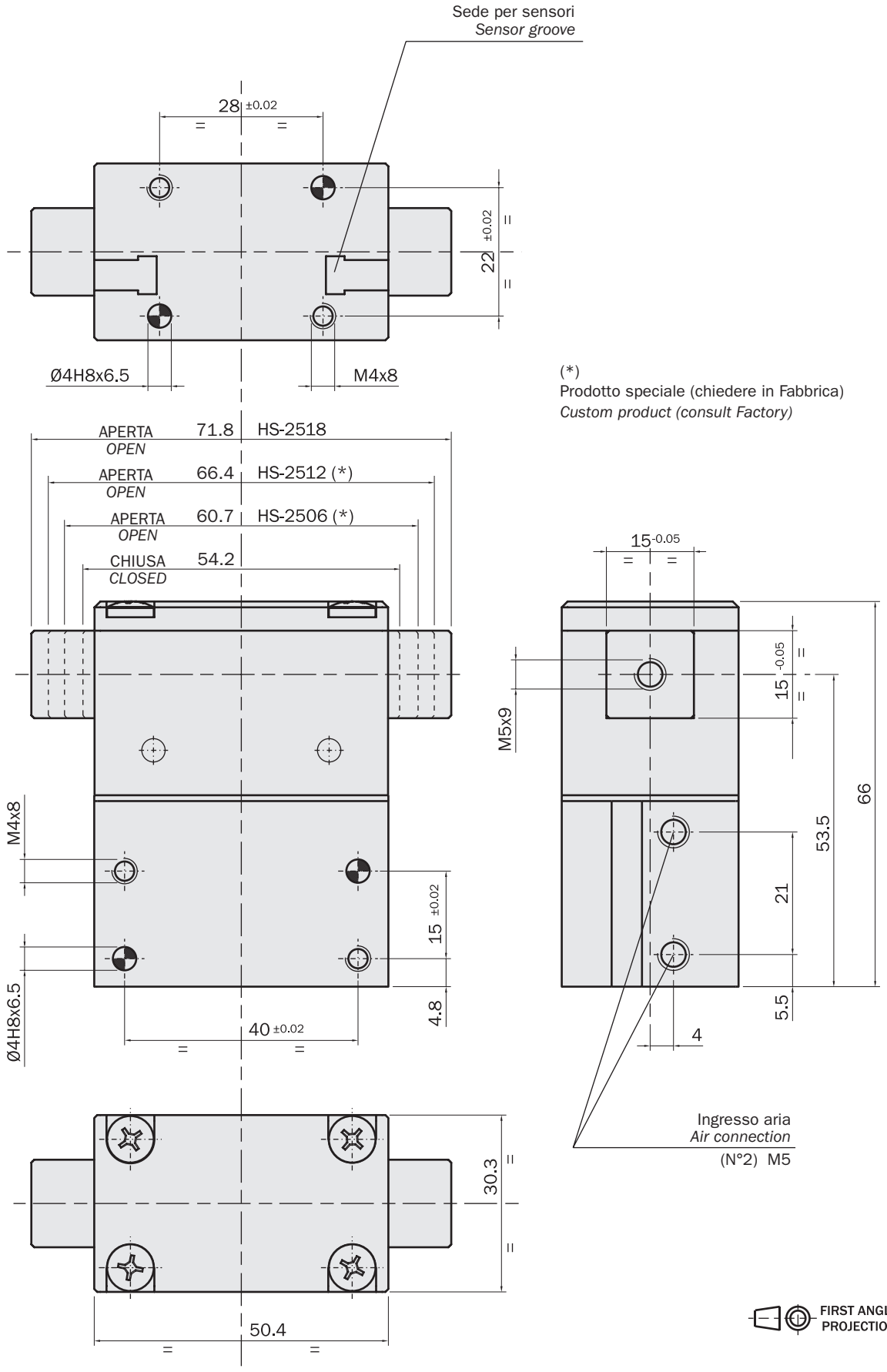
(*)
Prodotto speciale (chiedere in Fabbrica)
Custom product (consult Factory)

FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

HS-2518



(*)
Prodotto speciale (chiedere in Fabbrica)
Custom product (consult Factory)

HS

Forza di serraggio

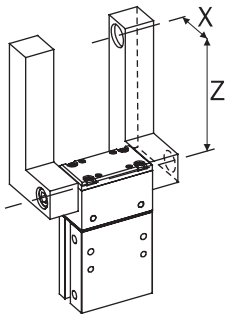
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

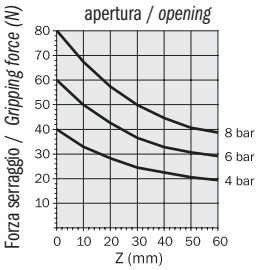
Gripping force

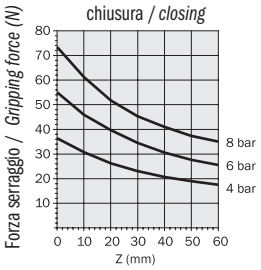
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

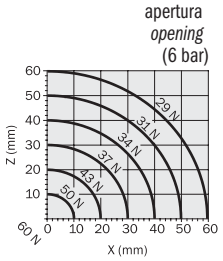
**The force shown in these graphs refers to one jaw.
The total force is double.**

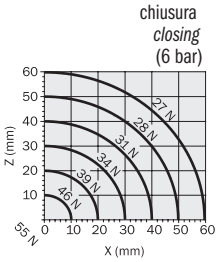


HS-2012

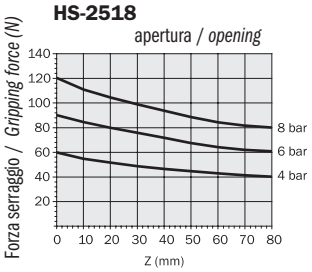


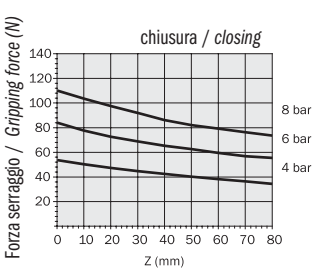


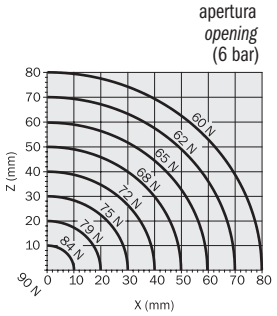


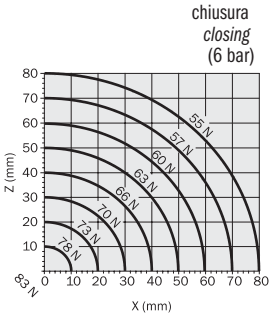


HS-2518









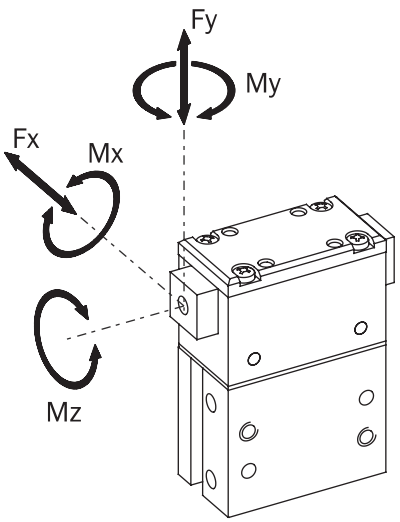
Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Fx s, Fy s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
Fx d, Fy d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
Fx s, Fy s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
Fx d, Fy d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment.
If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).

	HS-2012	HS-2518
Fx s	80 N	150 N
Fy s	60 N	100 N
Mx s	4 Nm	8 Nm
My s	4 Nm	8 Nm
Mz s	4 Nm	8 Nm
Fx d	1 N	2 N
Fy d	1 N	2 N
Mx d	4 Ncm	8 Ncm
My d	4 Ncm	8 Ncm
Mz d	4 Ncm	8 Ncm
m	50 g	100 g



Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza si possono utilizzare:

- i due fori filettati (A) ed i due fori calibrati (B) presenti sul fianco del corpo;
- oppure i due fori filettati (A) ed i due fori calibrati (B) presenti sul fondo del corpo.

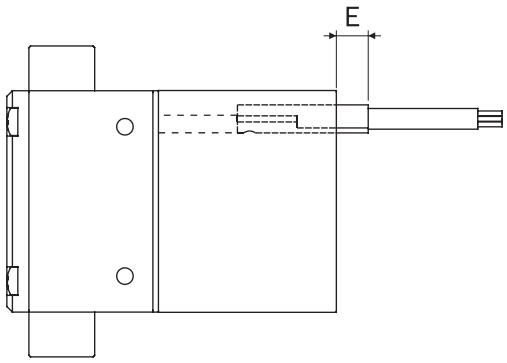
Nel secondo caso si deve prevedere lo spazio (E) per i sensori.

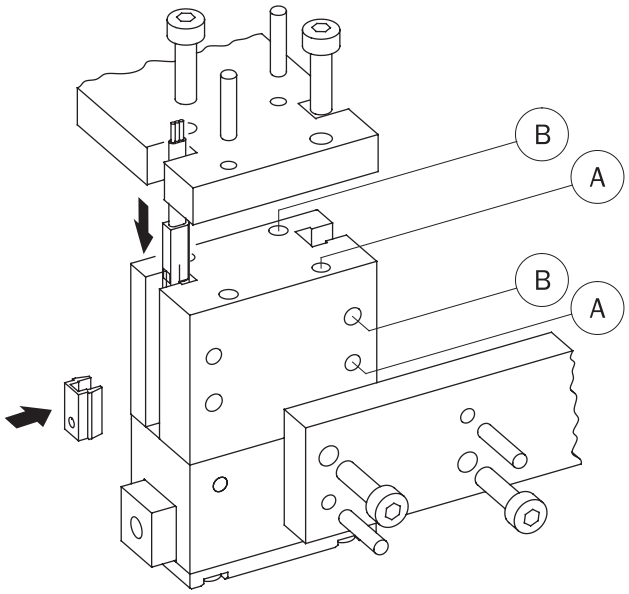
Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.
To fasten the gripper use:

- *the threaded holes (A) and the dowel pin holes (B) on the side of the gripper;*
- *or the threaded holes (A) and the dowel pin holes (B) on the base of the gripper.*

Space for the sensors (E) must be allowed, in the second case.





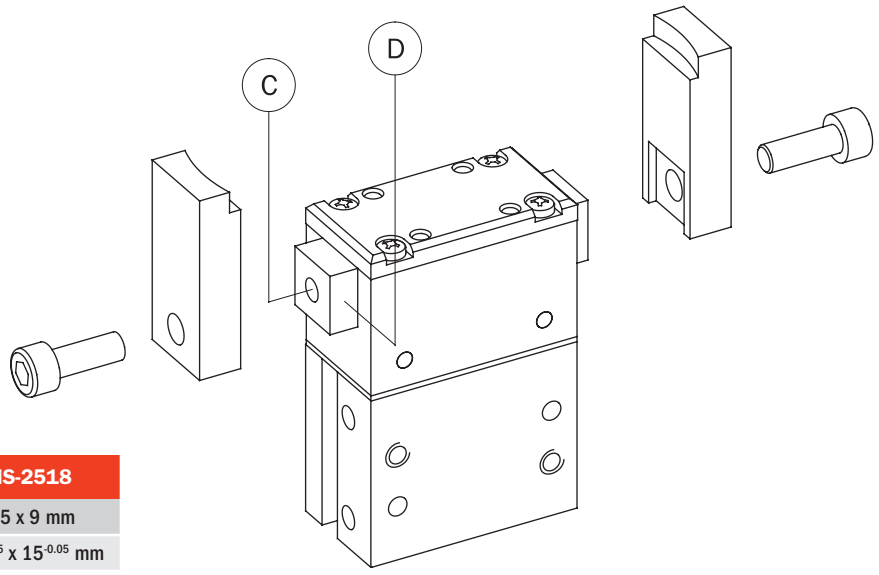
	HS-2012	HS-2518
A	M4 x 6 mm	M4 x 8 mm
B	Ø3H8 x 6 mm	Ø4H8 x 6.5 mm
E	4 mm	5 mm

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle sulle griffe calzandole sulla sagoma calibrata (D) e bloccandole con una vite nel foro filettato (C) centrale.

Gripping tool fastening

The gripping tools must be as short and light as possible.
Fit them to the jaws by centering the square calibrated profile (D) and locking with a screw through the threaded middle hole (C).



	HS-2012	HS-2518
C	M5 x 7.5 mm	M5 x 9 mm
D	$12^{-0.05}$ x $12^{-0.05}$ mm	$15^{-0.05}$ x $15^{-0.05}$ mm

HS

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.

Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

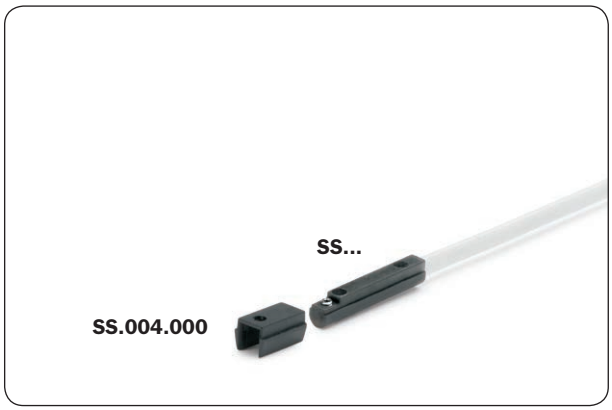
Sensors

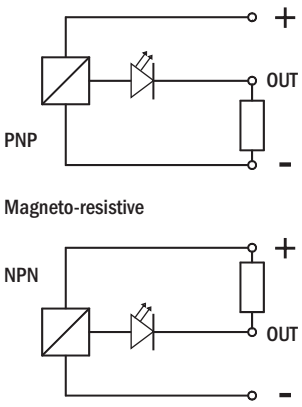
The operating position can be checked by magnetic sensors (optional), that detect the magnet on the piston inside.

Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

I sensori utilizzabili sono:

The optional sensors are:

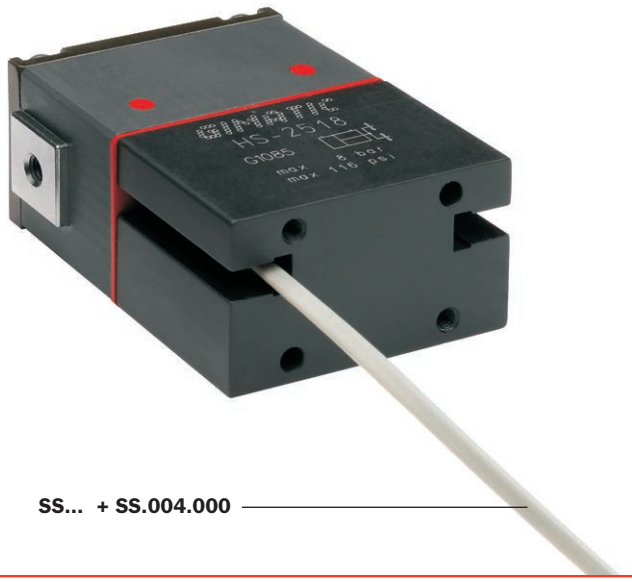




			HS-2012	HS-2518
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑

Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a flat three wire cable and a lamp.



Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in P: apertura della pinza.
Aria compressa in R: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

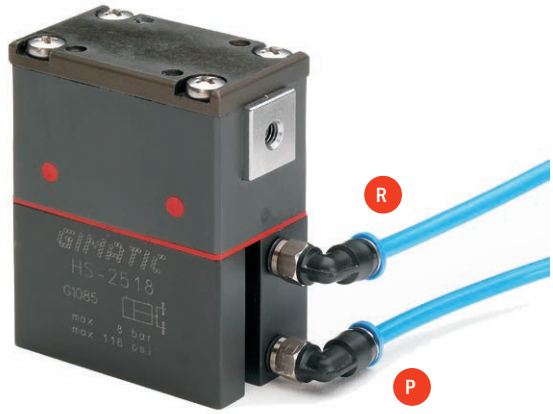
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

Compressed air in P: gripper opening.
Compressed air in R: gripper closing.

The compressed air, must be filtered from 5 to 40 µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

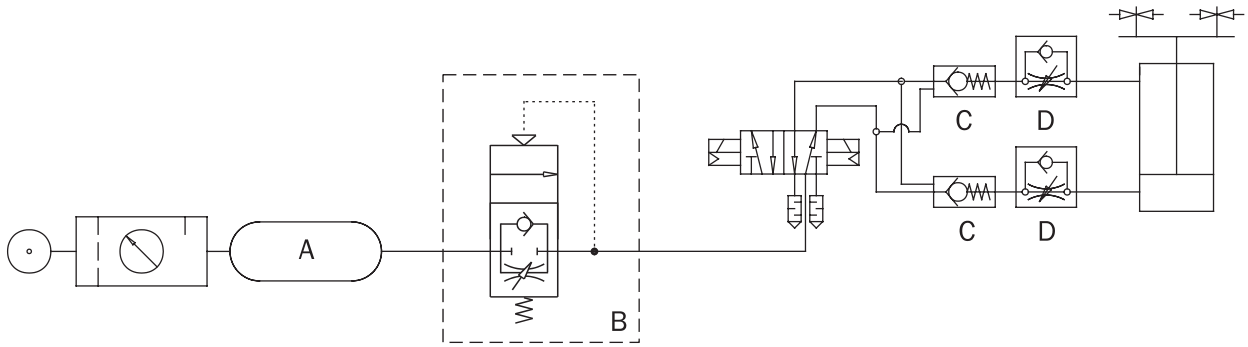
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

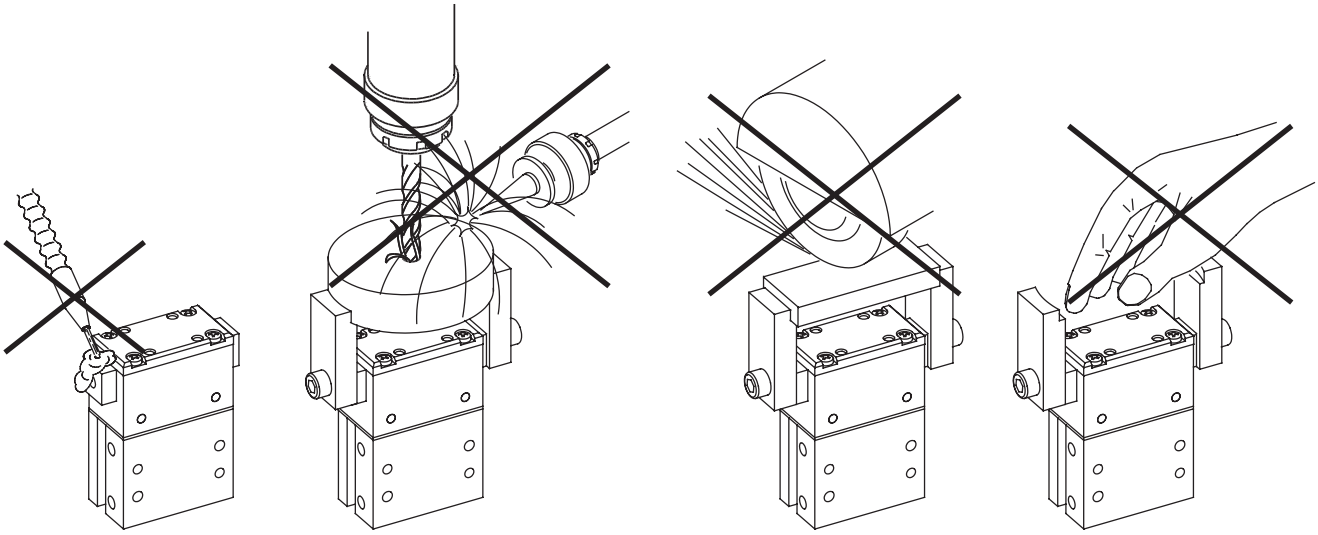


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

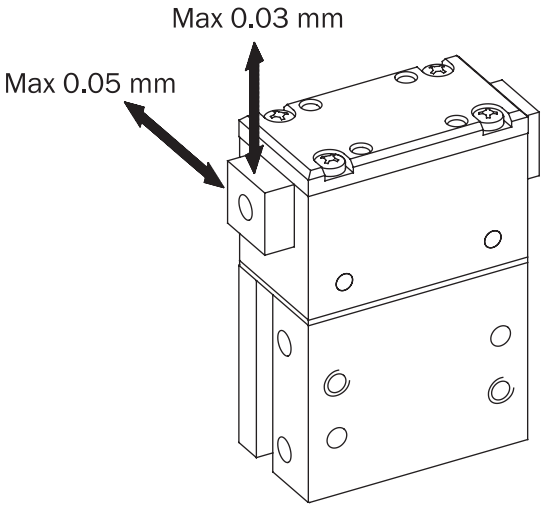
La pinza va ingrassata ogni 30 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

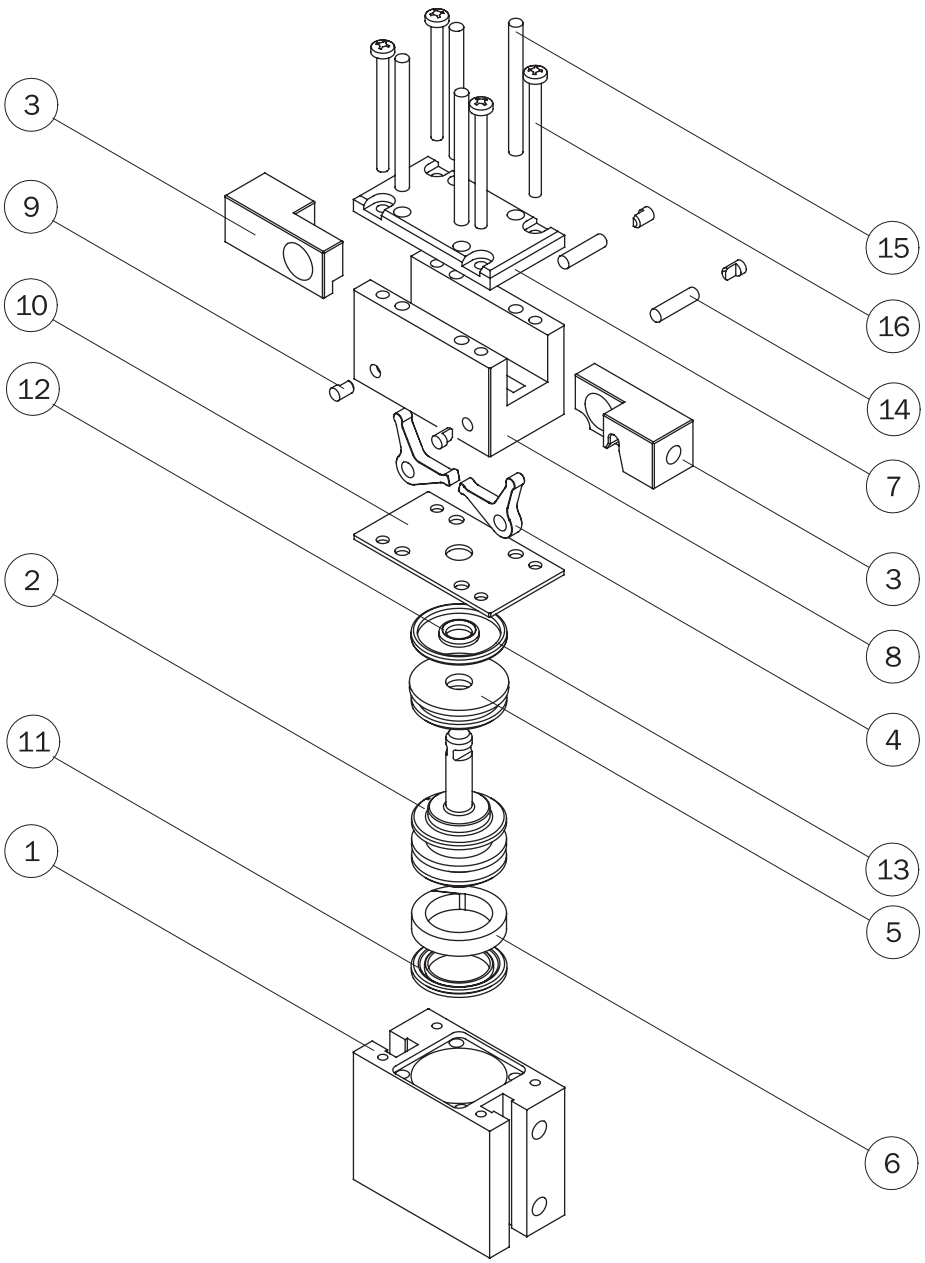
Maintenance

Grease the gripper after 30 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.



Elenco delle parti / *Part list*



		HS-2012	HS-2518		
1	Corpo pinza	HS-2012-1	HS-2518-1	*Gripper housing*	*1*
2	Pistone	HS-2012-2	HS-2518-2	*Piston*	*2*
3	Griffa	HS-2012-3	XPM-26-3	*Jaw*	*3*
4	Leva	HS-2012-4	XPM-26-6	*Lever*	*4*
5	Flangia	XP-20-3	XP-25-12	*Flange*	*5*
6	Magnete	XP-20-5	PS-0025-P07	*Magnet*	*6*
7	Copertura	XP-16-5	XP-25-5	*Closing plate*	*7*
8	Porta griffe	XP-16-8	XP-25-8	*Jaw holder*	*8*
9	Tappo	XP-16-11	XP-25-11	*Plug*	*9*
10	Paratia colorata	XP-16-10	XP-25-10	*Spacer*	*10*
11	Guarnizione dinamica	GUAR-040P (20x13x2.5)	GUAR-003M (25x18x2.4)	*Dynamic gasket*	*11*
12	Anello di tenuta O-RING	GUAR-011 (Ø1.78x5.28)	GUAR-012 (Ø1.78x6.75)	*O-RING gasket*	*12*
13	Anello di tenuta O-RING	GUAR-076 (Ø1.78x17.17)	GUAR-008 (Ø1.78x23.52)	*O-RING gasket*	*13*
14	Spina di riferimento	SPINA-022 (Ø3x12 mm DIN6325)	SPINA-014 (Ø4x16 mm DIN6325)	*Dowel pin*	*14*
15	Spina di riferimento	SPINA-003 (Ø3x33.5 mm DIN5402)	SPINA-004N (Ø4x39.8 mm DIN5402)	*Dowel pin*	*15*
16	Vite	VITE-099 (M2.5x30 mm DIN7985A)	VITE-072 (M4x40 mm DIN7985A)	*Screw*	*16*

Pinza pneumatica autocentrante (serie X)

- XP-...: pinza parallela a 2 griffe.
- XT-...: pinza parallela a 3 griffe.
- XA-...: pinza angolare a 2 griffe.
- XR-...: pinza radiale a 2 griffe.
- Azionamento a doppio effetto.
- Rapporto qualità/prezzo molto favorevole.
- Basso peso ottenuto utilizzando leghe leggere e polimeri.
- Doppia possibilità di fissaggio.
- Sensori magnetici opzionali.

Self-centering pneumatic gripper (series X)

- *XP-...: 2 jaw parallel gripper.*
- *XT-...: 3 jaw parallel gripper.*
- *XA-...: 2 jaw angular gripper.*
- *XR-...: 2 jaw radial gripper.*
- *Double acting.*
- *Excellent cost/performance ratio.*
- *Light weight, due to its alloy and plastic resin construction.*
- *Gripper mounting possible on two sides.*
- *Optional magnetic sensors.*



XR-26



XR-20



XA-26



XA-20



XP-26



XP-20



XT-26



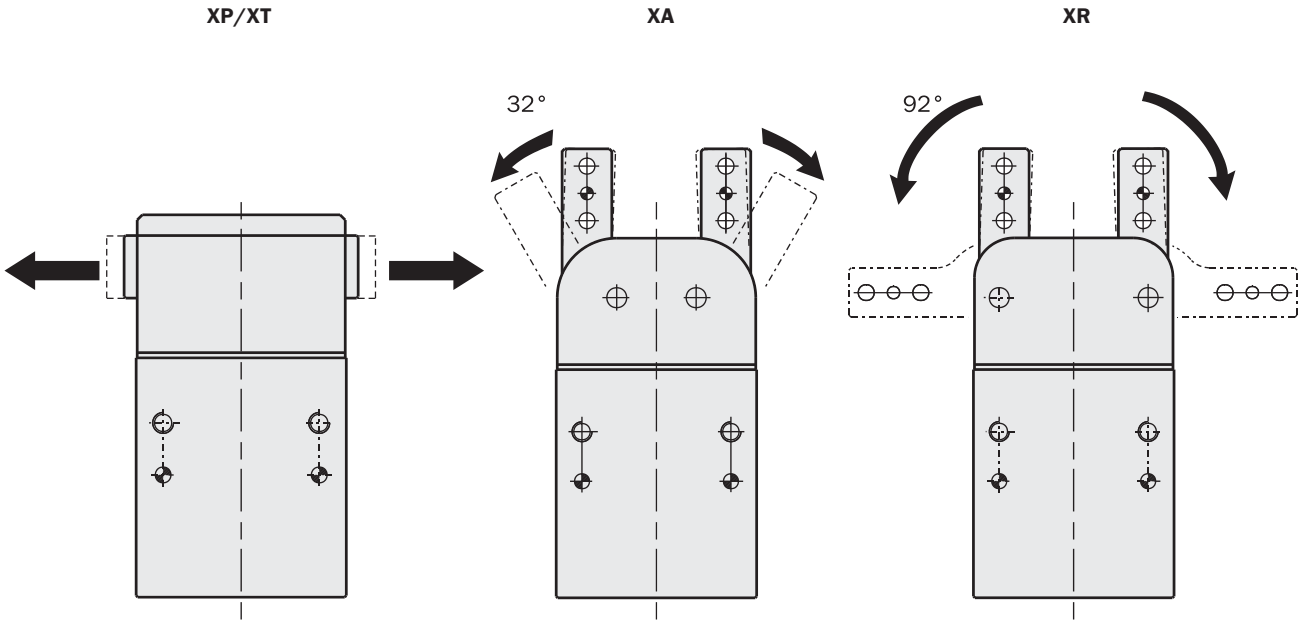
XT-20

Schema di funzionamento

Le griffe sono azionate, direttamente o tramite leve, dallo stelo del pistone.

Lay-out

The jaws are operated using the piston rod (either directly or with levers).

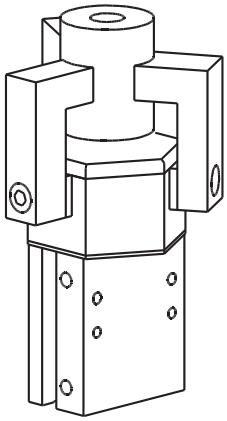


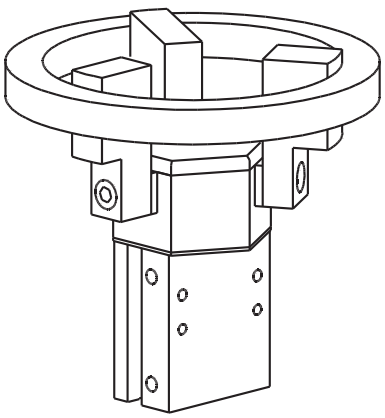
Serraggio

Queste pinze sono a doppio effetto e quindi possono essere usate per serrare un carico sia dall'interno che dall'esterno. A richiesta sono disponibili (non per XR-20 ed XR-26) le versioni a semplice effetto con la molla in chiusura (NC) o in apertura (NO).

Gripping

These gripper are double-acting for either internal or external gripping applications.
The single acting versions are available (not for XR-20 and XR-26) upon request with a closing (NC) or opening (NO) spring.



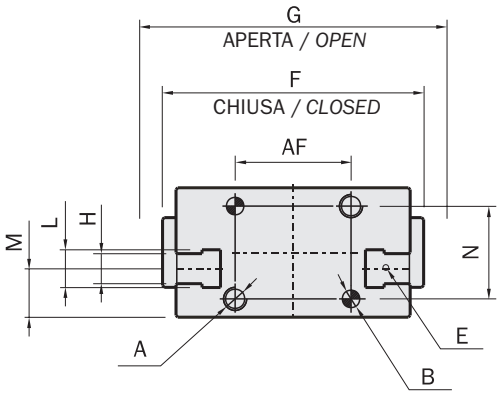


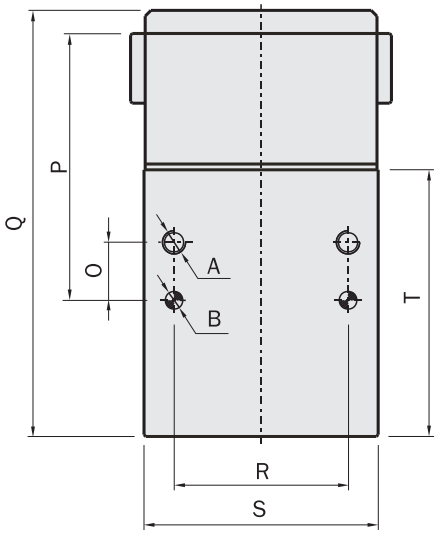
	XP-20	XP-26
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.	
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	85 N	110 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	170 N	220 N
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	100 N	120 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	200 N	240 N
Corsa totale (±0.2 mm) *Total stroke*	8 mm	13.2 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	7 cm^3	12 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.05 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm
Peso *Weight*	160 g	300 g

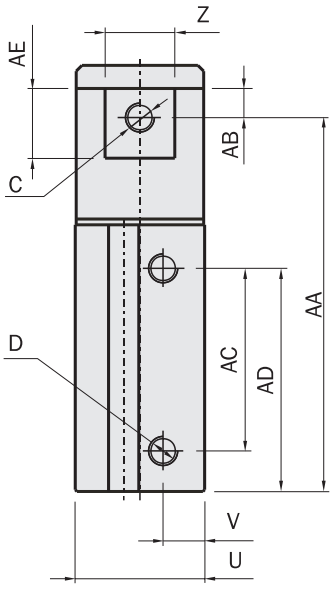
Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

	XP-20	XP-26
A	M4x6	M5x10
B	Ø3x6	Ø4x6
C	M5x8	M6x9
D	M5	
E	SC - SL - SS - SN	
F	44.8	54.6
G	52.8	67.8
H	5.2	
L	6.5	
M	8.35	11.15
N	16	21
O	10	12
P	46	56
Q	73.5	77
R	30	36
S	40.4	50.4
T	46	42.8
U	22.3	30.3
V	7.15	10.15
Z	12	15
AA	64.5	65.5
AB	5	6.5
AC	31.5	30
AD	38.5	36.5
AE	12	15
AF	20	25







- **A** Foro filettato per fissaggio
  Threaded hole for fastening
- **B** Foro di riferimento
  Dowel pin hole
- **C** Foro filettato per fissaggio dita di presa
  Threaded hole for gripping tool fastening
- **D** Ingresso aria
  Air connection
- **E** Sede per sensori Gimatic
  Gimatic sensor slot

	XT-20	XT-26
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.	
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	57 N	73 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	171 N	219 N
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	67 N	80 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	201 N	240 N
Corsa (±0.2 mm) *Stroke*	3 x 3.6 mm	3 x 6.6 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	7 cm^3	12 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.05 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm
Peso *Weight*	210 g	350 g

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

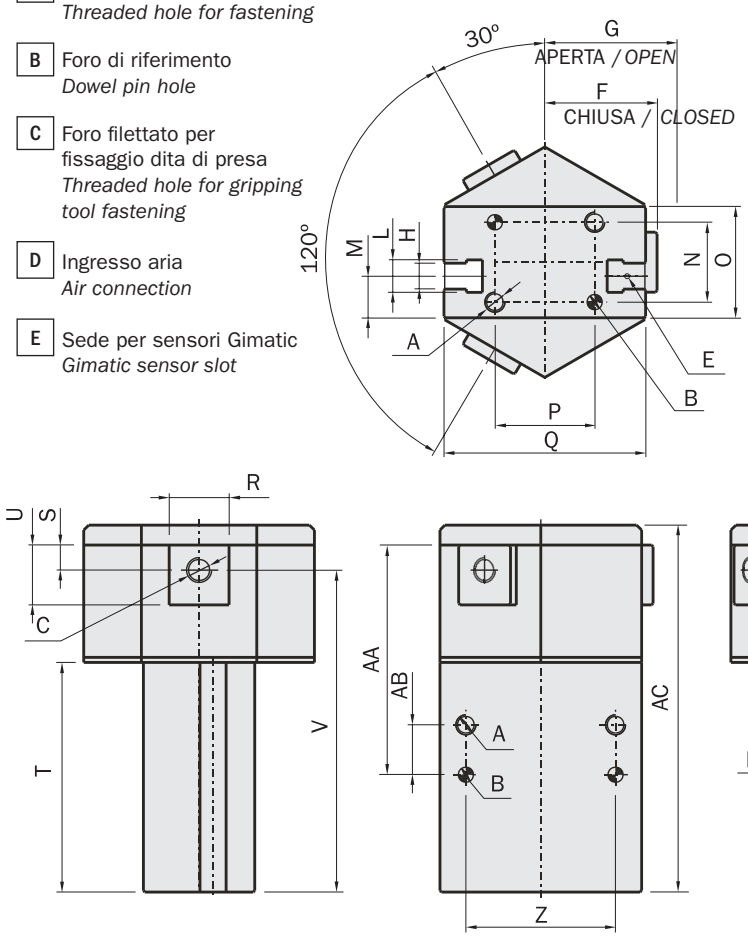
A Foro filettato per fissaggio
Threaded hole for fastening

B Foro di riferimento
Dowel pin hole

C Foro filettato per fissaggio dita di presa
Threaded hole for gripping tool fastening

D Ingresso aria
Air connection

E Sede per sensori Gimatic
Gimatic sensor slot

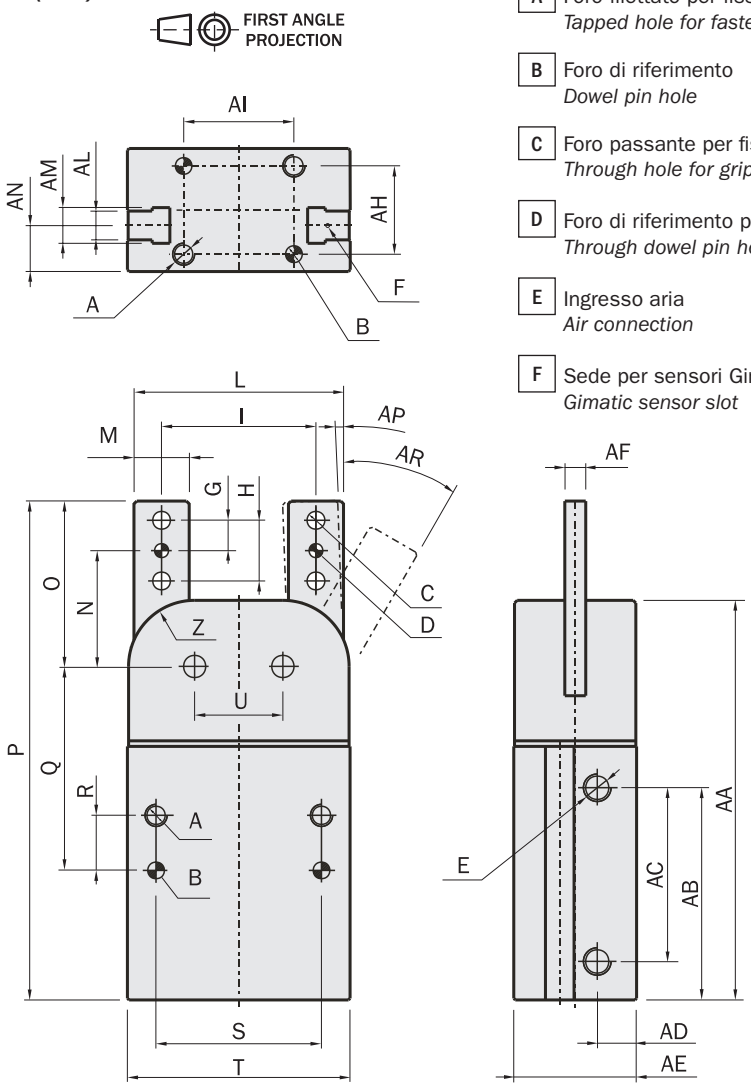


	XT-20	XT-26
A	M4x6	M5x10
B	Ø3x6	Ø4x6
C	M5x8	M6x9
D	M5	
E	SC - SL - SS - SN	
F	22.4	27.1
G	26	33.7
H	5.2	
L	6.5	
M	8.35	11.15
N	16	21
O	22.3	30.3
P	20	25
Q	40.4	50.4
R	12	15
S	5	6.5
T	46	42.8
U	12	15
V	64.5	65.5
Z	30	36
AA	46	56
AB	10	12
AC	73.5	77
AD	31.5	30
AE	38.5	36.5
AF	7.15	10.15

	XA-20	XA-26
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.	
Coppia per griffa in chiusura a 6 bar *Closing torque at 6 bar on each jaw*	46 Ncm	79 Ncm
Coppia totale in chiusura a 6 bar *Closing torque force at 6 bar*	92 Ncm	158 Ncm
Coppia per griffa in apertura a 6 bar *Opening torque at 6 bar on each jaw*	50 Ncm	85 Ncm
Coppia totale in apertura a 6 bar *Opening torque force at 6 bar*	100 Ncm	170 Ncm
Corsa (±2°) *Stroke*	2 x 30°	2 x 32°
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	6 cm^3	11 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.03 s
Ripetibilità *Repetition accuracy*	0.04°	0.04°
Peso *Weight*	140 g	250 g

Dimensioni (mm) / *Dimensions (mm)*

	XA-20	XA-26
A	M4x6	M5x10
B	Ø3x6	Ø4x8
C	Ø3.2	Ø4.3
D	Ø2.5H8	Ø3H8
G	5.5	6
H	11	12
I	28	31
L	38	45
M	10	14
N	21	25.7
O	30	36.7
P	90.5	95.1
Q	37	42.4
R	10	12
S	30	36
T	40.4	50.4
U	16	19.3
Z	R=12	R=16
AA	72.5	73.6
AB	38.5	36.5
AC	31.5	30
AD	7.15	10.15
AE	22.3	30.3
AF	3.8	5.4
AH	16	21
AI	20	25
AL	5.2	
AM	6.5	
AN	8.35	11.15
AP	4°	2°
AR	26°	30°

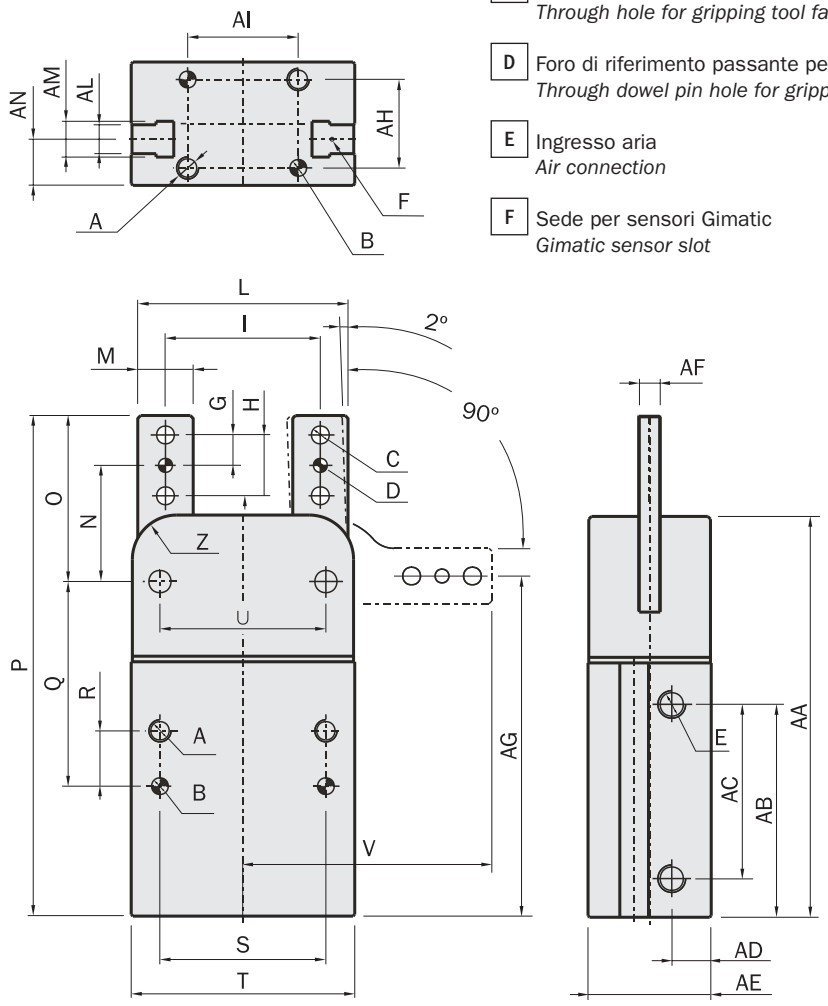


- **A** Foro filettato per fissaggio
  Tapped hole for fastening
- **B** Foro di riferimento
  Dowel pin hole
- **C** Foro passante per fissaggio dita di presa
  Through hole for gripping tool fastening
- **D** Foro di riferimento passante per dita
  Through dowel pin hole for gripping tool
- **E** Ingresso aria
  Air connection
- **F** Sede per sensori Gimatic
  Gimatic sensor slot

	XR-20	XR-26
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.	
Coppia massima per griffa in chiusura a 6 bar *Closing maximum torque at 6 bar on each jaw*	150 Ncm	300 Ncm
Coppia massima per griffa in apertura a 6 bar *Opening maximum torque at 6 bar on each jaw*	160 Ncm	320 Ncm
Corsa (±2°) *Stroke*	2 x 92°	2 x 92°
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	11 cm^3	19 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.08 s	0.12 s
Ripetibilità *Repetition accuracy*	0.06°	0.06°
Peso *Weight*	140 g	260 g

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION



- A Foro filettato per fissaggio
  Threaded hole for fastening
- B Foro di riferimento
  Dowel pin hole
- C Foro passante per fissaggio dita di presa
  Through hole for gripping tool fastening
- D Foro di riferimento passante per dita
  Through dowel pin hole for gripping tool
- E Ingresso aria
  Air connection
- F Sede per sensori Gimatic
  Gimatic sensor slot

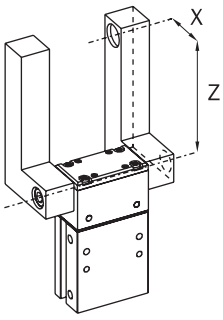
	XR-20	XR-26
A	M4x6	M5x10
B	Ø3x6	Ø4x8
C	Ø3.2	Ø4.3
D	Ø2.5H8	Ø3H8
E	M5	
F	SC - SL - SS - SN	
G	5.5	6
H	11	12
I	28	31
L	38	45
M	10	14
N	21	25.7
O	30	36.7
P	90.5	95.1
Q	37	42.4
R	10	12
S	30	36
T	40.4	50.4
U	30	39
V	45	56.2
Z	R=8	
AA	72.5	73.6
AB	38.5	36.5
AC	31.5	30
AD	7.15	10.15
AE	22.3	30.3
AF	3.8	5.4
AG	61.5	62.4
AH	16	21
AI	20	25
AL	5.2	
AM	6.5	
AN	8.35	11.15

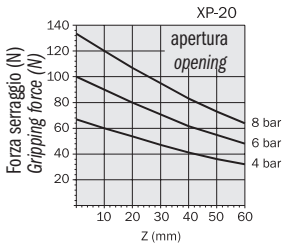
Forza di serraggio

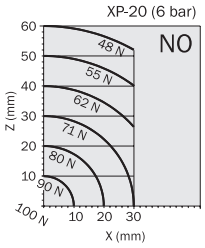
XP-... I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

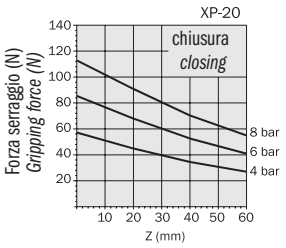
Gripping force

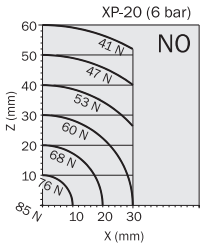
XP-... The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

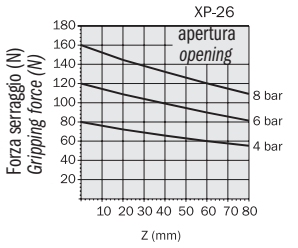


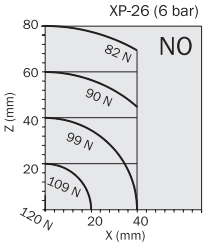


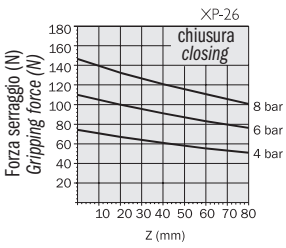


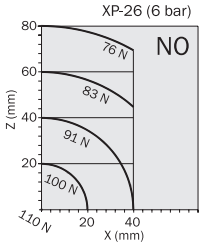










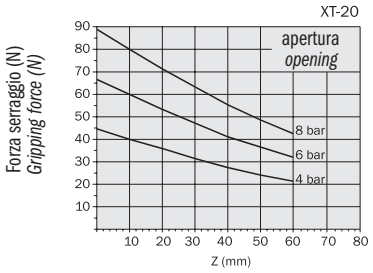


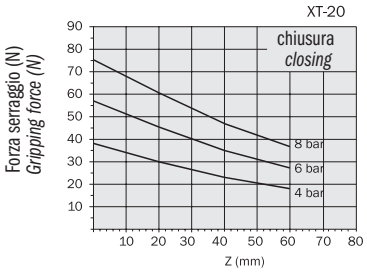
XT-... I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

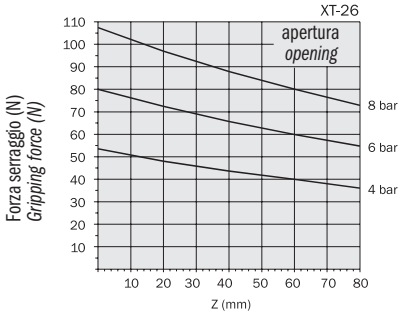
XT-... The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

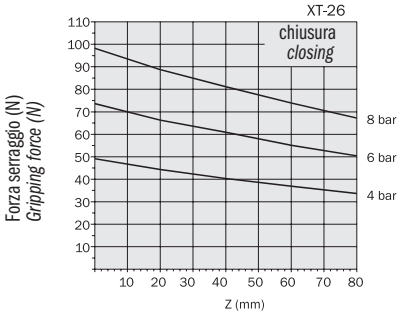
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

The force shown in these graphs refers to one jaw.
The total force is double.



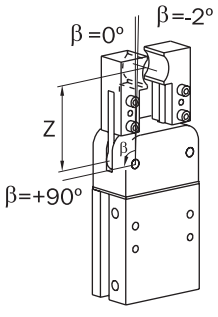


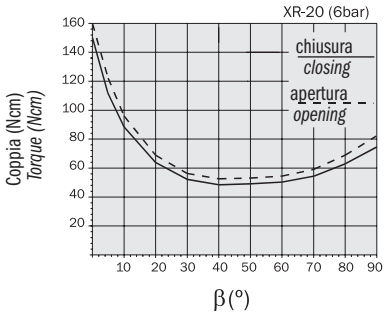


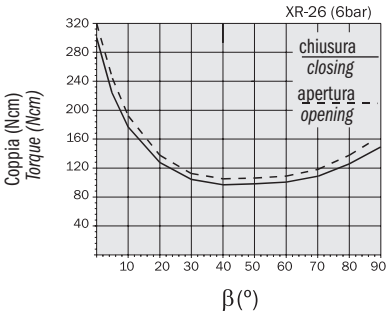


XR-... I grafici mostrano la coppia per griffa espressa dalla pinza in funzione della posizione angolare ß della griffa.

XR-... The graphs show the gripping torque on each jaw, as a function of the angular position ß of the jaw.





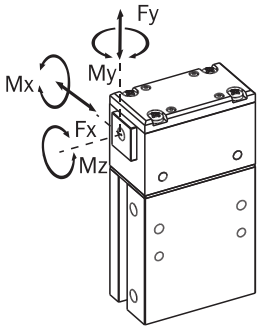


Carichi di sicurezza

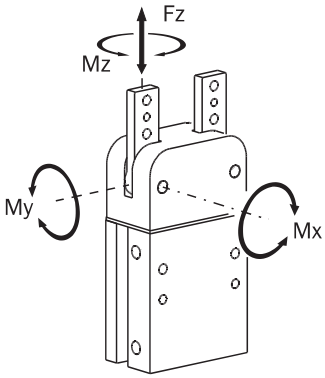
Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Fx s, Fy s, Fz s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
Fx d, Fy d, Fz d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura.
I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

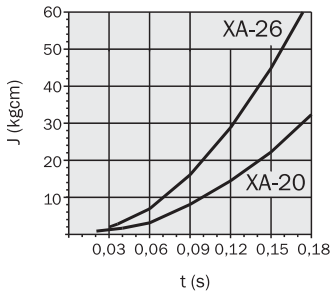
Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
Fx s, Fy s, Fz s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
Fx d, Fy d, Fz d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
The following table shows the specified maximum loads (m) on each gripping tool as a function of closing or opening time.
The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.

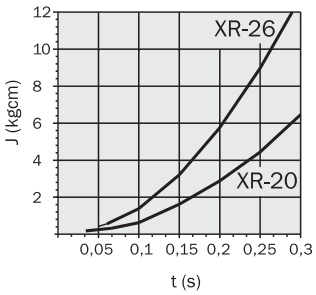


	XP-20	XP-26	XT-20	XT-26
Fx s	80 N	150 N	80 N	150 N
Fy s	60 N	100 N	60 N	100 N
Mx s	3 Nm	7.2 Nm	3 Nm	7.2 Nm
My s	2 Nm	5.5 Nm	2 Nm	5.5 Nm
Mz s	2 Nm	5.5 Nm	2 Nm	5.5 Nm
Fx d	1 N	2 N	1 N	2 N
Fy d	1 N	2 N	1 N	2 N
Mx d	3 Ncm	7.2 Ncm	3 Ncm	7.2 Ncm
My d	2 Ncm	5.5 Ncm	2 Ncm	5.5 Ncm
Mz d	2 Ncm	5.5 Ncm	2 Ncm	5.5 Ncm
m 0.1s	80 g	160 g	80 g	160 g
m 0.05s	60 g	100 g	60 g	100 g
m 0.02s	50 g	-	50 g	-



	XA-20	XA-26	XR-20	XR-26
Fz s	60 N	90 N	80 N	120 N
Mx s	1.4 Nm	2.8 Nm	3.2 Nm	6.4 Nm
My s	1.4 Nm	2.8 Nm	1.4 Nm	2.8 Nm
Mz s	1.4 Nm	2.8 Nm	1.4 Nm	2.8 Nm
J	1000 x t^2	2000 x t^2	62.5 x t^2	125 x t^2





Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza si possono utilizzare:

- i due fori filettati (C) ed i due fori calibrati (D) presenti sul fianco del corpo;
- oppure i due fori filettati (E) ed i due fori calibrati (F) presenti sul fondo del corpo.

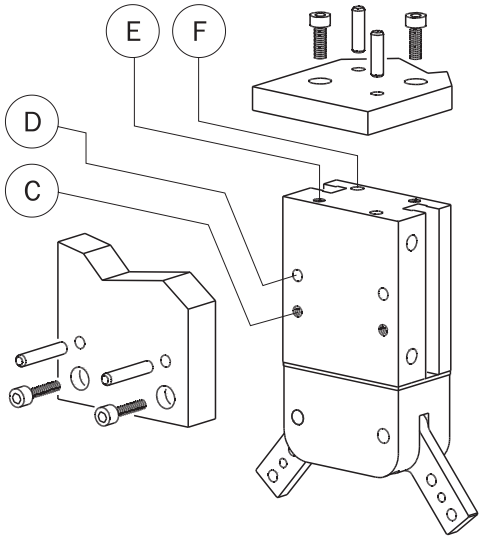
Lasciare lo spazio necessario per i raccordi dell'aria.

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.
The fasten the gripper use:

- *the threaded holes (C) and the dowel pin holes (D) on the side of the gripper;*
- *or the threaded holes (E) and the dowel pin holes (F) on the base of the gripper.*

Allow room to mount the air fittings (C) and the sensors.



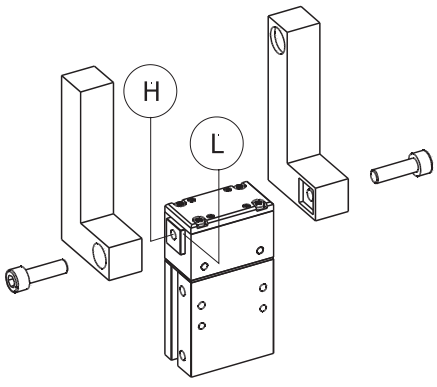
		X...-20	X...-26
C	E	M4x6 mm	M5x10 mm
D	F	Ø3H8x6 mm	Ø4H8x8 mm

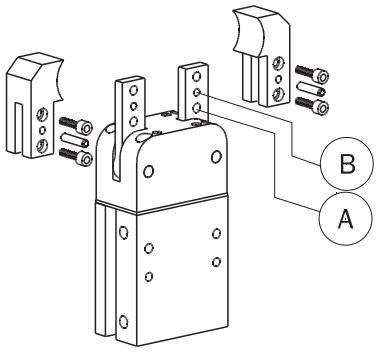
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Per le pinze XP-... ed XT-... si fissano sull'unico foro filettato (H) calzandole sulla sagoma quadrata calibrata (L) della griffa.
Per la pinze XA-... ed XR-... si fissano inserendo due viti nei fori passanti (A) ed una spina nel foro calibrato (B).

Gripping tool fastening

The gripping tools must be as short and light as possible.
On the grippers XP- ... and XT- ..., they must be fitted by centering the square calibrated profile (L) and locking with a screw through the threaded hole (H).
On the grippers XA-... and XR-..., they must be fitted to the jaw inserting two screws into the through holes (A) and a pin into the dowel pin hole (B).





	XP-20 XT-20	XP-26 XT-26	XA-20 XR-20	XA-26 XR-26
H	M5x8 mm	M6x9 mm	-	-
L (-0.05)	12x12 mm	15x15 mm	-	-
A	-	-	Ø3.2 mm	Ø4.3 mm
B	-	-	Ø2.5H8 mm	Ø3H8 mm

Esempi di applicazione

Le estremità di presa XR-20-9 (mostrate nelle fotografie) sono accessori opzionali della pinza XR-20 e sono adatte per il serraggio di tubi o cavi.

Application examples

The XR-20-9 gripping tools (shown in the pictures), optional for XR-20, are suited to grip pipes, wires, etc.



Negli altri casi le estremità di presa devono essere sagomate in conformità al carico.

In the other applications the gripping tools must be shaped according to the load.



Sensori

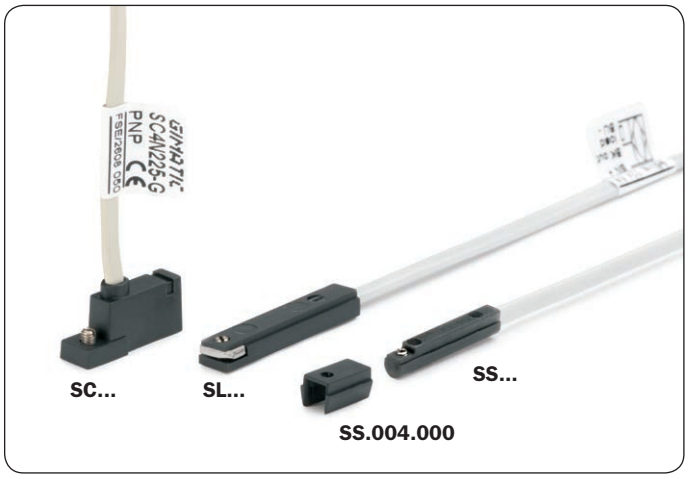
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

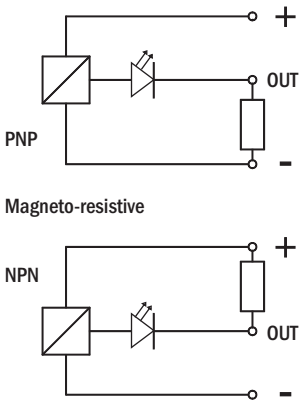
Sensors

The operating position is detected by proximity magnetic sensors (optional) through a magnet placed on the piston.
Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

I sensori utilizzabili sono:

The sensors that can be used are:





			XP-...	XR-...	XA-...	XT-...
SC4N225Y	PNP	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑	☑	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)	☑ (1)

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.



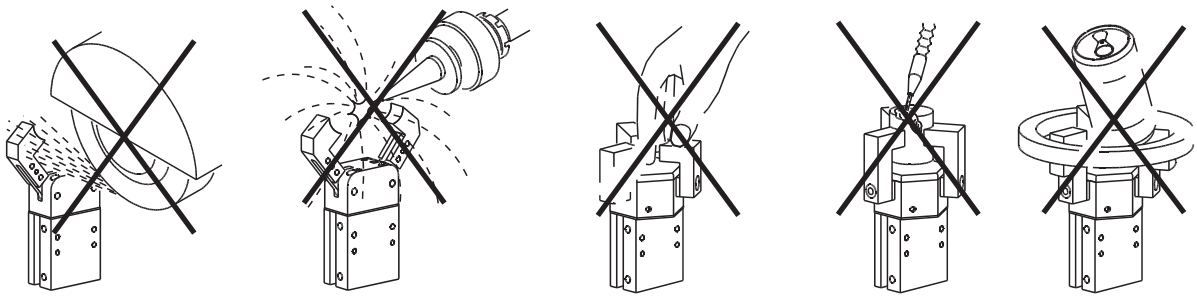


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the gripper come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
Never let non-authorized persons or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

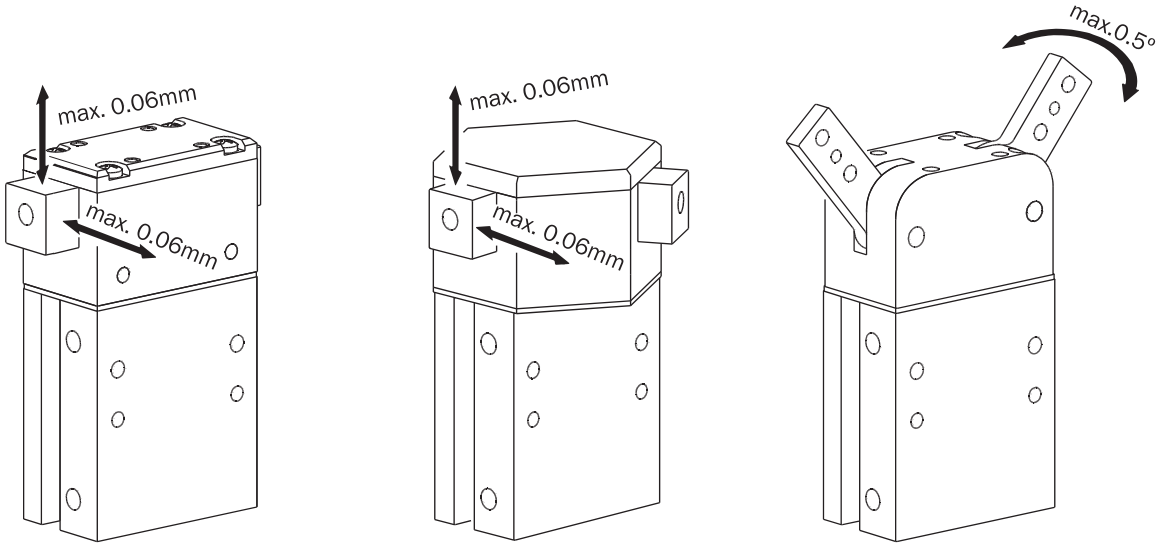
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

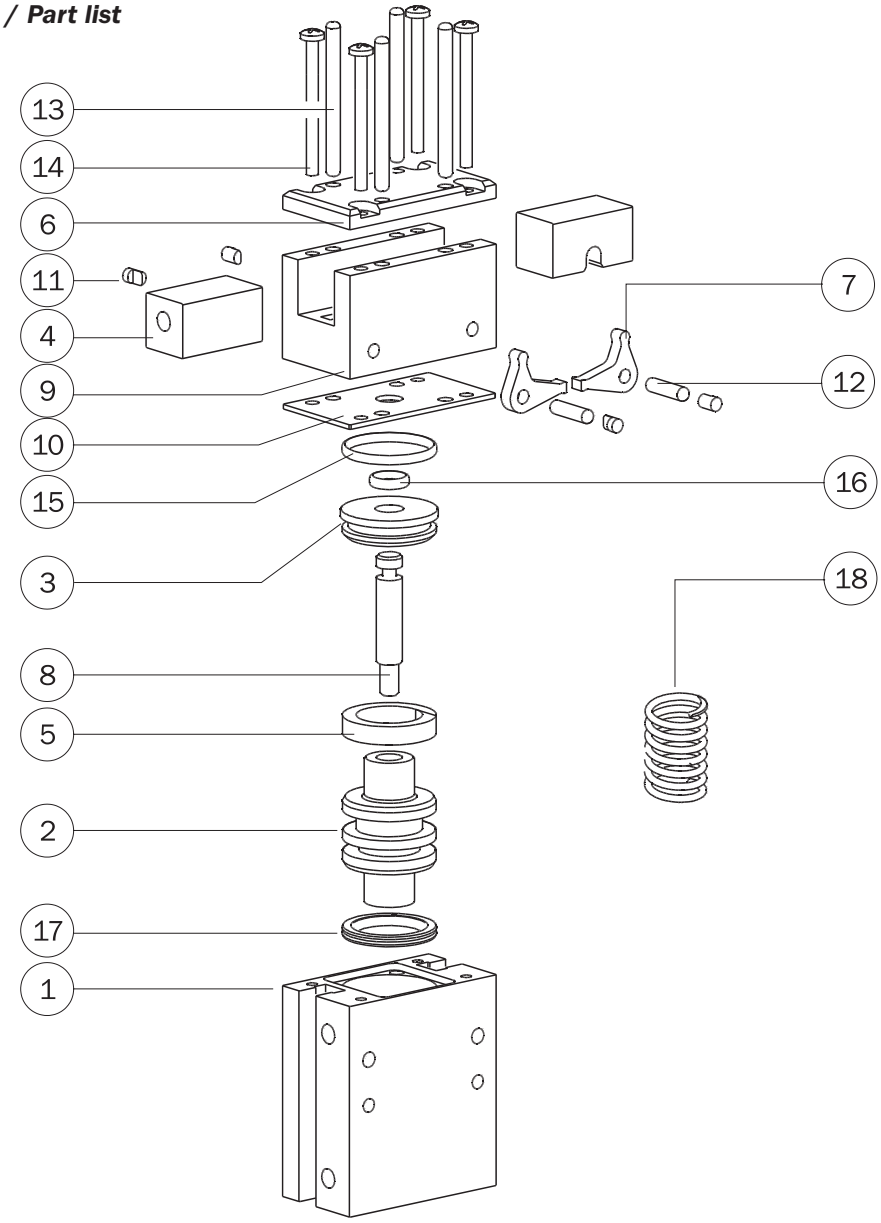
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.

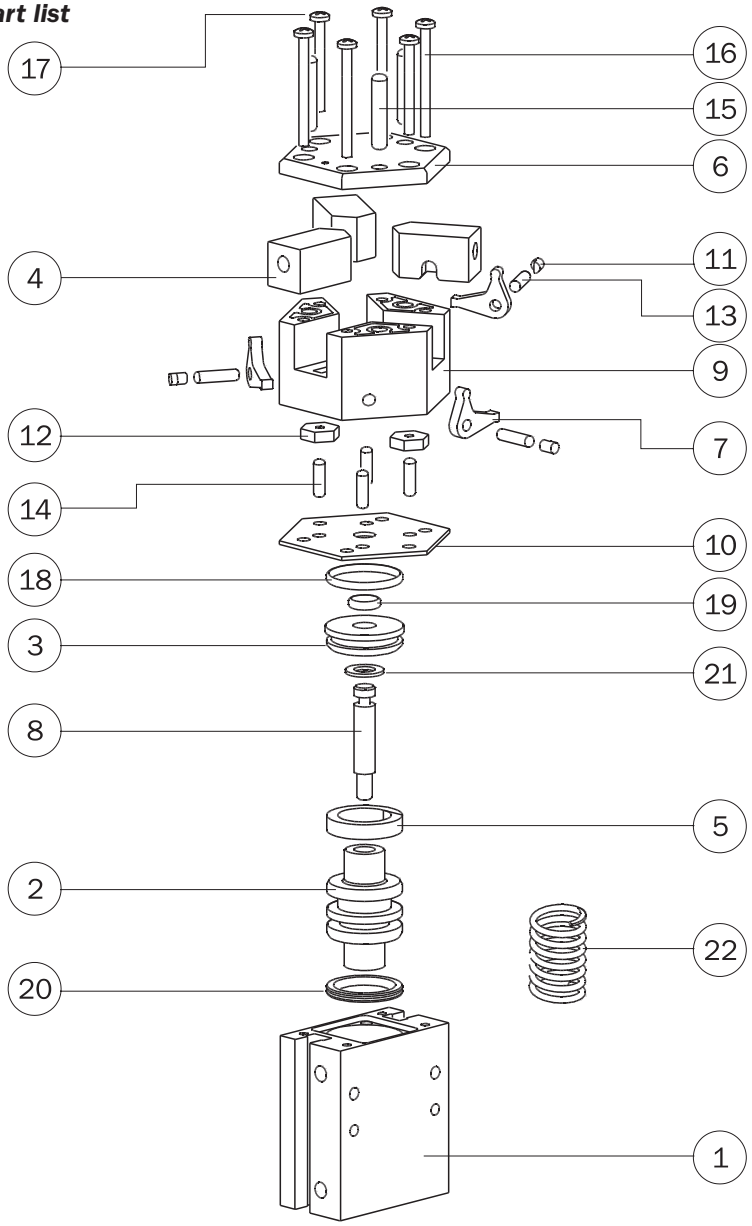


Elenco delle parti / *Part list*



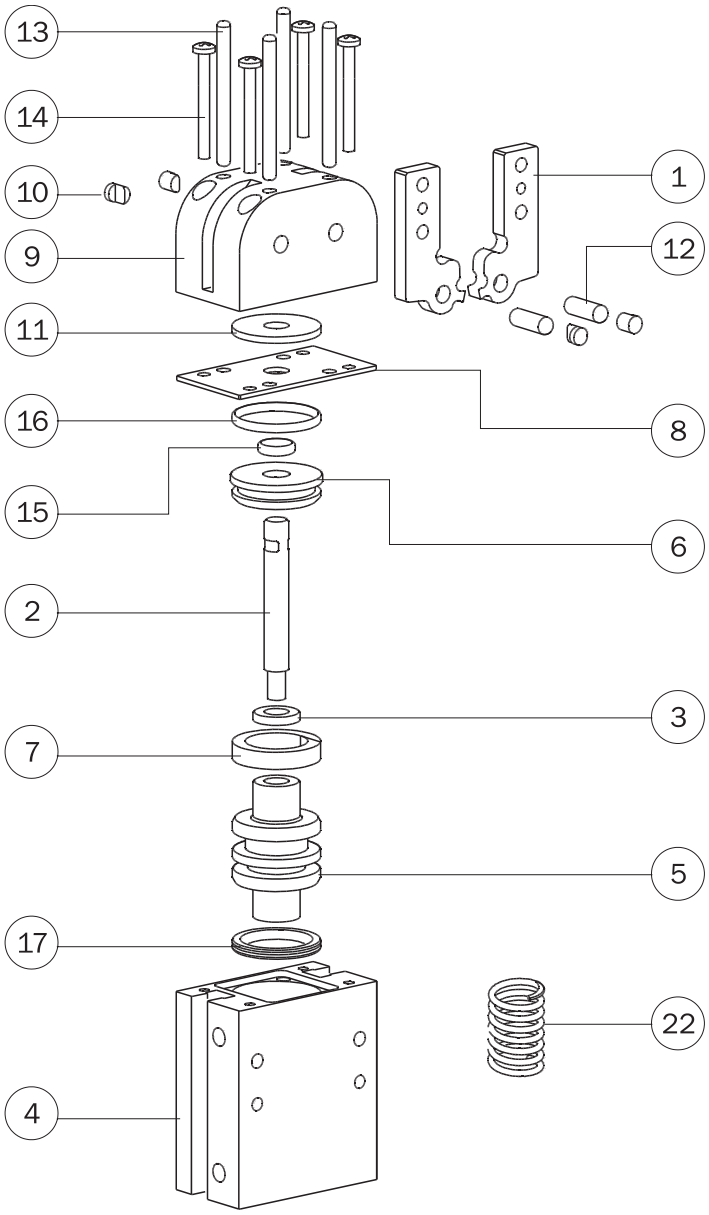
		XP-20	XP-26		
1	Corpo pinza	XP-20-1	XP-26-1	*Gripper housing*	*1*
2	Pistone	XP-20-2	XP-26-2	*Piston*	*2*
3	Flangia	XP-20-3	XP-25-12	*Flange*	*3*
4	Griffa	XP-20-4	XP-26-3	*Jaw*	*4*
5	Magnete	XP-20-5	PS-0025-P07	*Magnet*	*5*
6	Copertura	XP-16-5	XP-25-5	*Cover plate*	*6*
7	Leva	XP-16-6	XP-25-6	*Lever*	*7*
8	Stelo	XP-16-7	XP-25-7	*Piston rod*	*8*
9	Porta griffe	XP-16-8	XP-25-8	*Jaw holder*	*9*
10	Separatore	XP-16-10	XP-25-10	*Separator*	*10*
11	Tappo	XP-16-11	XP-25-11	*Plug*	*11*
12	Spina di riferimento	Ø3x12 mm DIN 6325	Ø4x16 mm DIN 6325	*Dowel pin*	*12*
13	Spina di riferimento	Ø3x33.5 mm DIN 5402	Ø4x39.8 mm DIN 5402	*Dowel pin*	*13*
14	Vite	M2.5x30 mm DIN 7985A INOX A2	M4x40 mm DIN 7985A INOX A2	*Screw*	*14*
15	O-Ring	Ø1.78x17.17 (GUAR-076)	Ø1.78x23.52 (GUAR-008)	*O-Ring*	*15*
16	O-Ring	Ø1.78x5.28 (GUAR-011)	Ø1.78x6.75 (GUAR-012)	*O-Ring*	*16*
17	Guarnizione dinamica	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	*Dynamic gasket*	*17*
18	Molla (solo NO/NC)	PAR-20-11B	PAR-25-11B	*Spring (only NO/NC)*	*18*

Elenco delle parti / *Part list*



		XT-20	XT-26		
1	Corpo pinza	XP-20-1	XP-26-1	*Gripper housing*	*1*
2	Pistone	XP-20-2	XP-26-2	*Piston*	*2*
3	Flangia	XP-20-3	XP-25-12	*Flange*	*3*
4	Griffa	XT-20-1	XP-26-3	*Jaw*	*4*
5	Magnete	XP-20-5	PS-0025-P07	*Magnet*	*5*
6	Copertura	XT-16-1	XP-25-5	*Cover plate*	*6*
7	Leva	XP-16-6	XP-25-6	*Lever*	*7*
8	Stelo	XP-16-7	XP-25-7	*Piston rod*	*8*
9	Porta griffe	XT-16-2	XP-25-8	*Jaw holder*	*9*
10	Separatore	XT-16-4	XP-25-10	*Separator*	*10*
11	Tappo	XP-16-11	XP-25-11	*Plug*	*11*
12	Dado	XT-16-3	M4 DIN 934 INOX A2	*Nut*	*12*
13	Spina di riferimento	Ø3x12 mm DIN 6325	Ø4x16 mm DIN 6325	*Dowel pin*	*13*
14	Spina di riferimento	Ø3x10 mm DIN 6325	Ø4x12 mm DIN 6325	*Dowel pin*	*14*
15	Spina di riferimento	Ø4x20 mm DIN 6325	Ø4x16 mm DIN 6325	*Dowel pin*	*15*
16	Vite	M2.5x30 mm DIN 7985A INOX A2	M4x40 mm DIN 7985A INOX A2	*Screw*	*16*
17	Vite	M2.5x25 mm DIN 7985A INOX A2	M4x30 mm DIN 7985A INOX A2	*Screw*	*17*
18	O-Ring	Ø1.78x17.17 (GUAR-076)	Ø1.78x23.52 (GUAR-008)	*O-Ring*	*18*
19	O-Ring	Ø1.78x5.28 (GUAR-011)	Ø1.78x6.75 (GUAR-012)	*O-Ring*	*19*
20	Guarnizione dinamica	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	*Dynamic gasket*	*20*
21	Distanziale	XT-20-2	-	*Spacer*	*21*
22	Molla (solo NO/NC)	PAR-20-11B	PAR-25-11B	*Spring (only NO/NC)*	*22*

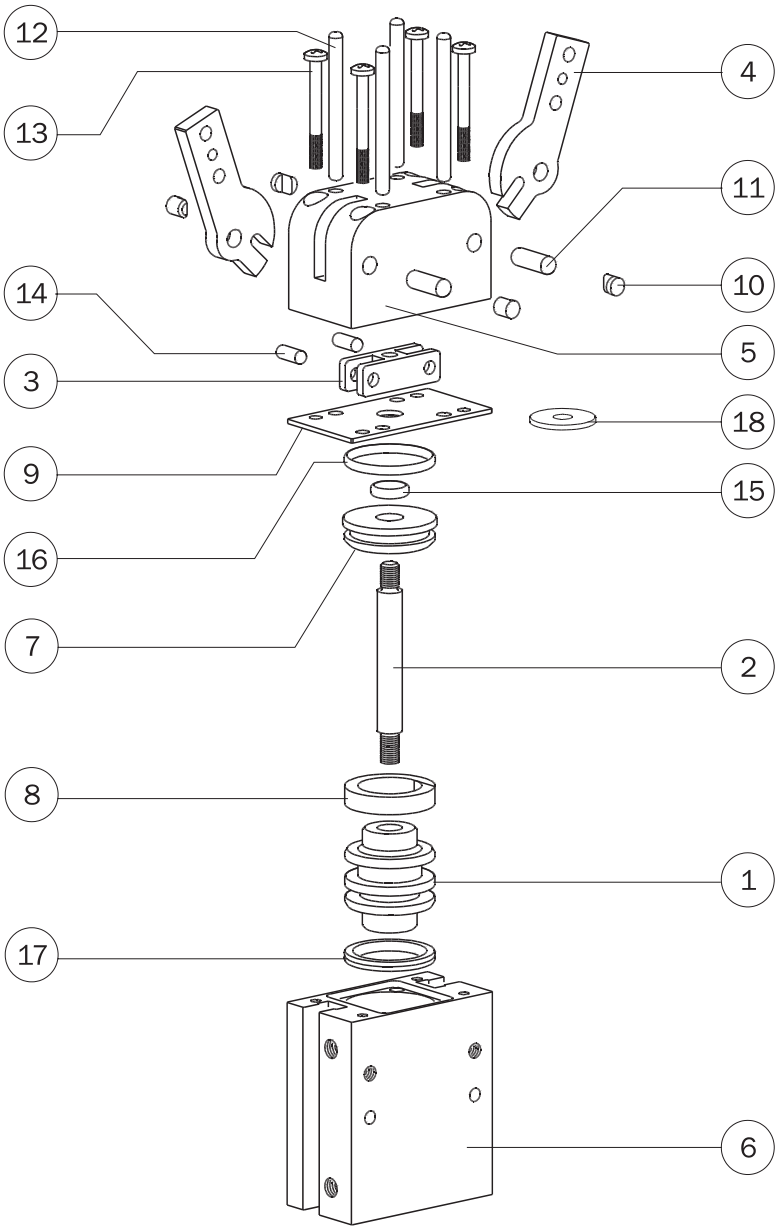
Elenco delle parti / *Part list*



		XA-20	XA-26		
1	Griffa	XA-20-1	XA-26-1	*Jaw*	*1*
2	Stelo	XA-20-2	XA-26-2	*Piston rod*	*2*
3	Distanziale	XA-20-3	XA-26-3	*Spacer*	*3*
4	Corpo pinza	XP-20-1	XP-26-1	*Gripper housing*	*4*
5	Pistone	XP-20-2	XP-26-2	*Piston*	*5*
6	Flangia	XP-20-3	XP-25-12	*Flange*	*6*
7	Magnete	XP-20-5	PS-0025-P07	*Magnet*	*7*
8	Separatore	XP-16-10	XP-25-10	*Separator*	*8*
9	Porta griffe	XR-16-2	XR-25-2	*Jaw holder*	*9*
10	Tappo	XR-16-4	XR-16-4	*Plug*	*10*
11	Disco	XR-16-5	XR-25-5	*Disc*	*11*
12	Spina di riferimento	Ø4x12 mm DIN 6325	Ø4x16 mm DIN 6325	*Dowel pin*	*12*
13	Spina di riferimento	Ø3x33.5 mm DIN 5402	Ø4x36 mm DIN 6325	*Dowel pin*	*13*
14	Vite	M2.5x25 mm DIN 7985A INOX A2	M4x25 mm DIN 912 INOX A2	*Screw*	*14*
15	O-Ring	Ø1.78x5.28 (GUAR-011)	Ø1.78x6.75 (GUAR-012)	*O-Ring*	*15*
16	O-Ring	Ø1.78x17.17 (GUAR-076)	Ø1.78x23.52 (GUAR-008)	*O-Ring*	*16*
17	Guarnizione dinamica	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	*Dynamic gasket*	*17*
18	Molla (solo NO/NC)	PAR-20-11B	PAR-25-11B	*Spring (only NO/NC)*	*18*

03/2015

Elenco delle parti / *Part list*



		XR-20	XR-26		
1	Pistone	XR-20-1	XR-26-1	*Piston*	*1*
2	Stelo	XR-20-2	XR-26-2	*Piston rod*	*2*
3	Forcella	XR-20-3	XR-26-3	*Fork*	*3*
4	Griffa	XR-20-4	XR-26-4	*Jaw*	*4*
5	Porta griffe	XR-20-5	XR-26-5	*Jaw holder*	*5*
6	Corpo pinza	XP-20-1	XP-26-1	*Gripper housing*	*6*
7	Flangia	XP-20-3	XP-25-12	*Flange*	*7*
8	Magnete	XP-20-5	PS-0025-P07	*Magnet*	*8*
9	Separatore	XP-16-10	XP-25-10	*Separator*	*9*
10	Tappo	XR-16-4	XR-16-4	*Plug*	*10*
11	Spina di riferimento	Ø4x12 mm DIN 6325	Ø4x16 mm DIN 6325	*Dowel pin*	*11*
12	Spina di riferimento	Ø3x33.5 mm DIN 5402	Ø4x36 mm DIN 6325	*Dowel pin*	*12*
13	Vite	M2.5x25 mm DIN 7985A INOX A2	M4x25 mm DIN 912 INOX A2	*Screw*	*13*
14	Spina di riferimento	Ø3x8 mm DIN 6325	Ø4x12 mm DIN 6325	*Dowel pin*	*14*
15	O-Ring	Ø1.78x5.28 (GUAR-011)	Ø1.78x6.75 (GUAR-012)	*O-Ring*	*15*
16	O-Ring	Ø1.78x17.17 (GUAR-076)	Ø1.78x23.52 (GUAR-008)	*O-Ring*	*16*
17	Guarnizione dinamica	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	*Dynamic gasket*	*17*
18	Disco	-	XR-25-5	*Disc*	*18*

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

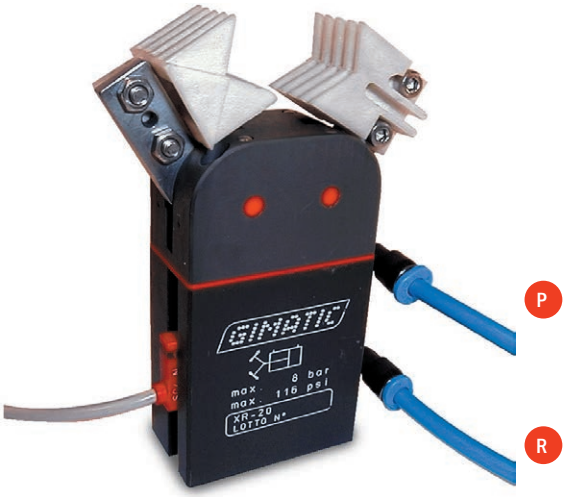
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

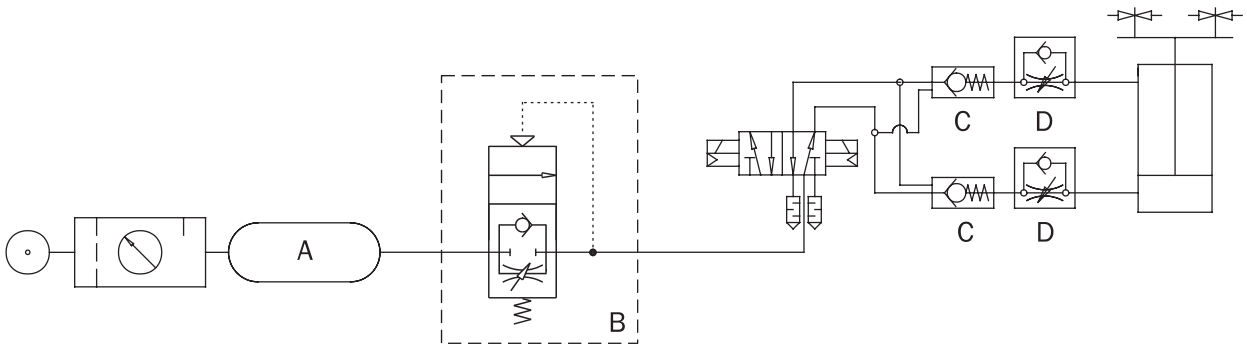
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



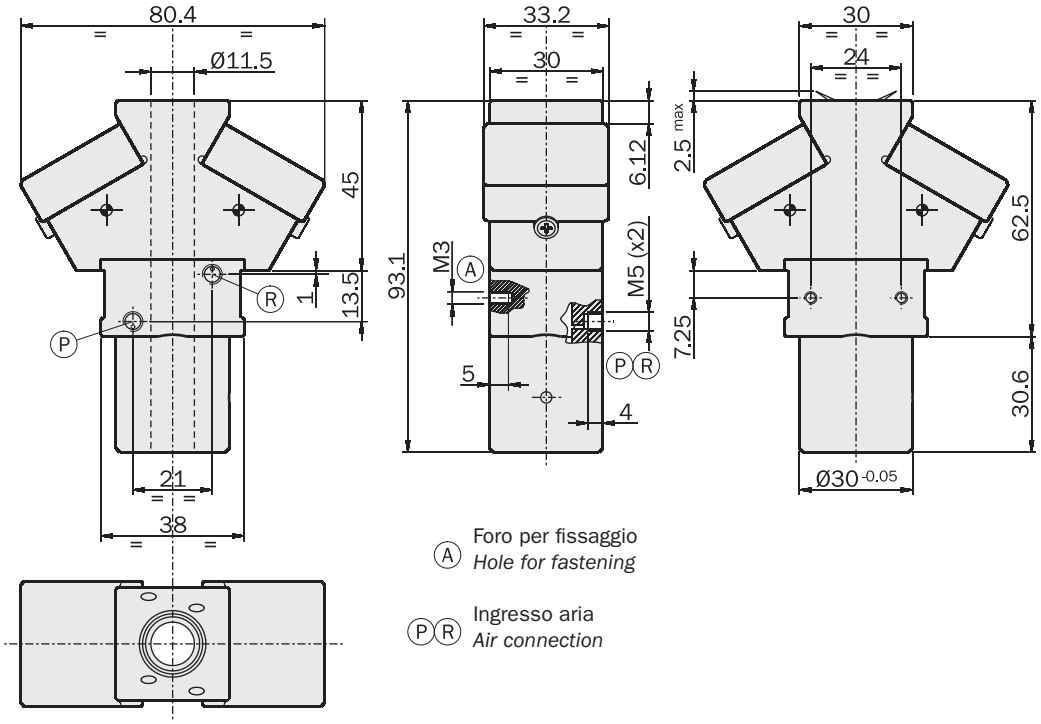
Note / *Notes*

Pinza ad aghi pneumatica autocentrante PT25

- Adatta per l'industria tessile e alimentare.
- Azionamento a doppio effetto.
- Regolazione simultanea della corsa dei 4 aghi (1).
- Vari accessori disponibili per il fissaggio (catalogo Plastics) (2).
- Ampio foro passante (3).

Self-centering pneumatic needle gripper PT25

- *Suitable for textile and food industry.*
- *Double acting.*
- *4 needles simultaneous stroke adjustment (1).*
- *Several mounting accessories (Plastics catalog) (2).*
- *Large through hole (3).*

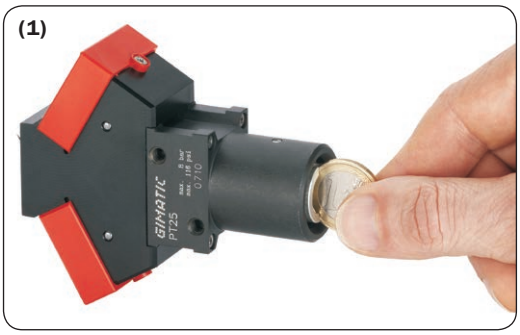


(A) Foro per fissaggio
Hole for fastening

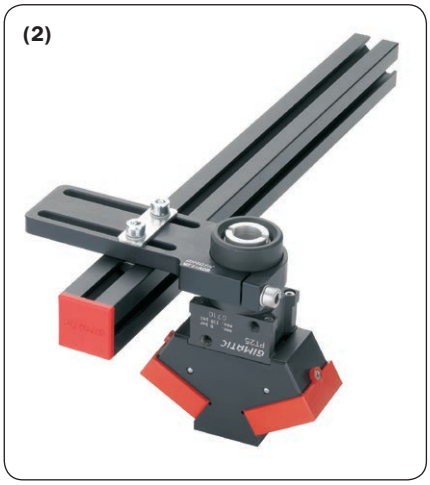
(P R) Ingresso aria
Air connection







	PT25
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*
Pressione di esercizio *Pressure range*	3 ÷ 8 bar
Temperatura di esercizio *Temperature range*	5° ÷ 60 °C.
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	90 N
Corsa degli aghi *Needle stroke*	1 ÷ 7 mm
Consumo d'aria per ciclo *Cycle air consumption*	3.5 cm^3
Peso *Weight*	165 g

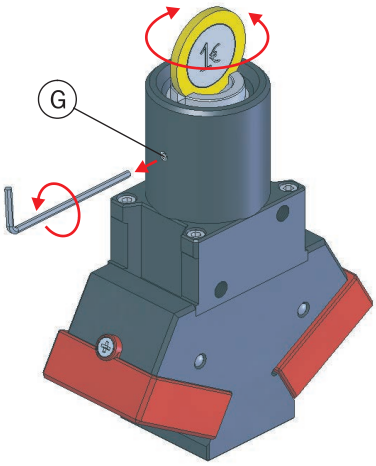


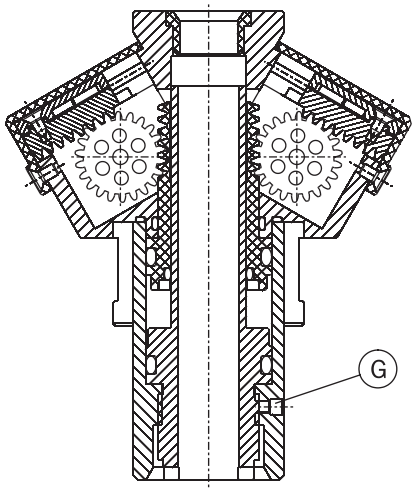
Regolazione della corsa

La pinza è autocentrante.
Quindi il fine corsa del pistone determina la corsa di tutti gli aghi.
Questa si può regolare con una moneta da 1 euro, dopo aver allentato il grano di fermo (G).

Stroke adjustment

The gripper is self-centering.
Therefore the piston end-stroke determines the stroke of all needles.
It is possible to adjust this stroke, by an 1-euro coin, after the grub screw (G) has been loosened.



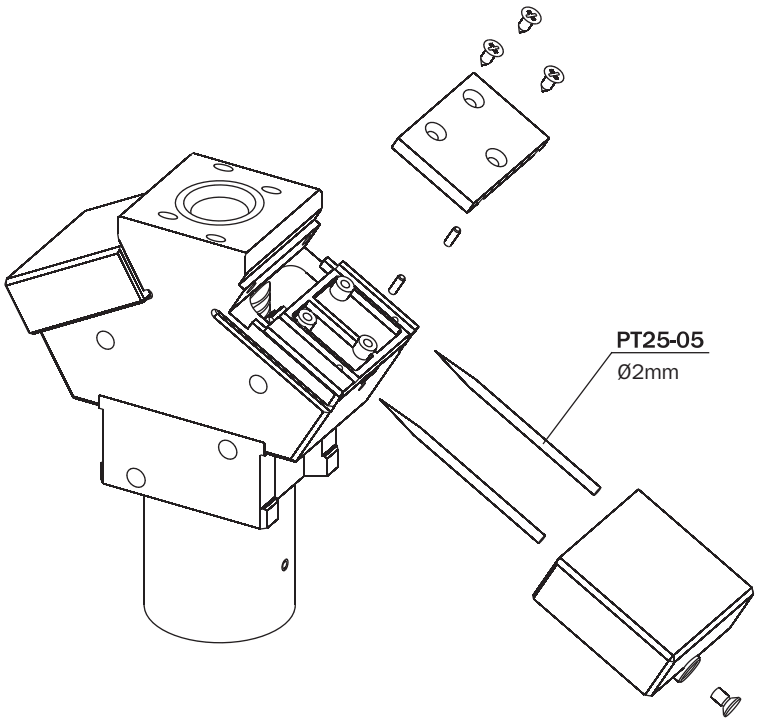


Manutenzione

Quando necessario, gli aghi possono essere facilmente rimpiazzati.
Il codice di ordinazione di un ago é PT25-05.
Dopo un milione di cicli la pinza deve essere re-ingrassata.
Grasso suggerito: Interflon Food Grease LT 2.

Maintenance

The needles can be easily replaced, when necessary.
The ordering code of one needle is PT25-05.
After one million cycles re-lubricate the gripper.
Suggested grease: Interflon Food Grease LT 2.



SGP-S

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie SGP-S)

- Azionamento a doppio effetto.
- Meccanismo di regolazione del gioco esclusivo.
- Prestazioni elevate in dimensioni ridotte.
- Costruzione robusta: grande durata e affidabilità senza manutenzione.
- Diverse possibilità di fissaggio e alimentazione.
- Predisposta per sensori induttivi regolabili.
- Grasso alimentare FDA-H1.

2-jaw parallel self-centering pneumatic gripper (series SGP-S)

- *Double acting.*
- *Exclusive backlash adjusting system.*
- *High performance in small dimensions.*
- *The rugged construction lends itself to heavy duty applications for a trouble free long life without maintenance.*
- *Various fastening and air feeding options.*
- *Prepared for adjustable inductive sensors.*
- *Food grade grease FDA-H1.*



SGP-20S



SGP-25S



SGP-32S



SGP-40S

	SGP-20S	SGP-25S	SGP-32S	SGP-40S
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.			
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	23 N	52 N	67 N	80 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	46 N	104 N	134 N	160 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	20 N	47 N	60 N	73 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	40 N	94 N	120 N	146 N
Corsa totale (±0.3 mm) *Total stroke*	4 mm	6 mm	8 mm	12 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo *Cycle air consumption*	0.5 cm^3	1.4 cm^3	2.4 cm^3	4.5 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.01 s	0.01 s	0.02 s	0.05 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	33 g	43 g	86 g	170 g

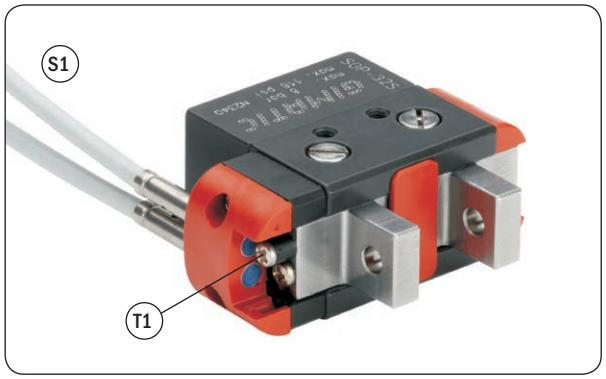
Sensori

Il rilevamento della posizione di lavoro é affidato a due sensori induttivi S1 e S2 (non forniti), che rilevano la posizione delle teste delle viti T1 e T2, situate sulla griffa destra.

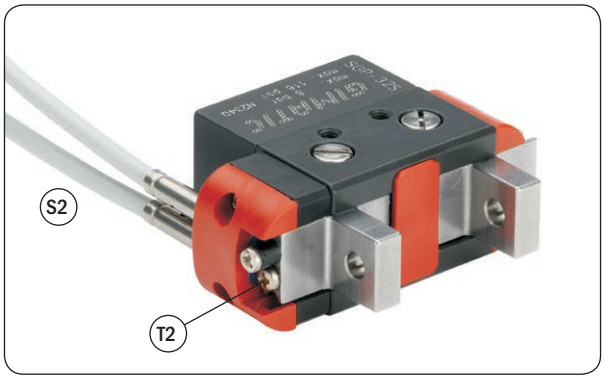
Sensors

The operating position can be checked by two inductive sensors S1 and S2 (not supplied), detecting the position of the screw heads T1 and T2 placed on the right jaw.

Pinza totalmente chiusa / *Fully closed gripper*

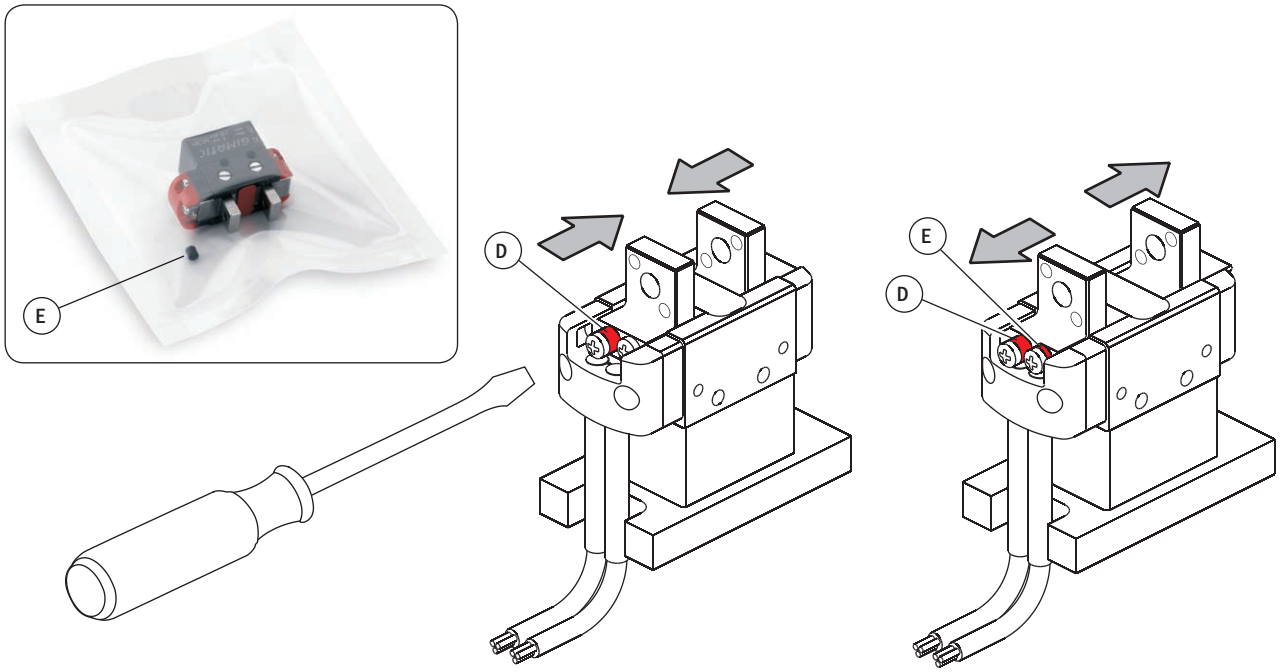


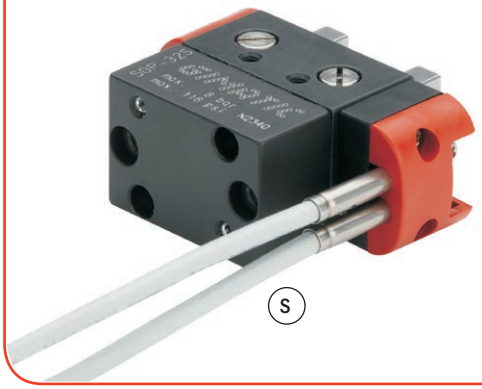
Pinza totalmente aperta / *Fully open gripper*



Agendo sulle viti si regola la posizione di lettura dei sensori.
Il distanziale di plastica (D) è da accorciare in base alla regolazione.
Il secondo distanziale (E) é da installare, se la pinza è usata per serrare un carico dall'interno.

The detected position can be adjusted by the screws.
The plastic spacer (D) has to be shortened according to the adjustment.
The second spacer (E) is to be installed, when the gripper is used for internal gripping applications.





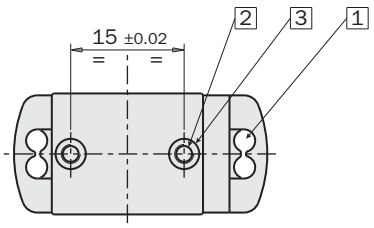
Usare sensori induttivi di diametro 3mm sulla SGP-20S e di diametro 4mm sulle altre taglie.

Use 3mm diameter inductive sensors, on the SGP-20S and 4mm diameter, on the other sizes.

	SGP-20S	SGP-25S	SGP-32S	SGP-40S
S	Ø3mm	Ø4mm	Ø4mm	Ø4mm

Dimensioni (mm) / *Dimensions (mm)*

SGP-20S

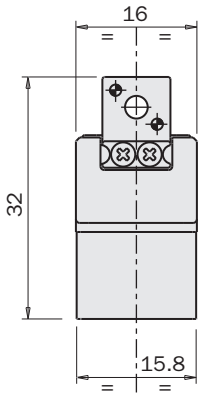


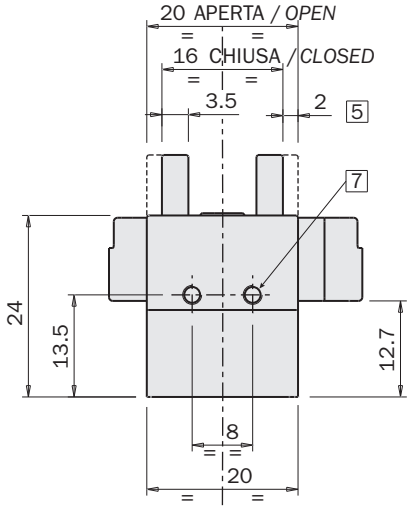
1 Foro per sensore induttivo Ø3
Hole for inductive sensor Ø3

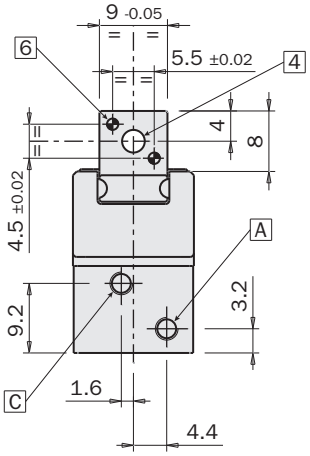
2 (N°2) M2.5x6mm
Foro per fissaggio
Hole for fastening

3 (N°2) Ø4H8x2mm
Sede per boccole di centraggio
Centering sleeve hole

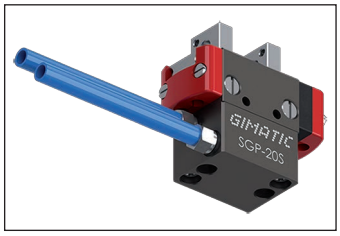
4 Ø3H11x3.5mm
Foro passante per fissaggio
Through hole for fastening

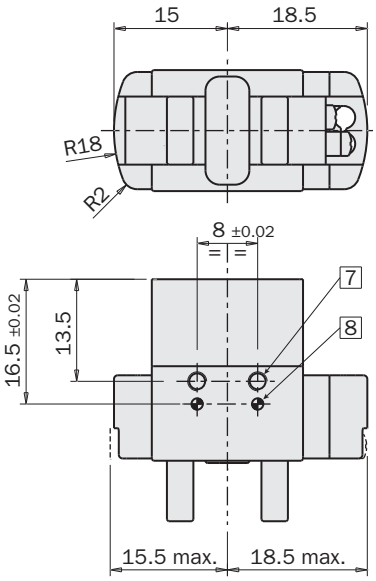






RG.RO-1376-AS1
Raccordo M3 diritto
Straight M3 fitting





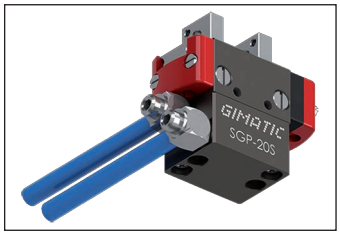
5 Corsa per griffa
Stroke each jaw

6 Ø1.5H8x3.5mm
Foro di riferimento
Dowel pin hole

7 (N°2) M2.5x4mm
Foro per fissaggio
Hole for fastening

8 Ø1.5H8x3mm
Foro di riferimento
Dowel pin hole

RG.RO-1376-AS2
Raccordo M3 orientabile a "L"
Adjustable M3 fitting



A M3
Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

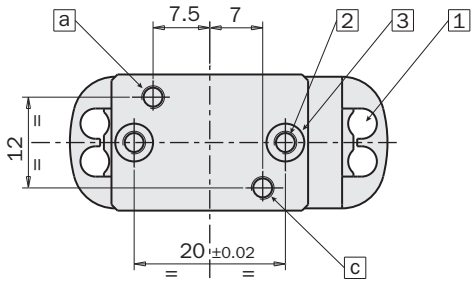
C M3
Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

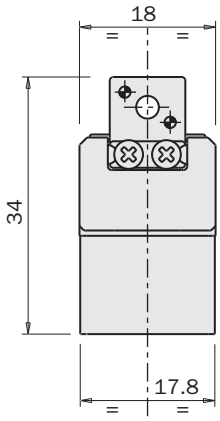
FIRST ANGLE PROJECTION

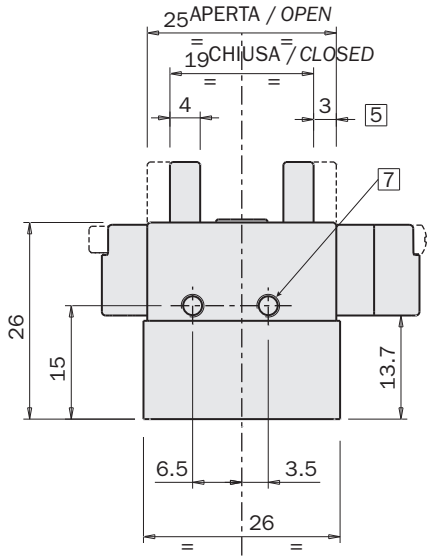
03/2015

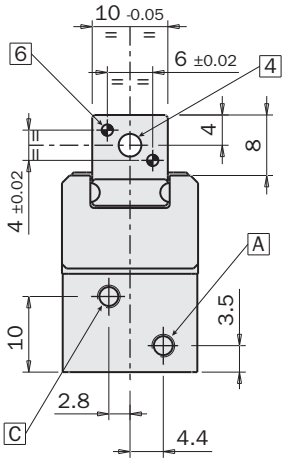
Dimensioni (mm) / *Dimensions (mm)*

SGP-25S

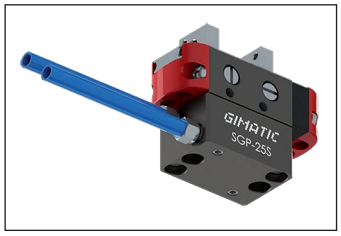


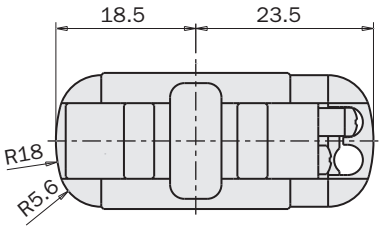




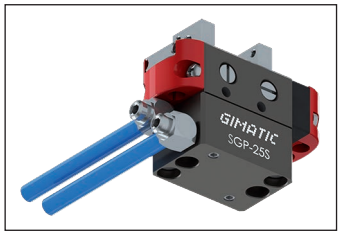


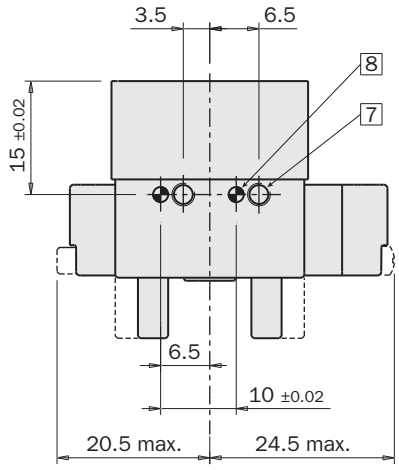
RG.R0-1376-AS1
Raccordo M3 diritto
Straight M3 fitting





RG.R0-1376-AS2
Raccordo M3 orientabile a "L"
Adjustable M3 fitting





1 Foro per sensore induttivo Ø4
Hole for inductive sensor Ø4

2 (N°2) M3x7mm
Foro per fissaggio
Hole for fastening

3 (N°2) Ø5H8x2.4mm
Sede per boccole di centraggio
Centering sleeve hole

4 Ø3H11x4mm
Foro passante per fissaggio
Through hole for fastening

5 Corsa per griffa
Stroke each jaw

6 Ø1.5H8x4mm
Foro di riferimento
Dowel pin hole

7 (N°2) M3x5mm
Foro per fissaggio
Hole for fastening

8 Ø2H8x4mm
Foro di riferimento
Dowel pin hole

a M3
Aria compressa in a: apertura della pinza
Compressed air in a: gripper opening

A M3
Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

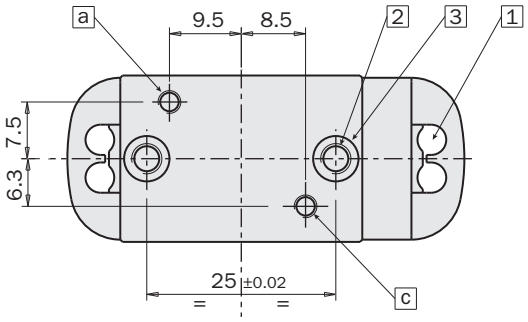
c M3
Aria compressa in c: chiusura della pinza
Compressed air in c: gripper closing

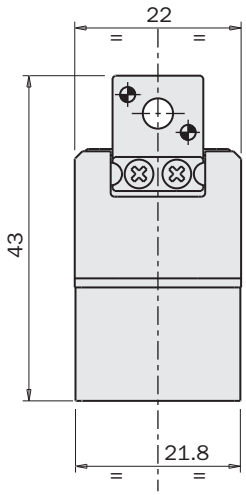
C M3
Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

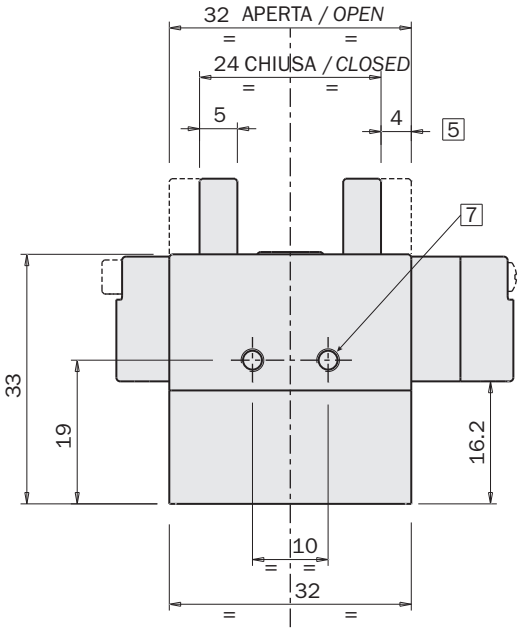
FIRST ANGLE PROJECTION

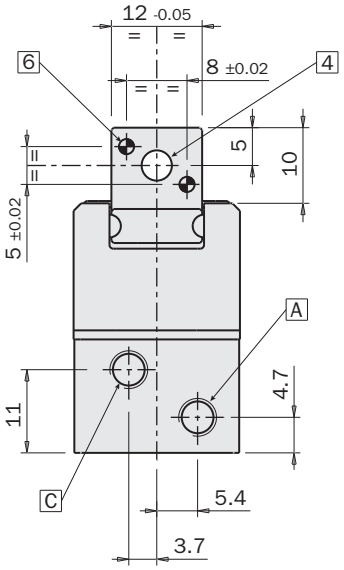
Dimensioni (mm) / *Dimensions (mm)*

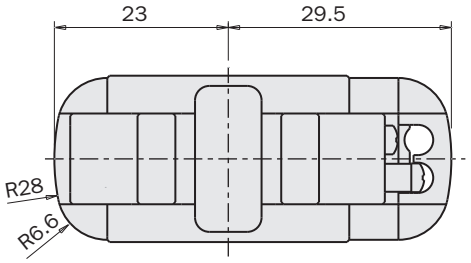
SGP-32S

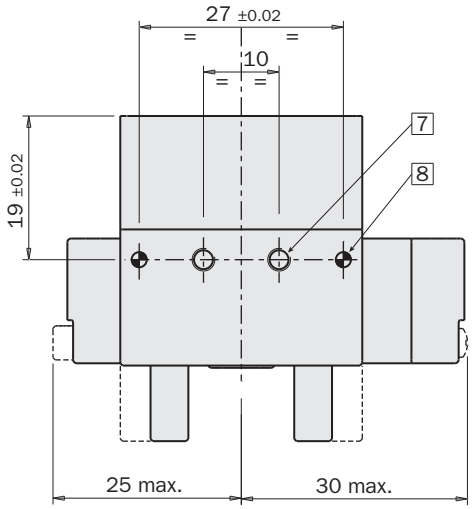












FIRST ANGLE PROJECTION

1 Foro per sensore induttivo Ø4
Hole for inductive sensor Ø4

2 (N°2) M4x7.5mm
Foro per fissaggio
Hole for fastening

3 (N°2) Ø6H8x2.9mm
Sede per boccole di centraggio
Centering sleeve hole

4 Ø4H11x5mm
Foro passante per fissaggio
Through hole for fastening

5 Corsa per griffa
Stroke each jaw

6 Ø2H8x5mm
Foro di riferimento
Dowel pin hole

7 (N°2) M3x5mm
Foro per fissaggio
Hole for fastening

8 Ø2H8x5mm
Foro di riferimento
Dowel pin hole

a M3
Aria compressa in a: apertura della pinza
Compressed air in a: gripper opening

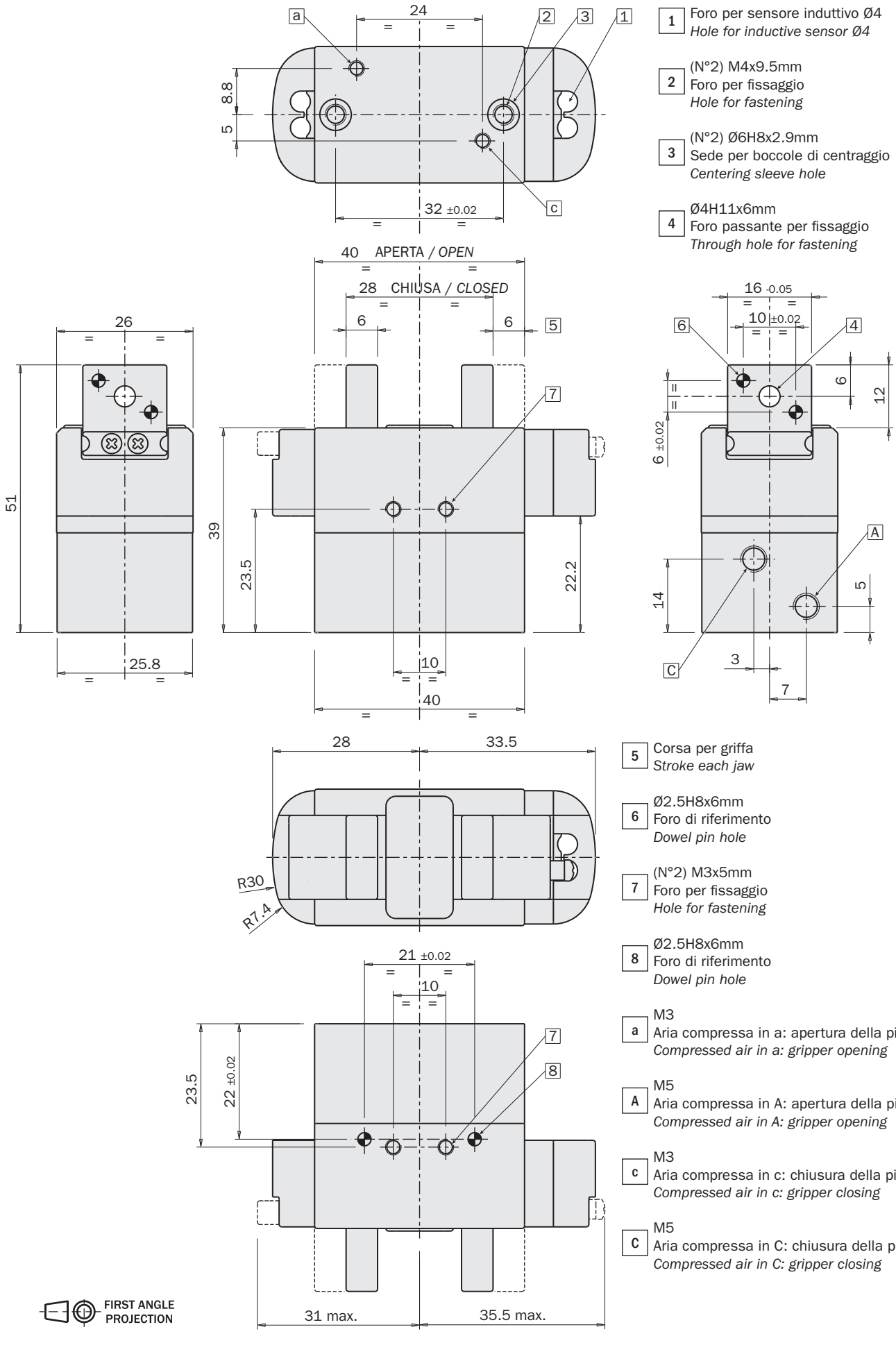
A M5
Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

c M3
Aria compressa in c: chiusura della pinza
Compressed air in c: gripper closing

C M5
Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

Dimensioni (mm) / *Dimensions (mm)*

SGP-40S



1 Foro per sensore induttivo Ø4
Hole for inductive sensor Ø4

2 (N°2) M4x9.5mm
Foro per fissaggio
Hole for fastening

3 (N°2) Ø6H8x2.9mm
Sede per boccole di centraggio
Centering sleeve hole

4 Ø4H11x6mm
Foro passante per fissaggio
Through hole for fastening

5 Corsa per griffa
Stroke each jaw

6 Ø2.5H8x6mm
Foro di riferimento
Dowel pin hole

7 (N°2) M3x5mm
Foro per fissaggio
Hole for fastening

8 Ø2.5H8x6mm
Foro di riferimento
Dowel pin hole

a M3
Aria compressa in a: apertura della pinza
Compressed air in a: gripper opening

A M5
Aria compressa in A: apertura della pinza
Compressed air in A: gripper opening

c M3
Aria compressa in c: chiusura della pinza
Compressed air in c: gripper closing

C M5
Aria compressa in C: chiusura della pinza
Compressed air in C: gripper closing

SGP-S

Fissaggio

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.

1- Per fissare la pinza su un lato utilizzare due viti passanti nella piastra ed avvitate nei fori filettati 7 della pinza (presenti sulle due facce).
I fori spina 8 sono solo su una faccia.

2- Per fissare la pinza sul fondo utilizzare due viti passanti nella piastra ed avvitate nei fori filettati 2.
Usare anche le due boccole (H) fornite nella confezione, per il centraggio nei fori calibrati 3.

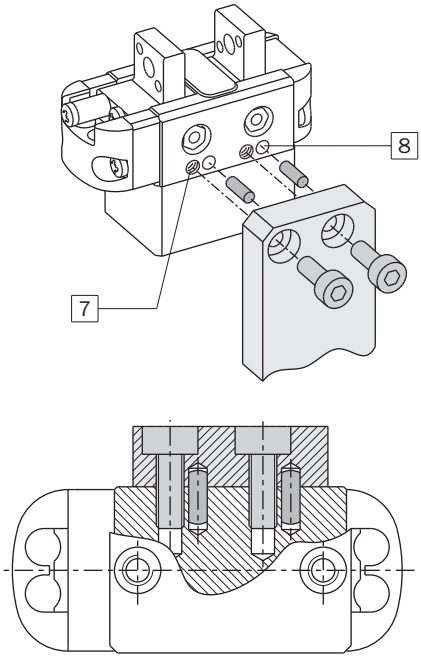
Fastening

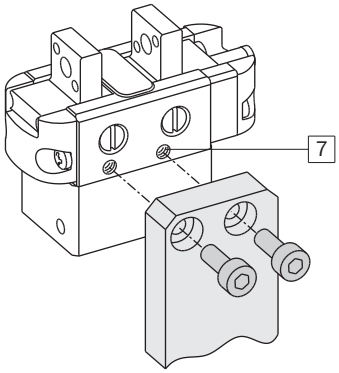
The gripper can be fastened to a static or moving part.
When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

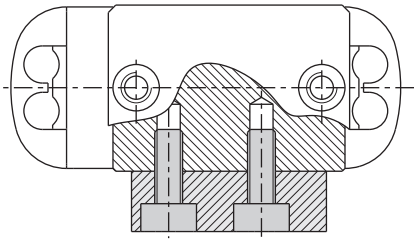
1- To fasten the gripper on one side, use a plate with two through holes and two screws to be screwed on the threaded holes 7.
They are on both sides of the gripper housing.
The dowel pin holes 8 are on one only side.

2- To fasten gripper to base use two screws passing through the holes in the plate and screwed in the threaded holes 2.
Use also the two centering sleeves (H) supplied in the packaging, in the calibrated holes 3.

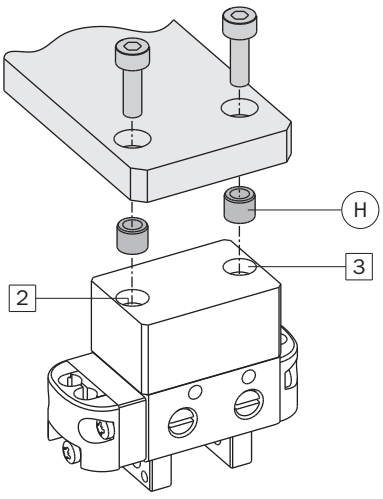
1

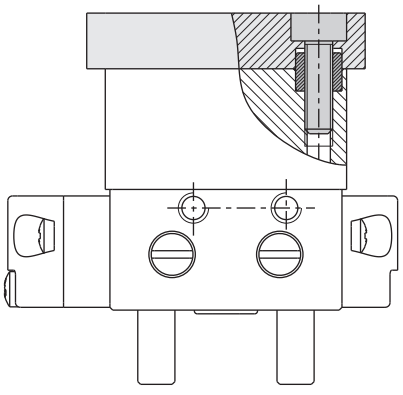






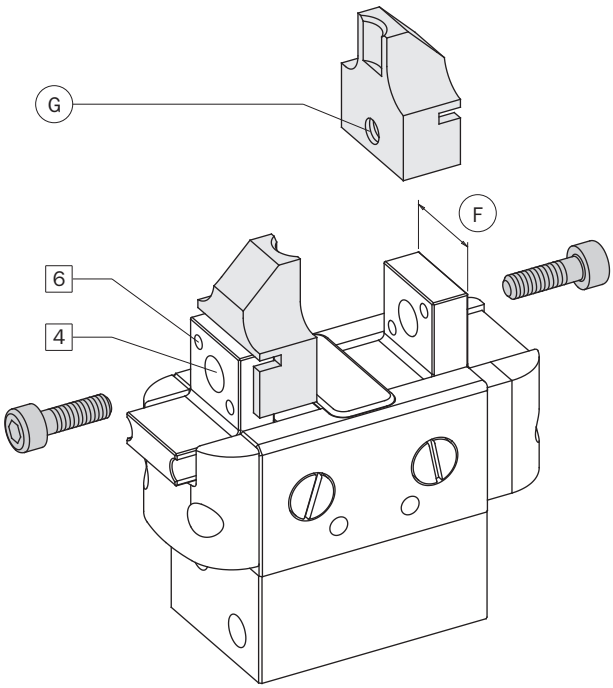
2

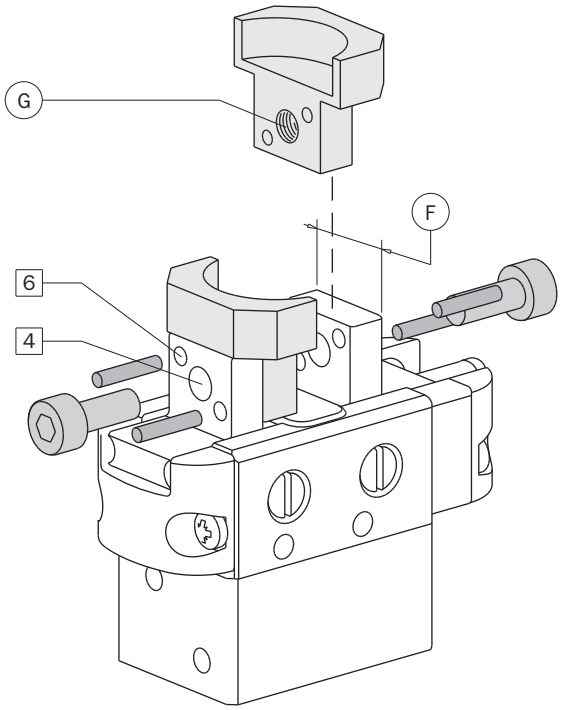




Costruire le dita di presa il più possibile corte e leggere.
Fissarle con una vite passante nel foro 4 ed avvitata nel foro filettato del dito di presa (G).
Per il centraggio sulle griffe si può fare riferimento alla quota calibrata (F), oppure ai fori spina 6.

The gripping tools must be as short and light as possible.
They must be fastened by one screw in the through hole 4 to be screwed in the threaded hole (G) in the gripping tool.
For a precise positioning on the jaw use the calibrated dimension (F), or the dowel pin holes 6.





	SGP-20S	SGP-25S	SGP-32S	SGP-40S
7	M2.5x4 mm	M3x5 mm	M3x5 mm	M3x5 mm
2	M2.5x6 mm	M3x7 mm	M4x7.5 mm	M4x9.5 mm
H	Ø4h8 x Ø2.6 x 4 mm	Ø5h7 x Ø3.2 x 4.4 mm	Ø6h7 x Ø4.2 x 5.3 mm	Ø6h7 x Ø4.2 x 5.3 mm
4	Ø3H11 x 3.5 mm	Ø3H11 x 4 mm	Ø4H11 x 5 mm	Ø4H11 x 6 mm
G	M3	M3	M4	M4
F	$9^{-0.05}$ mm	$10^{-0.05}$ mm	$12^{-0.05}$ mm	$16^{-0.05}$ mm
3	Ø4H8 x 2 mm	Ø5H8 x 2.4 mm	Ø6H8 x 2.9 mm	Ø6H8 x 2.9 mm
8	Ø1.5H8 x 3 mm	Ø2H8 x 4 mm	Ø2H8 x 5 mm	Ø2.5H8 x 6 mm
6	Ø1.5H8 x 3.5 mm	Ø1.5H8 x 4 mm	Ø2H8 x 5 mm	Ø2.5H8 x 6 mm

SGP-S

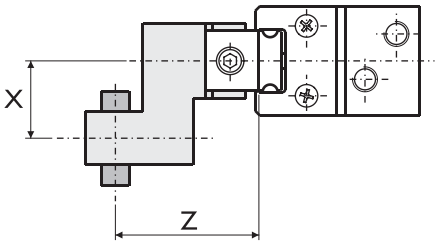
Forza di serraggio

I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

Gripping force

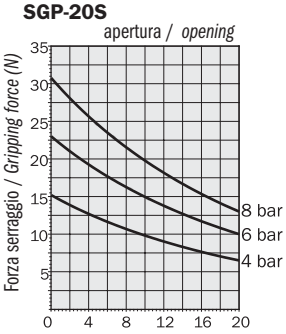
The graphs show the medium gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

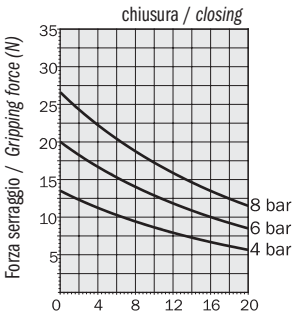
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

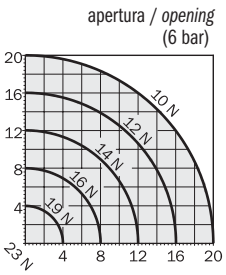


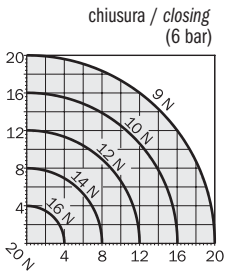
The force shown in these graphs refers to one jaw. The total force is double.

SGP-20S

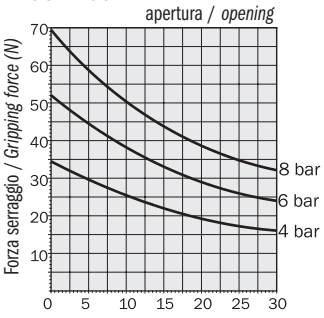


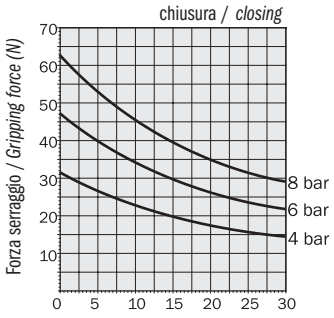


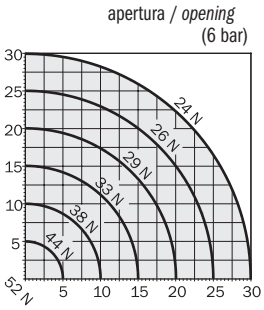


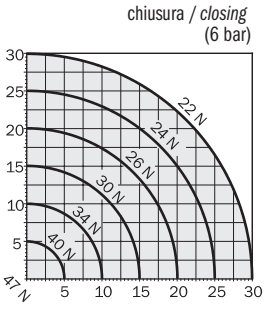


SGP-25S

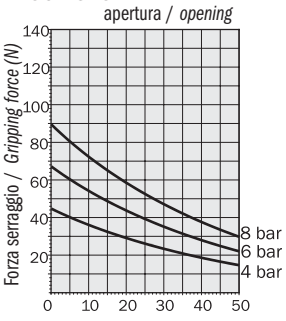


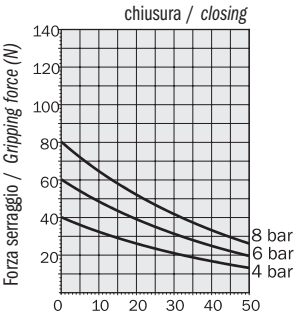


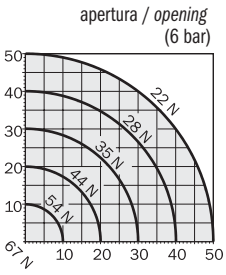


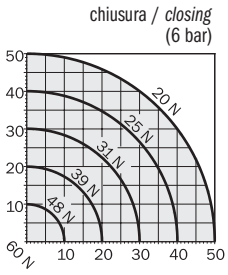


SGP-32S

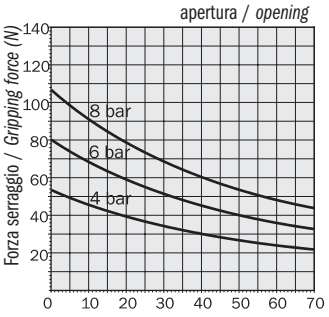


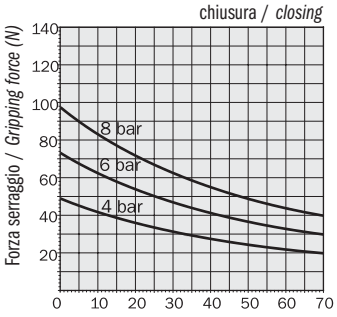


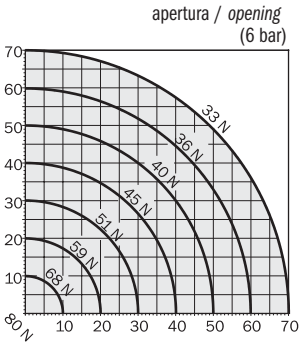


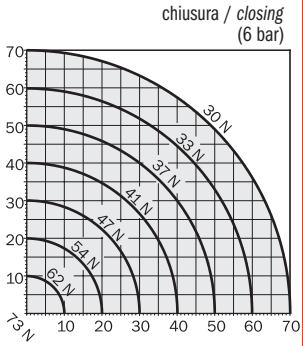


SGP-40S







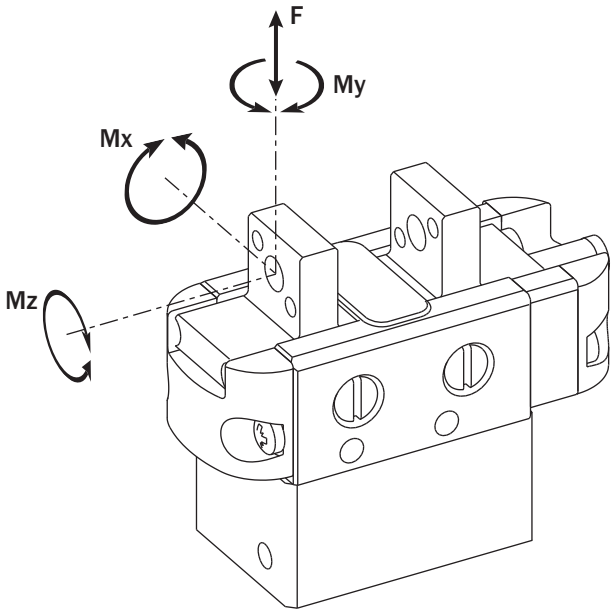


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.



	SGP-20S	SGP-25S	SGP-32S	SGP-40S
F s	30 N	50 N	70 N	120 N
Mx s	1 Nm	2 Nm	4 Nm	6 Nm
My s	1 Nm	2 Nm	4 Nm	6 Nm
Mz s	1 Nm	2 Nm	4 Nm	6 Nm
F d	0.3 N	0.5 N	0.7 N	1.2 N
Mx d	1 Ncm	2 Ncm	4 Ncm	6 Ncm
My d	1 Ncm	2 Ncm	4 Ncm	6 Ncm
Mz d	1 Ncm	2 Ncm	4 Ncm	6 Ncm
m 0.2s	30 g	50 g	70 g	120 g
m 0.05s	10 g	20 g	30 g	40 g
m 0.02s	7 g	15 g	20 g	-
m 0.01s	5 g	10 g	-	-

SGP-S

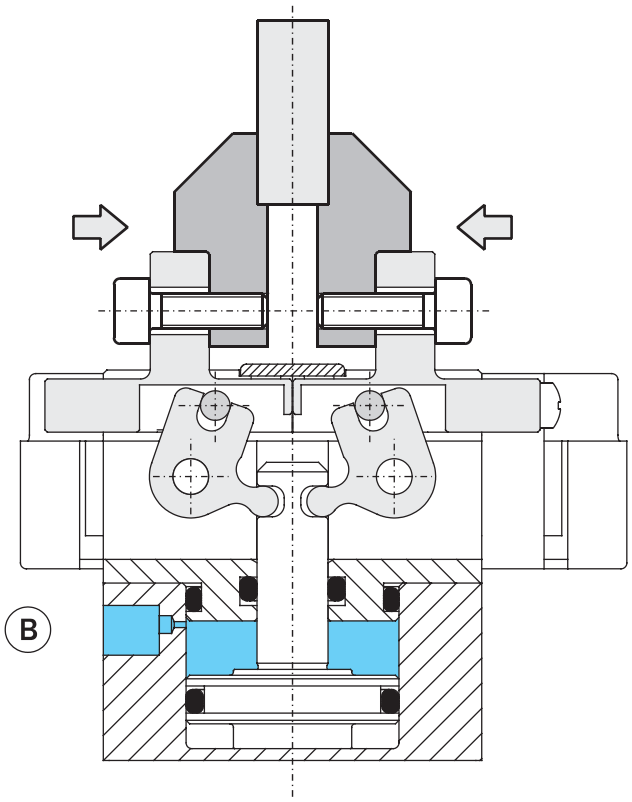
Serraggio

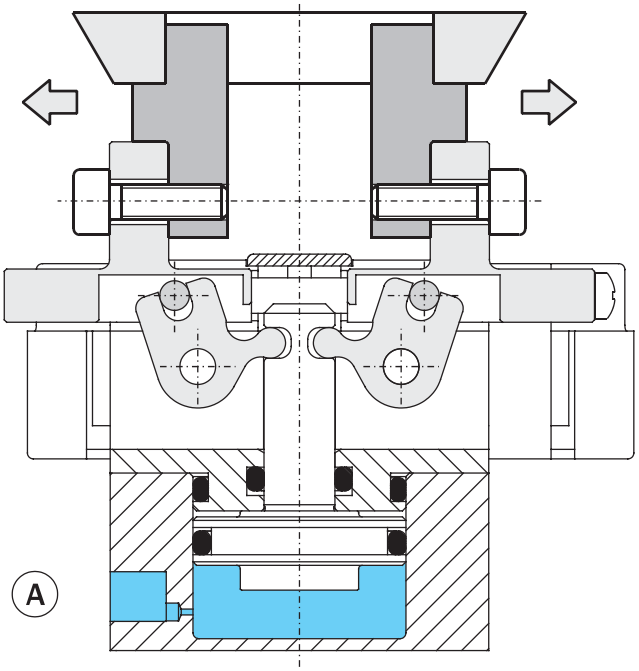
La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno (B) che dall'interno (A).
La forza di serraggio è maggiore in apertura.

Gripping

The gripper is double-acting for either internal (A) or external (B) gripping applications.
The opening force is higher.

Camera in pressione
Pressurized chamber





Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (A e C) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure (eccetto SGP-20S) si alimenta direttamente dai fori inferiori (a e c) rimuovendo i tappi.

Aria compressa in A o a: apertura della pinza.
Aria compressa in C o c: chiusura della pinza.

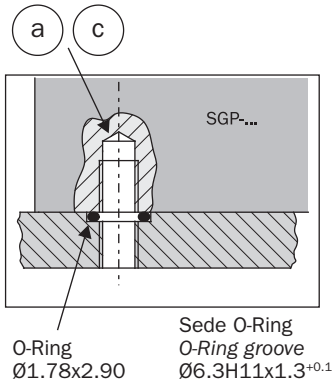
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (A and C) with fittings and hoses (not supplied).
Or (except SGP-20S) it can be accomplished directly by the bottom air ports (a and c) removing the plugs.

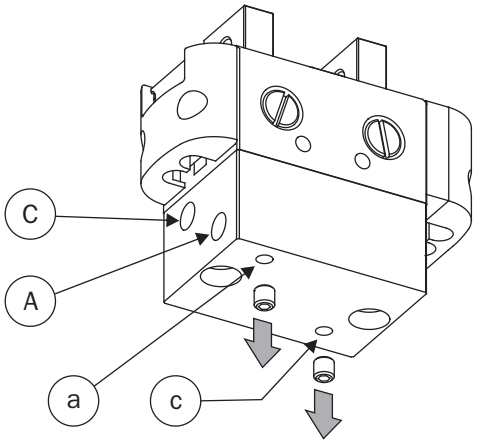
Compressed air in A or a: gripper opening.
Compressed air in C or c: gripper closing.

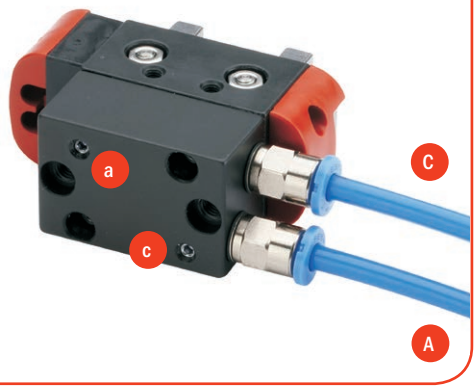
The compressed air, must be filtered from 5 to 40 µm, not necessarily lubricated.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



O-Ring
Ø1.78x2.90

Sede O-Ring
O-Ring groove
Ø6.3H11x1.3$^{+0.1}$





Circuito pneumatico

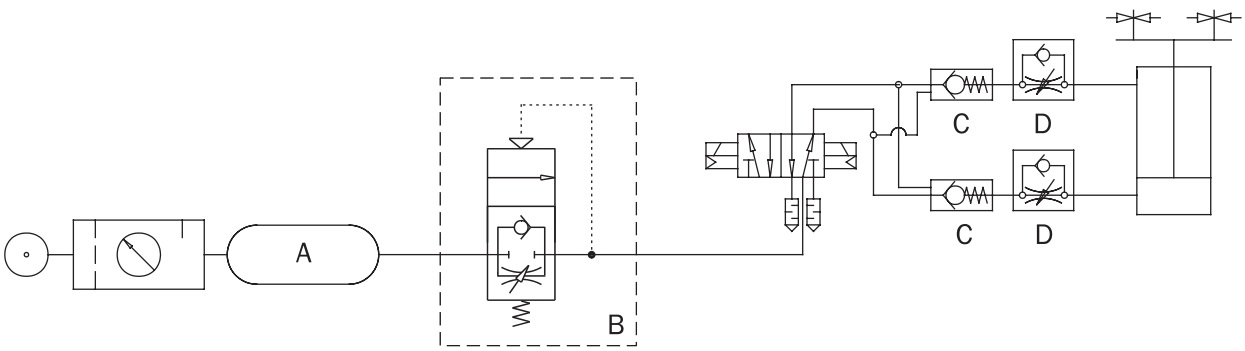
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



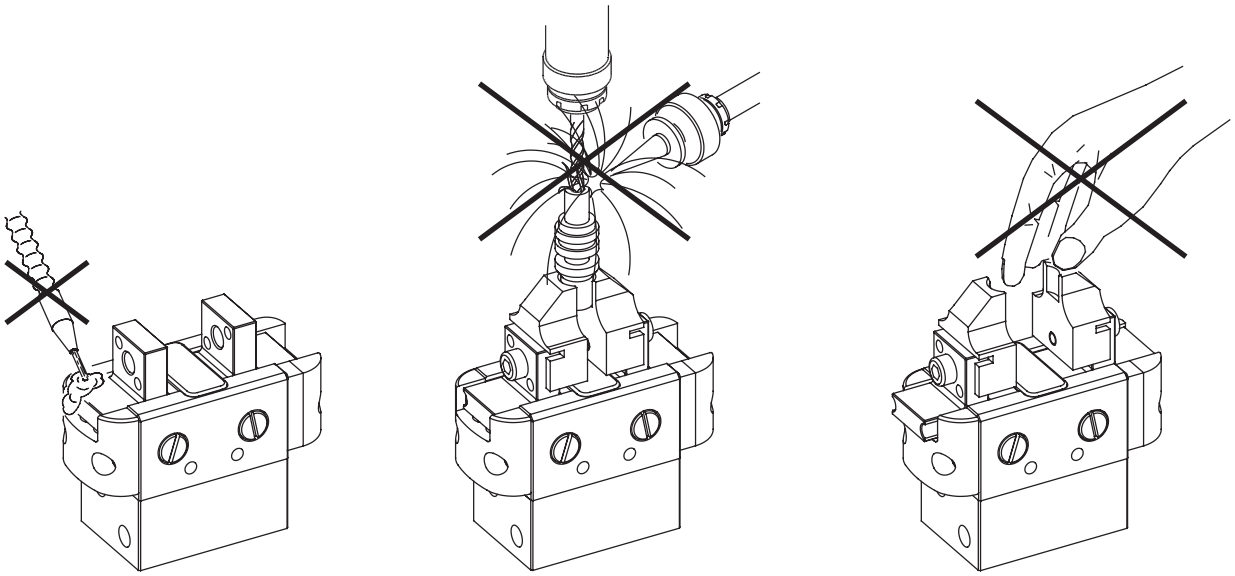
SGP-S

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

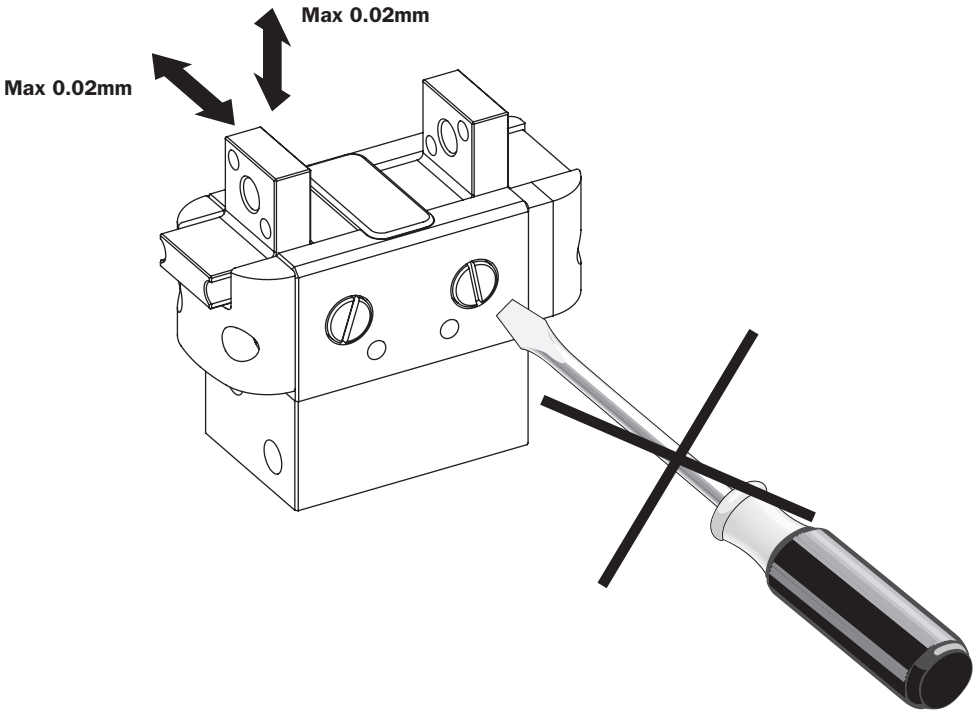
La pinza va ingrassata ogni 20 milioni di cicli con:
- BERULUB FG-H 2 EP
  (Lubrificante NSF H1 Registrazione No. 140486).

Il gioco delle griffe, indicato qui sotto, viene regolato in fabbrica.
NON USARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.

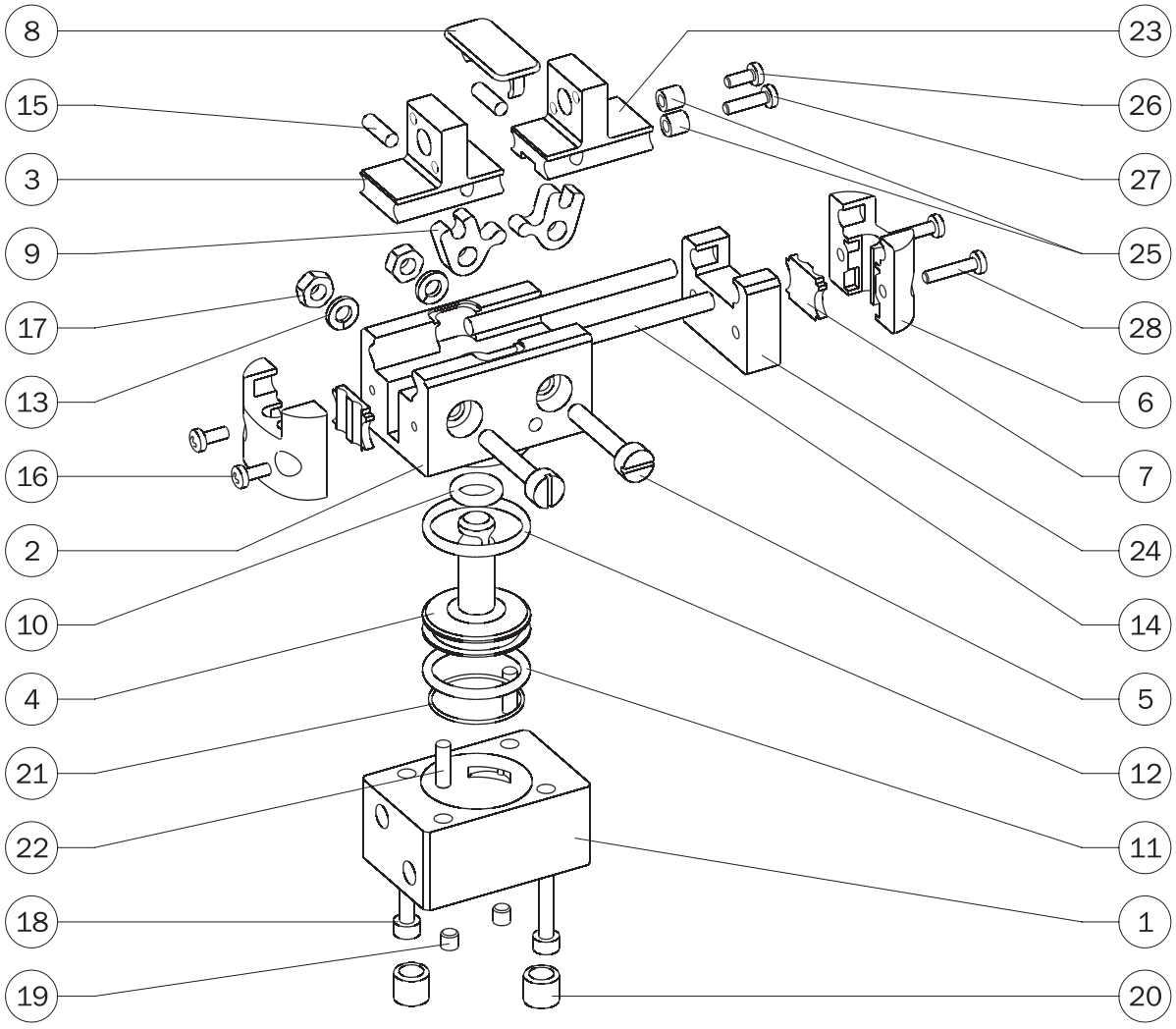
Maintenance

Grease the gripper after 20 million cycles with:
- *BERULUB FG-H 2 EP*
  (Lubricant NSF H1 Registration No. 140486).

The jaw backlash, showed in the picture below, is set in factory.
NEVER USE THE ADJUSTING SCREWS TO MODIFY IT.



Elenco delle parti / *Part list*



		SGP-20S	SGP-25S	SGP-32S	SGP-40S		
1	Corpo pinza	SGP-20-01	SGP-25-01	SGP-32-01	SGP-40-01	*Gripper housing*	*1*
2	Porta fulcri	SGP-20-02	SGP-25-02	SGP-32-02	SGP-40-02	*Jaw holder*	*2*
3	Griffa sinistra	SGP-20-03	SGP-25-03	SGP-32-03	SGP-40-03	*Left jaw*	*3*
4	Pistone	SGP-20-04	SGP-25-04	SGP-32-04	SGP-40-04	*Piston*	*4*
5	Vite speciale	SGP-20-05	SGP-25-05	SGP-32-05	SGP-40-05	*Special screw*	*5*
6	Testata	SGP-20-06	SGP-25-06	SGP-32-06	SGP-40-06	*Head cap*	*6*
7	Guida sensore	SGP-20-07	SGP-25-07	SGP-25-07	SGP-25-07	*Sensor holder*	*7*
8	Protezione	SGP-20-08	SGP-25-08	SGP-32-08	SGP-40-08	*Protection*	*8*
9	Leva	PAR-10-8C	SP-20-4	SP-25-4	SGP-40-09	*Lever*	*9*
10	O-RING	Ø1.78x3.69 (GUAR-044)	Ø1.78x4.48 (GUAR-029)	Ø1.78x6.07 (GUAR-039)	Ø1.78x6.75 (GUAR-012)	*O-RING*	*10*
11	Guarnizione dinamica	Ø1.78x7.66 (GUAR-045)	16x9x2.5 (GUAR-002P)	Ø1.78x14 (GUAR-007)	20x13x2.5 (GUAR-040P)	*Dynamic gasket*	*11*
12	O-RING	Ø1x9 (GUAR-168)	Ø1x14 (GUAR-084)	Ø1.78x14 (GUAR-007)	Ø1.78x17.17 (GUAR-076)	*O-RING*	*12*
13	Rosetta elastica	-	Ø2.2 DIN127A	Ø3.2 DIN127A	Ø3.2 DIN127A	*Elastic washer*	*13*
14	Spina di riferimento	Ø2.5x25mm DIN6325	Ø2.5x32mm DIN6325	Ø3x40mm DIN6325	Ø3x50mm DIN6325	*Dowel pin*	*14*
15	Spina di riferimento	-	Ø2x8mm DIN6325	Ø2.5x8mm DIN6325	Ø2.5x11.8 mm DIN5402	*Dowel pin*	*15*
16	Vite	M1.6x5mm DIN7985	M2x5mm DIN7985A INOX	M2x5mm DIN7985A INOX	M2x5 mm DIN7985A INOX	*Screw*	*16*
17	Dado esagonale	-	M2 DIN936 INOX	M3 DIN934 INOX	M3 DIN934 INOX	*Nut*	*17*
18	Vite	M2x12mm DIN7985 INOX	M2.5x12mm DIN912 INOX	M2.5x12mm DIN912 INOX	M3x20mm DIN912 INOX	*Screw*	*18*
19	Vite senza testa	-	M3x3mm DIN913	M3x3 mm DIN913	M3x3 mm DIN913	*Grub screw*	*19*
20	Boccola	SGP-20-09	SGP-25-09	SGP-32-09	SGP-32-09	*Centering sleeve*	*20*
21	O-RING	-	-	Ø1x14 (GUAR-084)	-	*O-RING*	*21*
22	Spina di riferimento	Ø2x6.3mm DIN6325	Ø2x8mm DIN6325	Ø2.5x8mm DIN6325	Ø2.5x8mm DIN6325	*Dowel pin*	*22*
23	Griffa destra	SGP-20S-01	SGP-25S-01	SGP-32S-01	SGP-40S-01	*Right jaw*	*23*
24	Distanziale	SGP-20-10	UG-16-09	UG-18-09	SGP-40S-02	*Spacer*	*24*
25	Distanziale	SGP-20-11	UG-16-11	UG-16-11	SGP-40S-03	*Spacer*	*25*
26	Vite	M1.6x3mm DIN7985	M2x5mm DIN7985 INOX	M2x5mm DIN7985 INOX	M2x5mm DIN7985 INOX	*Screw*	*26*
27	Vite	M1.6x5mm DIN7985	M2x8mm DIN7985 INOX	M2x8mm DIN7985 INOX	M2x12mm DIN7985 INOX	*Screw*	*27*
28	Vite	M1.6x8mm DIN7985	M2x10mm DIN7985 INOX	M2x10mm DIN7985 INOX	M2x10mm DIN7985 INOX	*Screw*	*28*

JP

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie JP)

- Azionamento a doppio effetto.
- Forza di serraggio elevata.
- Adatta per applicazioni pesanti.
- Sensori magnetici opzionali.

2-jaw self-centering pneumatic parallel gripper (series JP)

- *Double acting.*
- *High gripping force.*
- *Suitable for heavy duty applications.*
- *Optional magnetic sensors.*



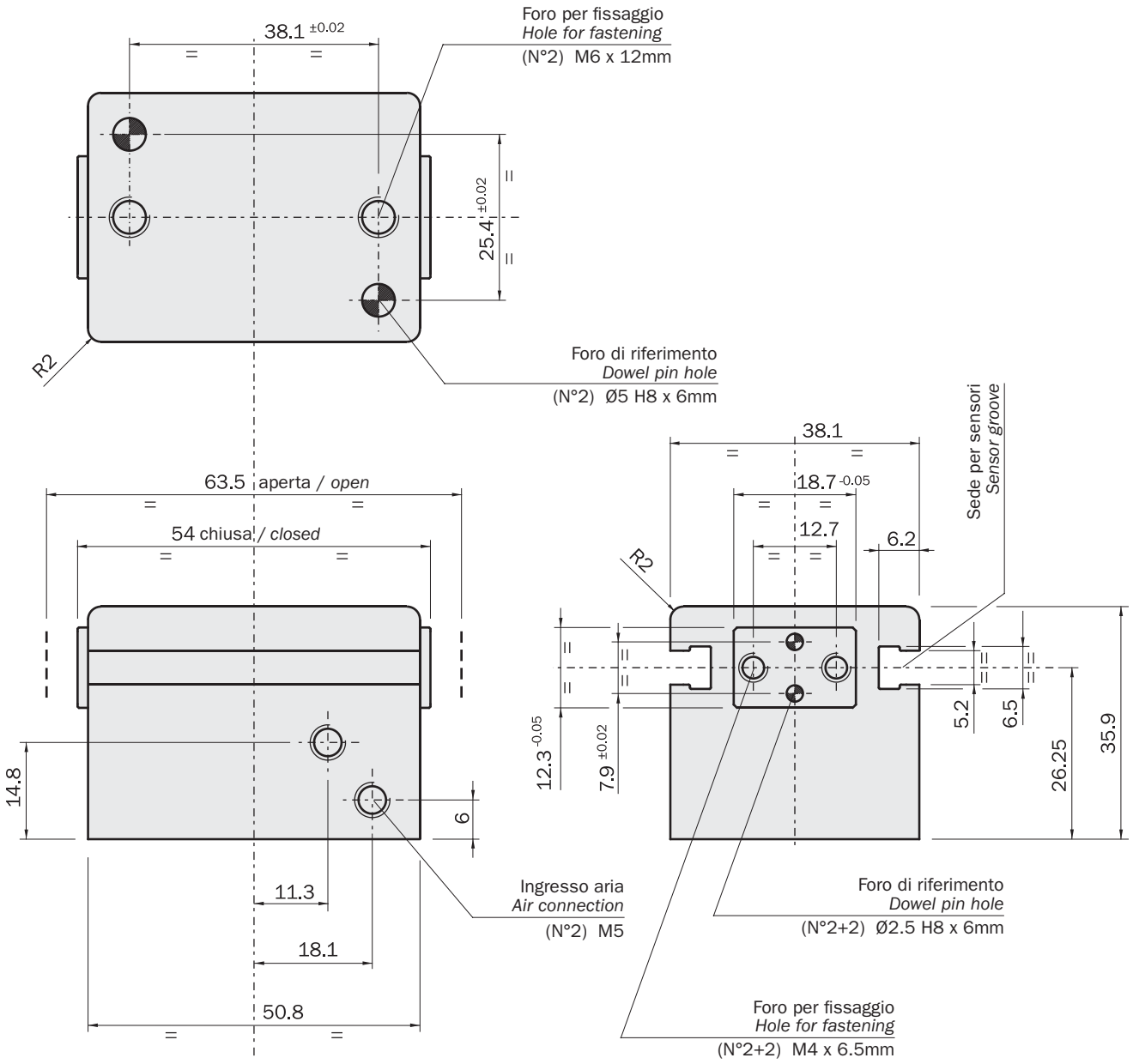
JP-45 **JP-32** **JP-25**

	JP-25	JP-32	JP-45
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar		
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.		
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	135 N	350 N	500 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	270 N	700 N	1000 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	120 N	300 N	465 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	240 N	600 N	930 N
Corsa totale (±0.2 mm) *Total stroke*	9.5 mm	12 mm	18.9 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo *Cycle air consumption*	6 cm^3	16 cm^3	20 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.04 s	0.09 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	240 g	450 g	1050 g

03/2015

Dimensioni (mm) / *Dimensions (mm)*

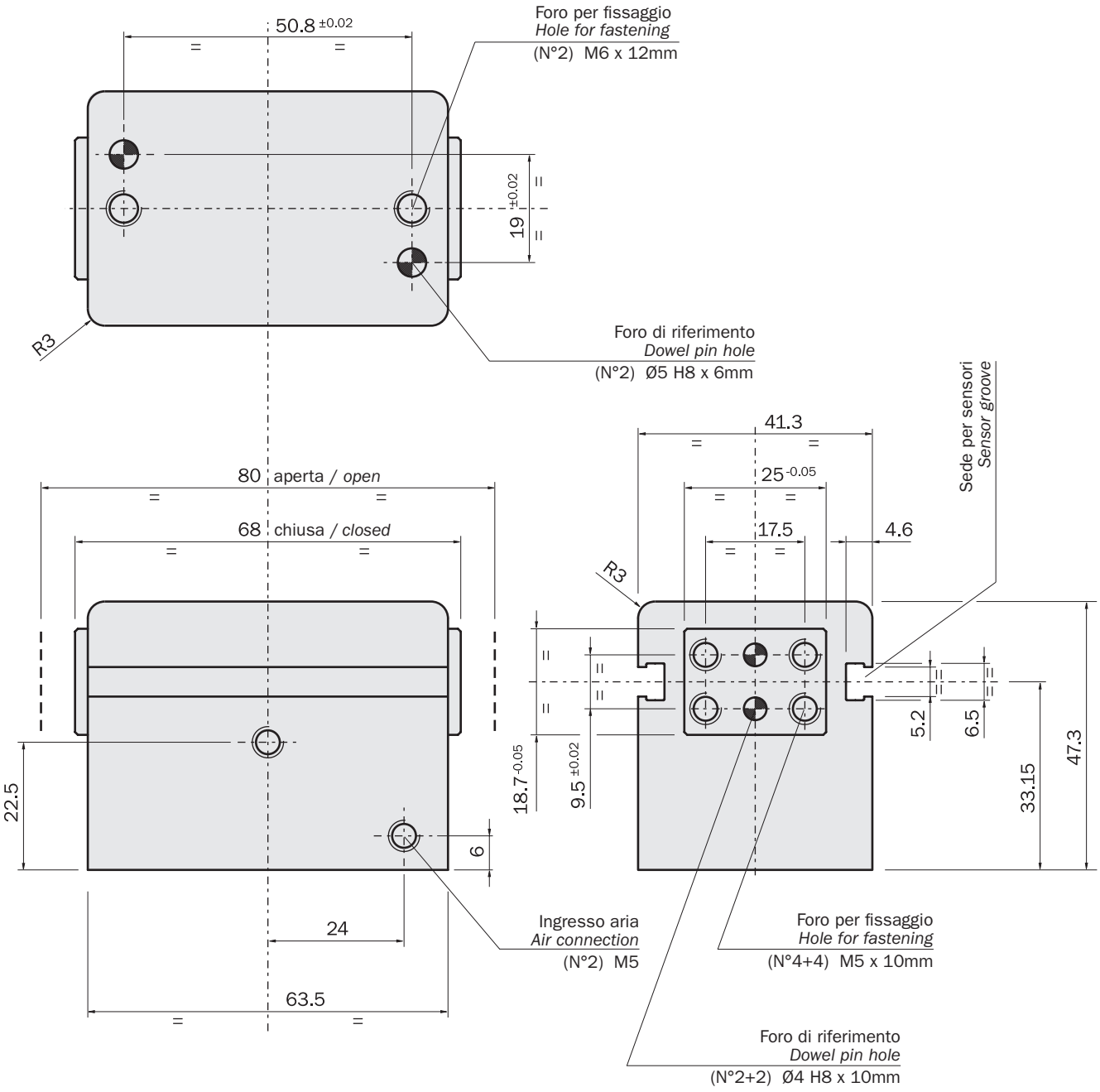
JP-25



FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

JP-32

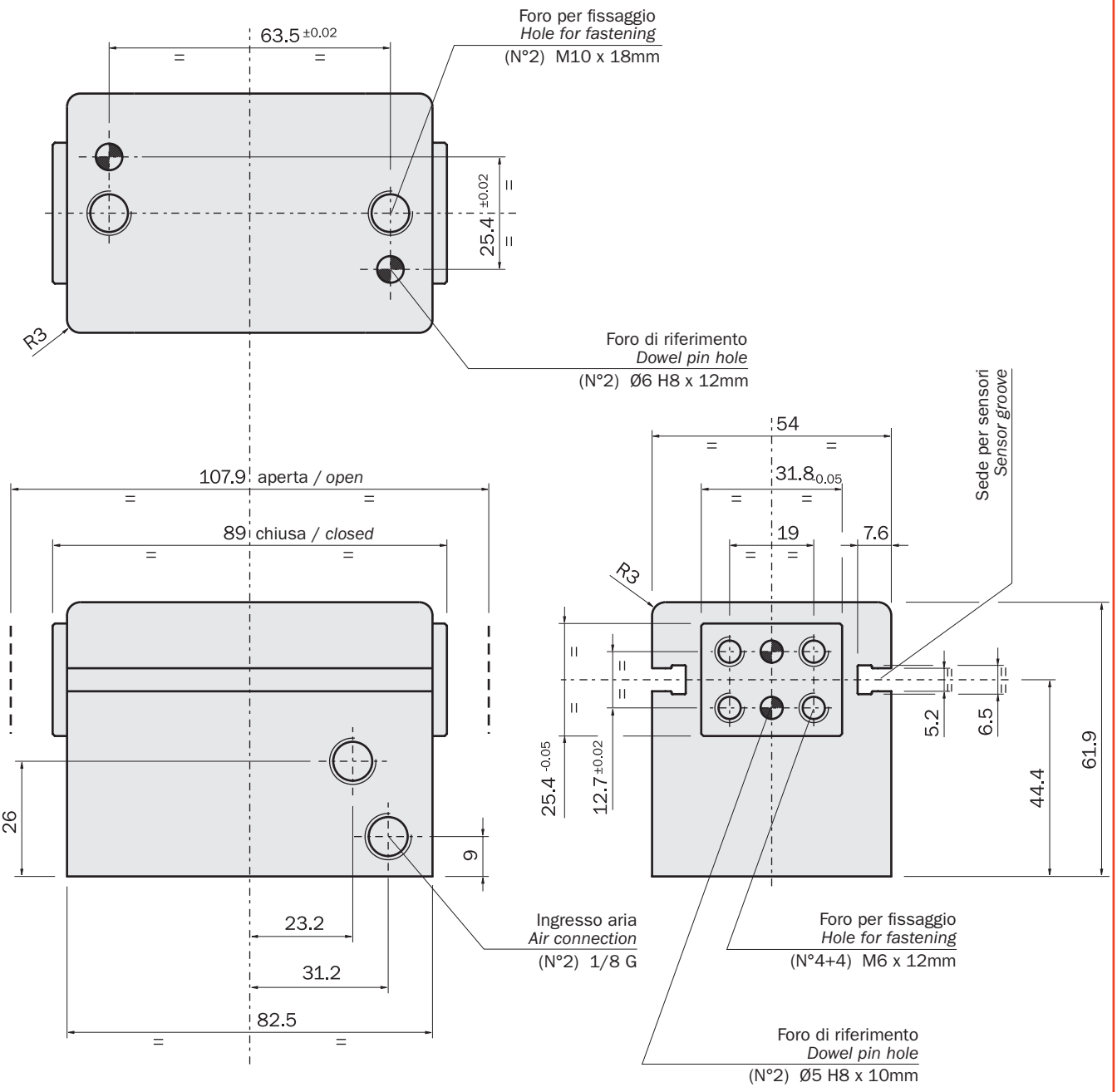


FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

JP-45



FIRST ANGLE PROJECTION

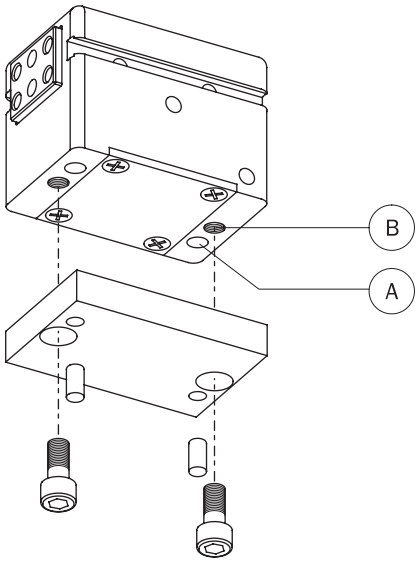
JP

Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza usare due viti nei fori filettati (B) e due spine nei fori calibrati (A).

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.
The gripper can be fastened with two screws in the threaded holes (B) and two dowel pins in the holes (A).



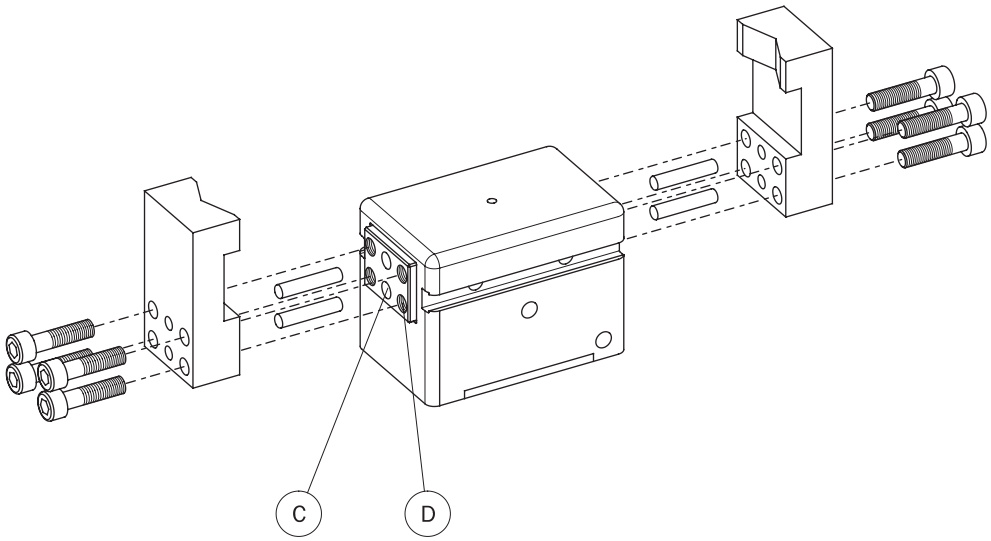
	JP-25	JP-32	JP-45
A	Ø5H8 x 6 mm	Ø5H8 x 6 mm	Ø6H8 x 12 mm
B	M6x12 mm	M6x12 mm	M10x18 mm

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle con quattro viti (due per JP-25) nei fori filettati (D).
Per il centraggio sulle griffe inserire due spine nei fori calibrati (C).

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be fastened by four screws (two in the case of JP-25) in the threaded holes (D).
For a precise positioning on the jaws use two dowel pins in the calibrated holes (C).



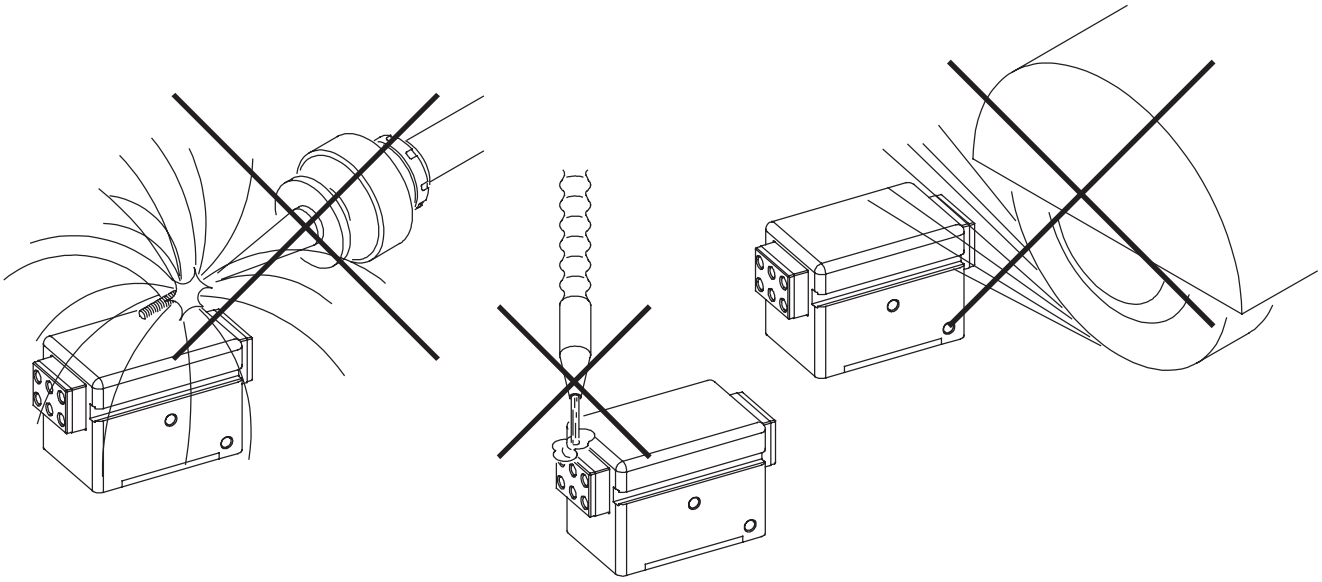
	JP-25	JP-32	JP-45
C	Ø2.5H8 x 6 mm	Ø4H8 x 10 mm	Ø5H8 x 10 mm
D	M4x6.5 mm	M5x10 mm	M6x12 mm

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
Never let personnel or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

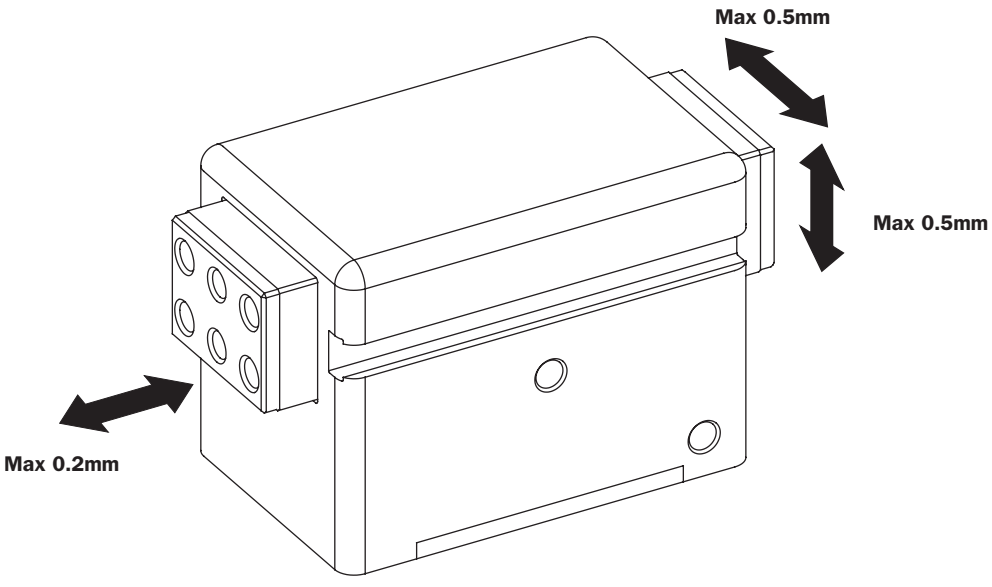
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.

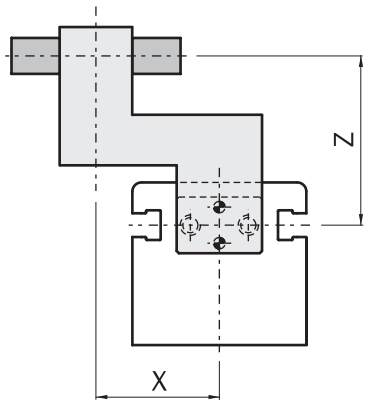


Forza di serraggio

I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

Gripping force

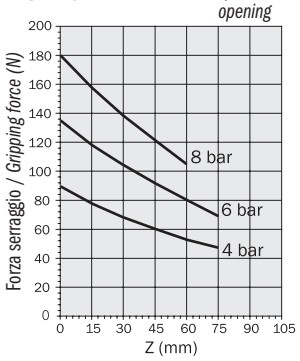
The graphs show the medium gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

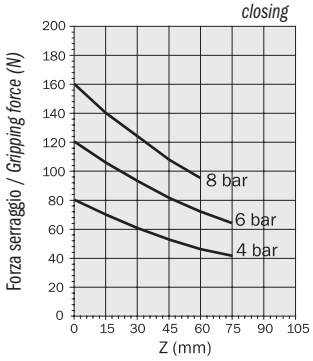


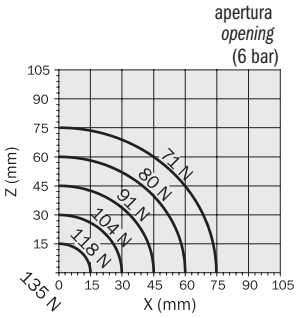
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

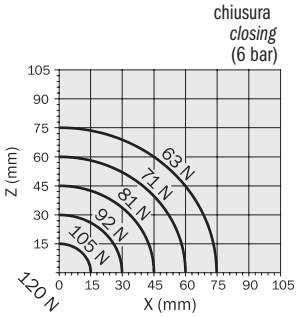
The force shown in these graphs refers to one jaw.
The total force is double.

JP-25

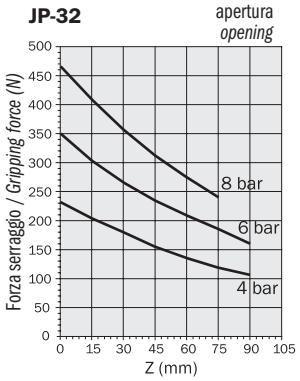


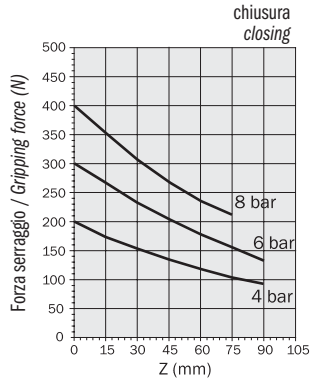


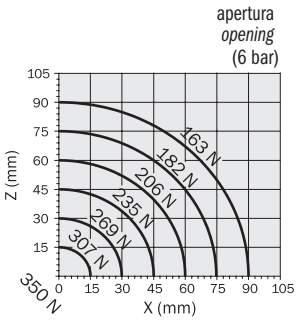


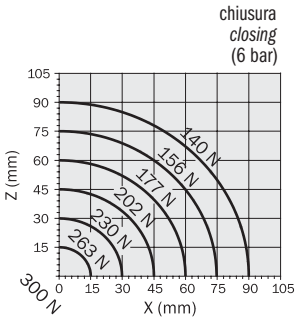


JP-32

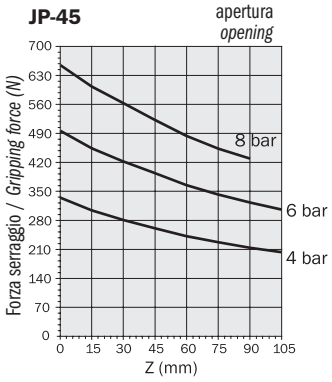


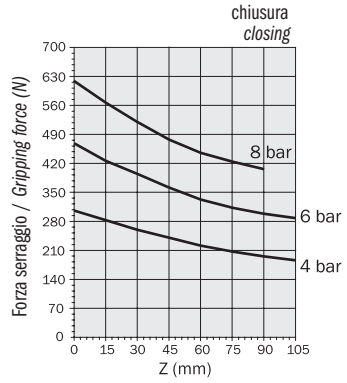


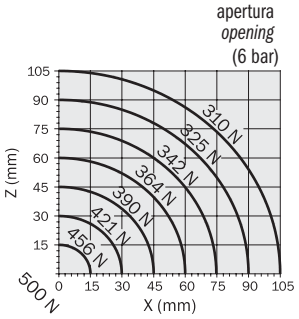


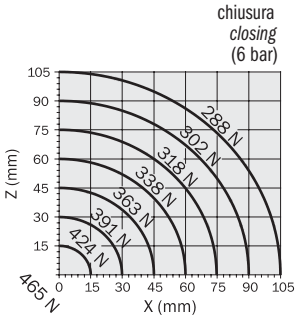


JP-45







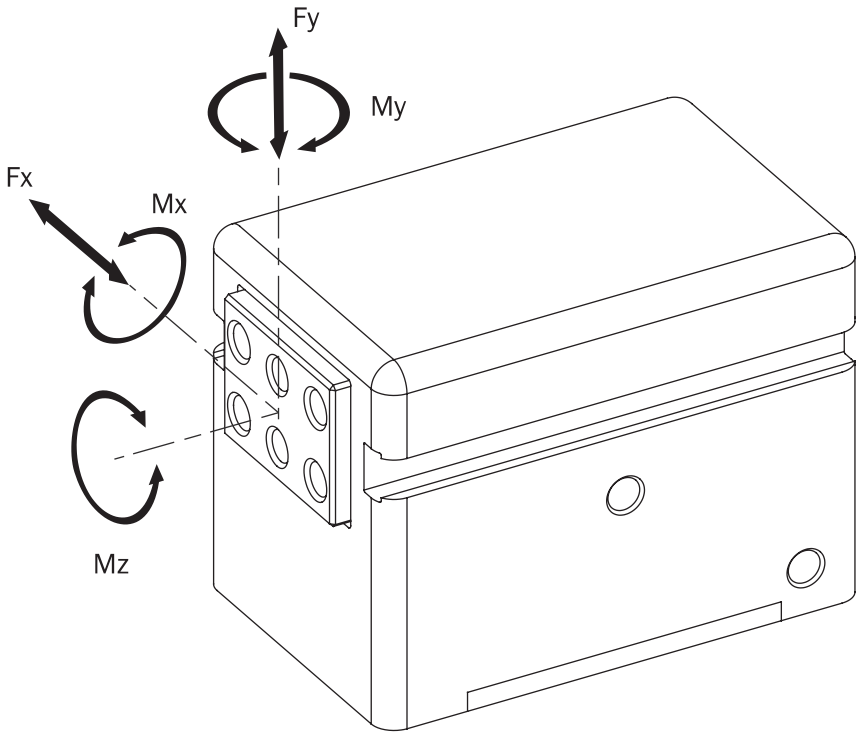


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Fx s, Fy s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
Fx d, Fy d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
Fx s, Fy s, Mx s, My s, Mz s, are maximum permitted static loads.
Static means with motionless jaws.
Fx d, Fy d; Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
m, is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment.
If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



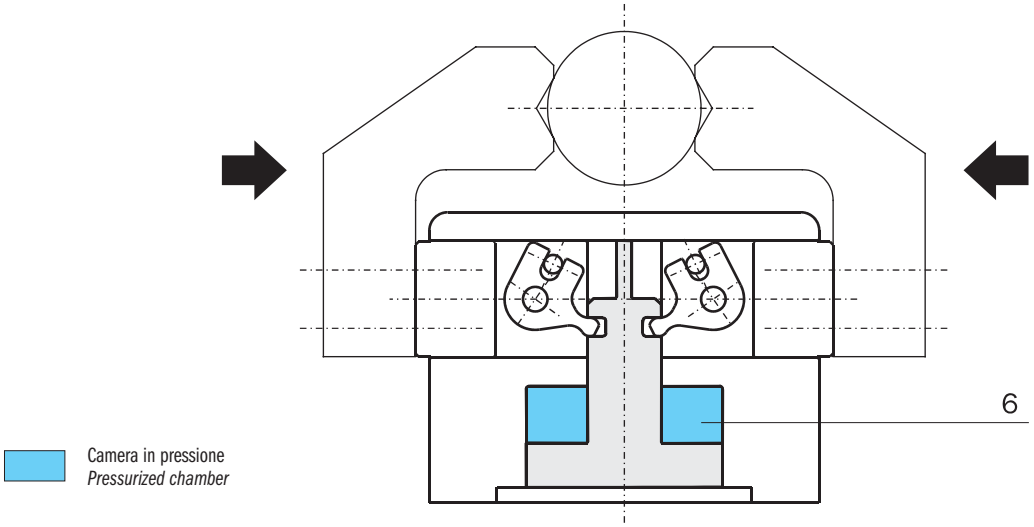
	JP-25	JP-32	JP-45
Fx s	200 N	400 N	800 N
Fy s	200 N	400 N	800 N
Mx s	7 Nm	19 Nm	43 Nm
My s	7 Nm	19 Nm	43 Nm
Mz s	7 Nm	19 Nm	43 Nm
Fx d	3 N	5 N	8 N
Fy d	3 N	5 N	8 N
Mx d	14 Ncm	27 Ncm	43 Ncm
My d	14 Ncm	27 Ncm	43 Ncm
Mz d	14 Ncm	27 Ncm	43 Ncm
m	200 g	300 g	400 g

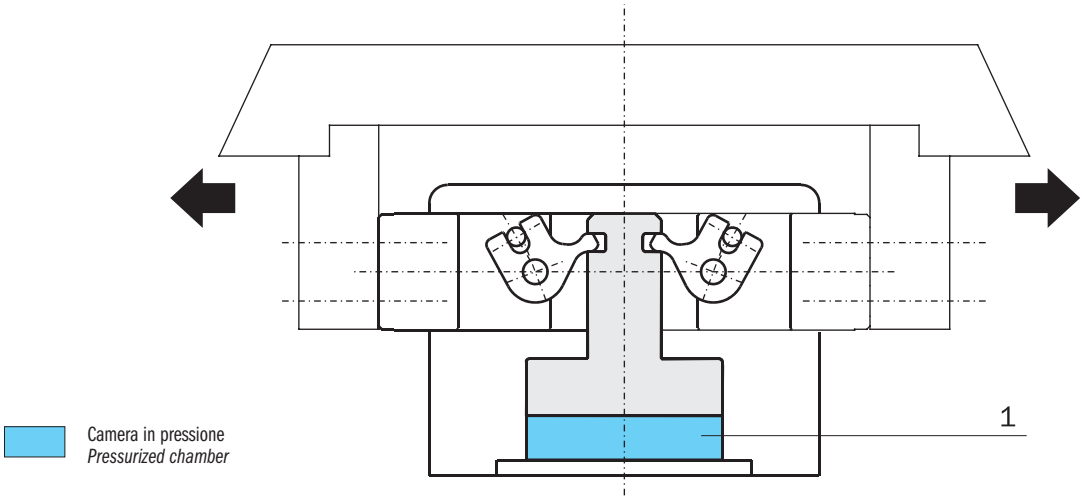
Serraggio

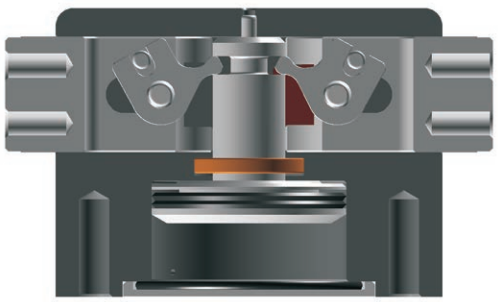
La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.
La forza di serraggio è maggiore in apertura.

Gripping

The gripper is double-acting for either internal or external gripping applications.
The opening force is higher.







Connessione pneumatica

La pinza può essere alimentata con aria compressa dai fori laterali montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in 1: apertura della pinza.
Aria compressa in 6: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports with fittings and hoses (not supplied).

Compressed air in 1: gripper opening.
Compressed air in 6: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

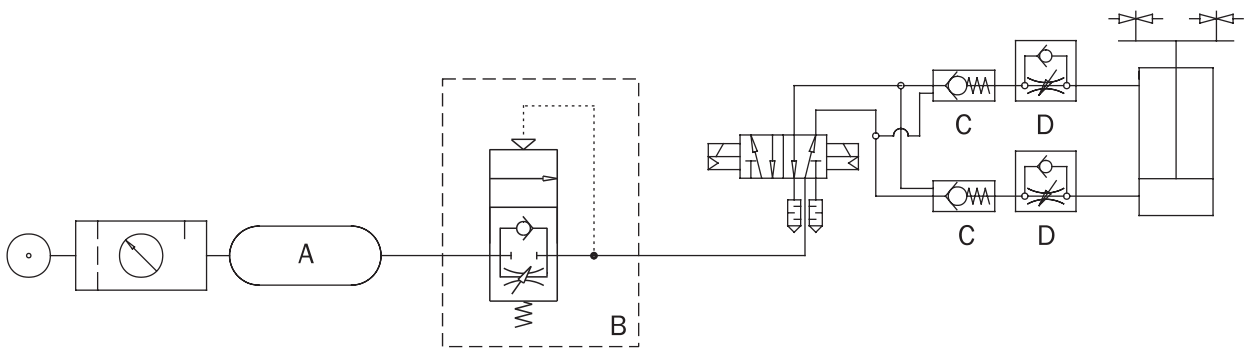
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



JP

Sensori

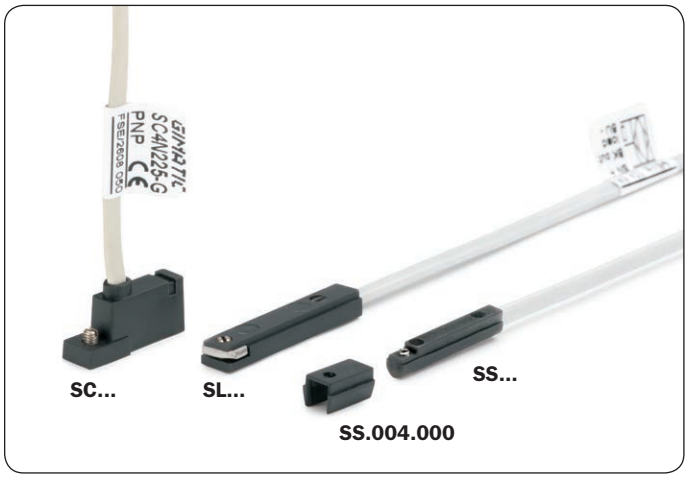
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

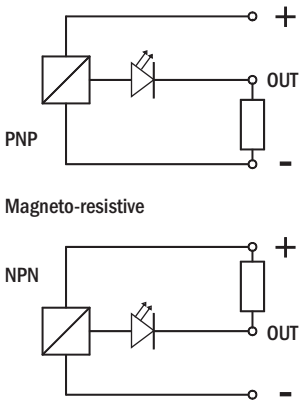
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
Due to the presence of magnetic proximity sensors, the unit should not be used in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:





			JP-25	JP-32	JP-45
SC4N225Y	PNP	Cavo 2.5m / 2.5m cable	☑	☐	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☑	☐	☑
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☑	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☑	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)

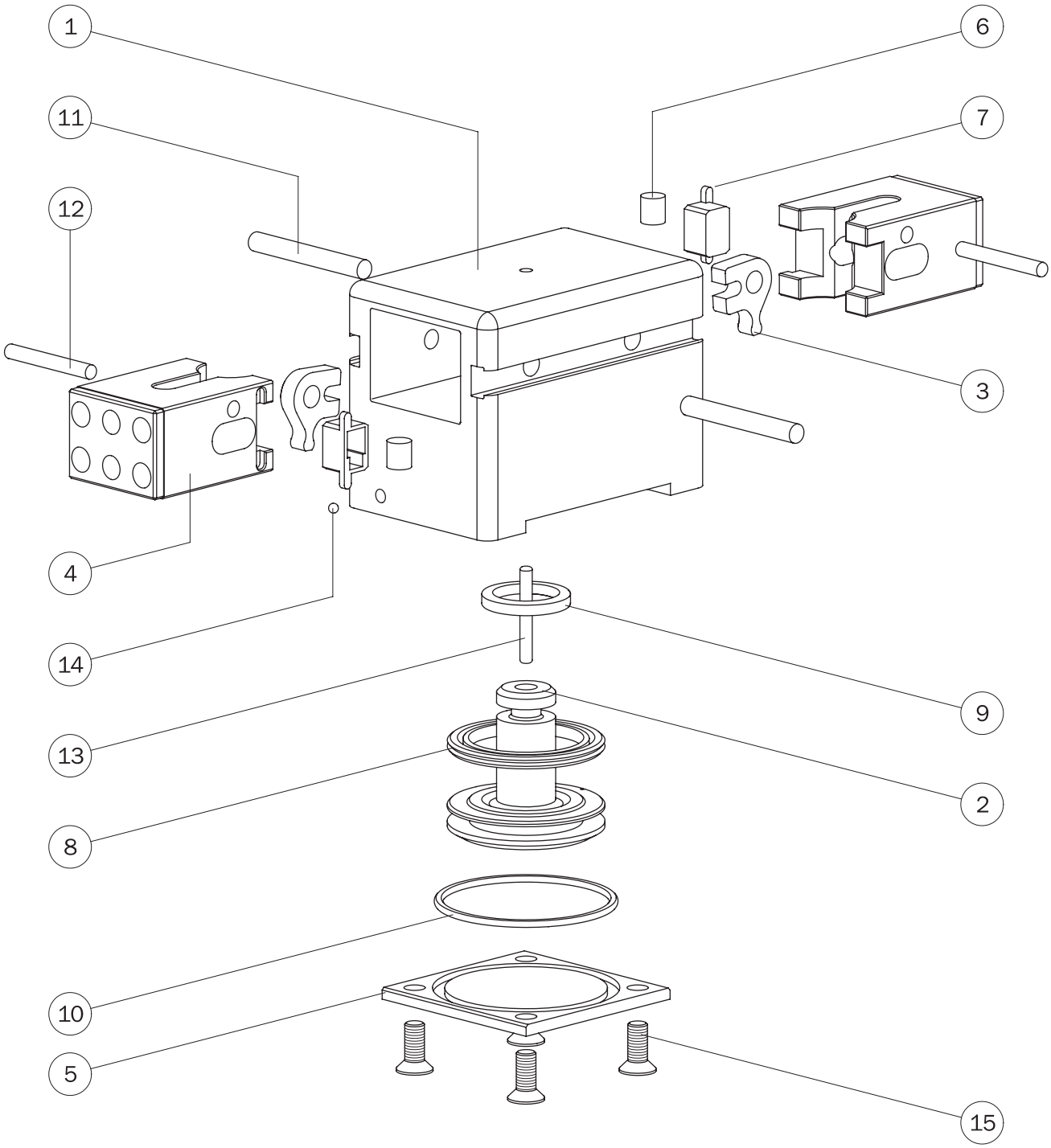
(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.





Elenco delle parti / *Part list*



		JP-25	JP-32	JP-45		
1	Corpo pinza	JP-25-01	JP-32-01	JP-45-01	*Gripper housing*	*1*
2	Pistone	JP-25-02	JP-32-02	JP-45-02	*Piston*	*2*
3	Leva	JP-25-03	JP-32-03	JP-45-03	*Lever*	*3*
4	Griffa	JP-25-04	JP-32-04	JP-45-04	*Jaw*	*4*
5	Copertura	JP-25-05	JP-32-05	JP-45-05	*Cover*	*5*
6	Magnete	PAR-06-7	FES-16-3-9	FES-16-3-9	*Magnet*	*6*
7	Inserto portamagnete	PS-0030-7	JP-32-6	JP-45-6	*Magnet housing*	*7*
8	Guarnizione dinamica	25x18x2.4 (GUAR-003M)	32x23x3 (GUAR-004P)	45x36x3 (GUAR-026P)	*Dynamic gasket*	*8*
9	Guarnizione dinamica	Ø1.78x8.73 (GUAR-013)	18x12x3 (GUAR-014)	18x12x3 (GUAR-014)	*Dynamic gasket*	*9*
10	Anello di tenuta O-RING	Ø1x25 (GUAR-086)	Ø1.78x34.65 (GUAR-062)	Ø1.78x47.35 (GUAR-017)	*O-RING gasket*	*10*
11	Spina di riferimento	JP-25-7	JP-32-7	JP-45-7	*Dowel pin*	*11*
12	Spina di riferimento	Ø2.5x17.8 mm DIN 5402	Ø3x24 mm DIN 6325	Ø4x30 mm DIN 6325	*Dowel pin*	*12*
13	Spina di riferimento	Ø2x12 mm DIN 6325	Ø2.5x20 mm DIN 6325	Ø2.5x23.8 mm DIN 6325	*Dowel pin*	*13*
14	Sfera	Ø2 mm AA DIN 5401 A	Ø2 mm AA DIN 5401 A	Ø2 mm AA DIN 5401 A	*Ball*	*14*
15	Vite	M3x8 mm DIN 965A INOX	M4x10 mm DIN 965A INOX	M4x10 mm DIN 965 INOX	*Screw*	*15*

GS

Pinza pneumatica a 2 griffe ad azione parallela autocentrante (serie GS)

- Azionamento a doppio effetto.
- Meccanismo di regolazione del gioco esclusivo.
- Grande durata e affidabilità senza manutenzione.
- Diverse possibilità di fissaggio.
- Sensori magnetici opzionali.
- Disponibile anche con molla in chiusura (-NC) o in apertura (-NO).

2-jaw parallel self-centering pneumatic gripper (series GS)

- *Double acting.*
- *Exclusive backlash adjusting system.*
- *Long life and reliability, maintenance free.*
- *Various options for fastening.*
- *Optional proximity magnetic sensors.*
- *Spring closed (-NC) or spring open (-NO) option.*



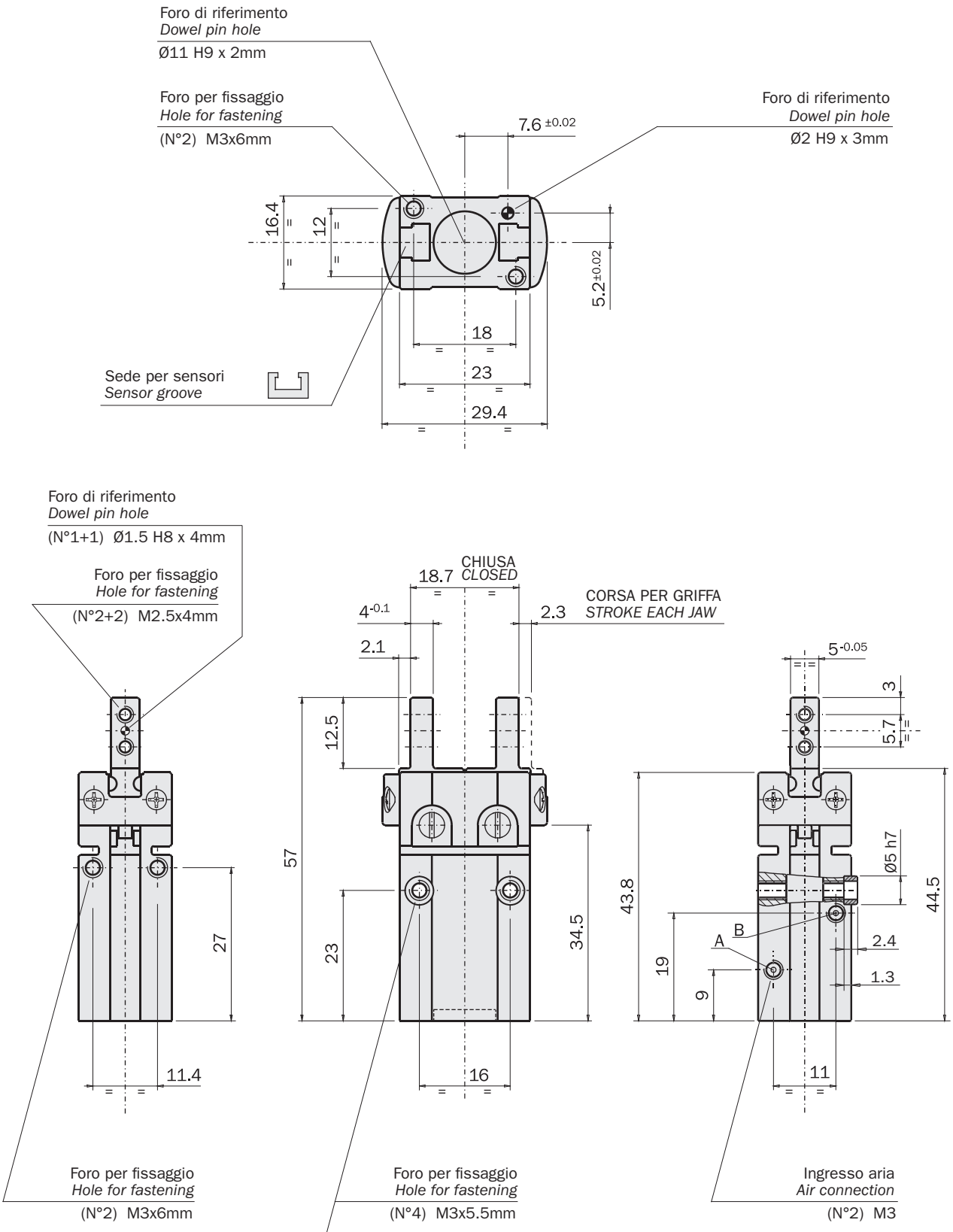
GS-10 **GS-16** **GS-20** **GS-25** **GS-32** **GS-40**

	GS-10	GS-16	GS-20	GS-25	GS-32	GS-40
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar	1.5 ÷ 8 bar			1 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	18 N	50 N	106 N	141 N	250 N	350 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	36 N	100 N	212 N	282 N	500 N	700 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	14 N	43 N	93 N	127 N	215 N	307 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	28 N	86 N	186 N	254 N	430 N	614 N
Corsa totale (±0.3 mm) *Total stroke*	4.6 mm	6.8 mm	10.4 mm	14.4 mm	22 mm	30 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz	2 Hz	2 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	0.7 cm^3	3 cm^3	7 cm^3	14 cm^3	28 cm^3	61 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.01 s	0.02 s	0.05 s	0.07 s	0.09 s	0.12 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	45 g	98 g	207 g	365 g	645 g	1155 g

03/2015

Dimensioni (mm) / *Dimensions (mm)*

GS-10



Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

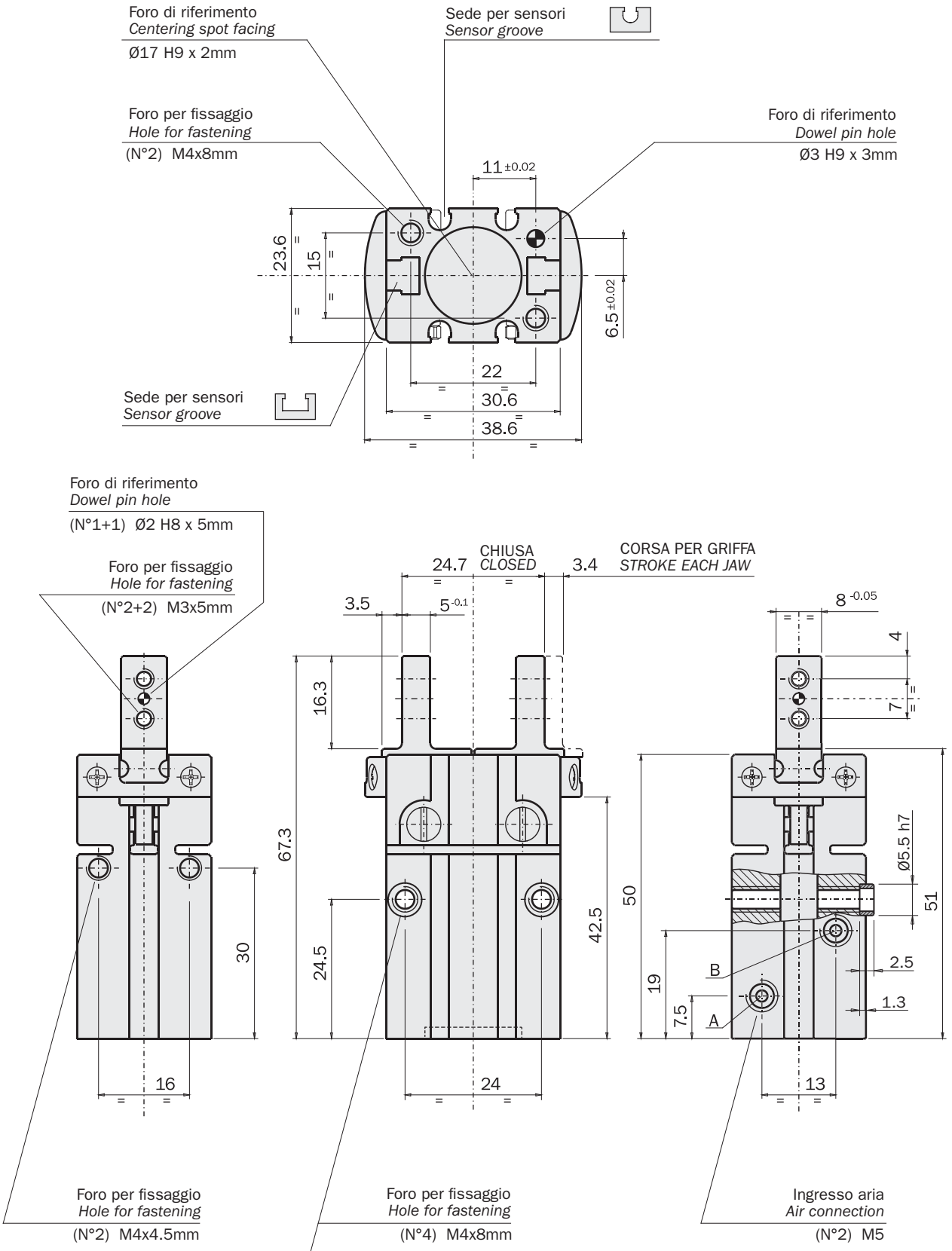
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

GS-16



Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

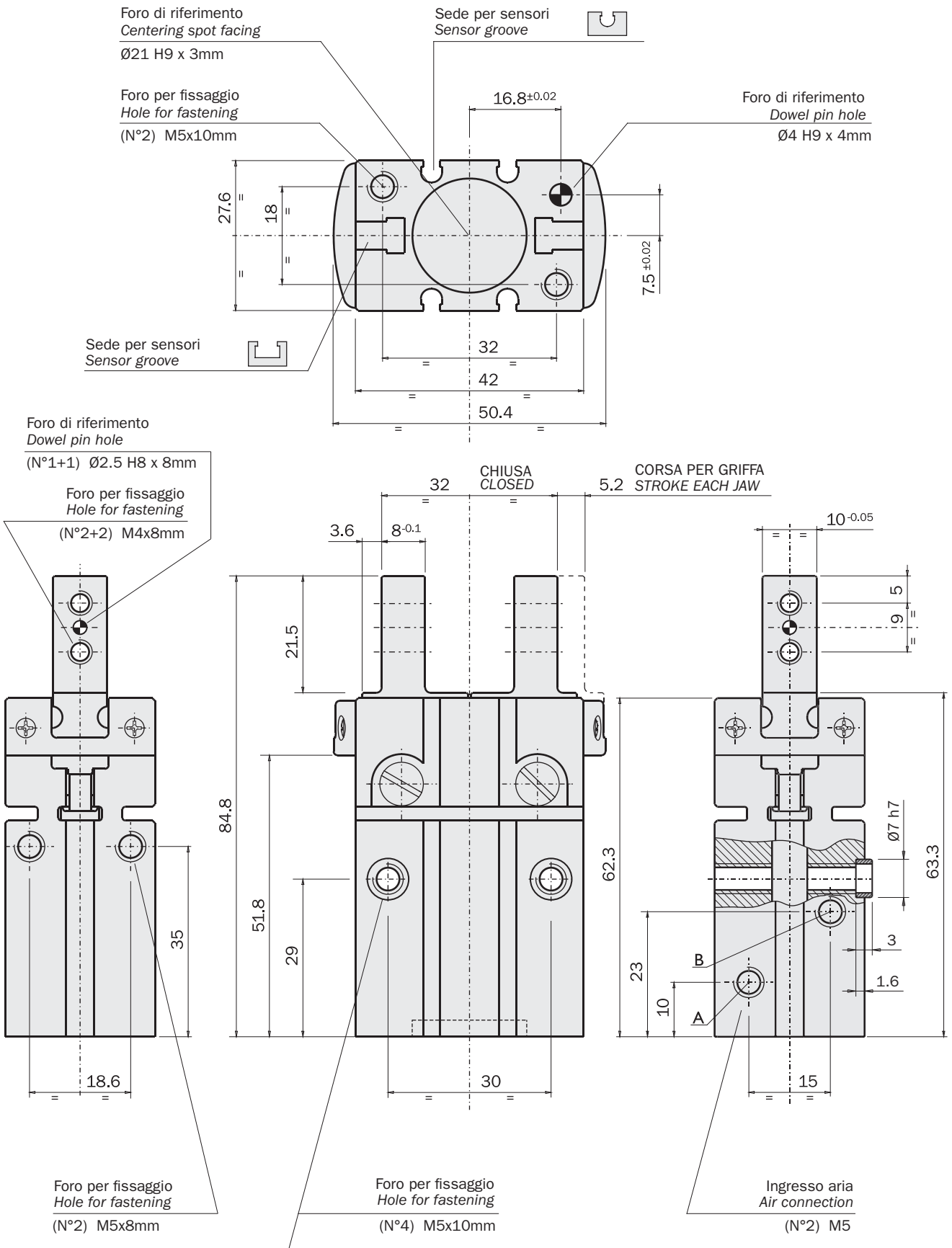
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

GS-20



Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

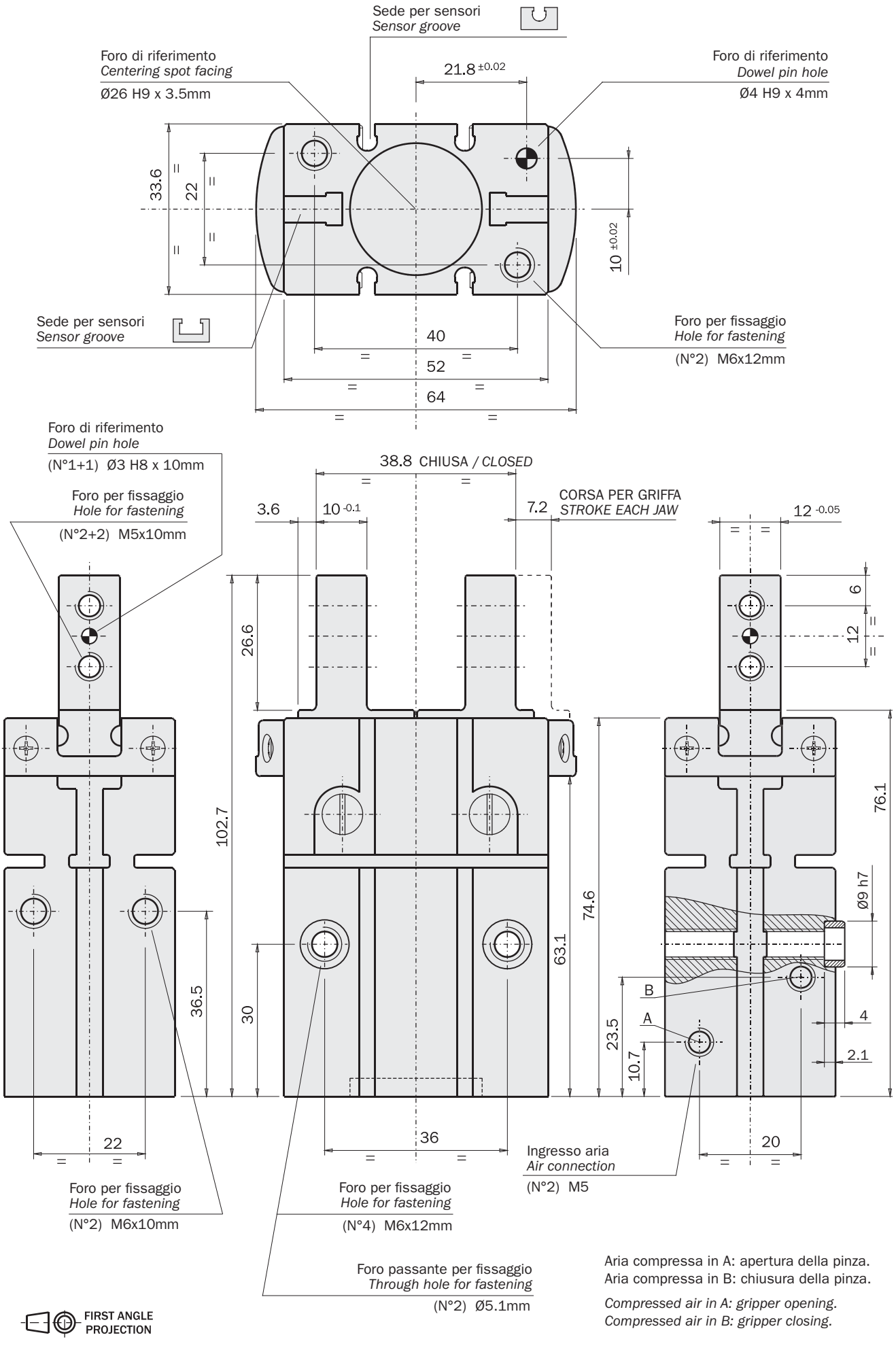
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

GS-25



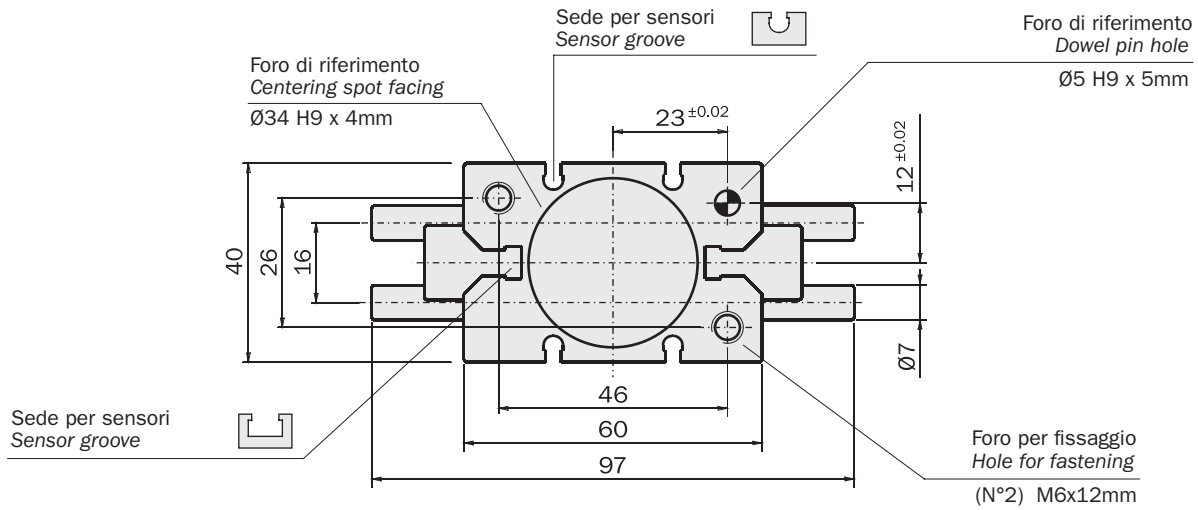
Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

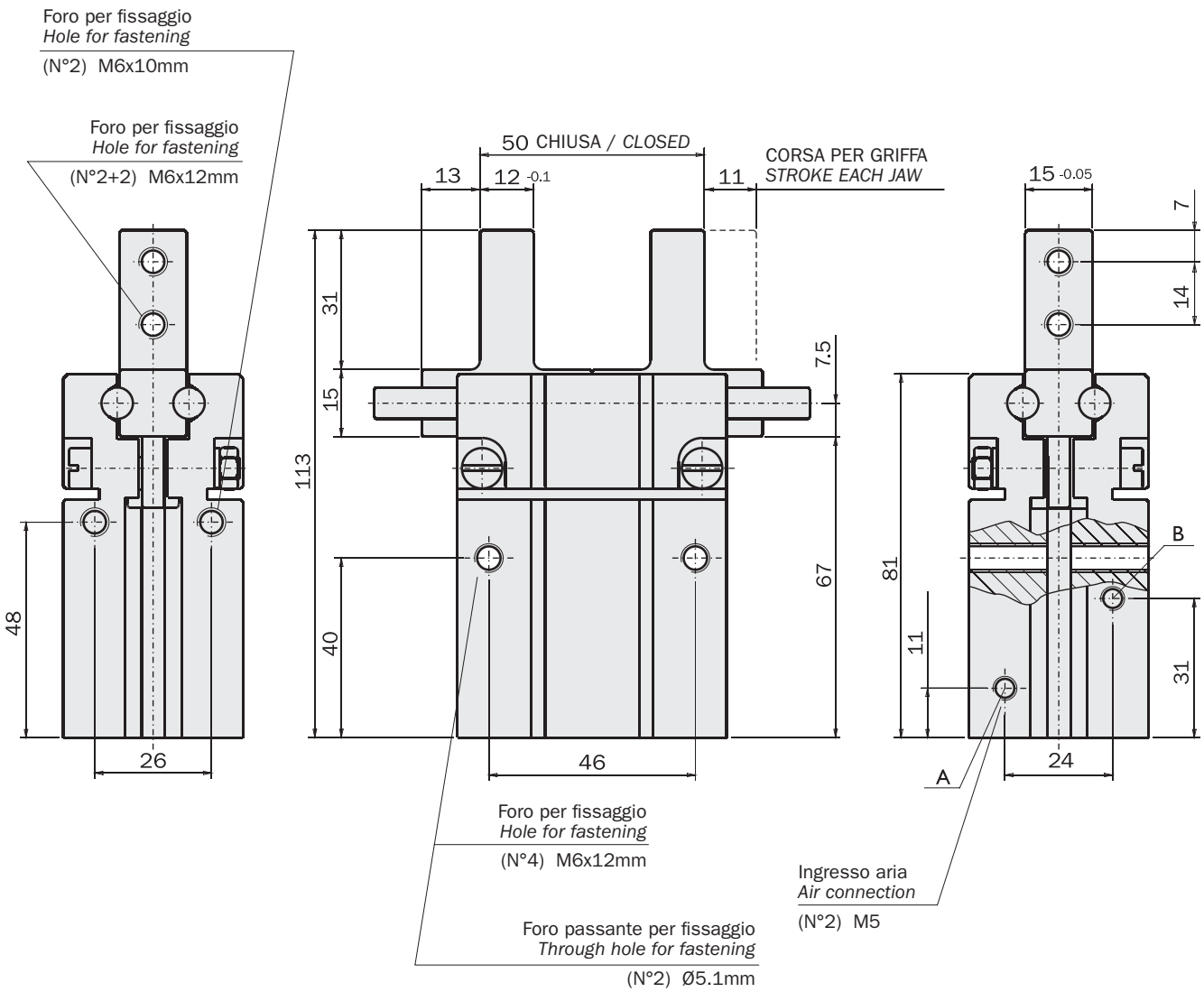
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

03/2015

Dimensioni (mm) / *Dimensions (mm)*

GS-32





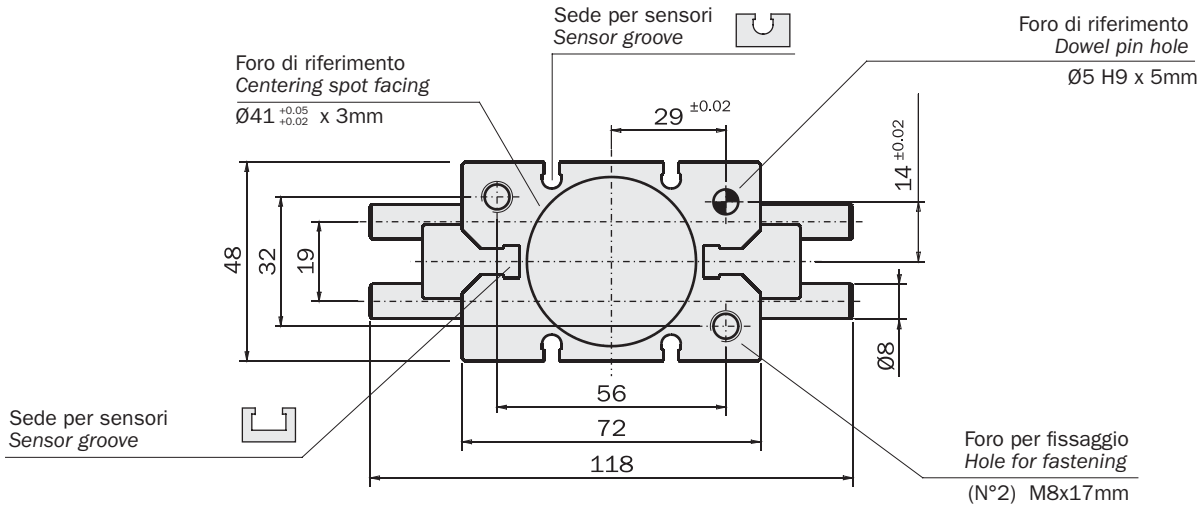
Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

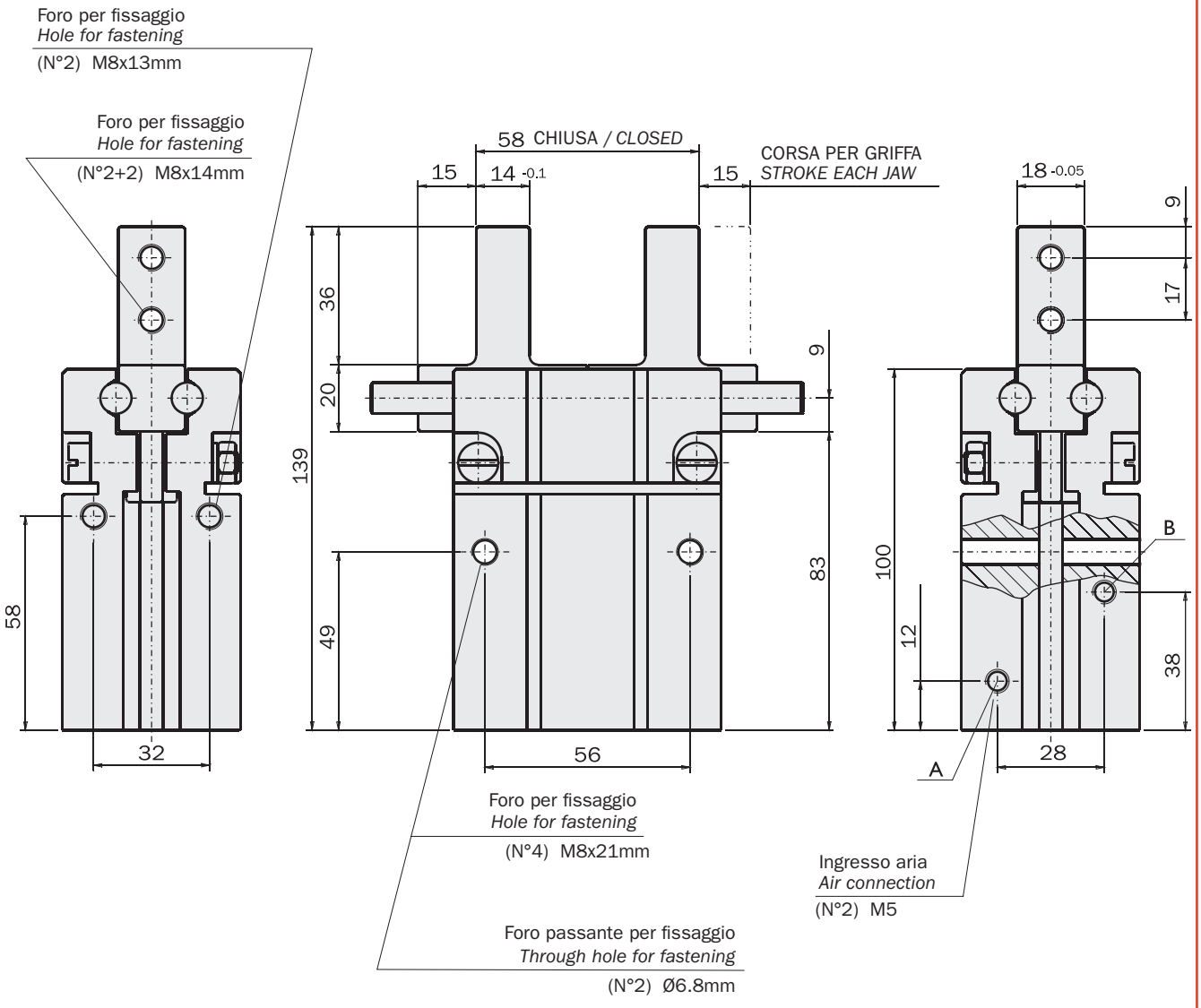
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

GS-40





Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

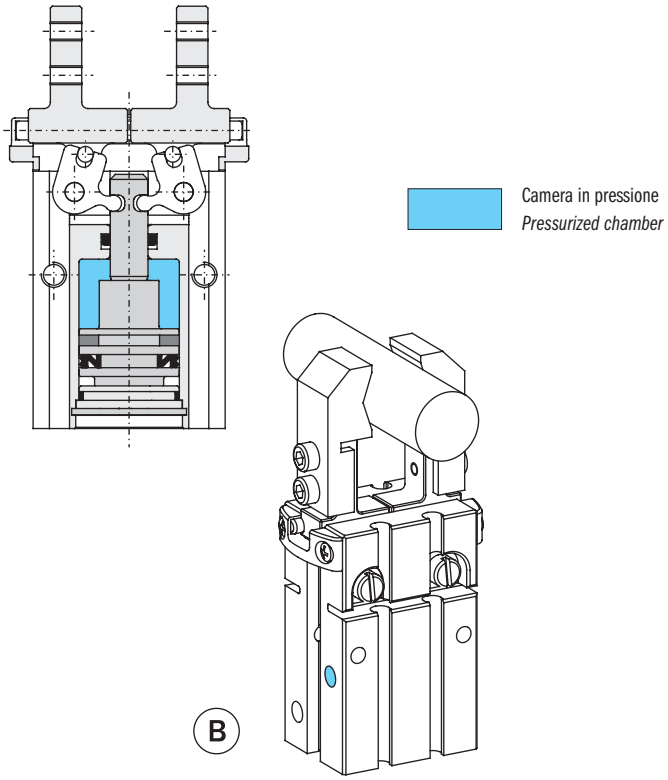
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

03/2015

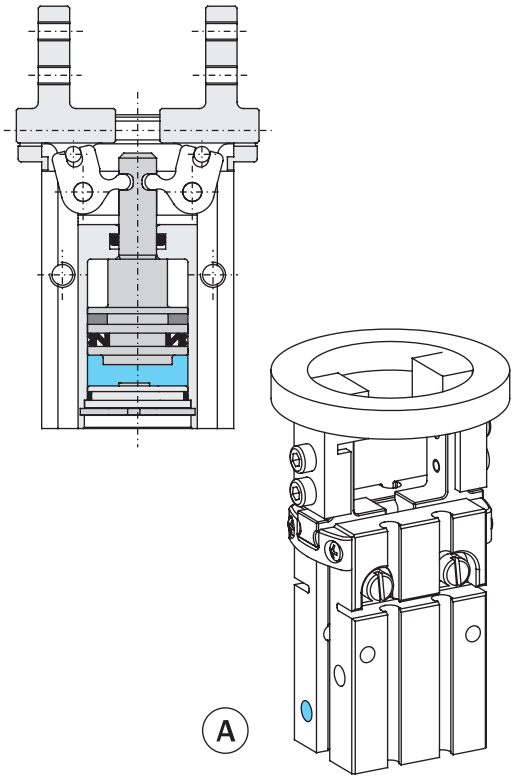
Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno (B) che dall'interno (A).
La forza di serraggio è maggiore in apertura.

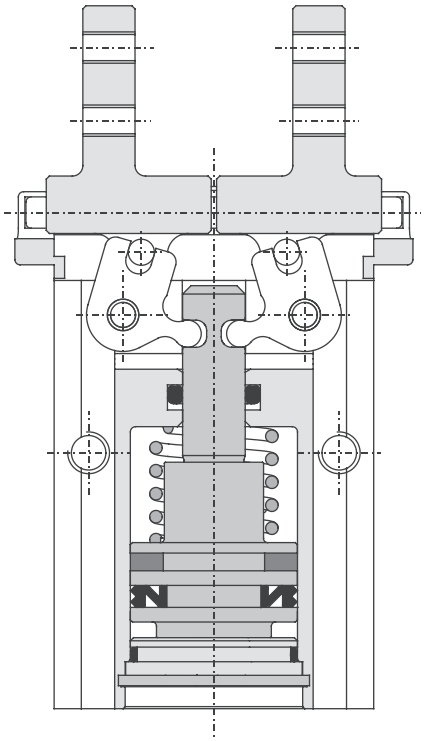


Gripping

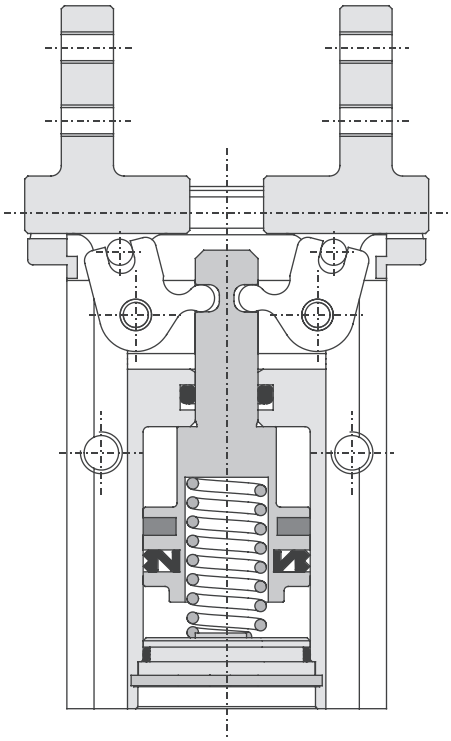
The gripper is double-acting for either internal (A) or external (B) gripping applications. The opening force is higher.



A richiesta è disponibile la versione con la molla in chiusura (-NC) o in apertura (-NO).



It is also available, on request, with a closing (-NC) or opening (-NO) spring.



Fissaggio

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.

1- Per fissare la pinza sul lato più largo utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (A) della pinza.
Usare le 2 boccole (J) per il centraggio, dove presenti.

2- Il fissaggio sul lato largo è possibile anche utilizzando due viti (B) passanti attraverso i fori (A). In questo caso l'utilizzo di sensori nelle cave rettangolari può essere impossibile.
Usare le 2 boccole (J) per il centraggio, dove presenti.

3- Per fissare la pinza sul lato più stretto utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (E) della pinza.

4- Per fissare la pinza sul fondo utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (C), una spina nel foro calibrato (D) ed una pastiglia di centraggio nella lamatura centrale (H). In questo caso si deve prevedere lo spazio per i sensori (X e Y).

Fastening

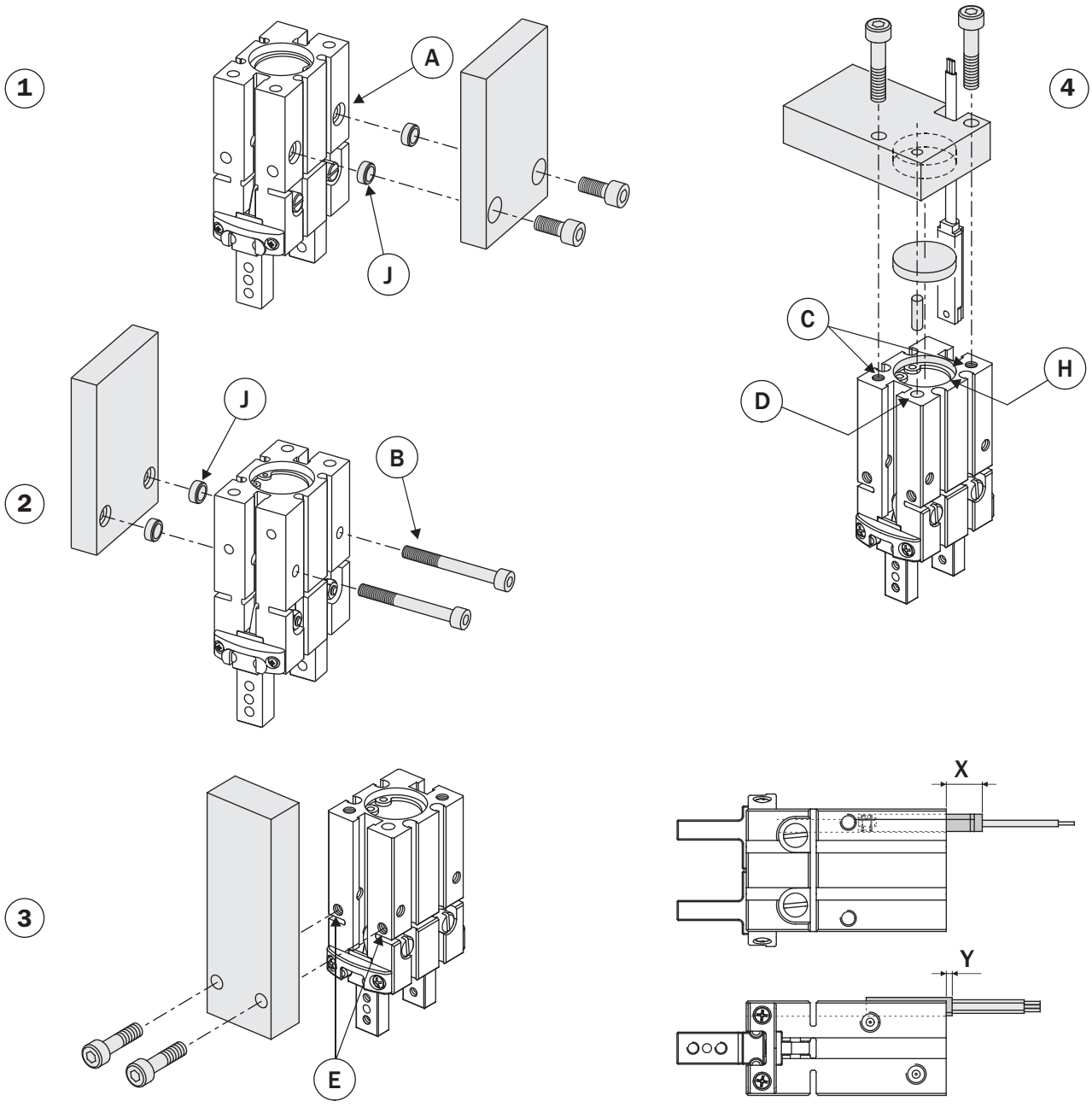
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

1- To fasten the gripper on the wider side, use a plate with two through holes and two screws to be screwed on the threaded holes (A) on the gripper housing.
Use 2 centering sleeves (J), where available.

2- It is possible to fasten the gripper on the wider side also with two screws (B) passing through the threaded holes (A).
In this case sensors on the T-slot could be unusable.
Use 2 centering sleeves (J), where available.

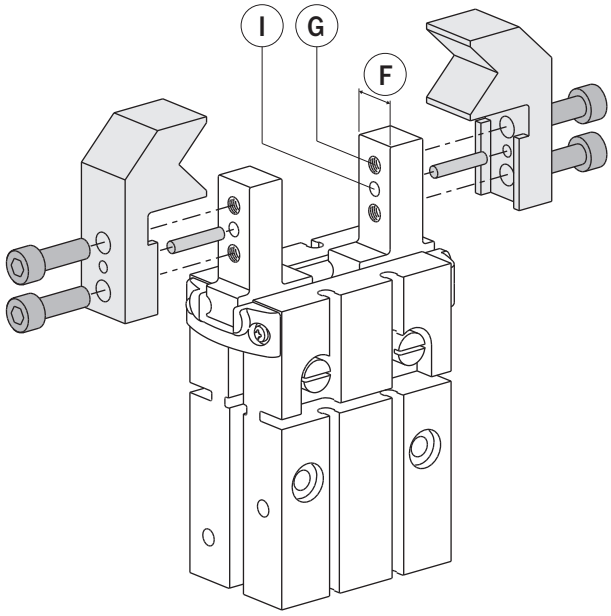
3- To fasten the gripper on the narrow side, two screws passing through the holes on the plate, must be screwed into the threaded holes (E) on the gripper housing.

4- The gripper can be fastened on the bottom as well, using two screws passing through the holes on the plate and screwed into the threaded holes (C) on the gripper housing.
For the reference use a pin on the dowel pin hole (D) and a centering disc in the spot face (H). In this case the necessary room for sensor must be provided (X and Y).



Costruire le dita di presa il più possibile corte e leggere.
Fissarle con due viti nei fori filettati (G).
Per il centraggio sulle griffe si può fare riferimento alla quota calibrata (F), oppure ai fori spina (I).

The gripping tools must be as short and light as possible.
They must be fastened by two screws (G).
For a precise positioning on the jaw use the calibrated dimension (F), or the dowel pin holes (I).



	GS-10	GS-16	GS-20	GS-25	GS-32	GS-40
A	M3x5.5 mm	M4x8 mm	M5x10 mm	M6x12 mm	M6x12 mm	M8x21 mm
B	M2.5x22 mm	M3x30 mm	M4x35 mm	M5x45 mm	M5x50 mm	M6x60 mm
C	M3x6 mm	M4x8 mm	M5x10 mm	M6x12 mm	M6x12 mm	M8x17 mm
D	Ø2H9 x 3 mm	Ø3H9 x 3 mm	Ø4H9 x 4 mm	Ø4H9 x 4 mm	Ø5H9 x 5 mm	Ø5H9 x 5 mm
E	M3x6 mm	M4x4.5 mm	M5x8 mm	M6x10 mm	M6x10 mm	M8x21 mm
F	$5^{-0.05}$ mm	$8^{-0.05}$ mm	$10^{-0.05}$ mm	$12^{-0.05}$ mm	$15^{-0.05}$ mm	$18^{-0.05}$ mm
G	M2.5x4 mm	M3x5 mm	M4x8 mm	M5x10 mm	M6x12 mm	M8x14 mm
H	Ø11H9 x 2 mm	Ø17H9 x 2 mm	Ø21H9 x 3 mm	Ø26H9 x 3.5 mm	Ø34H9 x 4 mm	$Ø41^{+0.02}_{+0.05}$ x 3 mm
I	Ø1.5H8 x 4 mm	Ø2H8 x 5 mm	Ø2.5H8 x 8 mm	Ø3H8 x 10 mm	Ø4H8 x 12 mm	Ø5H8 x 14 mm

Sensori / Sensors

SC	-	X=2 mm	X=0 mm	X=0 mm	X=0 mm	X=0 mm
SL	X=10 mm + cable	X=10 mm + cable	X=9 mm + cable	X=7 mm + cable	X=7 mm + cable	X=7 mm + cable
SN	-	X=0 mm	X=0 mm	X=0 mm	X=0 mm	X=0 mm
SS	X=2 mm + cable	X=Y=3 mm + cable	X=Y=1 mm + cable	X=Y=1 mm + cable	cable	cable

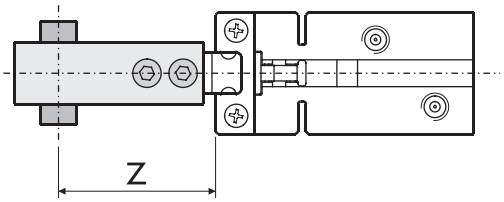
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

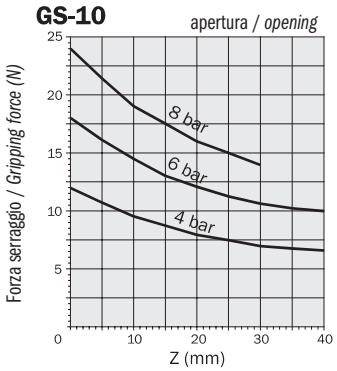
Gripping force

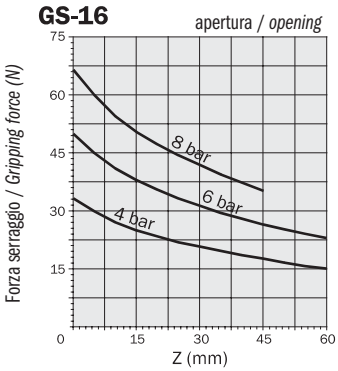
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

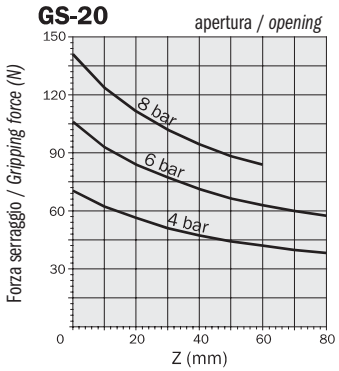
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il doppio.

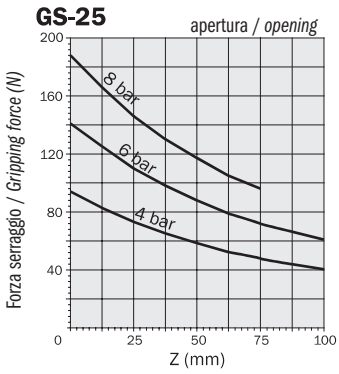


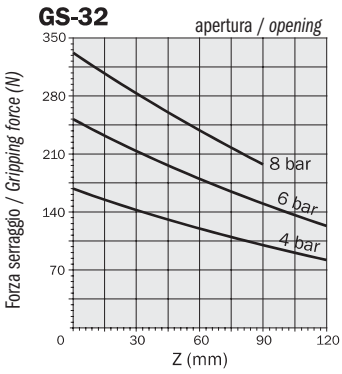
The force shown in these graphs refers to one jaw. The total force is double.

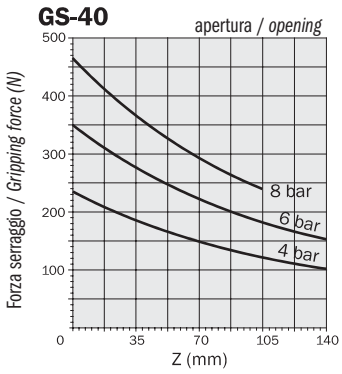


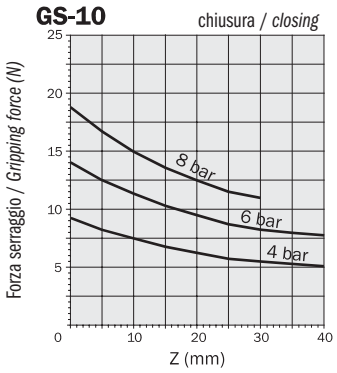


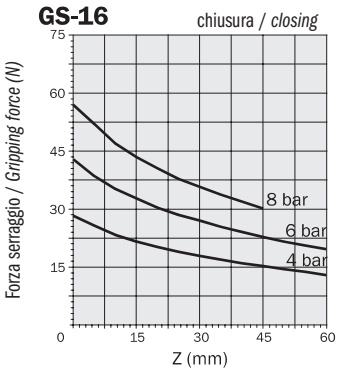


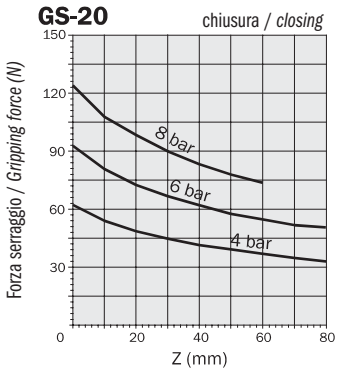


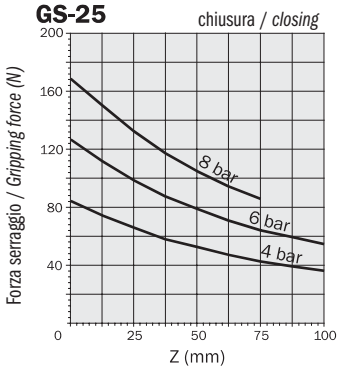


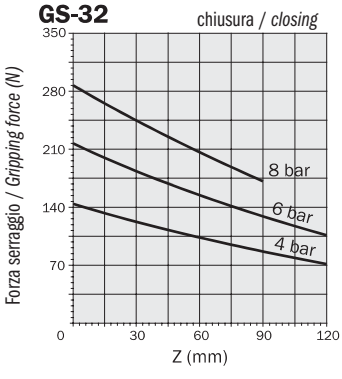


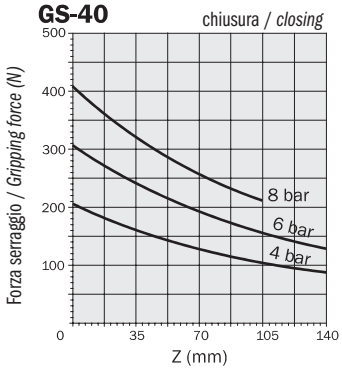










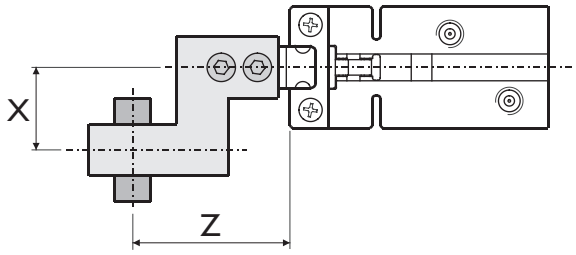


Forza di serraggio

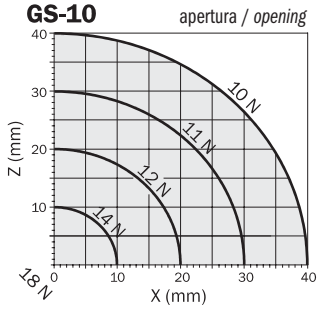
I grafici mostrano la forza per griffa espressa dalla pinza a 6 bar in funzione del braccio Z e del disassamento del punto di presa X.

Gripping force

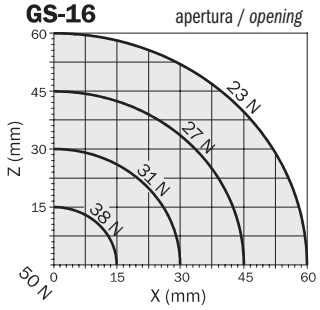
The graphs show the gripping force on each jaw, as a function of the gripping tool length Z and the overhanging X at 6 bar.



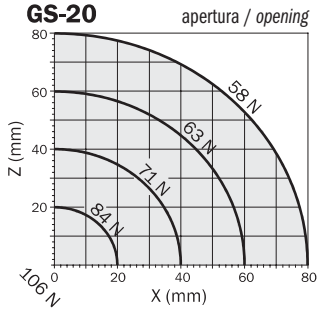
GS-10 apertura / *opening*



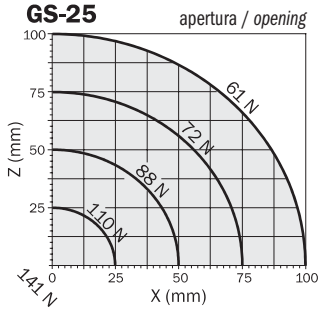
GS-16 apertura / *opening*



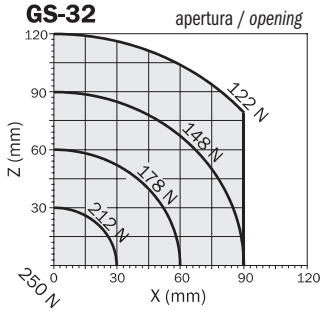
GS-20 apertura / *opening*



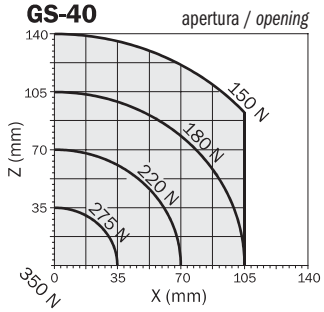
GS-25 apertura / *opening*



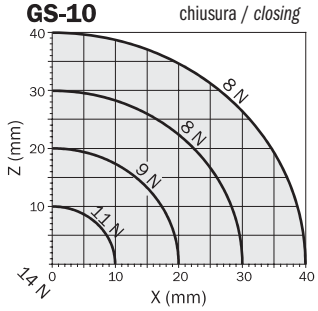
GS-32 apertura / *opening*



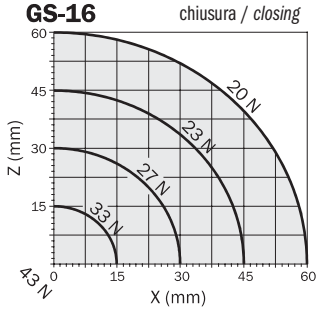
GS-40 apertura / *opening*



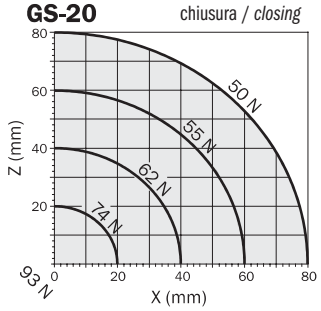
GS-10 chiusura / *closing*



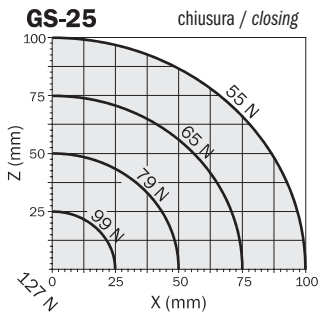
GS-16 chiusura / *closing*



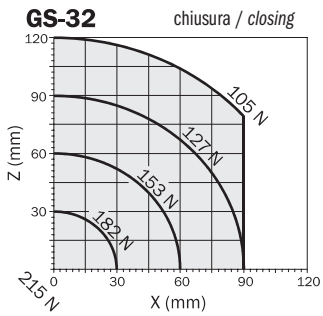
GS-20 chiusura / *closing*



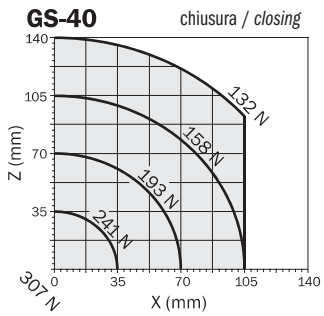
GS-25 chiusura / *closing*



GS-32 chiusura / *closing*



GS-40 chiusura / *closing*



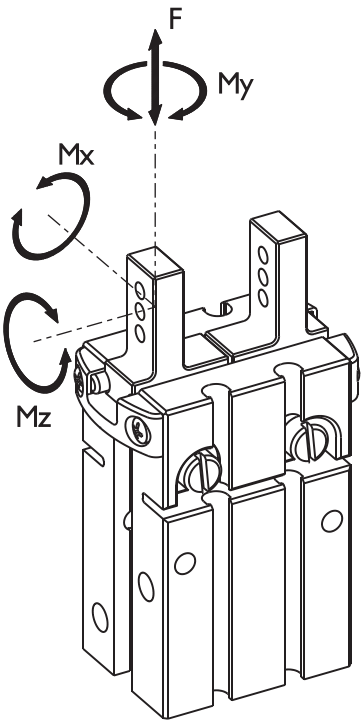
GS

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads.
Static means with motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads.
Dynamic means with running jaws.
The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.



	GS-10	GS-16	GS-20	GS-25	GS-32	GS-40
F s	25 N	50 N	75 N	125 N	200 N	300 N
Mx s	0.4 Nm	1.5 Nm	5 Nm	8 Nm	18 Nm	30 Nm
My s	0.4 Nm	1.5 Nm	5 Nm	8 Nm	12 Nm	20 Nm
Mz s	0.4 Nm	1.5 Nm	5 Nm	8 Nm	18 Nm	30 Nm
F d	0.4 N	0.8 N	1.5 N	2.5 N	3.5 N	4.5 N
Mx d	0.4 Ncm	1.5 Ncm	5 Ncm	8 Ncm	18 Ncm	30 Ncm
My d	0.4 Ncm	1.5 Ncm	5 Ncm	8 Ncm	18 Ncm	30 Ncm
Mz d	0.4 Ncm	1.5 Ncm	5 Ncm	8 Ncm	18 Ncm	30 Ncm
m 0.2s	40 g	80 g	150 g	250 g	350 g	450 g
m 0.12s	35 g	65 g	125 g	200 g	250 g	300 g
m 0.09s	30 g	55 g	100 g	150 g	200 g	-
m 0.07s	25 g	45 g	75 g	100 g	-	-
m 0.05s	20 g	35 g	50 g	-	-	-
m 0.02s	15 g	25 g	-	-	-	-
m 0.01s	10 g	-	-	-	-	-

Sensori

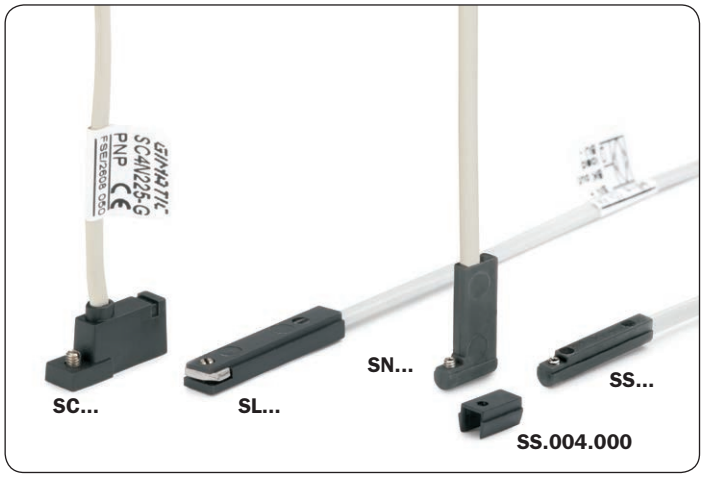
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

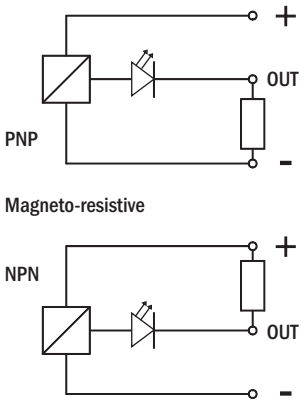
Sensors

The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnet on the piston inside.
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

I sensori utilizzabili sono:

Use sensors:

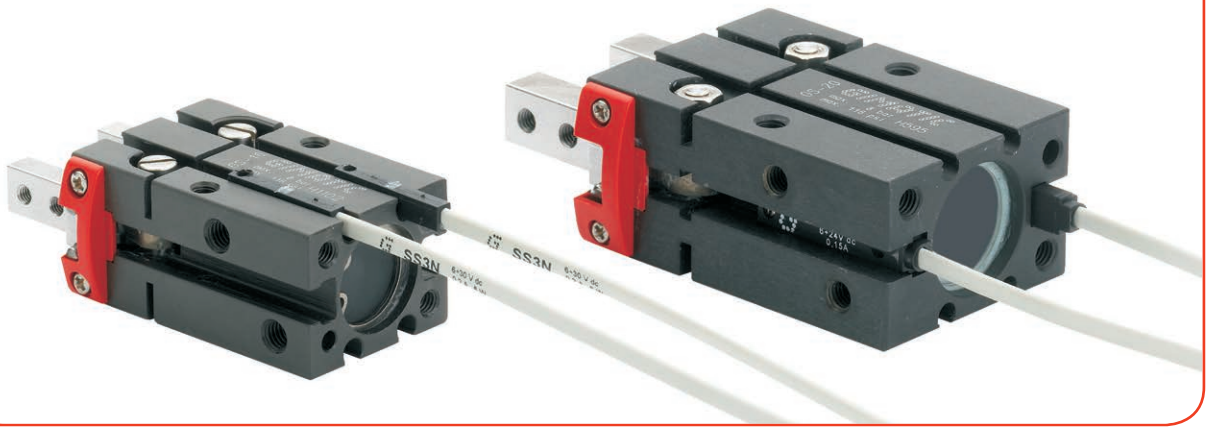




			GS-10	GS-16 / GS-20 /GS-25 / GS-32 / GS-40	
SC4N225Y	PNP	Cavo 2.5m / 2.5m cable	☐	☐	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☐	☐	☑
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☐	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☐	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☐	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☐	☑
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☐	☑	☐
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☐	☑	☐
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☐	☑	☐
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☐	☑	☐
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)	☑	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)	☑	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑	☑ (1)

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.

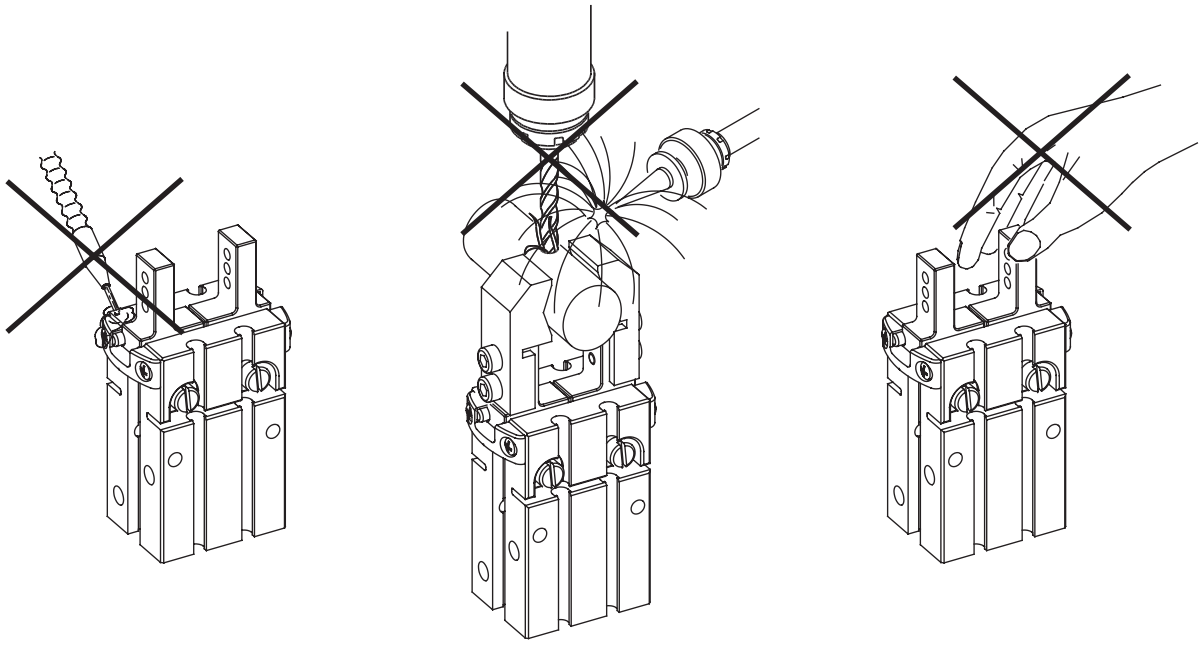


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

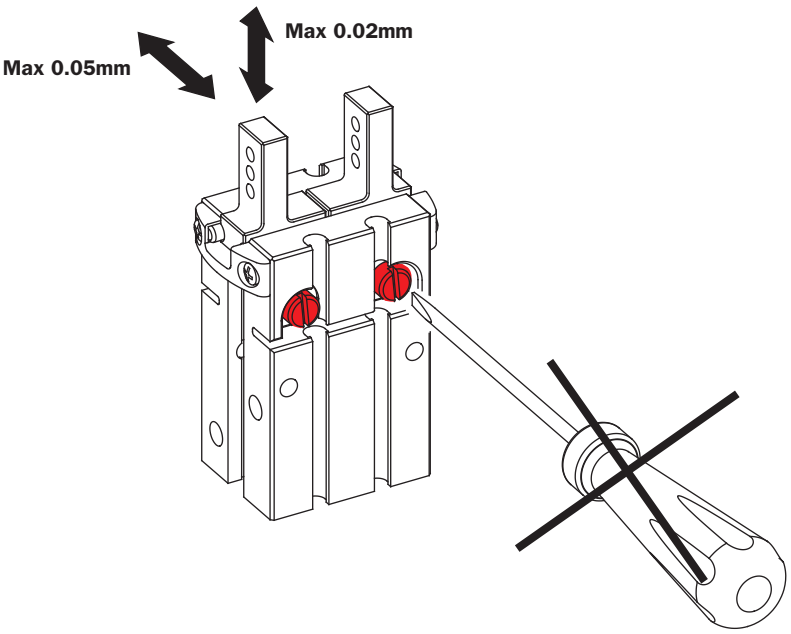
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Il gioco delle griffe, indicato qui sotto, viene regolato in fabbrica.
NON USARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.

Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

The jaw backlash, showed in the picture below, is set in factory. NEVER USE THE ADJUSTING SCREWS TO MODIFY IT.



Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (A e B) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

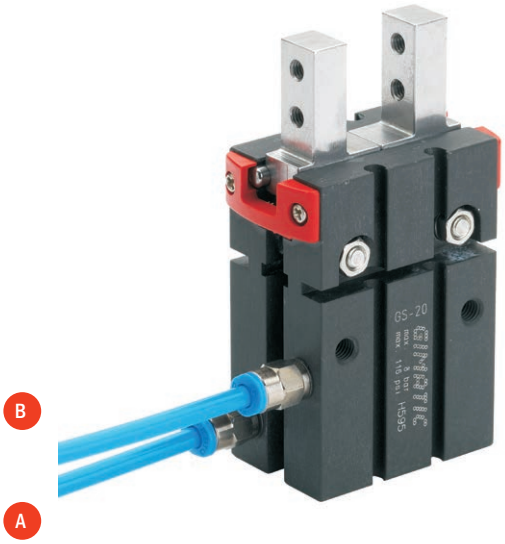
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (A and B) with fittings and hoses (not supplied).

Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

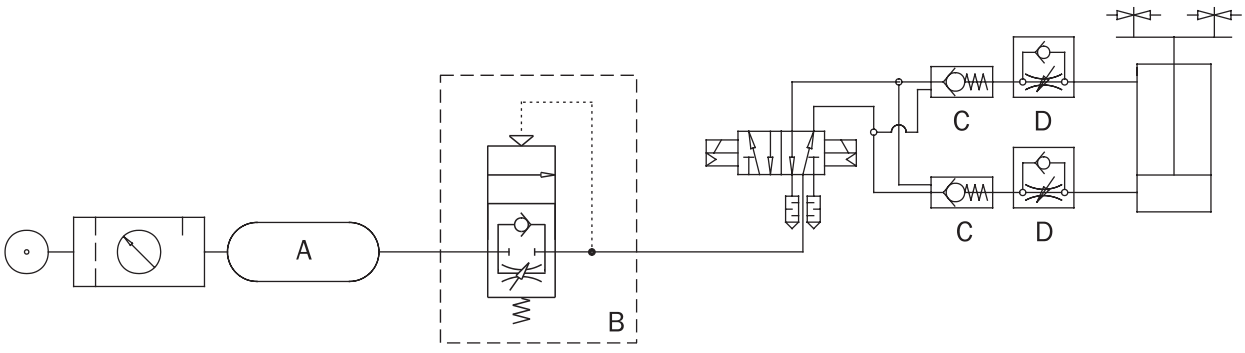
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

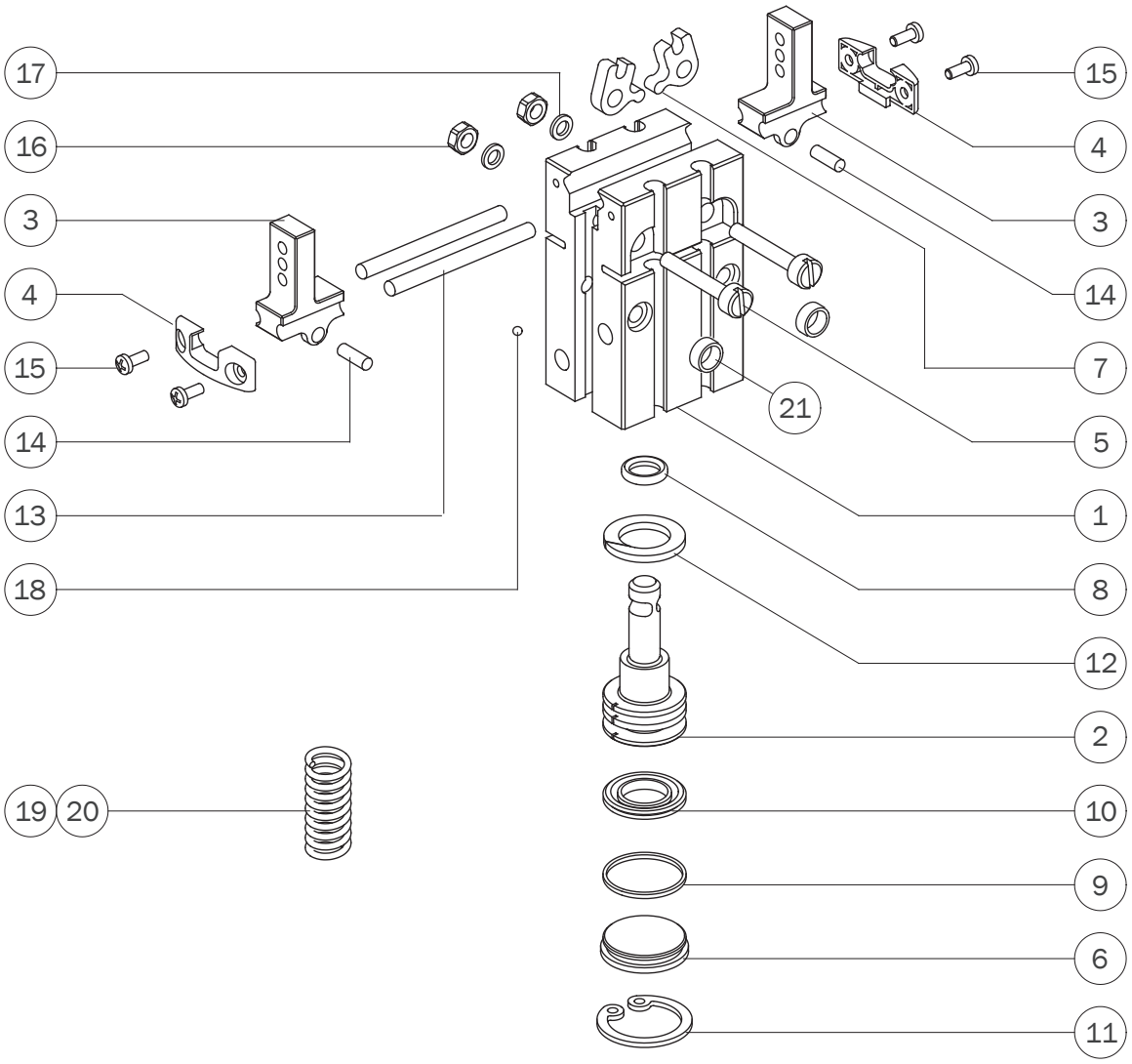
Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

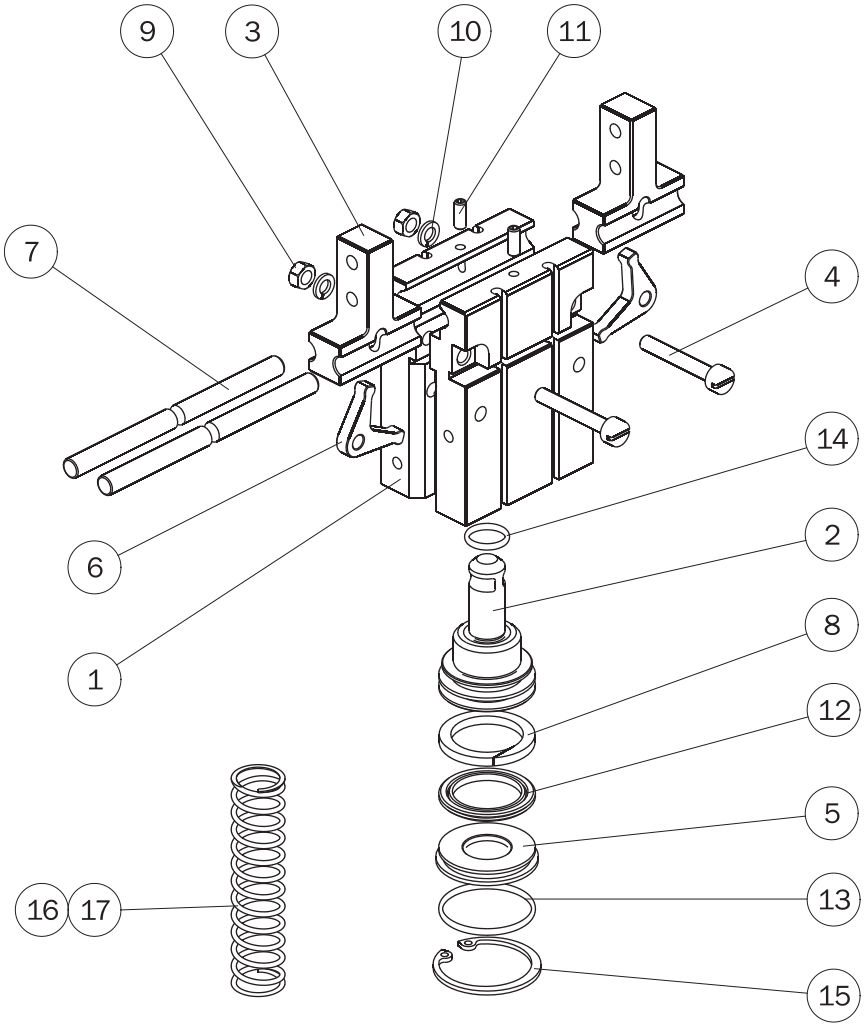


Elenco delle parti / *Part list*



		GS-10	GS-16	GS-20	GS-25		
1	Corpo pinza	GS-10-01	GS-16-01	GS-20-01	GS-25-01	*Gripper housing*	*1*
2	Pistone	GS-10-02	GS-16-02	GS-20-02	GS-25-02	*Piston*	*2*
3	Griffa	GS-10-03	GS-16-03	GS-20-03	GS-25-03	*Jaw*	*3*
4	Testata	GS-10-04	GS-16-04	GS-20-04	GS-25-04	*Head cap*	*4*
5	Vite speciale	GS-10-05	GS-16-05	GS-20-05	GS-25-05	*Special screw*	*5*
6	Tappo	GS-10-06	GS-16-06	GS-20-06	GS-25-06	*Cap*	*6*
7	Leva	SP-20-4	SP-25-4	JP-32-3	GS-25-07	*Lever*	*7*
8	Anello di tenuta O-RING	Ø1x5 (GUAR-021)	Ø1.78x6.07 (GUAR-039)	Ø1.78x6.75 (GUAR-012)	Ø1.78x7.66 (GUAR-045)	*O-RING gasket*	*8*
9	Anello di tenuta O-RING	Ø1.78x6.75 (GUAR-012)	Ø1x14 (GUAR-084)	Ø1.78x17.17 (GUAR-076)	Ø1.78x21.95 (GUAR-025)	*O-RING gasket*	*9*
10	Guarnizione dinamica	10x5x2.4 (GUAR-106E)	16x9x2.5 (GUAR-002P)	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	*Dynamic gasket*	*10*
11	Anello elastico per interni	Ø11 mm DIN 472	Ø17 mm DIN 472	Ø21 mm DIN 472	Ø26 mm DIN 472	*Retaining ring*	*11*
12	Magnete	GS-10-11	PAR-16-10B	PAR-20-10B	PAR-25-10B	*Magnet*	*12*
13	Spina di riferimento	Ø2.5x26 mm DIN 5402	Ø3x36 mm DIN 6325	Ø4x45 mm DIN 6325	Ø4x60 mm DIN 6325	*Dowel pin*	*13*
14	Spina di riferimento	Ø2x5.1 mm DIN 5402	Ø2.5x7.8 mm DIN 5402	Ø3x10 mm DIN 6325	Ø4x12 mm DIN 6325	*Dowel pin*	*14*
15	Vite	M2x5 mm DIN 7985A	M2x5 mm DIN 7985A	M2x5 mm DIN 7985A	M2.5x5 mm DIN 7985A	*Screw*	*15*
16	Dado esagonale	M2 UNI 5587	M3 DIN 934	M4 DIN 934	M4 DIN 934	*Nut*	*16*
17	Rosetta	Ø2.2 mm DIN 125A	Ø3.2 mm DIN 127A	Ø4.3 mm DIN 127A	Ø4.3 mm DIN 127A	*Washers*	*17*
18	Sfera	Ø2 mm AA DIN 5401 A	-	-	-	*Screw*	*18*
19	Molla (solo per NC)	GS-10-08	PAR-16-11B	GS-20-08	GS-25-08	*Spring (only NC)*	*19*
20	Molla (solo per NO)	GS-10-09	PAR-16-12B	PAR-20-12B	GS-25-09	*Spring (only NO)*	*20*
21	Boccola	ZBH-5	SZ16-10	ZBH-7	ZBH-9	*Centering sleeve*	*21*

Elenco delle parti / *Part list*



		GS-32	GS-40		
1	Corpo pinza	GS-32-01	GS-40-01	*Gripper housing*	*1*
2	Pistone	GS-32-02	GS-40-02	*Piston*	*2*
3	Griffa	GS-32-03	GS-40-03	*Jaw*	*3*
4	Vite speciale	GS-32-05	GS-40-05	*Special screw*	*4*
5	Tappo	GS-32-06	GS-40-06	*Cap*	*5*
6	Leva	GS-32-07	GS-40-07	*Lever*	*6*
7	Spina di riferimento	GS-32-19	GS-40-19	*Dowel pin*	*7*
8	Magnete	FES-32-3-5	T40-10	*Magnet*	*8*
9	Dado esagonale	M5 DIN934 Z/B	M8 DIN439B INOX A2	*Nut*	*9*
10	Rosetta	Ø5 UNI1751-B Z/B	M8 BN 729	*Washers*	*10*
11	Vite senza testa	M4x10 mm DIN912 INOX	M5x12 mm DIN913 INOX	*Grub screw*	*11*
12	Guarnizione dinamica	Ø32x23x3 (GUAR-004P)	Ø40x31x3 (GUAR-006P)	*Dynamic gasket*	*12*
13	O-Ring	Ø1.78x28.30 (GUAR-016)	Ø1.78x31.47 (GUAR-009)	*O-Ring*	*13*
14	O-Ring	Ø1.78x11.89 (GUAR-095)	Ø1.78x14 (GUAR-007)	*O-Ring*	*14*
15	Anello elastico per interni	Ø34 DIN472 Z/B	Ø41 DIN472 Z/B	*Retaining ring*	*15*
16	Molla (solo per NC)	GS-32-20	GS-40-20	*Spring (only NC)*	*16*
17	Molla (solo per NO)	GS-32-21	GS-40-21	*Spring (only NO)*	*17*

PS

Pinza pneumatica radiale autocentrante a 2 griffe (serie PS)

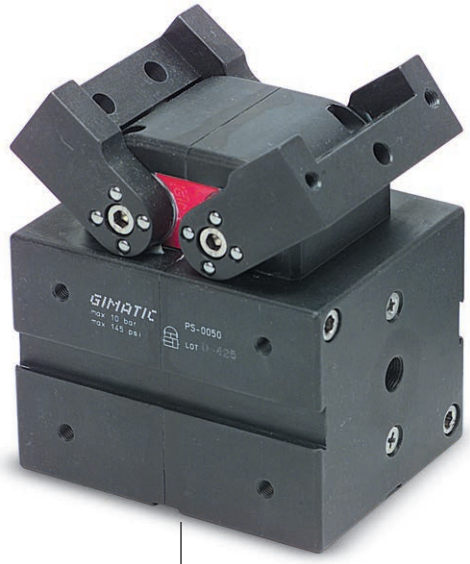
- Azionamento radiale a doppio effetto.
- Forza di serraggio totalmente disponibile su tutta la corsa (da 0° a 90° sia in apertura che in chiusura).
- Basso peso ottenuto con l'impiego di leghe leggere.
- Costruzione robusta.
- Protezione contro la polvere.

2-jaw self-centering radial pneumatic gripper (series PS)

- *Double acting radial motion.*
- *The gripping force is totally available on both directions from 0° to 90°.*
- *Light weight, due to its alloy construction.*
- *Rugged construction.*
- *Well protected against dusty environment.*



PS-0030



PS-0050

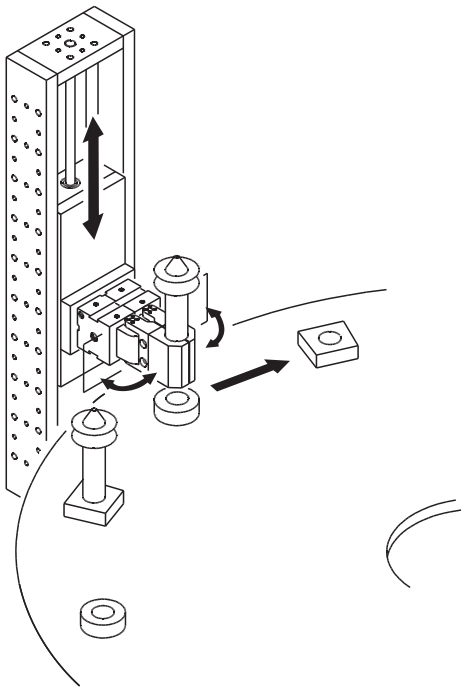
	PS-0030	PS-0050
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.	
Corsa (±1°) *Stroke*	2 x 91°	
Coppia di serraggio per griffa a 6 bar *Gripping torque at 6 bar on each jaw*	200 Ncm	600 Ncm
Coppia di serraggio totale a 6 bar *Total gripping torque at 6 bar*	400 Ncm	1200 Ncm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	37 cm^3	105 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.08 s	0.1 s
Ripetibilità *Repetition accuracy*	0.1°	0.1°
Peso *Weight*	750 g	1100 g

Pinza radiale

La pinza radiale è una pinza le cui griffe hanno movimento angolare ed il loro angolo di apertura è di circa 90°.
Di norma viene usata qualora vi sia la necessità di togliere l'ingombro delle griffe di presa dal piano di lavoro evitando, in questo modo, un ulteriore movimento di arretramento.

Radial gripper

The radial gripper is an angular gripper in which the gripper jaws make a 90° angle.
It is normally used when it is necessary to remove the encumbrance of the gripper jaws from the working plane, as in this way, any further backward movement is avoided.

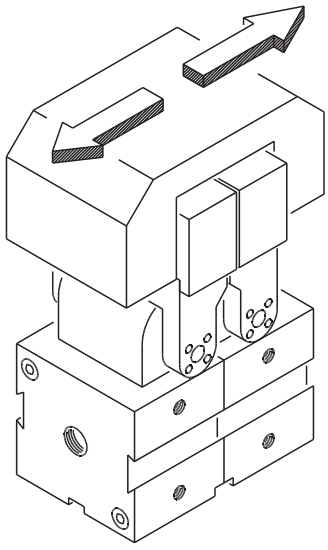


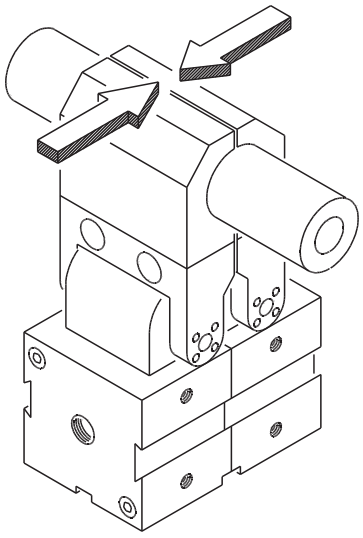
Utilizzo della pinza

La pinza è a doppio effetto e quindi può essere usata per la presa di un pezzo indifferentemente sia in chiusura che in apertura delle griffe.
La forza di serraggio espressa dalla pinza è uguale in entrambi i casi, essendo i pistoni senza stelo.

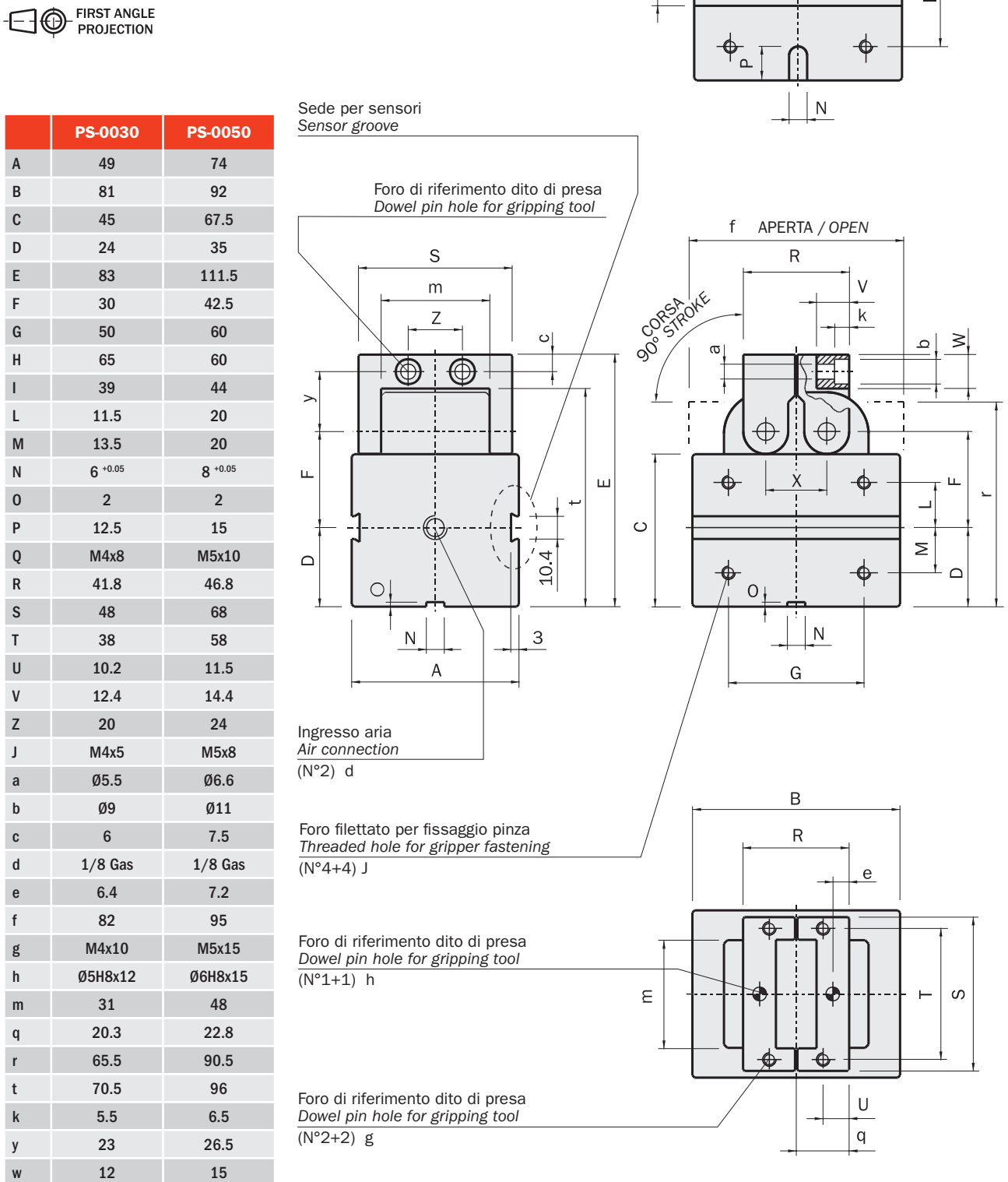
Using of the gripper

As the gripper has a double acting motion, it can be used for either internal or external gripping applications.
The gripping force is the same on both directions because the gripper is moved by rodless pistons.





Dimensioni (mm) / *Dimensions (mm)*



	PS-0030	PS-0050
A	49	74
B	81	92
C	45	67.5
D	24	35
E	83	111.5
F	30	42.5
G	50	60
H	65	60
I	39	44
L	11.5	20
M	13.5	20
N	6 +0.05	8 +0.05
O	2	2
P	12.5	15
Q	M4x8	M5x10
R	41.8	46.8
S	48	68
T	38	58
U	10.2	11.5
V	12.4	14.4
Z	20	24
J	M4x5	M5x8
a	Ø5.5	Ø6.6
b	Ø9	Ø11
c	6	7.5
d	1/8 Gas	1/8 Gas
e	6.4	7.2
f	82	95
g	M4x10	M5x15
h	Ø5H8x12	Ø6H8x15
m	31	48
q	20.3	22.8
r	65.5	90.5
t	70.5	96
k	5.5	6.5
y	23	26.5
w	12	15
x	24	27

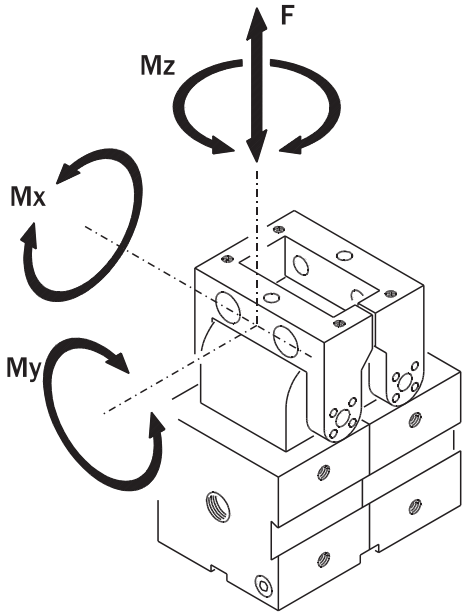
03/2015

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F, Mx, My, Mz sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can demage the gripper, cause functioning troubles and endanger the safety of the operator.
F, Mx, My, Mz are maximum permitted static loads.
Static means motionless jaws



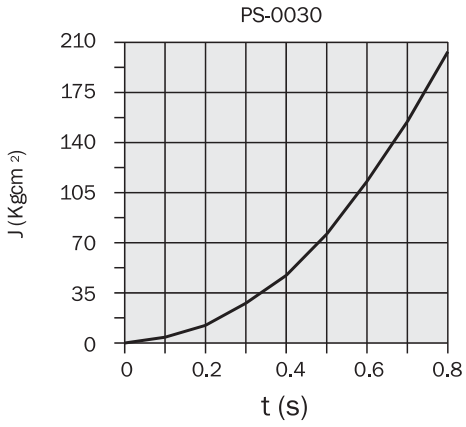
	PS-0030	PS-0050
F	138 N	163 N
Mx	6 Nm	16 Nm
My	26 Nm	46 Nm
Mz	18 Nm	31 Nm

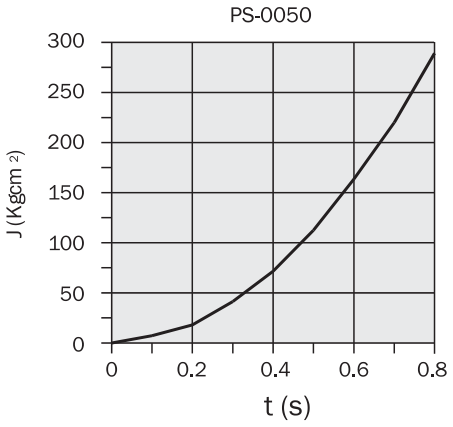
Regolazione della velocità

I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Speed adjustment

The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.



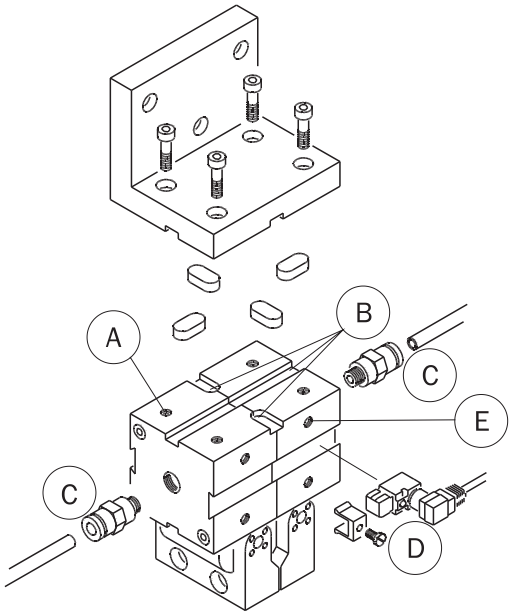


Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i fori filettati presenti sulla base inferiore della pinza (A) o quelli sui fianchi (E).
Per il centraggio di precisione posizionare le linguette nelle scanalature (B) sulla base inferiore della pinza.
Lasciare lo spazio necessario per avvitare i raccordi dell'aria (C) e per il posizionamento dei sensori (D) nelle cave.

Gripper fastening

The gripper can be fastened to a static or moving part.
When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
The fasten the gripper, use the threaded holes (A) on the bottom of the gripper or the threaded holes (E) on each side.
The gripper must be centered using the key-slots (B) on the base of the gripper.
Allow room to mount the air fittings (C) and the sensors (D).



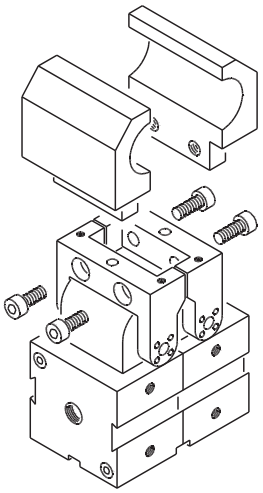
	PS-0030	PS-0050
A	M4x8mm	M5x10mm
B	6 $^{+0.05}$x2 mm	8 $^{+0.05}$x2 mm
C	G1/8	G1/8
E	M4x5mm	M5x8mm

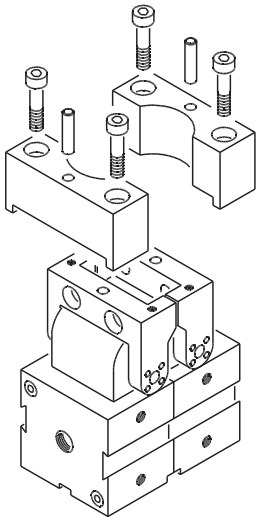
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle su ciascuna griffa utilizzando il foro spina per il centraggio ed i fori filettati superiori oppure i fori passanti laterali per le viti di fissaggio.

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using the dowel pin hole for centering and the upper threaded holes or the side through holes.





	PS-0030	PS-0050
Fori calibrati (tolleranza H8) *Dowel pin holes (tolerance H8)*	Ø5x12 mm	Ø6x15 mm
Fori filettati *Threaded holes*	M4x10 mm	M5x15 mm
Fori passanti *Through holes*	Ø5.5 mm	Ø6.6 mm

Sensori

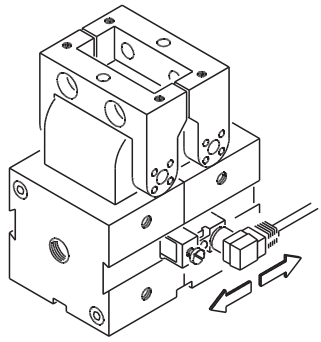
Il rilevamento della posizione di lavoro è affidato ad uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sul cursore.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici o in prossimità di grosse masse di materiale ferromagnetico.

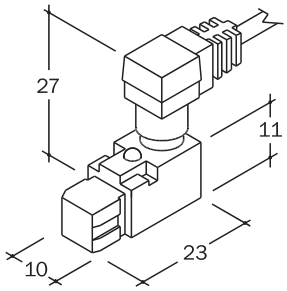
Per il montaggio:
1- Inserire il dado quadrato (A) nella propria sede sull'adattatore "S 00".
2- Infilare l'adattatore nella guida sulla pinza.
3- Calzare il sensore sull'adattatore.
4- Fare scorrere nella guida fino a raggiungere la posizione di lavoro desiderata (led acceso).
5- Bloccare con la vite (B), facendo attenzione a non serrarla eccessivamente.

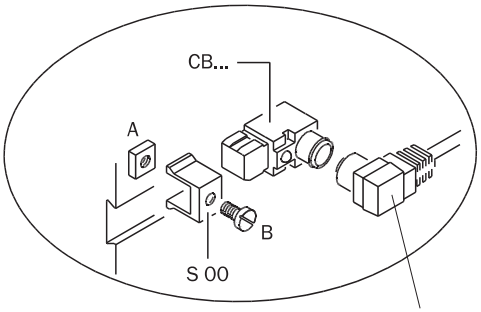
Sensors

The operating position is detected by proximity magnetic sensors (optional) through magnets placed on the slider.
Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

For mounting:
1- Insert the square nut (A) in its seat on the "S 00" bracket.
2- Insert the bracket into the groove.
3- Insert the sensor into the bracket.
4- Run the sensor until the lamp is on.
5- Lock the bracket with the screw (B) but don't over-tighten it.

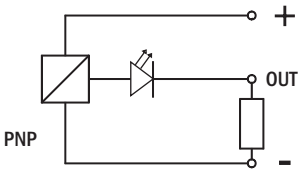




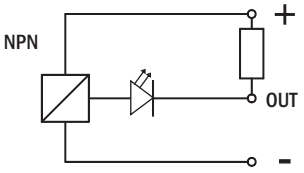


CFSM890325

	CB3N2-G	CB3M2-G
Tensione di alimentazione (DC) *DC power supply*	6 ÷ max 30 V	
Tipo sensore *Sensor type*	PNP	NPN
Massima corrente *Max current*	250 mA	
Potenza *Power*	6 W	
Temperatura di esercizio *Operating temperature*	-10° ÷ +70° C.	
Tempo di eccitazione *Response time "ON"*	0.8 µs	
Tempo di diseccitazione *Response time "OFF"*	0.3 µs	
Valore di eccitazione *Operate point*	40 GAUSS	
Valore di diseccitazione *Dropout point*	35 GAUSS	
Vita elettrica *Life time*	10^9 IMP	
Resistenza di contatto *Contact resistence*	-	
Resistenza agli urti *Max admitted shock*	30 G	
Grado di protezione *Environmental protection degree*	IP 67	
Caduta di tensione diretta *Voltage drop*	1 V	



Magneto-resistive

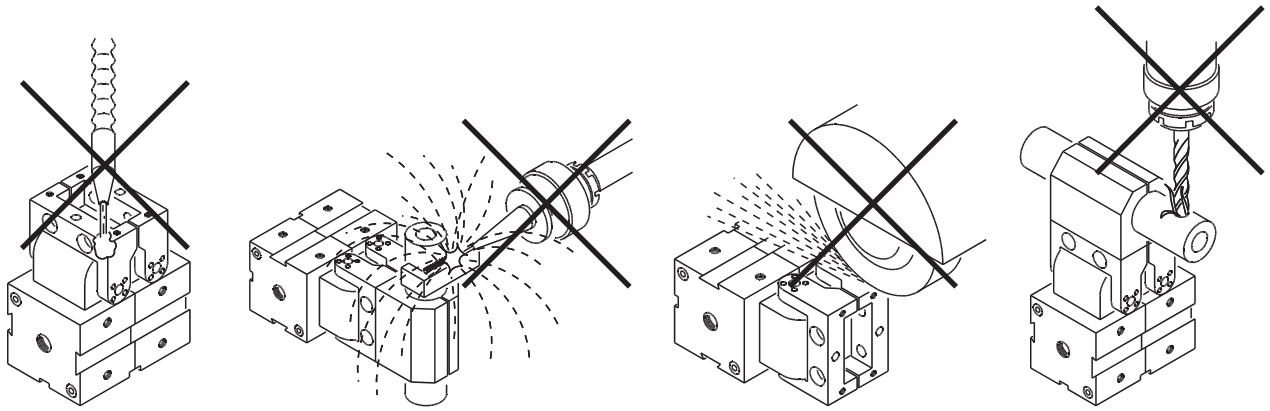


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

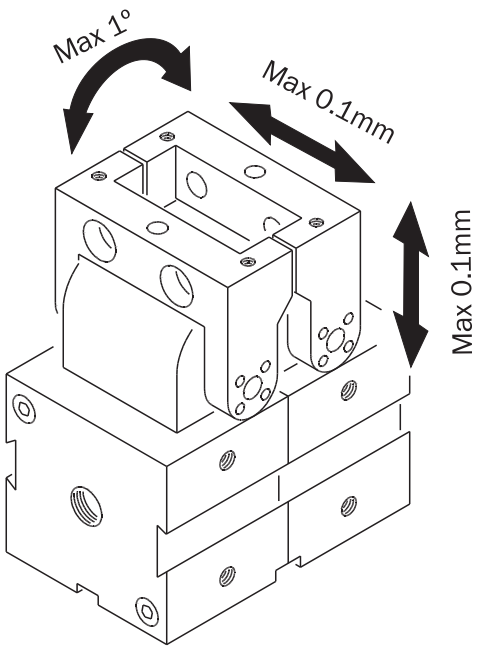
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

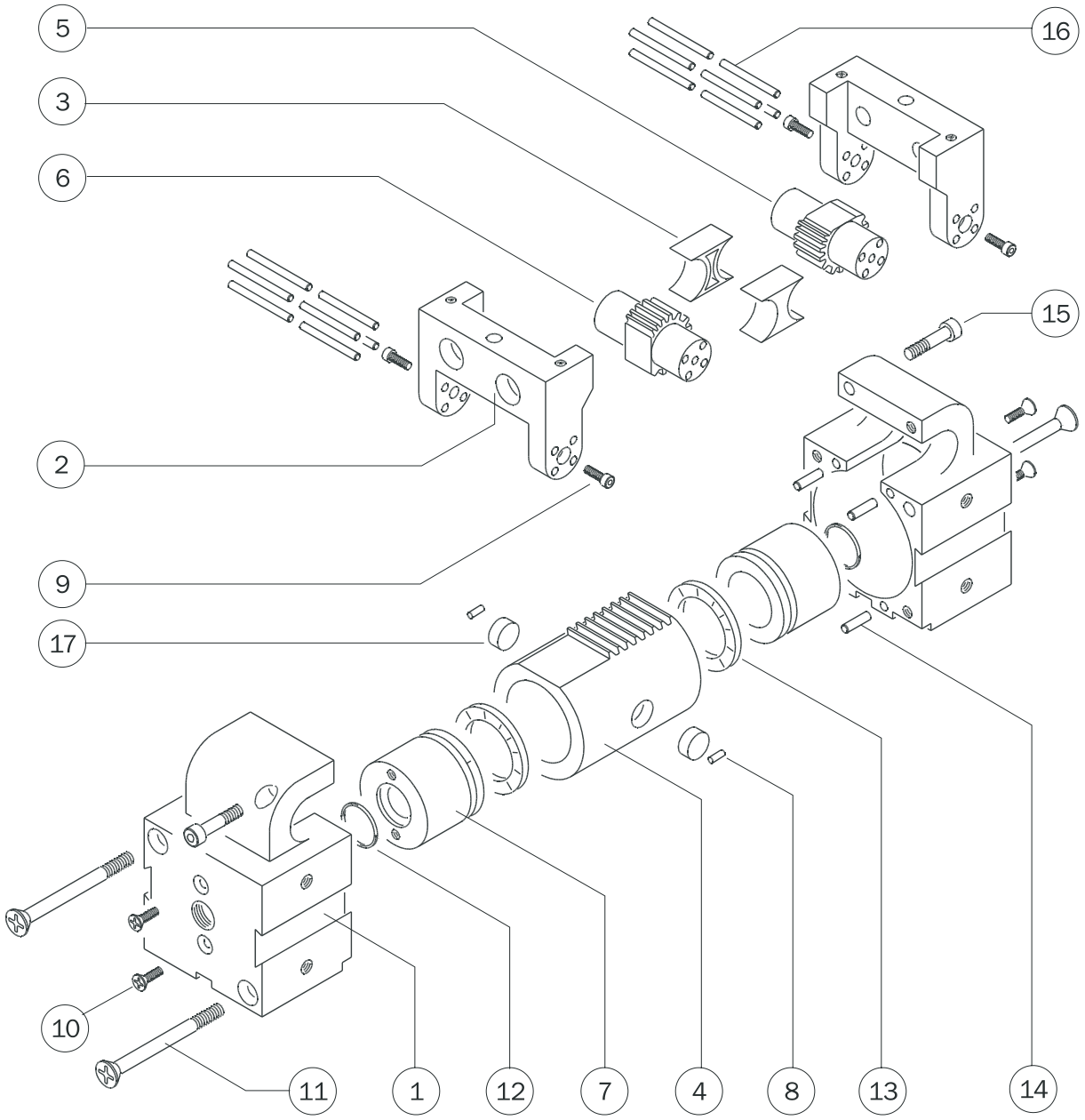
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.

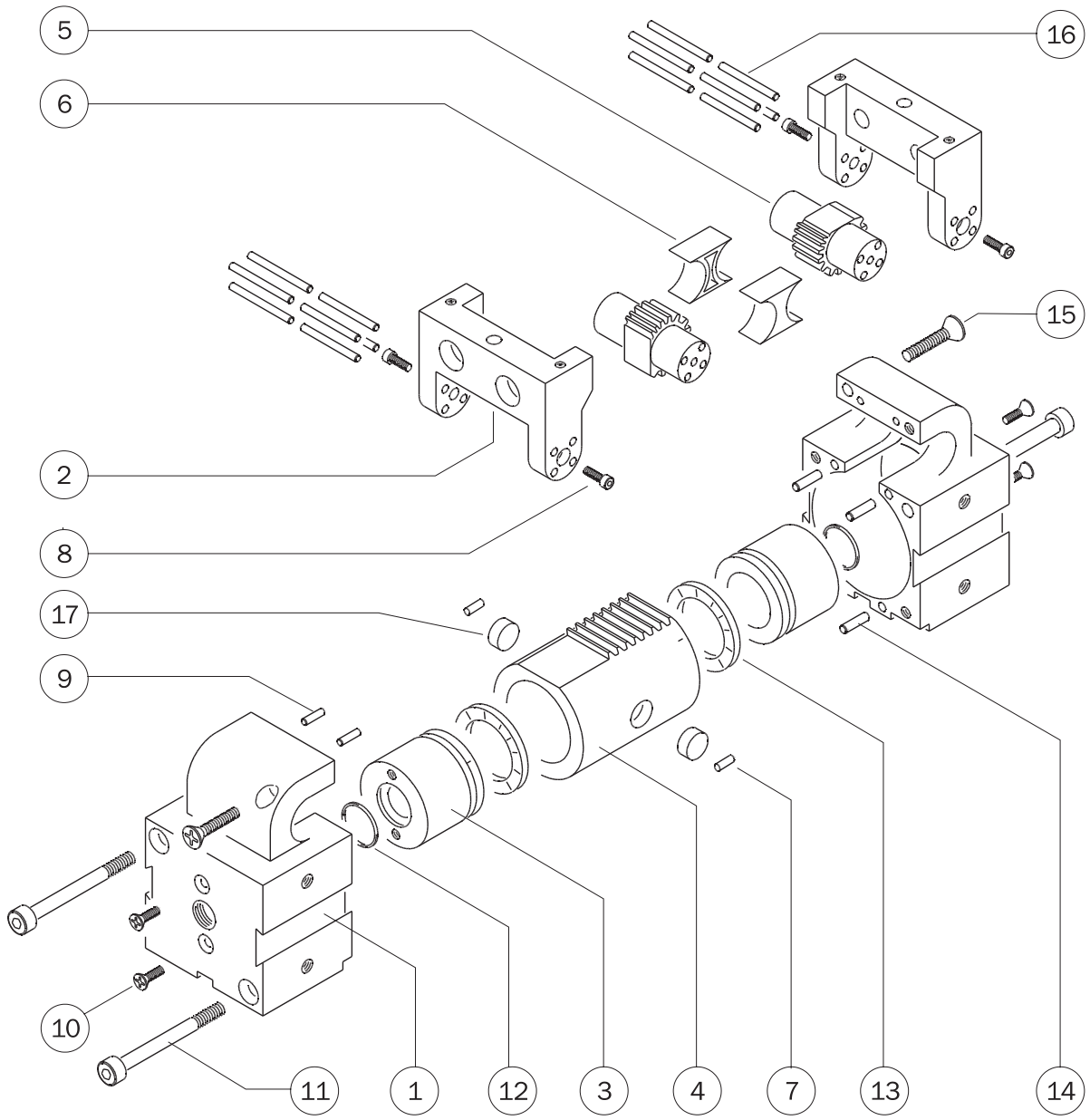


Elenco delle parti / *Part list*



		PS-0030		
1	Semi corpo pinza	PS-0030-1	*Gripper housing*	*1*
2	Griffa	PS-0030-2	*Jaw*	*2*
3	Carter laterale	PS-0030-3	*Side protection*	*3*
4	Cursore	PS-0030-4	*Slider*	*4*
5	Pignone	PS-0030-5	*Pinion*	*5*
6	Pignone	PS-0030-6	*Pinion*	*6*
7	Pistone	PS-0030-8	*Piston*	*7*
8	Magnete	PAR-06-7	*Magnet*	*8*
9	Vite	VITE-004 (M4x14 mm DIN912 INOX A2)	*Screw*	*9*
10	Vite	VITE-012 (M3x10 mm DIN965A INOX A2)	*Screw*	*10*
11	Vite	VITE-044 (M4x45 mm DIN965A INOX A2)	*Screw*	*11*
12	O-Ring	GUAR-023 (Ø1.78x15.6)	*O-Ring*	*12*
13	Guarnizione dinamica	GUAR-024P (30x21x3)	*Dynamic gasket*	*13*
14	Spina di riferimento	SPINA-042 (Ø3x16 mm DIN6325)	*Dowel pin*	*14*
15	Vite	VITE-019 (M3x20 mm DIN912 INOX A2)	*Screw*	*15*
16	Spina di riferimento	SPINA-002 (Ø3x20 mm DIN6325)	*Dowel pin*	*16*
17	Inserto portamagnete	PS-0030-7	*Magnet housing*	*17*

Elenco delle parti / *Part list*



		PS-0050		
1	Semi corpo pinza	PS-0050-1	*Gripper housing*	*1*
2	Griffa	PS-0050-2	*Jaw*	*2*
3	Pistone	PS-0050-3	*Piston*	*3*
4	Cursore	PS-0050-4	*Slider*	*4*
5	Pignone	PS-0050-5	*Pinion*	*5*
6	Carter laterale	PS-0050-6	*Side protection*	*6*
7	Magnete	K-025-11	*Magnet*	*7*
8	Vite	VITE-048 (M5x14 mm DIN912 INOX A2)	*Screw*	*8*
9	Spina di riferimento	SPINA-042 (Ø3x16 mm DIN6325)	*Dowel pin*	*9*
10	Vite	VITE-045 (M4x16 mm DIN965A INOX A2)	*Screw*	*10*
11	Vite	VITE-046 (M5x50 mm DIN912 INOX A2)	*Screw*	*11*
12	O-Ring	GUAR-036 (Ø1.78x26.7)	*O-Ring*	*12*
13	Guarnizione dinamica	GUAR-015P (50x41x3)	*Dynamic gasket*	*13*
14	Spina di riferimento	SPINA-033 (Ø4x25 mm DIN6325)	*Dowel pin*	*14*
15	Vite	VITE-092 (M4x25 mm DIN965A INOX A2)	*Screw*	*15*
16	Spina di riferimento	SPINA-011 (Ø4x30 mm DIN6325)	*Dowel pin*	*16*
17	Inserto portamagnete	PS-0050-7	*Magnet housing*	*17*

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

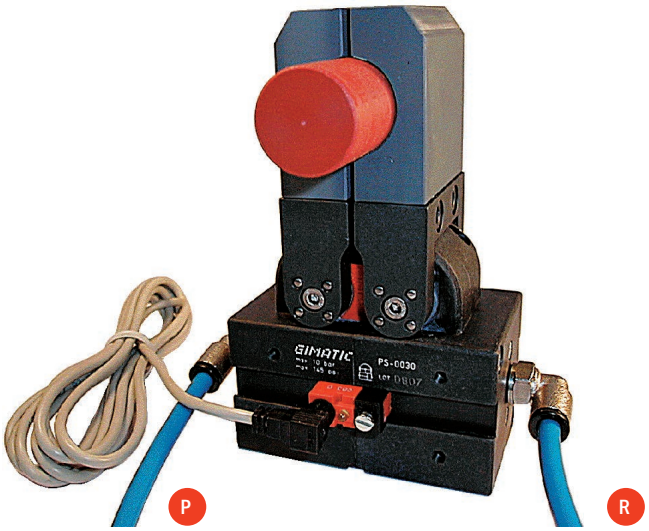
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

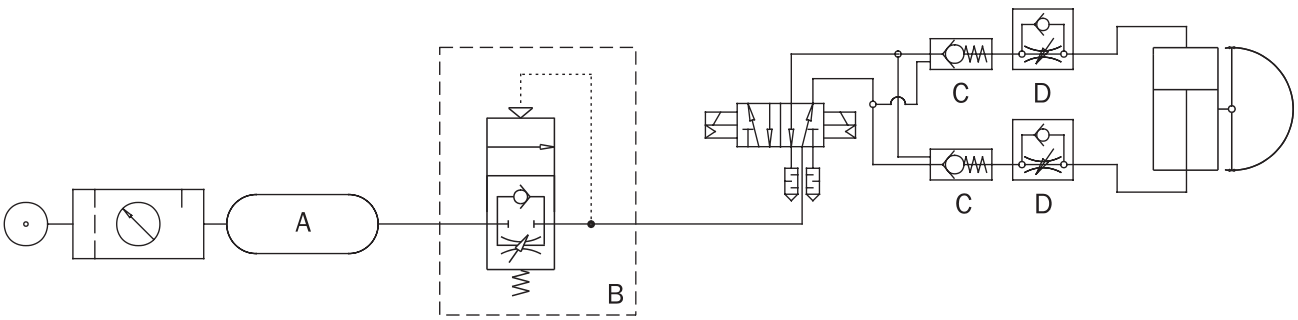
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



PS-P

Pinza pneumatica radiale autocentrante a 2 griffe (serie PS-P)

- Azionamento radiale a doppio effetto.
- Forza di serraggio totalmente disponibile su tutta la corsa (da 0° a 90° sia in apertura che in chiusura).
- Basso peso ottenuto con una costruzione interamente in lega leggera.
- Profilo piatto.
- Protezione contro la polvere.
- Versatilità di gestione anche con più di due sensori alloggiabili nelle cave integrate.

2-jaw self-centering radial pneumatic gripper (series PS-P)

- *Double acting radial motion.*
- *The gripping force is totally available on both directions from 0° to 90°.*
- *Lightweight, being totally in light alloy.*
- *Flat profile.*
- *Well protected against dusty environment.*
- *As more than two sensors can be mounted, versatile operating is possible.*



PS-0016-P



PS-0025-P



PS-0045-P

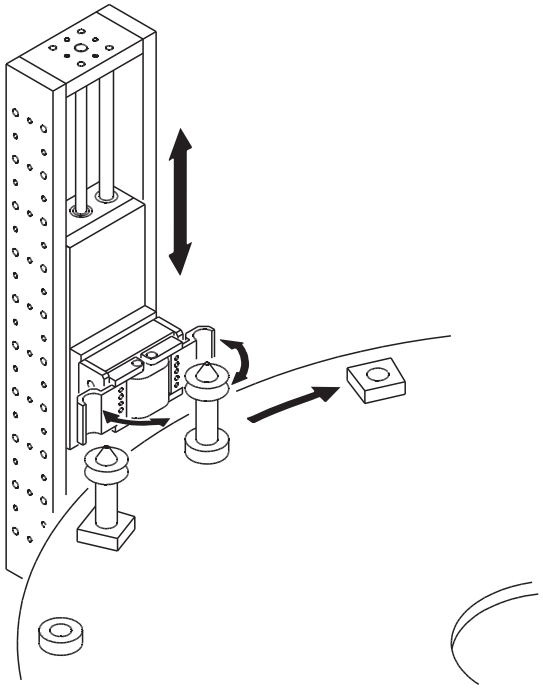
	PS-0016-P	PS-0025-P	PS-0045-P
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar		
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.		
Corsa (±1°) *Stroke*	2 x 90°		
Coppia di serraggio per griffa a 6 bar *Gripping torque at 6 bar on each jaw*	100 Ncm	280 Ncm	1800 Ncm
Coppia di serraggio totale a 6 bar *Total gripping torque at 6 bar*	200 Ncm	560 Ncm	3600 Ncm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	16 cm^3	57 cm^3	382 cm
Tempo di chiusura senza carico *Closing time without load*	0.06 s	0.09 s	0.15 s
Ripetibilità *Repetition accuracy*	0.1°	0.1°	0.1°
Peso *Weight*	320 g	650 g	2700 g

Pinza radiale

La pinza radiale è una pinza le cui griffe hanno movimento angolare ed il loro angolo di apertura è di circa 90°.
Di norma viene usata qualora vi sia la necessità di togliere l'ingombro delle griffe di presa dal piano di lavoro evitando, in questo modo, un ulteriore movimento di arretramento.

Radial gripper

The radial gripper is an angular gripper in which the gripper jaws make a 90° angle.
It is normally used when, in opening, the gripper jaws must be out of the working plane, avoiding, by this, a further moving back.

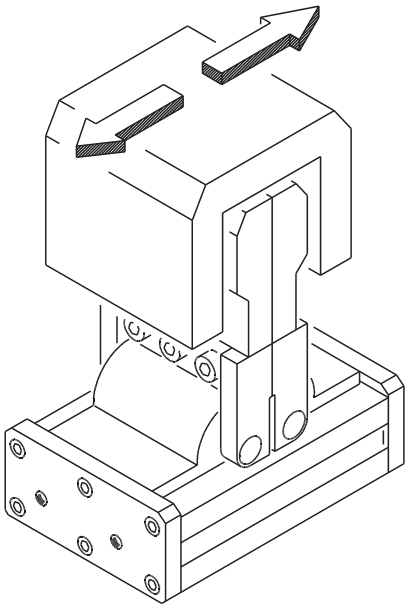


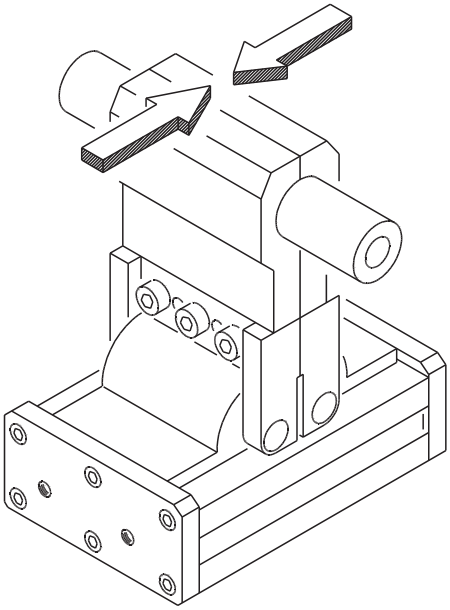
Utilizzo della pinza

La pinza è a doppio effetto e quindi può essere usata per la presa di un pezzo indifferentemente sia in chiusura che in apertura delle griffe.
La forza di serraggio espressa dalla pinza è uguale in entrambi i casi, essendo i pistoni senza stelo.

Using of the gripper

As the gripper has a double acting motion, it can be used like internal or external gripping.
The gripping force is the same on both directions because the gripper is moved by rodless piston.

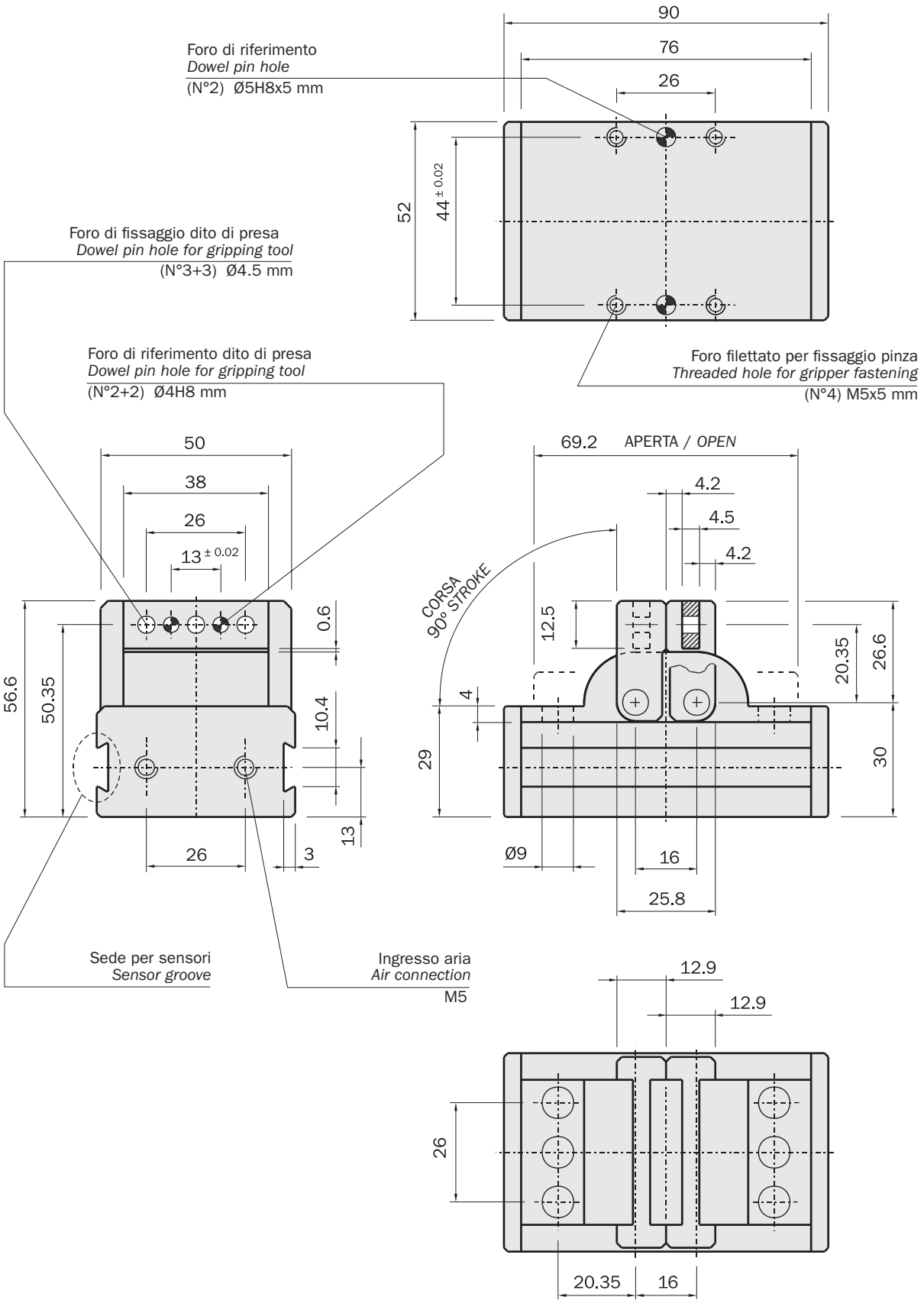




Dimensioni (mm) / *Dimensions (mm)*

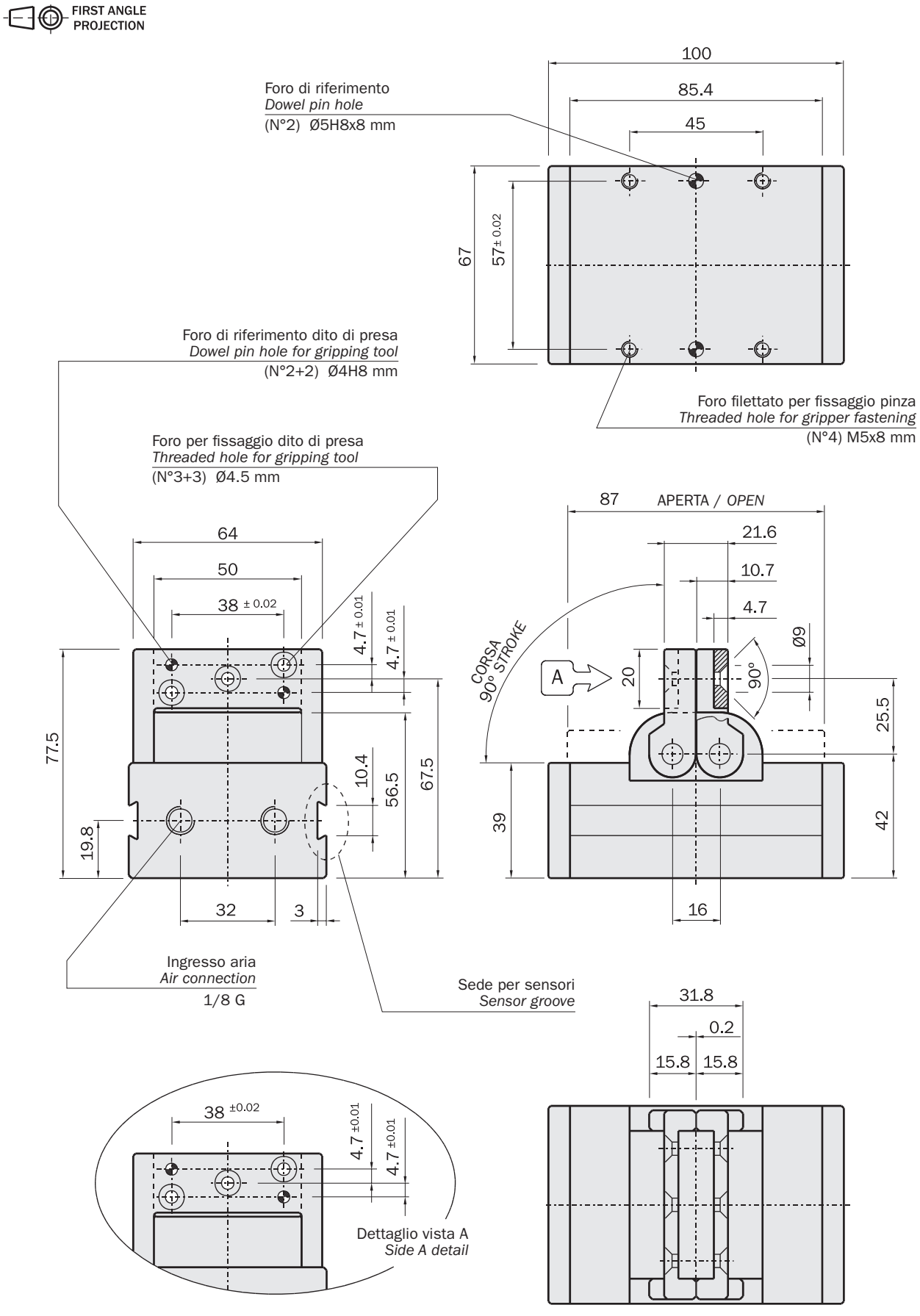
PS-0016-P

FIRST ANGLE PROJECTION



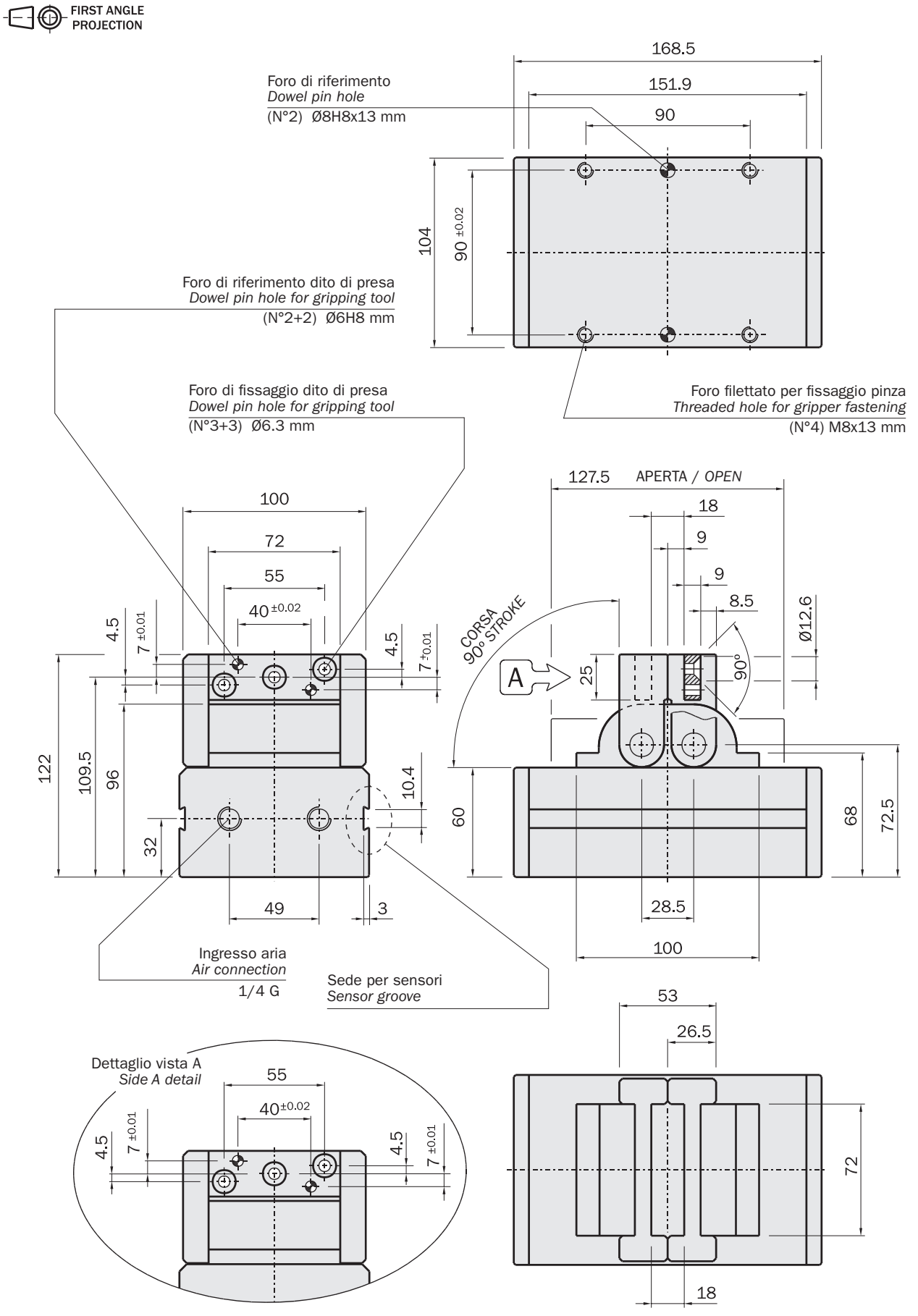
Dimensioni (mm) / *Dimensions (mm)*

PS-0025-P



Dimensioni (mm) / *Dimensions (mm)*

PS-0045-P

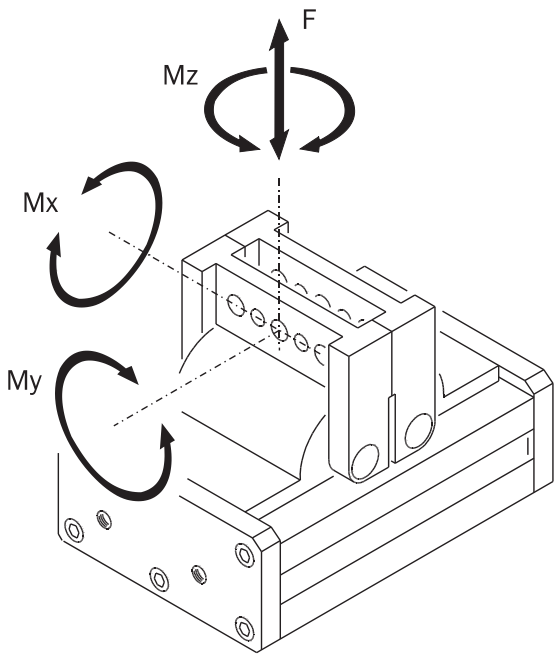


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F, Mx, My, Mz sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can demage the gripper, cause functioning troubles and endanger the safety of the operator.
F, Mx, My, Mz are maximum permitted static loads. Static means motionless jaws.



	PS-0016-P	PS-0025-P	PS-0045-P
F	16 N	75 N	203 N
Mx	2.7 Nm	7.5 Nm	48 Nm
My	3.5 Nm	22 Nm	86 Nm
Mz	2.4 Nm	15 Nm	59 Nm

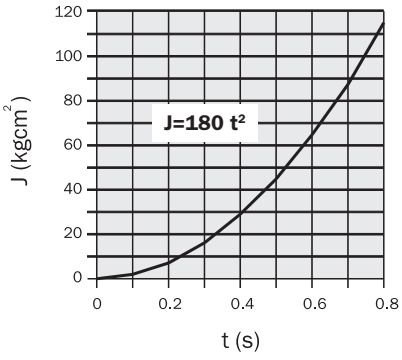
Regolazione della velocità

I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

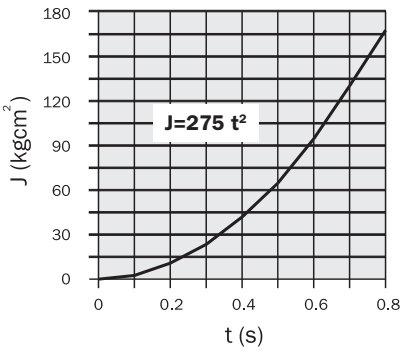
Speed adjustment

The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.

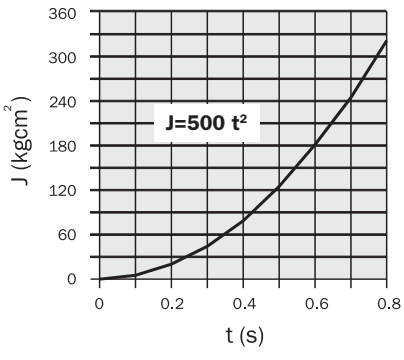
PS-0016-P



PS-0025-P



PS-0045-P



PS-P

Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i due fori calibrati (A) ed i quattro fori filettati (B) presenti sulla base inferiore del corpo pinza.
Lasciare lo spazio necessario per i raccordi dell'aria (C) e per il posizionamento dei sensori.

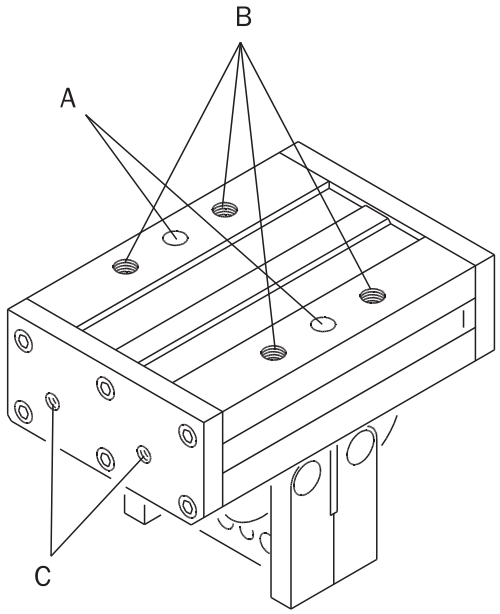
Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
The fastening must be done using two dowel pin holes (A) and four threaded holes (B) on the bottom.
Allow room to mount the air fittings (C) and the sensors.

A Fori calibrati
Dowel pin holes

B Fori filettati
Threaded holes

C Fori filettati per raccordi aria
Threaded holes for air fittings



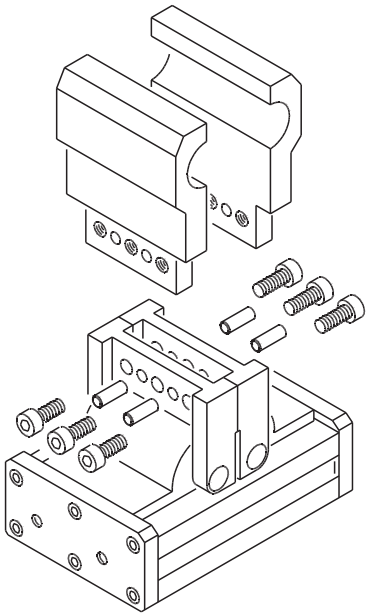
	PS-0016-P	PS-0025-P	PS-0045-P
A	Ø5H8x5mm	Ø5H8x8mm	Ø8H8x13mm
B	M5x5mm	M5x8mm	M8x13mm
C	M5	G1/8	G1/4

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle su ciascuna griffa utilizzando almeno due viti e due spine di centraggio.

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using at least two screws and two dowel pins per jaw.



	PS-0016-P	PS-0025-P	PS-0045-P
Fori calibrati *Dowel pin holes*	Ø4H8 mm	Ø4H8 mm	Ø6H8 mm
Fori filettati per viti *Threaded holes for screws*	Ø4.5 mm	Ø4.5 mm	Ø6.3 mm

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sui pistoni.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

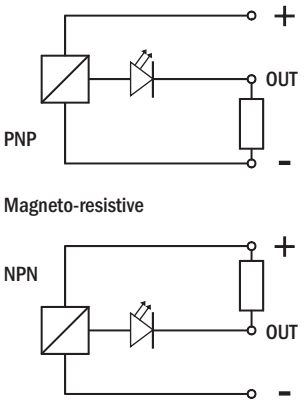
Sensors

The operating position is detected by proximity magnetic sensors (optional) through magnets placed on the piston.
Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

I sensori utilizzabili sono:

The sensors that can be used are:

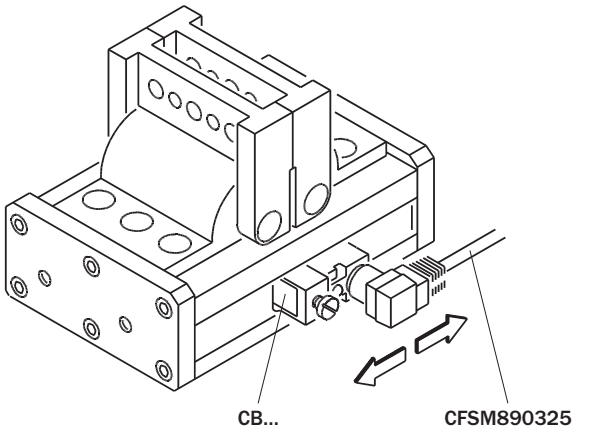


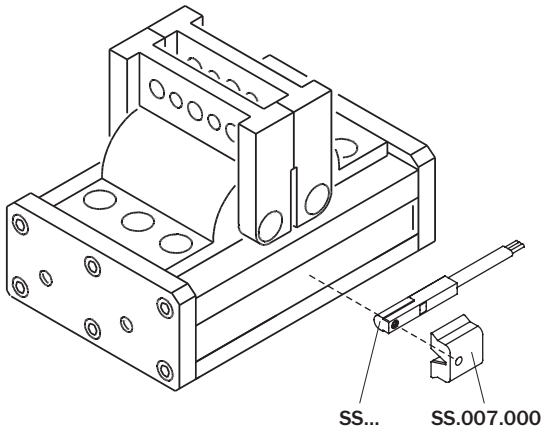


			PS-0016-P	PS-0025-P	PS-0045-P
CB3N2-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑
CB3M2-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)

(1)
Utilizzando l'adattatore (SS.007.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.007.000) provided with the pack K-SENS.





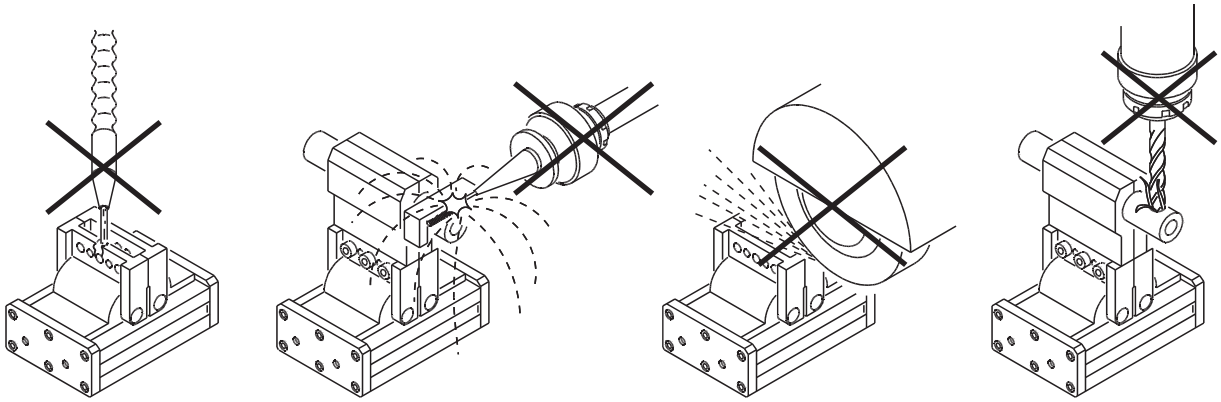
PS-P

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

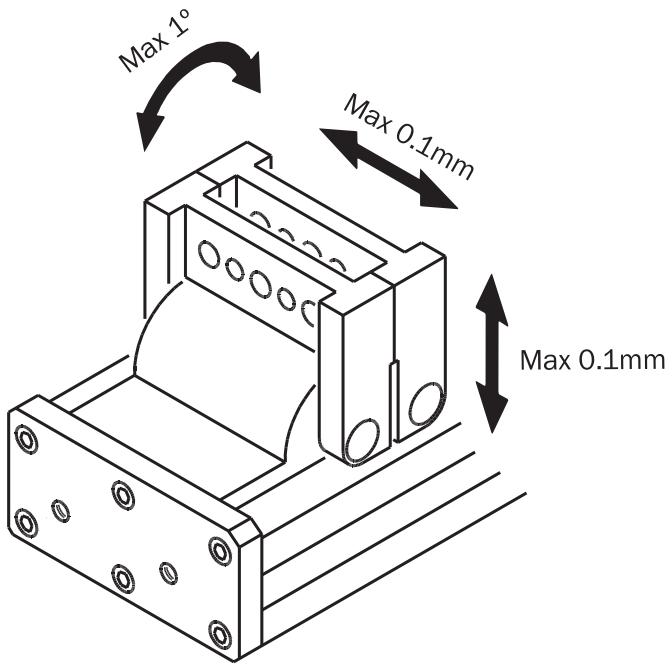
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

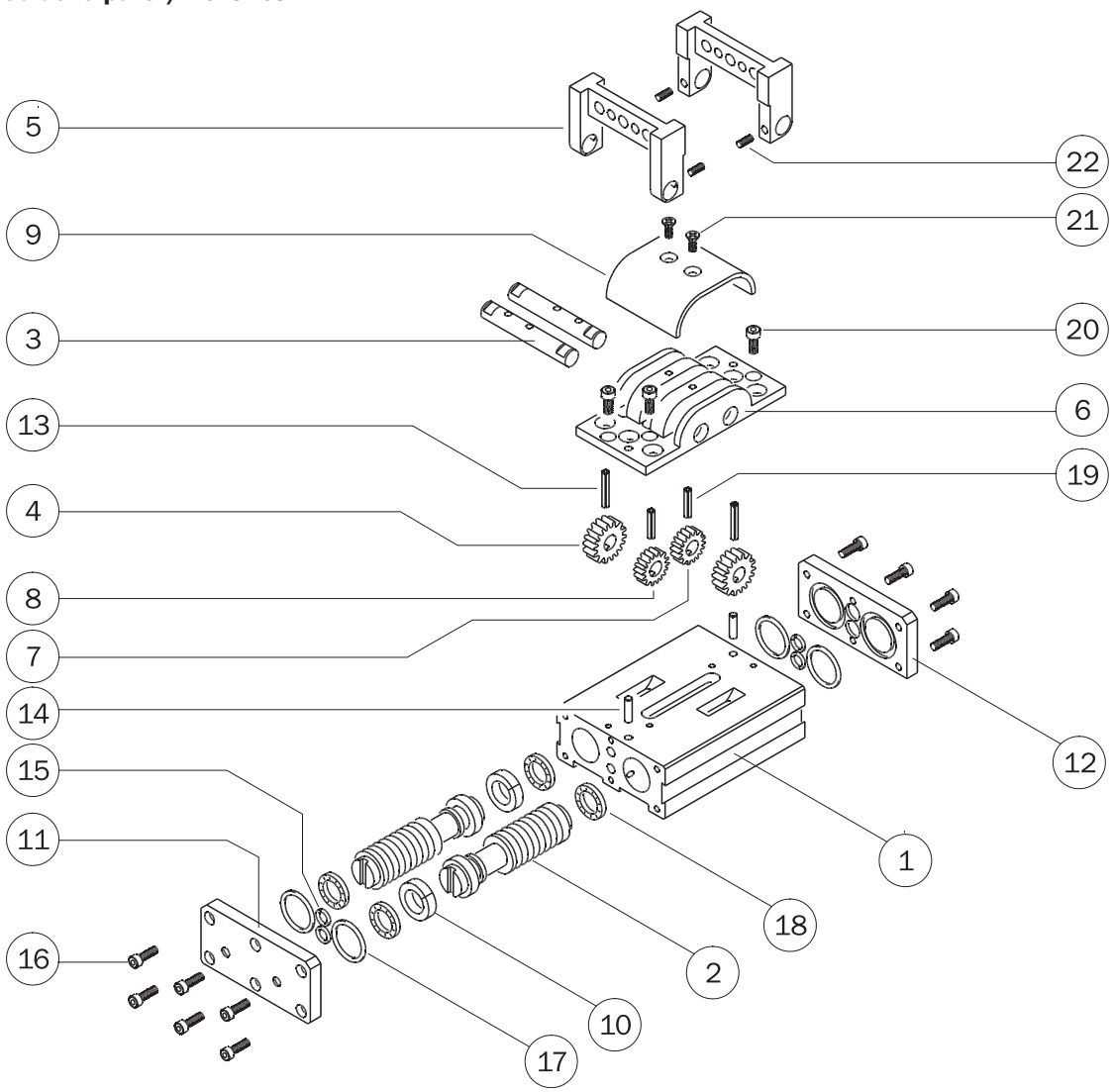
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal)*
- *Molykote PG75 (gaskets)*

The figure below shows the jaw backlash.



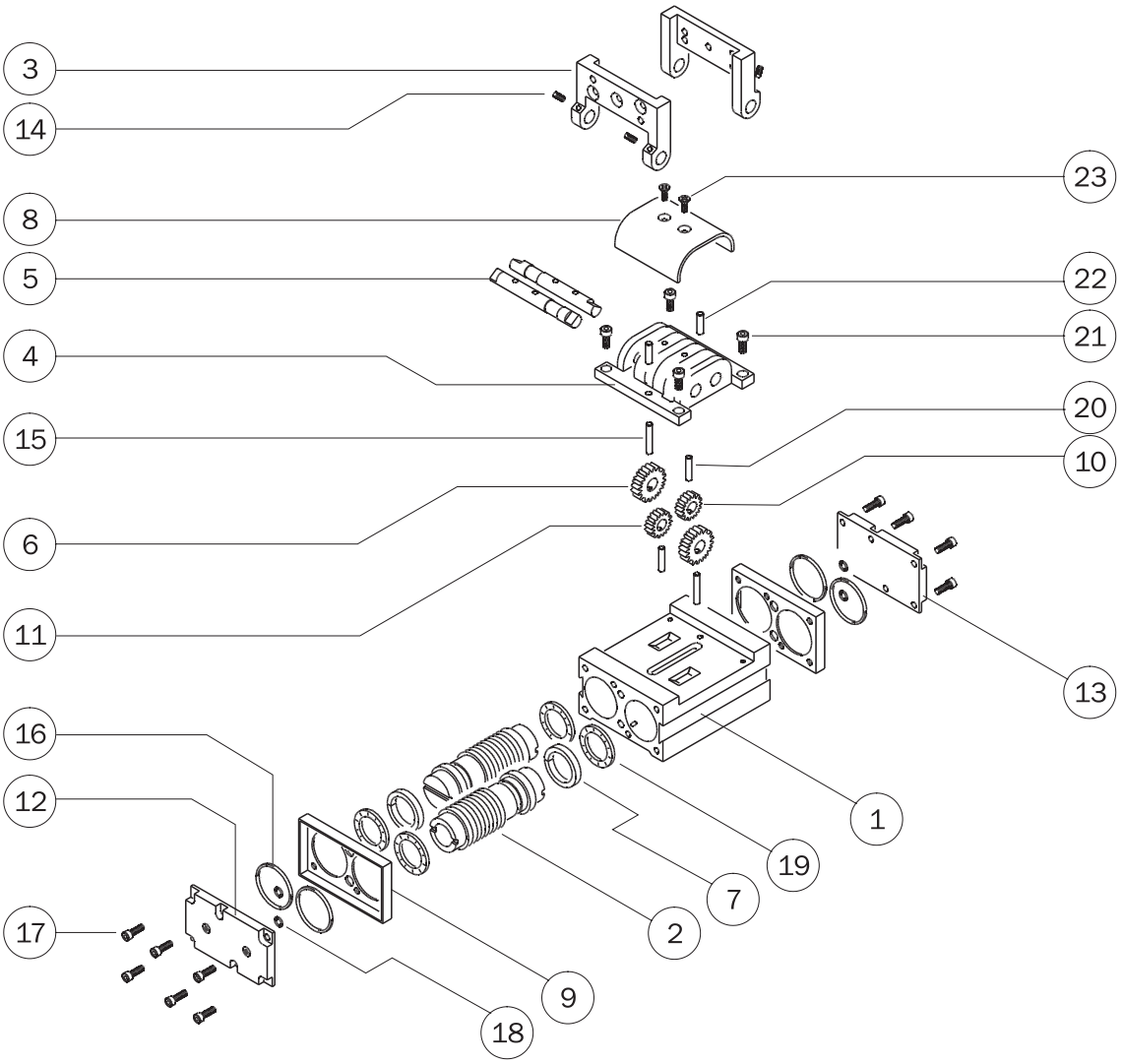
Elenco delle parti / *Part list*



		PS-0016-P		
1	Corpo pinza	PS-0016-P01	*Gripper housing*	*1*
2	Pistone	PS-0016-P02	*Piston*	*2*
3	Perno	PS-0016-P03	*Hinge*	*3*
4	Ruota dentata di traino	PS-0016-P04	*Driving wheel*	*4*
5	Griffa	PS-0016-P05	*Jaw*	*5*
6	Supporto griffe	PS-0016-P06	*Cover plate*	*6*
7	Ruota dentata folle	PS-0016-P07D	*Gear wheel*	*7*
8	Ruota dentata folle	PS-0016-P07S	*Gear wheel*	*8*
9	Protezione	PS-0016-P08	*Protection*	*9*
10	Magnete	PS-0016-P09	*Magnet*	*10*
11	Testata aperta	PE-1680-05AL	*Open closing plate*	*11*
12	Testata chiusa	PE-1680-05ALC	*Close closing plate*	*12*
13	Spina elastica	SPINA-025 (Ø3x16 mm DIN1481)	*Elastic dowel pin*	*13*
14	Spina di riferimento	SPINA-090 (Ø3x8 mm DIN6325)	*Dowel pin*	*14*
15	O-Ring	GUAR-029 (Ø1.78x4.48)	*O-Ring*	*15*
16	Vite	VITE-031 (M3x8 mm DIN912)	*Screw*	*16*
17	O-Ring	GUAR-023 (Ø1.78x15.6)	*O-Ring*	*17*
18	Guarnizione dinamica	GUAR-002P (16x9x2.5)	*Dynamic gasket*	*18*
19	Spina elastica	SPINA-038 (Ø3x12 mm DIN1481)	*Elastic dowel pin*	*19*
20	Vite	VITE-031 (M3x6 mm DIN912 INOX A2)	*Screw*	*20*
21	Vite	VITE-035 (M3x8 mm DIN965A INOX A2)	*Screw*	*21*
22	Vite senza testa	VITE-042 (M4x6 mm DIN913 INOX A2)	*Grub screw*	*22*

PS-P

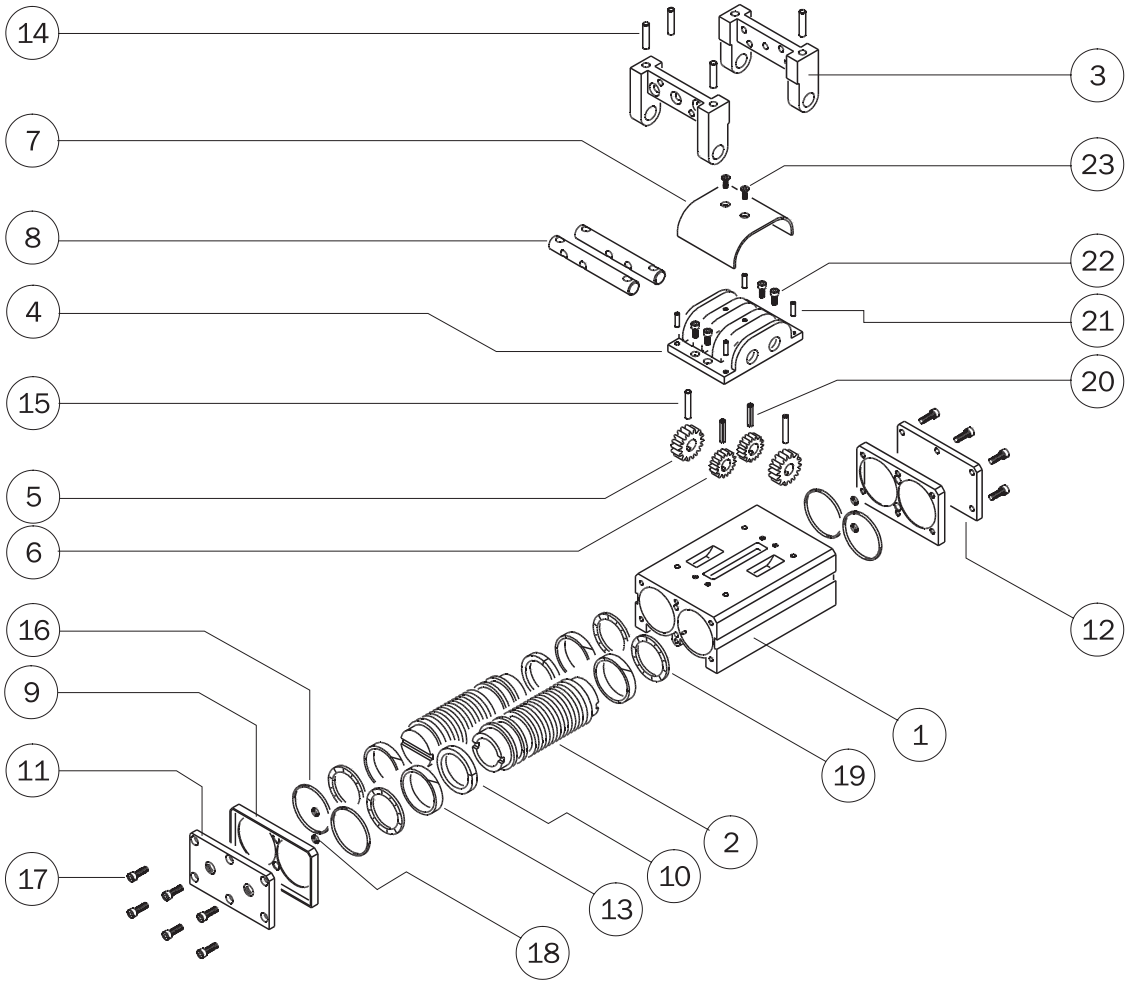
Elenco delle parti / *Part list*



		PS-0025-P		
1	Corpo pinza	PS-0025-P01	*Gripper housing*	*1*
2	Pistone	PS-0025-P02	*Piston*	*2*
3	Griffa	PS-0025-P03	*Jaw*	*3*
4	Supporto griffe	PS-0025-P04	*Cover plate*	*4*
5	Perno	PS-0025-P05	*Hinge*	*5*
6	Ruota dentata di traino	PS-0025-P10	*Driving wheel*	*6*
7	Magnete	PS-0025-P07	*Magnet*	*7*
8	Protezione	PS-0025-P08	*Protection*	*8*
9	Profilo	PS-0025-P09	*Seal profile*	*9*
10	Ruota dentata folle	PS-0016-P07D	*Gear wheel*	*10*
11	Ruota dentata folle	PS-0016-P07S	*Gear wheel*	*11*
12	Testata aperta	PE-2520-05A	*Open closing plate*	*12*
13	Testata chiusa	PE-2520-05C	*Close closing plate*	*13*
14	Vite senza testa	VITE-227 (M4x8 mm DIN913)	*Grub Screw*	*14*
15	Spina di riferimento	SPINA-042 (Ø3x16 mm DIN6325)	*Dowel pin*	*15*
16	O-Ring	GUAR-030 (Ø1.78x25.12)	*O-Ring*	*16*
17	Vite	VITE-020 (M4x10 mm DIN912 INOX A2)	*Screw*	*17*
18	O-Ring	GUAR-029 (Ø1.78x4.48)	*O-Ring*	*18*
19	Guarnizione dinamica	GUAR-003M (25x18x2.4)	*Dynamic gasket*	*19*
20	Spina di riferimento	SPINA-022 (Ø3x12 mm DIN6325)	*Dowel pin*	*20*
21	Vite	VITE-031 (M3x8 mm DIN912 INOX A2)	*Screw*	*21*
22	Spina di riferimento	SPINA-006 (Ø3x10 mm DIN6325)	*Dowel pin*	*22*
23	Vite	VITE-035 (M3x8 mm DIN965A INOX A2)	*Screw*	*23*

03/2015

Elenco delle parti / *Part list*



		PS-0045-P		
1	Corpo pinza	PS-0045-P01	*Gripper housing*	*1*
2	Pistone	PS-0045-P02	*Piston*	*2*
3	Griffa	PS-0045-P03	*Jaw*	*3*
4	Supporto griffe	PS-0045-P04	*Cover plate*	*4*
5	Ruota dentata di traino	PS-0045-P05	*Driving wheel*	*5*
6	Ruota dentata folle	PS-0045-P06	*Gear wheel*	*6*
7	Protezione	PS-0045-P07	*Protection*	*7*
8	Perno	PS-0045-P08	*Hinge*	*8*
9	Profilo	PS-0045-P09	*Seal profile*	*9*
10	Magnete	PS-0045-P10	*Magnet*	*10*
11	Testata aperta	PE-4520-05A	*Open closing plate*	*11*
12	Testata chiusa	PE-4520-05C	*Close closing plate*	*12*
13	Fascia di guida	PE-45120-08	*Piston guidance tape*	*13*
14	Spina di riferimento	SPINA-041(Ø8x30 mm DIN6325)	*Dowel pin*	*14*
15	Spina elastica	SPINA-040 (Ø8x30 mm DIN1481)	*Elastic dowel pin*	*15*
16	O-Ring	GUAR-028 (Ø1.78x44.17)	*O-Ring*	*16*
17	Vite	VITE-027 (M5x10 mm DIN912 INOX A2)	*Screw*	*17*
18	O-Ring	GUAR-029 (Ø1.78x4.48)	*O-Ring*	*18*
19	Guarnizione dinamica	GUAR-026P (45x36x3)	*Dynamic gasket*	*19*
20	Spina elastica	SPINA-039 (Ø8x24 mm DIN1481)	*Elastic dowel pin*	*20*
21	Spina di riferimento	SPINA-023 (Ø4x12 mm DIN6325)	*Dowel pin*	*21*
22	Vite	VITE-009 (M4x8 mm DIN912 INOX A2)	*Screw*	*22*
23	Vite	VITE-035 (M3x8 mm DIN965A INOX A2)	*Screw*	*23*

PS-P

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

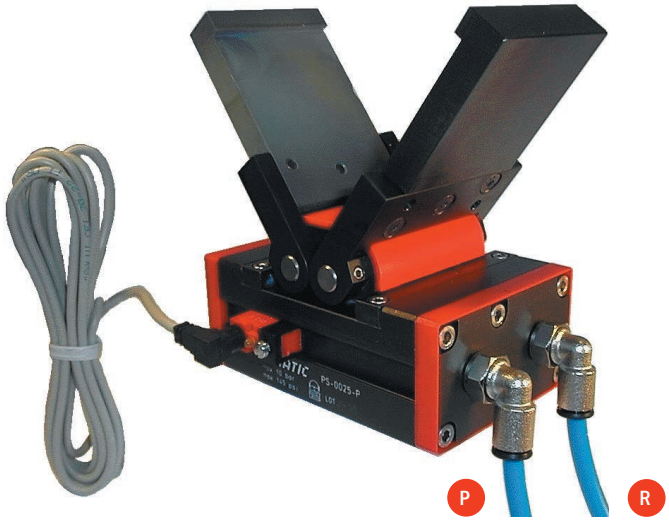
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

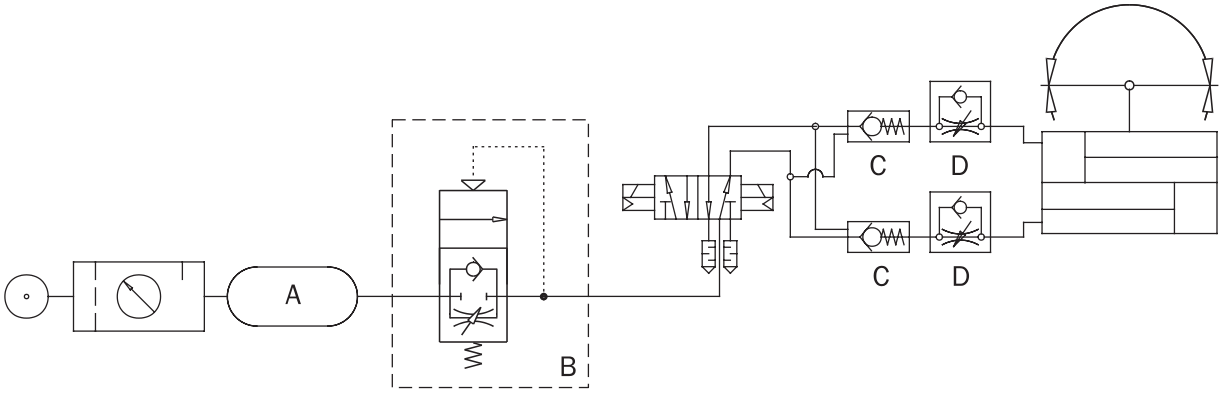
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Note / *Notes*

GX-S

Pinza pneumatica radiale autocentrante a 2 griffe (serie GX-S)

- Azionamento a doppio effetto.
- Elevata forza di serraggio alla fine della corsa di chiusura.
- Grande durata e affidabilità senza manutenzione.
- Diverse possibilità di fissaggio.
- Sensori magnetici opzionali.

2-jaw self centering radial pneumatic gripper (series GX-S)

- *Double acting.*
- *Very high gripping force at the end of the closing stroke.*
- *Long life and reliability, maintenance free.*
- *Various options for fastening.*
- *Optional proximity magnetic sensors.*



GX-10S



GX-16S



GX-20S

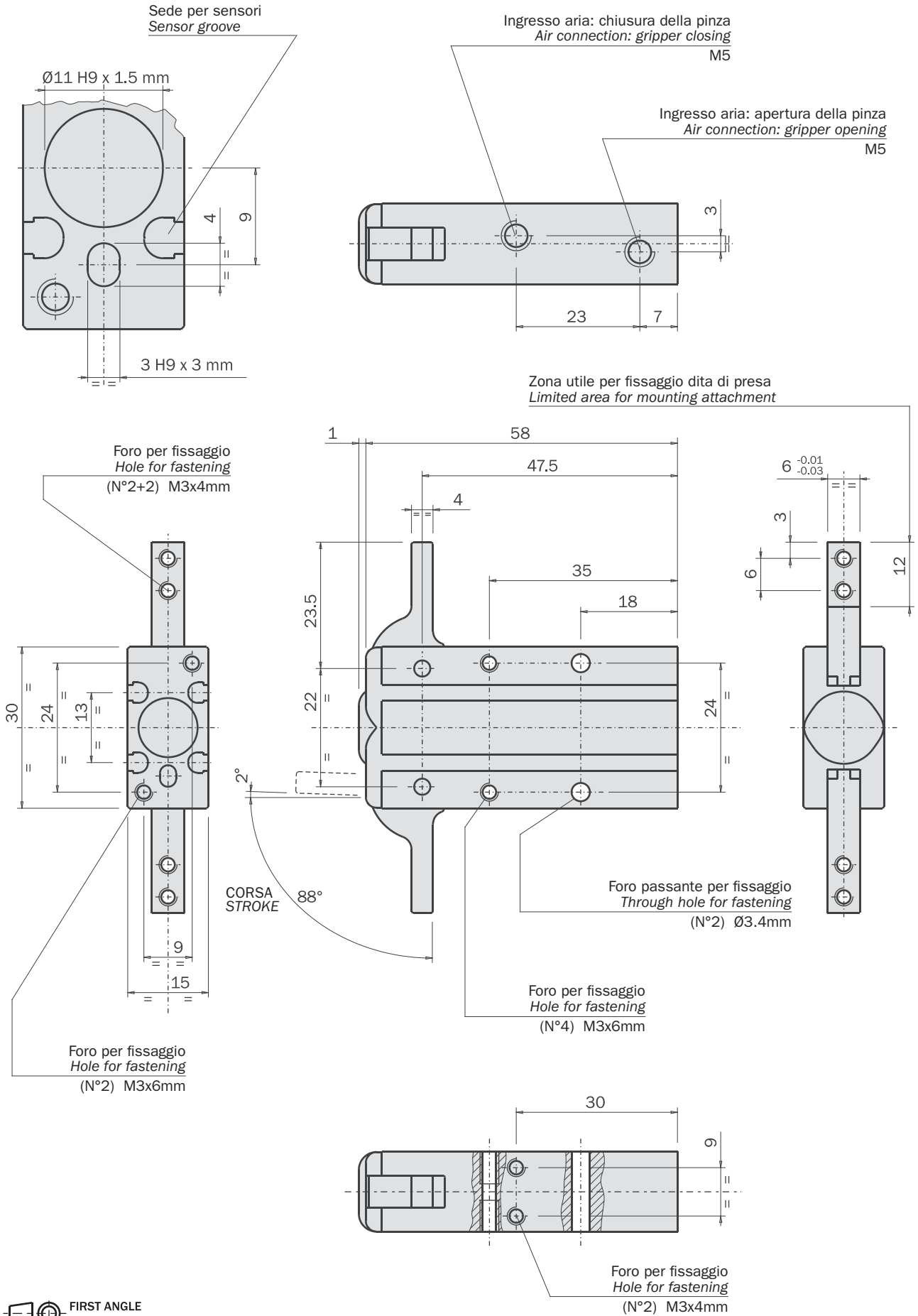


GX-25S

	GX-10S	GX-16S	GX-20S	GX-25S
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.			
Coppia massima per griffa in apertura a 6 bar *Opening maximum torque at 6 bar on each jaw*	35 Ncm	120 Ncm	230 Ncm	430 Ncm
Coppia massima totale in apertura a 6 bar *Opening maximum total torque at 6 bar*	70 Ncm	240 Ncm	460 Ncm	860 Ncm
Coppia massima per griffa in chiusura a 6 bar *Closing maximum torque at 6 bar on each jaw*	26 Ncm	105 Ncm	210 Ncm	400 Ncm
Coppia massima totale in chiusura a 6 bar *Closing maximum total torque at 6 bar*	52 Ncm	210 Ncm	420 Ncm	800 Ncm
Corsa (±4°) *Stroke*	2x90°	2x90°	2x90°	2x90°
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	2 cm^3	6 cm^3	11 cm^3	22 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.04 s	0.08 s	0.10 s	0.08 s
Ripetibilità *Repetition accuracy*	0.05°	0.05°	0.05°	0.05°
Peso *Weight*	70 g	140 g	290 g	510 g

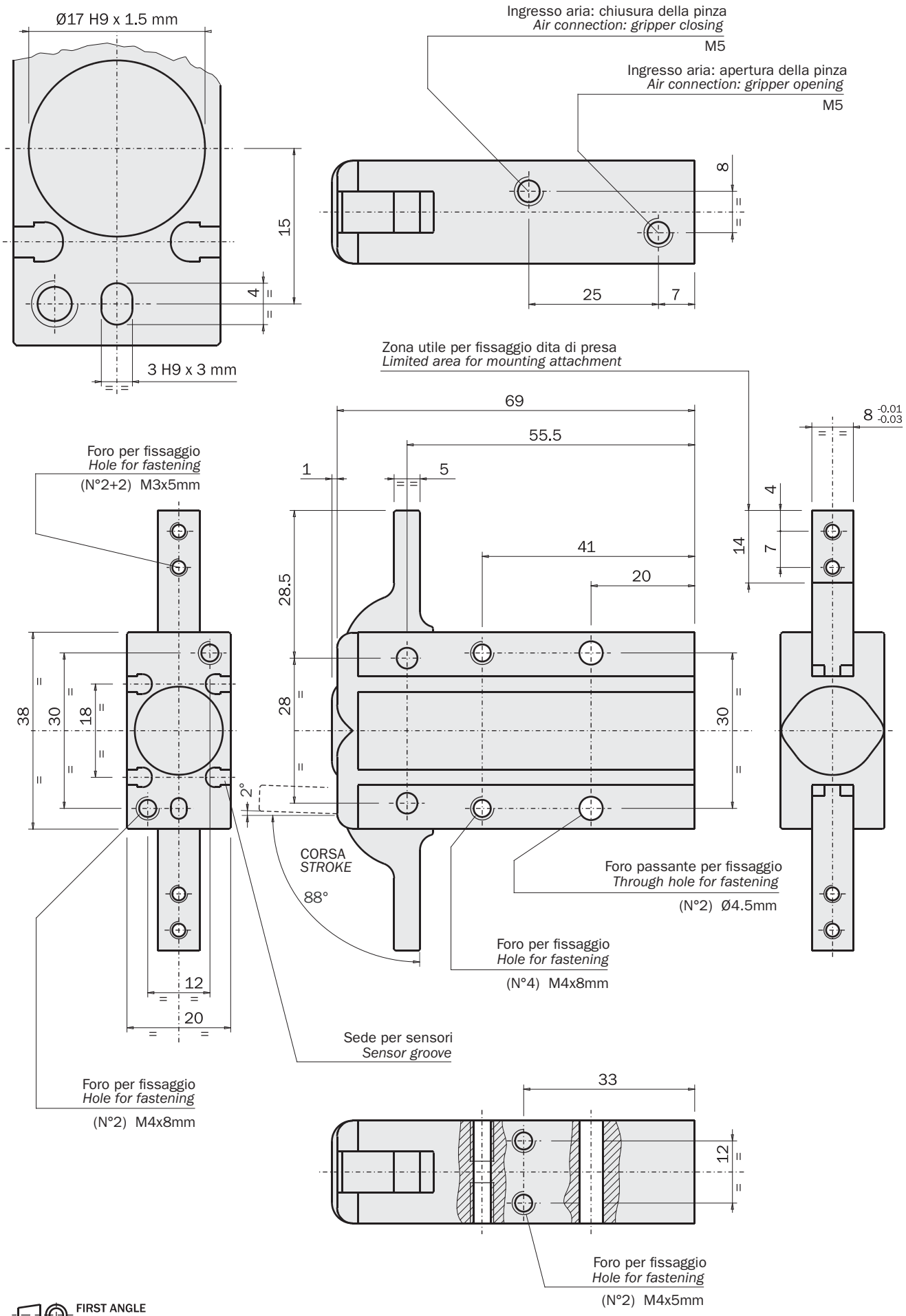
Dimensioni (mm) / *Dimensions (mm)*

GX-10S



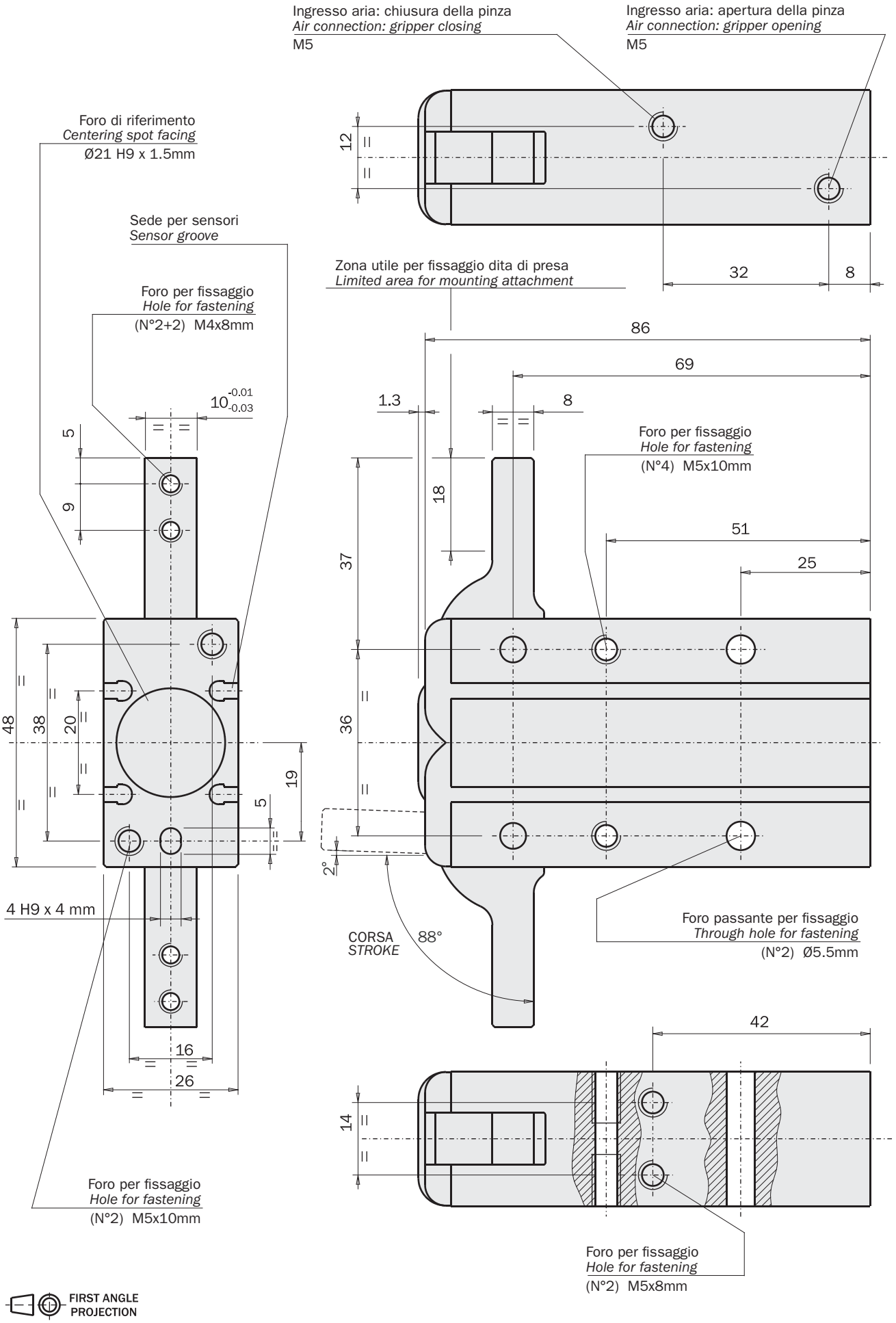
Dimensioni (mm) / *Dimensions (mm)*

GX-16S



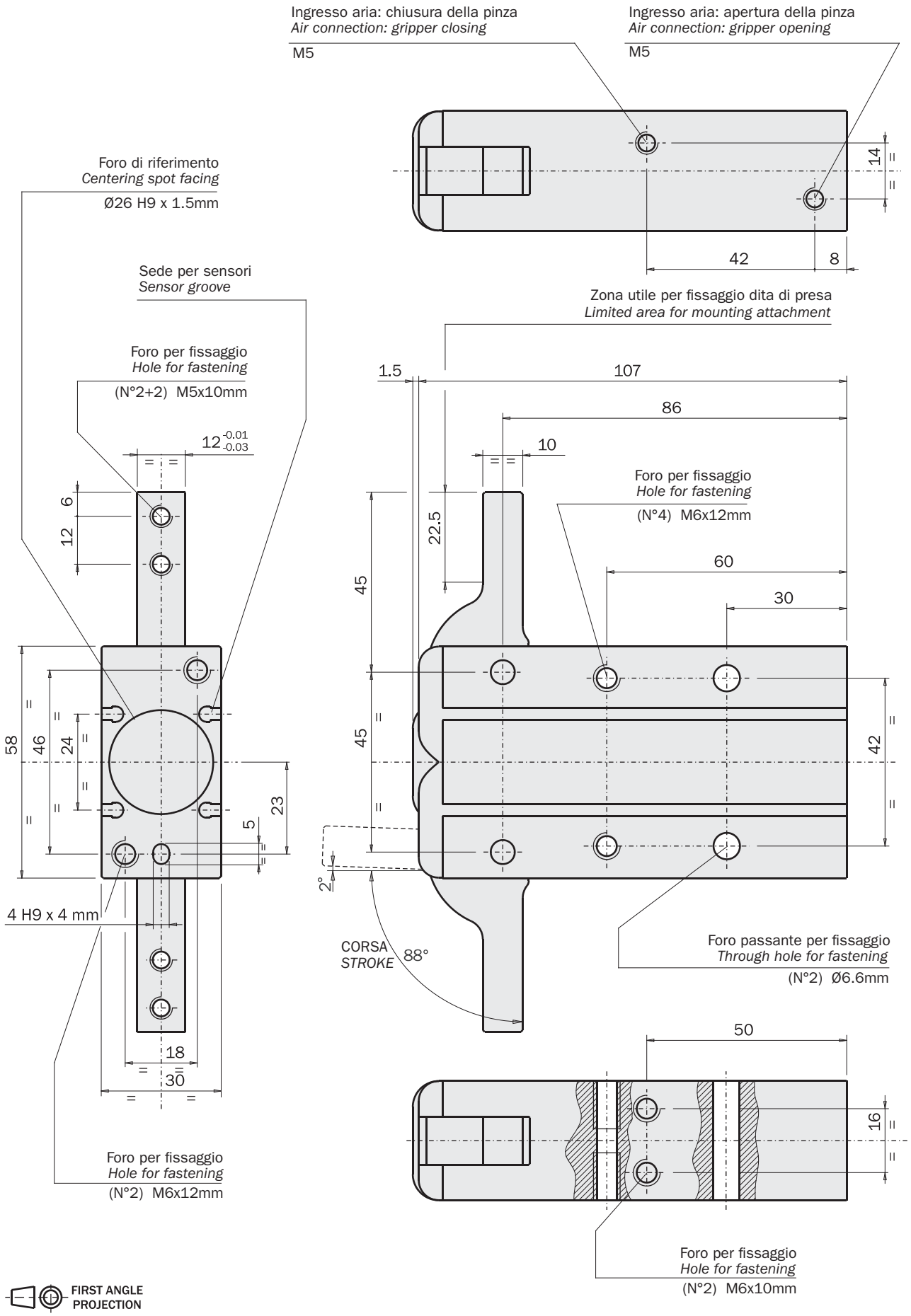
Dimensioni (mm) / *Dimensions (mm)*

GX-20S



Dimensioni (mm) / *Dimensions (mm)*

GX-25S

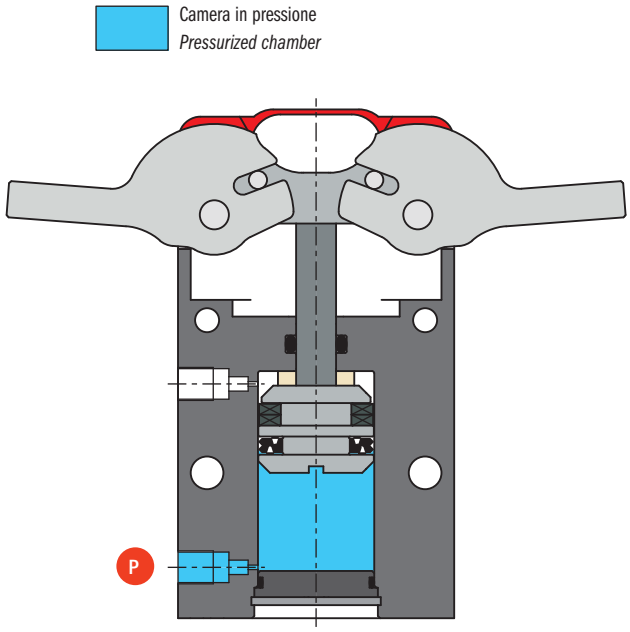


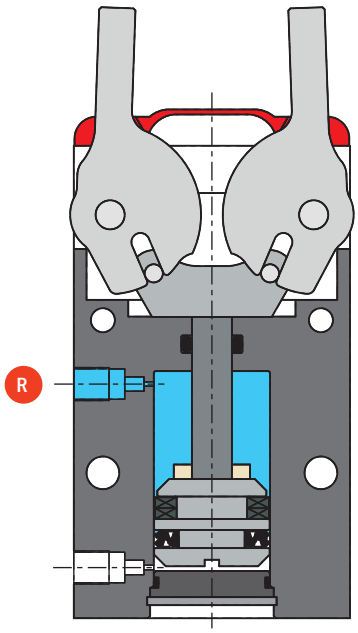
Serraggio

La pinza è a doppio effetto e quindi può essere usata per la presa di un pezzo indifferentemente sia in chiusura che in apertura delle griffe.

Gripping

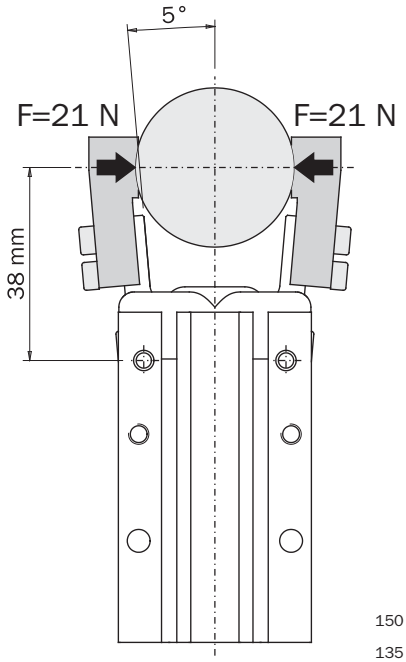
As the gripper has a double acting motion, it can be used like internal or external gripping.

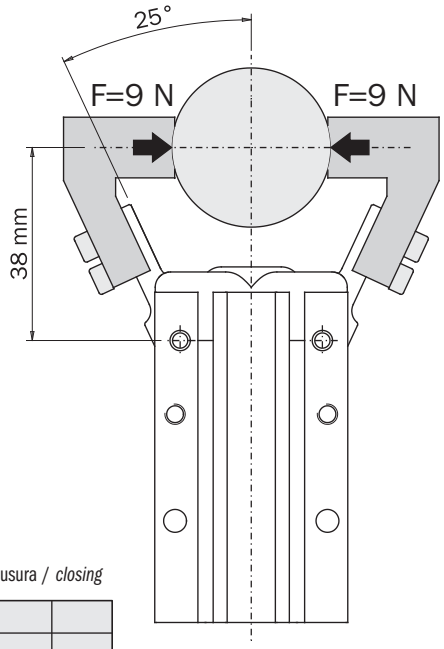


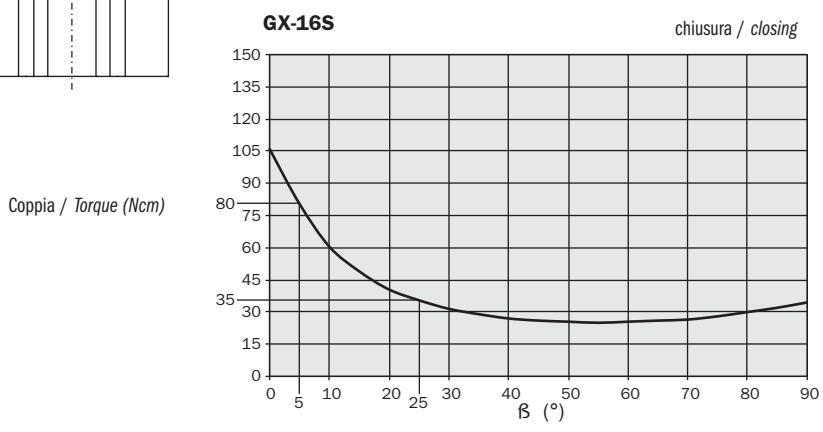


La forza di serraggio dipende dalla forma delle dita.

The gripping force depends on the shape of the gripping tools.







GX-S

Fissaggio

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.

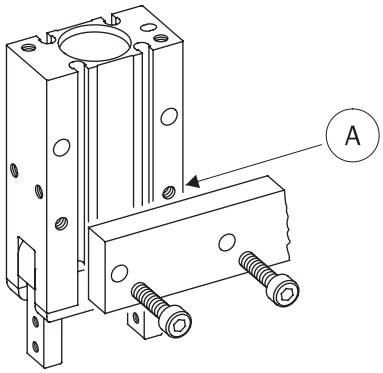
1- Per fissare la pinza sul lato più largo utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (A) della pinza.
2- Il fissaggio sul lato largo è possibile anche utilizzando due viti (B) passanti attraverso i fori (C).
3- Per fissare la pinza sul lato più stretto utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (D) della pinza.
4- Per fissare la pinza sul fondo utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (F), una pastiglia di centraggio nella lamatura centrale (G) ed una spina nell'asola (E).
In questo caso si deve prevedere lo spazio per i sensori (Y).

Fastening

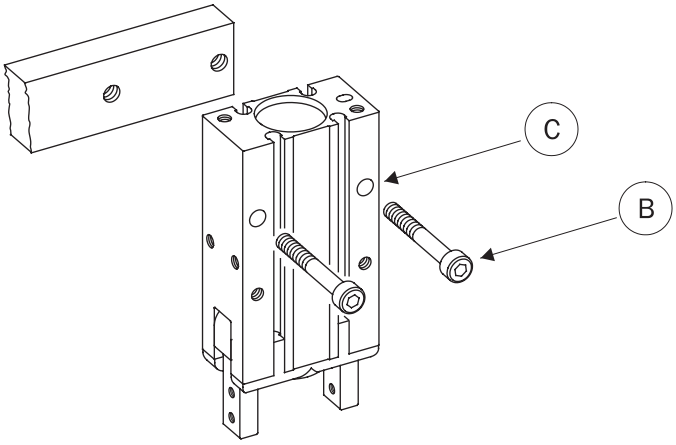
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.

1- To fasten the gripper on the wider side, use a plate with two through holes and two screws to be screwed on the threaded holes (A) on the gripper housing.
2- It is possible to fasten the gripper on the wider side also with two screws (B) passing through the threaded holes (C) on the gripper housing and screwed on threaded holes on the plate.
3- To fasten the gripper on the narrow side, two screws passing through the holes on the plate, must be screwed on the threaded holes (D) on the gripper housing.
4- The gripper can be fastened on the bottom as well, using two screws passing through the holes on the plate and screwed on the threaded holes (F) on the gripper housing. For the reference use a centering disc in the spot face (G) and a dowel pin in the slot (E). In this case the necessary room for sensor must be provided (Y).

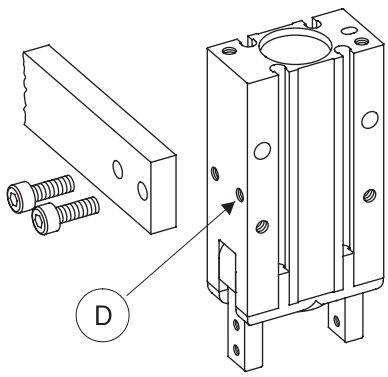
1



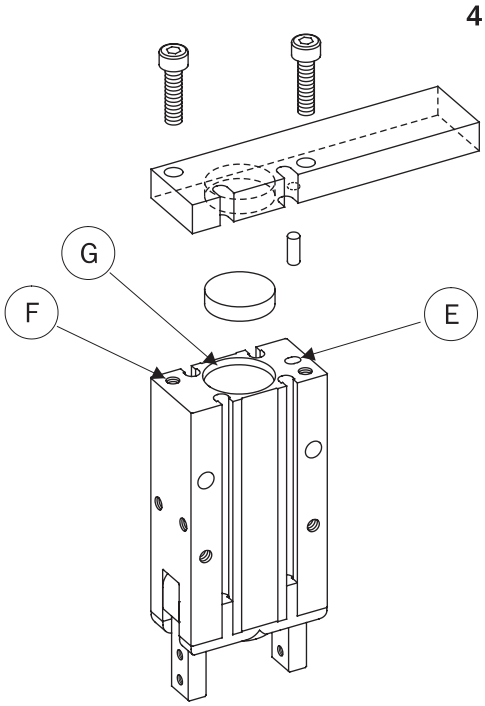
2

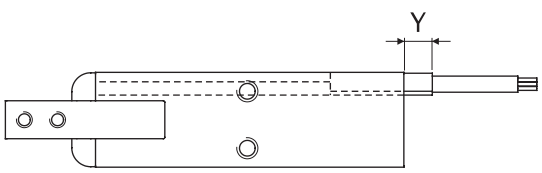


3



4

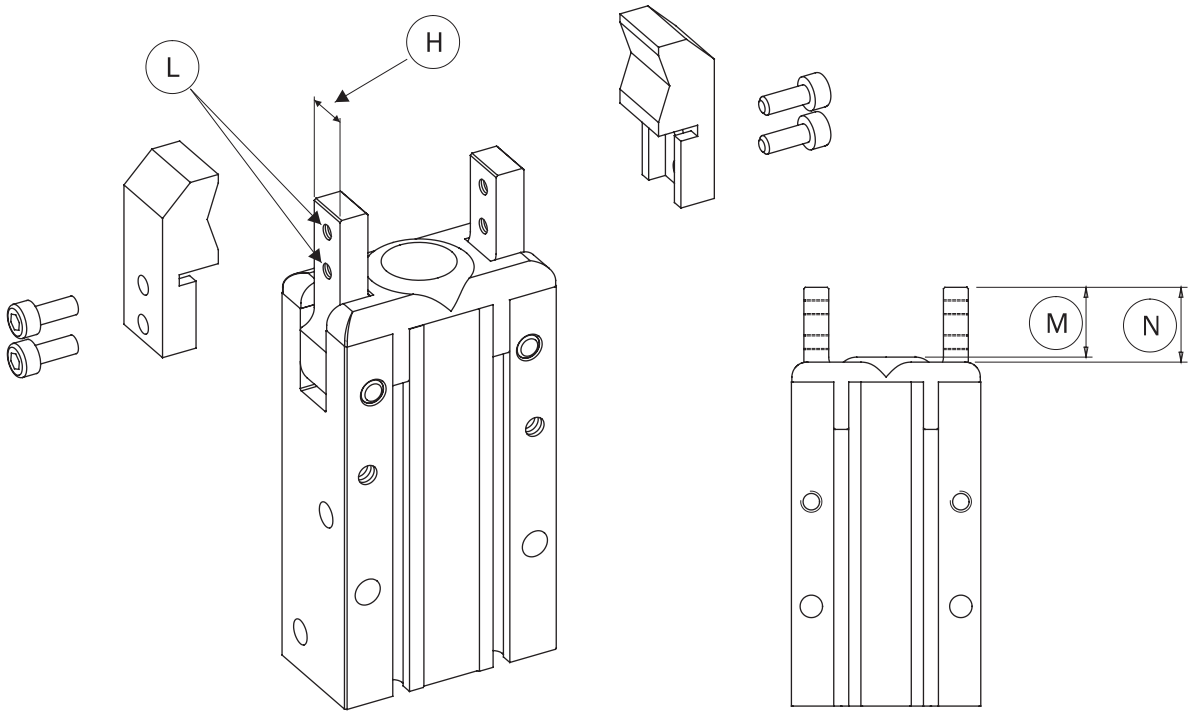




03/2015

Costruire le dita di presa il più possibile corte e leggere.
Fissarle con due viti nei fori filettati (L).
Per il centraggio sulle griffe si può fare riferimento alla quota calibrata (H). Fare attenzione alle quote (M) ed (N).

The gripping tools must be as short and light as possible.
They must be fastened by two screws (L).
For a precise positioning on the jaw use the calibrated dimension (H). Be careful to dimensions (M) and (N).



	GX-10S	GX-16S	GX-20S	GX-25S
A	M3x6 mm	M4x8 mm	M5x10 mm	M6x12 mm
B	M3x22 mm	M4x30 mm	M5x35 mm	M6x40 mm
C	Ø3.4 mm	Ø4.5 mm	Ø5.5 mm	Ø6.6 mm
D	M3x4 mm	M4x5 mm	M5x8 mm	M6x10 mm
E	3H9 x 3 mm	3H9 x 3 mm	4H9 x 4 mm	4H9 x 4 mm
F	M3x6 mm	M4x8 mm	M5x10 mm	M6x12 mm
G	Ø11H9 x 1.5 mm	Ø17H9 x 1.5 mm	Ø21H9 x 1.5 mm	Ø26H9 x 1.5 mm
H	6 $^{-0.01}$ mm	8 $^{-0.01}$ mm	10 $^{-0.01}$ mm	12 $^{-0.01}$ mm
L	M3x4 mm	M3x5 mm	M4x8 mm	M5x10 mm
M	11.7 mm	14 mm	18.7 mm	22.5 mm
N	13 mm	15 mm	20 mm	24 mm

	GX-10S	GX-16S	GX-20S	GX-25S
SN	Y=4 mm	Y=2 mm	Y=1 mm	Y=0 mm
SS	Y=4 mm + cable	Y=2 mm + cable	Y=1 mm + cable	Y=0 mm + cable

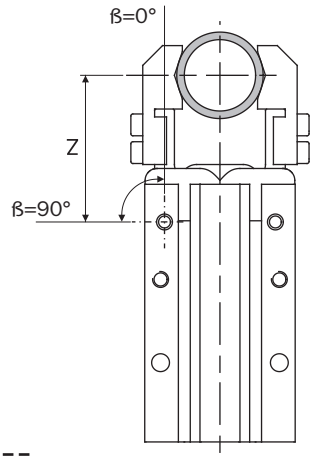
GX-S

Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e della posizione angolare ß della griffa.

Gripping force

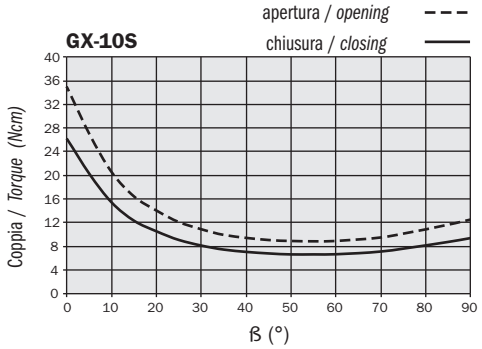
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the angular position ß of the jaw.

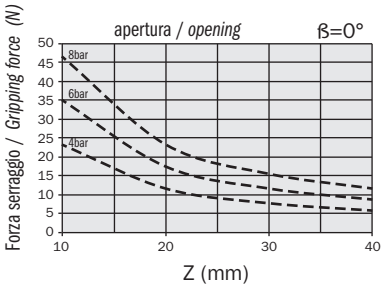


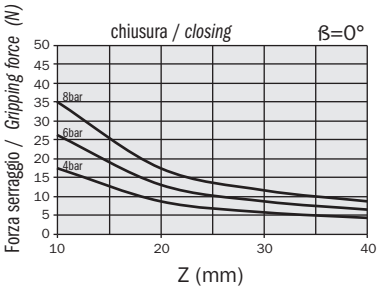
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

***The force shown in these graphs refers to one jaw.
The total force is double.***

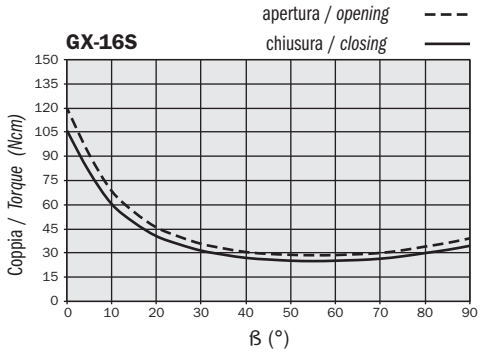
GX-10S

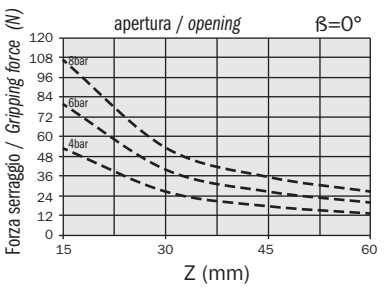


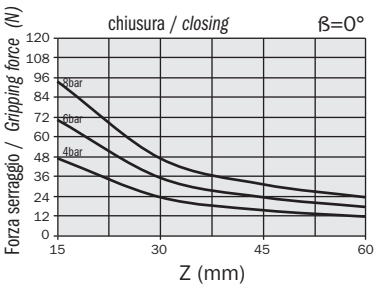




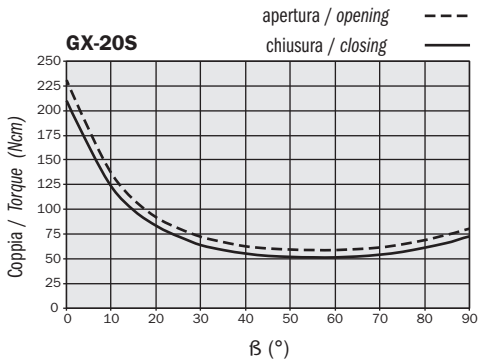
GX-16S

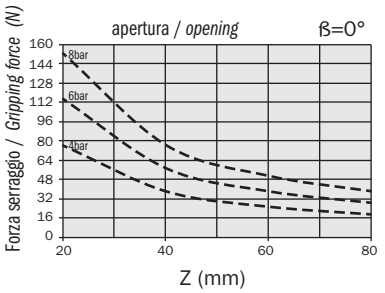


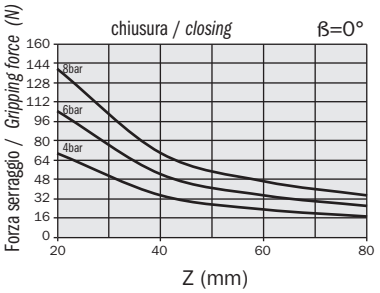




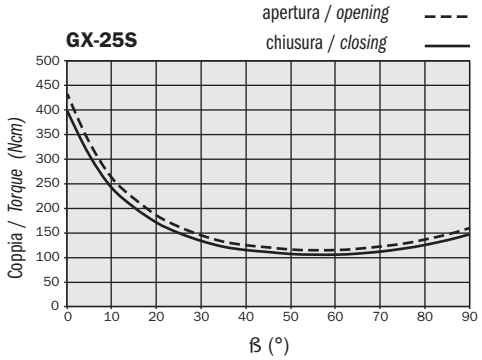
GX-20S

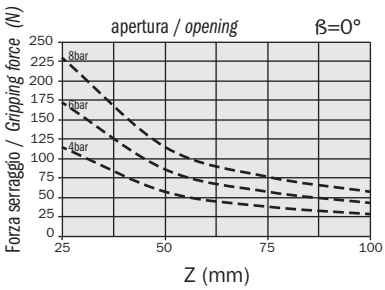


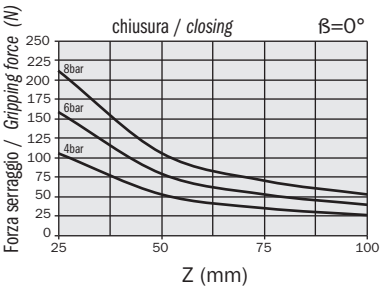




GX-25S





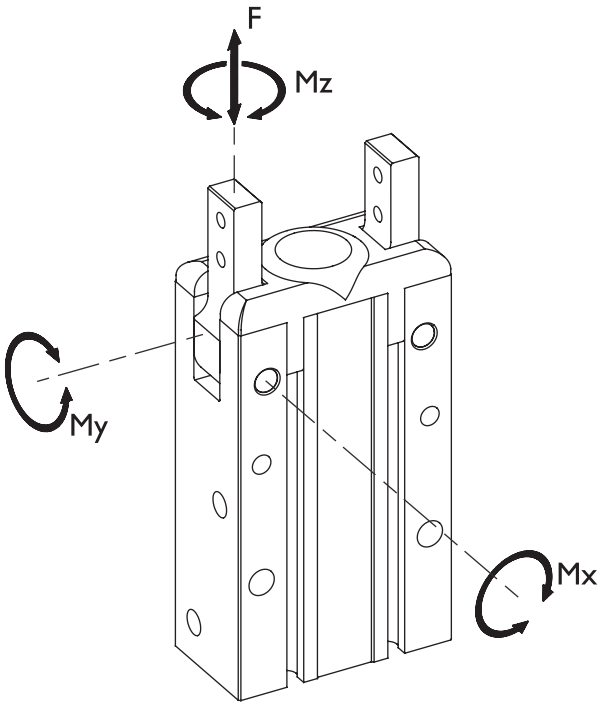


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F, Mx, My, Mz, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F, Mx, My, Mz, are maximum permitted static loads. Static means with motionless jaws.



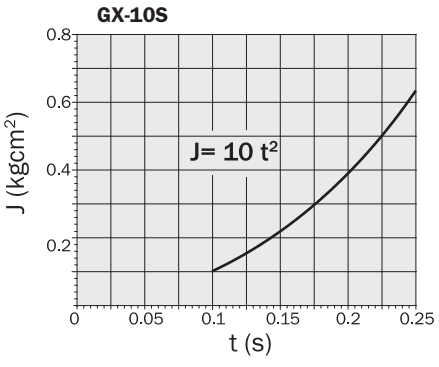
	GX-10S	GX-16S	GX-20S	GX-25S
F	35 N	60 N	100 N	140 N
Mx	0.5 Nm	2 Nm	4 Nm	7 Nm
My	0.5 Nm	1 Nm	2 Nm	4 Nm
Mz	0.5 Nm	2 Nm	4 Nm	7 Nm

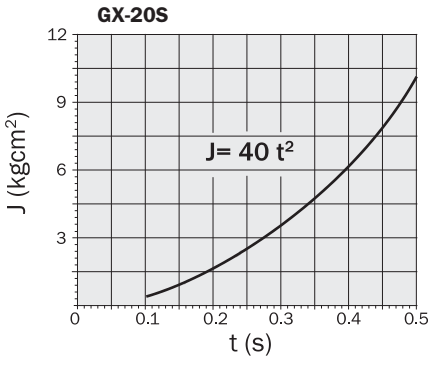
Regolazione della velocità

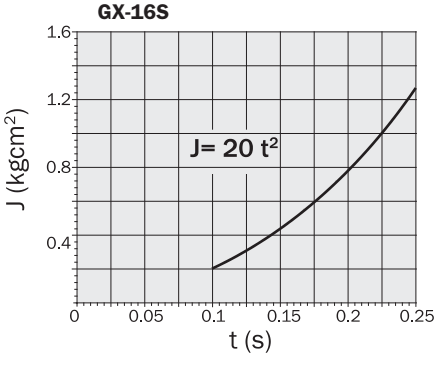
I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

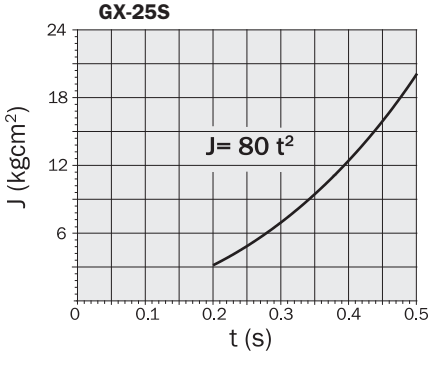
Speed adjustment

The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.









GX-S

Sensori

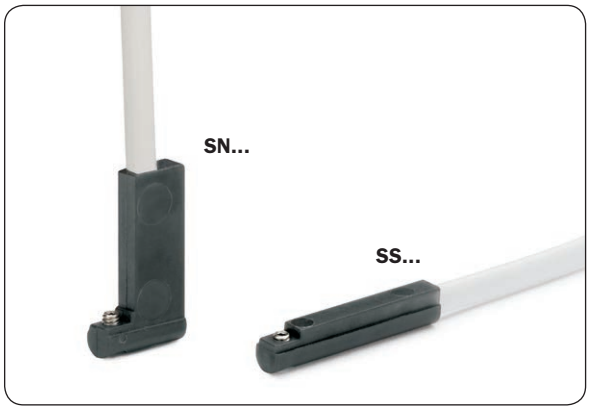
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

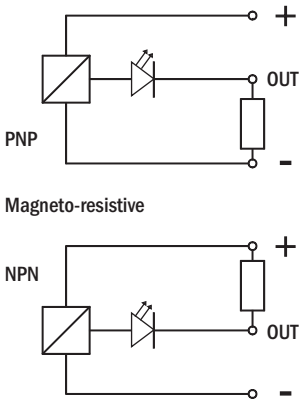
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
Due to the presence of magnetic proximity sensors, the unit should not be used in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:





			GX-S
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a flat three-wire cable and lamp.



Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in P: apertura della pinza.
Aria compressa in R: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

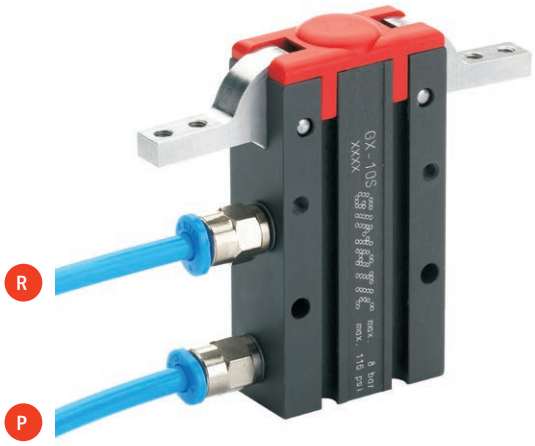
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

Compressed air in P: gripper opening.
Compressed air in R: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

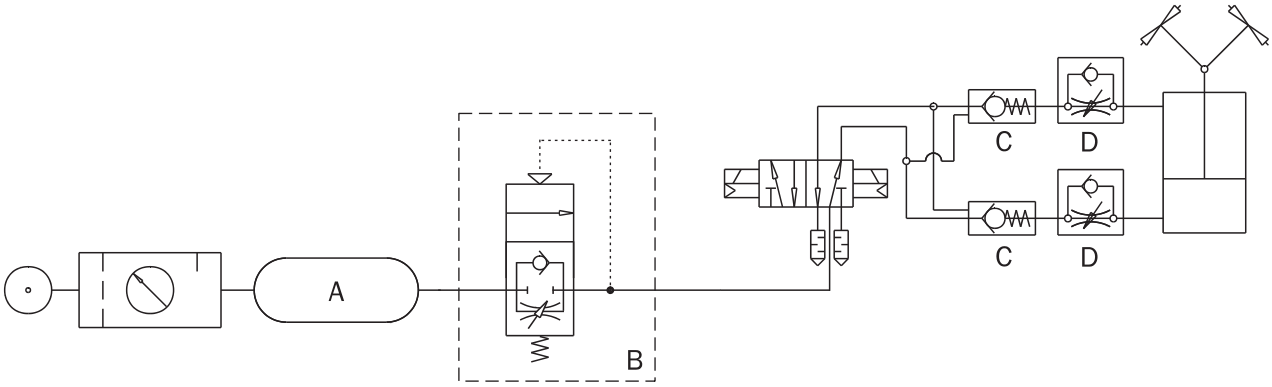
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A)
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



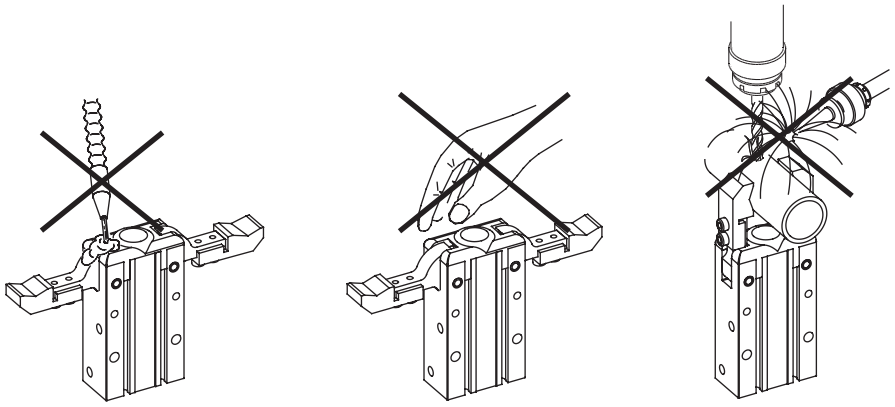
GX-S

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the gripper come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the actuator.
Never let personnel or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

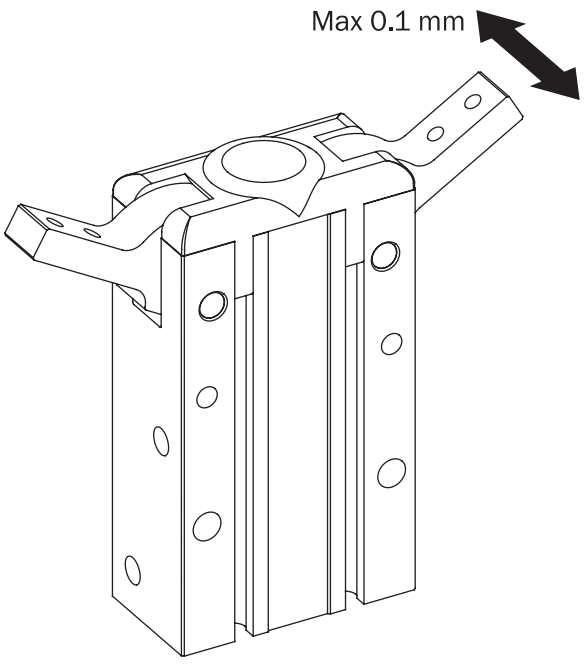
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

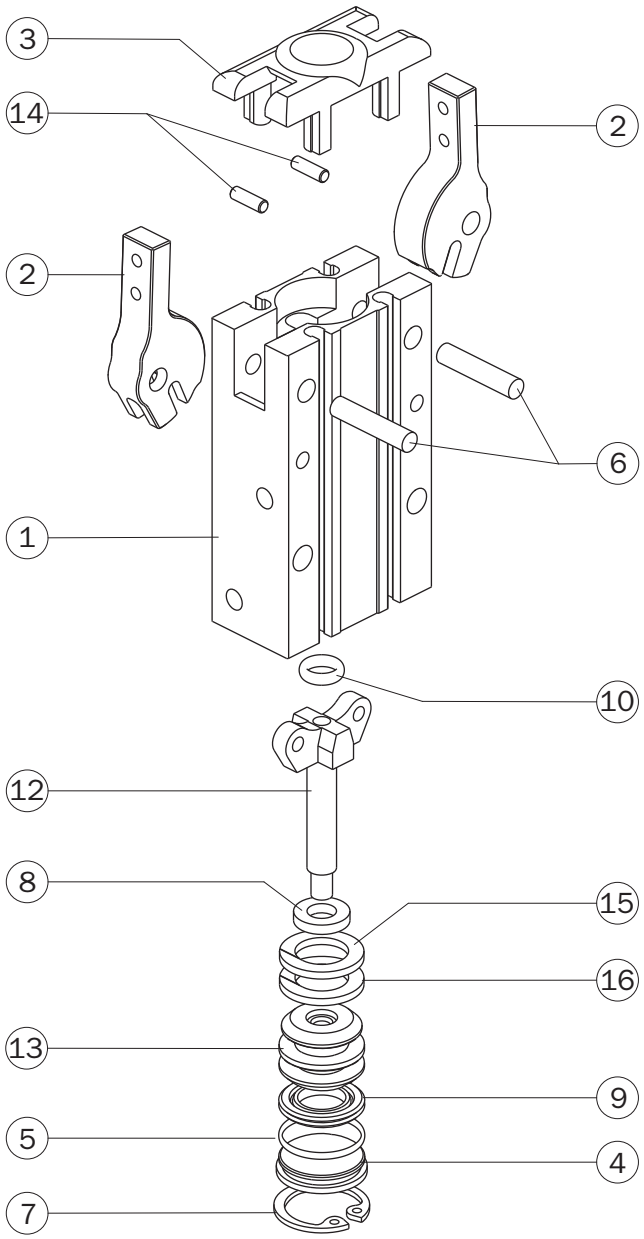
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.



Elenco delle parti / *Part list*



		GX-10S	GX-16S	GX-20S	GX-25S		
1	Corpo Pinza	GX-10S-01	GX-16S-01	GX-20S-01	GX-25S-01	*Gripper housing*	*1*
2	Griffa	GX-10S-03	GX-16S-03	GX-20S-03	GX-25S-03	*Jaw*	*2*
3	Copertura	GX-10-06	GX-16-06	GX-20-06	GX-25-06	*Protection*	*3*
4	Tappo	GS-10-06	GS-16-06	GS-20-06	GS-25-06	*Plug*	*4*
5	O-Ring	GUAR-012 (1.78x6.75)	GUAR-084 (1x4)	GUAR-076 (1.78x17.17)	GUAR-025 (1.78x21.95)	*O-Ring*	*5*
6	Spina di riferimento	SPINA-007 (Ø3x14 DIN6325)	SPINA-012 (Ø4x20 DIN6325)	SPINA-072 (Ø5x24 DIN6325)	SPINA-037 (Ø6x30 DIN6325)	*Dowel pin*	*6*
7	Anello elastico interni	SEEGER-022	SEEGER-016	SEEGER-005	SEEGER-001N	*Retaining ring*	*7*
8	Distanziale elastico	GX-10S-05	RAD-16-9C	GX-20S-06	RAD-25-8C	*Spacer*	*8*
9	Guarnizione dinamica	GUAR-106 (10x5x2.4)	GUAR-002P (16x9x2.5)	GUAR-040P (20x13x2.5)	GUAR-003M (25x18x2.4)	*Dynamic gasket*	*9*
10	O-Ring	GUAR-021H (Ø1x5)	GUAR-011H (Ø1.78x5.28)	GUAR-039H (Ø1.78x6.07)	GUAR-012H (Ø1.78x6.75)	*O-Ring*	*10*
12	Trascinatore	GX-10S-02	GX-16S-02	GX-20S-02	GX-25S-02	*Driver*	*12*
13	Pistone	GX-10S-06	GX-16S-05	GX-20S-05	GX-25S-05	*Piston*	*13*
14	Rullino	SPINA-066 (Ø2x5.8 DIN5402)	SPINA-119 (Ø2.5x7.8 DIN5402)	SPINA-006 (Ø3x10 DIN6325)	SPINA-085 (Ø2x11.8 DIN5402)	*Pin*	*14*
15	Magnete	PAR-10-10B	PAR-16-10B	PAR-20-10B	RAD-25-11	*Magnet*	*15*
16	Magnete	PAR-10-10B	PAR-16-10B	-	-	*Magnet*	*16*

GW

Pinza pneumatica ad azione basculante autocentrante a 2 griffe (serie GW)

- Azionamento a doppio effetto.
- Grande durata e affidabilità senza manutenzione.
- Diverse possibilità di fissaggio.
- Sensori magnetici opzionali.
- Disponibile anche con molla in chiusura (-NC) o in apertura (-NO).

2-jaw self centering rocking pneumatic gripper (series GW)

- *Double acting.*
- *Long life and reliability, maintenance free.*
- *Various options for fastening.*
- *Optional proximity magnetic sensors.*
- *Spring closed (-NC) or spring open (-NO) option.*

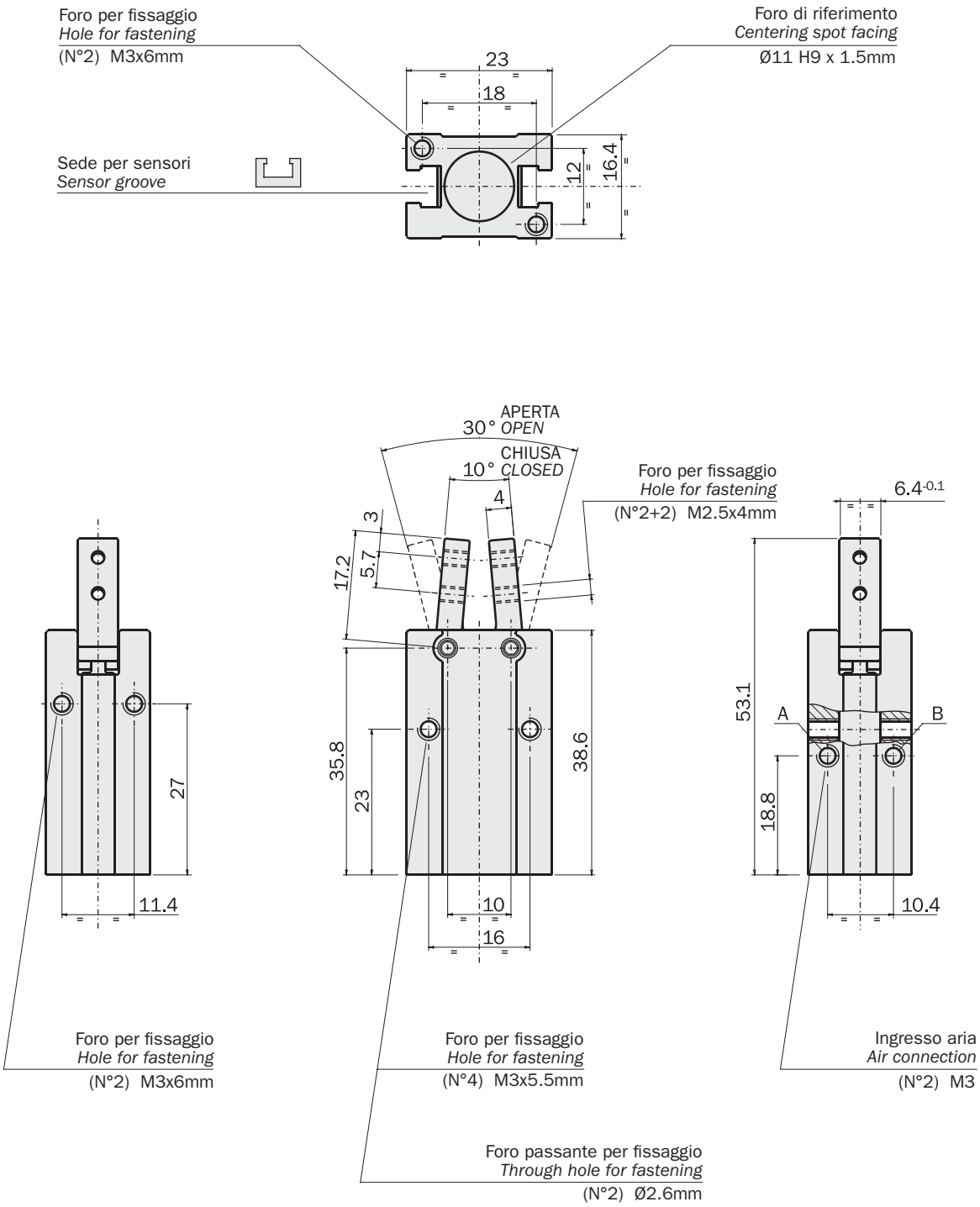


GW-10 **GW-16** **GW-20** **GW-25**

	GW-10	GW-16	GW-20	GW-25
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.			
Coppia di serraggio per griffa in apertura a 6 bar *Opening torque at 6 bar on each jaw*	11 Ncm	45 Ncm	89 Ncm	178 Ncm
Coppia di serraggio totale in apertura a 6 bar *Opening total torque at 6 bar*	22 Ncm	90 Ncm	178 Ncm	356 Ncm
Coppia di serraggio per griffa in chiusura a 6 bar *Closing torque at 6 bar on each jaw*	8 Ncm	36 Ncm	78 Ncm	160 Ncm
Coppia di serraggio totale in chiusura a 6 bar *Closing total torque at 6 bar*	16 Ncm	72 Ncm	156 Ncm	320 Ncm
Corsa (±1°) *Stroke*	2x20°	2x20°	2x20°	2x20°
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	0.7 cm^3	3 cm^3	6 cm^3	11 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.005 s	0.005 s	0.02 s	0.02 s
Ripetibilità *Repetition accuracy*	0.04°	0.04°	0.04°	0.04°
Peso *Weight*	39 g	88 g	180 g	300 g

Dimensioni (mm) / *Dimensions (mm)*

GW-10



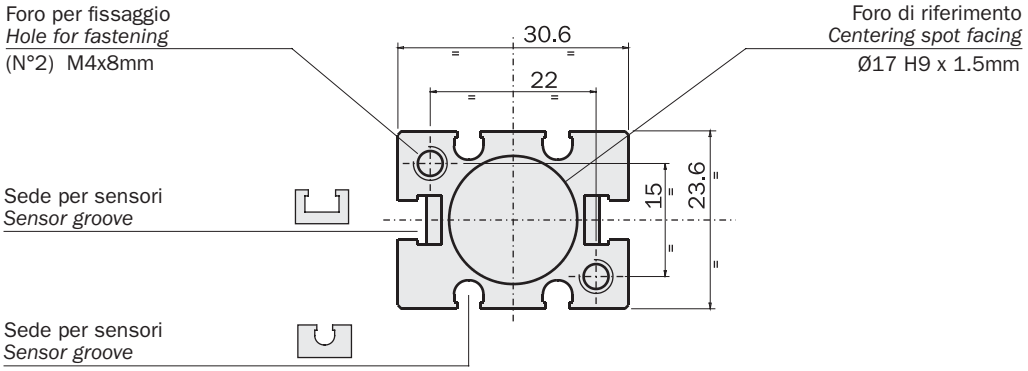
FIRST ANGLE PROJECTION

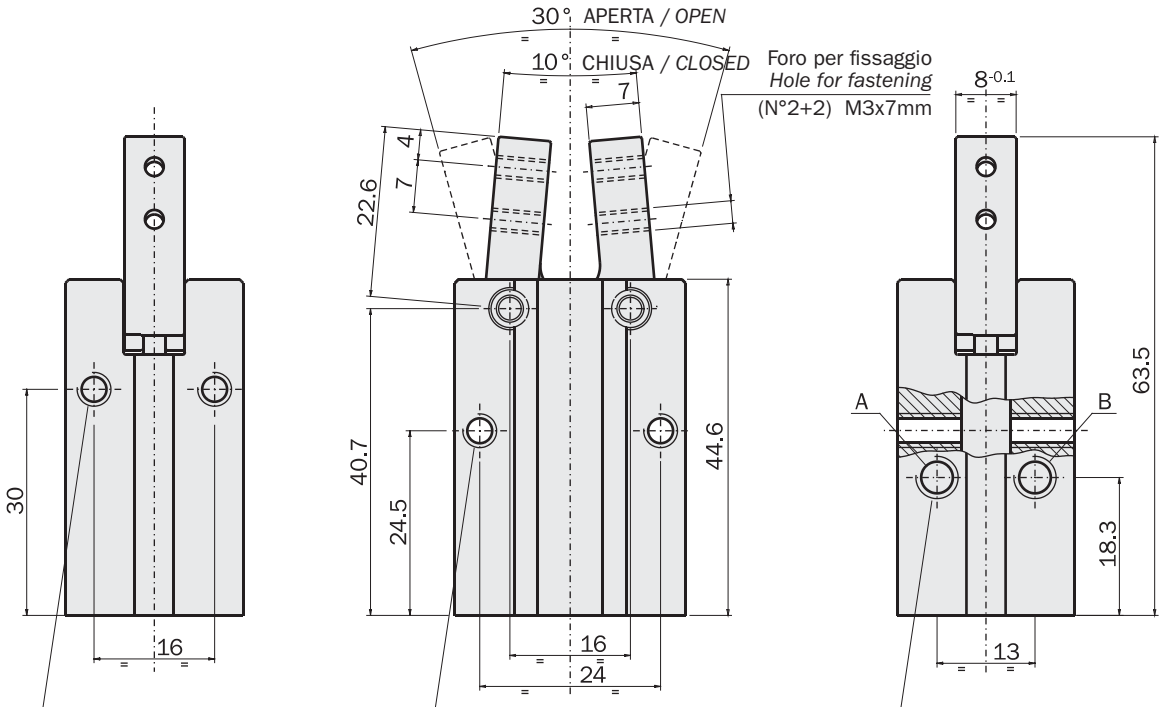
Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

Dimensioni (mm) / *Dimensions (mm)*

GW-16





Foro per fissaggio
Hole for fastening
(N°2) M4x6.5mm

Foro per fissaggio
Hole for fastening
(N°4) M4x8mm

Ingresso aria
Air connection
(N°2) M5

Foro passante per fissaggio
Through hole for fastening
(N°2) Ø3.4mm

Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

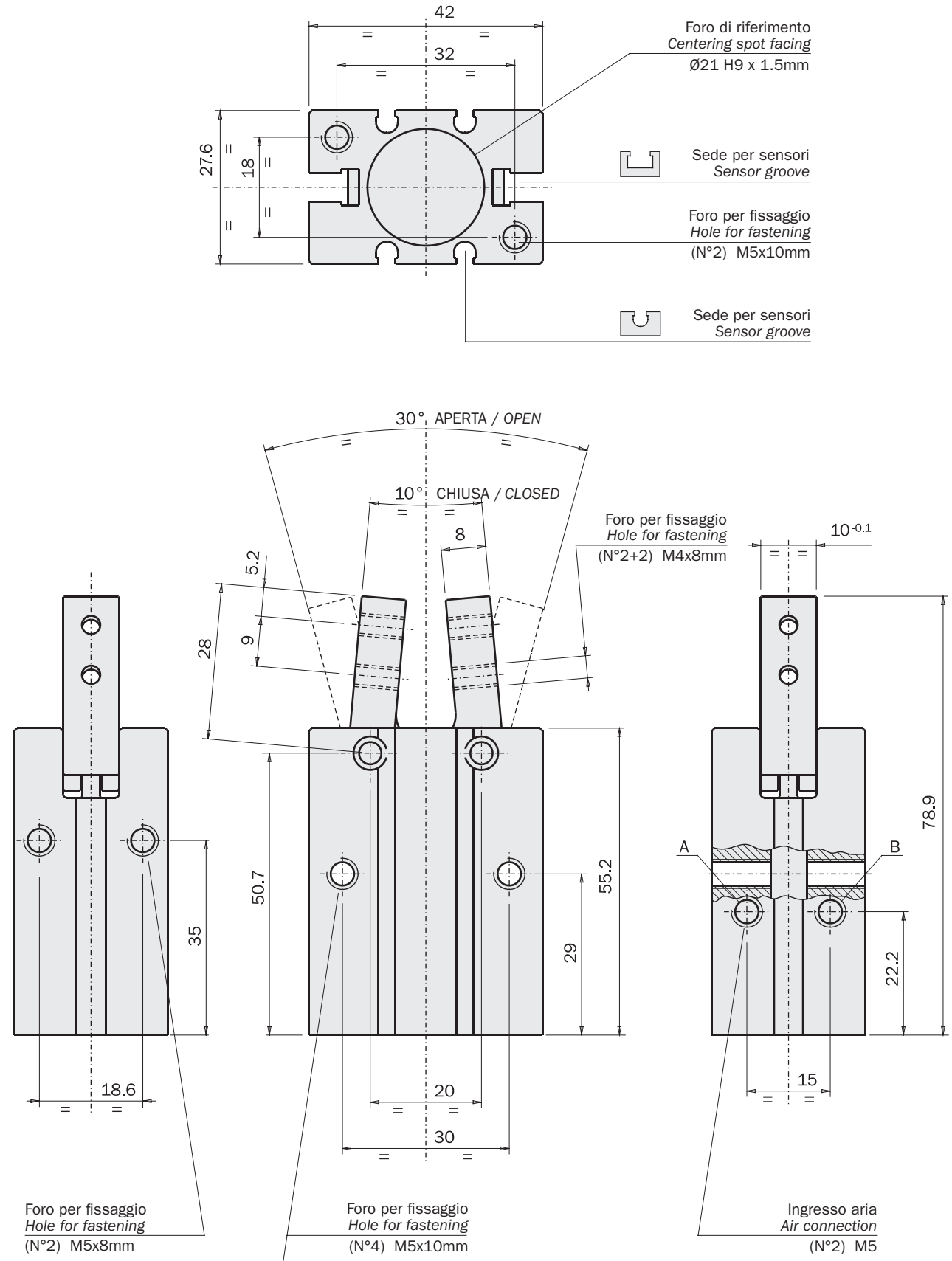
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

GW-20

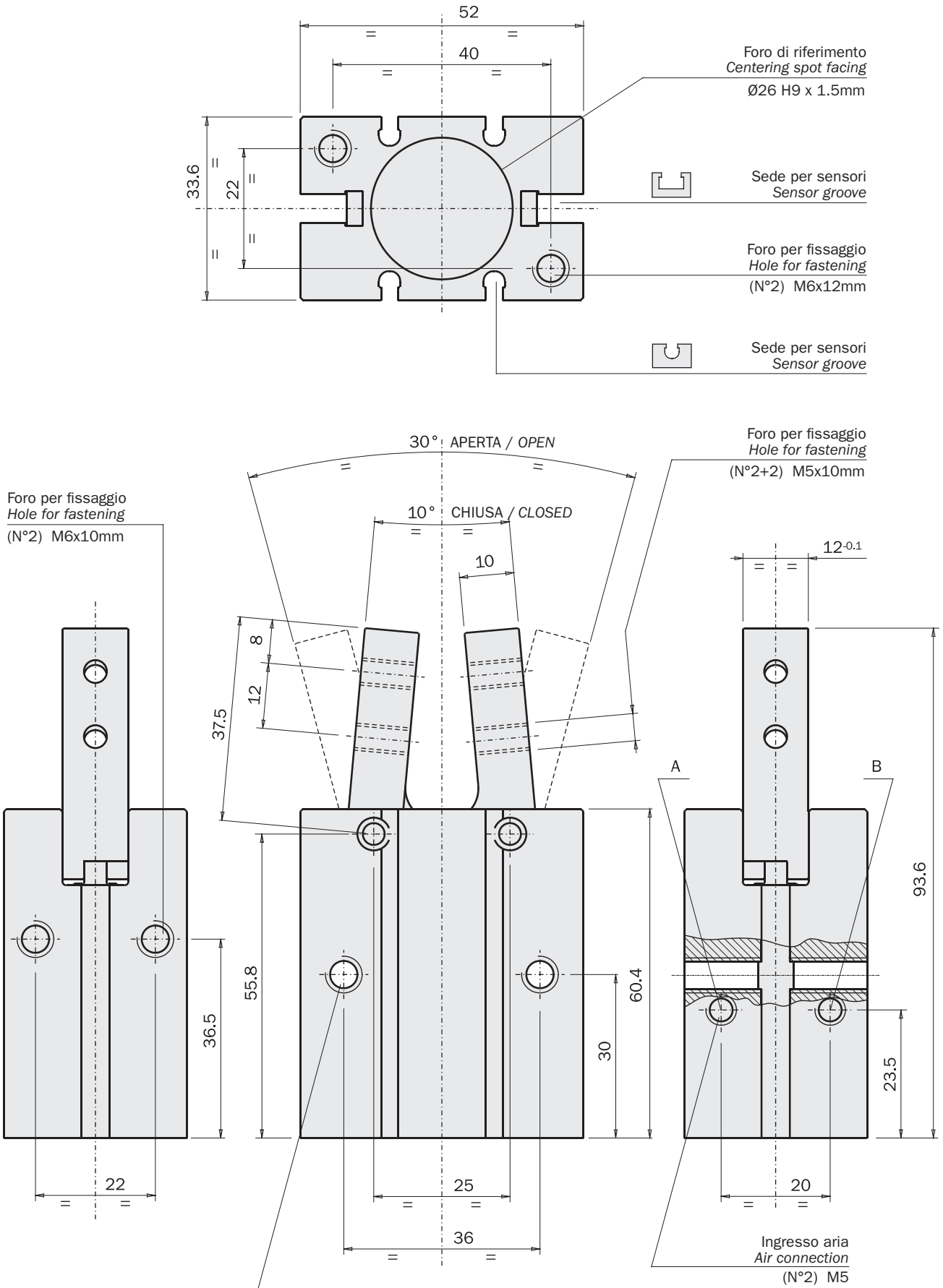


Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

Dimensioni (mm) / *Dimensions (mm)*

GW-25



Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

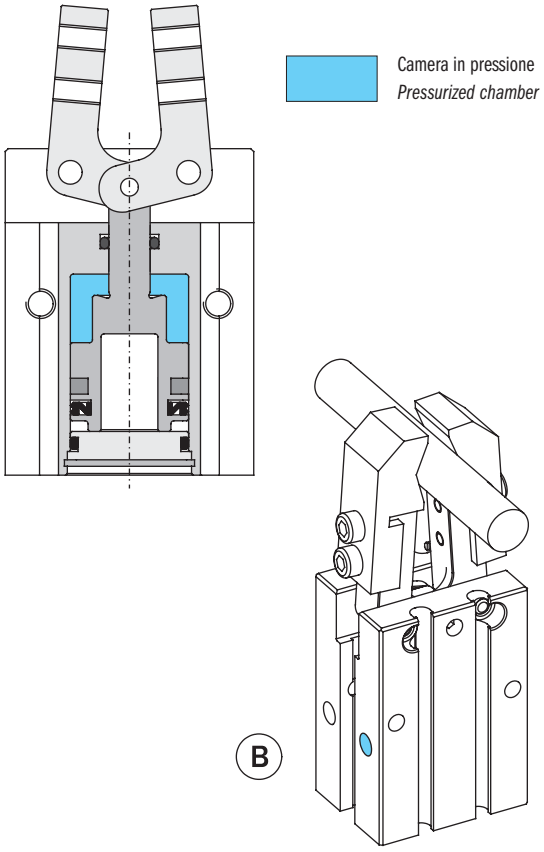
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

03/2015

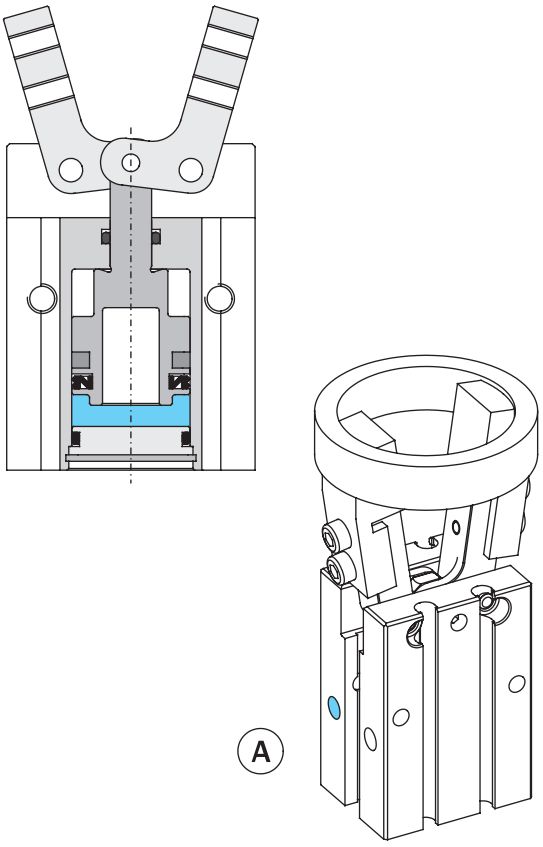
Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno (B) che dall'interno (A).
La forza di serraggio è maggiore in apertura.



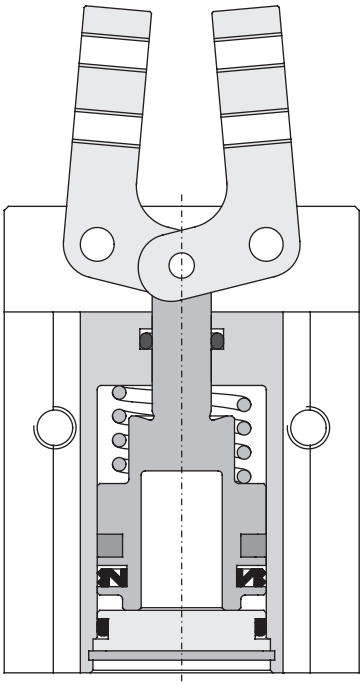
Gripping

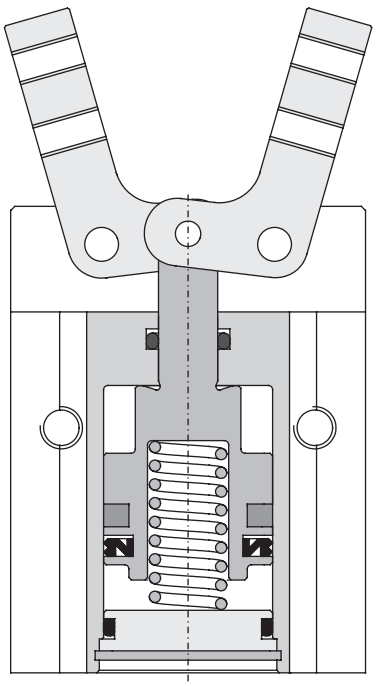
The gripper is double-acting for either internal (A) or external (B) gripping applications.
The opening force is higher.



A richiesta è disponibile la versione con la molla in chiusura (-NC) o in apertura (-NO), che in assenza d'aria garantisce circa un quarto della forza disponibile a 6 bar.

It is also available, on request, with a closing (-NC) or opening (-NO) spring, providing, after a pressure black-out, about one fourth of the output force at 6 bar.





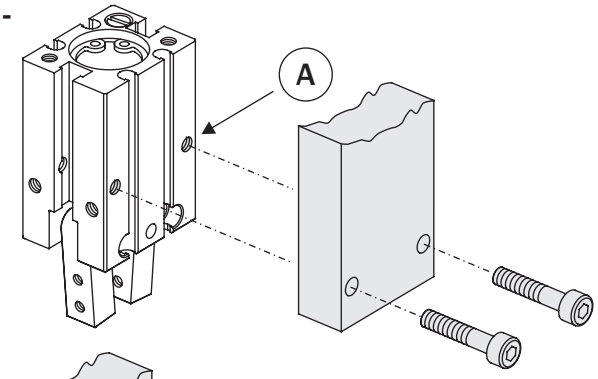
Fissaggio

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
1 - Per fissare la pinza sul lato più largo utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (A) della pinza.
2 - Il fissaggio sul lato largo è possibile anche utilizzando due viti (B) passanti attraverso i fori (A). In questo caso l'utilizzo di sensori nelle cave rettangolari può essere impossibile.
3 - Per fissare la pinza sul lato più stretto utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (E) della pinza.
4 - Per fissare la pinza sul fondo utilizzare due viti passanti nella piastra ed avvitate nel foro filettato (C) ed una pastiglia di centraggio nella lamatura centrale (D). In questo caso si deve prevedere lo spazio per i sensori (X e Y).

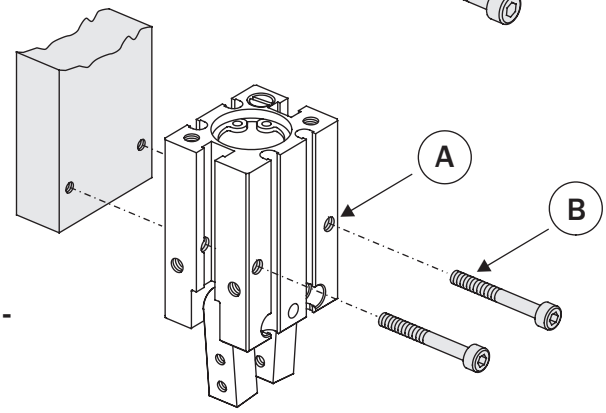
Fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.
1 - To fasten the gripper on the wider side, use a plate with two through holes and two screws to be screwed on the threaded holes (A) on the gripper housing.
2 - It is possible to fasten the gripper on the wider side also with two screws (B) passing through the threaded holes (A). In this case sensors on the T-slot could be unusable.
3 - To fasten the gripper on the narrow side, two screws passing through the holes on the plate, must be screwed into the threaded holes (E) on the gripper housing.
4 - The gripper can be fastened on the bottom as well, using two screws passing through the holes on the plate and screwed into the threaded holes (C) on the gripper housing. For the reference use a centering disc in the spot face (D). In this case the necessary room for sensor must be provided (X and Y).

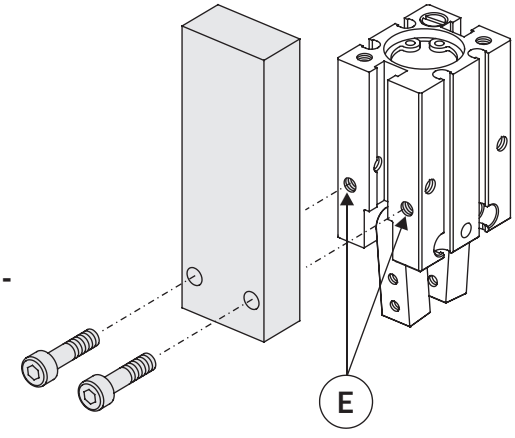
1 -



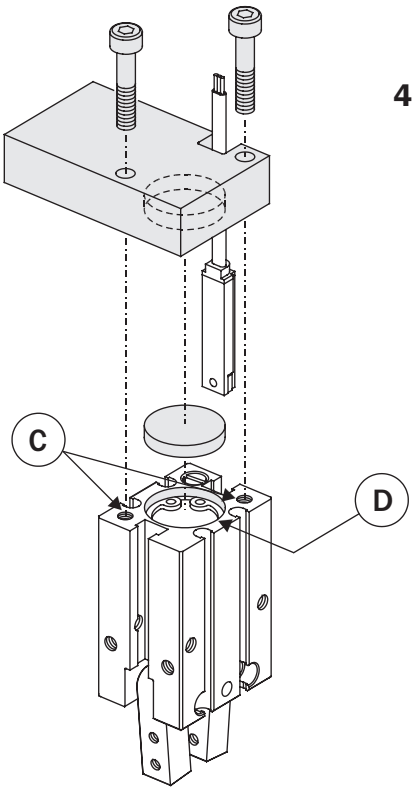
2 -

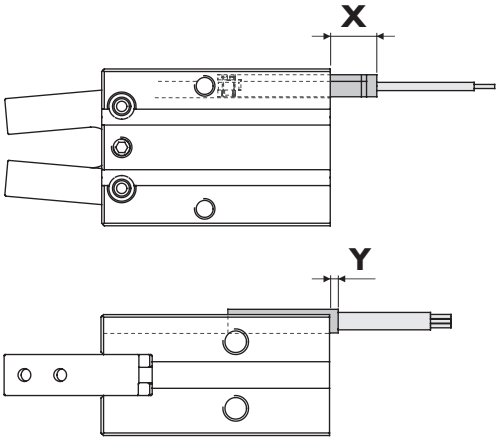


3 -



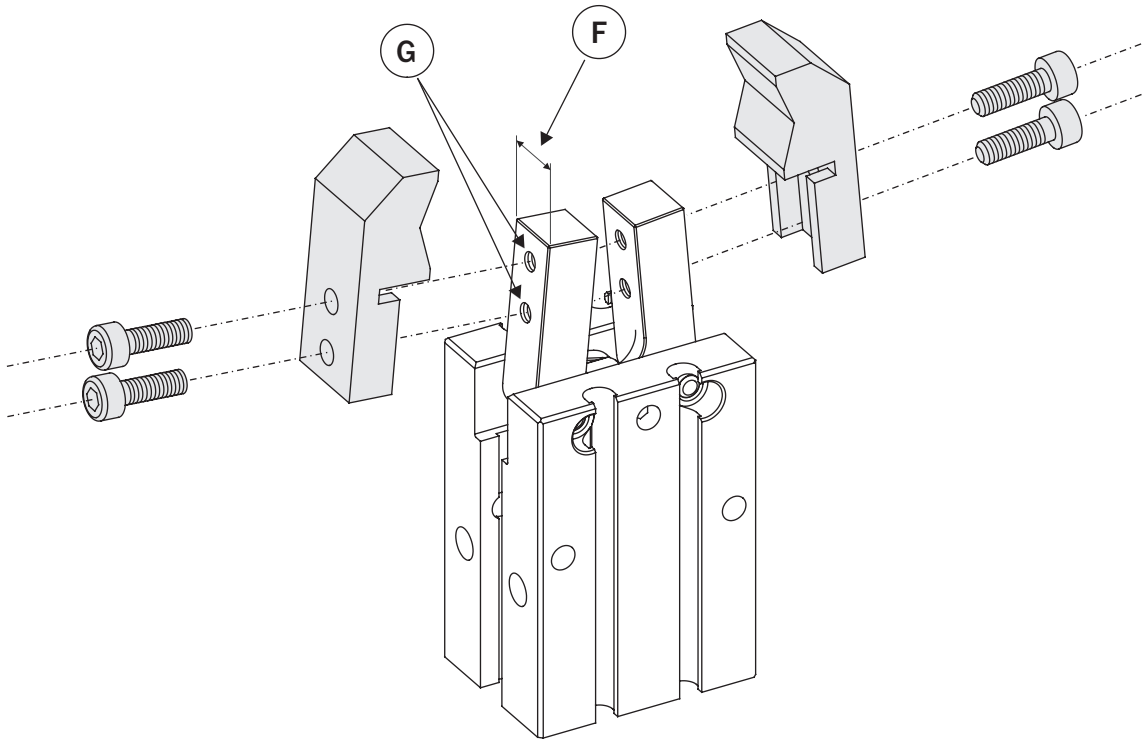
4 -





Costruire le dita di presa il più possibile corte e leggere.
Fissarle con due viti nei fori filettati (G).
Per il centraggio sulle griffe si può fare riferimento alla quota calibrata (F).

The gripping tools must be as short and light as possible.
They must be fastened by two screws in the threaded holes (G).
For a precise positioning on the jaw use the calibrated dimension (F).



	GW-10	GW-16	GW-20	GW-25
A	M3x5.5 mm	M4x8 mm	M5x10 mm	M6x12 mm
B	M2.5x22 mm	M3x30 mm	M4x35 mm	M5x45 mm
C	M3x6 mm	M4x8 mm	M5x10 mm	M6x12 mm
D	Ø11H9 x 1.5 mm	Ø17H9 x 1.5 mm	Ø21H9 x 1.5 mm	Ø26H9 x 1.5 mm
E	M3x6 mm	M4x6.5 mm	M5x8 mm	M6x10 mm
F	6.4 $^{-0.1}$ mm	8 $^{-0.1}$ mm	10 $^{-0.1}$ mm	12 $^{-0.1}$ mm
G	M2.5x4 mm	M3x7 mm	M4x8 mm	M5x10 mm

	GW-10	GW-16	GW-20	GW-25
SC	/	X=2 mm	X=0 mm	X=0 mm
SL	X=10 mm + cable	X=10 mm + cable	X=10 mm + cable	X=10 mm + cable
SN	X=2 mm	X=Y=3 mm	X=Y=3 mm	X=Y=2 mm
SS	X=2 mm + cable	X=Y=3 mm + cable	X=Y=3 mm + cable	X=Y=2 mm + cable

GW

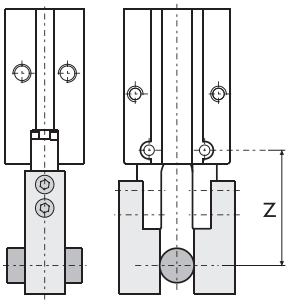
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

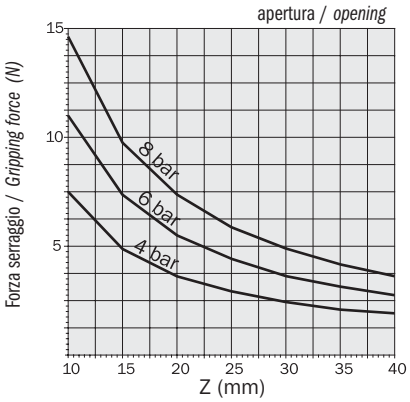
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

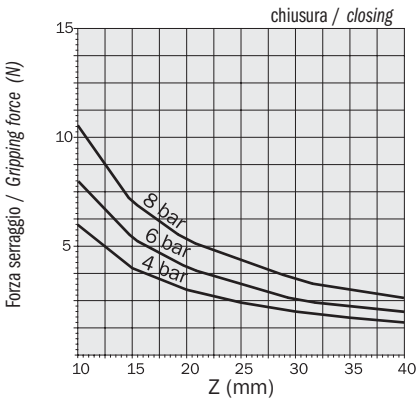
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**



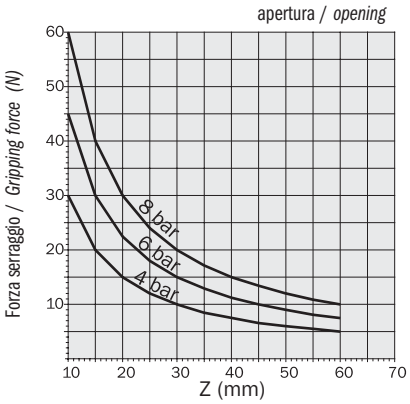
***The force shown in these graphs refers to one jaw.
The total force is double.***

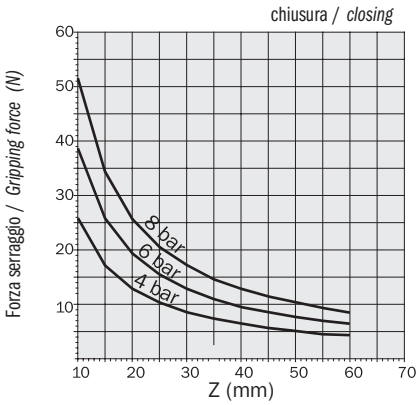
GW-10



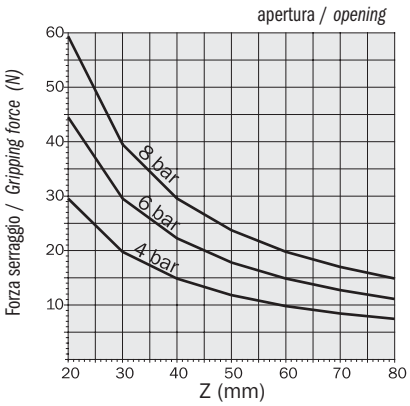


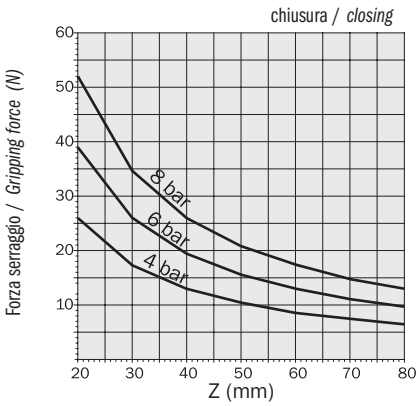
GW-16



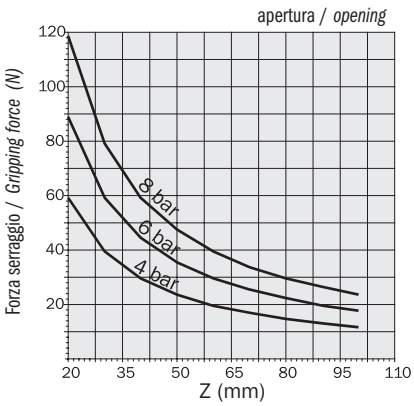


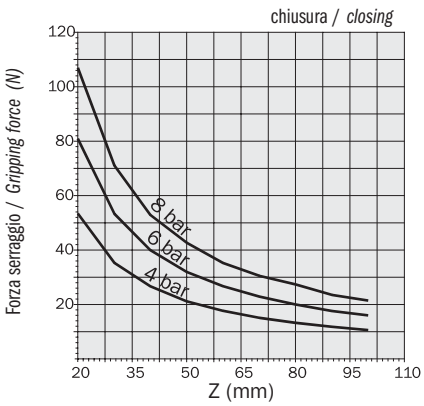
GW-20





GW-25



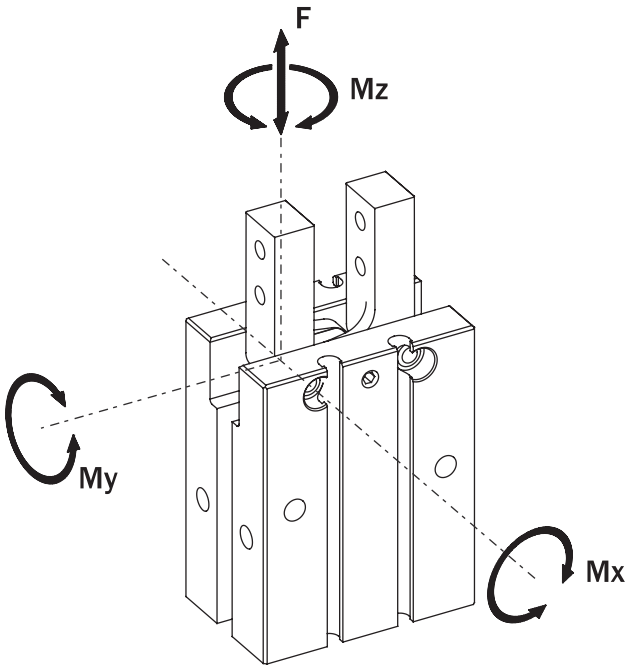


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F, Mx, My, Mz, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F, Mx, My, Mz, are maximum permitted static loads.
Static means with motionless jaws.



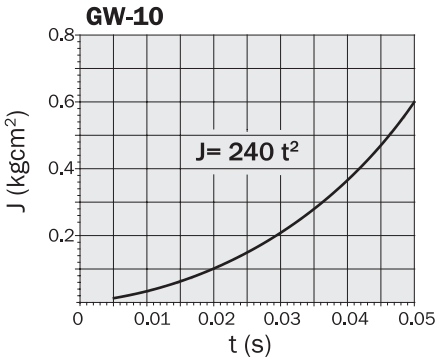
	GW-10	GW-16	GW-20	GW-25
F	40 N	60 N	100 N	100 N
Mx	0.4 Nm	1.2 Nm	1.5 Nm	2.2 Nm
My	0.5 Nm	0.9 Nm	2.2 Nm	2.2 Nm
Mz	0.5 Nm	0.9 Nm	2.2 Nm	2.2 Nm

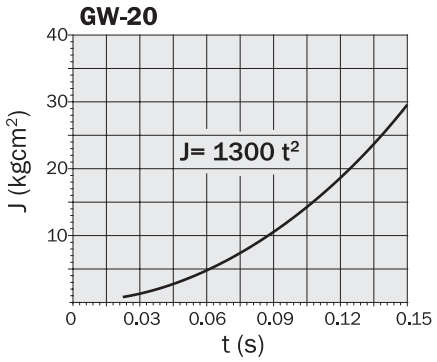
Regolazione della velocità

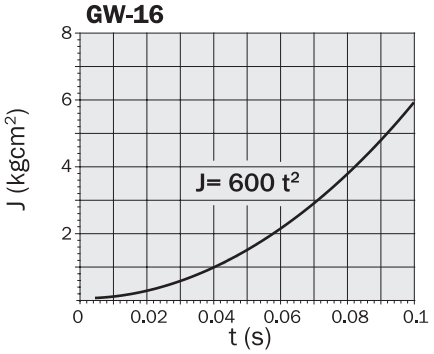
I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

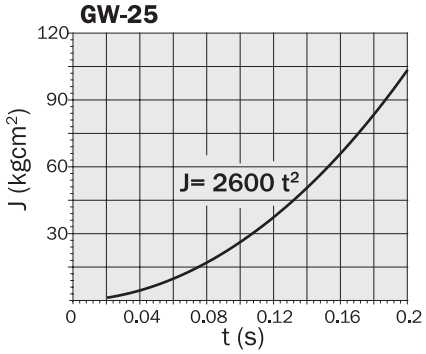
Speed adjustment

The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.









GW

Sensori

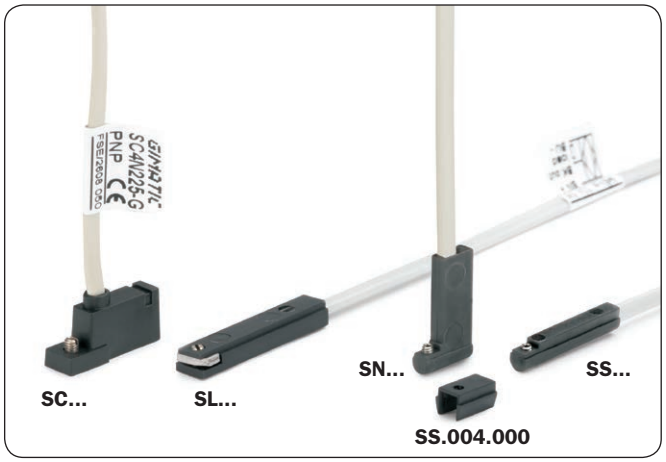
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

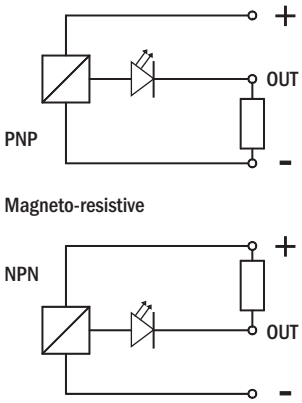
Sensors

The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnet on the piston inside.
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

I sensori utilizzabili sono:

Use sensors:

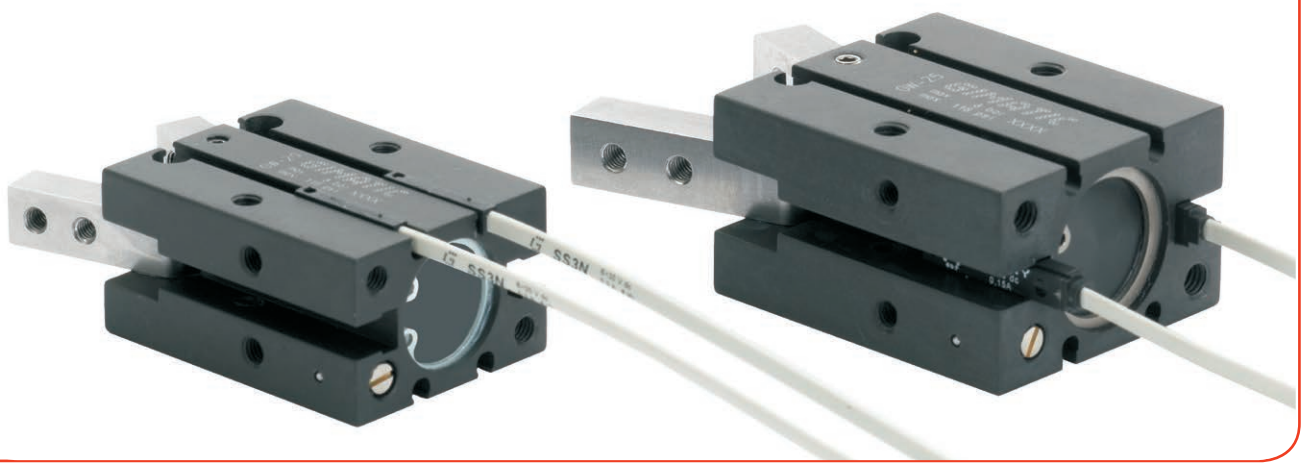




			GW-10	GW-16		GW-20		GW-25	
SC4N225Y	PNP	Cavo 2.5m / 2.5m cable	☐	☐	☑	☐	☑	☐	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☐	☐	☑	☐	☑	☐	☑
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑	☐	☑	☐	☑	☐	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑	☐	☑	☐	☑	☐	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☐	☑	☐	☑	☐	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☐	☑	☐	☑	☐	☑
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☐	☑	☐	☑	☐	☑	☐
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☐	☑	☐	☑	☐	☑	☐
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☐	☑	☐	☑	☐	☑	☐
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☐	☑	☐	☑	☐	☑	☐
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)	☑	☑ (1)	☑	☑ (1)	☑	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)	☑	☑ (1)	☑	☑ (1)	☑	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑	☑ (1)	☑	☑ (1)	☑	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑	☑ (1)	☑	☑ (1)	☑	☑ (1)

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.



Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (A e B) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in A: apertura della pinza.
Aria compressa in B: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

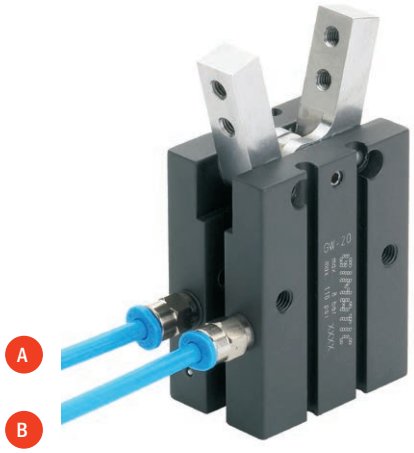
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (A and B) with fittings and hoses (not supplied).

Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

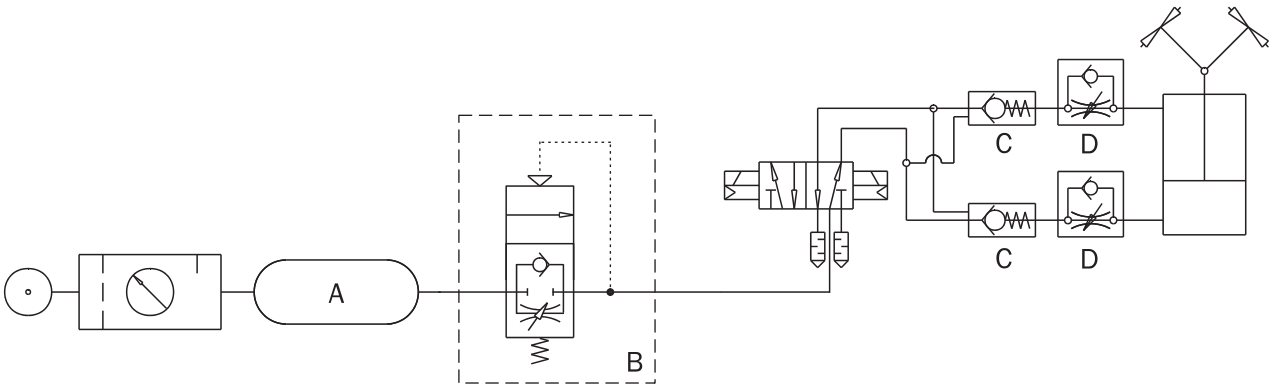
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione
2- Riempimento pinza vuota all'avvio
3- Improvvisa mancanza di pressione
4- Velocità di azionamento eccessiva

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A)
2- Valvola di avviamento progressivo (B)
3- Valvole di sicurezza (C)
4- Regolatori di flusso (D)

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation
2- Pressurizing with empty cylinder
3- Sudden pressure black-out
4- Excessive speed of the jaws

Possible solutions:
1- Compressed air storage (A)
2- Start-up valve (B)
3- Safety valve (C)
4- Flow controller (D)



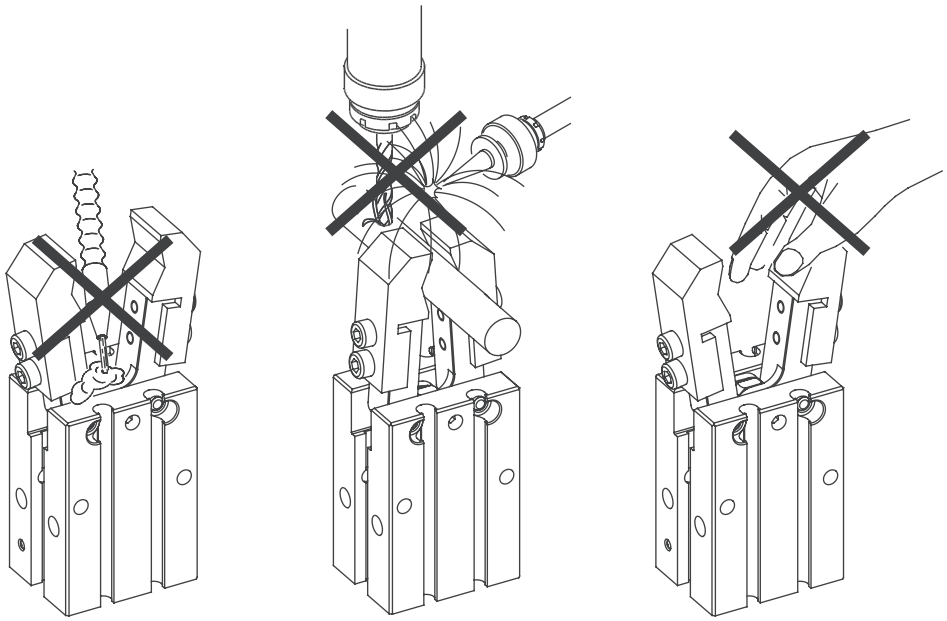
GW

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

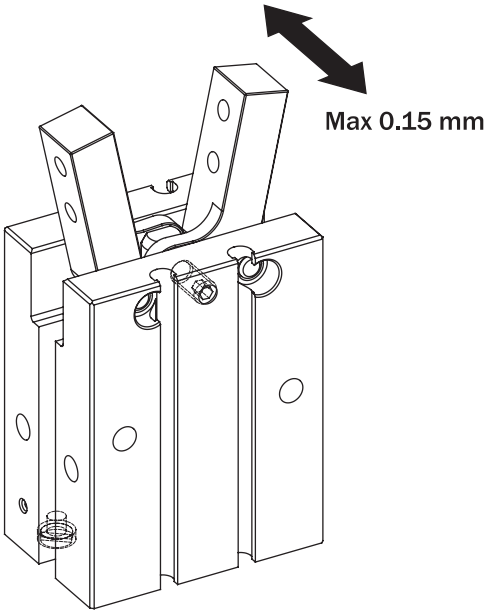
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.
NON RIMUOVERE MAI I TAPPI.

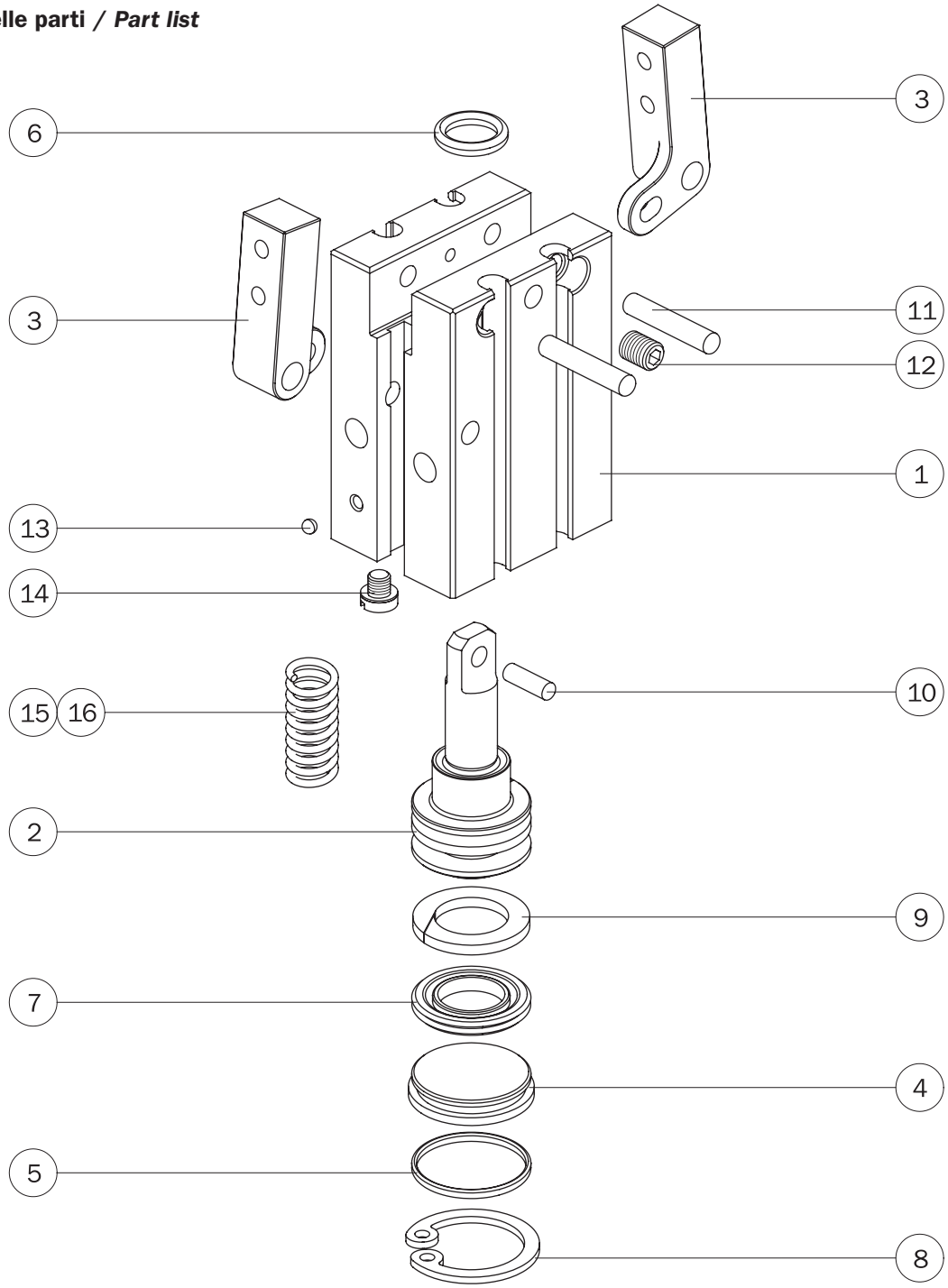
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.
NEVER REMOVE THE PLUGS.



Elenco delle parti / *Part list*



		GW-10	GW-16	GW-20	GW-25		
1	Corpo pinza	GW-10-01	GW-16-01	GW-20-01	GW-25-01	*Gripper housing*	*1*
2	Pistone	GW-10-02	GW-16-02	GW-20-02	GW-25-02	*Piston*	*2*
3	Griffa	GW-10-03	GW-16-03	GW-20-03	GW-25-03	*Jaw*	*3*
4	Tappo	GS-10-06	GS-16-06	GS-20-06	GS-25-06	*Cap*	*4*
5	O-RING	Ø1.78x6.75 (GUAR-012)	Ø1x14 (GUAR-084)	Ø1.78x17.17 (GUAR-076)	Ø1.78x21.95 (GUAR-025)	*O-RING gasket*	*5*
6	O-RING	Ø1x5 (GUAR-021)	Ø1.78x6.75 (GUAR-012)	Ø1.78x6.75 (GUAR-012)	Ø1.78x7.66 (GUAR-045)	*O-RING gasket*	*6*
7	Guarnizione dinamica	10x5x2.4 (GUAR-106E)	16x9x2.5 (GUAR-002P)	20x13x2.5 (GUAR-040P)	25x18x2.4 (GUAR-003M)	*Dynamic gasket*	*7*
8	Anello elastico per int.	Ø11 mm DIN 472	Ø17 mm DIN 472	Ø21 mm DIN 472	Ø26 mm DIN 472	*Retaining ring*	*8*
9	Magnete	GS-10-11	PAR-16-10B	PAR-20-10B	PAR-25-10B	*Magnet*	*9*
10	Spina di riferimento	Ø2x6.3 mm DIN 5402	Ø2.5x7.8 mm DIN 5402	Ø3x10 mm DIN 6325	Ø4x12 mm DIN 6325	*Dowel pin*	*10*
11	Spina di riferimento	Ø2.5x15.8 mm DIN 5402	Ø3x16 mm DIN 6325	Ø4x20 mm DIN 6325	Ø4x21.8 mm DIN 5402	*Dowel pin*	*11*
12	Vite senza testa	M3x4 mm INOX DIN913	M4x5 mm INOX DIN913	M4x8 mm INOX DIN913	M5x10 mm INOX DIN913	*Grub screw*	*12*
13	Sfera	Ø2 mm AA DIN 5401A	Ø2 mm AA DIN 5401A	Ø2 mm AA DIN 5401A	Ø2 mm AA DIN 5401A	*Ball*	*13*
14	Tappo M3	-	DT-205	DT-205	DT-205	*Plug*	*14*
15	Molla (solo per NC)	GS-10-08	GW-16-08	GS-20-08	PAR-25-11B	*Spring (only NC)*	*15*
16	Molla (solo per NO)	GS-10-09	PAR-16-12B	PAR-20-12B	GS-25-09	*Spring (only NO)*	*16*

AA

Pinza pneumatica angolare autocentrante a due griffe serie AA-25-NO

- Azionamento a semplice effetto.
- Apertura a molla.
- Regolazione della corsa di chiusura.
- Sensori magnetici opzionali.

2-jaw self-centering angular pneumatic gripper series AA-25-NO

- *Single-acting.*
- *Spring opening.*
- *Closing stroke adjustment.*
- *Optional magnetic sensors.*



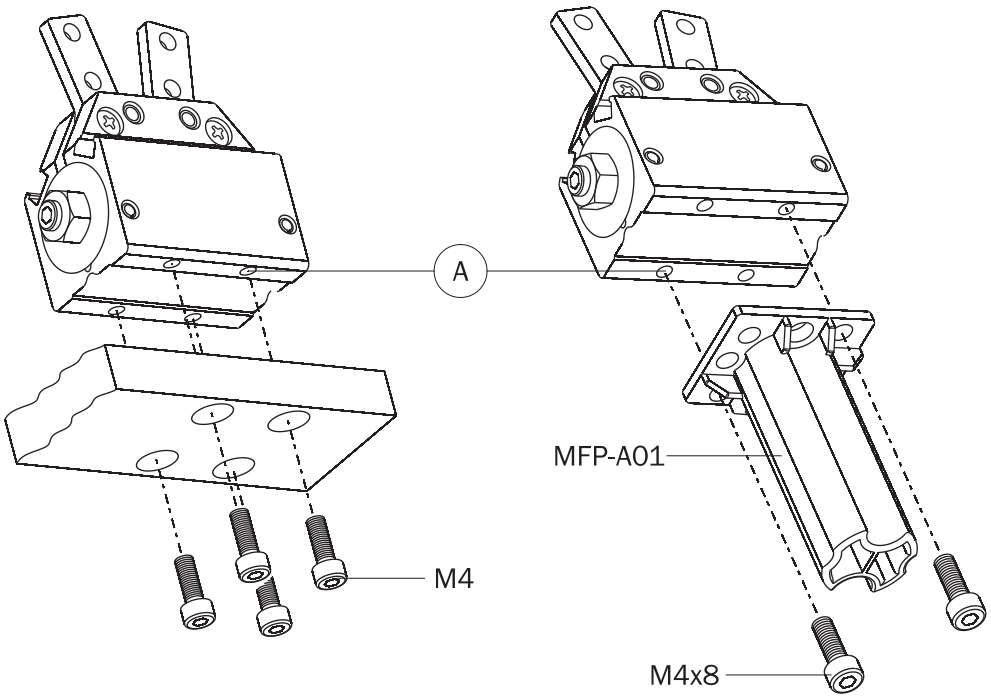
	AA-25-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.
Corsa (±1°) *Stroke*	2 x 14°
Coppia di chiusura per griffa a 6 bar *Closing torque at 6 bar on each jaw*	125 Ncm
Coppia di chiusura totale a 6 bar *Total closing torque at 6 bar*	250 Ncm
Coppia di apertura per griffa a 0 bar *Opening torque at 0 bar on each jaw*	25 Ncm
Coppia di apertura totale a 0 bar *Total opening torque at 0 bar*	50 Ncm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	2 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s
Peso *Weight*	105 g

Fissaggio della pinza

Usare quattro o almeno due viti M4 nei fori filettati (A) sul fondo della pinza.

Gripper fastening

Use four or at least two screws M4 in the threaded holes (A) on the base of the gripper.



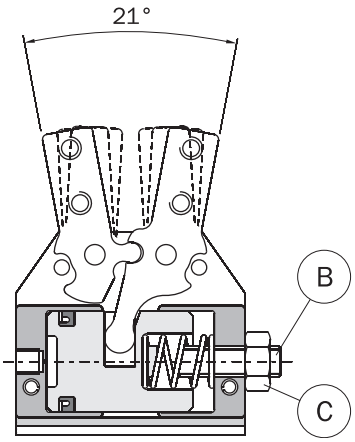
Regolazione della corsa

Usare il grano filettato (B) per regolare la corsa e bloccarlo con il dado (C).

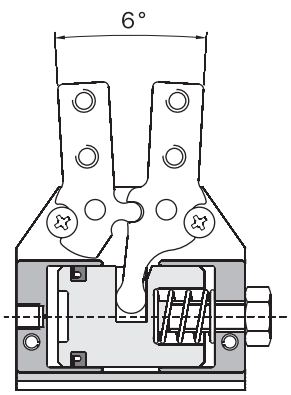
Stroke adjustment

Use the grub screw (B) to adjust the stroke, then lock it with the nut (C).

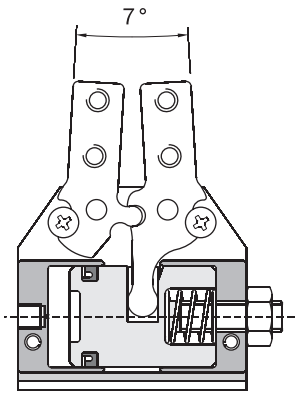
COMPLETAMENTE APERTA
FULLY OPEN



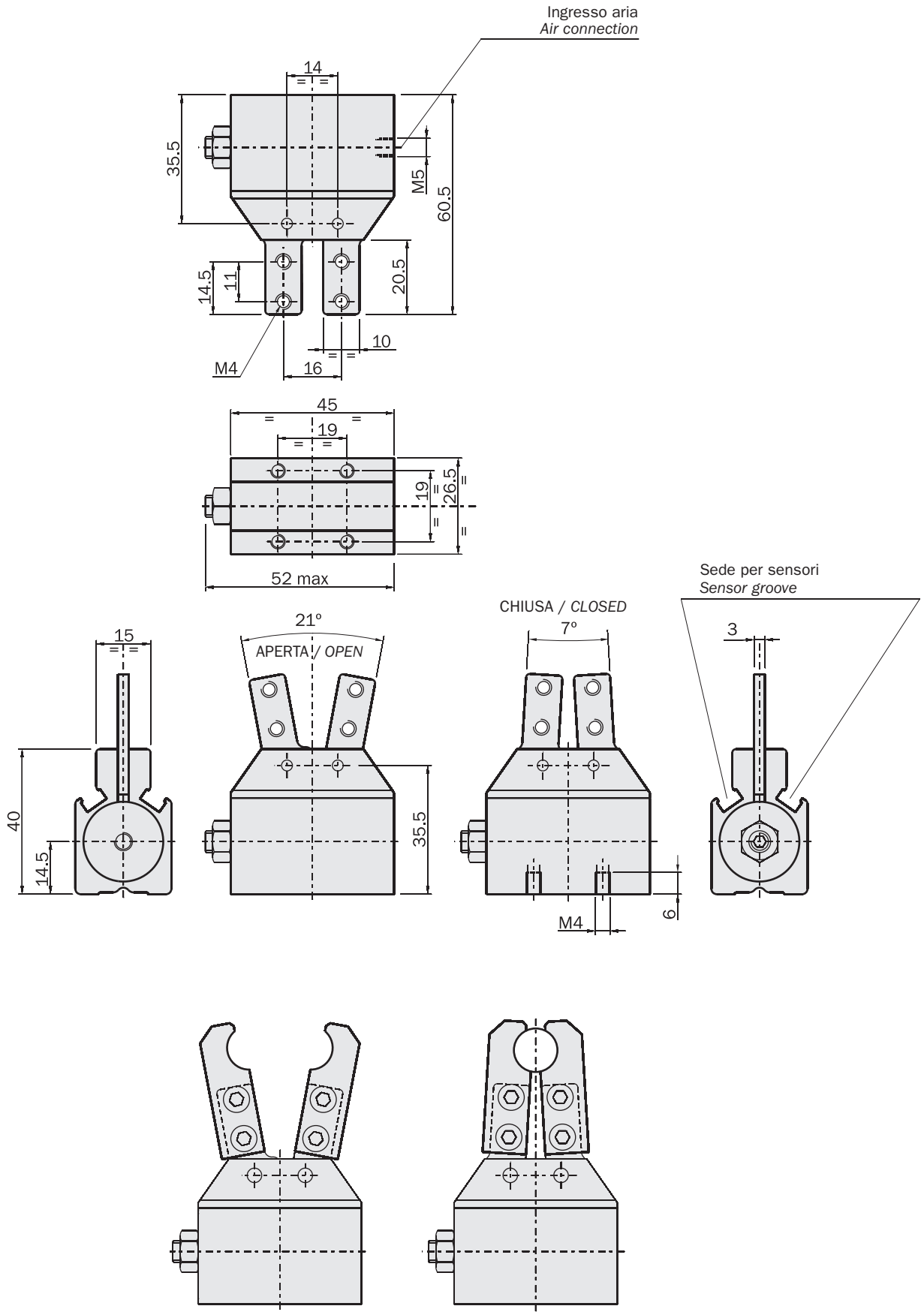
CORSA MINIMA
MINIMUM STROKE



CORSA MASSIMA
MAXIMUM STROKE



Dimensioni (mm) / *Dimensions (mm)*



FIRST ANGLE PROJECTION

Sensori

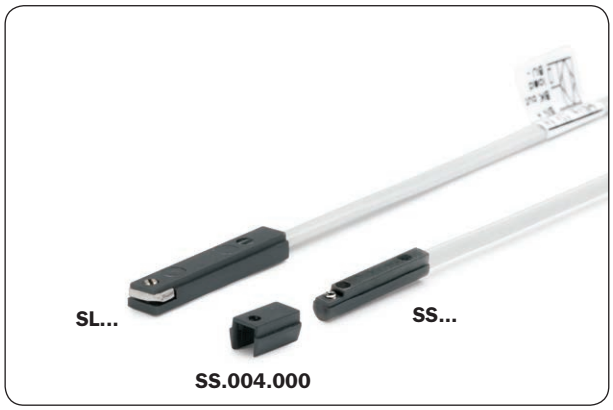
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti interni.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

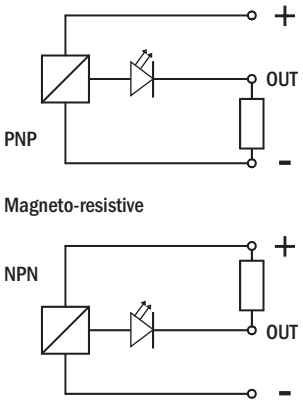
Sensors

The operating position can be checked by magnetic sensors (optional), that detect the magnets inside.
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Use sensors:

I sensori utilizzabili sono:



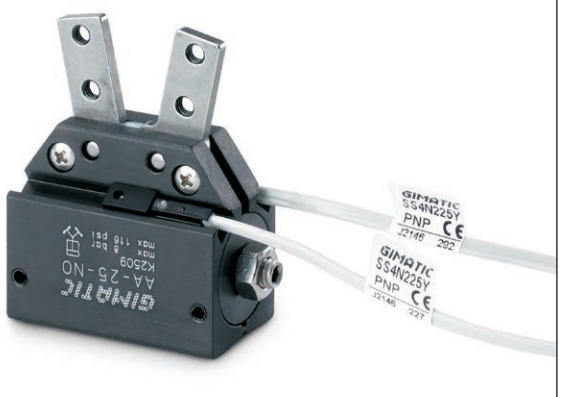


			AA-25-NO
SL4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SL4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)

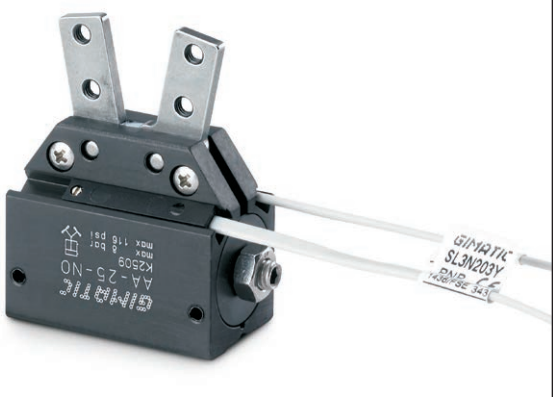
(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.

SS...

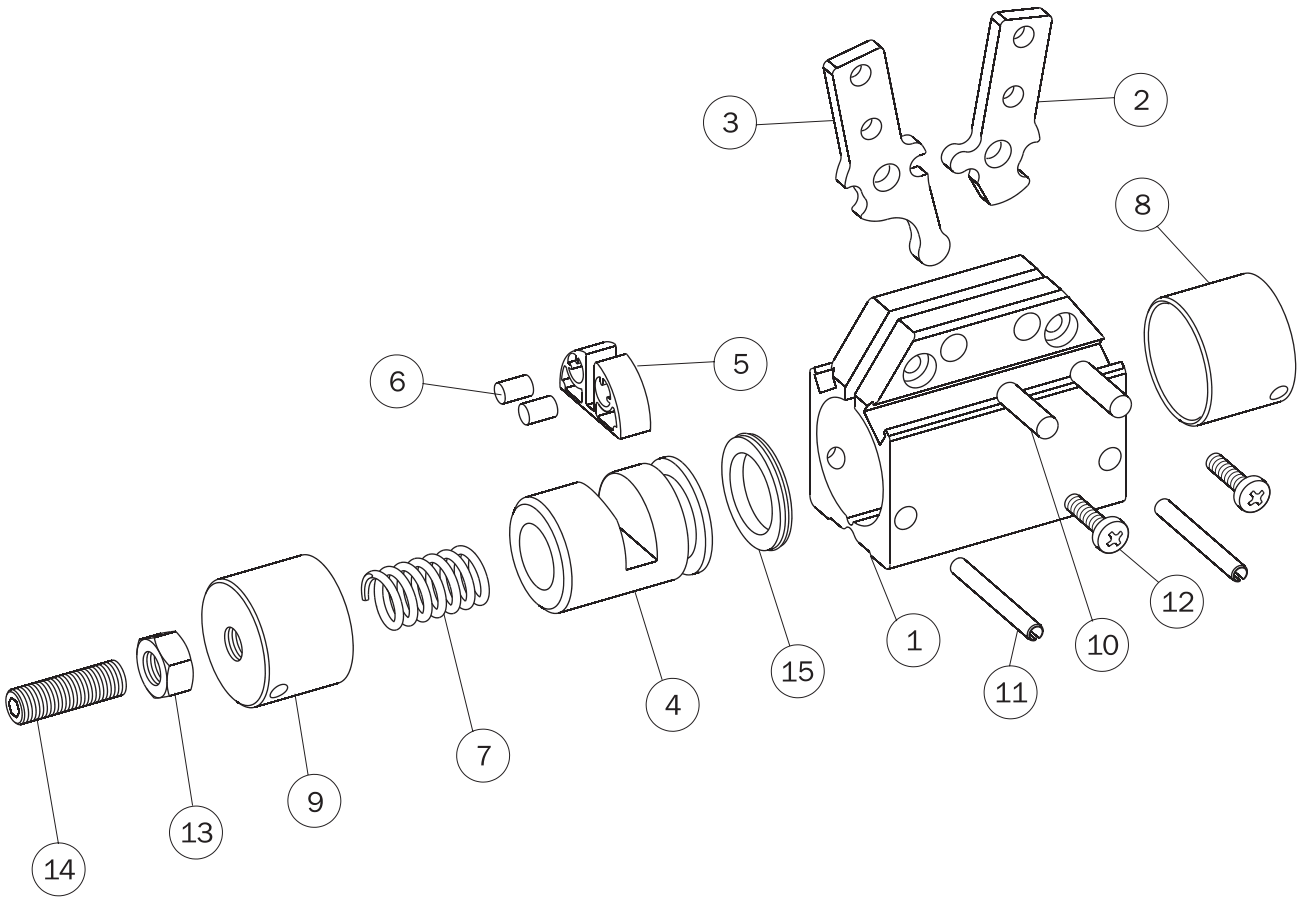


SL...



AA

Elenco delle parti / *Part list*



		AA-25-N0		
1	Corpo pinza	AA-20-1	*Gripper housing*	*1*
2	Griffa dx	AA-21-1	*Right jaw*	*2*
3	Griffa sx	AA-21-2	*Left jaw*	*3*
4	Pistone	AA-25-1	*Piston*	*4*
5	Inserto portamagnete	AA-20-4	*Magnet housing*	*5*
6	Magnete	PAR-06-7	*Magnet*	*6*
7	Molla	AA-20-7	*Spring*	*7*
8	Cilindro	AA-20-3	*Cylinder*	*8*
9	Cilindro	AA-25-2	*Cylinder*	*9*
10	Spina di riferimento	SPINA-019 (Ø4x14 mm DIN6325)	*Dowel pin*	*10*
11	Spina elastica	SPINA-120 (Ø3x26 mm DIN7346)	*Elastic pin*	*11*
12	Vite	VITE-152 (M3x12 mm DIN7985A INOX A2)	*Screw*	*12*
13	Dado	VITE-093 (M6 DIN934 INOX A2)	*Nut*	*13*
14	Vite senza testa	VITE-214 (M6x20 mm DIN913 INOX A2)	*Grub screw*	*14*
15	Guarnizione dinamica	GUAR-058 (20x14x3)	*Dynamic gasket*	*15*

03/2015

Circuito pneumatico

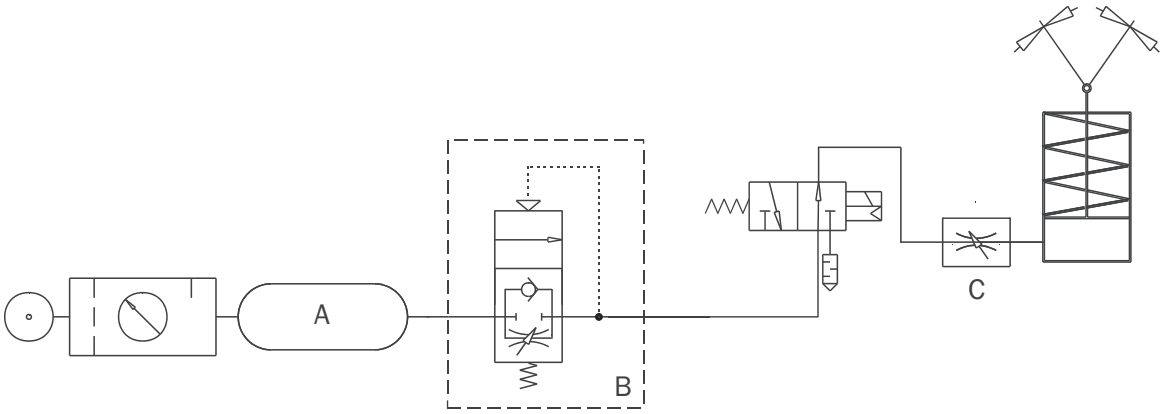
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione;
2- Riempimento pinza vuota all'avvio;
3- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A);
2- Valvola di avviamento progressivo (B);
3- Regolatori di flusso (C).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation;
2- Pressurizing with empty cylinders;
3- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A);
2- Start-up valve (B);
3- Flow controller (C).



Connessione pneumatica

La pinza si alimenta montando raccordi M5 (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

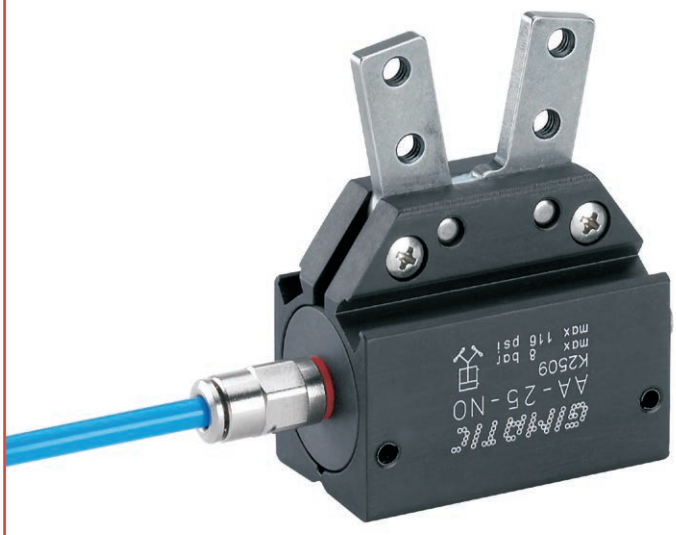
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The gripper is fed by M5 fittings (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Pinza pneumatica basculante a 2 griffe (serie PB)

- Azionamento non autocentrante a doppio effetto.
- Griffe con doppio attacco, per applicazioni con carico/scarico contemporaneo.
- Basso peso.
- Profilo piatto.
- Semplice ed affidabile.
- Resistente alla corrosione.

2-jaw pneumatic rocking gripper (series PB)

- *Double-acting, not self-centering motion.*
- *Double attachment jaws, for contemporary upload and download.*
- *Lightweight.*
- *Flat profile.*
- *Simplicity and reliability.*
- *Corrosion resistant.*



PB-0010



PB-0020

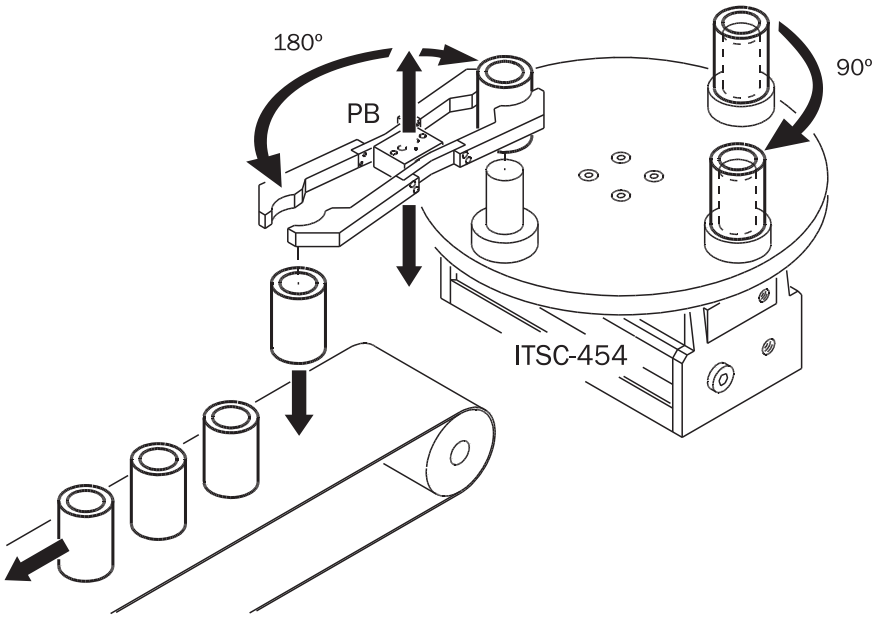
	PB-0010	PB-0020
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar	
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C.	
Corsa (±1°) *Stroke*	2 x 11°	2 x 7°
Coppia di serraggio per griffa a 6 bar *Gripping torque at 6 bar on each jaw*	90 Ncm	400 Ncm
Coppia di serraggio totale a 6 bar *Total gripping torque at 6 bar*	180 Ncm	800 Ncm
Frequenza max funzionamento continuativo *Maximum working frequency*	3 Hz	3 Hz
Consumo d'aria per ciclo *Cycle air consumption*	1.4 cm^3	3.8 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.02 s	0.03 s
Ripetibilità *Repetition accuracy*	NO	NO
Peso *Weight*	100 g	350 g

Esempio di applicazione

La particolare forma simmetrica della griffa a doppia leva basculante, rende questa pinza adatta per un lavoro di presa e rilascio contemporaneo, permettendo realizzazioni molto vantaggiose in termini di semplicità, peso e velocità.

Application example

The symmetrical rocking jaw with its particular double-lever shape, makes this gripper suitable for contemporary upload and download. It allows advantageous applications as simplicity, weight and speed.

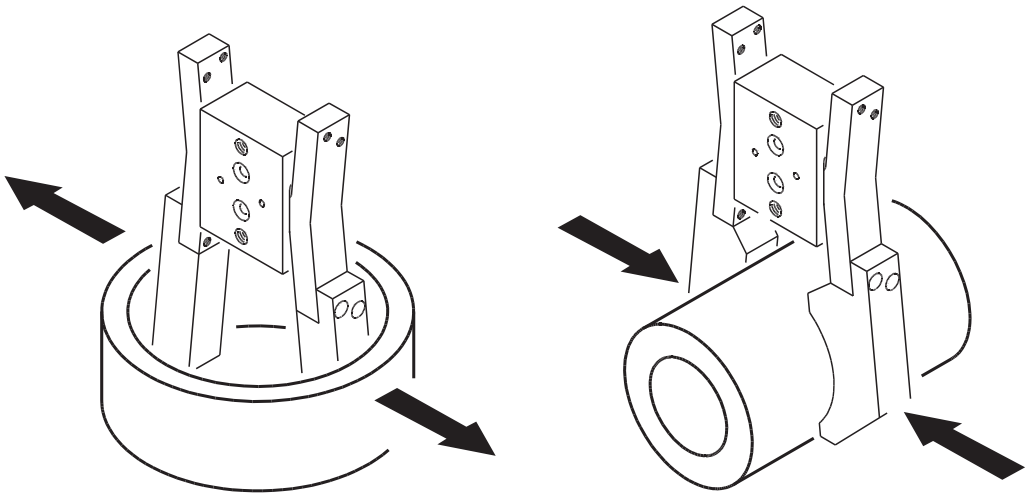


Utilizzo della pinza

La pinza è a doppio effetto e quindi può essere usata per la presa di un pezzo indifferentemente sia in chiusura che in apertura delle griffe.
La forza di serraggio espressa dalla pinza è uguale in entrambi i casi.

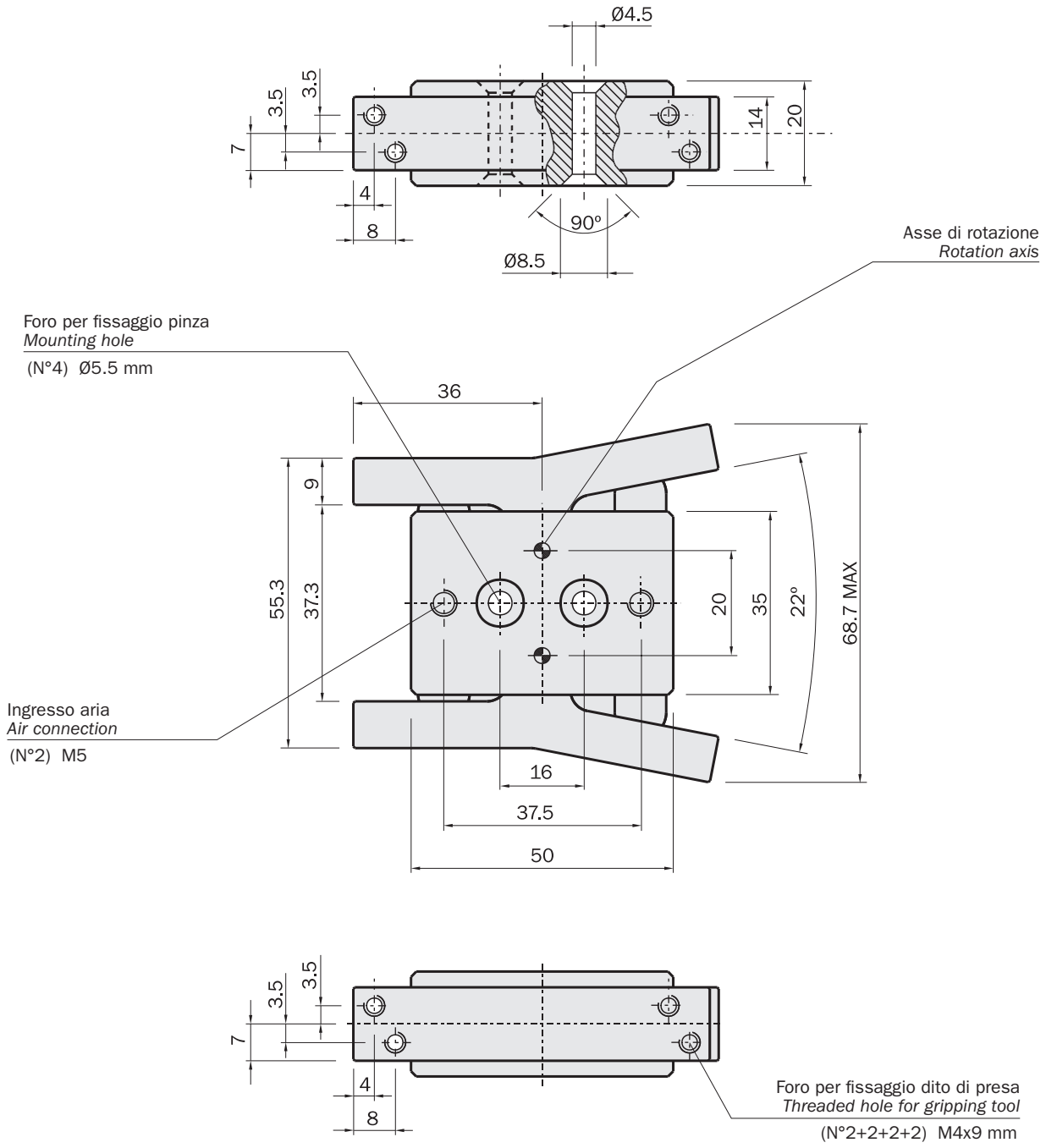
Using of the gripper

As the gripper has a double acting motion, it can be used for either internal or external gripping applications.
The gripping force is the same on both directions.



Dimensioni (mm) / *Dimensions (mm)*

PB-0010

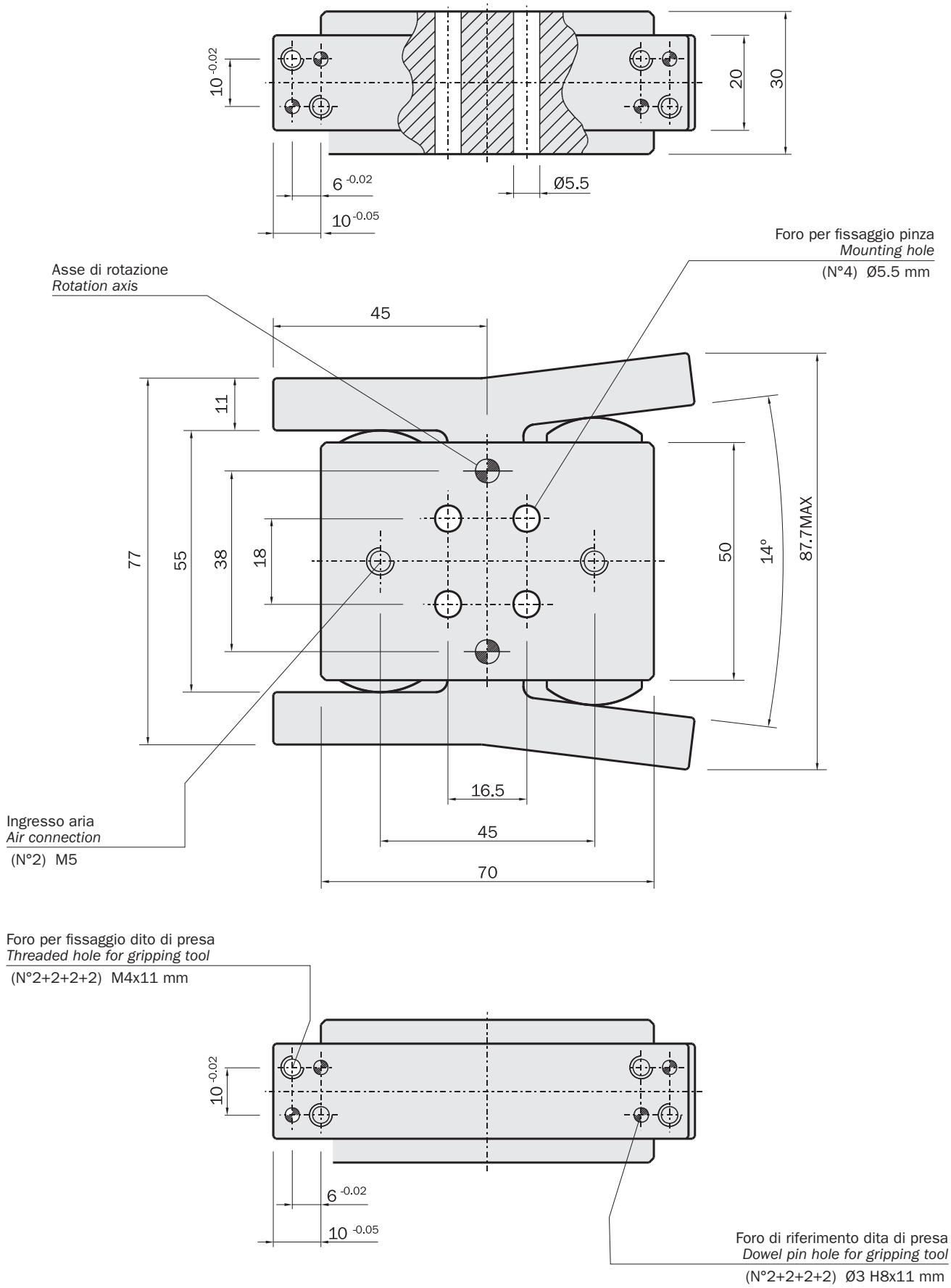


FIRST ANGLE PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

PB-0020



FIRST ANGLE PROJECTION

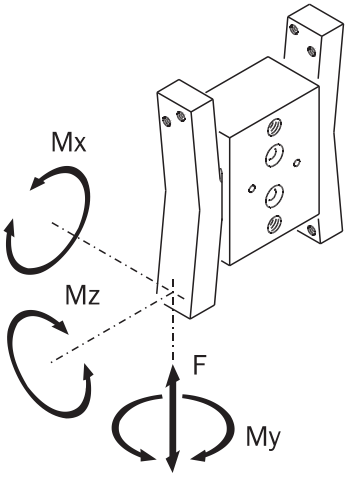
Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F, Mx, My, Mz sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can demage the gripper, cause functioning troubles and endanger the safety of the operator.
F, Mx, My, Mz are maximum permitted static loads.
Static means motionless jaws.

	PB-0010	PB-0020
F	50 N	100 N
Mx	1.2 Nm	5.5 Nm
My	1.2 Nm	5.5 Nm
Mz	1.2 Nm	5.5 Nm



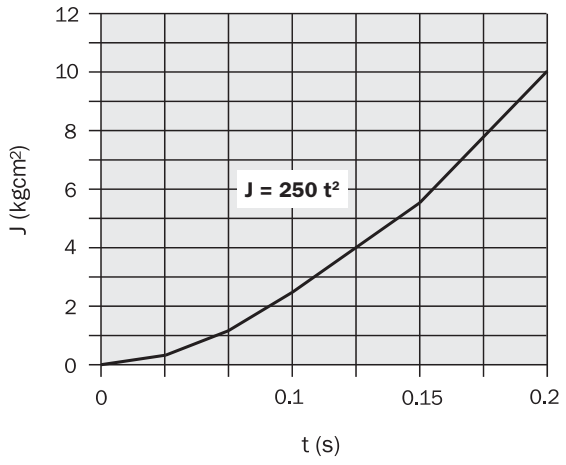
Regolazione della velocità

I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

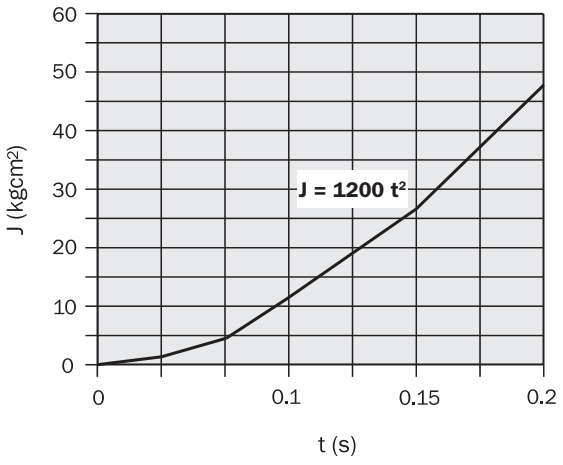
Speed adjustment

The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.

PB-0010



PB-0020

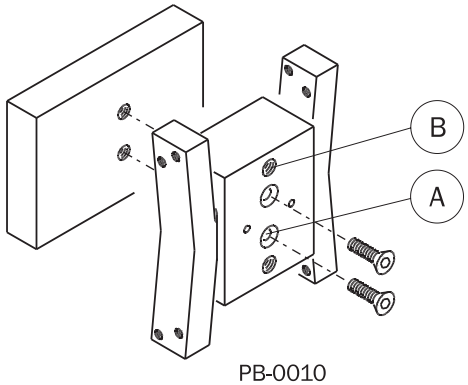


Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza utilizzare i due fori (A) passanti (quattro sulla PB-0020).
Lasciare lo spazio necessario per montare i raccordi dell'aria nei due fori filettati (B).

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper, use two (PB-0010) or four (PB-0020) through holes (A).
Allow room to mount the fittings on the air ports (B).



PB-0010
PB-0020

	PB-0010	PB-0020
A	Ø4.5 mm	Ø5.5 mm
B	M5	M5

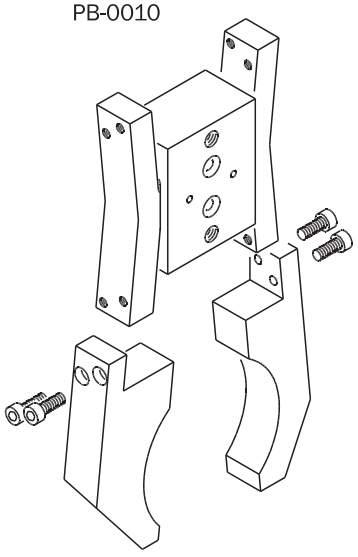
Fissaggio delle estremità di presa

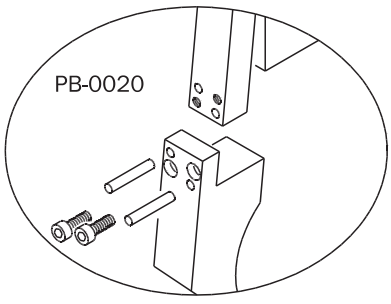
Costruire le dita di presa il più possibile corte e leggere.
Fissarle su ciascuna griffa utilizzando due viti (ed anche due spine per PB-0020).

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be mounted using two screws (and two dowel pins too, on PB-0020).

PB-0010





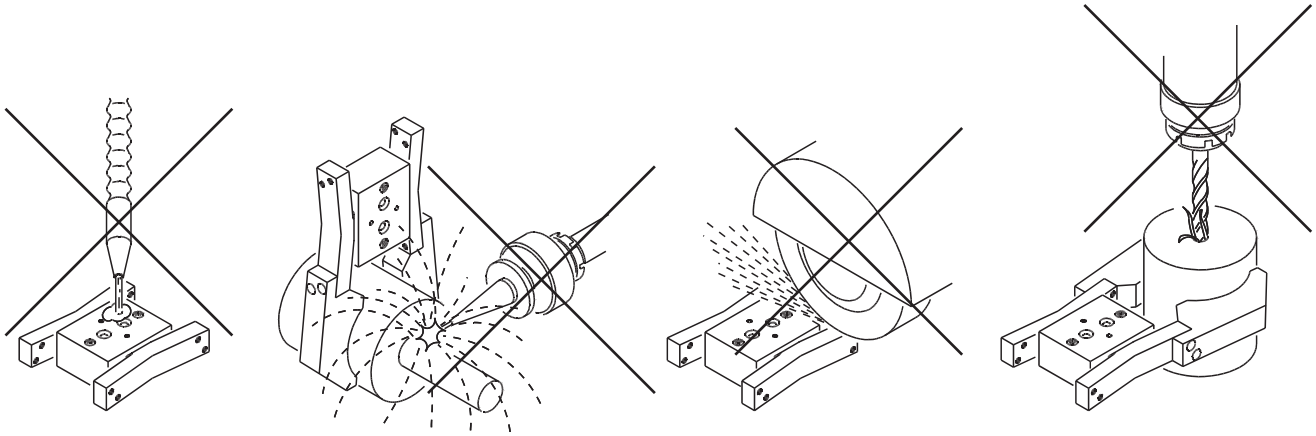
	PB-0010	PB-0020
Fori calibrati (tolleranza H8) *Dowel pin holes (tolerance H8)*	-	Ø3x11 mm
Fori filettati *Threaded holes*	M4x9 mm	M4x11 mm

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

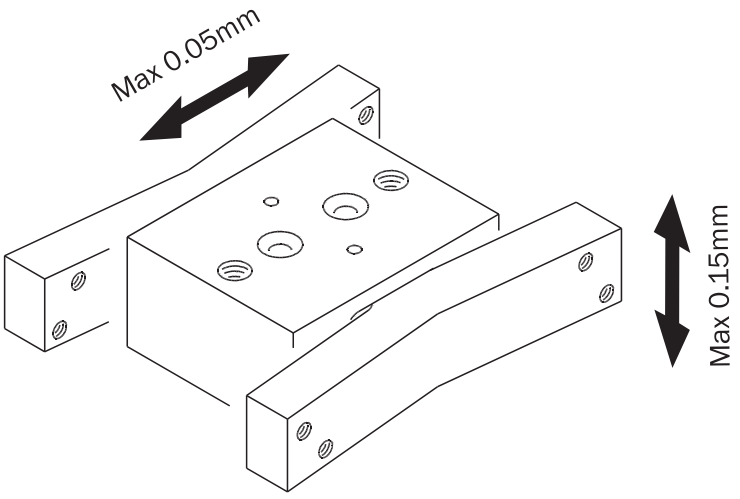
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

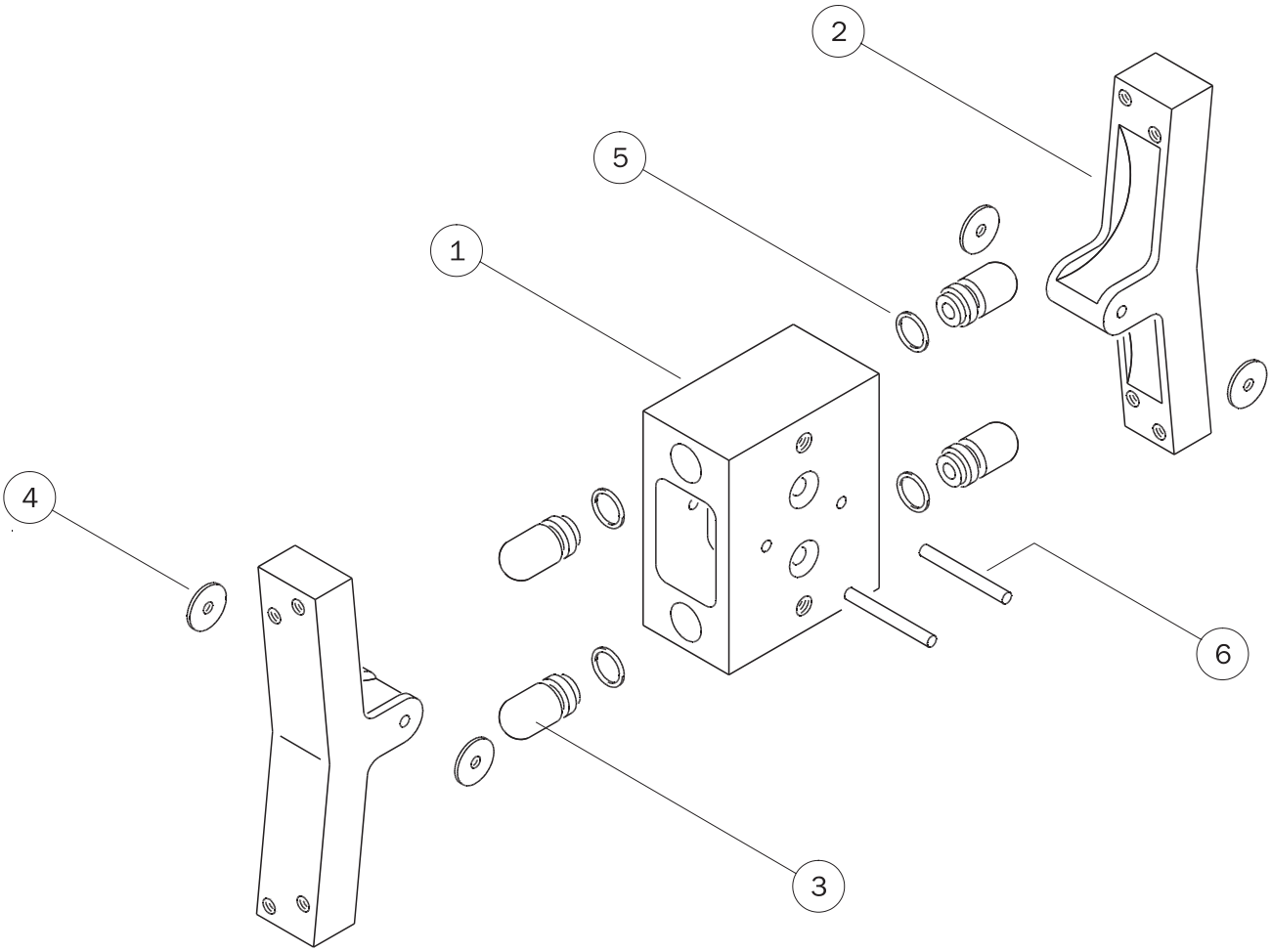
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.



Elenco delle parti / *Part list*



		PB-0010	PB-0020		
1	Corpo pinza	PB-0010-1	PB-0020-1	*Gripper housing*	*1*
2	Griffa	PB-0010-2	PB-0020-2	*Jaw*	*2*
3	Pistone	PB-0010-3	PB-0020-3	*Piston*	*3*
4	Distanziale	PB-0010-4	-	*Spacer*	*4*
5	Guarnizione dinamica	GUAR-039 (Ø1.78x6.07)	GUAR-040P (20x13x2.5)	*Dynamic gasket*	*5*
6	Spina di riferimento	SPINA-002 (Ø3x20 mm DIN6325)	SPINA-035 (Ø5x30 mm DIN6325)	*Dowel pin*	*6*

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

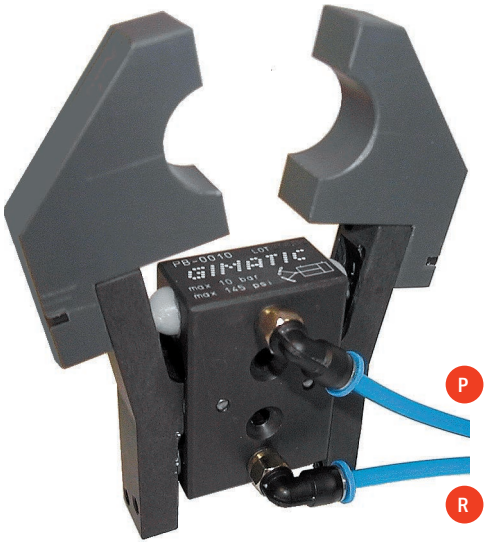
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

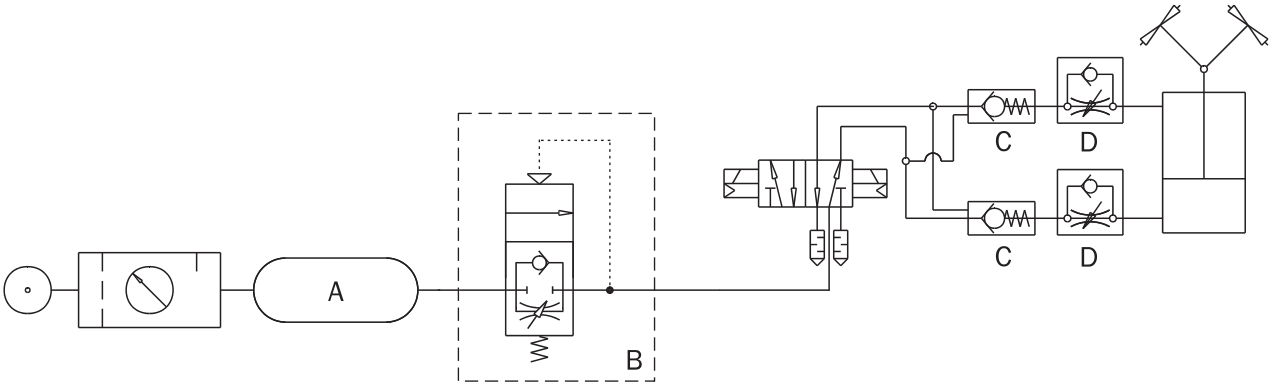
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing whit empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Note / *Notes*

PN

Pinze pneumatiche ad azione basculante autocentrante

- Azionamento a doppio effetto.
- Rendimento ed affidabilità elevati, dovuti all'assenza di organi di trasmissione.
- Possibilità di scelta: 2 o 3 griffe.
- Sensori magnetici opzionali.

Self-centering rocking pneumatic grippers

- *Double acting.*
- *High efficiency and reliability due to the lack of driving parts.*
- *2 or 3 jaws.*
- *Optional magnetic sensors.*

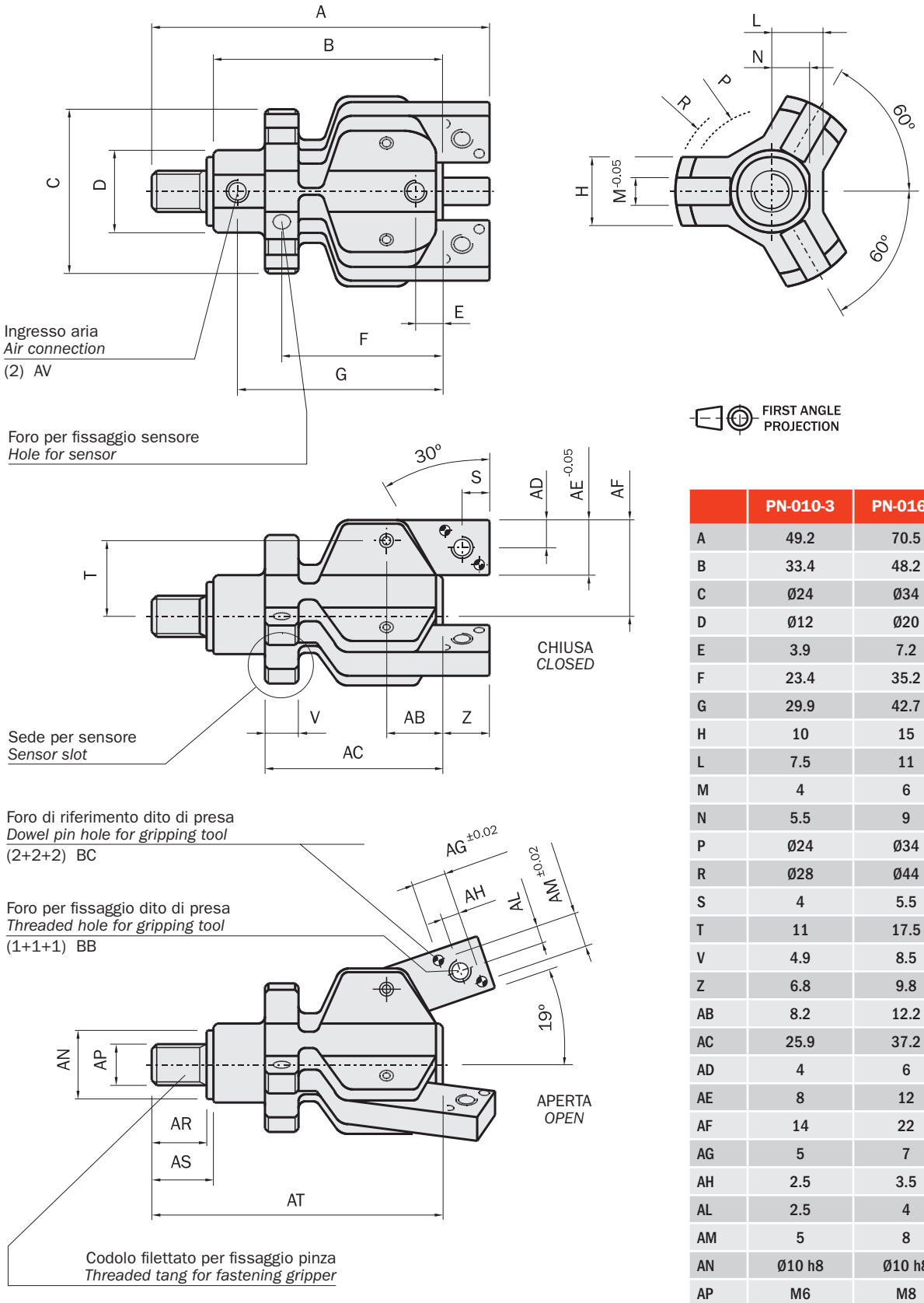


PN 040-3 | **PN 025-3** | **PN 016-3** | **PN 010-3** | **PN 040-2** | **PN 025-2** | **PN 016-2** | **PN 010-2**

	PN 010-3	PN 010-2	PN 016-3	PN 016-2	PN 025-3	PN 025-2	PN 040-3	PN 040-2
Azionamento *Design*	Pinza pneumatica ad azionamento basculante autocentrante *Self - centering angular motion gripper*							
Fluido *Medium*	Aria compressa filtrata, lubrificata/non lubrificata *Filtered lubrificated - non lubrificated compressd air*							
Pressione di esercizio *Compressed air control range*	2 ÷ 8 bar							
Corsa (± 1°) *Stroke*	3 x 19°	2 x 19°	3 x 19°	2 x 19°	3 x 19°	2 x 19°	3 x 19°	2 x 19°
Temperatura di esercizio *Permitted temperature range*	5 ÷ 60°C.							
Coppia di serraggio per ogni griffa a 6 bar *Maximum gripper torque at 6 bar on each jaw*	10 Ncm	15 Ncm	38 Ncm	57 Ncm	166 Ncm	249 Ncm	434 Ncm	651 Ncm
Coppia di serraggio totale a 6 bar *Total gripper torque at 6 bar*	30 Ncm		114 Ncm		498 Ncm		1302 Ncm	
Tempo di chiusura a 6 bar senza carico *Closing time at 6 bar without load*	0.02 s		0.03 s		0.06 s		0.1 s	
Frequenza max funzionamento continuativo a 6 bar *Maximum working frequency at 6 bar*	3 Hz				2 Hz		1 Hz	
Consumo d'aria per ciclo a 6 bar *Air consumption for cycle at 6 bar*	0.49 cm^3		2.61 cm^3		10.8 cm^3		41.1 cm^3	
Ripetibilità *Repetition accuracy*	0.1°				0.1°			
Peso *Weight*	36 g	32 g	115 g	105 g	400 g	340 g	1040 g	910 g

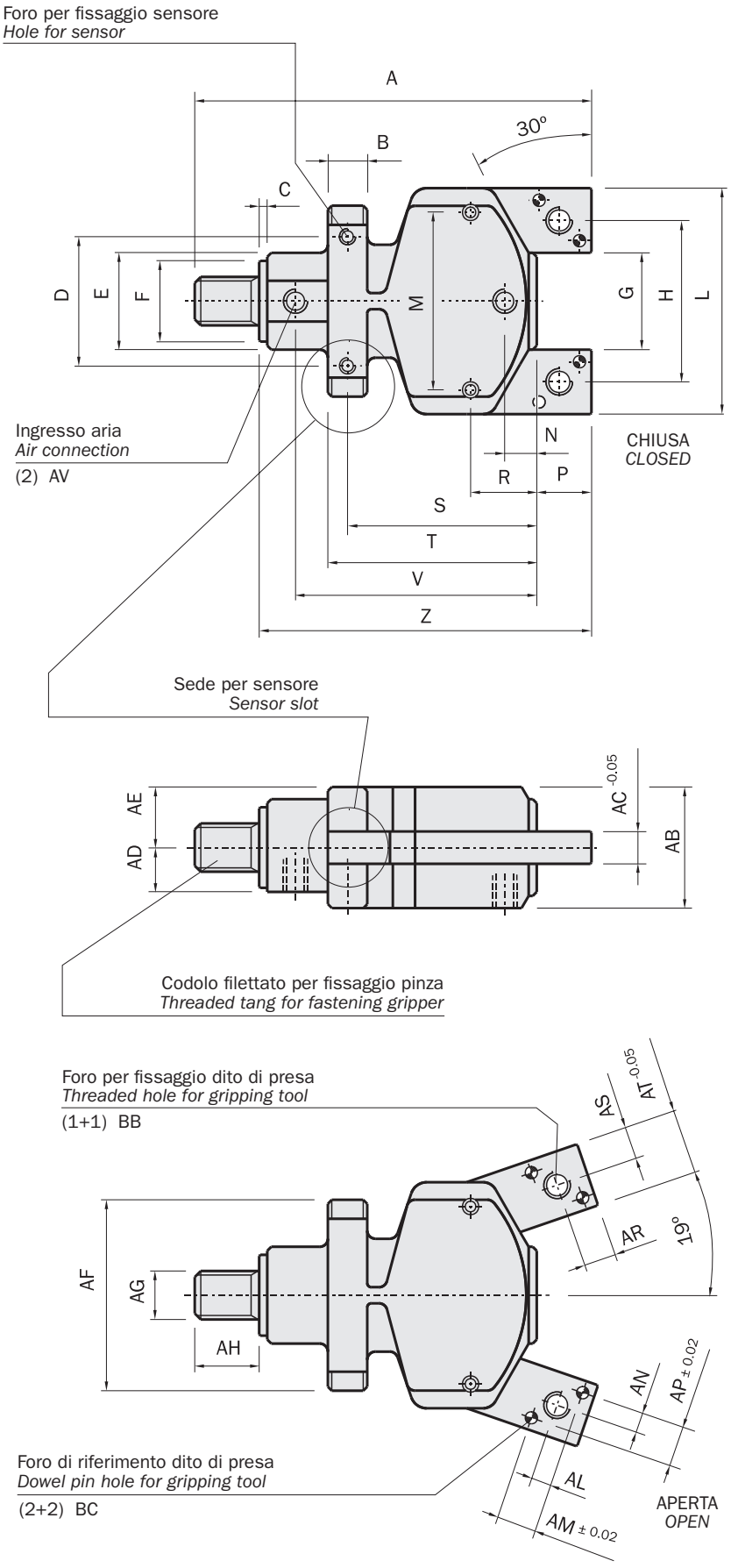
03/2015

Dimensioni (mm) / *Dimensions (mm)*



	PN-010-3	PN-016-3
A	49.2	70.5
B	33.4	48.2
C	Ø24	Ø34
D	Ø12	Ø20
E	3.9	7.2
F	23.4	35.2
G	29.9	42.7
H	10	15
L	7.5	11
M	4	6
N	5.5	9
P	Ø24	Ø34
R	Ø28	Ø44
S	4	5.5
T	11	17.5
V	4.9	8.5
Z	6.8	9.8
AB	8.2	12.2
AC	25.9	37.2
AD	4	6
AE	8	12
AF	14	22
AG	5	7
AH	2.5	3.5
AL	2.5	4
AM	5	8
AN	Ø10 h8	Ø10 h8
AP	M6	M8
AR	8	11.5
AS	9	12.5
AT	42.4	60.7
AV	M3	M5
BB	M3	M4
BC	Ø1.5 H8	Ø2 H8

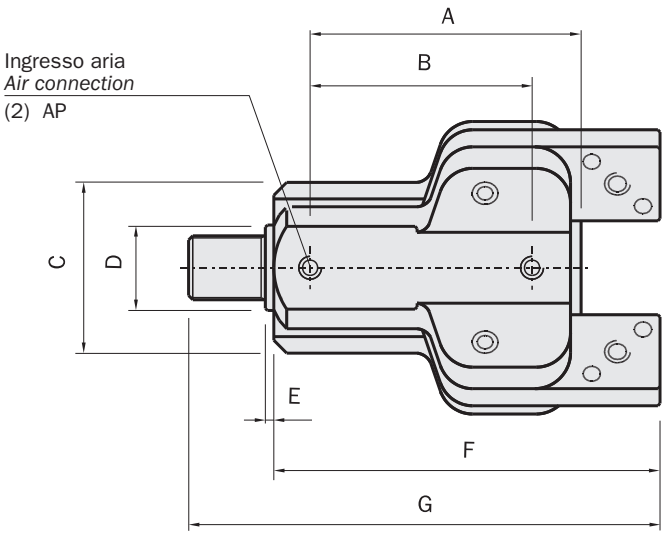
Dimensioni (mm) / *Dimensions (mm)*

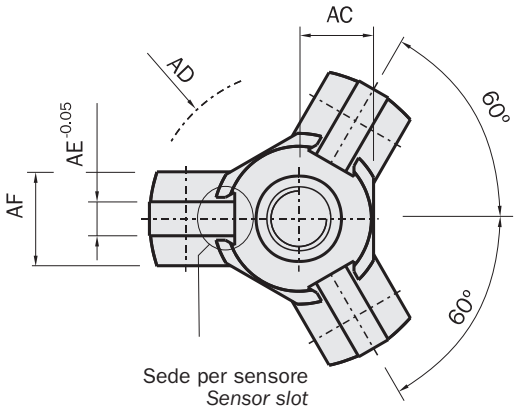


FIRST ANGLE PROJECTION

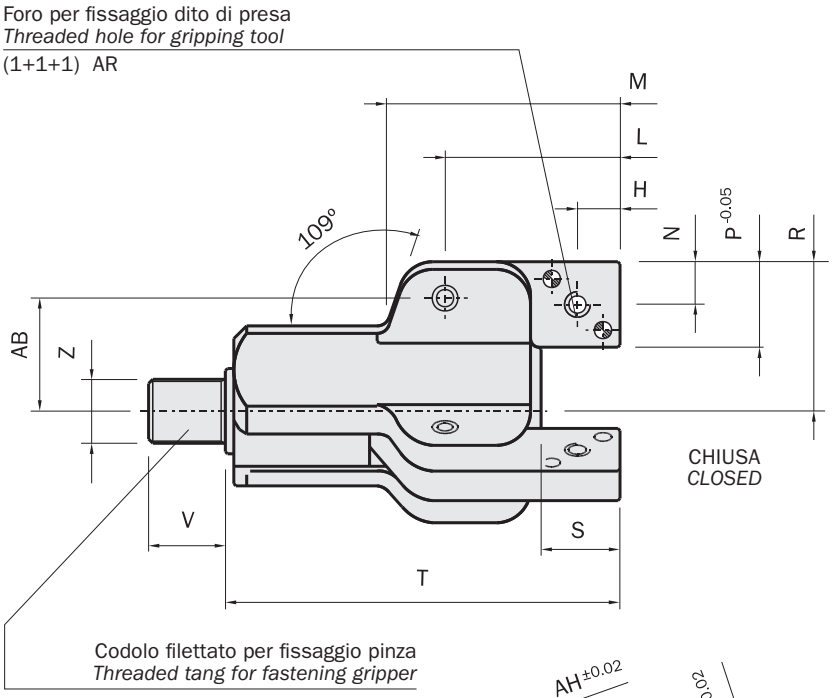
	PN-010-2	PN-016-2
A	49.2	70.5
B	4.9	8.5
C	1	1
D	16	24
E	Ø12	Ø20
F	Ø10 h8	Ø10 h8
G	12	20
H	20	32
L	28	44
M	22	35
N	3.9	7.2
P	6.8	9.8
R	8.2	12.2
S	23.4	35.2
T	25.9	37.2
V	29.9	42.7
Z	41.2	59
AB	15	22
AC	4	6
AD	5.5	9
AE	7.5	11
AF	Ø24	Ø34
AG	M6	M8
AH	8	11.5
AL	2.5	3.5
AM	5	7
AN	2.5	4
AP	5	8
AR	4	5.5
AS	4	6
AT	8	12
AV	M3	M5
BB	M3	M4
BC	Ø1.5 H8	Ø2 H8

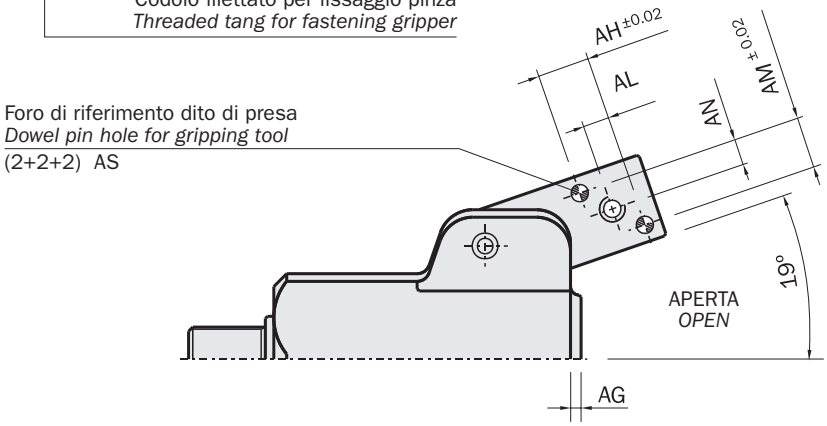
Dimensioni (mm) / *Dimensions (mm)*





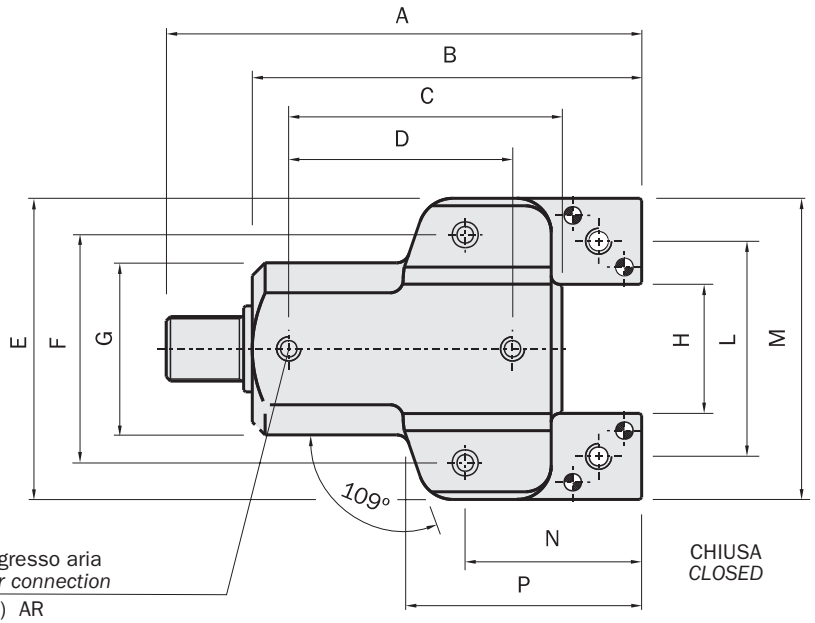
FIRST ANGLE PROJECTION





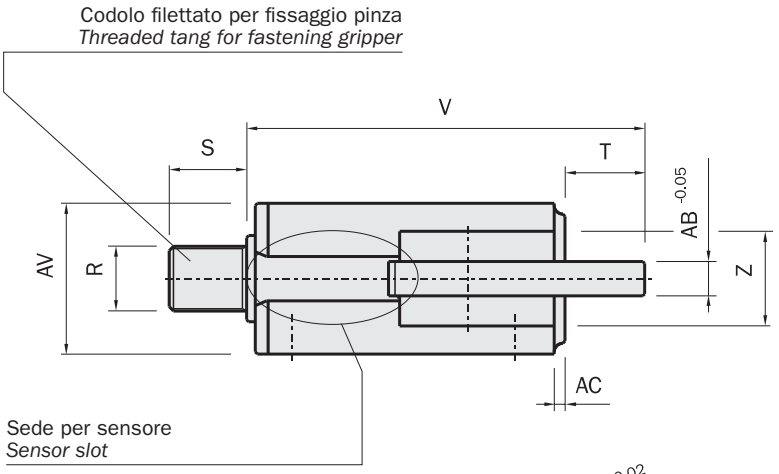
	PN-025-3	PN-040-3
A	63.5	88.5
B	52	71.5
C	Ø40	Ø60
D	Ø20 f 7	Ø30 f 7
E	2	3
F	90.5	122
G	110.5	150
H	10	12
L	41	48
M	56	76
N	10	12
P	20	24
R	35	48.5
S	18.5	20
T	92.5	125
V	18	25
Z	M15x1	M20x1
AB	26.5	39.5
AC	17.5	28
AD	Ø70	Ø97
AE	8	10
AF	22	25
AG	2.5	6.5
AH	12	15
AL	6	7.5
AM	12	15
AN	6	7.5
AP	M5	1/8 Gas
AR	M6	M8
AS	Ø4 H8	Ø5 H8

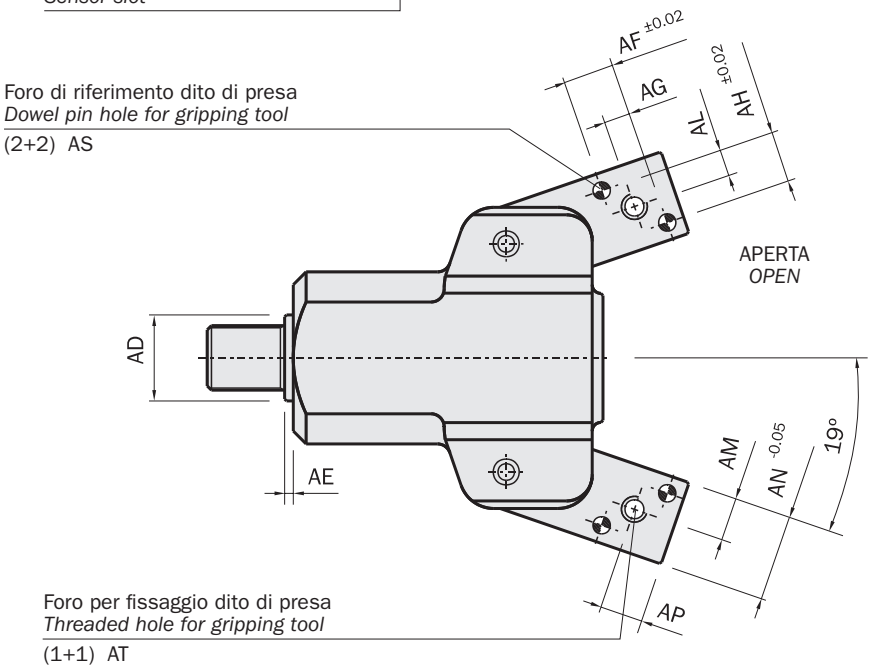
Dimensioni (mm) / *Dimensions (mm)*



FIRST ANGLE PROJECTION

	PN-025-2	PN-040-2
A	110.5	150
B	90.5	122
C	63.5	88.5
D	52	71.5
E	Ø70	Ø97
F	53	79
G	Ø40	Ø60
H	30	49
L	50	73
M	70	97
N	41	48
P	56	76
R	M15x1	M20x1
S	18	25
T	18.5	20
V	92.5	125
Z	22	25
AB	8	10
AC	2.5	6.5
AD	Ø20 f 7	Ø30 f 7
AE	2	3
AF	12	15
AG	6	7.5
AH	12	15
AL	6	7.5
AM	10	12
AN	20	24
AP	10	12
AR	M5	1/8 Gas
AS	Ø4 H8	Ø5 H8
AT	M6	M8
AV	35	56



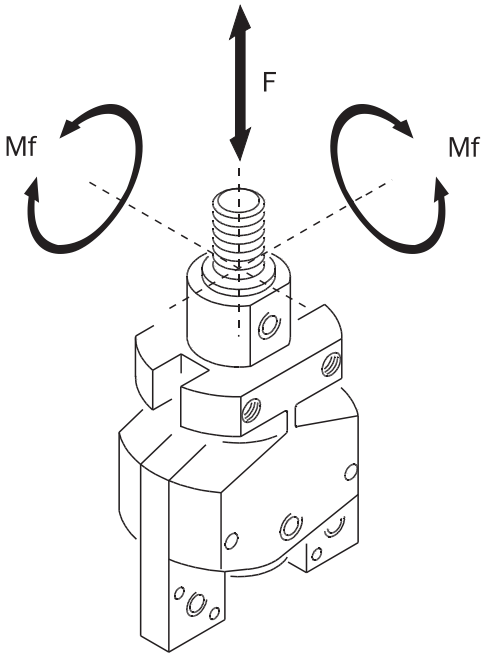


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Carichi eccessivi possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F, Mf: carichi massimi ammissibili.

Safety loads

Please observe on the following table the maximum permitted values.
Over loads can damage the gripper cause functioning troubles and endanger the safety of the operator.
F, Mf: are maximum permitted static loads.



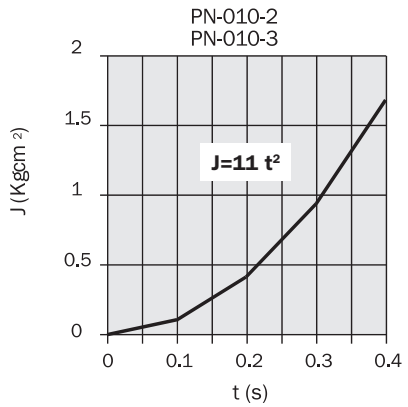
	PN-010-2 PN-010-3	PN-016-2 PN-016-3	PN-025-2 PN-025-3	PN-040-2 PN-040-3
F	12 N	23 N	103 N	191 N
Mf	0.2 Nm	0.4 Nm	4 Nm	10 Nm

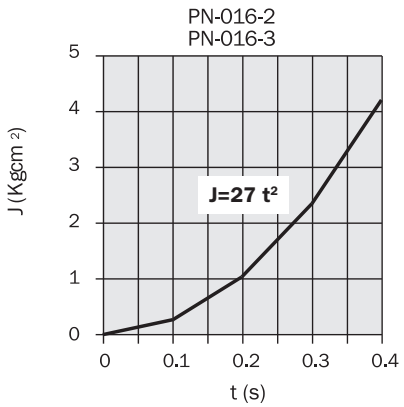
Regolazione della velocità

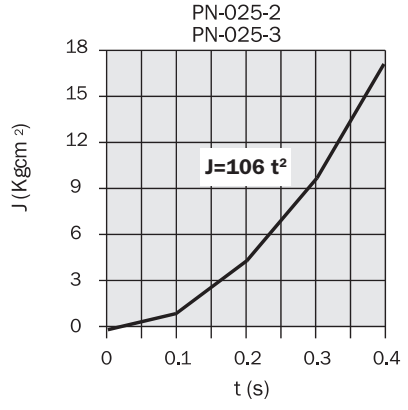
I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).

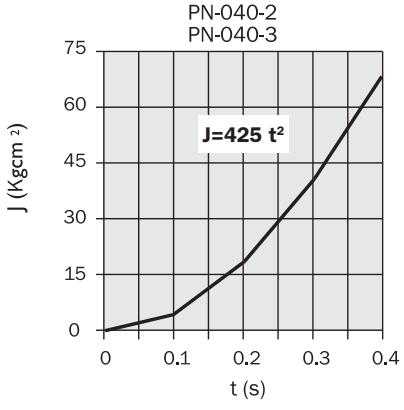
Speed adjustment

On the followings curves, you can see the maximum permitted moment of inertia on each gripping tool (J) as a factor of the opening or closing time (t).









Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento, in questo caso va considerata la forza d'inerzia cui la pinza è sottoposta.
Il fissaggio è ottenuto con un codolo filettato (A) ed un centraggio calibrato (B). Lasciare lo spazio adeguato per i raccordi dell'aria compressa in prossimità dei fori di alimentazione (C). Lasciare lo spazio necessario per i sensori inseriti nel corpo pinza. Evitare che i tubi di alimentazione dell'aria compressa siano troppo lunghi, o che la sorgente di aria sia troppo lontana. Assicurarsi che non ci siano corpi estranei o polvere nelle connessioni dell'aria e nei tubi di collegamento.

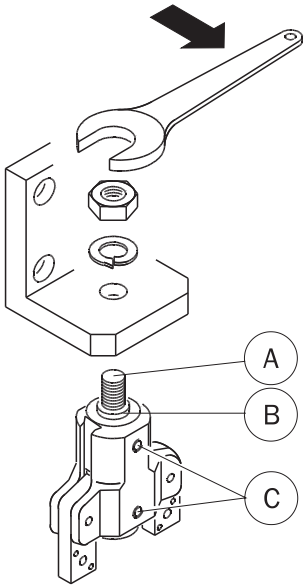
Gripper fastening and installation

The gripper can be fastened to a static or moving part.
When on a moving part, special attention should be given to the forces created by inertia. Fastening is accomplished using the threaded tang (A) and the centering (B).
Allow room for the attachment of compressed air fittings (C) and sensor placement.
The compressed air hoses should not be longer than necessary and the compressed air source should not be too far away.
Make sure that the tubing and fittings are free of dust and obstruction.

A Codolo filettato
Threaded tang

B Centraggio calibrato
Centering

C Fori filettati per raccordi aria compressa
Threaded holes for compressed air connections



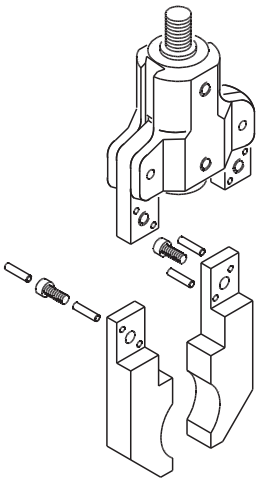
	PN-010-2 PN-010-3	PN-016-2 PN-016-3	PN-025-2 PN-025-3	PN-040-2 PN-040-3
A	M6 Max 4Nm	M8 Max 9Nm	M15x1 mm Max 67Nm	M20x1 mm Max 140Nm
B	Ø10 h8	Ø10 h8	Ø20 f7	Ø30 f7
C	M3	M5	M5	G 1/8

Fissaggio di precisione delle dita di presa

Costruire le dita di presa il più possibile corte e leggere.
Utilizzare i due fori calibrati ed il foro filettato presenti su ogni griffa.

Gripping tool fastening

Tool length and weight should be kept to a minimum.
Mount the gripper using the two dowel pin holes and the threaded hole on each jaw.



	PN-010-2 PN-010-3	PN-016-2 PN-016-3	PN-025-2 PN-025-3	PN-040-2 PN-040-3
Fori filettati *Threaded holes*	M3	M4	M6	M8
Fori calibrati *Dowel pin holes*	Ø1.5 H8	Ø2 H8	Ø4 H8	Ø5 H8

Sensori

Il rilevamento della posizione di lavoro è affidata ad uno o più sensori magnetici di prossimità inseriti nelle guide del corpo pinza.
Essi rilevano la posizione attraverso un magnete applicato sul pistone.

I sensori "GIMATIC" utilizzabili sono del tipo:
- CB3N2-G / CB3M2-G (PN-025/PN-040)
- SM3NR2-G / SM3MR2-G (PN-010/PN-016)

Per il montaggio dei sensori serie CB:
1- Inserire il dado quadrato (A) nella propria sede sull'adattatore "S 00"
2- Infilare l'adattatore nella guida sulla pinza
3- Calzare il sensore sull'adattatore
4- Fare scorrere nella guida fino a raggiungere la posizione di lavoro desiderata (led acceso)
5- Bloccare con la vite (B), facendo attenzione a non serrarla eccessivamente.

Per il montaggio del sensore SM:
1- Inserire il sensore nella guida laterale fino a raggiungere la posizione di lavoro (led acceso).
2- Serrare, senza forzare, il grano di bloccaggio (C).

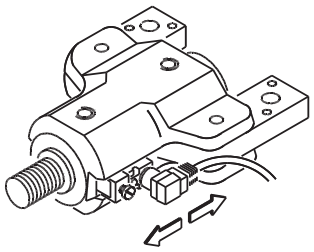
Sensors

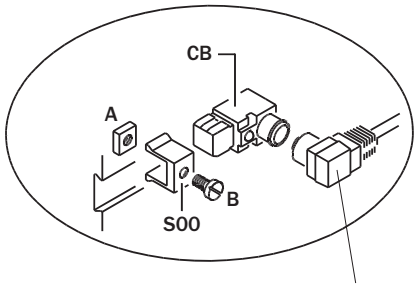
The operating position is detected by proximity magnetic sensors, fitted in the guides of the gripper's body.
These sensors detect the position by means of a magnet placed on the piston.

Use "GIMATIC" sensors:
- *CB3N2-G / CB3M2-G (PN-025/PN-040)*
- *SM3NR2-G / SM3MR2-G (PN-010/PN-016)*

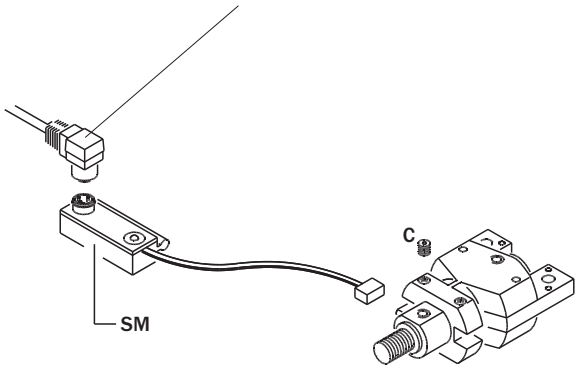
For CB mounting:
1- Insert the square nut (A) in its seat on the "S 00" bracket
2- Insert the bracket into the groove
3- Insert the sensor into the bracket
4- Run the sensor until the lamp is on
5- Lock the bracket with the screw (B) but don't over-tighten it.

For SM mounting:
1- Insert the sensor into the groove until the working position is reached (led on).
2- Tighten the grub screw (C) with care.

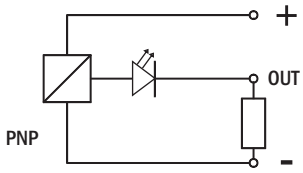




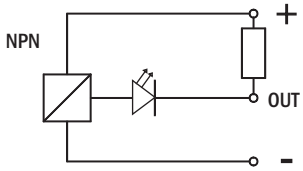
CFSM890325



	CB3N2-G SM3NR2-G	CB3M2-G SM3MR2-G
Tensione di alimentazione (DC) *DC power supply*	6 ÷ max 30 V	
Tipo sensore *Sensor type*	PNP	NPN
Massima corrente *Max current*	250 mA	
Potenza *Power*	6 W	
Temperatura di esercizio *Operating temperature*	-10° ÷ +70° C.	
Tempo di eccitazione *Response time "ON"*	0.8 µs	
Tempo di diseccitazione *Response time "OFF"*	0.3 µs	
Valore di eccitazione *Operate point*	40 GAUSS	
Valore di diseccitazione *Dropout point*	35 GAUSS	
Vita elettrica *Life time*	10^9 IMP	
Resistenza di contatto *Contact resistence*	-	
Resistenza agli urti *Max admitted shock*	30 G	
Grado di protezione *Environmental protection degree*	IP 67	
Caduta di tensione diretta *Voltage drop*	1 V	



Magneto-resistive

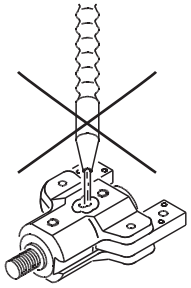


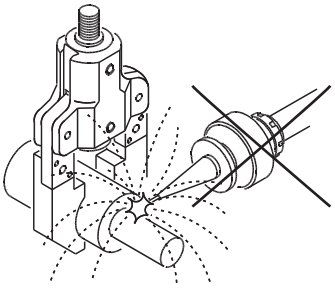
Avvertenze

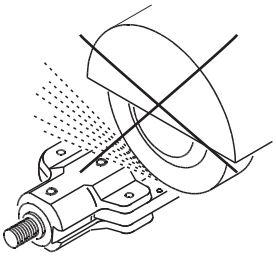
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

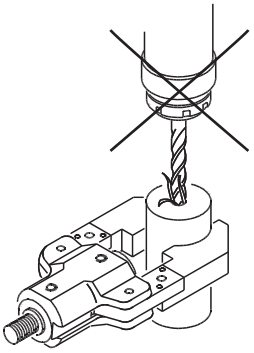
Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.









Manutenzione

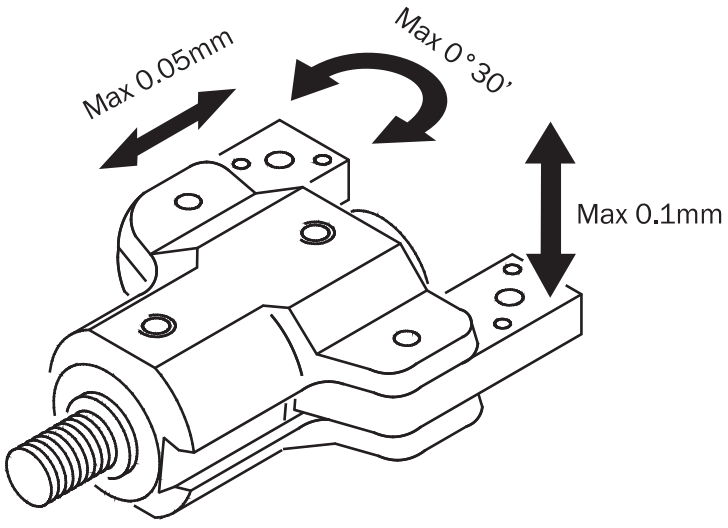
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche)
- Molykote PG75 (guarnizioni)

Il gioco delle griffe è indicato qui sotto.

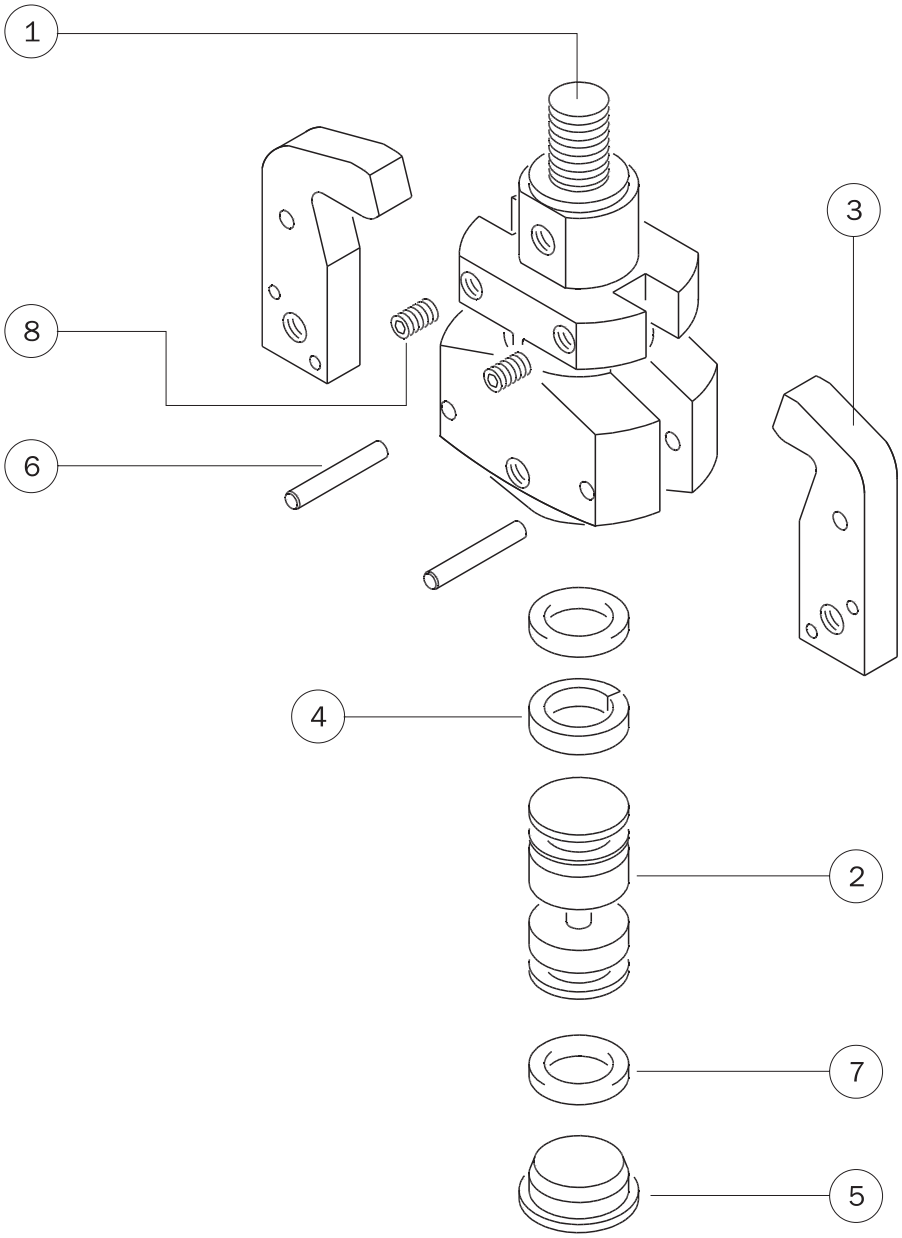
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal)*
- *Molykote PG75 (gaskets)*

The figure below shows the jaw backlash.

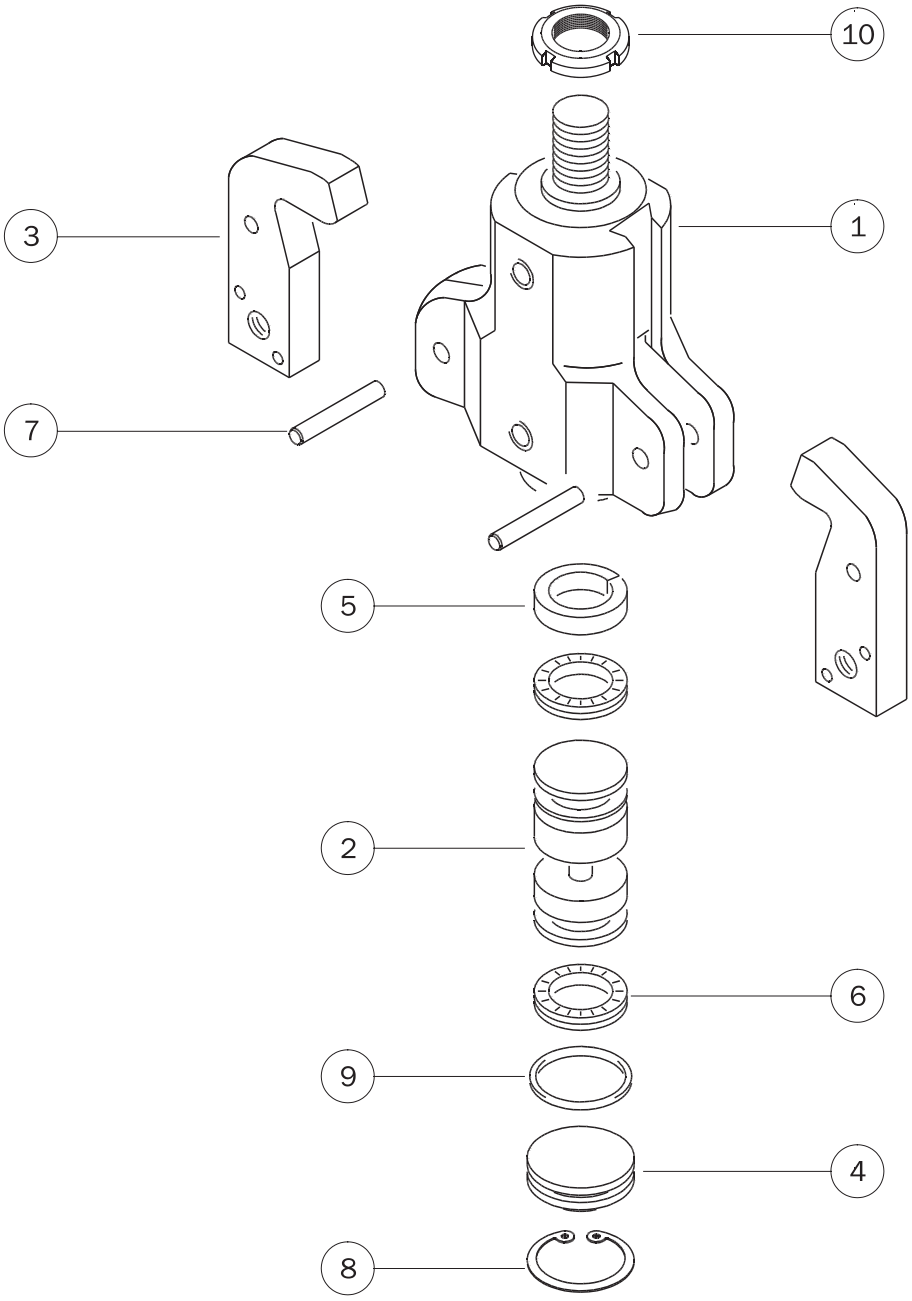


Elenco delle parti / *Part list*



		PN-010-2	PN-010-3	PN-016-2	PN-016-3		
1	Corpo pinza	PN-010-2-1	PN-010-3-1	PN-016-2-1	PN-016-3-1	*Gripper housing*	*1*
2	Pistone	PN-010-2-2		PN-016-2-2		*Piston*	*2*
3	Griffa	PN-010-2-3		PN-016-2-3		*Jaw*	*3*
4	Magnete	PN-010-2-4		PN-016-2-5		*Magnet*	*4*
5	Tappo	PN-010-2-5		PN-016-2-4		*Plug*	*5*
6	Spina di riferimento	Ø2x12 mm DIN 6325	Ø2x8 mm DIN 6325	Ø4x20 mm DIN 6325	Ø4x13 mm DIN 6325	*Dowel pin*	*6*
7	O-RING	Ø1.78x6.75 (GUAR-012)		16x9x2.5 (GUAR-002P)		*O-RING*	*7*
8	Vite senza testa	M3x6 mm DIN913 INOX		M3x10 mm DIN913 INOX	M3x6 mm DIN913 INOX	*Grub screw*	*8*

Elenco delle parti / *Part list*



		PN-025-2	PN-025-3	PN-040-2	PN-040-3		
1	Corpo pinza	PN-025-2-1	PN-025-3-1	PN-040-2-1	PN-040-3-1	*Gripper housing*	*1*
2	Pistone	PN-025-2-2		PN-040-2-2		*Piston*	*2*
3	Griffa	PN-025-2-3		PN-040-2-3		*Jaw*	*3*
4	Tappo	PN-025-2-4		PN-040-2-4		*Plug*	*4*
5	Magnete	PS-0025-P07		PN-040-2-5		*Magnete*	*5*
6	Guarnizione dinamica	GUAR-003M (25x18x2.4)		GUAR-006 (40x31x3)		*Dynamic gasket*	*6*
7	Spina di riferimento	SPINA (Ø6x20 mm DIN6325)		SPINA-138 (Ø8x22 mm DIN6325)		*Dowel pin*	*7*
8	Anello elastico	SEEGER-001N (Ø26 mm DIN472)		SEEGER-002 (Ø45 mm DIN472)		*Snap-ring*	*8*
9	O-Ring	GUAR-025 (Ø1.78x21.95)		GUAR-027 (Ø1.78x41)		*O-Ring*	*9*
10	Ghiera	VITE-209 (M15x1 DIN981 KM2)		VITE-394 (M20x1 DIN981 KM4)		*Slotted round nut*	*10*

03/2015

Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

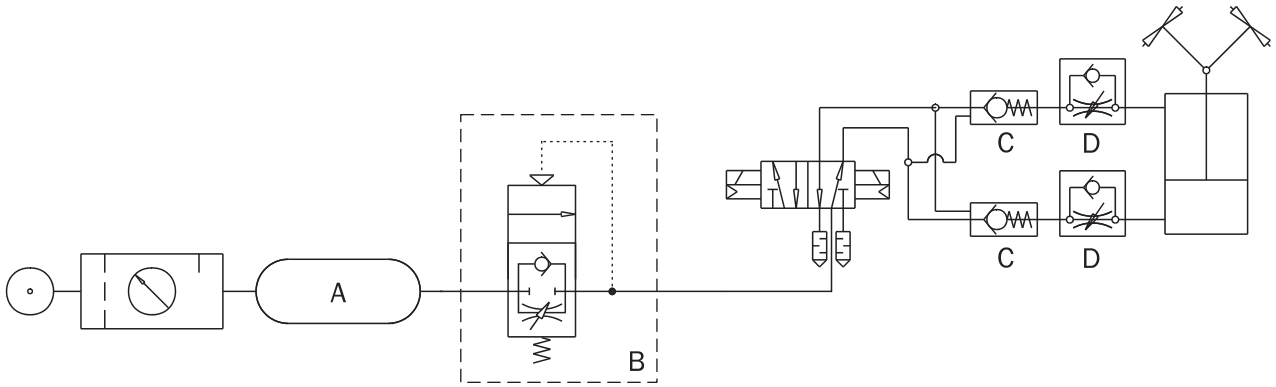
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



TFA

Mini pinza angolare a due griffe autocentrante, serie TFA

- Azionamento a semplice effetto con apertura a molla.
- Vari accessori disponibili per il fissaggio.
- Kit opzionale per la sospensione (1).

2-jaw self-centering angular mini gripper, series TFA

- *Single acting with spring opening.*
- *Several mounting accessories.*
- *Optional suspension kit (1).*

(1)





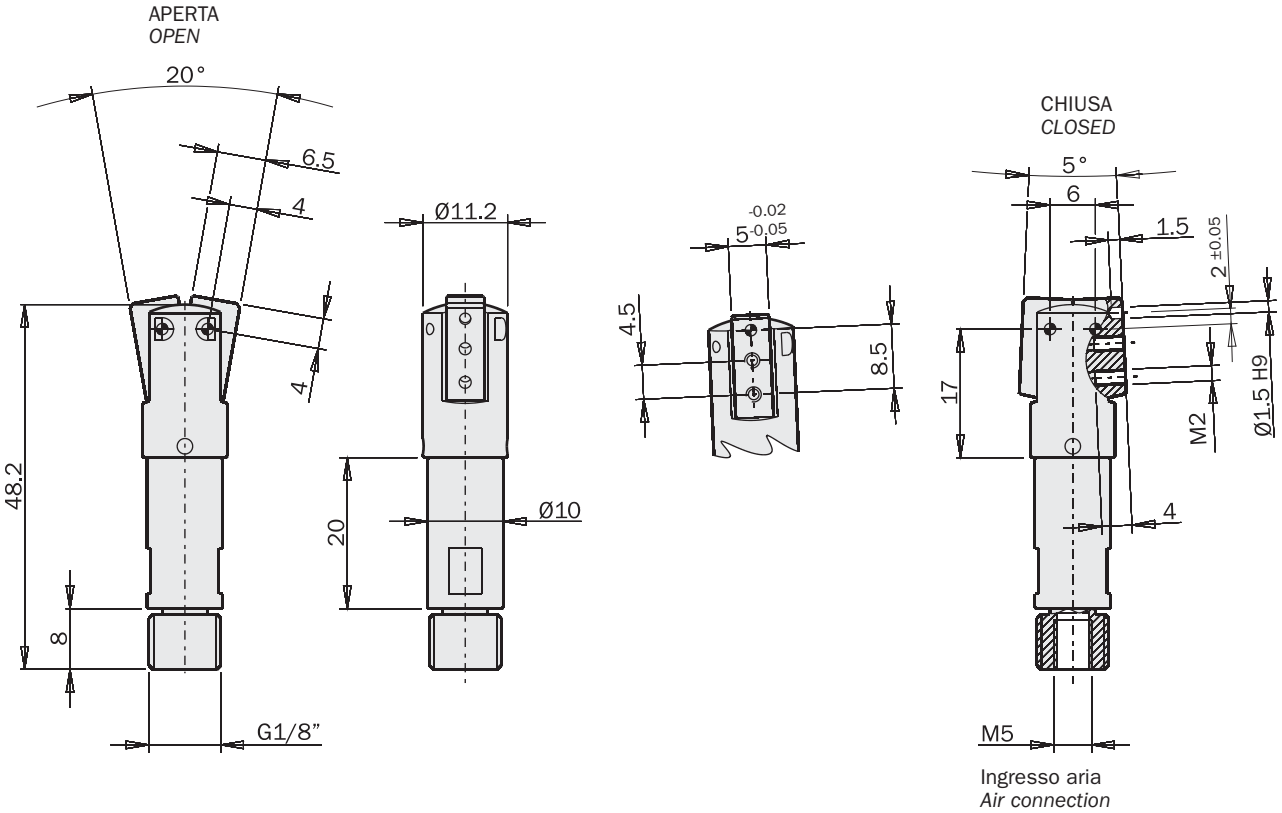
	TFA10-25	TFA14-25	TFA20-25 TFA20-25S
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2.5 ÷ 8 bar		
Temperatura di esercizio *Temperature range*	5 ÷ 60 °C.		
Corsa *Stroke*	2 x 12.5°		
Coppia di chiusura per griffa a 6 bar *Closing torque at 6 bar each jaw*	17 Ncm	48 Ncm	215 Ncm
Coppia di chiusura totale a 6 bar *Total closing torque at 6 bar*	34 Ncm	96 Ncm	430 Ncm
Coppia di apertura per griffa a 0 bar *Opening torque at 0 bar each jaw*	0.5 Ncm	0.8 Ncm	1.3 Ncm
Coppia di apertura totale a 0 bar *Total opening torque at 0 bar*	1 Ncm	1.6 Ncm	2.6 Ncm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	0.2 cm^3	0.5 cm^3	2 cm^3
Peso *Weight*	12 g	30 g	95 g (TFA20-25) 120 g (TFA20-25S)

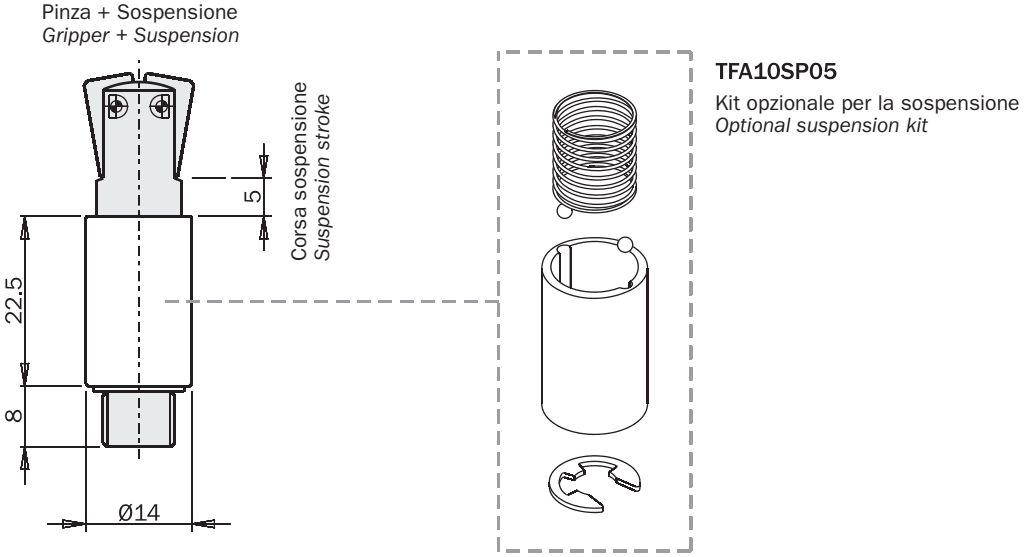
(1)

	TFA10SP05	TFA14SP05	TFA20SP10
Forza della molla *Spring force*	1.9 ÷ 2.2 N	3.0 ÷ 3.5 N	4.1 ÷ 6.7 N
Peso *Weight*	10 g	35 g	85 g

Dimensioni (mm) / *Dimensions (mm)*

TFA10-25





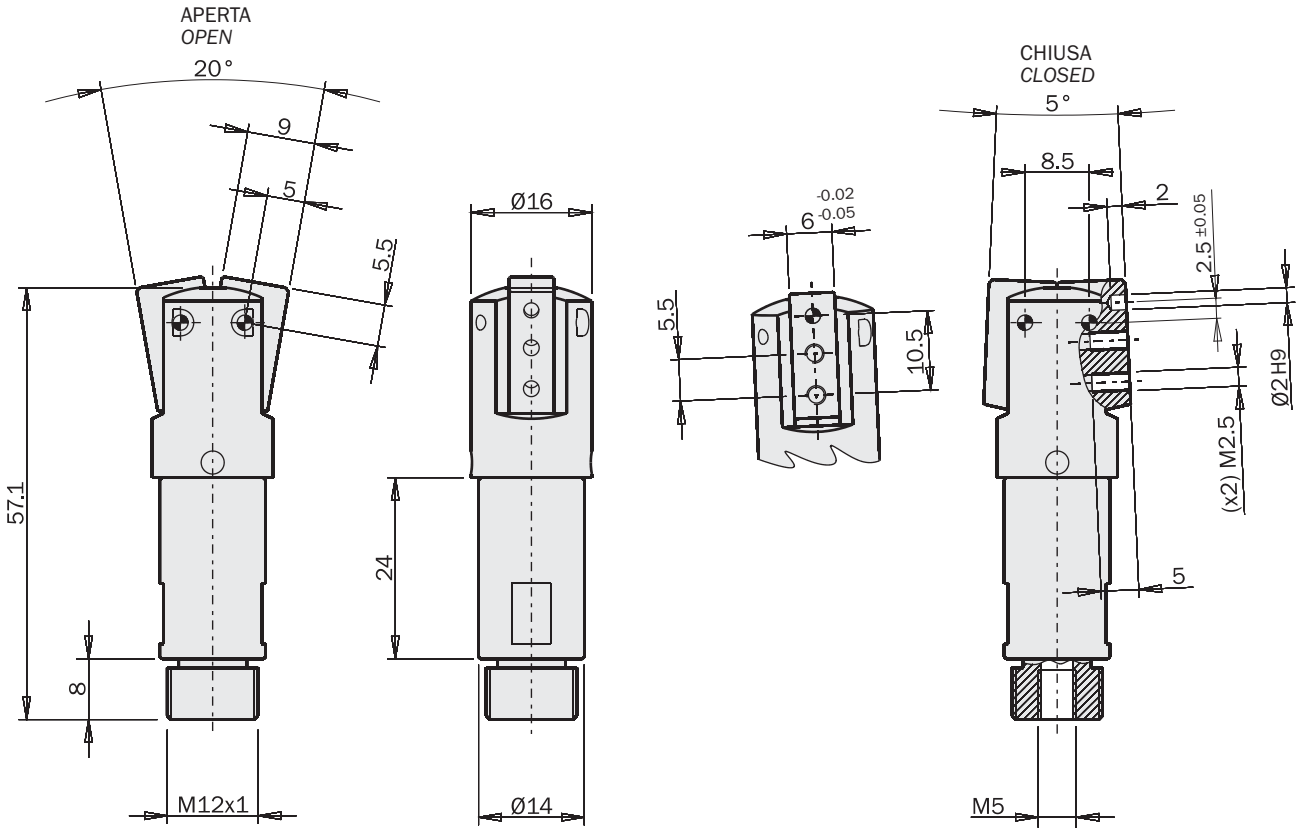
TFA10SP05

Kit opzionale per la sospensione
Optional suspension kit

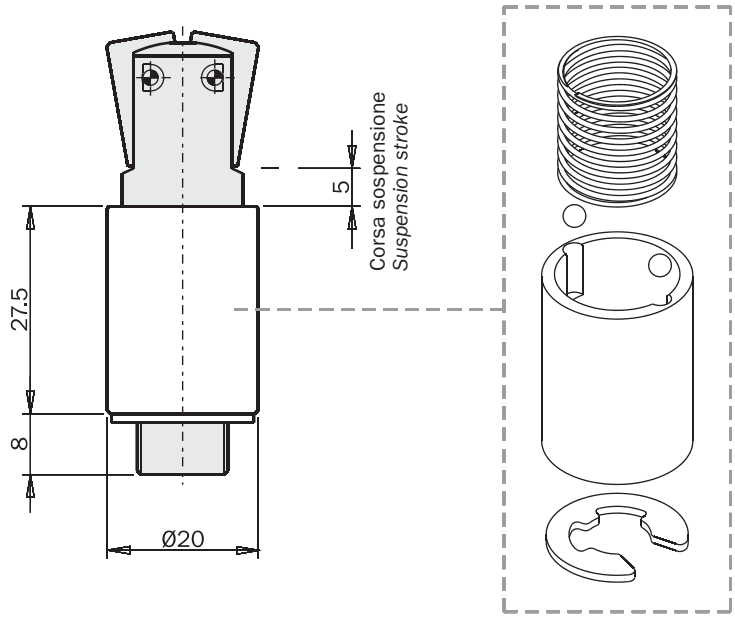
FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

TFA14-25



Pinza + Sospensione
Gripper + Suspension



TFA14SP05

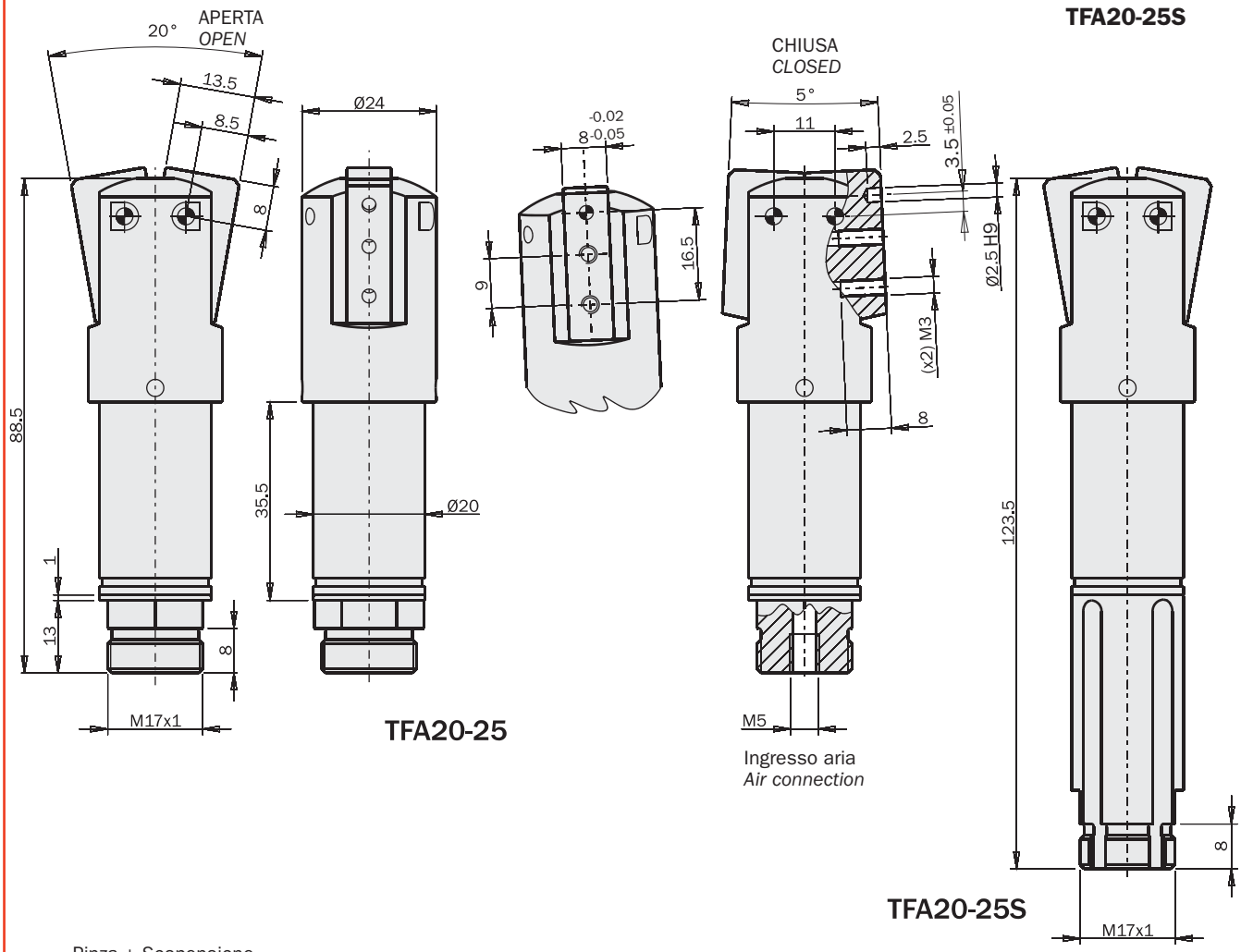
Kit opzionale per la sospensione
Optional suspension kit

FIRST ANGLE
PROJECTION

03/2015

Dimensioni (mm) / *Dimensions (mm)*

TFA20-25
TFA20-25S

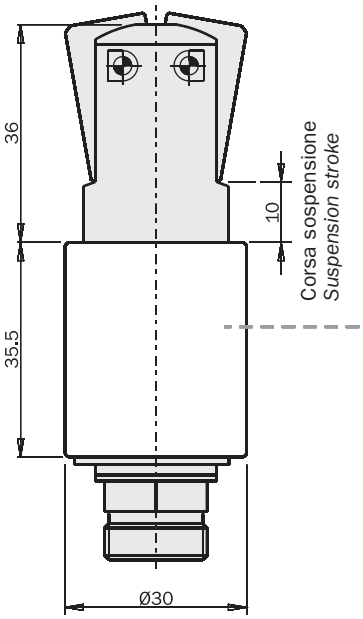


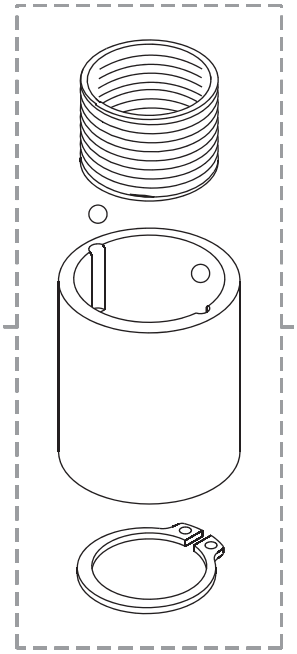
TFA20-25

Ingresso aria
Air connection

TFA20-25S

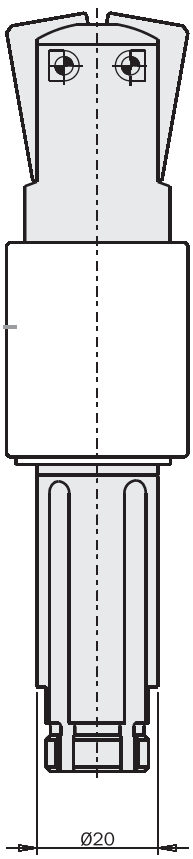
Pinza + Sospensione
Gripper + Suspension





TFA20SP10

Kit opzionale per la sospensione
Optional suspension kit



Pinza + Sospensione
Gripper + Suspension

FIRST ANGLE PROJECTION

03/2015

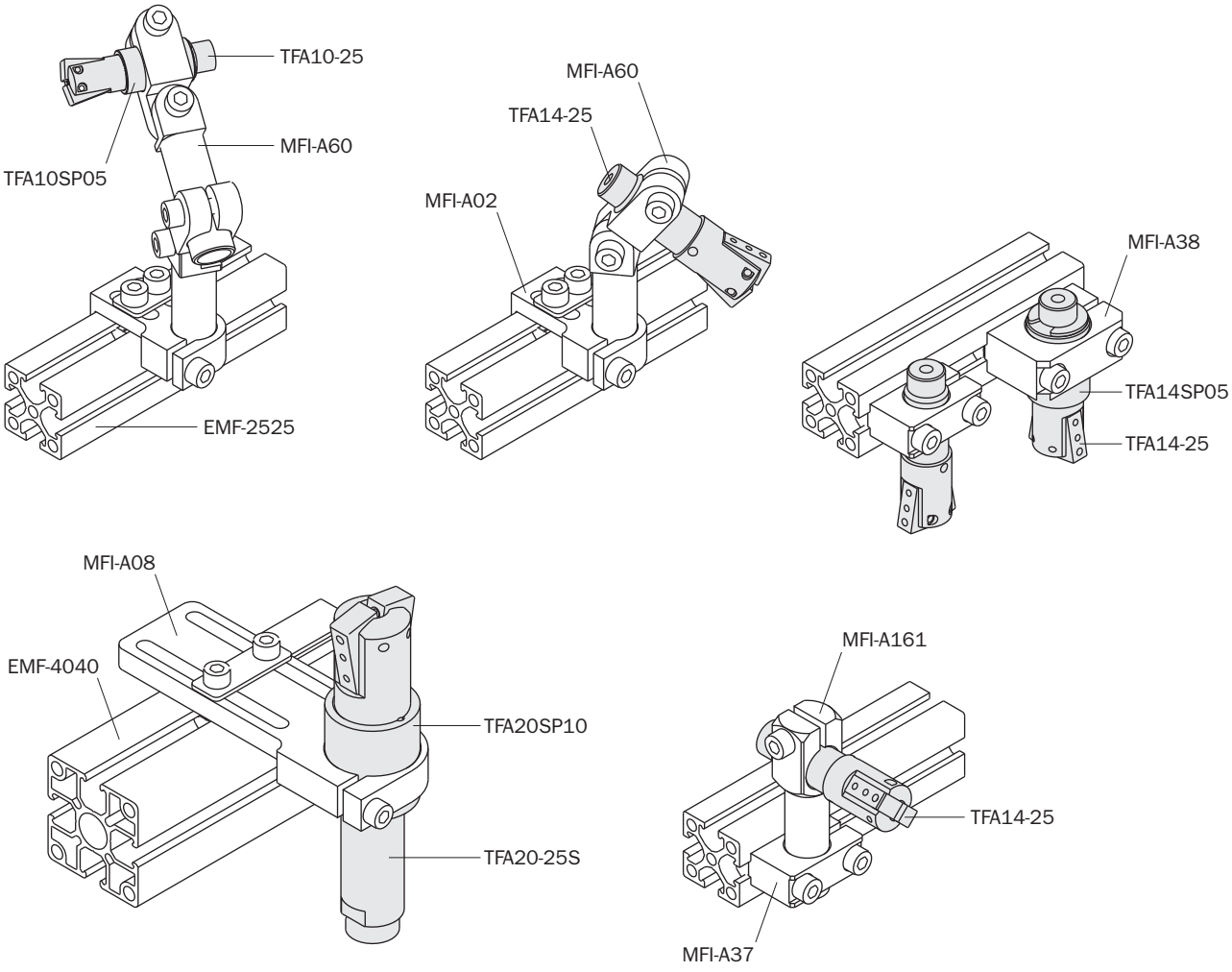
Fissaggio della pinza

La pinza può essere montata, con una staffa a cravatta, direttamente sul suo codolo o sulla sua sospensione [1].
Con una staffa a cravatta, sulla prolunga opzionale [2].
Oppure attraverso i nippli filettati opzionali [3].

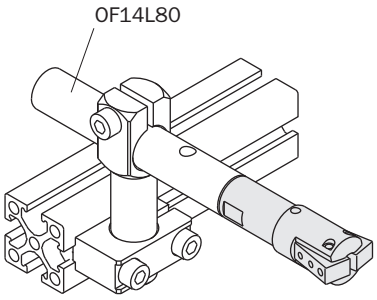
Gripper fastening

The gripper can be mounted, by a clamp, directly on its tail or on its suspension [1].
By a clamp, on the optional extension tube [2].
Or by the optional threaded nipples [3].

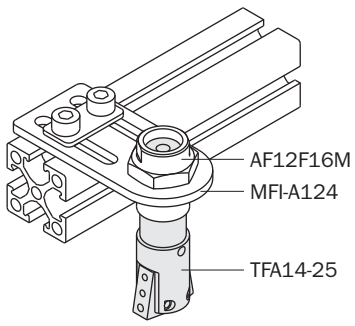
[1]



[2]



[3]

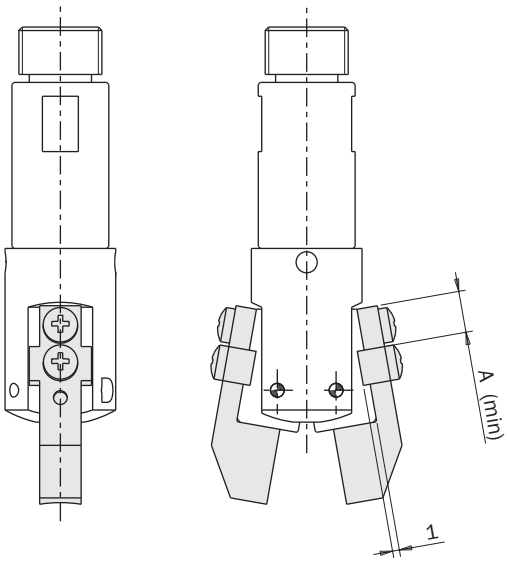


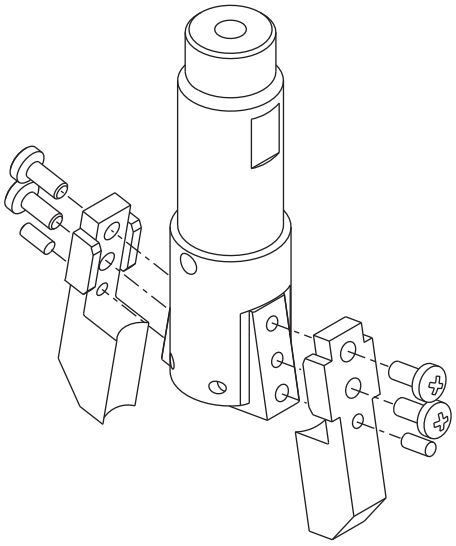
Fissaggio delle estremità di presa

Usare due viti per il fissaggio.
Una spina e due piani di riscontro per il centraggio.

Gripper tool fastening

Use two screws for fastening.
Use one dowel pin and two reference planes for centering.





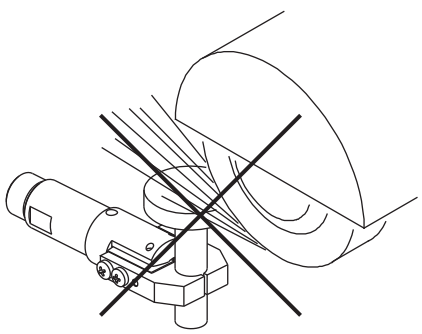
	TFA10-25	TFA14-25	TFA20-25 TFA20-25S
A (min.)	6	6	8

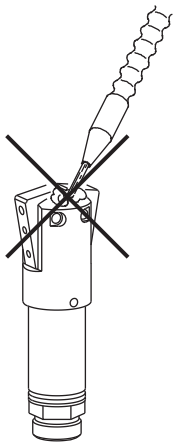
Avvertenze

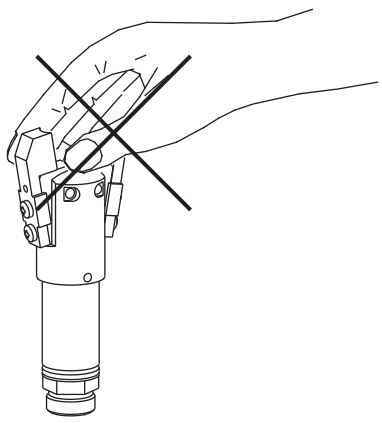
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.







TFA

Connessione pneumatica

La pinza si alimenta montando un raccordo M5.
L'aria compressa fa chiudere la pinza; tolta l'aria una molla la apre.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

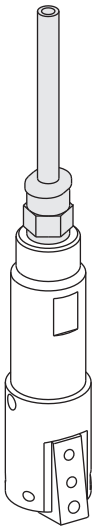
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding must be accomplished with one fitting M5.
The gripper closes when pressurized; without pressure the gripper is spring open.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.





Circuito pneumatico

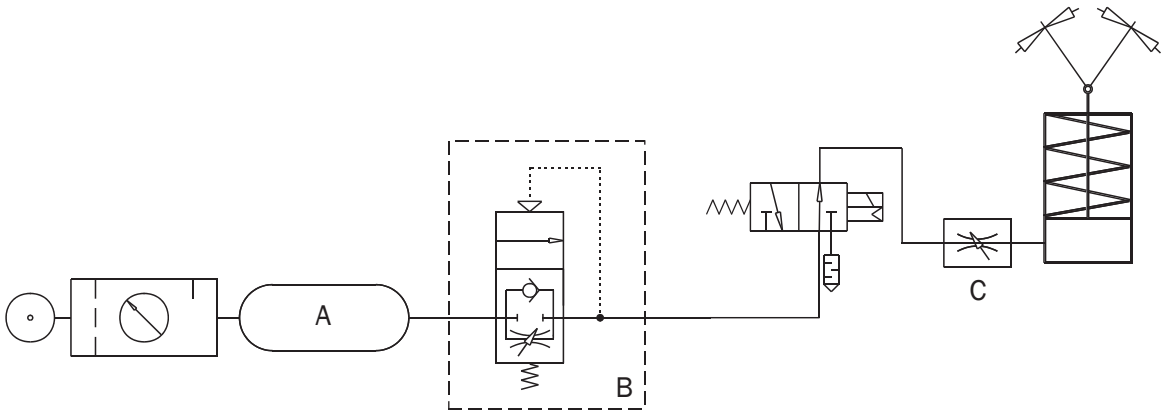
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione;
2- Riempimento pinza vuota all'avvio;
3- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A);
2- Valvola di avviamento progressivo (B);
3- Regolatori di flusso (C).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation;
2- Pressurizing with empty cylinders;
3- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A);
2- Start-up valve (B);
3- Flow controller (C).



Sensori per TFA20-25S

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

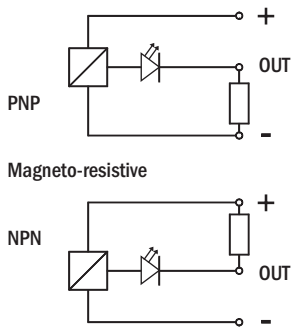
I sensori utilizzabili sono:

Sensors for TFA20-25S

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

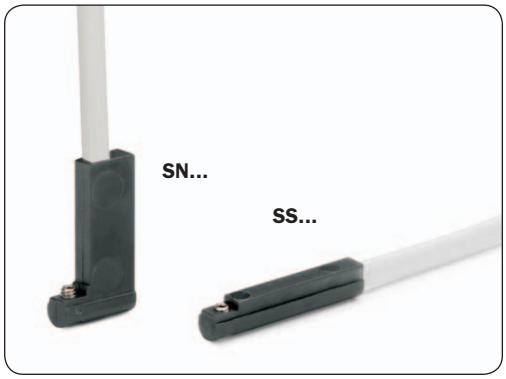
The sensors that can be used are:

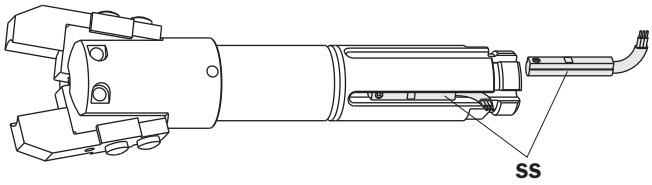
			TFA20-25S
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑



Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a 3-wire flat cable and a LED.



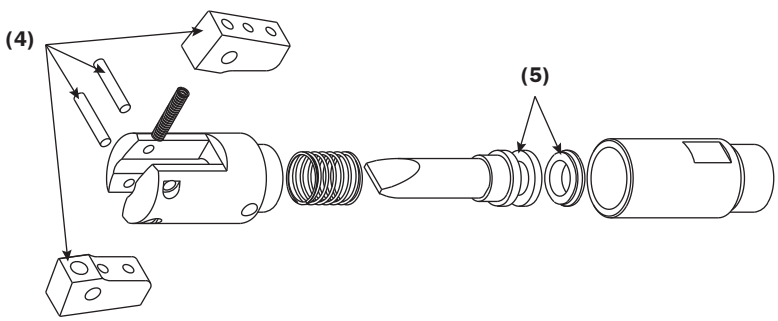


Manutenzione

La pinza va ingrassata ogni 5 milioni di cicli con:
- Molykote DX (parti metalliche) (4);
- Molykote PG75 (guarnizioni) (5).

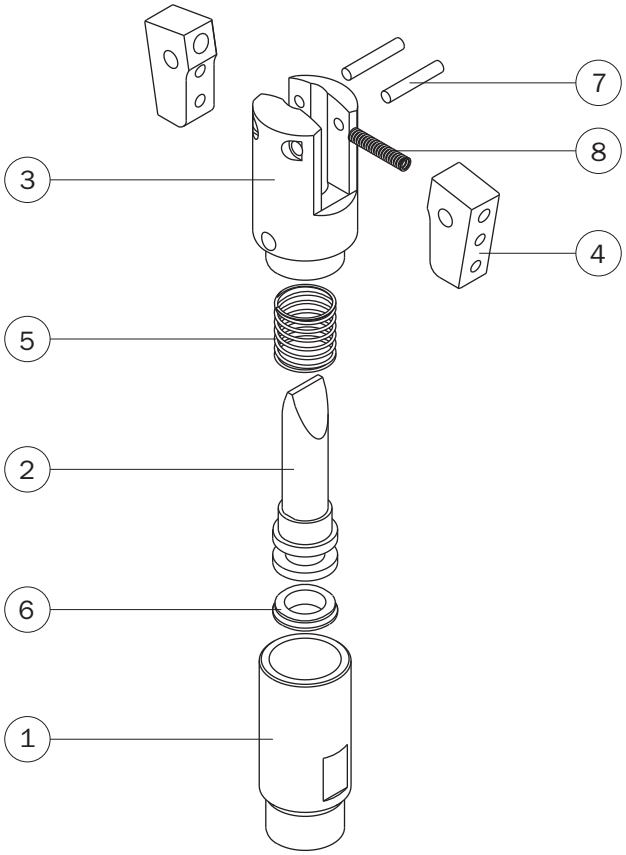
Maintenance

Grease the gripper after 5 million cycles with:
- *Molykote DX (metal on metal) (4);*
- *Molykote PG75 (gaskets) (5).*

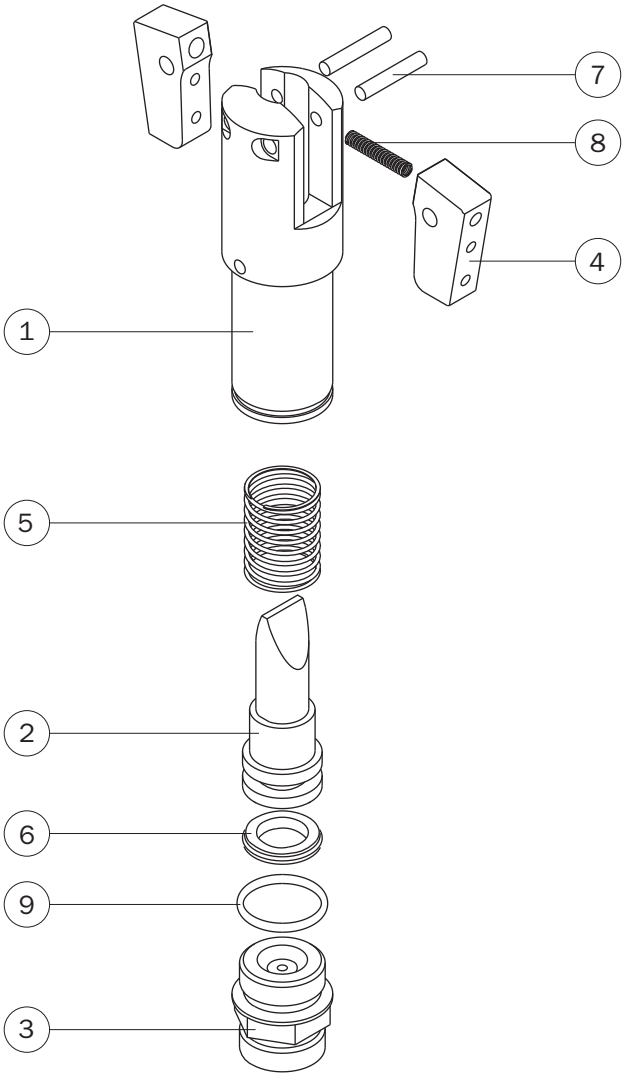


Elenco delle parti / *Part list*

TFA10-25
TFA14-25



TFA20-25

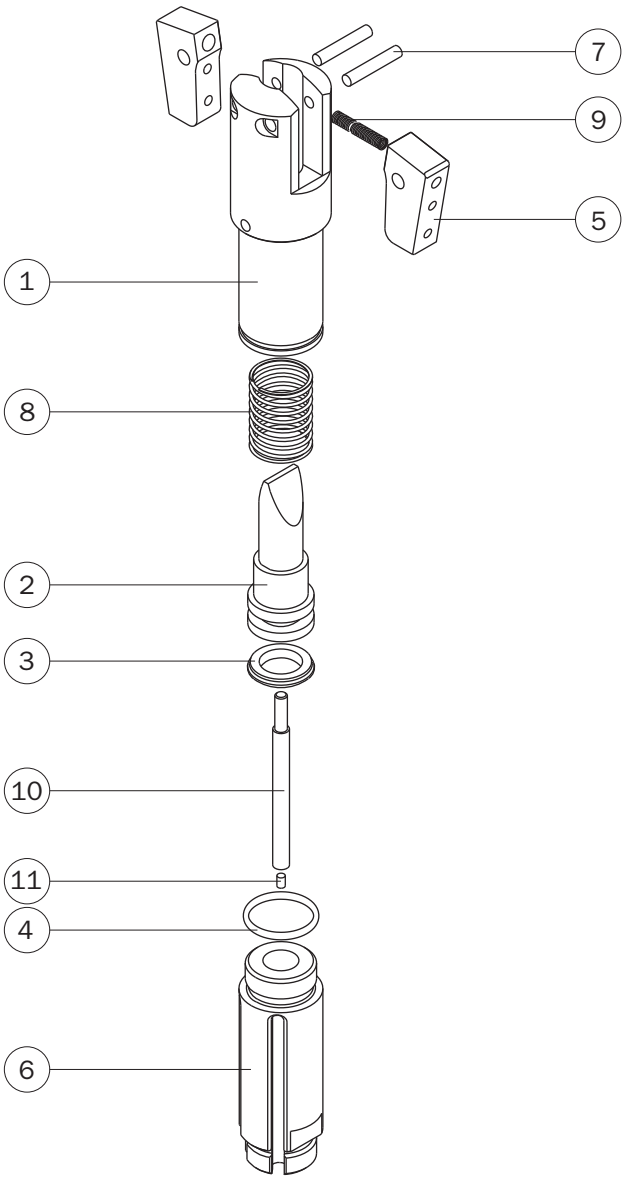


		TFA10-25	TFA14-25		
1	Corpo pinza	TFA10-25-01	TFA14-25-01	*Gripper housing*	*1*
2	Pistone	TFA10-25-06	TFA14-25-06	*Piston*	*2*
3	Testa pinza	TFA10-25-05	TFA14-25-05	*Gripper head*	*3*
4	Griffa	TFA10-25-03	TFA14-25-03	*Jaw*	*4*
5	Molla	TFA10-25-22	TFA14-25-20	*Spring*	*5*
6	Guarnizione dinamica	GUAR-044 (Ø1.78x3.69)	GUAR-001 (10x6x3)	*Dynamic gasket*	*6*
7	Spina di riferimento	SPINA-054 (Ø1.5x7.8 DIN5402)	SPINA-024 (Ø2x12 DIN6325)	*Dowel pin*	*7*
8	Molla	TFA10-25-21	MSA-008-5	*Spring*	*8*

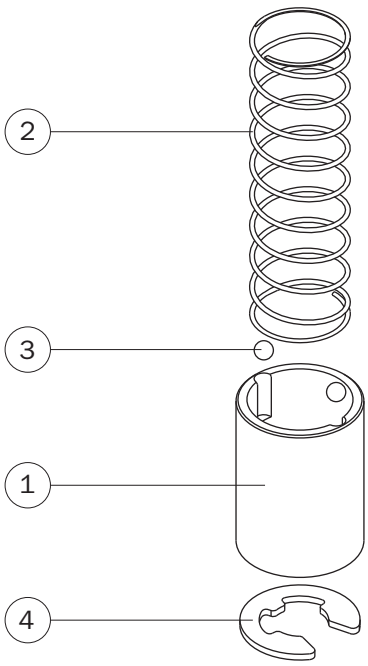
		TFA20-25		
1	Corpo pinza	TFA20-25-05	*Gripper housing*	*1*
2	Pistone	TFA20-25-06	*Piston*	*2*
3	Fondello pinza	TFA20-25-01	*Gripper bottom*	*3*
4	Griffa	TFA20-25-03	*Jaw*	*4*
5	Molla	TFA20-25-20	*Spring*	*5*
6	Guarnizione dinamica	GUAR-119 (16x10x3)	*Dynamic gasket*	*6*
7	Spina di riferimento	SPINA-096 (Ø3x18 DIN6325)	*Dowel pin*	*7*
8	Molla	MGX2005-12	*Spring*	*8*
9	O-Ring	GUAR-007 (Ø1.78x14)	*O-Ring*	*9*

Elenco delle parti / *Part list*

TFA20-25S



TFA10SP05
TFA14SP05
TFA20SP05



		TFA20-25S		
1	Corpo pinza	TFA20-25-05	*Gripper housing*	*1*
2	Pistone	TFA20-25-06	*Piston*	*2*
3	Guarnizione dinamica	GUAR-119 (16x10x3)	*Dynamic gasket*	*3*
4	O-Ring	GUAR-007 (Ø1.78x14)	*O-Ring*	*4*
5	Griffa	TFA20-25-03	*Jaw*	*5*
6	Fondello pinza	TFA20-25-08	*Gripper bottom*	*6*
7	Spina di riferimento	SPINA-096 (Ø3x18 DIN6325)	*Dowel pin*	*7*
8	Molla	TFA20-25-20	*Spring*	*8*
9	Molla	MGX2005-12	*Spring*	*9*
10	Stelo	OFR20-95S-04	*Piston rod*	*10*
11	Magnete	AA-22-6	*Magnet*	*11*

		TFA10SP05	TFA14SP05	TFA20SP10		
1	Bussola	TFA10-25-02	TFA14-25-02	TFA20-25-02	*Bushing*	*1*
2	Molla	TFA10-25-07	TFA14-25-07	TFA20-25-07	*Spring*	*2*
3	Sfera	SPINA-084	SPINA-092	SPINA-092	*Ball*	*3*
4	Seeger	SEEGER-034	SEEGER-029	SEEGER-035	*Snap-ring*	*4*

Pinza pneumatica a 3 griffe ad azione parallela autocentrante (serie T)

- Integrabile con gli altri elementi del Gimapick.
- Azionamento a doppio effetto.
- Alimentazione dell'aria compressa possibile direttamente dalla piastra di fissaggio.
- Possibilità di fissaggio dalla parte anteriore con viti passanti.
- Elevata forza di serraggio e basso peso.
- Sensori magnetici opzionali.

3-jaw parallel self-centering pneumatic gripper (series T)

- *Modular with Gimapick system.*
- *Double acting.*
- *Air feeding possible directly from the fixing plate.*
- *Possibility to mount it on front with through screws.*
- *High gripping force with low weight.*
- *Optional magnetic sensors.*



T63



T40



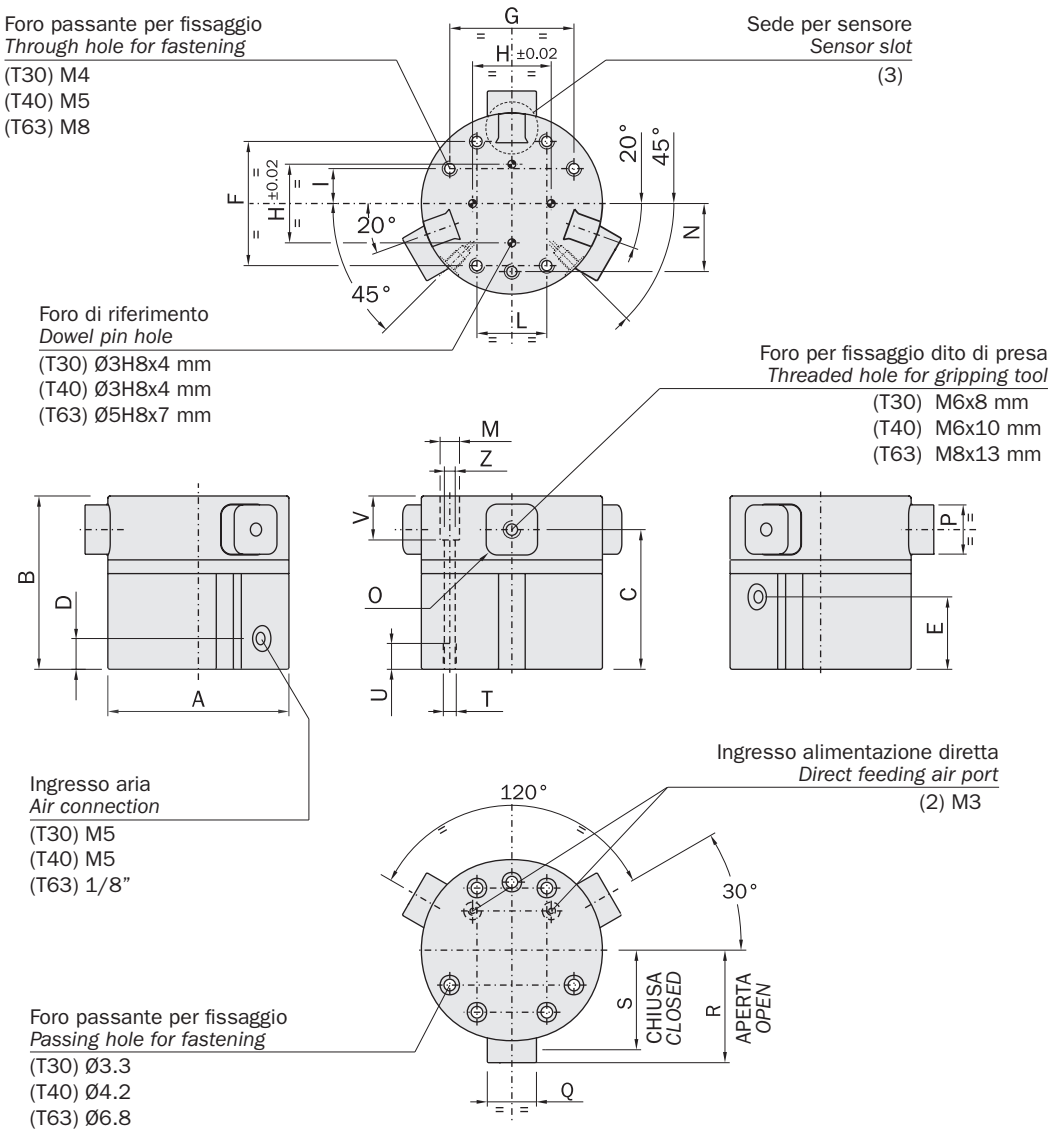
T30

	T30	T40	T63
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	2.5 ÷ 8 bar		
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.		
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	115 N	200 N	480 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	105 N	180 N	440 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	345 N	600 N	1440 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	315 N	540 N	1320 N
Corsa (±0.2 mm) *Stroke*	3x3 mm	3x5 mm	3x9 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	4 Hz	3 Hz	2 Hz
Consumo d'aria per ciclo *Cycle air consumption*	12 cm^3	19 cm^3	94 cm^3
Tempo di chiusura senza carico *Closing time without load*	0.01 s	0.01 s	0.05 s
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	325 g	745 g	1680 g

03/2015

Dimensioni (mm) / *Dimensions (mm)*

	A	B	C	D	E	F	G	H ±0.02	I	L	M	N	O	P -0.05	Q -0.05	R	S	T	U	V	Z
T30	Ø50	59	49.5	8	27	37	-	30.4	-	21	Ø6	-	3	14	14	30.5	27.5	M4	8	14	Ø3.3
T40	Ø70	67	54	11.9	28	48	48	30.4	13.5	27	Ø7.5	26.3	4	19	19	43.6	38.5	M5	10	17	Ø4.2
T63	Ø90	90.5	72.8	12	38	66	-	59	-	38	Ø10.5	-	5	26	26	60.6	51.5	M8	16	28.5	Ø6.8



Serraggio

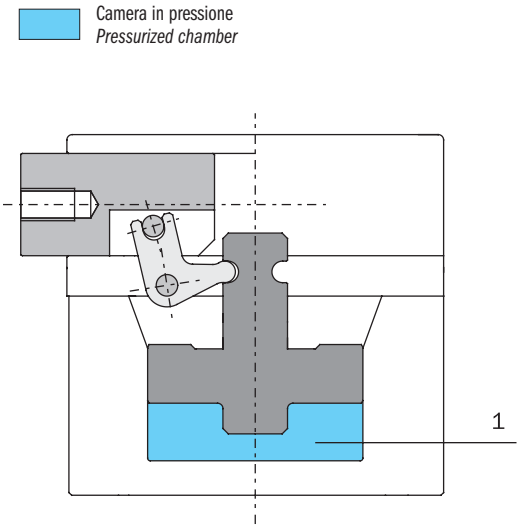
La configurazione a tre griffe consente di afferrare correttamente carichi di diverso diametro, mantenendo sempre lo stesso centro.
L'azionamento sfrutta tre leve per trasmettere il movimento alle griffe che, essendo mosse da un unico pistone hanno movimento simmetrico ed autocentrante.

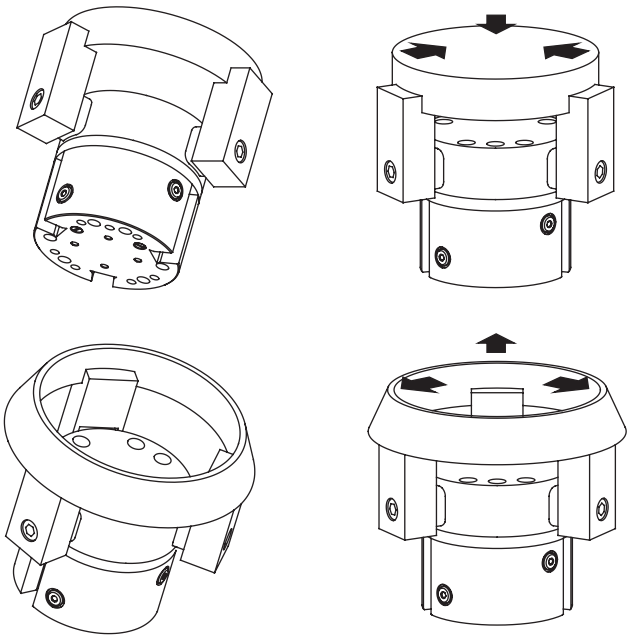
La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.

Gripping

The three jaw gripper allows the correct gripping of pieces with different diameter keeping the center in the same position.
The jaws are linked to three levers moved by one piston, having by this, self-centering action.

The gripper is double-acting, so internal or external gripping is possible.



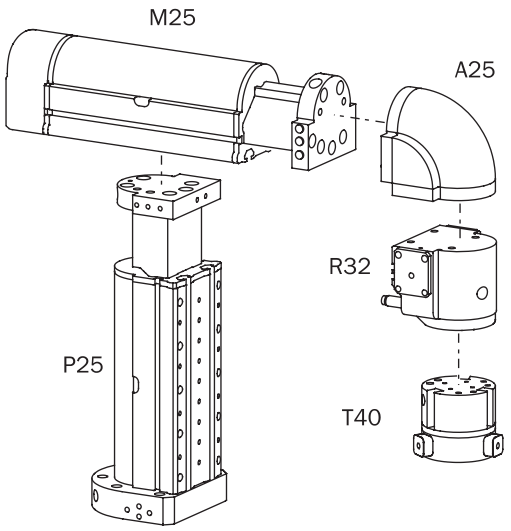


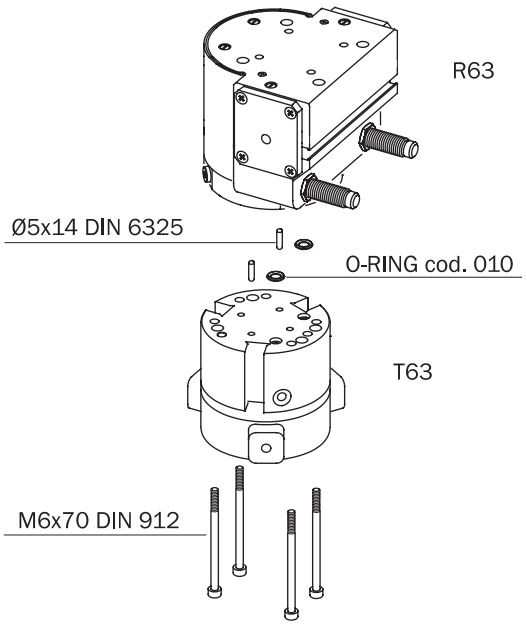
Esempi di applicazione

Queste pinze sono facilmente integrabili con gli elementi del sistema Gimapick.

Application examples

These grippers can be easily mounted with Gimapick elements.



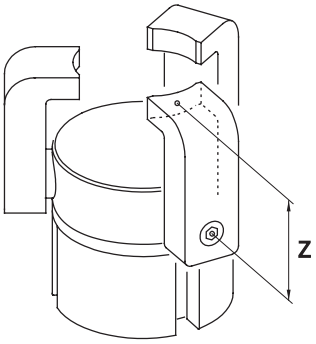


Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva (Z).

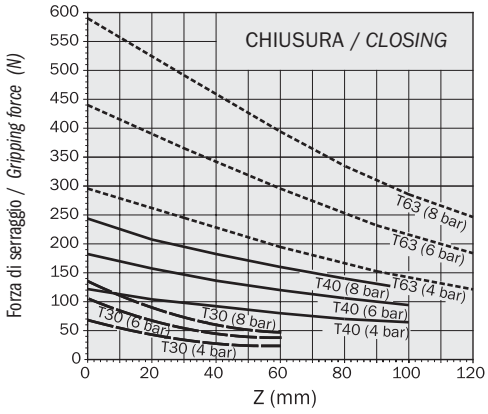
Gripping force

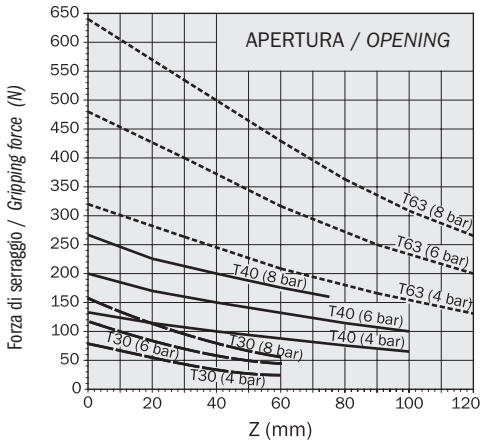
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length (Z).



La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il triplo.

The force shown in these graphs refers to one jaw.
The total force is trible.



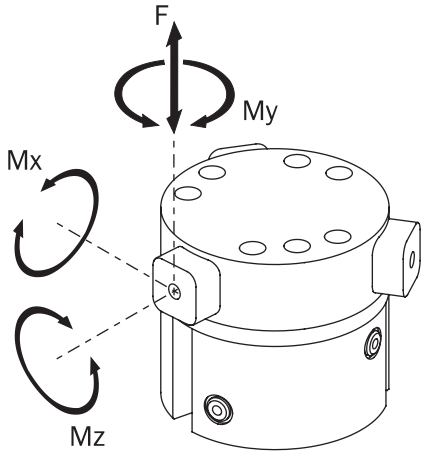


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
The following table shows the specified maximum loads (m) on each gripping tool as a function of closing or opening time.
Use flow controllers (not supplied) to get the proper speed.



	T30	T40	T63
F s	100 N	300 N	500 N
Mx s	4 Nm	12 Nm	32 Nm
My s	4 Nm	12 Nm	32 Nm
Mz s	4 Nm	12 Nm	32 Nm
F d	1 N	3 N	8 N
Mx d	3 Ncm	8 Ncm	30 Ncm
My d	3 Ncm	8 Ncm	30 Ncm
Mz d	3 Ncm	8 Ncm	30 Ncm
m 0.2 s	150 g	300 g	700 g
m 0.1 s	100 g	200 g	500 g
m (*)	80 g	150 g	400 g

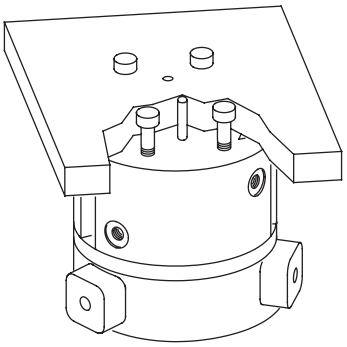
(*) senza regolazione di velocità
(*) without speed adjustment

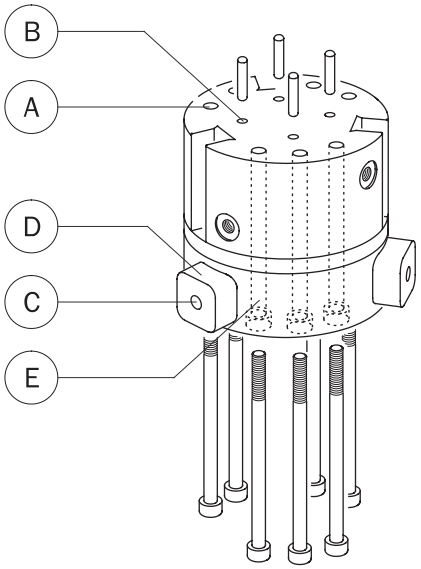
Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per il fissaggio è necessario utilizzare almeno quattro viti e due spine.

Gripper fastening

The gripper can be fastened to a static or moving part.
When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
To fasten the gripper use at least four screws and two dowel pins.





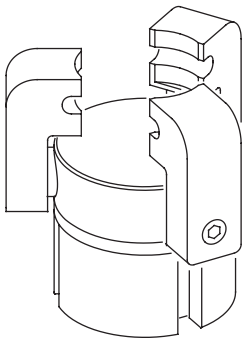
	T30	T40	T63
A	M4x8 mm	M5x10 mm	M8x16 mm
B	Ø3H8x4 mm	Ø3H8x4 mm	Ø5H8x7 mm
E	Ø3.3 mm	Ø4.2 mm	Ø6.8 mm

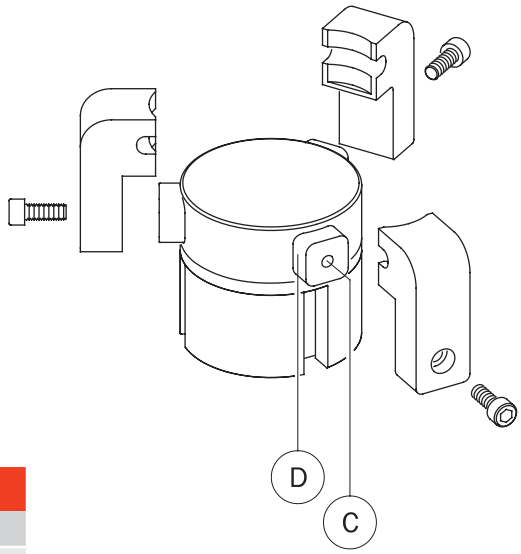
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle sulle griffe calzandole sulla sagoma calibrata (D) e bloccandole con una vite nel foro filettato (C) centrale.

Gripping tool fastening

The gripping tools must be as short and light as possible.
Fit them to the jaws by centering the square calibrated profile (D) and locking with a screw through the threaded middle hole (C).





	T30	T40	T63
C	M6x8 mm	M6x10 mm	M8x13 mm
D	$14^{-0.05}$ x $14^{-0.05}$ mm	$19^{-0.05}$ x $19^{-0.05}$ mm	$26^{-0.05}$ x $26^{-0.05}$ mm

Sensori

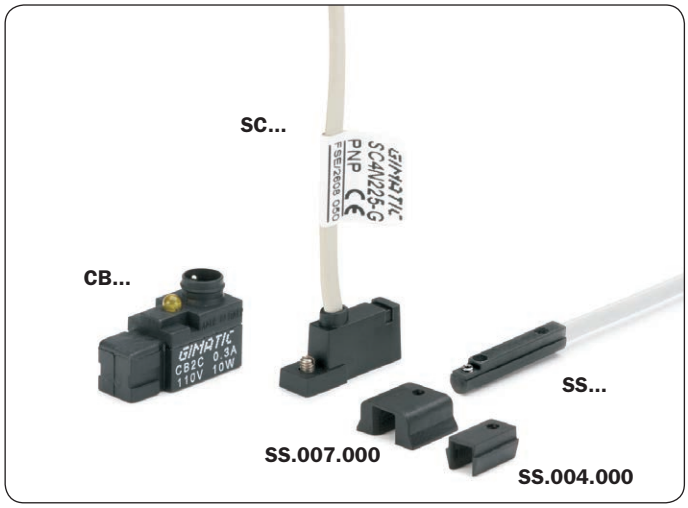
Il rilevamento della posizione di lavoro è affidato a uno o più (max. 3) sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone. Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

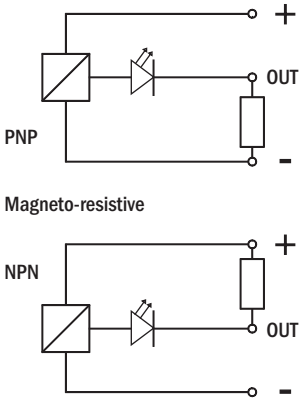
I sensori utilizzabili sono:

Sensors

The operating position is detected by proximity magnetic sensors (optional) through a magnet placed on the piston. Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

The sensors that can be used are:





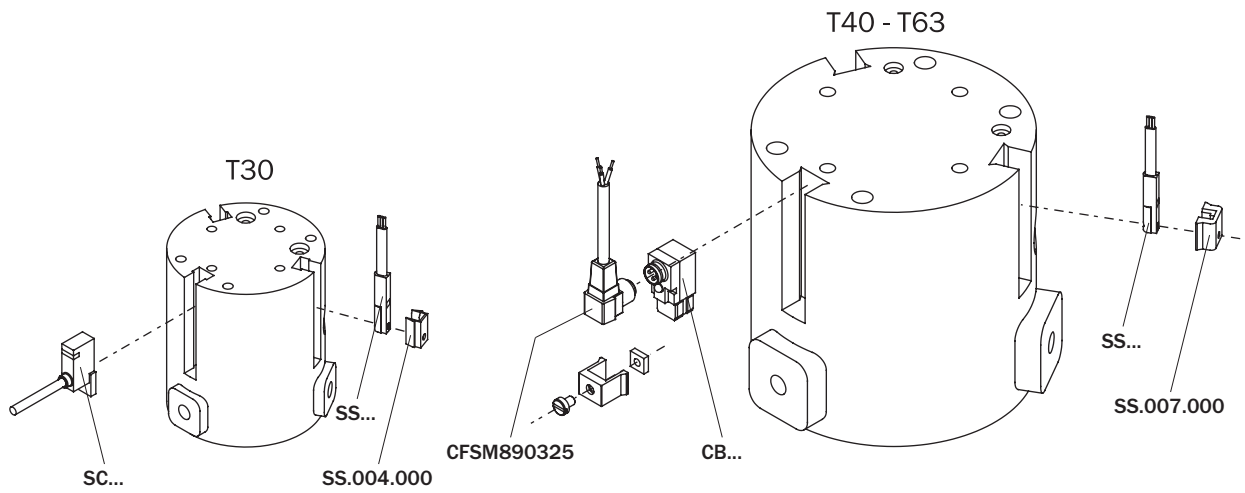
			T30	T40	T63
CB3N2-G	PNP	Connettore M8 / M8 snap plug connector	☐	☑	☑
SC4N225Y	PNP	Cavo 2.5m / 2.5m cable	☑	☐	☐
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☑	☐	☐
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑ (2)	☑ (1)	☑ (1)
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑ (2)	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (2)	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (2)	☑ (1)	☑ (1)

(1)
Utilizzando l'adattatore (SS.007.000) fornito nella confezione K-SENS.

(2)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.007.000) provided with the pack K-SENS.

(2)
By the adapter (SS.004.000) provided with the pack K-SENS.



Connessione pneumatica

La pinza può essere alimentata con aria compressa dai fori laterali (A) montandovi i raccordi dell'aria ed i relativi tubi (non forniti), oppure direttamente da quelli sul fondo (B).

Aria compressa in 1: apertura della pinza.
Aria compressa in 6: chiusura della pinza.

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

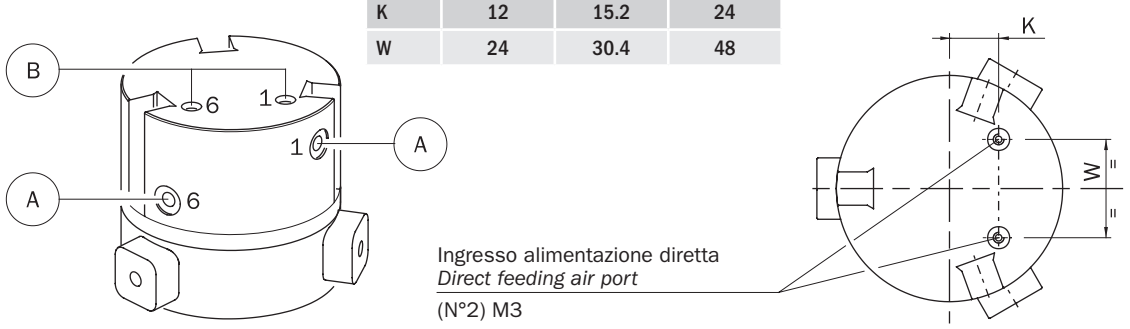
The compressed air feeding is accomplished on the lateral air ports (A) with fittings and hoses (not supplied), or directly on the bottom air ports (B).

Compressed air in 1: gripper opening.
Compressed air in 6: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

	T30	T40	T63
K	12	15.2	24
W	24	30.4	48



Ingresso alimentazione diretta
Direct feeding air port
(N°2) M3

Circuito pneumatico

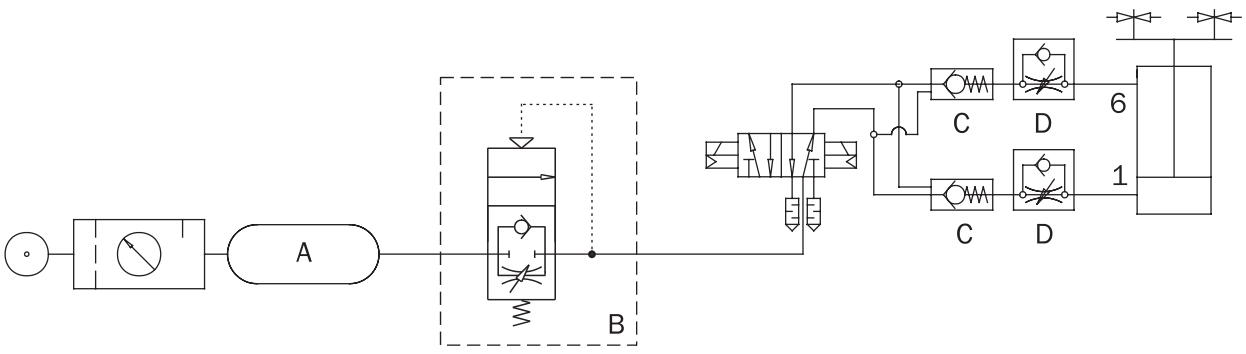
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

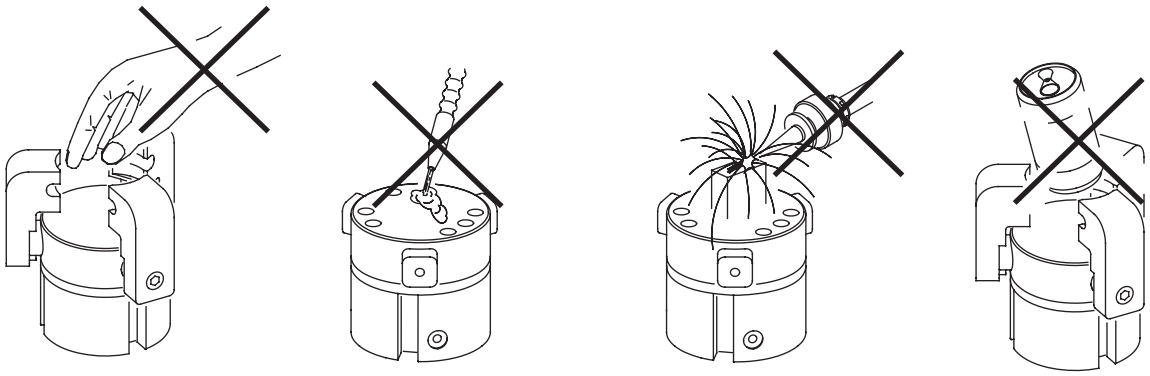


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the gripper come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
Never let non-authorized persons or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

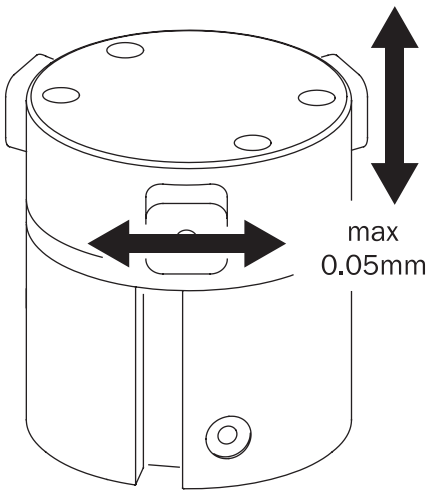
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

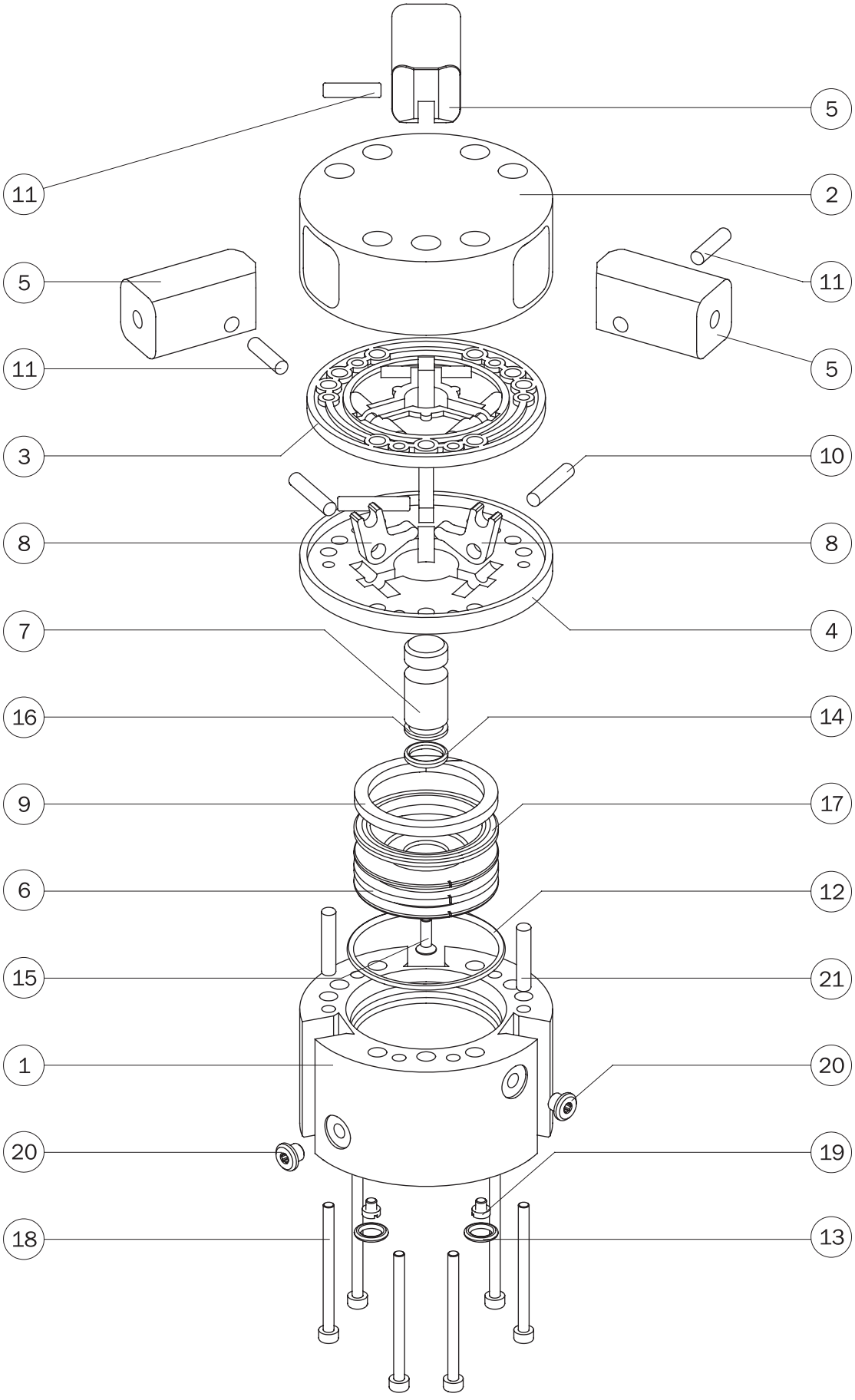
Maintenance

Grease the gripper after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

The figure below shows the jaw backlash.



Vista esplosa / *Exploded view*



Elenco delle parti / *Part list*

		T30	T40	T63		
1	Corpo pinza	T30-1	T40-1	T63-1	*Gripper housing*	*1*
2	Blocco scorrimento griffe	T30-2	T40-2	T63-2	*Guidance block plate*	*2*
3	Supporto superiore leve	T30-3	T40-3	T63-3	*Upper bearing*	*3*
4	Supporto inferiore leve	T30-4	T40-4	T63-4	*Lower bearing*	*4*
5	Griffa	T30-5	T40-5	T63-5	*Jaw*	*5*
6	Pistone	T30-6	T40-6	T63-6	*Piston*	*6*
7	Stelo	T30-7	T40-7	T63-7	*Piston rod*	*7*
8	Leva	T30-8	T40-8	T63-8	*Lever*	*8*
9	Magnete	T30-10	T40-10	T63-10	*Magnet*	*9*
10	Spina di riferimento	Ø3x8 mm DIN 6325	Ø4x20 mm DIN 6325	Ø6x24 mm DIN 6325	*Dowel pin*	*10*
11	Spina di riferimento	Ø3x12 mm DIN 6325	Ø4x16 mm DIN 6325	Ø6x24 mm DIN 6325	*Dowel pin*	*11*
12	Anello di tenuta O-RING	Ø1.78x29.87 (GUAR-054)	Ø1.78x41 (GUAR-027)	Ø1.78x63.22 (GUAR-79)	*O-RING gasket*	*12*
13	Anello di tenuta O-RING	Ø1.78x6.07 (GUAR-039)	Ø1.78x6.07 (GUAR-039)	Ø1.78x6.07 (GUAR-039)	*O-RING gasket*	*13*
14	Guarnizione	Ø1.78x7.66 (GUAR-045)	18x12x3 (GUAR-014)	24x17x3 (GUAR-145)	*Gasket*	*14*
15	Vite	TCEI M3x6 mm INOX A2 DIN 912	TSP M3x10 mm INOX A2 DIN 965A	TCEI M5x12 mm INOX A2 DIN 912	*Screw*	*15*
16	Anello di tenuta O-RING	Ø1.78x5.28 (GUAR-011)	Ø1.78x9.25 (GUAR-065)	Ø1.78x12.42 (GUAR-047)	*O-RING gasket*	*16*
17	Guarnizione	30x21x3 (GUAR-024P)	40x31x3 (GUAR-006)	63x51x4 (GUAR-068)	*Gasket*	*17*
18	Vite	M3x40 mm DIN 912 INOX A2	M3x40 mm DIN 912 INOX A2	M6x60 mm DIN 912 INOX A2	*Screw*	*18*
19	Tappo	DT-205	DT-205	DT-205	*Plug*	*19*
20	Tappo	107-M5	107-M5	107-1/8"	*Plug*	*20*
21	Spina di riferimento	Ø3x12 mm DIN 6325	Ø4x20 mm DIN 6325	Ø5x20 mm DIN 6325	*Dowel pin*	*21*

TH

Pinza pneumatica a 3 griffe ad azione parallela autocentrante serie TH

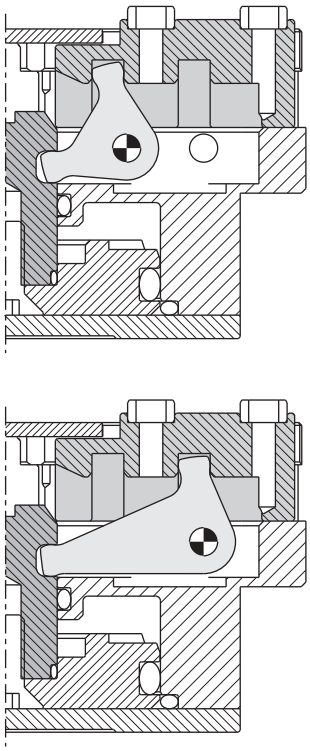
- Azionamento a doppio effetto, con molle opzionali (in chiusura o apertura) (3).
- Corsa lunga o corsa corta (1).
- Possibilità di fissaggio frontale con viti passanti (2).
- Meccanismo di trasmissione ad alta efficienza (1).
- Sensori magnetici o induttivi opzionali.
- Grasso alimentare FDA-H1 e guarnizioni per alta temperatura (fino a 100°C.).

3-jaw parallel-acting self-centering pneumatic gripper series TH

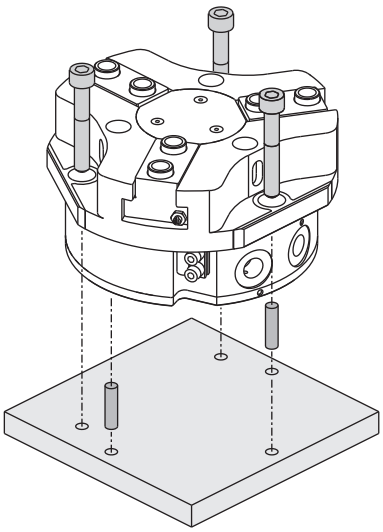
- *Double acting with optional springs (normally closed or normally open) (3).*
- *Long stroke or short stroke (1).*
- *Possibility of front fastening with through screws (2).*
- *High efficiency force transmission (1).*
- *Optional magnetic or inductive sensors.*
- *Food grade grease FDA-H1 and seals for high temperature (up to 100 °C.).*



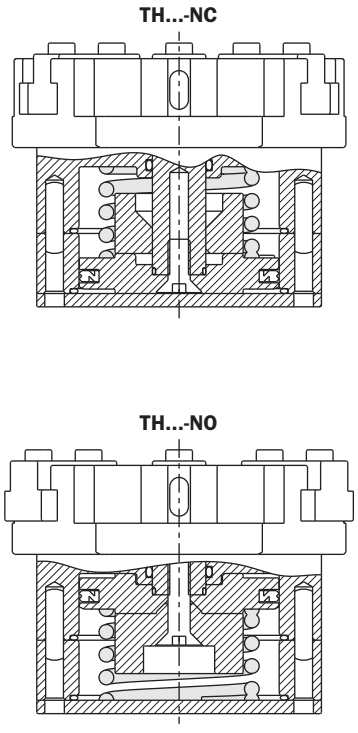
(1)



(2)



(3)

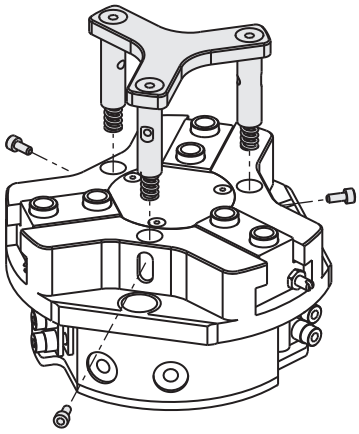


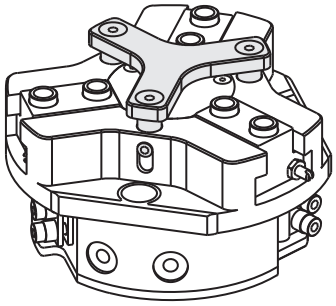
Spintore opzionale

Questo accessorio si può installare sulle pinze TH, per tenere premuto il pezzo durante il rilascio, con una Forza F.
Ad esempio quando si carica il mandrino di una macchina utensile.
Viene fornito smontato, con i codici indicati in tabella.

Optional pusher

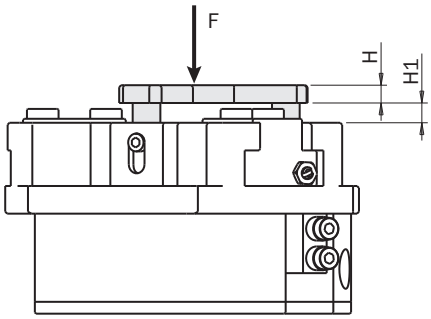
This accessory can be installed in the TH grippers, to hold the payload during the gripper release, by a pushing force F.
As an example, when the chuck of a machining equipment is loaded.
It is supplied disassembled, with the codes in the table below.





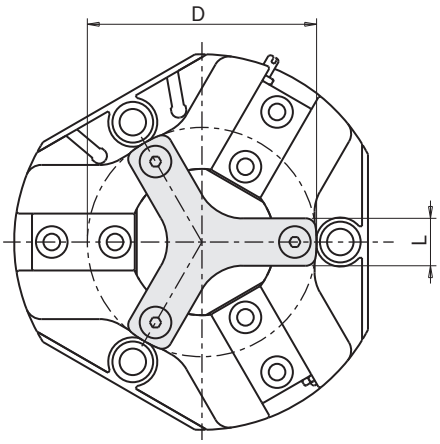
Forza / *Force*

	TH27K	TH33K	TH45K	TH54K	TH76K	TH96K	TH125K
F	10N	15N	20N	30N	50N	100N	200N



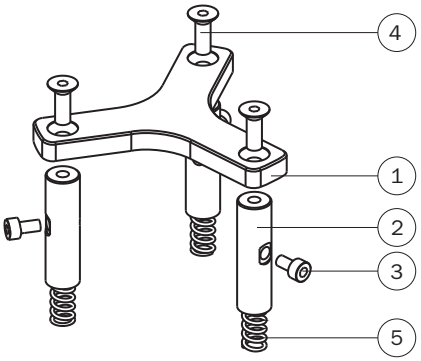
Dimensioni (mm) / *Dimensions (mm)*

	TH27K	TH33K	TH45K	TH54K	TH76K	TH96K	TH125K
D	Ø28	Ø37	Ø44	Ø58	Ø74	Ø86	Ø118
H	3.5	4	4	4.5	5.5	5.5	6
H1	0÷2.5	0÷3	0÷4	0÷5	0÷5	0÷6	0÷6
L	6.5	8	10	12	14	16	19
m	10g	20g	30g	50g	100g	170g	285g



Elenco delle parti / *Part list*

	TH27K	TH33K	TH45K	TH54K	TH76K	TH96K	TH125K
1	TH2725-14	TH3304-15	TH4506-09	TH5408-22	TH7610-10	TH9613-10	TH12516-17
2	TH2725-15	TH3304-14	TH4506-10	T5408-23	TH7610-11	TH9613-11	TH12516-18
3	VITE-434 M1.6x3 DIN7985	VITE-435 M2x4 DIN7985	VITE-436 M2x5 DIN912	VITE-217 M2.5x6 DIN912	VITE-017 M3x6 DIN912	VITE-009 M4x8 DIN912	VITE-275 M4x8 DIN912
4	VITE-068 M2x6 DIN965	VITE-170 M2.5x6 DIN965	VITE-306 M3x8 DIN7991	VITE-305 M4x8 DIN7991	VITE-437 M4x12 DIN7991	VITE-438 M5x12 DIN7991	VITE-438 M5x12 DIN7991
5	TH2725-16	T3304-16	TH4506-11	TH5408-24	TH7610-12	TH9613-12	TH12516-19



TH

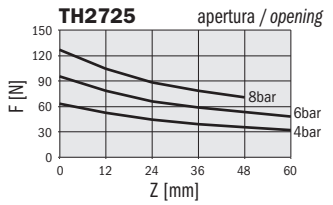
	TH2725	TH2725-NC	TH2725-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.		
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	95N	65 ÷ 70N	121 ÷ 125N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	285N	195 ÷ 210N	363 ÷ 375N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	87N	112 ÷ 117N	57 ÷ 61N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	261N	336 ÷ 351N	171 ÷ 183N
Corsa (±0.2 mm) *Stroke*	3x2.5mm	3x2.5mm	3x2.5mm
Frequenza max funzionamento *Maximum working frequency*	3Hz	3Hz	3Hz
Consumo d'aria per ciclo *Cycle air consumption*	3cm³	6cm³	6cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.02s / 0.02s	0.01s / 0.02s	0.03s / 0.01s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm
Peso *Weight*	117g	140g	139g

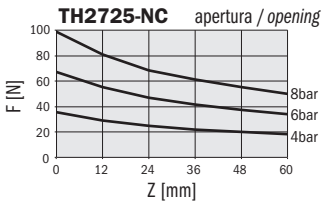
Forza di serraggio

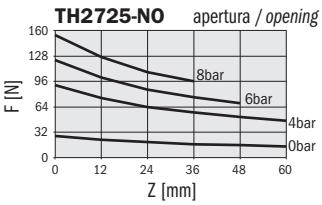
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

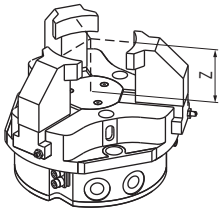
Gripping force

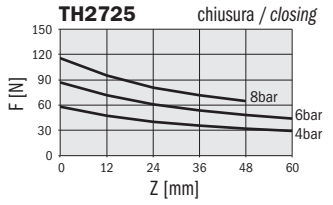
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

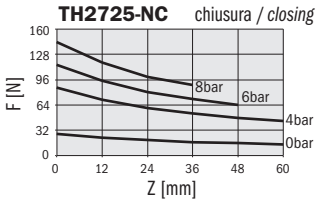


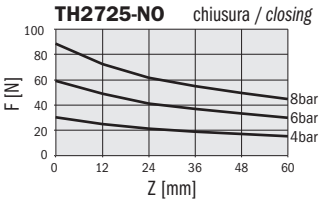










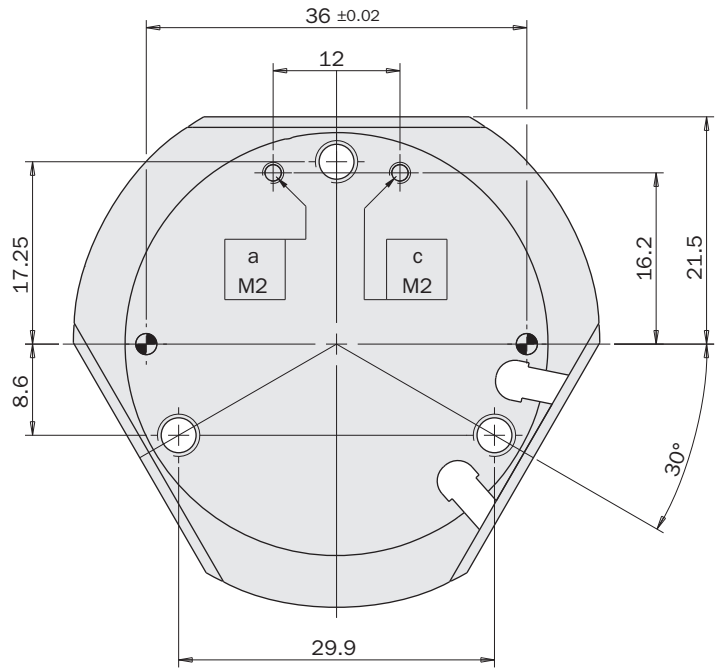


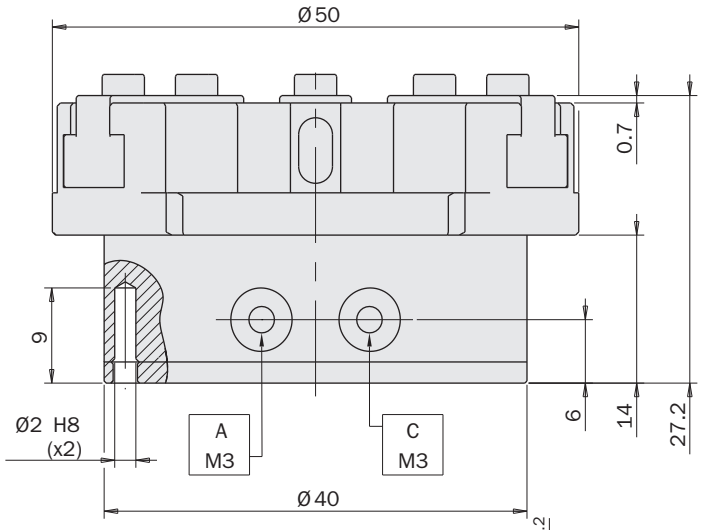
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

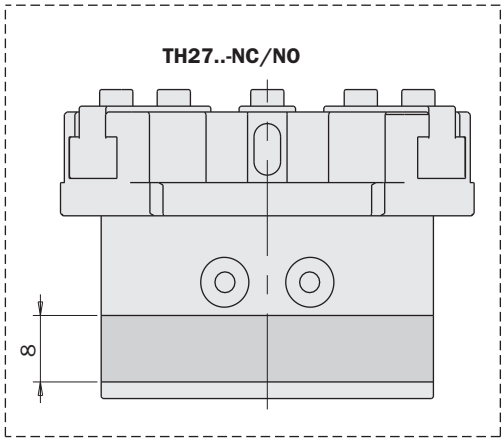
The force shown in these graphs refers to one jaw. The total force is triple.

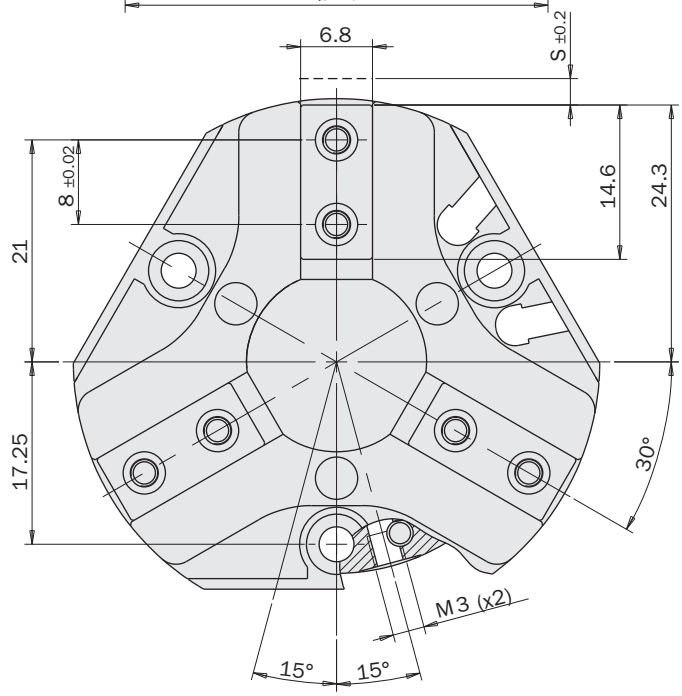
Dimensioni (mm) / *Dimensions (mm)*

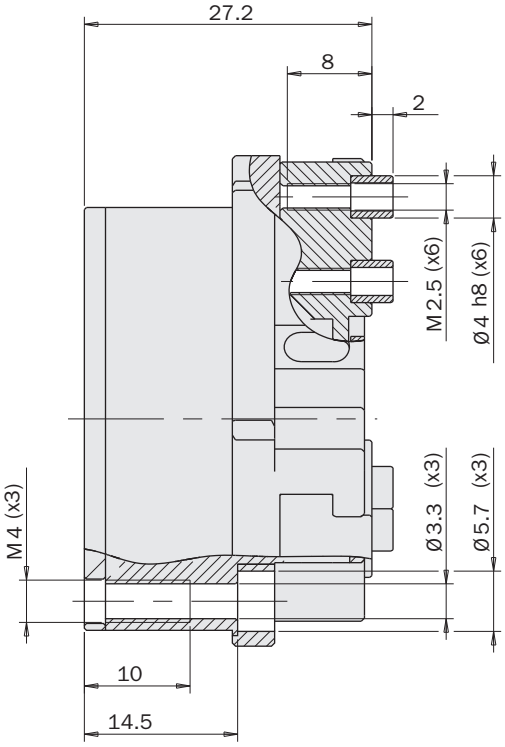
	TH2725	TH2725-NC	TH2725-NO
S	3x2.5mm	3x2.5mm	3x2.5mm











FIRST ANGLE PROJECTION

TH

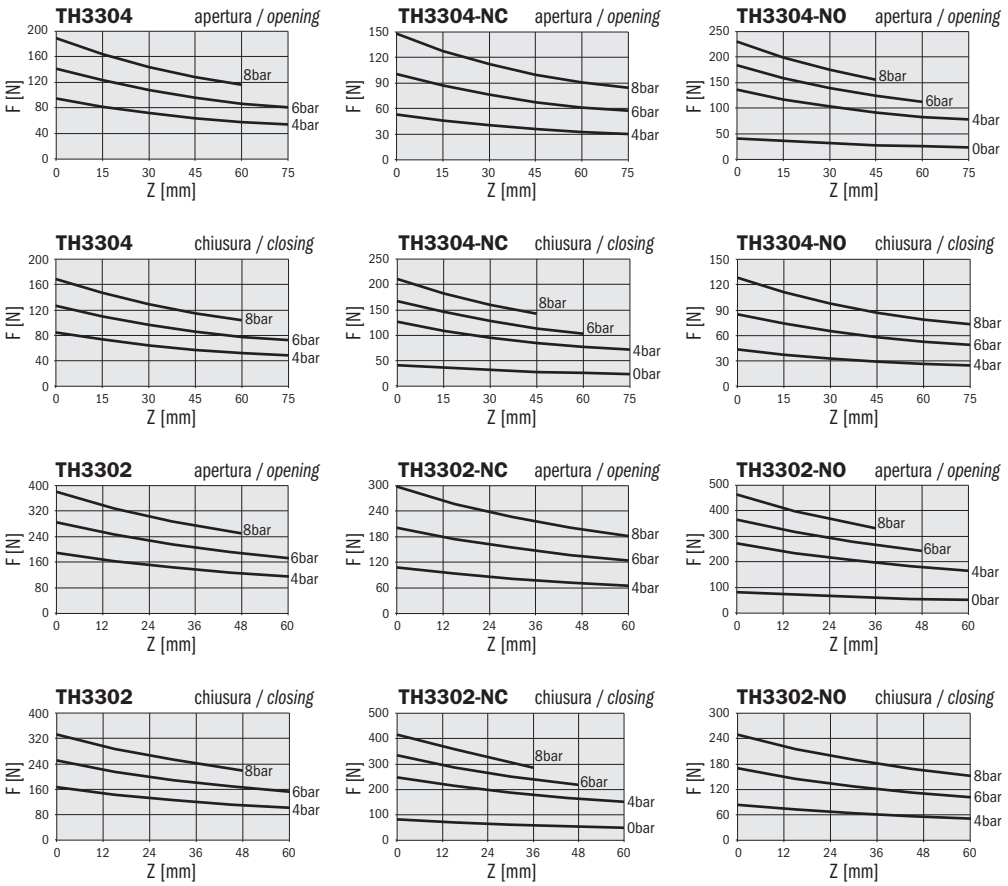
	TH3304	TH3304-NC	TH3304-NO	TH3302	TH3302-NC	TH3302-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	142N	97 ÷ 106N	179 ÷ 188N	285N	192 ÷ 210N	358 ÷ 375N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	426N	291 ÷ 318N	537 ÷ 564N	855N	576 ÷ 630N	1074 ÷ 1125N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	127N	164 ÷ 172N	81 ÷ 90N	250N	326 ÷ 344N	161 ÷ 179N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	381N	492 ÷ 516N	243 ÷ 270N	750N	978 ÷ 1032N	483 ÷ 537N
Corsa (±0.2 mm) *Stroke*	3x4mm	3x4mm	3x4mm	3x2mm	3x2mm	3x2mm
Frequenza max funzionamento *Maximum working frequency*	3Hz	3Hz	3Hz	3Hz	3Hz	3Hz
Consumo d'aria per ciclo *Cycle air consumption*	8cm³	13cm³	13cm³	8cm³	13cm³	13cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.02s / 0.02s	0.02s / 0.02s	0.02s / 0.02s	0.02s / 0.02s	0.02s / 0.02s	0.02s / 0.02s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	237g	293g	285g	240g	296g	288g

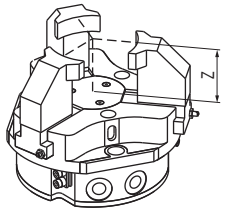
Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

The graphs show the gripping force (F) on each jaw, as a function of the operating pressure and the gripping tool length Z.





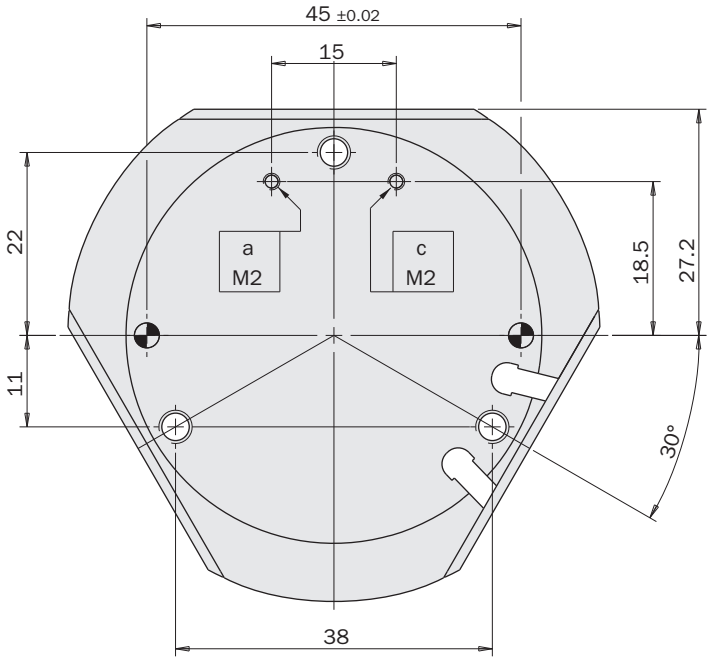
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

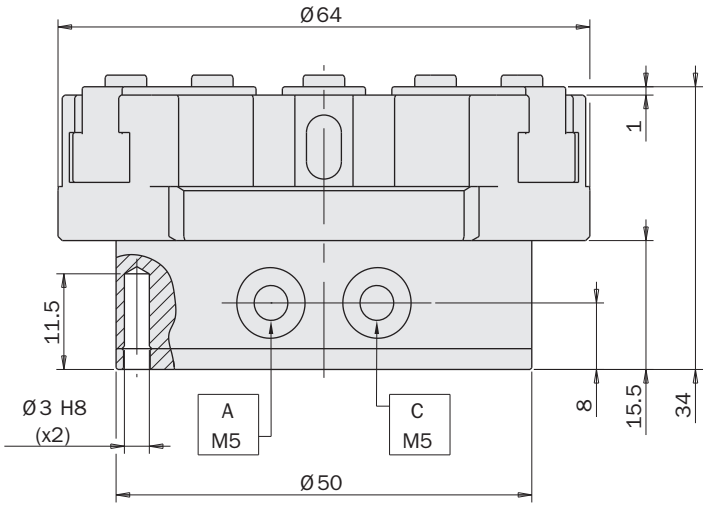
The force shown in these graphs refers to one jaw. The total force is triple.

Dimensioni (mm) / *Dimensions (mm)*

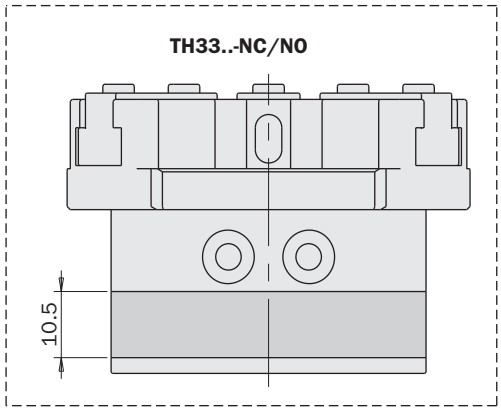
	TH3304	TH3304-NC	TH3304-NO
S	3x4mm	3x4mm	3x4mm

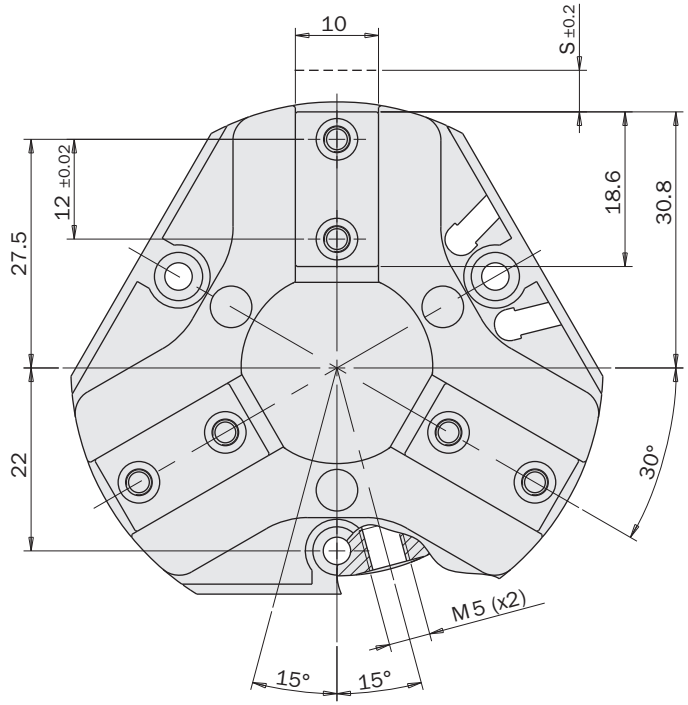
	TH3302	TH3302-NC	TH3302-NO
S	3x2mm	3x2mm	3x2mm

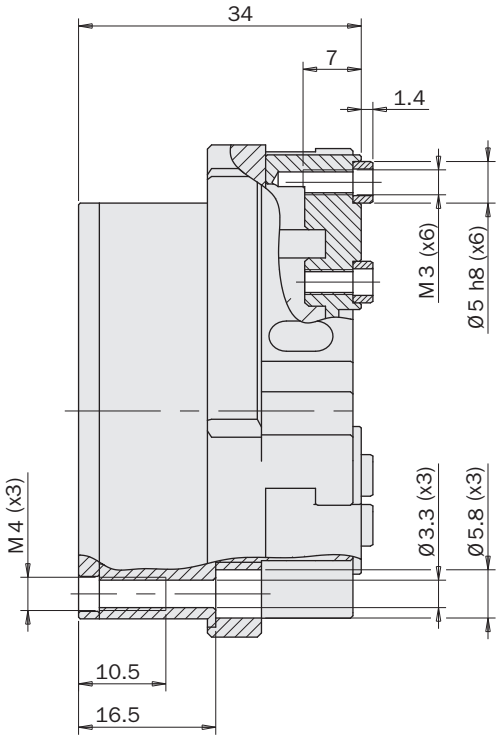




TH33..-NC/NO







FIRST ANGLE PROJECTION

03/2015

TH

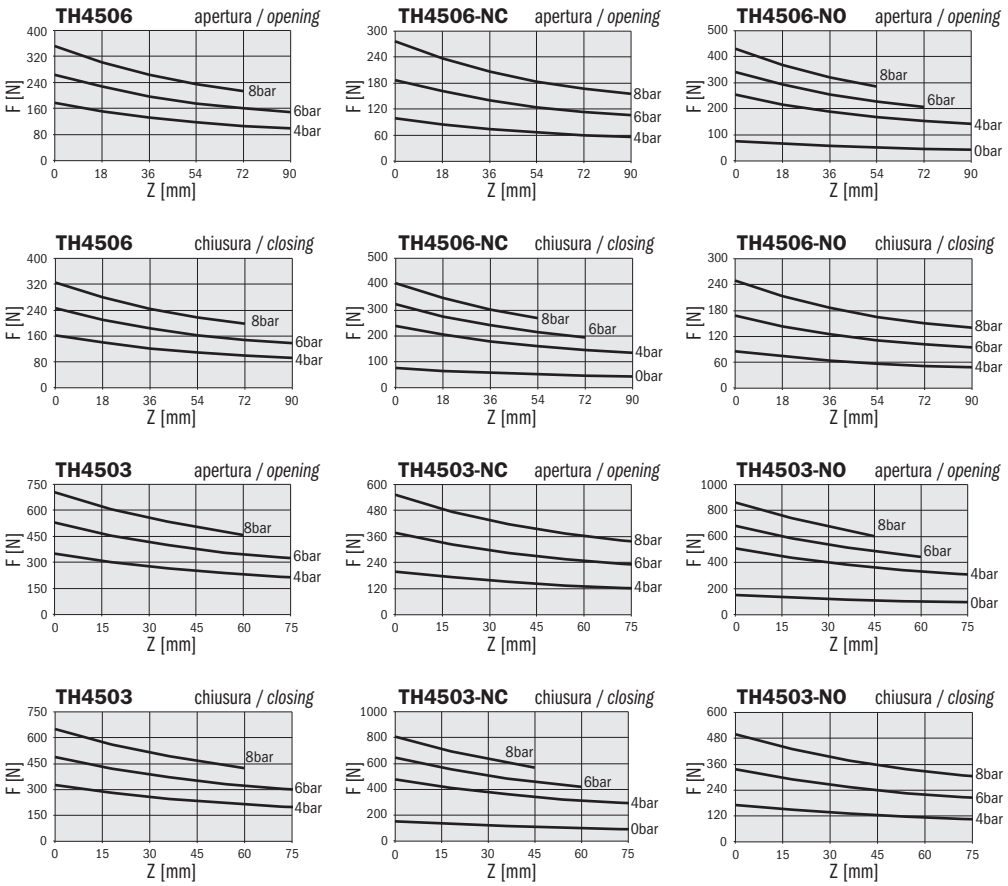
	TH4506	TH4506-NC	TH4506-NO	TH4503	TH4503-NC	TH4503-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	265N	173 ÷ 202N	328 ÷ 356N	530N	346 ÷ 403N	653 ÷ 710N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	795N	519 ÷ 606N	984 ÷ 1068N	1590N	1038 ÷ 1209N	1959 ÷ 2130N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	245N	309 ÷ 337N	155 ÷ 184N	490N	615 ÷ 673N	308 ÷ 366N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	735N	927 ÷ 1011N	465 ÷ 552N	1470N	1845 ÷ 2019N	924 ÷ 1098N
Corsa (±0.2 mm) *Stroke*	3x6mm	3x6mm	3x6mm	3x3mm	3x3mm	3x3mm
Frequenza max funzionamento *Maximum working frequency*	2Hz	2Hz	2Hz	2Hz	2Hz	2Hz
Consumo d'aria per ciclo *Cycle air consumption*	22cm³	37cm³	37cm³	22cm³	37cm³	37cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.05s / 0.05s	0.05s / 0.07s	0.07s / 0.05s	0.05s / 0.05s	0.05s / 0.07s	0.07s / 0.05s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	430g	540g	530g	440g	550g	530g

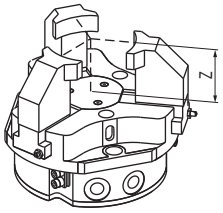
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.





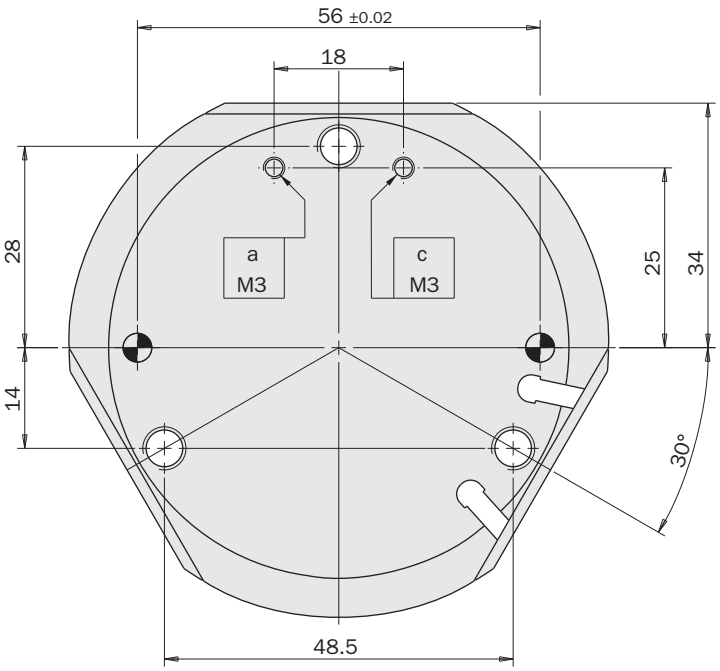
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

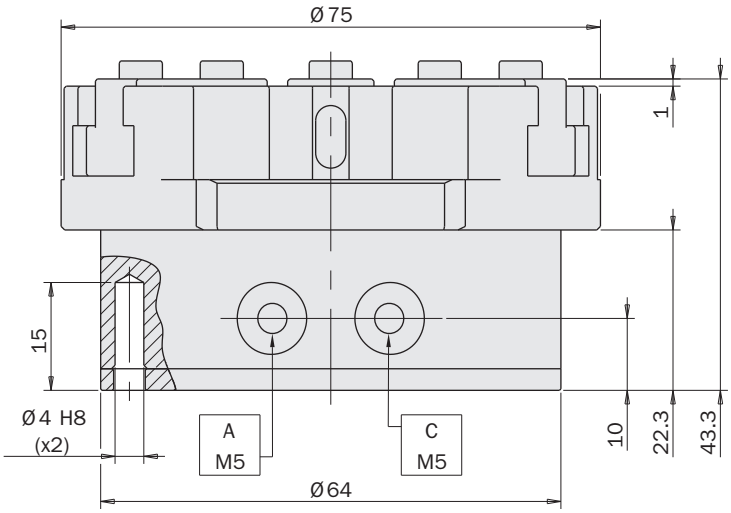
The force shown in these graphs refers to one jaw. The total force is triple.

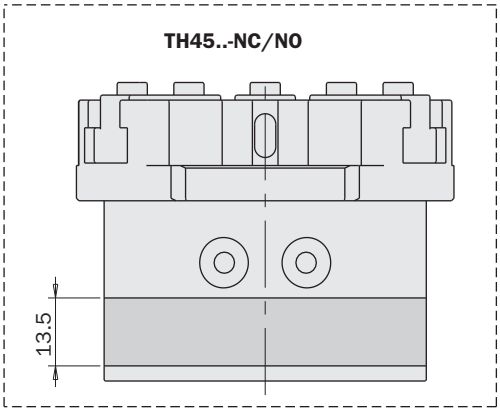
Dimensioni (mm) / *Dimensions (mm)*

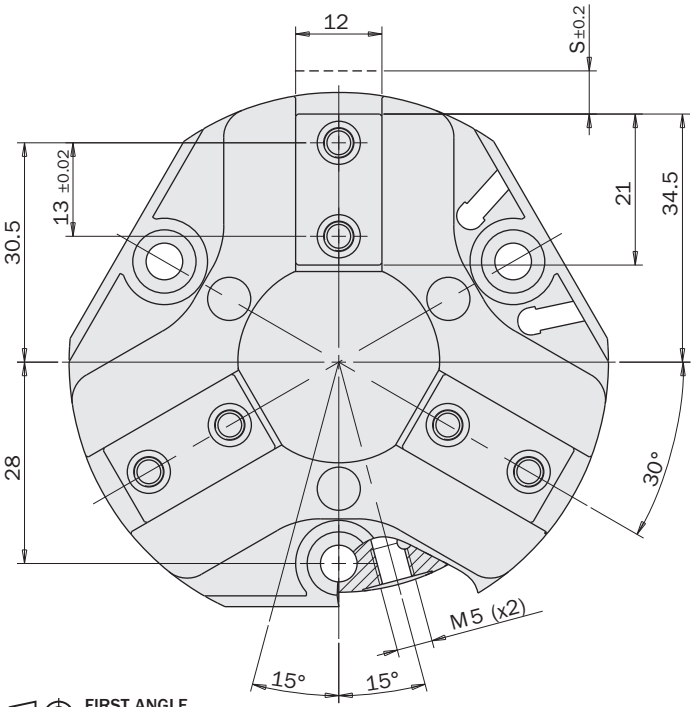
	TH4506	TH4506-NC	TH4506-NO
S	3x6mm	3x6mm	3x6mm

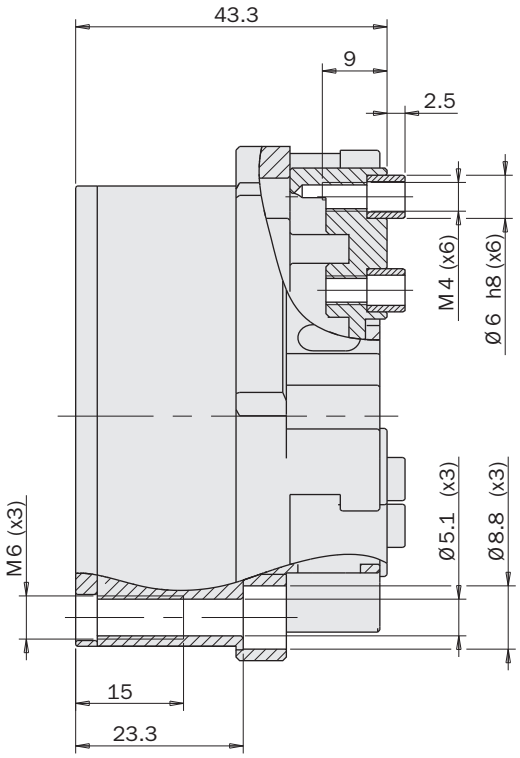
	TH4503	TH4503-NC	TH4503-NO
S	3x3mm	3x3mm	3x3mm











FIRST ANGLE PROJECTION

TH

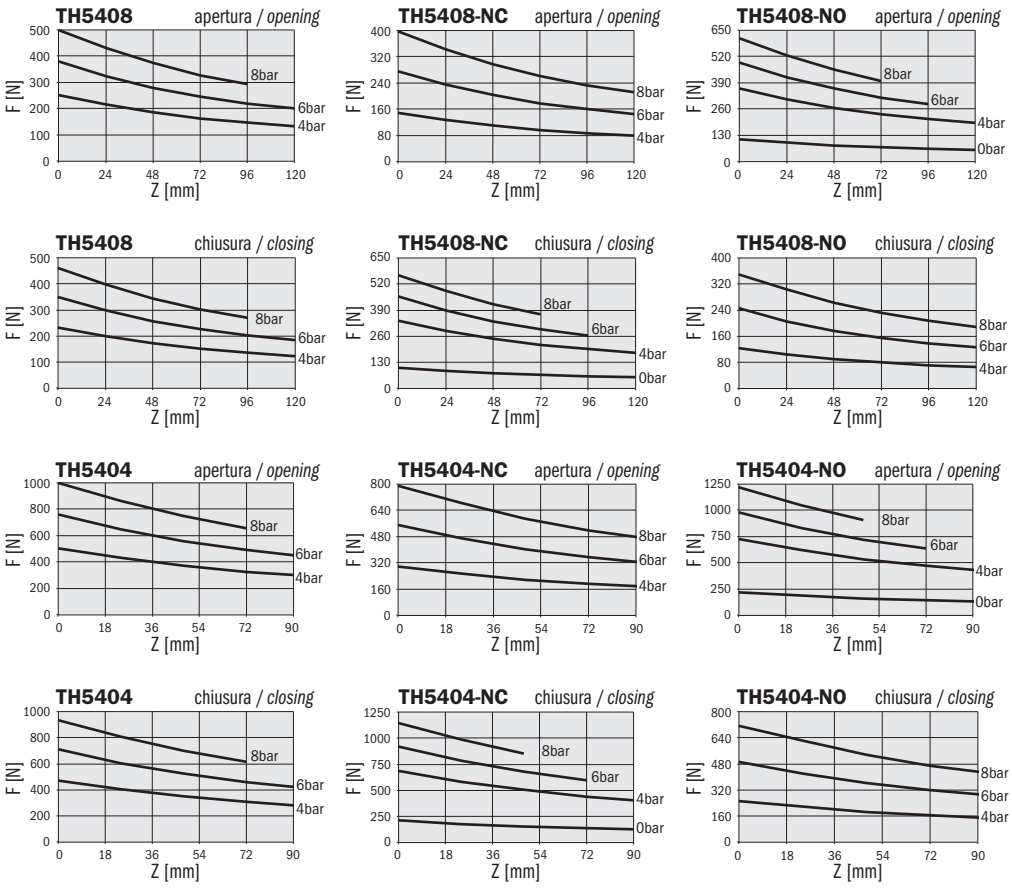
	TH5408	TH5408-NC	TH5408-NO	TH5404	TH5404-NC	TH5404-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	380N	252 ÷ 299N	466 ÷ 514N	760N	504 ÷ 597N	931 ÷ 1029N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	1140N	756 ÷ 897N	1398 ÷ 1542N	2280N	1512 ÷ 1791N	2793 ÷ 3087N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	350N	436 ÷ 483N	220 ÷ 269N	710N	872 ÷ 966N	441 ÷ 538N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	1050N	1308 ÷ 1449N	660 ÷ 807N	2130N	2616 ÷ 2898N	1323 ÷ 1614N
Corsa (±0.2 mm) *Stroke*	3x8mm	3x8mm	3x8mm	3x4mm	3x4mm	3x4mm
Frequenza max funzionamento *Maximum working frequency*	2Hz	2Hz	2Hz	2Hz	2Hz	2Hz
Consumo d'aria per ciclo *Cycle air consumption*	42cm³	67cm³	67cm³	42cm³	67cm³	67cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.05s / 0.05s	0.05s / 0.07s	0.07s / 0.05s	0.05s / 0.05s	0.05s / 0.07s	0.07s / 0.05s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	760g	930g	920g	770g	940g	930g

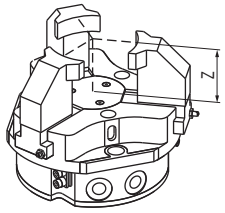
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.





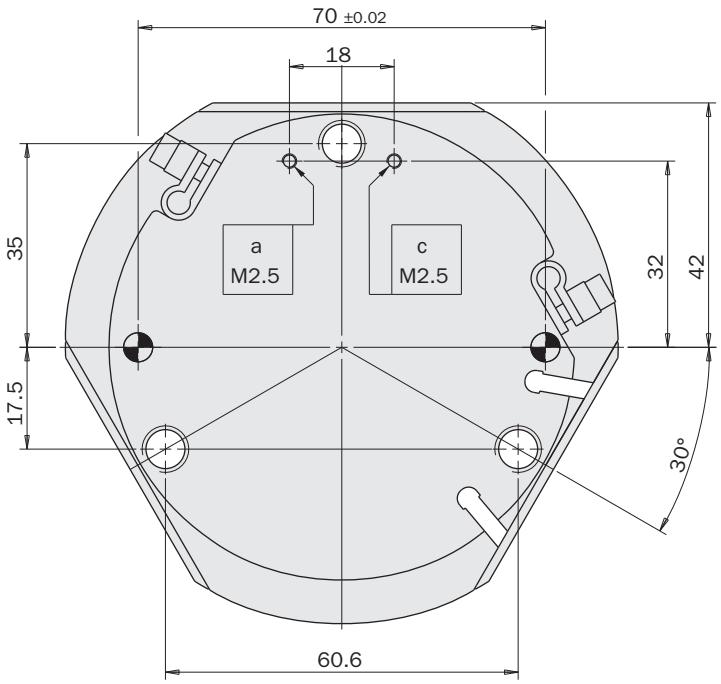
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

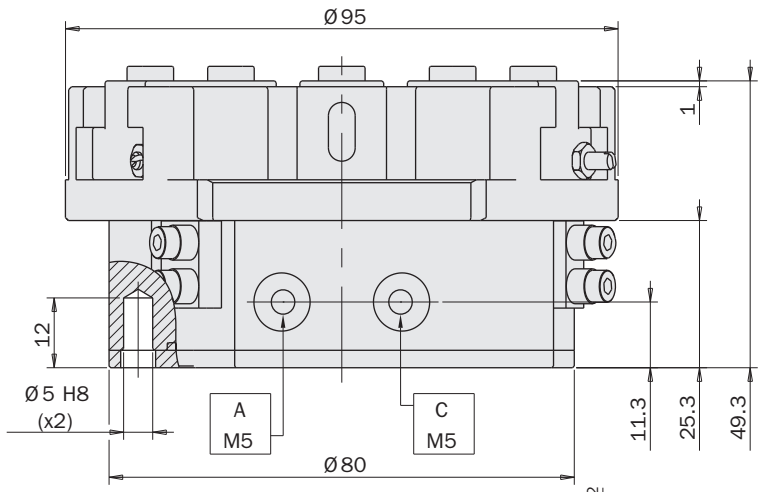
The force shown in these graphs refers to one jaw. The total force is triple.

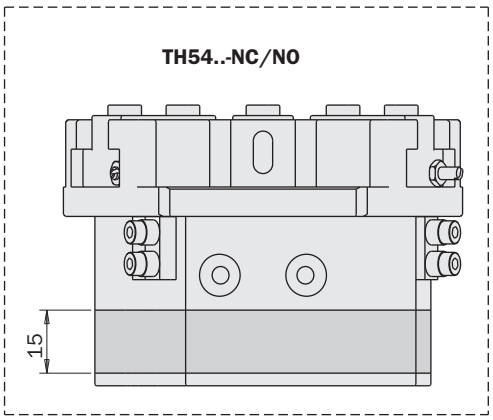
Dimensioni (mm) / *Dimensions (mm)*

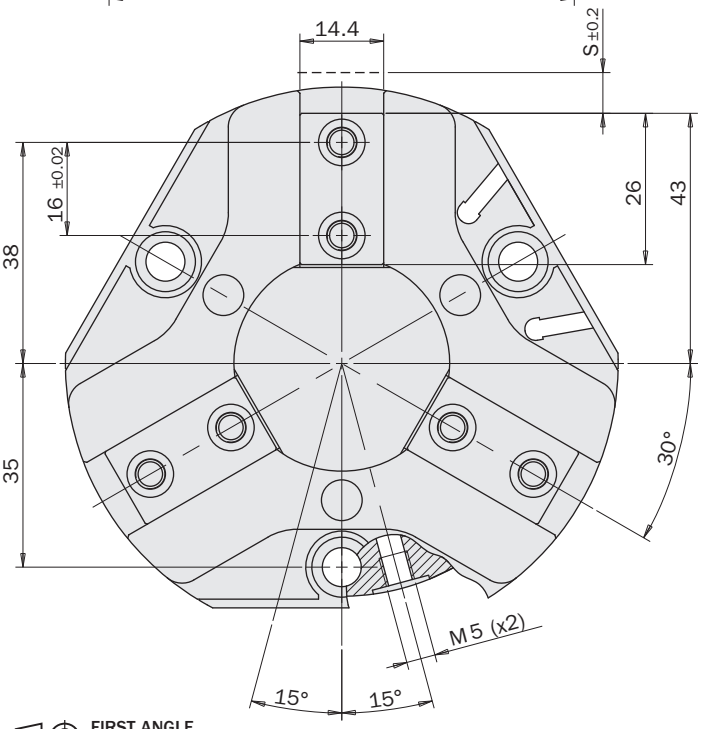
	TH5408	TH5408-NC	TH5408-NO
S	3x8mm	3x8mm	3x8mm

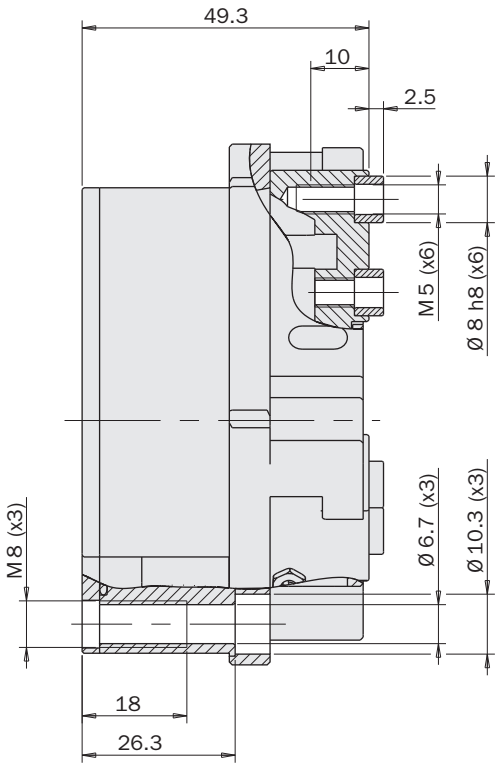
	TH5404	TH5404-NC	TH5404-NO
S	3x4mm	3x4mm	3x4mm











FIRST ANGLE PROJECTION

03/2015

TH

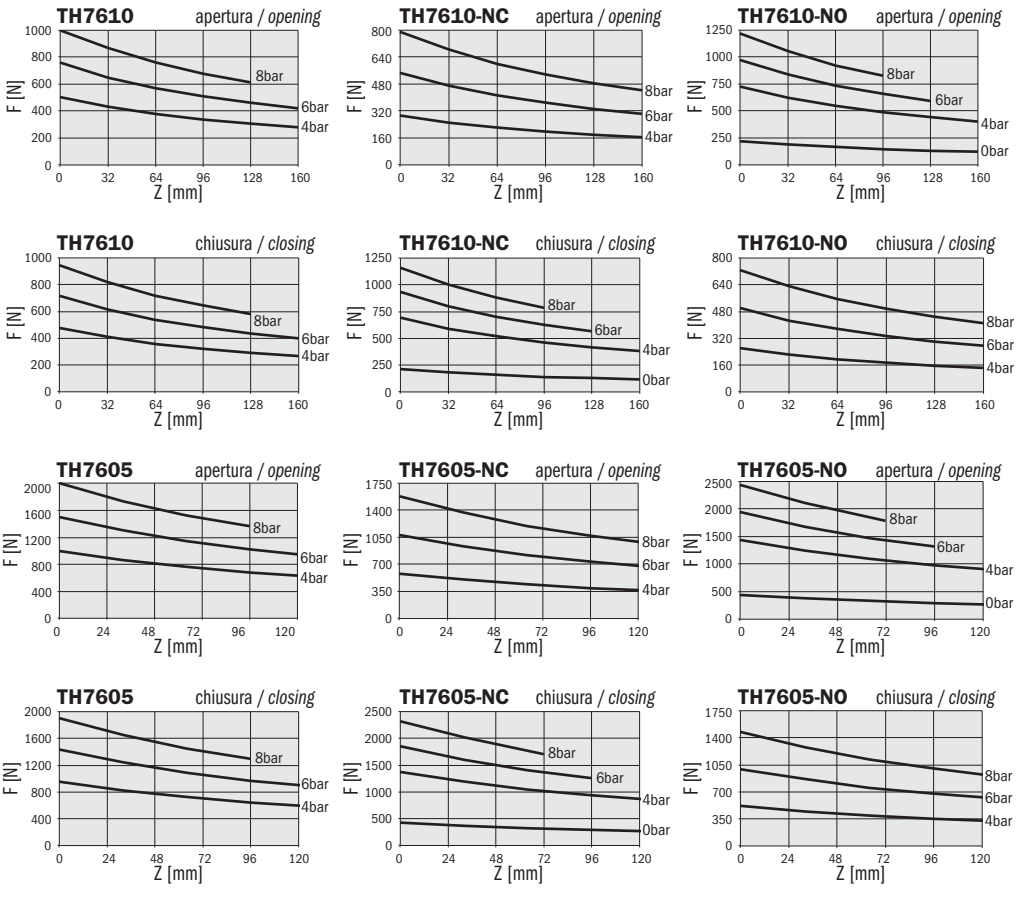
	TH7610	TH7610-NC	TH7610-NO	TH7605	TH7605-NC	TH7605-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	760N	515 ÷ 577N	954 ÷ 1000N	1500N	1024 ÷ 1148N	1896 ÷ 1989N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	2280N	1545 ÷ 1731N	2862 ÷ 3000N	4500N	3072 ÷ 3444N	5688 ÷ 5967N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	720N	890 ÷ 962N	477 ÷ 524N	1430N	1789 ÷ 1913N	948 ÷ 1041N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	2160N	2670 ÷ 2886N	1431 ÷ 1572N	4290N	5367 ÷ 5739N	2844 ÷ 3123N
Corsa (±0.2 mm) *Stroke*	3x10mm	3x10mm	3x10mm	3x5mm	3x5mm	3x5mm
Frequenza max funzionamento *Maximum working frequency*	1Hz	1Hz	1Hz	1Hz	1Hz	1Hz
Consumo d'aria per ciclo *Cycle air consumption*	106cm³	174cm³	174cm³	106cm³	174cm³	174cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.2s / 0.2s	0.2s / 0.3s	0.3s / 0.2s	0.2s / 0.2s	0.2s / 0.3s	0.3s / 0.2s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	1420g	1870g	1840g	1430g	1880g	1850g

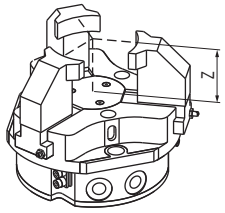
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.





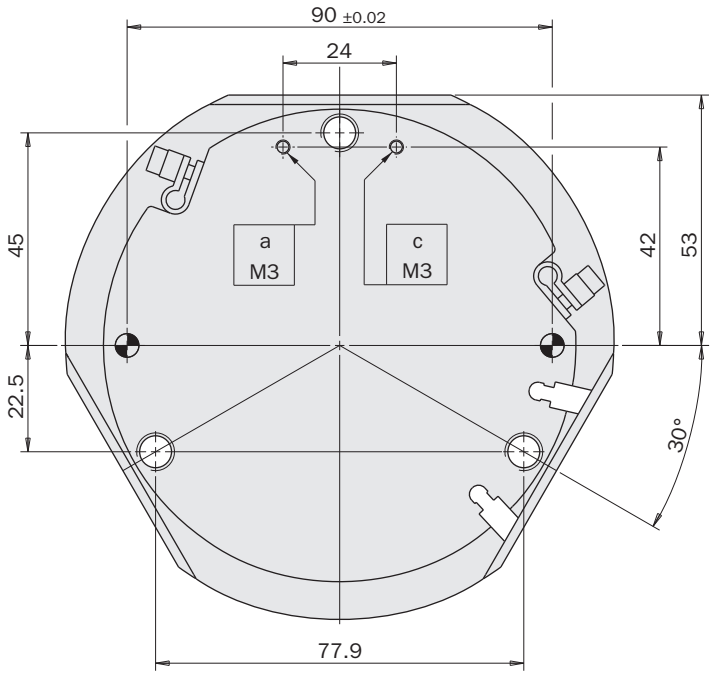
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

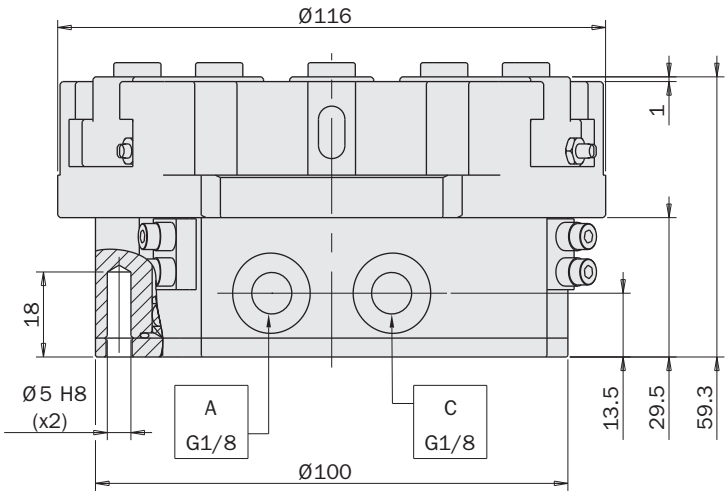
The force shown in these graphs refers to one jaw. The total force is triple.

Dimensioni (mm) / *Dimensions (mm)*

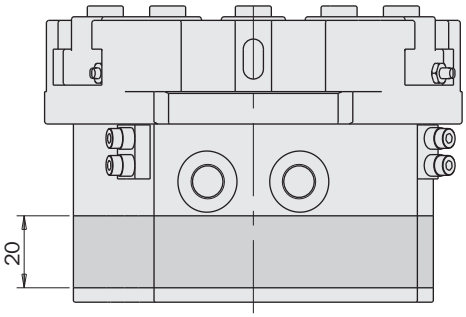
	TH7610	TH7610-NC	TH7610-NO
S	3x10mm	3x10mm	3x10mm

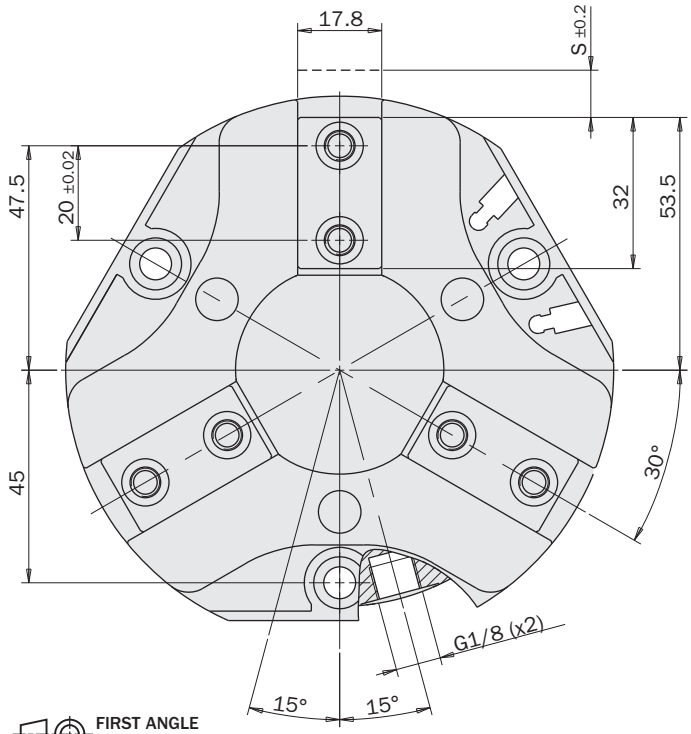
	TH7605	TH7605-NC	TH7605-NO
S	3x5mm	3x5mm	3x5mm

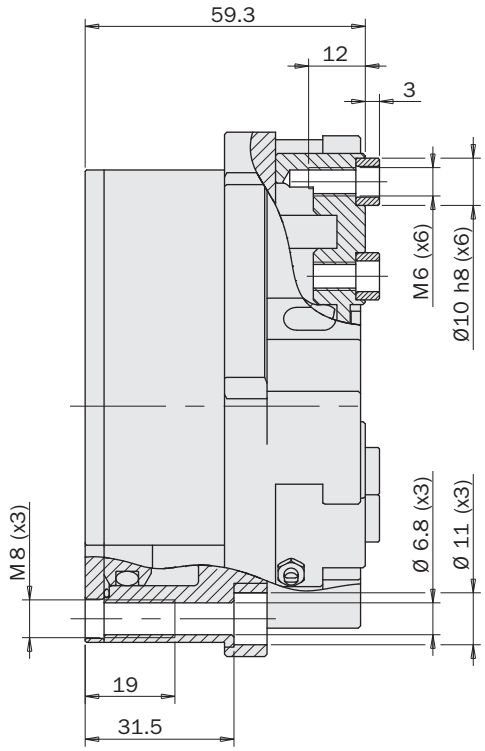




TH76..-NC/NO







FIRST ANGLE PROJECTION

03/2015

TH

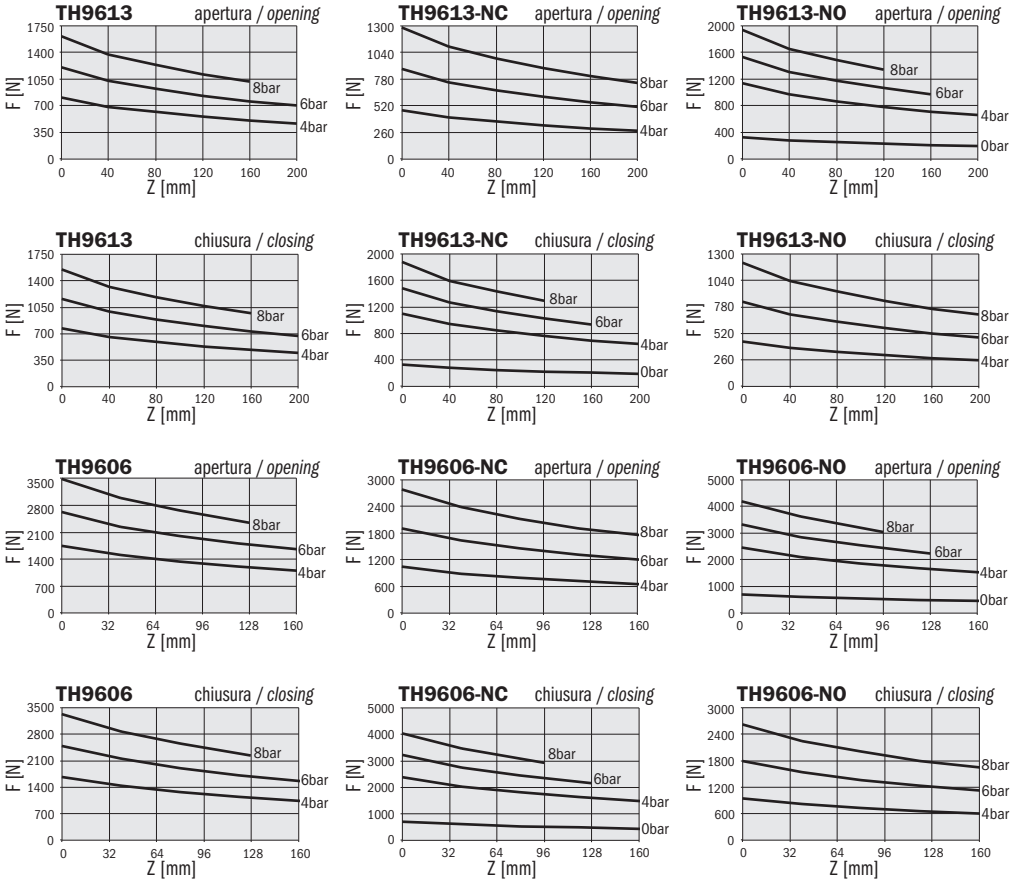
	TH9613	TH9613-NC	TH9613-NO	TH9606	TH9606-NC	TH9606-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	1210N	821 ÷ 946N	1485 ÷ 1594N	2620N	1779 ÷ 2048N	3216 ÷ 3451N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	3630N	2463 ÷ 2838N	4455 ÷ 4782N	7860N	5337 ÷ 6144N	9648 ÷ 10353N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	1160N	1422 ÷ 1564N	774 ÷ 883N	2500N	3079 ÷ 3348N	1675 ÷ 1911N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	3480N	4266 ÷ 4638N	2322 ÷ 2649N	7500N	9327 ÷ 10044N	5025 ÷ 5733N
Corsa (±0.2 mm) *Stroke*	3x13mm	3x13mm	3x13mm	3x6mm	3x6mm	3x6mm
Frequenza max funzionamento *Maximum working frequency*	1Hz	1Hz	1Hz	1Hz	1Hz	1Hz
Consumo d'aria per ciclo *Cycle air consumption*	221cm³	335cm³	335cm³	221cm³	335cm³	335cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.2s / 0.2s	0.2s / 0.3s	0.3s / 0.2s	0.2s / 0.2s	0.2s / 0.3s	0.3s / 0.2s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	2450g	3230g	3140g	2490g	3270g	3180g

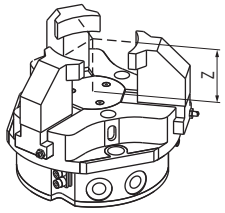
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.





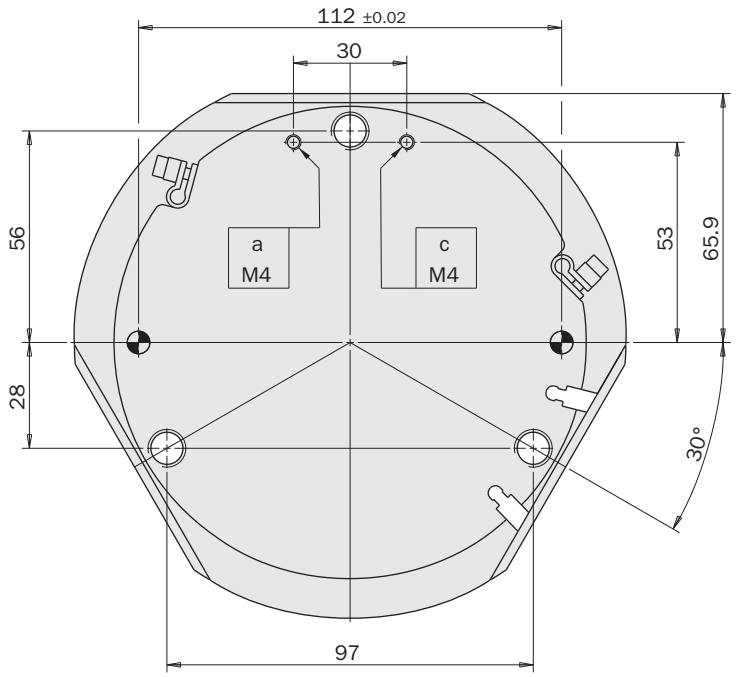
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

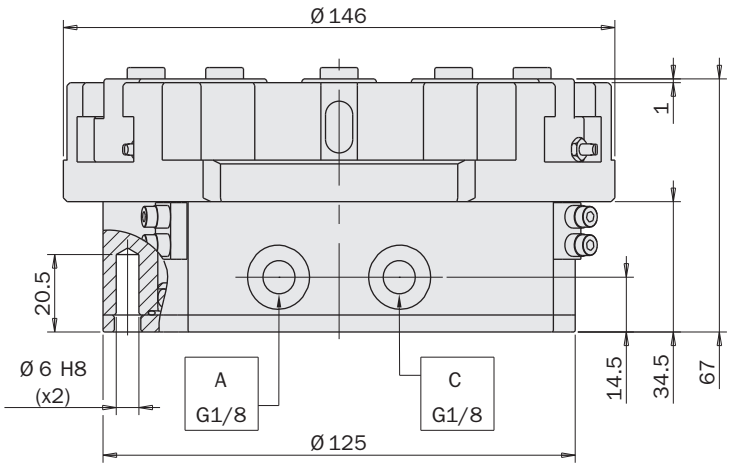
The force shown in these graphs refers to one jaw. The total force is triple.

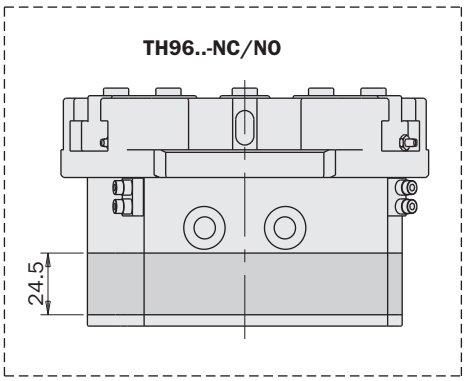
Dimensioni (mm) / *Dimensions (mm)*

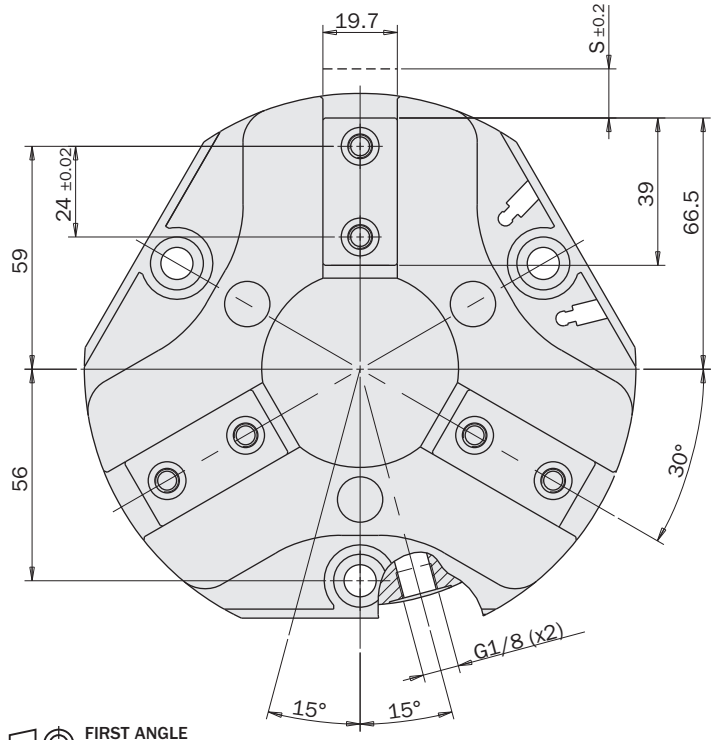
	TH9613	TH9613-NC	TH9613-NO
S	3x13mm	3x13mm	3x13mm

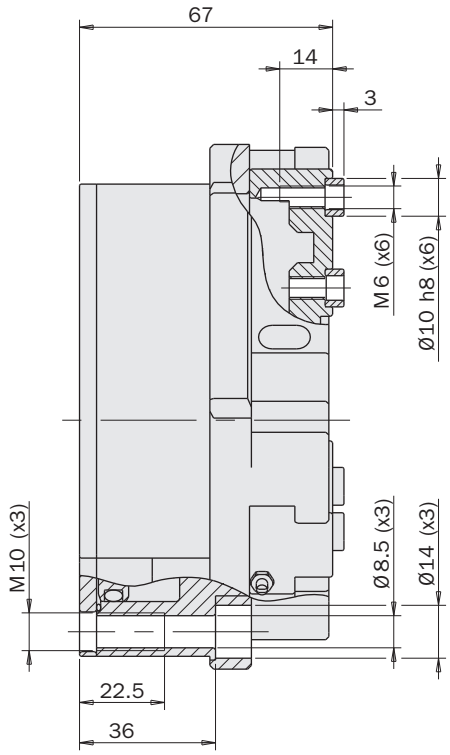
	TH9606	TH9606-NC	TH9606-NO
S	3x6mm	3x6mm	3x6mm











FIRST ANGLE PROJECTION

03/2015

TH

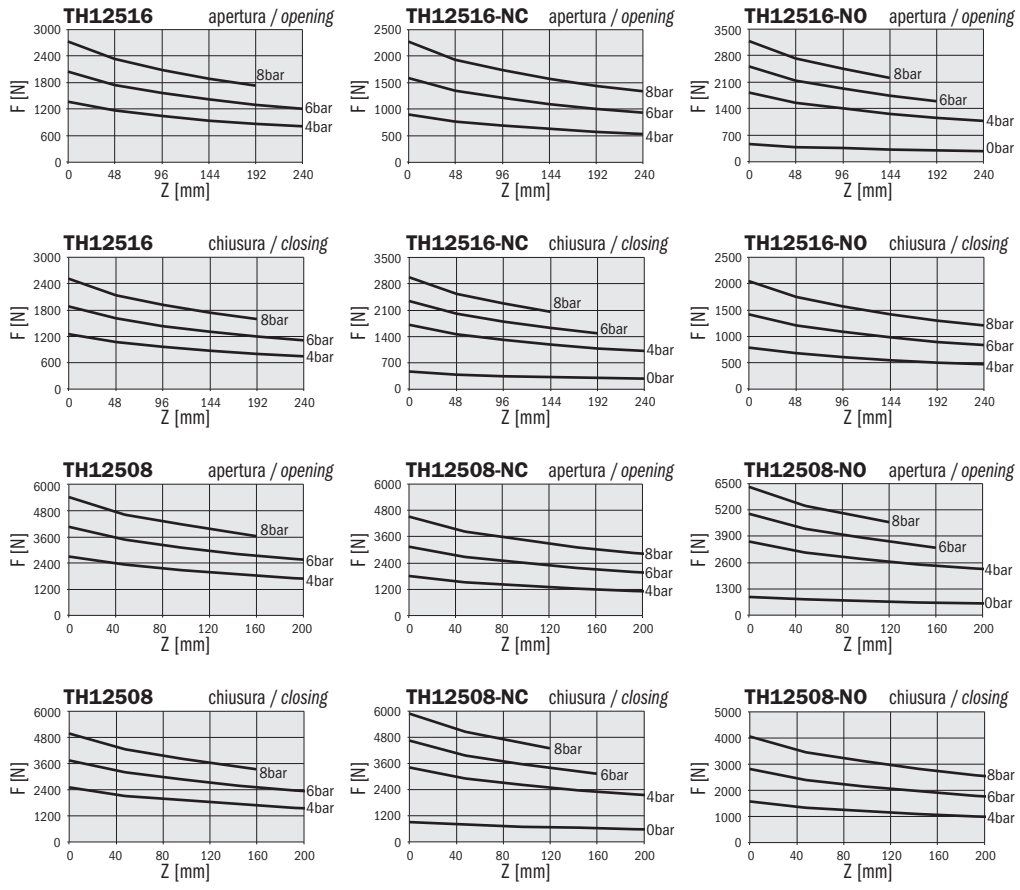
	TH12516	TH12516-NC	TH12516-NO	TH12508	TH12508-NC	TH12508-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3 ÷ 8bar	3 ÷ 8bar	1.5 ÷ 8bar	3 ÷ 8bar	3z ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.					
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	2050N	1538 ÷ 1644N	2465 ÷ 2571N	4070N	3050 ÷ 3260N	4888 ÷ 5099N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	6150N	4614 ÷ 4932N	7395 ÷ 7713N	12210N	9150 ÷ 9780N	14664 ÷ 15297N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	1880N	2294 ÷ 2400N	1367 ÷ 1473N	3740N	4550 ÷ 4761N	2712 ÷ 2922N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	5640N	6882 ÷7200N	4101 ÷ 4419N	11220N	13650 ÷ 14283N	8136 ÷ 8766N
Corsa (±0.2 mm) *Stroke*	3x16mm	3x16mm	3x16mm	3x8mm	3x8mm	3x8mm
Frequenza max funzionamento *Maximum working frequency*	1Hz	1Hz	1Hz	1Hz	1Hz	1Hz
Consumo d'aria per ciclo *Cycle air consumption*	452cm³	700cm³	700cm³	452cm³	700cm³	700cm³
Tempo minimo di chiusura / apertura *Closing / opening minimum time*	0.3s / 0.3s	0.3s / 0.4s	0.4s / 0.3s	0.3s / 0.3s	0.3s / 0.4s	0.4s / 0.3s
Ripetibilità *Repetition accuracy*	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm	0.02mm
Peso *Weight*	4920g	6640g	6460g	4990g	6710g	6530g

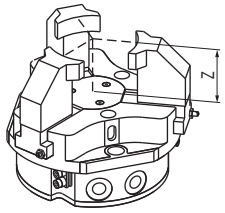
Forza di serraggio

I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.





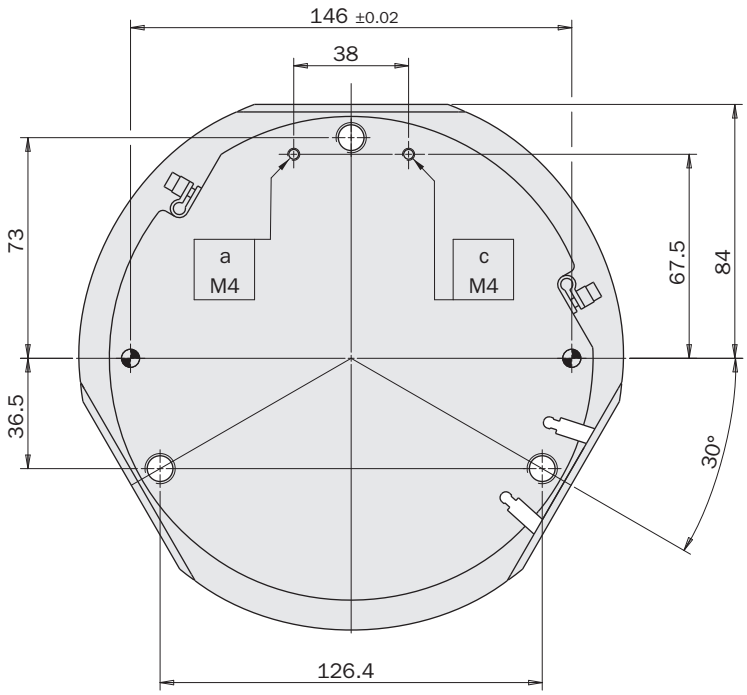
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

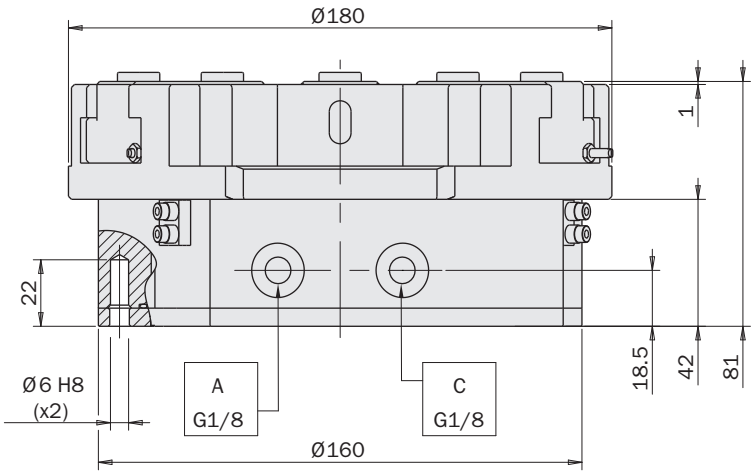
The force shown in these graphs refers to one jaw. The total force is triple.

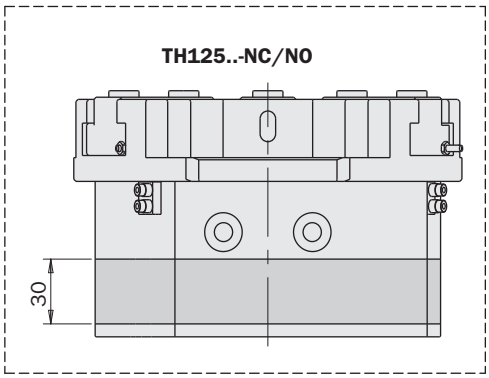
Dimensioni (mm) / *Dimensions (mm)*

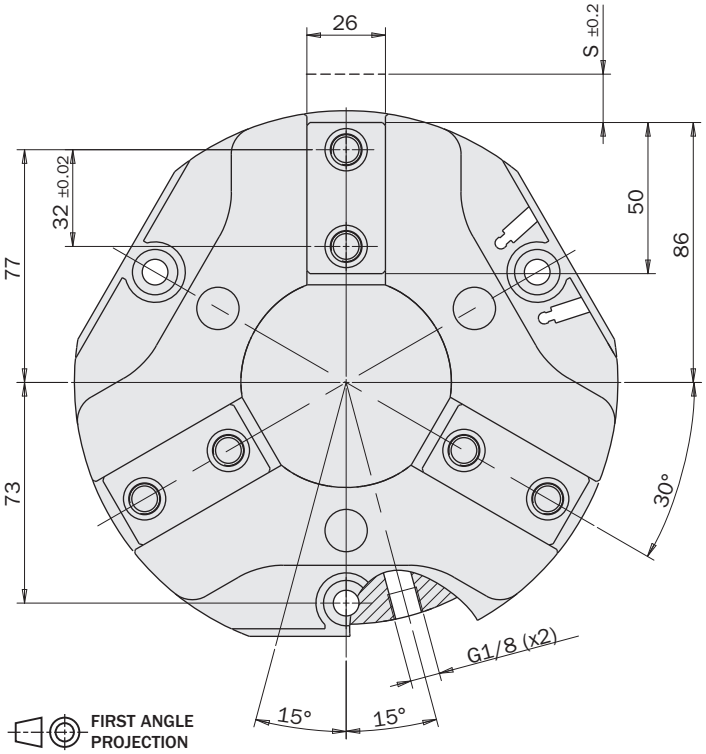
	TH12516	TH12516-NC	TH12516-NO
S	3x16mm	3x16mm	3x16mm

	TH12508	TH12508-NC	TH12508-NO
S	3x8mm	3x8mm	3x8mm

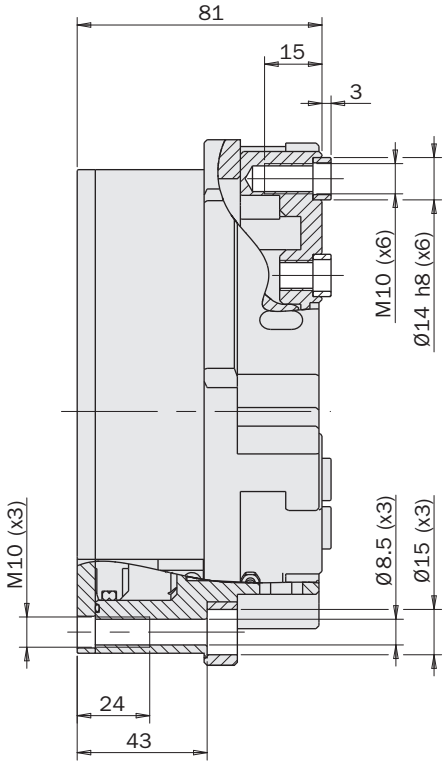








FIRST ANGLE PROJECTION



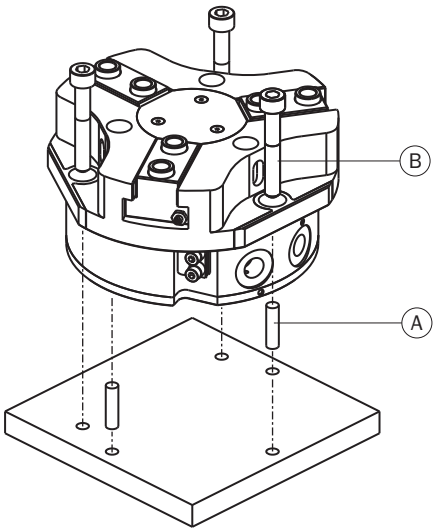
TH

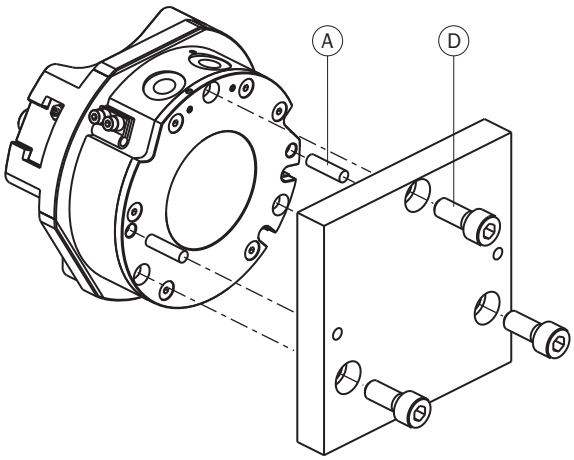
Fissaggio della pinza

La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per il fissaggio bisogna usare 3 viti e 2 spine di centraggio (A).
Le viti possono essere passanti attraverso la pinza (B), o attraverso la piastra di fissaggio (D).

Gripper fastening

The gripper can be fastened to a static or moving part.
When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load.
Use 3 screws and 2 centering pins (A), for the gripper fastening.
The screws can go through the gripper (B), or through the mounting plate (D).





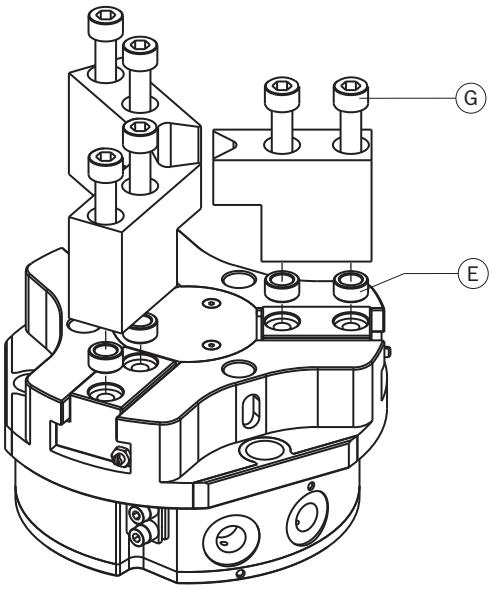
	TH27	TH33	TH46	TH54	TH76	TH96	TH125
A	Ø2	Ø3	Ø4	Ø5	Ø5	Ø6	Ø6
B	M3	M3	M5	M6	M6	M8	M8
D	M4	M4	M6	M8	M8	M10	M10

Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere.
Fissarle con 2 viti (G) e 2 boccole di centraggio (E).

Gripping tool fastening

The gripping tools must be as short and light as possible.
They must be fastened by 2 screws (G) and 2 centering sleeves (E).



	G	E
TH27	M2.5	Ø4h8
TH33	M3	Ø5h8
TH45	M4	Ø6h8
TH54	M5	Ø8h8
TH76	M6	Ø10h8
TH96	M6	Ø10h8
TH125	M10	Ø14h8



Nella confezione della pinza sono fornite 6 boccole di centraggio per le dita di presa.

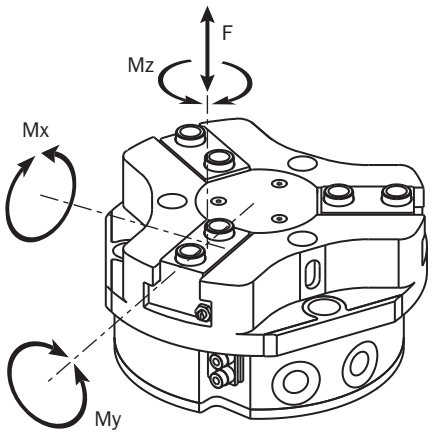
6 centering rings for the gripping tools are supplied in the packaging.

Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
Inoltre sono riportate le masse ammissibili (m) per ogni dito di presa in funzione del tempo di apertura o chiusura. Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means motionless jaws.
F d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means running jaws.
The following table shows the specified maximum loads (m) on each gripping tool as a function of closing or opening time.
Use flow controllers (not supplied) to get the proper speed.



	TH2725 TH2725-NC TH2725-NO	TH3304 TH3304-NC TH3304-NO	TH3302 TH3302-NC TH3302-NO	TH4506 TH4506-NC TH4506-NO	TH4503 TH4503-NC TH4503-NO	TH5408 TH5408-NC TH5408-NO	TH5404 TH5404-NC TH5404-NO
F s	200N	350N	350N	600N	600N	900N	900N
Mx s	3.4Nm	7Nm	11Nm	16Nm	25Nm	28Nm	47Nm
My s	2.8Nm	5.8Nm	5.8Nm	13Nm	13Nm	24Nm	24Nm
Mz s	2.8Nm	5.8Nm	5.8Nm	13Nm	13Nm	24Nm	24Nm
F d	2N	4N	4N	6N	6N	9N	9N
Mx d	0.06Nm	0.12Nm	0.12Nm	0.25Nm	0.25Nm	0.5Nm	0.5Nm
My d	0.06Nm	0.12Nm	0.12Nm	0.25Nm	0.25Nm	0.5Nm	0.5Nm
Mz d	0.06Nm	0.12Nm	0.12Nm	0.25Nm	0.25Nm	0.5Nm	0.5Nm
m	100g	180g	180g	350g	350g	600g	600g

	TH7610 TH7610-NC TH7610-NO	TH7605 TH7605-NC TH7605-NO	TH9613 TH9613-NC TH9613-NO	TH9606 TH9606-NC TH9606-NO	TH12516 TH12516-NC TH12516-NO	TH12508 TH12508-NC TH12508-NO
F s	1500N	1500N	2500N	2500N	4000N	4000N
Mx s	79Nm	130Nm	160Nm	280Nm	330Nm	540Nm
My s	65Nm	65Nm	130Nm	130Nm	270Nm	270Nm
Mz s	65Nm	65Nm	130Nm	130Nm	270Nm	270Nm
F d	15N	15N	25N	25N	40N	40N
Mx d	1Nm	1Nm	2Nm	2Nm	4Nm	4Nm
My d	1Nm	1Nm	2Nm	2Nm	4Nm	4Nm
Mz d	1Nm	1Nm	2Nm	2Nm	4Nm	4Nm
m	1100g	1100g	2100g	2100g	3500g	3500g

TH

Sensori magnetici (opzionali)

Il rilevamento della posizione di lavoro è affidato a uno o due sensori magnetici di prossimità, che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

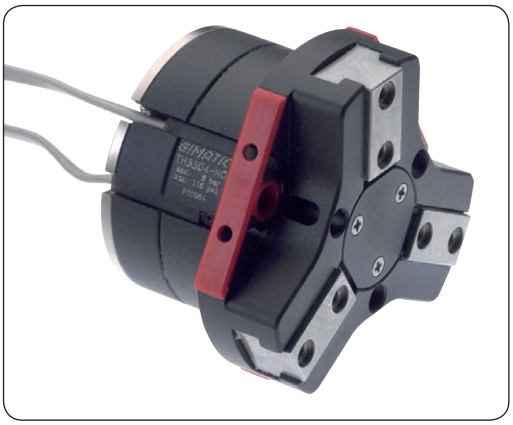
Magnetic sensors (optional)

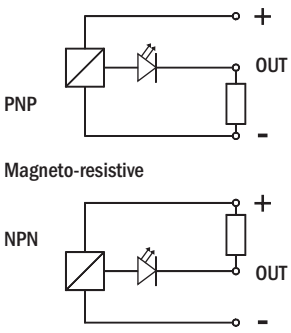
The operating position can be checked by one or two magnetic sensors, that detect the magnet on the piston inside.
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

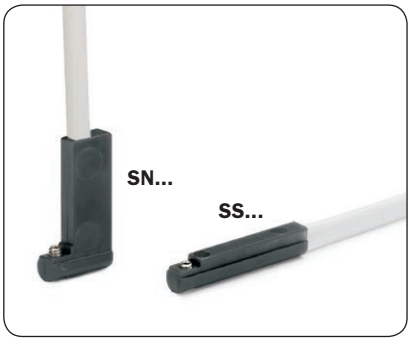
I sensori utilizzabili sono:

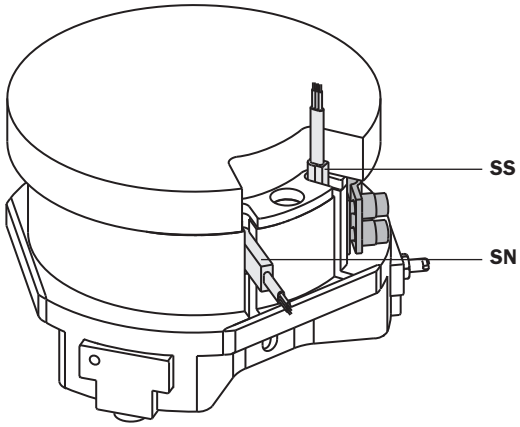
Use sensors:

			TH
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

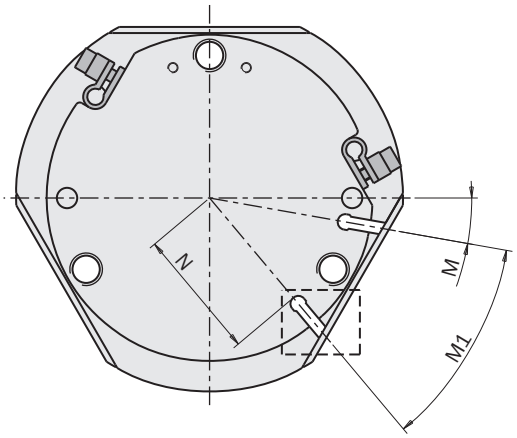


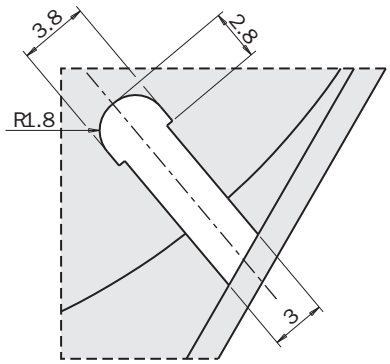






	TH27	TH33	TH46	TH54	TH76	TH96	TH125
N	15.4	19.6	25.5	32	41.2	53.5	67
M	11.5°	14°	12°	10°	13°	14°	18°
M1	37°	32°	36°	40°	34°	32°	24°





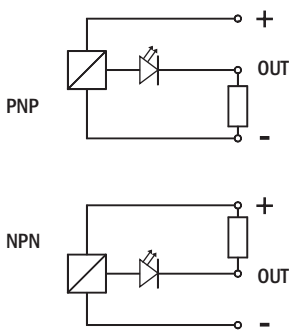
Sensori induttivi (opzionali)

Sulle taglie più grandi é anche possibile usare sensori induttivi di diametro 4mm, che si fissano con i supporti SJJ-A01 (forniti nella confezione).
Dopo aver fissato il sensore va regolata la posizione della parte metallica (M) per stabilire il punto di accensione.

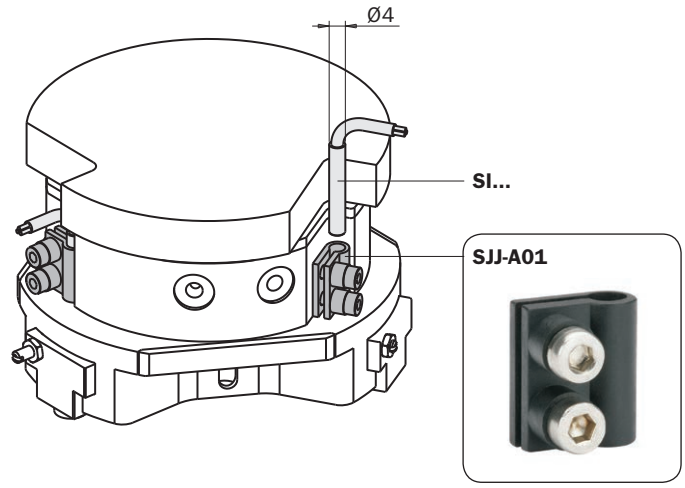
Inductive sensors (optional)

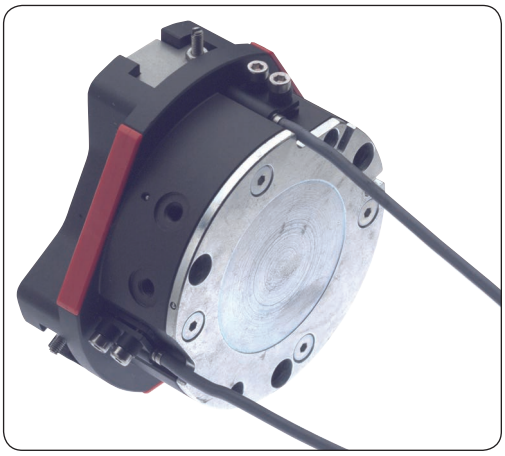
With the larger sizes it is also possible to use inductive sensors diameter 4mm, which can be fastened by the holders SJJ-A01 (supplied).
After the sensor fastening, the position of the metal part (M) must be adjusted to select the on point.

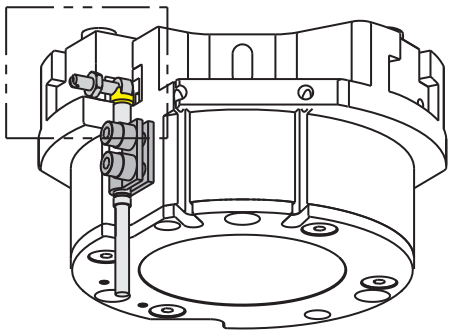
			TH54 TH76 TH96 TH125
SI4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SI4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑

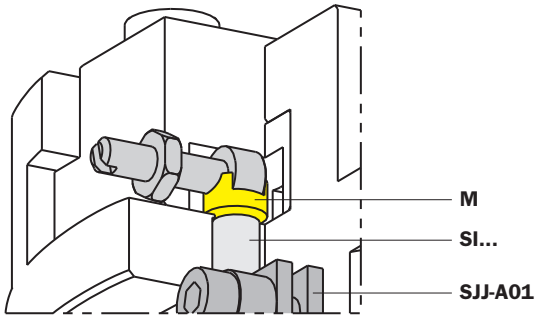


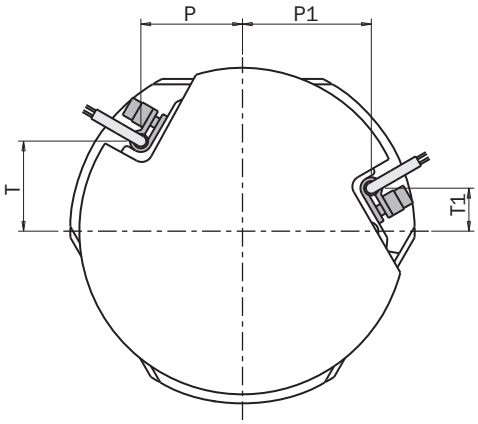












	TH54	TH76	TH96	TH125
P	28	34.8	45.6	56.8
P1	35.5	44.1	56.2	71.3
T	10.9	14.7	20.2	24.4
T1	24.9	30.8	38.6	49.6

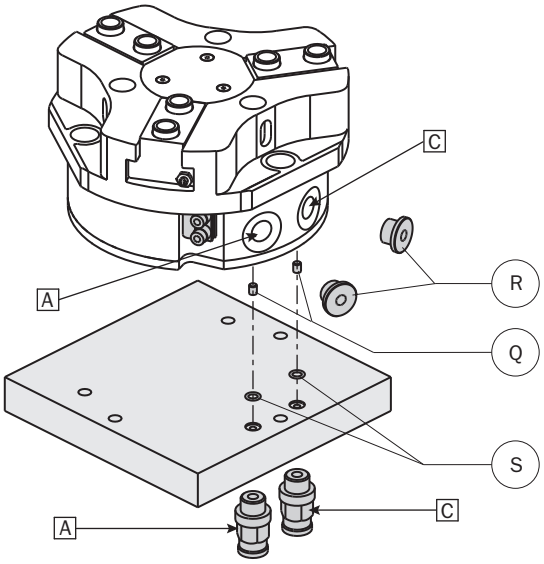
TH

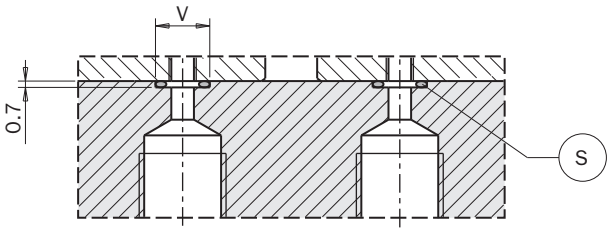
Connessione pneumatica

La pinza può essere alimentata con aria compressa dai fori laterali (A e C) montandovi i raccordi dell'aria ed i relativi tubi (non forniti), oppure direttamente da quelli sul fondo.
Aria compressa in A: apertura della pinza.
Aria compressa in C: chiusura della pinza.
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (A and C) with fittings and hoses (not supplied), or directly on the bottom air ports.
Compressed air in A: gripper opening.
Compressed air in C: gripper closing.
The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.





	Q	R	S	V
TH27	M2	M3	GUAR-172 (Ø1x2.5)	Ø4.5
TH33	M2	M5	GUAR-172 (Ø1x2.5)	Ø4.5
TH45	M3	M5	GUAR-167 (Ø1x3.5)	Ø5.5
TH54	M2.5	M5	GUAR-167 (Ø1x3.5)	Ø5.5
TH76	M3	G1/8	GUAR-091 (Ø1x4)	Ø6
TH96	M4	G1/8	GUAR-021 (Ø1x5)	Ø7
TH125	M4	G1/8	GUAR-021 (Ø1x5)	Ø7

Circuito pneumatico

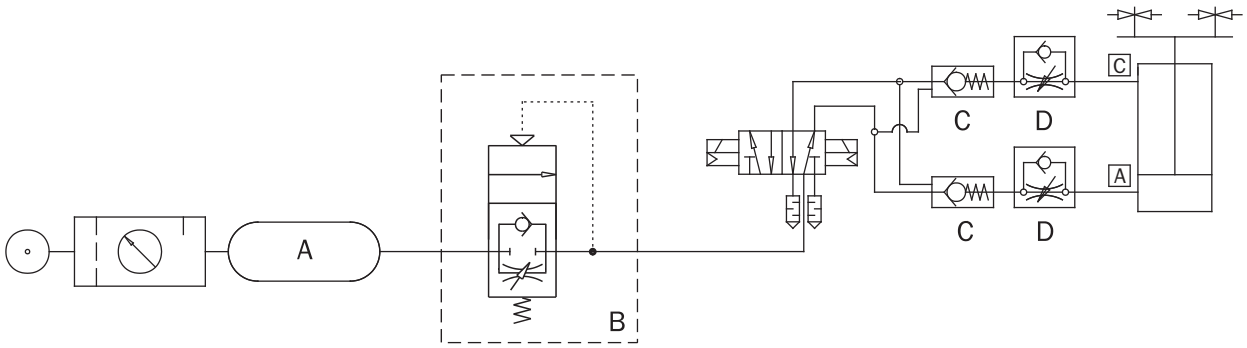
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

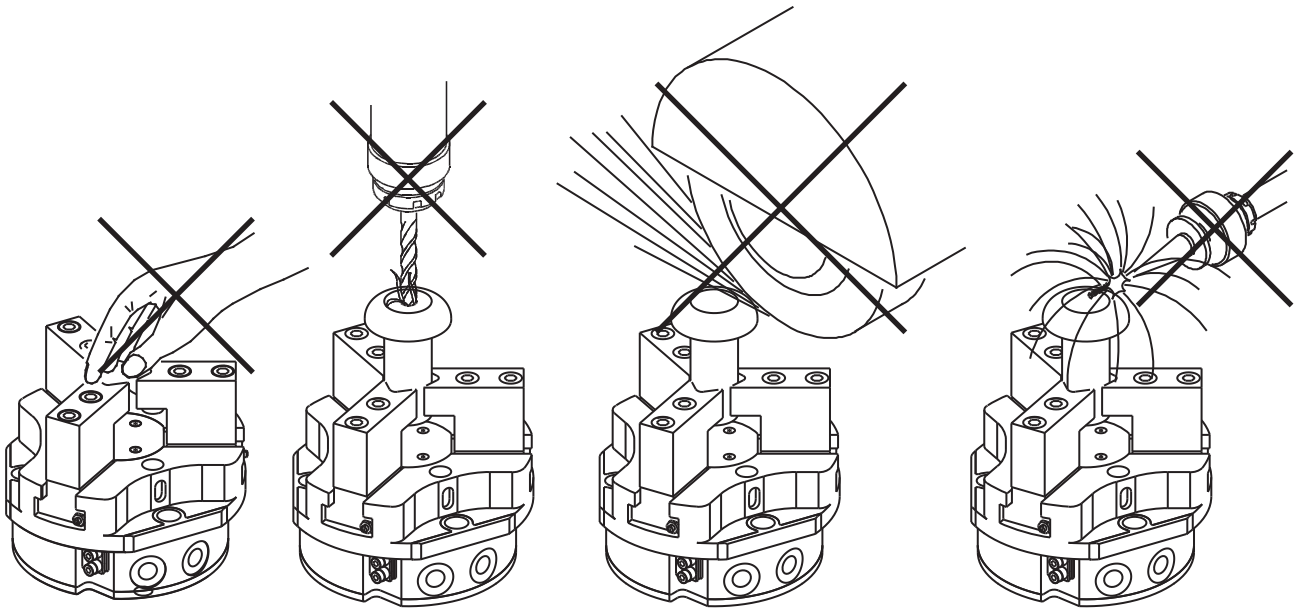


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks. Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper. The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



Manutenzione

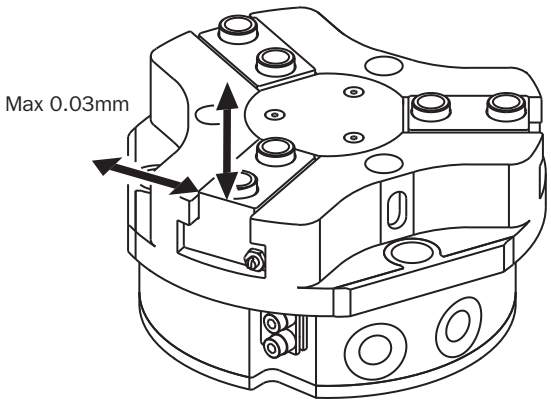
La pinza va ingrassata ogni 5 milioni di cicli con:
- BERULUB FG-H 2 EP
  (Lubrificante NSF H1 Registrazione No. 140486).

Il gioco delle griffe è indicato qui sotto.

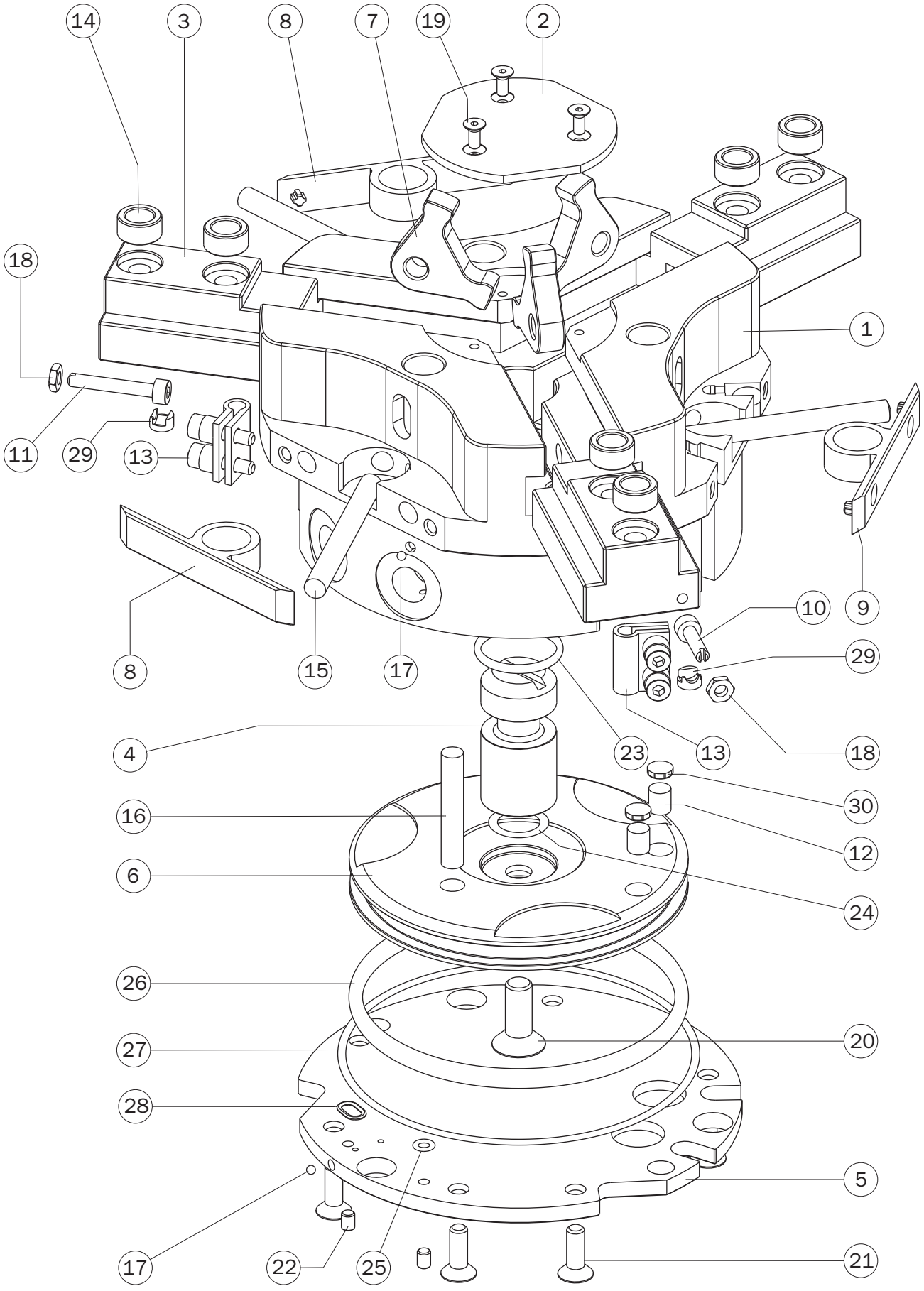
Maintenance

Grease the gripper after 5 million cycles with:
- *BERULUB FG-H 2 EP*
  (Lubricant NSF H1 Registration No. 140486).

The figure below shows the jaw backlash.



Vista esplosa / *Exploded view* **TH**

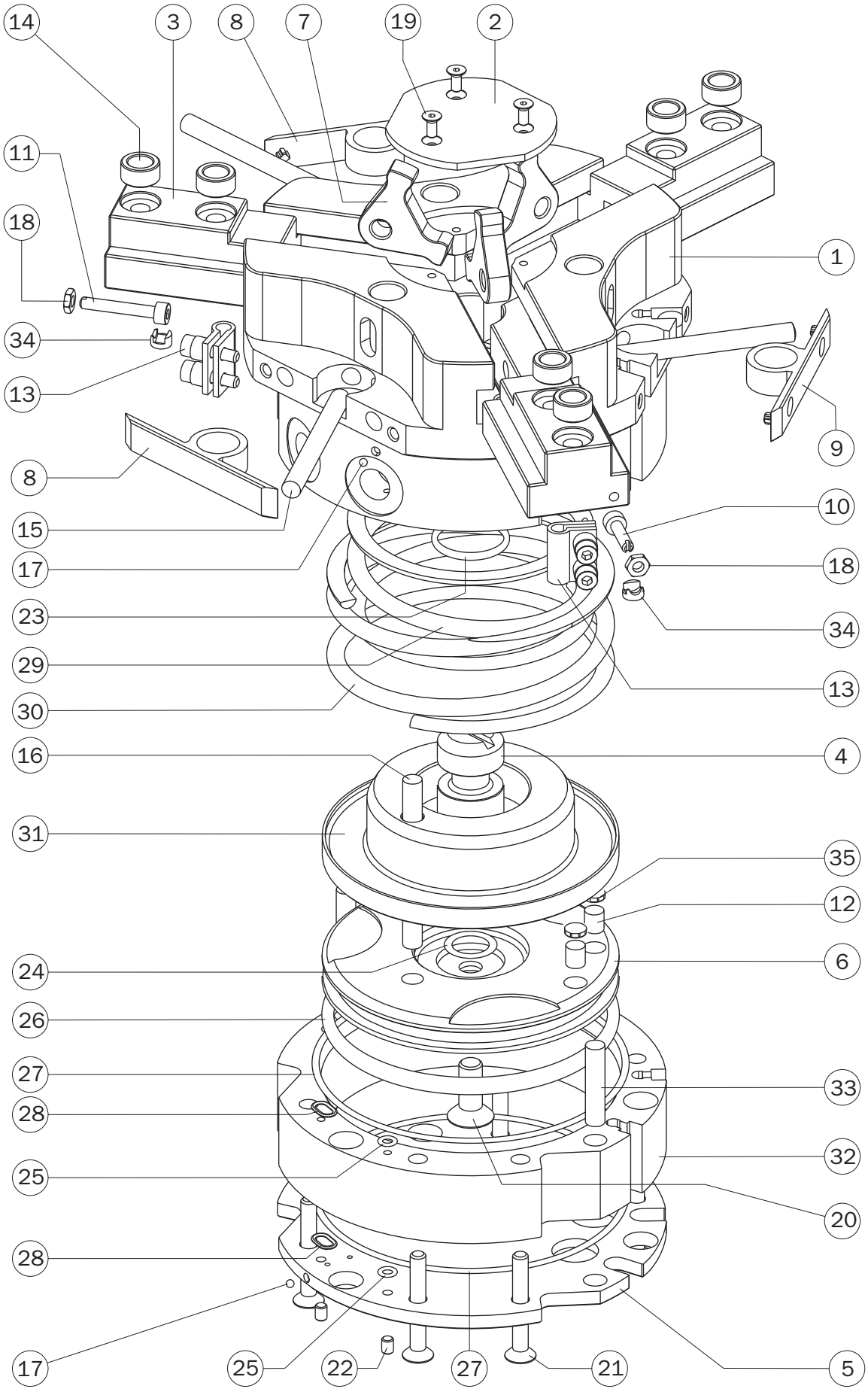


03/2015

Elenco delle parti / *Part list*

		TH2725	TH3302 TH3304	TH4503 TH4506	TH5404 TH5408	TH7605 TH7610	TH9606 TH9613	TH12508 TH12516		
1	Corpo pinza	TH2725-01	TH3304-01	TH4506-01	TH5408-01	TH7610-01	TH9613-01	TH12516-01	*Gripper housing*	*1*
2	Protezione	TH2725-07	TH3304-07	TH4506-06	TH5408-07	TH7610-02	TH9613-06	TH12516-07	*Protection*	*2*
3	Griffa	TH2725-03	TH3304-02	TH4506-02	TH5408-03	TH7610-03	TH9613-03	TH12516-03	*Jaw*	*3*
4	Stelo	T2725-04	TH3304-05	TH4506-05	T5408-04	TH7610-05	TH9613-05	TH12516-04	*Piston rod*	*4*
5	Fondello	TH2725-02	TH3304-03	TH4506-03	TH5408-02	TH7610-06	TH9613-02	TH12516-02	*Back end plate*	*5*
6	Pistone	TH2725-06	TH3304-04	TH4506-04	TH5408-06	TH7610-04	TH9613-04	TH12516-06	*Piston*	*6*
7	Leva	TH2725-05	TH3302-01 TH3304-06	TH4503-01 TH4506-07	TH5404-05 TH5408-05	TH7605-01 TH7610-07	TH9606-01 TH9613-07	TH12508-05 TH12516-05	*Lever*	*7*
8	Coperchio laterale	TH2725-08	TH3304-08	TH4506-08	TH5408-08	TH7610-08	TH9613-08	TH12516-08	*Side cover*	*8*
9	Coperchio laterale forato	TH2725-08F	TH3304-08F	TH4506-08F	TH5408-08F	TH7610-08F	TH9613-08F	TH12516-08F	*Side cover with holes*	*9*
10	Vite registro sensore induttivo	-	-	-	TH5408-09	TH5408-09	TH9613-09	TH5408-10	*Adjustment screw for inductive sensor*	*10*
11	Vite registro sensore induttivo	-	-	-	TH5408-10	TH7610-09	TH5408-09	TH12516-10	*Adjustment screw for inductive sensor*	*11*
12	Magnete	R63180-20	EPP12-13	EPP12-13	K-025-11	FES16-3-9	AA-22-8	AA-22-8	*Magnet*	*12*
13	Supporto sensore	-	-	-	SJJ-A01	SJJ-A01	SJJ-A01	SJJ-A01	*Sensor holder*	*13*
14	Boccola	SGP-20-09	ZBH-5	SGP-32-09	LP23-62	PQ5047-07	PQ5047-07	TH12516-09	*Bush*	*14*
15	Spina di riferimento	SPINA-057 Ø2.5x11.8 DIN6325	SPINA-042 Ø3x16 DIN6325	SPINA-033 Ø4x25 DIN6325	SPINA-013 Ø5x40 DIN6325	SPINA-181 Ø5x50 DIN6325	SPINA-166 Ø6x50 DIN6325	SPINA-152 Ø8x90 DIN6325	*Dowel pin*	*15*
16	Spina di riferimento	SPINA-005 Ø2x10 DIN6325	SPINA-001 Ø2x14 DIN6325	SPINA-069 Ø2.5x17.8 DIN5402	SPINA-014 Ø4x16 DIN6325	SPINA-035 Ø5x30 DIN6325	SPINA-114 Ø5x32 DIN6325	SPINA-032 Ø6x40 DIN6325	*Dowel pin*	*16*
17	Sfera	SPINA-180 Ø1.5 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-092 Ø3 DIN5401A	SPINA-092 Ø3 DIN5401A	*Ball*	*17*
18	Dado esagonale	-	-	-	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	*Nut*	*18*
19	Vite	VITE-419 M2x3 DIN965	VITE-360 M2x4 DIN965	VITE-058 M2.5x5 DIN965	VITE-234 M2.5x6 DIN7991	VITE-234 M2.5x6 DIN7991	VITE-306 M3x8 DIN7991	VITE-305 M4x8 DIN7991	*Screw*	*19*
20	Vite	VITE-305 M4x8 DIN7991	VITE-352 M4x10 DIN7991	VITE-290 M5x12 DIN7991	VITE-290 M5x12 DIN7991	VITE-405 M6x16 DIN7991	VITE-428 M6x25 DIN7991	-	*Screw*	*20*
21	Vite	VITE-170 M2.5x6 DIN965	VITE-306 M3x8 DIN7991	VITE-305 M4x8 DIN7991	VITE-352 M4x10 DIN7991	VITE-426 M4x12 DIN7991	VITE-430 M5x12 DIN7991	VITE-405 M6x16 DIN7991	*Screw*	*21*
22	Vite senza testa	VITE-432 M2x2.5 DIN913	VITE-432 M2x2.5 DIN913	VITE-229 M3x3 DIN913	VITE-414 M2.5x3 DIN913	VITE-018 M3x4 DIN913	VITE-415 M4x4 DIN913	VITE-273 M4x5 DIN913	*Grub screw*	*22*
23	Guarnizione	GUAR-045H Ø1.78x7.66	GUAR-080H Ø1.78x10.82	GUAR-095H Ø1.78x11.89	GUAR-007H Ø1.78x14	GUAR-076H Ø1.78x17.17	GUAR061H Ø2.62x20.29	GUAR-158H Ø2.62x36.17	*O-RING gasket*	*23*
24	Guarnizione	-	GUAR-168 Ø1x9	GUAR-089 Ø1x10	-	GUAR-089 Ø1x10)	GUAR-047 Ø1.78x12.42	-	*O-RING gasket*	*24*
25	Guarnizione	GUAR-161 Ø1x1.8	GUAR-130 Ø1x2	GUAR-130 Ø1x2	GUAR-082 Ø1x3	GUAR-082 Ø1x3	GUAR-091 Ø1x4	GUAR-091 Ø1x4	*O-RING gasket*	*25*
26	Guarnizione	GUAR-032H Ø2.62x21.89	GUAR-107H Ø2.62x28.25	GUAR-026P PZ4520	GUAR-182H Ø2.62x48.89	GUAR-191H Ø3.53x69.44	GUAR-195H Ø3.53x88.49	GUAR-215 117x124x4.5	*O-RING gasket*	*26*
27	Guarnizione	GUAR-190 Ø1.5x27	GUAR-148 Ø1.78x33.05	GUAR-213 Ø1.5x46	GUAR-050 Ø1.78x56.87	GUAR-212 Ø1.5x78	GUAR-211 Ø1.x98	GUAR-188 Ø1.78x126.72	*O-RING gasket*	*27*
28	Guarnizione	GUAR-167 Ø1x3.5	GUAR-167 Ø1x3.5	GUAR-091 Ø1x4	GUAR-171 Ø1x4.5	GUAR-021 Ø1x5	GUAR-085 Ø1x8	GUAR-085 Ø1x8	*O-RING gasket*	*28*
29	Trascinatore per sensore	-	-	-	DH3516-14	DH3516-14	DH3516-14	DH3516-14	*Sensor activator*	*29*
30	Tappo per magnete	TH2725-20	-	-	-	-	TH9613-19	TH12516-20	*Magnet cap*	*30*

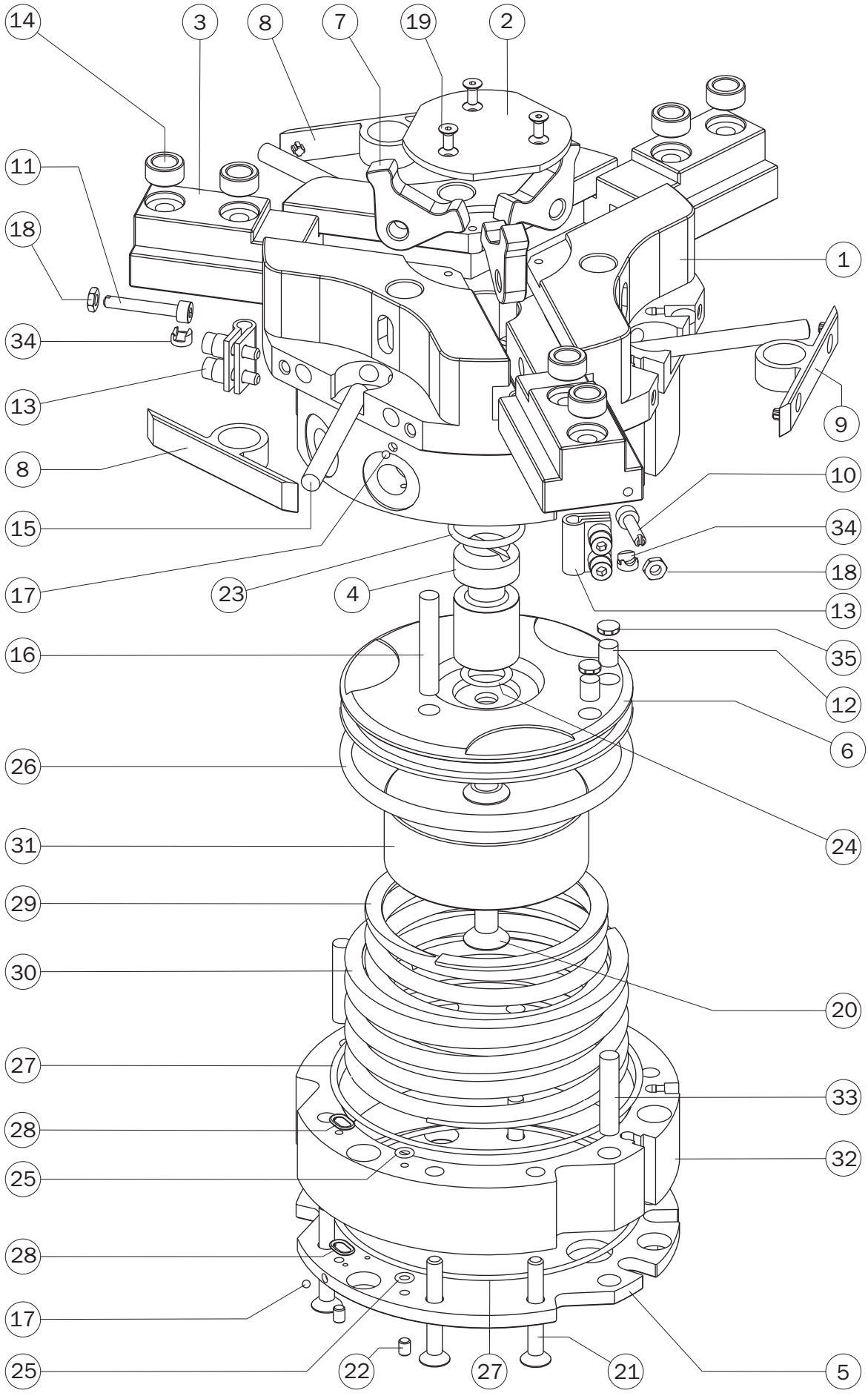
Vista esplosa / ***Exploded view*** **TH NC**



Elenco delle parti / *Part list*

		TH2725-NC	TH3302-NC TH3304-NC	TH4503-NC TH4506-NC	TH5404-NC TH5408-NC	TH7605-NC TH7610-NC	TH9606-NC TH9613-NC	TH12508-NC TH12516-NC		
1	Corpo	TH2725-01	TH3304-01	TH4506-01	TH5408-01	TH7610-01	TH9613-01	TH12516-01	*Gripper housing*	*1*
2	Protezione	TH2725-07	TH3304-07	TH4506-06	TH5408-07	TH7610-02	TH9613-06	TH12516-07	*Protection*	*2*
3	Griffa	TH2725-03	TH3304-02	TH4506-02	TH5408-03	TH7610-03	TH9613-03	TH12516-03	*Jaw*	*3*
4	Stelo	T2725-10	TH3304-10	TH4506-13	TH5408-12	TH7610-14	TH9613-14	TH12516-14	*Piston rod*	*4*
5	Fondello	TH2725-02	TH3304-03	TH4506-03	TH5408-02	TH7610-06	TH9613-02	TH12516-02	*Back end plate*	*5*
6	Pistone	TH2725-06	TH3304-04NC	TH4506-04	TH5408-06	TH7610-04	TH9613-04	TH12516-06	*Piston*	*6*
7	Leva	TH2725-05	TH3302-01 TH3304-06	TH4503-01 TH4506-07	TH5404-05 TH5408-05	TH7605-01 TH7610-07	TH9606-01 TH9613-07	TH12508-05 TH12516-05	*Lever*	*7*
8	Coperchio laterale	TH2725-08	TH3304-08	TH4506-08	TH5408-08	TH7610-08	TH9613-08	TH12516-08	*Side cover*	*8*
9	Coperchio laterale forato	TH2725-08F	TH3304-08F	TH4506-08F	TH5408-08F	TH7610-08F	TH9613-08F	TH12516-08F	*Side cover with holes*	*9*
10	Vite registro sensore induttivo	-	-	-	TH5408-09	TH5408-09	TH9613-09	TH5408-10	*Adjustment screw for inductive sensor*	*10*
11	Vite registro sensore induttivo	-	-	-	TH5408-10	TH7610-09	TH5408-09	TH12516-10	*Adjustment screw for inductive sensor*	*11*
12	Magnete	PAR-06-7	TH3304-20	EPP12-13	K-025-11	FES16-3-9	TH9613-20	K-025-11	*Magnet*	*12*
13	Supporto sensore	-	-	-	SJJ-A01	SJJ-A01	SJJ-A01	SJJ-A01	*Sensor holder*	*13*
14	Boccola	SGP-20-09	ZBH-5	SGP-32-09	LP23-62	PQ5047-07	PQ5047-07	TH12516-09	*Bush*	*14*
15	Spina di riferimento	SPINA-057 Ø2.5x11.8 DIN6325	SPINA-042 Ø3x16 DIN6325	SPINA-033 Ø4x25 DIN6325	SPINA-013 Ø5x40 DIN6325	SPINA-181 Ø5x50 DIN6325	SPINA-166 Ø6x50 DIN6325	SPINA-152 Ø8x90 DIN6325	*Dowel pin*	*15*
16	Spina di riferimento	SPINA-087 Ø2x18 DIN6325	SPINA-204 Ø2x24 DIN6325	SPINA-081 Ø2.5x32 DIN6325	SPINA-094 Ø4x32 DIN6325	SPINA-181 Ø5x50 DIN6325	SPINA-154 Ø5x60 DIN6325	SPINA-206 Ø6x70 DIN6325	*Dowel pin*	*16*
17	Sfera	SPINA-180 Ø1.5 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-092 Ø3 DIN5401A	SPINA-092 Ø3 DIN5401A	*Ball*	*17*
18	Dado esagonale	-	-	-	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	*Nut*	*18*
19	Vite	VITE-419 M2x3 DIN965	VITE-360 M2x4 DIN965	VITE-058 M2.5x5 DIN965	VITE-234 M2.5x6 DIN7991	VITE-234 M2.5x6 DIN7991	VITE-306 M3x8 DIN7991	VITE-305 M4x8 DIN7991	*Screw*	*19*
20	Vite	VITE-305 M4x8 DIN7991	VITE-352 M4x10 DIN7991	VITE-290 M5x12 DIN-7991	VITE-290 M5x12 DIN7991	VITE-405 M6x16 DIN7991	VITE-428 M6x25 DIN7991	-	*Screw*	*20*
21	Vite	VITE-420 M2.5x14 DIN965	VITE-351 M3x20 DIN7991	VITE-354 M4x25 DIN7991	VITE-092 M4x25 DIN965A	VITE-427 M4x30 DIN7991	VITE-203 M5x40 DIN7991	VITE-421 M6x45 DIN7991	*Screw*	*21*
22	Vite senza testa	VITE-432 M2x2.5 DIN913	VITE-432 M2x2.5 DIN913	VITE-229 M3x3 DIN913	VITE-414 M2.5x3 DIN913	VITE-018 M3x4 DIN913	VITE-415 M4x4 DIN913	VITE-273 M4x5 DIN913	*Grub screw*	*22*
23	Guarnizione	GUAR-045H Ø1.78x7.66	GUAR-080H Ø1.78x10.82	GUAR-095H Ø1.78x11.89	GUAR-007H Ø1.78x14	GUAR-076H Ø1.78x17.17	GUAR-061H Ø2.62x20.29	GUAR-158H Ø2.62x36.17	*O-RING gasket*	*23*
24	Guarnizione	-	GUAR-168 Ø1x9	GUAR-089 Ø1x10	-	GUAR-089 Ø1x10	GUAR-047 Ø1.78x12.42	-	*O-RING gasket*	*24*
25	Guarnizione	GUAR-161 Ø1x1.8	GUAR-130 Ø1x2	GUAR-130 Ø1x2	GUAR-082 Ø1x3	GUAR-082 Ø1x3	GUAR-091 Ø1x4	GUAR-091 Ø1x4	*O-RING gasket*	*25*
26	Guarnizione	GUAR-032H Ø2.62x21.89	GUAR-107H Ø2.62x28.25	GUAR-026P PZ4520	GUAR-182H Ø2.62x48.89	GUAR-191H Ø3.53x69.44	GUAR-195H Ø3.53x88.49	GUAR-215 117x124x4.5	*O-RING gasket*	*26*
27	Guarnizione	GUAR-190 Ø1.5x27	GUAR-148 Ø1.78x33.05	GUAR-213 Ø1.5x46	GUAR-050 Ø1.78x56.87	GUAR-212 Ø1.5x78	GUAR-211 Ø1.x98	GUAR-188 Ø1.78x126.72	*O-RING gasket*	*27*
28	Guarnizione	GUAR-167 Ø1x3.5	GUAR-167 Ø1x3.5	GUAR-091 Ø1x4	GUAR-171 Ø1x4.5	GUAR-021 Ø1x5	GUAR-085 Ø1x8	GUAR-085 Ø1x8	*O-RING gasket*	*28*
29	Molla	TH2725-12	TH3304-12	TH4506-15	TH5408-20	TH7610-26	TH9613-26	TH12516-12	*Spring*	*29*
30	Molla	-	-	-	-	TH7610-27	TH9613-27	T12516-13	*Spring*	*30*
31	Distanziale NC	TH2725-11	TH3304-11	TH4506-14	TH5408-14	TH7610-15	TH9613-15	TH12516-15	*Spacer*	*31*
32	Prolunga corpo	TH2725-09	TH3304-09	TH4506-12	TH5408-11	TH7610-13	TH9613-13	TH12516-11	*Body extension*	*32*
33	Spina di riferimento	SPINA-005 Ø2x10 DIN6325	SPINA-022 Ø3x12 DIN6325	SPINA-014 Ø4x16 DIN6325	SPINA-044 Ø5x12 DIN6325	SPINA-072 Ø5x24 DIN6325	SPINA-051 Ø6x24 DIN6325	SPINA-037 Ø6x30 DIN6325	*Dowel pin*	*33*
34	Trascinatore per sensore	-	-	-	DH3516-14	DH3516-14	DH3516-14	DH3516-14	*Sensor activator*	*34*
35	Tappo per magnete	-	-	-	-	-	-	TH12516-21	*Magnet cap*	*35*

Vista esplosa / *Exploded view* **TH NO**



Elenco delle parti / *Part list*

		TH2725-NO	TH3302-NO TH3304-NO	TH4503-NO TH4506-NO	TH5404-NO TH5408-NO	TH7605-NO TH7610-NO	TH9606-NO TH9613-NO	TH12508-NO TH12516-NO		
1	Corpo	TH2725-01	TH3304-01	TH4506-01	TH5408-01	TH7610-01	TH9613-01	TH12516-01	*Gripper housing*	*1*
2	Protezione	TH2725-07	TH3304-07	TH4506-06	TH5408-07	TH7610-02	TH9613-06	TH12516-07	*Protection*	*2*
3	Griffa	TH2725-03	TH3304-02	TH4506-02	TH5408-03	TH7610-03	TH9613-03	TH12516-03	*Jaw*	*3*
4	Stelo	T2725-04	TH3304-05	TH4506-05	TH5408-04	TH7610-05	TH9613-05	TH12516-04	*Piston rod*	*4*
5	Fondello	TH2725-02	TH3304-03	TH4506-03	TH5408-02	TH7610-06	TH9613-02	TH12516-02	*Back end plate*	*5*
6	Pistone	TH2725-06	TH3304-04	TH4506-04	TH5408-06	TH7610-04	TH9613-04	TH12516-06	*Piston*	*6*
7	Leva	TH2725-05	TH3302-01 TH3304-06	TH4503-01 TH4506-07	TH5404-05 TH5408-05	TH7605-01 TH7610-07	TH9606-01 TH9613-07	TH12508-05 TH12516-05	*Lever*	*7*
8	Coperchio laterale	TH2725-08	TH3304-08	TH4506-08	TH5408-08	TH7610-08	TH9613-08	TH12516-08	*Side cover*	*8*
9	Coperchio laterale forato	TH2725-08F	TH3304-08F	TH4506-08F	TH5408-08F	TH7610-08F	TH9613-08F	TH12516-08F	*Side cover with holes*	*9*
10	Vite registro sensore induttivo	-	-	-	TH5408-09	TH5408-09	TH9613-09	TH5408-10	*Adjustment screw for inductive sensor*	*10*
11	Vite registro sensore induttivo	-	-	-	TH5408-10	TH7610-09	TH5408-09	TH12516-10	*Adjustment screw for inductive sensor*	*11*
12	Magnete	R63180-20	EPP12-13	EPP12-13	K-025-11	FES16-3-9	AA-22-8	AA-22-8	*Magnet*	*12*
13	Supporto sensore	-	-	-	SJJ-A01	SJJ-A01	SJJ-A01	SJJ-A01	*Sensor holder*	*13*
14	Boccola	SGP-20-09	ZBH-5	SGP-32-09	LP23-62	PQ5047-07	PQ5047-07	TH12516-09	*Bush*	*14*
15	Spina di riferimento	SPINA-057 Ø2.5x11.8 DIN6325	SPINA-042 Ø3x16 DIN6325	SPINA-033 Ø4x25 DIN6325	SPINA-013 Ø5x40 DIN6325	SPINA-181 Ø5x50 DIN6325	SPINA-166 Ø6x50 DIN6325	SPINA-152 Ø8x90 DIN6325	*Dowel pin*	*15*
16	Spina di riferimento	SPINA-005 Ø2x10 DIN6325	SPINA-001 Ø2x14 DIN6325	SPINA-069 Ø2.5x18 DIN6325	SPINA-014 Ø4x16 DIN6325	SPINA-035 Ø5x30 DIN6325	SPINA-114 Ø5x32 DIN6325	SPINA-032 Ø6x40 DIN6325	*Dowel pin*	*16*
17	Sfera	SPINA-180 Ø1.5 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-084 Ø2 DIN5401A	SPINA-09 Ø3 DIN5401A	SPINA-092 Ø3 DIN5401A	*Ball*	*17*
18	Dado esagonale	-	-	-	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	VITE-148 M3 DIN439B	*Nut*	*18*
19	Vite	VITE-419 M2x3 DIN965	VITE-360 M2x4 DIN965	VITE-058 M2.5x5 DIN965	VITE-234 M2.5x6 DIN7991	VITE-234 M2.5x6 DIN7991	VITE-306 M3x8 DIN7991	VITE-305 M4x8 DIN7991	*Screw*	*19*
20	Vite	VITE-286 M4x12 DIN912	VITE-189 M4x14 DIN7991	VITE-425 M5x20 DIN7991	VITE-015 M5x16 DIN912	VITE-428 M6x25 DIN7991	VITE-431 M6x35 DIN7991	VITE-396 M DIN	*Screw*	*20*
21	Vite	VITE-420 M2.5x14 DIN965	VITE-351 M3x20 DIN7991	VITE-354 M4x25 DIN7991	VITE-092 M4x25 DIN965A	VITE-427 M4x30 DIN7991	VITE-203 M5x40 DIN7991	VITE-421 (M6x45 DIN7991	*Screw*	*21*
22	Vite senza testa	VITE-432 M2x2.5 DIN913	VITE-432 M2x2.5 DIN913	VITE-229 M3x3 DIN913	VITE-414 M2.5x3 DIN913	VITE-018 M3x4 DIN913	VITE-415 M4x4 DIN913	VITE-273 M4x5 DIN913	*Grub screw*	*22*
23	Guarnizione	GUAR-045H Ø1.78x7.66	GUAR-080H Ø1.78x10.82	GUAR-095H Ø1.78x11.89	GUAR-007H Ø1.78x14	GUAR-076H Ø1.78x17.17	GUAR-061H Ø2.62x20.29	GUAR-158H Ø2.62x36.17	*O-RING gasket*	*23*
24	Guarnizione	-	GUAR-168 Ø1x9	GUAR-089 Ø1x10	-	GUAR-089 Ø1x10	GUAR-047 Ø1.78x12.42	-	*O-RING gasket*	*24*
25	Guarnizione	GUAR-161 Ø1x1.8	GUAR-130 Ø1x2	GUAR-130 Ø1x2	GUAR-082 Ø1x3	GUAR-082 Ø1x3	GUAR-091 Ø1x4	GUAR-091 Ø1x4	*O-RING gasket*	*25*
26	Guarnizione	GUAR-032H Ø2.62x21.89	GUAR-107H Ø2.62x28.25	GUAR-026P PZ4520	GUAR-182H Ø2.62x48.89	GUAR-191H Ø3.53x69.44	GUAR-195H Ø3.53x88.49	GUAR-215 117x124x4.5	*O-RING gasket*	*26*
27	Guarnizione	GUAR-190 Ø1.5x27	GUAR-148 Ø1.78x33.05	GUAR-213 Ø1.5x46	GUAR-050 Ø1.78x56.87	GUAR-212 Ø1.5x78	GUAR-211 Ø1.x98	GUAR-188 Ø1.78x126.72	*O-RING gasket*	*27*
28	Guarnizione	GUAR-167 Ø1x3.5	GUAR-167 Ø1x3.5	GUAR-091 Ø1x4	GUAR-171 Ø1x4.5	GUAR-021 Ø1x5	GUAR-085 Ø1x8	GUAR-085 Ø1x8	*O-RING gasket*	*28*
29	Molla	TH2725-12	TH3304-12	TH4506-15	TH5408-21	TH7610-16	TH9613-16	TH12516-12	*Spring*	*29*
30	Molla	-	-	-	-	TH7610-17	TH9613-17	T12516-13	*Spring*	*30*
31	Distanziale NO	TH2725-13	TH3304-13	TH4506-16	TH5408-13	TH7610-18	TH9613-18	TH12516-16	*Spacer*	*31*
32	Prolunga corpo	TH2725-09	TH3304-09	TH4506-12	TH5408-11	TH7610-13	TH9613-13	TH12516-11	*Body extension*	*32*
33	Spina di riferimento	SPINA-005 Ø2x10 DIN6325	SPINA-022 Ø3x12 DIN6325	SPINA-014 Ø4x16 DIN6325	SPINA-044 Ø5x12 DIN6325	SPINA-072 Ø5x24 DIN6325	SPINA-051 Ø6x24 DIN6325	SPINA-037 Ø6x30 DIN6325	*Dowel pin*	*33*
34	Trascinatore per sensore	-	-	-	DH3516-14	DH3516-14	DH3516-14	DH3516-14	*Sensor activator*	*34*
35	Tappo per magnete	TH2725-20	-	-	-	-	TH9613-19	TH12516-20	*Magnet cap*	*35*

SXT

Pinza pneumatica a 3 griffe ad azione parallela autocentrante (serie SXT)

- Azionamento a doppio effetto (normale chiusa su richiesta).
- Forza di serraggio elevata.
- Grado di protezione IP67.
- Colonne sigillate con doppio O-Ring.
- Adatta per ambienti difficili.
- Sensori magnetici opzionali.
- Disponibili su richiesta con grasso alimentare FDA-H1 e guarnizioni per alte temperature (fino a 100°C).

3-jaw parallel-acting self-centering pneumatic gripper (series SXT)

- *Double acting (normally closed on request).*
- *Strong gripping force.*
- *Protection class: IP67.*
- *Double O-Ring sealing on the columns.*
- *Suitable for harsh environments.*
- *Optional magnetic sensors.*
- *Available upon request with FDA-H1 food-grade grease and high-temperature seals (up to 100 °C).*



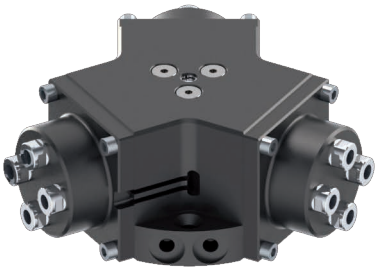
SXT2505



SXT4008



SXT5012

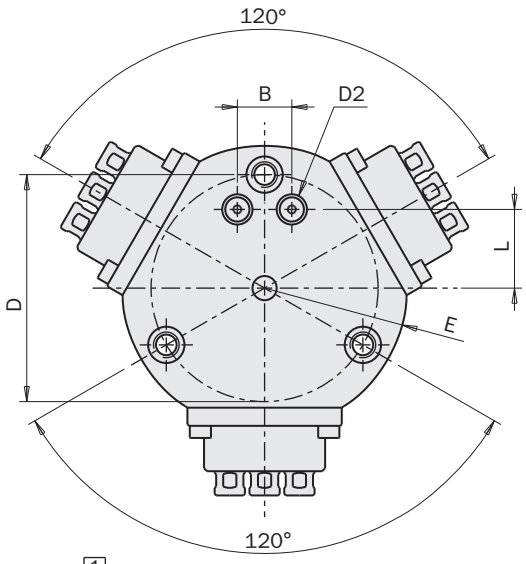


SXT6315

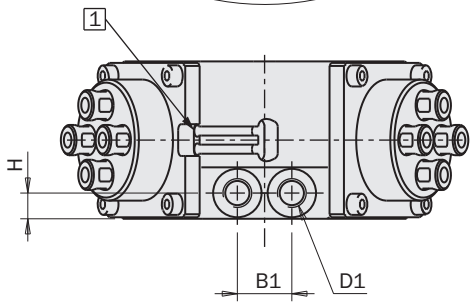
	SXT2505	SXT4008	SXT5012	SXT6315
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5 ÷ 60 °C			
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar on each jaw*	250 N	650 N	1050 N	1650 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	750 N	1950 N	3150 N	4950 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar on each jaw*	195 N	500 N	800 N	1200 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	585 N	1500 N	2400 N	3600 N
Corsa ±0.5 mm *Stroke*	3x5 mm	3x8 mm	3x12 mm	3x15 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	2 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	16 cm^3	60 cm^3	140 cm^3	270 cm^3
Tempo di apertura / chiusura senza carico *Opening / Closing time without load*	0.02 s	0.02 s	0.05 s	0.15 s
Ripetibilità *Repetition accuracy*	0.05 mm	0.05 mm	0.05 mm	0.05 mm
Peso *Weight*	420 g	1100 g	2000 g	3800 g

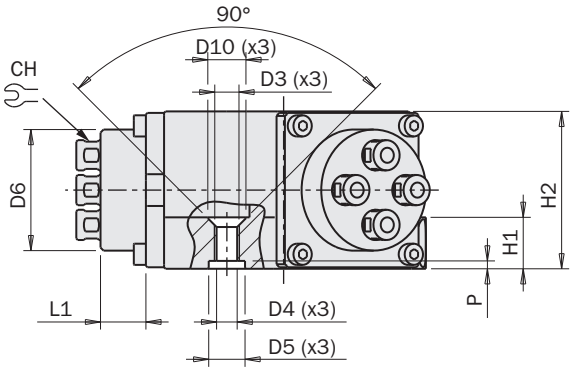
Dimensioni (mm) / *Dimensions (mm)*

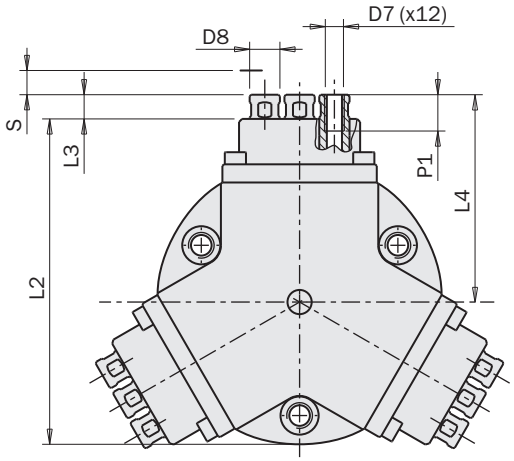
FIRST ANGLE PROJECTION

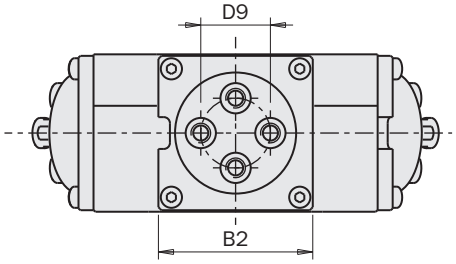


1 Sede per sensori
Sensor groove









		SXT2505	SXT4008	SXT5012	SXT6315
B		16	18	24	24
B1		16	18	24	24
B2		38	51	63	78
D	±0.02	Ø59	Ø75	Ø98	Ø114
D1		M5	G1/8	G1/8	G1/8
D2		M3	M5	M5	M5
D3		Ø5.2	Ø6.8	Ø6.8	Ø8.5
D4		M6	M8	M8	M10
D5	H8	Ø9	Ø12	Ø12	Ø14
D6		Ø27	Ø40	Ø50	Ø63
D7		M3	M6	M8	M10
D8	f7	Ø6	Ø10	Ø12	Ø16
D9	±0.02	15	Ø23	Ø33	Ø38
D10		Ø11.2	Ø12.6	Ø12.6	Ø17.3
E		R36	R47	R58	R69
H		6	8.5	10	11
H1		12	17	20	22
H2		38	52	64	80
L		24	26	38	45
L1		7.5	15	18	26
L2		78	107.5	133	162
L3		7.5	8	8.5	9.5
L4		49.5	68.5	83.5	102.5
P	+0.1	2.1	2.6	2.6	2.6
P1		6	12	20	20
S (x2)		5	8	12	15
CH		5	9	11	14

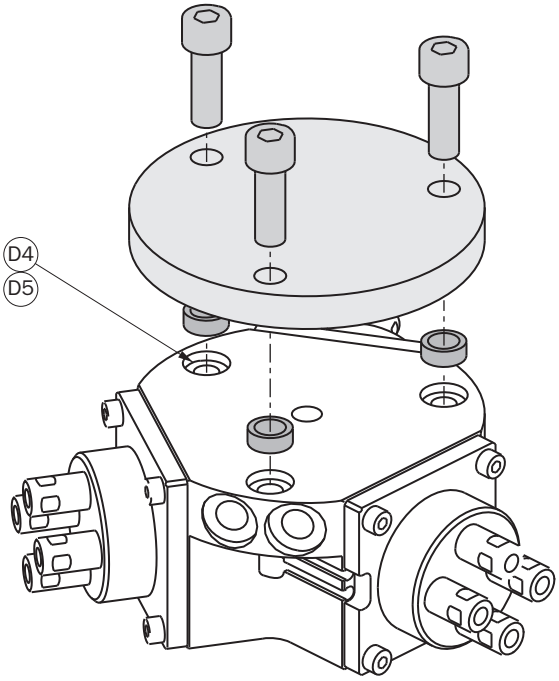
SXT

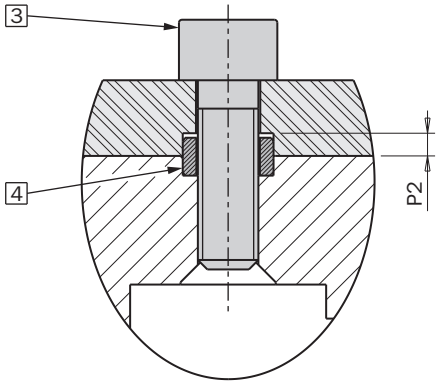
Fissaggio della pinza

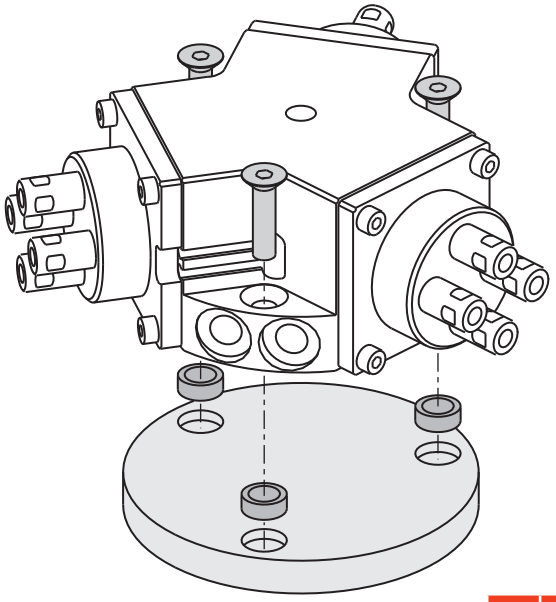
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza usare tre viti nei fori filettati (D4) e tre boccole [4] nelle lamature (D5).
È possibile fissare la pinza sia dall'alto che dal basso.
Le tre boccole sono fornite nella confezione della pinza.

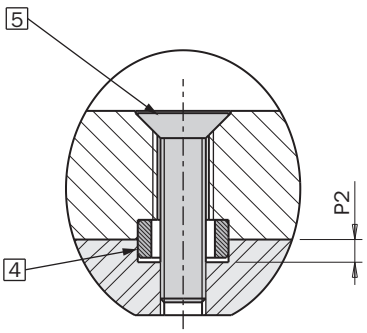
Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.
Use three screws in the threaded holes (D4) and three centering sleeves [4] in the spot faces (D5).
The gripper can be fastened either from the top or from the bottom. Three centering sleeves are supplied with the gripper.









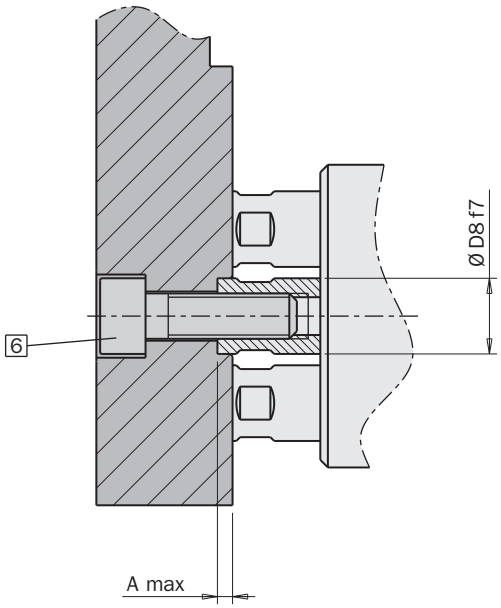
	SXT2505	SXT4008	SXT5012	SXT6315
[3]	M6	M8	M8	M10
[4]	Ø9h7 x 6.4 x 4	Ø12h7 x 8.4 x 5	Ø12h7 x 8.4 x 5	Ø14h7 x 10.5 x 6
[5]	M5	M6	M6	M8
P2	2.2 $^{-0.2}$	2.8 $^{-0.2}$	2.8 $^{-0.2}$	3.8 $^{-0.2}$

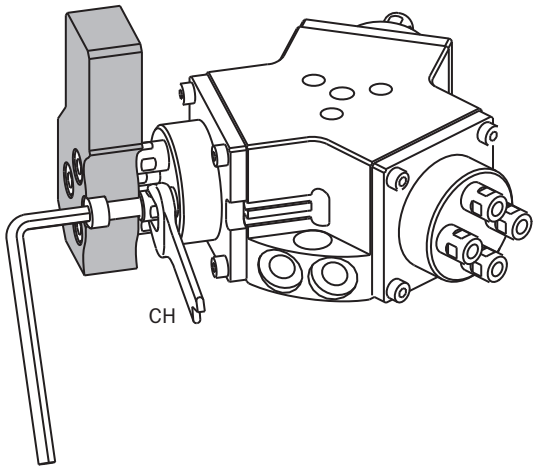
Fissaggio delle estremità di presa

Questa pinza è priva di griffe e le dita di presa vanno montate direttamente sulle colonne.
Costruire le dita di presa il più possibile corte e leggere.
Fissarle con quattro viti [6] nei fori filettati (D7) delle colonne.
Realizzare lamature di centraggio per due delle quattro colonne (D8).
Tenere la colonna con la chiave, per evitare di svitarla.

Gripping tool fastening

This gripper has no jaws and the gripping tools have to be fastened directly on the columns.
The gripping tools must be as short and light as possible.
They must be fastened by four screws [6] in the threaded holes (D7) of the columns.
Drill centering holes for two of the four columns (D8).
Hold the column by a wrench key, to avoid unscrewing it.

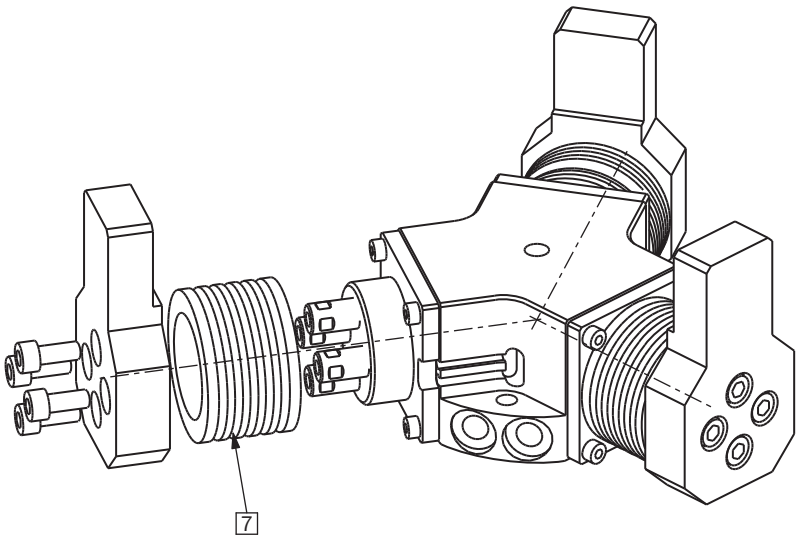




	SXT2505	SXT4008	SXT5012	SXT6315
A	1.5	2	2	2
[6]	M3	M6	M8	M10

Come opzione è disponibile un soffietto in Silicone [7] per proteggere le colonne.
Codice SX25S01 per la pinza SXT2505.
Codice SX40S01 per la pinza SXT4008.
Codice SX50S01 per la pinza SXT5012.
Codice SX63S01 per la pinza SXT6315.

An optional bellow in Silicone [7] is available to protect columns.
Code SX25S01 for the gripper SXT2505.
Code SX40S01 for the gripper SXT4008.
Code SX50S01 for the gripper SXT5012.
Code SX63S01 for the gripper SXT6315.



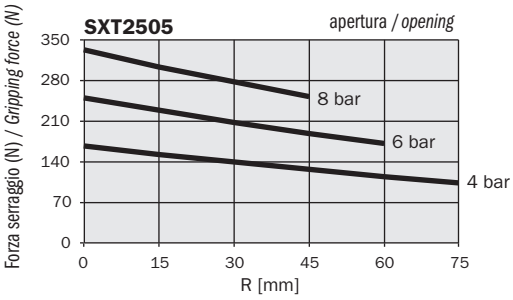
SXT

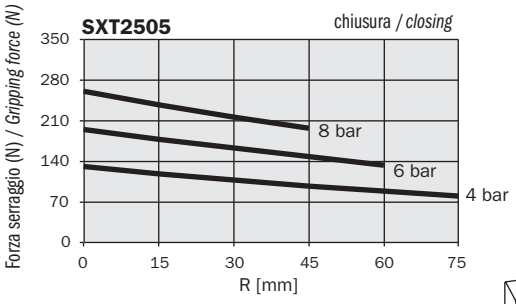
Forza di serraggio

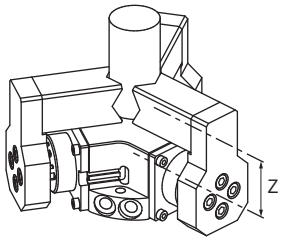
I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione e della distanza Z del punto di presa.

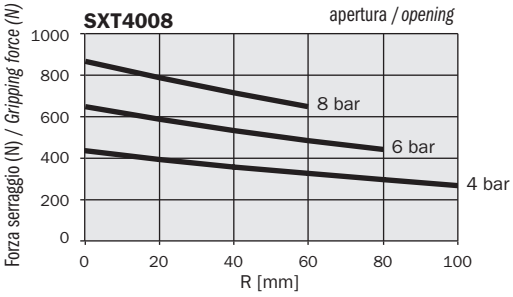
Gripping force

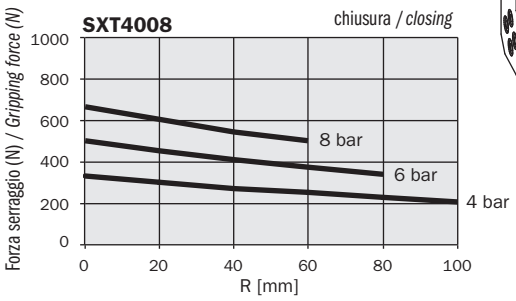
The graphs show the medium gripping force on each jaw, as a function of the operating pressure and the distance Z of the gripping point.

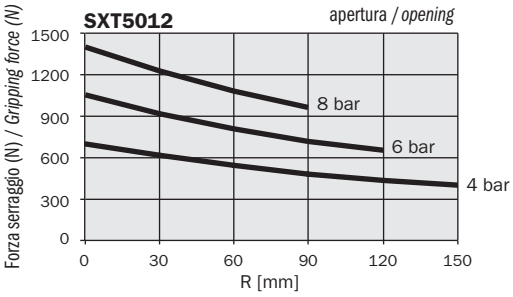


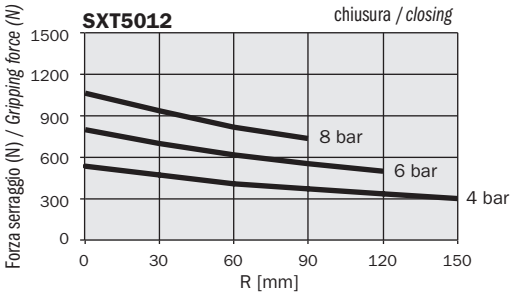


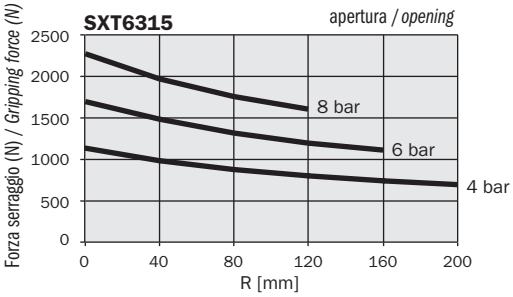


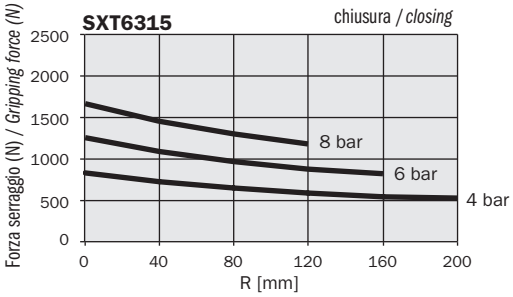












La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

The force shown in these graphs refers to one jaw. The total force is triple.

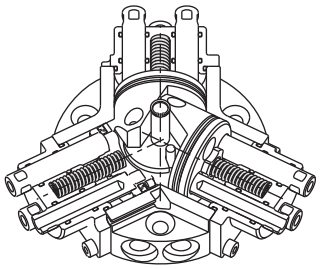
Versioni a molla

A richiesta è disponibile la versione con la molla in chiusura (-NC) che in assenza d'aria garantisce circa un decimo della forza disponibile a 6 bar.

Spring option

It is also available, on request, with a closing (-NC) spring, providing, after a pressure black-out, about one tenth of the output force at 6 bar.

	SXT4008-NC	SXT5012-NC	SXT6315-NC
Forza di chiusura per griffa a 6 bar *Closing force at 6 bar each jaw*	544÷568 N	914÷964 N	1350÷1400 N
Forza di apertura per griffa a 6 bar *Opening force at 6 bar each jaw*	587÷610 N	871÷921 N	1467÷1517 N
Forza di chiusura per griffa a 0 bar *Closing force at 0 bar each jaw*	50÷73 N	116÷166 N	129÷179 N
Forza di apertura per griffa a 0 bar *Opening force at 0 bar each jaw*	0 N	0 N	0 N

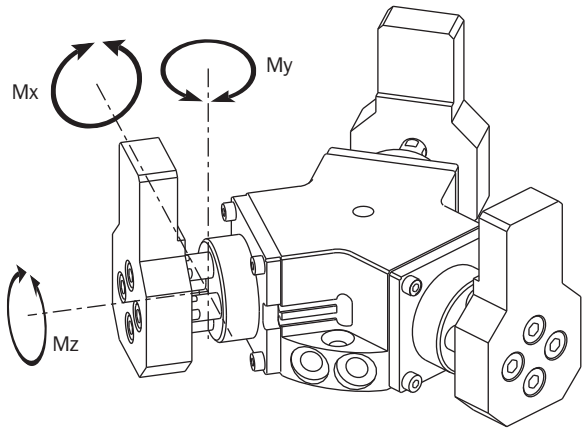


Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
Mx s, My s, Mz s, are the maximum permitted static loads, that is when the jaws are still.
Mx d, My d, Mz d, are the maximum permitted dynamic loads, that is when the jaws are operating.
m is the maximum permitted weight of each gripping tool, when the gripper operates without speed adjustment. If the weight exceeds the permitted value, the jaw speed must be decreased by means of flow controllers (not supplied).



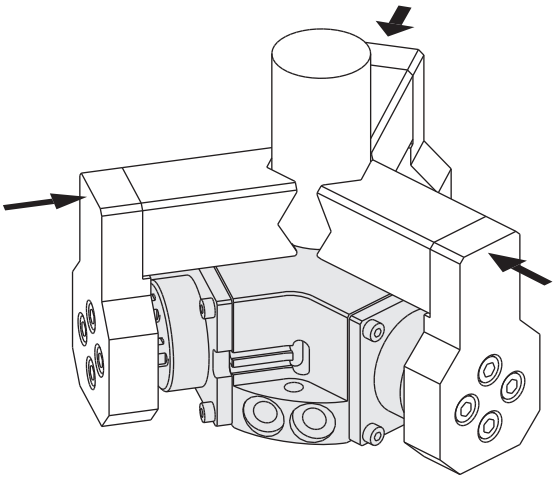
	SXT2505	SXT4008	SXT5012	SXT6315
Mx s	10 Nm	40 Nm	90 Nm	190 Nm
My s	10 Nm	40 Nm	90 Nm	190 Nm
Mz s	5 Nm	20 Nm	40 Nm	100 Nm
Mx d	0.1 Nm	0.5 Nm	1.2 Nm	2.7 Nm
My d	0.1 Nm	0.5 Nm	1.2 Nm	2.7 Nm
Mz d	0.1 Nm	0.5 Nm	1.2 Nm	2.7 Nm
m	400 g	700 g	1400 g	2100 g

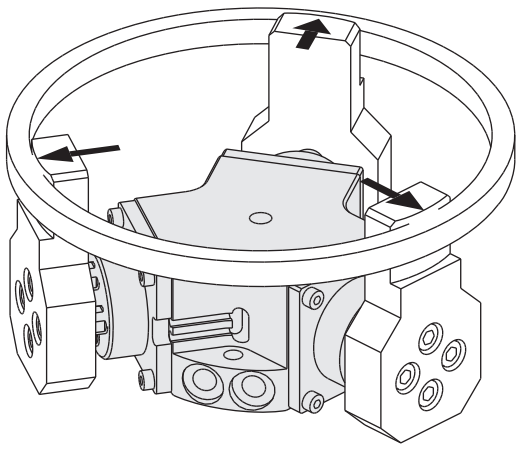
Serraggio

La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.
La forza di serraggio è maggiore in apertura.

Gripping

The gripper is double-acting for either internal or external gripping applications. The opening force is higher, than the closing force.





SXT

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

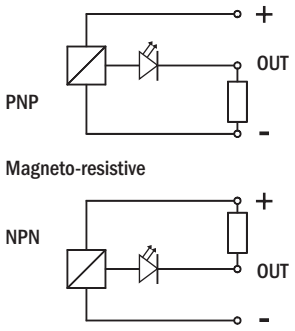
I sensori utilizzabili sono:

Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:

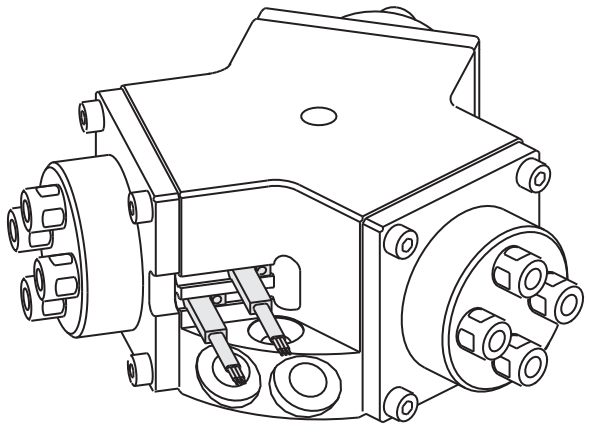




			SXT
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable	☑
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a 3-wire flat cable and a LED.

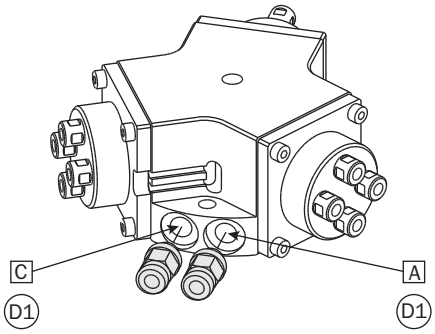


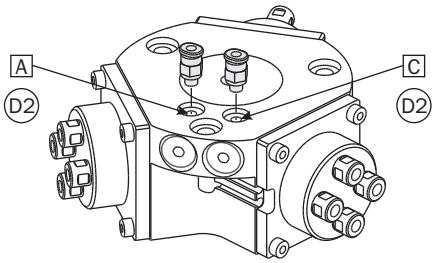
Connessione pneumatica

La pinza può essere alimentata con aria compressa dai fori laterali o inferiori montando i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure si può alimentare direttamente dalla piastra di fissaggio rimuovendo i tappi e interponendo degli O-Ring (non forniti).
Aria compressa in A: apertura della pinza.
Aria compressa in C: chiusura della pinza.
La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

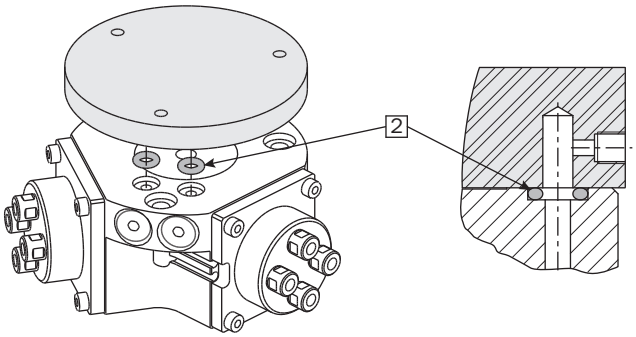
Compressed air feeding

The compressed air feeding can be accomplished by the air ports (on one side or on the bottom) with fittings and hoses (not supplied).
Or it can be supplied directly by the mounting plate, through O-Rings (not supplied), after removing the plugs.
Compressed air in A: gripper opening.
Compressed air in C: gripper closing.
The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.





	SXT2505	SXT4008	SXT5012	SXT6315
[2]	Ø1.78x5.28	Ø2.62x5.23	Ø2.62x5.23	Ø2.62x5.23
D1	M5	G1/8	G1/8	G1/8
D2	M3	M5	M5	M5



Circuito pneumatico

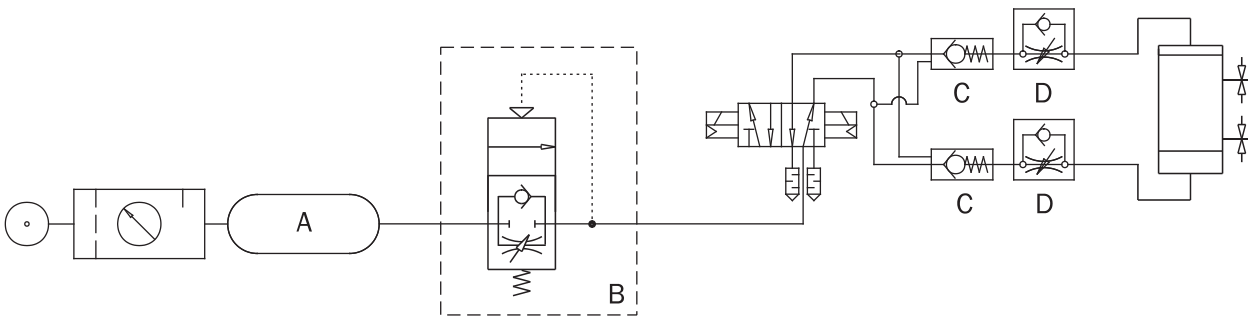
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty gripper.
3- Sudden pressure black-out.
4- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



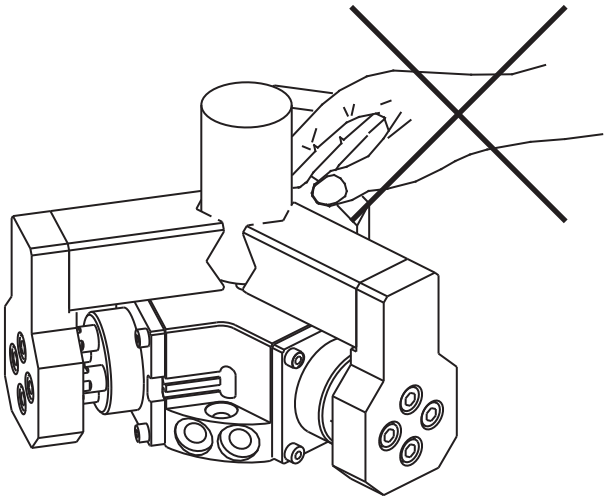
SXT

Avvertenze

Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let non-authorized persons or objects stand within the operating range of the gripper.
Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

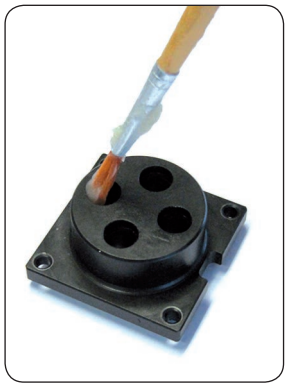
La pinza va ingrassata ogni 5 milioni di cicli con:
- BERULUB FG-H 2 EP
  (Lubrificante NSF H1 Registrazione No. 140486).

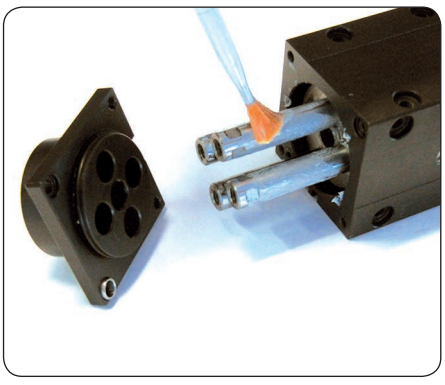
Dopo aver rimosso le testate, si possono ingrassare le colonne e sostituire gli O-Ring.
Quello interno è in NBR [8], quello esterno in Viton [9].
Tirando le colonne, si possono anche rimuovere i pistoni e si può accedere al meccanismo.

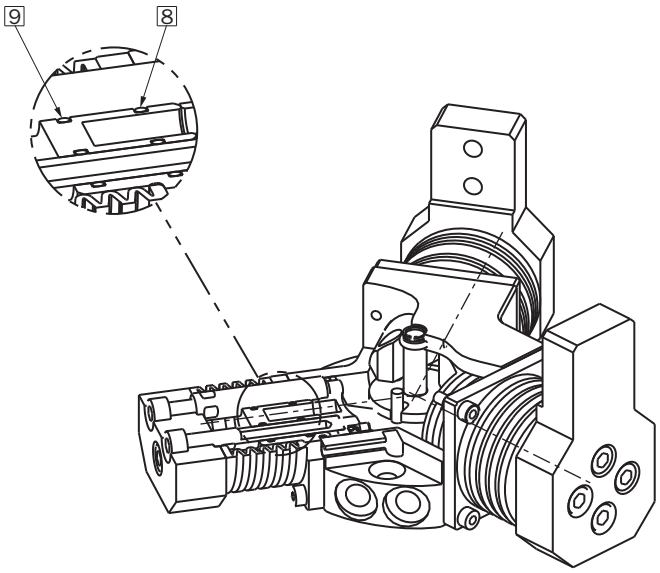
Maintenance

Grease the gripper after 5 million cycles with:
- *BERULUB FG-H 2 EP*
  (Lubricant NSF H1 Registration No. 140486).

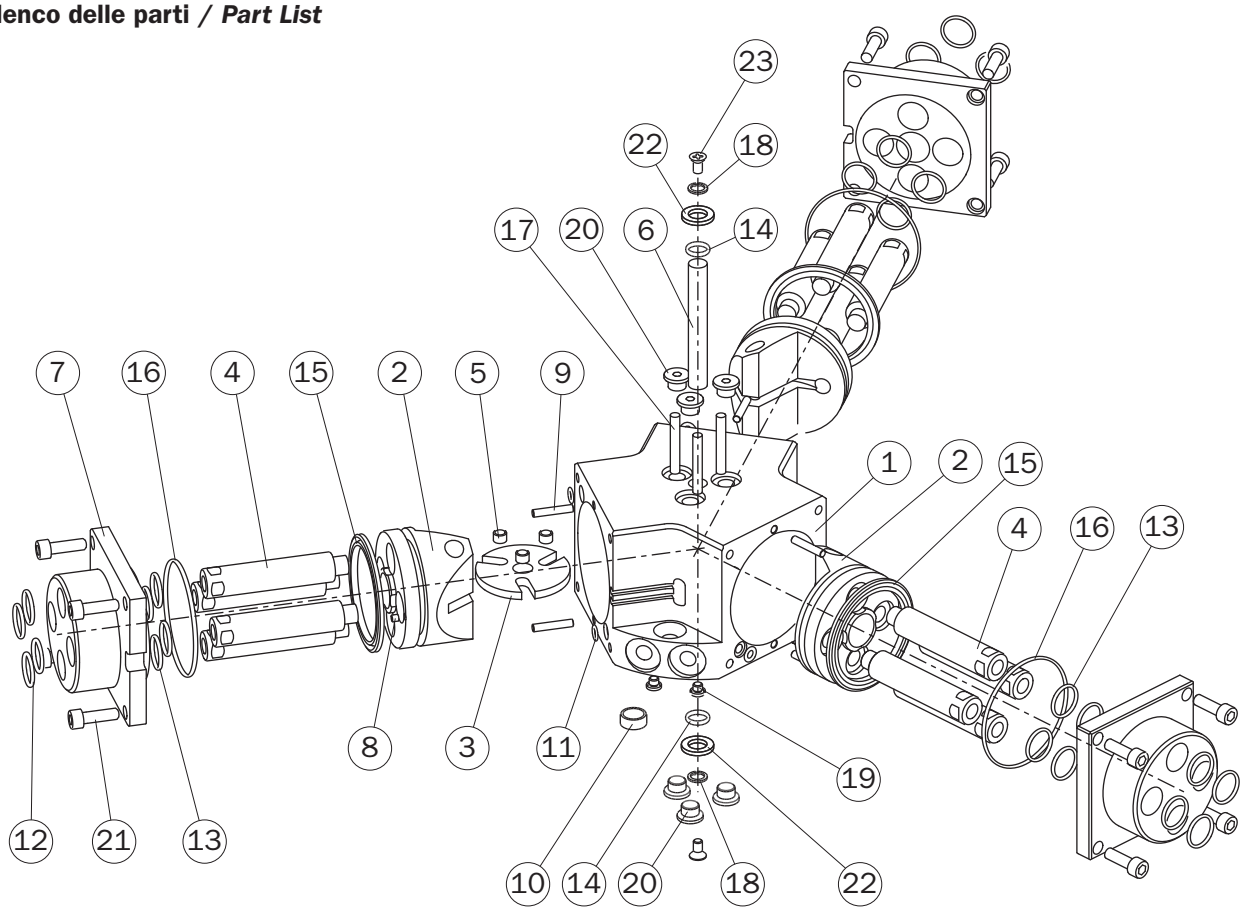
After removing the end caps, the columns can be greased and the O-Rings can be replaced.
The inner O-Ring is in NBR [8], the outer one in Viton [9].
By pulling the columns, also the pistons can be removed and the mechanism can be accessed.







Elenco delle parti / *Part List*



		SXT2505	SXT4008	SXT5012	SXT6315		
1	Corpo pinza	SXT2505-01	SXT4008-01	SXT5012-01	SXT6315-01	*Gripper body*	*1*
2	Pistone	SXT2505-04	SXT4008-04	SXT5012-04	SXT6315-04	*Piston*	*2*
3	Camma	SXT2505-05	SXT4008-05	SXT5012-05	SXT6315-05	*Cam*	*3*
4	Colonna	SX2510-06	SX4020-06	SX5012-06	SX6315-06	*Column*	*4*
5	Boccola	-	-	-	SXT6315-07	*Bush*	*5*
6	Spina	SX2520-07	SX4040-07	SX5060-07	SX6380-07	*Pin*	*6*
7	Testata	SX2520-02	SX4040-02	SX5060-02	SX6380-02	*End cap*	*7*
8	Magnete	EPP12-13	R63-180-20	R63-180-20	R63-180-20	*Magnet*	*8*
9	Spina di riferimento	SPINA-065 (Ø2.5x10 DIN6325)	SPINA-007 (Ø3x14 DIN6325)	SPINA-042 (Ø3x16 DIN6325)	SPINA-097 (Ø4x21.8 DIN5402)	*Dowel pin*	*9*
10	Boccola	ZBH-9 (343453)	ZBH-12 (354236)	ZBH-12 (354236)	TH12516-09	*Bush*	*10*
11	O-Ring	GUAR-082 (Ø1x3)	GUAR-044 (Ø1.78x3.69)	GUAR-044 (Ø1.78x3.69)	GUAR-011 (Ø1.78x5.28)	*O-Ring*	*11*
12	O-Ring	GUAR-039V (Ø1.78x6.07)	GUAR-186V (Ø1.78x9.75)	GUAR-095V (Ø1.78x11.89)	GUAR-023V (Ø1.78x15.6)	*O-Ring*	*12*
13	O-Ring	GUAR-039H (Ø1.78x6.07)	GUAR-186H (Ø1.78x9.75)	GUAR-095H (Ø1.78x11.89)	GUAR-023H (Ø1.78x15.6)	*O-Ring*	*13*
14	O-Ring	GUAR-039H (Ø1.78x6.07)	GUAR-045H (Ø1.78x7.66)	GUAR-045H (Ø1.78x7.66)	GUAR-065 (Ø1.78x9.25)	*O-Ring*	*14*
15	Guarnizione dinamica	GUAR-061H (Ø2.62x20.29)	GUAR-006P (40x31x3)	GUAR-015P (50x41x3)	GUAR-068 (63x51x4)	*Dynamic gasket*	*15*
16	O-Ring	GUAR-025 (Ø1.78x21.95)	GUAR-062 (Ø1.78x34.65)	GUAR-017 (Ø1.78x47.35)	GUAR-146 (Ø1.78x60.05)	*O-Ring*	*16*
17	Spina di riferimento	SPINA-042 (Ø3x16 DIN6325)	SPINA-033 (Ø4x25 DIN6325)	SPINA-011 (Ø4x30 DIN6325)	SPINA-115 (Ø5x36 DIN6325)	*Dowel pin*	*17*
18	Anello elastico per interni	-	SEEGER-008 (Ø8 DIN472 INOX)	SEEGER-008 (Ø8 DIN472 INOX)	SEEGER-038 (Ø10 DIN472 Z/B)	*Snap-ring*	*18*
19	Tappo	DT-205	107-M5	107-M5	107-M5	*Plug*	*19*
20	Tappo	-	107-M5	107-M5	107-G1/8	*Plug*	*20*
21	Vite	VITE-016 (M3x16 DIN912 INOX A2)	VITE-004 (M4x14 DIN912 INOX A2)	VITE-015 (M5x16 DIN912 INOX A2)	VITE-011 (M6x20 DIN912 INOX A2)	*Screw*	*21*
22	Distanziale	SX2520-11	-	-	-	*Spacer*	*22*
23	Vite	VITE-058 (M2.5x5 DIN965 INOX A2)	-	-	-	*Screw*	*23*

Pinze pneumatiche
Pneumatic grippers

Pinze ad espansione
Air hands



Attuatori lineari
Linear actuators

Guide lineari
Linear guidances

Unità rotanti
Rotary units

Pinze ad espansione per interni serie MFD/MFU

- Nuovo concetto di pinza innovativa.
- Movimento verso il basso (MFD), o verso l'alto (MFU).
- La parte elastica può essere in Silicone o EPDM.
- Diametro di presa da 8 a 85 mm.
- Coni di centraggio opzionali.
- Sensori magnetici opzionali.
- Vari accessori disponibili per il fissaggio.

ID expansion grippers series MFD/MFU

- *New concept for innovative air hands.*
- *Downward movement (MFD), or upward movement (MFU).*
- *The elastic part can be in Silicone or EPDM.*
- *Grip diameters from 8 to 85 mm.*
- *Optional nose cones for centering.*
- *Optional proximity magnetic sensors.*
- *Several mounting accessories.*





M F D 1 6 E 0 2 C L

Direzione del movimento
Actuation direction

D - Verso il basso
D - Downward
U - Verso l'alto
U - *Upward*

Diametro nominale
Base diameter

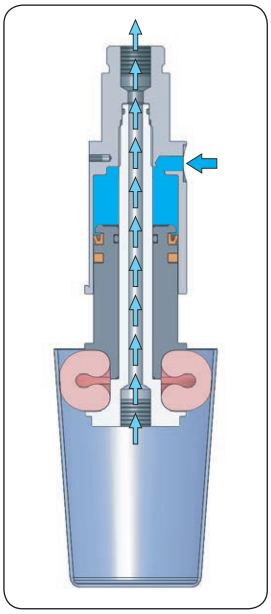
08 - 10 - 12 - 14 - 16 - 18 - 22
27 - 33 - 41 - 47 - 51 - 63

Alimentazione
Air feeding

C - Con raccordo coassiale
C - With coaxial air fitting
H - Con raccordo laterale e foro passante
H - With side air fitting and through hole

Parte elastica
Elastic part

S01 - in Silicone rosso
in red Silicone
E02 - in EPDM nero
in black EPDM



Foro passante

I modelli ...HL sono dotati di un foro passante, che si può usare per immettere aria compressa o in depressione, allo scopo di raffreddare delle parti o di controllarne la tenuta.

Through hole

The ...HL models have a central through hole. It can be used to blow compressed air, or to provide vacuum, with the purpose to cool a part, or to check the sealing.

Silicone o EPDM?

La parte elastica può essere in Silicone rosso o EPDM nero.
Il Silicone può essere usato su un campo di temperature più ampio e garantisce una maggiore durata, ma non è adatto in alcun settori merceologici, perchè rende difficoltosa la verniciatura o il rivestimento delle parti che tocca.
Invece l'EPDM non lascia impronte e assicura anche un maggior coefficiente di attrito.
La parte elastica in Silicone o EPDM è fornita come ricambio e può essere sostituita, quando usurata.
La vita media della parte elastica in EPDM è di circa 0.5 milioni di cicli.
La vita media della parte elastica in Silicone è di circa 1 milione di cicli.

Silicone or EPDM?

The elastic part can be in red Silicone, or black EPDM.
Silicone can be used over a wider temperature range and assures a longer life time, but it is not suitable in some industries, because it makes it difficult to paint or to coat the parts that are touched.
EPDM is mark-free and provides a higher coefficient of friction.
The elastic part in Silicone or EPDM is available as a spare part and can be replaced, when worn out.
The expected medium life time of the elastic part in EPDM is about 0.5 million cycles.
The expected medium life time of the elastic part in Silicone is about 1 million cycles.

Ricambio per la parte elastica
Spare elastic part

	T	MFD / MFU											
		Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø22	Ø27	Ø33	Ø41	Ø47	Ø51	Ø63
 Silicone *Silicone*	-70°C +200°C	IF08S01	IF10S01	IF12S01U	IF14S01U	IF16S01U	IF18S01	IF22S01	IF27S01	IF33S01	IF41S01	IF47S01	IF51S01	IF63S01
 EPDM	-50°C +140°C	IF08E02	IF10E02	IF12E02U	IF14E02U	IF16E02U	IF18E02	IF22E02	IF27E02	IF33E02	IF41E02	IF47E02	IF51E02	IF63E02

T - Temperatura d'esercizio della parte elastica (5÷60°C per il corpo pinza)
T - Operating temperature of the elastic part (5÷60°C for the gripper body)

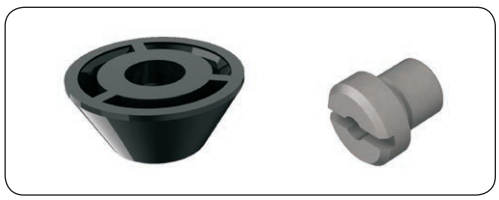
Coni di centraggio

Sono disponibili come accessori dei coni di centraggio in nylon, con la vite inox.
Per le taglie maggiori di 33, sono anche dotati del foro passante.

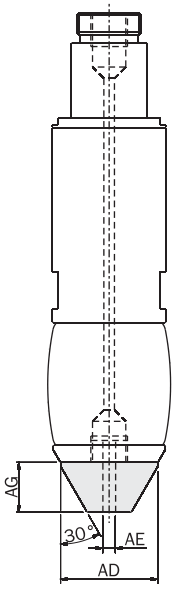
Centering cones

Centering cones in nylon with stainless screw are available as an option.
For sizes larger than 33, they are also provided with a through hole.

MFD / MFU

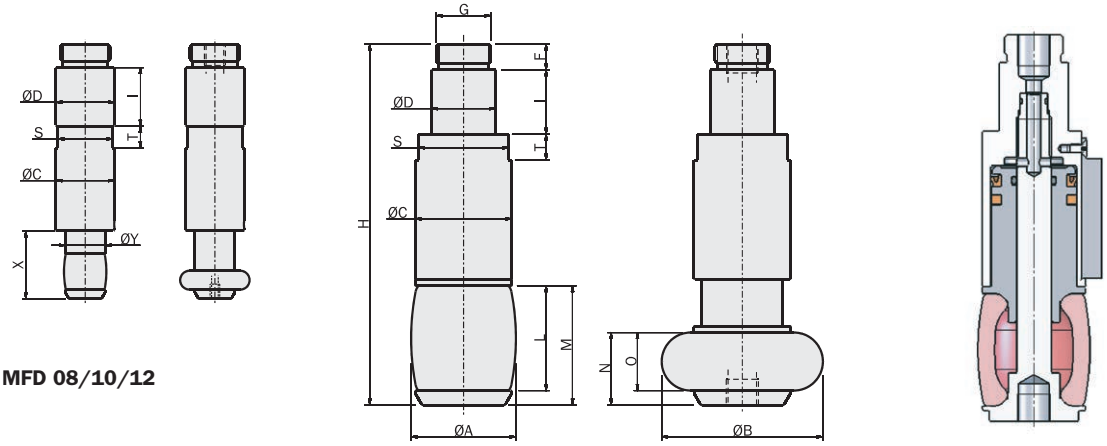


	MFC10	MFC12	MFC14	MFC18	MFC22	MFC27	MFC33	MFC41	MFC51	MFC63
Peso *Weight*	0.5 g	1 g	1 g	1.5 g	2 g	5 g	7 g	12 g	21 g	30 g
ØAD [mm]	7.8	10	11.8	15.5	18.8	21.3	28	37	47	56
ØAE [mm]	-	-	-	-	-	-	4	4	4	4
ØAG [mm]	2.9	3.5	4.5	6.5	8	9.5	12	19	26	30
MFD MFU	Ø10	Ø12	Ø14 Ø16	Ø18	Ø22	Ø27	Ø33	Ø41 Ø47	Ø51	Ø63



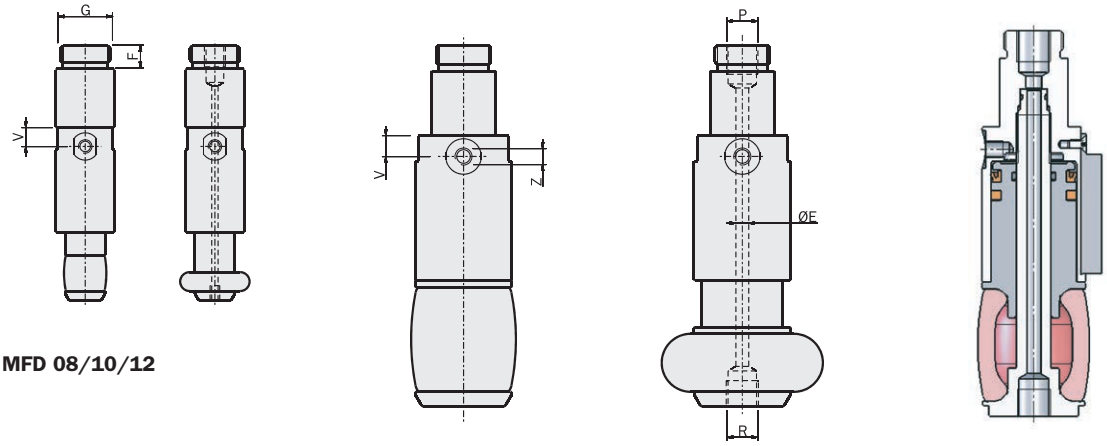
Dimensioni (mm) / *Dimensions (mm)*

...CL



MFD 08/10/12

...HL



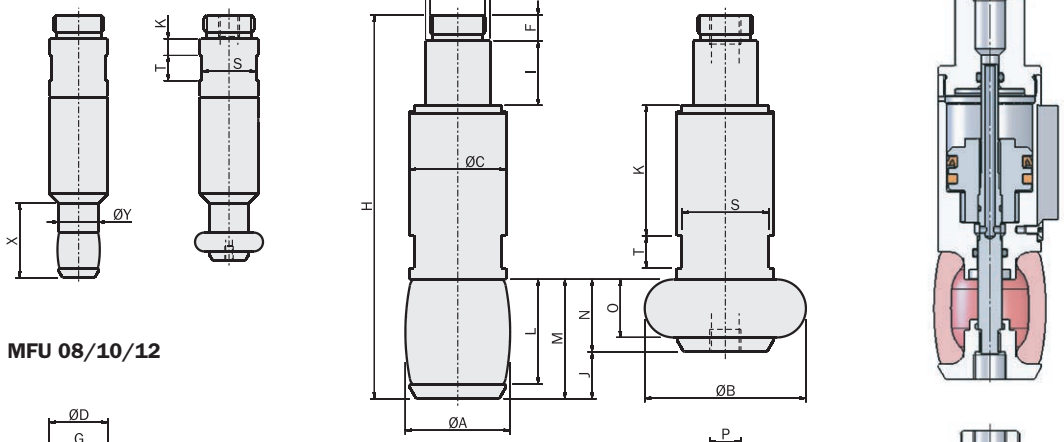
MFD 08/10/12

	m	ØA	ØB	ØC	ØD	ØE	F	G	H	I	L	M	N	O	P	R	S	T	V	Z	X	ØY
MFD08...CL MFD08...HL	15g	8	11	14	14	- 1.5	5.5	M12x1	59.2	14	7	9.2	5.7	3.5	M5	M2	13	6	- 4.5	- M3	14.7	7.6
MFD10...CL MFD10...HL	16g	10.5	13.5	14	14	- 1.5	5.5	M12x1	60.7	14	8.5	10.7	6.7	4.5	M5	M2	13	6	- 4.5	- M3	16.2	9.5
MFD12...CL MFD12...HL	17g	13	17	14	14	- 2	5.5	M12x1	62	14	10.5	13	7.5	5	M5	M3	13	6	- 4.5	- M3	16.8	11.8
MFD14...CL MFD14...HL	17g	15	19.5	14	14	- 2	5.5	M12x1	62.3	14	13	15.8	8.8	6	M5	M3	13	6	- 4.5	- M3	-	-
MFD16...CL MFD16...HL	17g	18	21.5	14	14	- 2	5.5	M12x1	62.3	14	13	15.8	8.8	6	M5	M3	13	6	- 4.5	- M3	-	-
MFD18...CL MFD18...HL	28g	19.5	24.5	18	14	- 2.5	5.5	M12x1	70.5	14	16.5	19.5	12	9	M5	M3	16	6	- 5.3	- M5	-	-
MFD22...CL MFD22...HL	43g	24	31.5	21.5	14	- 2.5	5.5	M12x1	80	14	21	24.2	12.2	11	M5	M3	19	7	- 5.5	- M5	-	-
MFD27...CL MFD27...HL	79g	28	37	25	20	- 3	8	M17x1	98	20	26	30	18	14	G1/8	M5	22	8	- 7	- M5	-	-
MFD33...CL MFD33...HL	118g	34	45	30	20	- 4	8	M17x1	112	20	32.5	37	22.5	18	G1/8	G1/8	28	8	- 6.5	- M5	-	-
MFD41...CL MFD41...HL	280g	42	54	40	30	- 4.3	11	M27x1	142.5	30	39.5	45	29.5	24	G1/8	G1/8	36	11	- 7.5	- M5	-	-
MFD47...CL MFD47...HL	280g	50	58	40	30	- 4.3	11	M27x1	142.5	30	39.5	45	29.5	24	G1/8	G1/8	36	11	- 7.5	- M5	-	-
MFD51...CL MFD51...HL	490g	54	68	50	30	- 5.5	11	M27x1	168	30	48	55	37	30	G1/8	G1/8	45	13	- 10.5	- G1/8	-	-
MFD63...CL MFD63...HL	800g	66	85	60	30	- 6	11	M27x1	198	30	61	70	45	36	G1/8	G1/8	54	16	- 14	- G1/8	-	-

m [Peso - Weight]

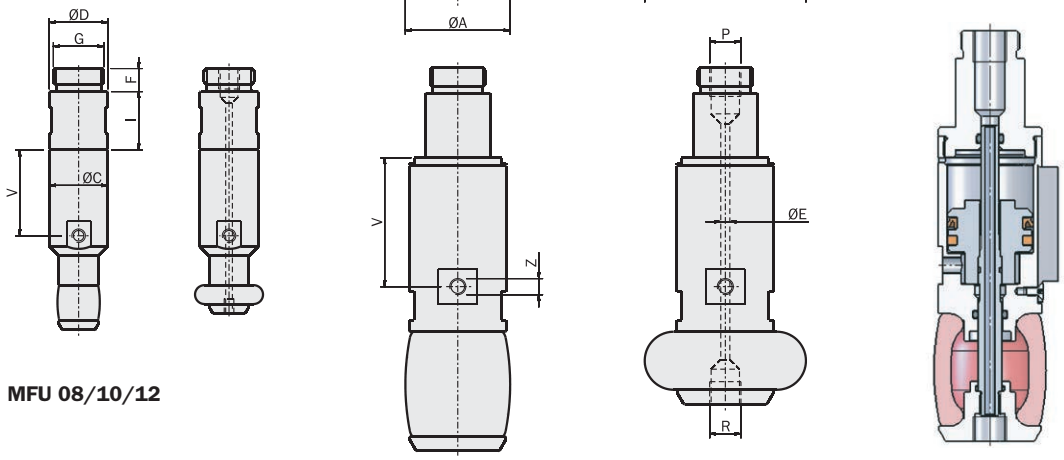
Dimensioni (mm) / *Dimensions (mm)*

...CL



MFU 08/10/12

...HL



MFU 08/10/12

	m	ØA	ØB	ØC	ØD	ØE	F	G	H	I	J	K	L	M	N	O	P	R	S	T	V	Z	X	ØY
MFU08...CL MFU08...HL	16g	8	11	14	14	-1.1	5.5	M12x1	61.5	14	3.5	4	7	9.2	5.7	3.5	M5	M2	13	6	-20	-M3	16.3	7.6
MFU10...CL MFU10...HL	17g	10.5	13.5	14	14	-1.1	5.5	M12x1	62.5	14	4	4	8.5	10.7	6.7	4.5	M5	M2	13	6	-20.5	-M3	17.7	9.5
MFU12...CL MFU12...HL	18g	13	17	14	14	-1.3	5.5	M12x1	65	14	5.5	4	10.5	13	7.5	5	M5	M3	13	6	-21.5	-M3	20	11.8
MFU14...CL MFU14...HL	20g	15	19.5	14	14	-1.3	5.5	M12x1	68.5	14	7	24.2	13	15.8	8.8	6	M5	M3	13	6	-23.2	-M3	-	-
MFU16...CL MFU16...HL	20g	18	21.5	14	14	-1.3	5.5	M12x1	68.5	14	7	24.2	13	15.8	8.8	6	M5	M3	13	6	-23.2	-M3	-	-
MFU18...CL MFU18...HL	35g	19.5	24.5	18	14	-1.3	5.5	M12x1	78	14	7.5	29	16.5	19.5	12	9	M5	M3	16	7	-28	-M5	-	-
MFU22...CL MFU22...HL	50g	24	31.5	21.5	14	-1.8	5.5	M12x1	86.5	14	10	31.8	21	24.2	14.2	11	M5	M3	20	8	-31.5	-M5	-	-
MFU27...CL MFU27...HL	100g	28	37	25	20	-2.5	8	M17x1	108	20	12	37.5	26	30	18	14	G1/8	M5	22	9	-37	-M5	-	-
MFU33...CL MFU33...HL	130g	34	45	30	20	-2.8	8	M17x1	119	20	14.5	40.5	32.5	37	22.5	18	G1/8	G1/8	28	10	-40	-M5	-	-
MFU41...CL MFU41...HL	300g	42	54	40	30	-4.5	11	M27x1	147	30	15.5	45	39.5	45	29.5	24	G1/8	G1/8	36	12	-45	-M5	-	-
MFU47...CL MFU47...HL	300g	50	58	40	30	-4.5	11	M27x1	147	30	15.5	45	39.5	45	29.5	24	G1/8	G1/8	36	12	-45	-M5	-	-
MFU51...CL MFU51...HL	500g	54	68	50	30	-5	11	M27x1	169	30	18	54	48	55	37	30	G1/8	G1/8	45	14	-56.5	-G1/8	-	-
MFU63...CL MFU63...HL	785g	66	85	60	30	-5	11	M27x1	194	30	25	62	61	70	45	36	G1/8	G1/8	54	16	-64.5	-G1/8	-	-

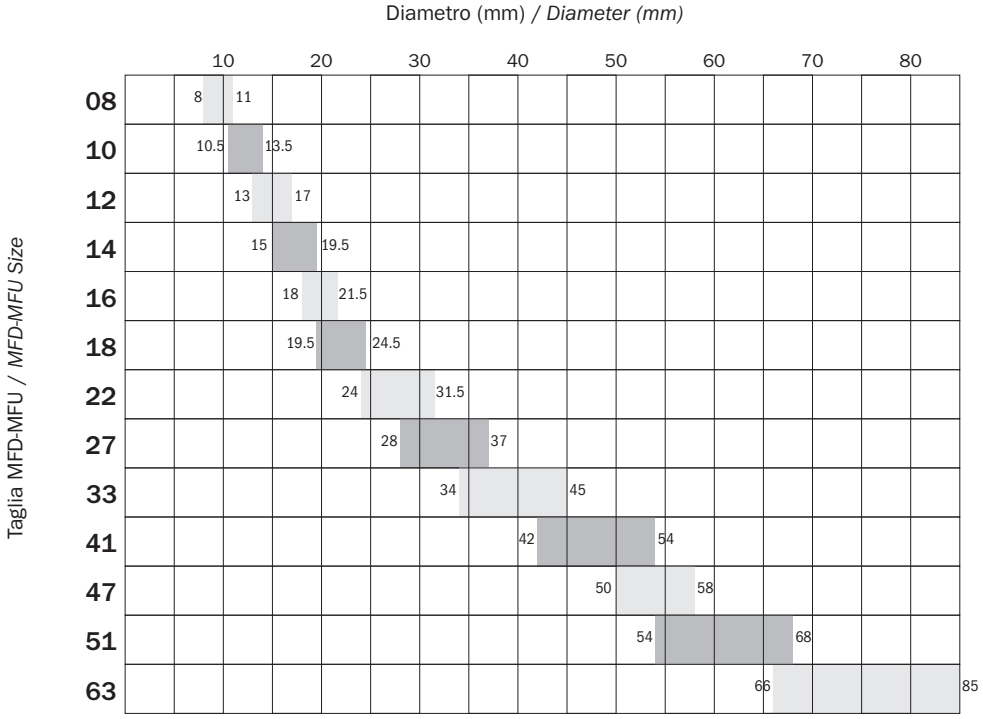
m [Peso - Weight]

Diametri di presa

La taglia è indicata nel codice con un diametro nominale della parte elastica.
Ma ogni modello può lavorare fra un diametro minimo ed un diametro massimo.

Grip diameters

The gripper size is indicated in the gripper code with a nominal diameter of the elastic part.
Each model can work in a diameter range between a minimum and a maximum value.



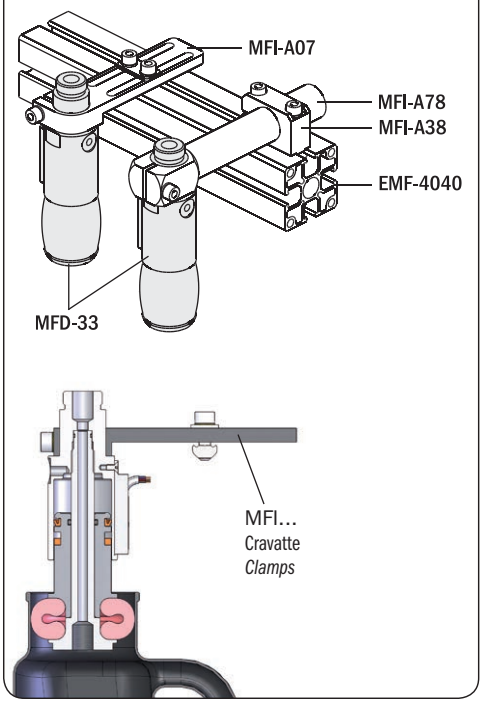
Fissaggio

La pinza può essere montata, con una staffa a cravatta, direttamente sul suo codolo [1].
Con una staffa a cravatta, sulla prolunga opzionale [2].
Oppure attraverso i nippli filettati opzionali [3].

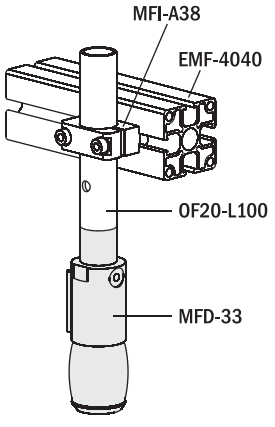
Fastening

The gripper can be fitted with a clamp, either directly on its tail [1], or on the optional extension tube [2].
Alternatively, it can be fitted through the optional threaded nipples [3].

[1]

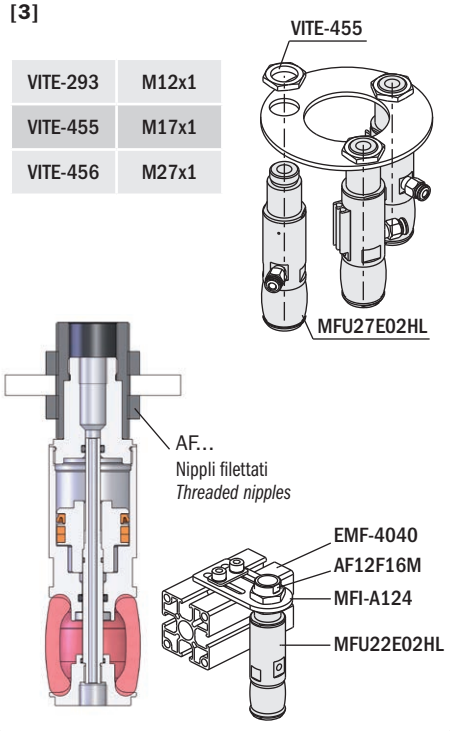


[2]



[3]

VITE-293	M12x1
VITE-455	M17x1
VITE-456	M27x1



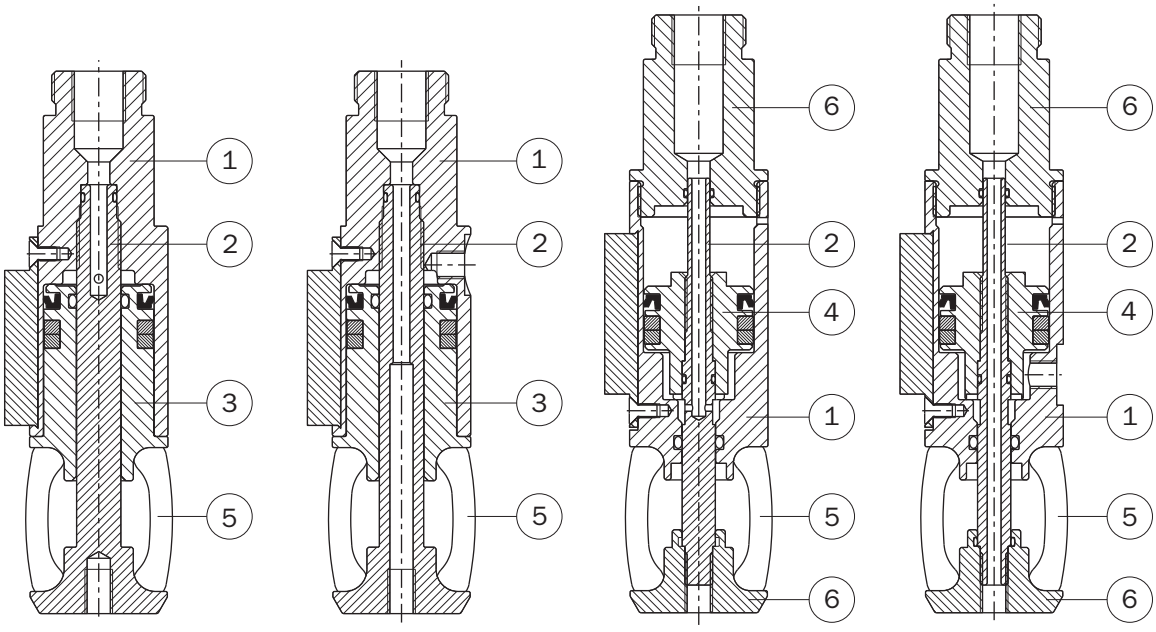
Applicazioni nell'industria alimentare

Le versioni S01, cioè quelle con la parte elastica in Silicone, sono adatte per la maggior parte delle applicazioni nell'industria alimentare, in quanto le parti che possono venire in contatto con l'alimento sono:

Food applications

The S01 versions, the ones with the elastic part in Silicone, are suitable for most of the food applications, as the parts intended to come into contact with food are:

1	Corpo *Housing*	EN AW-6026-T6	Alluminio ossidato ANSI/NSF 51 *Oxidized aluminum ANSI/NSF 51*
2	Stelo *Piston rod*	EN AW-6026-T6	Alluminio ossidato ANSI/NSF 51 *Oxidized aluminum ANSI/NSF 51*
3	Pistone MFD *Piston MFD*	POM-C	Resina acetalica FDA CFR 21 Part section 177.2470 *Acetal FDA CFR 21 Part section 177.2470*
4	Pistone MFU *Piston MFU*	EN AW-6026-T6	Alluminio ossidato ANSI/NSF 51 *Oxidized aluminum ANSI/NSF 51*
5	Parte elastica *Elastic part*	VMQ	Elastomero Silicone FDA CFR 21 Part section 177.2600 *Elastomer Silicone FDA CFR 21 Part section 177.2600*
6	Terminale *End cap*	EN AW-6026-T6	Alluminio ossidato ANSI/NSF 51 *Oxidized aluminum ANSI/NSF 51*
	Grasso *Grease*	BERULUB FG-H 2 SL	Lubrificante NSF H1 Registration no. 135919 *Lubricant NSF H1 Registration no. 135919*



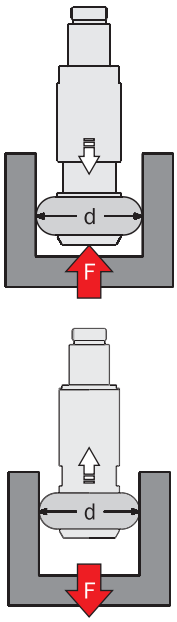
MFD...S01CL **MFD...S01HL** **MFU...S01CL** **MFU...S01HL**

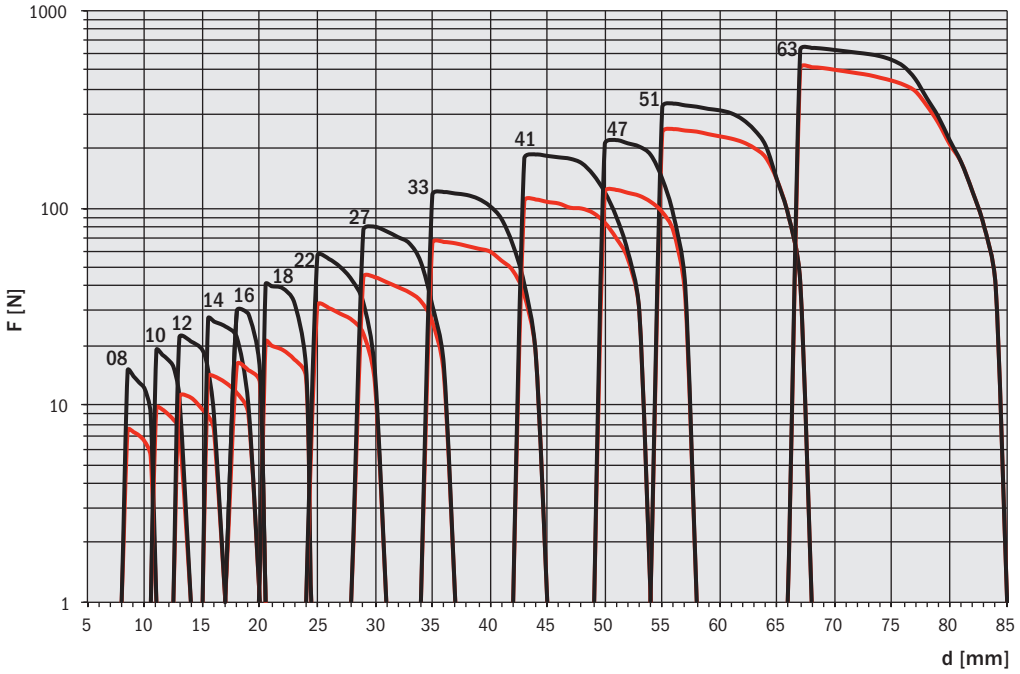
Forza di serraggio

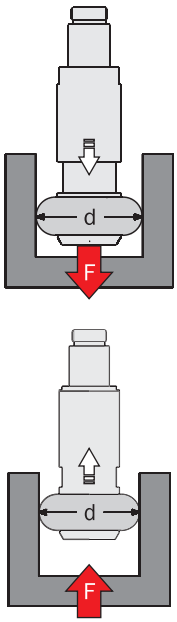
La forza esercitata da una pinza MFD/MFU dipende da molteplici fattori.
Principalmente il diametro dell'oggetto, ma anche la sua finitura superficiale, il coefficiente di attrito e la pressione di alimentazione.
I grafici mostrano la forza di sfilamento (F) di un carico preso con la pinza a espansione, in funzione del diametro (d).
Per le misurazioni sono stati usati anelli di alluminio, con rugosità Ra=0.8 e le pinze alimentate a 6 bar.
Le linee nere si riferiscono alle pinze in EPDM e quelle rosse alle pinze in Silicone.

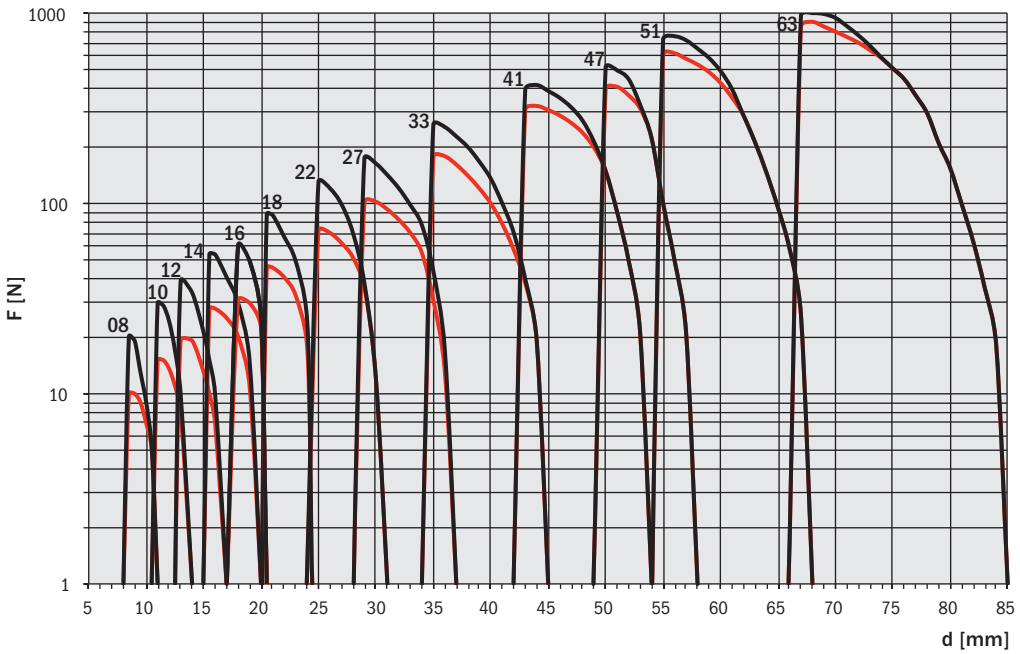
Gripping force

The force output of an MFD/MFU gripper depends on several variables.
Mainly on the diameter of the picked object, but also on the surface finishing, the coefficient of friction and the air pressure.
The graphs show the extraction force (F) on the gripped object as a function of its diameter (d).
Measurements were performed with aluminum rings, with roughness Ra=0.8 while the grippers were fed with 6 bar compressed air.
The black lines refer to the grippers in EPDM, while the red ones to the grippers in Silicone.









Connessione pneumatica

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

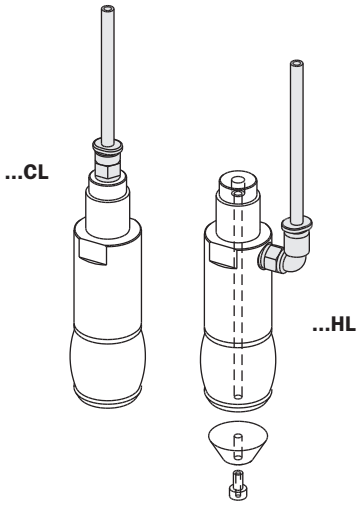
La forza di serraggio può essere regolata con la pressione di alimentazione.
Il campo operativo è 4÷8 bar.

Compressed air feeding

The compressed air feeding the gripper must be filtered (5÷40 µm) but not necessarily lubricated.
The type of medium selected at the start – lubricated or not lubricated – must be kept for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

The gripping force can be adjusted by suitably adjusting the air pressure.
The pressure range is 4÷8 bar.





Circuito pneumatico

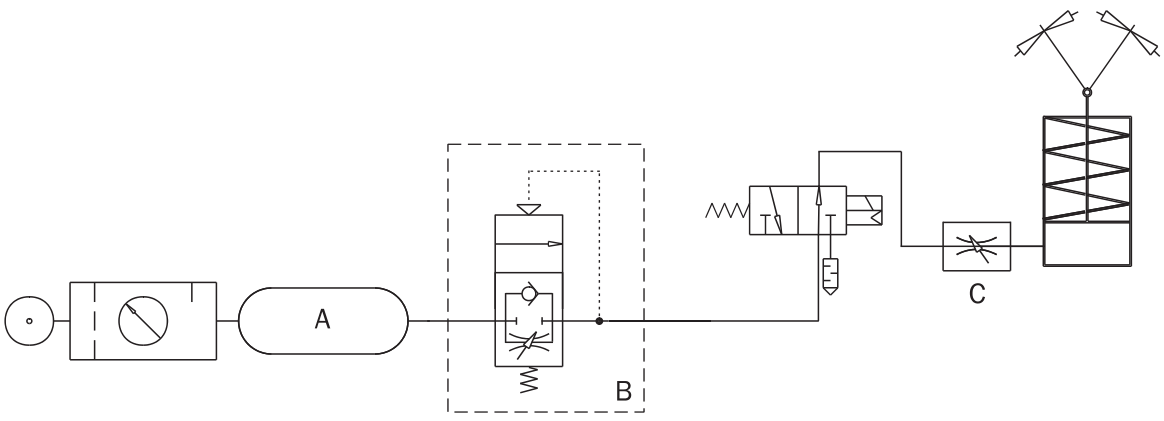
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Regolatori di flusso (C).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Excessive speed of the jaws.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Flow controller (C).



Manutenzione

Non è necessaria alcuna manutenzione periodica.
La parte elastica in Silicone o EPDM è fornita come ricambio e può essere sostituita, quando usurata.
Per smontarla la si può tagliare (nella direzione mostrata nella foto).
Il ricambio si può calzare senza smontare la pinza.
Non deve essere nè incollato, nè ingrassato.

Maintenance

No periodic maintenance is necessary.
The elastic part in Silicone or EPDM is available as a spare part and can be replaced, when worn out.
It can be cut (direction showed in the photo) to remove it from the gripper body.
It is not necessary to dismantle the gripper to fit the new elastic part.
It must not be glued nor greased.



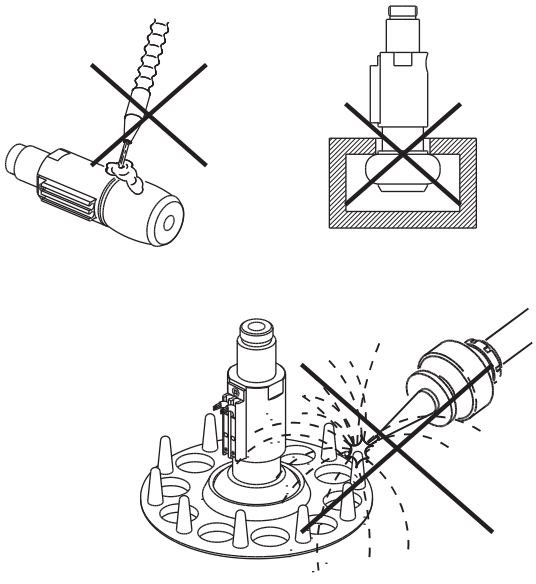


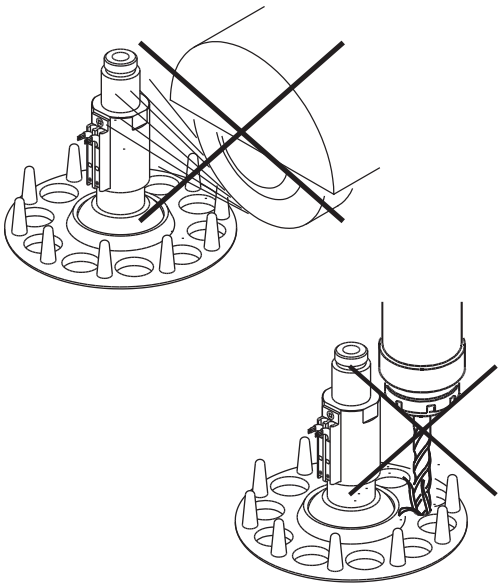
Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks.
Make sure that nobody can place his/her hand in the working area and there are no objects in the path of the gripper.
The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.





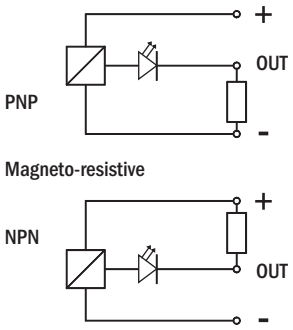
Sensori

Nelle taglie più grandi un magnete è integrato nel pistone.
E' disponibile un accessorio per montare i sensori della serie SN. Possono essere fissati uno o due sensori per pinza.

Sensors

In the larger sizes a magnet is integrated in the piston.
An optional housing for the sensors of the SN series is available.
One or two sensors can be fitted on a gripper.

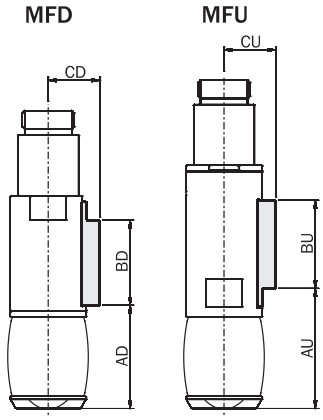
SN		
SN4N225-G	PNP	Cavo 2.5m / 2.5m Cable
SN4M225-G	NPN	Cavo 2.5m / 2.5m Cable
SN3N203-G	PNP	Connettore M8 / Snap M8 plug connector
SN3M203-G	NPN	Connettore M8 / Snap M8 plug connector

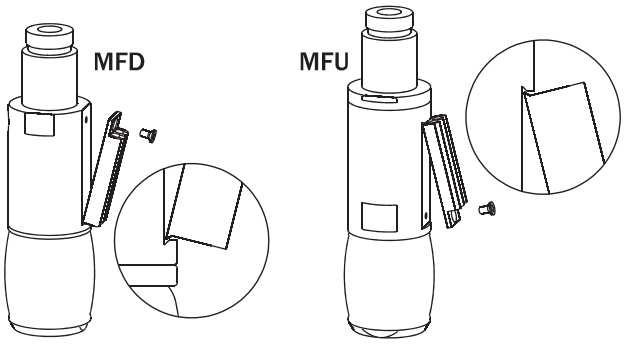




	MFD27-K	MFD33-K	MFD41-K	MFD51-K	MFD63-K
Peso *Weight*	4 g	5 g	5 g	6 g	7 g
AD [mm]	34	41.5	52	65	85.5
BD [mm]	28	34.5	40.5	49	54.5
CD [mm]	17	19.7	23.8	28.5	33.5
MFD	Ø27	Ø33	Ø41 Ø47	Ø51	Ø63

	MFU27-K	MFU33-K	MFU41-K	MFU51-K	MFU63-K
Peso *Weight*	4 g	5 g	5 g	6 g	7 g
AU [mm]	39.5	46.5	55.5	71.5	87.5
BU [mm]	29	33	36.5	39	45
CU [mm]	17	19.8	23.8	28.5	33.5
MFU	Ø27	Ø33	Ø41 Ø47	Ø51	Ø63

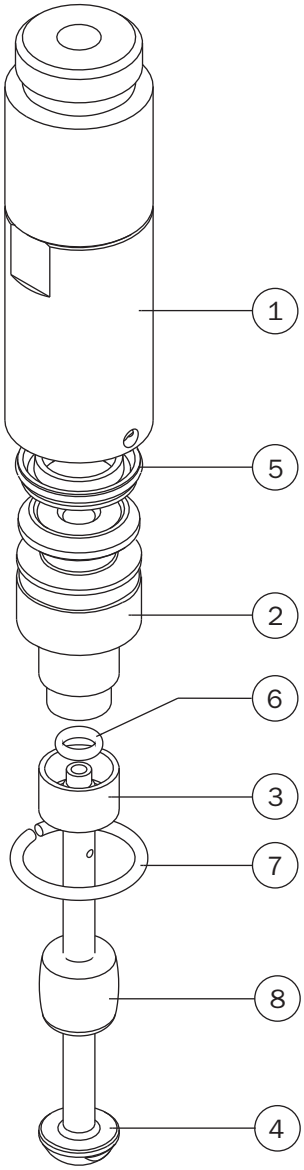




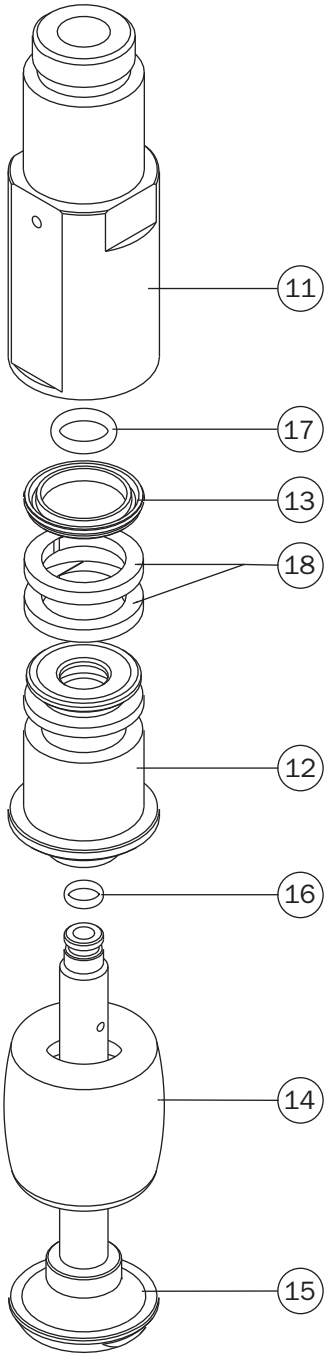


Vista esplosa / *Exploded view*

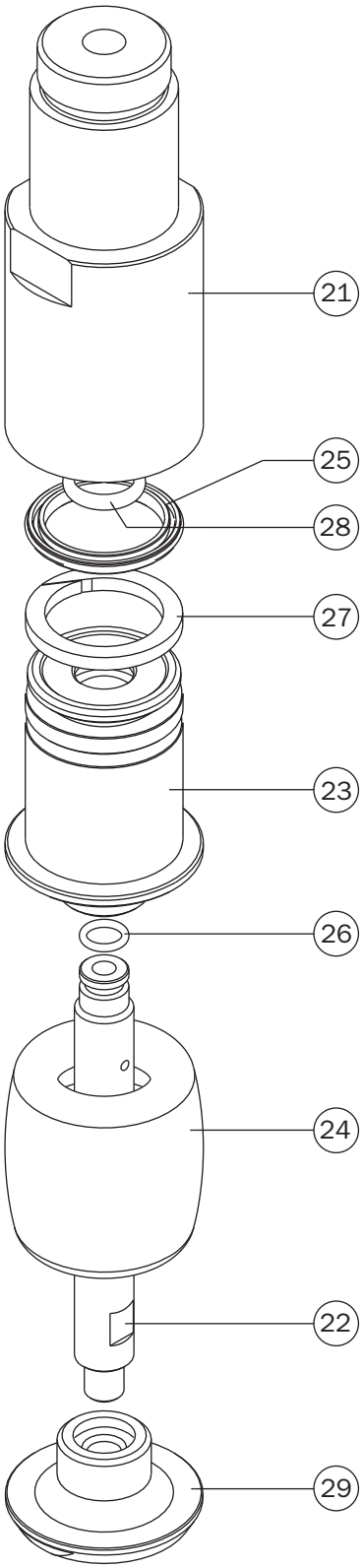
MFD08CL
MFD10CL



MFD12CL
MFD14CL
MFD16CL
MFD18CL
MFD22CL
MFD27CL
MFD33CL



MFD41CL
MFD47CL
MFD51CL
MFD63CL



Elenco delle parti / *Part list*

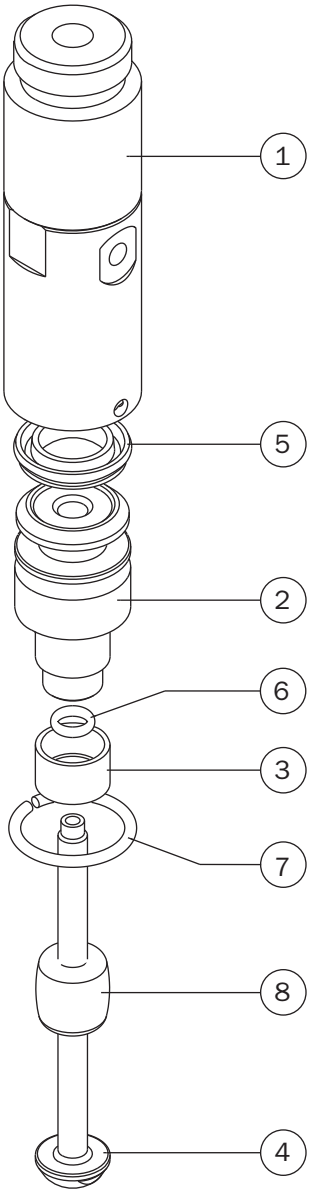
		MFD08CL	MFD10CL		
1	Corpo	MFD08-02	MFD08-02	*Body*	*1*
2	Pistone	FFD08-01	FFD10-02	*Piston*	*2*
3	Coperchio	IFD08-02	IFD10-03	*Cover*	*3*
4	Stelo pistone	FFD08-03	FFD10-05	*Piston rod*	*4*
5	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	*Dynamic gasket*	*5*
6	O-Ring	1x3 (GUAR-082H)	1x3 (GUAR-082H)	*O-Ring*	*6*
7	Anello elastico	D1=12 DIN-7993B (SEEGER-027)	D1=12 DIN-7993B (SEEGER-027)	*Snap-ring*	*7*
8	Parte elastica	IF08-11	IF10-11	*Elastic part*	*8*

		MFD12CL	MFD14CL	MFD16CL	MFD18CL	MFD22CL	MFD27CL	MFD33CL		
11	Corpo	MFD12-02	MFD12-02	MFD12-02	MFD18-02	MFD22-02	MFD27-02	MFD33-01	*Body*	*11*
12	Pistone	FFD12-01	FFD14-02	FFD14-02	FFD18-02	FFD22-02	FFD27-03	FFD33-03	*Piston*	*12*
13	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	15x9x3 (GUAR-019)	18x12x3 (GUAR-133)	20x14x3 (GUAR-058)	25x19x3.5 (GUAR-064)	*Dynamic gasket*	*13*
14	Parte elastica	IF12-12	IF14-12	IF16-12	IF18-11	IF22-12	IF27-11	IF33-11	*Elastic part*	*14*
15	Stelo pistone	FFD12-03	FFD14-05	FFD14-05	FFD18-06	FFD22-06	FFD27-06	FFD33-06	*Piston rod*	*15*
16	O-Ring	-	-	-	-	-	1x4.5 (GUAR-171)	1x6 (GUAR-098)	*O-Ring*	*16*
17	O-Ring	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x5 (GUAR-021H)	1x6 (GUAR-098H)	1.78x7.66 (GUAR-045H)	1.78x9.25 (GUAR-065H)	*O-Ring*	*17*
18	Magnete	-	-	-	-	-	PAR-20-10B	PAR-25-10B	*Magnet*	*18*

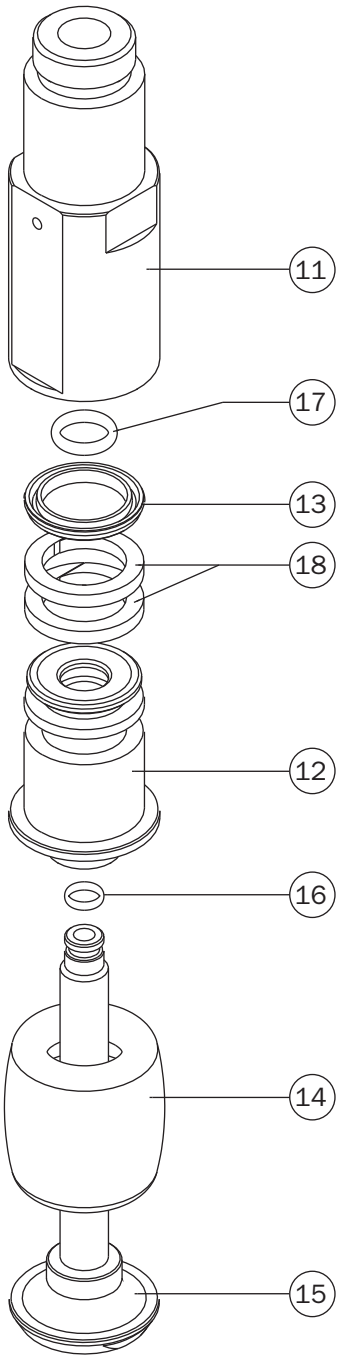
		MFD41CL	MFD47CL	MFD51CL	MFD63CL		
21	Corpo	MFD41-02	MFD41-02	MFD51-02	MFD63-02	*Body*	*21*
22	Stelo pistone	FFD41-09	FFD41-09	FFD51-07	FFD63-07	*Piston rod*	*22*
23	Pistone	FFD41-03	FFD41-03	FFD51-03	FFD63-03	*Piston*	*23*
24	Parte elastica	IF41-11	IF47-11	IF51-11	IF63-11	*Elastic part*	*24*
25	Guarnizione dinamica	32x24x3.5 (GUAR-063)	32x24x3.5 (GUAR-063)	40x32x3.5 (GUAR-092)	50x42x3.5 (GUAR-114E)	*Dynamic gasket*	*25*
26	O-Ring	1.5x7 (GUAR-115)	1.5x7 (GUAR-115)	1.78x8.73 (GUAR-013)	1.78x9.25 (GUAR-065)	*O-Ring*	*26*
27	Magnete	FES-32-3-5	FES-32-3-5	RAD-40-10	FES-50-3-6	*Magnet*	*27*
28	O-Ring	2.62x11.91 (GUAR-033H)	2.62x11.91 (GUAR-033H)	2.62x15.08 (GUAR-105H)	2.62x15.88 (GUAR-169H)	*O-Ring*	*28*
29	Terminale	FFD41-04	FFD41-04	FFD51-04	FFD63-05	*Rod cap*	*29*

Vista esplosa / *Exploded view*

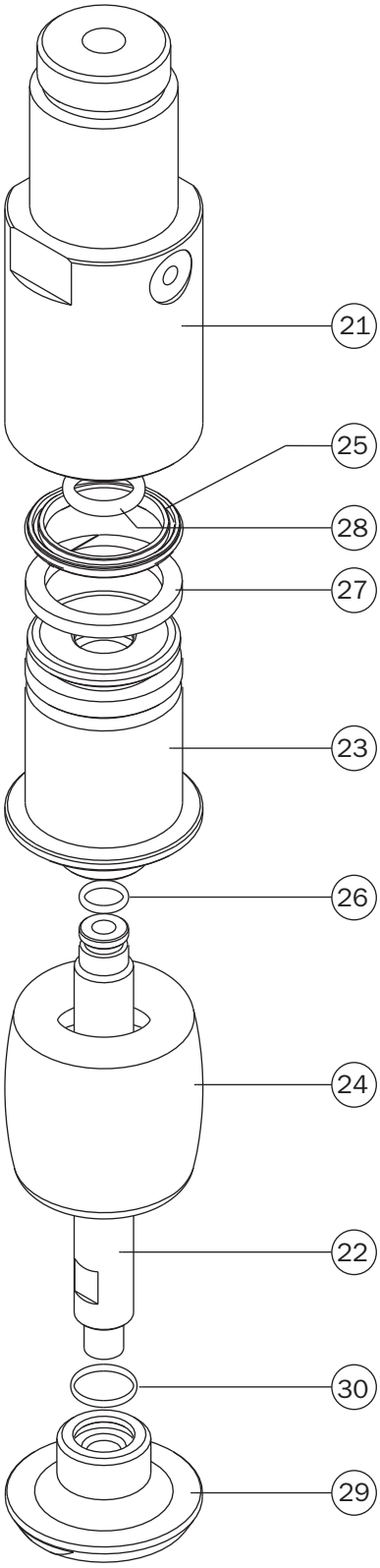
MFD08HL
MFD10HL



MFD12HL
MFD14HL
MFD16HL
MFD18HL
MFD22HL
MFD27HL
MFD33HL



MFD41HL
MFD47HL
MFD51HL
MFD63HL



03/2015

Elenco delle parti / *Part list*

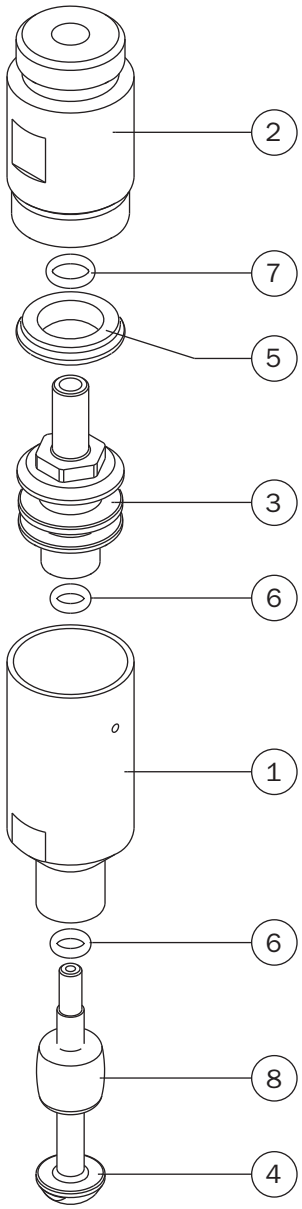
		MFD08HL	MFD10HL		
1	Corpo	MFD08-01	MFD08-01	*Body*	*1*
2	Pistone	MFD08-01	MFD10-02	*Piston*	*2*
3	Coperchio	IFD08-02	IFD10-03	*Cover*	*3*
4	Stelo pistone	FFD08-02	FFD10-03	*Piston rod*	*4*
5	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	*Dynamic gasket*	*5*
6	O-Ring	1x3 (GUAR-082H)	1x3 (GUAR-082H)	*O-Ring*	*6*
7	Anello elastico	D1=12 DIN-7993B (SEEGER-027)	D1=12 DIN-7993B (SEEGER-027)	*Snap-ring*	*7*
8	Parte elastica	IF08-11	IF10-11	*Elastic part*	*8*

		MFD12HL	MFD14HL	MFD16HL	MFD18HL	MFD22HL	MFD27HL	MFD33HL		
11	Corpo	MFD12-01	MFD12-01	MFD12-01	MFD18-01	MFD22-01	MFD27-01	MFD33-03	*Body*	*11*
12	Pistone	FFD12-01	FFD14-02	FFD14-02	FFD18-02	FFD22-02	FFD27-03	FFD33-03	*Piston*	*12*
13	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	15x9x3 (GUAR-019)	18x12x3 (GUAR-133)	20x14x3 (GUAR-058)	25x19x3.5 (GUAR-063)	*Dynamic gasket*	*13*
14	Parte elastica	IF12-12	IF14-12	IF16-12	IF18-11	IF22-12	IF27-11	IF33-11	*Elastic part*	*14*
15	Stelo pistone	FFD12-02	FFD14-03	FFD14-03	FFD18-03	FFD22-03	FFD27-02	FFD33-02	*Piston rod*	*15*
16	O-Ring	-	-	-	-	-	1x4.5 (GUAR-171)	1x6 (GUAR-098)	*O-Ring*	*16*
17	O-Ring	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x5 (GUAR-021H)	1x6 (GUAR-098H)	1.78x7.66 (GUAR-045H)	1.78x9.25 (GUAR-065H)	*O-Ring*	*17*
18	Magnete	-	-	-	-	-	PAR-20-10B	PAR-25-10B	*Magnet*	*18*

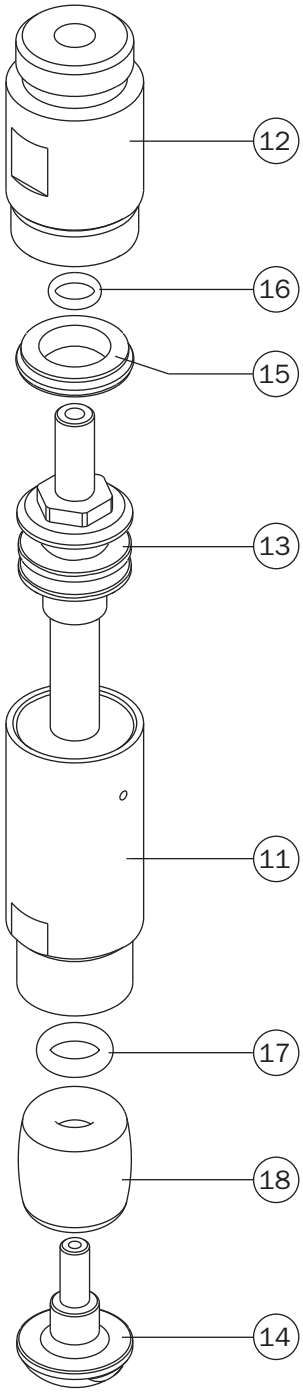
		MFD41HL	MFD47HL	MFD51HL	MFD63HL		
21	Corpo	MFD41-01	MFD41-01	MFD51-01	MFD63-01	*Body*	*21*
22	Stelo pistone	FFD41-02	FFD41-02	FFD51-02	FFD63-02	*Piston rod*	*22*
23	Pistone	FFD41-03	FFD41-03	FFD51-03	FFD63-03	*Piston*	*23*
24	Parte elastica	IF41-11	IF47-11	IF51-11	IF63-11	*Elastic part*	*24*
25	Guarnizione dinamica	32x24x3.5 (GUAR-063)	32x24x3.5 (GUAR-063)	40x32x3.5 (GUAR-092)	50x42x3.5 (GUAR-114E)	*Dynamic gasket*	*25*
26	O-Ring	1.5x7 (GUAR-115)	1.5x7 (GUAR-115)	1.78x8.73 (GUAR-013)	1.78x9.25 (GUAR-065)	*O-Ring*	*26*
27	Magnete	FES-32-3-5	FES-32-3-5	RAD-40-10	FES-50-3-6	*Magnet*	*27*
28	O-Ring	2.62x11.91 (GUAR-033H)	2.62x11.91 (GUAR-033H)	2.62x15.08 (GUAR-105H)	2.62x15.88 (GUAR-169H)	*O-Ring*	*28*
29	Terminale	FFD41-04	FFD41-04	FFD51-04	FFD63-05	*Rod cap*	*29*
30	O-Ring	1x2 (GUAR-071)	1x2 (GUAR-071)	1.78x14 (GUAR-007)	1.78x15.6 (GUAR-023)	*O-Ring*	*30*

Vista esplosa / ***Exploded view***

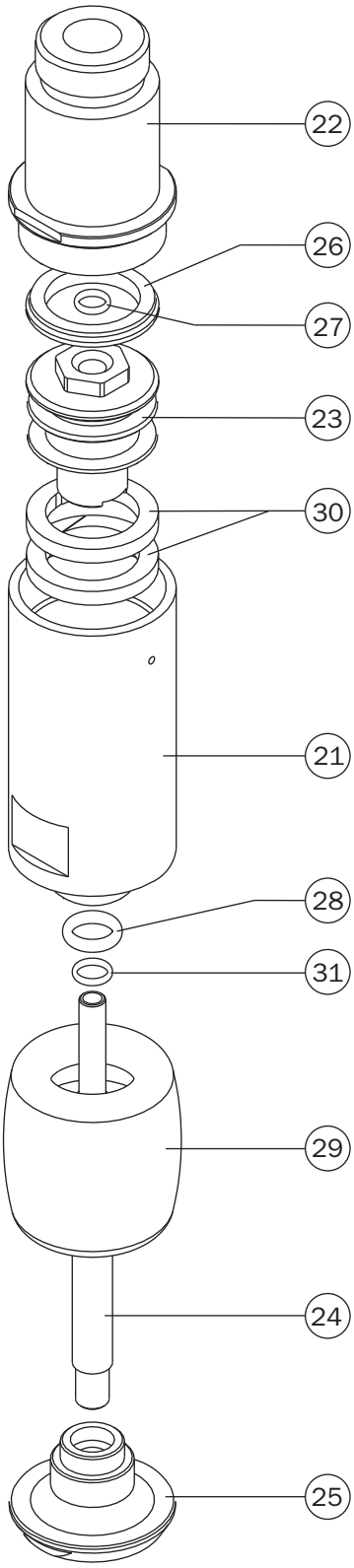
MFU08CL
MFU10CL



MFU12CL
MFU14CL
MFU16CL
MFU18CL



MFU22CL
MFU27CL
MFU33CL
MFU41CL
MFU47CL
MFU51CL
MFU63CL



03/2015

Elenco delle parti / *Part list*

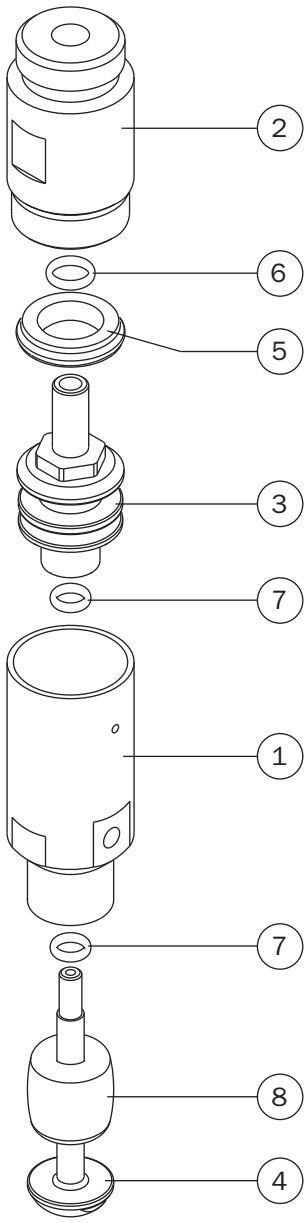
		MFU08CL	MFU10CL		
1	Corpo	FFU08-06	FFU10-04	*Body*	*1*
2	Testata	MFU08-01	MFU08-01	*Head*	*2*
3	Pistone	FFU08-02	FFU08-02	*Piston*	*3*
4	Stelo pistone	FFU08-05	FFU10-03	*Piston rod*	*4*
5	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	*Dynamic gasket*	*5*
6	O-Ring	1x3 (GUAR-082H)	1x3 (GUAR-082H)	*O-Ring*	*6*
7	O-Ring	1x4 (GUAR-091H)	1x4 (GUAR-091H)	*O-Ring*	*7*
8	Parte elastica	IF08-11	IF10-11	*Elastic part*	*8*

		MFU12CL	MFU14CL	MFU16CL	MFU18CL		
11	Corpo	FFU12-04	FFU14-04	FFU14-04	FFU18-05	*Body*	*11*
12	Testata	MFU08-01	MFU08-01	MFU08-01	MFU18-01	*Head*	*12*
13	Pistone	FFU12-05	FFU14-05	FFU14-05	FFU18-06	*Piston*	*13*
14	Terminale	FFU12-03	FFU14-03	FFU14-03	FFU18-04	*Rod cap*	*14*
15	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	15x9x3 (GUAR-019)	*Dynamic gasket*	*15*
16	O-Ring	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x4 (GUAR-091H)	*O-Ring*	*16*
17	O-Ring	1x4.48 (GUAR-029H)	1x4.48 (GUAR-029H)	1x4.48 (GUAR-029H)	1x4.48 (GUAR-029H)	*O-Ring*	*17*
18	Parte elastica	IF12-12	IF14-12	IF16-12	IF18-11	*Elastic part*	*18*

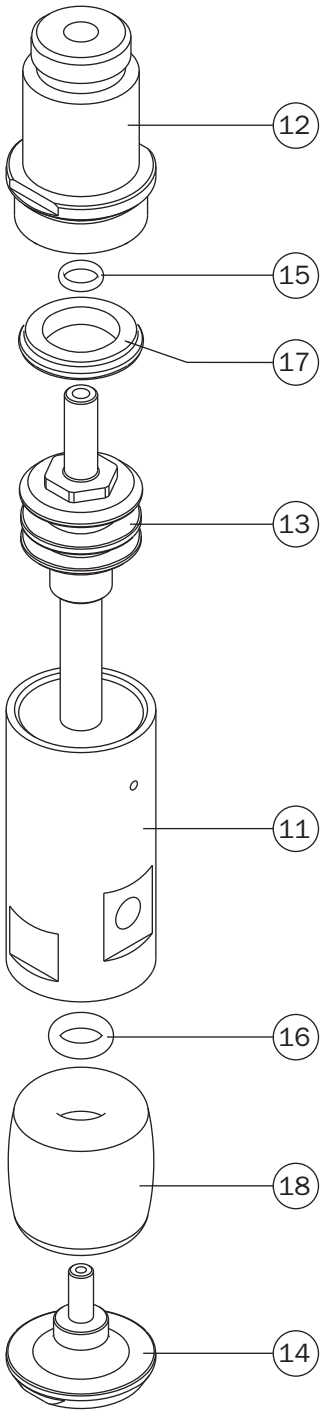
		MFU22CL	MFU27CL	MFU33CL	MFU41CL	MFU47CL	MFU51CL	MFU63CL		
21	Corpo	FFU22-07	FFU27-07	FFU33-07	FFU41-07	FFU41-07	FFU51-07	FFU63-07	*Body*	*21*
22	Testata	MFU22-01	MFU27-01	MFU33-01	MFU41-01	MFU41-01	MFU51-01	MFU63-01	*Head*	*22*
23	Pistone	FFU22-03	FFU27-03	FFU33-03	FFU41-03	FFU41-03	FFU51-03	FFU63-03	*Piston*	*23*
24	Stelo pistone	FFU22-06	FFU27-08	FFU33-08	FFU41-08	FFU41-08	FFU51-08	FFU63-08	*Piston rod*	*24*
25	Terminale	FFU22-05	FFU27-05	FFU33-05	FFU41-05	FFU41-05	FFU51-05	FFU63-05	*Rod cap*	*25*
26	Guarnizione dinamica	18x12x3 (GUAR-133P)	20x14x3 (GUAR-058)	25x19x3.5 (GUAR-064)	32x24x3.5 (GUAR-063)	32x24x3.5 (GUAR-063)	40x32x3.5 (GUAR-092)	50x42x3.5 (GUAR-114E)	*Dynamic gasket*	*26*
27	O-Ring	1x3 (GUAR-082H)	1x4 (GUAR-091H)	1x4.48 (GUAR-029H)	2.62x7.6 (GUAR-060H)	2.62x7.6 (GUAR-060H)	2.62x7.6 (GUAR-060H)	2.62x7.6 (GUAR-060H)	*O-Ring*	*27*
28	O-Ring	1x5 (GUAR-021)	1.78x6.07 (GUAR-039H)	1.78x6.75 (GUAR-012H)	1.78x10.82 (GUAR-080H)	1.78x10.82 (GUAR-080H)	2.62x11.91 (GUAR-033H)	2.62x13.95 (GUAR-141H)	*O-Ring*	*28*
29	Parte elastica	IF22-12	IF27-11	IF33-11	IF41-11	IF47-11	IF51-11	IF63-11	*Elastic part*	*29*
30	Magnete	-	PAR-20-10B	PAR-25-10B	FES-32-3-5	FES-32-3-5	RAD-40-10	FES-50-3-6	*Magnet*	*30*
31	O-Ring	1x4.48 (GUAR-029H)	1x4 (GUAR-091H)	1x5 (GUAR-021)	1x9 (GUAR-168)	1x9 (GUAR-168)	1x10 (GUAR-089)	1x12 (GUAR-071)	*O-Ring*	*31*

Vista esplosa / *Exploded view*

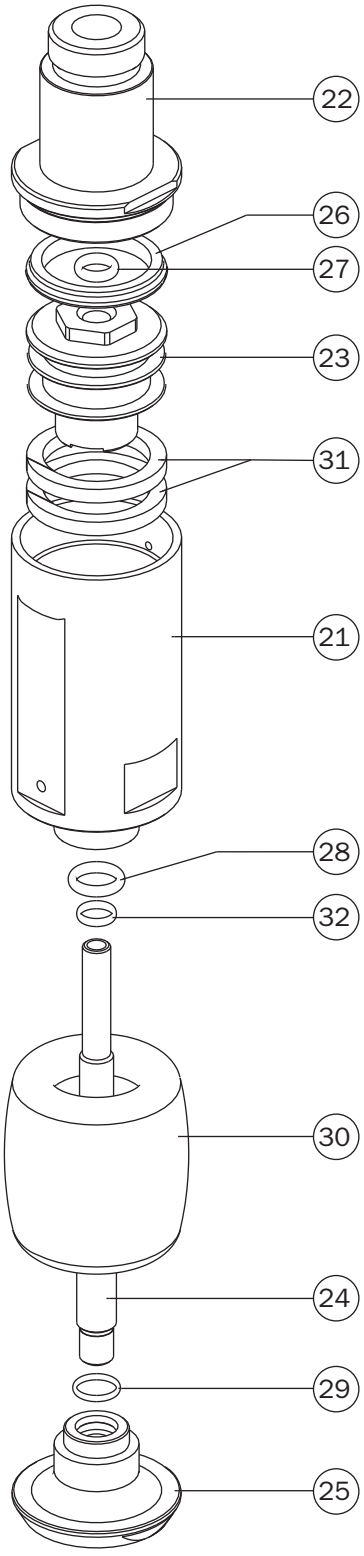
MFU08HL
MFU10HL



MFU12HL
MFU14HL
MFU16HL
MFU18HL



MFU22HL
MFU27HL
MFU33HL
MFU41HL
MFU47HL
MFU51HL
MFU63HL



Elenco delle parti / *Part list*

		MFU08HL	MFU10HL		
1	Corpo	FFU08-03	FFU10-01	*Body*	*1*
2	Testata	MFU08-01	MFU08-01	*Head*	*2*
3	Pistone	FFU08-02	FFU08-02	*Piston*	*3*
4	Stelo pistone	FFU08-04	FFU10-02	*Piston rod*	*4*
5	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	*Dynamic gasket*	*5*
6	O-Ring	1x4 (GUAR-091H)	1x4 (GUAR-091H)	*O-Ring*	*6*
7	O-Ring	1x3 (GUAR-082H)	1x3 (GUAR-082H)	*O-Ring*	*7*
8	Parte elastica	IF08-11	IF10-11	*Elastic part*	*8*

		MFU12HL	MFU14HL	MFU16HL	MFU18HL		
11	Corpo	FFU12-01	FFU14-01	FFU14-01	FFU18-01	*Body*	*11*
12	Testata	MFU08-01	MFU08-01	MFU08-01	MFU18-01	*Head*	*12*
13	Pistone	FFU12-02	FFU14-02	FFU14-02	FFU18-03	*Piston*	*13*
14	Terminale	FFU12-03	FFU14-03	FFU14-03	FFU18-04	*Rod cap*	*14*
15	O-Ring	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x4 (GUAR-091H)	1x4 (GUAR-091H)	*O-Ring*	*15*
16	O-Ring	1x4.48 (GUAR-029H)	1x4.48 (GUAR-029H)	1x4.48 (GUAR-029H)	1x4.48 (GUAR-029H)	*O-Ring*	*16*
17	Guarnizione dinamica	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	12x7x3 (GUAR-018)	15x9x3 (GUAR-019)	*Dynamic gasket*	*17*
18	Parte elastica	IF12-12	IF14-12	IF16-12	IF18-11	*Elastic part*	*18*

		MFU22HL	MFU27HL	MFU33HL	MFU41HL	MFU47HL	MFU51HL	MFU63HL		
21	Corpo	FFU22-01	FFU27-01	FFD33-01	FFU41-01	FFU41-01	FFU51-01	FFU63-01	*Body*	*21*
22	Testata	MFU22-01	MFU27-01	MFU33-01	MFU41-01	MFU41-01	MFU51-01	MFU63-01	*Head*	*22*
23	Pistone	FFU22-03	FFU27-03	FFU33-03	FFU41-03	FFU41-03	FFU51-03	FFU63-01	*Piston*	*23*
24	Stelo pistone	FFU22-04	FFU27-04	FFU33-04	FFU41-04	FFU41-04	FFU51-04	FFU63-04	*Piston rod*	*24*
25	Terminale	FFU22-05	FFU27-05	FFU33-05	FFU41-05	FFU41-05	FFU51-05	FFU63-05	*Rod cap*	*25*
26	Guarnizione dinamica	18x12x3 (GUAR-133P)	20x14x3 (GUAR-058)	25x19x3.5 (GUAR-064)	32x24x3.5 (GUAR-063)	32x24x3.5 (GUAR-063)	40x32x3.5 (GUAR-092)	50x42x3.5 (GUAR-114E)	*Dynamic gasket*	*26*
27	O-Ring	1x3 (GUAR-082H)	1x4 (GUAR-091H)	1.78x4.48 (GUAR-029H)	2.62x7.6 (GUAR-060H)	2.62x7.6 (GUAR-060H)	2.62x7.6 (GUAR-060H)	2.62x7.6 (GUAR-060H)	*O-Ring*	*27*
28	O-Ring	1x5 (GUAR-021)	1.78x6.07 (GUAR-039H)	1.78x6.75 (GUAR-012H)	1.78x10.82 (GUAR-080H)	1.78x10.82 (GUAR-080H)	2.62x11.91 (GUAR-033H)	2.62x13.95 (GUAR-141H)	*O-Ring*	*28*
29	O-Ring	-	1x6 (GUAR-098)	1x7 (GUAR-136)	1.78x10.82 (GUAR-080)	1.78x10.82 (GUAR-080)	2x12 (GUAR-088)	1.78x14 (GUAR-007)	*O-Ring*	*29*
30	Parte elastica	IF22-12	IF27-11	IF33-11	IF41-11	IF47-11	IF51-11	IF63-11	*Elastic part*	*30*
31	Magnete	-	PAR-20-10B	PAR-25-10B	FES-32-3-5	FES-32-3-5	RAD-40-10	FES-50-3-6	*Magnet*	*31*
32	O-Ring	1.78x4.48 (GUAR-029H)	1x4 (GUAR-091H)	1x5 (GUAR-021)	1x9 (GUAR-168)	1x9 (GUAR-168)	1x10 (GUAR-089)	1x12 (GUAR-071)	*O-Ring*	*32*

Micro pinze ad espansione per interni serie IFU

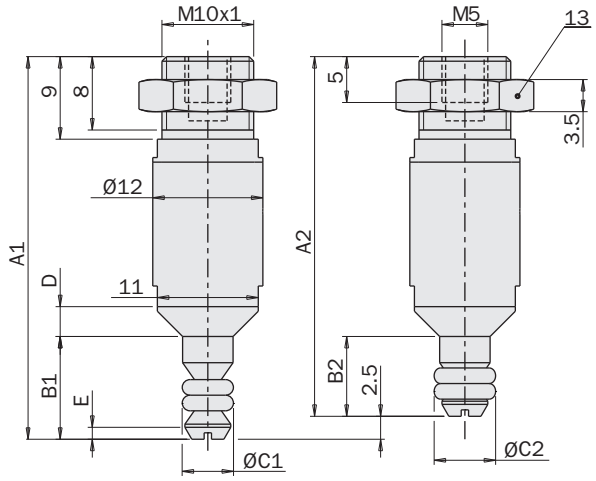
- Nuovo concetto di pinza innovativa.
- Movimento verso l'alto.
- La parte elastica può essere in Silicone o NBR.
- Diametro di presa da 4.5 a 8.7 mm.

ID expansion micro grippers series IFU

- *New concept for innovative air hands.*
- *Upward movement.*
- *The elastic part can be in Silicone or NBR.*
- *Grip diameters from 4.5 to 8.7 mm.*

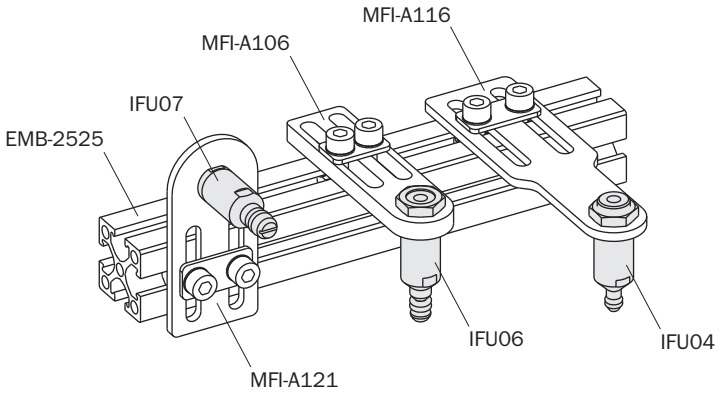






	IFU04S01RT IFU04N03RT	IFU05S01RT IFU05N03RT	IFU06S01RT IFU06N03RT	IFU07S01RT IFU07N03RT
A1	40.9	41.7	42	42
A2	38.4	39.2	39.5	39.5
B1	9.9	11.2	11.5	11.5
B2	7.4	8.7	9	9
C1	Ø4.5	Ø5.6	Ø6.6	Ø7.6
C2	Ø5.4	Ø6.7	Ø7.6	Ø8.7
X1	3	3.4	3.4	3.4
X2	2.7	3.4	3.4	3.4
W1	4	4.8	5.1	5.1
W2	2.7	3.6	3.8	3.9
D	3.75x45°	3.25x45°	2.75x45°	2.4x45°
E	1x60°	1.3x60°	1.4x60°	1.5x60°
Peso *Weight*	7g	7g	8g	9g

Esempi di utilizzo / *Application examples*



Note / *Notes*

Pinze pneumatiche
Pneumatic grippers

Pinze ad espansione
Air hands

Attuatori lineari
Linear actuators



Guide lineari
Linear guidances

Unità rotanti
Rotary units

Pinza pneumatica autocentrante integrata con slitta (serie ZX)

- PZX-265: pinza parallela a 2 griffe con slitta.
- AZX-265: pinza angolare a 2 griffe con slitta.
- RZX-265: pinza radiale a 2 griffe con slitta.
- Azionamento a doppio effetto.
- Rapporto qualità/prezzo molto favorevole.
- Basso peso ottenuto utilizzando leghe leggere e polimeri.
- Sensori magnetici opzionali.
- Facile applicazione.
- Grande rigidità.
- Lunga durata e affidabilità.
- Compatibile con il sistema di manipolazione Gimapick.

Self-centering pneumatic gripper with slide (series ZX)

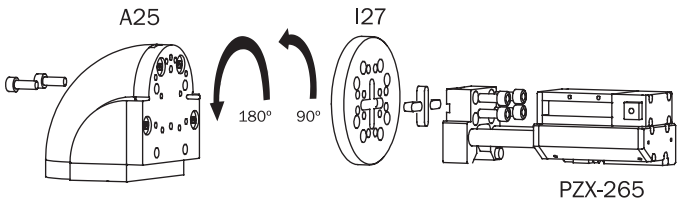
- *PZX-265: 2 jaw parallel gripper with slide.*
- *AZX-265: 2 jaw angular gripper with slide.*
- *RZX-265: 2 jaw radial gripper with slide.*
- *Double acting.*
- *Very high performances / cost ratio.*
- *Lightweight, as light alloy and plastic resin had been utilized.*
- *Optional magnetic sensors.*
- *Easy application.*
- *High rigidity.*
- *Reliability and long life time.*
- *Compatibility with Gimapick "Pick and Place" system.*

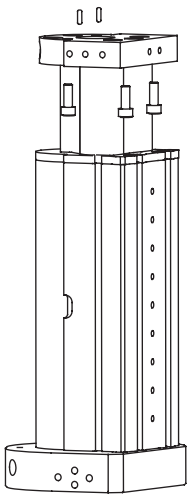


PZX-265 **AZX-265** **RZX-265**

	PZX-265	AZX-265	RZX-265
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2.5 ÷ 8 bar		
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.		
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force at 6 bar each jaw*	55 N	25 Ncm	Max 90 Ncm
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	110 N	50 Ncm	Max 180 Ncm
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force at 6 bar each jaw*	65 N	28 Ncm	Max 100 Ncm
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	130 N	56 Ncm	Max 200 Ncm
Forza della slitta in ritrazione a 6 bar *Slide retraction force at 6 bar*	93 N	93 N	93 N
Forza della slitta in estensione a 6 bar *Slide extension force at 6 bar*	105 N	105 N	105 N
Corsa della pinza *Gripper stroke*	8 mm (± 0.3)	34° (± 2°)	92° (± 2°)
Corsa della slitta *Slide stroke*	8 ÷ 50 mm	8 ÷ 50 mm	8 ÷ 50 mm
Consumo d'aria per ciclo della pinza *Gripper air consumption per cycle*	2.3 cm^3	1.6 cm^3	6.7 cm^3
Consumo d'aria per ciclo della slitta *Slide air consumption per cycle*	19.7 cm^3	19.7 cm^3	19.7 cm^3
Tempo di chiusura della pinza senza carico *Gripper closing time without load*	0.02 s	0.02 s	0.08 s
Tempo di chiusura della slitta senza carico *Slide closing time without load*	0.1 s	0.1 s	0.1 s
Frequenza max funzionamento *Maximum working frequency*	2 Hz	2 Hz	1 Hz
Tolleranza max ripetibilità della pinza *Gripper maximum repeatability tolerance*	0.02 mm	0.04°	0.06°
Tolleranza max ripetibilità della slitta *Slide maximum repeatability tolerance*	0.2 mm	0.2 mm	0.2 mm
Peso *Weight*	640 g	615 g	625 g

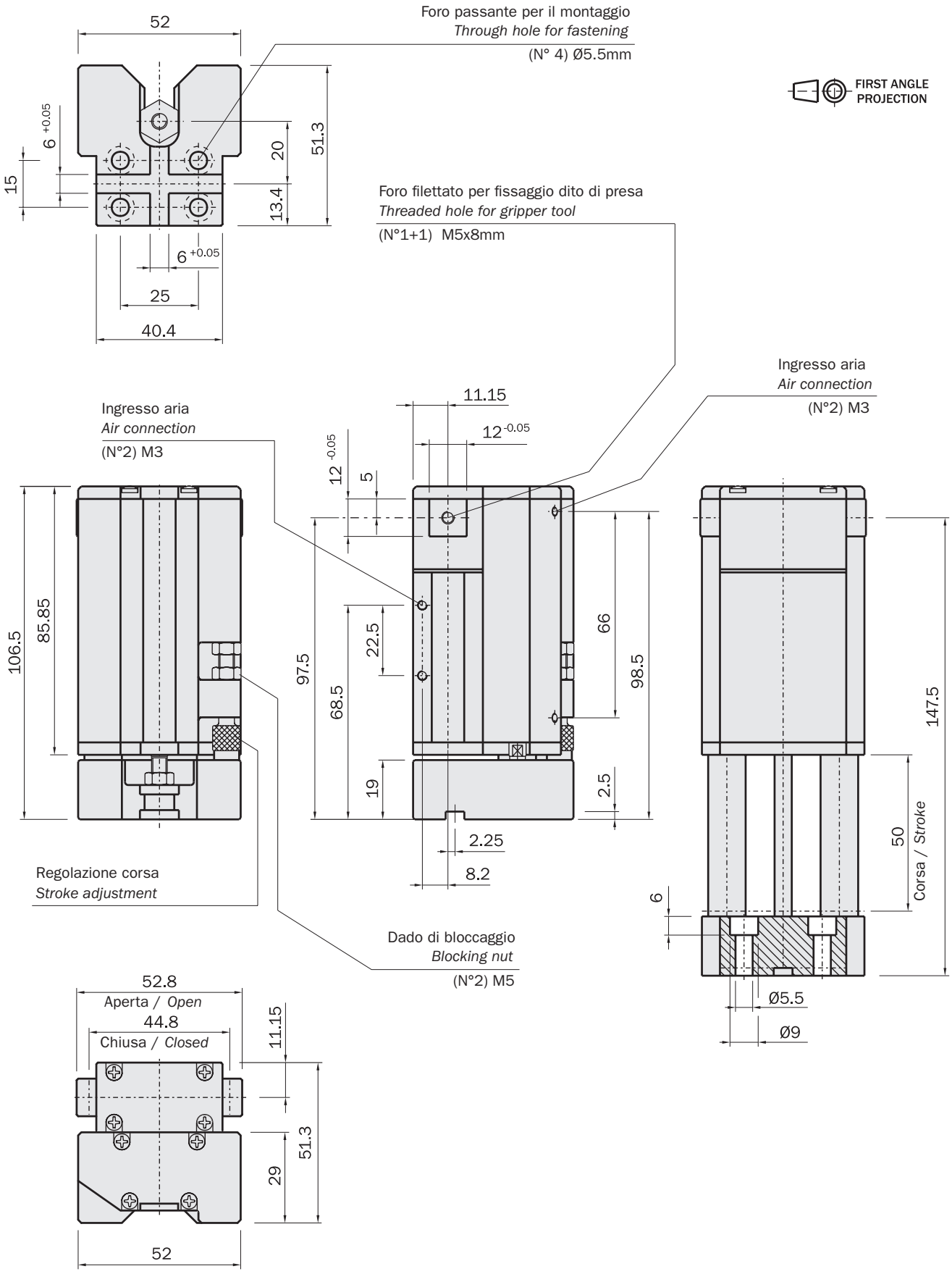
Montaggio su Gimapick / *Mounting on Gimapick*





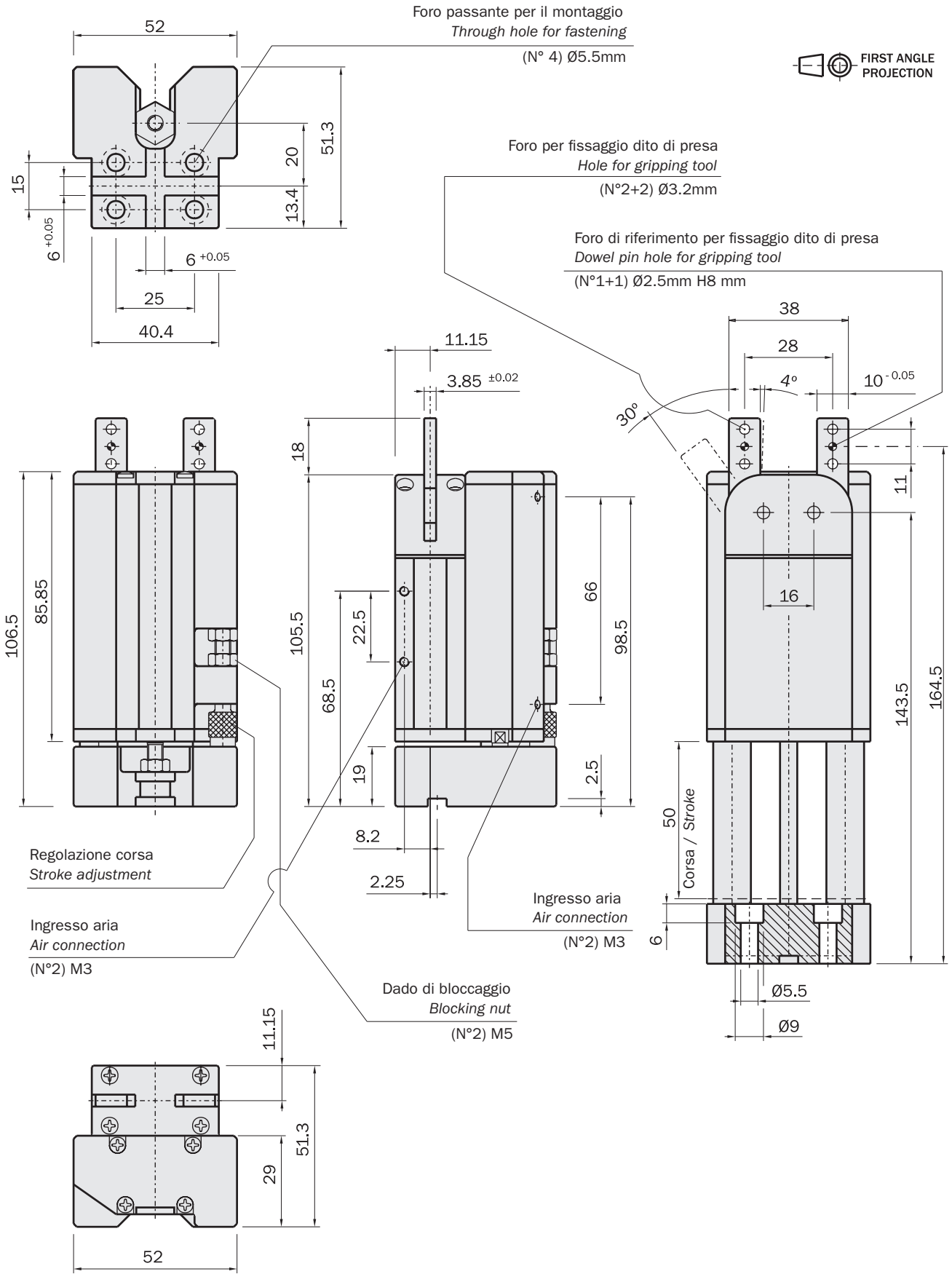
Dimensioni (mm) / *Dimensions (mm)*

PZX-265



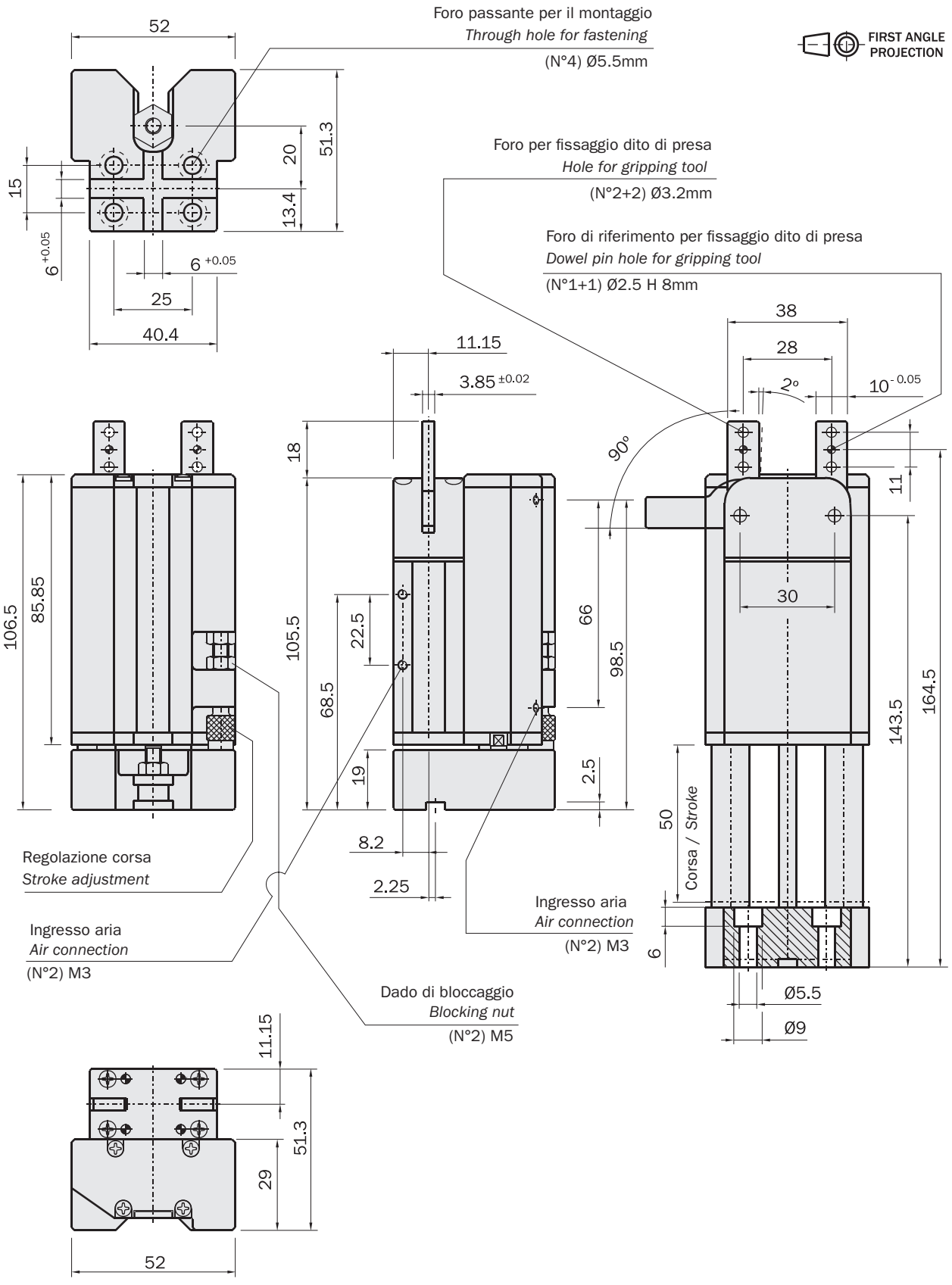
Dimensioni (mm) / *Dimensions (mm)*

AZX-265



Dimensioni (mm) / *Dimensions (mm)*

RZX-265

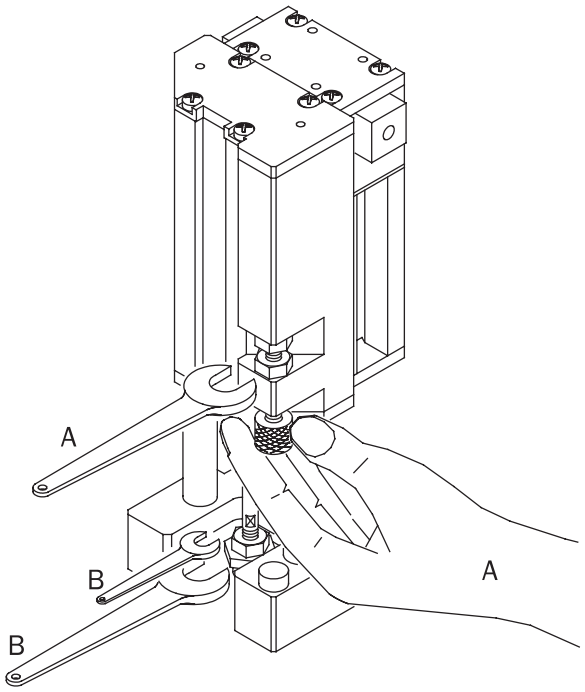


Regolazione della corsa

- A - Regolazione della corsa di chiusura della slitta.
- B - Regolazione della corsa di apertura della slitta.

Stroke adjustment

- *A - Slide retraction stroke adjustment.*
- *B - Slide extension stroke adjustment.*

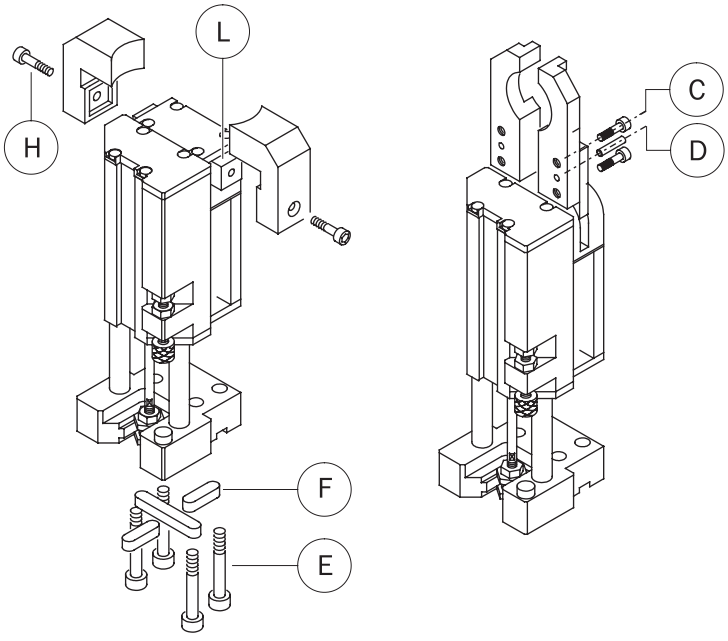


Fissaggio

Costruire le dita di presa il più possibile corte e leggere.
Sulla PZX-265 si fissano con un'unica vite (H) calzandole sulla sagoma quadrata calibrata (L) della griffa.
Sulla AZX-265 e RZX-265 si fissano inserendo due viti nei fori passanti (C) ed una spina nel foro calibrato (D).
L'unità si fissa con quattro viti (E) e si centra con le linguette (F).

Fastening

The gripping tools must be as short and light as possible.
On the PZX-265 they must be attached using an only screw (H) and centered on the square calibrated jaw profile (L).
On AZX-265 and RZX-265 they must be attached on the jaw using two screws in the through holes (C) and one dowel pin in the hole (D).
The unit must be fastened using four screws (E) and centered by the key-slots (F)

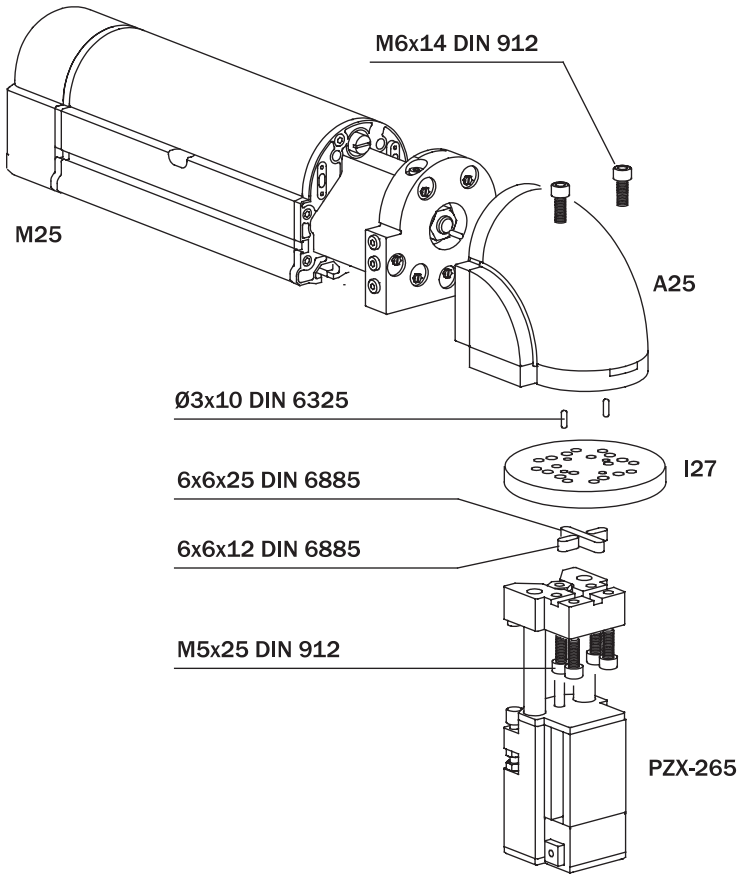


Esempi di applicazioni

Manipolazione su due assi ortogonali con pinza parallela.

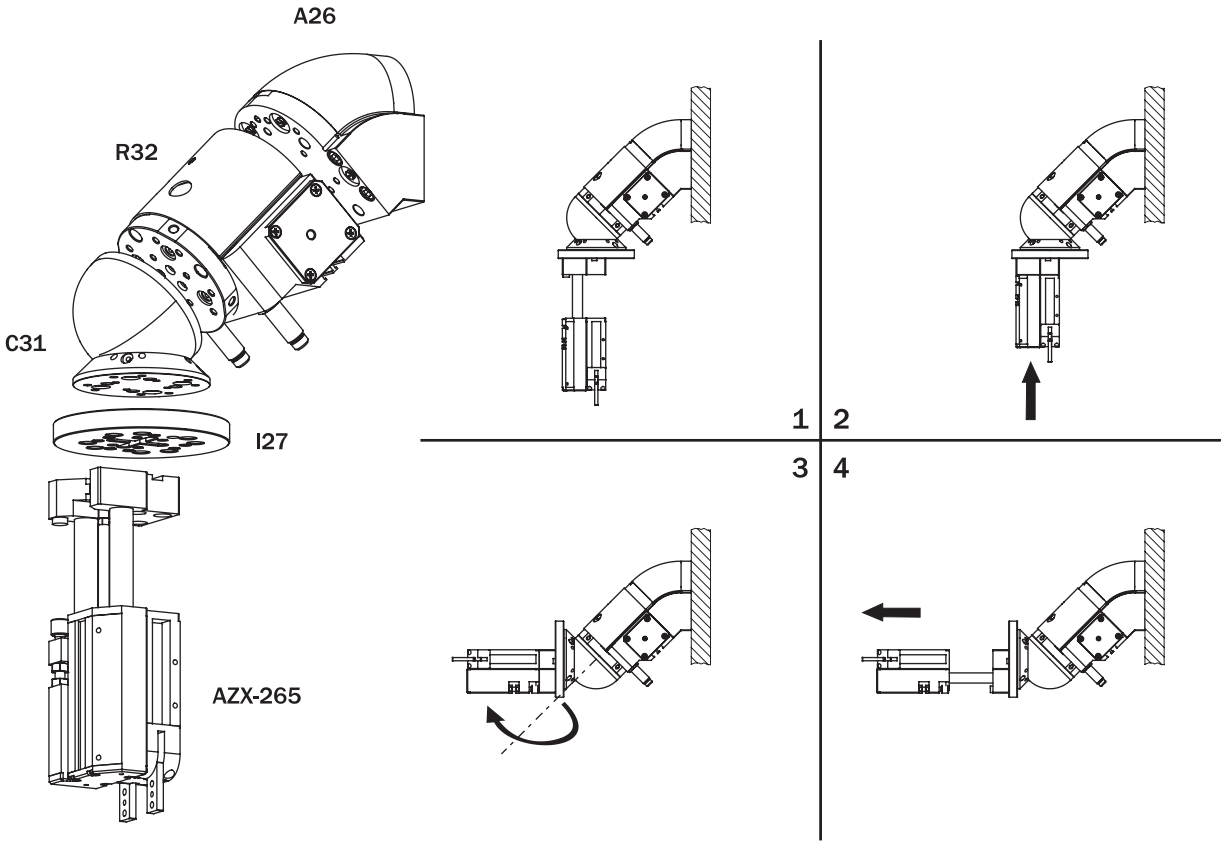
Application examples

Handling with two perpendicular axis by a parallel gripper.



Manipolazione con pinza angolare con presa da un piano orizzontale e deposito su un piano verticale.

Handling by angular gripper picking the load from horizontal plane and placing on vertical plane.

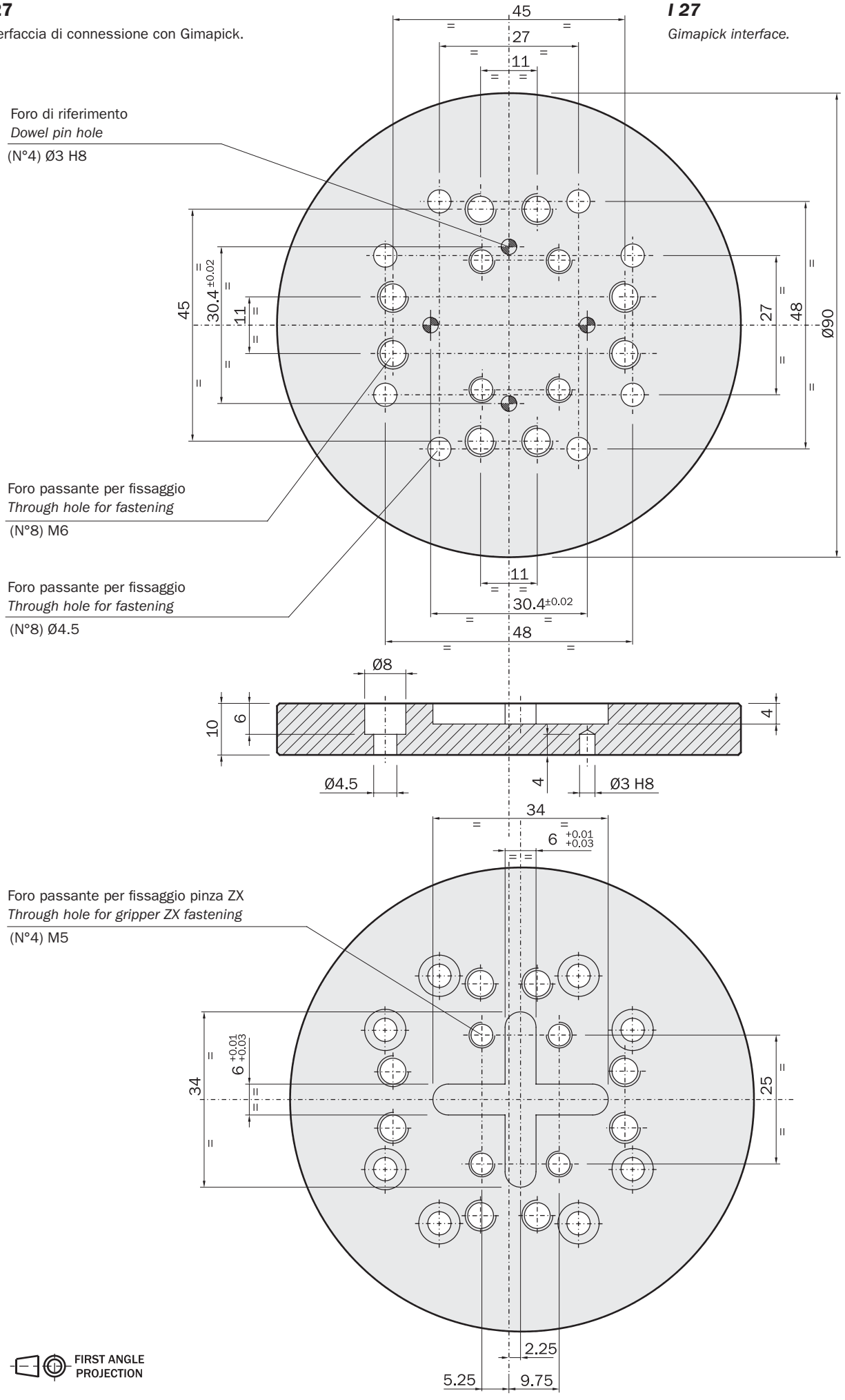


I 27

Interfaccia di connessione con Gimapick.

I 27

Gimapick interface.

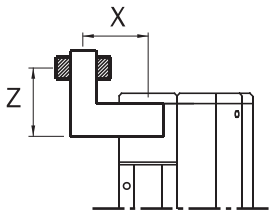


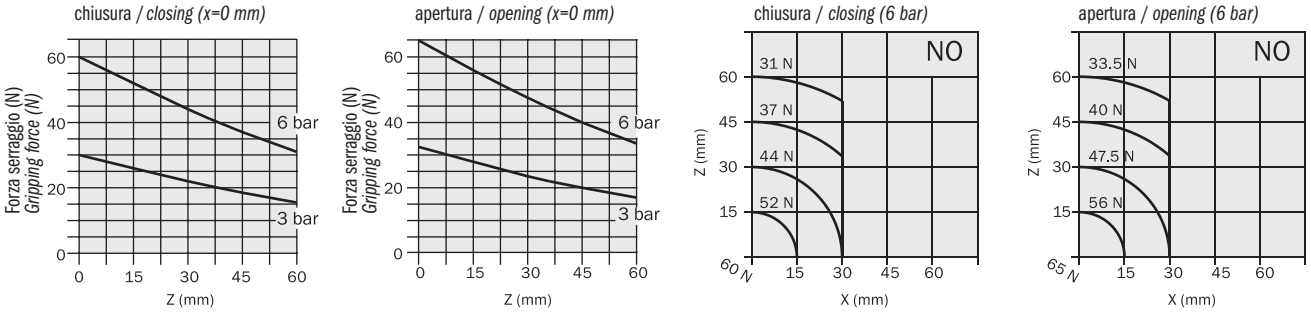
Forza di serraggio

PZX-265 I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

Gripping force

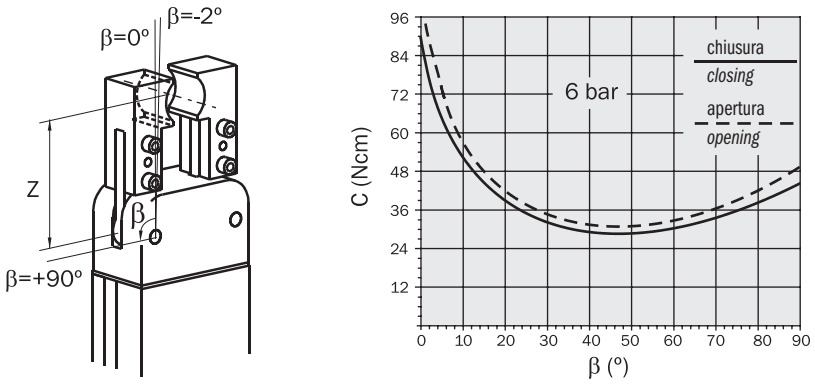
PZX-265 The graphs show the gripping force on each jaw, as function of the operating pressure, of the gripping tool length Z and overhanging X.





RZX-265 Il grafico mostra la coppia per griffa espressa dalla pinza in funzione della posizione angolare ß della griffa.

RZX-265 The graph shows the gripping torque on each jaw, as function of the angular position ß of the jaw.



Forza serraggio / *Gripping force* $F=\frac{C}{Z}$

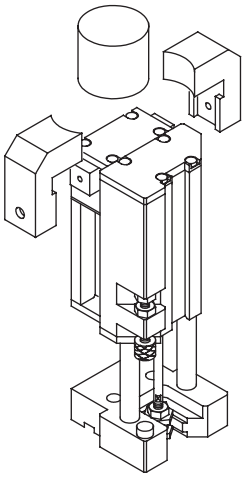
Carico trasportabile dalla slitta

La tabella seguente riporta il valore massimo ammissibile della massa [g] trasportabile (carico più dita) in funzione della corsa [mm] effettuata dalla slitta e del tempo impiegato [s].

Maximum permitted load on the slide

The following table shows the maximum permitted mass [g] value (pay-load plus gripping tools) as function of stroke [mm] and time [s].

Tempo / *Time*	Corsa / *Stroke*		
	50 mm	30 mm	10 mm
0.04 s	-	-	51 g
0.06 s	-	-	137 g
0.08 s	-	76 g	257 g
0.10 s	-	174 g	411 g
0.12 s	88 g	294 g	600 g
0.14 s	192 g	436 g	823 g
0.16 s	312 g	600 g	1080 g
0.18 s	448 g	785 g	-
0.20 s	600 g	993 g	-
0.22 s	768 g	-	-
0.24 s	952 g	-	-
0.26 s	1152 g		

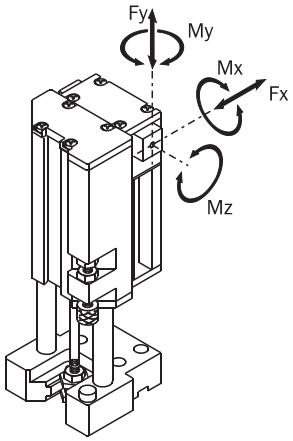


Carichi di sicurezza

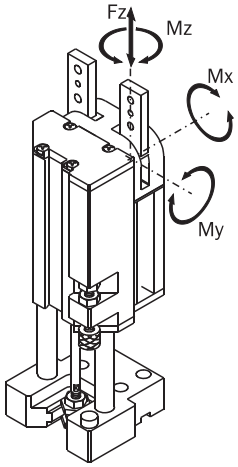
Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare l'unità e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Fx s, Fy s, Fz s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
Fx d, Fy d, Fz d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m sono le masse ammissibili per ogni dito di presa in funzione del tempo di apertura o chiusura.
I grafici indicano il momento di inerzia massimo ammissibile per ogni dito di presa (J), in funzione del tempo di apertura o chiusura delle griffe (t).
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

Safety loads

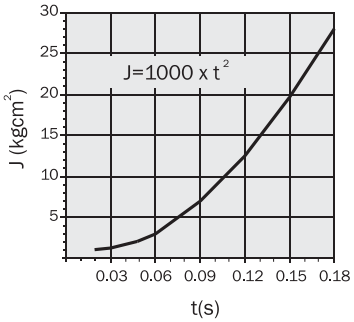
Check the table for maximum permitted loads.
Excessive forces or torques can damage the unit, cause functioning troubles and endanger the safety of the operator.
Fx s, Fy s, Fz s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
Fx d, Fy d, Fz d, Mx d, My d, Mz d, are maximum permitted dynamic loads. Dynamic means with running jaws.
m are the maximum loads on each gripping tool as function of closing or opening time.
The graphs show the maximum permitted moment of inertia on each gripping tool (J), as factor of the opening or closing time (t).
Use flow controllers (not supplied) to get the proper speed.

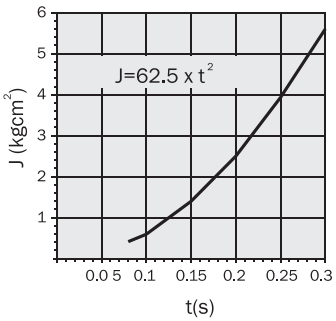


	PZX-265
Fx s	80 N
Fy s	60 N
Mx s	3.0 Nm
My s	2.0 Nm
Mz s	2.0 Nm
Fx d	1 N
Fy d	1 N
Mx d	3.0 Ncm
My d	2.0 Ncm
Mz d	2.0 Ncm
m 0.1s	80 g
m 0.05s	60 g
m 0.02s	50 g



	AZX-265	RZX-265
Fz s	60 N	80 N
Mx s	1.4 Nm	2.0 Nm
My s	1.4 Nm	1.4 Nm
Mz s	1.4 Nm	2.0 Nm
J	1000 x t^2	62.5 x t^2





Sensori

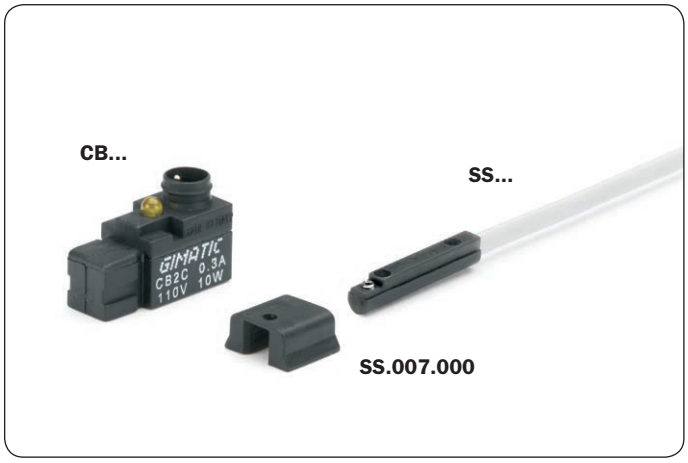
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione dei magneti inseriti nei pistoni.
Quindi, per un corretto funzionamento, è da evitare la vicinanza di forti campi magnetici o di grosse masse di materiale ferromagnetico.

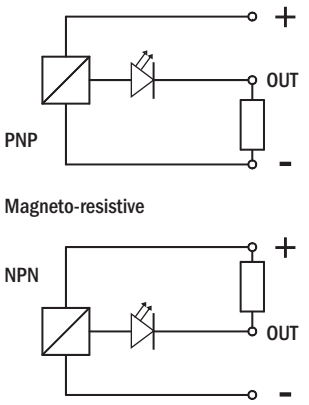
Sensors

The operating position is detected by magnetic proximity sensors (optional) through magnets placed on the pistons.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:

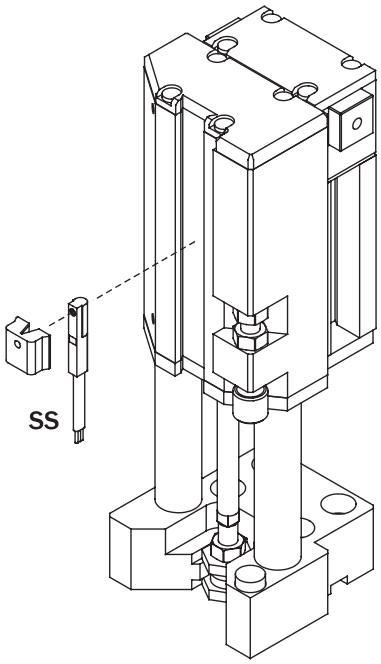


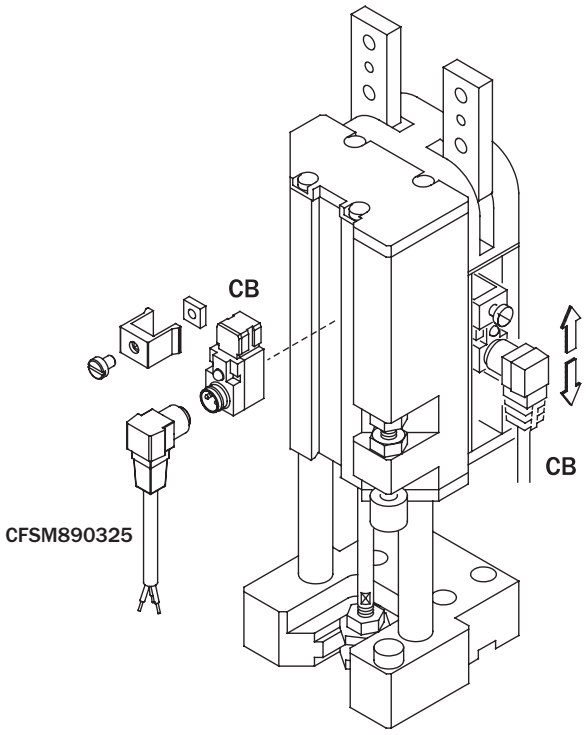


			PZX-265	AZX-265	RZX-265
CB3N2-G	PNP	Connettore snap / Snap connector	☑	☑	☑
CB3M2-G	NPN	Connettore snap / Snap connector	☑	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)

(1)
Utilizzando l'adattatore (SS.007.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.007.000) provided with the pack K-SENS.



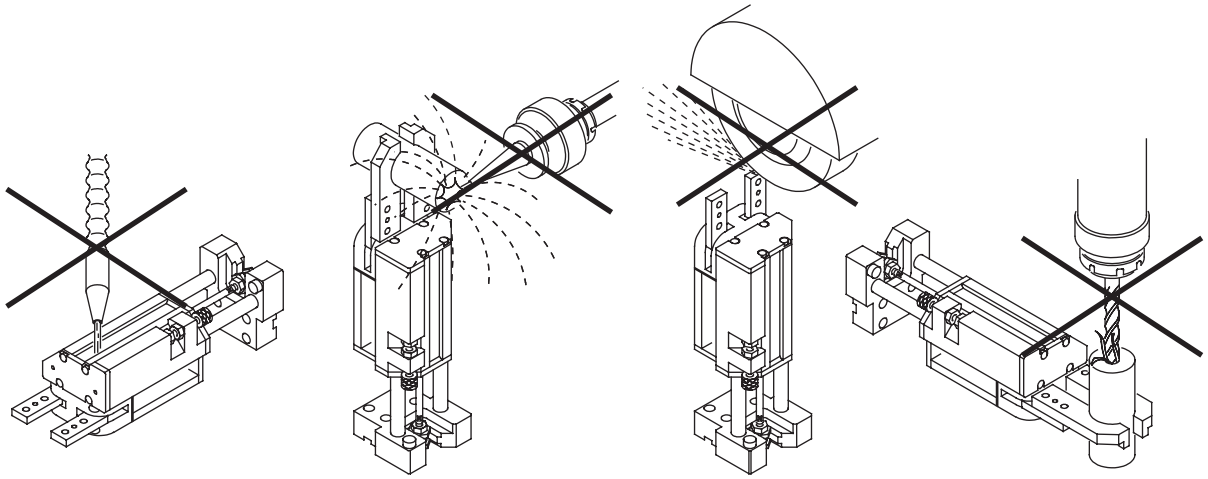


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità dell'unità.
Per nessun motivo, persone od oggetti estranei devono entrare nel suo raggio d'azione.
L'unità non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the unit.
Never let non-authorized persons or objects stand within the operating range of the unit.
Never operate the unit if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

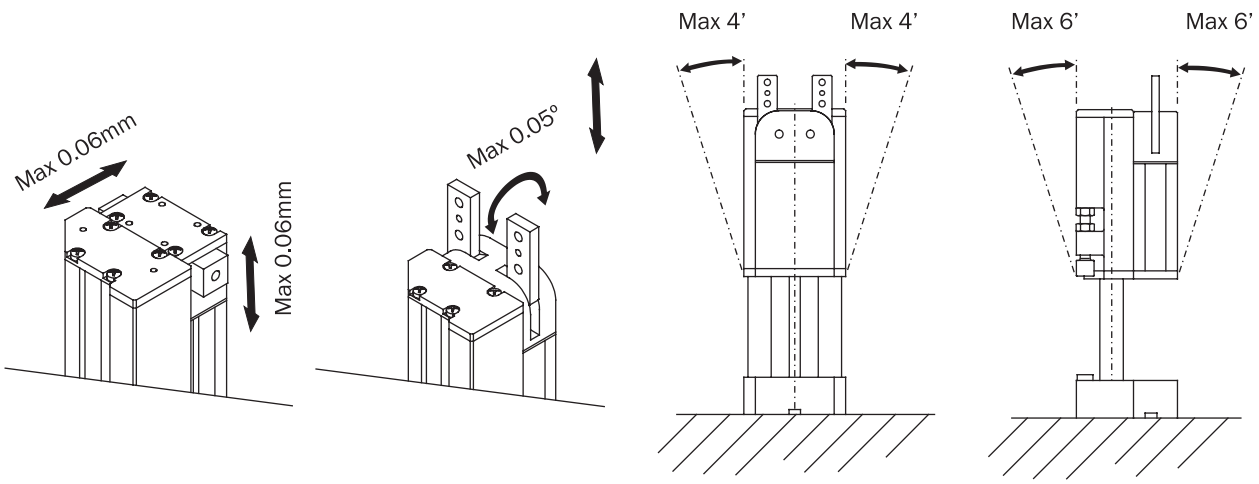
L'unità va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

La pinza e la slitta in massima estensione hanno giochi inferiori a quelli qui indicati.

Maintenance

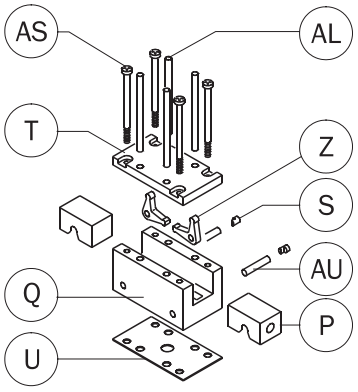
Grease the unit after 10 million cycles with:
- *Molykote DX (metal on metal).*
- *Molykote PG75 (gaskets).*

For the gripper and the slide on maximum extension the backlashes are lower than those here indicated.

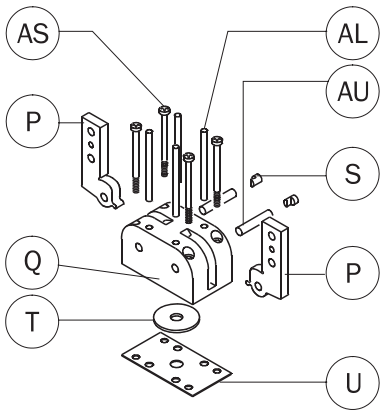


Elenco delle parti / *Parts*

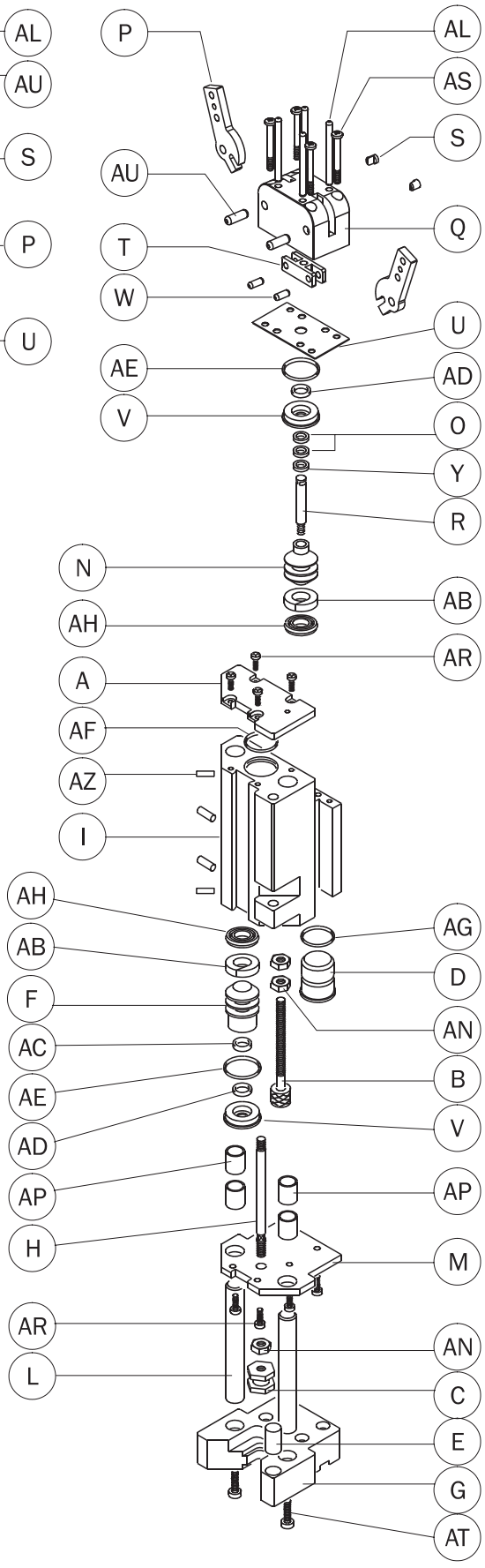
PZX-265



AZX-265



RZX-265



	PZX-265	AZX-265	RZX-265
A	GZX-165-1		
B	GZX-165-2		
C	GZX-165-3		
D	GZX-165-4	GZX-165-4	RZX-265-1
E	GZX-165-5		
F	GZX-165-7		
G	GZX-165-8		
H	GZX-165-9		
I	GZX-165-10		
L	ZX-165-4		
M	GZX-165-11		
N	XP-16-2	XP-16-2	RZX-265-2
O	XA-20-3	(2x) XA-20-3	-
P	XP-20-4	XA-20-1	XR-20-4
Q	XP-16-8	XR-16-2	XR-20-5
R	XP-16-7	XA-20-2	RZX-265-3
S	XP-16-11	XR-16-4	XR-16-4
T	XP-16-5	XR-16-5	XR-20-3
U	XP-16-10	XP-16-10	XP-16-10
V	XP-16-12	XP-16-12	XP-16-12
W	-	-	Ø3x8mm DIN 6325
Z	XP-16-6	-	-
Y	XP-16-3	XP-16-3	-
AB	PS-0016-P09		
AC	O-ring “PARKER” cod. 2-202 Viton		
AD	O-ring “PARKER” cod. 2-009		
AE	O-ring “PARKER” cod. 2-015		
AF	O-ring “PARKER” cod. 2-016		
AG	O-ring “PARKER” cod. 2-014		
AH	“PARKER” cod. PZ-1605 N3571		
AL	Ø3x33.5mm DIN 6325		
AN	INOX A2 M5 DIN 934		
AP	IGUS cod. JSM-12-14-15		
AR	INOX A2 M2.5x8mm DIN 7985		
AS	M2.5x30mm	INOX A2 M2.5x25mm DIN 7985	
AT	INOX A2 M4x16mm DIN 7985		
AU	Ø3x12mm DIN 6325	Ø4x12mm DIN 6325	Ø4x12mm DIN 6325
AZ	PAR-10-15B		

Connessione pneumatica

La pinza e la slitta si alimentano con aria compressa dai fori laterali montandovi i raccordi dell'aria M3 ed i relativi tubi (non forniti).

Aria compressa in S: apertura della pinza.
Aria compressa in P: chiusura della pinza.
Aria compressa in Q: estensione della slitta.
Aria compressa in R: ritrazione della slitta.

L'unità è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita dell'unità.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

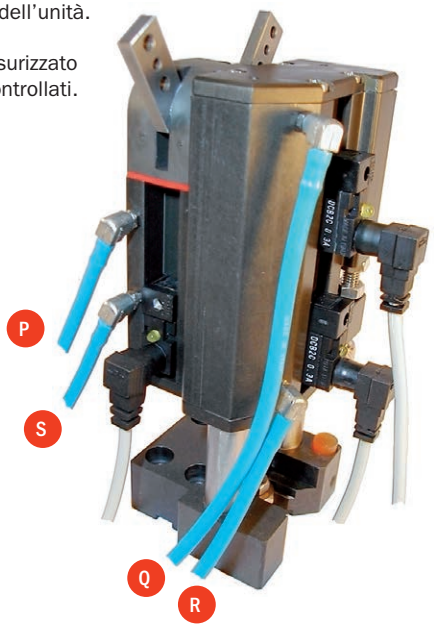
Compressed air feeding

The gripper and the slide are fed with compressed air through the side air ports with fittings M3 and relevant hoses (not supplied).

Compressed air in S: gripper opening.
Compressed air in P: gripper closing.
Compressed air in Q: extension of the slide.
Compressed air in R: retraction of the slide.

The compressed air, must be filtered from 5 to 40 µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

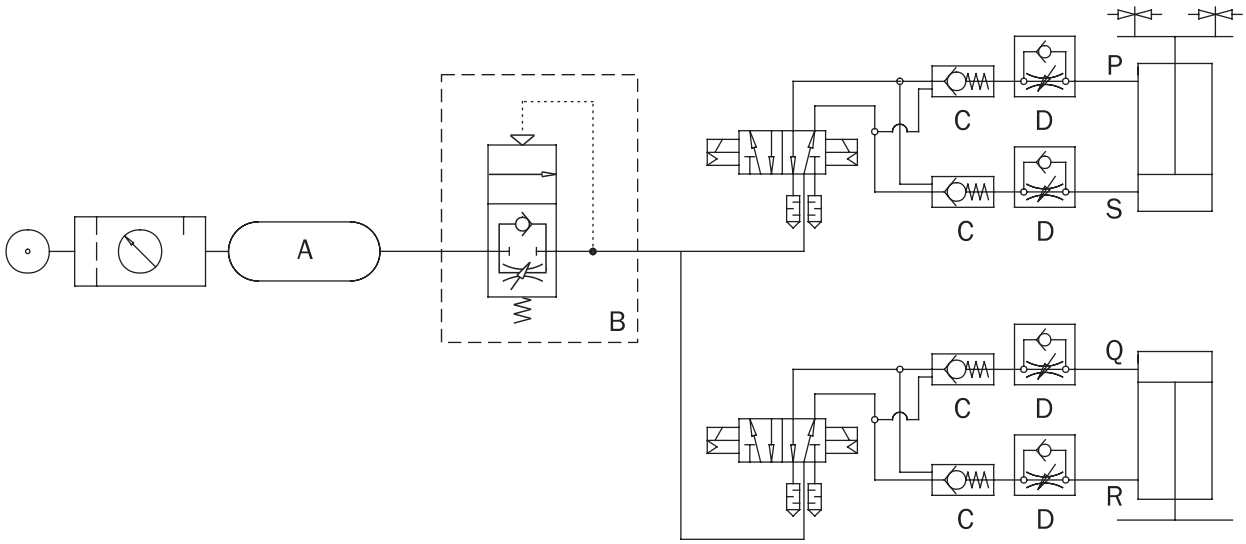
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing.
3- Sudden pressure black-out.
4- Excessive actuating speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

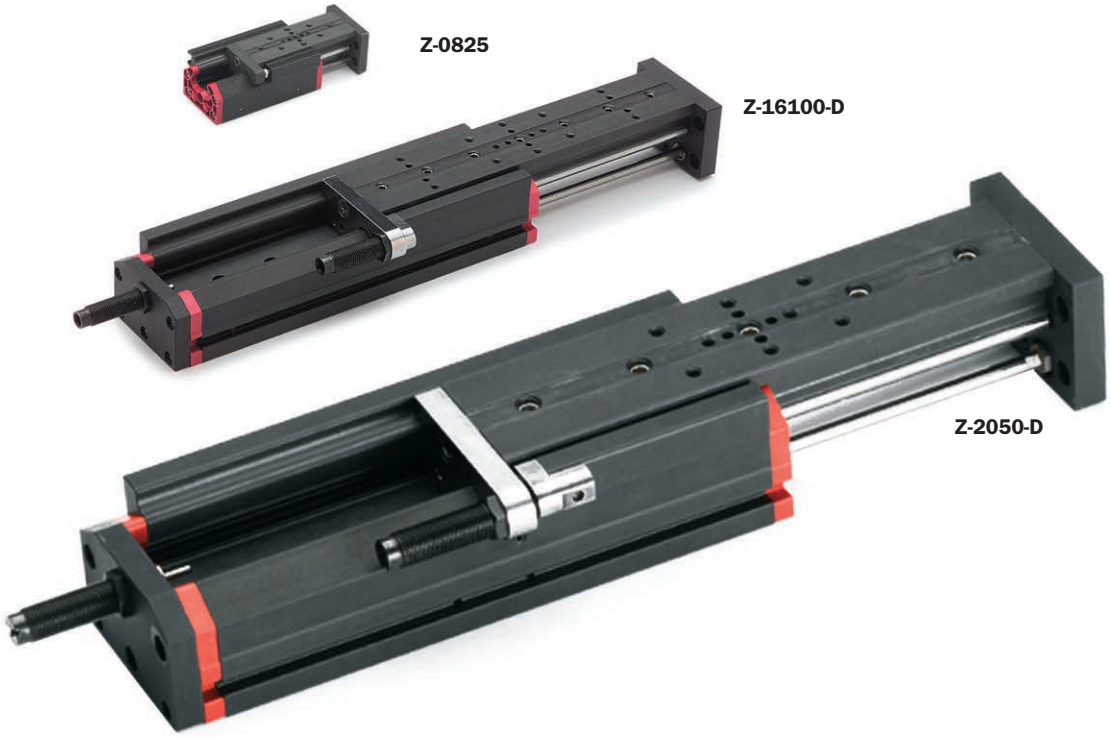


Slitte pneumatiche (serie Z)

- Alesaggio 2x8mm, 2x16mm oppure 2x20mm .
- Corsa 25mm, 50mm, 100mm, 150mm e 200mm .
- Con o senza deceleratori.
- Azionamento a doppio effetto.
- Rapporto qualità / prezzo molto favorevole.
- Sensori magnetici opzionali.

Pneumatic slides (series Z)

- *Bore 2x8mm, 2x16 or 2x20mm .*
- *Stroke 25mm, 50mm, 100mm, 150mm and 200mm .*
- *With or without shock-absorbers.*
- *Double acting.*
- *Very favorable performance/price ratio.*
- *Optional magnetic sensors.*

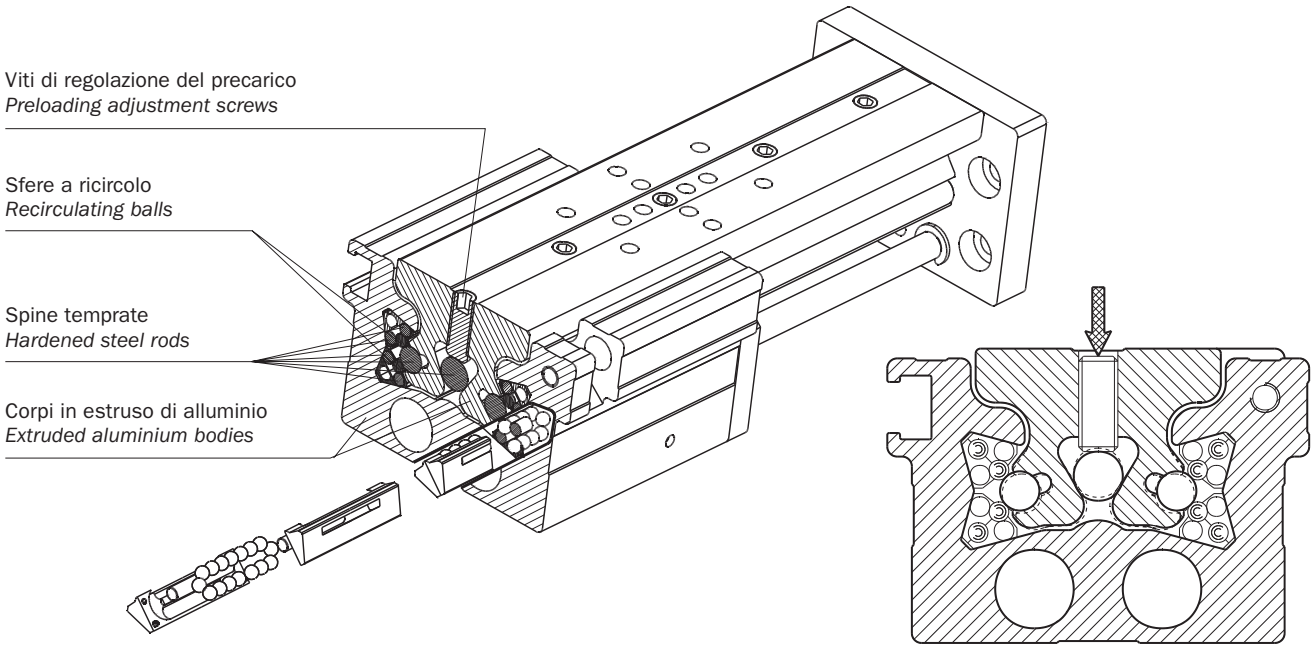


Guida di scorrimento a ricircolo di sfere registrabile

- Struttura in estruso di alluminio quindi peso ridotto.
- Grande rigidità dovuta alle guide in acciaio temprato inserite nella struttura.
- Guida a ricircolo di sfere a bassa usura e lunga durata di vita.
- Possibilità di registrazione del precarico sulla guida con recupero dei possibili giochi.

Adjustable recirculating ball-bearing system

- *Low weight as made from extruded aluminium profile.*
- *High stiffness thanks to the inserted hardened steel rods for guidance.*
- *Recirculating ball-bearing system provides wear resistance and extended performances.*
- *Possible adjustment of the preloading and taking up slack.*



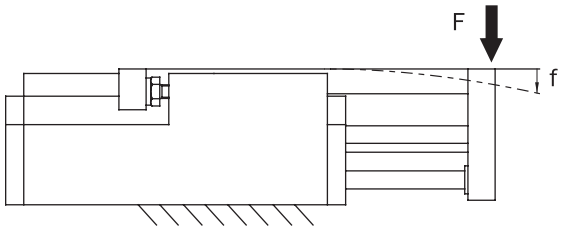
	Z-0825	Z-0825-D	Z-0850	Z-0850-D
Peso *Weight*	230 g	270 g	320 g	360 g
Ripetibilità *Repetition accuracy*	0.2 mm	0.02 mm	0.2 mm	0.02 mm
Tempo di azionamento minimo *Minimum actuating time*	0.054 s	0.100 s	0.080 s	0.130 s
Frequenza massima di lavoro *Maximum working frequency*	2 Hz	1 Hz	2 Hz	1 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	6 cm^3		11 cm^3	
Corsa totale massima *Maximun total stroke*	25 mm		50 mm	
Forza di apertura a 6 bar *Extension force at 6 bar*	50 N			
Forza di chiusura a 6 bar *Retraction force at 6 bar*	37 N			
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.			

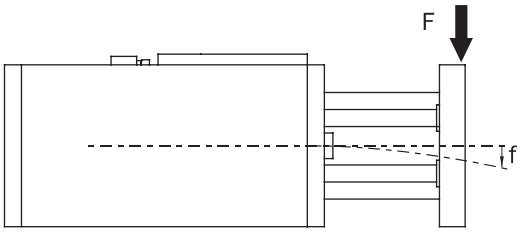
Flessione

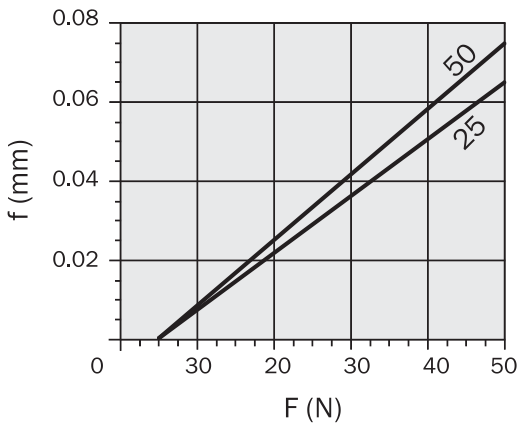
Il grafico mostra la flessione f (mm) nei due sensi indicati, in funzione della forza F (N) e della corsa della slitta.

Deflection

The graph shows the deflection f (mm) in two showed directions, as function of the force F (N) and the stroke of the slide.







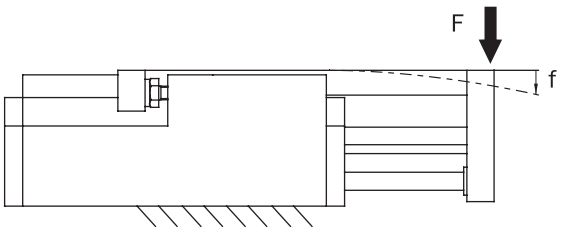
	Z-1650	Z-1650-D	Z-16100	Z-16100-D	Z-16150	Z-16150-D
Peso *Weight*	620 g	730 g	1010 g	1120 g	1340 g	1450 g
Ripetibilità *Repetition accuracy*	0.2 mm	0.02 mm	0.2 mm	0.02 mm	0.2 mm	0.02 mm
Tempo di azionamento minimo *Minimum actuating time*	0.080 s	0.100 s	0.120 s	0.150 s	0.220 s	0.230 s
Frequenza massima di lavoro *Maximum working frequency*	2 Hz	1 Hz	2 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	44 cm^3		95 cm^3		141 cm^3	
Corsa totale massima *Maximun total stroke*	50 mm		100 mm		150 mm	
Forza di apertura a 6 bar *Extension force at 6 bar*	200 N					
Forza di chiusura a 6 bar *Retraction force at 6 bar*	170 N					
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.					

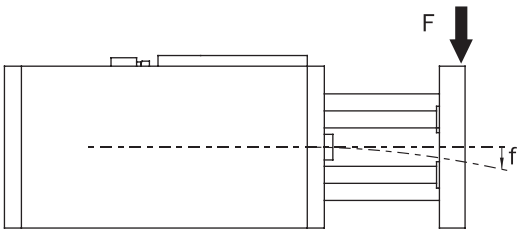
Flessione

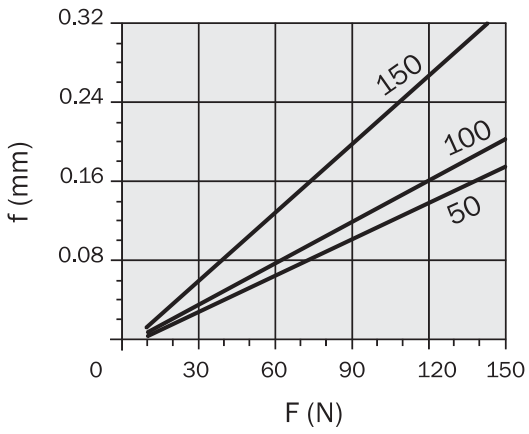
Il grafico mostra la flessione f (mm) nei due sensi indicati, in funzione della forza F (N) e della corsa della slitta.

Deflection

The graph shows the deflection f (mm) in two showed directions, as function of the force F (N) and the stroke of the slide.







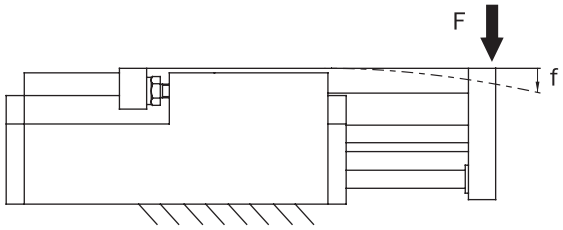
	Z-2050-D	Z-20100-D	Z-20150-D	Z-20200-D
Peso *Weight*	1300 g	1950 g	2500 g	3100 g
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Tempo di azionamento minimo *Minimum actuating time*	0.12 s	0.19 s	0.26 s	0.31 s
Frequenza massima di lavoro *Maximum working frequency*	1 Hz	1 Hz	1 Hz	1 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	76 cm^3	155 cm^3	227 cm^3	310 cm^3
Corsa totale massima *Maximun total stroke*	50 mm	100 mm	150 mm	200 mm
Forza di apertura a 6 bar *Extension force at 6 bar*	330 N			
Forza di chiusura a 6 bar *Retraction force at 6 bar*	300 N			
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Temperature range*	5 ÷ 60°C.			

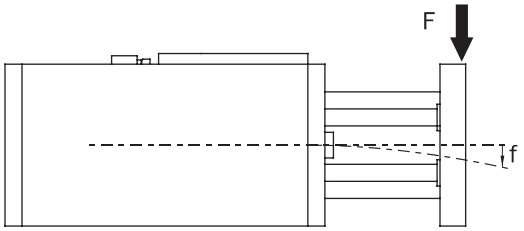
Flessione

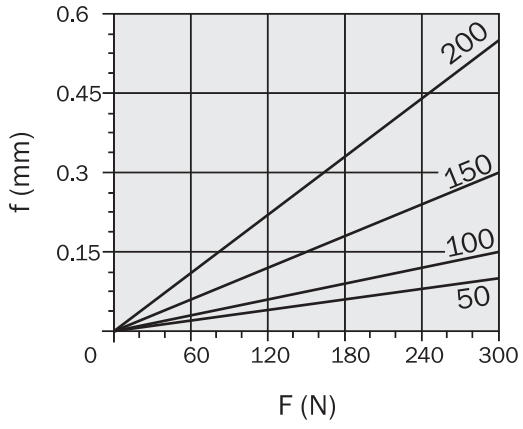
Il grafico mostra la flessione f (mm) nei due sensi indicati, in funzione della forza F (N) e della corsa della slitta.

Deflection

The graph shows the deflection f (mm) in two showed directions, as function of the force F (N) and the stroke of the slide.







Carichi di sicurezza

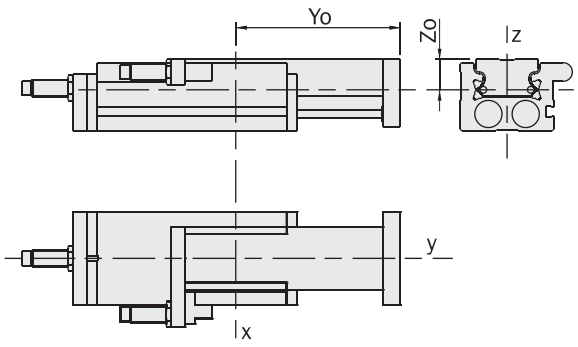
Controllare le tabelle sottostanti.
Carichi eccessivi possono danneggiare la slitta, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Fx s, Fz s, Mx s, My s, Mz s sono i carichi statici massimi ammissibili.
Fx d, Fz d, Mx d, My d, Mz d sono i massimi carichi dinamici ammissibili.
È indicato il minimo tempo di azionamento t in funzione della massa trasportata m.
(*) Quando il tempo e la massa comportano un'eccessiva energia cinetica si deve diminuire la velocità con regolatori di flusso (non forniti).

Safety loads

Check the tables below.
Excessive loads can damage the slide, cause functioning troubles and endanger the safety of the operator.
Fx s, Fz s, Mx s, My s, Mz s are maximum permitted static loads.
Fx d, Fz d, Mx d, My d, Mz d are maximum permitted dynamic loads.
It is also indicated the minimum actuating time t as a factor of the pay-load m.
(*) When the actuating time and the pay-load produce an excessive kinetic energy you must reduce the speed by flow controllers (not supplied).

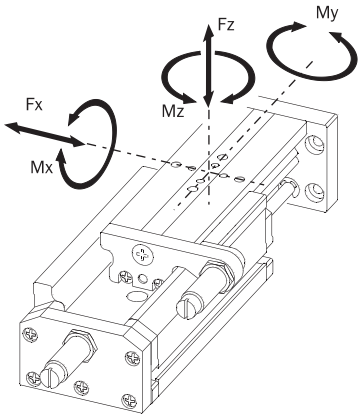
	Z-0825 Z-0825-D	Z-0850 Z-0850-D	Z-1650 Z-1650-D	Z-16100 Z-16100-D	Z-16150 Z-16150-D	Z-2050-D	Z-20100-D	Z-20150-D	Z-20200-D
Zo	14.5 mm	14.5 mm	18 mm	18 mm	18 mm	24 mm	24 mm	24 mm	24 mm
Yo	57 mm	87 mm	97mm	157 mm	217 mm	102 mm	167 mm	227 mm	295 mm
Fx s	60 N	60 N	200 N	250 N	250 N	250 N	350 N	350 N	450 N
Fz s	60 N	60 N	200 N	250 N	250 N	250 N	350 N	350 N	450 N
Mx s	3 Nm	6 Nm	12 Nm	24 Nm	30 Nm	15 Nm	36 Nm	45 Nm	66 Nm
My s	3 Nm	3 Nm	15 Nm	24 Nm	24 Nm	24 Nm	36 Nm	36 Nm	48 Nm
Mz s	3 Nm	6 Nm	12 Nm	24 Nm	30 Nm	15 Nm	36 Nm	45 Nm	66 Nm
Fx d	10 N	10 N	40 N	50 N	50 N	50 N	70 N	70 N	80 N
Fz d	10 N	10 N	40 N	50 N	50 N	50 N	70 N	70 N	80 N
Mx d	0.5 Nm	1 Nm	2 Nm	4 Nm	5 Nm	2.5 Nm	6 Nm	7.5 Nm	11 Nm
My d	0.5 Nm	0.5 Nm	2.5 Nm	4 Nm	4 Nm	4 Nm	6 Nm	6 Nm	8 Nm
Mz d	0.5 Nm	1 Nm	2 Nm	4 Nm	5 Nm	2.5 Nm	6 Nm	7.5 Nm	11 Nm
m max	1 kg	1 kg	4 kg	5 kg	5 kg	5 kg	7 kg	7 kg	8 kg

m	t Z-0825	t Z-0825-D	t Z-0850	t Z-0850-D
0.1 kg	0.054 s	0.180 s	0.113 s (*)	0.140 s
0.2 kg	0.066 s (*)	0.170 s	0.135 s (*)	0.137 s
0.3 kg	0.075 s (*)	0.160 s	0.155 s (*)	0.135 s
0.4 kg	0.084 s (*)	0.150 s	0.172 s (*)	0.133 s
0.5 kg	0.092 s (*)	0.140 s	0.187 s (*)	0.130 s
0.6 kg	0.099 s (*)	0.130 s	0.201 s (*)	0.136 s (*)
0.7 kg	0.106 s (*)	0.120 s	0.215 s (*)	0.142 s (*)
0.8 kg	0.112 s (*)	0.110 s	0.227 s (*)	0.147 s (*)
0.9 kg	0.118 s (*)	0.100 s	0.239 s (*)	0.152 s (*)
1 kg	0.124 s (*)	0.103 s (*)	0.250 s (*)	0.157 s (*)



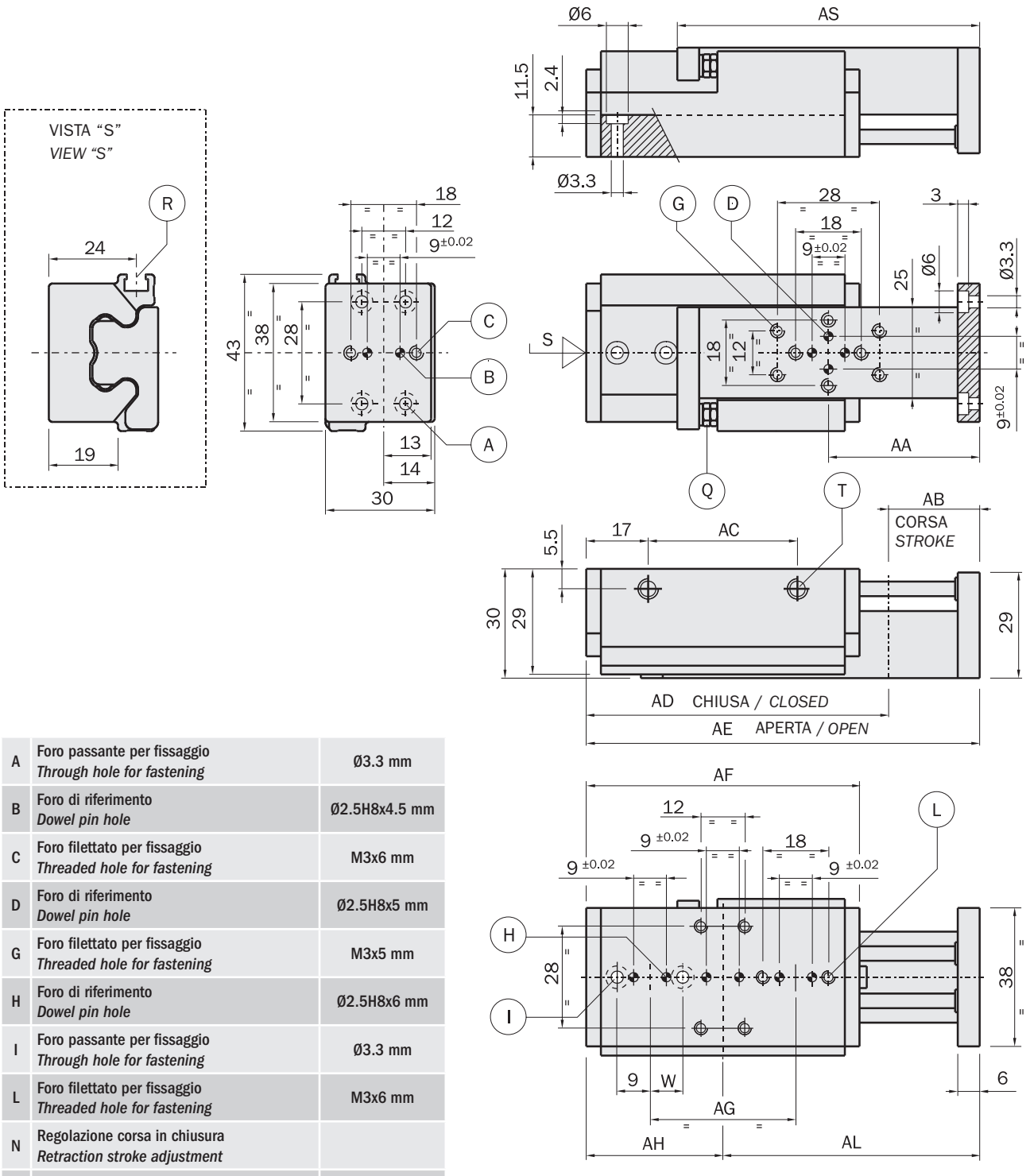
m	t Z-1650	t Z-1650-D	t Z-16100	t Z-16100-D	t Z-16150	t Z-16150-D
0.1 kg	0.080 s	0.120 s	0.163 s (*)	0.160	0.274 s (*)	0.240 s
0.5 kg	0.108 s (*)	0.115 s	0.231 s (*)	0.155	0.367 s (*)	0.230 s
1 kg	0.141 s (*)	0.110 s	0.294 s (*)	0.180 (*)	0.458 s (*)	0.264 s (*)
1.5 kg	0.168 s (*)	0.116 s (*)	0.346 s (*)	0.207 (*)	0.534 s (*)	0.303 s (*)
2 kg	0.191 s (*)	0.128 s (*)	0.392 s (*)	0.230 (*)	0.600 s (*)	0.336 s (*)
2.5 kg	0.212 s (*)	0.138 s (*)	0.432 s (*)	0.251 (*)	0.659 s (*)	0.367 s (*)
3 kg	0.231 s (*)	0.148 s (*)	0.469 s (*)	0.270 (*)	0.714 s (*)	0.395 s (*)
3.5 kg	0.248 s (*)	0.157 s (*)	0.503 s (*)	0.287 (*)	0.765 s (*)	0.421 s (*)
4 kg	0.265 s (*)	0.165 s (*)	0.535 s (*)	0.303 (*)	0.812 s (*)	0.445 s (*)
4.5 kg	-	-	0.566 s (*)	0.319 s (*)	0.857 s (*)	0.468 s (*)
5 kg	-	-	0.594 s (*)	0.334 s (*)	0.900 s (*)	0.490 s (*)

m	t Z-2050-D	t Z-20100-D	t Z-20150-D	t Z-20200-D
1 kg	0.135 s	0.200 s	0.265 s	0.310 s
2 kg	0.130 s	0.195 s	0.260 s	0.319 s (*)
3 kg	0.125 s	0.190 s	0.270 s (*)	0.357 s (*)
4 kg	0.120 s	0.207 s (*)	0.296 s (*)	0.391 s (*)
5 kg	0.129 s (*)	0.224 s (*)	0.320 s (*)	0.422 s (*)
6 kg	-	0.239 s (*)	0.342 s (*)	0.451 s (*)
7 kg	-	0.252 s (*)	0.363 s (*)	0.478 s (*)
8 kg	-	-	-	0.503 s (*)



Dimensioni (mm) / *Dimensions (mm)*

	AA	AB	AC	AD	AE	AF	AG	AH	AL	W	AS
Z-0825	41.5	25	41	83	108	75	40	37.5	70.5	-	83
Z-0850	59	50	76	118	168	110	50	55	113	9	118

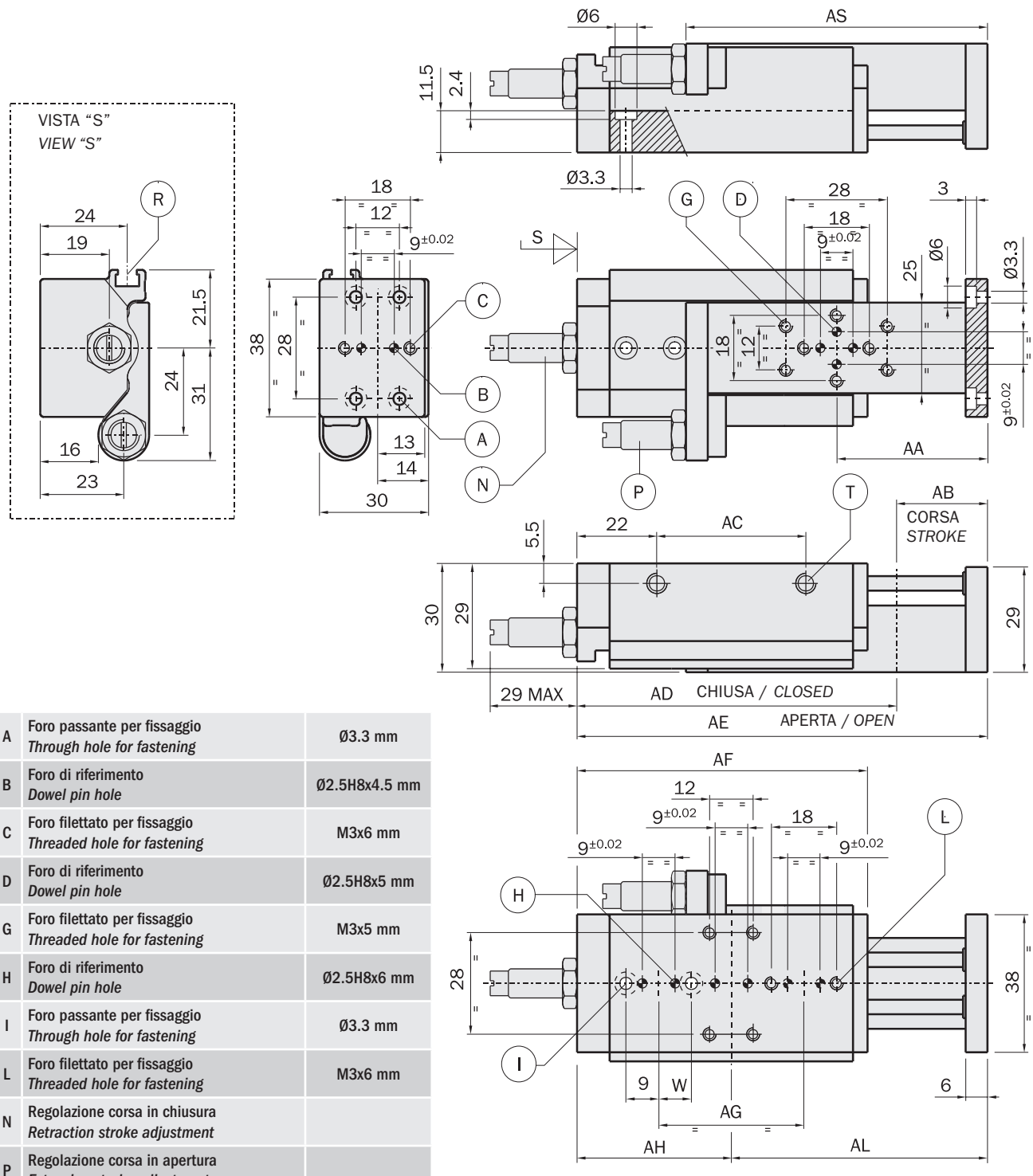


A	Foro passante per fissaggio *Through hole for fastening*	Ø3.3 mm
B	Foro di riferimento *Dowel pin hole*	Ø2.5H8x4.5 mm
C	Foro filettato per fissaggio *Threaded hole for fastening*	M3x6 mm
D	Foro di riferimento *Dowel pin hole*	Ø2.5H8x5 mm
G	Foro filettato per fissaggio *Threaded hole for fastening*	M3x5 mm
H	Foro di riferimento *Dowel pin hole*	Ø2.5H8x6 mm
I	Foro passante per fissaggio *Through hole for fastening*	Ø3.3 mm
L	Foro filettato per fissaggio *Threaded hole for fastening*	M3x6 mm
N	Regolazione corsa in chiusura *Retraction stroke adjustment*	
P	Regolazione corsa in apertura *Extension stroke adjustment*	
R	Sede per sensori Gimatic *Gimatic sensor slot*	
T	Ingresso aria *Air connection*	M5

FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

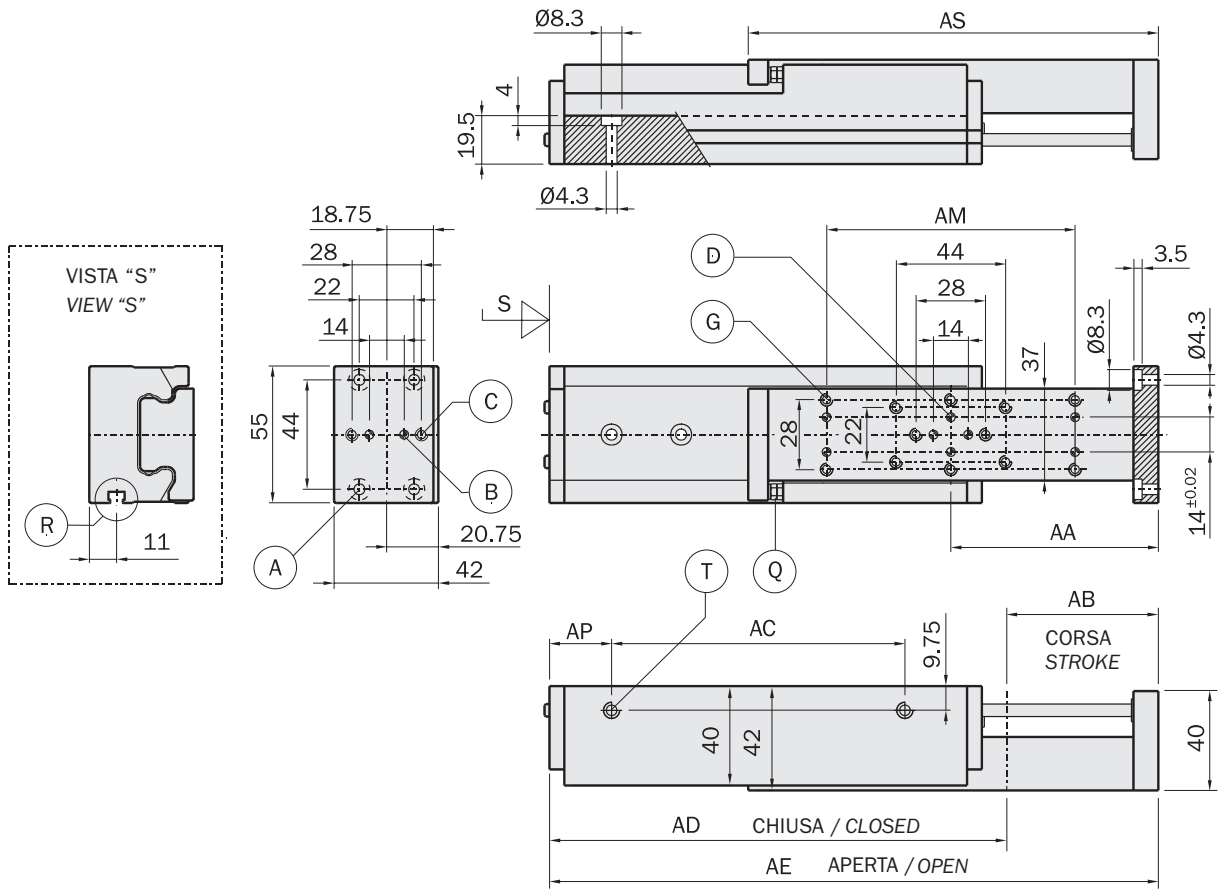
	AA	AB	AC	AD	AE	AF	AG	AH	AL	W	AS
Z-0825-D	41.5	25	41	88	113	80	40	42.5	70.5	-	83
Z-0850-D	59	50	76	123	173	115	50	60	113	9	118



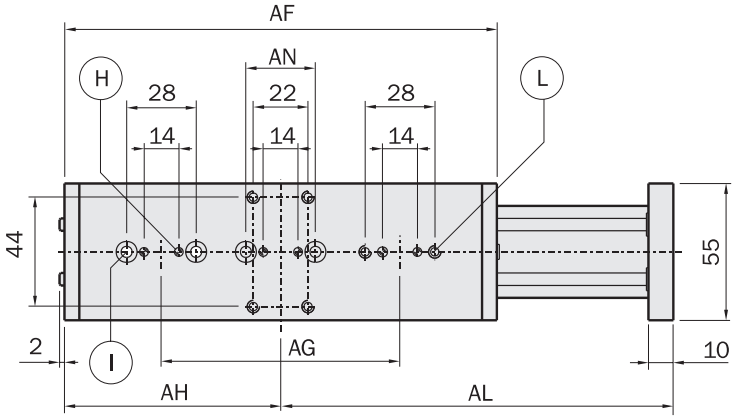
A	Foro passante per fissaggio *Through hole for fastening*	Ø3.3 mm
B	Foro di riferimento *Dowel pin hole*	Ø2.5H8x4.5 mm
C	Foro filettato per fissaggio *Threaded hole for fastening*	M3x6 mm
D	Foro di riferimento *Dowel pin hole*	Ø2.5H8x5 mm
G	Foro filettato per fissaggio *Threaded hole for fastening*	M3x5 mm
H	Foro di riferimento *Dowel pin hole*	Ø2.5H8x6 mm
I	Foro passante per fissaggio *Through hole for fastening*	Ø3.3 mm
L	Foro filettato per fissaggio *Threaded hole for fastening*	M3x6 mm
N	Regolazione corsa in chiusura *Retraction stroke adjustment*	
P	Regolazione corsa in apertura *Extension stroke adjustment*	
R	Sede per sensori Gimatic *Gimatic sensor slot*	
T	Ingresso aria *Air connection*	M5

Dimensioni (mm) / *Dimensions (mm)*

	AA	AB	AC	AD	AE	AF	AG	AH	AL	AM	AN	W	AS
Z-1650	68.5	50	82	135	185	124	62	62	123	-	-	21	135
Z-16100	103.5	100	144	205	305	194	100	97	208	120	-	25	205
Z-16150	138.5	150	204	275	425	264	160	132	293	140	28	30	275



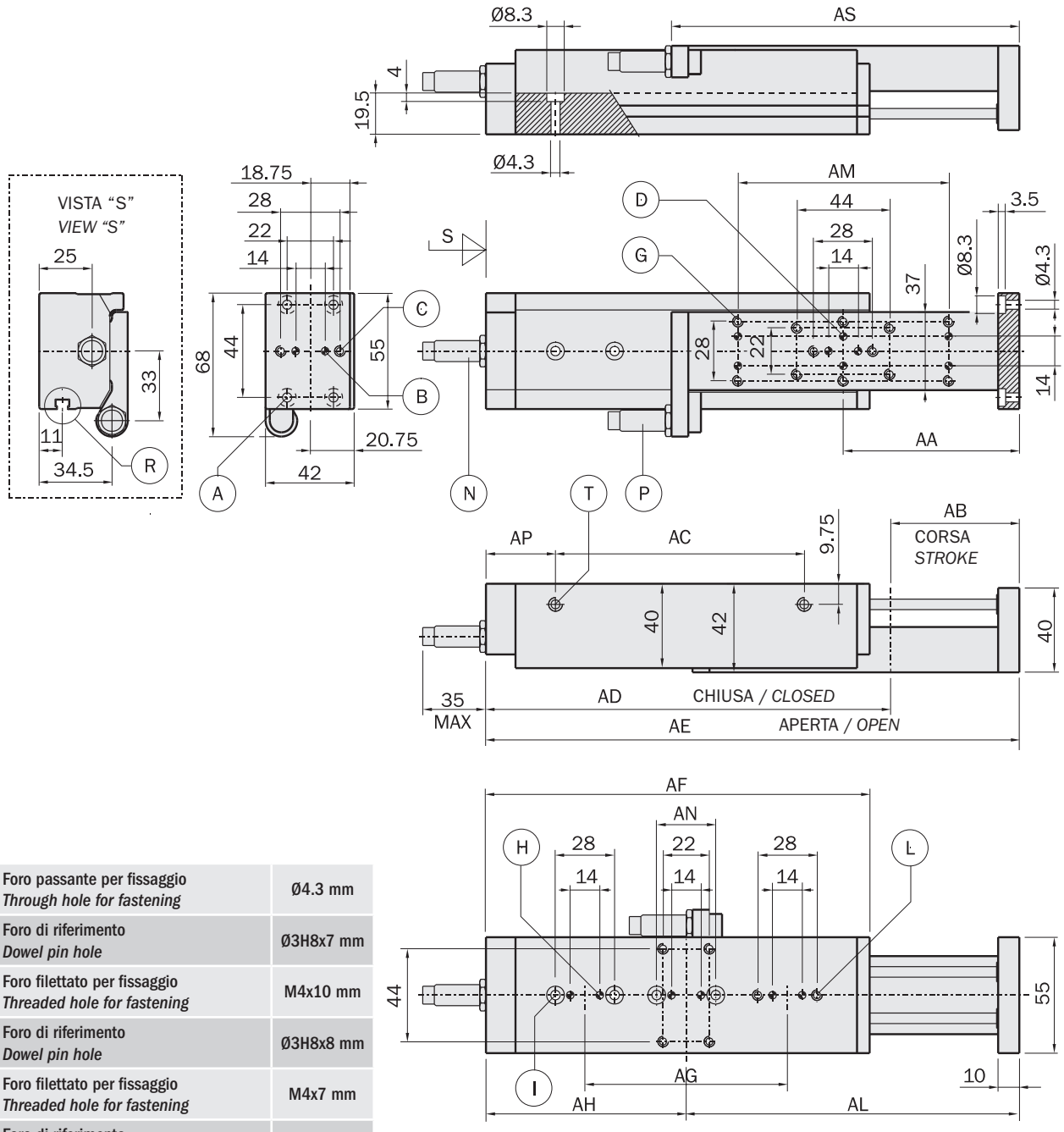
A	Foro passante per fissaggio *Through hole for fastening*	Ø4.3 mm
B	Foro di riferimento *Dowel pin hole*	Ø3H8x7 mm
C	Foro filettato per fissaggio *Threaded hole for fastening*	M4x10 mm
D	Foro di riferimento *Dowel pin hole*	Ø3H8x8 mm
G	Foro filettato per fissaggio *Threaded hole for fastening*	M4x7 mm
H	Foro di riferimento *Dowel pin hole*	Ø3H8x7 mm
I	Foro passante per fissaggio *Through hole for fastening*	Ø4.3 mm
L	Foro filettato per fissaggio *Threaded hole for fastening*	M4x6 mm
Q	Regolazione corsa in apertura *Extension stroke adjustment*	
R	Sede per sensori Gimatic *Gimatic sensor slot*	
T	Ingresso aria *Air connection*	M5



FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

	AA	AB	AC	AD	AE	AF	AG	AH	AL	AM	AN	AP	AS
Z-1650-D	68.5	50	82	143	193	132	62	70	123	-	-	29	135
Z-16100-D	103.5	100	144	213	313	202	100	105	208	120	-	33	205
Z-16150-D	138.5	150	204	283	433	272	160	140	293	140	28	38	275

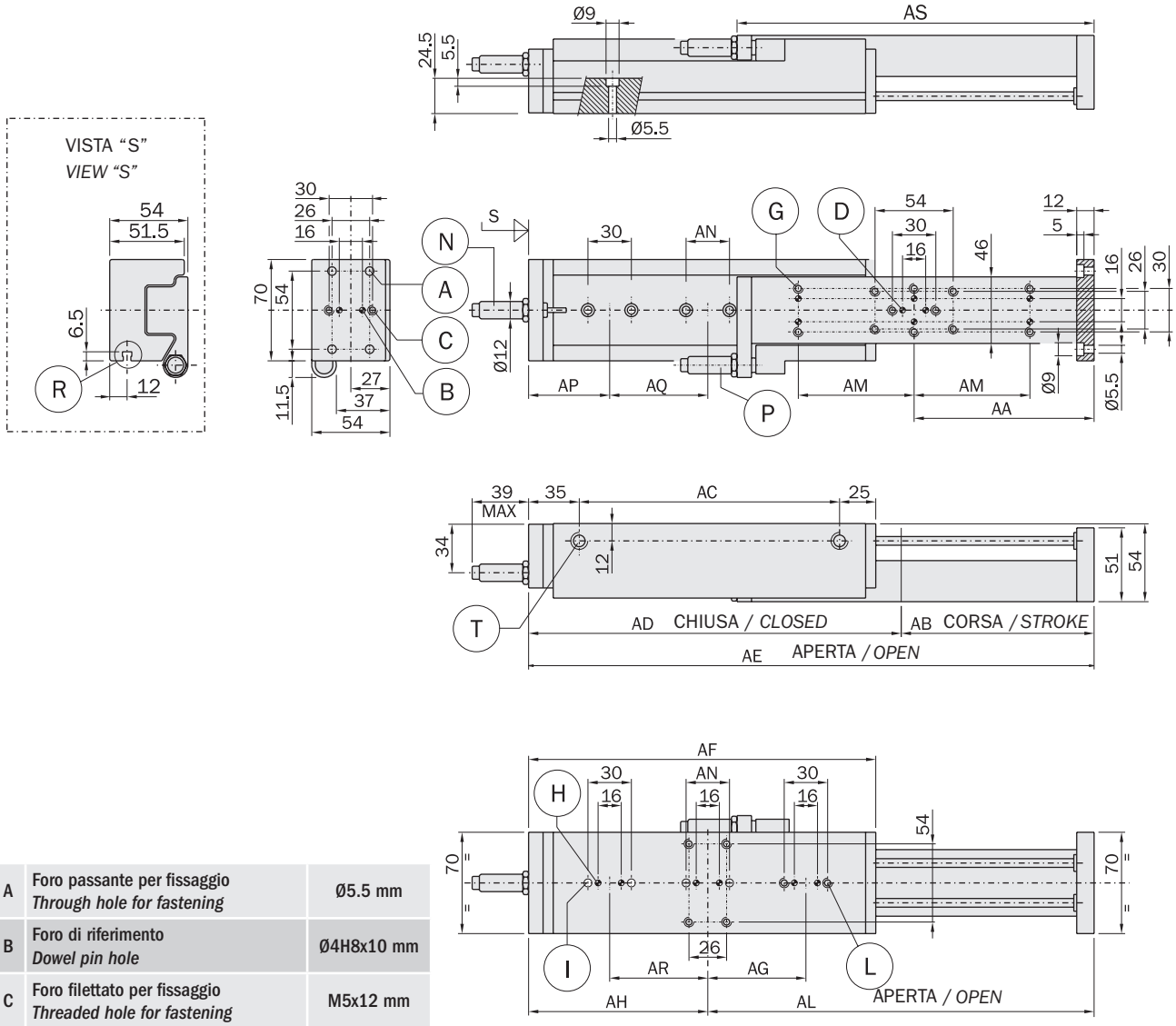


A	Foro passante per fissaggio *Through hole for fastening*	Ø4.3 mm
B	Foro di riferimento *Dowel pin hole*	Ø3H8x7 mm
C	Foro filettato per fissaggio *Threaded hole for fastening*	M4x10 mm
D	Foro di riferimento *Dowel pin hole*	Ø3H8x8 mm
G	Foro filettato per fissaggio *Threaded hole for fastening*	M4x7 mm
H	Foro di riferimento *Dowel pin hole*	Ø3H8x7 mm
I	Foro passante per fissaggio *Through hole for fastening*	Ø4.3 mm
L	Foro filettato per fissaggio *Threaded hole for fastening*	M4x6 mm
N	Regolazione corsa in chiusura *Retraction stroke adjustment*	
P	Regolazione corsa in apertura *Extension stroke adjustment*	
R	Sede per sensori Gimatic *Gimatic sensor slot*	
T	Ingresso aria *Air connection*	M5

FIRST ANGLE PROJECTION

Dimensioni (mm) / *Dimensions (mm)*

	AA	AB	AC	AD	AE	AF	AG	AH	AL	AM	AN	AP	AQ	AR	AS
Z-2050-D	72	50	80	155	205	140	32	75	130	-	-	43	-	32	142
Z-20100-D	112	100	160	235	335	220	35	115	220	-	-	80	-	35	222
Z-20150-D	147	150	230	305	455	290	80	143	312	80	30	63	80	80	292
Z-20200-D	190	200	316	391	591	376	120	193	398	118	30	-	-	-	378



A	Foro passante per fissaggio *Through hole for fastening*	Ø5.5 mm
B	Foro di riferimento *Dowel pin hole*	Ø4H8x10 mm
C	Foro filettato per fissaggio *Threaded hole for fastening*	M5x12 mm
D	Foro di riferimento *Dowel pin hole*	Ø4H8x10 mm
G	Foro filettato per fissaggio *Threaded hole for fastening*	M5x8 mm
H	Foro di riferimento *Dowel pin hole*	Ø4H8x8 mm
I	Foro passante per fissaggio *Through hole for fastening*	Ø5.5 mm
L	Foro filettato per fissaggio *Threaded hole for fastening*	M5x10 mm
N	Regolazione corsa in chiusura *Retraction stroke adjustment*	
P	Regolazione corsa in apertura *Extension stroke adjustment*	
R	Sede per sensori Gimatic *Gimatic sensor slot*	
T	Ingresso aria *Air connection*	1/8" Gas

FIRST ANGLE PROJECTION

Sensori

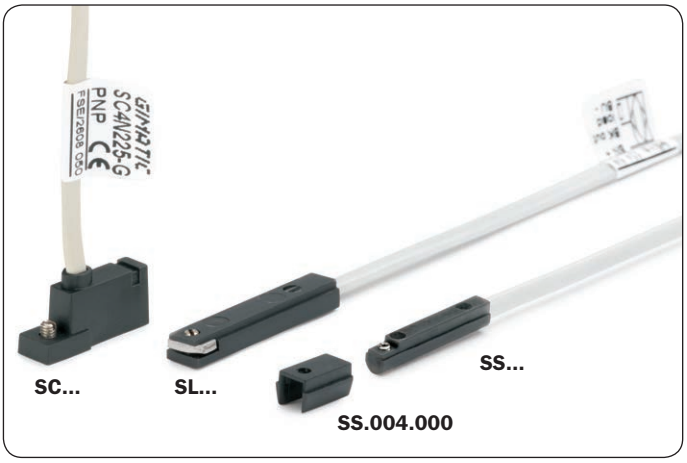
Il rilevamento della posizione è affidato a uno o due sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete interno.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

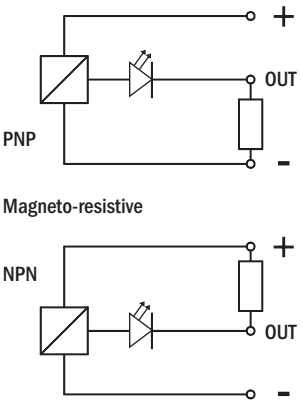
Sensors

The operating position is detected by magnetic proximity sensors (optional) through the internal magnet.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:



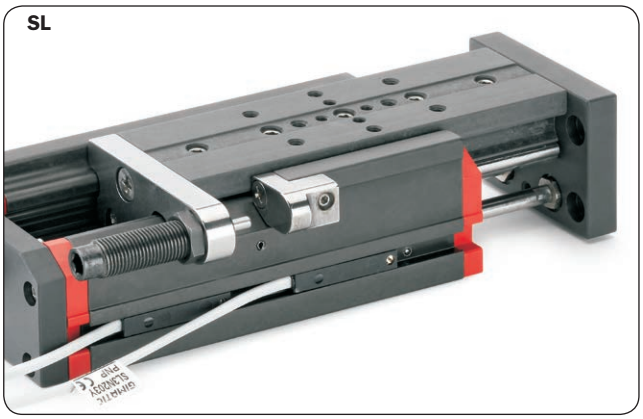


			Z-08...	Z-16...	Z-20...
SC4N225Y	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑
SL4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑
SL4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)

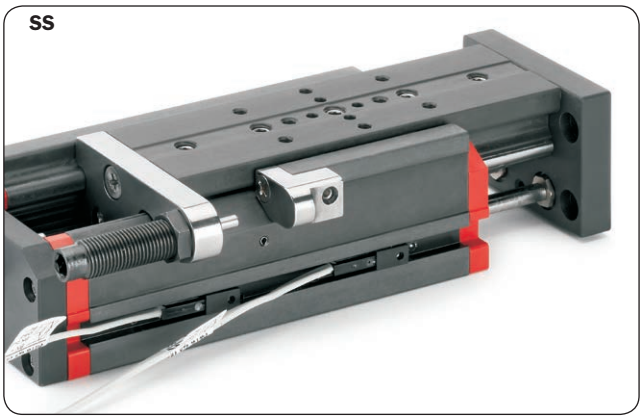
(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.

SL



SS



Regolazione della corsa

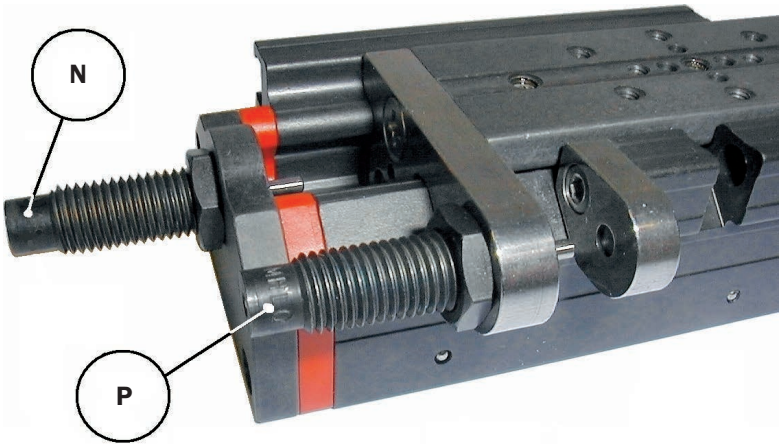
Si può limitare la corsa della slitta agendo sui deceleratori (N) e (P), o sulla vite di registro (Q).
Ognuno può ridurre la corsa di circa 13mm (Z-08) o 20mm (Z-16) o 26mm (Z-20).

- N: deceleratore che limita la corsa di chiusura.
- P: deceleratore che limita la corsa di apertura.

Stroke adjustment

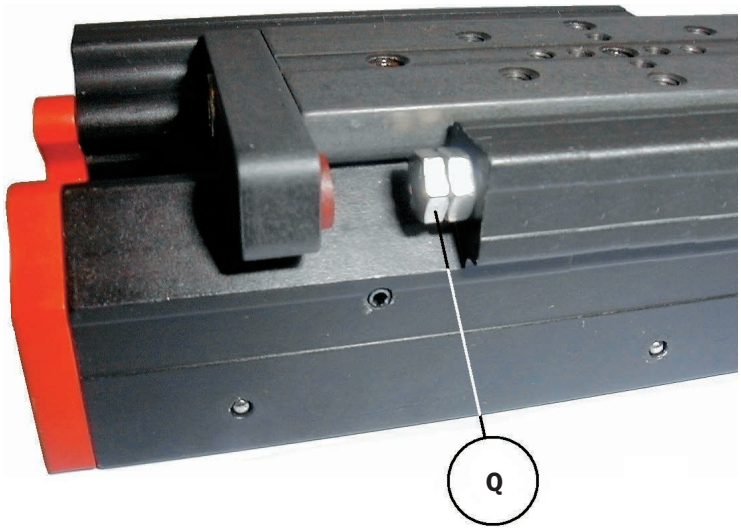
The stroke of the slide can be reduced by shock-absorbers (N) and (P) or screw (Q) as well, with a 13mm (Z-08) or 20mm (Z-16) or 26mm (Z-20) setting range each.

- *N: the shock-absorber N reduces the retraction stroke.*
- *P: the shock-absorber P reduces the extension stroke.*



- Q: vite che limita la corsa di apertura.

- *Q: the screw Q reduces the extension stroke.*



CORSA / *STROKE*

		N	P	Q
Z-0825	12÷25 mm	-	-	M3
Z-0825-D	0÷25 mm	M8x1	M8x1	-
Z-0850	37÷50 mm	-	-	M3
Z-0850-D	24÷50 mm	M8x1	M8x1	-
Z-1650	30÷50 mm	-	-	M4
Z-1650-D	10÷50 mm	M10x1	M10x1	-
Z-16100	80÷100 mm	-	-	M4
Z-16100-D	60÷100 mm	M10x1	M10x1	-
Z-16150	130÷150 mm	-	-	M4
Z-16150-D	110÷150 mm	M10x1	M10x1	-
Z-2050-D	0÷50 mm	M12x1	M12x1	-
Z-20100-D	48÷100 mm	M12x1	M12x1	-
Z-20150-D	98÷150 mm	M12x1	M12x1	-
Z-20200-D	148÷200 mm	M12x1	M12x1	-

Fissaggio

La slitta può essere fissata utilizzando:
- Fori passanti I e fori spina H (1).
- Fori filettati K e fori spina J (2).
- Fori filettati L e fori spina M (2).

Il carico può essere fissato utilizzando:
- Fori passanti A e fori spina B (5).
- Fori filettati C e fori spina B (4).
- Fori filettati E e fori spina D (3).
- Fori filettati F e fori spina D (3).
- Fori filettati G e fori spina D (3).

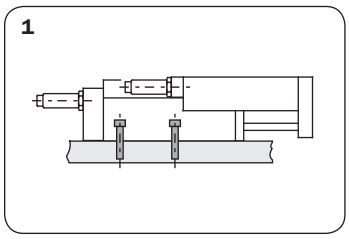
La slitta può essere montata in posizione fissa, oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la slitta ed il suo carico sono sottoposti.
È possibile assemblare due slitte, della stessa taglia, senza nessuna interfaccia.

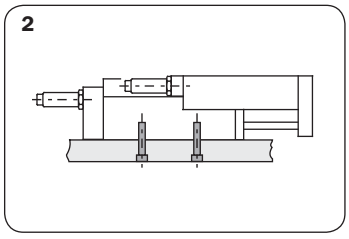
Fastening

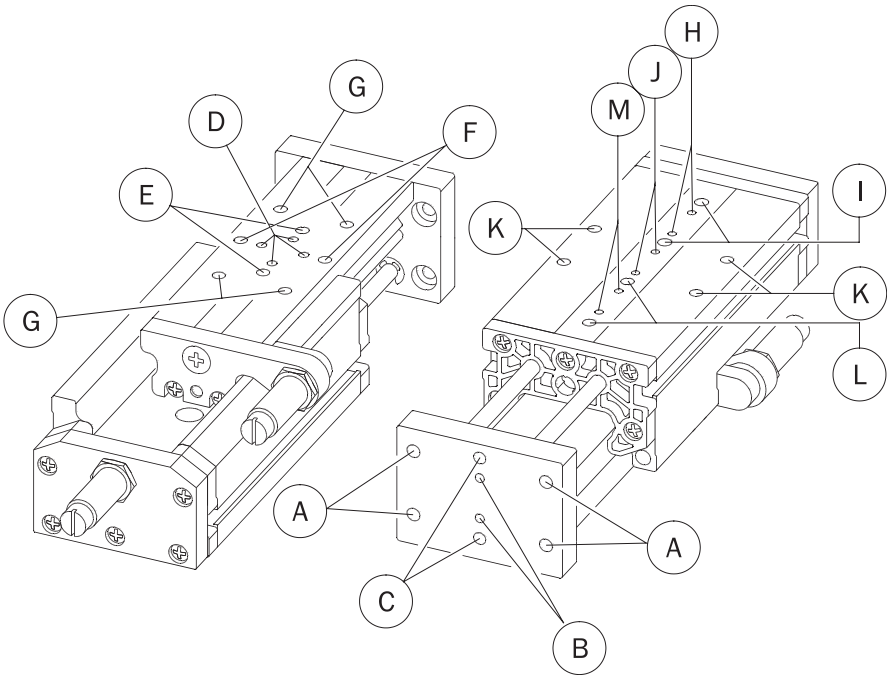
The slide can be fastened by using:
- *Through holes I and dowel pin holes H (1).*
- *Threaded holes K and dowel pin holes J (2).*
- *Threaded holes L and dowel pin holes M (2).*

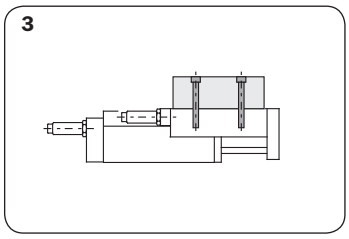
The load can be fastened by using:
- *Through holes A and dowel pin holes B (5).*
- *Threaded holes C and dowel pin holes B (4).*
- *Threaded holes E and dowel pin holes D (3).*
- *Threaded holes F and dowel pin holes D (3).*
- *Threaded holes G and dowel pin holes D (3).*

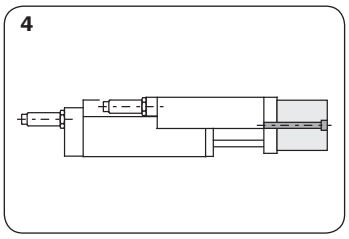
The slide can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the slide and its load.
It is possible to assemble two slides, of the same size, without any interface.

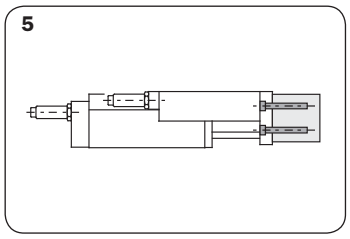






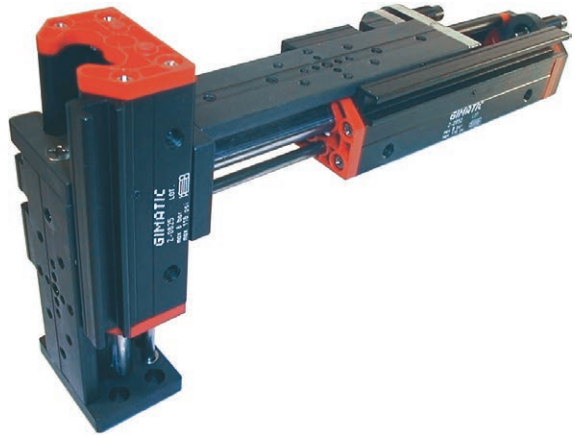


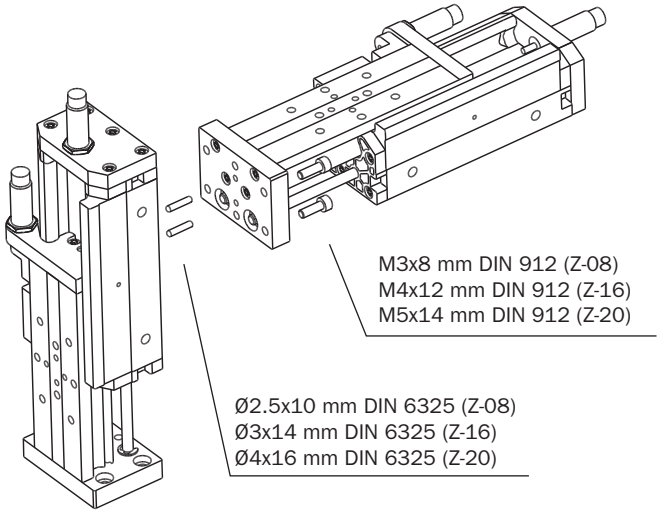


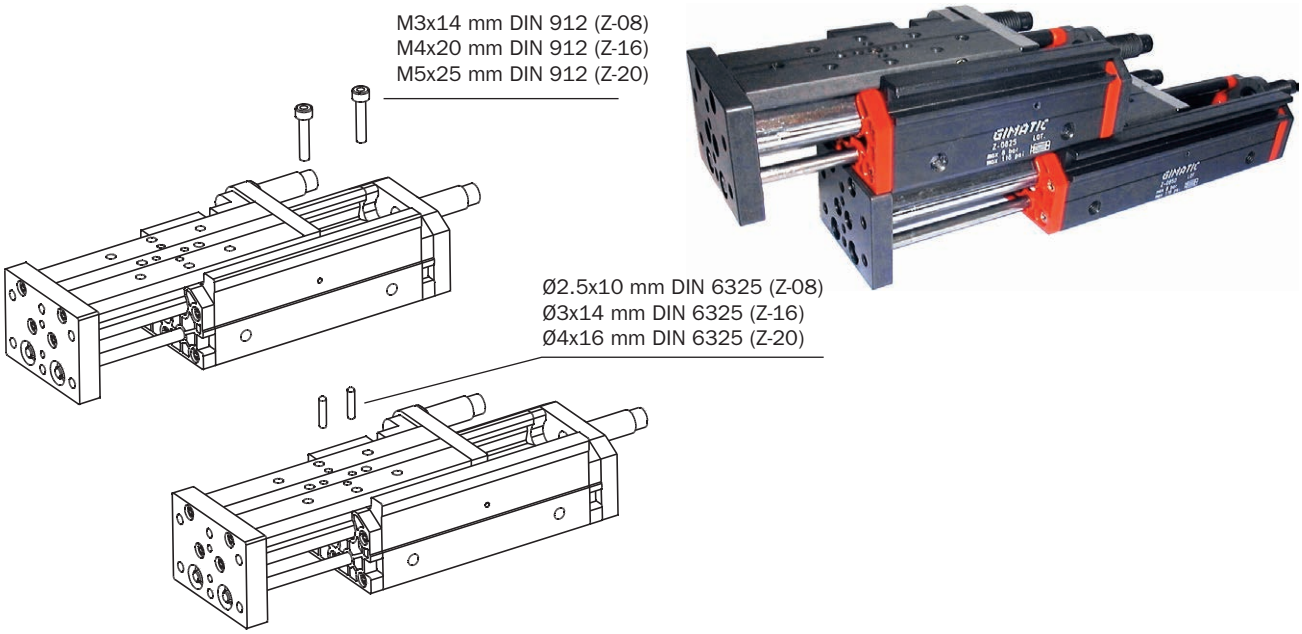


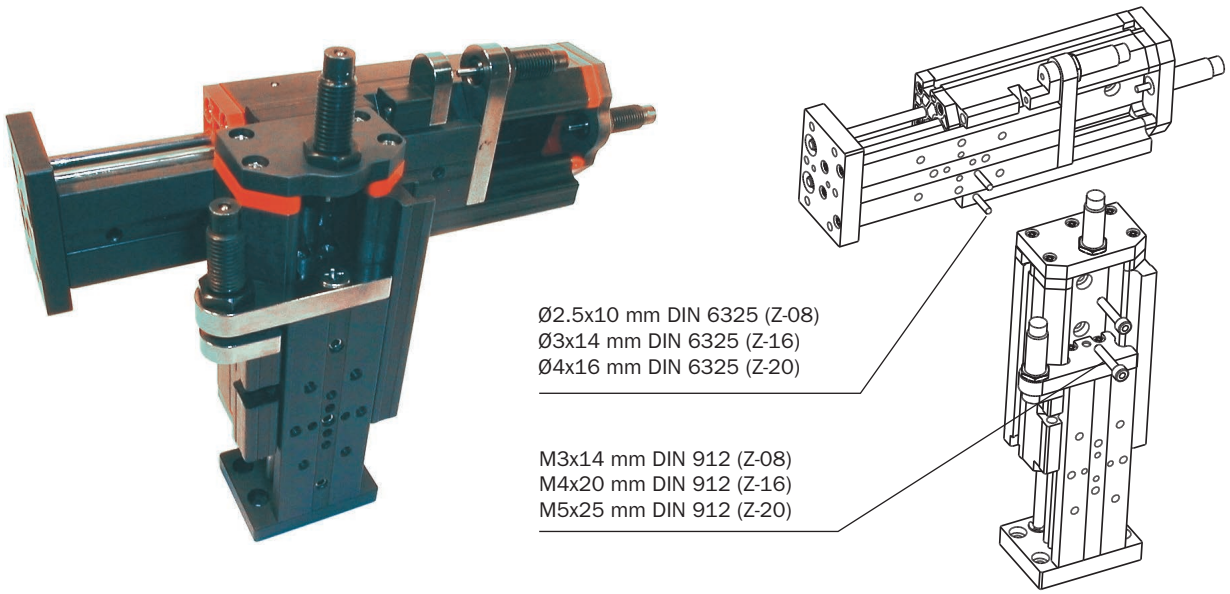
	Z-08	Z-16	Z-20
A	Ø3.3 mm	Ø4.3 mm	Ø5.5 mm
B	Ø2.5H8x4.5 mm	Ø3H8x7 mm	Ø4H8x10 mm
C	M3x6 mm	M4x10 mm	M5x12 mm
D	Ø2.5H8x5 mm	Ø3H8x7 mm	Ø4H8x10 mm
E	M3x5 mm	M4x7 mm	M5x9 mm
F	M3x5 mm	M4x7 mm	M5x8 mm
G	M3x5 mm	M4x7 mm	M5x9 mm
H	Ø2.5H8x6 mm	Ø3H8x7 mm	Ø4H8x8 mm
I	Ø3.3 mm	Ø4.3 mm	Ø5.5 mm
J	Ø2.5H8x6 mm	Ø3H8x7 mm	Ø4H8x8 mm
K	M3x6 mm	M4x6 mm	M5x8 mm
L	M3x6 mm	M4x6 mm	M5x8 mm
M	Ø2.5H8x6 mm	Ø3H8x7 mm	Ø4H8x8 mm

Esempi di applicazione / *Application examples*

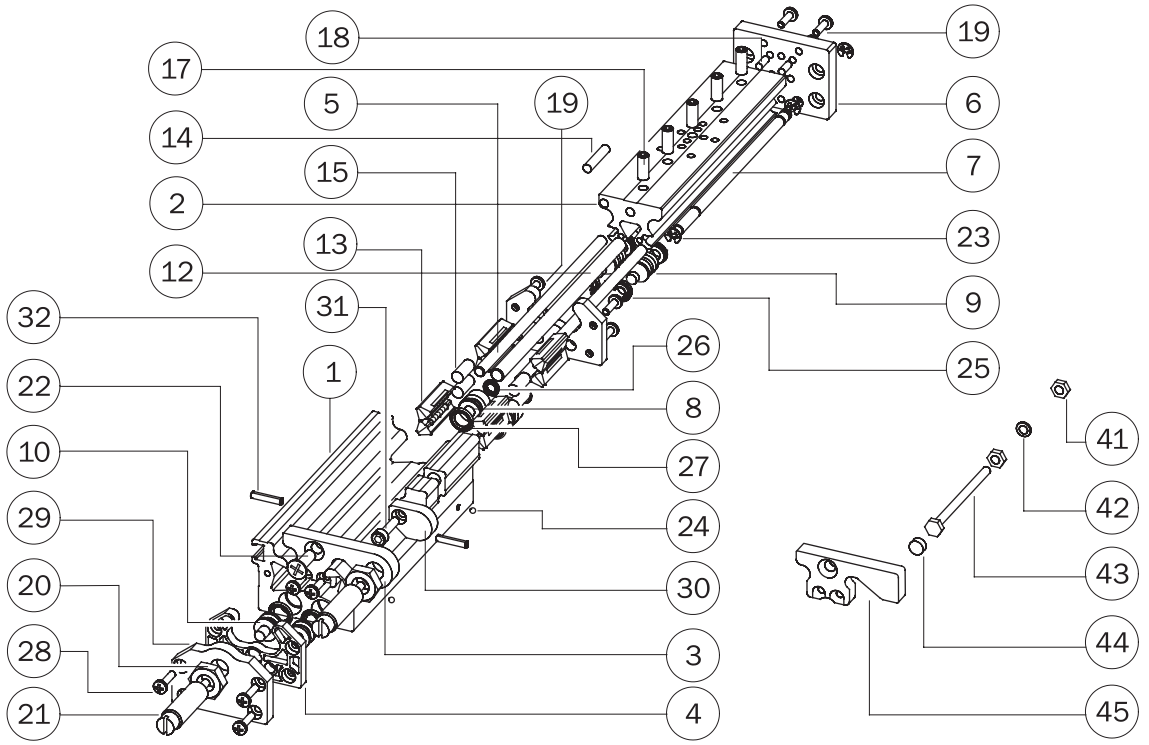






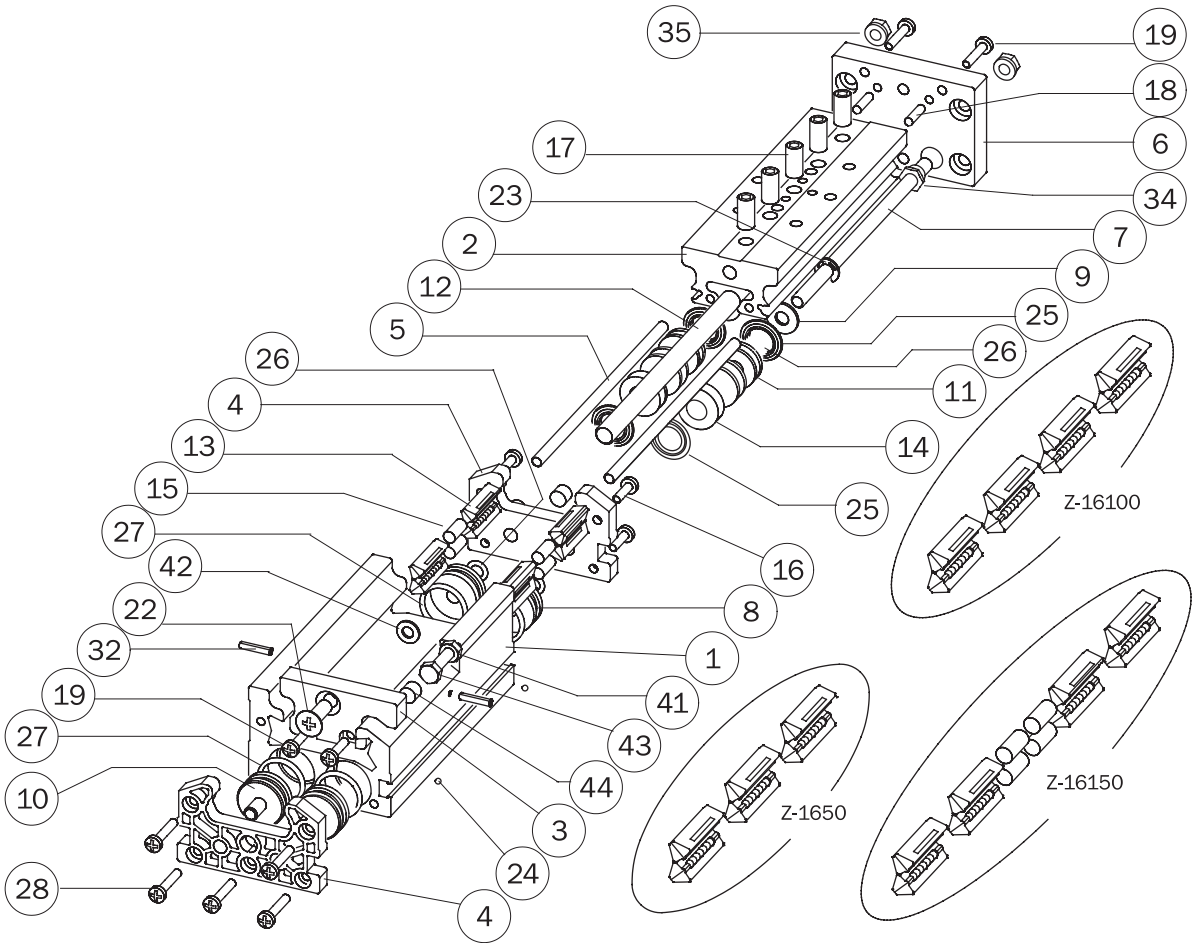


Elenco delle parti / *Part list*



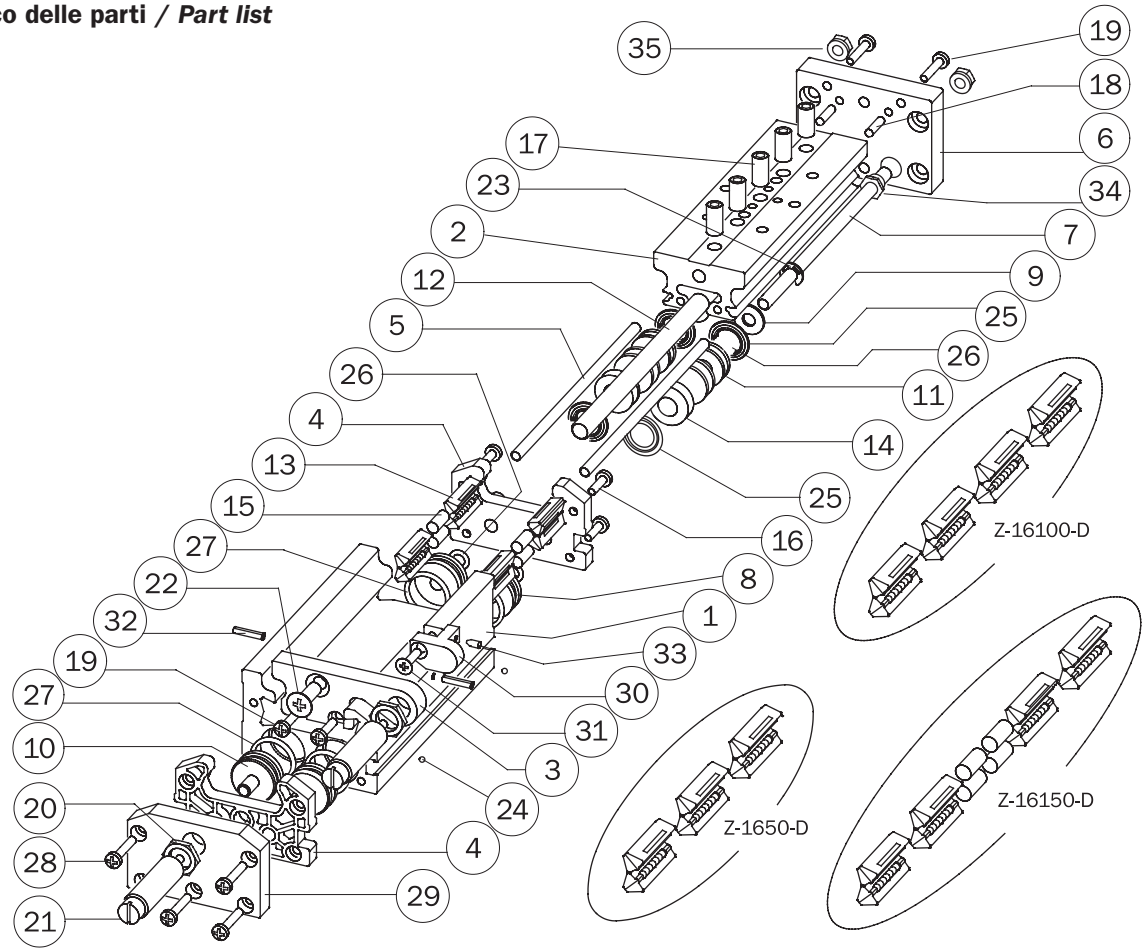
		Z-0825	Z-0825-D	Z-0850	Z-0850-D		
1	Corpo inferiore	Z-825-1		Z-850-1		*Lower housing*	*1*
2	Corpo superiore	Z-825-2		Z-850-2		*Upper housing*	*2*
3	Supporto	-	Z-850-15	-	Z-850-15	*Support*	*3*
4	Testata	Z-850-4				*Head*	*4*
5	Colonna	Ø4x70 mm DIN 6325		Z-850-5		*Column*	*5*
6	Base	Z-850-6				*Base*	*6*
7	Stelo	Z-825-4		Z-850-7		*Rod*	*7*
8	Flangia anteriore	Z-850-8				*Front flange*	*8*
9	Pistone	Z-850-18				*Piston*	*9*
10	Flangia posteriore	Z-850-10				*Rear flange*	*10*
12	Albero	Z-825-5		Z-850-12		*Shaft*	*12*
13	Cartuccia a circolo di sfere	C-216				*Ball bushing*	*13*
14	Magnete	K-020-13				*Magnet*	*14*
15	Distanziale	-		Z-850-16		*Spacer*	*15*
17	Vite senza testa	M4x10 mm DIN 913				*Grub screw*	*17*
18	Spina	Ø2.5x7.8 mm DIN 5402				*Dowel pin*	*18*
19	Vite	M2.5x8 mm DIN 7985 INOX A2				*Screw*	*19*
20	Dado	-	M8x1	-	M8x1	*Nut*	*20*
21	Deceleratore	-	ACE MC10MH	-	ACE MC10MH	*Shock-absorber*	*21*
22	Vite	M4x12 mm DIN 965A INOX A2				*Screw*	*22*
23	Seeger	Ø2.3 DIN 6799				*Seeger*	*23*
24	Sfera	Ø2 mm AA DIN 5401A				*Sphere*	*24*
25	Guarnizione	8x4.8x2.7 (GUAR-048)				*Gasket*	*25*
26	O-Ring	Ø1.78x3.69 (GUAR-044)				*O-Ring*	*26*
27	O-Ring	Ø1.78x6.07 (GUAR-039)				*O-Ring*	*27*
28	Vite DIN 7985 INOX A2	M2.5x8 mm	M2.5x12 mm	M2.5x8 mm	M2.5x12 mm	*Screw*	*28*
29	Supporto	-	Z-850-13	-	Z-850-13	*Support*	*29*
30	Battuta	-	Z-850-14	-	Z-850-14	*Stopper*	*30*
31	Vite DIN 912 INOX A2	-	M3x12 mm	-	M3x12 mm	*Screw*	*31*
32	Spina elastica	Ø2x8 mm DIN 1481 INOX A2				*Elastic pin*	*32*
41	Dado DIN 934 INOX A2	M3	-	M3	-	*Nut*	*41*
42	Rondella DIN125B INOX A2	Ø3.2xØ6 mm	-	Ø3.2xØ6 mm	-	*Washer*	*42*
43	Vite DIN 933 INOX A2	M3x30 mm	-	M3x30 mm	-	*Screw*	*43*
44	Elastomero	Z-850-11	-	Z-850-11	-	*Elastomer*	*44*
45	Battuta	Z-850-3	-	Z-850-3	-	*Stopper*	*45*

Elenco delle parti / *Part list*



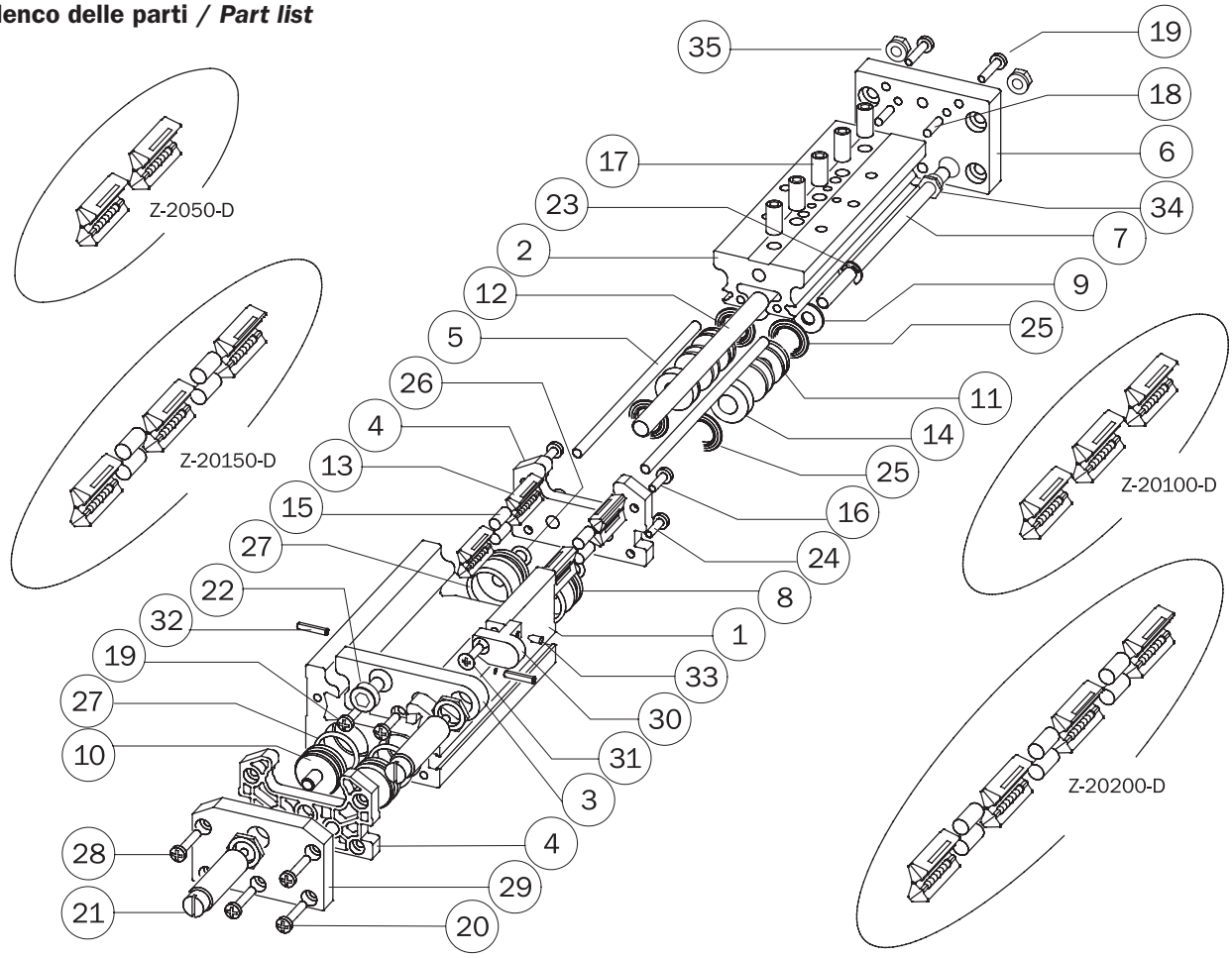
		Z-1650	Z-16100	Z-16150		
1	Corpo inferiore	Z-1650-1	Z-16100-1	Z-16150-1	*Lower housing*	*1*
2	Corpo superiore	Z-1650-2	Z-16100-2	Z-16150-2	*Upper housing*	*2*
3	Supporto	Z-1650-3			*Support*	*3*
4	Testata	Z-1650-4			*Head*	*4*
5	Colonna	Z-1650-5	Z-16100-3	Z-16150-3	*Column*	*5*
6	Base	Z-1650-6			*Base*	*6*
7	Stelo	Z-1650-7	Z-1600-4	Z-16150-4	*Rod*	*7*
8	Flangia anteriore	Z-1650-8			*Front flange*	*8*
9	Rondella	Ø5.3xØ9.5 mm DIN 125B INOX			*Washer*	*9*
10	Flangia posteriore	Z-1650-10			*Rear flange*	*10*
11	Pistone	Z-1650-17			*Piston*	*11*
12	Albero	Z-1650-12	Z-16100-5	Z-16150-5	*Shaft*	*12*
13	Cartuccia a circolo di sfere	C-216			*Ball bushing*	*13*
14	Magnete	PS-0016-P09			*Magnet*	*14*
15	Distanziale	-	-	Z-850-16	*Spacer*	*15*
16	Vite	M3x10 mm DIN 7985 INOX A2			*Screw*	*16*
17	Vite senza testa	M6x12 mm DIN 913 INOX A2			*Grub screw*	*17*
18	Spina	Ø3x12 mm DIN 6325			*Dowel pin*	*18*
19	Vite	M3x14 mm DIN 7985 INOX A2			*Screw*	*19*
22	Vite	M5x16 mm DIN 965A INOX A2			*Screw*	*22*
23	Seeger	Ø4 mm DIN 6799			*Seeger*	*23*
24	Sfera	Ø2 mm AA DIN 5401A			*Sphere*	*24*
25	Guarnizione	16.5x9.8x2.55 (GUAR-119)			*Gasket*	*25*
26	O-Ring	Ø1.78x4.48 (GUAR-029)			*O-Ring*	*26*
27	O-Ring	Ø1.78x14 (GUAR-007)			*O-Ring*	*27*
28	Vite	M3x10 mm DIN 7985 INOX A2			*Screw*	*28*
32	Spina elastica	Ø2x10 mm DIN 1481 INOX A2			*Elastic pin*	*32*
34	Flangia	Z-1650-16			*Flange*	*34*
35	Dado	SERPRESS M4			*Nut*	*35*
41	Dado	M4 DIN 439B INOX A2			*Nut*	*41*
42	Rondella	Ø4.3xØ8 mm DIN 125B			*Washer*	*42*
43	Vite	M4x40 DIN 933 INOX A2			*Screw*	*43*
44	Elastomero	Z-850-11			*Elastomer*	*44*

Elenco delle parti / *Part list*



		Z-1650-D	Z-16100-D	Z-16150-D		
1	Corpo inferiore	Z-1650-1	Z-16100-1	Z-16150-1	*Lower housing*	*1*
2	Corpo superiore	Z-1650-2	Z-16100-2	Z-16150-2	*Upper housing*	*2*
3	Supporto	Z-1650-15			*Support*	*3*
4	Testata	Z-1650-4			*Head*	*4*
5	Colonna	Z-1650-5	Z-16100-3	Z-16150-3	*Column*	*5*
6	Base	Z-1650-6			*Base*	*6*
7	Stelo	Z-1650-7	Z-16100-4	Z-16150-4	*Rod*	*7*
8	Flangia anteriore	Z-1650-8			*Front flange*	*8*
9	Rondella	Ø5.3xØ9.5 mm DIN 125B INOX			*Washer*	*9*
10	Flangia posteriore	Z-1650-10			*Rear flange*	*10*
11	Pistone	Z-1650-17			*Piston*	*11*
12	Albero	Z-1650-12	Z-16100-5	Z-16150-5	*Shaft*	*12*
13	Cartuccia a circolo di sfere	C-216			*Ball bushing*	*13*
14	Magnete	PS-0016-P09			*Magnet*	*14*
15	Distanziale	-	-	Z-850-16	*Spacer*	*15*
16	Vite	M3x10 mm DIN 7985 INOX A2			*Screw*	*16*
17	Vite senza testa	M6x12 mm DIN 913 INOX A2			*Grub screw*	*17*
18	Spina	Ø3x12 mm DIN 6325			*Dowel pin*	*18*
19	Vite	M3x14 mm DIN 7985 INOX A2			*Screw*	*19*
20	Dado	M10x1			*Nut*	*20*
21	Deceleratore	ACE MC25M-NB			*Shock-absorber*	*21*
22	Vite	M5x16 mm DIN 965A INOX A2			*Screw*	*22*
23	Seeger	Ø4 mm DIN 6799			*Seeger*	*23*
24	Sfera	Ø2 mm AA DIN 5401A			*Sphere*	*24*
25	Guarnizione	16.5x9.8x2.55 (GUAR-119)			*Gasket*	*25*
26	O-Ring	Ø1.78x4.48 (GUAR-029)			*O-Ring*	*26*
27	O-Ring	Ø1.78x14 (GUAR-007)			*O-Ring*	*27*
28	Vite	M3x16 mm DIN 7985 INOX A2			*Screw*	*28*
29	Supporto	Z-1650-13			*Support*	*29*
30	Battuta	Z-1650-14			*Stopper*	*30*
31	Vite	M4x16 mm DIN 965A INOX A2			*Screw*	*31*
32	Spina elastica	Ø2x10 mm DIN 1481 INOX A2			*Elastic pin*	*32*
33	Vite senza testa	M4x8 mm DIN 914			*Grub screw*	*33*
34	Flangia	Z-1650-16			*Flange*	*34*
35	Dado	M4 SERPRESS			*Nut*	*35*

Elenco delle parti / *Part list*



		Z-2050-D	Z-20100-D	Z-20150-D	Z-20200-D		
1	Corpo inferiore	Z-2050-1	Z-20100-1	Z-20150-1	Z-20200-1	*Lower housing*	*1*
2	Corpo superiore	Z-2050-2	Z-20100-2	Z-20150-2	Z-20200-2	*Upper housing*	*2*
3	Supporto	Z-2050-15	Z-20100-15	Z-20150-15	Z-20200-15	*Support*	*3*
4	Testata	Z-2050-4				*Head*	*4*
5	Colonna	Z-2050-5	Z-20100-3	Z-20150-3	Z-20200-3	*Column*	*5*
6	Base	Z-2050-6				*Base*	*6*
7	Stelo	Z-2050-7	Z-20100-4	Z-20150-4	Z-20200-4	*Rod*	*7*
8	Flangia anteriore	Z-2050-8				*Front flange*	*8*
9	Rondella DIN 125B	Ø6.4xØ12 mm DIN 125B				*Washer*	*9*
10	Flangia posteriore	Z-2050-10				*Rear flange*	*10*
11	Pistone	Z-2050-11				*Piston*	*11*
12	Albero	Z-2050-12	Z-20100-5	Z-20150-5	Z-20200-5	*Shaft*	*12*
13	Cartuccia a circolo di sfere	C-2521				*Ball bushing*	*13*
14	Magnete	XP-20-5				*Magnet*	*14*
15	Distanziale	-	-	Z-850-16		*Spacer*	*15*
16	Vite	M4x12 mm DIN 7985 INOX A2				*Screw*	*16*
17	Vite senza testa	M8x16 mm DIN 913				*Grub screw*	*17*
18	Spina	Ø4x16 mm DIN 6325				*Dowel pin*	*18*
19	Vite	M4x16 mm DIN 7985 INOX A2				*Screw*	*19*
20	Vite	M3x20 mm DIN 7985 INOX A2				*Screw*	*20*
21	Deceleratore	ACE MC75M3-NB				*Shock-absorber*	*21*
22	Vite	M6x14 mm DIN 912 INOX A2				*Screw*	*22*
23	Seeger	Ø6 DIN 6799				*Seeger*	*23*
24	Vite	M3x10 mm DIN 7985 INOX A2				*Screw*	*24*
25	Guarnizione	20x14x3 (GUAR-058)				*Gasket*	*25*
26	Guarnizione	10x6x3.5 (GUAR-093)				*Gasket*	*26*
27	O-Ring	Ø1.78x18.77 (GUAR-077)				*O-Ring*	*27*
28	Vite	M4x20 mm DIN 7985 INOX A2				*Screw*	*28*
29	Supporto	Z-2050-13				*Support*	*29*
30	Battuta	Z-2050-14				*Stopper*	*30*
31	Vite	M5x20 mm DIN 965A INOX A2				*Screw*	*31*
32	Spina elastica	Ø3x12 mm DIN 1481 INOX A2				*Elastic pin*	*32*
33	Vite senza testa	M4x8 mm DIN 914				*Grub screw*	*33*
34	Flangia	Z-2050-9				*Flange*	*34*
35	Dado	M5 DIN 6927				*Nut*	*35*

Connessione pneumatica

La slitta si alimenta con aria compressa dai fori laterali montandovi i raccordi dell'aria M5 ed i relativi tubi (non forniti).

Aria compressa in A: apertura.
Aria compressa in B: chiusura.

L'unità è azionata con l'aria compressa filtrata (5÷40 µm) non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita dell'unità.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

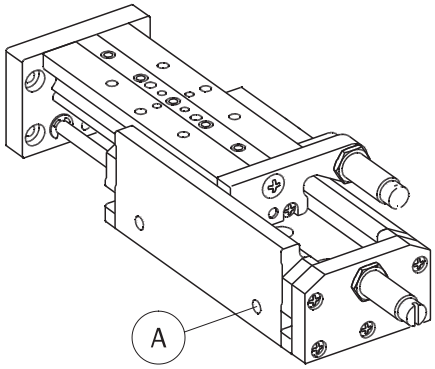
Compressed air feeding

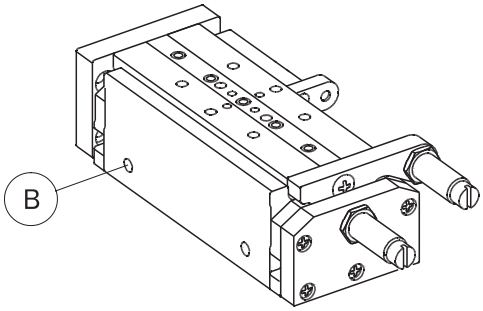
The slide is driven by compressed air supplied through the side air ports with fittings M5 and relevant hoses (not supplied).

Compressed air in A: extension stroke.
Compressed air in B: retraction stroke.

The compressed air, must be filtered from 5 to 40 µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.





Circuito pneumatico

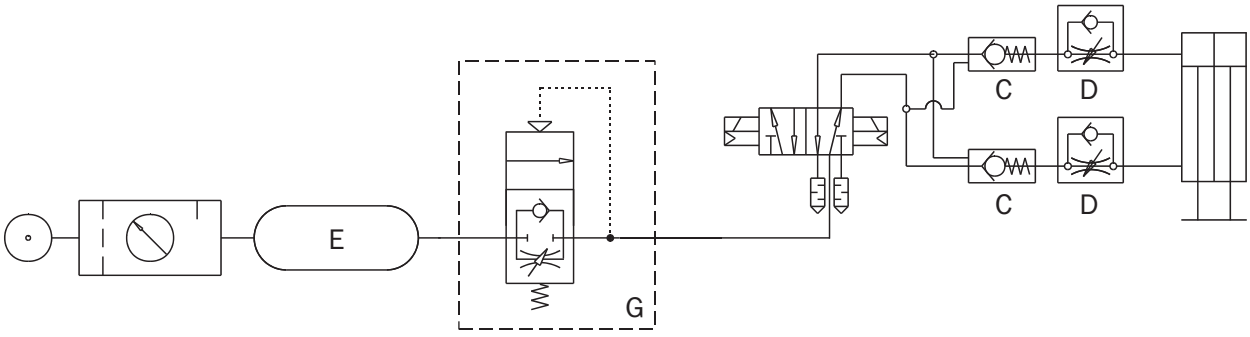
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (E).
2- Valvola di avviamento progressivo (G).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing.
3- Sudden pressure black-out.
4- Excessive actuating speed.

Possible solutions:
1- Compressed air storage (E).
2- Start-up valve (G).
3- Safety valve (C).
4- Flow controller (D).

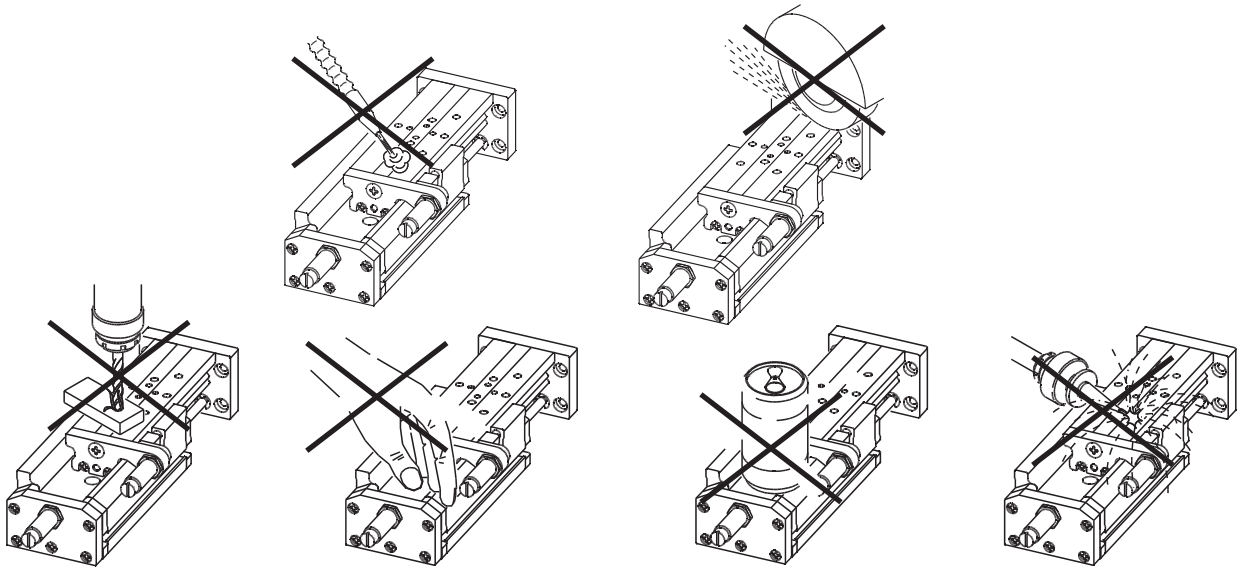


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the slide come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Never let non-authorized persons or objects stand within the operating range of the slide.
Never operate the slide if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

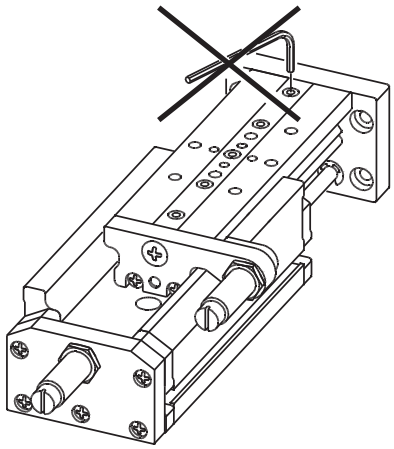
Il precarico dei cuscinetti è regolato in fabbrica.
NON UTILIZZARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.
Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.
Dopo i primi 10 milioni può essere revisionata in fabbrica per ripristinare il corretto precarico dei cuscinetti ed effettuare l'ingrassaggio con:

- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Maintenance

The preload of the bearings is set in factory.
NEVER USE THE ADJUSTING SCREWS TO MODIFY IT.
Periodically check the steel bars and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.
After 10 million cycles it can be serviced in factory to restore the correct preload of the bearings and grease again the inner parts by:

- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

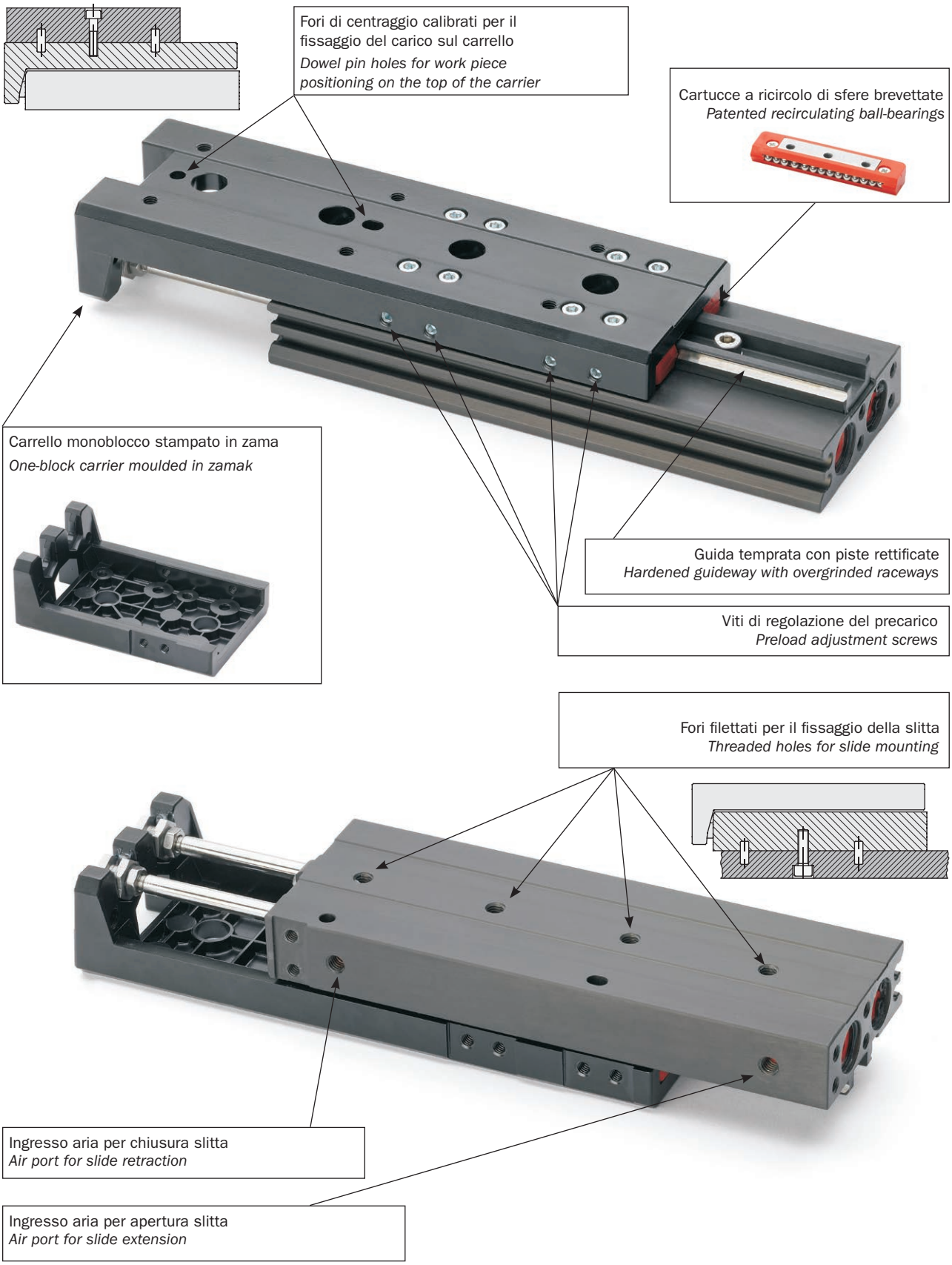


Slitte pneumatiche (serie ZA)

- Alesaggio 2x6, 2x8, 2x12, 2x16 oppure 2x20 mm.
- Corsa da 10 mm a 150mm.
- Fine corsa opzionali regolabili con deceleratore, elastomero (FGD) o vite (FPD).
- Sensori magnetici opzionali.

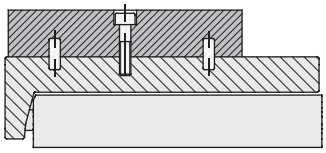
Pneumatic slides (series ZA)

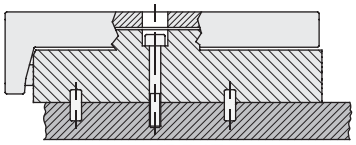
- *Piston bore: 2x6, 2x8, 2x12, 2x16 or 2x20 mm.*
- *Stroke from 10 to 150 mm.*
- *Optional end stroke adjusters with shock-absorber, rubber bumper (FGD) or grub screw (FPD).*
- *Optional proximity magnetic sensors.*



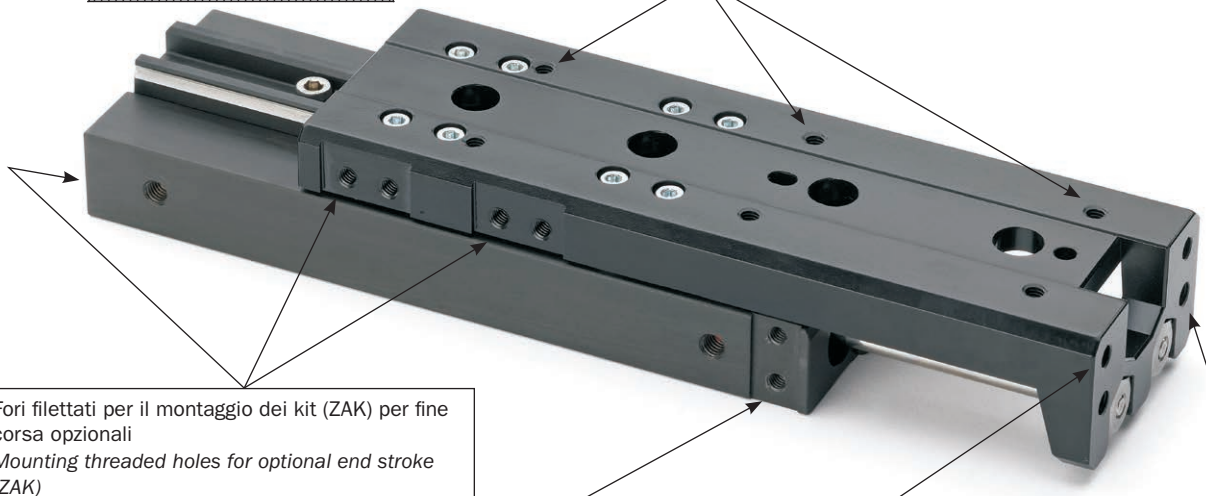
Slitte pneumatiche (serie ZA) / *Pneumatic slides (series ZA)*

Fori per l'introduzione di viti passanti nel corpo per il fissaggio della slitta
Passing holes for slide fastening by through screws





Fori filettati per il fissaggio del carico sul carrello
Threaded holes for work piece mounting on the carrier top

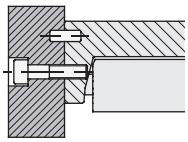


Fori filettati per il montaggio dei kit (ZAK) per fine corsa opzionali
Mounting threaded holes for optional end stroke (ZAK)

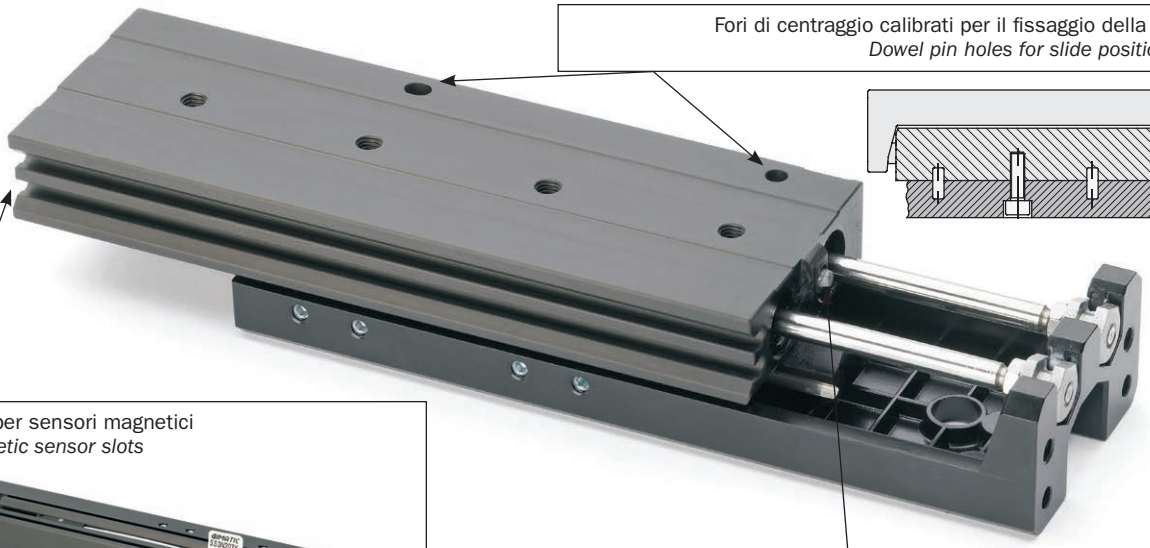


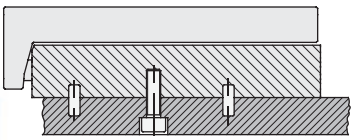
Fori filettati per il fissaggio anteriore del carico
Threaded holes for work piece mounting on the front face of the carrier

Fori di centraggio calibrati per il fissaggio anteriore del carico
Dowel pin holes for work piece positioning on the front face of the carrier



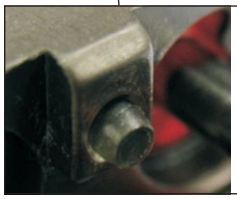
Fori di centraggio calibrati per il fissaggio della slitta
Dowel pin holes for slide positioning





Sedi per sensori magnetici
Magnetic sensor slots





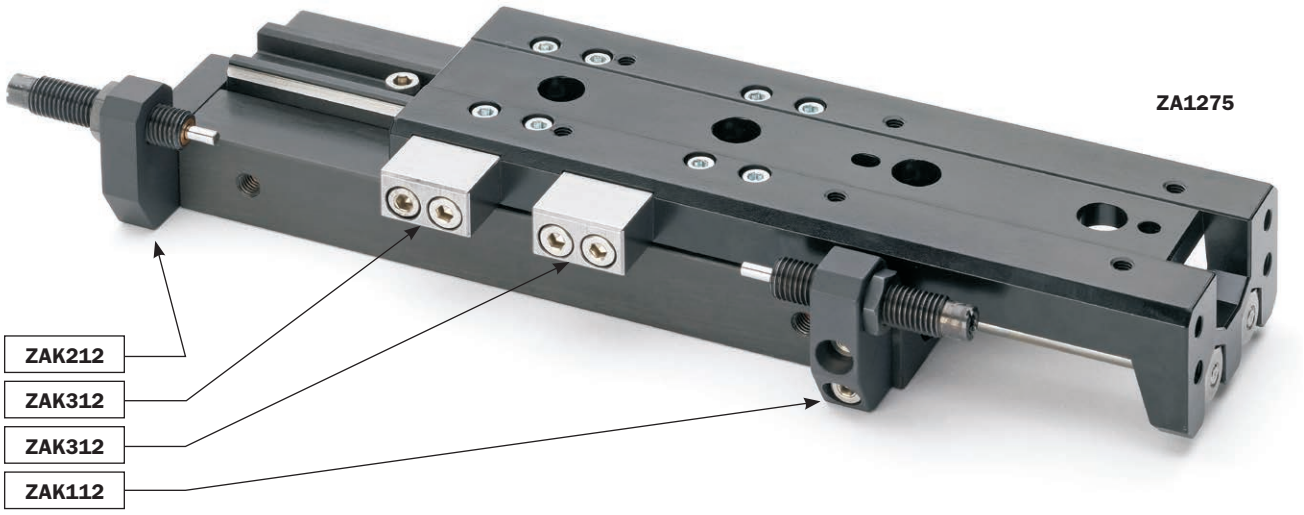
Fine corsa in chiusura
Retraction end stroke

Accessori

Per la regolazione della corsa si possono utilizzare deceleratori idraulici, ammortizzatori di gomma (FGD) o grani (FPD), a seconda dell'energia cinetica che l'unità deve sopportare.
Per l'utilizzo di questi si devono montare sulla slitta gli accessori di fissaggio (ZAK).

Accessories

The stroke can be adjusted by shock-absorbers, rubber bumpers (FGD), or grub screws (FPD), according with the kinetic energy the slide has to bear.
The bracket and stoppers (ZAK) are necessary to mount the adjusters.



Codice di ordinazione / *Ordering code:* **Z A K 1 1 2**

- Alesaggio / *Bore*
- 1 — Supporto per fine corsa di apertura / *Bracket for extension adjustment*
- 2 — Supporto per fine corsa di chiusura / *Bracket for retraction adjustment*
- 3 — Battuta / *Stopper (*)*

(*)
Sulle slitte a corsa lunga ne sono necessari due; verificare alla pagina delle dimensioni.
On the long stroke slides, two stoppers are necessary; check on the dimensions page.

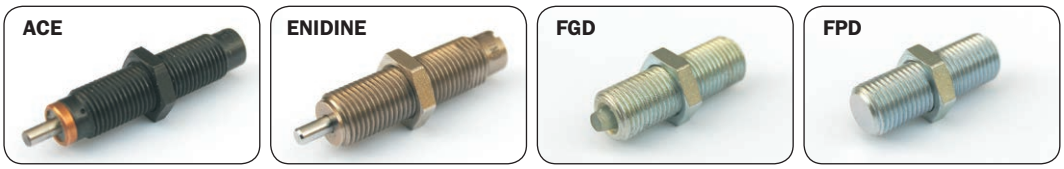
Tutti gli accessori di fissaggio (ZAK) includono le viti per il fissaggio alla slitta.
Il filetto di queste viti deve essere incollato con frena filetti a media resistenza, per evitare lo svitamento dovuto alle vibrazioni.

The ZAK accessories are provided with the necessary screws. These ones must be glued by an anaerobic adhesive (medium resistance), to avoid unscrewing due to vibrations.

La tabella mostra i codici dei deceleratori idonei.
I fine corsa opzionali FGD e FPD sono prodotti Gimatic.

The table shows the codes of the suitable shock-absorbers. The optional FGD and FPD are Gimatic products.

Deceleratori idraulici / *Hydraulic shock-absorbers*



ZA06	M6x0.5	MC9M1	TKSM2	FGD0620 (L=20 mm)	FPD0620 (L=20 mm)
ZA08	M6x0.5	MC9M1	TKSM2	FGD0620 (L=20 mm)	FPD0620 (L=20 mm)
ZA12	M8x1	MC10ML	PMX8MC-3	FGD0830 (L=30 mm)	FPD0830 (L=30 mm)
ZA16	M10x1	MC25M-NB	TK10M-4	FGD1030 (L=30 mm)	FPD1030 (L=30 mm)
ZA20	M12x1	MC75M3-NB	ECO15MF-2	FGD1235 (L=35 mm)	FPD1235 (L=35 mm)

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

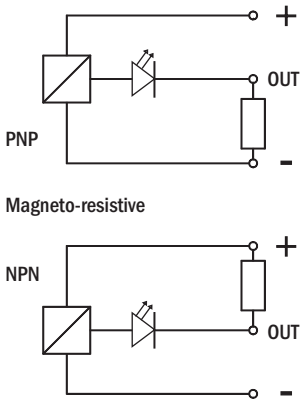
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:

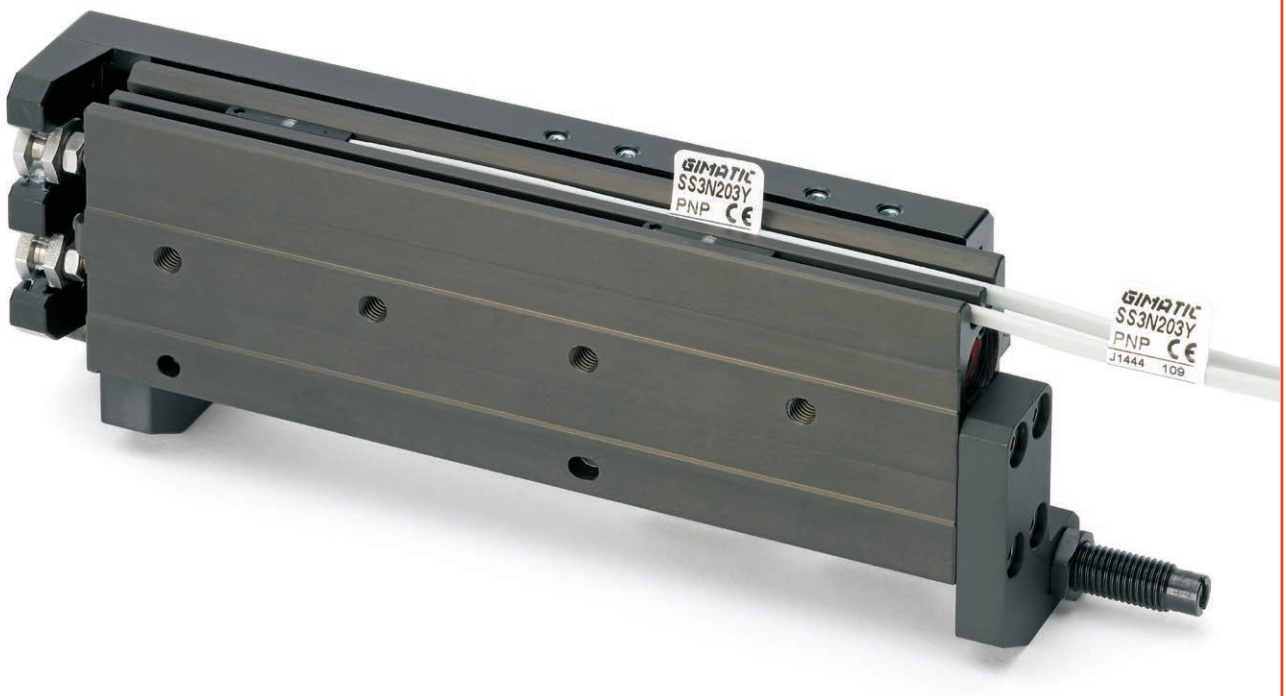




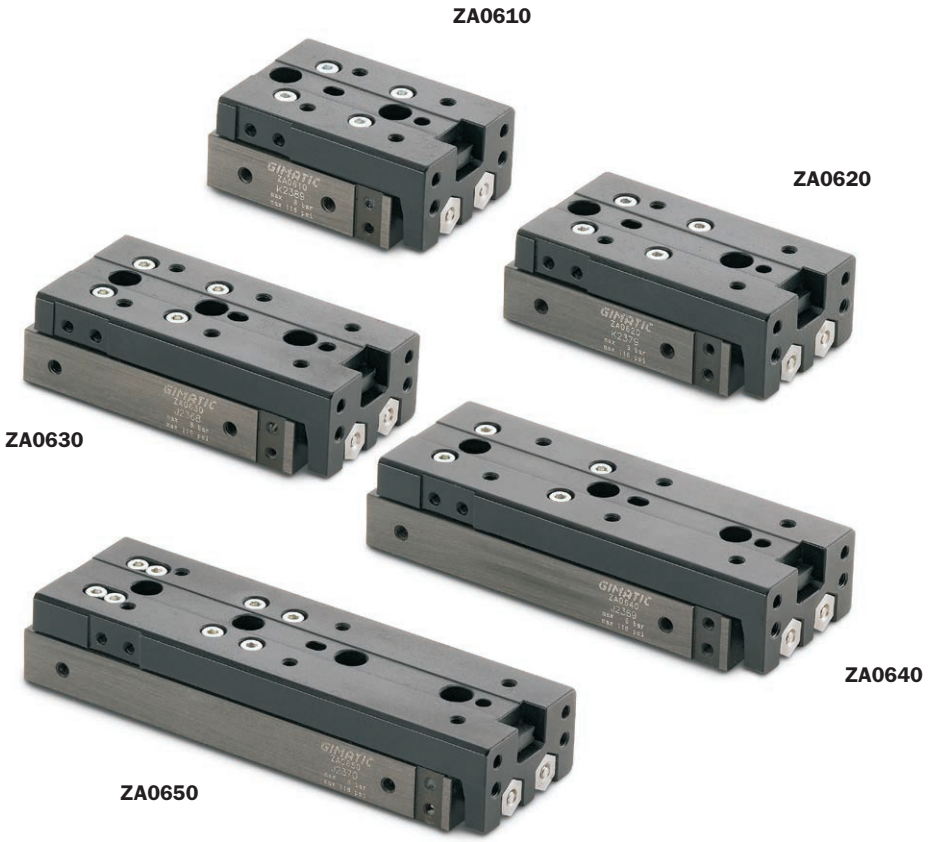
			ZA06	ZA08	ZA12	ZA16	ZA20
SN4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SN4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑

Sono tutti dotati di un cavo piatto a tre fili e di un led.

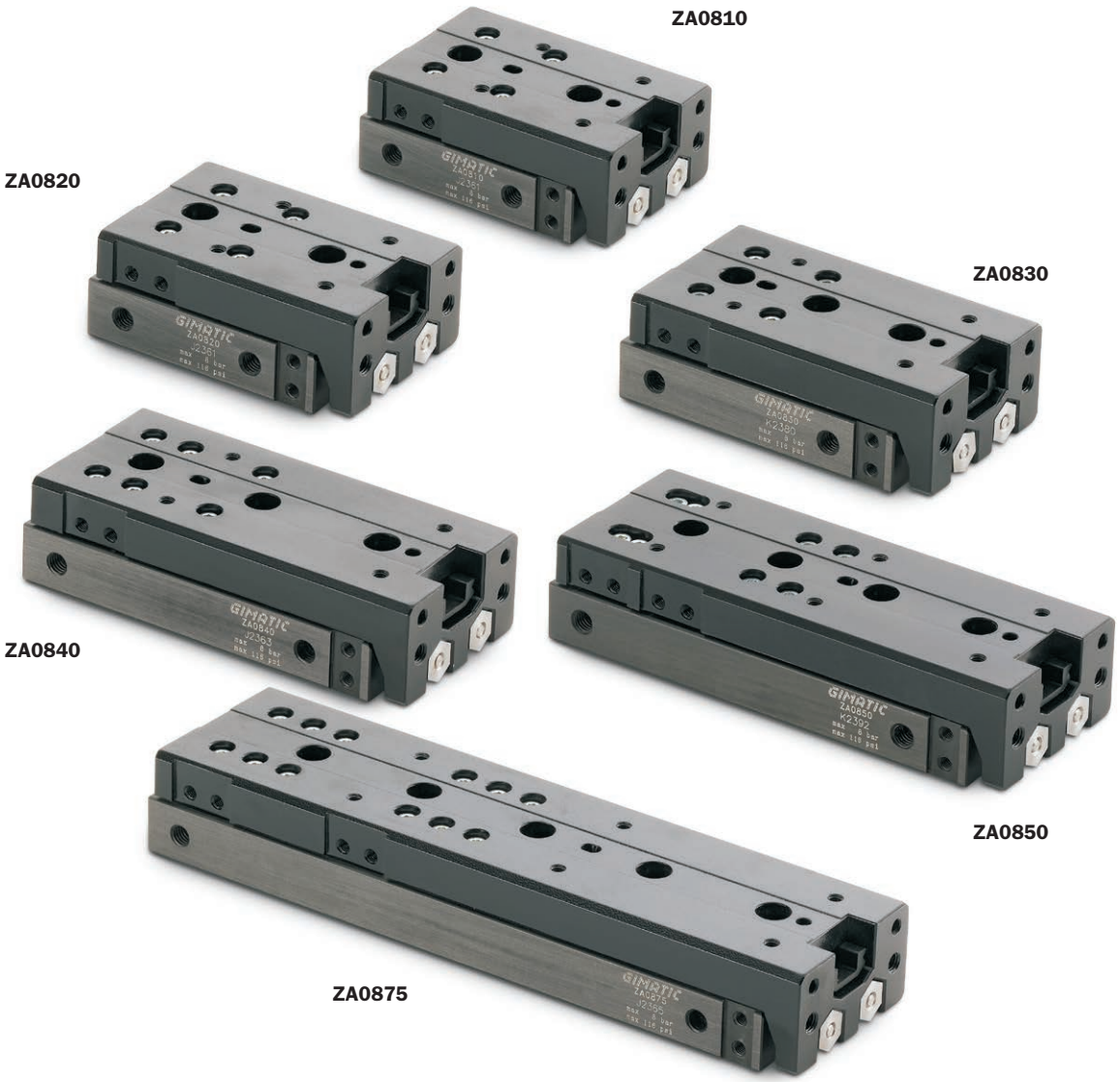
They are all provided with a flat three-wire cable and lamp.



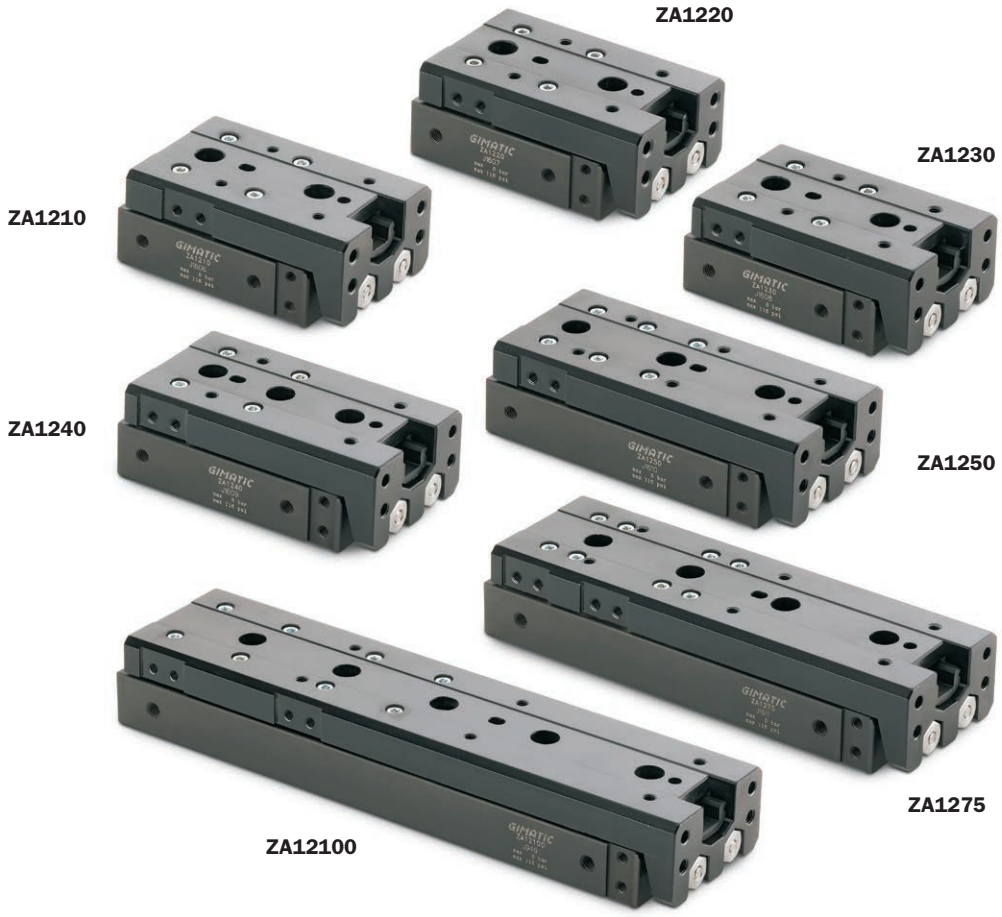
	ZA0610	ZA0620	ZA0630	ZA0640	ZA0650
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Pressure range*	3 ÷ 8 bar				
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.				
Forza di apertura a 6 bar *Extension force at 6 bar*	29 N				
Forza di chiusura a 6 bar *Retraction force at 6 bar*	22 N				
Corsa totale massima *Maximun total stroke*	10 mm	20 mm	30 mm	40 mm	50 mm
Tempo di azionamento minimo *Minimum actuating time*	0.03 s	0.04 s	0.05 s	0.06 s	0.08 s
Consumo d'aria per ciclo *Cycle air consumption*	1 cm^3	2 cm^3	3 cm^3	5 cm^3	6 cm^3
Peso *Weight*	100 g	120 g	135 g	170 g	205 g



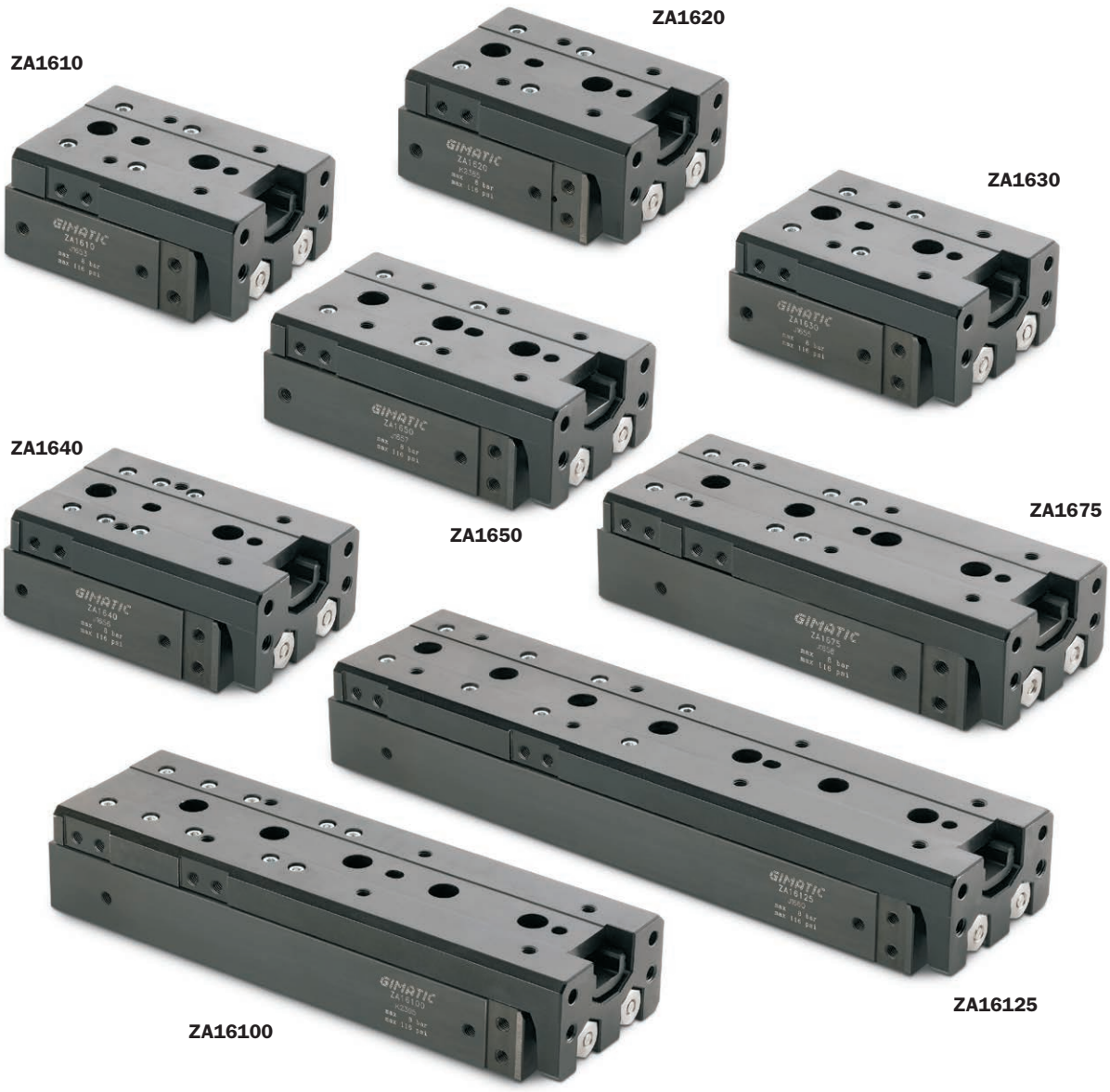
	ZA0810	ZA0820	ZA0830	ZA0840	ZA0850	ZA0875
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2.5 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Forza di apertura a 6 bar *Extension force at 6 bar*	51 N					
Forza di chiusura a 6 bar *Retraction force at 6 bar*	38 N					
Corsa totale massima *Maximun total stroke*	10 mm	20 mm	30 mm	40 mm	50 mm	75 mm
Tempo di azionamento minimo *Minimum actuating time*	0.03 s	0.05 s	0.08 s	0.11 s	0.15 s	0.2 s
Consumo d'aria per ciclo *Cycle air consumption*	3 cm^3	4 cm^3	6 cm^3	8 cm^3	11 cm^3	16 cm^3
Peso *Weight*	170 g	185 g	215 g	270 g	310 g	450 g



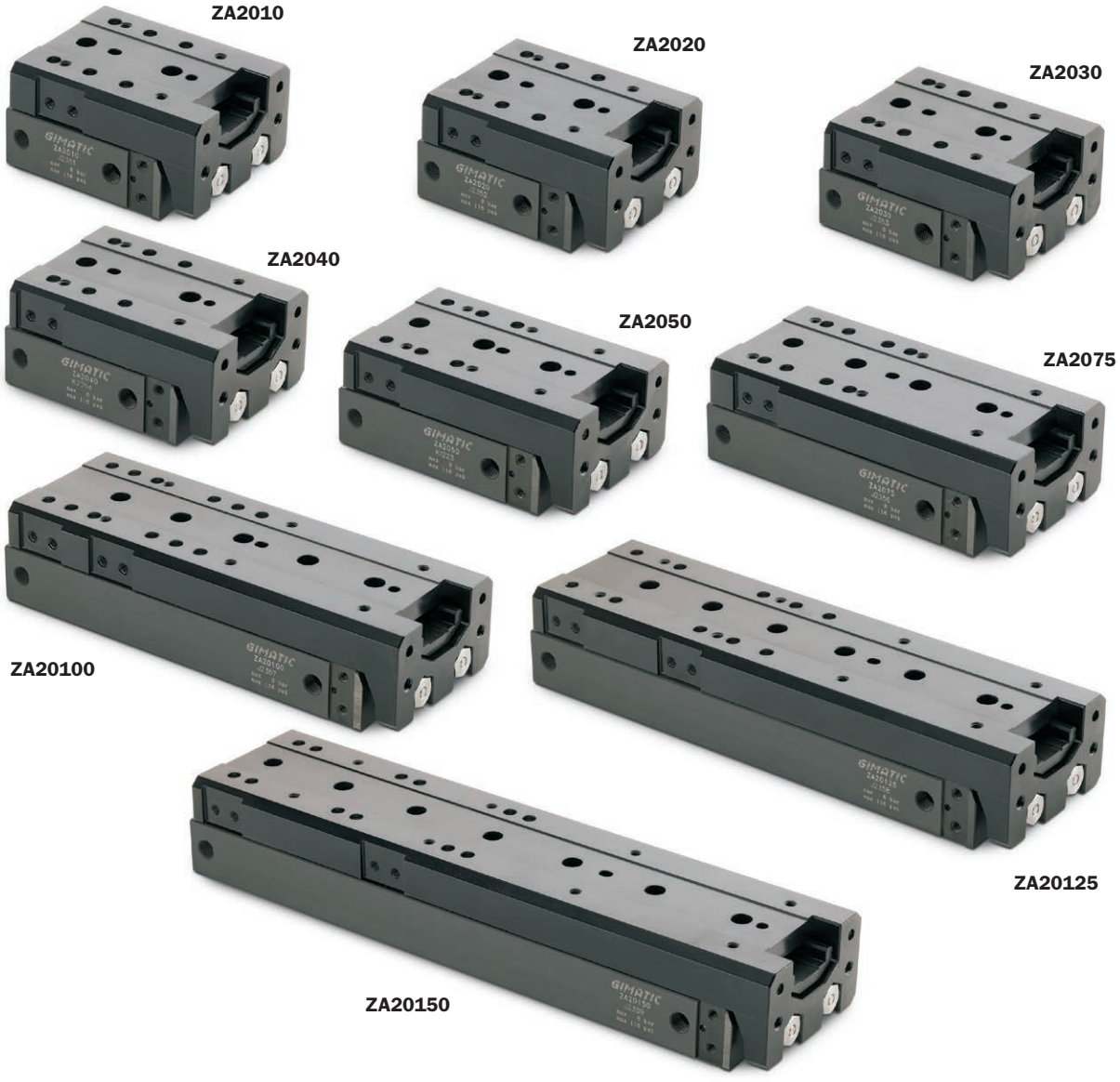
	ZA1210	ZA1220	ZA1230	ZA1240	ZA1250	ZA1275	ZA12100
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*						
Pressione di esercizio *Pressure range*	1 ÷ 8 bar						
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.						
Forza di apertura a 6 bar *Extension force at 6 bar*	122 N						
Forza di chiusura a 6 bar *Retraction force at 6 bar*	101 N						
Corsa totale massima *Maximun total stroke*	10 mm	20 mm	30 mm	40 mm	50 mm	75 mm	100 mm
Tempo di azionamento minimo *Minimum actuating time*	0.02 s	0.04 s	0.06 s	0.09 s	0.11 s	0.14 s	0.19 s
Consumo d'aria per ciclo *Cycle air consumption*	9 cm^3	11 cm^3	13 cm^3	17 cm^3	23 cm^3	38 cm^3	55 cm^3
Peso *Weight*	390 g	390 g	395 g	440 g	535 g	715 g	955 g



	ZA1610	ZA1620	ZA1630	ZA1640	ZA1650	ZA1675	ZA16100	ZA16125
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*							
Pressione di esercizio *Pressure range*	1 ÷ 8 bar							
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.							
Forza di apertura a 6 bar *Extension force at 6 bar*	217 N							
Forza di chiusura a 6 bar *Retraction force at 6 bar*	196 N							
Corsa totale massima *Maximun total stroke*	10 mm	20 mm	30 mm	40 mm	50 mm	75 mm	100 mm	125 mm
Tempo di azionamento minimo *Minimum actuating time*	0.03 s	0.04 s	0.05 s	0.06 s	0.06 s	0.07 s	0.09 s	0.11 s
Consumo d'aria per ciclo *Cycle air consumption*	16 cm^3	19 cm^3	23 cm^3	31 cm^3	40 cm^3	69 cm^3	98 cm^3	127 cm^3
Peso *Weight*	645 g	645 g	650 g	710 g	820 g	1150 g	1475 g	1800 g



	ZA2010	ZA2020	ZA2030	ZA2040	ZA2050	ZA2075	ZA20100	ZA20125	ZA20150
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*								
Pressione di esercizio *Pressure range*	1 ÷ 8 bar								
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.								
Forza di apertura a 6 bar *Extension force at 6 bar*	339 N								
Forza di chiusura a 6 bar *Retraction force at 6 bar*	309 N								
Corsa totale massima *Maximun total stroke*	10 mm	20 mm	30 mm	40 mm	50 mm	75 mm	100 mm	125 mm	150 mm
Tempo di azionamento minimo *Minimum actuating time*	0.03 s	0.04 s	0.05 s	0.06 s	0.07 s	0.09 s	0.11 s	0.13 s	0.16 s
Consumo d'aria per ciclo *Cycle air consumption*	26 cm^3	32 cm^3	38 cm^3	51 cm^3	66 cm^3	103 cm^3	142 cm^3	188 cm^3	221 cm^3
Peso *Weight*	1100 g	1110 g	1110 g	1210 g	1360 g	1745 g	2320 g	2845 g	3370 g



Energia cinetica

L'energia che la slitta deve dissipare ad ogni fine corsa è:

Kinetic energy

The energy the slide has to dissipate at each end stroke is:

$$E = \frac{m_{WP} \times s^2}{t^2}$$

dove:

m_{WP} è la massa trasportata [kg];
s è la corsa [m];
t è il tempo di traslazione [s].

where:

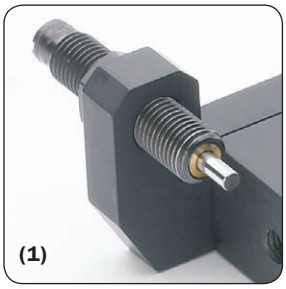
m_{WP} *is the work piece mass [kg];*
s *is the travel stroke [m];*
t *is the travel time [s].*

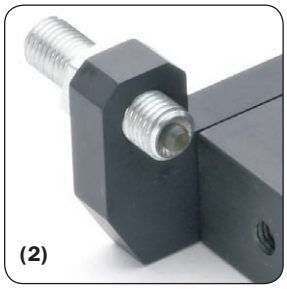
I valori ammessi di E sono riportati nella tabella dell'energia cinetica sottostante.

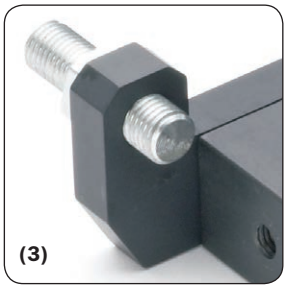
The maximum permitted values of E are in the kinetic energy table below.

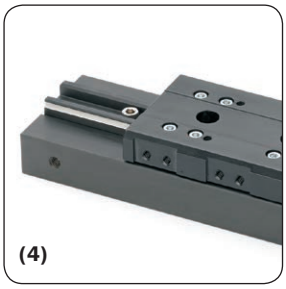
Energia cinetica ammessa / *Permitted kinetic energy*

		ZA06	ZA08	ZA12	ZA16	ZA20
Con deceleratore *With shock-absorber*	(1)	0.03 J	0.04 J	0.14 J	0.28 J	0.48 J
Con gommino *With rubber bumper*	(2)	0.02 J	0.03 J	0.08 J	0.14 J	0.24 J
Con Grano *With grub screw*	(3)	0.01 J	0.02 J	0.03 J	0.05 J	0.08 J
Senza regolatori di corsa *Without stroke adjusters*	(4)	0.01 J	0.02 J	0.03 J	0.05 J	0.08 J


(1)


(2)


(3)


(4)

Ripetibilità

Gli accessori usati per la regolazione del fine corsa influenzano la ripetibilità.
Usare il deceleratore o il grano, quando è necessario un posizionamento preciso (+/-0.02mm) a fine corsa.

Repeatability

The accessories used for the end-stroke adjustment affect the slide repeatability.
Use the shock-absorber option or the grub screw option, when a precise end-stroke positioning (+/-0.02mm) is needed.

Carichi di sicurezza

Consultare le tabelle dei carichi ammissibili.
Carichi eccessivi possono danneggiare la slitta e comprometterne il funzionamento.

Le quote Yo e Zo identificano il centro del cuscinetto lineare.

Fx s, Fz s, Mx s, My s, Mz s sono i carichi statici massimi ammissibili.
Fx d, Fz d, Mx d, My d, Mz d sono i carichi dinamici massimi ammissibili.
I carichi statici sono quelli applicabili alla slitta quando il carrello é fermo, i carichi dinamici sono quelli applicabili durante il movimento.

Nelle tabelle è riportato anche il massimo peso trasportabile (m max).

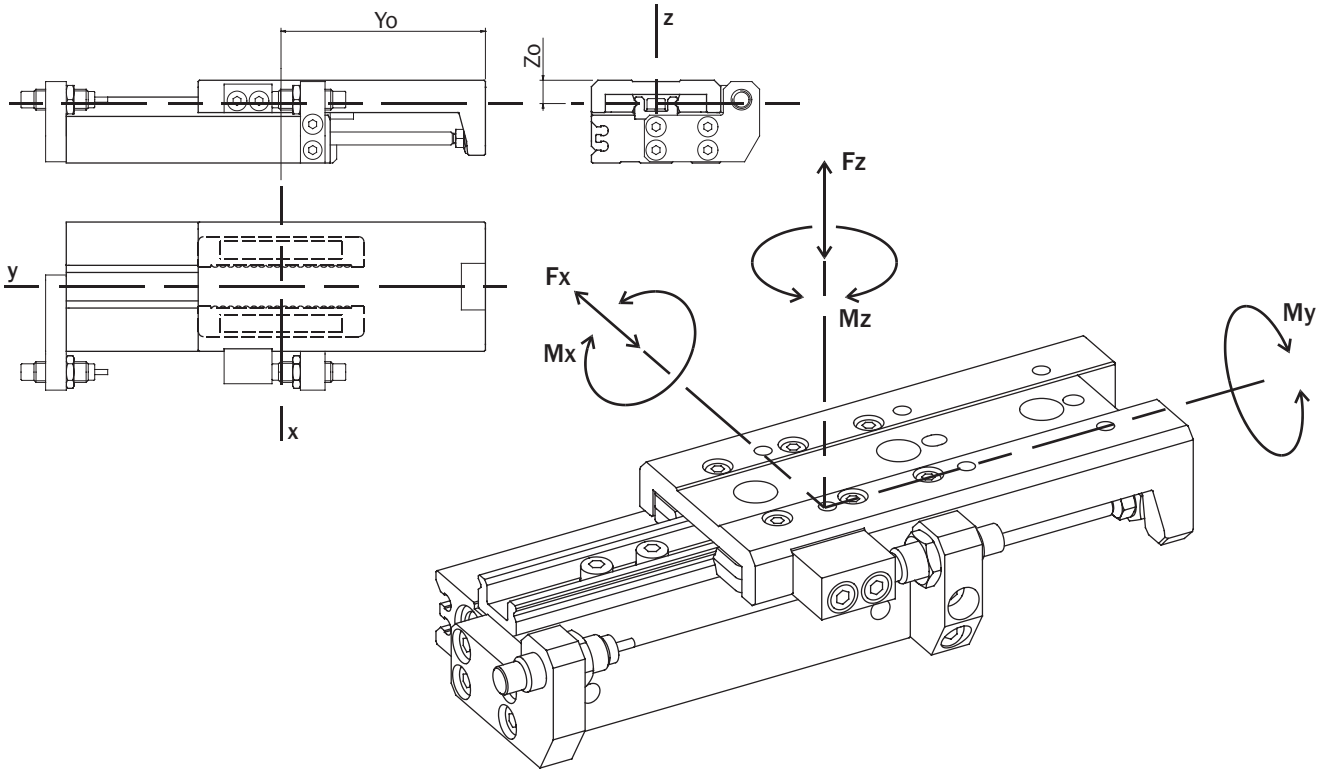
Safety loads

Check the tables below.
Excessive loads can damage the slide and cause functioning troubles.

The dimensions Yo and Zo identify the linear bearing center position.

Fx s, Fz s, Mx s, My s, Mz s are maximum permitted static loads.
Fx d, Fz d, Mx d, My d, Mz d are maximum permitted dynamic loads.
The static loads can be applied when the carrier is motionless, the dynamic loads when the carrier is running.

In the tables you can also find the maximum payload (m max).



	ZA0610	ZA0620	ZA0630	ZA0640	ZA0650
Zo	5.5 mm	5.5 mm	5.5 mm	5.5 mm	5.5 mm
Yo	28 mm	38 mm	48 mm	65 mm	77 mm
Fx s	15 N	15 N	15 N	18 N	18 N
Fz s	15 N	15 N	15 N	18 N	18 N
Mx s	1 Nm	1 Nm	1 Nm	2 Nm	2 Nm
My s	1 Nm	1 Nm	1 Nm	1.5 Nm	1.5 Nm
Mz s	1 Nm	1 Nm	1 Nm	2 Nm	2 Nm
Fx d	6 N	6 N	6 N	7 N	7 N
Fz d	6 N	6 N	6 N	7 N	7 N
Mx d	0.2 Nm	0.2 Nm	0.2 Nm	0.4 Nm	0.4 Nm
My d	0.2 Nm	0.2 Nm	0.2 Nm	0.3 Nm	0.3 Nm
Mz d	0.2 Nm	0.2 Nm	0.2 Nm	0.4 Nm	0.4 Nm
m max	0.6 kg	0.6 kg	0.6 kg	0.7 kg	0.7 kg

	ZA0810	ZA0820	ZA0830	ZA0840	ZA0850	ZA0875
Zo	7.5 mm	7.5 mm	7.5 mm	7.5 mm	7.5 mm	7.5 mm
Yo	36 mm	41 mm	52 mm	66 mm	77 mm	115 mm
Fx s	30 N	30 N	30 N	30 N	30 N	60 N
Fz s	30 N	30 N	30 N	30 N	30 N	60 N
Mx s	1.5 Nm	1.5 Nm	1.5 Nm	2 Nm	4 Nm	6 Nm
My s	2 Nm	2 Nm	2 Nm	3 Nm	2 Nm	4 Nm
Mz s	1.5 Nm	1.5 Nm	1.5 Nm	2 Nm	4 Nm	6 Nm
Fx d	10 N	10 N	10 N	10 N	10 N	20 N
Fz d	10 N	10 N	10 N	10 N	10 N	20 N
Mx d	0.3 Nm	0.3 Nm	0.3 Nm	0.4 Nm	0.8 Nm	1.2 Nm
My d	0.4 Nm	0.4 Nm	0.4 Nm	0.6 Nm	0.4 Nm	0.8 Nm
Mz d	0.3 Nm	0.3 Nm	0.3 Nm	0.4 Nm	0.8 Nm	1.2 Nm
m max	1 kg	1 kg	1 kg	1 kg	1 kg	2 kg

	ZA1210	ZA1220	ZA1230	ZA1240	ZA1250	ZA1275	ZA12100
Zo	9 mm	9 mm	9 mm	9 mm	9 mm	9 mm	9 mm
Yo	53 mm	53 mm	53 mm	65 mm	83 mm	115 mm	154 mm
Fx s	60 N	60 N	60 N	60 N	90 N	90 N	120 N
Fz s	60 N	60 N	60 N	60 N	90 N	90 N	120 N
Mx s	4 Nm	4 Nm	4 Nm	4 Nm	7 Nm	10 Nm	15 Nm
My s	6 Nm	6 Nm	6 Nm	6 Nm	8 Nm	8 Nm	10 Nm
Mz s	4 Nm	4 Nm	4 Nm	4 Nm	7 Nm	10 Nm	15 Nm
Fx d	20 N	20 N	20 N	20 N	30 N	30 N	40 N
Fz d	20 N	20 N	20 N	20 N	30 N	30 N	40 N
Mx d	0.8 Nm	0.8 Nm	0.8 Nm	0.8 Nm	1.4 Nm	2 Nm	3 Nm
My d	1.2 Nm	1.2 Nm	1.2 Nm	1.2 Nm	1.6 Nm	1.6 Nm	2 Nm
Mz d	0.8 Nm	0.8 Nm	0.8 Nm	0.8 Nm	1.4 Nm	2 Nm	3 Nm
m max	2 kg	2 kg	2 kg	2 kg	3 kg	3 kg	4 kg

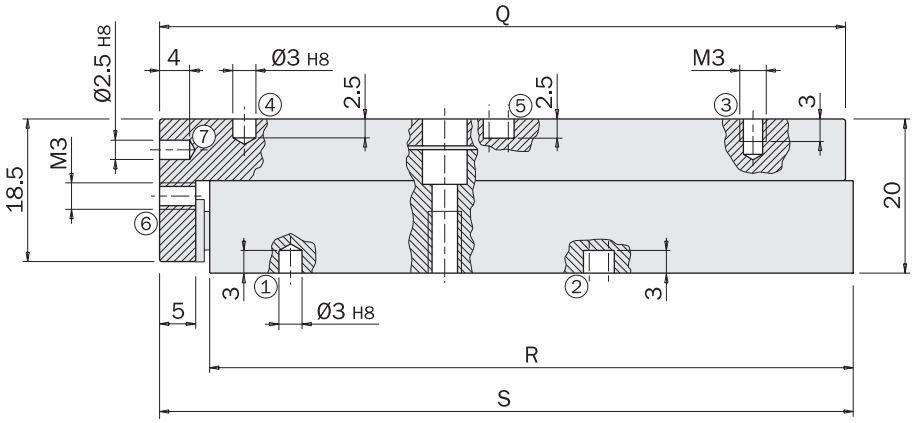
	ZA1610	ZA1620	ZA1630	ZA1640	ZA1650	ZA1675	ZA16100	ZA16125
Zo	10 mm	10 mm	10 mm	10 mm	10 mm	10 mm	10 mm	10 mm
Yo	60 mm	60 mm	60 mm	68 mm	79 mm	118 mm	155 mm	192 mm
Fx s	100 N	100 N	100 N	100 N	120 N	120 N	180 N	250 N
Fz s	100 N	100 N	100 N	100 N	120 N	120 N	180 N	250 N
Mx s	6 Nm	6 Nm	6 Nm	6 Nm	7 Nm	15 Nm	25 Nm	46 Nm
My s	8 Nm	8 Nm	8 Nm	8 Nm	11 Nm	10 Nm	16 Nm	22 Nm
Mz s	6 Nm	6 Nm	6 Nm	6 Nm	7 Nm	15 Nm	25 Nm	46 Nm
Fx d	30 N	30 N	30 N	30 N	40 N	40 N	50 N	60 N
Fz d	30 N	30 N	30 N	30 N	40 N	40 N	50 N	60 N
Mx d	1.2 Nm	1.2 Nm	1.2 Nm	1.2 Nm	1.4 Nm	3 Nm	5 Nm	9.2 Nm
My d	1.6 Nm	1.6 Nm	1.6 Nm	1.6 Nm	2.2 Nm	2 Nm	3.2 Nm	4.4 Nm
Mz d	1.2 Nm	1.2 Nm	1.2 Nm	1.2 Nm	1.4 Nm	3 Nm	5 Nm	9.2 Nm
m max	3 kg	3 kg	3 kg	3 kg	4 kg	4 kg	5 kg	6 kg

	ZA2010	ZA2020	ZA2030	ZA2040	ZA2050	ZA2075	ZA20100	ZA20125	ZA20150
Zo	13.5 mm	13.5 mm	13.5 mm	13.5 mm	13.5 mm	13.5 mm	13.5 mm	13.5 mm	13.5 mm
Yo	64 mm	64 mm	64 mm	74 mm	84 mm	117 mm	157 mm	194 mm	235 mm
Fx s	180 N	180 N	180 N	180 N	180 N	180 N	270 N	370 N	260 N
Fz s	180 N	180 N	180 N	180 N	180 N	180 N	270 N	370 N	260 N
Mx s	10 Nm	10 Nm	10 Nm	10 Nm	10 Nm	13 Nm	30 Nm	48 Nm	48 Nm
My s	17 Nm	17 Nm	17 Nm	17 Nm	17 Nm	17 Nm	25 Nm	35 Nm	25 Nm
Mz s	10 Nm	10 Nm	10 Nm	10 Nm	10 Nm	13 Nm	30 Nm	48 Nm	48 Nm
Fx d	40 N	40 N	40 N	40 N	40 N	40 N	60 N	70 N	50 N
Fz d	40 N	40 N	40 N	40 N	40 N	40 N	60 N	70 N	50 N
Mx d	2 Nm	2 Nm	2 Nm	2 Nm	2 Nm	2.6 Nm	6 Nm	9.6 Nm	9.6 Nm
My d	3.4 Nm	3.4 Nm	3.4 Nm	3.4 Nm	3.4 Nm	3.4 Nm	5 Nm	7 Nm	5 Nm
Mz d	2 Nm	2 Nm	2 Nm	2 Nm	2 Nm	2.6 Nm	6 Nm	9.6 Nm	9.6 Nm
m max	4 kg	4 kg	4 kg	4 kg	4 kg	4 kg	6 kg	7 kg	5 kg

Dimensioni (mm) / *Dimensions (mm)*

ZA06

FIRST ANGLE PROJECTION

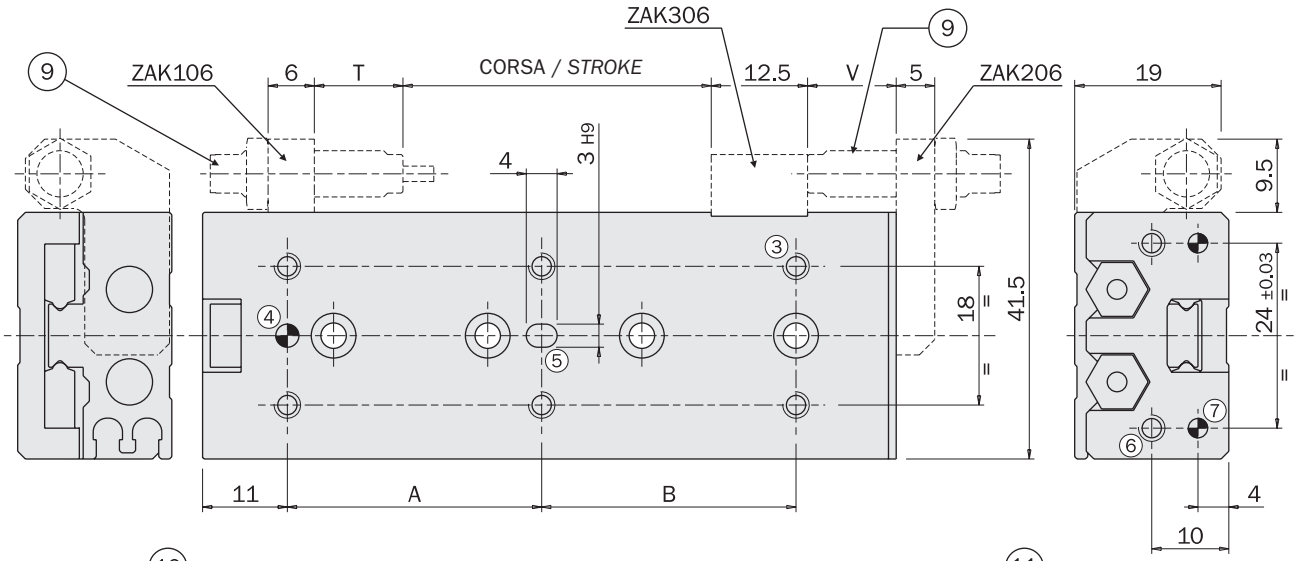


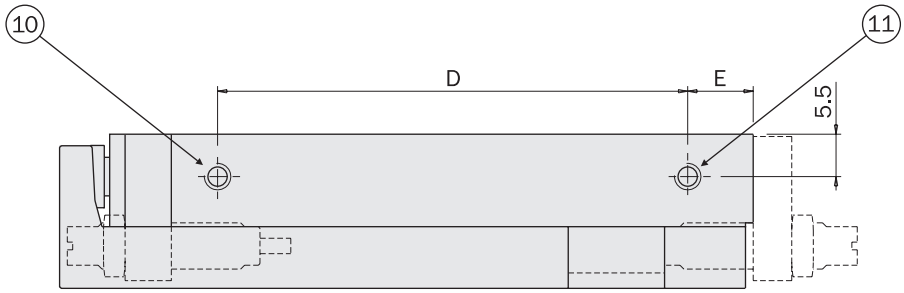
8 Sede per sensori serie SS e SN
SS and SN series sensor groove

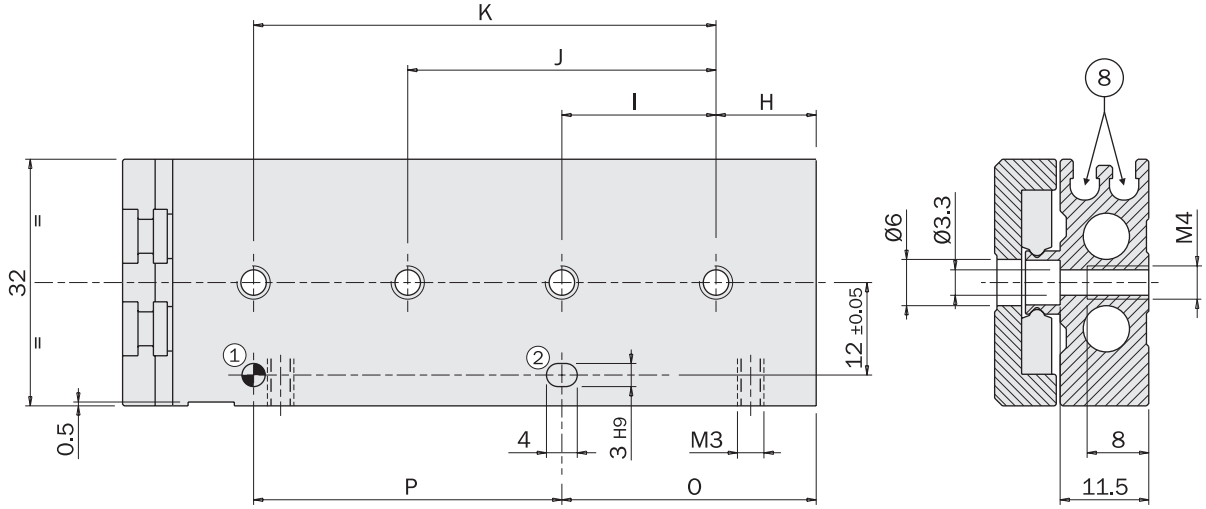
9 Regolatore di corsa
Stroke adjuster

10 Ingresso aria per chiusura slitta
Air port for slide retraction

11 Ingresso aria per apertura slitta
Air port for slide extension

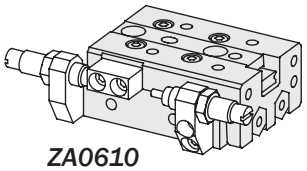




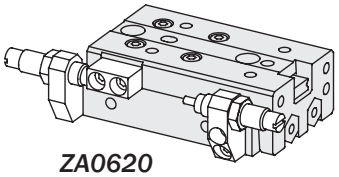


Dimensioni (mm) / *Dimensions (mm)*

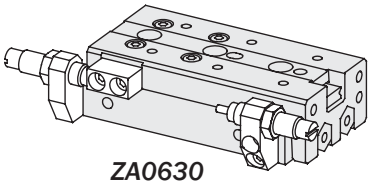
	ZA0610	ZA0620	ZA0630	ZA0640	ZA0650
A	20	30	20	28	38
B	-	-	20	28	38
D	19	29	40	61	76
E	8.5	8.5	7.5	8.5	9.5
H	6	6	11	13	17
I	25	35	20	30	24
J	-	-	40	60	48
K	-	-	-	-	72
O	11	21	31	43	41
P	20	20	20	30	48
Q	47	57	67	89	105
R	41.5	51.5	61.5	83.5	99.5
S	48	58	68	90	106
T	5.5	5.5	5.5	11.5	14.5
V	5.5	5.5	5.5	11.5	14.5



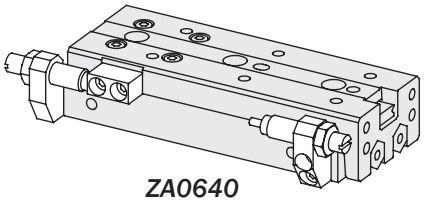
ZA0610



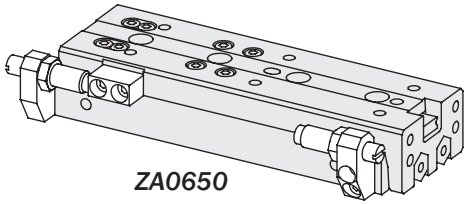
ZA0620



ZA0630



ZA0640

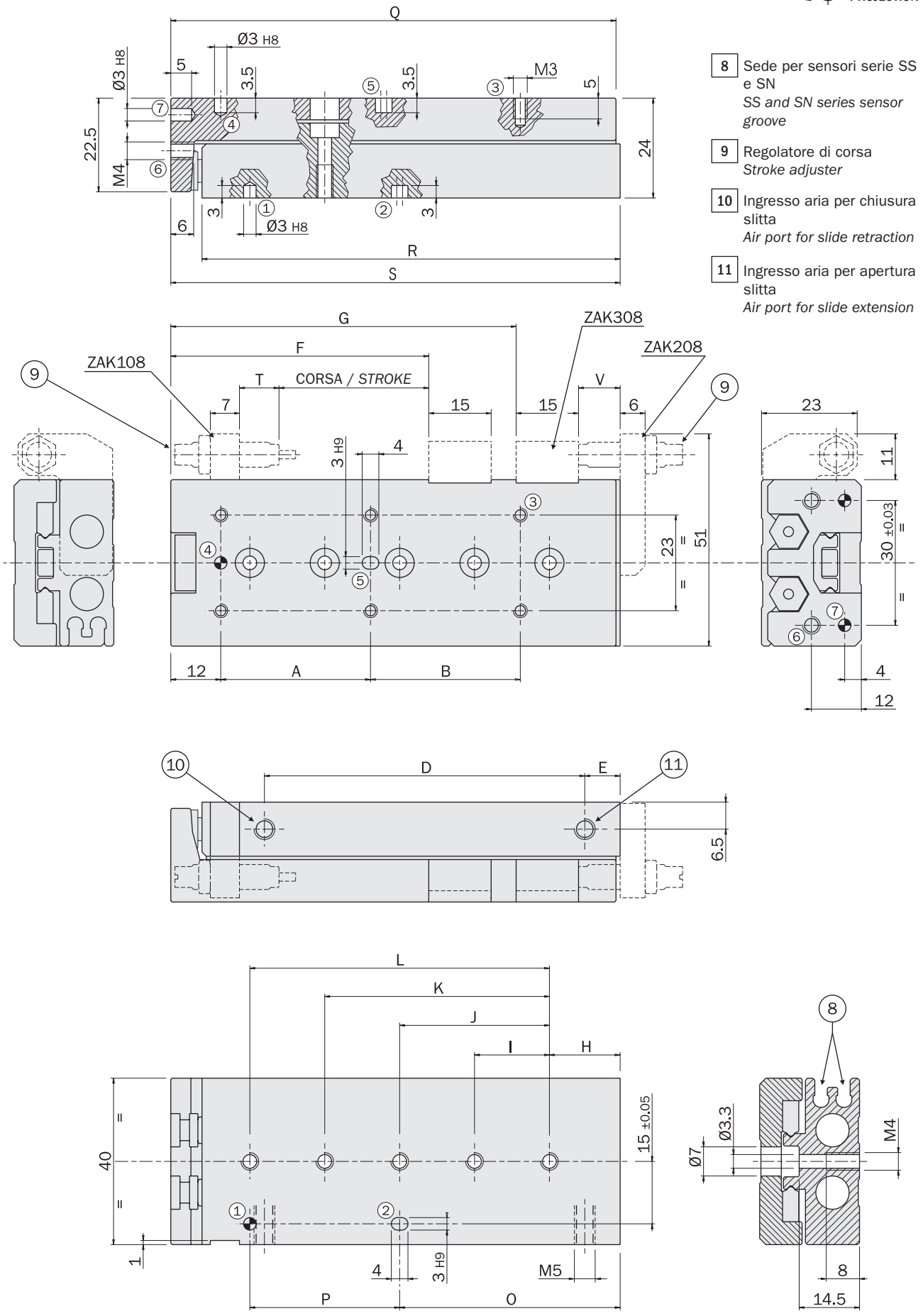


ZA0650

Dimensioni (mm) / *Dimensions (mm)*

ZA08

FIRST ANGLE PROJECTION



8 Sede per sensori serie SS e SN
SS and SN series sensor groove

9 Regolatore di corsa
Stroke adjuster

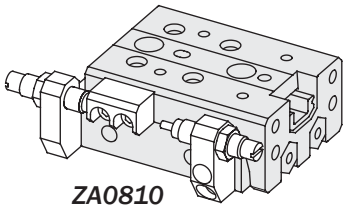
10 Ingresso aria per chiusura slitta
Air port for slide retraction

11 Ingresso aria per apertura slitta
Air port for slide extension

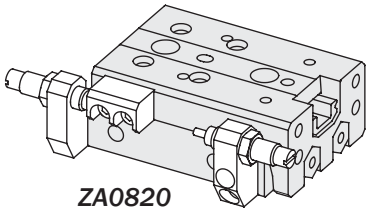
03/2015

Dimensioni (mm) / *Dimensions (mm)*

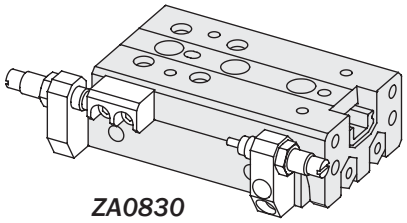
	ZA0810	ZA0820	ZA0830	ZA0840	ZA0850	ZA0875
A	25	25	40	50	38	50
B	-	-	-	-	38	50
D	21	30	41	59	77	127
E	12.5	8.5	8.5	8.5	8.5	8.5
F	34	41	52	66	71	98
G	-	-	-	-	89	137
H	9	12	13	15	20	27
I	28	30	20	28	23	28
J	-	-	40	56	46	56
K	-	-	-	-	69	84
L	-	-	-	-	-	112
O	17	12	33	43	43	83
P	20	30	20	28	46	56
Q	55	60	71	89	107	157
R	48.5	53.5	64.5	82.5	100.5	150.5
S	56	61	72	90	108	158
T	7.5	4.5	5.5	9.5	4.5	6.5
V	7	5	5	9	4	6



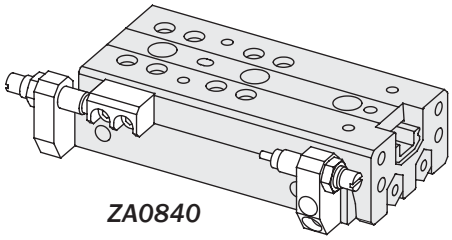
ZA0810



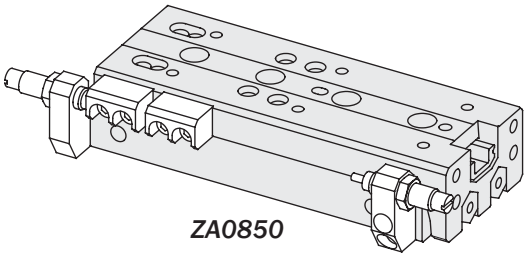
ZA0820



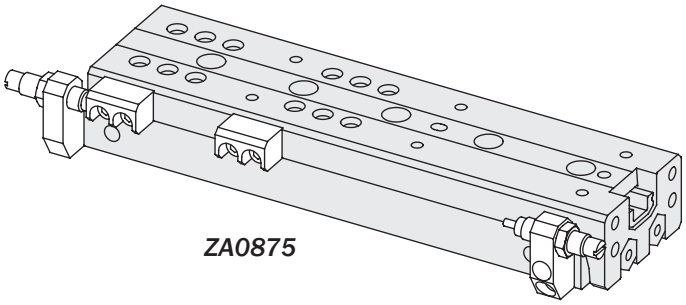
ZA0830



ZA0840



ZA0850

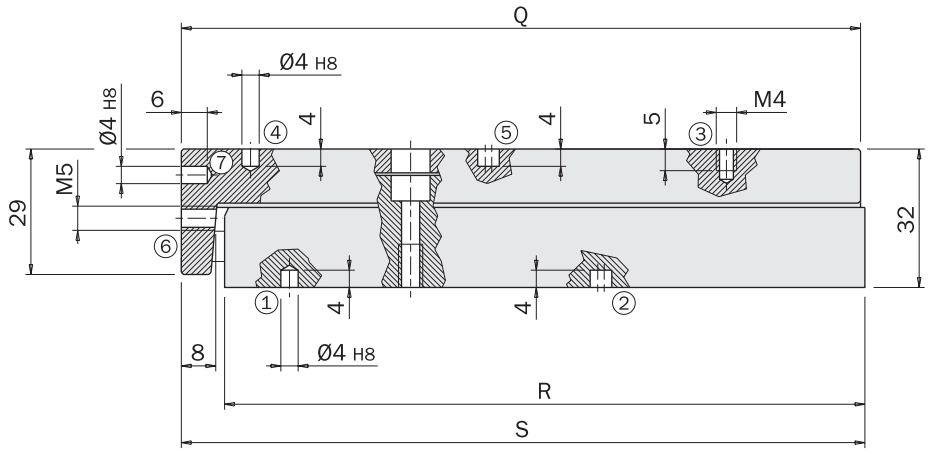


ZA0875

Dimensioni (mm) / *Dimensions (mm)*

ZA12

FIRST ANGLE PROJECTION

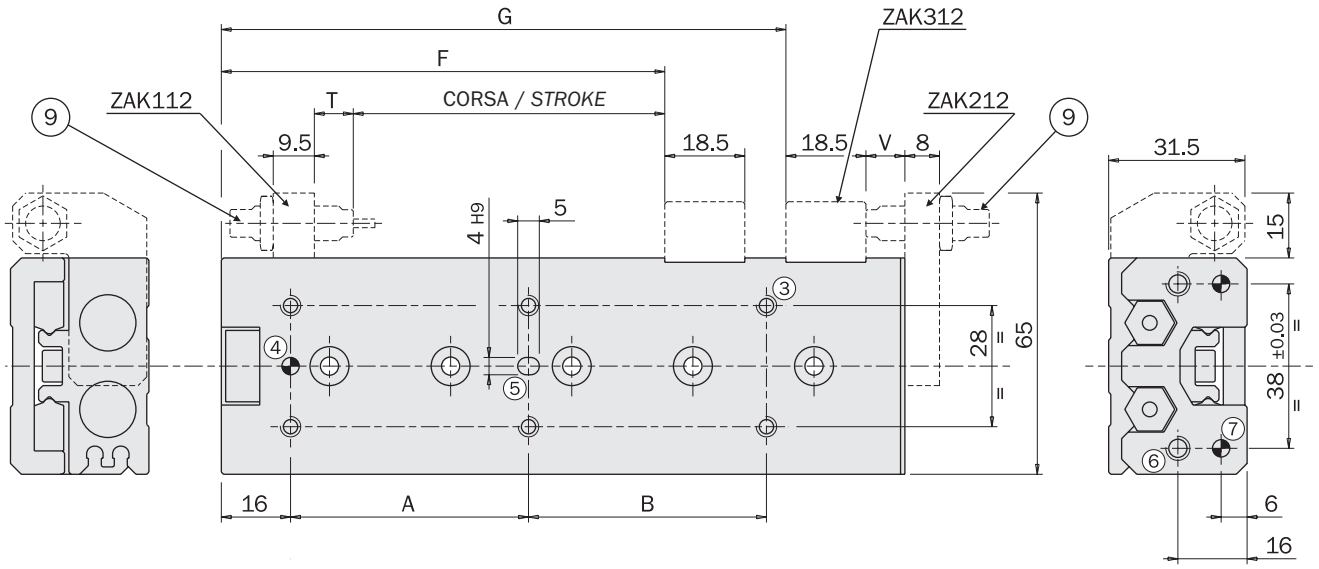


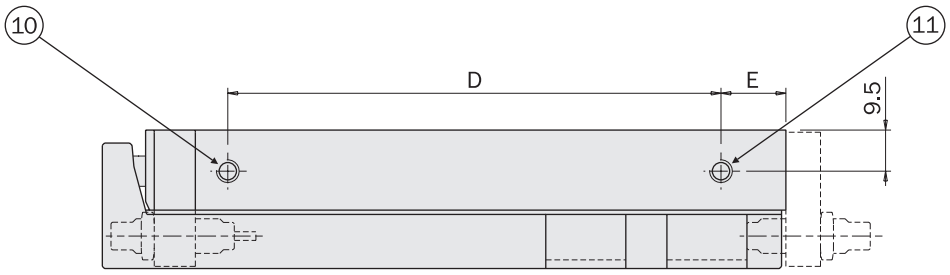
8 Sede per sensori serie SS e SN
SS and SN series sensor groove

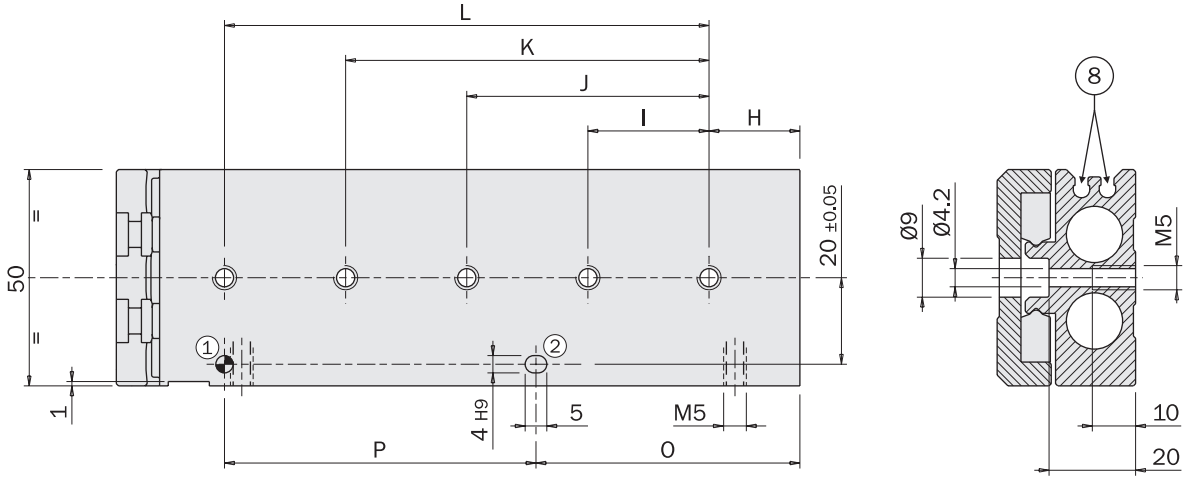
9 Regolatore di corsa
Stroke adjuster

10 Ingresso aria per chiusura slitta
Air port for slide retraction

11 Ingresso aria per apertura slitta
Air port for slide extension

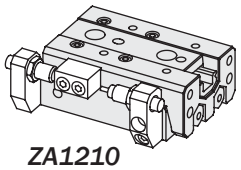




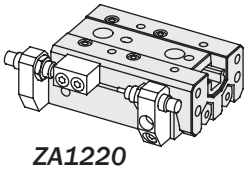


Dimensioni (mm) / *Dimensions (mm)*

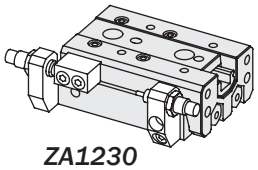
	ZA1210	ZA1220	ZA1230	ZA1240	ZA1250	ZA1275	ZA12100
A	35	35	35	50	35	55	65
B	-	-	-	-	35	55	65
D	41.5	41.5	41.5	53	73	114	168
E	9.5	9.5	9.5	10	10	15	15
F	46.5	51.5	56.5	67.5	82.5	102.5	130
G	-	-	-	-	-	133.5	185
H	15	15	15	17	15	25	35
I	40	40	40	25	36	36	38
J	-	-	-	50	72	72	76
K	-	-	-	-	-	108	114
L	-	-	-	-	-	-	152
O	15	15	15	42	51	61	111
P	40	40	40	25	36	72	76
Q	79	79	79	91	111	157	211
R	70	70	70	82	102	148	202
S	80	80	80	92	112	158	212
T	15	10	5	6	11	6	8.5
V	15	9.5	5	6	11	6	8.5



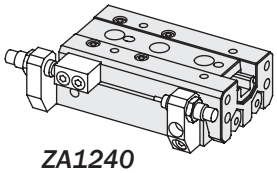
ZA1210



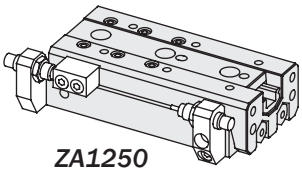
ZA1220



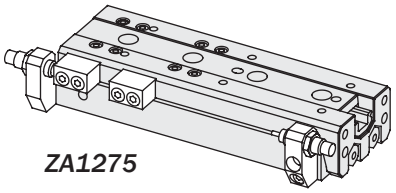
ZA1230



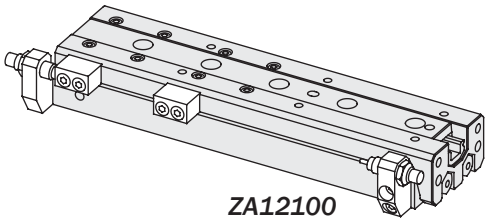
ZA1240



ZA1250



ZA1275

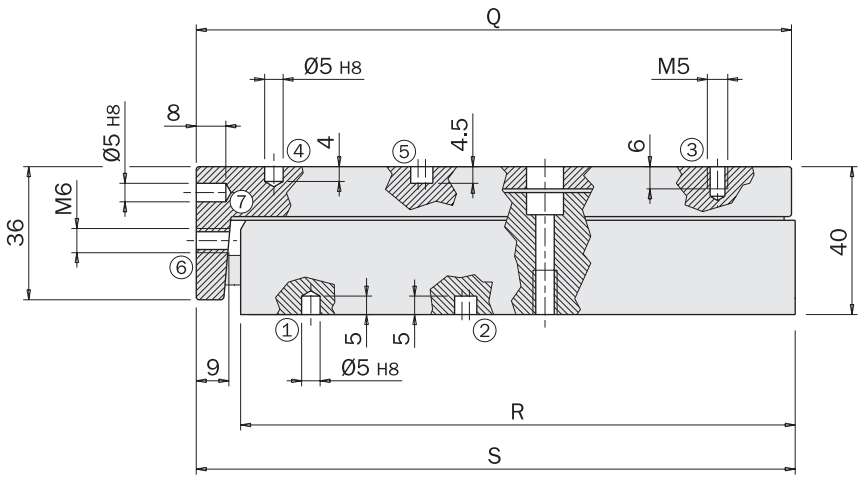


ZA12100

Dimensioni (mm) / *Dimensions (mm)*

ZA16

FIRST ANGLE PROJECTION

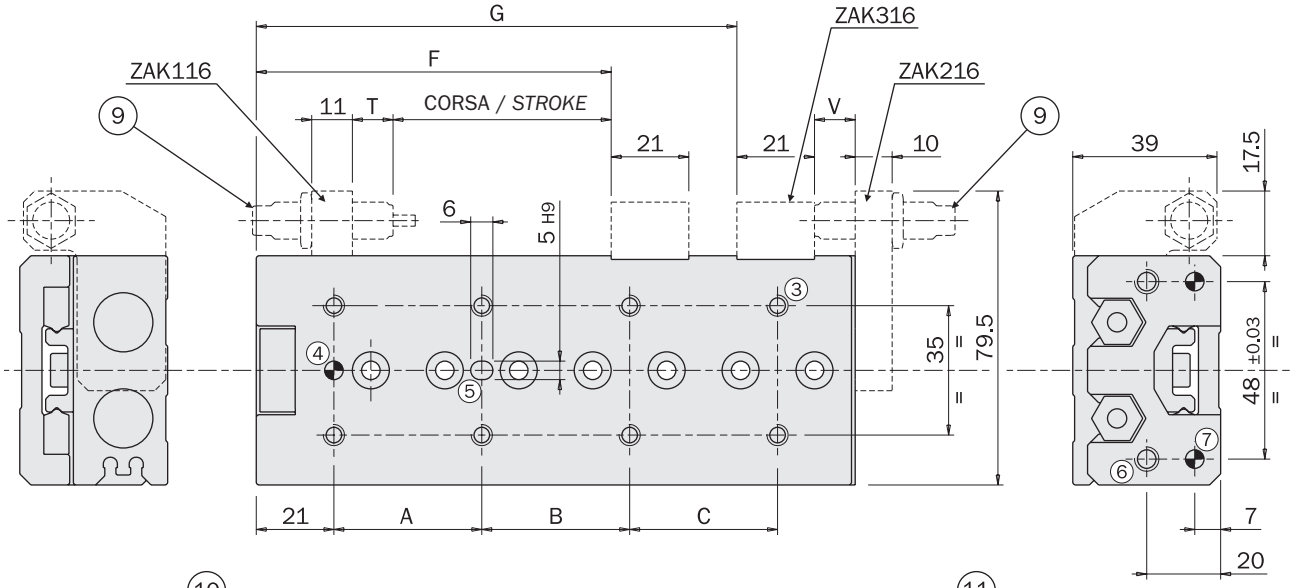


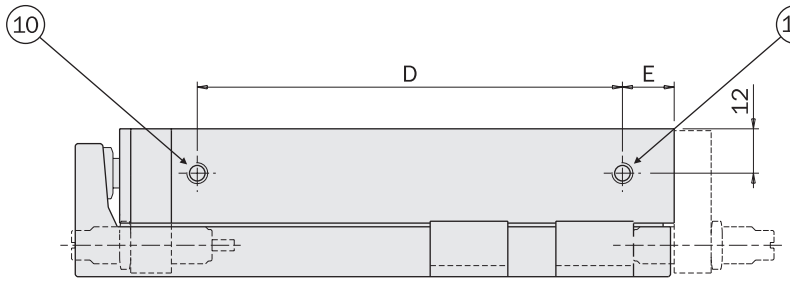
8 Sede per sensori serie SS e SN
SS and SN series sensor groove

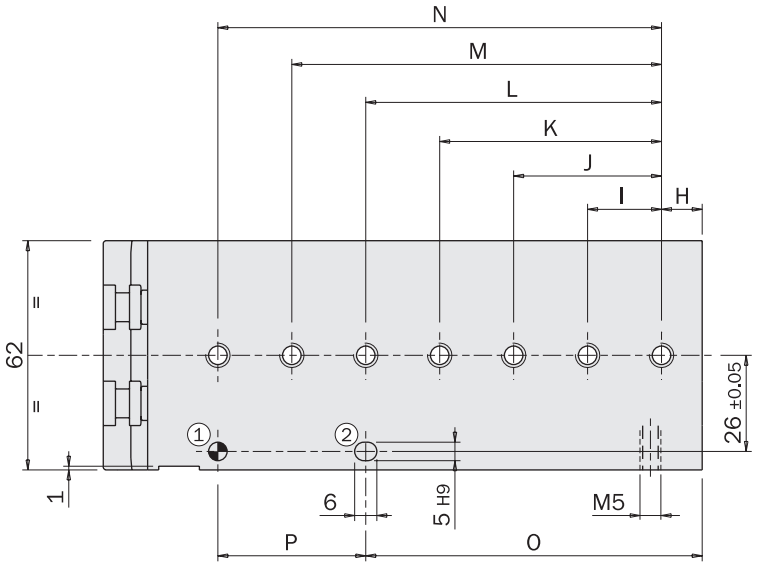
9 Regolatore di corsa
Stroke adjuster

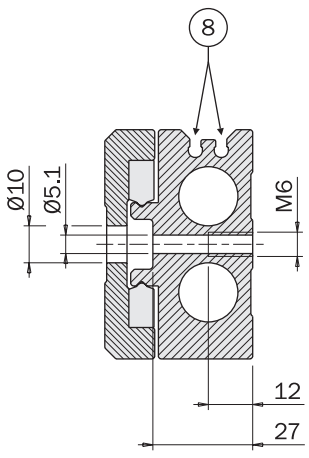
10 Ingresso aria per chiusura slitta
Air port for slide retraction

11 Ingresso aria per apertura slitta
Air port for slide extension



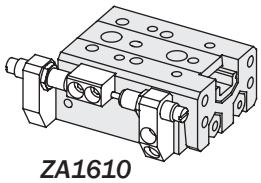




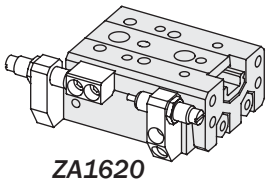


Dimensioni (mm) / *Dimensions (mm)*

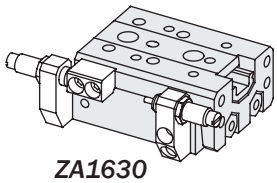
	ZA1610	ZA1620	ZA1630	ZA1640	ZA1650	ZA1675	ZA16100	ZA16125
A	35	35	35	40	30	55	65	70
B	-	-	-	-	30	55	65	70
C	-	-	-	-	-	-	-	70
D	46.5	46.5	46.5	56.5	70	115	150	200
E	7.5	7.5	7.5	7.5	9	14	27	27
F	51	56	61	71	83.5	106	132	157
G	-	-	-	-	-	136	183	233
H	16	16	16	16	21	26	39	19
I	40	40	40	50	30	35	35	35
J	-	-	-	-	60	70	70	70
K	-	-	-	-	-	105	105	105
L	-	-	-	-	-	-	140	140
M	-	-	-	-	-	-	-	175
N	-	-	-	-	-	-	-	210
O	16	16	16	16	51	61	109	159
P	40	40	40	50	30	70	70	70
Q	86	86	86	96	111	161	209	259
R	75	75	75	85	100	150	198	248
S	87	87	87	97	112	162	210	260
T	15	10	5	5	7.5	5	6	6
V	15	10	5	5	7.5	5	6	6



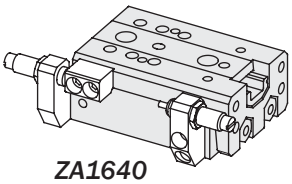
ZA1610



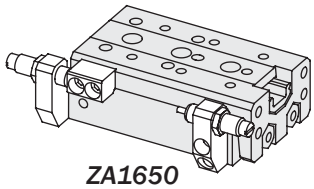
ZA1620



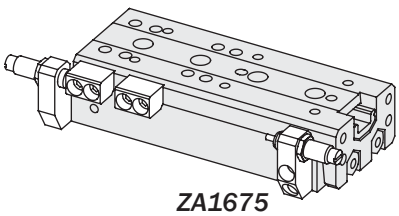
ZA1630



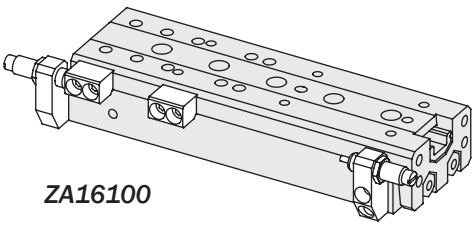
ZA1640



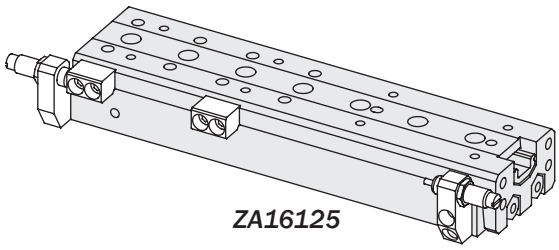
ZA1650



ZA1675



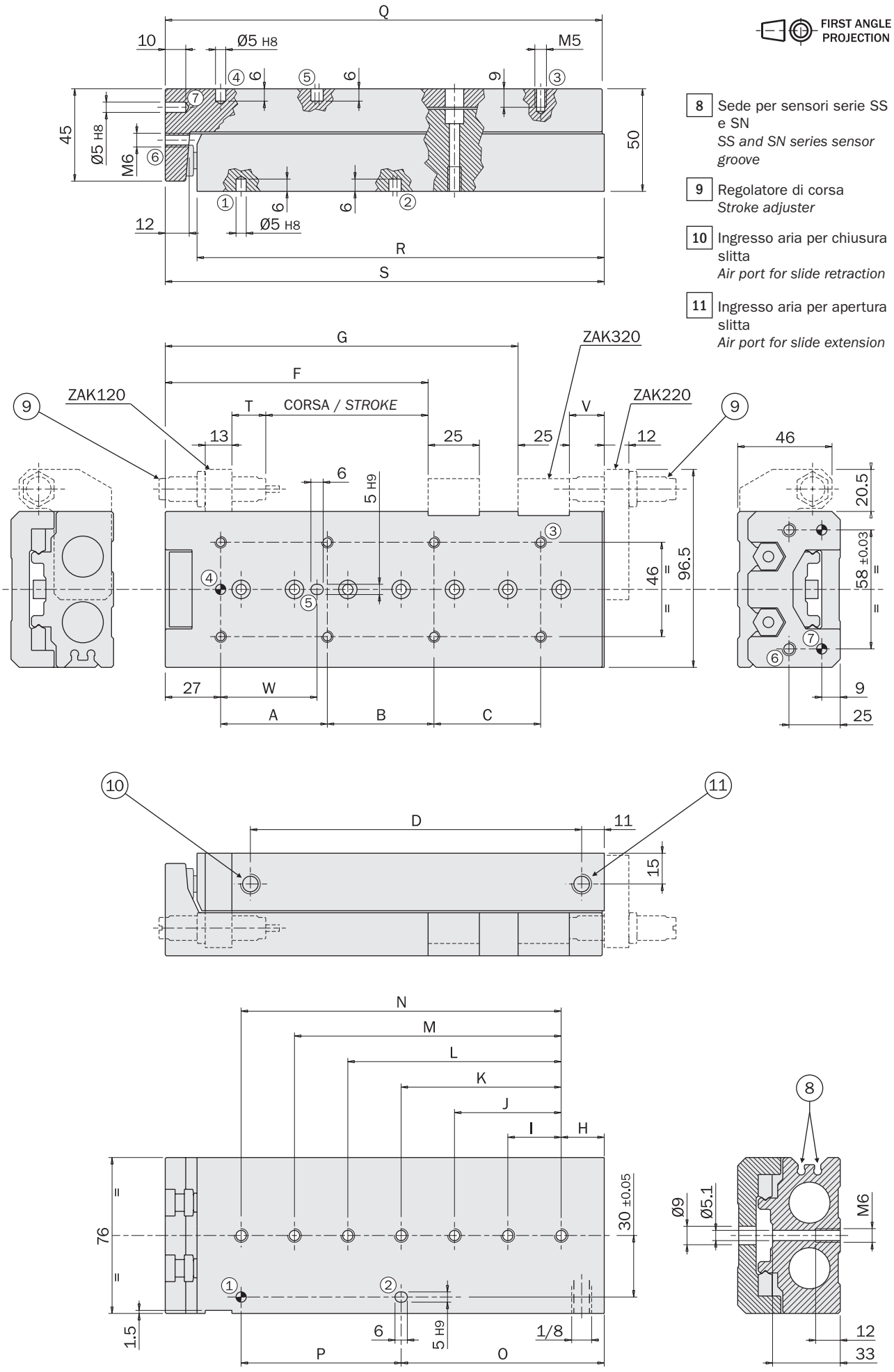
ZA16100



ZA16125

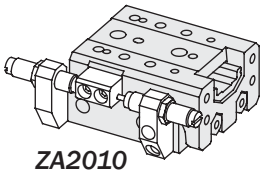
Dimensioni (mm) / *Dimensions (mm)*

ZA20

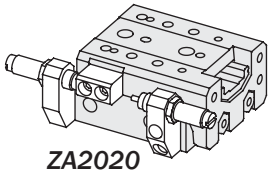


Dimensioni (mm) / *Dimensions (mm)*

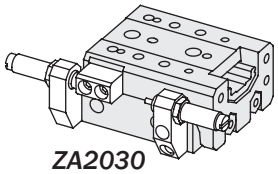
	ZA2010	ZA2020	ZA2030	ZA2040	ZA2050	ZA2075	ZA20100	ZA20125	ZA20150
A	50	50	50	60	35	60	70	70	80
B	-	-	-	-	35	60	70	70	80
C	-	-	-	-	-	-	-	70	80
D	44.5	44.5	44.5	54.5	69.5	108.5	161.5	215	267.5
F	57	62	67	77	89.5	121.5	140	165	190
G	-	-	-	-	-	-	181	235	287
H	15	15	15	15	15	19	37	41	19
I	45	45	45	55	35	35	35	38	44
J	-	-	-	-	70	70	70	76	88
K	-	-	-	-	-	105	105	114	132
L	-	-	-	-	-	-	140	152	176
M	-	-	-	-	-	-	-	190	220
N	-	-	-	-	-	-	-	-	264
O	25	25	25	35	50	54	107	155	195
P	35	35	35	35	35	70	70	76	88
Q	96	96	96	106	121	160	213	267	319
R	81.5	81.5	81.5	91.5	106.5	145.5	198.5	252.5	304.5
S	97	97	97	107	122	161	214	268	320
T	14.5	9.5	4.5	4.5	7	14	7.5	7.5	7.5
V	15	10	5	5	7.5	14.5	8	8	8
W	40	40	40	50	35	60	70	70	80



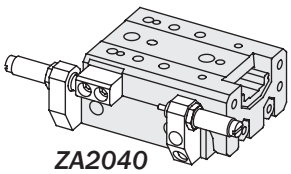
ZA2010



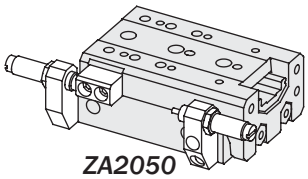
ZA2020



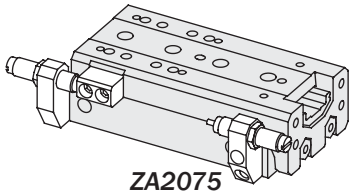
ZA2030



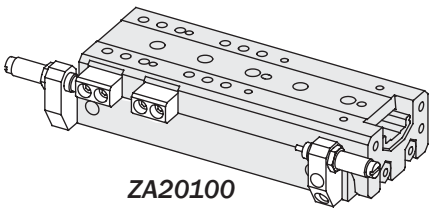
ZA2040



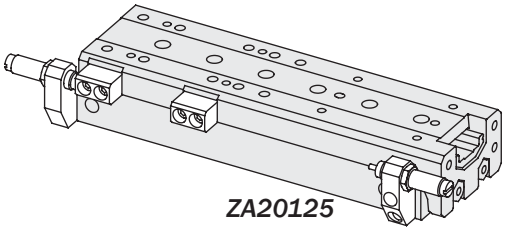
ZA2050



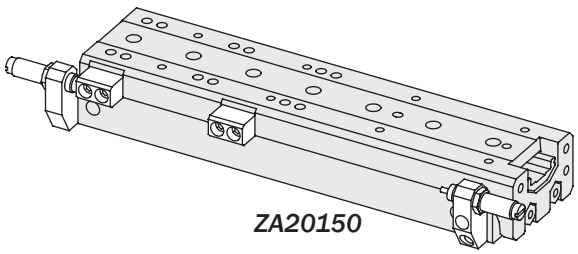
ZA2075



ZA20100

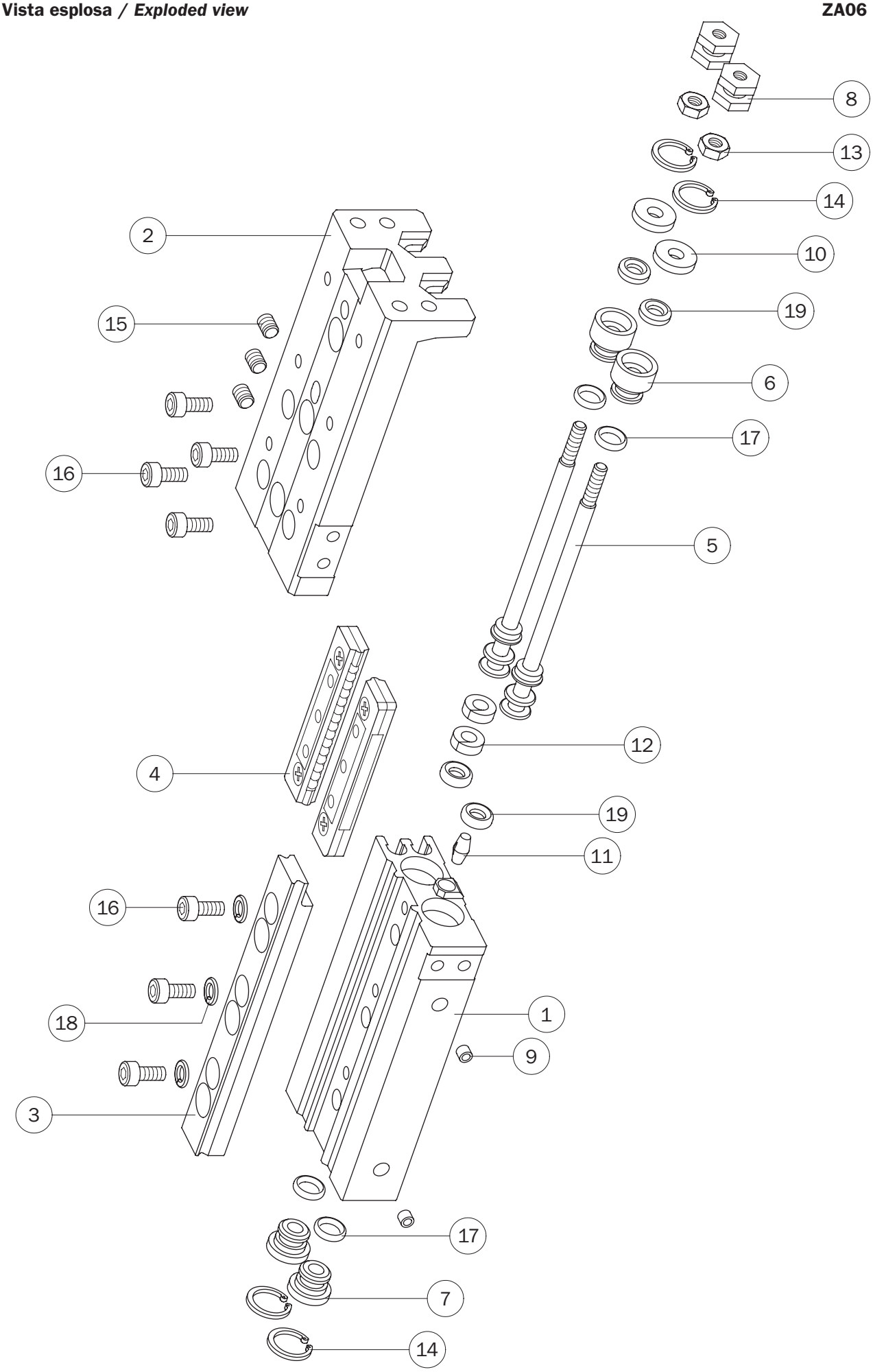


ZA20125



ZA20150

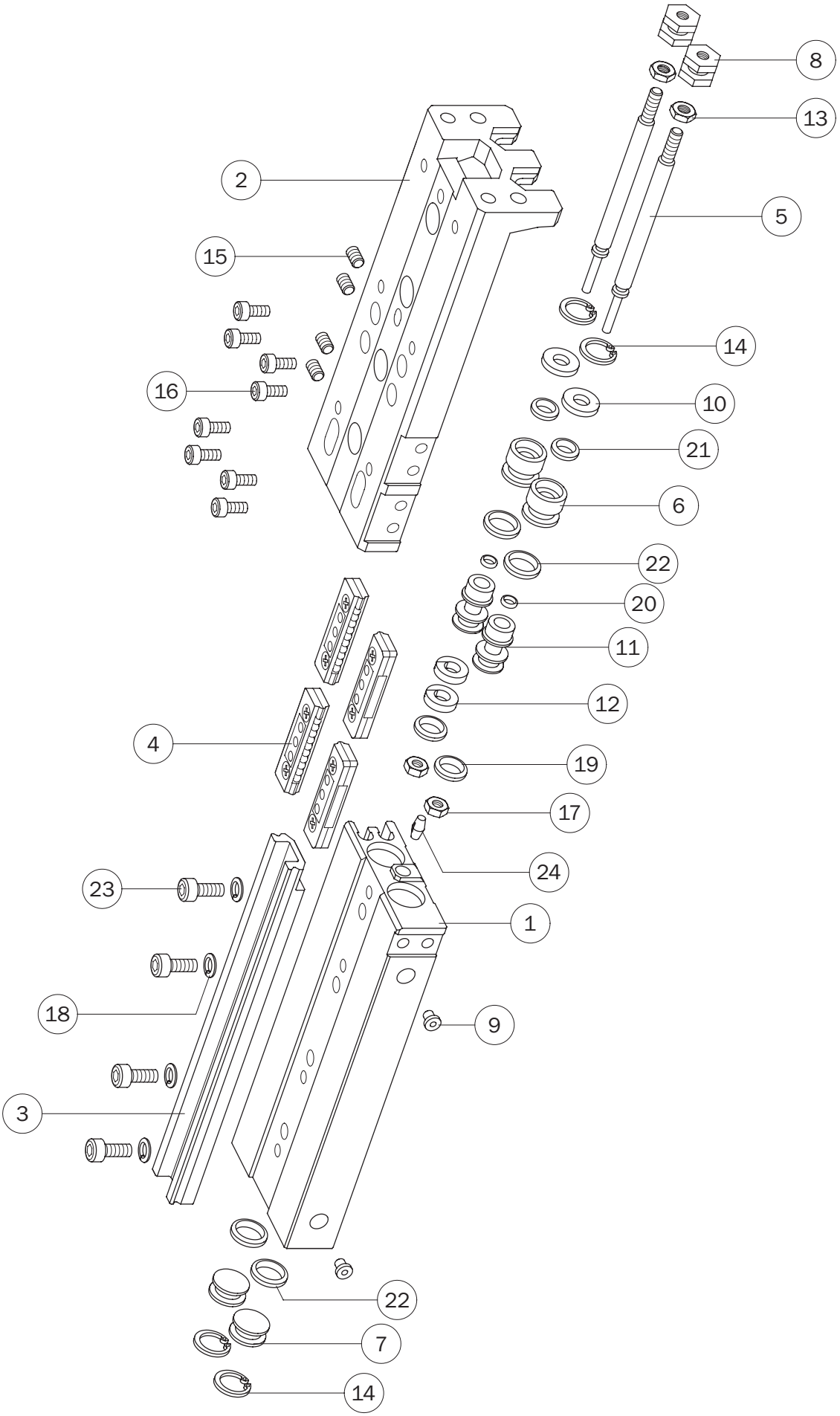
Vista esplosa / ***Exploded view*** **ZA06**



Elenco delle parti / *Part list*

		ZA0610	ZA0620	ZA0630	ZA0640	ZA0650		
1	Corpo slitta	ZA0610-01	ZA0620-01	ZA0630-01	ZA0640-01	ZA0650-01	*Slide housing*	*1*
2	Carrello	ZA0610-02	ZA0620-02	ZA0630-02	ZA0640-02	ZA0650-02	*Carrier*	*2*
3	Guida	ZA0610-03	ZA0620-03	ZA0630-05	ZA0640-03	ZA0650-03	*Guideway*	*3*
4	Cartuccia ricircolo di sfere		CZ236 (x2)		CZ244 (x2)	CZ226 (x4)	*Ball bushing*	*4*
5	Pistone Ø12	ZA0610-04	ZA0620-04	ZA0630-04	ZA0640-04	ZA0650-04	*Piston*	*5*
6	Flangia anteriore	ZE0630-03					*Front flange*	*6*
7	Flangia posteriore	ZE0630-04					*Rear flange*	*7*
8	Giunto	ZA0630-03					*Bolt*	*8*
9	Riduzione Ø1	PAR-10-15B					*Air restrictor*	*9*
10	Disco flangia anteriore	ZE0630-05					*Front flange plate*	*10*
11	Gommino	Ø3 AM-001					*Rubber bumper*	*11*
12	Magnete	ZE0630-11					*Magnet*	*12*
13	Dado	M2.5 DIN 934 INOX					*Nut*	*13*
14	Anello elastico	Ø8 DIN 472 INOX					*Snap-ring*	*14*
15	Grano	M3x4 DIN 913					*Grub screw*	*15*
16	Vite	M2.5x6 DIN 912					*Screw*	*16*
17	O-Ring	Ø1x4 (GUAR-091)					*O-Ring*	*17*
18	Rosetta elastica	Ø2.7 UNI 1751-B					*Elastic washer*	*18*
19	O-Ring	Ø1.78x2.90 (GUAR-057V)					*O-Ring*	*19*

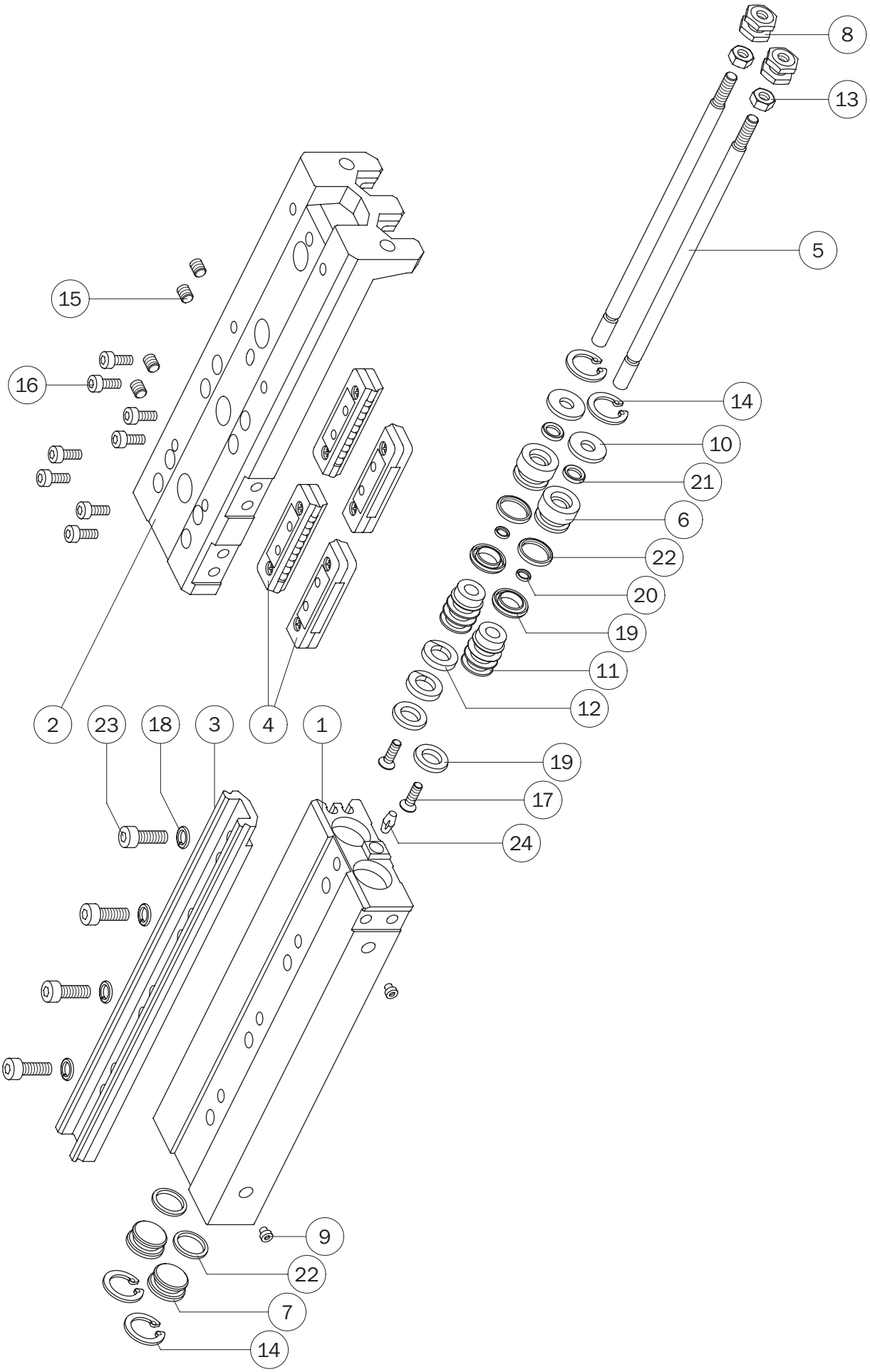
Vista esplosa / ***Exploded view*** **ZA08**



Elenco delle parti / *Part list*

		ZA0810	ZA0820	ZA0830	ZA0840	ZA0850	ZA0875		
1	Corpo slitta	ZA0810-01	ZA0820-01	ZA0830-01	ZA0840-01	ZA0850-01	ZA0875-01	*Slide housing*	*1*
2	Carrello	ZA0810-02	ZA0820-02	ZA0830-02	ZA0840-02	ZA0850-02	ZA0875-02	*Carrier*	*2*
3	Guida	ZA0810-03	ZA0820-03	ZA0830-03	ZA0840-03	ZA0850-03	ZA0875-03	*Guideway*	*3*
4	Cartuccia ricircolo di sfere	CZ236 (x2)			CZ244 (x2)	CZ226 (x4)	CZ236 (x4)	*Ball bushing*	*4*
5	Stelo	ZA0810-04	ZA0820-10	ZA0830-04	ZA0840-04	ZA0850-04	ZA0875-04	*Piston rod*	*5*
6	Flangia anteriore	Z-0850-8						*Front flange*	*6*
7	Flangia posteriore	ZA0820-06						*Rear flange*	*7*
8	Giunto	ZA0820-11						*Bolt*	*8*
9	Riduzione Ø1	EPP20-05						*Air restrictor*	*9*
10	Disco flangia anteriore	ZA0820-05						*Front flange plate*	*10*
11	Pistone Ø12	ZA0820-04						*Piston*	*11*
12	Magnete	ZA0820-12						*Magnet*	*12*
13	Dado	M3 DIN 439B INOX						*Nut*	*13*
14	Anello elastico	Ø9 DIN 472						*Snap-ring*	*14*
15	Grano	M3x5 DIN 913						*Grub screw*	*15*
16	Vite	M2.5x6 DIN 912						*Screw*	*16*
17	Dado	M2 UNI 5587 INOX						*Nut*	*17*
18	Rosetta elastica	Ø3.2 UNI 1751-B						*Elastic washer*	*18*
19	O-Ring	Ø1.78x4.48 (GUAR-029)						*O-Ring*	*19*
20	O-Ring	Ø1x2 (GUAR-130)						*O-Ring*	*20*
21	O-Ring	Ø1.78x3.69 (GUAR-044)						*O-Ring*	*21*
22	O-Ring	Ø1.78x6.07 (GUAR-039)						*O-Ring*	*22*
23	Vite	M3x8 DIN 912						*Screw*	*23*
24	Gommino	Ø3 AM-001						*Rubber bumper*	*24*

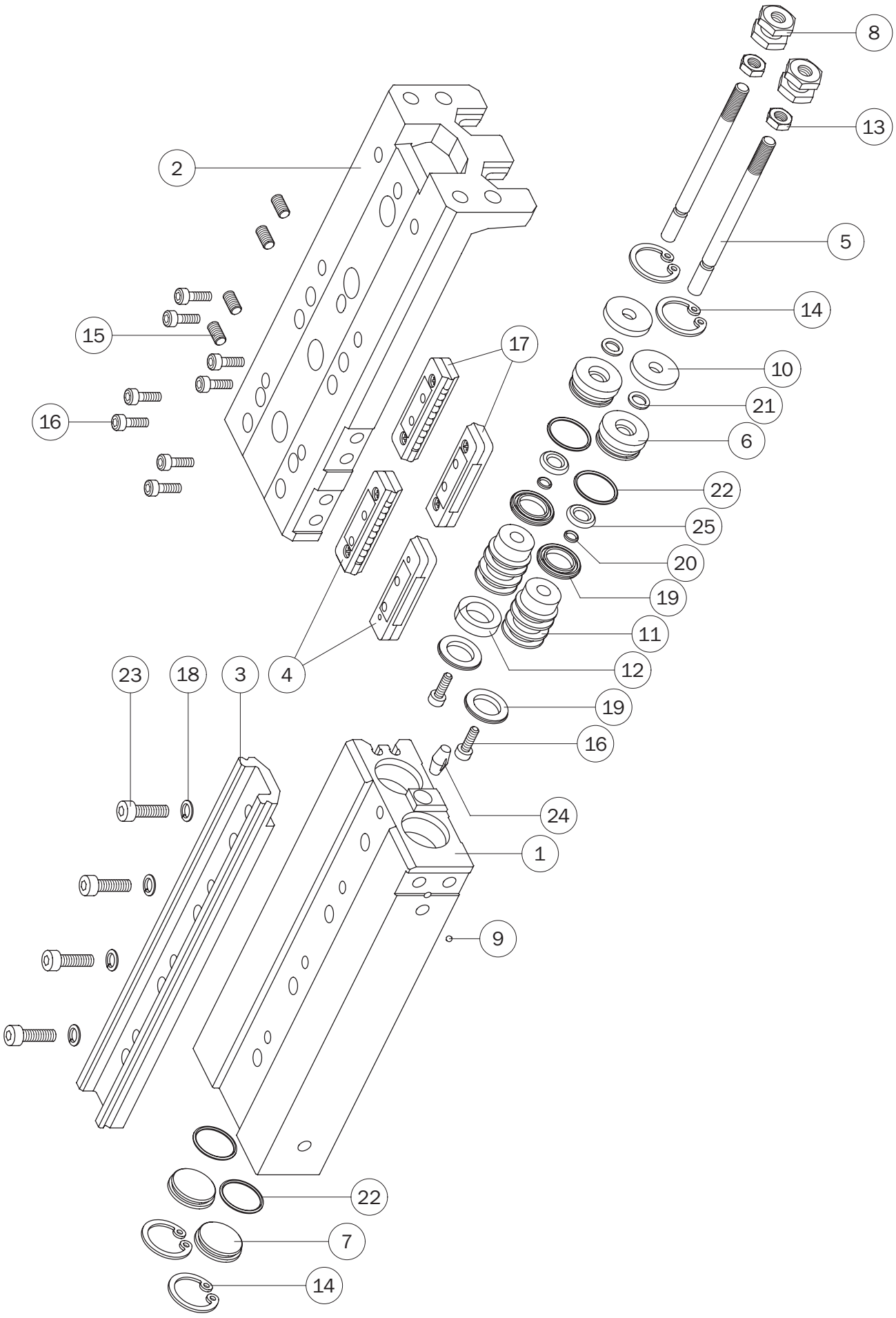
Vista esplosa / ***Exploded view*** **ZA12**



Elenco delle parti / *Part list*

		ZA1210	ZA1220	ZA1230	ZA1240	ZA1250	ZA1275	ZA12100		
1	Corpo slitta	ZA1210-01			ZA1240-01	ZA1250-01	ZA1275-01	ZA12100-01	*Slide housing*	*1*
2	Carrello	ZA1210-02	ZA1220-02	ZA1230-02	ZA1240-02	ZA1250-02	ZA1275-02	ZA12100-02	*Carrier*	*2*
3	Guida	ZA1210-04			ZA1240-04	ZA1250-11	ZA1275-04	ZA12100-04	*Guideway*	*3*
4	Cartuccia ricircolo di sfere	CZ334 (x2)				CZ342 (x2)	CZ326 (x4)	CZ334 (x4)	*Ball bushing*	*4*
5	Stelo	ZA1210-03	ZA1220-01	ZA1230-01	ZA1240-03	ZA1250-05	ZA1275-03	ZA12100-03	*Piston rod*	*5*
6	Flangia anteriore	ZA1250-06							*Front flange*	*6*
7	Flangia posteriore	ZA1250-07							*Rear flange*	*7*
8	Giunto	ZA1250-03							*Bolt*	*8*
9	Riduzione Ø1	ZA1250-12							*Air restrictor*	*9*
10	Disco flangia anteriore	ZA1250-13							*Front flange plate*	*10*
11	Pistone Ø12	ZA1250-04							*Piston*	*11*
12	Magnete	ZA1250-14							*Magnet*	*12*
13	Dado	M4 DIN 934 INOX A2							*Nut*	*13*
14	Anello elastico	Ø13 DIN 472							*Snap-ring*	*14*
15	Grano	M4x5 DIN 913							*Grub screw*	*15*
16	Vite	M3x8 DIN 912							*Screw*	*16*
17	Vite	M3x10 DIN 965A INOX A2							*Screw*	*17*
18	Rosetta elastica	Ø4.3 UNI 1751-B							*Elastic washer*	*18*
19	Guarnizione	12.5x6.8x2.55 (GUAR-118)							*Gasket*	*19*
20	O-Ring	Ø1x3 (GUAR-082)							*O-Ring*	*20*
21	O-Ring	Ø1.78x4.48 (GUAR-029)							*O-Ring*	*21*
22	O-Ring	Ø1.78x8.73 (GUAR-013)							*O-Ring*	*22*
23	Vite	M4x10 DIN 912							*Screw*	*23*
24	Gommino	Ø4 AM-002							*Rubber bumper*	*24*

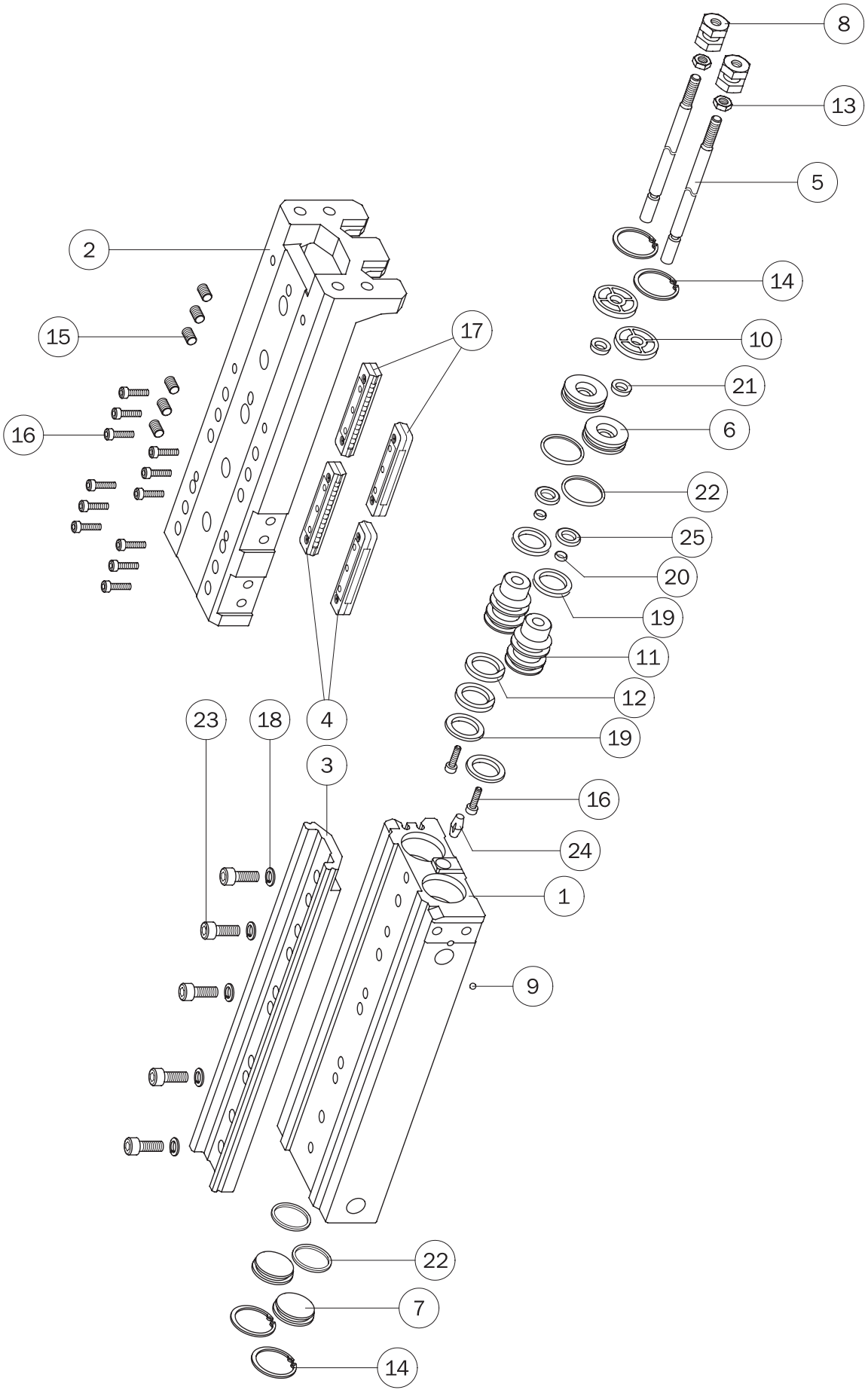
Vista esplosa / *Exploded view* **ZA16**



Elenco delle parti / *Part list*

		ZA1610	ZA1620	ZA1630	ZA1640	ZA1650	ZA1675	ZA16100	ZA16125		
1	Corpo slitta	ZA1630-01			ZA1640-01	ZA1650-01	ZA1675-01	ZA16100-01	ZA16125-01	*Slide housing*	*1*
2	Carrello	ZA1610-02	ZA1630-02		ZA1640-02	ZA1650-02	ZA1675-02	ZA16100-02	ZA16125-02	*Carrier*	*2*
3	Guida	ZA1630-09			ZA1640-04	ZA1650-04	ZA1675-04	ZA16100-04	ZA16125-04	*Guideway*	*3*
4	Cartuccia ricircolo di sfere	CZ334 (x2)				CZ342	CZ326A (x2)	CZ342 (x2)		*Ball bushing*	*4*
5	Stelo	ZA1610-01	ZA1620-01	ZA1630-05	ZA1640-03	ZA1650-05	ZA1675-03	ZA16100-03	ZA16125-03	*Piston rod*	*5*
6	Flangia anteriore	ZE1630-03								*Front flange*	*6*
7	Flangia posteriore	GS-16-06R								*Rear flange*	*7*
8	Giunto	ZA1630-03								*Bolt*	*8*
9	Sfera	Ø2 AA DIN 5401 A								*Ball*	*9*
10	Disco flangia anteriore	ZE1630-05								*Front flange plate*	*10*
11	Pistone Ø12	ZA1630-04								*Piston*	*11*
12	Magnete	PS-0016-P09								*Magnet*	*12*
13	Dado	M5 DIN 439B INOX A2								*Nut*	*13*
14	Anello elastico	Ø17 DIN 472 INOX								*Snap-ring*	*14*
15	Grano	M4x8 DIN 913								*Grub screw*	*15*
16	Vite	M3x10 DIN 912								*Screw*	*16*
17	Cartuccia ricircolo di sfere	-	-	-	-	-	CZ326 (x2)	CZ326 (x2)	CZ342 (x2)	*Ball bushing*	*17*
18	Rosetta elastica	Ø4.3 UNI 1751-B								*Elastic washer*	*18*
19	Guarnizione	Ø16x10x3 (GUAR-051)								*Gasket*	*19*
20	O-Ring	Ø1x3 (GUAR-082)								*O-Ring*	*20*
21	O-Ring	Ø1.78x4.48 (GUAR-029)								*O-Ring*	*21*
22	O-Ring	Ø1x14 (GUAR-084)								*O-Ring*	*22*
23	Vite	M4x12 DIN 912								*Screw*	*23*
24	Gommino	Ø5 AM-003								*Rubber bumper*	*24*
25	O-Ring	Ø2.62x5.23 (GUAR-053S)								*O-Ring*	*25*

Vista esplosa / *Exploded view* **ZA20**



Elenco delle parti / *Part list*

		ZA2010	ZA2020	ZA2030	ZA2040	ZA2050	ZA2075	ZA20100	ZA20125	ZA20150		
1	Corpo slitta	ZA2030-01			ZA2040-01	ZA2050-01	ZA2075-01	ZA20100-01	ZA20125-01	ZA20150-01	*Slide housing*	*1*
2	Carrello	ZA2010-02	ZA2020-02	ZA2030-02	ZA2040-02	ZA2050-02	ZA2075-02	ZA20100-02	ZA20125-02	ZA20150-02	*Carrier*	*2*
3	Guida	ZA2030-09			ZA2040-04	ZA2050-04	ZA2075-04	ZA20100-04	ZA20125-04	ZA20150-04	*Guideway*	*3*
4	Cartuccia ricircolo di sfere	CZ342 (x2)				CZ348 (x2)	CZ326A (x2)	CZ334 (x2)	CZ334 (x2)	CZ326 (x6)	*Ball bushing*	*4*
5	Stelo	ZA2010-01	ZA2020-01	ZA2030-06	ZA2040-03	ZA2050-03	ZA2075-03	ZA20100-03	ZA20125-03	ZA20150-03	*Piston rod*	*5*
6	Flangia anteriore	Z-2050-8									*Front flange*	*6*
7	Flangia posteriore	GS-20-06R									*Rear flange*	*7*
8	Giunto	ZA2030-03									*Bolt*	*8*
9	Sfera	Ø3 AA DIN 5401A									*Ball*	*9*
10	Disco flangia anteriore	ZA2030-05									*Front flange plate*	*10*
11	Pistone Ø12	ZA2030-04									*Piston*	*11*
12	Magnete	PAR-20-10B									*Magnet*	*12*
13	Dado	M5 DIN 439B INOX A2									*Nut*	*13*
14	Anello elastico	Ø22 DIN 472 INOX									*Snap-ring*	*14*
15	Grano	M5x8 DIN 913									*Grub screw*	*15*
16	Vite	M3x12 DIN 912									*Screw*	*16*
17	Cartuccia ricircolo di sfere	-	-	-	-	-	CZ326A (x2)	CZ334 (x2)	CZ342 (x2)	-	*Ball bushing*	*17*
18	Rosetta elastica	Ø5 UNI 1751-B									*Elastic washer*	*18*
19	Guarnizione	20.7x13.75x2.55 (GUAR-120)									*Gasket*	*19*
20	O-Ring	Ø1.78x2.90 (GUAR-057)									*O-Ring*	*20*
21	Guarnizione	Ø10x6x3.5 (GUAR-093)									*Gasket*	*21*
22	O-Ring	Ø1.78x17.17 (GUAR-076)									*O-Ring*	*22*
23	Vite	M5x14 DIN 912									*Screw*	*23*
24	Gommino	Ø6 AM-004									*Rubber bumper*	*24*
25	O-Ring	Ø2.62x5.23 (GUAR-053S)									*O-Ring*	*25*

Connessione pneumatica

La slitta si alimenta con aria compressa dai fori laterali (A e B) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in A: chiusura.
Aria compressa in B: apertura.

La slitta è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutto il periodo di servizio.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

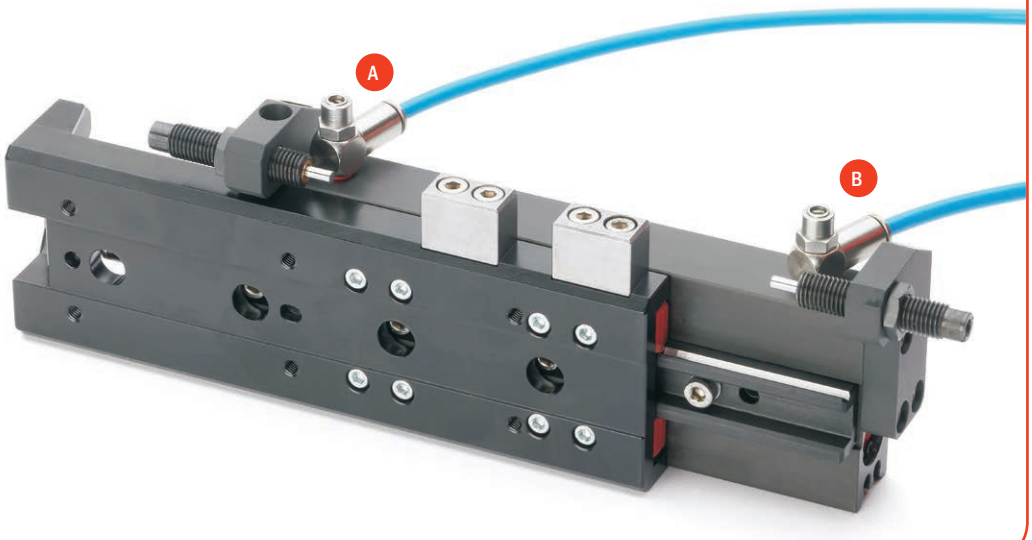
Compressed air feeding

The compressed air feeding must be accomplished on the lateral air ports (A and B) with fittings and hoses (not supplied).

Compressed air in A: retraction stroke.
Compressed air in B: extension stroke.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the slide.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

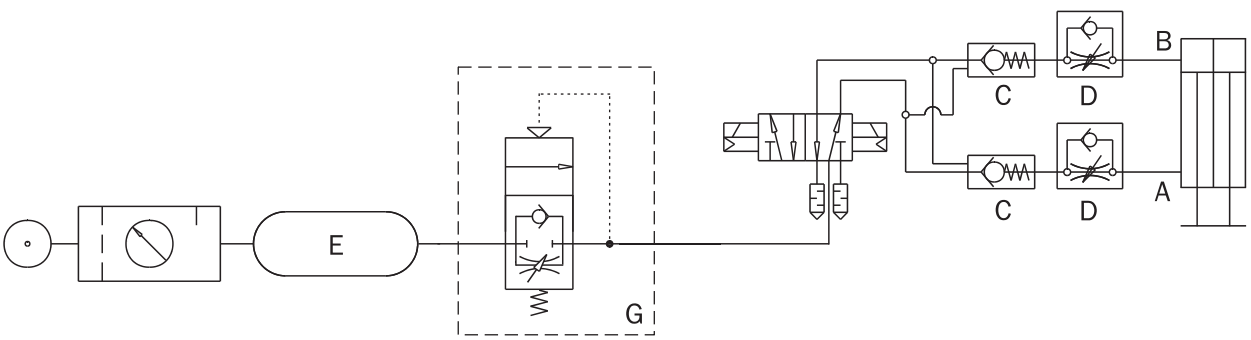
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (E).
2- Valvola di avviamento progressivo (G).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (E).
2- Start-up valve (G).
3- Safety valve (C).
4- Flow controller (D).



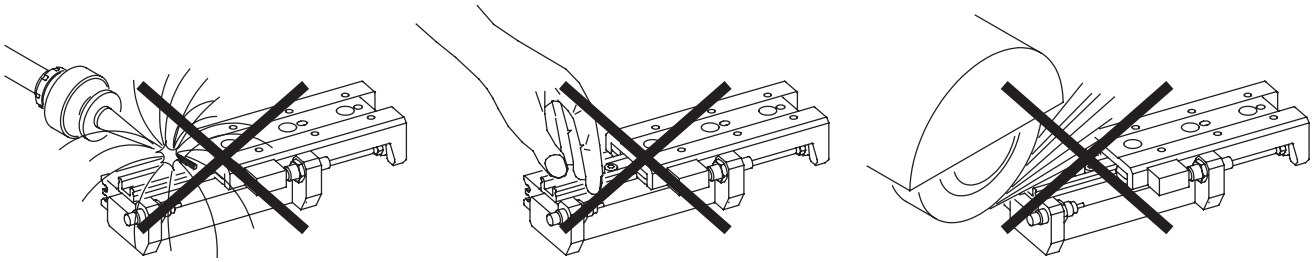
03/2015

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

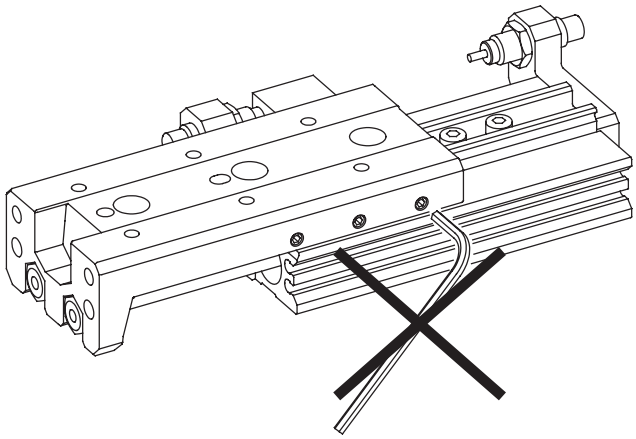
Caution

Never let the slide come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Never let non-authorized persons or objects stand within the operating range of the slide.
Never operate the slide if the machine on which it is fitted does not comply with safety laws and standards of your country.



Il precarico dei cuscinetti è regolato in fabbrica.
NON UTILIZZARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.

The preload of the bearings is set in factory.
NEVER USE THE ADJUSTING SCREWS TO MODIFY IT.



In normali condizioni di utilizzo, in un ambiente pulito, la slitta non necessita di alcuna manutenzione per 10 milioni di cicli.

Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

Controllare periodicamente l'efficienza dei deceleratori e sostituirli subito se manifestano un decadimento delle loro prestazioni di smorzamento.

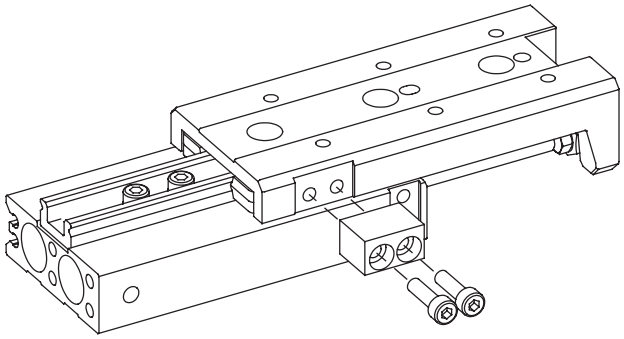
Quando si avvita la battuta, prestare attenzione al verso di montaggio. Se montata al contrario può interferire con il corpo della slitta e danneggiare i cuscinetti.

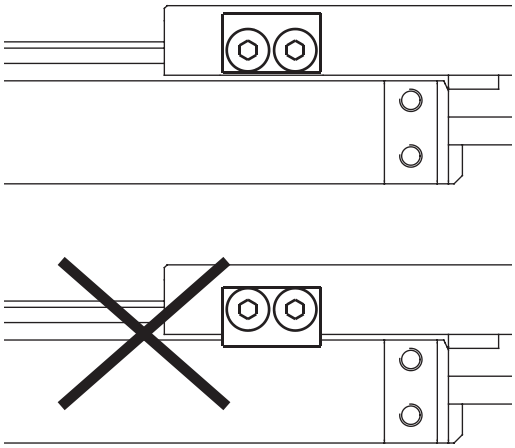
If properly used, in a clean environment, the slide needs no maintenance for 10 million cycles.

Periodically check the steel bars and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.

Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performances decrease.

When mounting the stopper on the slide, be careful to position it properly. If wrongly assembled, the stopper can interfere with the slide body and damage the linear bearings.





Mini slitte pneumatiche serie ZE-P

- Alesaggio 6mm, 10mm oppure 16mm.
- Corsa 10mm, 20mm, 30mm.
- Varie possibilità di fissaggio.
- Azionamento a doppio effetto.
- Ammortizzatori elastici interni.
- Sensori magnetici opzionali.

Pneumatic mini-slides series ZE-P

- *Piston bore 6mm, 10mm or 16mm.*
- *Stroke 10mm, 20mm, 30mm.*
- *Several fastening options.*
- *Double acting.*
- *Internal elastic bumpers.*
- *Optional magnetic sensors.*



ZE0630P **ZE1030P** **ZE1630P**

Pur essendo perfettamente intercambiabile con la precedente serie ZE, la ZE-P può contare su alcuni plus esclusivi:

1- Cuscinetti lineari a sfere, con gabbia in poliossimetilene.

2- Guida su alberini temprati e rettificati.

3- Carrello monoblocco stampato in zama.

Even if it is completely interchangeable with the previous ZE series, the ZE-P is provided with some exclusive plus:

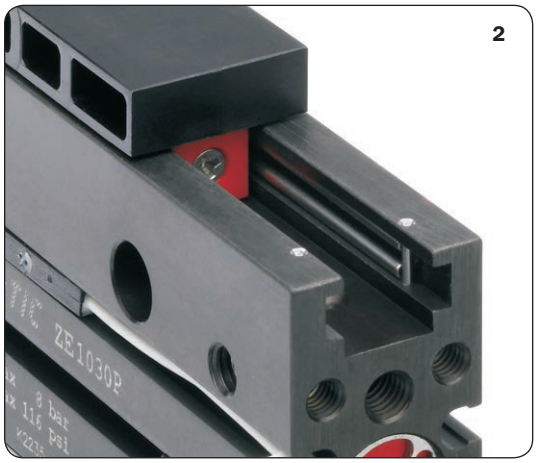
1- Linear ball bearings, with cage in polyoxymethylene.

2- Guide with built-in hardened and ground shafts.

3- One-block carrier moulded in zamak.

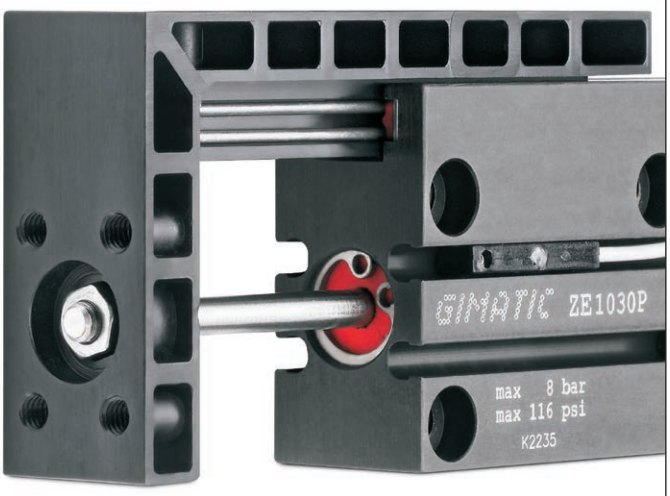


1



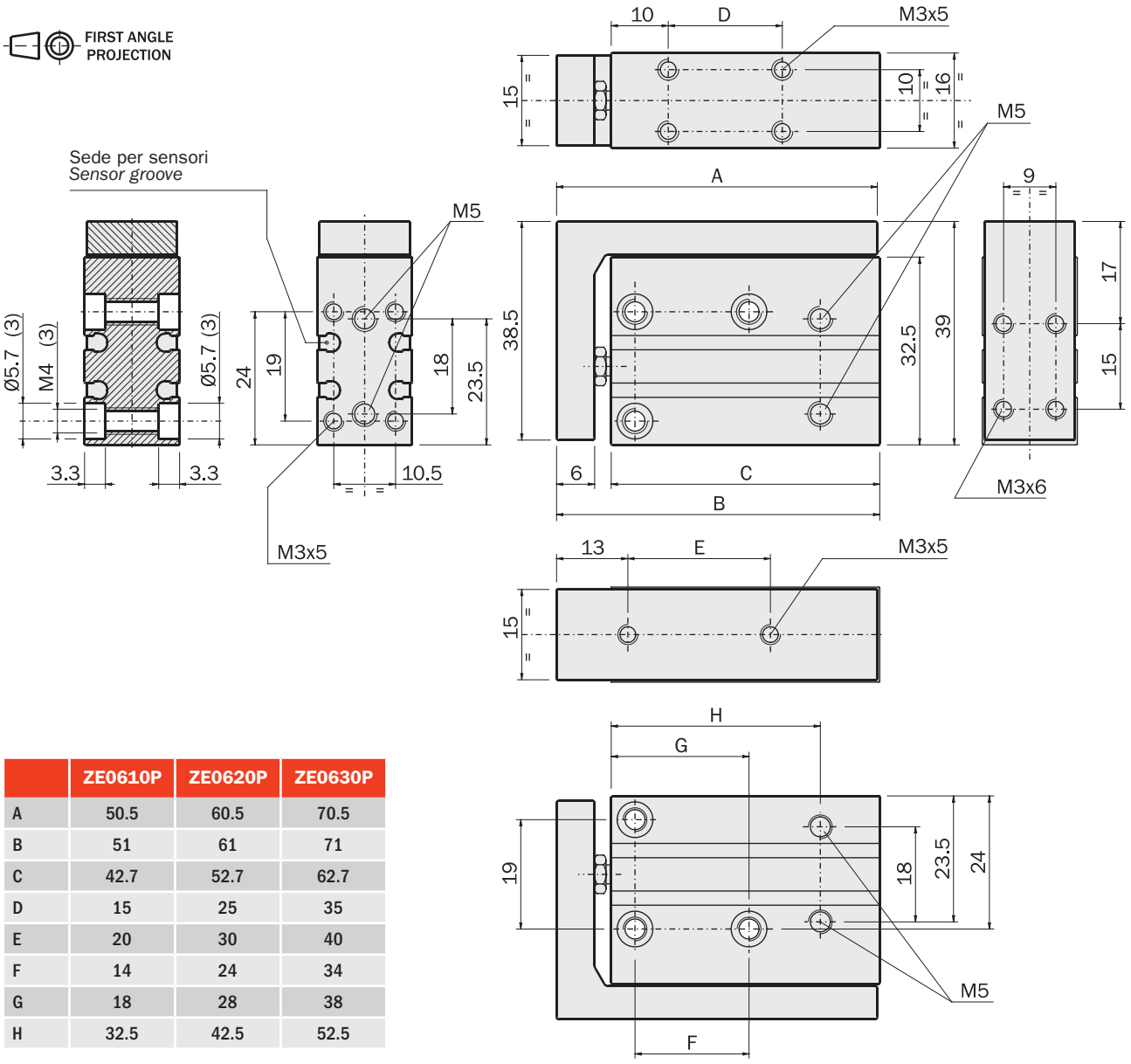
2

3



	ZE0610P	ZE0620P	ZE0630P
Peso *Weight*	90 g	105 g	120 g
Tempo di azionamento minimo *Minimum actuating time*	0.015 s	0.020 s	0.030 s
Frequenza massima di lavoro *Maximum working frequency*	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	0.7 cm^3	1.3 cm^3	1.9 cm^3
Corsa (+1 mm) *Stroke*	10 mm	20 mm	30 mm
Forza di apertura a 6 bar *Extension force at 6 bar*	13 N		
Forza di chiusura a 6 bar *Retraction force at 6 bar*	10 N		
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2÷8 bar		
Temperatura di esercizio *Temperature range*	5÷60 °C		

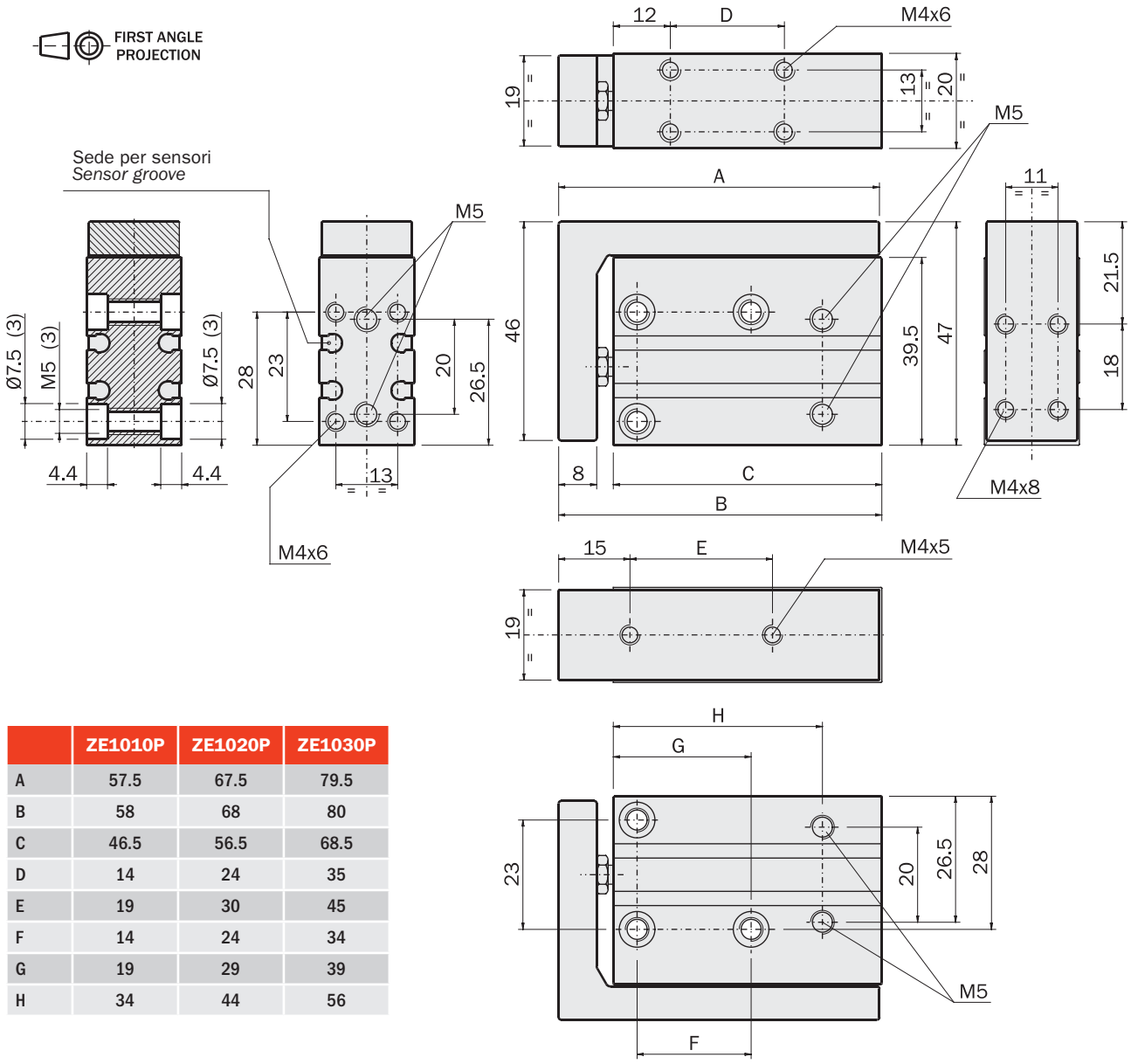
Dimensioni (mm) / *Dimensions (mm)*



	ZE0610P	ZE0620P	ZE0630P
A	50.5	60.5	70.5
B	51	61	71
C	42.7	52.7	62.7
D	15	25	35
E	20	30	40
F	14	24	34
G	18	28	38
H	32.5	42.5	52.5

	ZE1010P	ZE1020P	ZE1030P
Peso *Weight*	150 g	175 g	200 g
Tempo di azionamento minimo *Minimum actuating time*	0.030 s	0.050 s	0.060 s
Frequenza massima di lavoro *Maximum working frequency*	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	1.7 cm^3	3.3 cm^3	4.8 cm^3
Corsa (+1 mm) *Stroke*	10 mm	20 mm	30 mm
Forza di apertura a 6 bar *Extension force at 6 bar*	40 N		
Forza di chiusura a 6 bar *Retraction force at 6 bar*	33 N		
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2÷8 bar		
Temperatura di esercizio *Temperature range*	5÷60 °C		

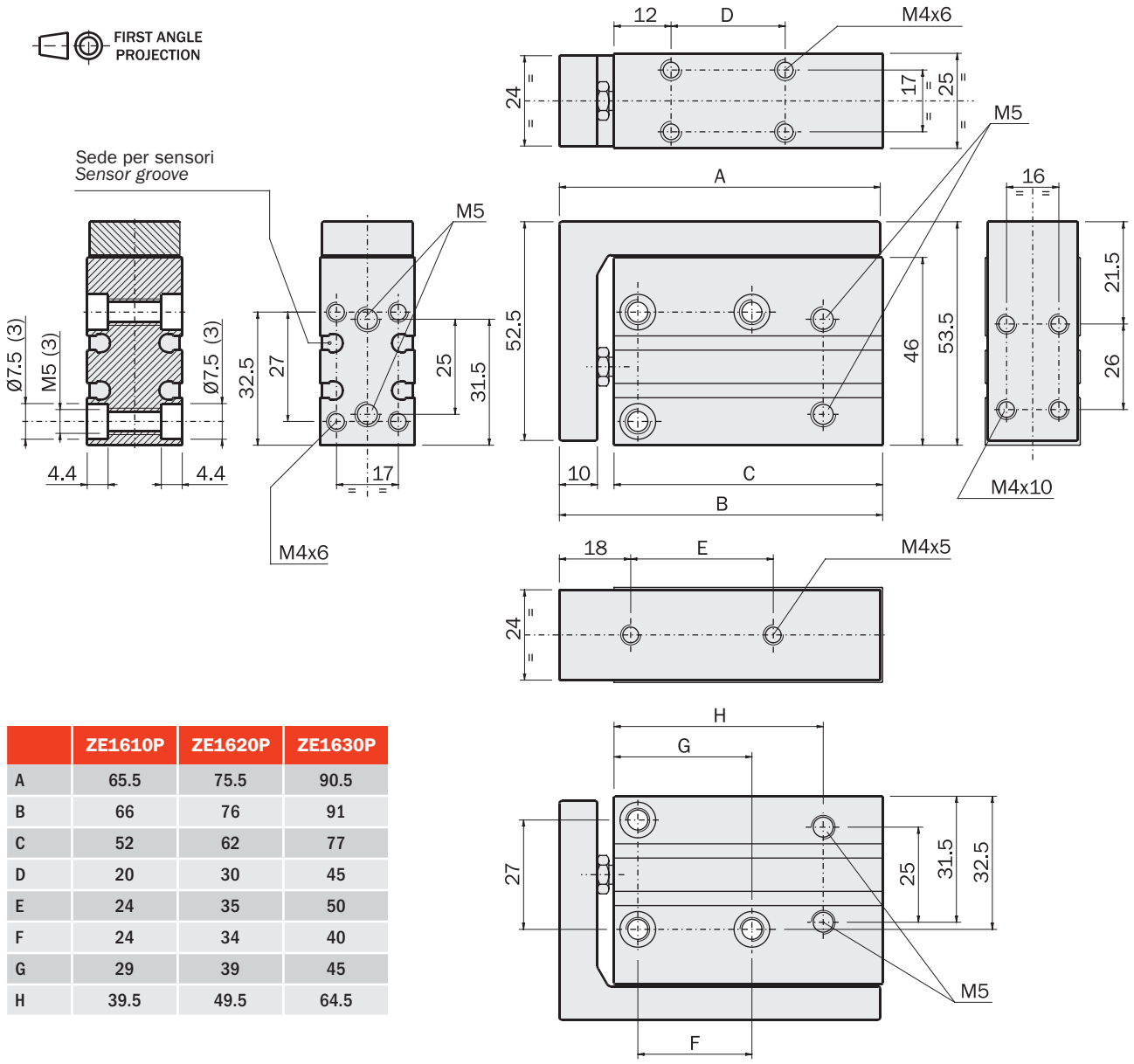
Dimensioni (mm) / *Dimensions (mm)*



	ZE1010P	ZE1020P	ZE1030P
A	57.5	67.5	79.5
B	58	68	80
C	46.5	56.5	68.5
D	14	24	35
E	19	30	45
F	14	24	34
G	19	29	39
H	34	44	56

	ZE1610P	ZE1620P	ZE1630P
Peso *Weight*	265 g	295 g	340 g
Tempo di azionamento minimo *Minimum actuating time*	0.050 s	0.070 s	0.090 s
Frequenza massima di lavoro *Maximum working frequency*	3 Hz	3 Hz	3 Hz
Consumo d'aria per ciclo *Air consumption per cycle*	4.4 cm^3	8.3 cm^3	12 cm^3
Corsa (+1 mm) *Stroke*	10 mm	20 mm	30 mm
Forza di apertura a 6 bar *Extension force at 6 bar*	110 N		
Forza di chiusura a 6 bar *Retraction force at 6 bar*	100 N		
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	2÷8 bar		
Temperatura di esercizio *Temperature range*	5÷60 °C		

Dimensioni (mm) / *Dimensions (mm)*



	ZE1610P	ZE1620P	ZE1630P
A	65.5	75.5	90.5
B	66	76	91
C	52	62	77
D	20	30	45
E	24	35	50
F	24	34	40
G	29	39	45
H	39.5	49.5	64.5

Fissaggio

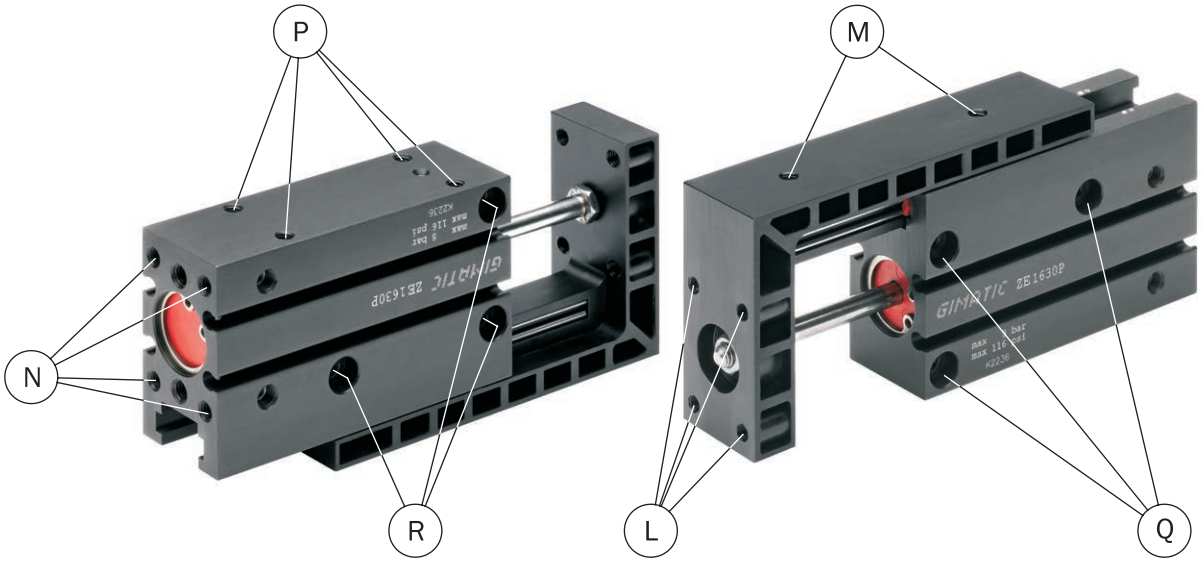
La slitta può essere montata in posizione fissa, oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la slitta ed il suo carico sono sottoposti.

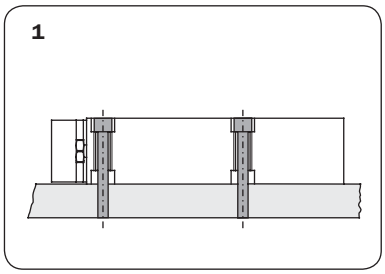
La slitta può essere fissata sulle quattro facce del corpo come schematizzato nelle figure 1-2-3-4.
Il carico può essere fissato sulle due facce del carrello come schematizzato nelle figure 5-6.

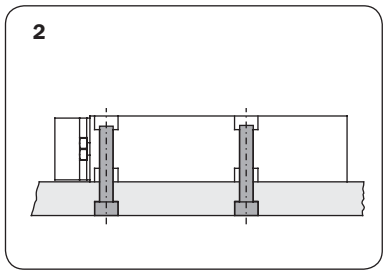
Fastening

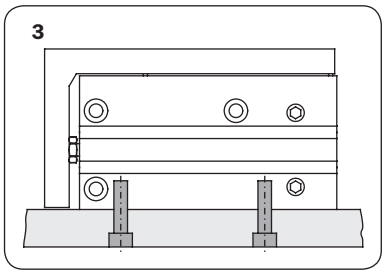
The slide can be fastened to a static or moving part.
When on a moving part, you must pay attention to the forces created by inertia over the slide and its load.

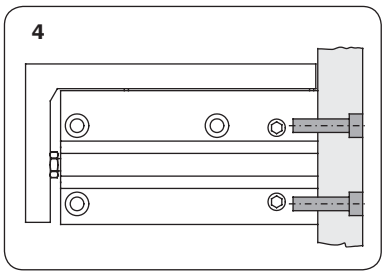
The slide housing can be fastened on four sides as shown in pictures 1-2-3-4.
The load can be fastened on two sides of the carrier as shown in pictures 5-6.

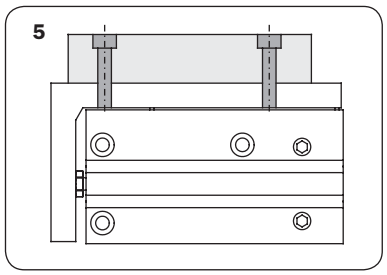


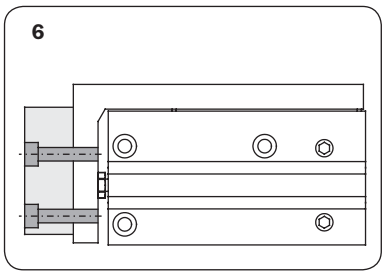












	ZE06...P	ZE10...P	ZE16...P
L	M3x6 mm	M4x8 mm	M4x10 mm
M	M3x5 mm	M4x5 mm	M4x5 mm
N	M3x5 mm	M4x6 mm	M4x6 mm
P	M3x5 mm	M4x6 mm	M4x6 mm
Q	Ø5.7x3.3 mm	Ø7.5x4.4 mm	Ø7.5x4.4 mm
R	M4	M5	M5

Sensori

Il rilevamento della posizione è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete interno.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

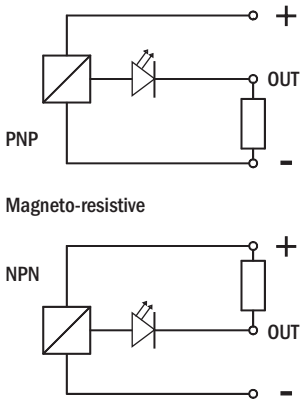
Sensors

The operating position is detected by magnetic proximity sensors (optional) through an internal magnet
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:





			ZE06...P	ZE10...P	ZE16...P
SN4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑
SN4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑

Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a flat three-wire cable and lamp.

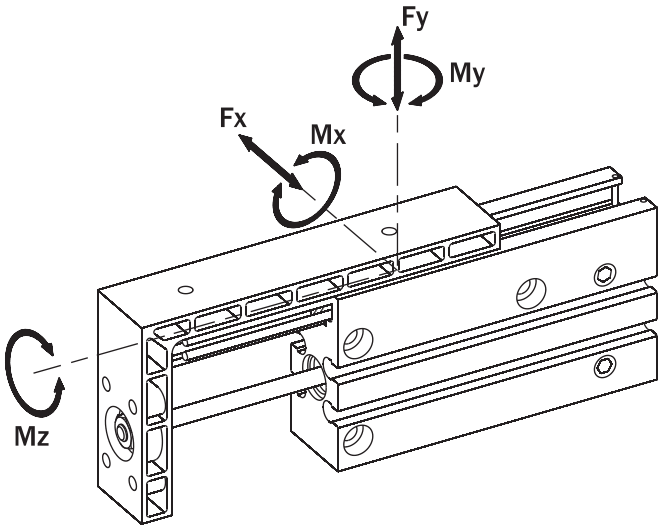


Carichi di sicurezza

Controllare le tabelle sottostanti.
Carichi eccessivi possono danneggiare la slitta, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Fx s, Fy s, Mx s, My s, Mz s sono i carichi statici massimi ammissibili.
Fx d, Fy d, Mx d, My d, Mz d sono i massimi carichi dinamici ammissibili.
È indicato il minimo tempo di azionamento t in funzione della massa trasportata m.
(*) Quando il tempo e la massa comportano un'eccessiva energia cinetica si deve diminuire la velocità con regolatori di flusso (non forniti).
In ogni caso la massa trasportabile m è al massimo 100g (ZE06P), 250g (ZE10P), 500g (ZE16P).

Safety loads

Check the tables below.
Excessive loads can damage the slide, cause functioning troubles and endanger the safety of the operator.
Fx s, Fy s, Mx s, My s, Mz s are maximum permitted static loads.
Fx d, Fy d, Mx d, My d, Mz d are maximum permitted dynamic loads.
It is also indicated the minimum actuating time t as a factor of the pay-load m.
(*) When the actuating time and pay-load produce an excessive kinetic energy, the speed must be reduced by flow controllers (not supplied).
In any case the pay-load m is max. 100g (ZE06P), 250g (ZE10P), 500g (ZE16P).



	ZE06...P	ZE10...P	ZE16...P
Fx s	10 N	25 N	50 N
Fy s	10 N	25 N	50 N
Mx s	1 Nm	2 Nm	3 Nm
My s	1 Nm	2 Nm	3 Nm
Mz s	1 Nm	2 Nm	3 Nm
Fx d	1 N	2.5 N	5 N
Fy d	1 N	2.5 N	5 N
Mx d	0.2 Nm	0.4 Nm	0.6 Nm
My d	0.2 Nm	0.4 Nm	0.6 Nm
Mz d	0.2 Nm	0.4 Nm	0.6 Nm
m max	100 g	250 g	500 g

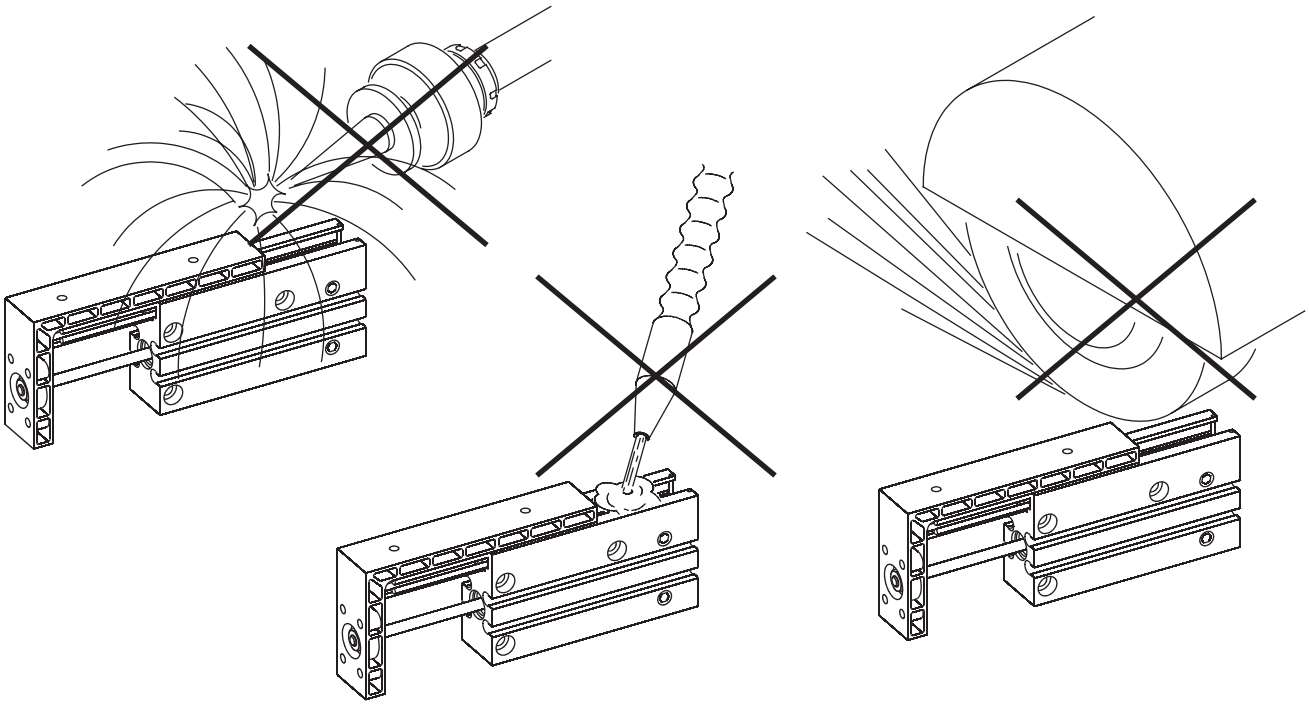
m	t ZE0610P	t ZE0620P	t ZE0630P	t ZE1010P	t ZE1020P	t ZE1030P	t ZE1610P	t ZE1620P	t ZE1630P
10 g	15 ms	28 ms (*)	44 ms (*)	30 ms	50 ms	60 ms	50 ms	70 ms	90 ms
40 g	18 ms (*)	37 ms (*)	57 ms (*)	30 ms	50 ms	60 ms	50 ms	70 ms	90 ms
70 g	22 ms (*)	45 ms (*)	68 ms (*)	30 ms	50 ms	61 ms (*)	50 ms	70 ms	90 ms
100 g	25 ms (*)	51 ms (*)	77 ms (*)	30 ms	50 ms	68 ms (*)	50 ms	70 ms	90 ms
150 g	-	-	-	30 ms	51 ms (*)	78 ms (*)	50 ms	70 ms	90 ms
200 g	-	-	-	30 ms	58 ms (*)	87 ms (*)	50 ms	70 ms	90 ms
250 g	-	-	-	31 ms (*)	63 ms (*)	96 ms (*)	50 ms	70 ms	90 ms
300 g	-	-	-	-	-	-	50 ms	70 ms	94 ms (*)
400 g	-	-	-	-	-	-	50 ms	70 ms	105 ms (*)
500 g	-	-	-	-	-	-	50 ms	76 ms (*)	115 ms (*)

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

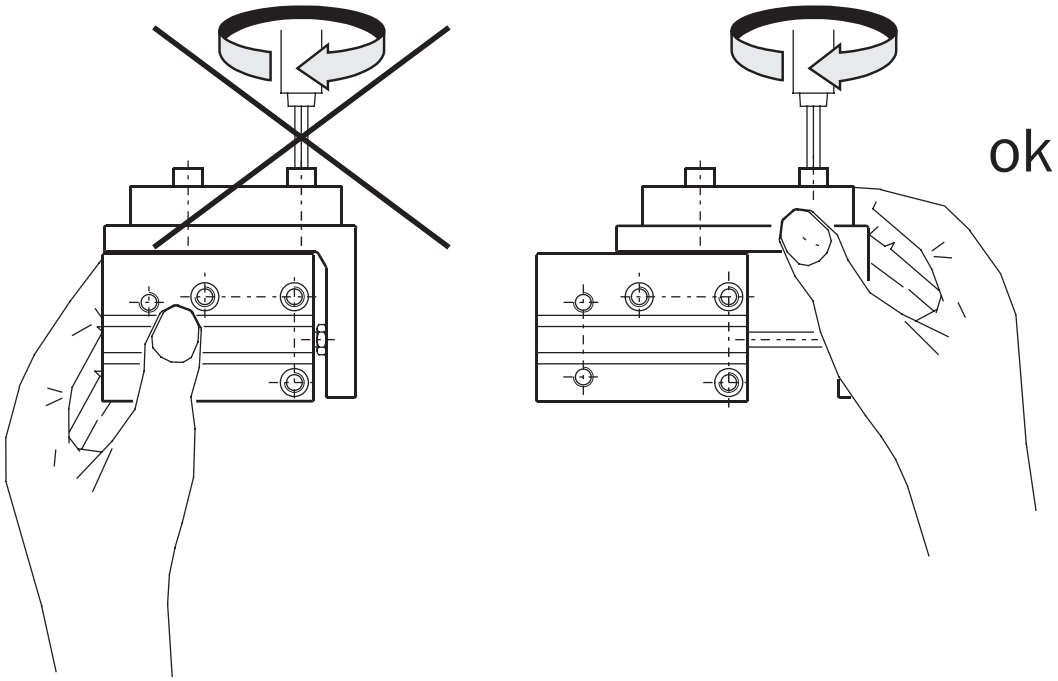
Cautions

Never let the slide come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Never let non-authorized persons or objects stand within the operating range of the slide.
Never operate the slide if the machine on which it is fitted does not comply with safety laws and standards of your country.

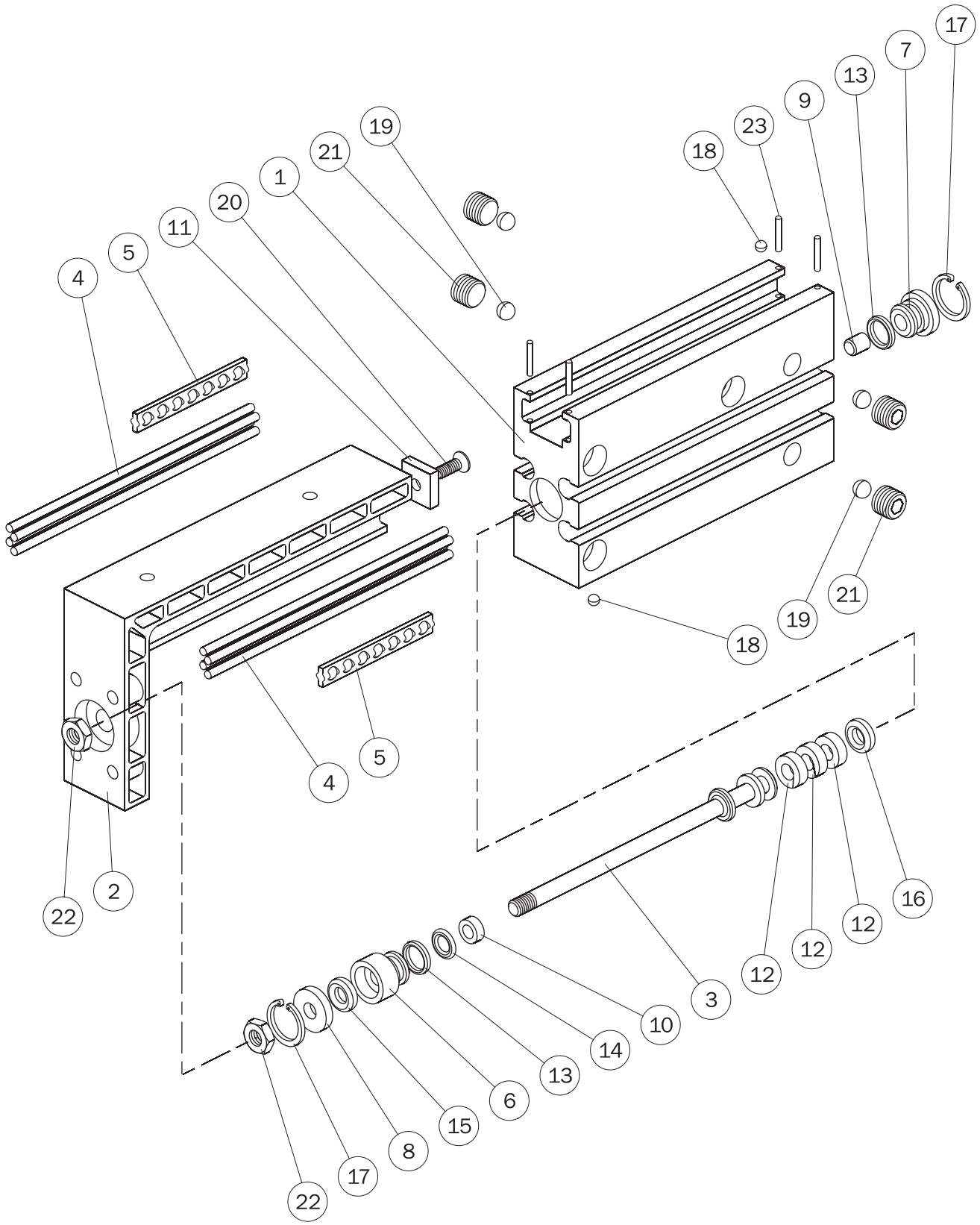


Non sollecitare la guida con carichi eccessivi durante il montaggio del carico.

Do not overload the guidance when mounting work pieces.



Vista esplosa / ***Exploded view***



Elenco delle parti / *Part list*

		ZE0610P	ZE0620P	ZE0630P		
1	Corpo	ZE0610-14	ZE0620-14	ZE0630-14	*Housing*	*1*
2	Carrello	ZE0610-15	ZE0620-15	ZE0630-15	*Carrier*	*2*
3	Pistone	ZE0610-03	ZE0620-03	ZE0630-06	*Piston*	*3*
4	Alberino	Ø1.5x40 DIN 5402	Ø1.5x50 DIN 5402	Ø1.5x60 DIN 5402	*Shaft*	*4*
5	Cuscinetto lineare	C257			*Linear ball-bearing*	*5*
6	Flangia anteriore	ZE0630-03			*Front flange*	*6*
7	Flangia posteriore	ZE0630-04			*Rear flange*	*7*
8	Distanziale	ZE0630-05			*Spacer*	*8*
9	Battuta elastica	ZE0630-10			*Rubber stopper*	*9*
10	Distanziale	-			*Spacer*	*10*
11	Tappo	ZE0630-18			*Plug*	*11*
12	Magnete	ZE0630-11			*Magnet*	*12*
13	O-Ring	Ø1x4 (GUAR-091)			*O-Ring*	*13*
14	Battuta elastica	Ø1x3 (GUAR-082S)			*Rubber stopper*	*14*
15	O-Ring	Ø1.78x2.90 (GUAR-057)			*O-Ring*	*15*
16	Guarnizione	Ø1.78x2.90 (GUAR-057)			*Gasket*	*16*
17	Anello elastico (seeger)	Ø8 DIN 472 INOX			*Snap-ring*	*17*
18	Sfera	Ø2 mm AA			*Ball*	*18*
19	Sfera	1/8" NBR			*Ball*	*19*
20	Vite	M2x6 mm DIN 965A INOX A2			*Screw*	*20*
21	Vite senza testa	M5x4 mm DIN 913 INOX A2			*Grub screw*	*21*
22	Dado	M3 DIN 439B INOX			*Nut*	*22*
23	Spina	Ø1x6.8 mm DIN 5402			*Pin*	*23*

		ZE1010P	ZE1020P	ZE1030P		
1	Corpo	ZE1010-14	ZE1020-14	ZE1030-14	*Housing*	*1*
2	Carrello	ZE1010-15	ZE1020-15	ZE1030-15	*Carrier*	*2*
3	Pistone	ZE1010-03	ZE1020-03	ZE1030-03	*Piston*	*3*
4	Alberino	Ø1.5x40 DIN 5402	Ø1.5x50 DIN 5402	Ø1.5x60 DIN 5402	*Shaft*	*4*
5	Cuscinetto lineare	C257			*Linear ball-bearing*	*5*
6	Flangia anteriore	ZE1030-03			*Front flange*	*6*
7	Flangia posteriore	ZE1030-04			*Rear flange*	*7*
8	Distanziale	ZE1030-05			*Spacer*	*8*
9	Battuta elastica	ZE1030-08			*Rubber stopper*	*9*
10	Distanziale	-			*Spacer*	*10*
11	Tappo	ZE1030-18			*Plug*	*11*
12	Magnete	PN-010-2-4			*Magnet*	*12*
13	O-Ring	Ø1x8 (GUAR-085)			*O-Ring*	*13*
14	Battuta elastica	Ø2x4 (GUAR-097S)			*Rubber stopper*	*14*
15	O-Ring	Ø1.78x3.69 (GUAR-044)			*O-Ring*	*15*
16	Guarnizione	Ø1.78x6.75 (GUAR-012)			*Gasket*	*16*
17	Anello elastico (seeger)	Ø12 DIN 472 INOX			*Snap-ring*	*17*
18	Sfera	Ø2 mm AA			*Ball*	*18*
19	Sfera	1/8" NBR			*Ball*	*19*
20	Vite	M2x6 mm DIN 965A INOX A2			*Screw*	*20*
21	Vite senza testa	M5x4 mm DIN 913 INOX A2			*Grub screw*	*21*
22	Dado	M4 DIN 439B INOX			*Nut*	*22*
23	Spina	Ø1x6.8 mm DIN 5402			*Pin*	*23*

		ZE1610P	ZE1620P	ZE1630P		
1	Corpo	ZE1610-14	ZE1620-14	ZE1630-14	*Housing*	*1*
2	Carrello	ZE1610-15	ZE1620-15	ZE1630-15	*Carrier*	*2*
3	Pistone	ZE1610-03	ZE1620-03	ZE1630-06	*Piston*	*3*
4	Alberino	Ø1.5x40 DIN 5402	Ø1.5x50 DIN 5402	Ø1.5x60 DIN 5402	*Shaft*	*4*
5	Cuscinetto lineare	C257			*Linear ball-bearing*	*5*
6	Flangia anteriore	ZE1630-03			*Front flange*	*6*
7	Flangia posteriore	ZE1630-04			*Rear flange*	*7*
8	Distanziale	ZE1630-05			*Spacer*	*8*
9	Battuta elastica	ZE1630-10			*Rubber stopper*	*9*
10	Distanziale	ZE1630-13			*Spacer*	*10*
11	Tappo	ZE1630-18			*Plug*	*11*
12	Magnete	PS-0016-P09			*Magnet*	*12*
13	O-Ring	Ø1x14 (GUAR-084)			*O-Ring*	*13*
14	Battuta elastica	Ø2.62x5.23 (GUAR-053S)			*Rubber stopper*	*14*
15	O-Ring	Ø1.78x4.48 (GUAR-029)			*O-Ring*	*15*
16	Guarnizione	16x9x2.5 (GUAR-002P)			*Gasket*	*16*
17	Anello elastico (seeger)	Ø17 DIN 472 INOX			*Snap-ring*	*17*
18	Sfera	Ø2 mm AA			*Ball*	*18*
19	Sfera	1/8" NBR			*Ball*	*19*
20	Vite	M2x6 mm DIN 965A INOX A2			*Screw*	*20*
21	Vite senza testa	M5x4 mm DIN 913 INOX A2			*Grub screw*	*21*
22	Dado	M5 DIN 439B INOX			*Nut*	*22*
23	Spina	Ø1x6.8 mm DIN 5402			*Pin*	*23*

Connessione pneumatica

La slitta si alimenta con aria compressa dai fori laterali o posteriori montandovi i raccordi dell'aria M5 ed i relativi tubi (non forniti).

Aria compressa in S: apertura.
Aria compressa in T: chiusura.

I tre canali S ed i tre canali T sono comunicanti, quindi due su tre devono rimanere tappati con il grano e la sfera.

L'unità è azionata con l'aria compressa filtrata (5÷40 µm) non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita dell'unità.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

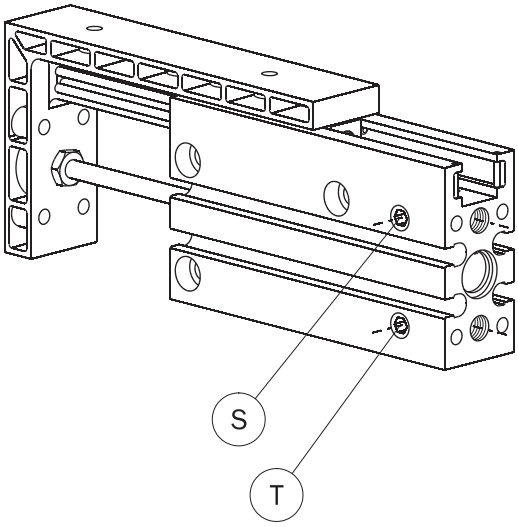
The slide is driven by compressed air through side or rear air ports with fittings M5 and relevant hoses (not supplied).

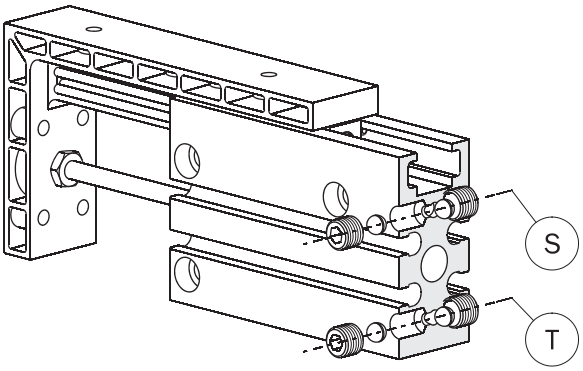
Compressed air in S: extension stroke.
Compressed air in T: retraction stroke.

Three air ports S and three air ports T are communicating, so two of three have to be plugged by the grub screw and the sphere.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.







Circuito pneumatico

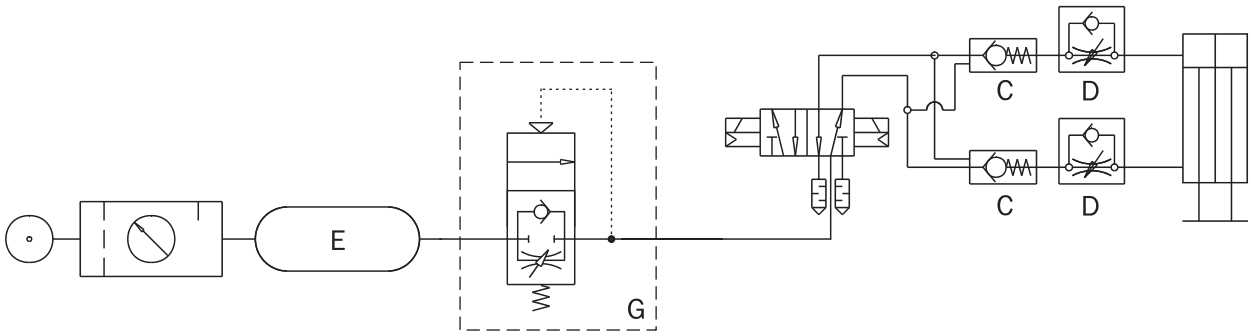
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (E).
2- Valvola di avviamento progressivo (G).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing.
3- Sudden pressure black-out.
4- Excessive actuating speed.

Possible solutions:
1- Compressed air storage (E).
2- Start-up valve (G).
3- Safety valve (C).
4- Flow controller (D).

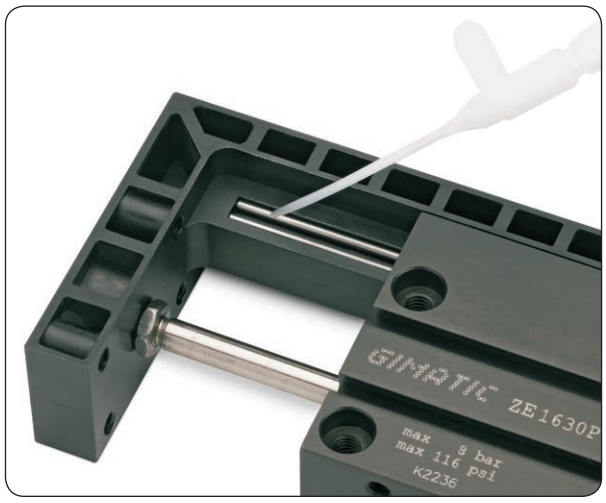


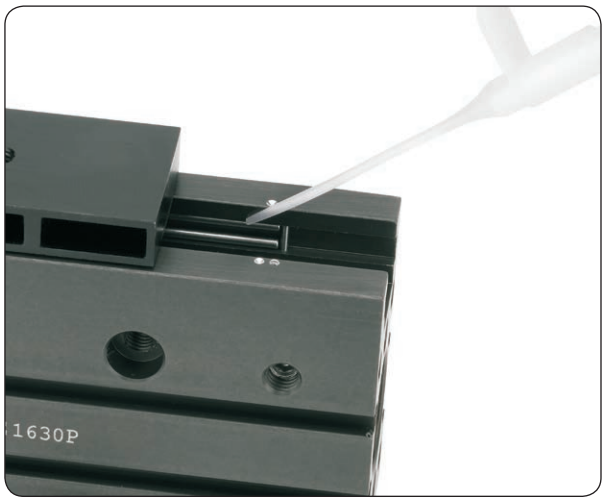
Manutenzione

Lubrificare ogni 5 milioni di cicli la guida.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

Maintenance

Lubricate the guidance after 5 million cycles.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.





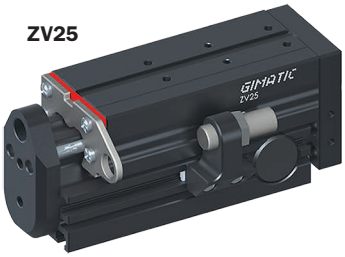
Slitte pneumatiche (serie ZV)

- Compatibile con il sistema G-mix (1).
- Disponibile con alesaggio 25 o 40.
- Guida di scorrimento a ricircolo di sfere registrabile (2).
- Azionamento a doppio effetto.
- Alimentazione posteriore (3).
- Fine corsa opzionali regolabili con deceleratore (4), elastomero o vite.
- Dispositivo per l'arresto d'emergenza (versione KP) (5).
- Attuatore opzionale per le fermate intermedie (6).
- Sensori magnetici opzionali (7).
- Varie opzioni per specchiare gli accessori (8).

Pneumatic slides (series ZV)

- *Compatible with the G-mix system (1).*
- *Available with piston bore 25 or 40.*
- *Adjustable recirculating ball bearing guide (2).*
- *Double acting.*
- *Rear air supply (3).*
- *Optional stroke end adjusters with shock-absorber (4), rubber bumper or grub screw.*
- *Emergency stopper (KP version) (5).*
- *Optional actuator for intermediate stops (6).*
- *Optional magnetic sensors (7).*
- *Several options for mirrored accessories (8).*

ZV25



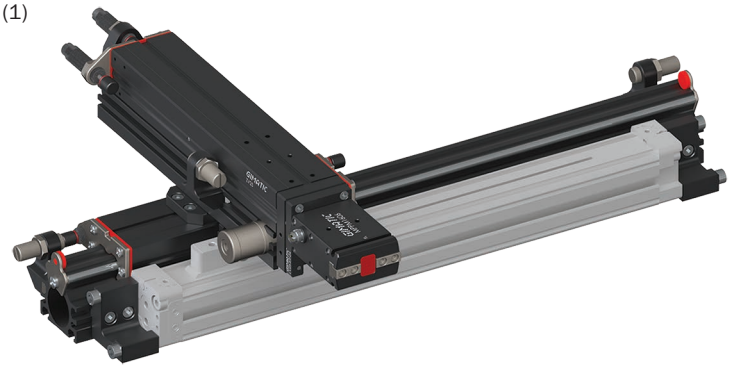
ZV40



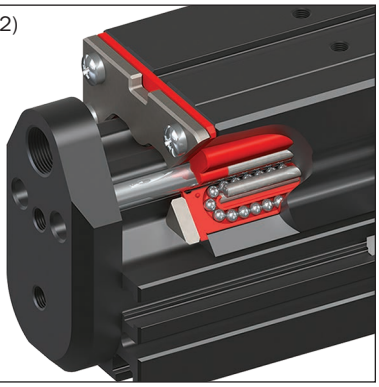
	ZV25030DS ZV25030DSKP	ZV25060DS ZV25060DSKP	ZV25100DS ZV25100DSKP	ZV25150DS ZV25150DSKP	ZV25200DS ZV25200DSKP
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Operating pressure*	1 ÷ 8 bar				
Temperatura di esercizio *Operating temperature*	5° ÷ 60°C.				
Forza di apertura a 6 bar *Extension force at 6 bar*	265 N				
Forza di chiusura a 6 bar *Retraction force at 6 bar*	238 N				
Corsa totale massima *Maximun total stroke*	30 mm	60 mm	100 mm	150 mm	200 mm
Tempo di azionamento minimo *Minimum actuating time*	0.06 s	0.11 s	0.21 s	0.30 s	0.43 s
Consumo d'aria per ciclo *Cycle air consumption*	33 cm^3	61 cm^3	113 cm^3	174 cm^3	235 cm^3
Peso *Weight*	610 g 660 g	730 g 780 g	1000 g 1050 g	1320 g 1370 g	1635 g 1685 g

	NEW ZV40050DS ZV40050DSKP	NEW ZV40100DS ZV40100DSKP	NEW ZV40150DS ZV40150DSKP	NEW ZV40200DS ZV40200DSKP
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure*	1 ÷ 8 bar			
Temperatura di esercizio *Operating temperature*	5° ÷ 60°C.			
Forza di apertura a 6 bar *Extension force at 6 bar*	678 N			
Forza di chiusura a 6 bar *Retraction force at 6 bar*	617 N			
Corsa totale massima *Maximun total stroke*	50 mm	100 mm	150 mm	200 mm
Tempo di azionamento minimo *Minimum actuating time*	0.07 s	0.15 s	0.22 s	0.31 s
Consumo d'aria per ciclo *Cycle air consumption*	128 cm^3	302 cm^3	423 cm^3	543 cm^3
Peso *Weight*	1950 g 2000 g	2710 g 2760 g	3130 g 3180 g	3540 g 3590 g

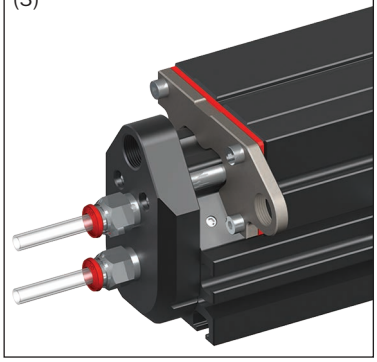
(1)



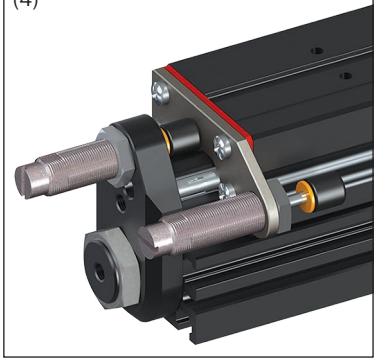
(2)



(3)



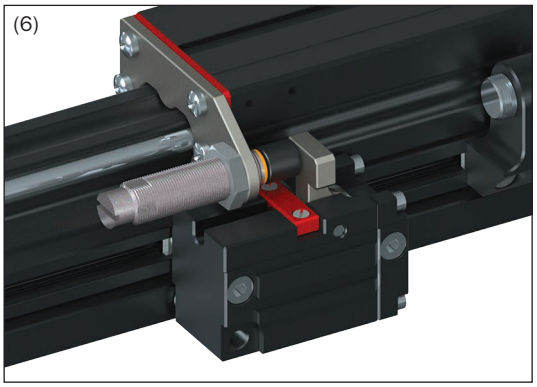
(4)



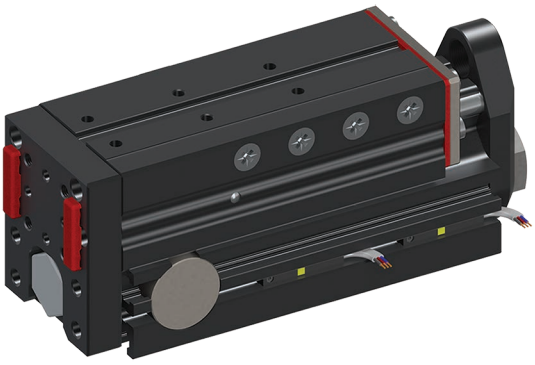
(5)



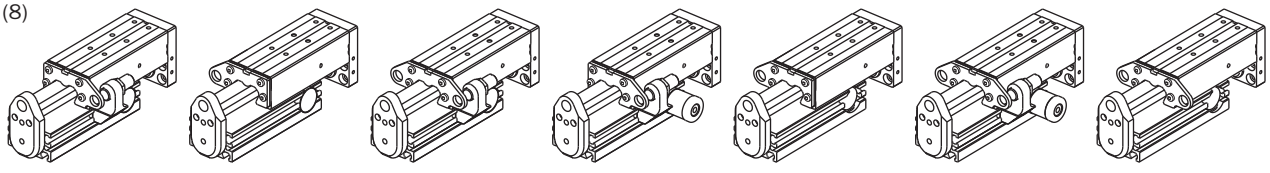
(6)



(7)



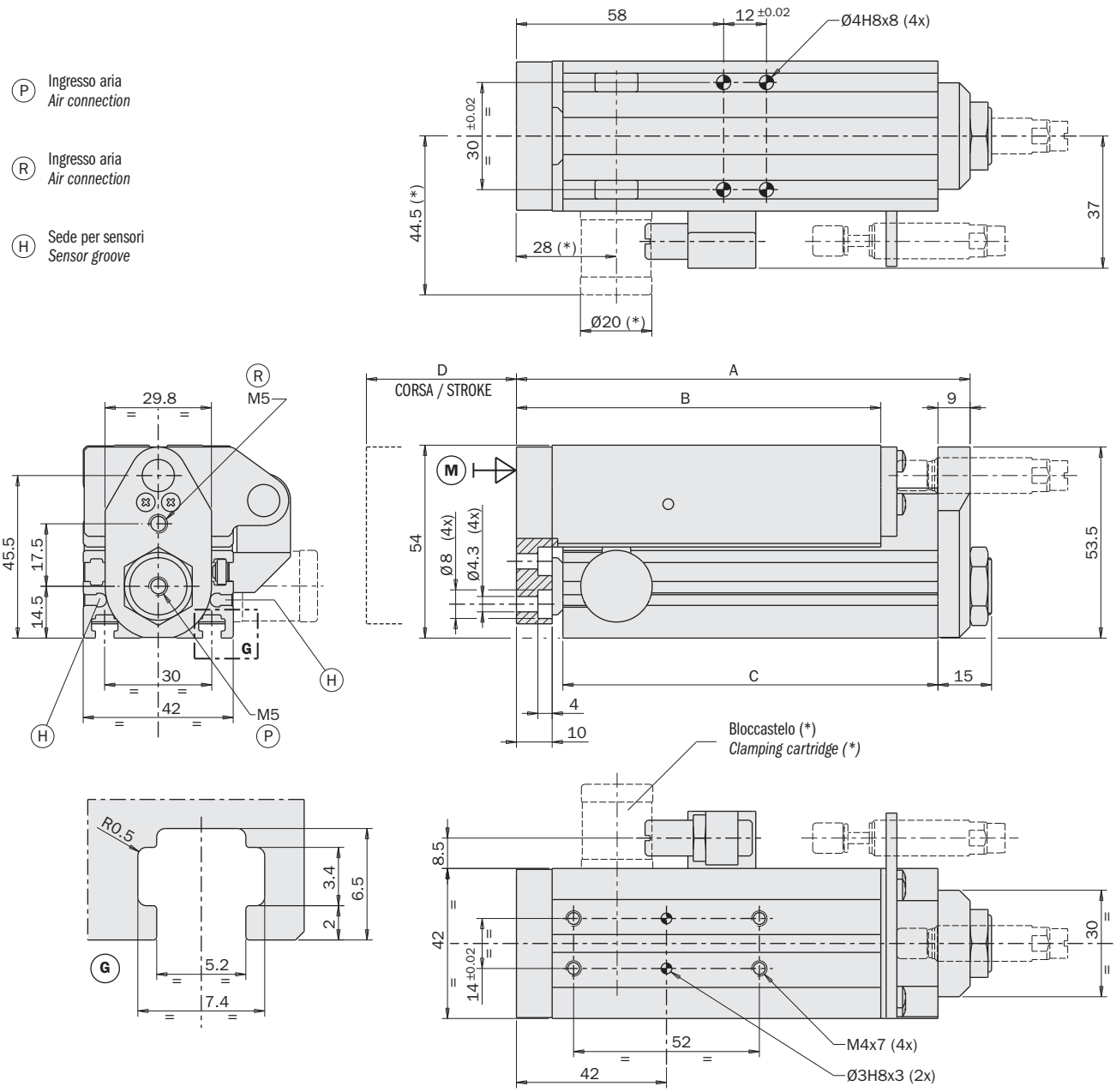
(8)



ZV...DS ZV...DSL ZV...DSB ZV...DSKP ZV...DSKL ZV...DSKPB ZV...DSKLB

Dimensioni (mm) / *Dimensions (mm)*

ZV25



	A	B	C	D
ZV25030DS ZV25030DSKP	127	102	105	30
ZV25060DS ZV25060DSKP	157	132	135	60
ZV25100DS ZV25100DSKP	226	201	204	100
ZV25150DS ZV25150DSKP	305	280	283	150
ZV25200DS ZV25200DSKP	384	359	362	200

(*)
Solo per la versione ...DSKP
Only ...DSKP version

FIRST ANGLE PROJECTION

03/2015

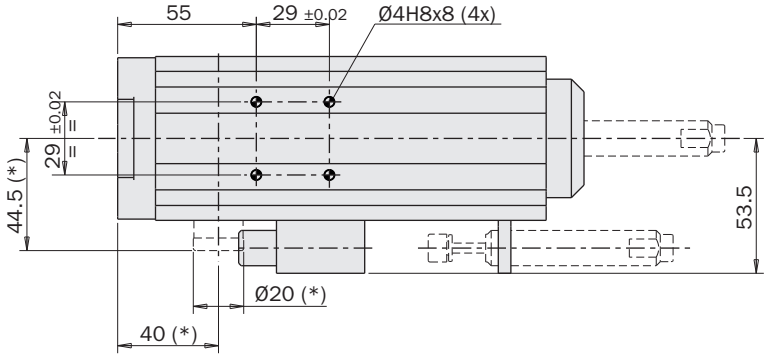
Dimensioni (mm) / *Dimensions (mm)*

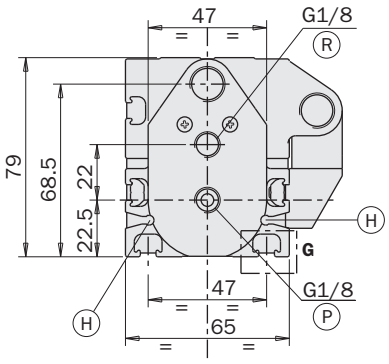
ZV40

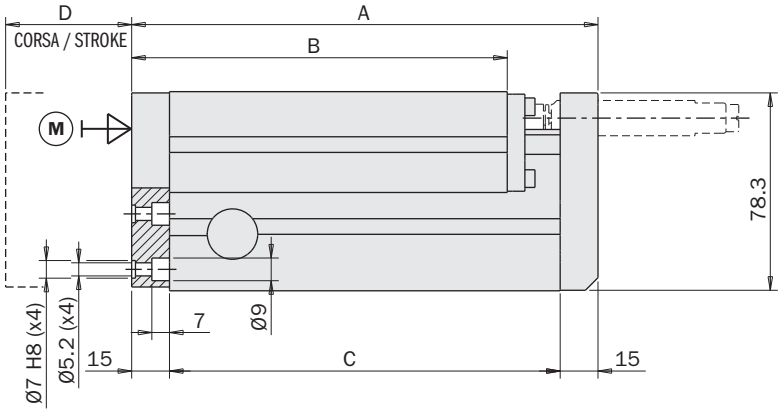
P Ingresso aria
Air connection

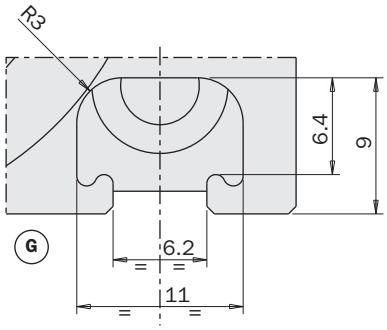
R Ingresso aria
Air connection

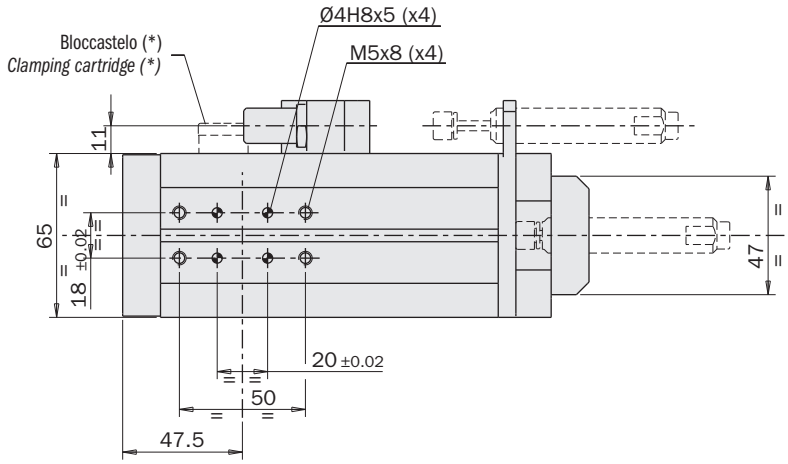
H Sede per sensori
Sensor groove

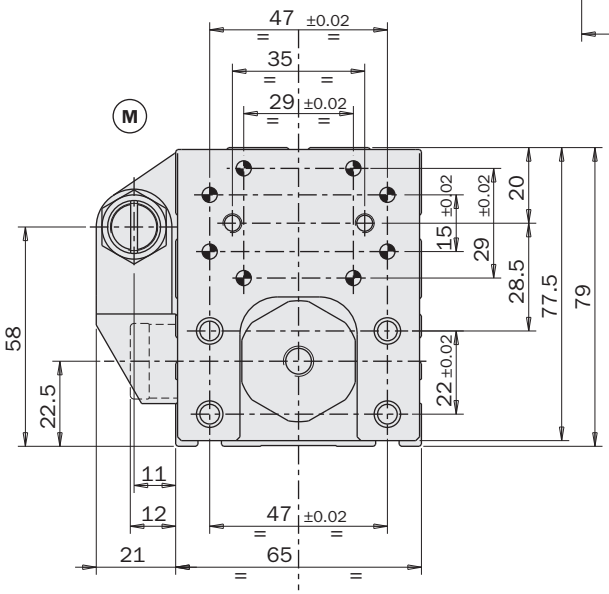












	A	B	C	D
ZV40050DS ZV40050DSKP	185	149	155	50
ZV40100DS ZV40100DSKP	277	241	247	100
ZV40150DS ZV40150DSKP	327	291	297	150
ZV40200DS ZV40200DSKP	377	341	347	200

(*)
Solo per la versione ...DSKP
Only ...DSKP version

FIRST ANGLE PROJECTION

Fine-corsa

Per la regolazione della corsa si possono utilizzare deceleratori idraulici Enidine, ammortizzatori di gomma (FGD) o grani (FPD), a seconda dell'energia cinetica che l'unità deve sopportare.

Stroke end

The stroke can be adjusted by Enidine shock-absorbers, rubber bumpers (FGD), or grub screws (FPD), according with the kinetic energy the slide has to bear.

L'energia che la slitta deve dissipare ad ogni fine corsa è:

The energy the slide has to dissipate at each stroke end is:

$$E = \frac{m_{WP} \times s^2}{t^2}$$

dove:

m_{WP} è la massa trasportata [kg];
s è la corsa [m];
t è il tempo di traslazione [s].

where:

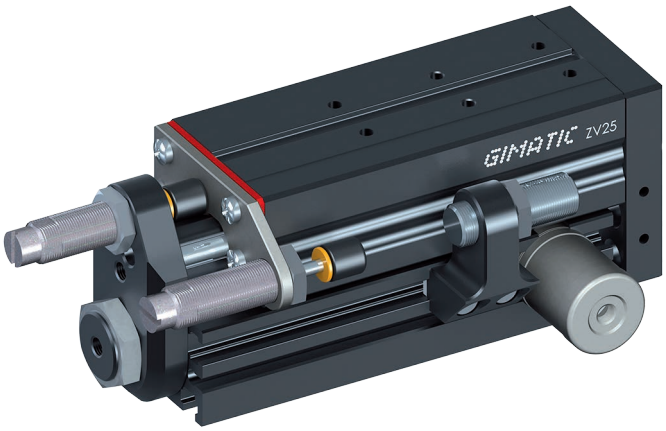
m_{WP} *is the work piece mass [kg];*
s *is the travel stroke [m];*
t *is the travel time [s].*

I valori ammessi di E sono riportati nella tabella dell'energia cinetica sottostante.

The maximum permitted values of E are in the kinetic energy table below.



		ENIDINE	FGD	FPD
ZV25		TK10-3MB	FGD1030 (L=30 mm)	FPD1030 (L=30 mm)
	E	0.41 J	0.14 J	0.05 J
ZV40		PM25MC-2B-SP22039	FGD1440 (L=40 mm)	FPD1440 (L=40 mm)
	E	0.99 J	0.24 J	0.08 J



Ripetibilità

Gli accessori usati per la regolazione del fine corsa influenzano la ripetibilità.
Usare il deceleratore o il grano, quando è necessario un posizionamento preciso (+/-0.02mm) a fine corsa.

Repeatability

The accessories used for the stroke end adjustment affect the slide repeatability.
Use the shock-absorber option or the grub screw option, when a precise stroke end positioning (+/-0.02mm) is needed.

Fissaggio

La slitta può essere montata in posizione fissa, oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la slitta ed il suo carico sono sottoposti.

Il corpo della slitta deve essere fissato usando le cave sul fondo (1). Usare i dadi:
MFM-058 (ZV25);
MFI-025 (ZV40).

Il carico può essere fissato sulla piastra frontale (2 o 3), oppure sul dorso del carrello (4).

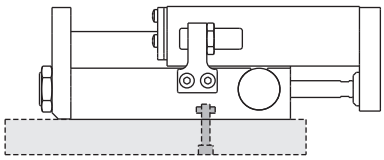
Fastening

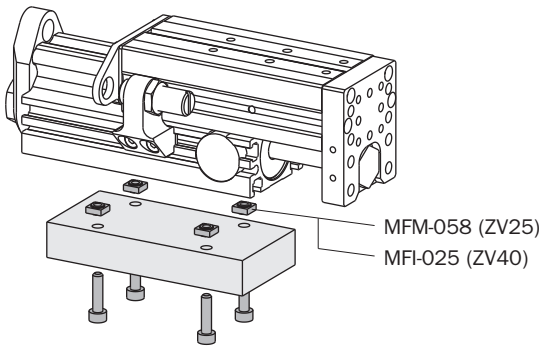
The slide can be fastened to a static or moving part. When on a moving part, attention must be paid to the inertial force to which the slide and its load are subjected.

The slide body must be fastened by the slots on the bottom (1). Use the nuts:
MFM-058 (ZV25);
MFI-025 (ZV40).

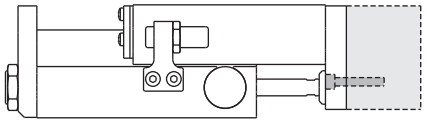
The load can be fastened on the front plate (2 or 3), or on the top of the slider (4).

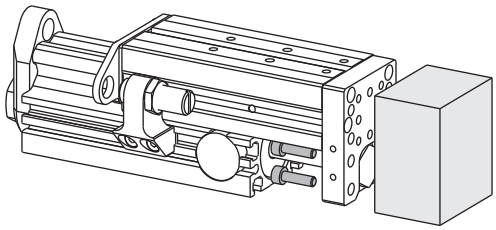
1



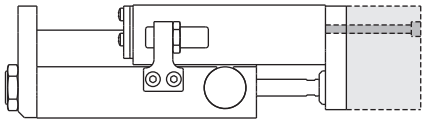


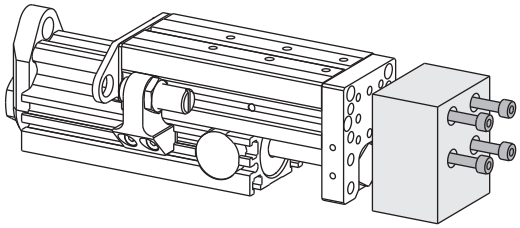
2



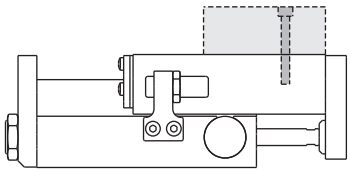


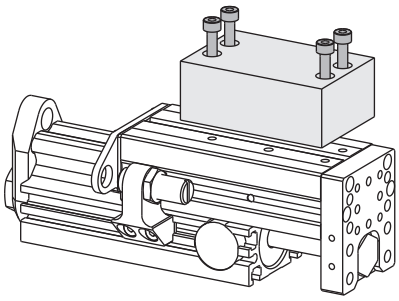
3





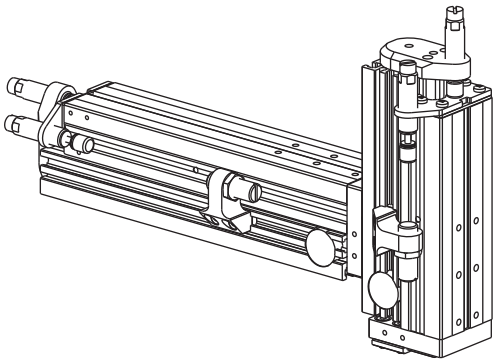
4





Esempio di applicazione con ZV25

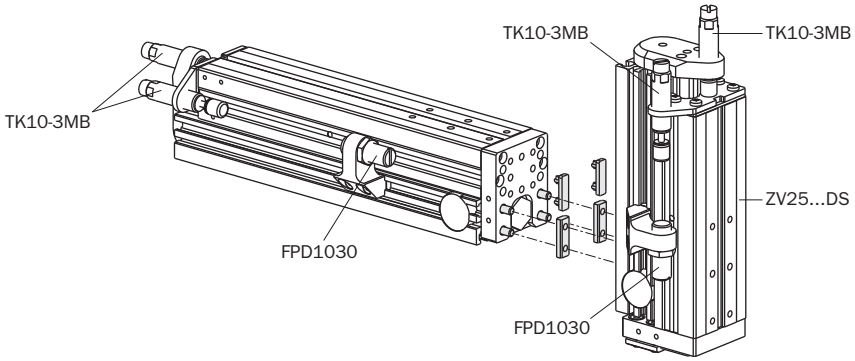
Application example with ZV25





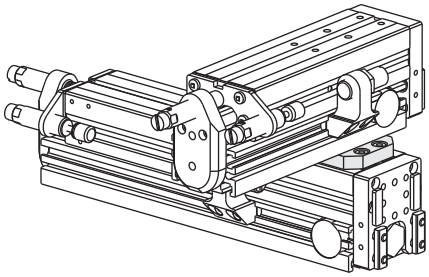
Nella confezione dell'attuatore sono forniti viti, spine, dadi e chiavette di centraggio per il fissaggio frontale di un altro attuatore.

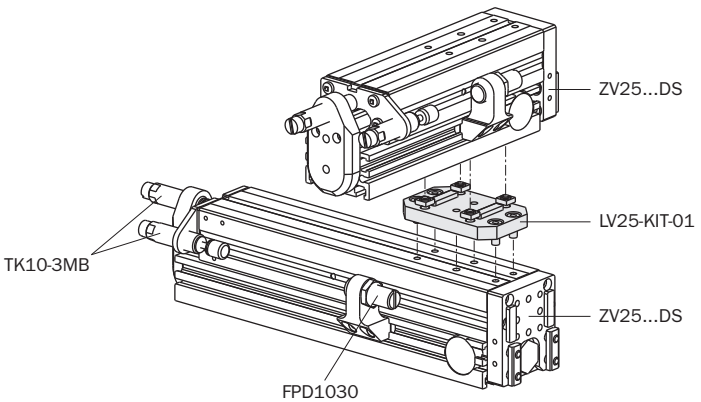
The actuator's package comes with screws, dowel pins, nuts and centering keys for the front fastening of another actuator.



Esempio di applicazione con ZV25

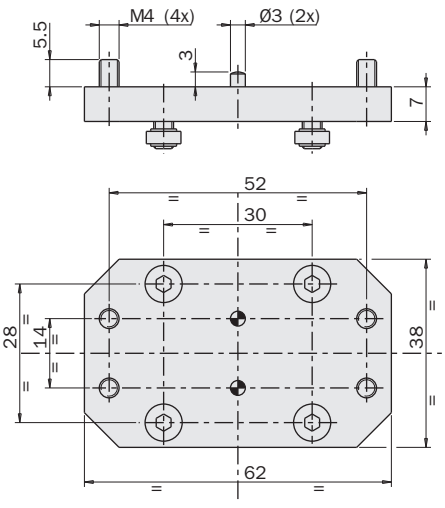
Application example with ZV25





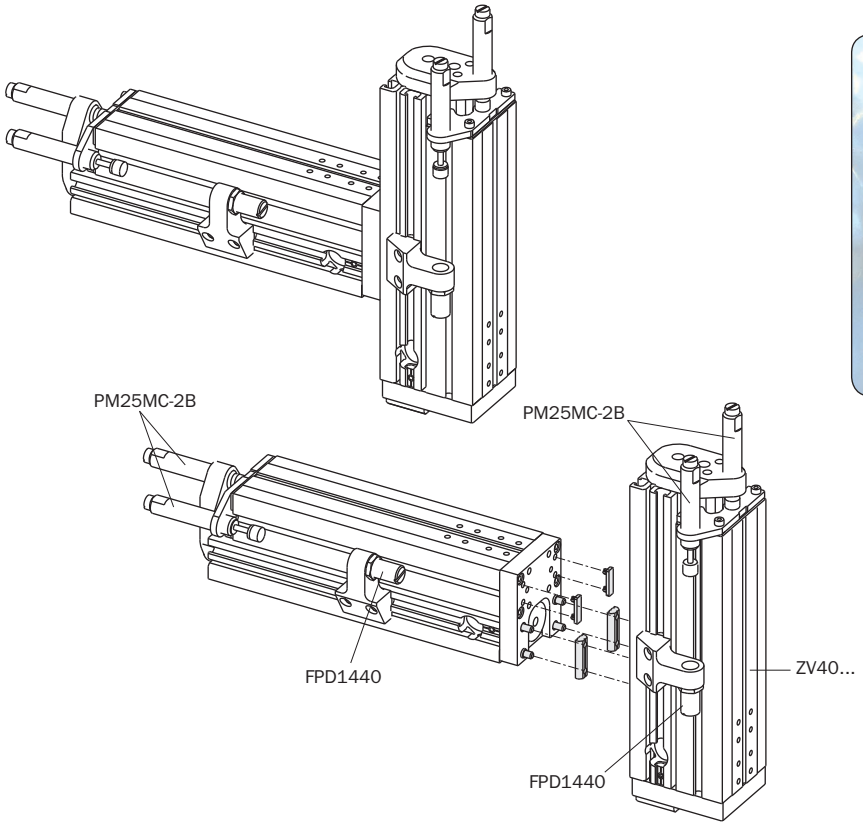
LV25-KIT-01

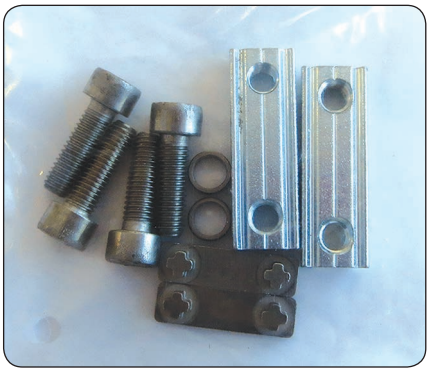
- Peso / Weight: 57g.



Esempio di applicazione con ZV40

Application example with ZV40



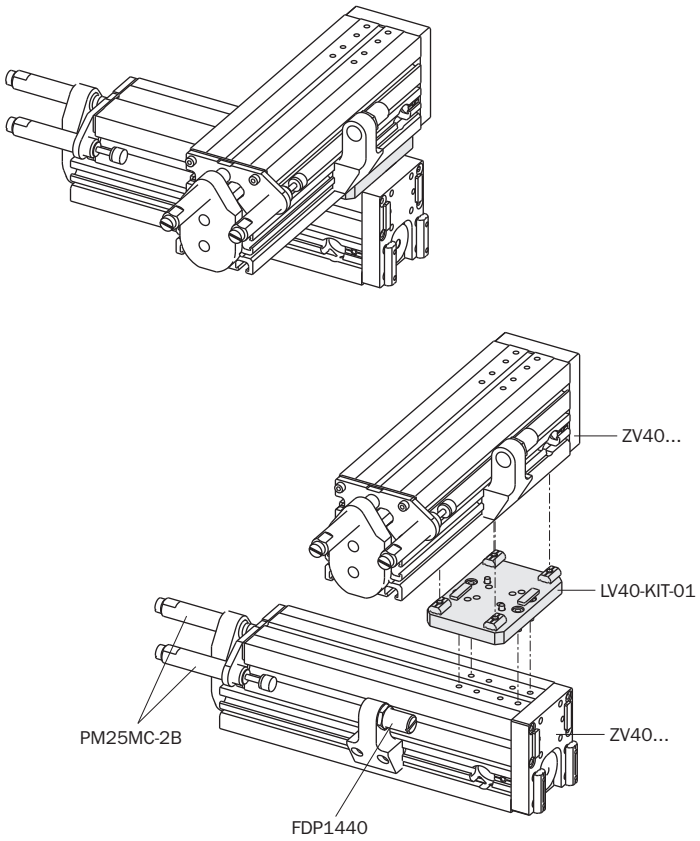


Nella confezione dell'attuatore sono forniti viti, boccole, dadi e chiavette di centraggio per il fissaggio frontale di un altro attuatore.

The actuator's package comes with screws, bushes, nuts and centering keys for the front fastening of another actuator.

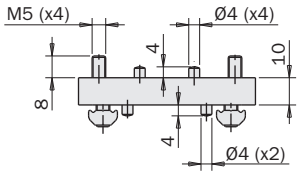
Esempio di applicazione con ZV40

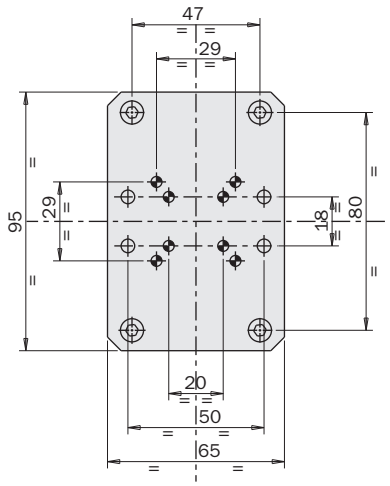
Application example with ZV40



LV40-KIT-01

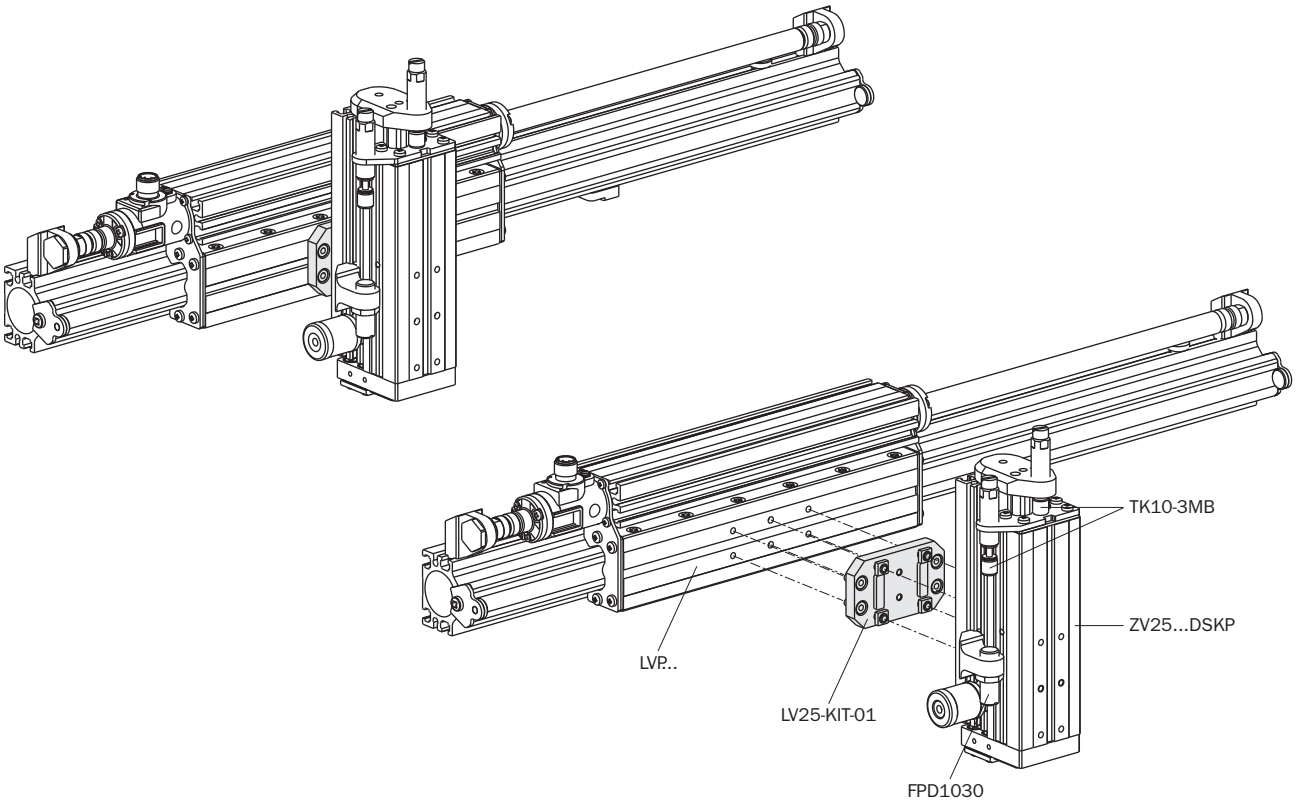
- Peso / Weight: 215g.





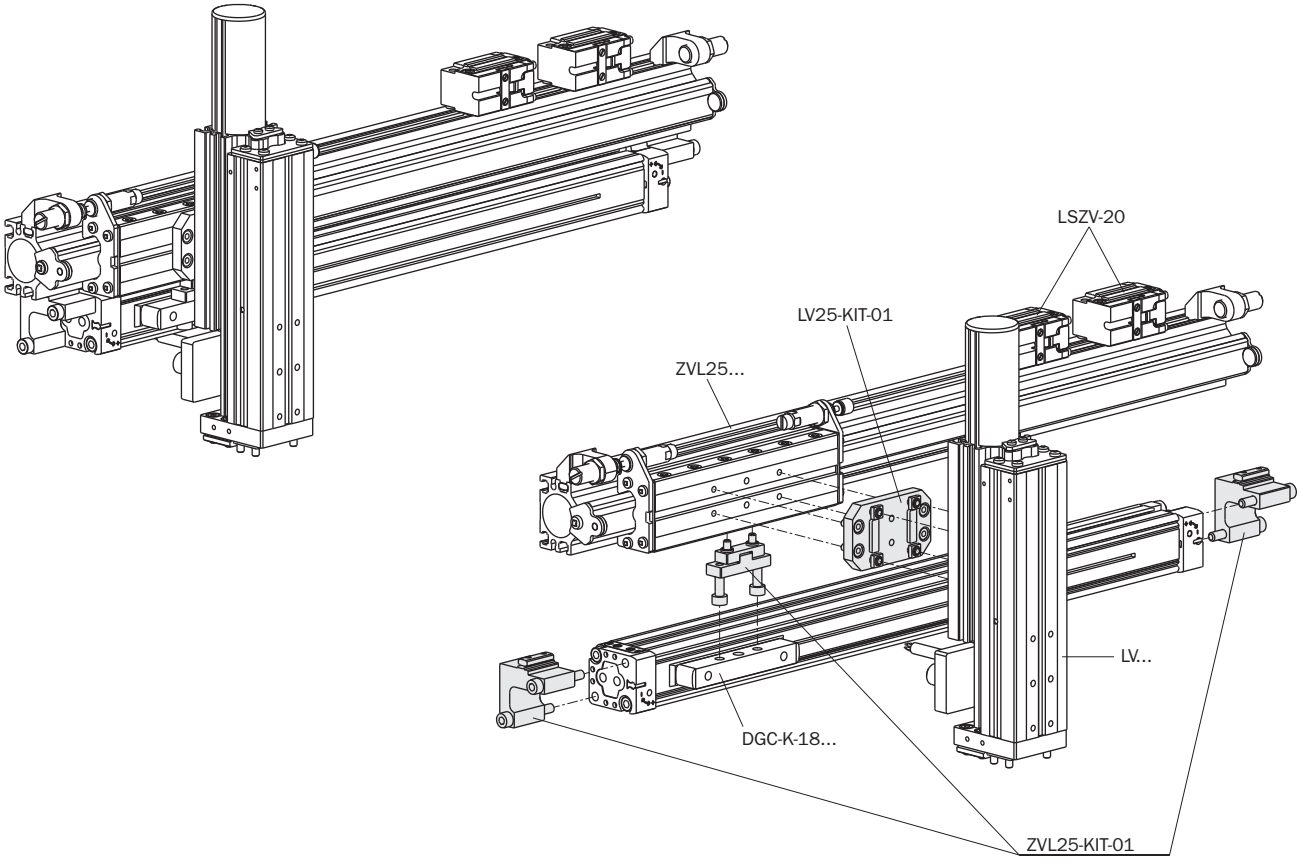
Esempio di applicazione con ZV25

Application example with ZV25

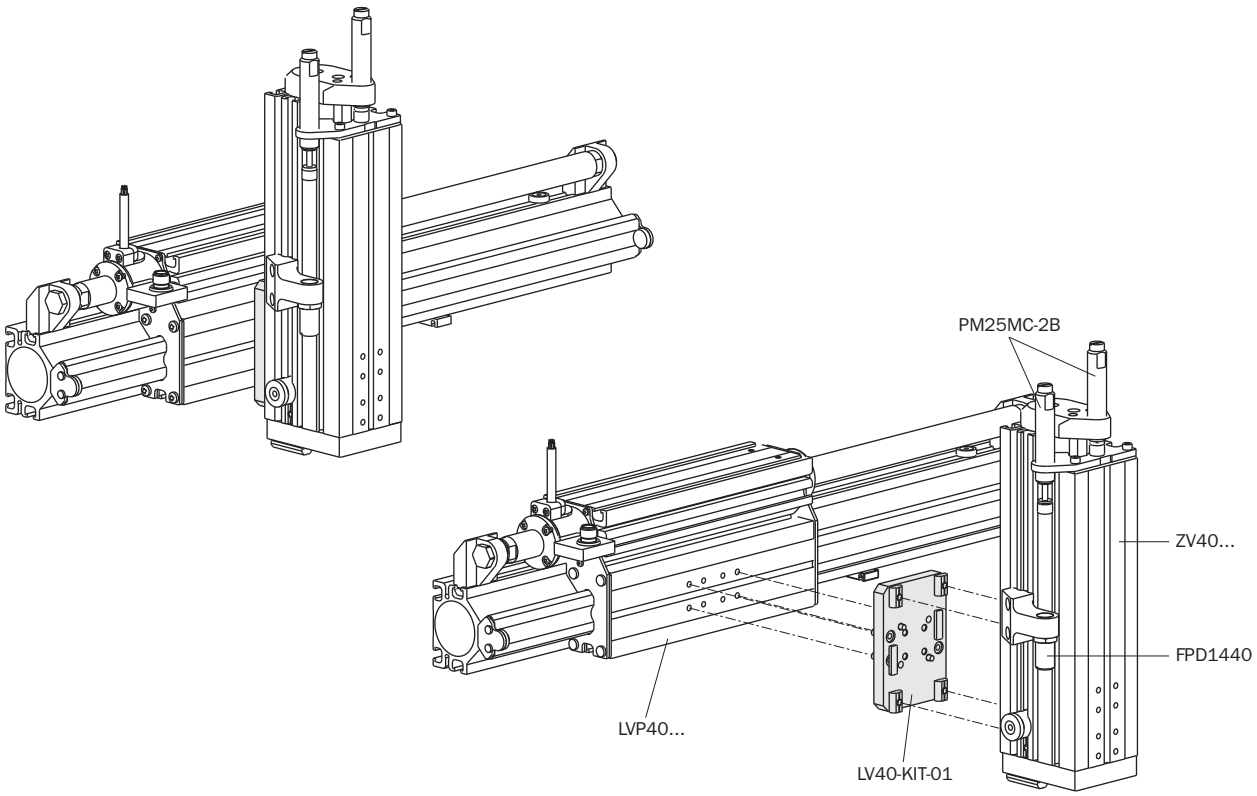


Esempio di applicazione con ZVL25

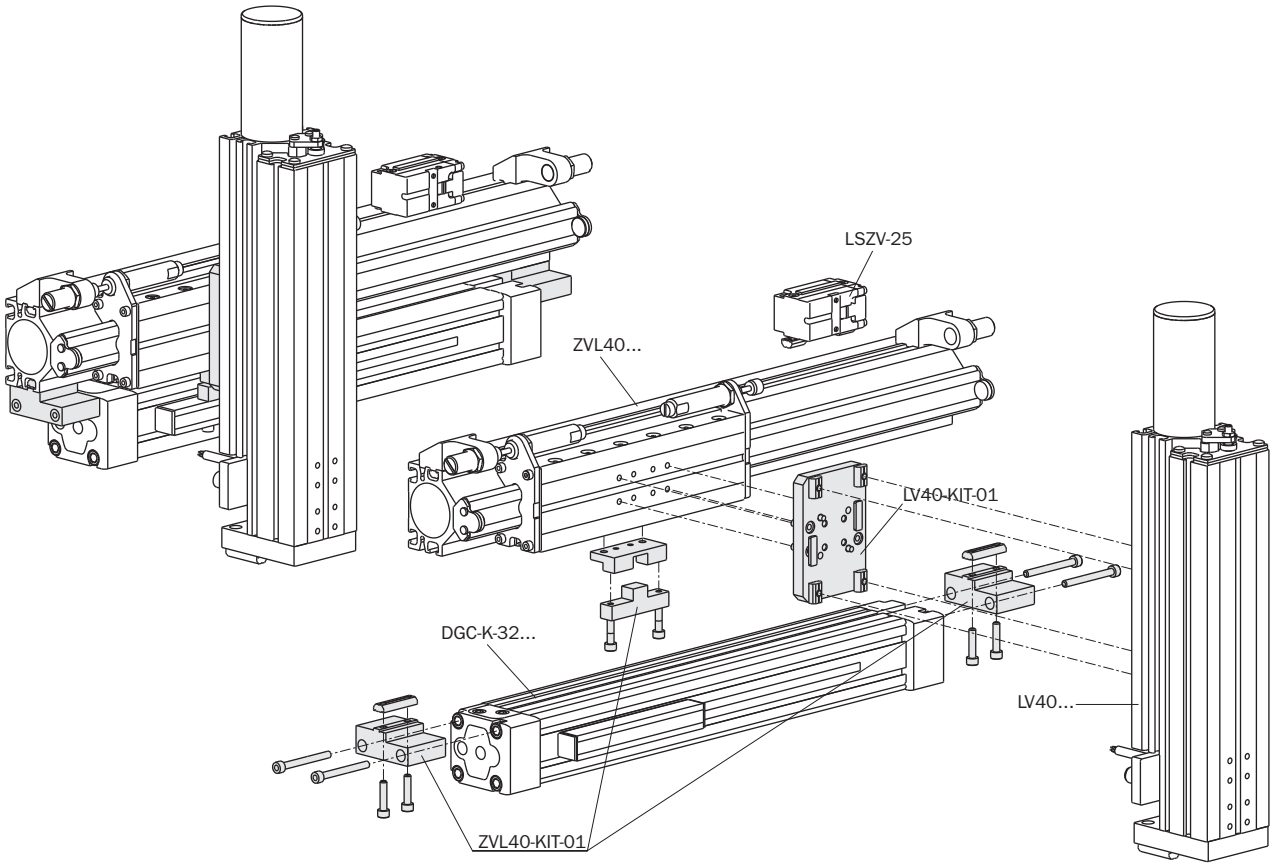
Application example with ZVL25



Esempio di applicazione con ZV40 ***Application example with ZV40***



Esempio di applicazione con ZVL40 ***Application example with ZVL40***

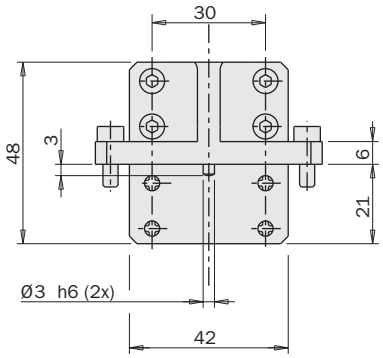


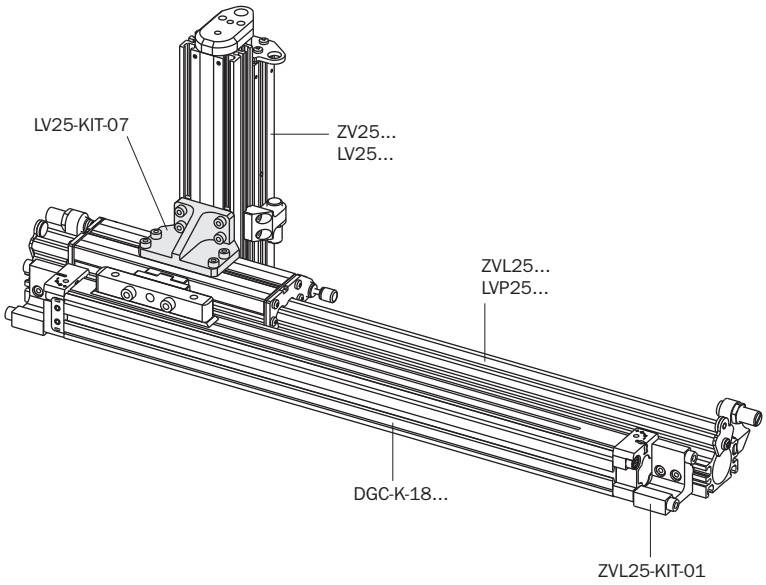
Esempio di applicazione con ZV25

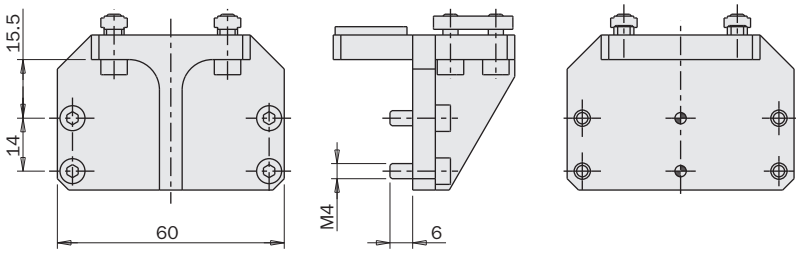
Application example with ZV25

LV25-KIT-07

- Peso / Weight: 100g.





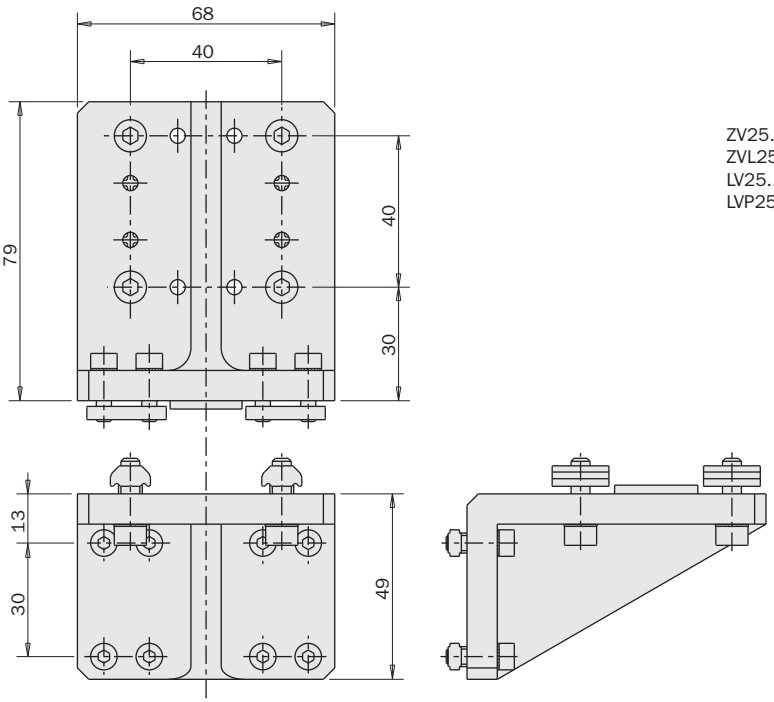


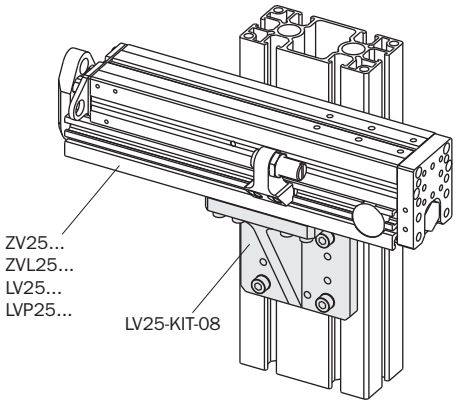
Esempio di applicazione con ZV25

Application example with ZV25

LV25-KIT-08

- Peso / Weight: 285g.



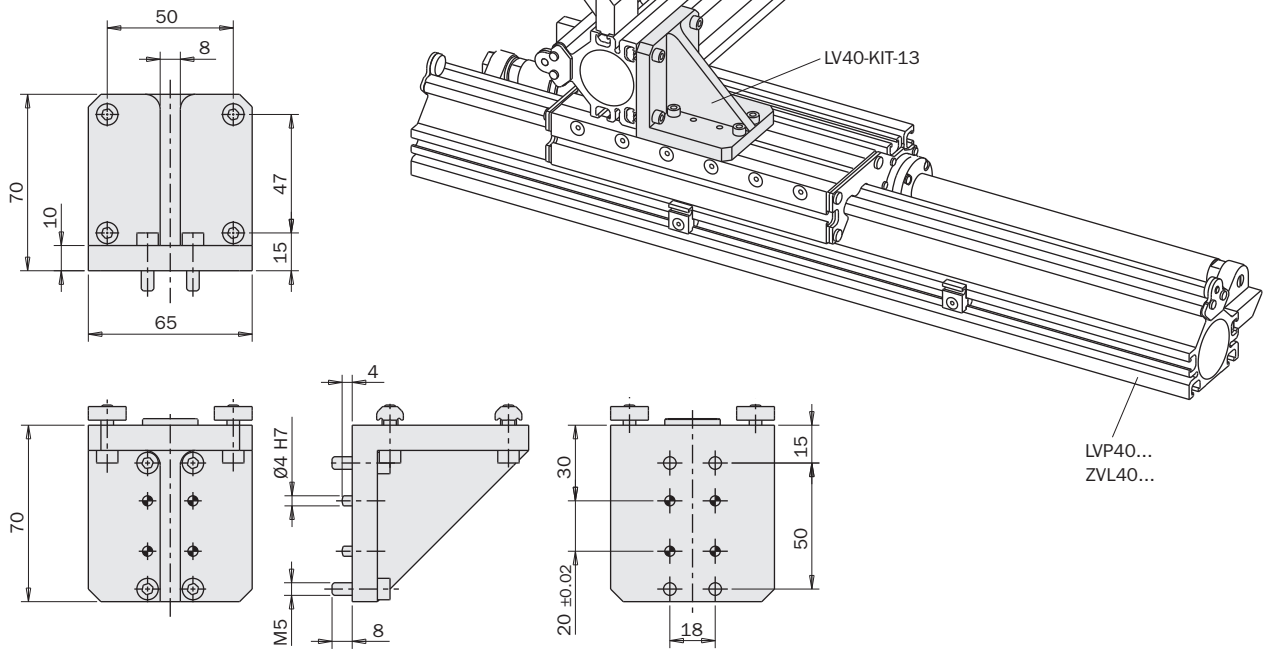


Esempio di applicazione con ZV40

Application example with ZV40

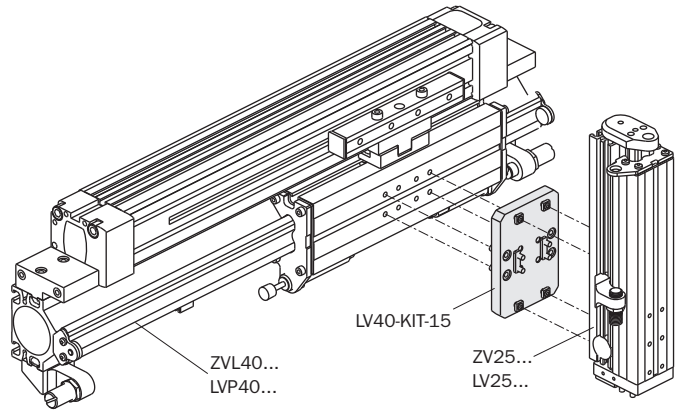
LV40-KIT-13

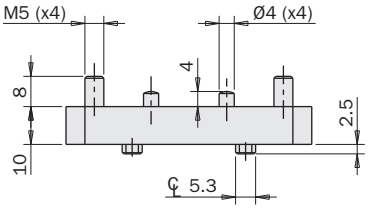
- Peso / Weight: 330g.



Esempio di applicazione con ZV40/ZV25

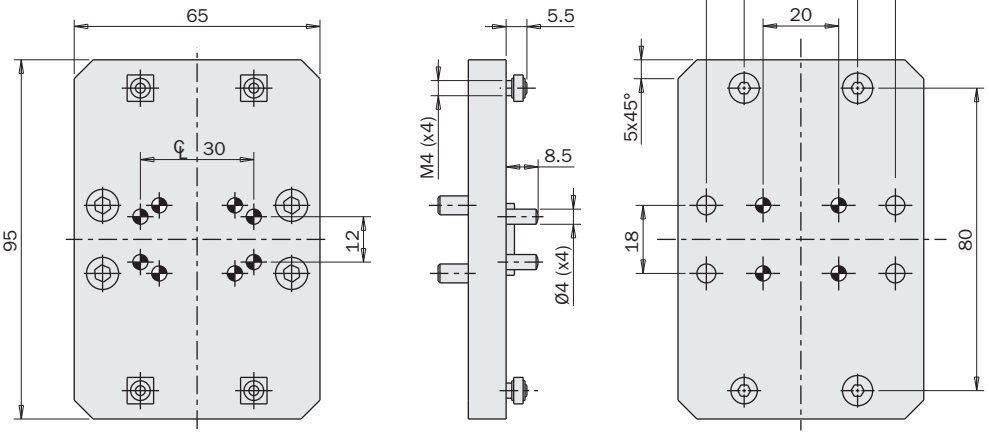
Application example with ZV40/ZV25





LV40-KIT-15

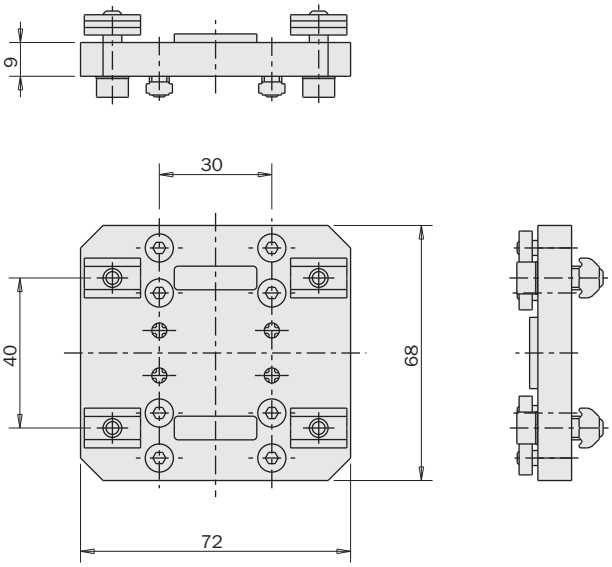
- Peso / Weight: 190g.

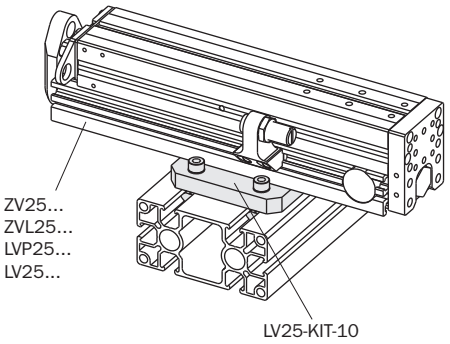


Esempio di applicazione con ZV25 ***Application example with ZV25***

LV25-KIT-10

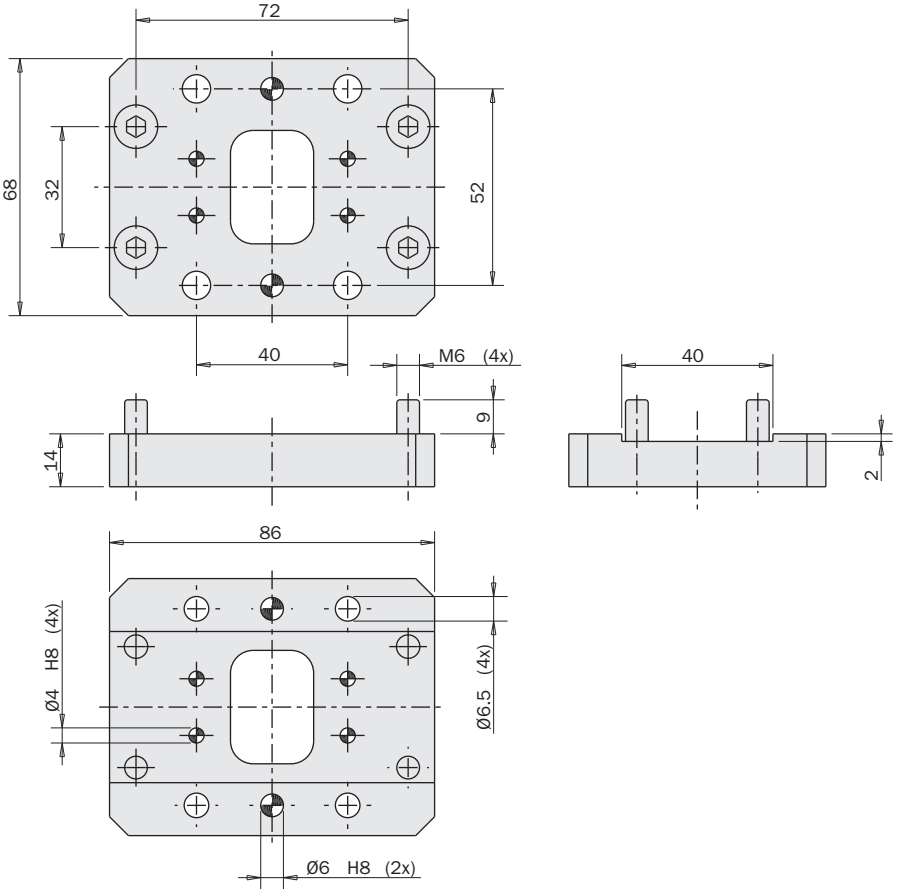
• Peso / Weight: 190g.

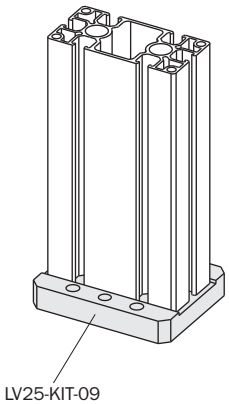




LV25-KIT-09

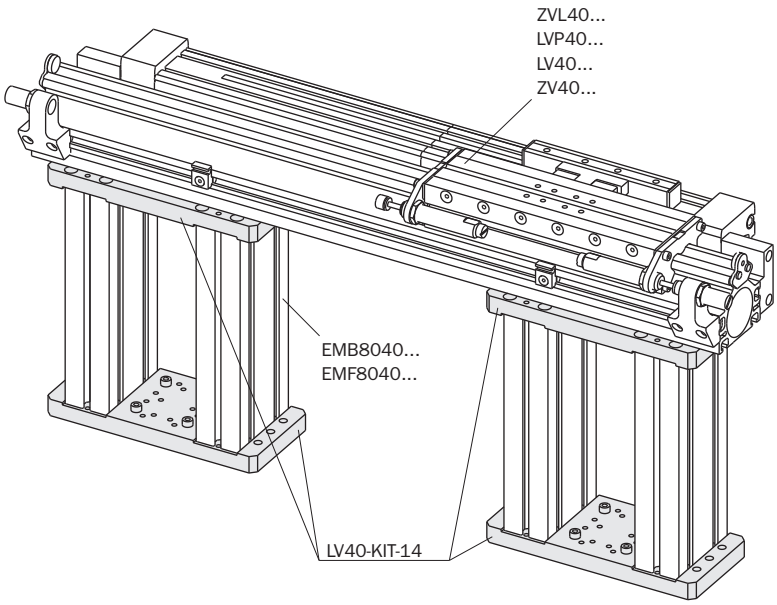
• Peso / Weight: 190g.





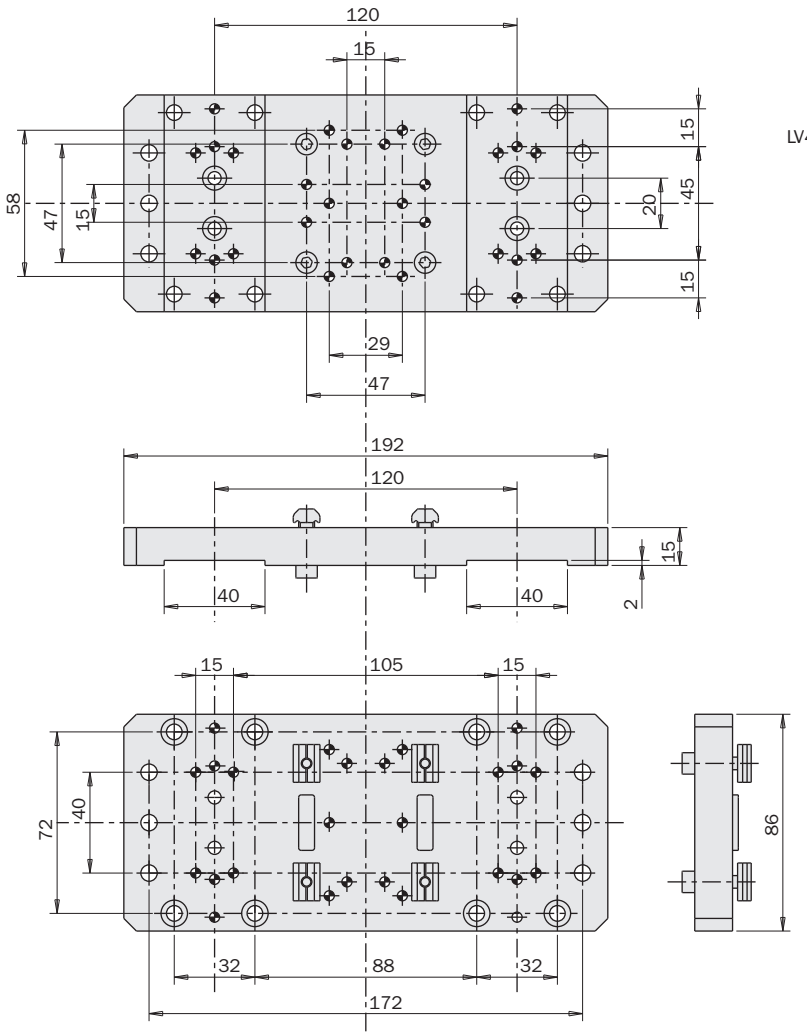
Esempio di applicazione con ZV40

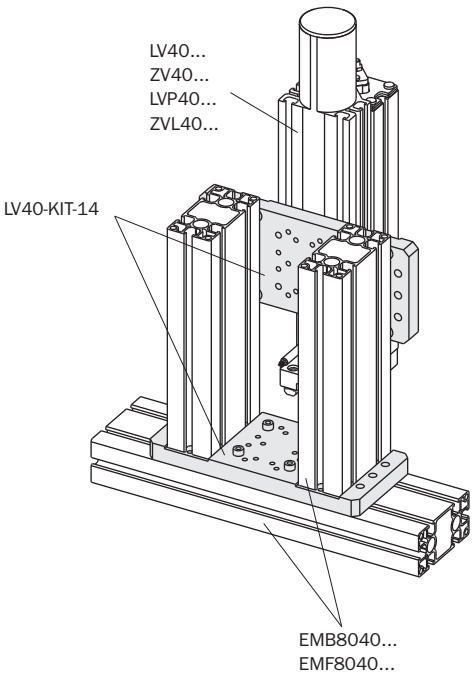
Application example with ZV40



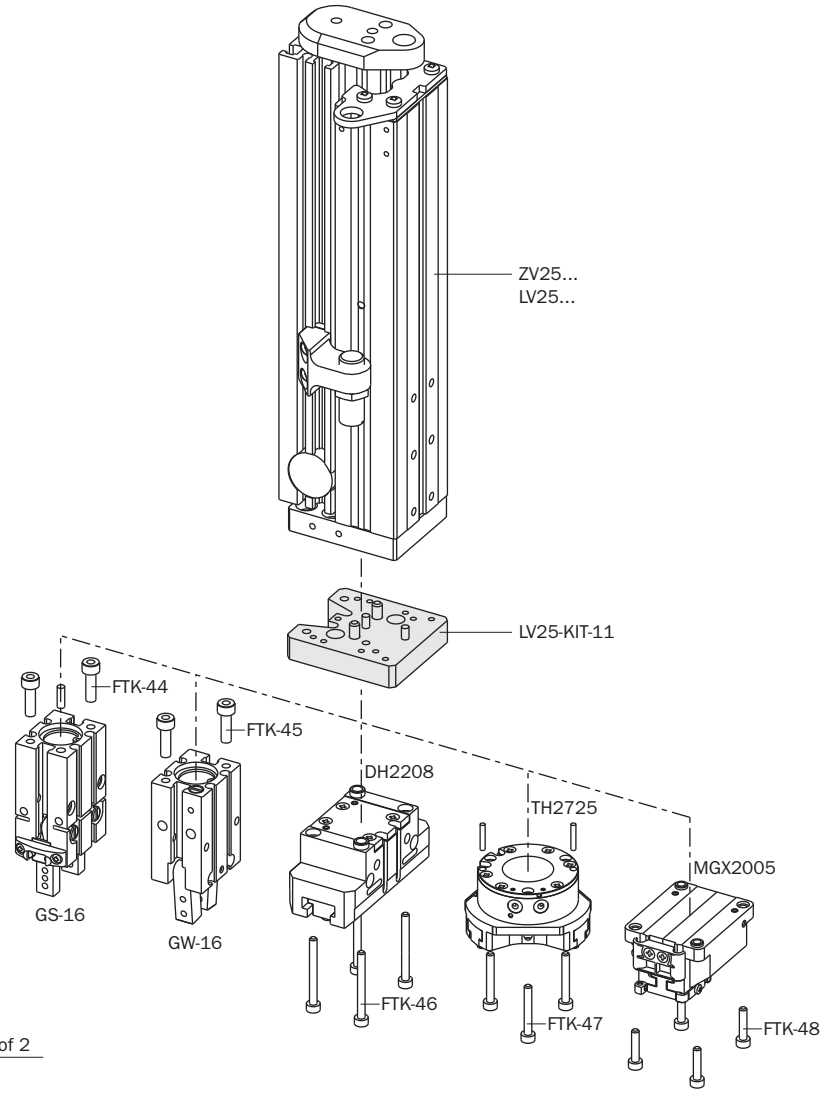
LV40-KIT-14

- Peso / Weight: 630g.



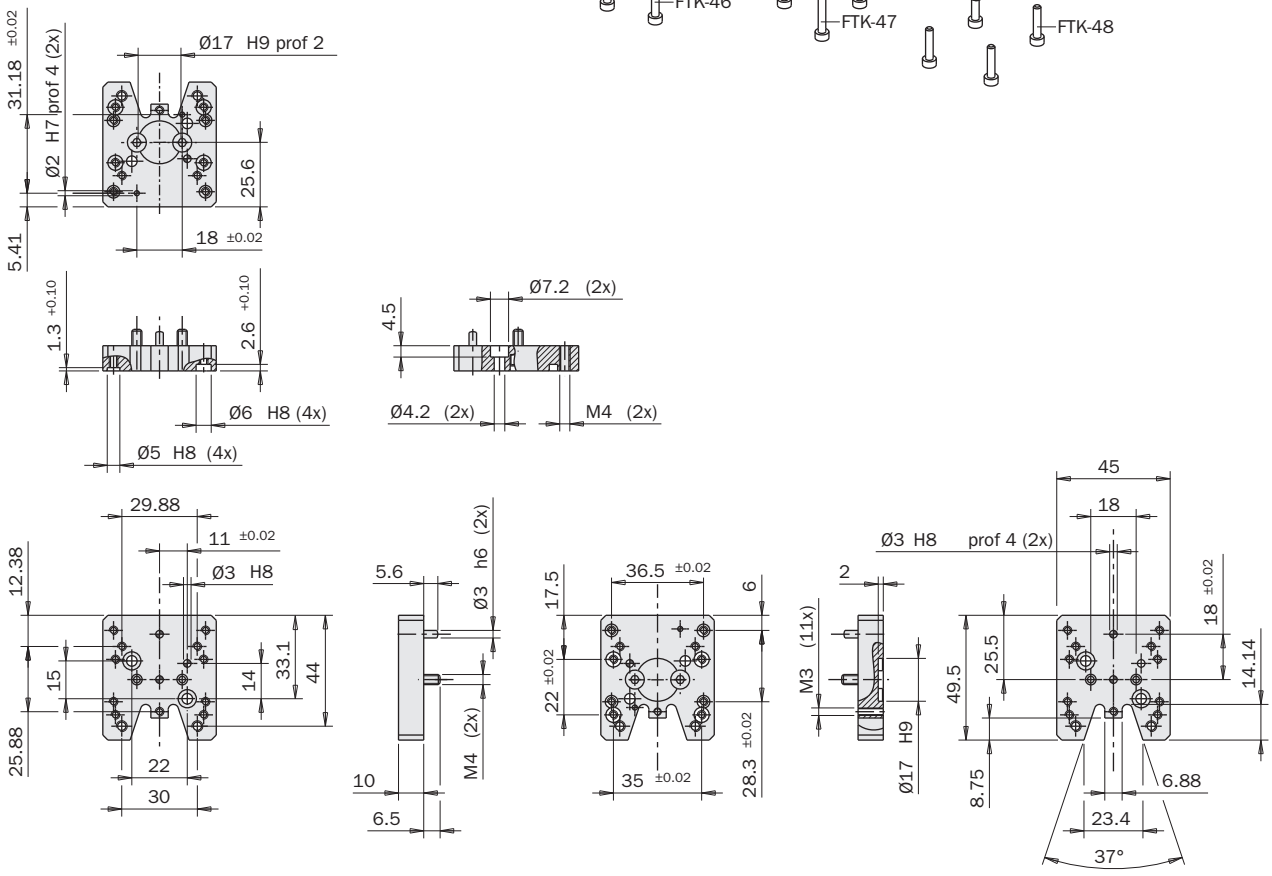


Esempio di applicazione con ZV25 ***Application example with ZV25***

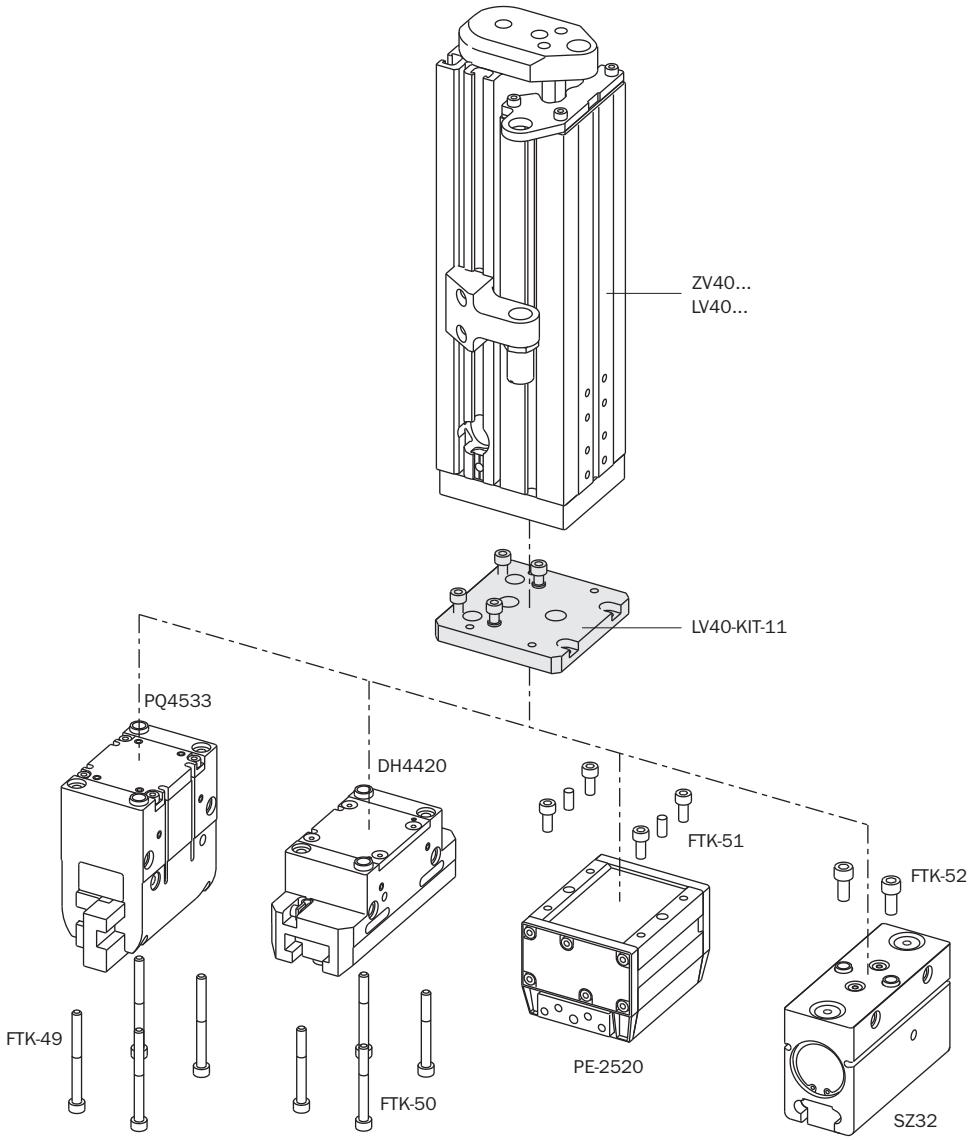


LV25-KIT-11

- Peso / Weight: 50g.

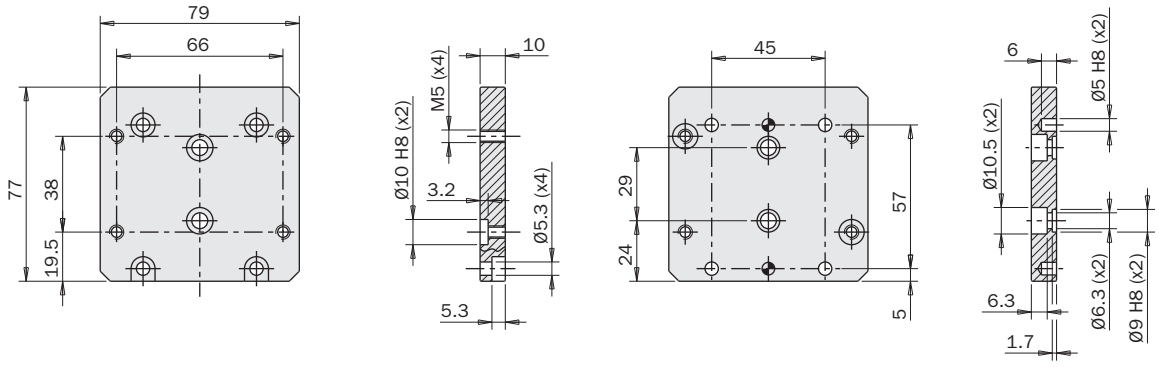


Esempio di applicazione con ZV40 ***Application example with ZV40***

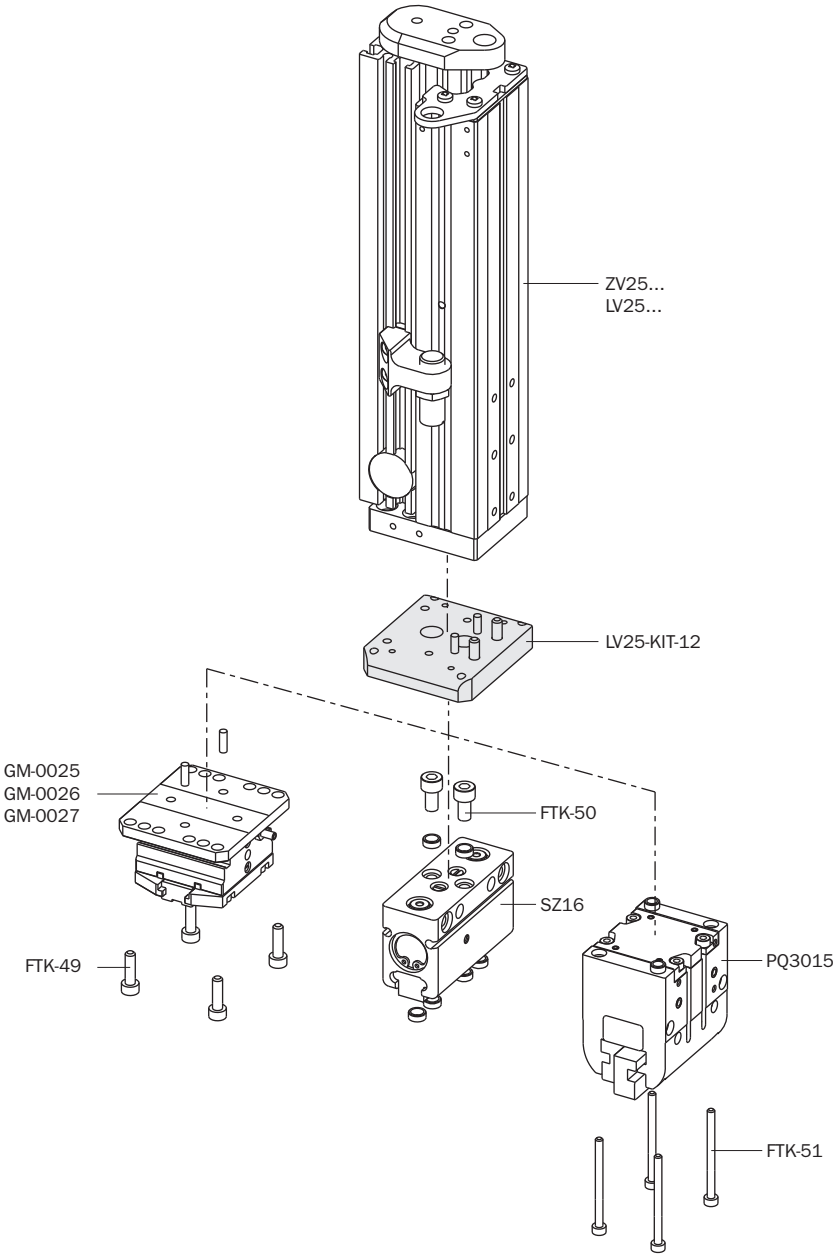


LV40-KIT-11

- Peso / Weight: 165g.

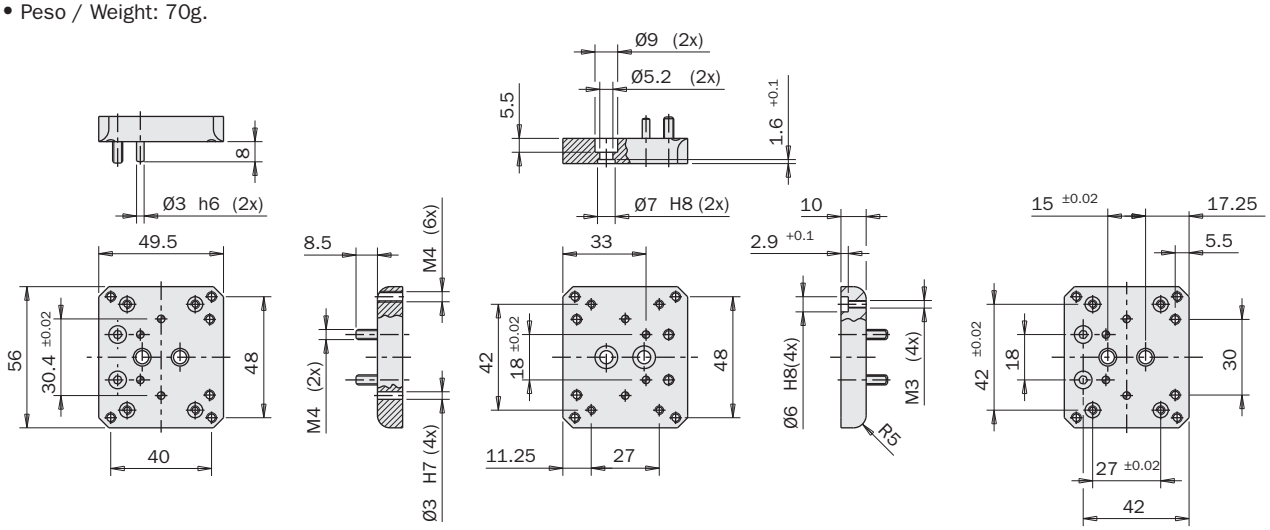


Esempio di applicazione con ZV25 ***Application example with ZV25***

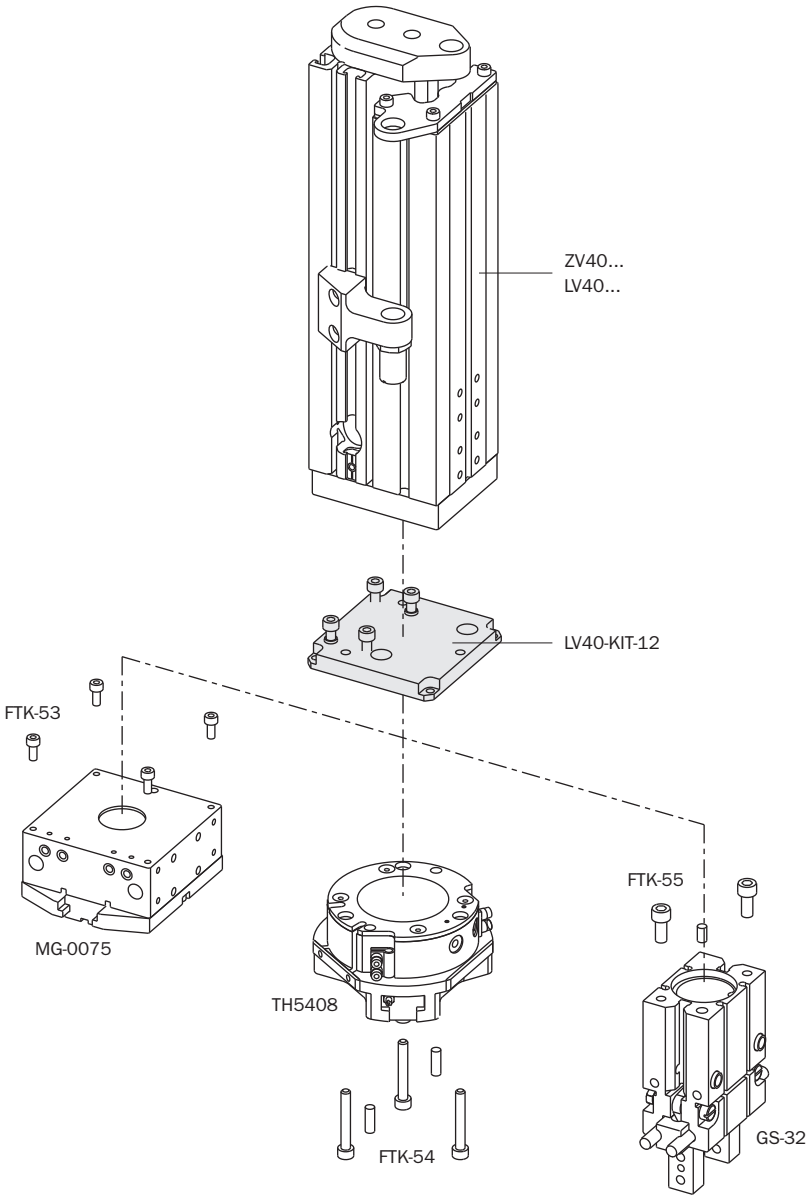


LV25-KIT-12

- Peso / Weight: 70g.

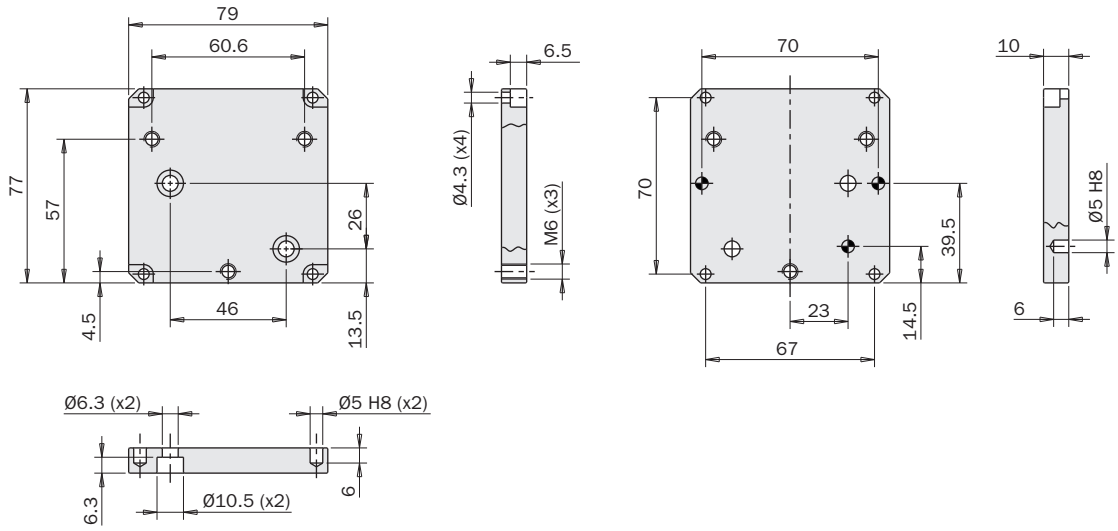


Esempio di applicazione con ZV40 ***Application example with ZV40***



LV40-KIT-12

- Peso / Weight: 165g.

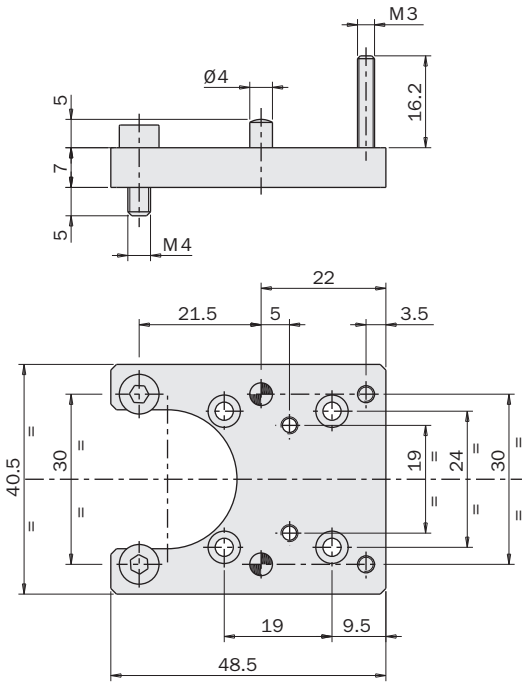


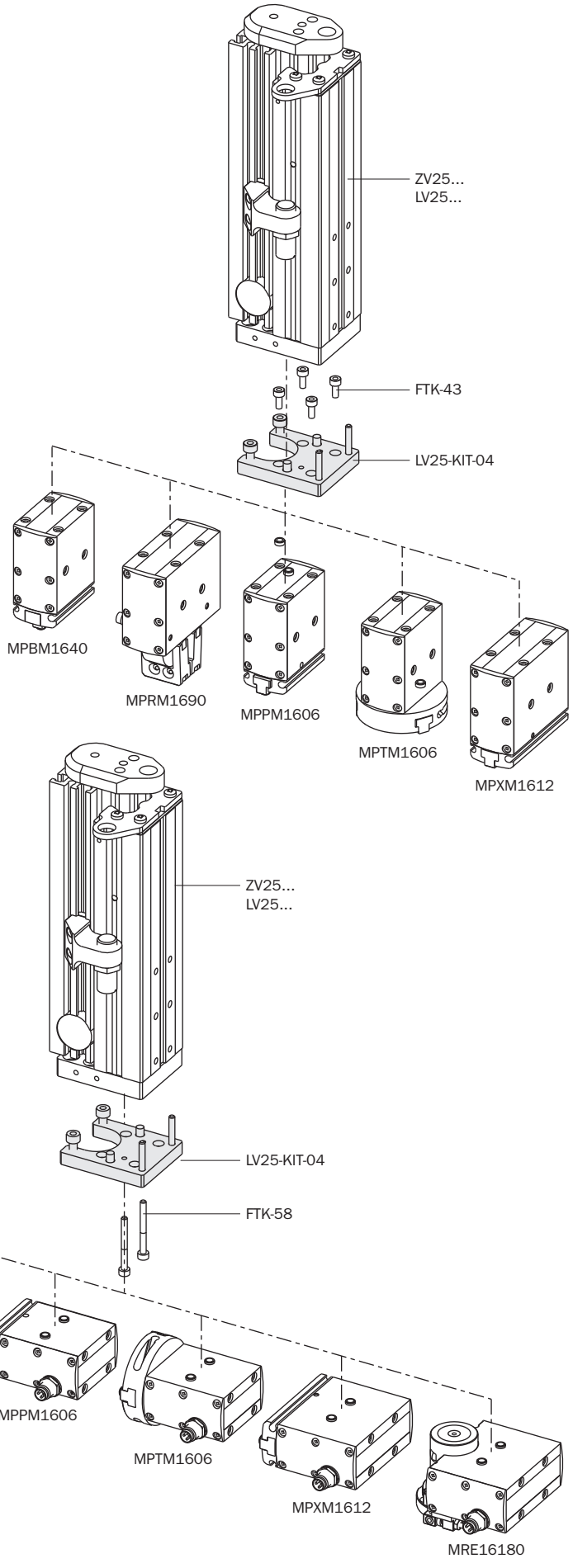
Esempio di applicazione con ZV25

Application example with ZV25

LV25-KIT-04

- Peso / Weight: 30g.



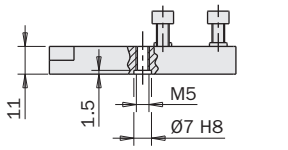


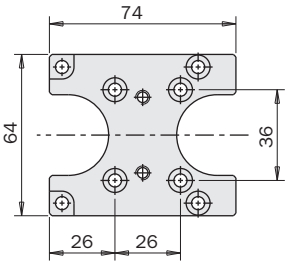
Esempio di applicazione con ZV40

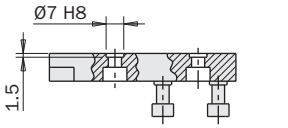
Application example with ZV40

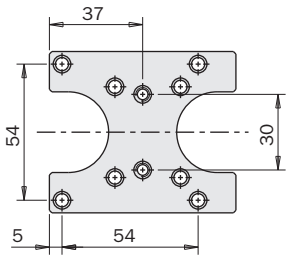
LV40-KIT-04

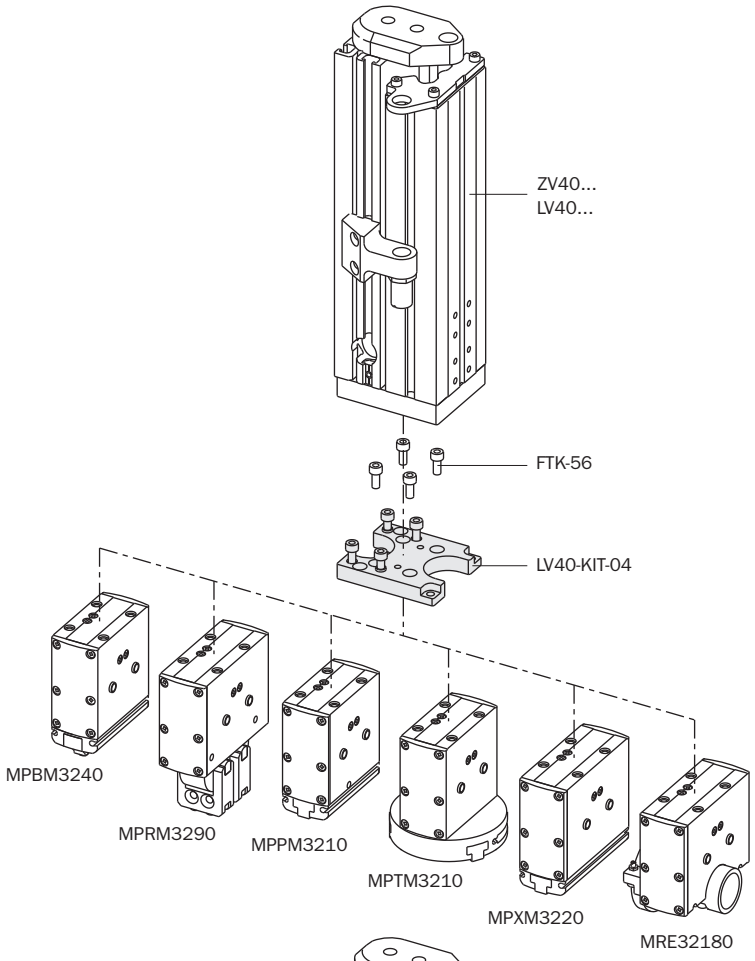
- Peso / Weight: 105g.

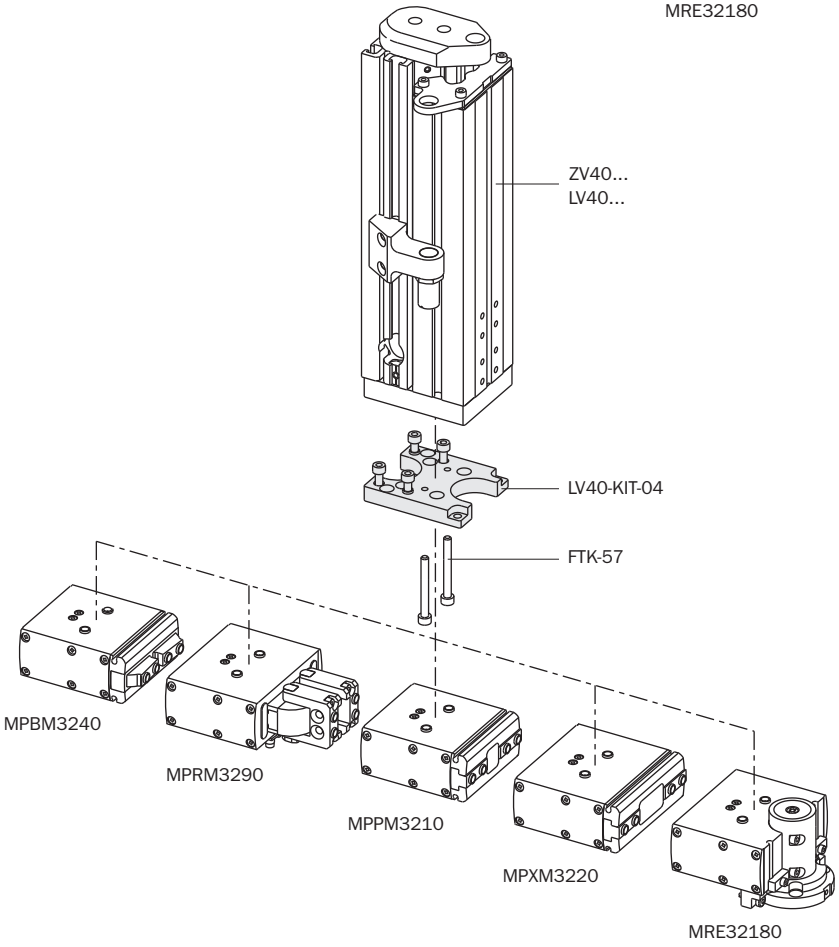










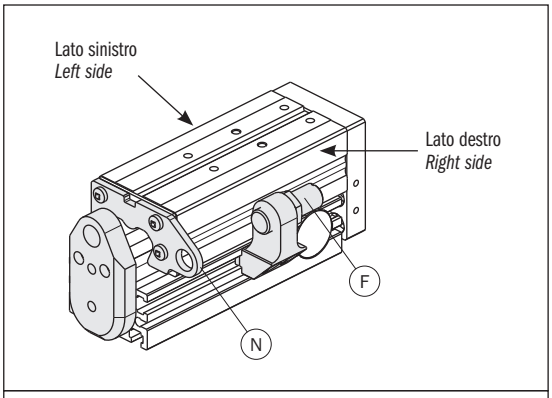


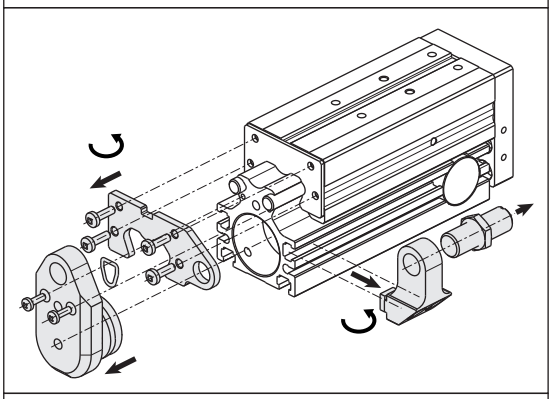
Versioni specchiate

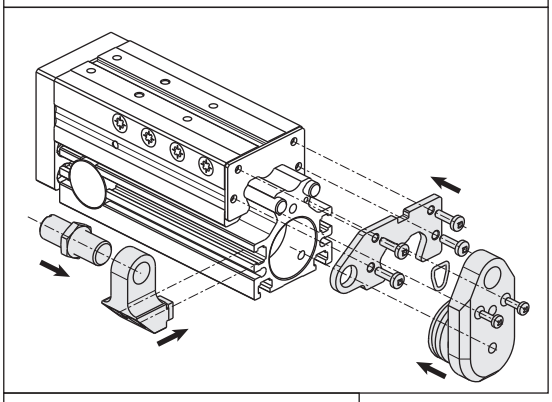
Le versioni DS e DSKP hanno tutti gli accessori montati sul lato destro.
Ma se necessario, è facile spostare il grano (F) sull'altro lato e ruotare la piastra (N).
Su questa piastra va montato il dispositivo fine-corsa per l'apertura (deceleratore idraulico, ammortizzatore di gomma o grano).
Le versioni DSL e DSKL hanno tutti gli accessori montati sul lato sinistro e sono disponibili su richiesta.

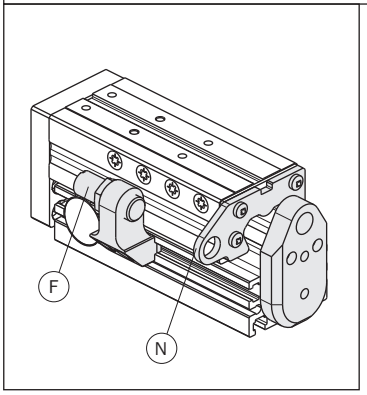
Mirrored versions

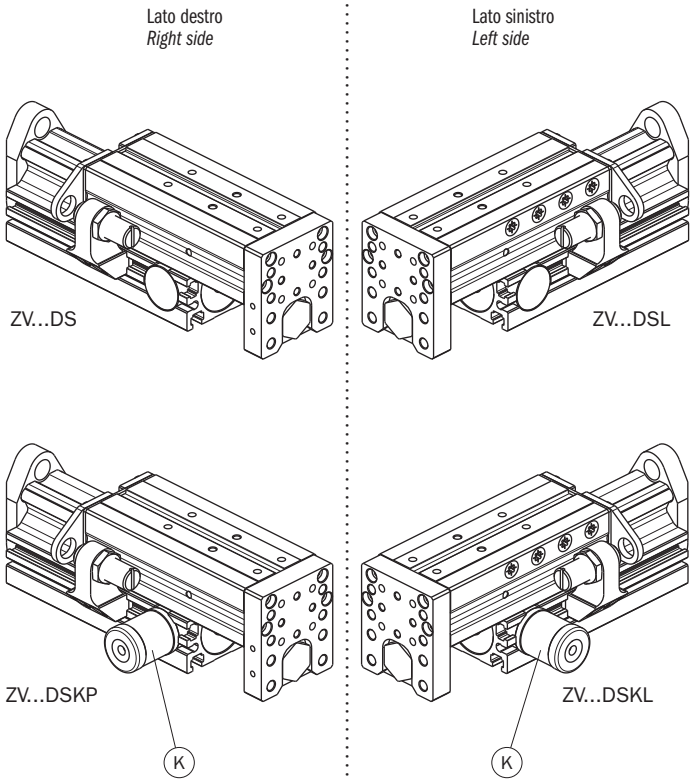
The DS and DSKP versions have all the accessories mounted on the right side.
But if necessary, the grub screw (F) can easily be moved on the other side and the plate (N) be rotated.
On this plate the opening stroke end device must be mounted (hydraulic shock-absorber, rubber bumper or grub screw).
The DSL and DSKL versions have all the accessories mounted on the left side and they are available upon request.

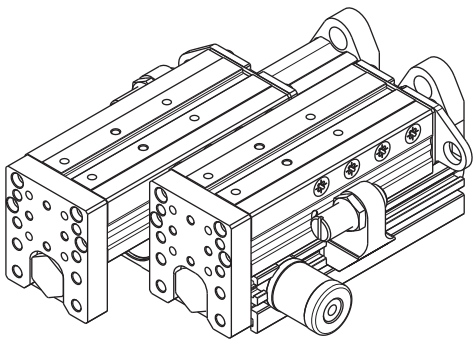


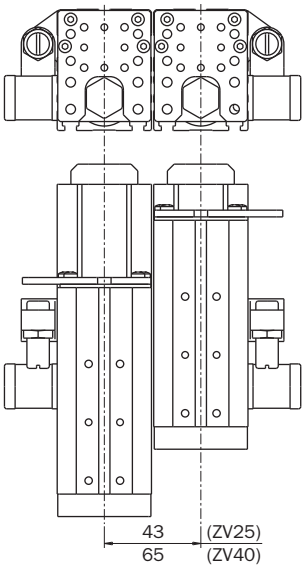












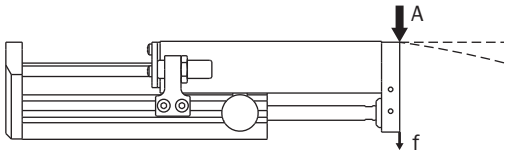
Interasse minimo
Minimum interaxis

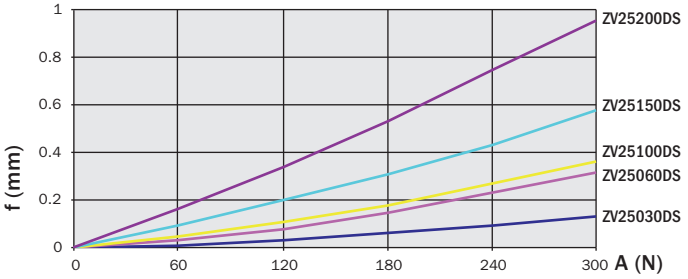
Flessioni

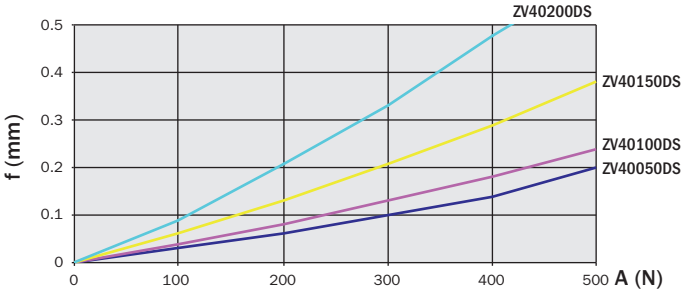
I grafici mostrano la flessione f (mm) nei tre sensi indicati, in funzione delle forze A, B o C e della corsa della slitta.

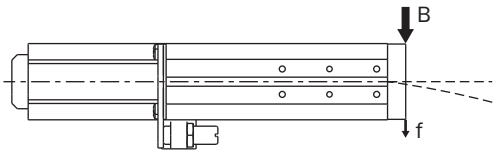
Deflection

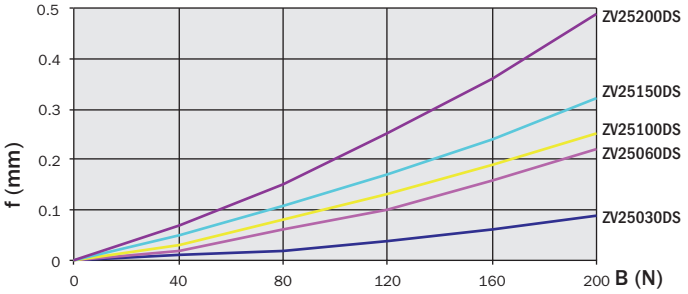
The graphs show the deflection f (mm) in the three directions shown, as a function of forces A, B or C and the stroke of the slide.

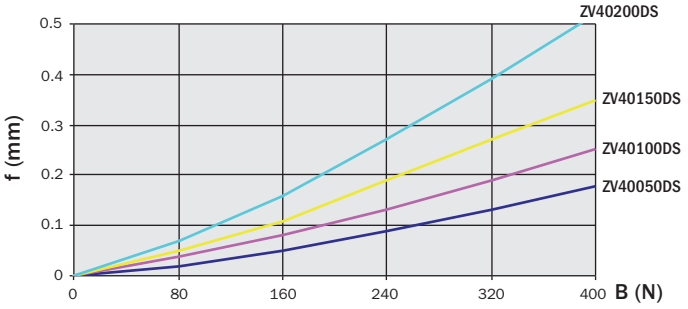


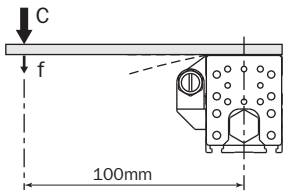


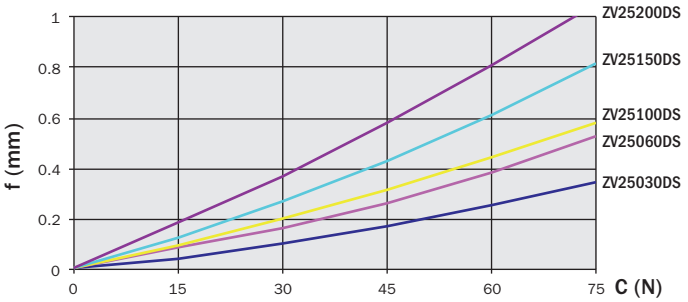


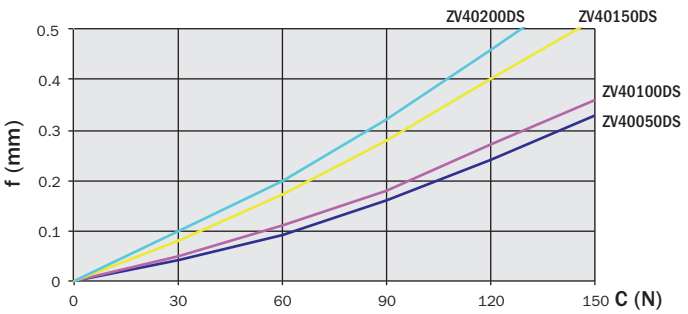












Carichi di sicurezza

Consultare le tabelle dei carichi ammissibili.
Carichi eccessivi possono danneggiare la slitta e comprometterne il funzionamento.

Le quote Yo e Zo identificano il centro del cuscinetto lineare.

Fx s, Fz s, Mx s, My s, Mz s sono i carichi statici massimi ammissibili.
Fx d, Fz d, Mx d, My d, Mz d sono i carichi dinamici massimi ammissibili.
I carichi statici sono quelli applicabili alla slitta quando il carrello é fermo, i carichi dinamici sono quelli applicabili durante il movimento.

Nelle tabelle è riportato anche il massimo peso trasportabile (m max).

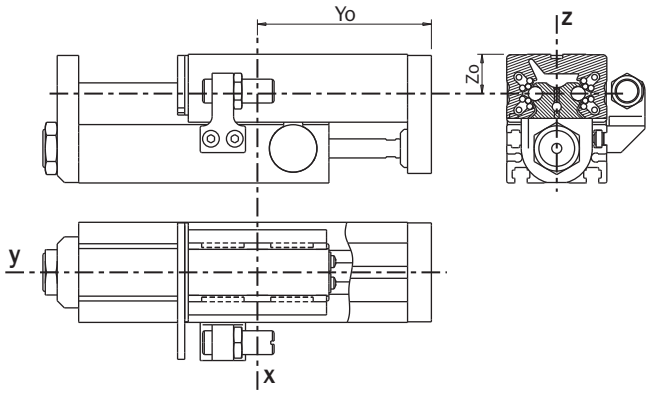
Safety loads

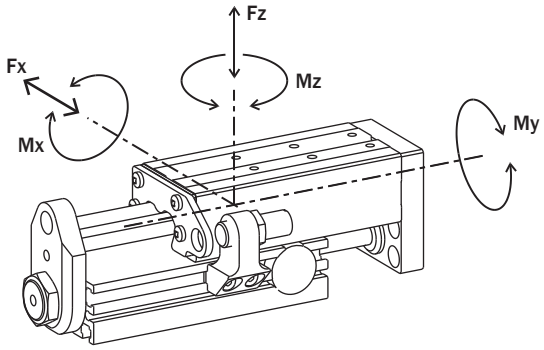
Check the tables below.
Excessive loads can damage the slide and cause functioning troubles.

The dimensions Yo and Zo identify the linear bearing center position.

Fx s, Fz s, Mx s, My s, Mz s are maximum permitted static loads.
Fx d, Fz d, Mx d, My d, Mz d are maximum permitted dynamic loads.
The static loads are those that can be applied to the slide when the carrier is motionless, the dynamic loads are those that can be applied when the carrier is running.

In the tables you can also find the maximum payload (m max).





	ZV25030DS ZV25030DSKP	ZV25060DS ZV25060DSKP	ZV25100DS ZV25100DSKP	ZV25150DS ZV25150DSKP	ZV25200DS ZV25200DSKP
Zo	16.5 mm	16.5 mm	16.5 mm	16.5 mm	16.5 mm
Yo	73 mm	103 mm	157 mm	222 mm	287 mm
Fx s	80 N	80 N	120 N	160 N	200 N
Fz s	80 N	80 N	120 N	160 N	200 N
Mx s	9 Nm	9 Nm	20 Nm	32 Nm	40 Nm
My s	6 Nm	6 Nm	12 Nm	16 Nm	20 Nm
Mz s	9 Nm	9 Nm	20 Nm	32 Nm	40 Nm
Fx d	40 N	40 N	60 N	80 N	100 N
Fz d	40 N	40 N	60 N	80 N	100 N
Mx d	3 Nm	3 Nm	5 Nm	8 Nm	10 Nm
My d	2 Nm	2 Nm	3 Nm	4 Nm	5 Nm
Mz d	3 Nm	3 Nm	5 Nm	8 Nm	10 Nm
m max	4 kg	4 kg	5 kg	5 kg	5 kg

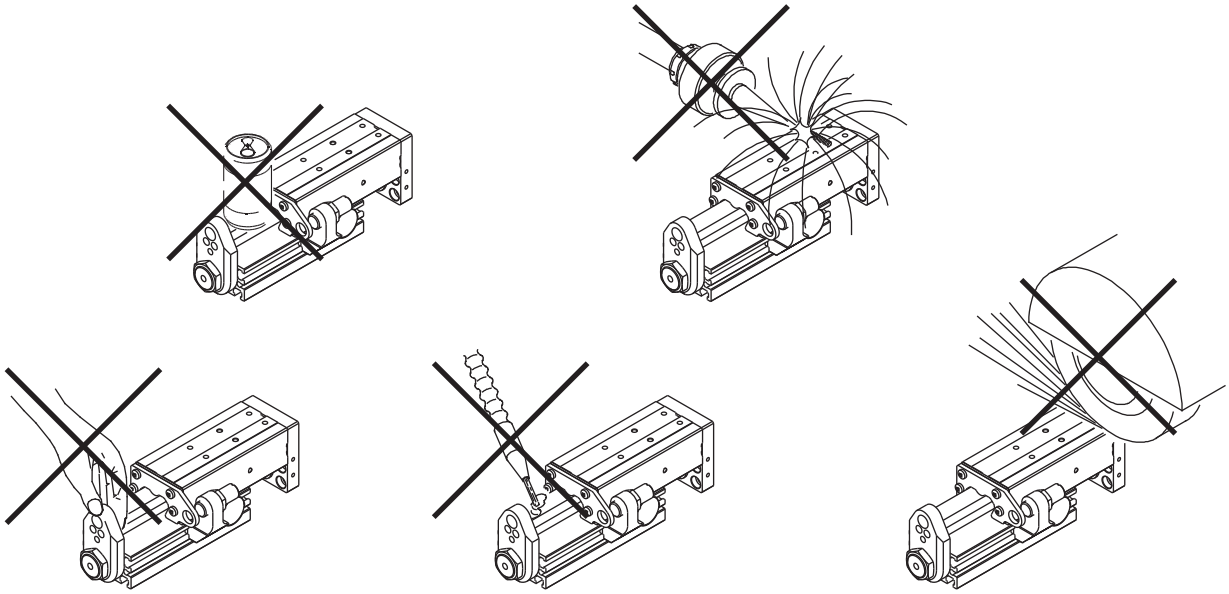
	ZV40050DS ZV40050DSKP	ZV40100DS ZV40100DSKP	ZV40150DS ZV40150DSKP	ZV40200DS ZV40200DSKP
Zo	21 mm	21 mm	21 mm	21 mm
Yo	107 mm	178 mm	228 mm	278 mm
Fx s	160 N	250 N	250 N	250 N
Fz s	160 N	250 N	250 N	250 N
Mx s	24 Nm	56 Nm	56 Nm	56 Nm
My s	20 Nm	30 Nm	30 Nm	30 Nm
Mz s	24 Nm	56 Nm	56 Nm	56 Nm
Fx d	80 N	120 N	120 N	120 N
Fz d	80 N	120 N	120 N	120 N
Mx d	6 Nm	14 Nm	14 Nm	14 Nm
My d	5 Nm	8 Nm	8 Nm	8 Nm
Mz d	6 Nm	14 Nm	14 Nm	14 Nm
m max	8 kg	10 kg	10 kg	10 kg

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the slide come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Never let non-authorised persons or objects stand within the operating range of the slide.
Never operate the slide on a machine that does not comply with the safety standards and laws of your country.

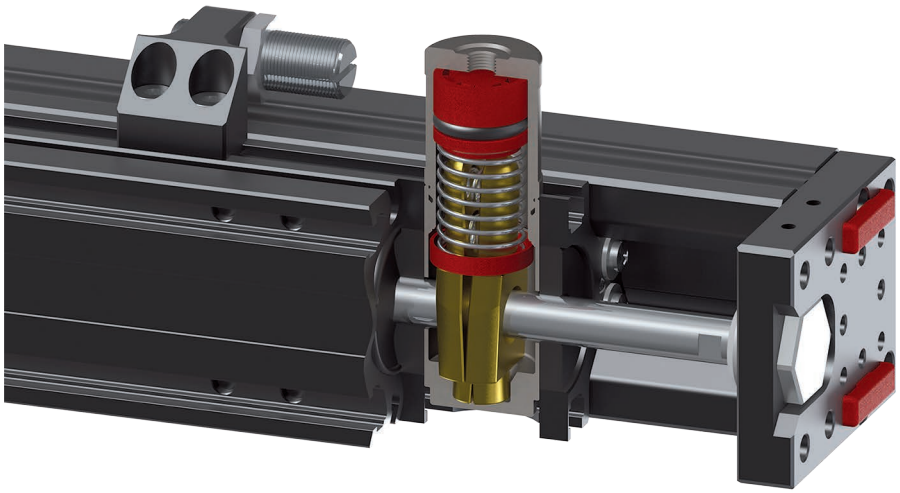


Bloccastelo

Le versioni KP/KL/KPB/KLB sono equipaggiate con un dispositivo per l'arresto d'emergenza: quando non è alimentato (minimo 3 bar), un freno blocca lo stelo.

Rod clamping device

The KP/KL/KPB/KLB versions are equipped with an emergency stopper device: when non pressurised (minimum 3 bar), a brake clamps the piston rod.



Connessione pneumatica

La slitta si alimenta con aria compressa dai fori posteriori (P e R) montandovi i raccordi dell'aria M5 ed i relativi tubi (non forniti).

Aria compressa in P: apertura.
Aria compressa in R: chiusura.
Aria compressa in S: sbloccaggio del blocca stelo.
Aria compressa in L: azionamento battuta meccanica dell'unità di arresto intermedio.

La slitta è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita dell'unità.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

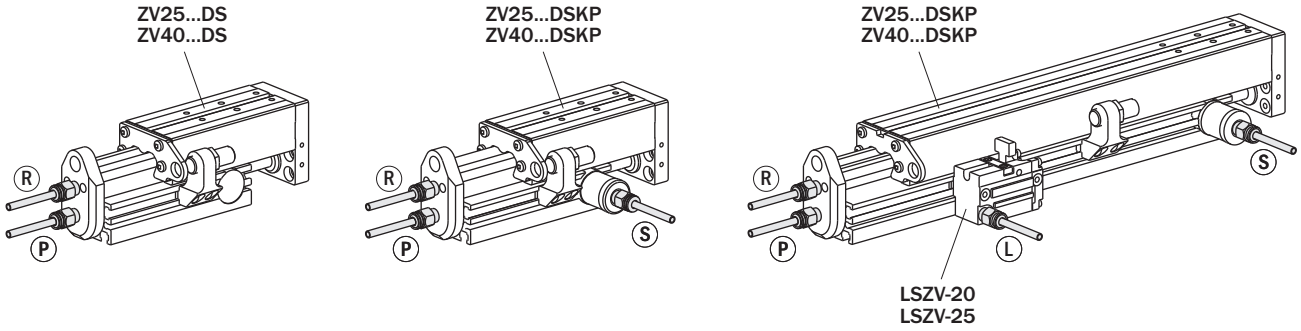
Compressed air feeding

The slide is driven by compressed air supplied through the side air ports (P and R) with fittings M5 and relevant hoses (not supplied).

Compressed air in P: extension stroke.
Compressed air in R: retraction stroke.
Compressed air in S: unclamping the rod clamping device.
Compressed air in L: actuation of the stroke end of the intermediate stopping unit.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.

The pneumatic circuit must be pressurised progressively, to avoid uncontrolled movements.



Circuito pneumatico

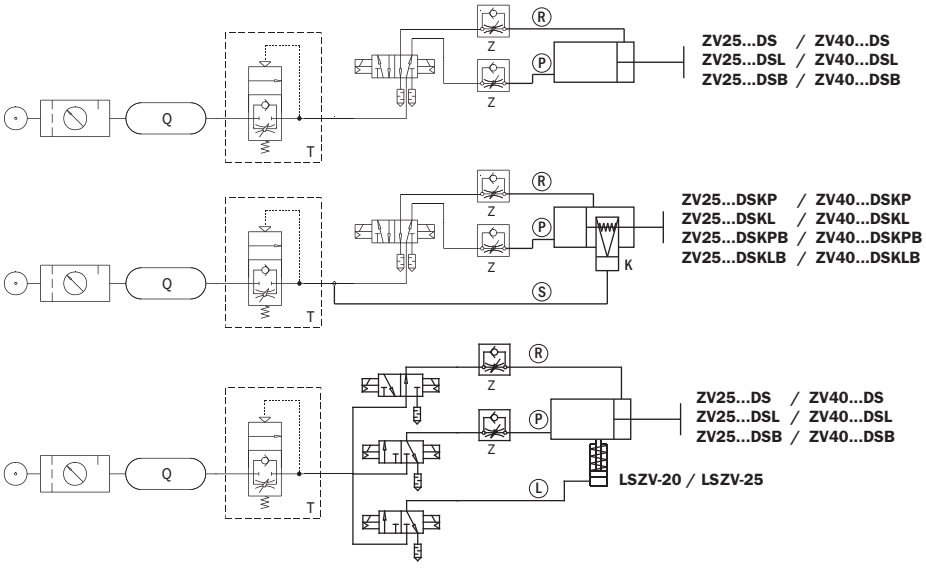
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (Q).
2- Valvola di avviamento progressivo (T).
3- Bloccastelo (K).
4- Regolatori di flusso (Z).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variations.
2- Pressurising at start-up.
3- Sudden lack of pressure.
4- Excessive actuating speed.

Possible solutions:
1- Compressed air storage (Q).
2- Start-up valve (T).
3- Rod clamping device (K).
4- Flow controllers (Z).



Sensori

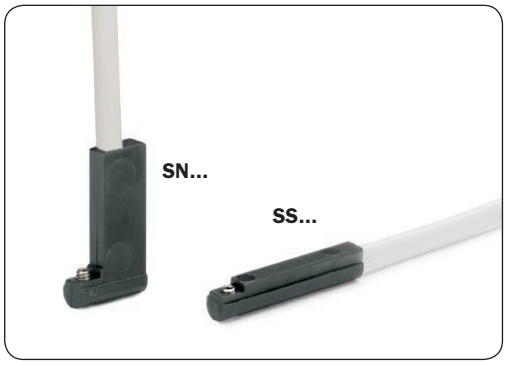
Il rilevamento della posizione è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete interno.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

Sensors

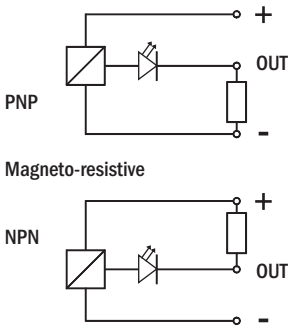
The operating position is detected by magnetic proximity sensors (optional) through an internal magnet
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:



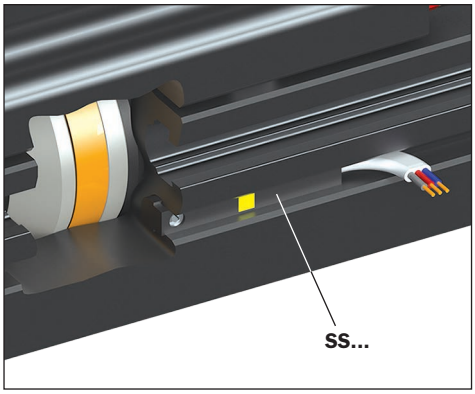
SN4N225-G	PNP	cavo 2.5m / 2.5m cable
SN4M225-G	NPN	cavo 2.5m / 2.5m cable
SN3N203-G	PNP	Connettore M8 / M8 connector
SN3M203-G	NPN	Connettore M8 / M8 connector
SS4N225-G	PNP	cavo 2.5m / 2.5m cable
SS4M225-G	NPN	cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 connector
SS3M203-G	NPN	Connettore M8 / M8 connector



Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a flat three-wire cable and LED.





Unità di arresto intermedio

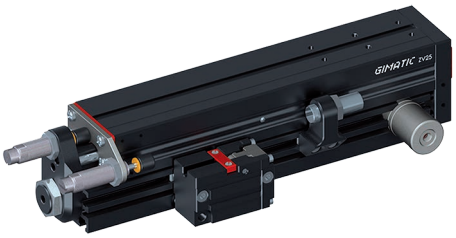
Sono usate per arrestare con precisione assoluta, in posizioni intermedie, il carrello.
Un pistone, azionato pneumaticamente, fa sollevare una battuta meccanica, attraverso un leveraggio a ginocchiera, irreversibile.
Cessata l'alimentazione la battuta meccanica rientra in posizione di riposo mediante l'azione di una molla.
Un sensore induttivo (opzionale) rileva la posizione (9).

Intermediate stopping units

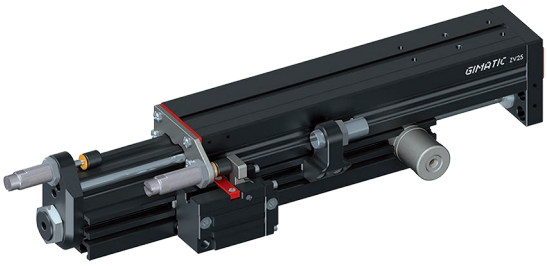
They are used to stop the carrier, with high precision, in the intermediate positions.
One pneumatic piston lifts an irreversible mechanical stroke end by a toggle system.
Without pressure, the stroke end returns to the rest position by a reset spring.
An optional inductive sensor detects the position (9).

ZV25... + (1x) LSZV-20
ZV40... + (1x) LSZV-25

Una fermata intermedia
One intermediate stop



(1a)



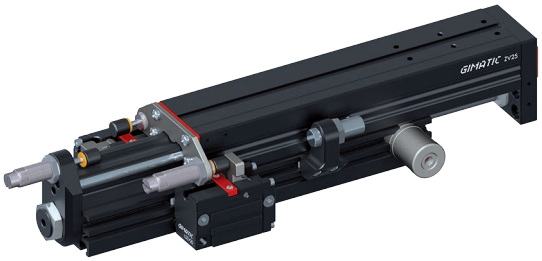
(1b)



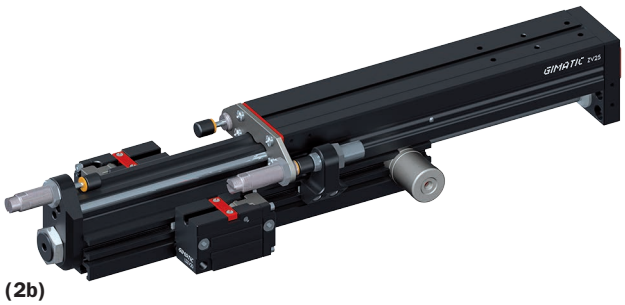
(1c)

ZV25... + (2x) LSZV-20
ZV40... + (2x) LSZV-25

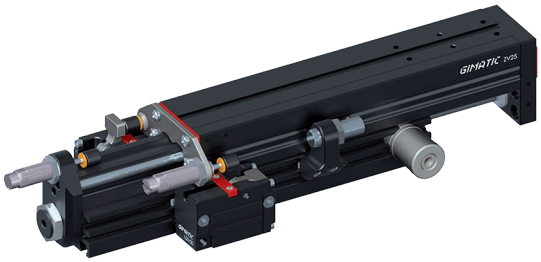
Due fermate intermedie
Two intermediate stops



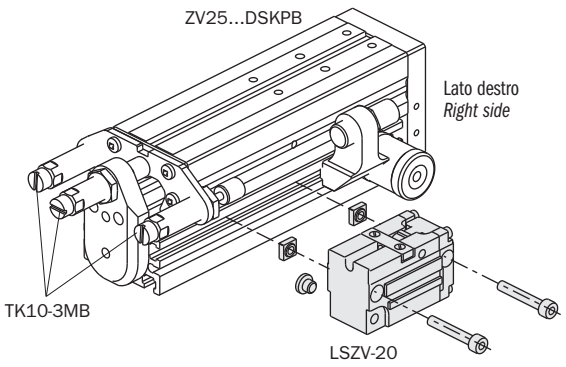
(2a)

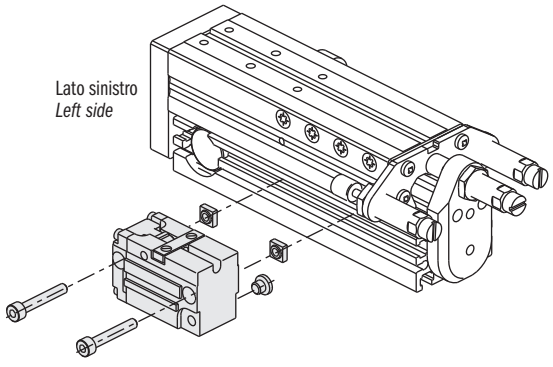


(2b)

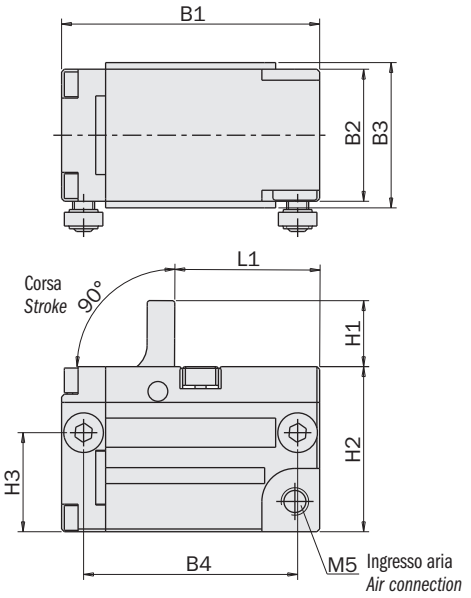


(2c)



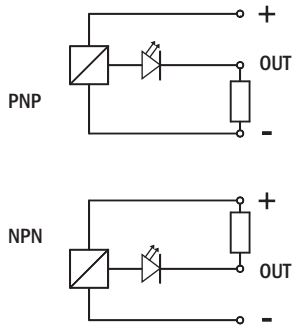


Dimensioni (mm) / *Dimensions (mm)*



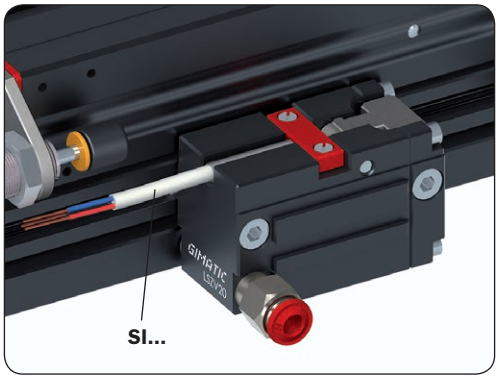
	LSZV-20	LSZV-25
B1	47	61
B2	24	31
B3	26.4	34
B4	38.9	51
H1	12	17.5
H2	30	37
H3	18	16.5
H4	11.65	-
H5	20.65	19.6
L1	26.3	34
L2	5.3	6.2
L3	2.9	-
L4	13.5	18.5
L5	8	11
M1	M4x25 (VITE-091)	M4x35 (VITE-117)
N1	MFM-058	MFI-177
per / for	ZV25	ZV40
Peso / Weight	100 g	230 g

SI4M225-G	NPN	Cavo 2.5m / 2.5m cable
SI4N225-G	PNP	Cavo 2.5m / 2.5m cable



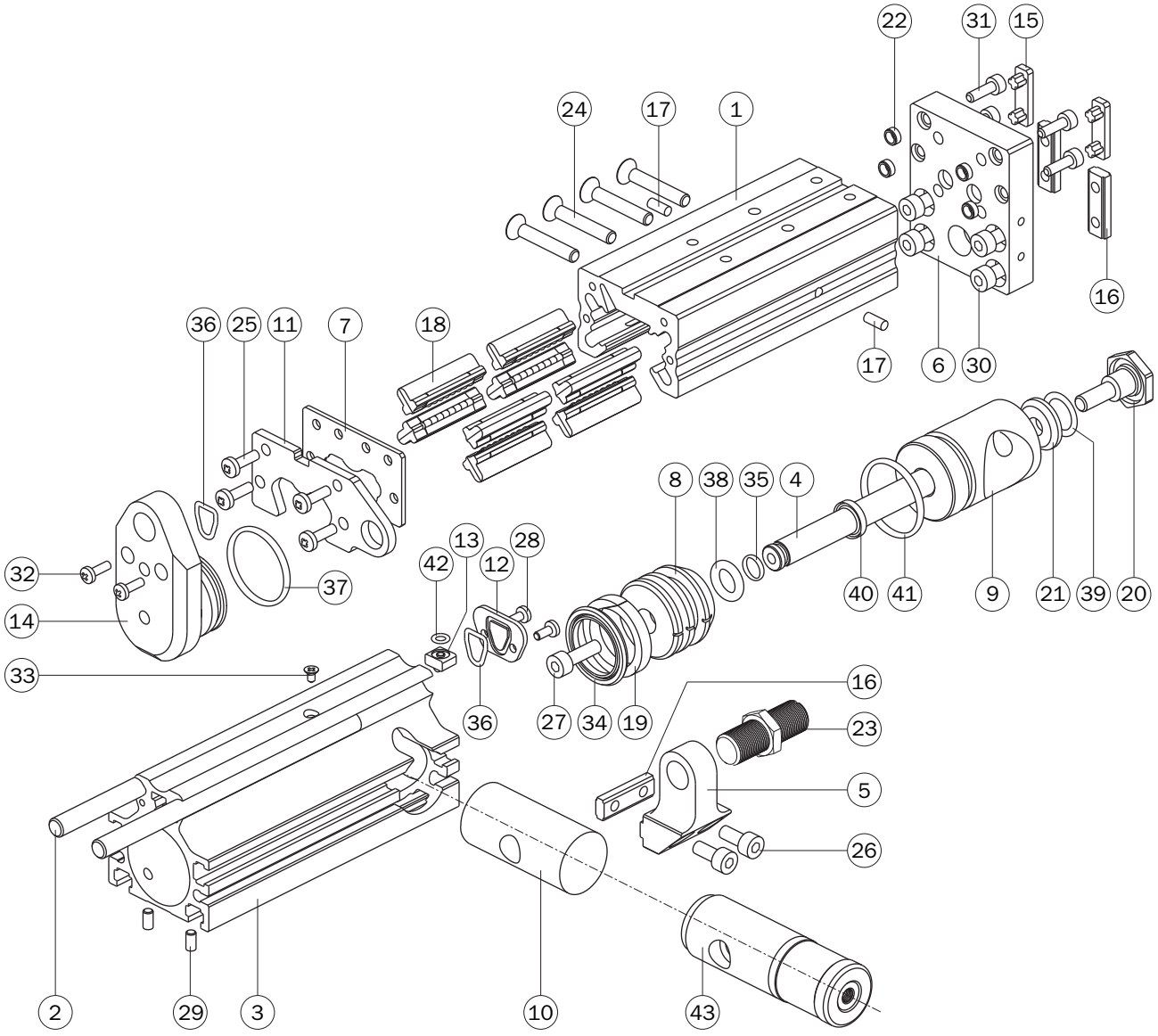


(9)



Vista esplosa / *Exploded view*

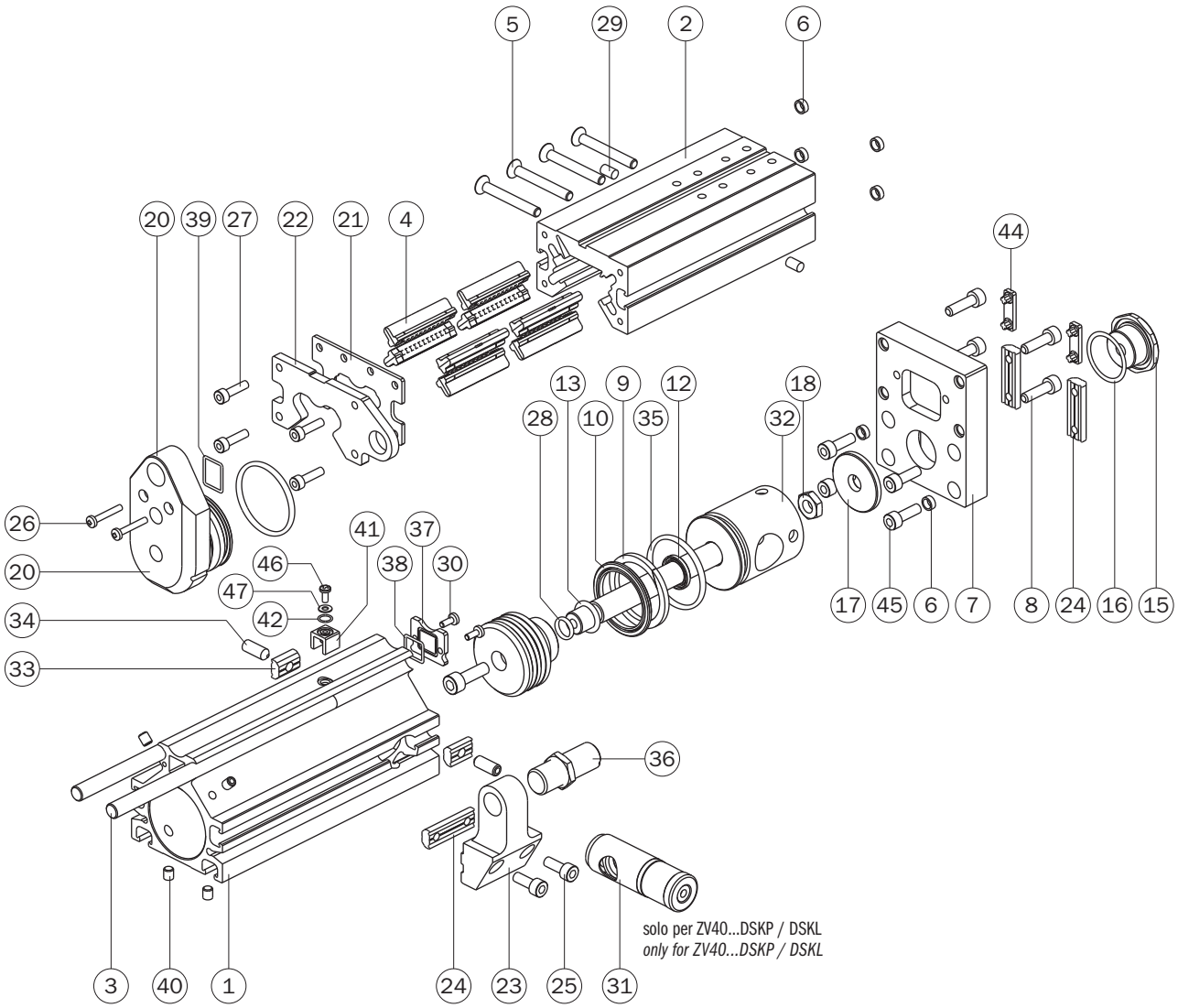
ZV25



Elenco delle parti / *Part list*

		ZV25030DS ZV25030DSKP	ZV25060DS ZV25060DSKP	ZV25100DS ZV25100DSKP	ZV25150DS ZV25150DSKP	ZV25200DS ZV25200DSKP		
1	Carrello	ZV25030-02	ZV25060-02	ZV25100-02	ZV25150-02	ZV25200-02	*Carrier*	*1*
2	Colonna	ZV25030-03	ZV25060-03	ZV25100-03	ZV25150-03	ZV25200-03	*Guide rod*	*2*
3	Guida	ZV25030-19	ZV25060-09	ZV25100-09	ZV25150-09	ZV25200-09	*Guide*	*3*
4	Stelo	ZV25030-20	ZV25060-10	ZV25100-10	ZV25150-10	ZV25200-10	*Rod*	*4*
5	Supporto fine-corsa (M10x1)	ZV25030-11					*Stroke end bracket (M10x1)*	*5*
6	Testata carrello	ZV25030-10					*Carrier end plate*	*6*
7	Protezione carrello	ZV25030-06					*Carrier position*	*7*
8	Pistone Ø25	ZV25030-21					*Piston Ø25*	*8*
9	Flangia anteriore	ZV25030-22					*Front flange*	*9*
10	Tappo di bloccaggio	ZV25030-23					*Locking plug*	*10*
11	Portadeceleratore carrello	ZV25030-24					*Shock-absorber holder carrier*	*11*
12	Piastrina fermacolonne	ZV25030-25					*Guide rod stopper*	*12*
13	Clip passaggio aria	ZV25030-26					*Air passage clip*	*13*
14	Testata posteriore	ZV25030-27					*Rear cap*	*14*
15	Chiavetta di centraggio	ZV25030-30					*Centering key*	*15*
16	Dado M4	ZV25030-31					*M4 nut*	*16*
17	Spina	SPINA-090 (3x8 DIN 6325)					*Pin*	*17*
18	Cartuccia a ricircolo di sfere	C2521					*Recirculating ball bearing*	*18*
19	Magnete	PS-0025-P07					*Magnet*	*19*
20	Giunto	LP23-07					*Joint*	*20*
21	Rondella giunto	LP23-08					*Joint washer*	*21*
22	Boccola	ZBH-5 (354237)					*Bush*	*22*
23	Sottogruppo finecorsa	FPD1030-00					*Stroke end subunit*	*23*
24	Vite	VITE-092 (M4x25 DIN 965A INOX A2)					*Screw*	*24*
25	Vite	VITE-074 (M3x10 DIN 7985A INOX A2)					*Screw*	*25*
26	Vite	VITE-264 (M4x10 DIN 912 Z/B)					*Screw*	*26*
27	Vite	VITE-004 (M4x14 DIN 912 INOX A2)					*Screw*	*27*
28	Vite	VITE-444 (M2.5x6 DIN 7985A INOX A2)					*Screw*	*28*
29	Grano	VITE-024 (M3x6 DIN913 INOX A2)					*Grub screw*	*29*
30	Vite	VITE-286 (M4x12 DIN 912 Z/B)					*Screw*	*30*
31	Vite	VITE-302 (M3x10 DIN 912 Z/B)					*Screw*	*31*
32	Vite	VITE-008 (M2.5x8 DIN 7985A INOX A2)					*Screw*	*32*
33	Vite	VITE-292 (2.2X4.5 DIN 7982 Z/B)					*Screw*	*33*
34	Guarnizione	GUAR-003M (25x18x2.4)					*Gasket*	*34*
35	O-Ring	GUAR-098 (1x6)					*O-Ring*	*35*
36	O-Ring	GUAR-085 (1x8)					*O-Ring*	*36*
37	O-Ring	GUAR-025 (1.78x21.95)					*O-Ring*	*37*
38	O-Ring	GUAR-060 (2.62x7.6)					*O-Ring*	*38*
39	O-Ring	GUAR-080 (1.78x10.82)					*O-Ring*	*39*
40	Guarnizione	GUAR-228 (8x11.5x2.5)					*Gasket*	*40*
41	O-Ring	GUAR-025 (1.78x21.95)					*O-Ring*	*41*
42	O-Ring	GUAR-167 (1x3.5)					*O-Ring*	*42*
43	Bloccastelo	KP-08-350					*Rod clamping device*	*43*

Vista esplosa / ***Exploded view*** **ZV40**



Elenco delle parti / *Part list*

		ZV25060DS ZV25060DSKP	ZV25100DS ZV25100DSKP	ZV25150DS ZV25150DSKP	ZV25200DS ZV25200DSKP		
1	Corpo slitta	ZV40050-01	ZV40100-01	ZV40150-01	ZV40200-01	*Slide Housing*	*1*
2	Carrello	ZV40050-02	ZV40100-02	ZV40150-02	ZV40200-02	*Carrier*	*2*
3	Colonna	ZV40050-03	ZV40100-03	ZV40150-03	ZV40200-03	*Guide rod*	*3*
4	Cartuccia ricircolo di sfere	C-327				*Recirculating ball bearing*	*4*
5	Vite	VITE-272 (M5x40 DIN 7991 Z/B)				*Screw*	*5*
6	Boccola	ZBH-7 (390677)				*Bush*	*6*
7	Testata carrello	ZV40050-10				*Carrier end plate*	*7*
8	Vite	VITE-386 (M5x18 DIN912 Z/B)				*Screw*	*8*
9	Magnete	T40-10				*Magnet*	*9*
10	Guarnizione	GUAR-006P (40x31x3)				*Gasket*	*10*
11	Pistone Ø40	ZV40050-12				*Piston Ø40*	*11*
12	Guarnizione	GUAR-014 (18x12x3)				*Gasket*	*12*
13	O-Ring	GUAR-033 (2.62x11.91)				*O-Ring*	*13*
14	Stelo	ZV40050-04	ZV40100-04	ZV40150-04	ZV40200-04	*Rod*	*14*
15	Giunto	LL25-24				*Joint*	*15*
16	O-Ring	GUAR-008 (Ø1.78x23.52)				*O-Ring*	*16*
17	Rondella giunto	LL25-25				*Joint washer*	*17*
18	Dado	VITE-133 (M8 DIN 439B INOX A2)				*Nut*	*18*
19	Vite	VITE-011 (M6x20 DIN 912 INOX A2)				*Screw*	*19*
20	Testata posteriore	ZV40050-07				*Rear cap*	*20*
21	Coperchio carrello	ZV40050-06				*Carrier cover*	*21*
22	Supporto fine-corsa	ZV40050-24				*Stroke end bracket*	*22*
23	Supporto fine-corsa	ZV40050-32				*Stroke end bracket*	*23*
24	Dado M5 L=32	MFI-016				*M5 nut L=32*	*24*
25	Vite	VITE-048 (M5x14 DIN 912 INOX A2)				*Screw*	*25*
26	Vite	VITE-151 (M3x20 DIN 7985A INOX A2)				*Screw*	*26*
27	Vite	VITE-061 (M4x16 DIN 912 INOX A2)				*Screw*	*27*
28	O-Ring	GUAR-013 (1.78x8.73)				*O-Ring*	*28*
29	Spina	SPINA-048 (5x8 DIN 5402)				*Pin*	*29*
30	Vite	VITE-102 (M3x8 DIN 7985A INOX A2)				*Screw*	*30*
31	Bloccastelo	KP-12-600				*Rod clamping device*	*31*
32	Flangia anteriore	ZV40050-09				*Front flange*	*32*
33	Dado M6 L=15	MFI-178				*M6 nut L=15*	*33*
34	Grano	VITE-106 (M6x16 DIN 914)				*Grub screw*	*34*
35	O-Ring	GUAR-150 (2.62x29.82)				*O-Ring*	*35*
36	Fine-corsa	FPD1440-00				*Stroke end*	*36*
37	Piastrina fermacolonne	ZV40050-13				*Guide rod stopper*	*37*
38	O-Ring	GUAR-084 (1x14)				*O-Ring*	*38*
39	O-Ring	GUAR-073 (1x16)				*O-Ring*	*39*
40	Grano	VITE-373 (M5x6 DIN 913 Z/B)				*Grub screw*	*40*
41	Clip passaggio aria	ZV40050-14				*Air passage clip*	*41*
42	O-Ring	GUAR-098 (1x6)				*O-Ring*	*42*
43	O-Ring	GUAR-159 (Ø2.62x32.99)				*O-Ring*	*43*
44	Linguetta	ZV40050-30				*Centering key*	*44*
45	Vite	VITE-015 (M5x16 DIN 912 INOX A2)				*Screw*	*45*
46	Vite	VITE-479 (2.9x6.5 DIN7981F Z/B)				*Screw*	*46*
47	Rondella	VITE-161 (DIN 125B INOX)				*Washer*	*47*

Attuatori lineari pneumatici (serie M25)

- Vincitore al concorso IF Design Award 1999 di Hannover.
- Alesaggio 25mm.
- Corsa 50/100/160/200/300/400 mm.
- Assenza di gioco.
- Elevata rigidità.
- 5000km senza nessuna manutenzione.
- Deceleratori idraulici (non per M25...E).
- 6 canali integrati per la distribuzione dell'aria compressa (non per M25...E).
- Sensori magnetici opzionali.

Pneumatic linear actuators (series M25)

- *Hannover IF Design Award 1999 winner.*
- *Bore 25mm.*
- *Strokes 50/100/160/200/300/400 mm.*
- *No backlash.*
- *High stiffness.*
- *5000km maintenance free.*
- *Hydraulic shock-absorbers (not supplied with M25...E).*
- *6 integrated air leads for compressed air distribution (not supplied with M25...E).*
- *Optional magnetic sensors.*



M25200

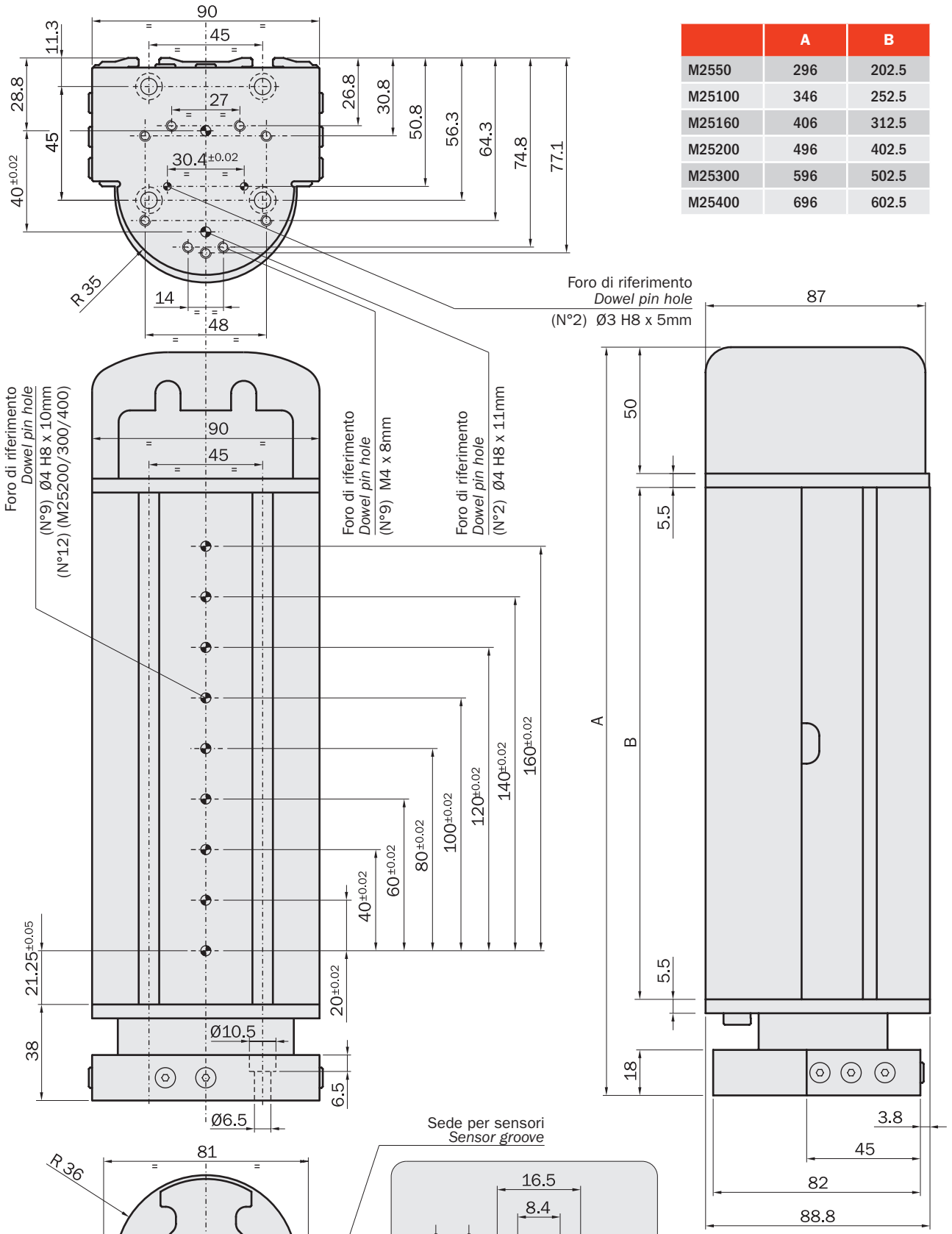
M2550

	M2550 M2550E	M25100 M25100E	M25160 M25160E	M25200 M25200E	M25300 M25300E	M25400 M25400E
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	3 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Corsa max *Maximum stroke*	50 mm	100 mm	160 mm	200 mm	300 mm	400 mm
Registrabilità max in apertura *Maximum opening adjustment*	25 mm					
Registrabilità max in chiusura Maximum closing adjusment	25 mm					
Forza di spinta *Pushing force*	176 N (4 bar)		265 N (6 bar)		354 N (8 bar)	
Forza di trazione *Pulling force*	148 N (4 bar)		222 N (6 bar)		297 N (8 bar)	
Ripetibilità *Repetition accuracy*	0.02 mm					
Consumo d'aria per ciclo *Cycle air consumption*	75 cm^3	121 cm^3	176 cm^3	216 cm^3	308 cm^3	399 cm^3
Peso *Weight*	2.8 kg	3.4 kg	3.9 kg	4.7 kg	5.6 kg	6.4 kg

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

	A	B
M2550	296	202.5
M25100	346	252.5
M25160	406	312.5
M25200	496	402.5
M25300	596	502.5
M25400	696	602.5

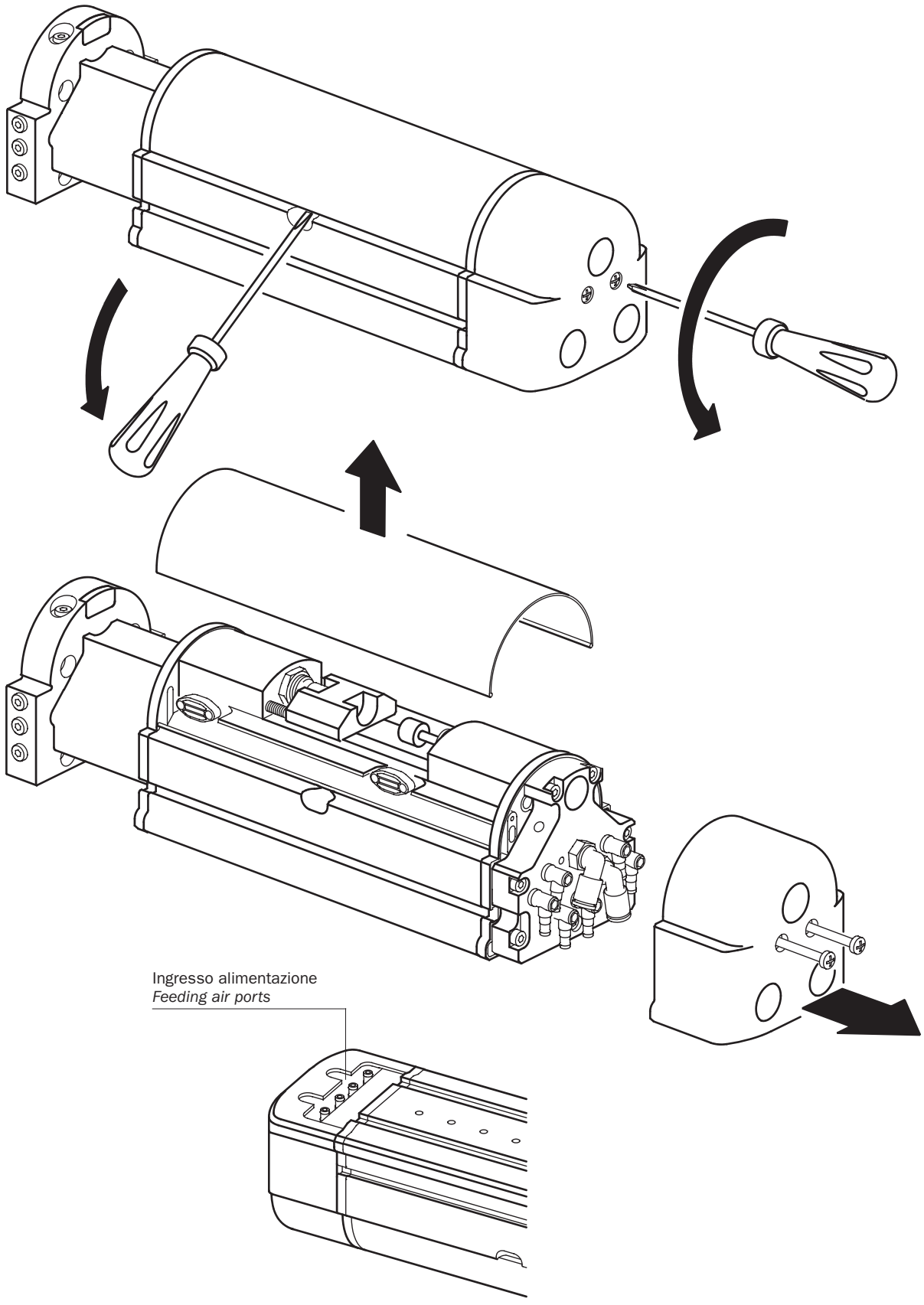


Coperchi

Per accedere alla zona di alimentazione, contenente i raccordi dell'aria, è necessario svitare due viti e rimuovere il carter.
Per accedere alla zona registri, contenente i deceleratori, si deve far leva nella zona indicata, deformare di pochi millimetri la copertura e rimuoverla.
Sotto la copertura è possibile anche nascondere i cavi dei sensori.

Covers

To get access to the fittings, where the feeding air ports are located, unscrew two screws and remove the cover cap.
To enter the adjustment area, where you can find the shock-absorbers, you have to put a screwdriver under the edge showed in the figure and remove the protection.
Sensor cables can be housed under the protection.



Regolazione della corsa

La corsa dell'attuatore può essere ridotta di 25mm in entrambi i sensi di marcia, variando la posizione dei due deceleratori idraulici (E), che hanno anche funzione di battuta meccanica per il fine corsa.
Per effettuare correttamente la regolazione bisogna allentare il dado (D), registrare il deceleratore (E) con un cacciavite, quindi, raggiunta la posizione desiderata, bloccare nuovamente il dado.

Per ridurre ulteriormente la corsa si possono utilizzare i perni M2550-25 (B) o M2550-27 (M) opzionali.
Si possono montare indifferentemente su uno dei due lati del blocchetto (H).

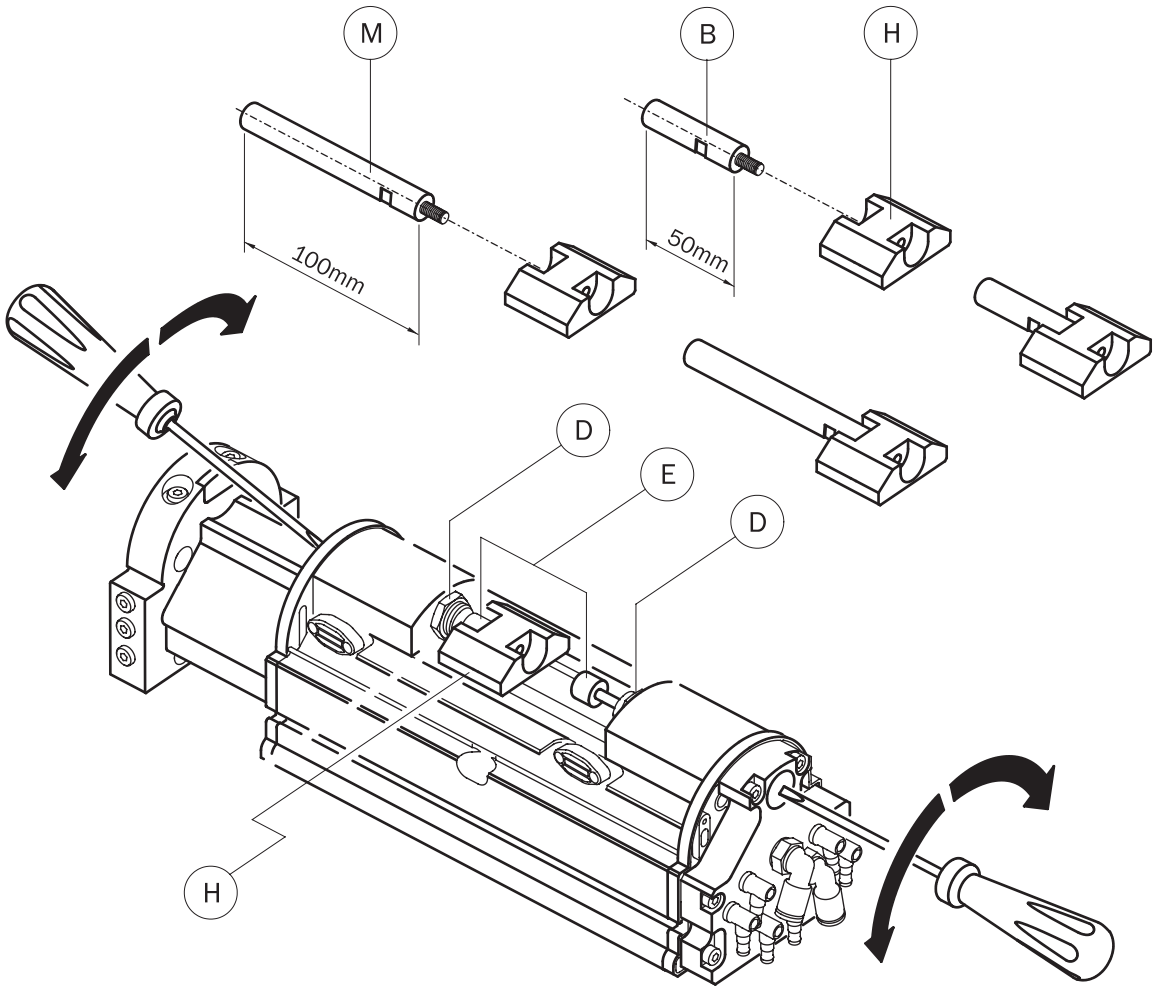
I deceleratori non sono forniti nelle versioni M25…E e devono essere ordinati separatamente.
L'attuatore non deve mai funzionare senza deceleratori.

Stroke adjustment

The stroke can be reduced 25mm on both directions, by the position of the hydraulic shock-absorbers (E), that are suitable as mechanical beat.
To change the position of the shock-absorber (E) loosen the nut (D) and then adjust the shock-absorber by a screwdriver and tighten the nut again.

If necessary, the stroke can be reduced further on by the optional spacing rod M2550-25 (B) or M2550-27 (M), that can be mounted on one side of the block (H).

The M25…E version is not provided with shock-absorbers. They must be ordered separately.
Never use the unit without shock-absorbers.

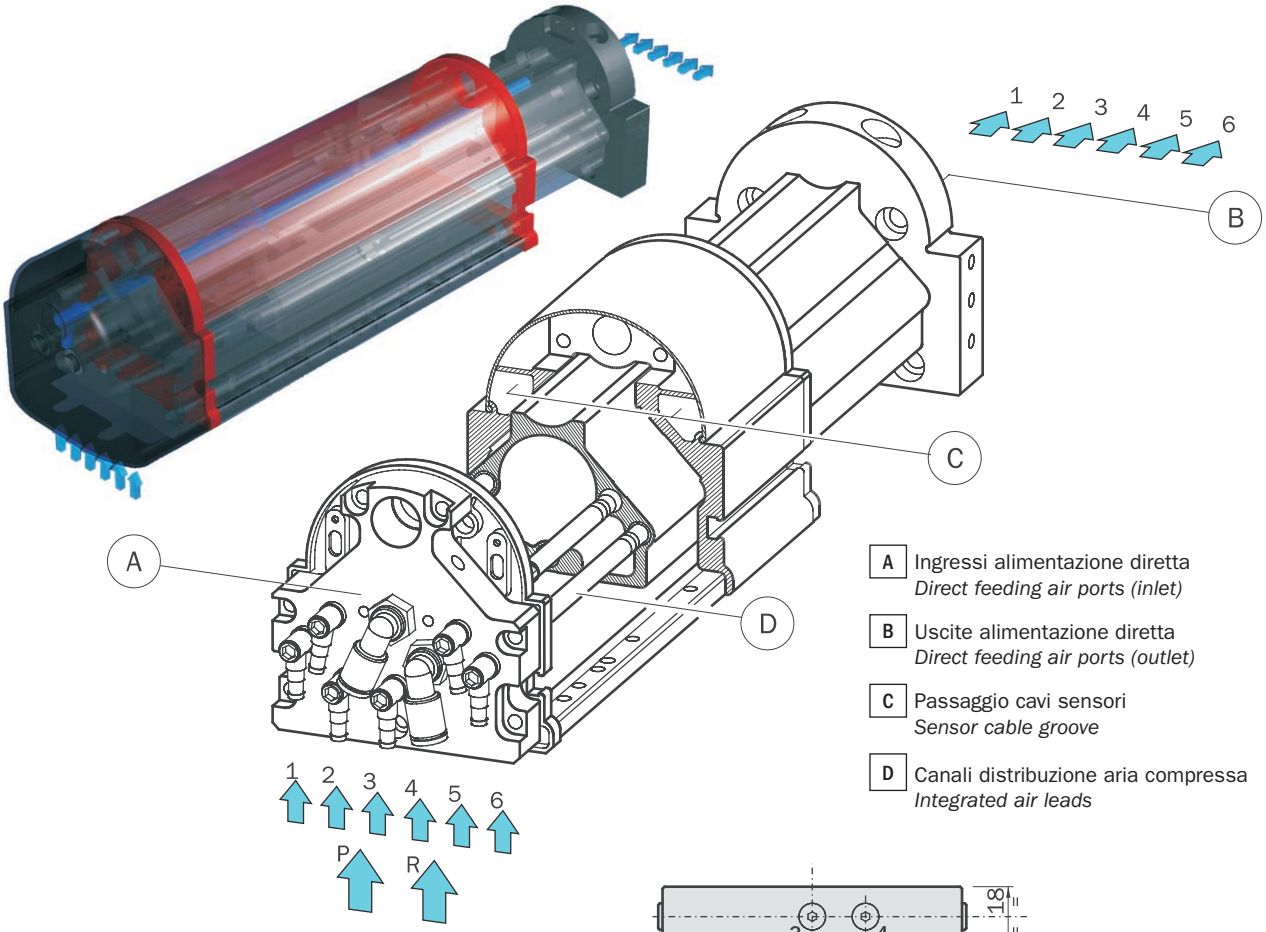


Connessione pneumatica

Il cilindro pneumatico che attua il movimento lineare è alimentato dai raccordi marchiati P ed R, accessibili dopo aver rimosso il carter.
Aria in P: uscita della parte mobile (spinta).
Aria in R: rientro della parte mobile (trazione).
La presenza di sei canali integrati per la distribuzione dell'aria compressa, dalla parte fissa alla mobile, evita l'uso di tubazioni esterne.
I fori per l'alimentazione sono numerati da 1 a 6 e ad ogni ingresso corrisponde un'uscita con numero uguale.
La distribuzione integrata non è disponibile sulle versioni M25...E.

Compressed air feeding

The pneumatic cylinder that drives the linear movement is supplied by air fittings P and R, which can be accessed after removing the plastic cover.
Compressed air in P: opening (pushing) stroke.
Compressed air in R: closing (pulling) stroke.
External hoses are not necessary, because of the six integrated air leads.
The air ports are numbered (1, 2, 3, 4, 5, 6) on both sides (inlet/outlet).
The M25...E versions are not provided with the integrated air leads.

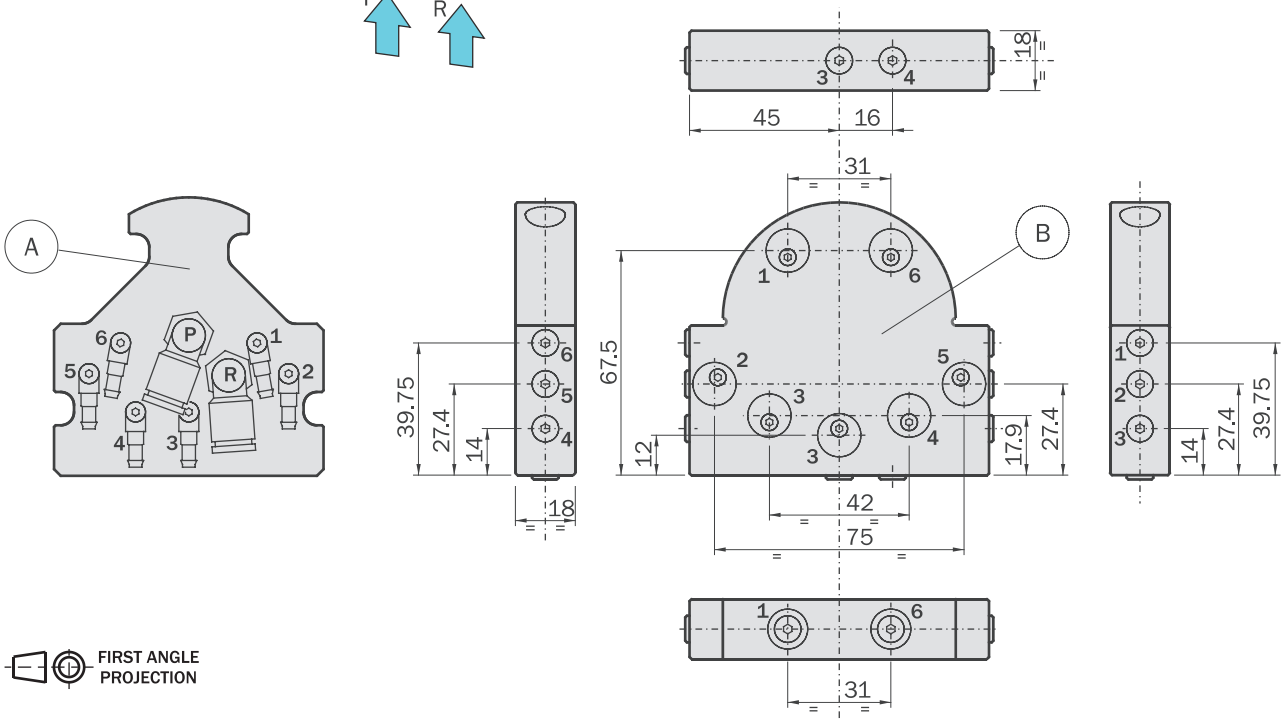


A Ingressi alimentazione diretta
Direct feeding air ports (inlet)

B Uscite alimentazione diretta
Direct feeding air ports (outlet)

C Passaggio cavi sensori
Sensor cable groove

D Canali distribuzione aria compressa
Integrated air leads



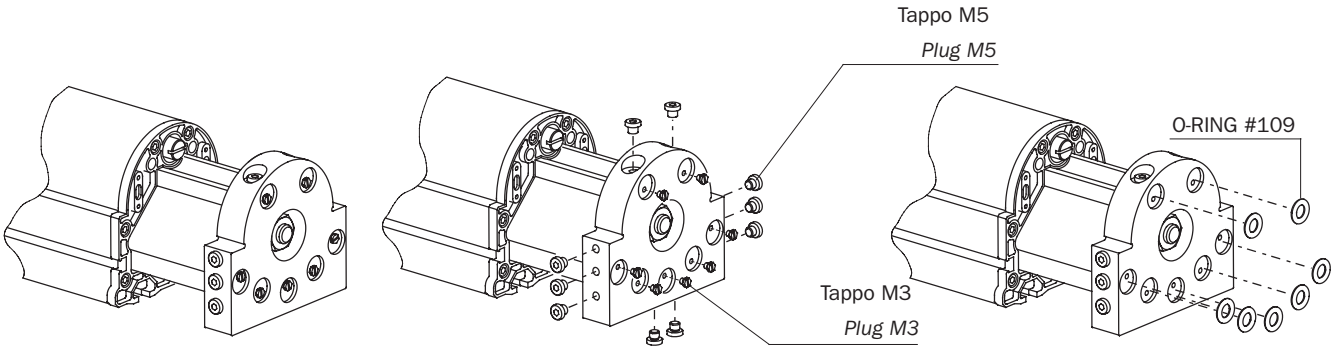
FIRST ANGLE PROJECTION

Alimentazione diretta di accessori

L'attuatore lineare viene fornito con tutte le uscite tappate.
Nel caso di alimentazione diretta dalla parte frontale, quando si usano componenti della serie Gimapick, bisogna togliere i tappi e inserire le guarnizioni di tenuta tipo O-Ring.

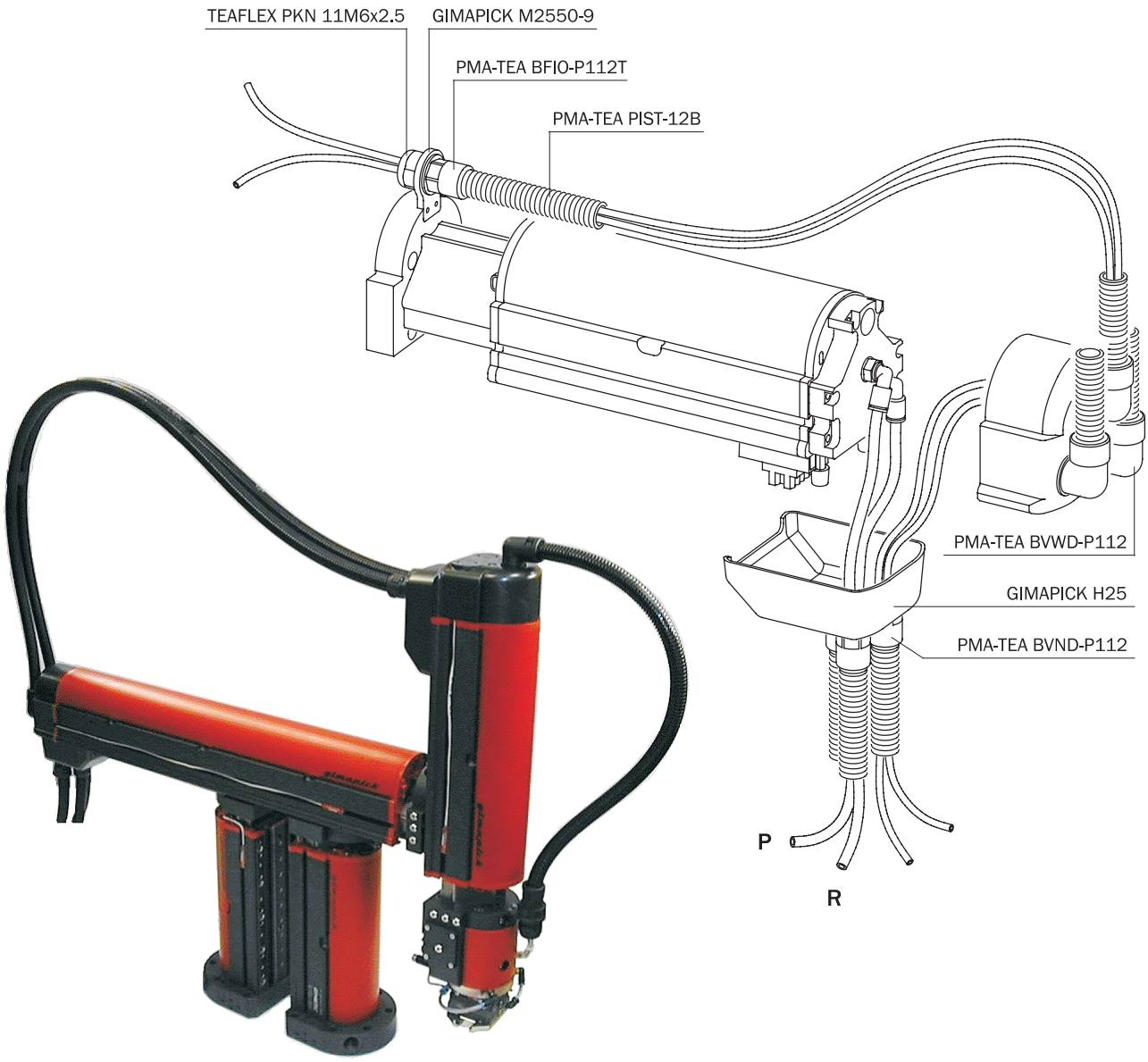
Direct feeding of Gimapick components

The unit is provided with plugs on every air connection.
If a direct feeding on the front plate is needed, when Gimapick components are used, plugs must be removed and then use O-Ring.



La distribuzione integrata non è disponibile sulle versioni M25...E, ma è comunque possibile utilizzare degli accessori specifici per razionalizzare le connessioni.

The M25...E versions are not provided with the integrated compressed air distribution, however specific accessories are available to make the connections easier.



Circuito pneumatico

Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento attuatore all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

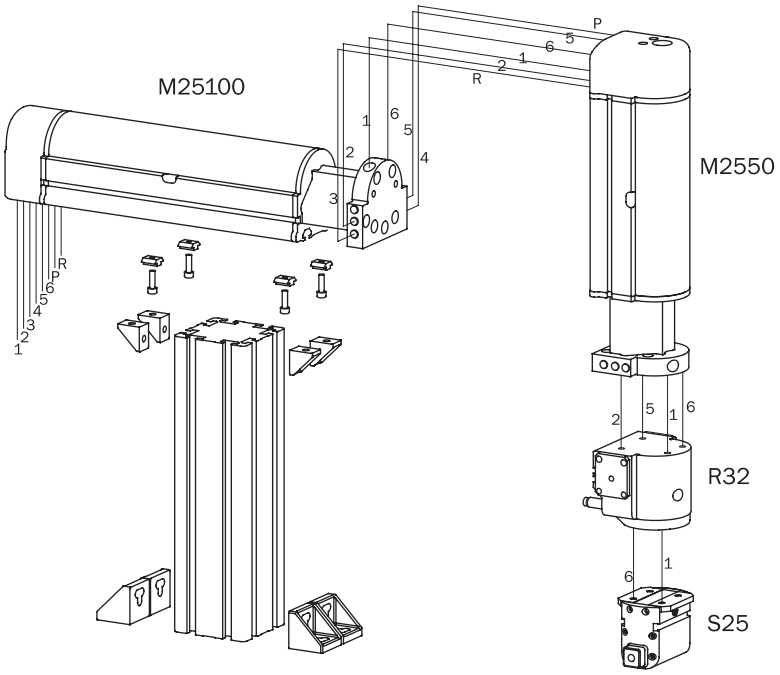
Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

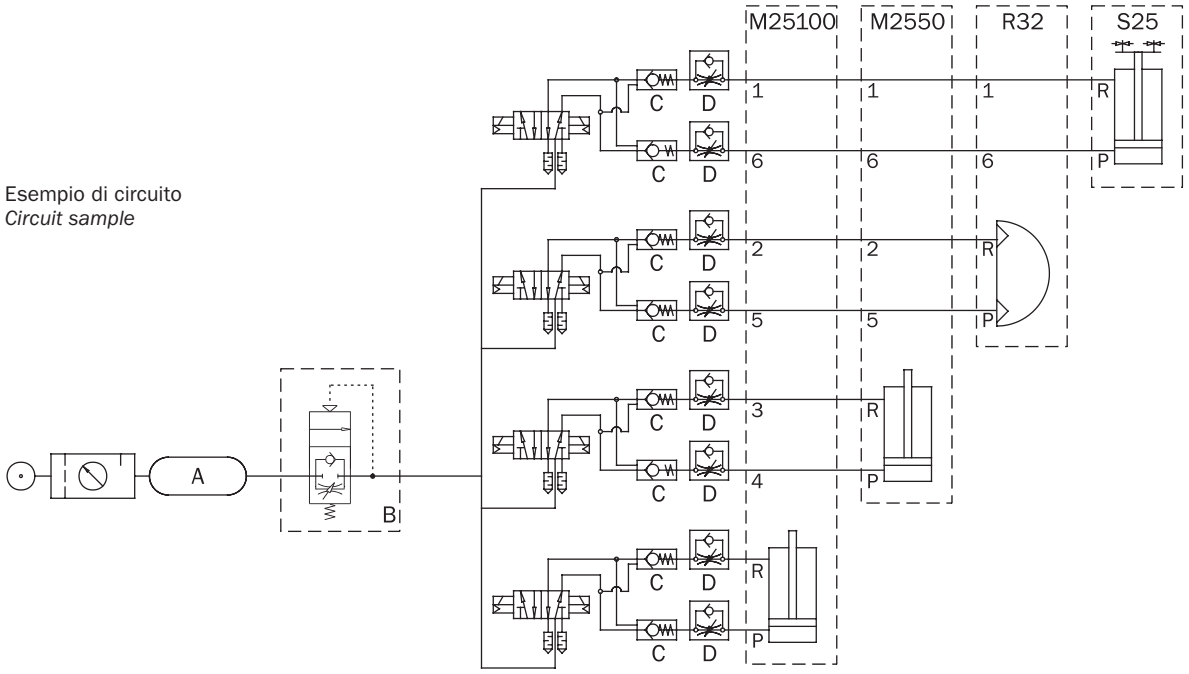
Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).





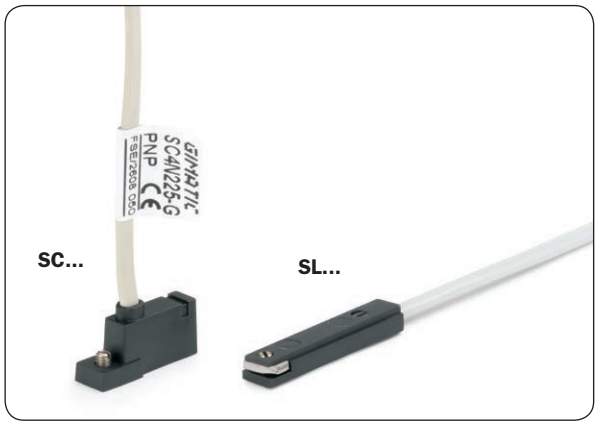
Esempio di circuito
Circuit sample



Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali) che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

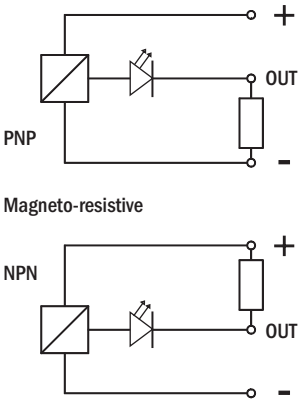
I sensori utilizzabili sono:



Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:



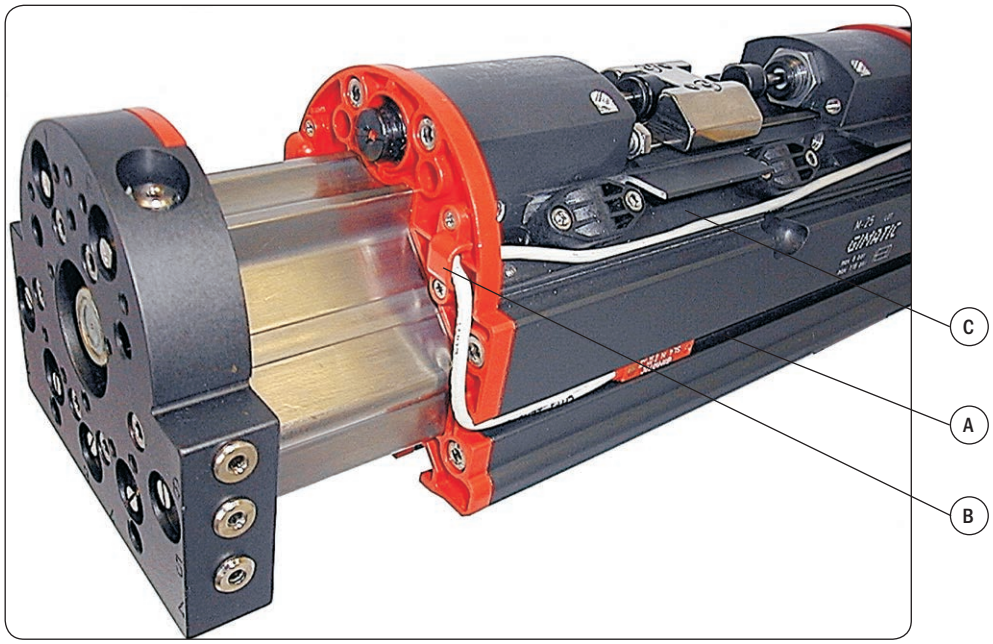
			M2550	M25100	M25160	M25200	M25300	M25400
SC4N225Y	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑
SL4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑
SL4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑

Entrambi hanno un cavo a tre fili e sono dotati di led: differiscono per l'ingombro.

Both are provided with lamp and three wire cable: they differ in dimensions.

I sensori vanno posizionati nelle sedi (A) sui fianchi ed è inoltre possibile far scorrere i cavi all'interno (C) della protezione e bloccarli con appositi fissaggi (B).

The sensors can be placed in the grooves (A) and therefore the cables of the sensors can be housed internally (C) under the cover and stopped by the brackets (B).

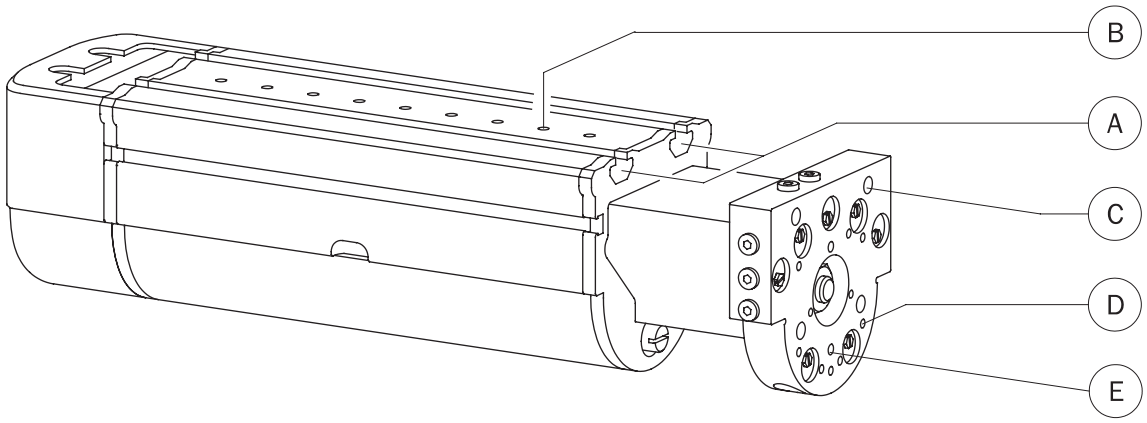


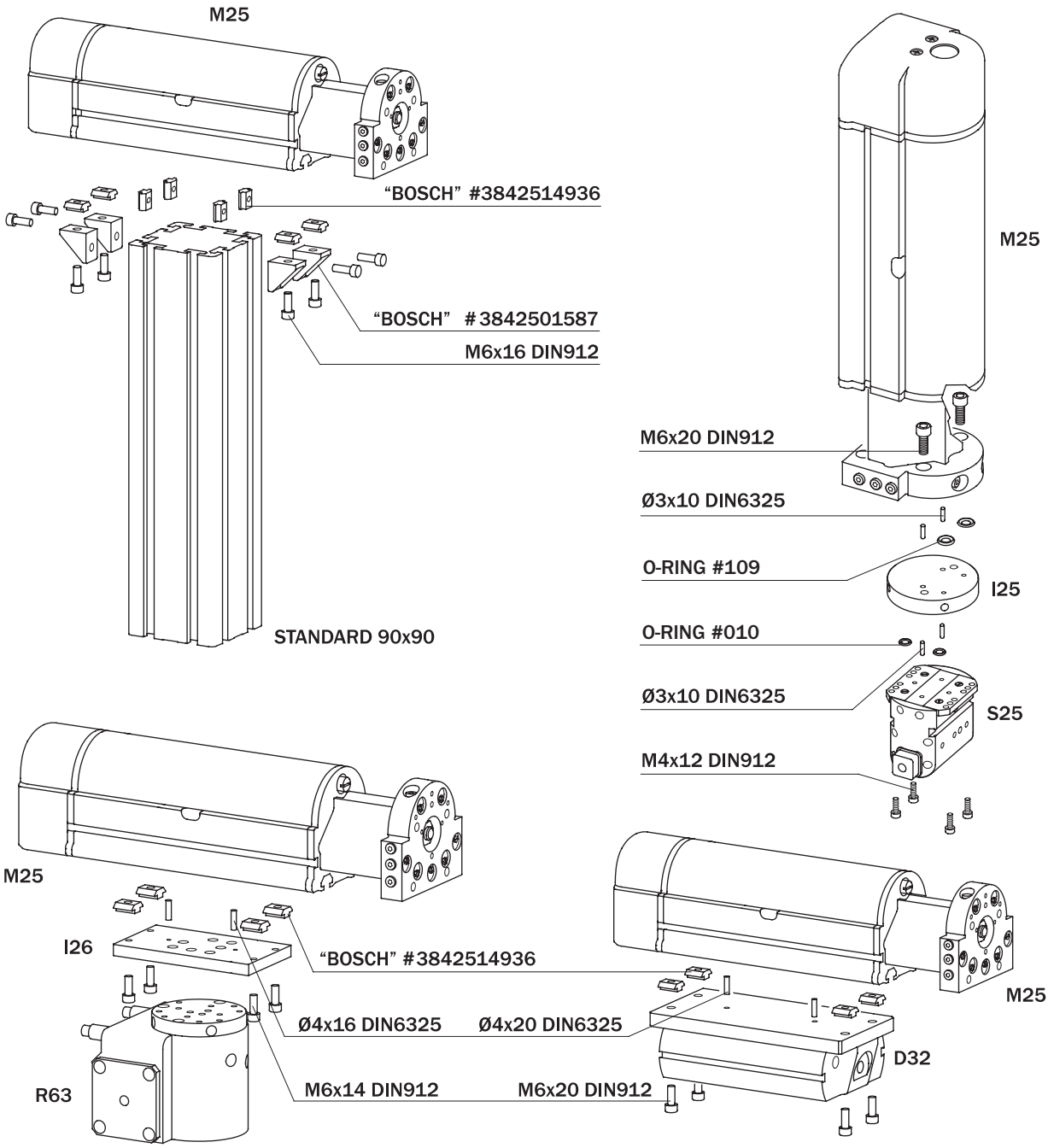
Fissaggio

Per fissare l'attuatore si utilizzano normali dadi a "T" inseriti nelle apposite cave (A) situate nella parte inferiore.
I fori calibrati (B) servono come riferimento di posizione.
Per montare degli accessori sulla parte frontale utilizzare i fori passanti (C), oppure i fori filettati (D).
I fori calibrati (E) servono come riferimento di posizione.

Fastening

To fasten the unit, use M6 "T" nuts on the grooves (A) and dowel pin holes for positioning (B).
To fasten accessories on the front plate use the through holes (C) or the threaded ones (D).
Use the dowel pin holes (E) for positioning.



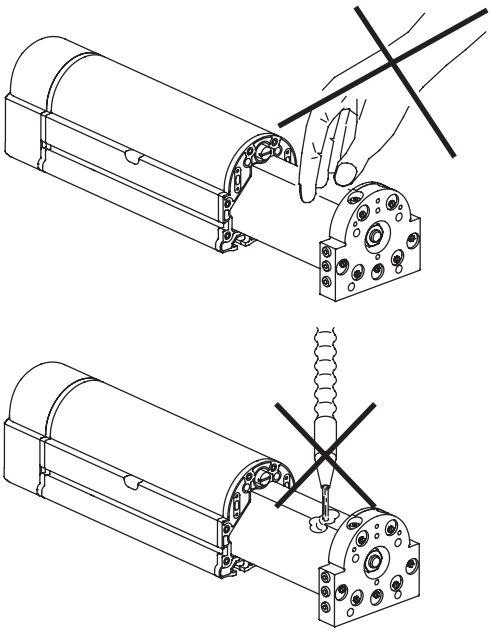


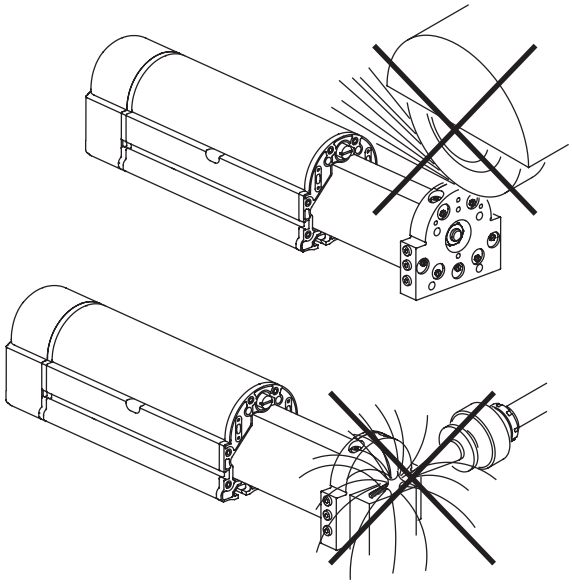
Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità dell'attuatore lineare.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione dell'attuatore lineare.
L'attuatore lineare non deve essere messo in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the linear actuator.
Never let personnel or objects stand within the operating range of the linear actuator.
Never operate the linear actuator if the machine on which it is fitted does not comply with safety laws and standards of your country.





Manutenzione

L'attuatore lineare M25 non necessita di nessuna manutenzione per 5000 km.
Dopo può essere revisionato in fabbrica per ripristinare il corretto gioco di pattini e cuscinetti ed effettuare l'ingrassaggio delle parti interne con:
• Molykote PG75 (guarnizioni).

Controllare periodicamente l'efficienza dei deceleratori e sostituirli subito se manifestano un decadimento delle loro prestazioni di smorzamento.

Il gioco della parte mobile nelle guide è regolato in fabbrica. Non utilizzare mai le viti di regolazione per modificarlo.

Se l'ambiente di lavoro è sporco, pulire quando necessario, l'esterno della parte scorrevole con un panno morbido asciutto.

Non lubrificare mai la parte mobile.

Maintenance

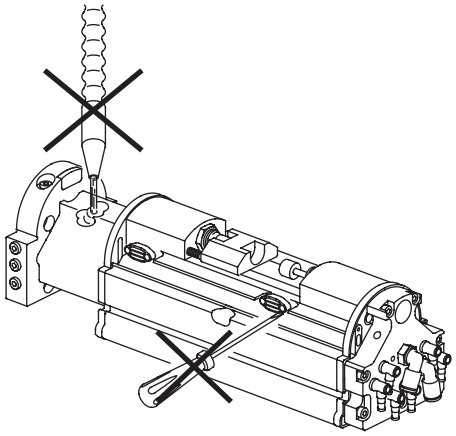
The linear actuator M25 does be maintenance or lubrication free for 5000 km.
After 5000 km, if necessary, it can be serviced in factory to restore the correct backlash of the sliding guidance, ball bearings and to grease the inner parts by:
• *Molykote PG75 (gaskets).*

Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performances decrease.

The backlash of the moving part in its housing had been set in the factory. Never use the adjusting screws to modify it.

If the work environment is dirty, clean the exterior of the sliding part, when necessary, with a soft dry cloth.

Never lubricate the dynamic part.

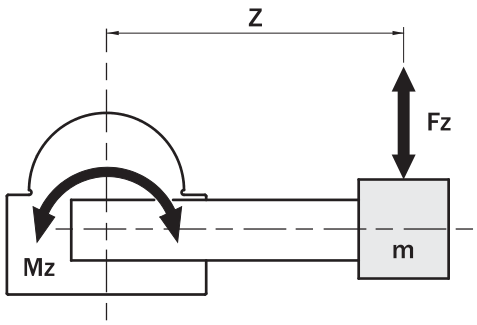


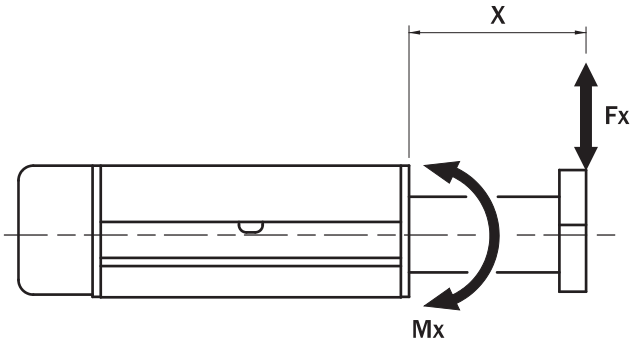
Carichi di sicurezza

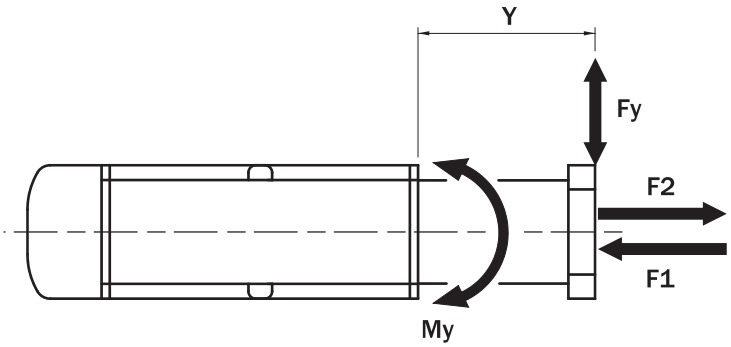
Consultare la tabella dei carichi massimi ammissibili. Carichi eccessivi possono danneggiare l'attuatore lineare e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.

Safety loads

Check the table here below for max permitted loads. Excessive loads can damage the linear unit, cause functioning problems and endanger the safety of the operator.

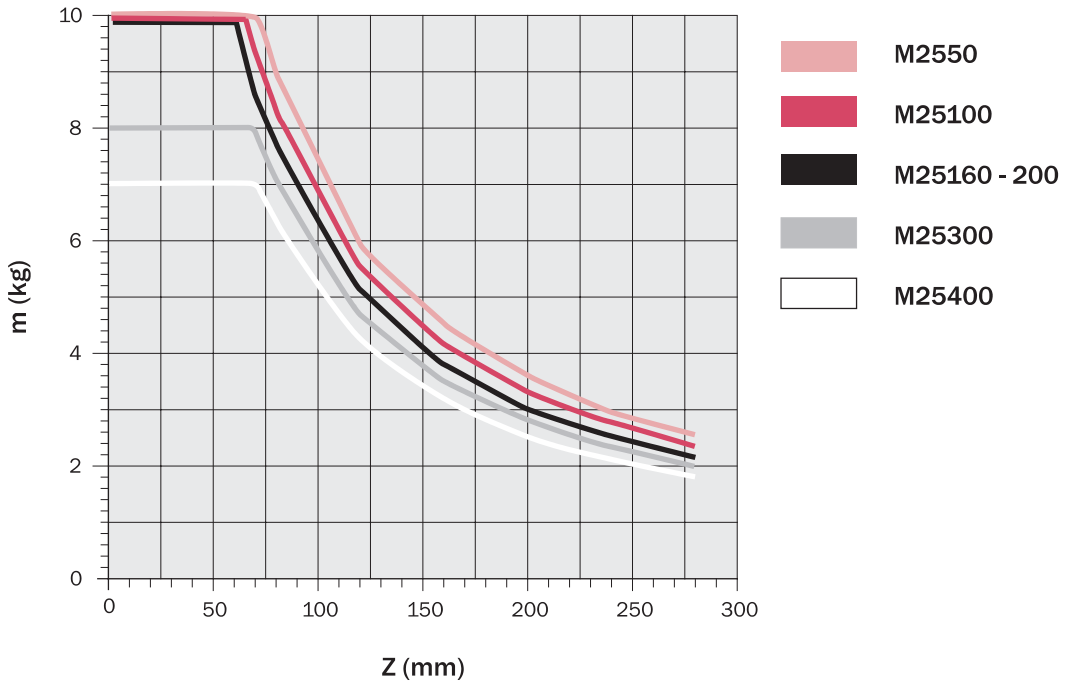






	M25
F1	172 N
F2	144 N
Fx . X = Mx	40 Nm
Fy . Y = My	60 Nm
Fz . Z = Mz	20 Nm

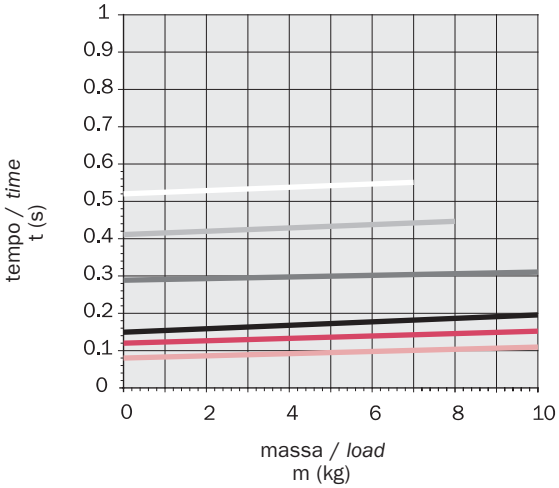
Carico trasportabile in funzione del disassamento Z.
Possible load related to the overhanging Z.



Tempo di traslazione

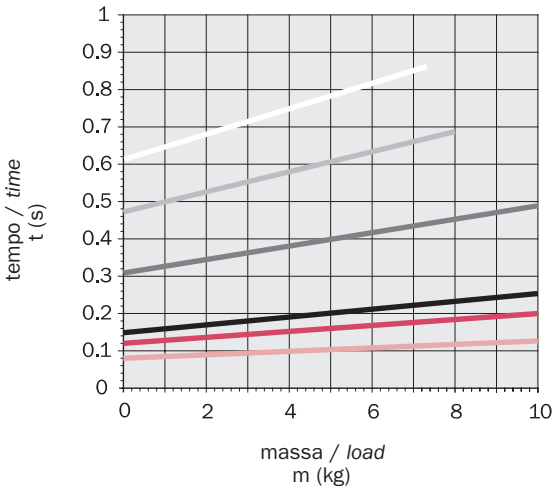
Travel clock-time

Tempo medio di traslazione orizzontale a 6 bar.
Medium time of horizontal travel at 6 bar.

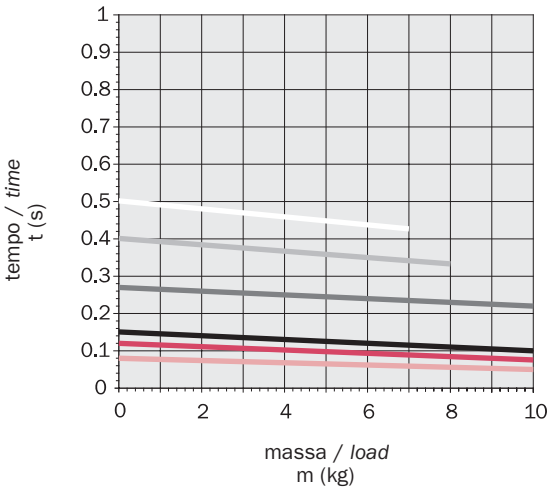


M2550
M25100
M25160
M25200
M25300
M25400

Tempo medio di traslazione verticale a 6 bar verso l'alto.
Medium time of vertical up travel at 6 bar.

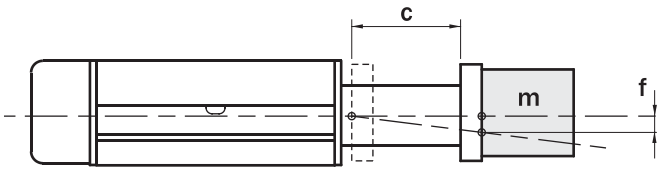


Tempo medio di traslazione verticale a 6 bar verso l'alto.
Medium time of vertical down travel at 6 bar.



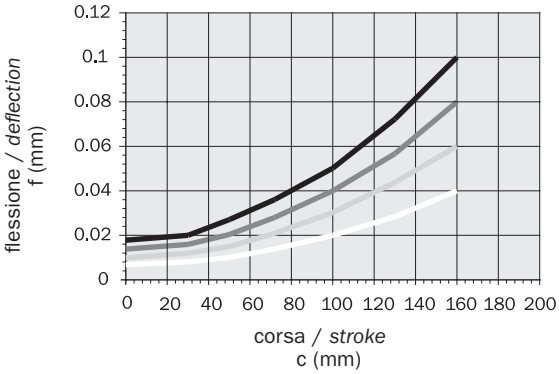
Flessione

Deflection

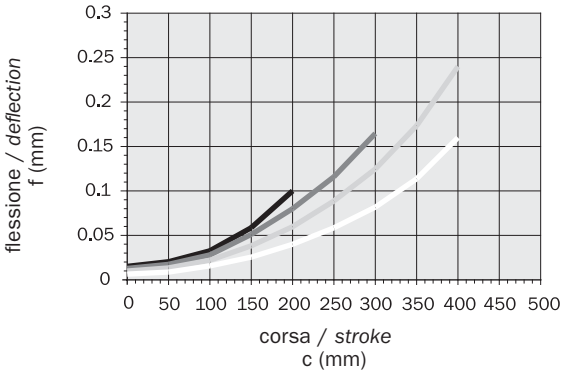


m=10kg m=8kg m=6kg m=4kg

Flessione dell'attuatore lineare sotto carico.
Deflection of the linear unit under load.
M2550 M25100 M25160



Flessione dell'attuatore lineare sotto carico.
Deflection of the linear unit under load.
M25200 M25300 M25400

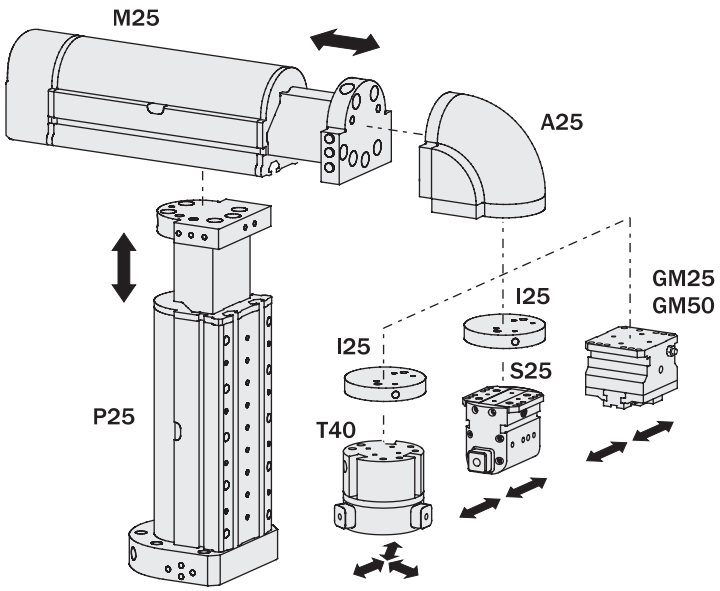


Esempio di applicazione

Manipolazione con due assi (verticale e orizzontale) e pinza.

Application example

Handling with vertical and horizontal axis and gripper.

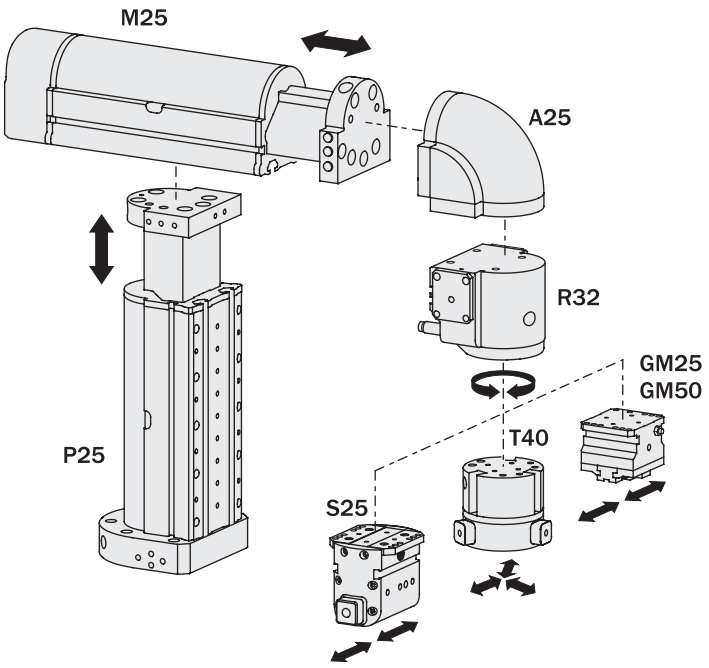


Esempio di applicazione

Due assi e pinza rotante.

Application example

Two axes and swivelling gripper.

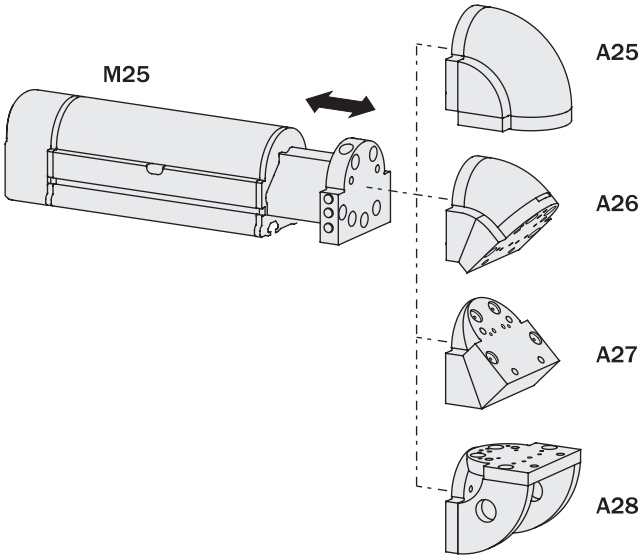


Esempio di applicazione

Interfacce montabili sugli attuatori lineari per angoli di +90°, +45°, -45° e -90°.

Application example

Interfaces to mount on linear actuators to get +90°, +45°, -45° and -90° angles.

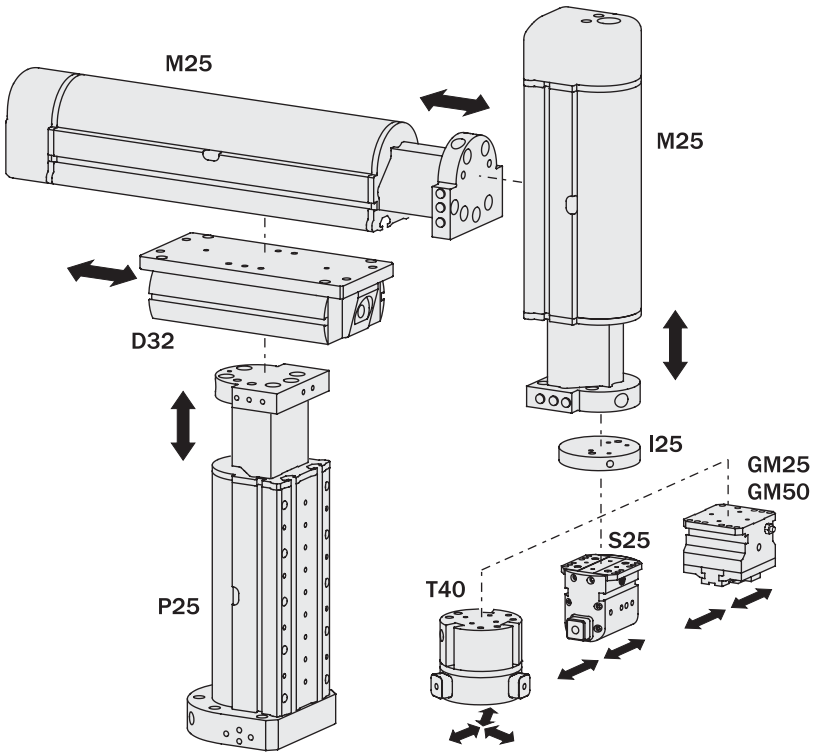


Esempio di applicazione

Due assi a doppia corsa con pinza: consentono di raggiungere quattro posizioni in orizzontale e quattro in verticale.

Application example

Two double stroke axes and gripper: it is possible to reach four positions on the horizontal and vertical axis.

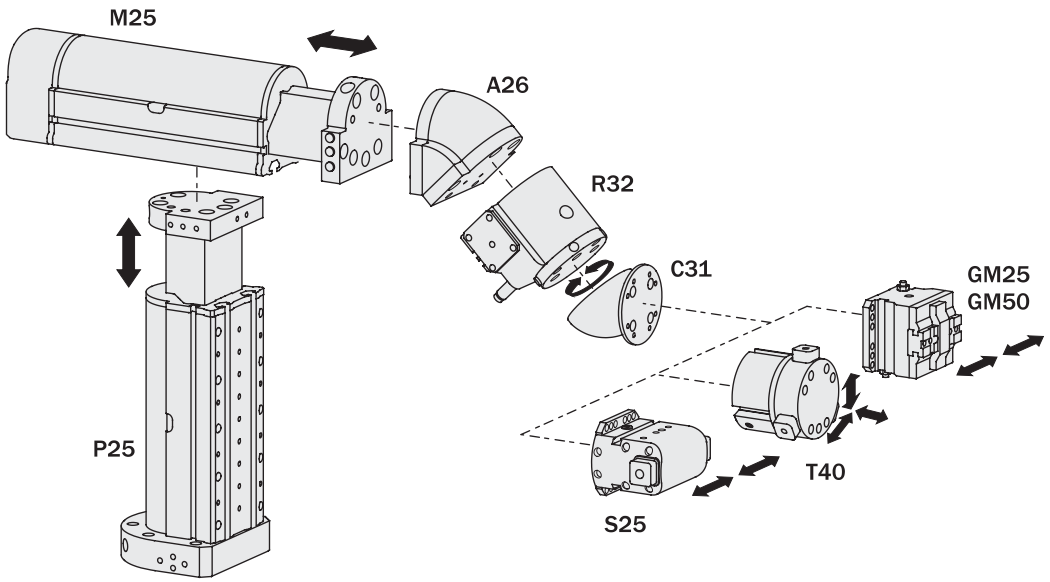


Esempio di applicazione

Due assi con brandeggio e pinza singola per presa da un piano verticale e deposito su un piano orizzontale.

Application example

Two axes with swivelling single gripper for picking from vertical plane and placing on horizontal plane.

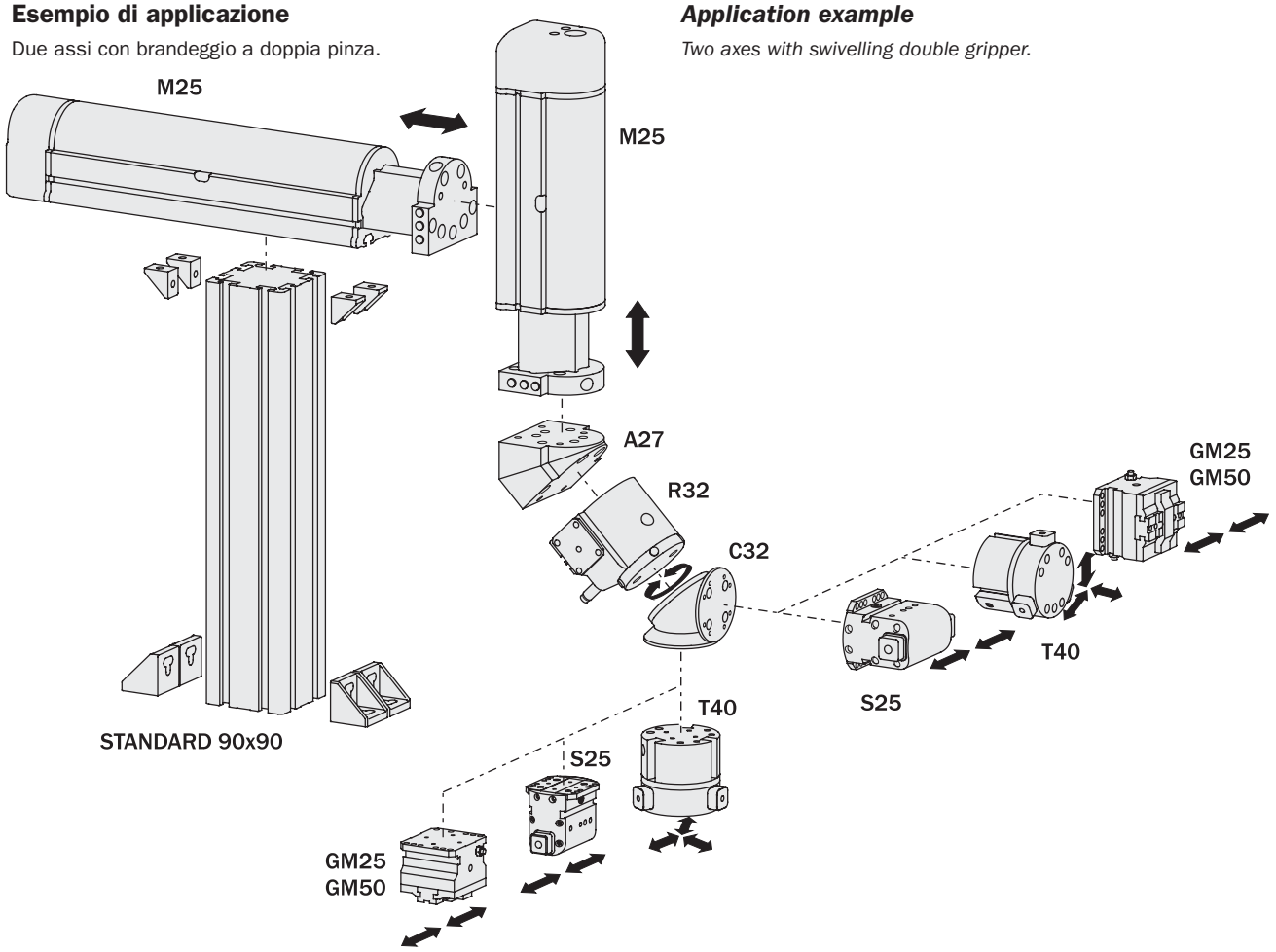


Esempio di applicazione

Due assi con brandeggio a doppia pinza.

Application example

Two axes with swivelling double gripper.

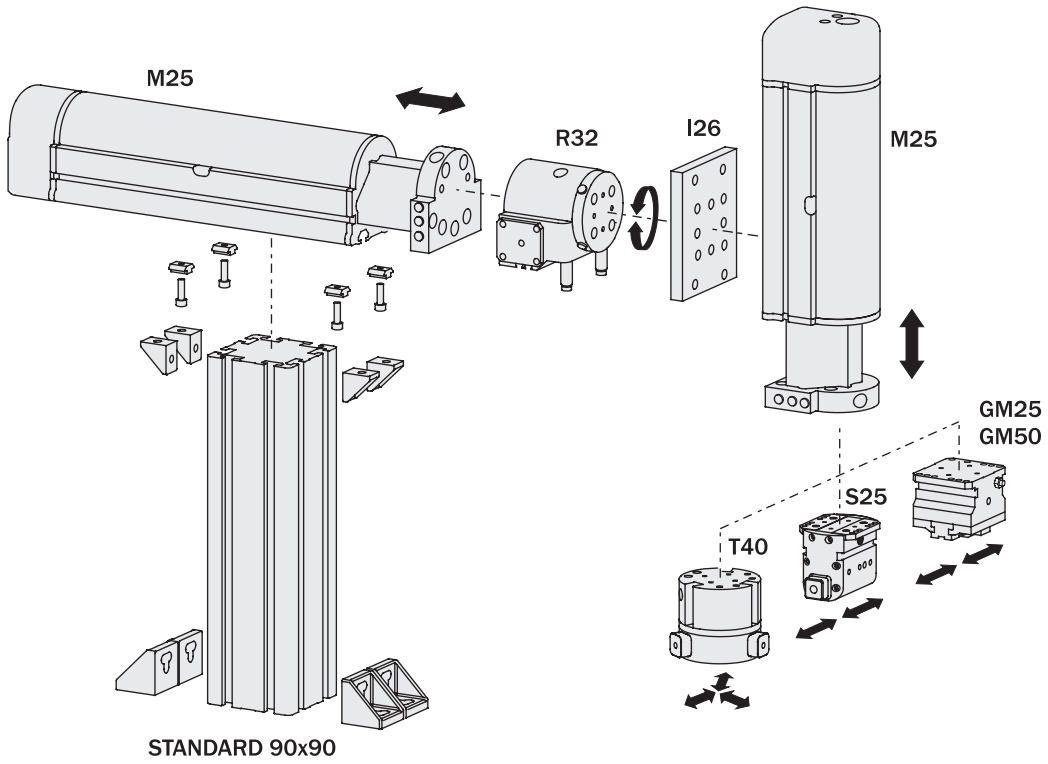


Esempio di applicazione

Asse orizzontale con secondo asse rotante e pinza.

Application example

Horizontal axis with second rotating axis and gripper.

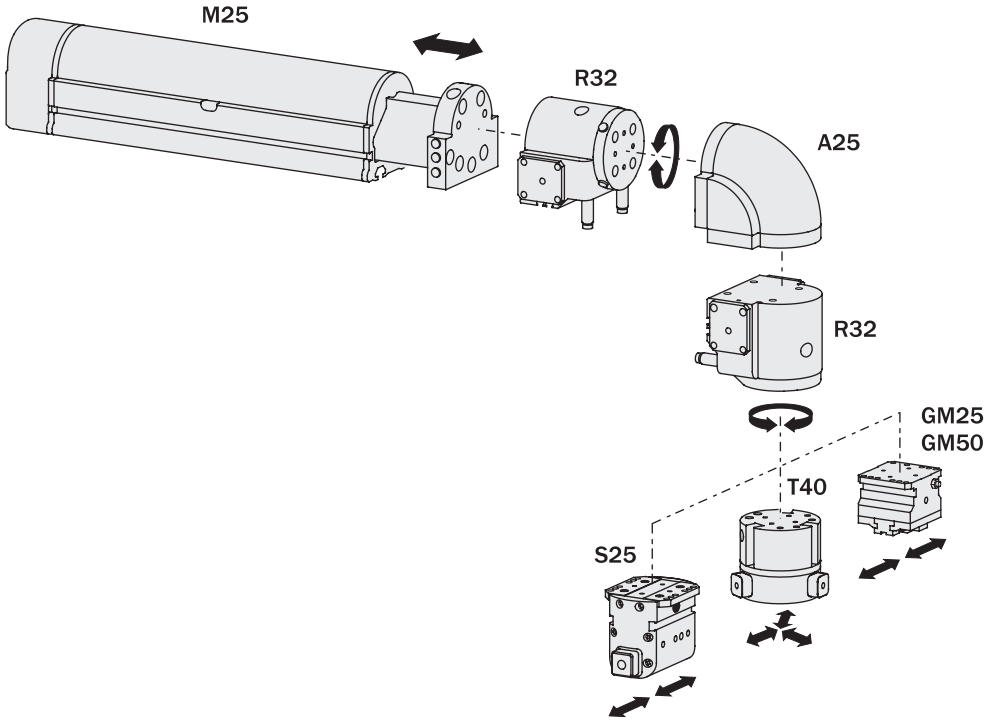


Esempio di applicazione

Asse orizzontale con pinza rotante su due assi di rotazione ortogonali.

Application example

Horizontal axis with swivelling gripper rotating on two perpendicular axes.

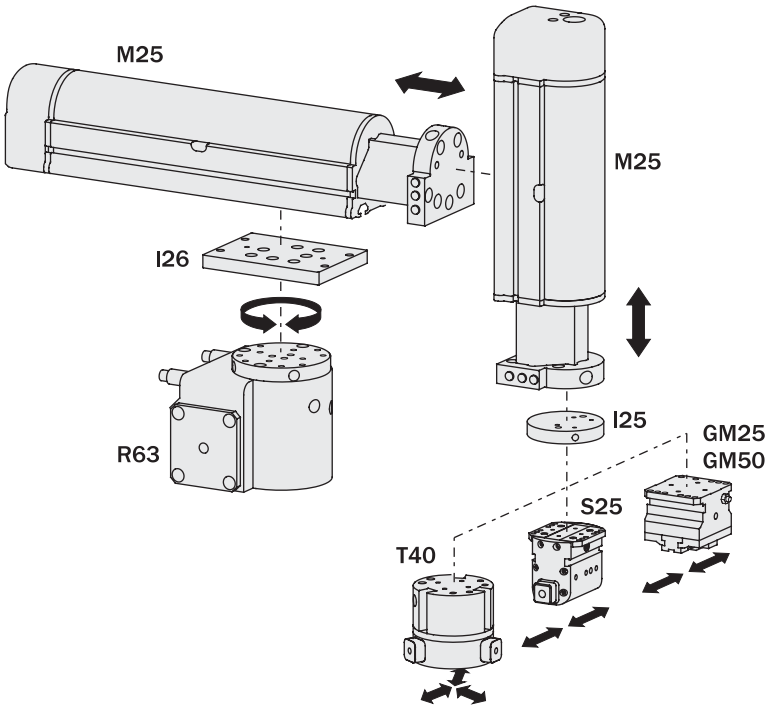


Esempio di applicazione

Due assi con pinza, il tutto su un attuatore rotante ad asse verticale.

Application example

Two axes with gripper, all on a swivelling unit with vertical axis.

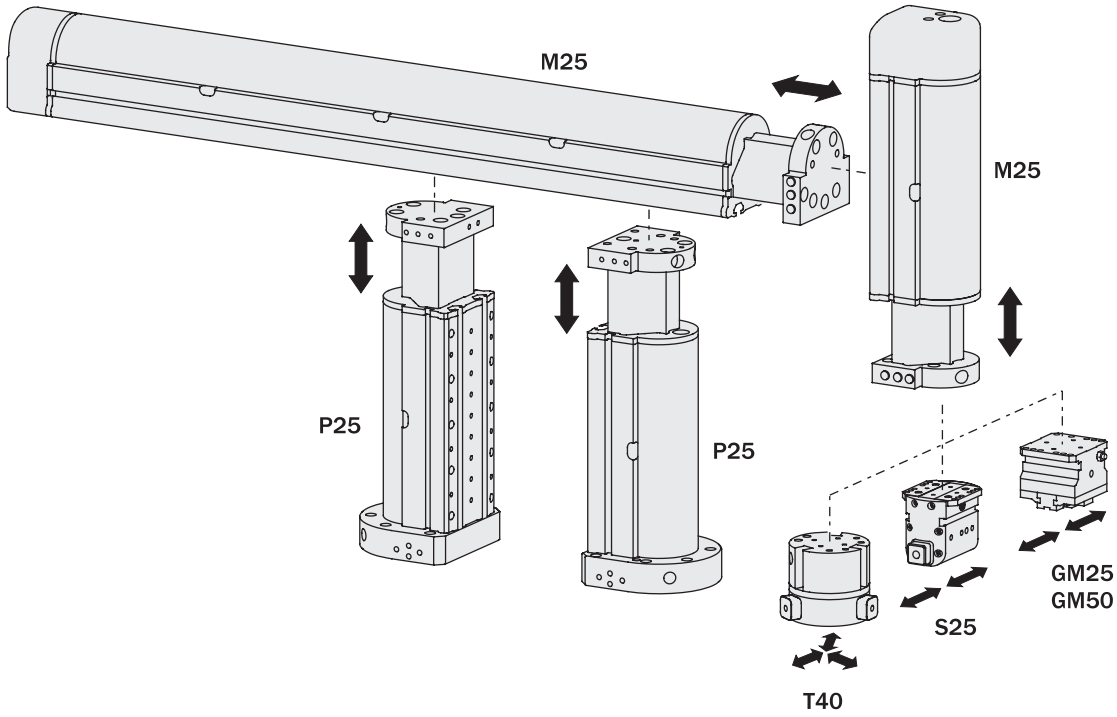


Esempio di applicazione

Asse orizzontale lungo con doppio sollevatore, asse verticale e pinza.

Application example

Horizontal long axis with double lifter, vertical axis and gripper.

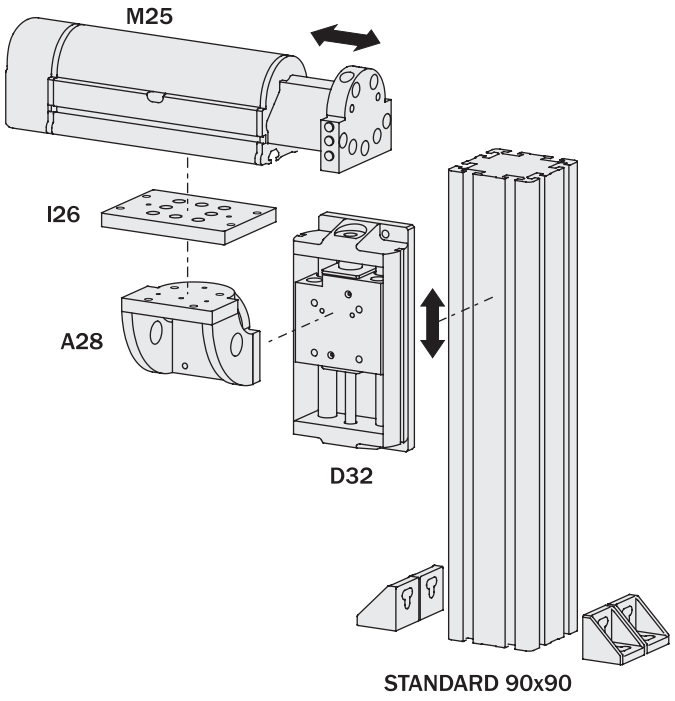


Esempio di applicazione

Due assi.

Application example

Two axes.

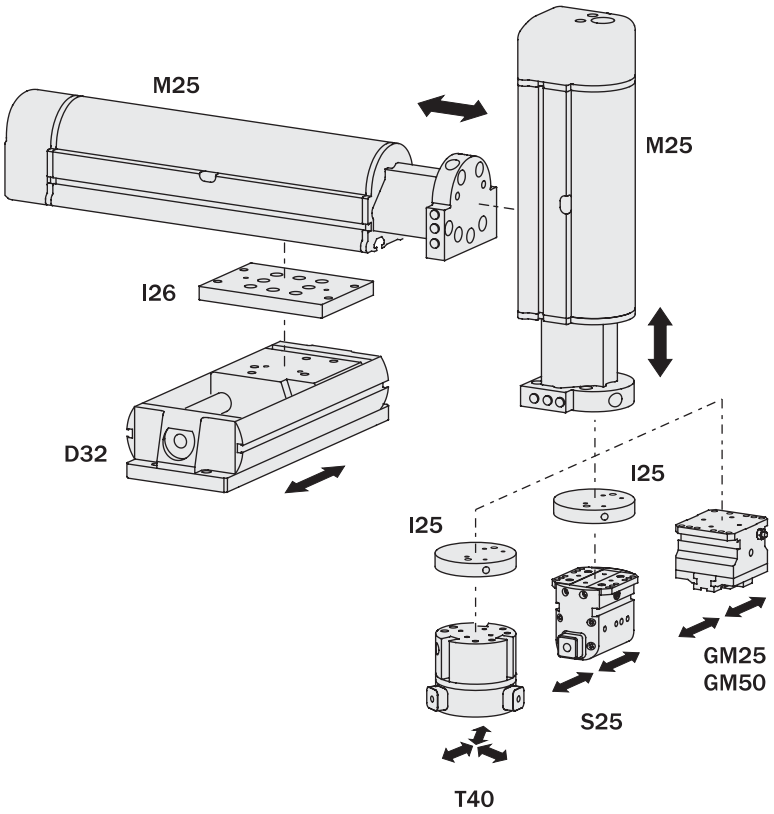


Esempio di applicazione

Tre assi con pinza.

Application example

Three axes with gripper.

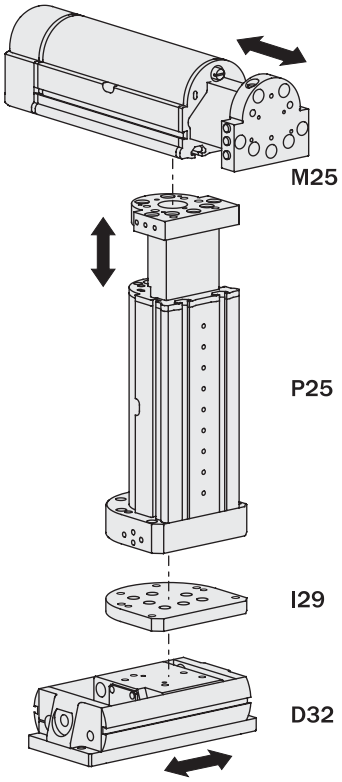


Esempio di applicazione

Tre assi.

Application example

Three axes.

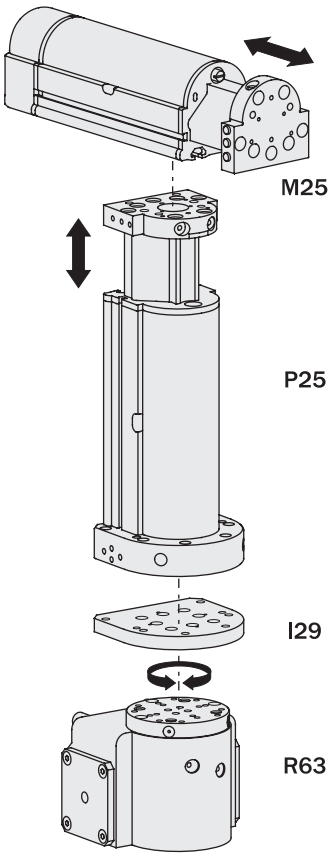


Esempio di applicazione

Due assi su un attuatore rotante ad asse verticale.

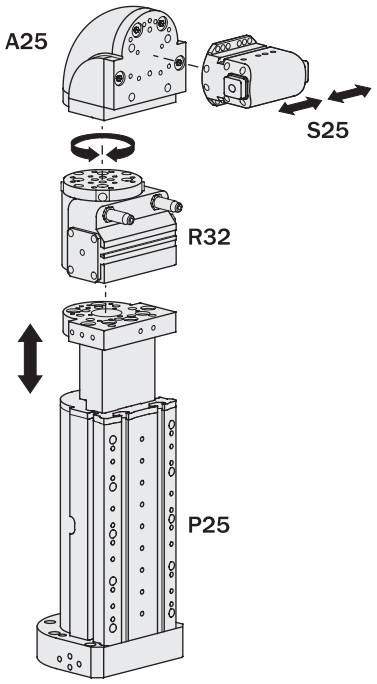
Application example

Two axes on a swivelling unit with vertical rotation axis.



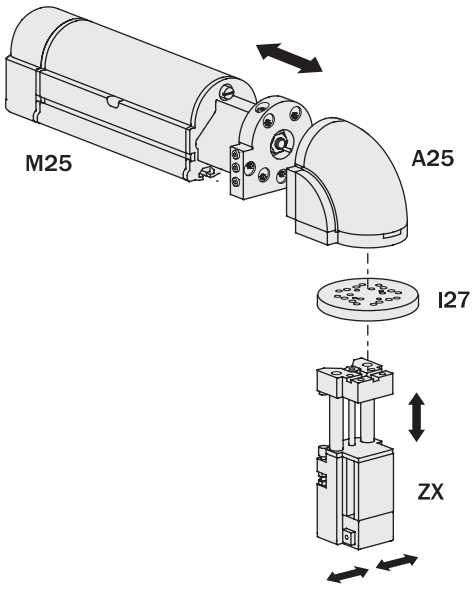
Esempio di applicazione
Asse verticale con pinza rotante.

Application example
Vertical axis with swivelling gripper.



Esempio di applicazione
Due assi con pinza integrata.

Application example
Two axes with integrated gripper.



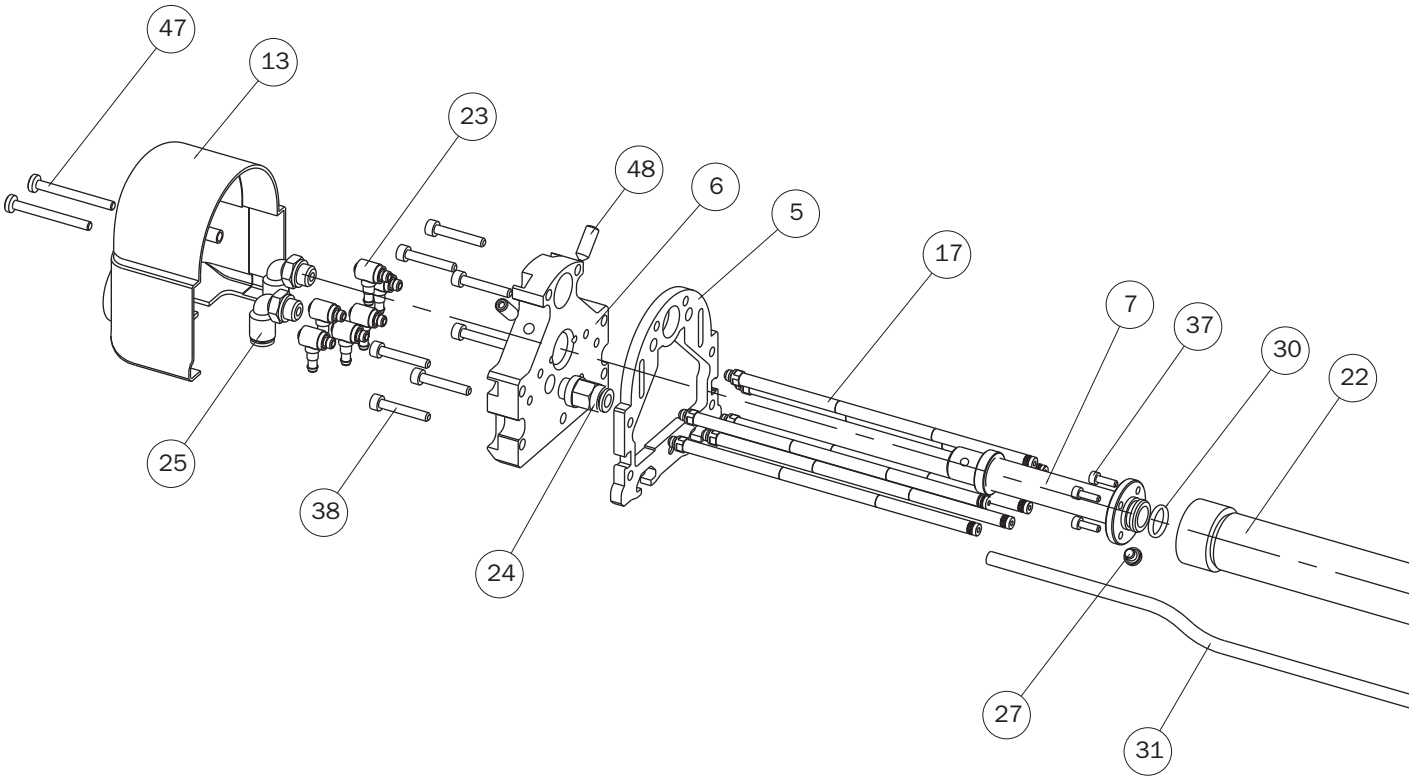
Elenco delle parti / *Part list*

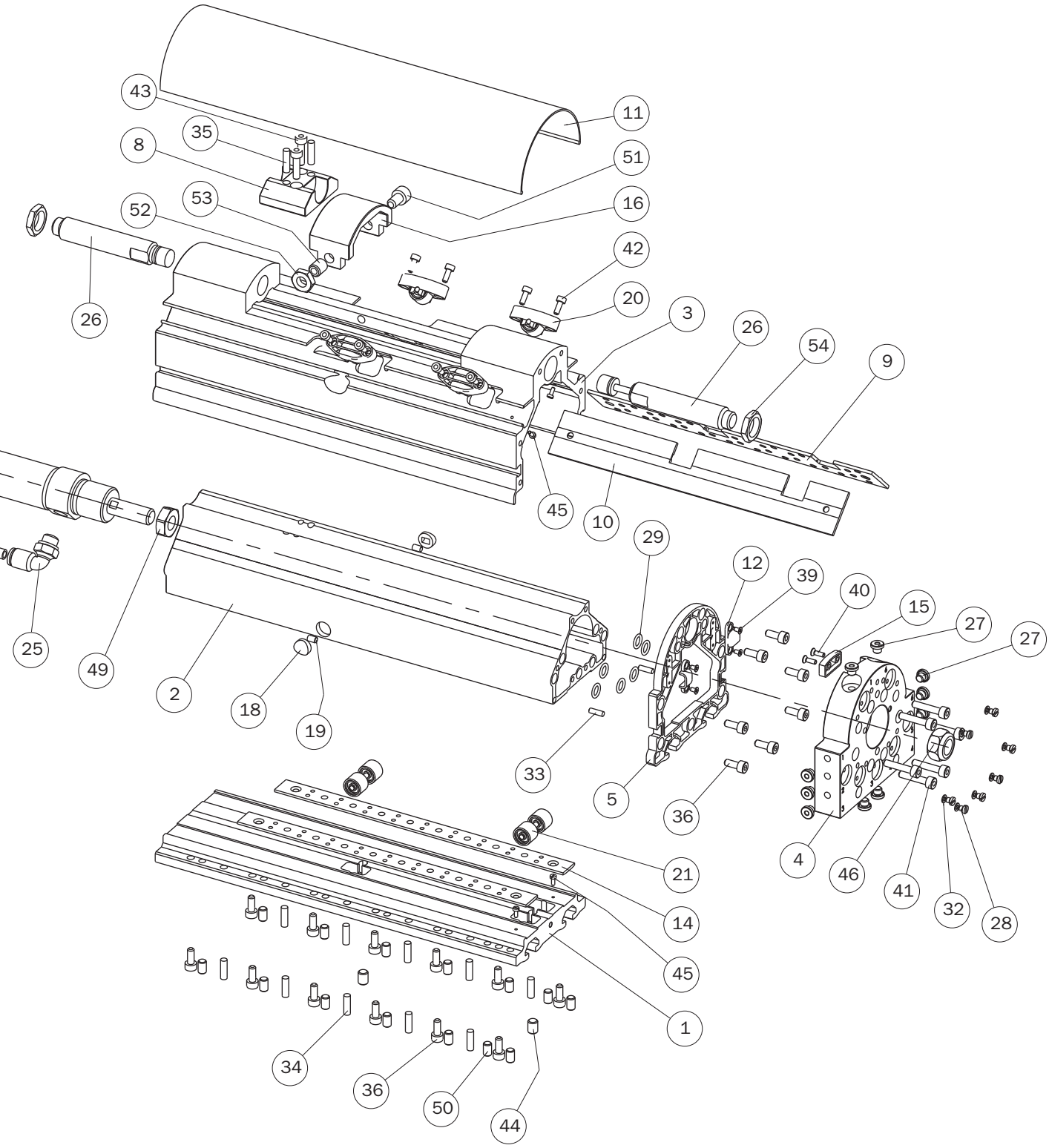
		M2550	M25100	M25160	M25200	M25300	M25400		
1	Piastra di base lavorata	M2550-1	M25100-1	M25160-1	M25200-1	M25300-1	M25400-1	*Base-Plate*	*1*
2	Estruso interno lavorato	M2550-2	M25100-2	M25160-2	M25200-2	M25300-2	M25400-2	*Internal extrusion*	*2*
3	Estruso esterno lavorato	M2550-3	M25100-3	M25160-3	M25200-3	M25300-3	M25400-3	*External extrusion*	*3*
4	Piastra di interfaccia	M2550-4						*Plate*	*4*
5	Profilo	M2550-5						*Seal profil*	*5*
6	Fondello	M2550-6						*Back end plate*	*6*
7	Supporto cilindro	M2550-7						*Cylinder holder*	*7*
8	Blocchetto finecorsa	M2550-8						*End stroke block*	*8*
9	Pattino lavorato	M2550-10-D	M2550-10-D	M2550-10-D	M2550-10-DX	M2550-10-DX	M2550-10-DX	*Machined sliding shoe*	*9*
10	Pattino lavorato	M2550-10-S	M2550-10-S	M2550-10-S	M2550-10-SX	M2550-10-SX	M2550-10-SX	*Machined sliding shoe*	*10*
11	Copertura	M2550-11	M25100-11	M25160-11	M25200-11	M25300-11	M25400-11	*Closing plate*	*11*
12	Protezione	M2550-12						*Protection*	*12*
13	Carter	M2550-13						*Plastic cover*	*13*
14	Pattino	M2550-14						*Sliding shoe*	*14*
15	Protezione	M2550-16						*Protection*	*15*
16	Ponte	-	M25400-16					*Bridge*	*16*
17	Sottogruppo tubo	M2550-30	M25100-16	M25160-16	C200	C300	C400	*Tube subassembly*	*17*
18	Inserto portamagnete	PE-1610-05						*Magnet housing*	*18*
19	Magnete	PAR-06-7						*Magnet*	*19*
20	Sottogruppo cuscinetto e supporto	C-217						*Bearing and support subassembly*	*20*
21	Sottogruppo cuscinetto doppio	C-218						*Duplex bearing subassembly*	*21*
22	Cilindro pneumatico	SP50625-50	SP50625-100	SP50625-160	SP50625-200	SP50625-300	SP50625-400	*Pneumatic cylinder*	*22*
23	Raccordo	AR15-M5S						*Fitting*	*23*
24	Diritto cilindrico	200107						*Fitting*	*24*
25	Raccordo	202203						*Fitting*	*25*
26	Deceleratore idraulico M14x1.5	SPM25MC-1B-SP21365B						*Shock-absorber*	*26*
27	Tappo M5	107-M5						*Plug M5*	*27*

Elenco delle parti / *Part list*

		M2550	M25100	M25160	M25200	M25300	M25400		
28	Tappo M3	DT-205-01						*Plug M3*	*28*
29	O-Ring	1.78x6.07 (GUAR-039)						*O-Ring gasket*	*29*
30	O-Ring	1.78x12.42 (GUAR-047)						*O-Ring gasket*	*30*
31	Tubo	GUAR-059-175	GUAR-059-225	GUAR-059-285	GUAR-059-375	GUAR-059-475	GUAR-059-225	*Hose*	*31*
32	Rondella	GUAR-067						*Washer*	*32*
33	Spina di riferimento	3x10 DIN 6325 (SPINA-006)						*Dowel pin*	*33*
34	Spina di riferimento	4x14 DIN 6325 (SPINA-019)						*Dowel pin*	*34*
35	Spina di riferimento	4x16 DIN 6325 (SPINA-014)						*Dowel pin*	*35*
36	Vite	M4x10 DIN 912 INOX A2 (VITE-020)						*Screw*	*36*
37	Vite	M3x10 DIN 912 INOX A2 (VITE-016)						*Screw*	*37*
38	Vite	M4x25 DIN 912 INOX A2 (VITE-091)						*Screw*	*38*
39	Vite	2.2x5.5 DIN 7982 NICH (VITE-103)						*Screw*	*39*
40	Vite	M2.5x8 DIN 965A INOX A2 (VITE-060)						*Screw*	*40*
41	Vite	M4x20 DIN 912 INOX A2 (VITE-111)						*Screw*	*41*
42	Vite	M3x8 DIN 912 INOX A2 (VITE-031)						*Screw*	*42*
43	Vite	M4x16 DIN 912 INOX A2 (VITE-061)						*Screw*	*43*
44	Vite senza testa	M6x8 DIN 913 INOX A2 (VITE-113)						*Grub screw*	*44*
45	Vite	2x5 DIN 84A INOX A2 (VITE-056)						*Screw*	*45*
46	Dado esagonale	M10x1.25 DIN 985 Z/B (VITE-124)						*Blocking nut*	*46*
47	Vite	M4x40 DIN 7985A INOX A2 (VITE-072)						*Screw*	*47*
48	Vite senza testa	M6x16 DIN 914 (VITE-106)						*Grub screw*	*48*
49	Dado esagonale	M10x1.25 DIN 439B Z/B (VITE-200)						*Blocking nut*	*49*
50	Vite senza testa	M5x8 DIN 913 Z/B (VITE-215)						*Grub screw*	*50*
51	Vite	-	M6x10 DIN 912 INOX A2 (VITE-135)					*Screw*	*51*
52	Dado esagonale	-	M8 DIN 439B INOX A2 (VITE-133)					*Blocking nut*	*52*
53	Vite senza testa	-	M8x12 DIN 914 INOX A2 (VITE-132)					*Grub screw*	*53*
54	Dado esagonale	M14x1.5 (VITE-196)						*Blocking nut*	*54*

Vista esplosa / *Exploded view*




43
35
8
53
52
26
11
51
16
42
20
3
26
54
9
45
10
29
12
39
40
15
27
27
25
49
2
18
19
33
5
36
4
46
41
32
28
21
14
45
1
34
36
50
44

Sollevatori lineari pneumatici (serie P25)

- Vincitore al concorso IF Design Award 1999 di Hannover.
- Alesaggio 25mm.
- Corsa 50mm e 100mm.
- Assenza di gioco.
- Elevata rigidità.
- 5000km senza nessuna manutenzione.
- Deceleratori idraulici (non per P25...E).
- 6 canali integrati per la distribuzione dell'aria compressa (non per P25...E).
- Sensori magnetici opzionali.

Pneumatic lift units (series P25)

- *Hannover IF Design Award 1999 winner.*
- *Bore 25mm.*
- *Stroke 50mm and 100mm.*
- *No backlash.*
- *High stiffness.*
- *5000km maintenance free.*
- *Hydraulic shock-absorbers (not supplied with P25...E).*
- *6 integrated air leads for compressed air distribution (not supplied with P25...E).*
- *Optional magnetic sensors.*



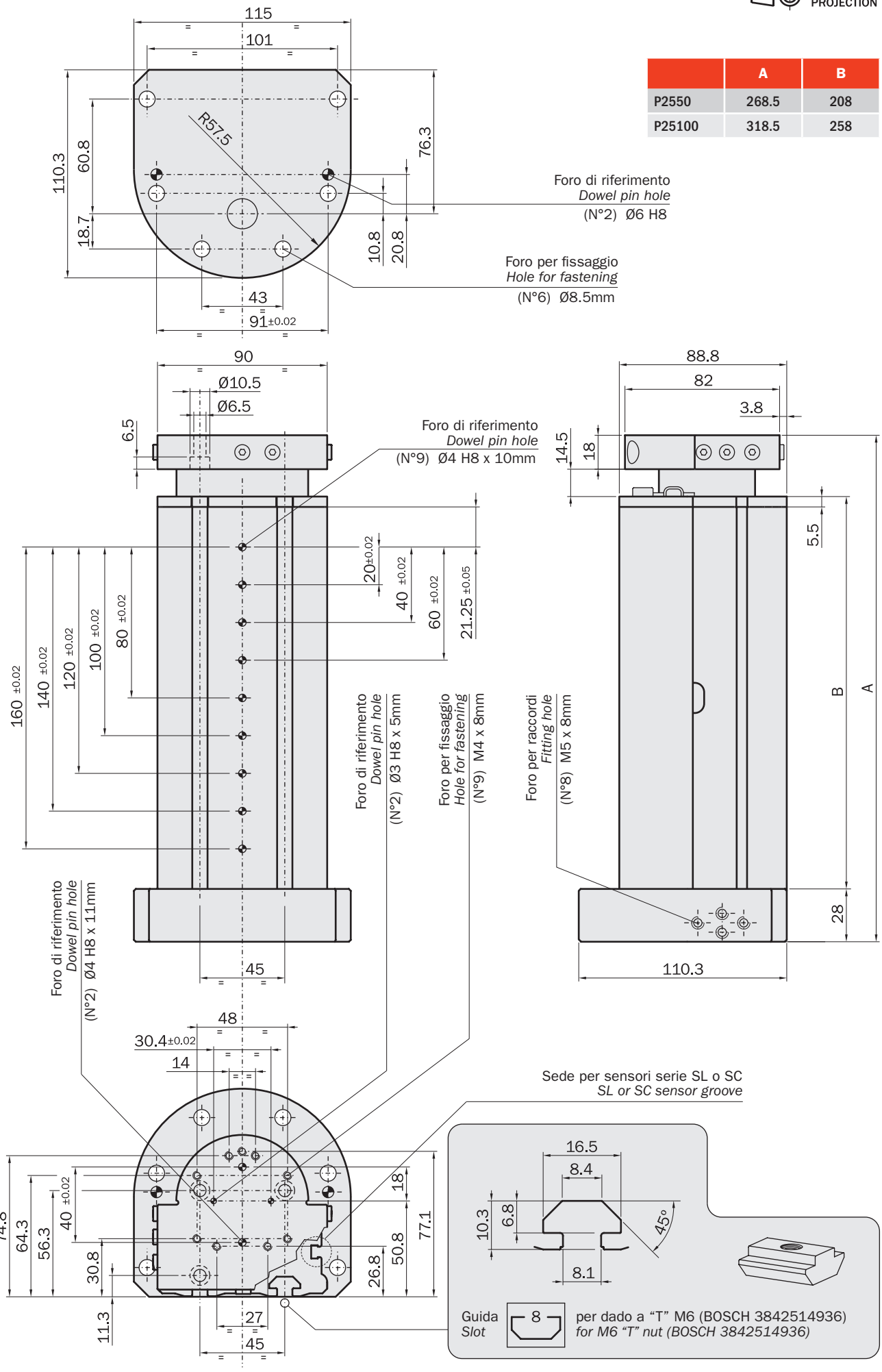
P2550E

	P2550 P2550E		P25100 P25100E
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Pressure range*	3 ÷ 8 bar		
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.		
Corsa max *Maximum stroke*	50 mm		100 mm
Registrabilità max in apertura *Maximum opening adjustment*	25 mm		
Registrabilità max in chiusura *Maximum closing adjustment*	25 mm		
Forza di spinta *Pushing force*	176 N (4 bar)	265 N (6 bar)	354 N (8 bar)
Forza di trazione *Pulling force*	148 N (4 bar)	222 N (6 bar)	297 N (8 bar)
Ripetibilità *Repetition accuracy*	0.02 mm		
Consumo d'aria per ciclo *Cycle air consumption*	75 cm^3		121 cm^3
Peso *Weight*	3.3 kg		3.9 kg

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

	A	B
P2550	268.5	208
P25100	318.5	258



ATTUATORI LINEARI
LINEAR ACTUATORS

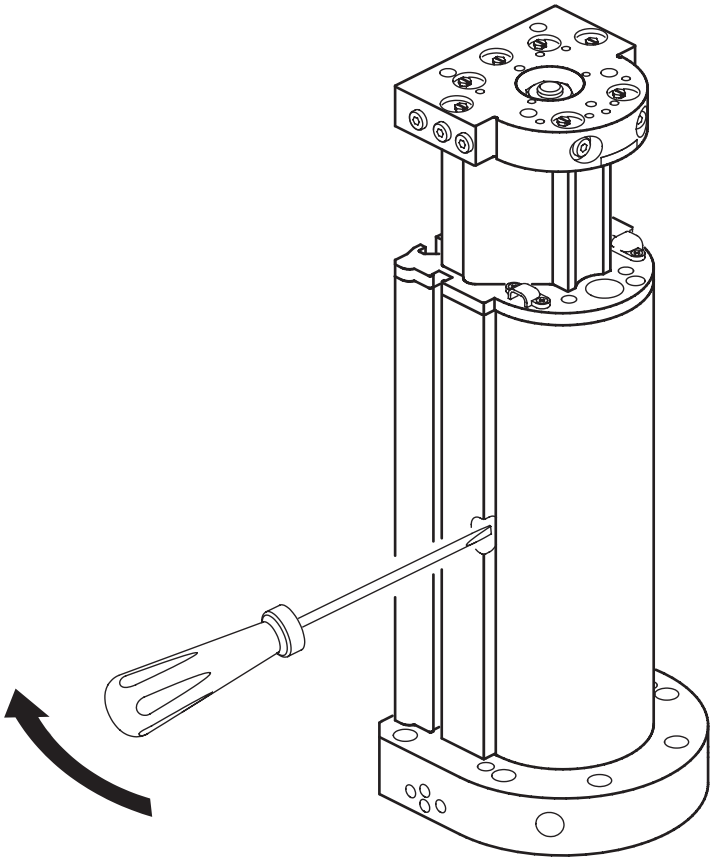
03/2015

Accesso zona registri

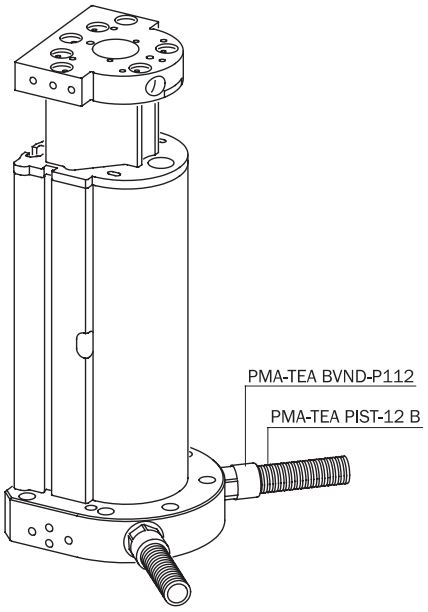
Per accedere correttamente alla zona registri, rimuovere la protezione facendo leva con un cacciavite e sollevarla.

Adjustment area

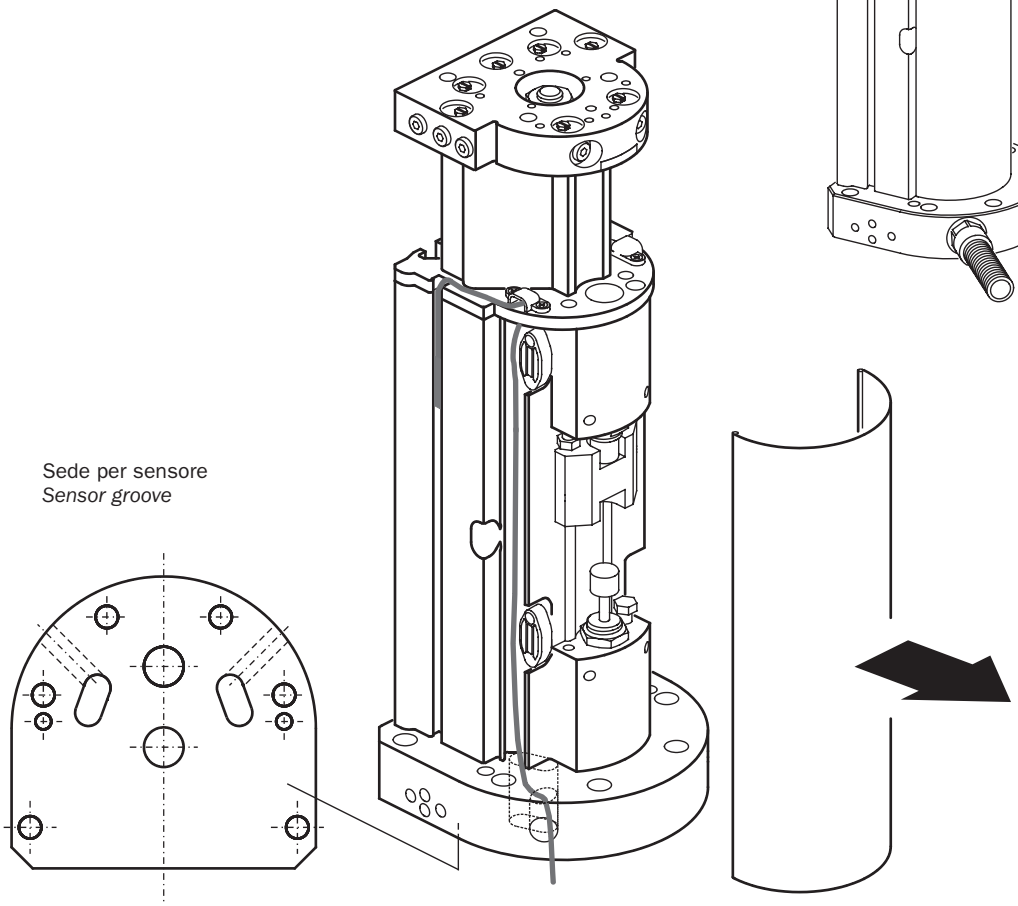
To access the adjustment area, put a screwdriver under the edge and remove the protection.



Esempio di applicazione
Application example



Sede per sensore
Sensor groove

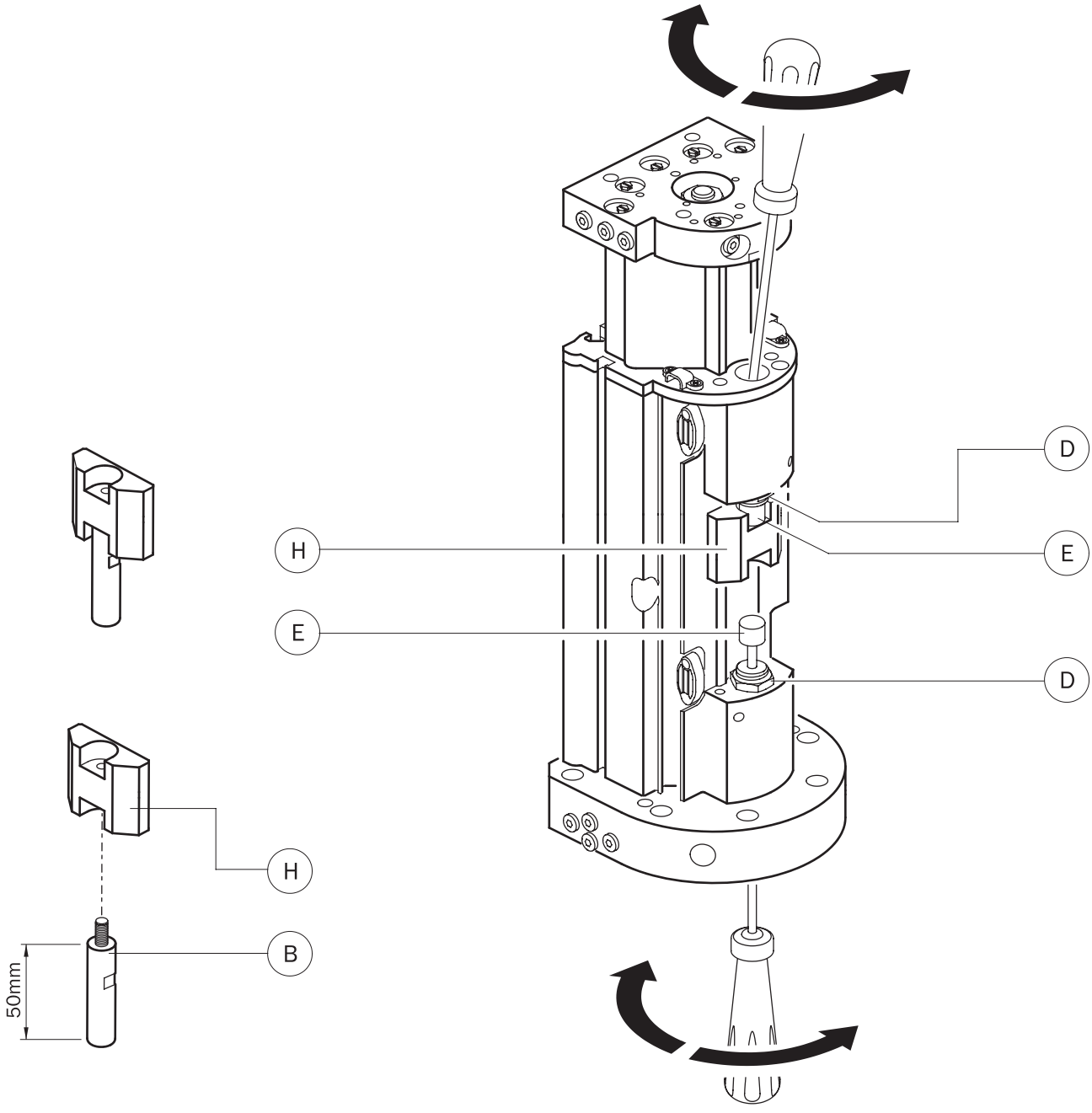


Regolazione corsa

La corsa del sollevatore P25 può essere regolata di 25mm in entrambi i sensi di marcia variando la posizione dei 2 deceleratori idraulici (E) che hanno anche funzione di battuta meccanica.
Per effettuare correttamente la regolazione bisogna allentare il dado (D), registrare il deceleratore (E) quindi, raggiunta la posizione desiderata, bloccare nuovamente il dado.
Per ridurre ulteriormente la corsa si possono utilizzare i perni M2550-25 (B) opzionali.
Si possono montare indifferentemente su uno dei due lati del blocchetto (H).
I deceleratori non sono forniti nelle versioni P25...E e devono essere ordinati separatamente.

Stroke adjustment

The stroke can be reduced 25mm on both directions, by the position of the hydraulic shock-absorbers (E), that are suitable as mechanical beat.
To change the position of the shock-absorber (E) loosen the nut (D) and then adjust the shock-absorber by a screwdriver and tighten the nut again.
If necessary, the stroke can be reduced further on by optional spacing rod M2550-25 (B), that can be mounted on one side of the beat block (H).
The P25...E version is not provided with shock-absorbers.
They must be ordered separately.

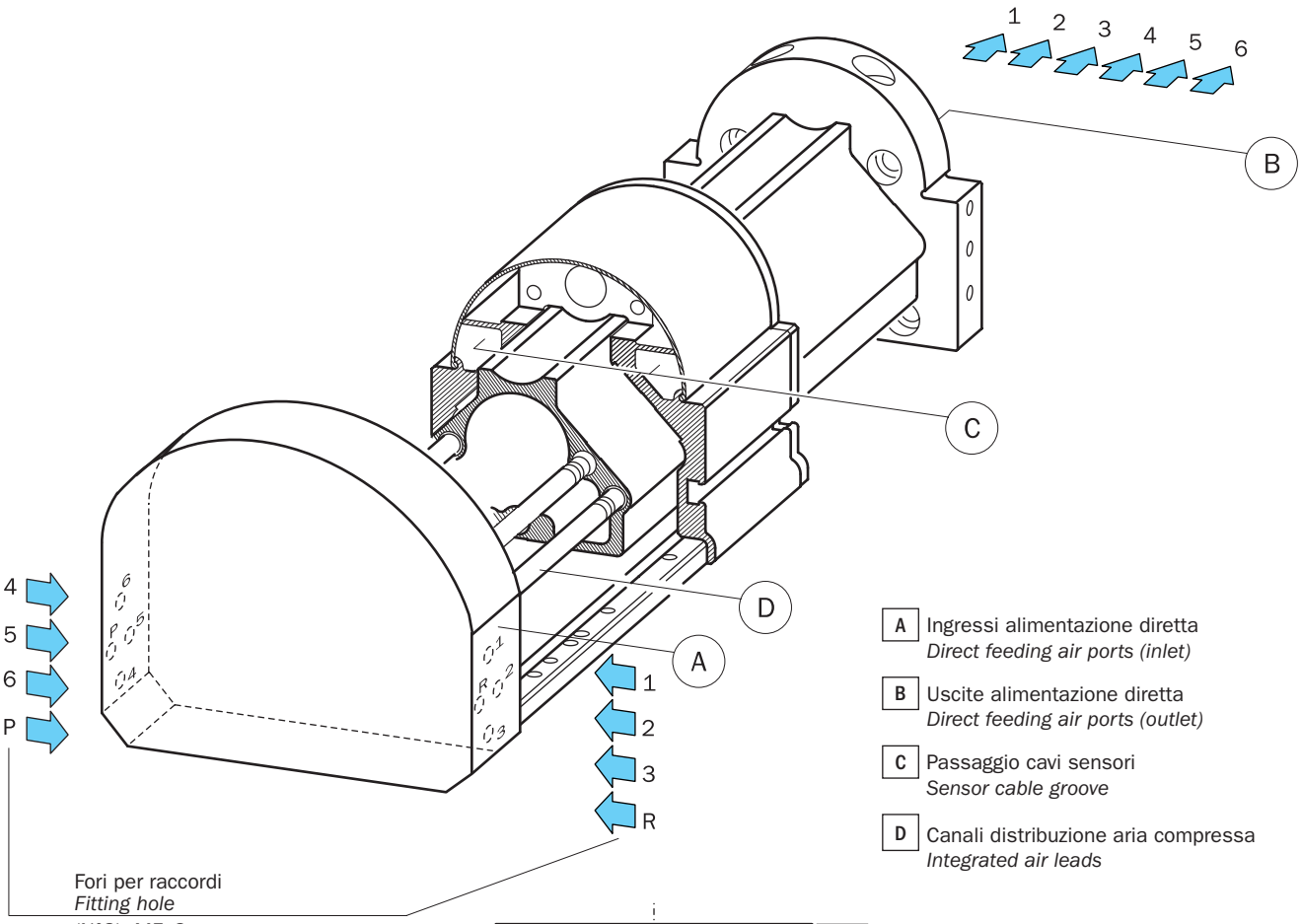


Connessione pneumatica

Il cilindro pneumatico che attua il movimento lineare è alimentato dai raccordi marchiati P ed R.
Aria in P: uscita della parte mobile (spinta).
Aria in R: rientro della parte mobile (trazione).
La presenza di sei canali integrati per la distribuzione dell'aria compressa, dalla parte fissa alla mobile, evita l'uso di tubazioni esterne.
I fori per l'alimentazione sono numerati da 1 a 6 e ad ogni ingresso corrisponde un'uscita con numero uguale.
La distribuzione integrata non è disponibile sulle versioni P25...E.

Compressed air feeding

The pneumatic cylinder that drives the linear movement is supplied by the air fittings P and R.
Compressed air in P: opening (pushing) stroke.
Compressed air in R: closing (pulling) stroke.
External hoses are not necessary, because of the six integrated air leads.
The air ports are numbered (1, 2, 3, 4, 5, 6) on both sides (inlet/outlet).
The P25...E versions are not provided with the integrated air leads.



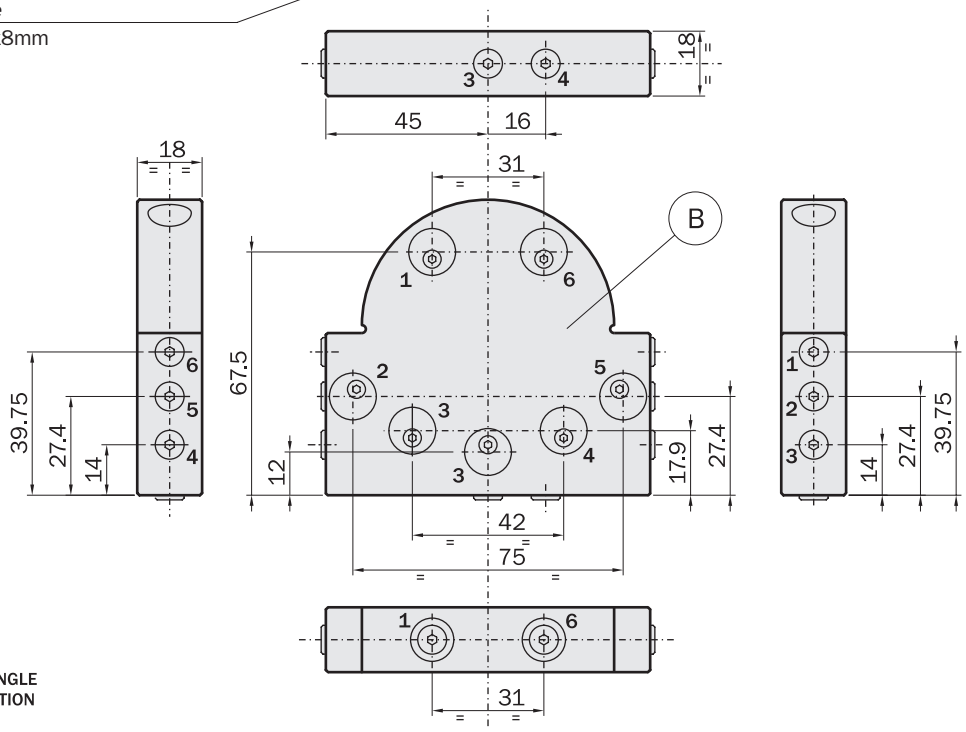
A Ingressi alimentazione diretta
Direct feeding air ports (inlet)

B Uscite alimentazione diretta
Direct feeding air ports (outlet)

C Passaggio cavi sensori
Sensor cable groove

D Canali distribuzione aria compressa
Integrated air leads

Fori per raccordi
Fitting hole
(N°8) M5x8mm



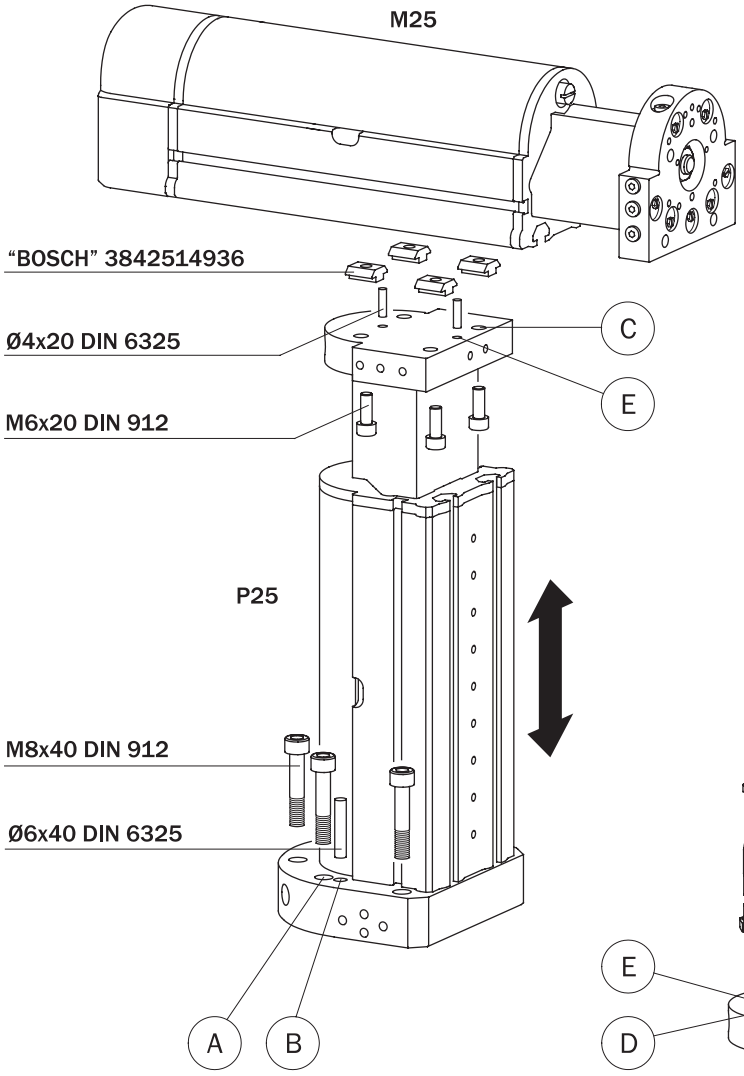
FIRST ANGLE PROJECTION

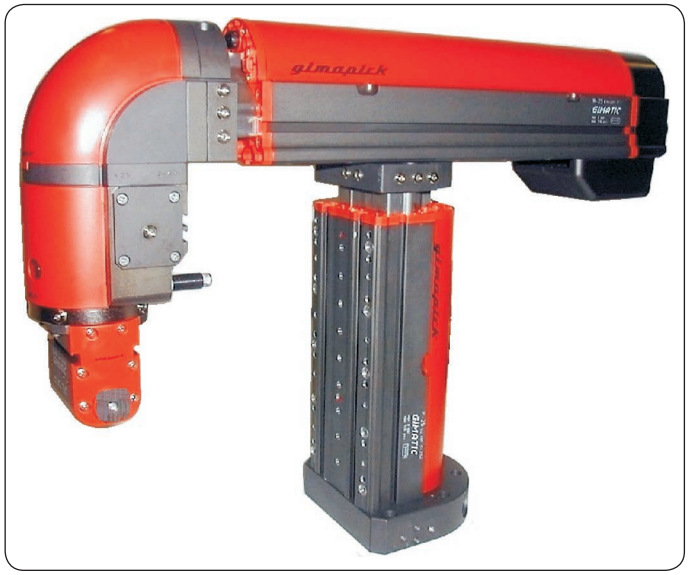
Fissaggio

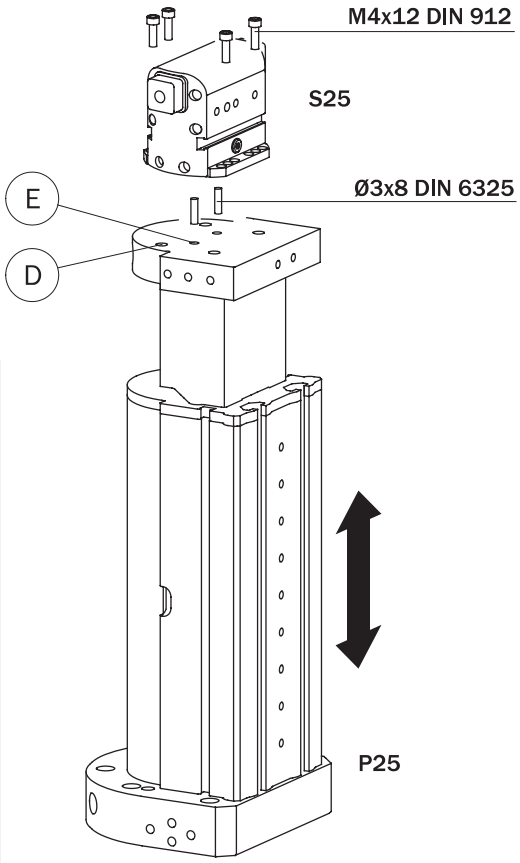
Per fissare il sollevatore utilizzare i 6 fori passanti (A) presenti nella base.
Per il posizionamento di precisione utilizzare i 2 fori spina (B).
Per montare degli accessori sulla parte frontale utilizzare i fori passanti (C), oppure i fori filettati (D).
I fori calibrati (E) servono come riferimento di posizione.

Fastening

To fasten the unit use six through holes (A) and two dowel pin holes (B).
To fasten accessories on the front plate use the through holes (C) or the threaded ones (D).
Use the dowel pin holes (E) for positioning.





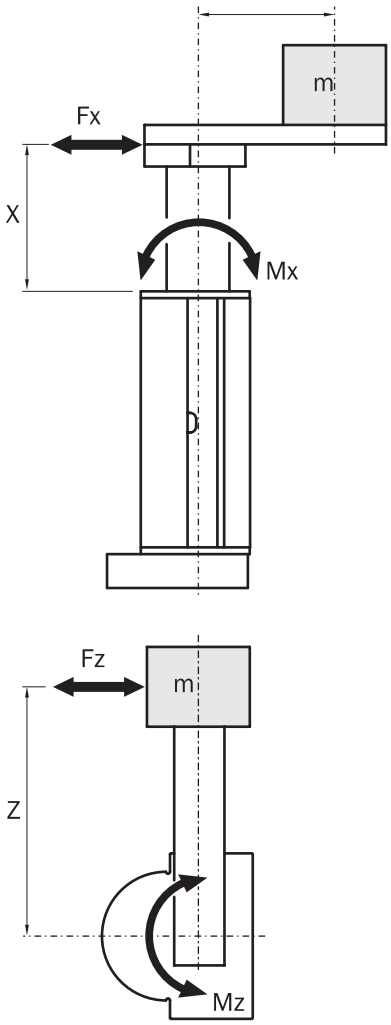


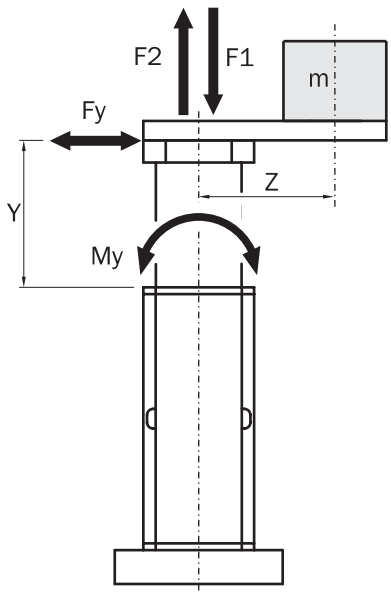
Carichi di sicurezza

Consultare la tabella dei carichi massimi ammissibili. Carichi eccessivi possono danneggiare il sollevatore lineare e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.

Safety loads

Check the table here below for max permitted loads. Excessive loads can damage the lift unit, cause functioning problems and endanger the safety of the operator.

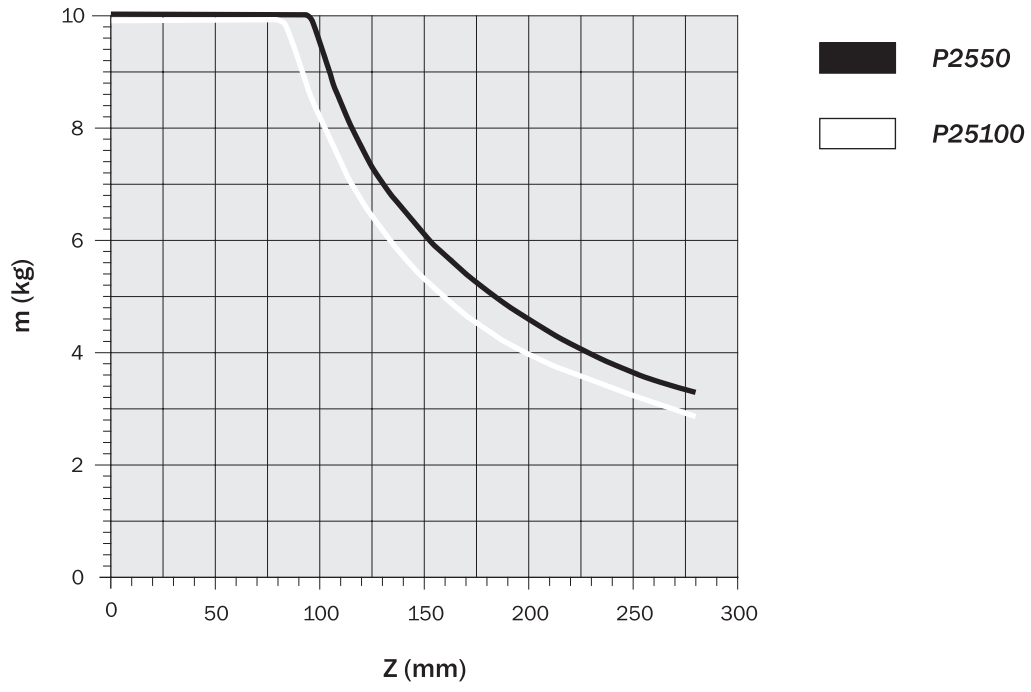




	P25
F1	172 N
F2	144 N
Fx · X = Mx	60 Nm
Fy · Y = My	80 Nm
Fz · Z = Mz	40 Nm

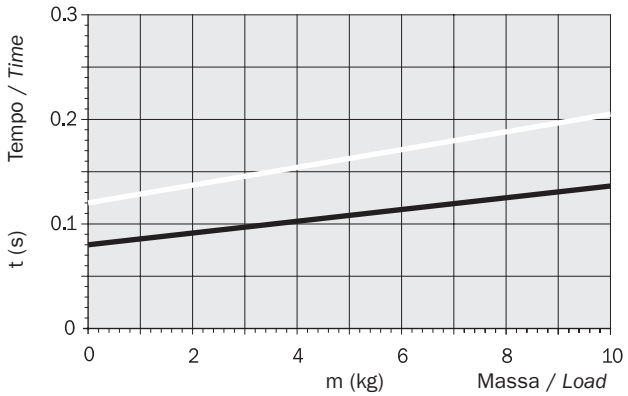
Carico trasportabile in funzione del disassamento Z del baricentro del carico.

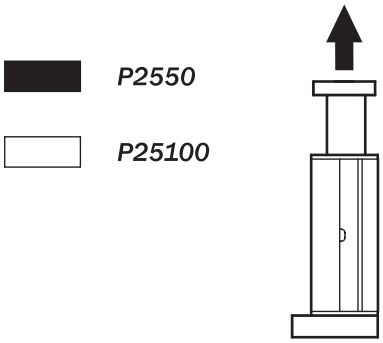
Possible load related to the overhanging Z.



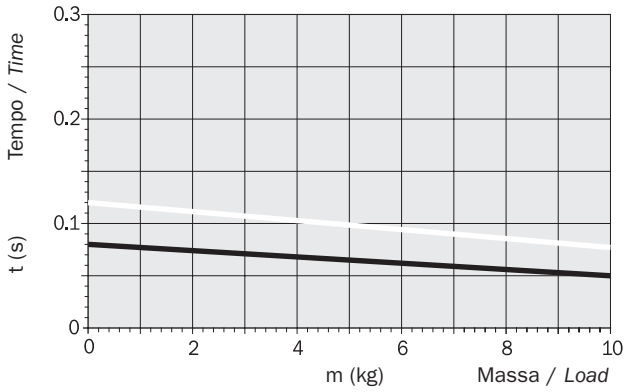
Tempo di traslazione / *Travel clock-time*

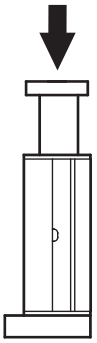
Tempo medio di traslazione verticale a 6 bar verso l'alto.
Medium time of vertical up travel at 6 bar.





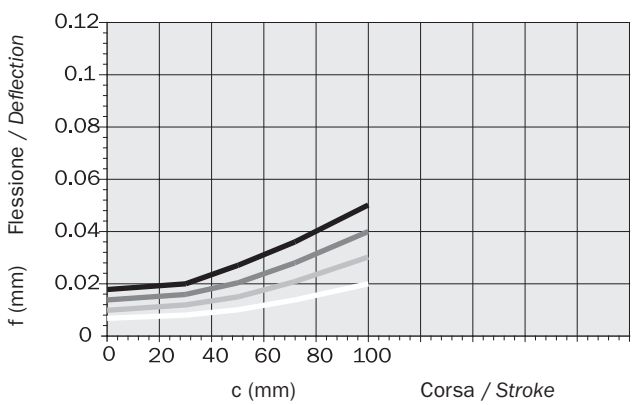
Tempo medio di traslazione verticale a 6 bar verso il basso.
Medium time of vertical down travel at 6 bar.

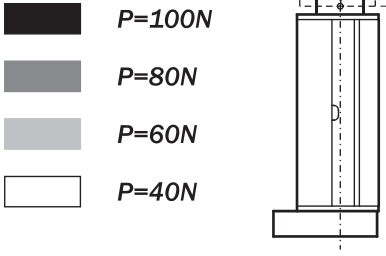


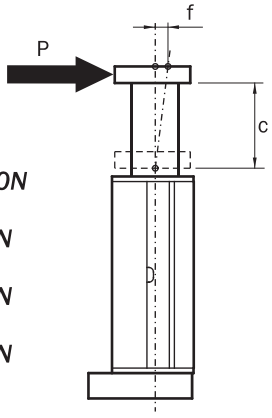


Flessione / *Deflection*

Flessione dell'attuatore lineare sotto carico.
Deflection of the linear unit under load.







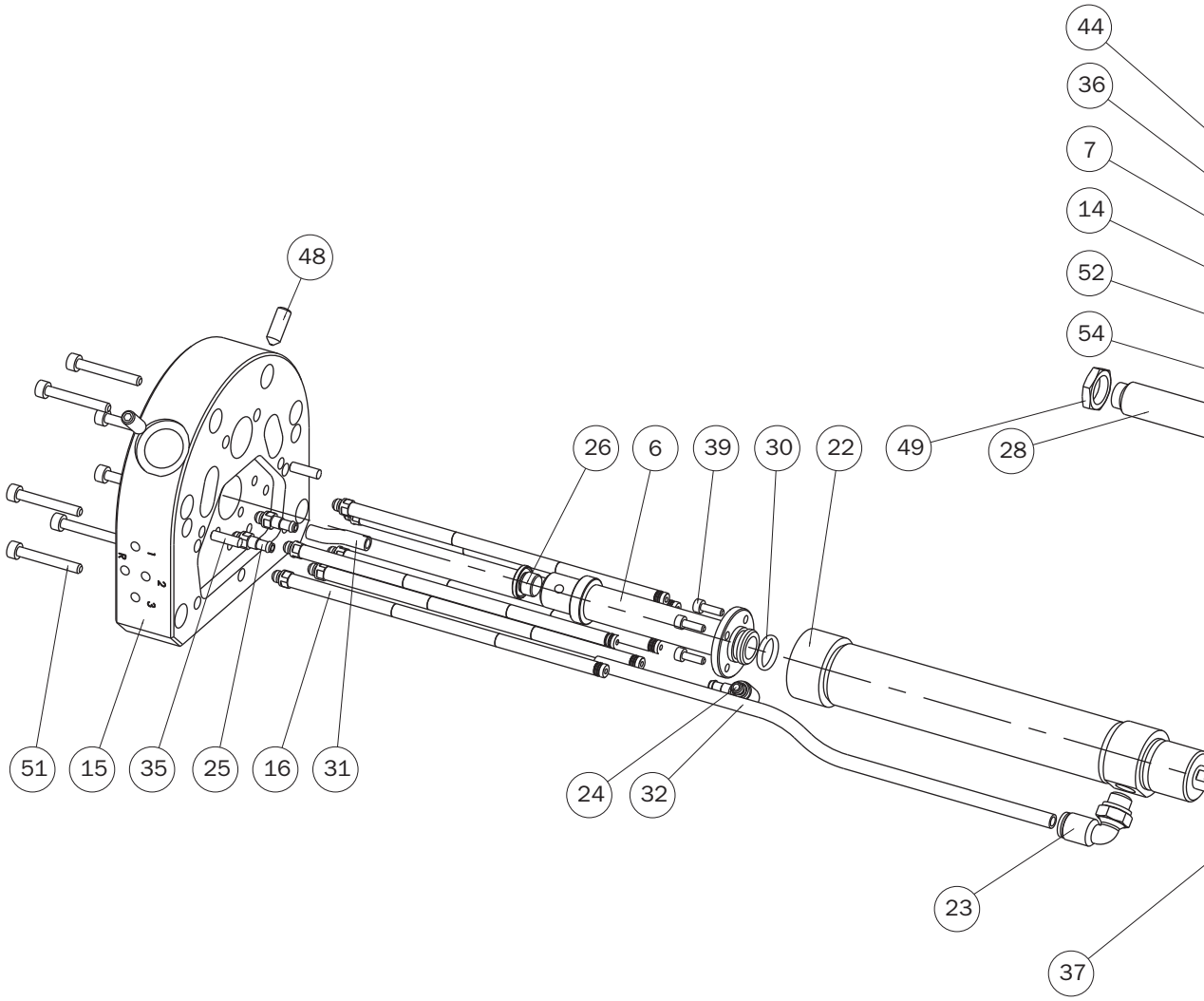
Elenco delle parti / *Part list*

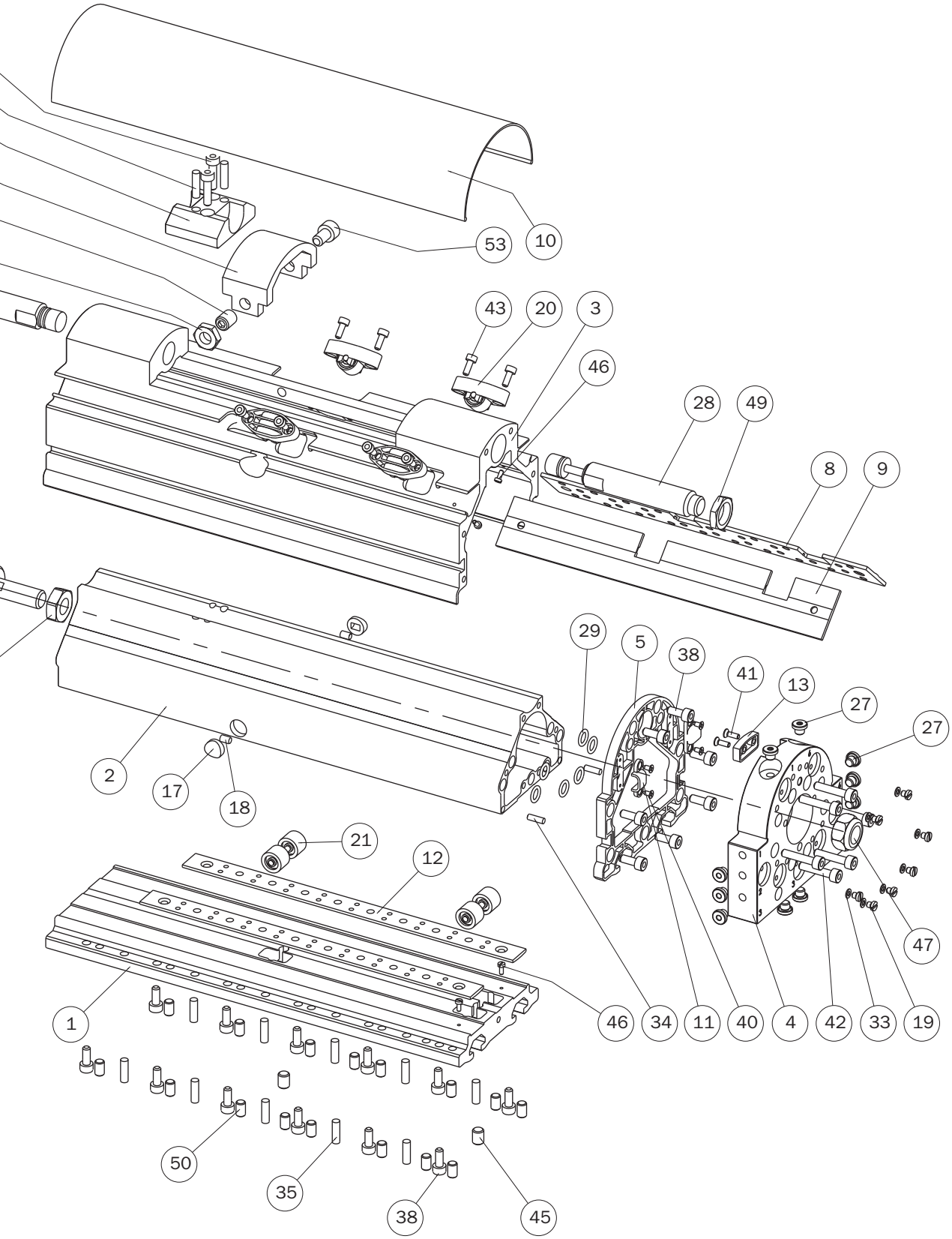
		P2550	P25100		
1	Piastra di base lavorata	M2550-1	M25100-1	*Base-Plate*	*1*
2	Estruso interno lavorato	M2550-2	M25100-2	*Internal extrusion*	*2*
3	Estruso esterno lavorato	M2550-3	M25100-3	*External extrusion*	*3*
4	Piastra di interfaccia	M2550-4		*Plate*	*4*
5	Profilo	M2550-5		*Seal profil*	*5*
6	Supporto cilindro	M2550-7		*Cylinder holder*	*6*
7	Blocchetto finecorsa	M2550-8		*End stroke block*	*7*
8	Pattino lavorato	M2550-10-D		*Machined sliding shoe*	*8*
9	Pattino lavorato	M2550-10-S		*Machined sliding shoe*	*9*
10	Copertura	M2550-11	M25100-11	*Closing plate*	*10*
11	Protezione	M2550-12		*Protection*	*11*
12	Pattino	M2550-14		*Sliding shoe*	*12*
13	Protezione	M2550-16		*Protection*	*13*
14	Ponte	-	M25400-16	*Bridge*	*14*
15	Piastra di base sollevatore	P2550-1		*Base-Plate*	*15*
16	Sottogruppo tubo	M2550-30	M25100-16	*Tube subassembly*	*16*
17	Inserto portamagnete	PE-1610-05		*Magnet housing*	*17*
18	Magnete	PAR-06-7		*Magnet*	*18*
19	Tappo M3	DT-205-01		*Plug M3*	*19*
20	Sottogruppo cuscinetto e supporto	C-217		*Bearing and support subassembly*	*20*
21	Sottogruppo cuscinetto doppio	C-218		*Sous-groupe roulement et support*	*21*
22	Cilindro pneumatico	SP50625-50	SP50625-100	*Pneumatic cylinder*	*22*
23	Raccordo	202203		*Fitting*	*23*
24	Raccordo M5 - Tubo Ø6	AR15-M5S		*Fitting*	*24*
25	Nipplo spinato M5	DT-186		*Fitting*	*25*
26	Tappo 1/8" Gas	107-G1-8		*Plug 1/8"*	*26*
27	Tappo M5	107-M5		*Plug M5*	*27*
28	Deceleratore idraulico M14x1.5	SPM25MC-1B-SP21365B		*Shock-absorber*	*28*
29	Anello di tenuta O-RING	1.78x6.07 (GUAR-039)		*O-RING gasket*	*29*
30	Anello di tenuta O-RING	1.78x12.42 (GUAR-047)		*O-RING gasket*	*30*

Elenco delle parti / *Part list*

		P2550	P25100		
31	Tubo	GUAR-059-28		*Hose*	*31*
32	Tubo	GUAR-059-175	GUAR-059-225	*Hose*	*32*
33	Rondella	GUAR-067		*Washer*	*33*
34	Spina di riferimento	Ø3x10 mm DIN 6325 (SPINA-006)		*Dowel pin*	*34*
35	Spina di riferimento	Ø4x14 mm DIN 6325 (SPINA-019)		*Dowel pin*	*35*
36	Spina di riferimento	Ø4x16 mm DIN 6325 (SPINA-014)		*Dowel pin*	*36*
37	Dado esagonale	M10x1.25 mm DIN 439B Z/B (VITE-200)		*Blocking nut*	*37*
38	Vite	M4x10 mm DIN 912 INOX A2 (VITE-020)		*Screw*	*38*
39	Vite	M3x10 mm DIN 912 INOX A2 (VITE-016)		*Screw*	*39*
40	Vite	2.2x5.5 mm DIN 7982 NICH (VITE-103)		*Screw*	*40*
41	Vite	M2.5x8 mm DIN 965A INOX A2 (VITE-060)		*Screw*	*41*
42	Vite	M4x20 mm DIN 912 INOX A2 (VITE-111)		*Screw*	*42*
43	Vite	M3x8 mm DIN 912 INOX A2 (VITE-031)		*Screw*	*43*
44	Vite	M4x16 mm DIN 912 INOX A2 (VITE-061)		*Screw*	*44*
45	Vite senza testa	M6x8 mm DIN 913 INOX A2 (VITE-113)		*Grub screw*	*45*
46	Vite	2x5 mm DIN 84A INOX A2 (VITE-056)		*Screw*	*46*
47	Dado esagonale	M10x1.25 DIN 985 Z/B (VITE-124)		*Blocking nut*	*47*
48	Vite senza testa	M6x16 mm DIN 914 (VITE-106)		*Grub screw*	*48*
49	Dado esagonale	M14x1.5 (VITE-196)		*Blocking nut*	*49*
50	Vite senza testa	M5x8 mm DIN 913 Z/B (VITE-215)		*Grub screw*	*50*
51	Vite	M4x30 mm DIN 912 INOX A2 (VITE-121)		*Screw*	*51*
52	Vite senza testa	-	M8x12 mm DIN 914 INOX A2 (VITE-132)	*Grub screw*	*52*
53	Vite	-	M6x10 mm DIN 912 INOX A2 (VITE-135)	*Screw*	*53*
54	Dado esagonale	-	M8 DIN 439B INOX A2 (VITE-133)	*Blocking nut*	*54*

Vista esplosa / ***Exploded view***



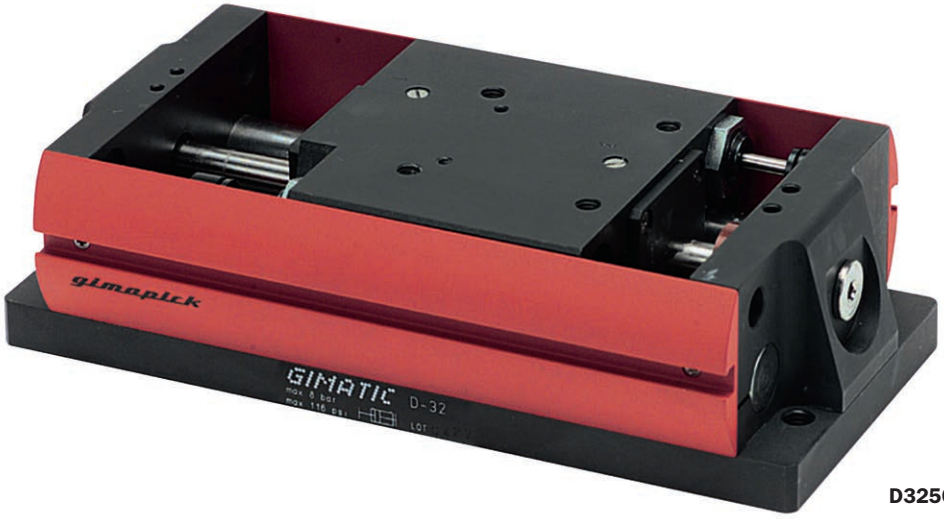

53
10
43
20
3
46
28
49
8
9
29
5
38
41
13
27
27
2
17
18
21
12
47
1
46
34
11
40
4
42
33
19
50
35
38
45

Slitte pneumatiche (serie D32)

- Integrabile con gli altri elementi del Gimapick.
- Alesaggio 32mm.
- Corsa 50mm e 100mm.
- Assenza di gioco.
- Elevata rigidità.
- Deceleratori idraulici.
- Sensori magnetici opzionali.

Pneumatic slides (series D32)

- *Modular with other elements of the Gimapick system.*
- *Bore 32mm.*
- *Stroke 50mm and 100mm.*
- *No backlash.*
- *High stiffness.*
- *Hydraulic shock-absorbers.*
- *Optional magnetic sensors.*

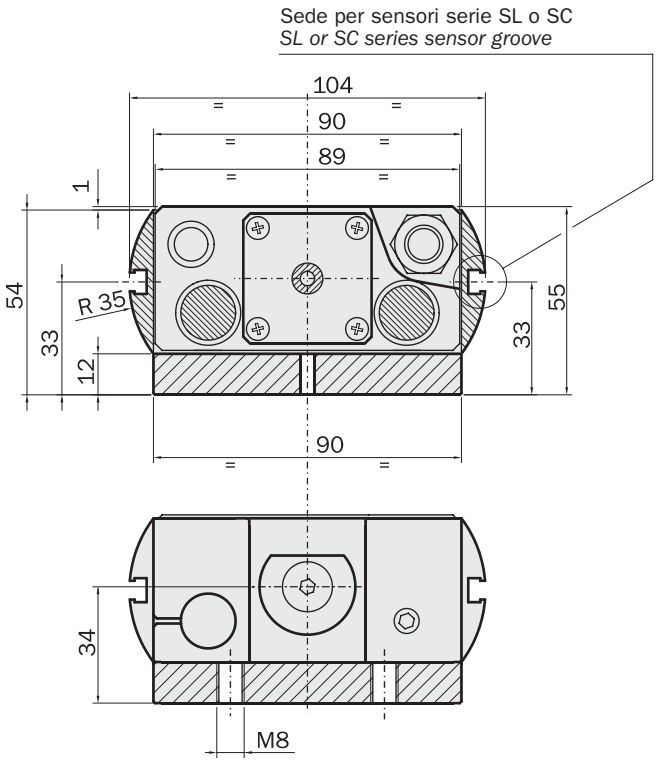


D3250

	D3250		D32100	
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*			
Pressione di esercizio *Operating pressure range*	2 ÷ 8 bar			
Temperatura di esercizio *Operating temperature range*	5° ÷ 60°C.			
Corsa max *Maximum stroke*	0 ÷ 50 mm		50 ÷ 100 mm	
Registrabilità max in apertura *Maximum opening adjustment*	25 mm			
Registrabilità max in chiusura *Maximum closing adjustment*	25 mm			
Forza di spinta e di trazione *Thrust and return force*	133 N (2 bar)	266 N (4 bar)	400 N (6 bar)	533 N (8 bar)
Ripetibilità *Repetition accuracy*	0.02 mm			
Consumo d'aria per ciclo *Cycle air consumption*	89 cm^3		163 cm^3	
Peso *Weight*	2.3 kg		3.3 kg	

Dimensioni (mm) / *Dimensions (mm)*

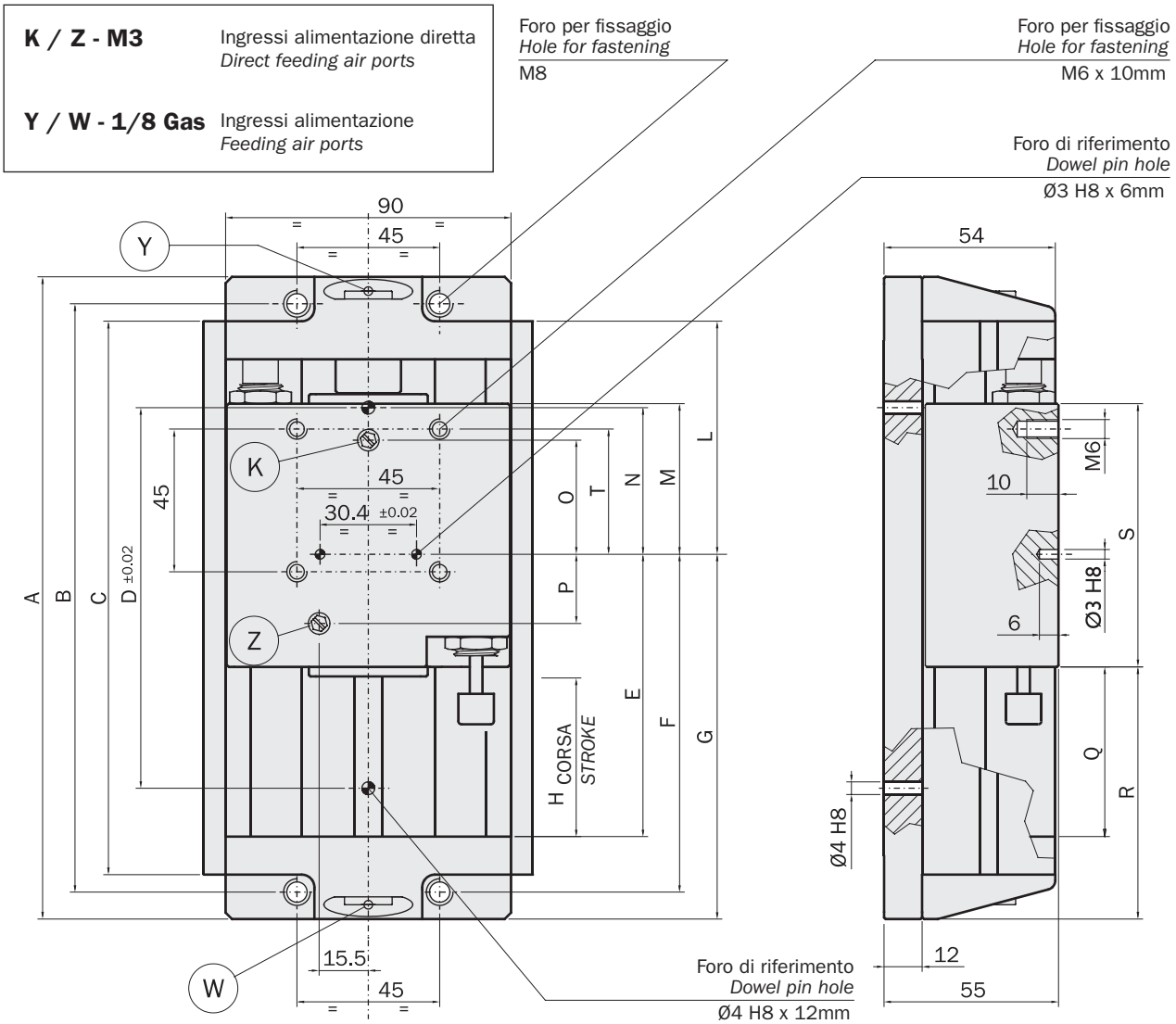
FIRST ANGLE PROJECTION



	D3250	D32100
A	202.5	302.5
B	185.5	285.5
C	174.5	274.5
D	120	120
E	89	189.5
F	106.5	207
G	115	215.5
H	50	100
L	73.5	73
M	47.5	47
N	46.25	45.75
O	36	34.5
P	21.8	20.5
Q	53.5	103.5
R	79.5	129.5
S	83	133
T	39.5	39.5

K / Z - M3 Ingressi alimentazione diretta
Direct feeding air ports

Y / W - 1/8 Gas Ingressi alimentazione
Feeding air ports



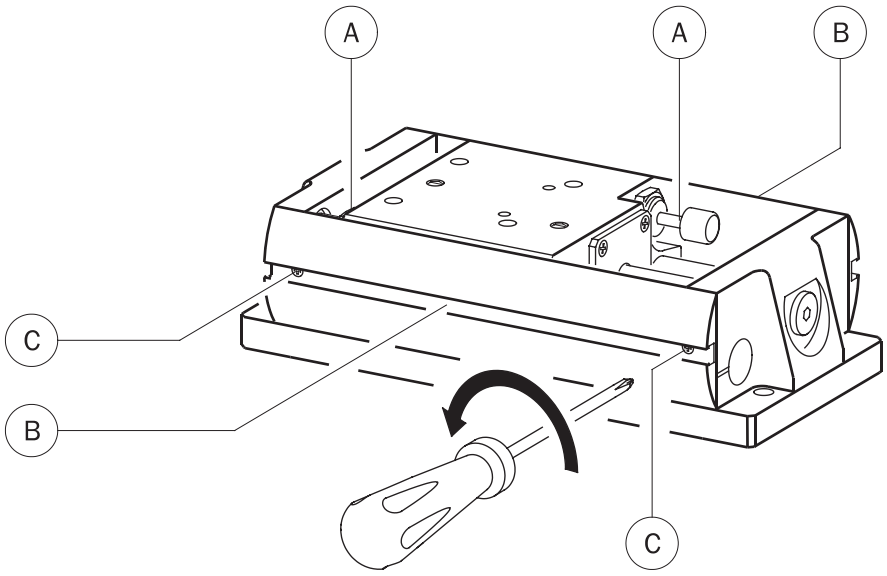
ATTUATORI LINEARI
LINEAR ACTUATORS

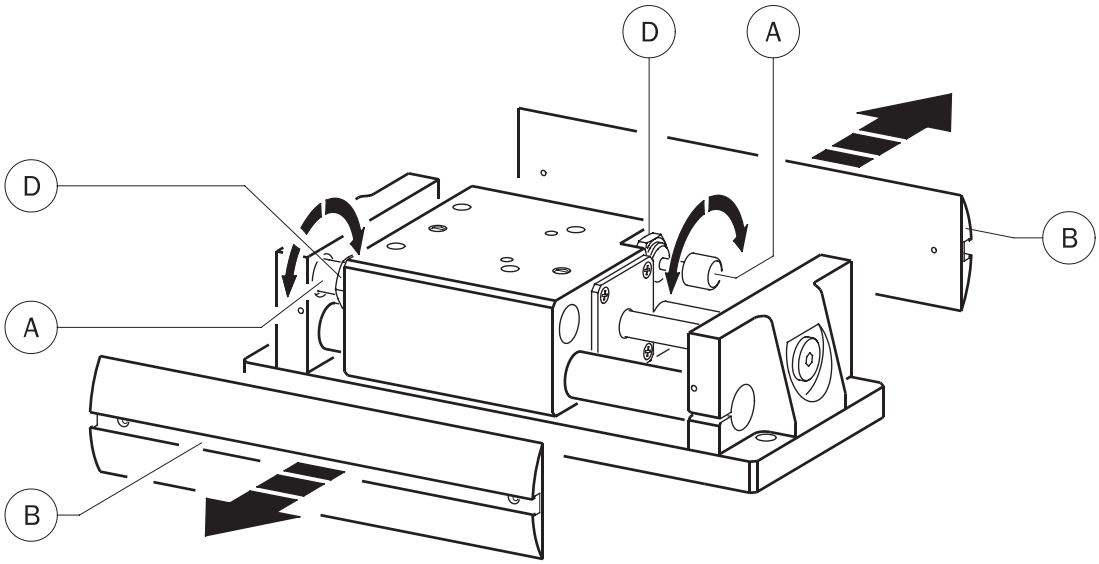
Regolazione corsa

La corsa della slitta D32 può essere regolata in entrambi i sensi variando la posizione dei 2 deceleratori idraulici (A) che hanno anche la funzione di battuta meccanica.
Per accedere alla zona registri è necessario togliere i profili (B) svitando le viti (C).
Per effettuare correttamente la regolazione bisogna allentare il dado (D), registrare il deceleratore (A) quindi, raggiunta la posizione desiderata, bloccare nuovamente il dado.

Stroke adjustment

The slide stroke can be adjusted on both directions, by changing the position of the two hydraulic shock-absorbers (A), which also function as mechanical stops.
To access the adjustment area, remove the seal profiles (B) by unscrewing the screws (C).
To change the position of the shock-absorber you must loosen the nut (D), then adjust the shock-absorber (A) by a screwdriver and tighten the nut again.



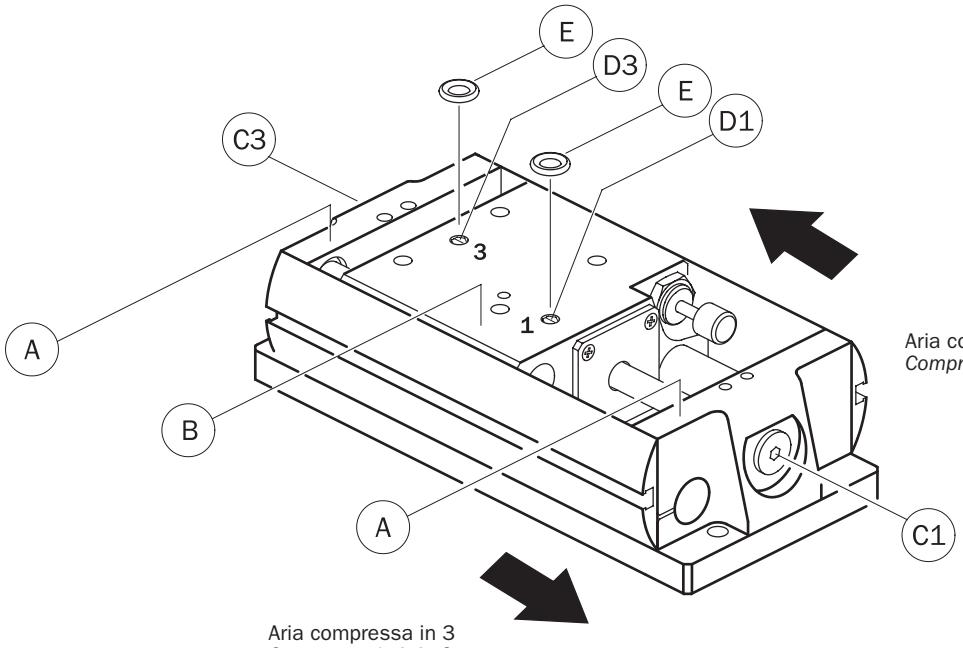


Connessione pneumatica

La slitta D32 può essere alimentata:
- dai supporti (A), togliendo i tappi (C) usando raccordi G1/8 e tubi;
- dal corpo (B), in caso di alimentazione diretta da un altro componente Gimapick, togliendo i tappi M3 (D), ed inserendo adeguate guarnizioni di tenuta o-ring (E) (GUAR-060) (comprese nella fornitura).
  In questo caso non servono raccordi e tubi.

Compressed air feeding

The air feeding of the slide D32 can be achieved:
- *from the supports (A), after removing the plugs (C), using G1/8 fittings and hoses;*
- *from the housing (B), if a direct feeding from a Gimapick component is needed, after removing the M3 plugs (D), using the supplied o-ring gaskets (E) (GUAR-060).*
  Fittings and hoses are not necessary in this case.



Circuito pneumatico

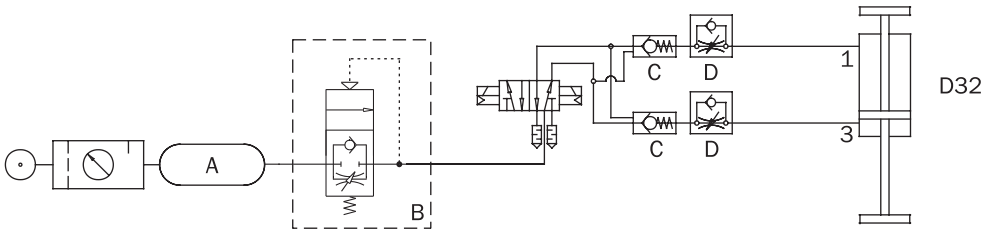
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento slitta all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Fissaggio

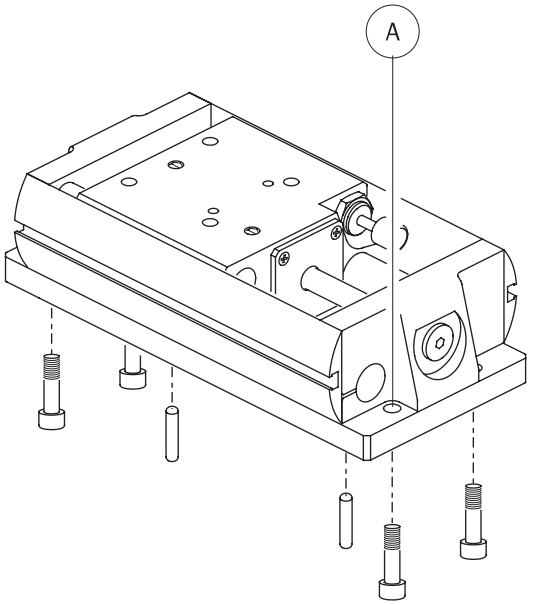
La slitta può essere usata:

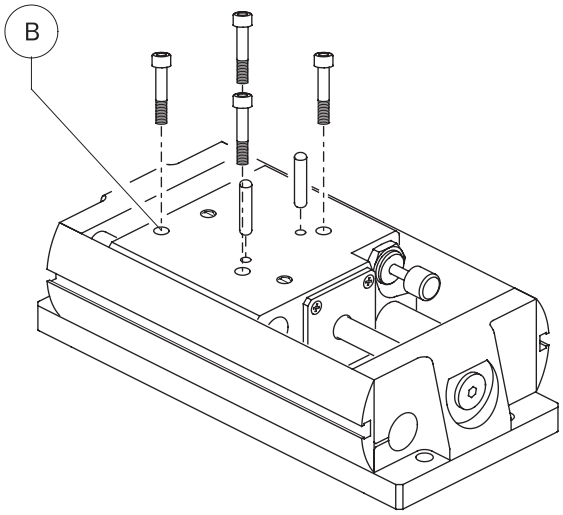
- con piastra di base fissa e corpo mobile utilizzando i 4 fori filettati M8 (A) e 2 fori di riferimento Ø4 H8.
- con corpo fisso e piastra di base mobile utilizzando i 4 fori filettati M6 (B) e 2 fori di riferimento Ø3 H8.

Fastening

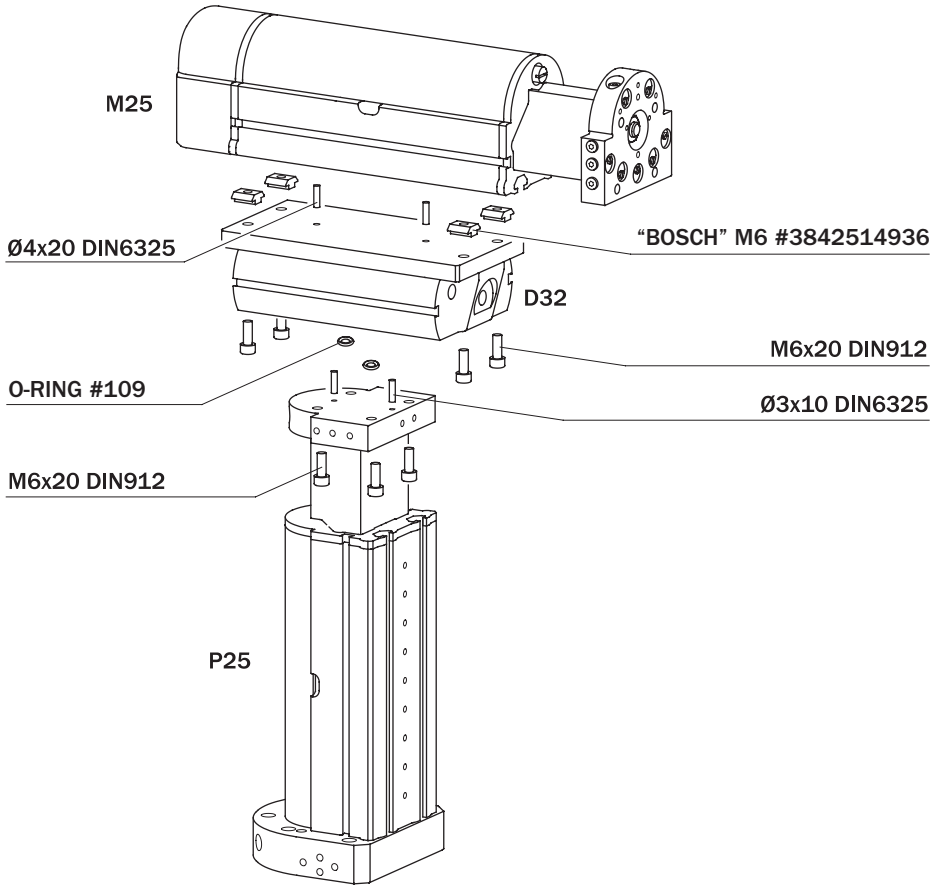
The slide can be used:

- *with fixed base plate and moving housing, using the 4 threaded holes M8 (A) and the 2 dowel pin holes Ø4 H8.*
- *with fixed housing and moving base plate, using the 4 threaded holes M6 (B) and the 2 dowel pin holes Ø3 H8.*





Esempio di applicazione/ *Application example*

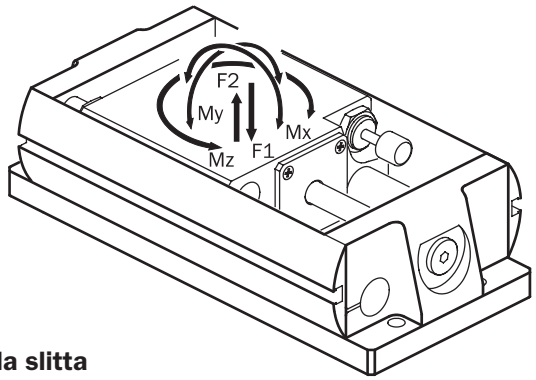


Carichi di sicurezza

Consultare la tabella dei carichi massimi ammissibili.
Indipendentemente dal fatto che la slitta venga usata con la piastra fissa o con il corpo fisso:
F1 è la forza di compressione ammissibile;
F2 è la forza di trazione ammissibile;
Mx, My e Mz sono i momenti ammissibili;
m è la massa trasportabile.

Safety loads

Check the table here below, excessive load can damage the linear slide. The value of load is valid with fixed plate and fixed body as well.
F1 is the max permitted compressive force.
F2 is the max permitted tractive force.
Mx, My and Mz are the max permitted moments.
m is the maximum trasportable mass.

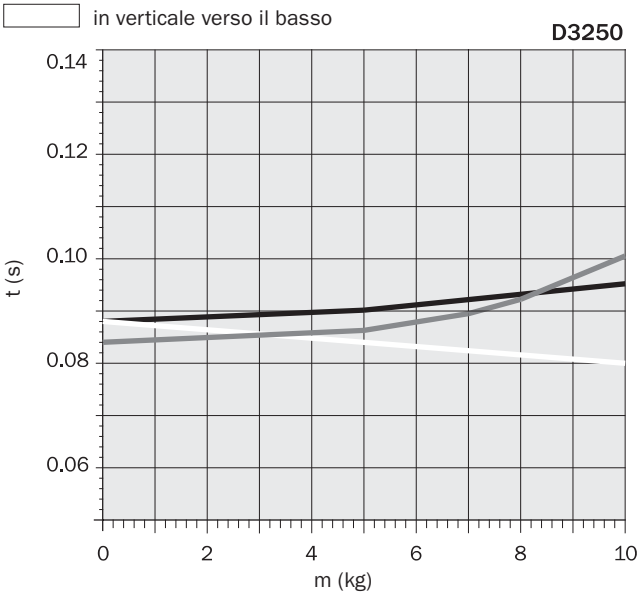


	D3250	D32100
F1	160 N	180 N
F2	100 N	120 N
Mx	60 Nm	80 Nm
My	60 Nm	80 Nm
Mz	60 Nm	80 Nm
m	12 kg	12 kg

Velocità della slitta

Il grafico riporta il tempo di traslazione t in funzione del carico trasportato m e della direzione di movimento:

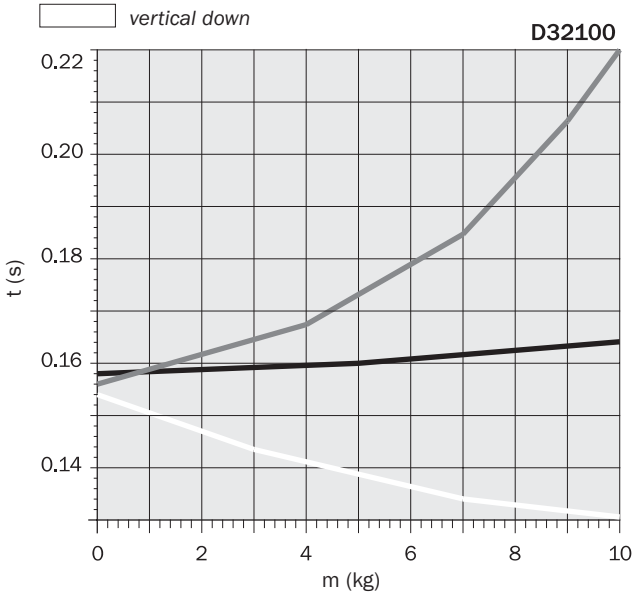
in orizzontale
in verticale verso l'alto
in verticale verso il basso



Velocity of the slide

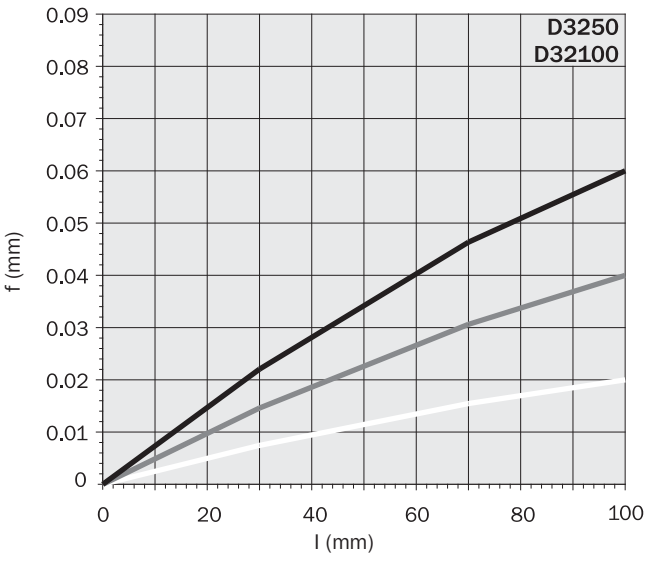
On the graph t is the translation time related to the mass m and to the direction of the movement:

horizontal
vertical up
vertical down



Flessione della slitta

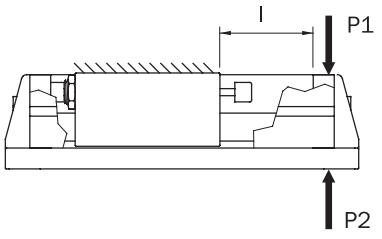
Il grafico riporta la flessione f della slitta quando è sollecitata dalle forze P1 o P2 in funzione del braccio l.



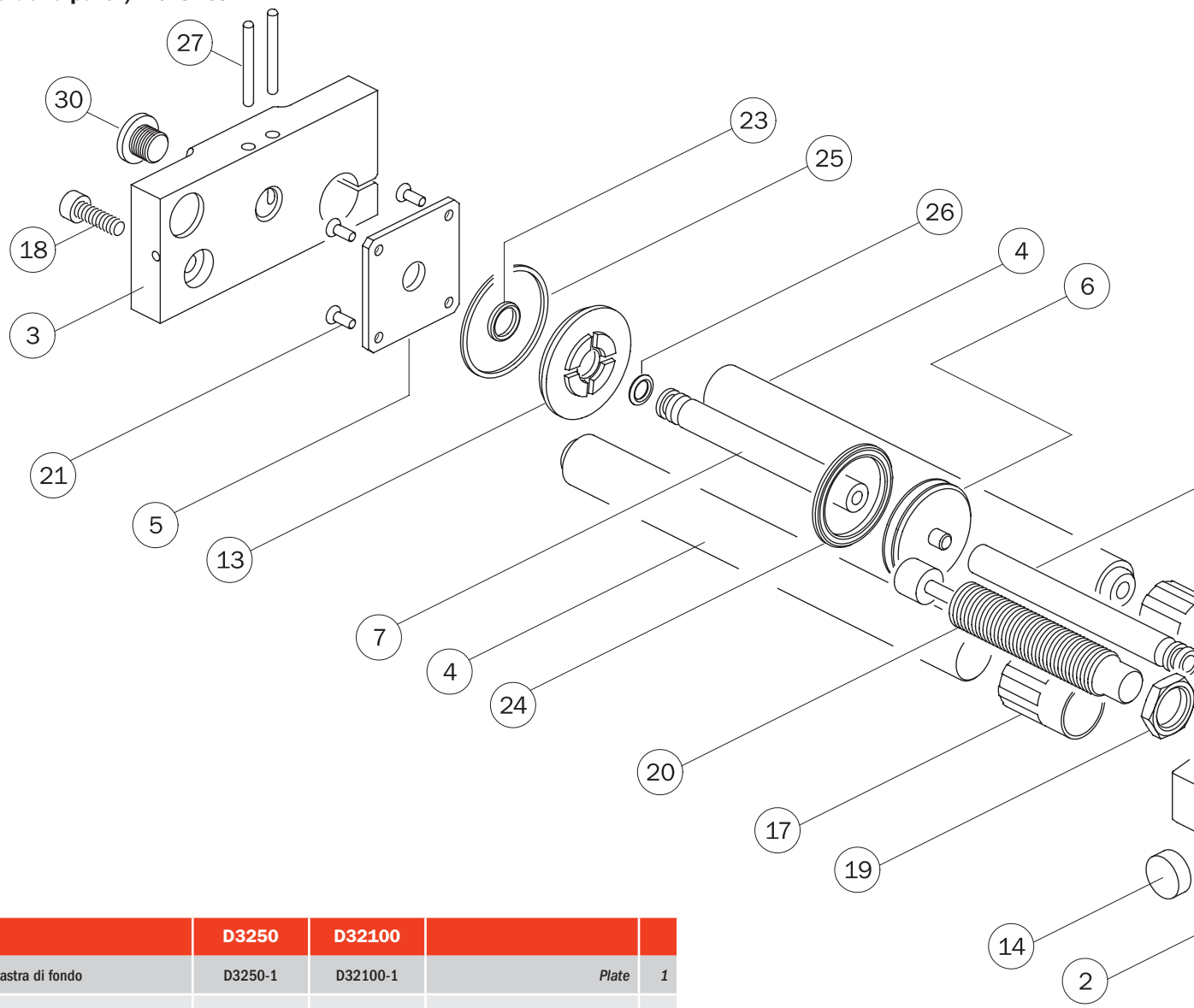
Deflection of the slide

On the graph f is the deflection of the slide under force P1 or P2 as a function of stroke l.

150 N
100 N
50 N

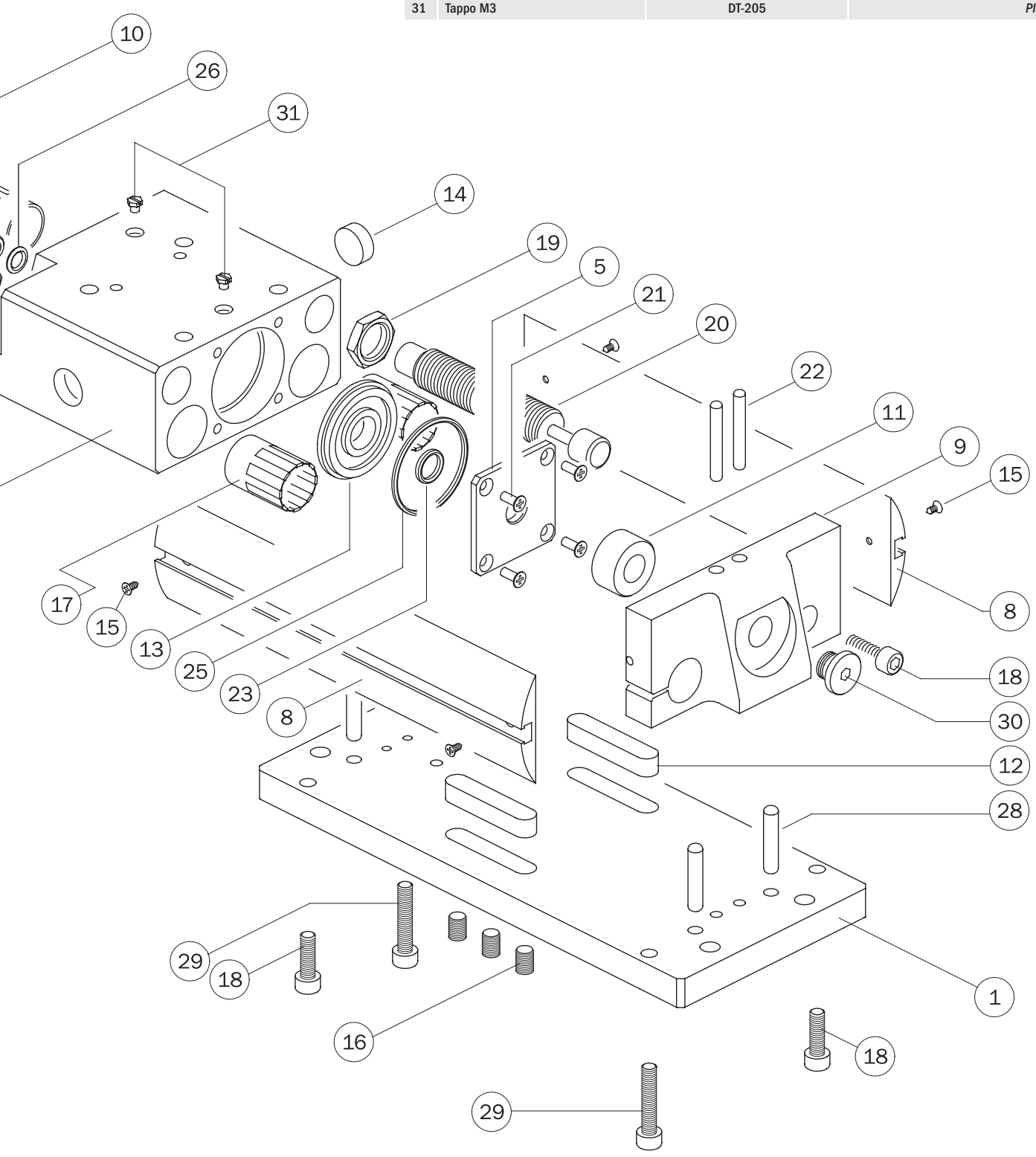


Elenco delle parti / *Part list*



		D3250	D32100		
1	Piastra di fondo	D3250-1	D32100-1	*Plate*	*1*
2	Corpo slitta	D3250-2	D32100-2	*Slide Housing*	*2*
3	Supporto colonne	D3250-3		*Guide rod support*	*3*
4	Colonna	D3250-4	D32100-4	*Guide rod*	*4*
5	Coperchio	D3250-5		*Cover*	*5*
6	Pistone	D3250-6		*Piston*	*6*
7	Stelo	D3250-7	D32100-7	*Piston rod*	*7*
8	Profilo	D3250-8	D32100-8	*Seal profile*	*8*
9	Supporto colonne	D3250-9		*Guide rod support*	*9*
10	Stelo	D3250-10	D32100-10	*Piston rod*	*10*
11	Distanziale	D3250-11		*Spacer*	*11*
12	Pattino	D3250-12		*Sliding shoe*	*12*
13	Flangia	D3250-13		*Flange*	*13*
14	Magnete	PE-1680-07		*Magnet*	*14*
15	Vite autofilettante	2.2x5.5mm DIN 7982		*Screw*	*15*
16	Vite senza testa	M6x5 mm DIN 913 INOX A2		*Grub screw*	*16*
17	Boccola autolubrificante	WLM-1618-26		*Bushing*	*17*
18	Vite	M5x16 mm DIN 912 INOX A2		*Screw*	*18*
19	Dado esagonale	DEK196		*Blocking nut*	*19*

		D3250	D32100		
20	Deceleratore idraulico M14x1.5	SPM25MC-1B-SP21365B		*Shock-absorber*	*20*
21	Vite	M3x8 mm DIN 965A INOX A2		*Screw*	*21*
22	Spina di riferimento	Ø4x25 mm DIN 6325		*Dowel pin*	*22*
23	Anello di tenuta O-RING	Ø1.78x8.73 (GUAR-013)		*O-RING gasket*	*23*
24	Guarnizione	32x23x3 (GUAR-004)		*Gasket*	*24*
25	Anello di tenuta O-RING	Ø1.78x31.47 (GUAR-009)		*O-RING gasket*	*25*
26	Anello di tenuta O-RING	Ø1.78x6.07 (GUAR-039)		*O-RING gasket*	*26*
27	Spina di riferimento	Ø3x24 mm DIN 6325		*Dowel pin*	*27*
28	Spina di riferimento	Ø5x20 mm DIN 6325		*Dowel pin*	*28*
29	Vite	M5x30 mm DIN 912 INOX A2		*Screw*	*29*
30	Tappo 1/8	107-1/8		*Plug*	*30*
31	Tappo M3	DT-205		*Plug*	*31*

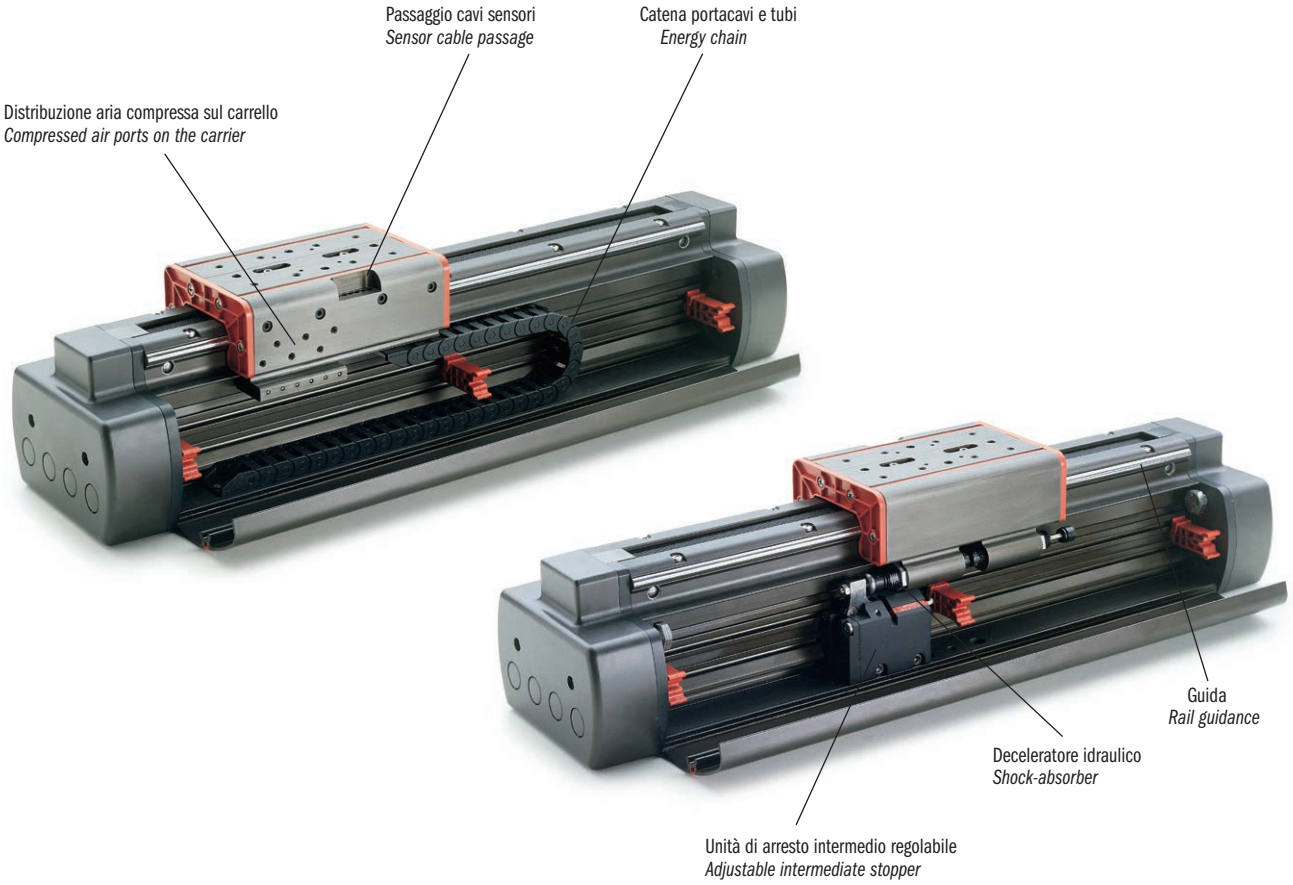


Unità pneumatica di traslazione lineare

- Struttura rigida e robusta.
- Fino a 30kg trasportabili sul carrello.
- Guida su cuscinetti a ricircolo di sfere.
- Sistema esclusivo di trasmissione a cinghia.
- Deceleratori idraulici sul carrello.
- Deceleratori supplementari opzionali.
- Possibilità di un secondo carrello.
- Possibilità di arresti intermedi.
- Possibilità di alloggiare internamente una catena portacavi.
- Sensori magnetici opzionali.
- Interfacciabile con il sistema Gimapick.

Pneumatic linear slide

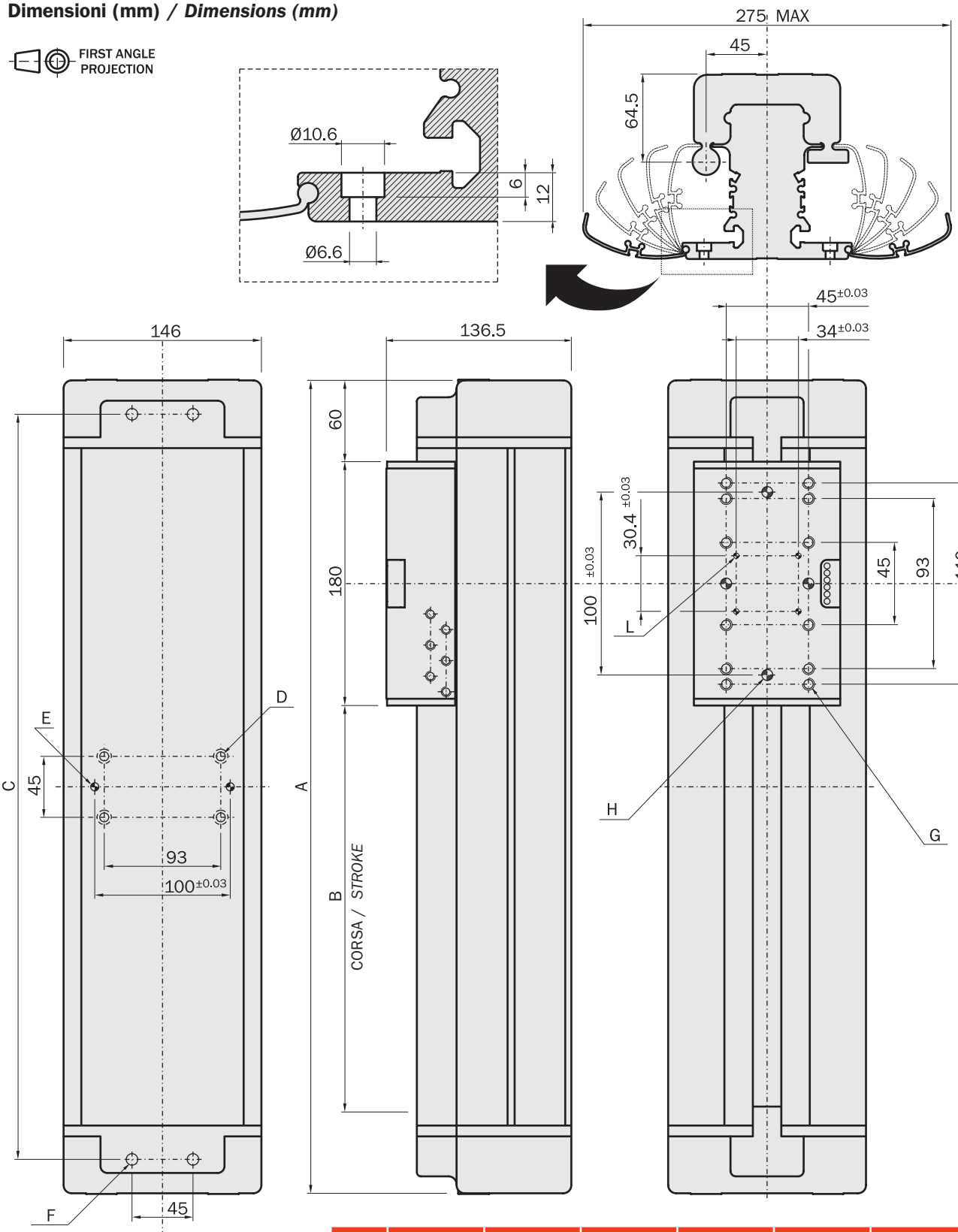
- *High stiffness and deflection resistance.*
- *Up to 30kg on the carrier.*
- *Guidance with recirculating ball-bearings.*
- *Exclusive belt drive system.*
- *Hydraulic shock-absorbers on the carrier.*
- *Optional additional shock-absorbers.*
- *Optional second carrier.*
- *Optional intermediate stoppers.*
- *Optional internal energy chain.*
- *Optional magnetic sensors.*
- *Compatible with Gimapick system.*



	L40-0300	L40-0500	L40-0800	L40-1000	L40-1500	L40-2000
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Forza a 6 bar *Force at 6 bar*	350 N					
Corsa *Stroke*	300 mm	500 mm	800 mm	1000 mm	1500 mm	2000 mm
Consumo d'aria per ciclo *Cycle air consumption*	435 cm^3	686 cm^3	1063 cm^3	1314 cm^3	1943 cm^3	2571 cm^3
Ripetibilità *Repetition accuracy*	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Peso *Weight*	10.4 kg	13.2 kg	17 kg	19.8 kg	26.6 kg	33.4 kg

Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION



	L40-0300	L40-0500	L40-0800	L40-1000	L40-1500	L40-2000
A	600	800	1100	1300	1800	2300
B	300	500	800	1000	1500	2000
C	550	750	1050	1250	1750	2250
D	N°4 Fori / Holes Ø6.6					
E	N°2 Fori / Holes Ø6 H8 x 12mm					
F	N°4 Fori / Holes Ø9					
G	N°12 Fori / Holes M6x10mm					
H	N°4 Fori / Holes Ø6 H8 x 12mm					
L	N°4 Fori / Holes Ø3 H8 x 8mm					

Regolazione della corsa

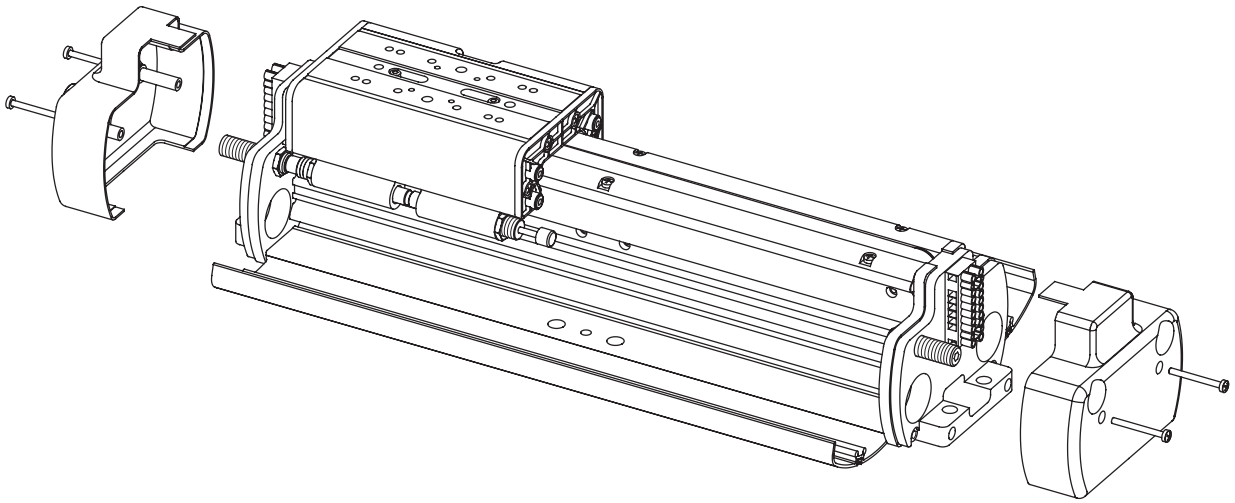
La corsa può essere limitata di:

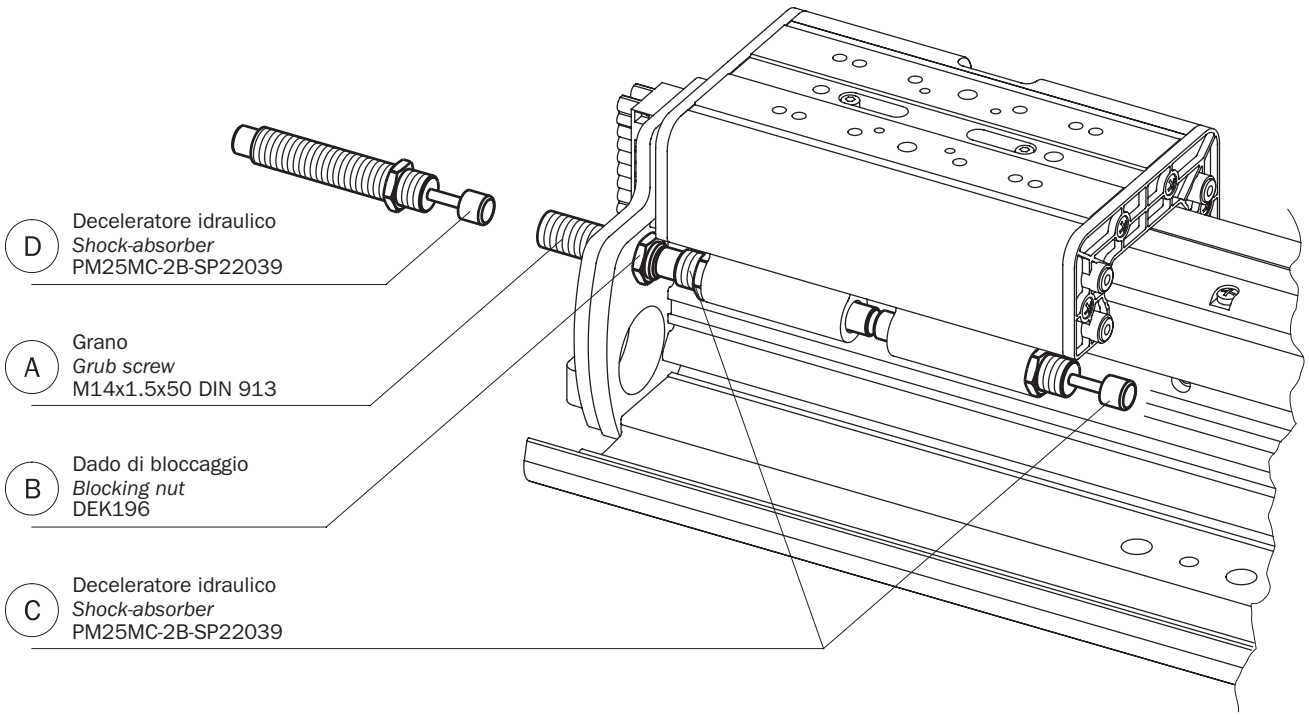
- 50mm variando la posizione dei due deceleratori idraulici (C) posti sul carrello;
- 50mm variando la posizione dei due finecorsa standard (i grani A) posti nelle due spalle;
- 80mm variando la posizione dei due finecorsa opzionali (i deceleratori D).

Stroke adjustment

The stroke can be reduced by:

- *50mm changing the position of the shock-absorbers (C) on the carrier;*
- *50mm changing the position of the standard end-stroke grub screws (A) on the end side plates;*
- *80mm changing the position of the optional shock-absorbers (D) on the end side plates.*

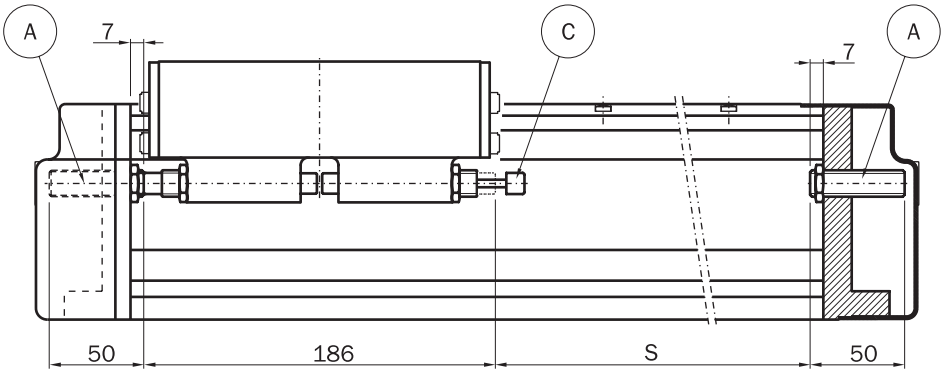




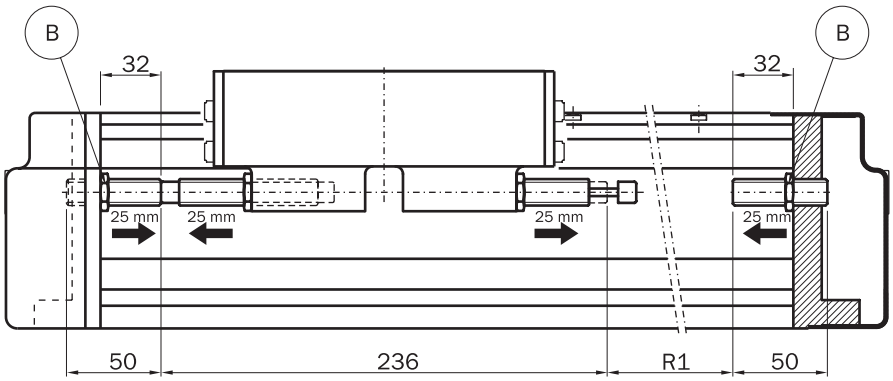
Regolazione della corsa / *Stroke adjustment*

CORSA STANDARD / *STANDARD STROKE*

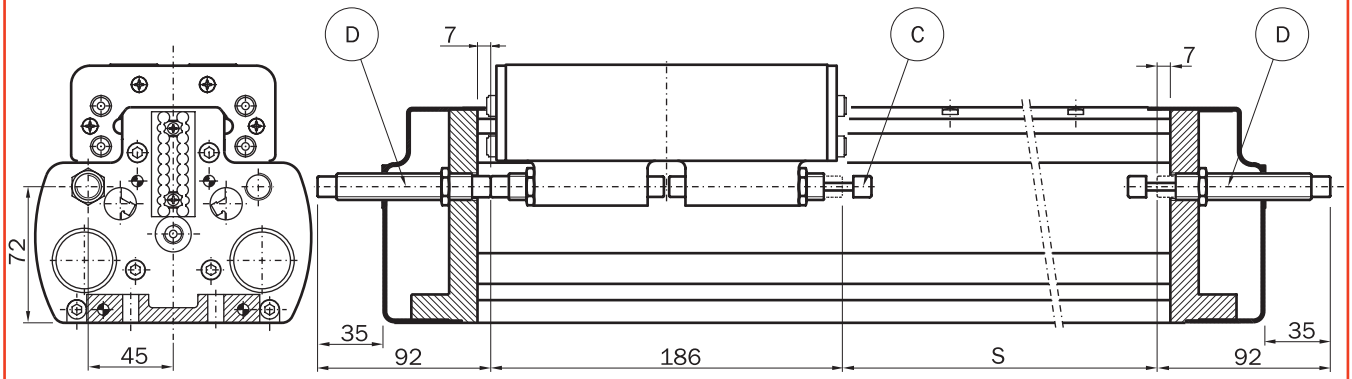
	S	R1
L40-0300	300	200
L40-0500	500	400
L40-0800	800	700
L40-1000	1000	900
L40-1500	1500	1400
L40-2000	2000	1900



CORSA RIDOTTA / *REDUCED STROKE*

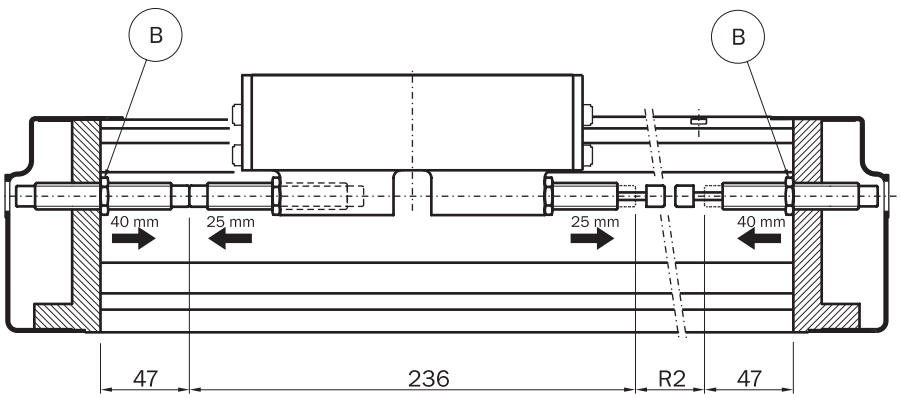


CORSA STANDARD CON DECELERATORI OPZIONALI / *STANDARD STROKE WITH OPTIONAL SHOCK-ABSORBERS*



CORSA RIDOTTA CON DECELERATORI OPZIONALI / *REDUCED STROKE WITH OPTIONAL SHOCK-ABSORBERS*

	S	R2
L40-0300	300	170
L40-0500	500	370
L40-0800	800	670
L40-1000	1000	870
L40-1500	1500	1370
L40-2000	2000	1870

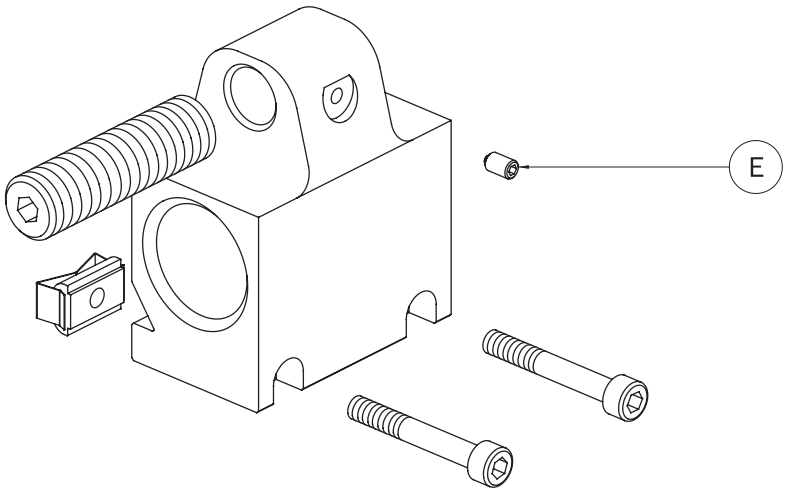


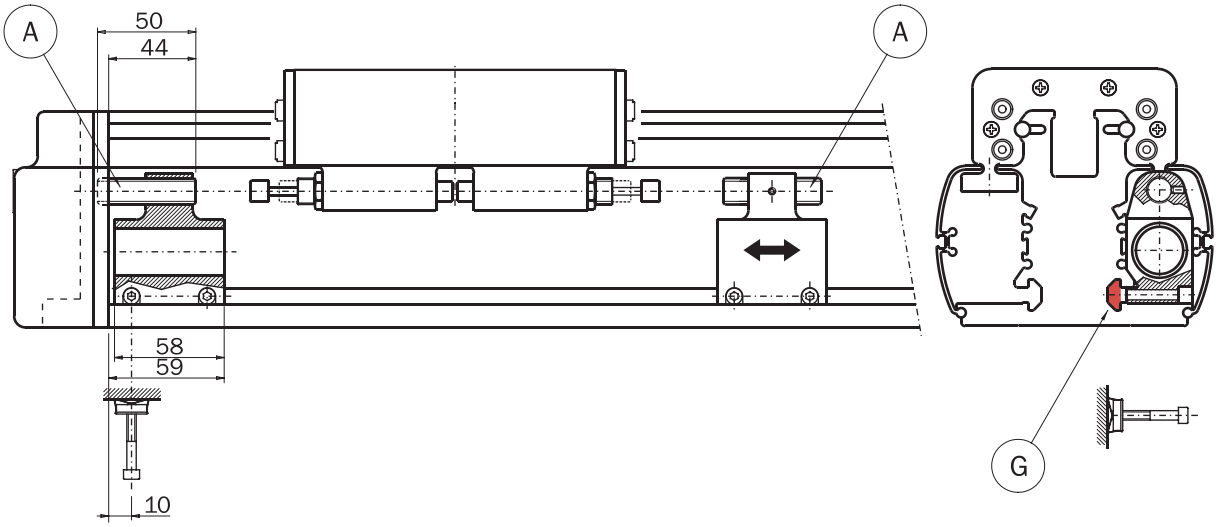
Regolazione della corsa con LS-FX

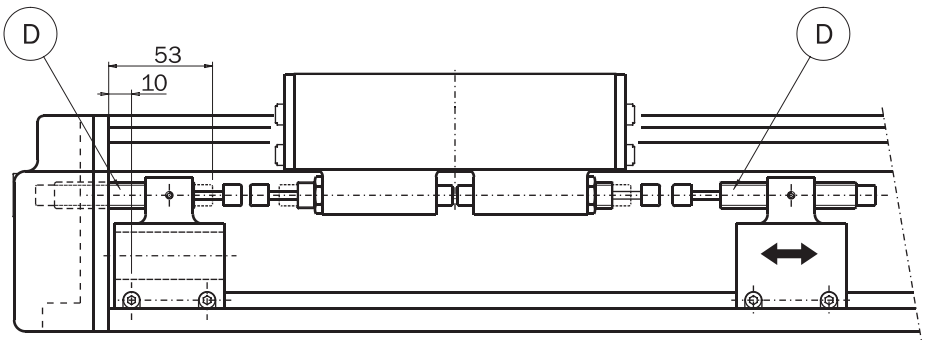
La corsa dell'unità lineare L40 può essere limitata anche con la battuta di arresto supplementare LS-FX (opzionale).
Questa può essere fissata in qualsiasi posizione lungo la cava (G).
In caso di necessità è possibile sostituire il grano (A) con il deceleratore opzionale (D).
Il grano (E) con la pastiglia serve per il bloccaggio.

Stroke adjustment by LS-FX

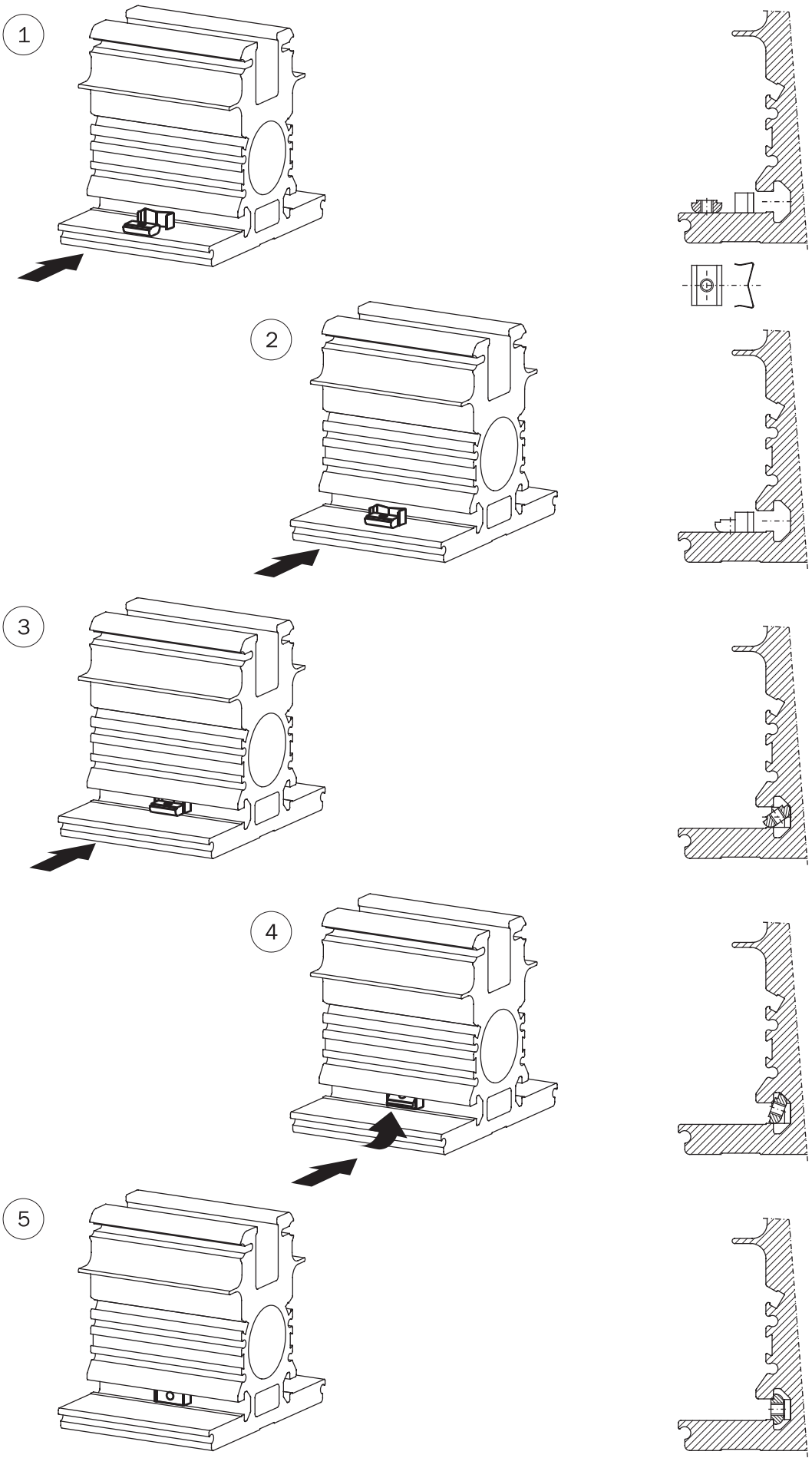
The stroke of the linear unit L40 can be also reduced by the additional end-stroke unit LS-FX (optional).
It can be fitted in any position along the groove (G).
If necessary the grub screw (A) can be replaced with optional shock-absorber (D).
The grub screw (E) with pad is used for locking.







Posizionamento dei “dadi a T” / *Placing of “T-nuts”*

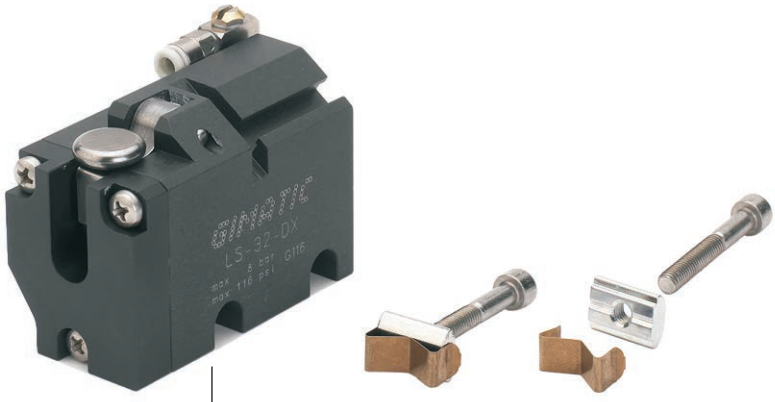


Unità di arresto intermedio

Sono disponibili in due versioni simmetriche, per arrestare con precisione assoluta, in posizioni intermedie, il carrello proveniente da destra (LS-32-DX), o da sinistra (LS-32-SX). Un pistone, azionato pneumaticamente, fa sollevare una battuta meccanica, attraverso un leveraggio a ginocchiera, irreversibile. Cessata l'alimentazione la battuta meccanica rientra in posizione di riposo sotto l'azione di una molla. In questa posizione si accende il sensore (opzionale).

Intermediate stopping units

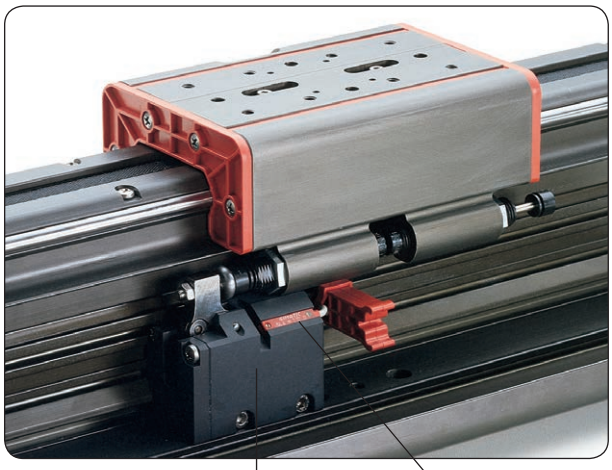
Available in two symmetric models, they are used to stop the carrier, with high precision, in the intermediate positions when it comes from the right (LS-32-DX), or from the left (LS-32-SX). One pneumatic piston lifts an irreversible mechanical end stroke by a toggle system. Without pressure, the end stroke returns to the rest position by a reset spring. In this position the optional magnetic sensor is on.

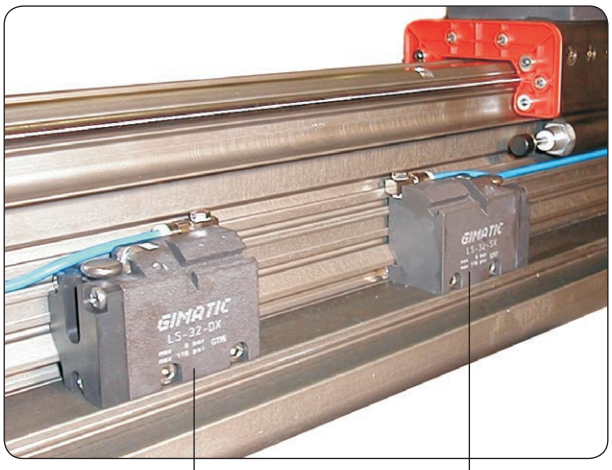




LS-32-DX

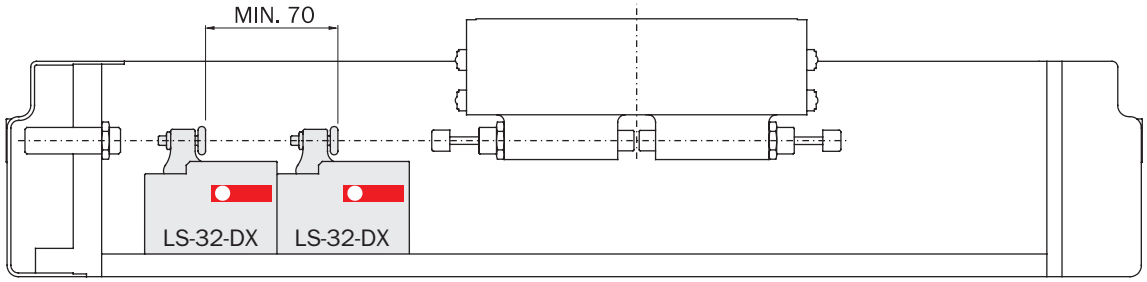
LS-32-SX

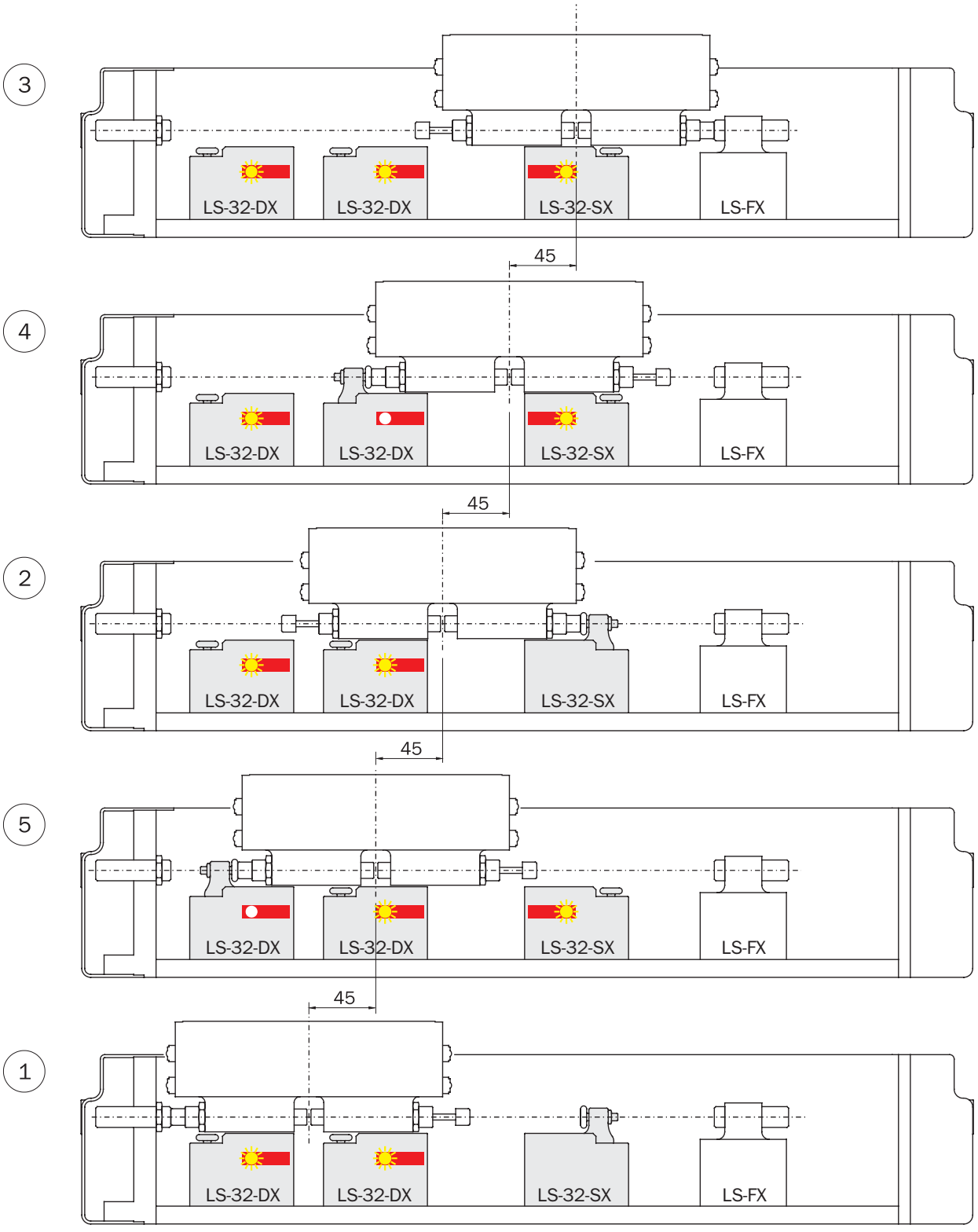




Esempi di applicazione delle unità di arresto intermedio

Application examples of the intermediate stopping units



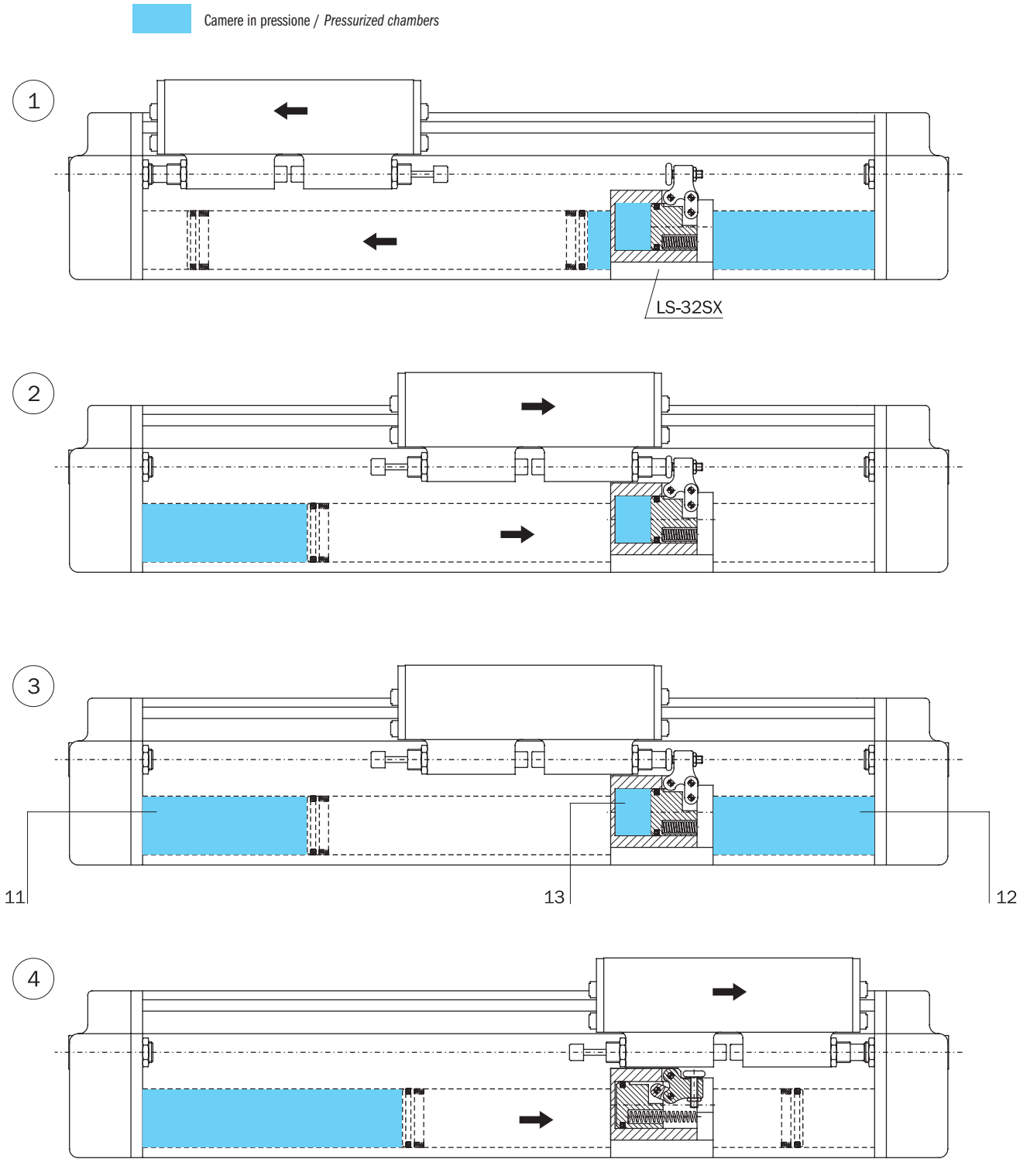


Gestione pneumatica con un'unità di arresto intermedio

La velocità di traslazione del carrello deve essere controllata con regolatori di flusso che strozzino l'aria in uscita dalle camere (vedere anche il circuito pneumatico).
Quindi per un funzionamento corretto dell'unità bisogna bilanciare la pressione nelle due camere del cilindro (figura 3), prima di togliere aria all'unità di arresto intermedio.

Compressed air management with an intermediate stopping unit

The travel speed of the carrier must be adjusted by flow controllers which throttle the air coming out from the chambers (see also the pneumatic circuit).
Therefore, to avoid uncontrolled movements, the pressure must be balanced in both cylinder chambers (figure 3), before the air is removed from the intermediate stopping unit.



Circuito pneumatico

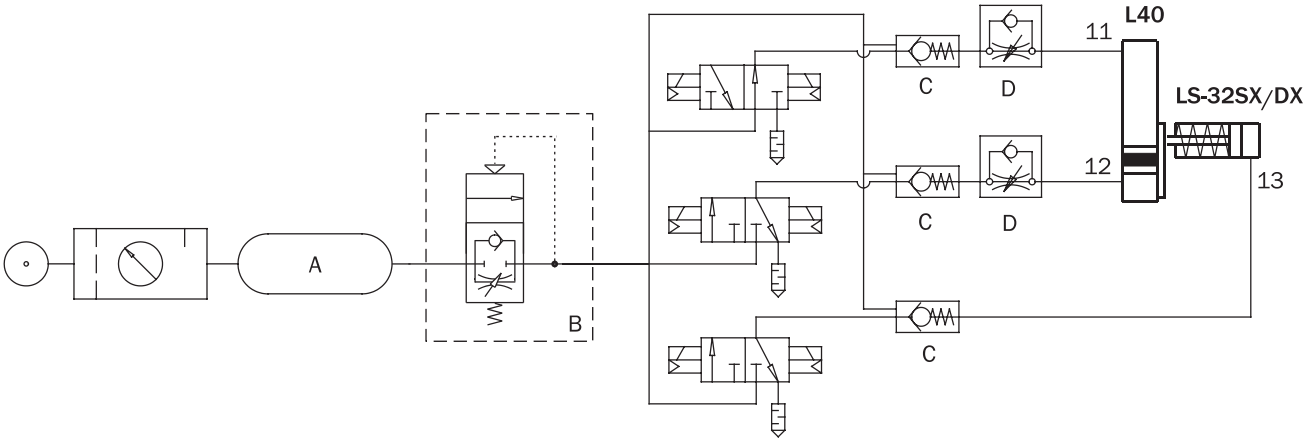
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

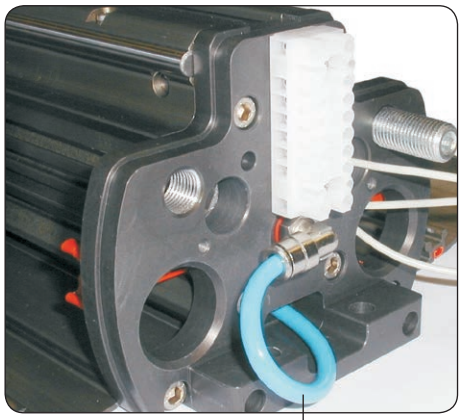


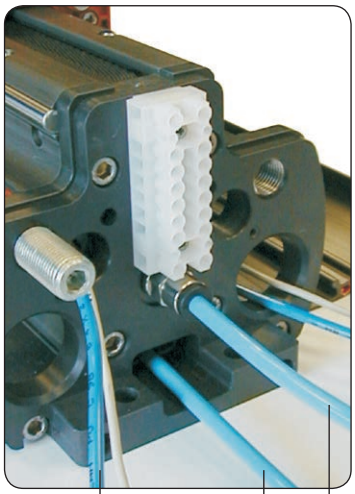
Connessione pneumatica

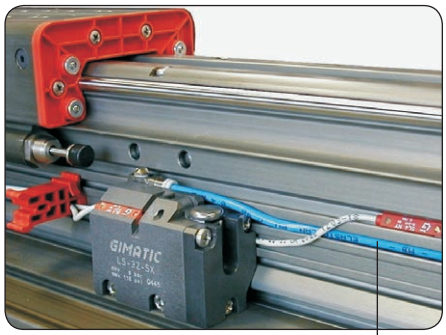
L'unità lineare si alimenta con aria compressa dai fori sulle spalle montandovi due raccordi dell'aria G1/8 ed i relativi tubi (non forniti).
L'unità di arresto intermedio si alimenta dal suo raccordo con un tubo Ø4mm (non fornito).
L'aria compressa deve essere filtrata (5÷40 µm) e non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita dell'unità. L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The compressed air feeding must be accomplished on the air ports in the end side plates with fittings G1/8 and hoses (not supplied).
The intermediate stopping unit is pressurized by its fitting with a Ø4mm hose (not supplied).
The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the unit.
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



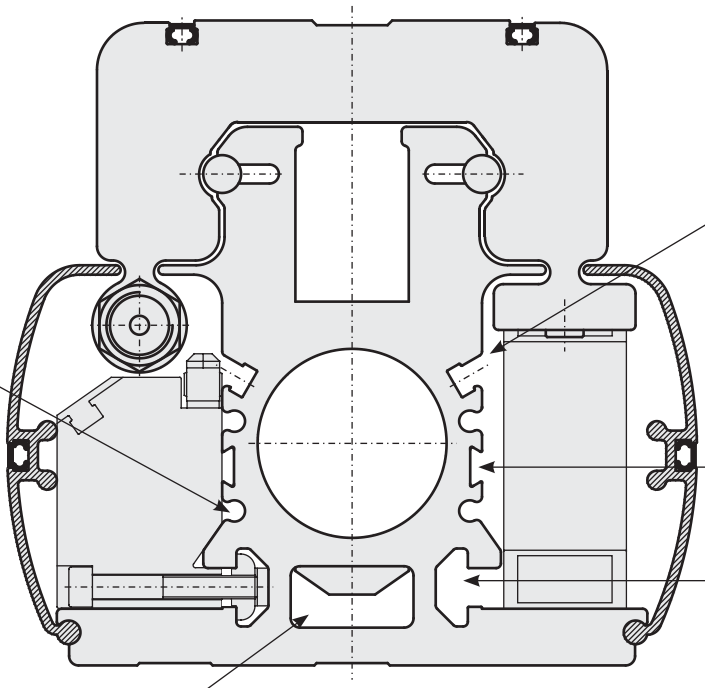




Sezione dell'unità lineare / *Linear unit section*

Lato per le unità di arresto intermedio
Intermediate stopping unit side

Lato per la catena portacavi
Energy chain side



Sede per i tubi Ø4mm (alimentazione delle unità di arresto intermedio)
Housing for Ø4mm hoses (used for compressed air feeding of intermediate stopping units)

Cava per sensore
Sensor groove

Cava per la clip di fissaggio del carter laterale
Groove for the clip fixing the lateral cover

Cava per dadi a "T"
T-nut groove

Foro passante inferiore per il passaggio di tubi e cavi
Lower through hole for hoses and cables

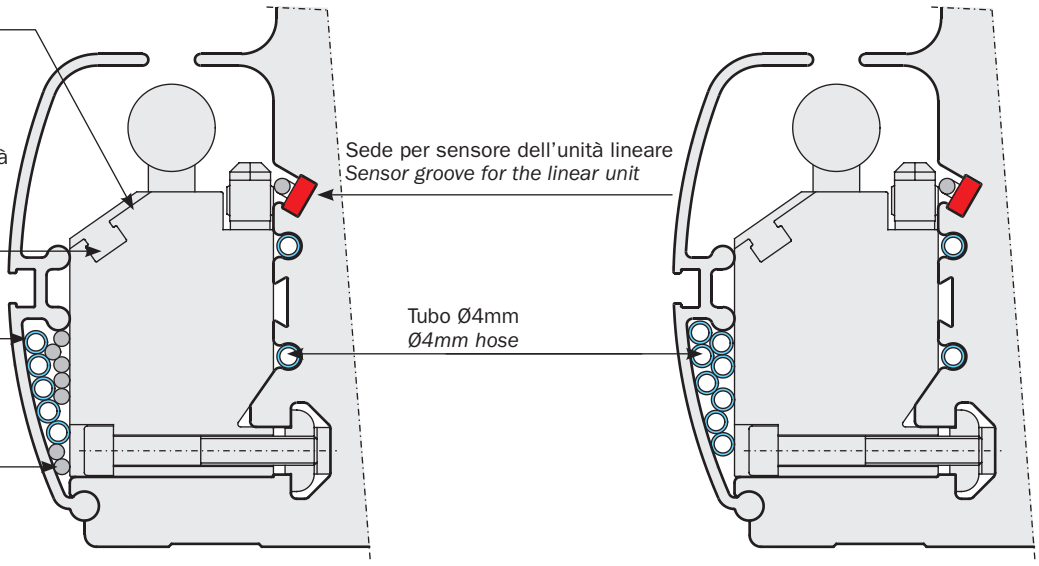
Posizionamento di tubi e cavi / *Hose and cable placement*

Unità di arresto intermedio
Intermediate stopping unit

Sede per sensore dell'unità di arresto intermedio
Sensor groove for the intermediate stopping unit

Tubo Ø4mm
Ø4mm hose

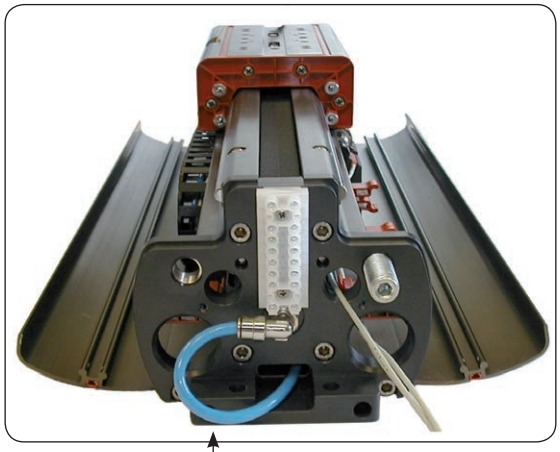
Cavo sensore Ø2.7mm
Ø2.7mm sensor cable



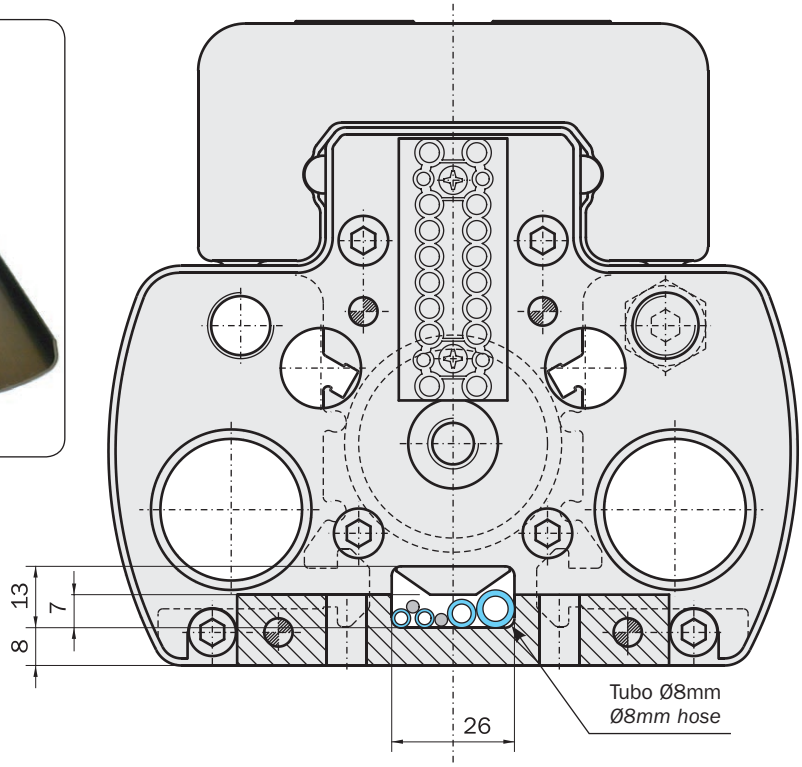
Sede per sensore dell'unità lineare
Sensor groove for the linear unit

Tubo Ø4mm
Ø4mm hose

Foro passante inferiore / *Lower through hole*

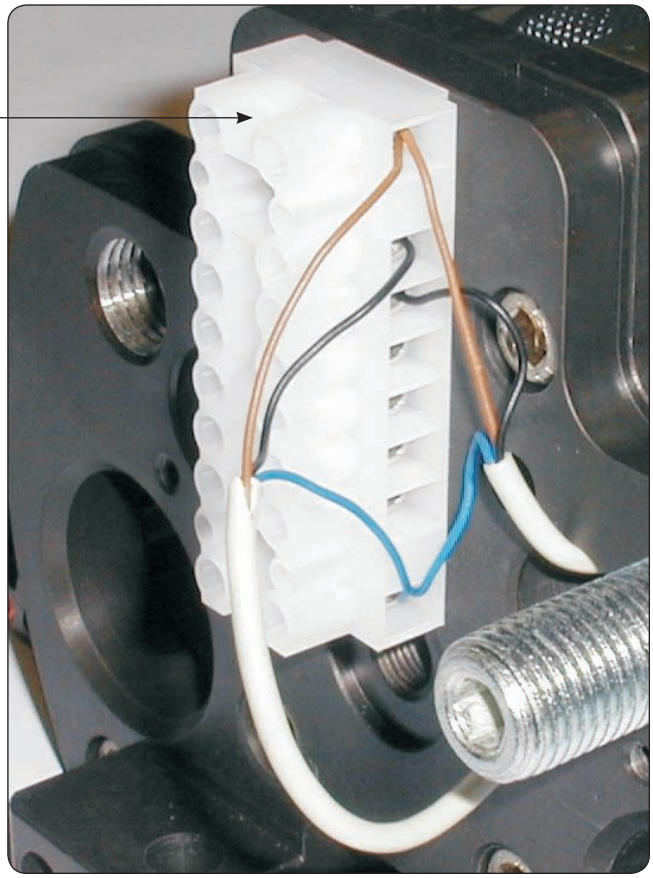


Tubo Ø6mm
Ø6mm hose

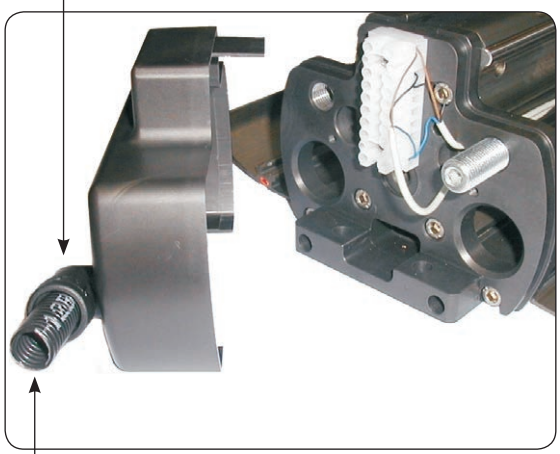


Scatola di derivazione / *Junction box*

Morsettiera a 8 connessioni
8 stud terminal block



PMA-TEA BVWD-P112



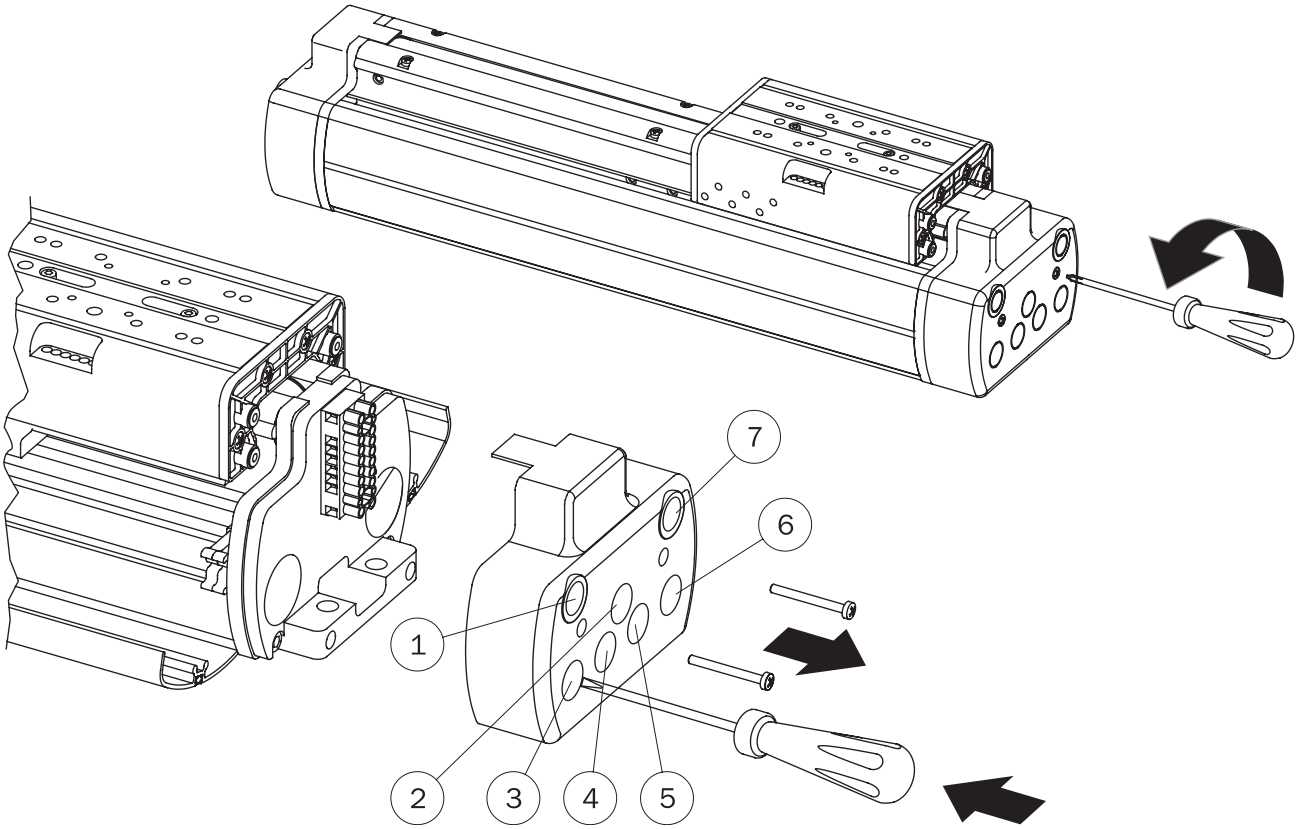
PMA-TEA PIST-12B

Carter di testa

I carter alle due estremità si smontano rimuovendo due viti e sono dotati di sette diaframmi pre intagliati che si possono rimuovere con un cacciavite.

Head cover

The end side plastic covers, provided with seven detachable diaphgrams, can be removed screwing out two screws.



I diaframmi 1-7 corrispondono alla posizione dei grani (o deceleratori supplementari) di fine corsa.

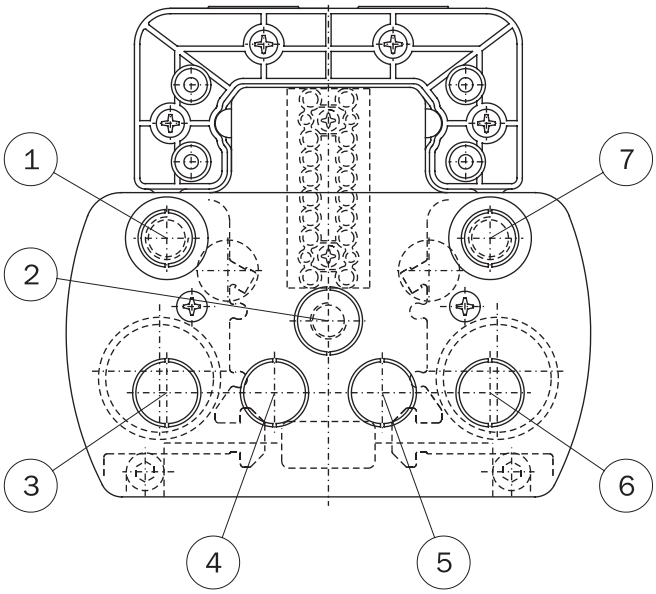
Il diaframma 2 corrisponde alla posizione del raccordo per l'alimentazione dell'unità.

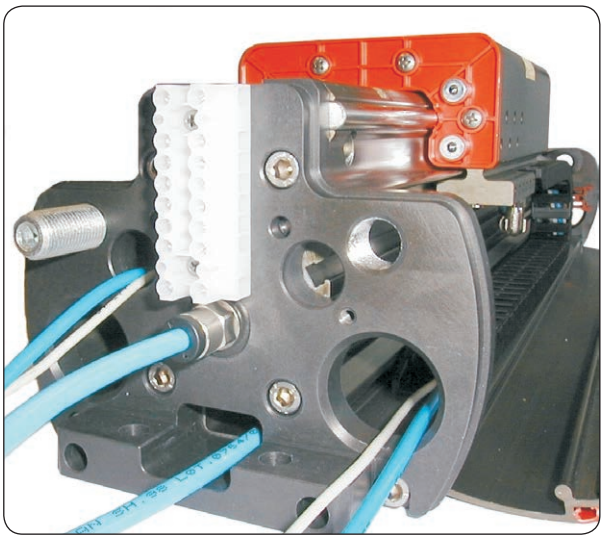
I diaframmi 3-4-5-6 si usano per far uscire altri tubi e cavi.

The diaphragms 1-7 are in front of the end stroke screws (or supplementary shock-absorbers).

The diaphragm 2 is in front of the fitting for compressed air feeding.

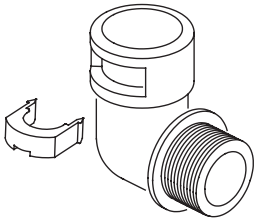
The diaphragms 3-4-5-6 can be removed to allow other hoses and cables to come out.



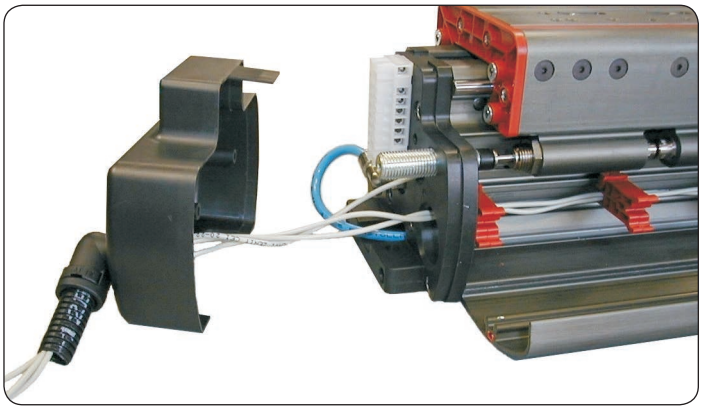


Connessioni / *Connections*

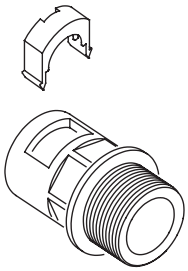
Raccordo a 90° maschio
Sheath elbow male fitting



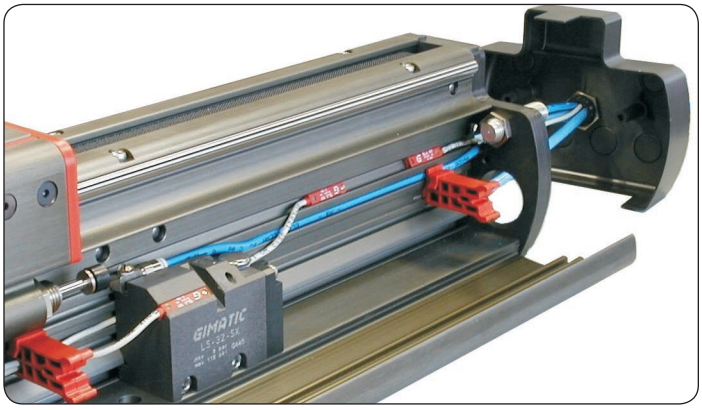
PMA-TEA
BVWD-P112



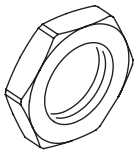
Raccordo dritto maschio
Sheath male fitting



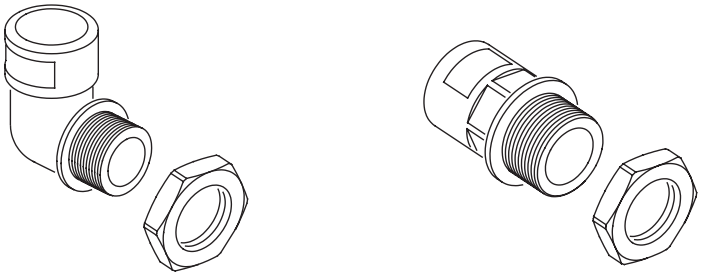
PMA-TEA
BVND-P112



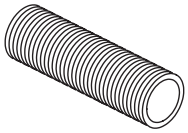
Dado di bloccaggio
Locking nut



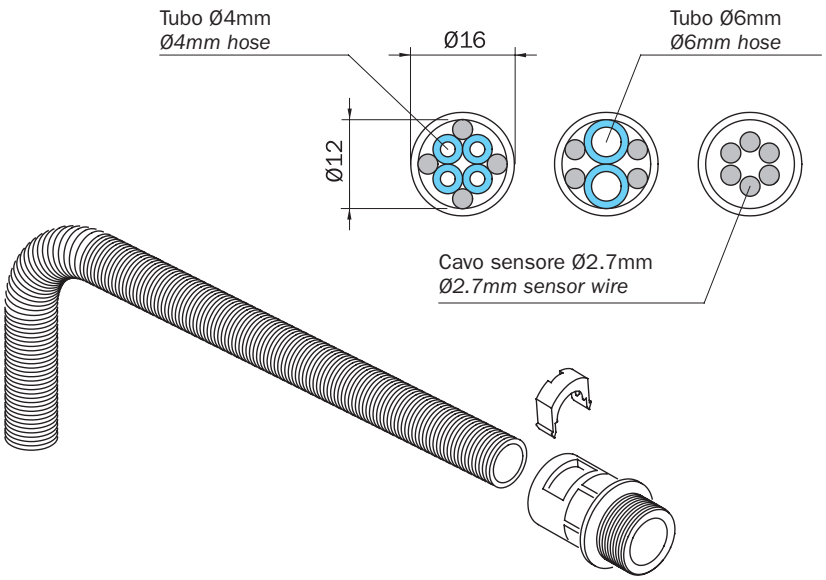
TEAFLEX
D22



Guaina passacavo
Sheath



PMA-TEA
PIST-12B



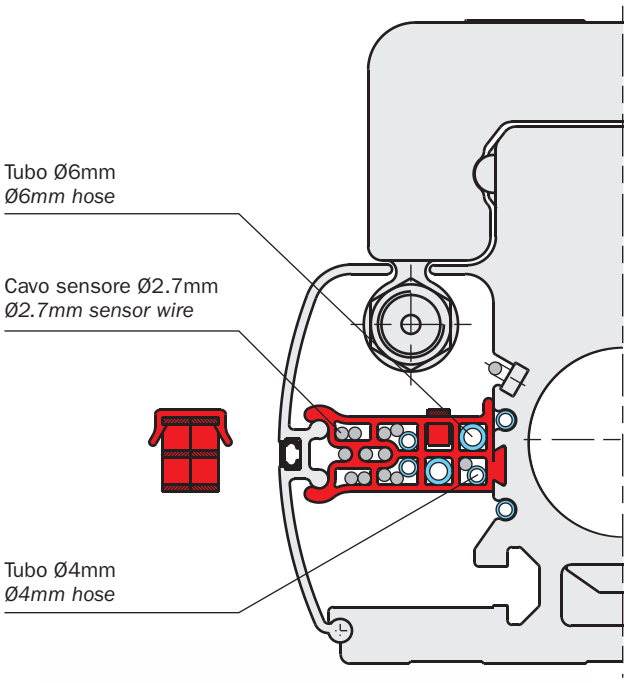
Clip LS-CP

È usata per il fissaggio dei carter laterali, ma può essere utile anche per facilitare il cablaggio.
Per montarla bisogna seguire la procedura sotto illustrata.

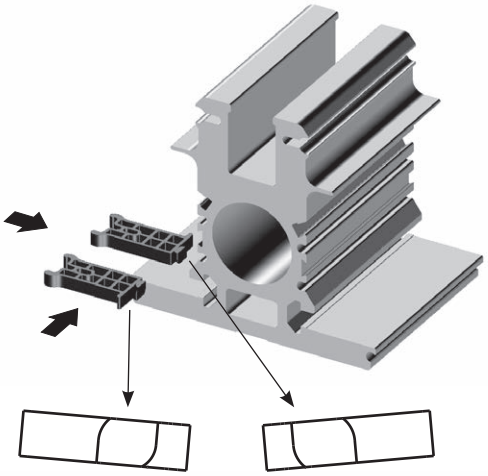
Clip LS-CP

It is used to fasten the lateral covers, but it is useful also for easy positioning of cables and hoses.
Follow the sequence in the pictures to mount the clip.

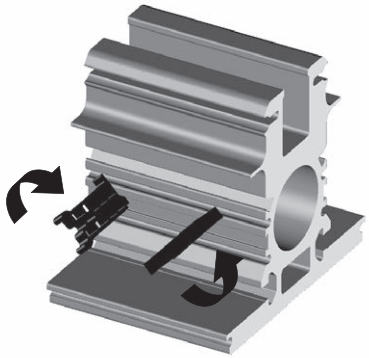




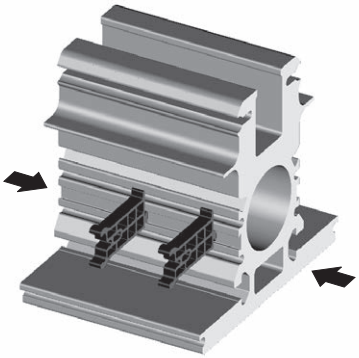
1



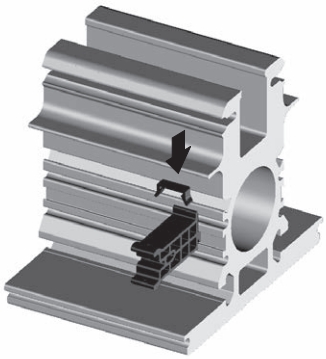
2



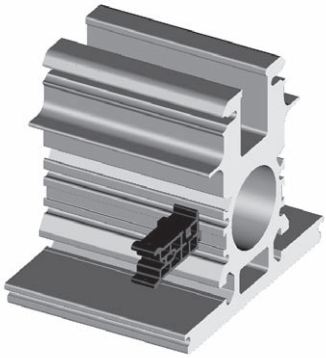
3

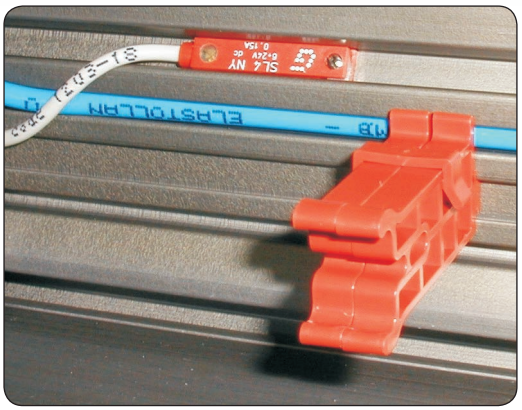


4



5



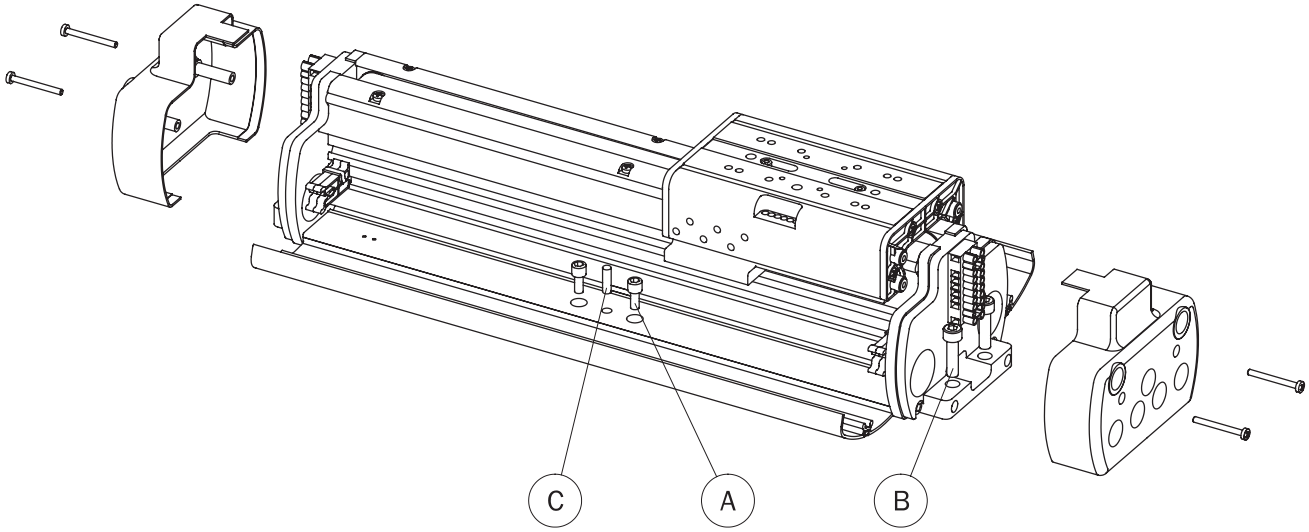


Fissaggio

L'unità può essere montata in posizione fissa oppure su parti in movimento.
Per fissare l'unità dalle spalle laterali usare le quattro viti M8 (B). Oppure si possono usare le quattro viti M6 (A) e le due spine Ø6mm (C).
Lasciare lo spazio necessario per l'apertura dei coperchi.

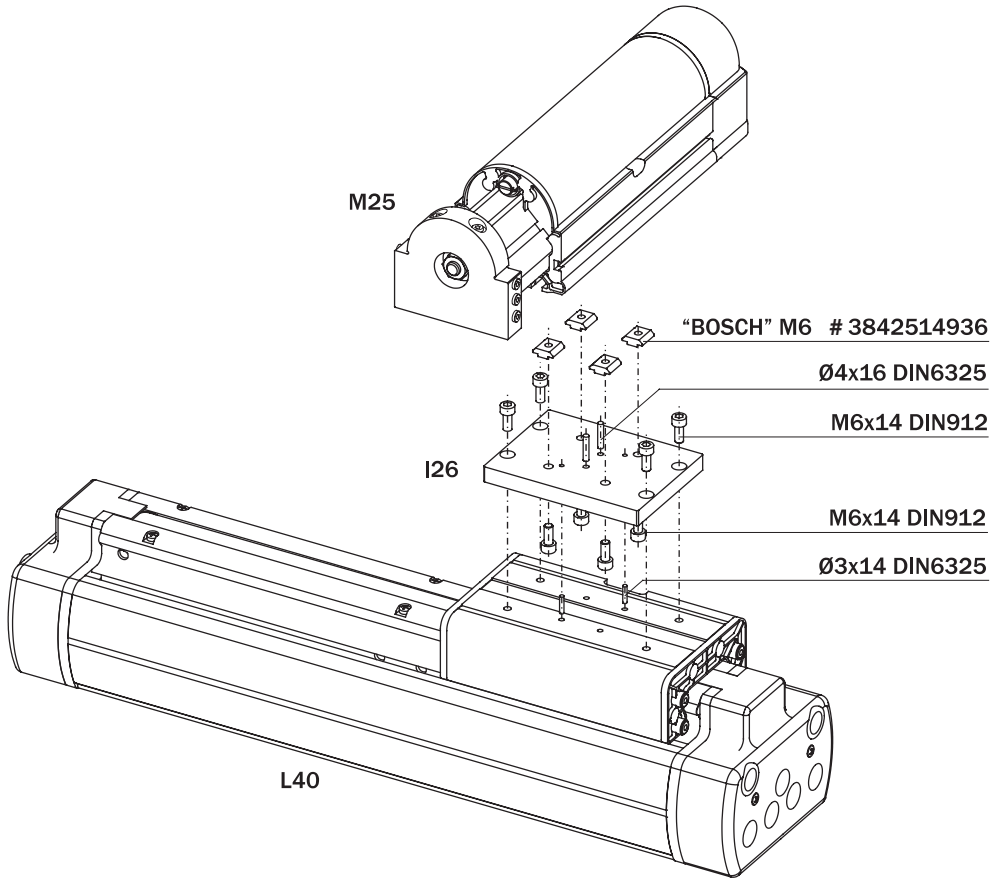
Fastening

The unit can be fastened to a static or moving part.
Use four M8 screws (B) to fasten the linear unit to the end side plates. It is also possible to use the four screws M6 (A) and the two Ø6mm pins (C).
Allow room to open the covers.



Per fissare il carico sul carrello sono disponibili dodici fori filettati M6x10mm, quattro fori per spine di riferimento Ø6H8x12mm e quattro fori per spine di riferimento Ø3H8x8mm.
L'esempio mostra il fissaggio dell'attuatore lineare M25 tramite l'interfaccia I26.

To fasten the pay load on the carrier, twelve threaded holes M6x10mm, four dowel pin holes Ø6H8x12mm and four dowel pin holes Ø3H8x8mm are available.
The picture below shows the fastening of the unit M25 by the interface I26.

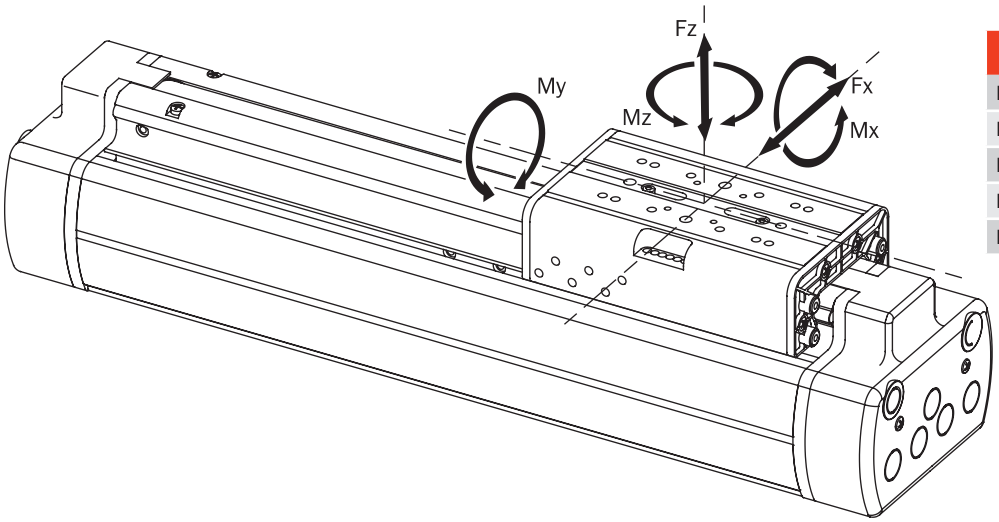


Carichi di sicurezza

Controllare le tabelle ed i grafici seguenti.
Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Fx, Fz, Mx, My, Mz sono i carichi massimi ammissibili.
Verificare che l'indice di carico LF sia inferiore all'unità.

Safety loads

Check the following tables and graphs.
Excessive loads can damage the unit, cause functioning troubles and endanger the safety of the operator.
Fx, Fz, Mx, My, Mz are maximum permitted loads.
The load factor LF must be lower than 1.

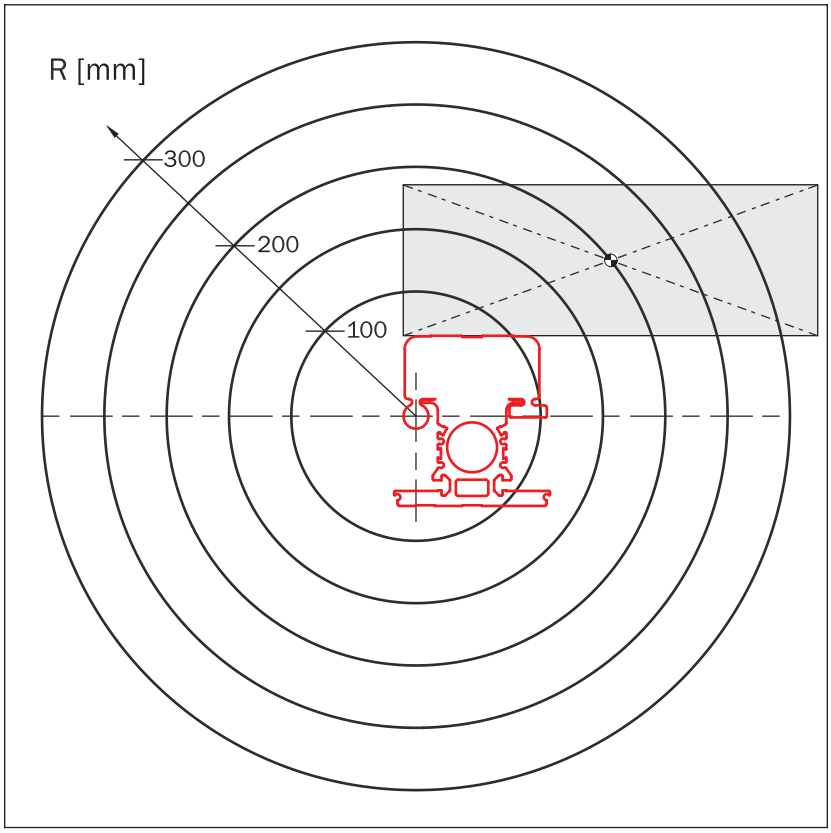


	Max
Fx	3000 N
Fz	3000 N
Mx	100 Nm
My	130 Nm
Mz	100 Nm

$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leq 1$$

L'energia cinetica che è possibile assorbire in un singolo urto dipende dal numero di deceleratori usati e dalla distanza di questi dal baricentro del carico applicato sul carrello.
Se, come nell'esempio mostrato, il baricentro cade a 200mm di distanza, allora l'energia cinetica ammissibile con due deceleratori è E2=24J, con il solo deceleratore di serie è E1=10J.

The admissible kinetic energy in a single shock depends on the number of shock-absorbers used and on their distance from the barycenter of the load on the carrier.
If, as in the picture, the barycenter is 200mm far, the admissible kinetic energy with two shock-absorbers is E2=24J, with only one standard shock-absorber is E1=10J.



R	E1	E2
100 mm	12 J	28 J
150 mm	11 J	26 J
200 mm	10 J	24 J
250 mm	9 J	22 J
300 mm	8 J	20 J

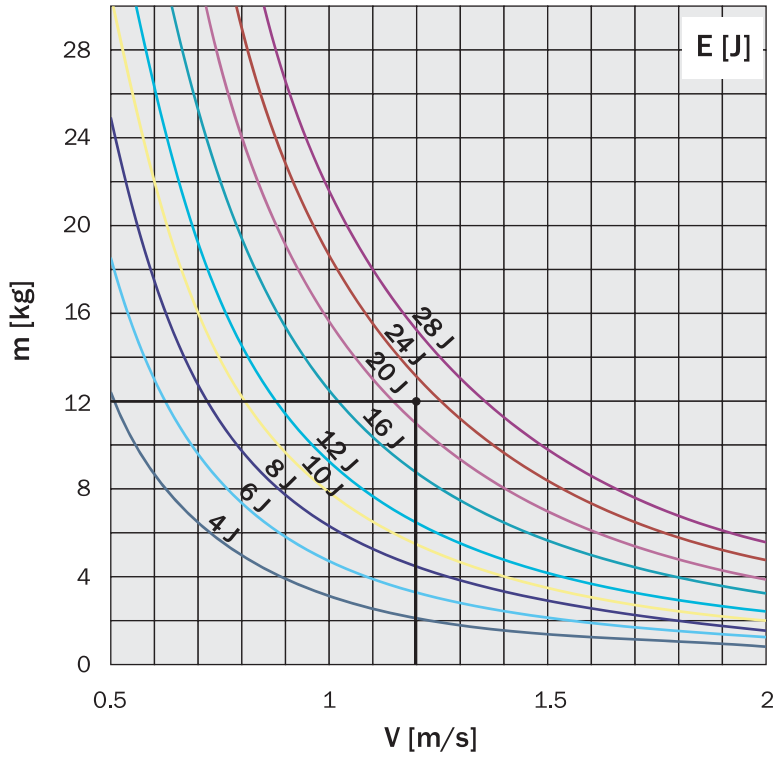
R Distanza fra il centro del deceleratore ed il baricentro dell'applicazione
Distance from the shock-absorber to the baricenter of the pay load

E1 Energia ammissibile con n°1 deceleratore
Admissible kinetic energy with one shock-absorber

E2 Energia ammissibile con n°2 deceleratori
Admissible kinetic energy with two shock-absorbers

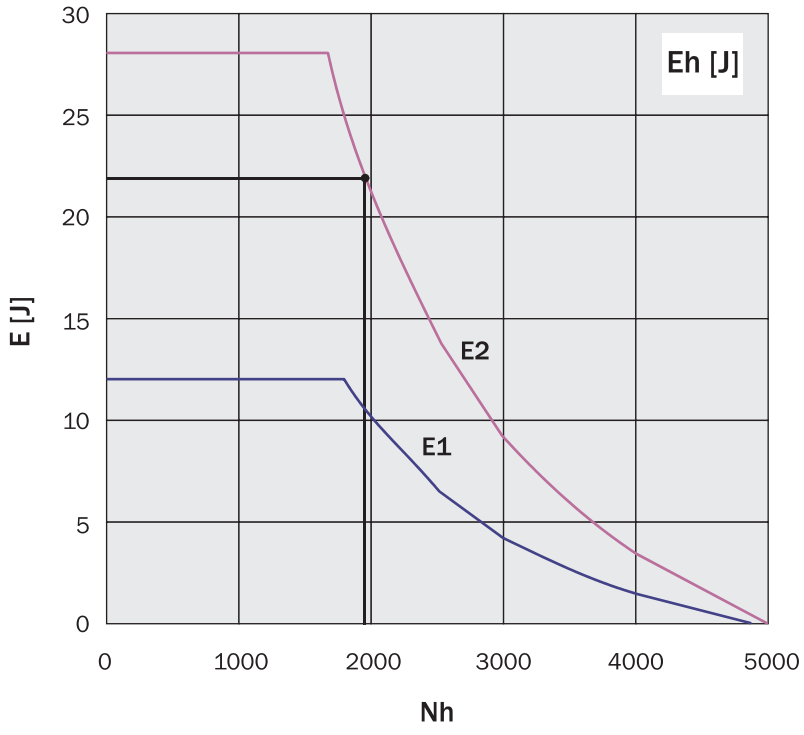
La massa trasportata m [kg] e la velocità media di traslazione v [m/s] devono determinare un valore di energia cinetica inferiore a quello ammissibile.
Se per esempio si movimenta un peso di 12kg ad una velocità di 1.2m/s, il corrispondente valore di energia è 22J, ammissibili se E2=24J.

The pay load m [kg] and the medium travel speed v [m/s] must give a kinetic energy value lower than the permitted one.
For example, if the pay load is 12kg and the speed is 1.2m/s, the corresponding energy is 22J, lower than E2=24J.



Il numero di cicli possibili in un'ora Nh, si determina con il grafico seguente.
Se per esempio, il valore di energia è 22J per ogni urto e si utilizzano due deceleratori, allora saranno possibili al massimo 1900 urti in un'ora.

Nh is the number of permitted cycles per hour: it is determined by the following diagram.
For example, if the energy value is 22J per shock and two shock-absorbers are used, therefore a maximum number of 1900 shocks per hour is possible.

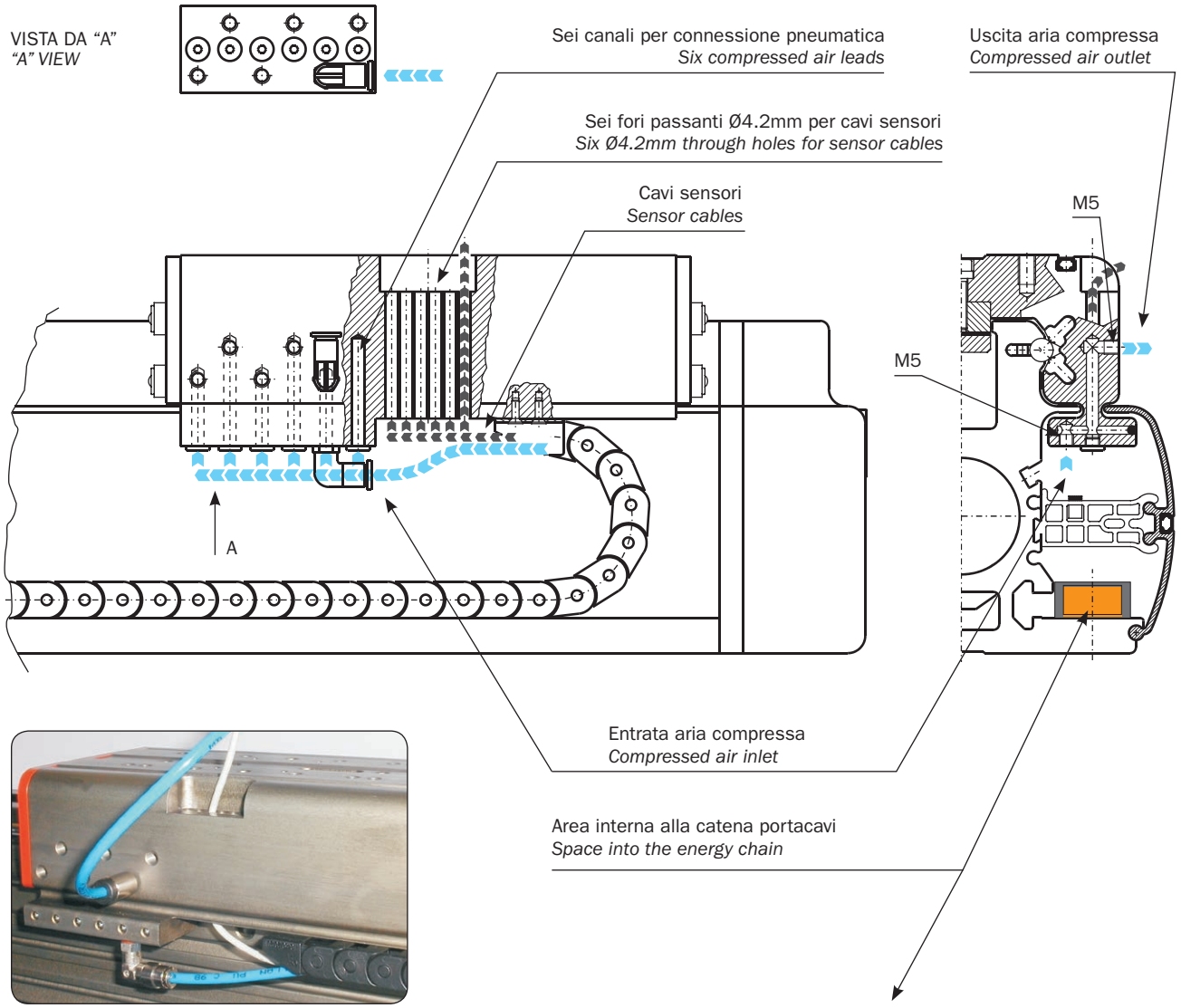


Catena portacavi

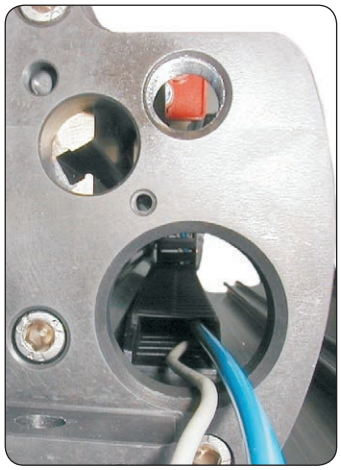
È possibile alloggiare su un lato dell'unità la catena portacavi e nasconderla completamente sotto il coperchio laterale.
Con questa catena è possibile portare al carrello i tubi per l'aria compressa ed i cavi per i sensori di eventuali componenti pneumatici trasportati.
I tubi passano nei sei canali del carrello attraverso una serie di raccordi M5 (non forniti), mentre per i cavi sono previsti sei fori passanti Ø4.2mm .

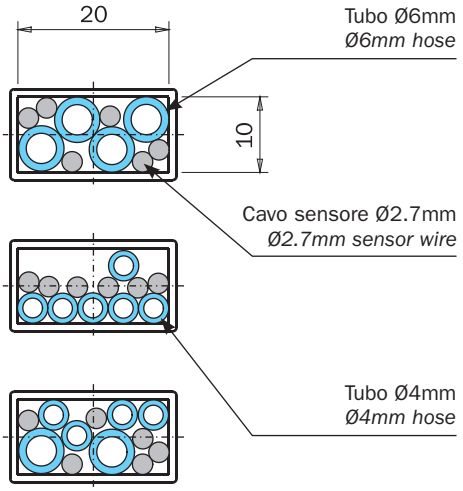
Energy chain

On one side of the unit it is possible to fit the energy chain under the lateral cover.
With this chain it is possible to guide the hoses and the sensor cables for the pneumatic accessories transported by the carrier. The hoses run into the six leads of the carrier through M5 fittings; six Ø4.2mm through holes are provided for cables.



	Codice catena *Energy chain code*
L40-0300	LS-CH300
L40-0500	LS-CH500
L40-0800	LS-CH800
L40-1000	LS-CH1000
L40-1500	LS-CH1500
L40-2000	LS-CH2000



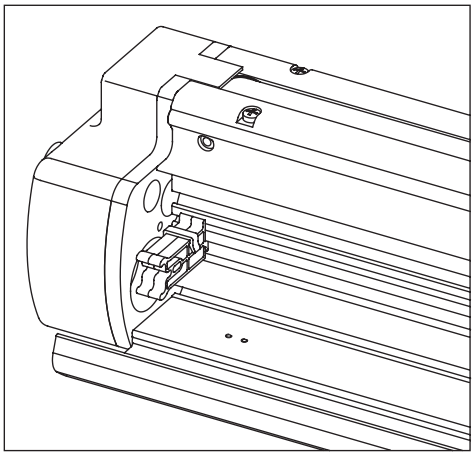


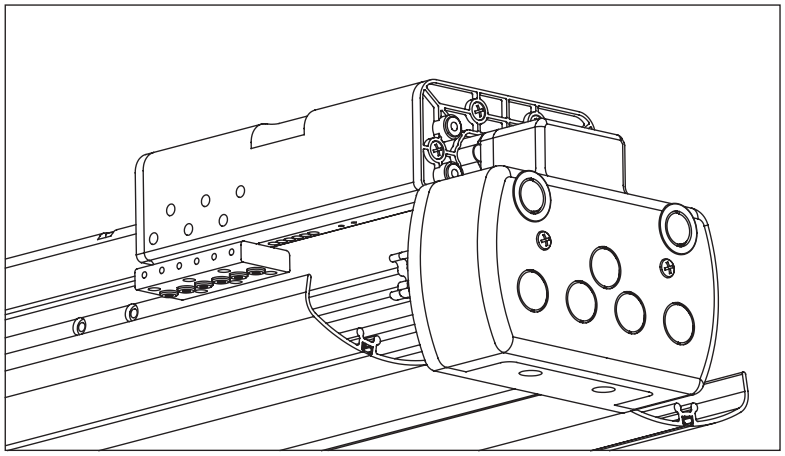
Montaggio della catena portacavi

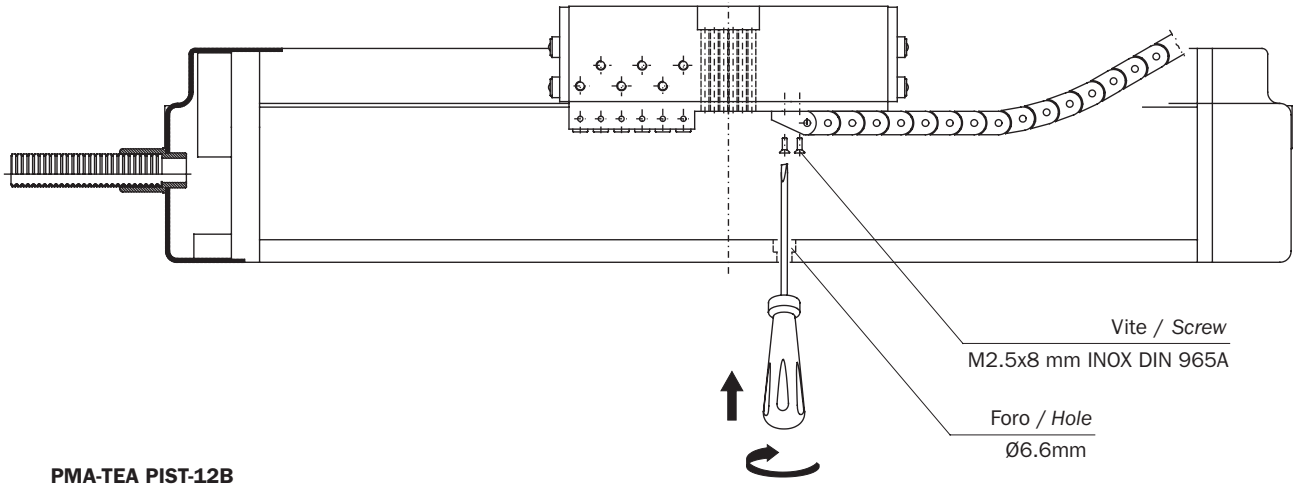
I tubi ed i cavi vanno inseriti nella catena prima di fissarla con le viti.

Mounting of the energy chain

Hoses and cables must be inserted in the chain before to fixing it to the unit.

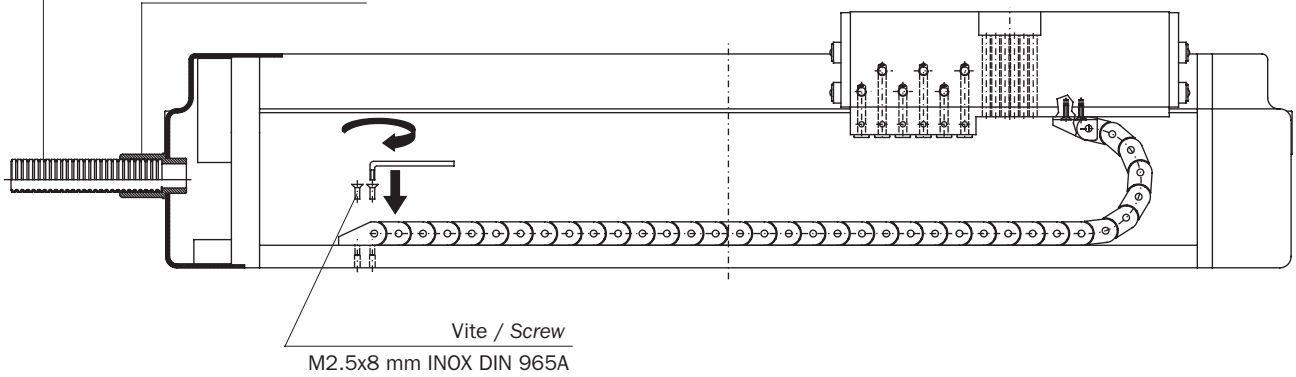


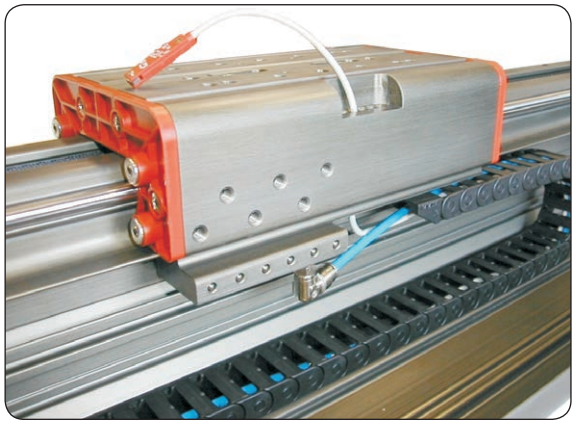


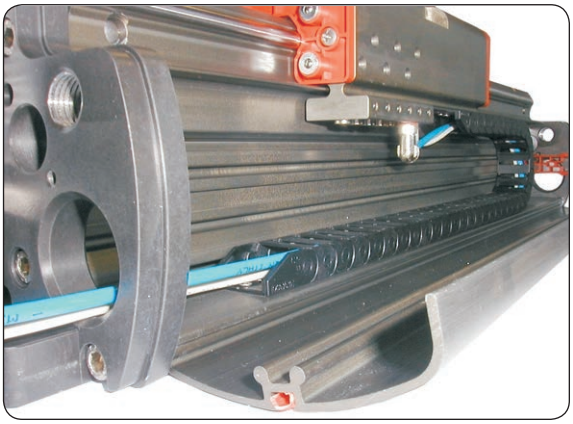


PMA-TEA PIST-12B

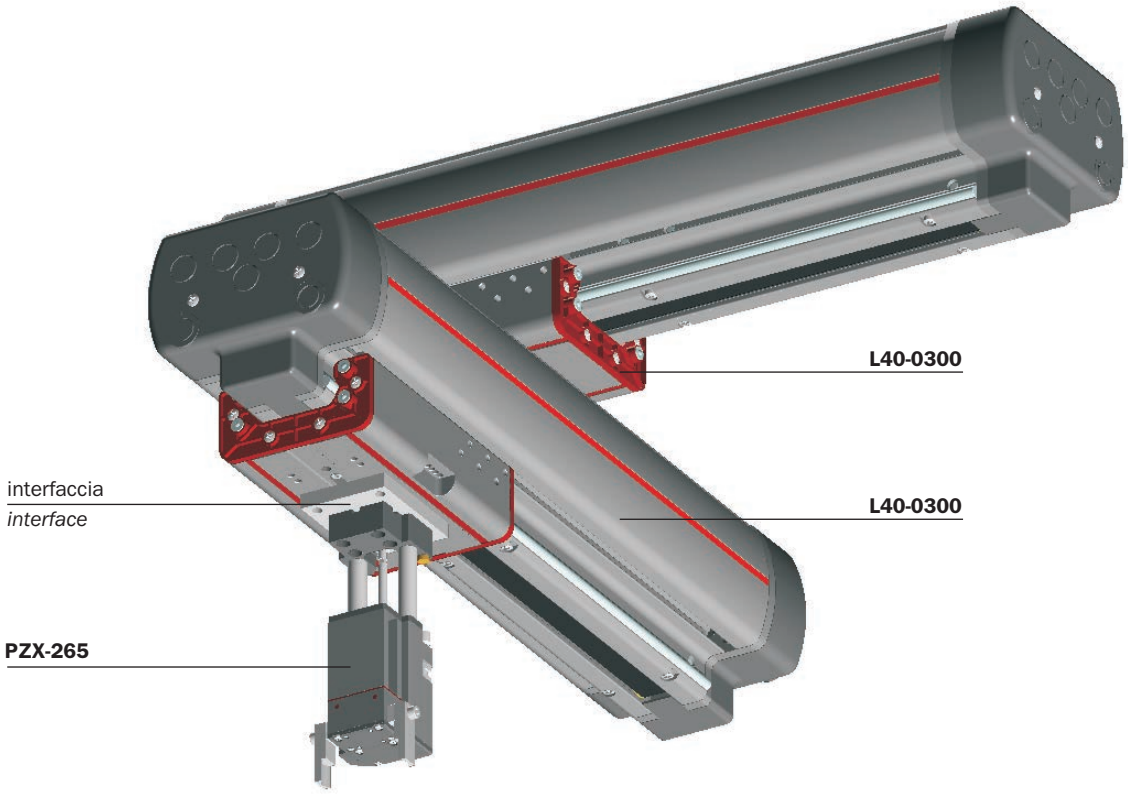
PMA-TEA BVND-PI12



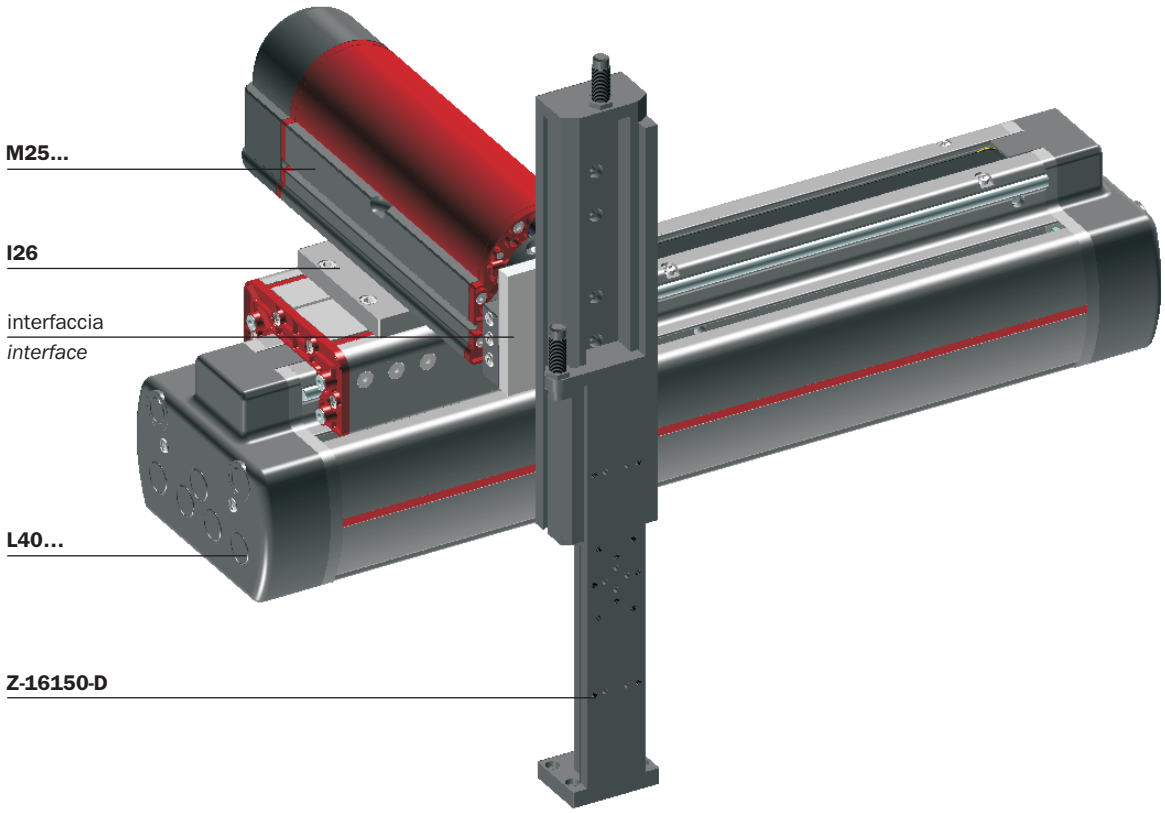




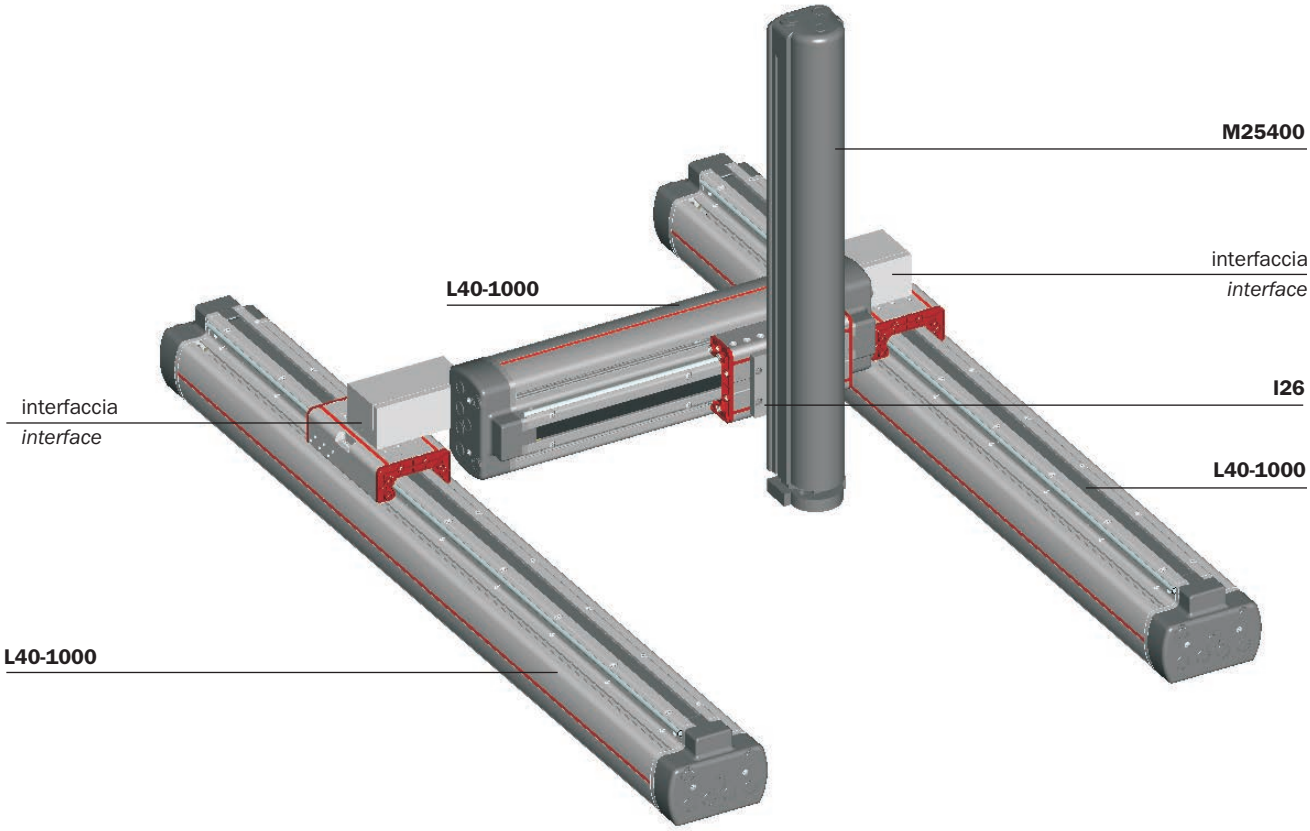
Esempio di applicazione / *Application example*



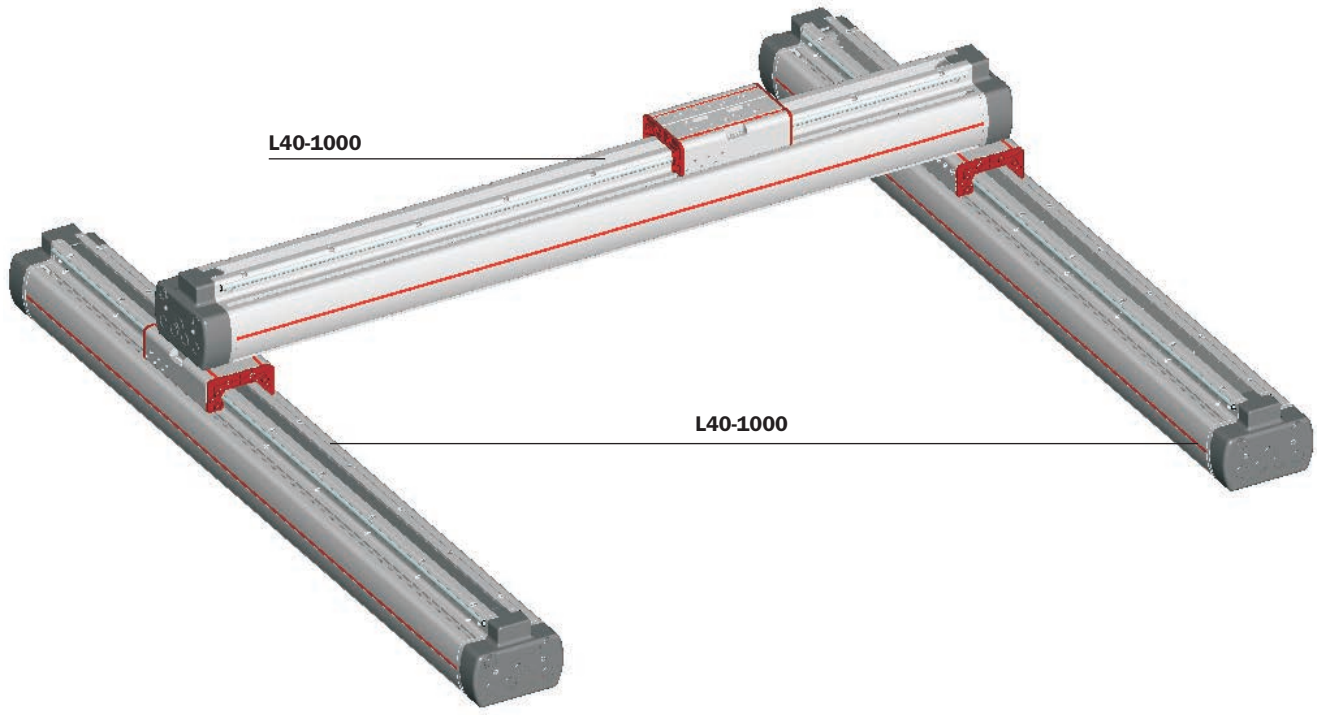
Esempio di applicazione / *Application example*



Esempio di applicazione / *Application example*



Esempio di applicazione / *Application example*

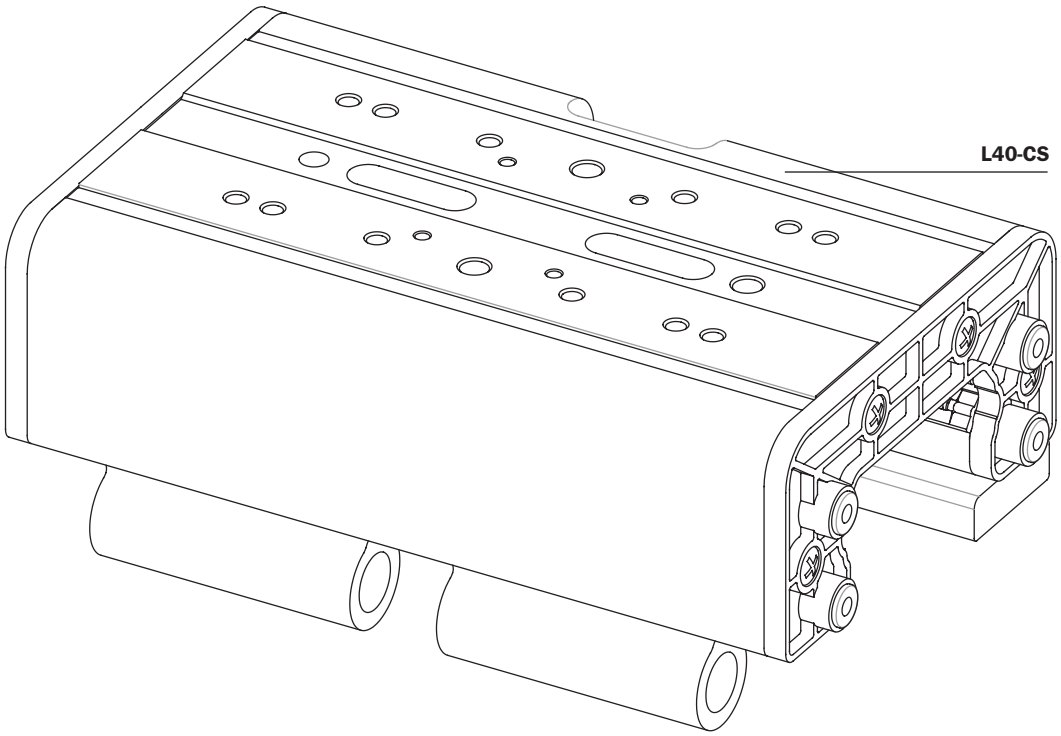


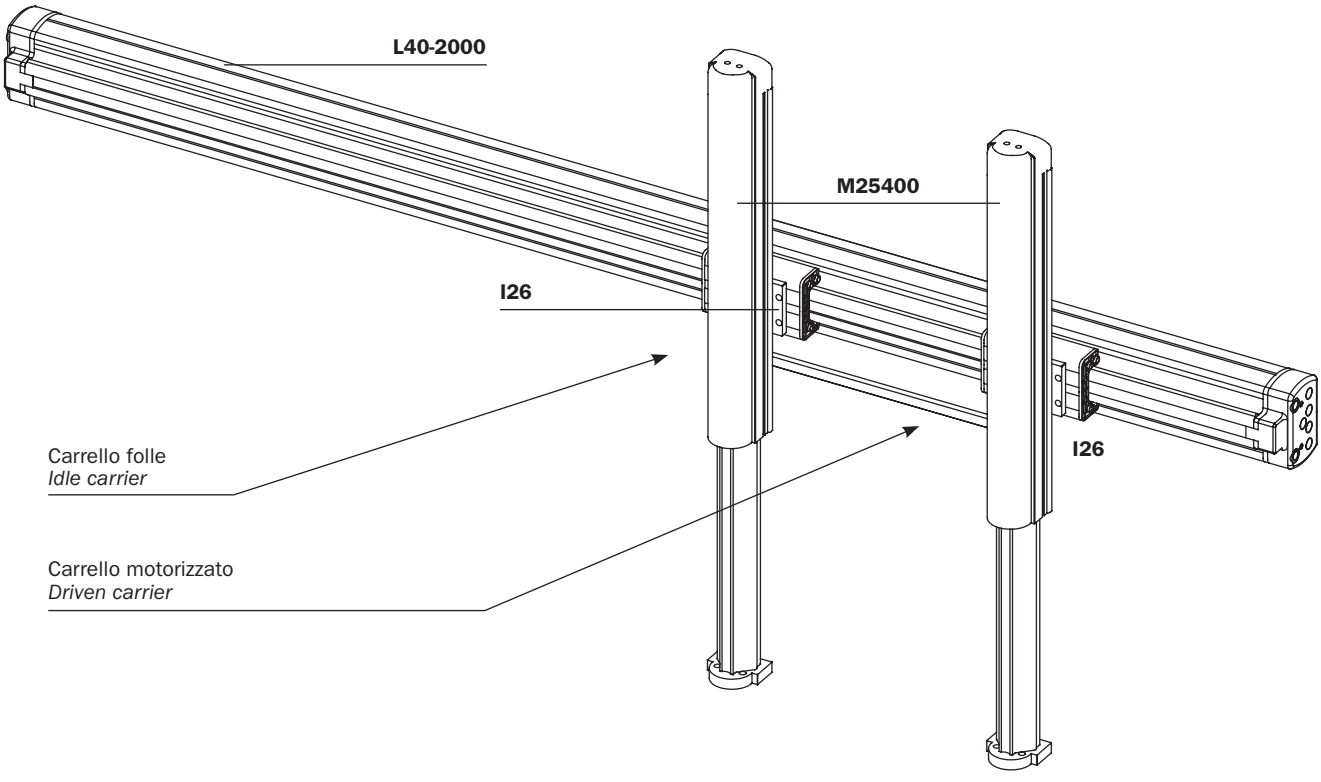
Secondo carrello

L'unità può essere equipaggiata su richiesta di un secondo carrello folle (codice L40-CS), montato sulla stessa rotaia.
Il montaggio del secondo carrello deve essere richiesto al costruttore.
Peso: 1.6 kg.

Second carrier

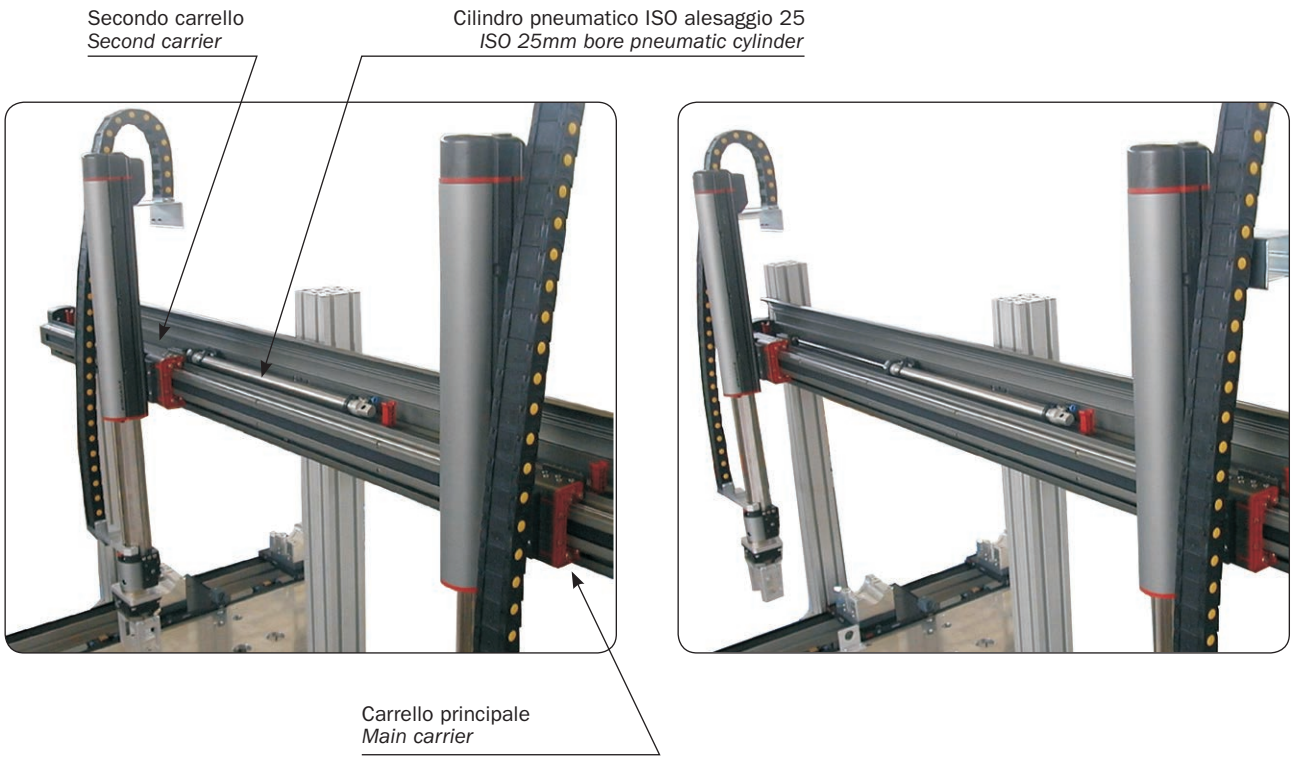
The unit can be equipped, upon request, with a second idle carrier on the rail (code L40-CS).
The second carrier must be mounted by the manufacturer.
Weight: 1.6kg.

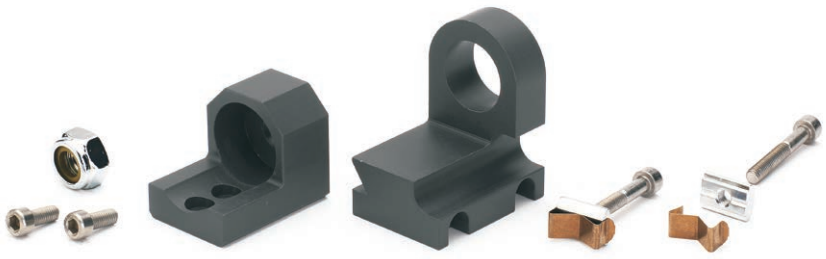




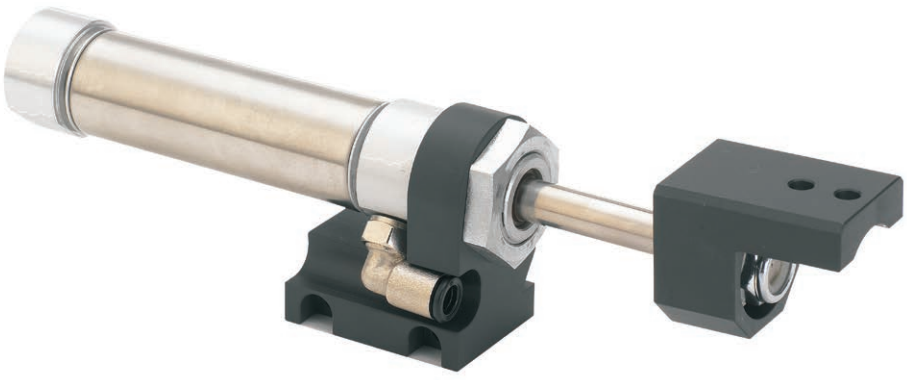
Il secondo carrello può anche essere azionato indipendentemente dal carrello principale, tramite un cilindro pneumatico ISO alesaggio 25, alloggiabile sotto il coperchio laterale (alternativamente alla catena).
Gimatic fornisce il kit di montaggio del cilindro (codice LS-CL).

Moreover the second carrier can be driven independently from the main carrier, by an ISO 25mm bore pneumatic cylinder, to fit under the lateral cover (instead of the energy chain).
Gimatic supplies the mounting kit for the cylinder (code LS-CL).





LS-CL



Sensori

Il rilevamento della posizione è affidato a sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete montato sul pistone.
Anche lo stato dell'unità di arresto intermedio si può rilevare con lo stesso tipo di sensore.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

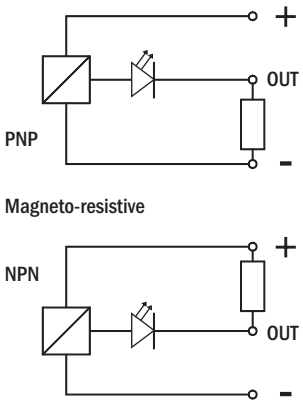
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The same type of sensor can also check the status of the intermediate stopping unit.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:

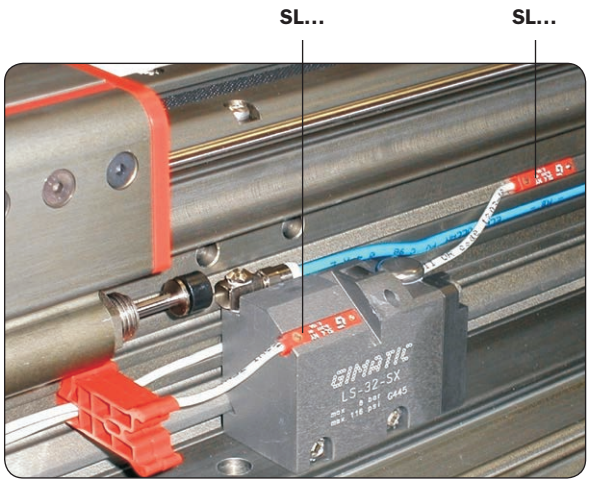


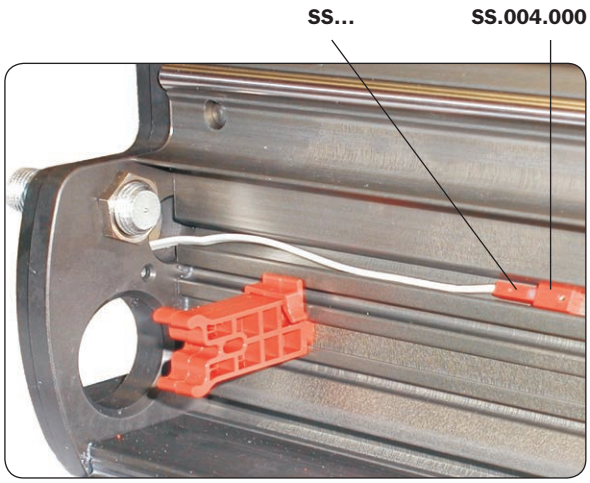


			L40-...	LS-32...
SL4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑
SL4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.



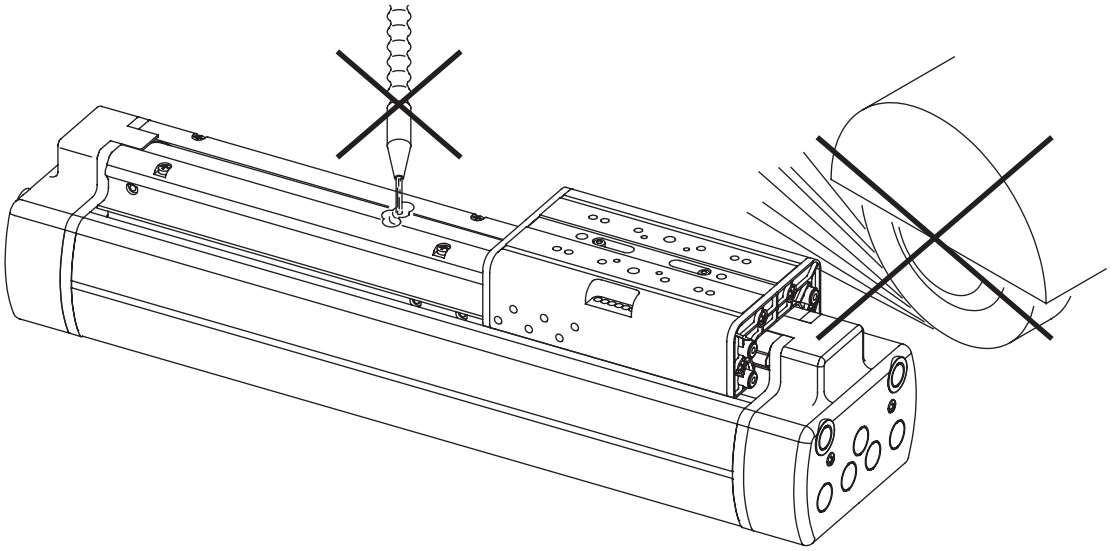


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Evitare soprattutto che sporco e corpi estranei entrino nella sede della cinghia di trasmissione.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Keep the drive belt groove free from dirt and foreign bodies.
Never let non-authorized persons or objects stand within the operating range of the slide.
Never operate the slide if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

Il precarico dei cuscinetti del carrello è regolato in fabbrica. NON UTILIZZARE MAI LE VITI DI REGOLAZIONE PER MODIFICARLO.

Controllare periodicamente l'efficienza dei deceleratori e sostituirli immediatamente se manifestano un decadimento delle loro prestazioni di smorzamento.

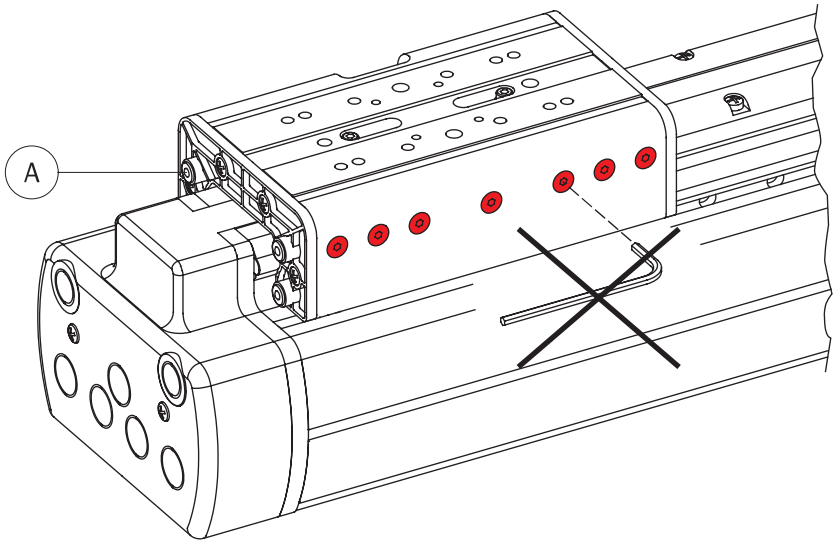
Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

Maintenance

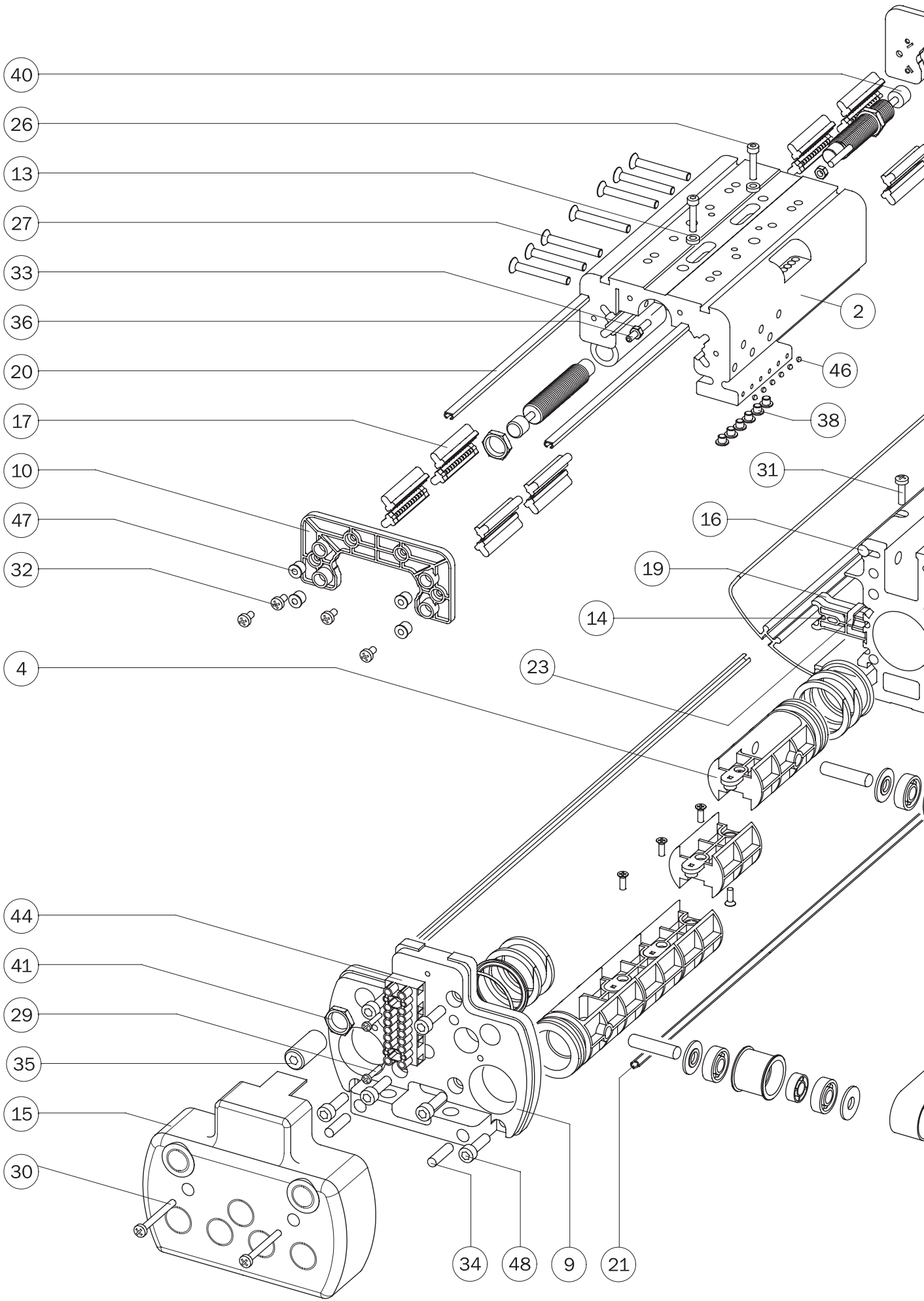
The preloading of the bearings had been set in factory. NEVER USE THE ADJUSTING SCREWS TOMODIFY IT.

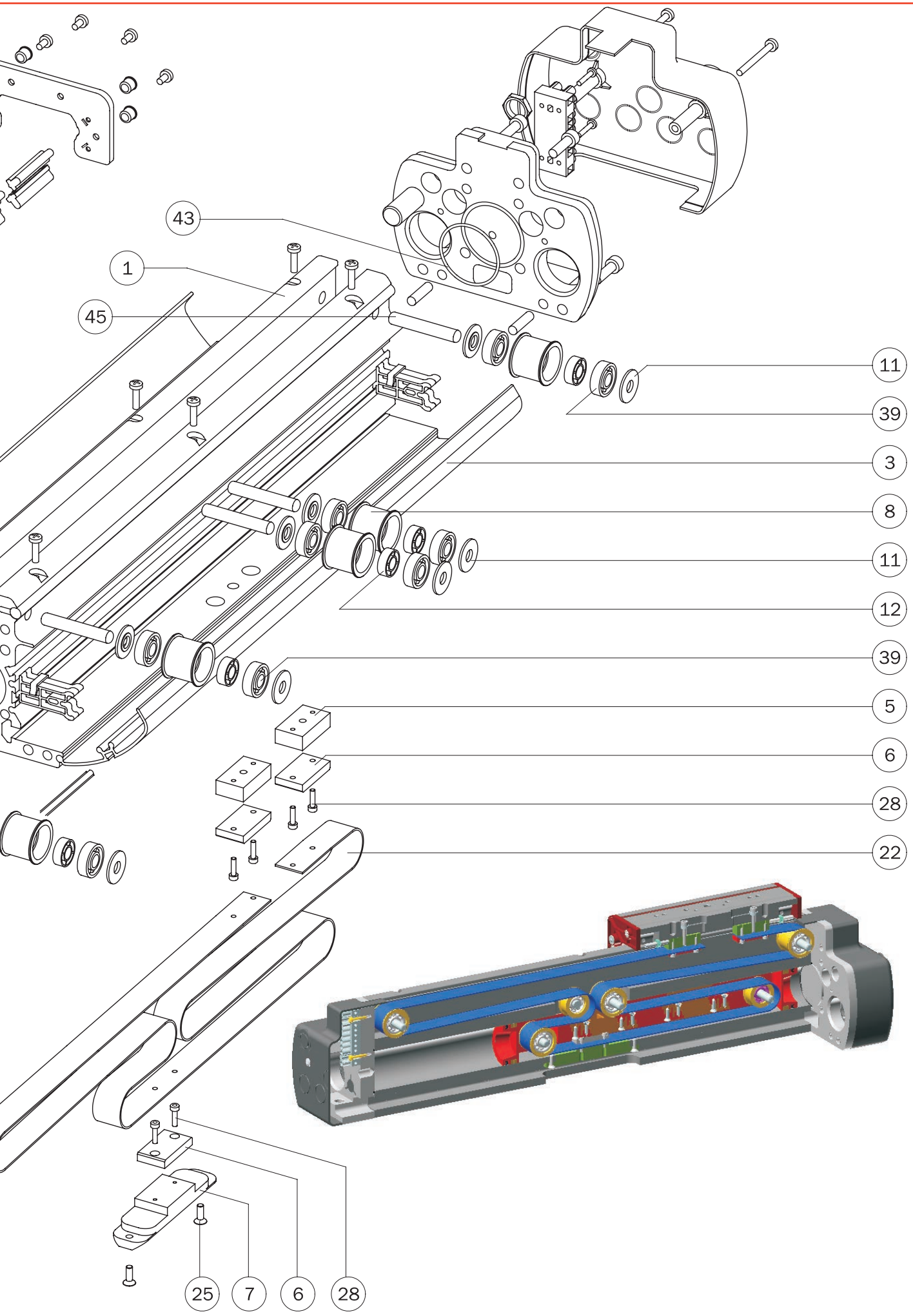
Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performance decreases.

Periodically check the steel bars and lubricate when dry. The suitable grease is available in 90 grams tubes. Ordering code: GLP500-90.



Vista esplosa / *Exploded view*



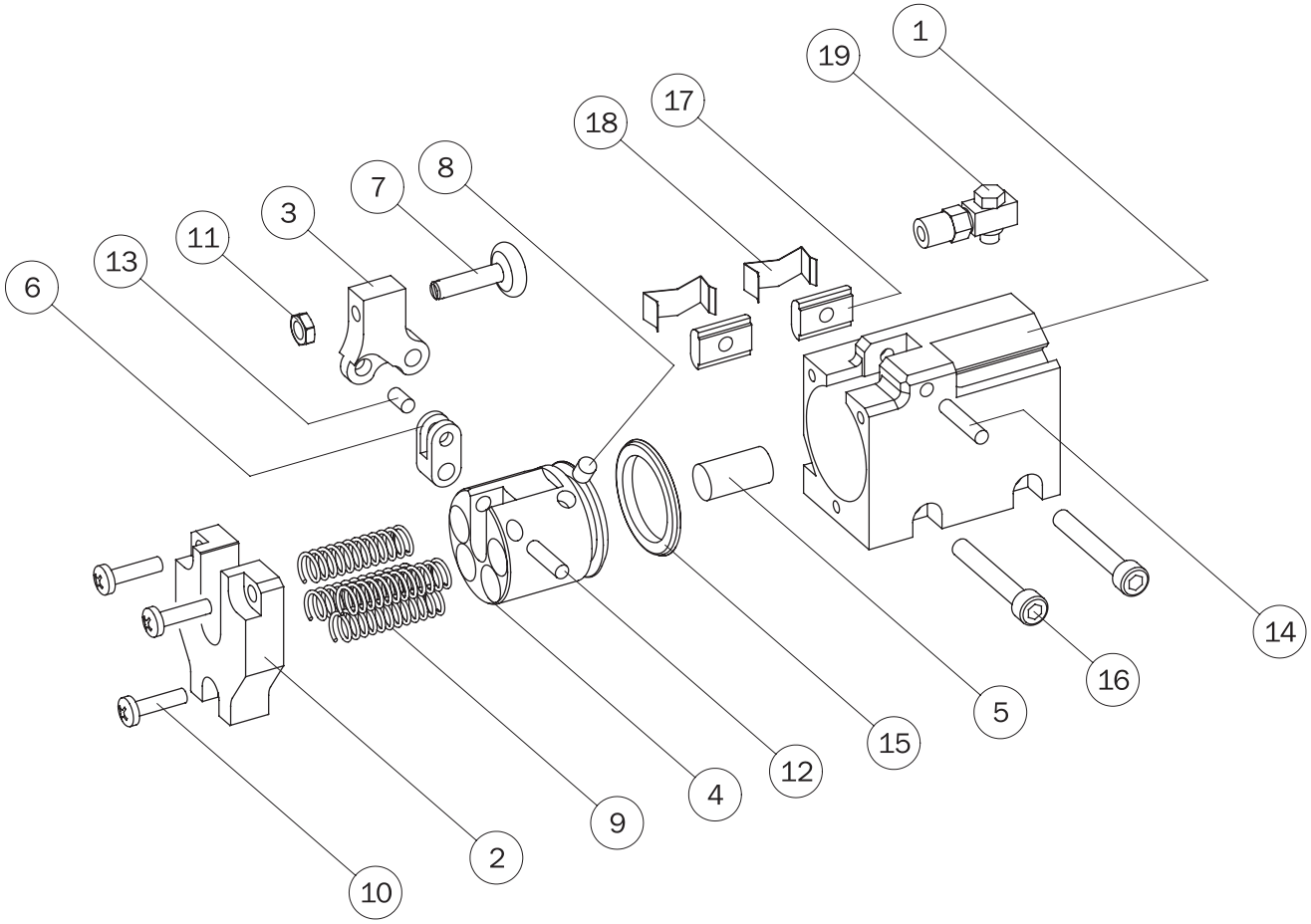

43
1
45
11
39
3
8
11
12
39
5
6
28
22
25
7
6
28

Elenco delle parti / *Part list*

		L40-0300	L40-0500	L40-0800	L40-1000	L40-1500	L40-2000		
1	Corpo	L40-0300-01	L40-0500-01	L40-0800-01	L40-1000-01	L40-1500-01	L40-2000-01	*Housing*	*1*
2	Carrello	L40-0300-02						*Carrier*	*2*
3	Carter laterale	L40-0300-03	L40-0500-02	L40-0800-02	L40-1000-02	L40-1500-02	L40-2000-02	*Side cover*	*3*
4	Pistone	L40-0300-04						*Piston*	*4*
5	Blocchetto tenditore	L40-0300-05						*Tightening block*	*5*
6	Blocchetto fissaggio cinghia	L40-0300-06						*Belt fixing block*	*6*
7	Blocchetto centrale	L40-0300-07						*Intermediate block*	*7*
8	Ruota	L40-0300-08						*Wheel*	*8*
9	Spalla	L40-0300-09						*End side plate*	*9*
10	Testata	L40-0300-10						*Head cap*	*10*
11	Rondella distanziale	L40-0300-11						*Spacer washer*	*11*
12	Distanziale	L40-0300-12						*Spacer*	*12*
13	Rondella	L40-0300-13						*Washer*	*13*
14	Staffa dx serraggio carter	L40-0300-14						*Right cover locking bracket*	*14*
15	Carter	L40-0300-15						*Head cover*	*15*
16	Guida	L40-0300-16	L40-0500-04	L40-0800-04	L40-1000-04	L40-1500-04	L40-2000-04	*Steel-rod guidance*	*16*
17	Cartuccia porta sfere	C-327						*Balls shoe*	*17*
19	Staffa sx serraggio carter	L40-0300-22						*Left cover locking bracket*	*19*
20	Profilo carrello	L40-0300-18						*Plastic strip*	*20*
21	Profilo carter laterale	L40-0300-19	L40-0500-05	L40-0800-05	L40-1000-05	L40-1500-05	L40-2000-05	*Plastic strip*	*21*
22	Cinghia di trascinamento	L40-0300-20	L40-0500-06	L40-0800-06	L40-1000-06	L40-1500-06	L40-2000-06	*Pulling belt*	*22*
23	Clip di bloccaggio	L40-0300-23						*Locking clip*	*23*
25	Vite	M4x12 mm DIN 965A INOX A2						*Screw*	*25*
26	Vite	M4x20 mm DIN 912 INOX A2						*Screw*	*26*
27	Vite	M5x40 mm DIN 7991						*Screw*	*27*
28	Vite	M3x12 mm DIN 912						*Screw*	*28*
29	Vite	M3x16 mm DIN 7985A INOX A2						*Screw*	*29*
30	Vite	M4x40 mm DIN 7985A INOX A2						*Screw*	*30*
31	Vite	M4x16 mm DIN 7985A INOX A2						*Screw*	*31*
32	Vite	M4x8 mm DIN 7985A INOX A2						*Screw*	*32*
33	Dado esagonale	M4 DIN 934 INOX A2						*Nut*	*33*
34	Spina di riferimento	Ø6x24 mm DIN 6325						*Dowel pin*	*34*
35	Vite senza testa	M14x1.5x50 mm DIN 913						*Grub screw*	*35*
36	Vite senza testa	M4x35 mm DIN 913 INOX A2						*Grub screw*	*36*
38	Tappo M5	107-M5						*Plug M5*	*38*
39	Cuscinetto radiale	Ø8xØ22x7						*Ball bearing*	*39*
40	Deceleratore idraulico	PM25MC-2SB-SP22039						*Shock-absorber*	*40*
41	Dado esagonale	DEK196						*Nut*	*41*
43	Anello di tenuta O-RING	Ø1.78x41 (GUAR-027)						*O-RING gasket*	*43*
44	Morsettiera	KL 16/8 PA cod. 29.400.0853.0						*8 stud terminal block*	*44*
45	Spina di riferimento	Ø8x50 mm DIN 6325						*Dowel pin*	*45*
46	Sfera	Ø3 mm AA DIN 5401 A						*Ball*	*46*
47	Oliatore a sfera	Ø8 mm UNI 2663						*Ball oiler*	*47*
48	Vite	M6x20 mm DIN 912 INOX A2						*Screw*	*48*

Vista esplosa / *Exploded view*

Unità di arresto intermedio / *Intermediate stopping units*



		LS-32-DX	LS-32-SX		
1	Corpo	LS-32DX-01	LS-32SX-01	*Housing*	*1*
2	Coperchio	LS-32DX-10		*Cover*	*2*
3	Leva	LS-32DX-03		*Lever*	*3*
4	Pistone	LS-32DX-04		*Piston*	*4*
5	Ammortizzatore	LS-32DX-05		*Shock-absorber*	*5*
6	Spalla	LS-32DX-06		*End side plate*	*6*
7	Fermo	LS-32DX-07		*End stroke screw*	*7*
8	Magnete	FES-16-3-9		*Magnet*	*8*
9	Molla di compressione	LS-32DX-08		*Spring*	*9*
10	Vite	INOX A2 M4x16 mm DIN 7985A		*Screw*	*10*
11	Dado	INOX A2 M5 DIN 934		*Nut*	*11*
12	Spina di riferimento	Ø4x20 mm DIN 6325		*Dowel pin*	*12*
13	Spina di riferimento	Ø4x8 mm DIN 6325		*Dowel pin*	*13*
14	Spina di riferimento	Ø4x25 mm DIN 6325		*Dowel pin*	*14*
15	Guarnizione dinamica	32x24x3.5 (GUAR-063)		*Dynamic gasket*	*15*
16	Vite	INOX A2 M5x35 mm DIN 912		*Screw*	*16*
17	Dado	"BOSCH" cod. 3842529319		*Nut*	*17*
18	Molla	"BOSCH" cod. 3842516686		*Spring*	*18*
19	Gomito orientabile filettato	RGR5.40		*Elbow fitting*	*19*

Interfaccia A25 (+90°)

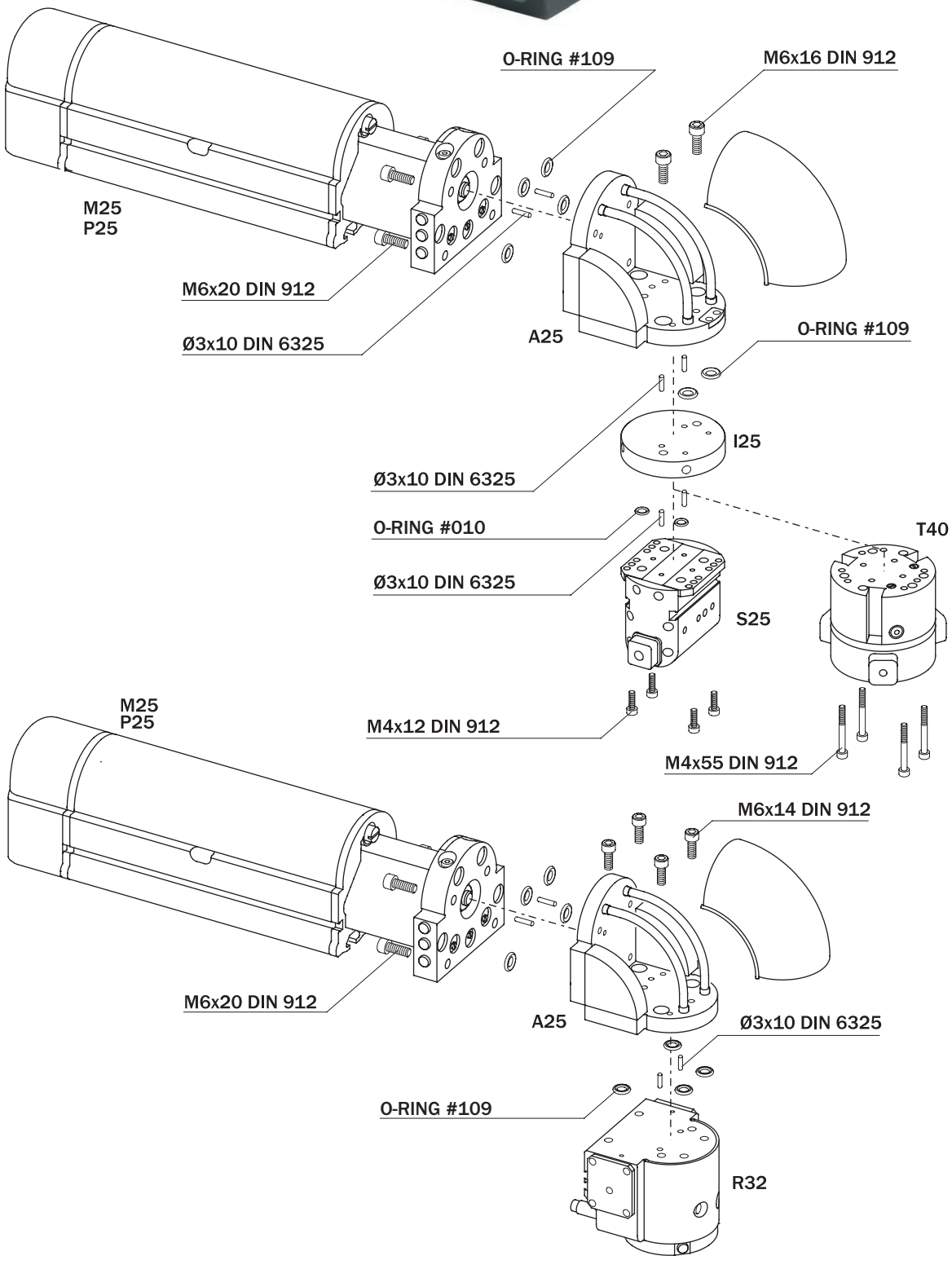
- L'interfaccia A25 è necessaria quando l'asse di rotazione e/o di presa debba essere posto a 90° rispetto all'asse di traslazione o rispetto all'asse di rotazione.
- Peso: 0.540 kg.

Interface A25 (+90°)

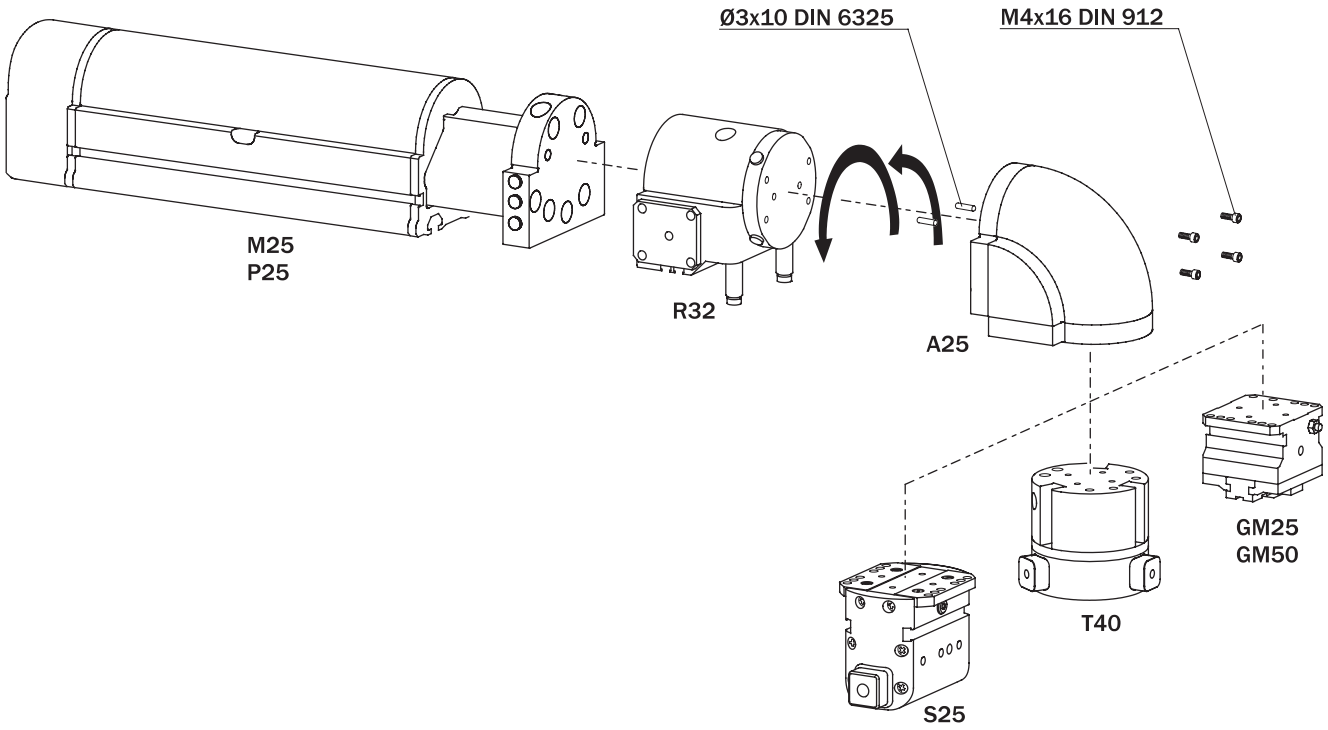
- *If the axis of rotation and/or picking must be at 90° to the translation axis, use the interface A25.*
- *Weight: 0.540 kg.*



A25



Esempio di applicazione/ *Application example*



Rimozione della copertura

Per accedere correttamente alla zona interna di fissaggio dell'interfaccia A25, seguire le istruzioni qui riportate in sequenza:

- premere leggermente nella posizione e nel senso indicati dalla freccia;
- mantenendo la pressione, infilare un cacciavite nella fessura creatasi e fare leva nel senso indicato dalla freccia.

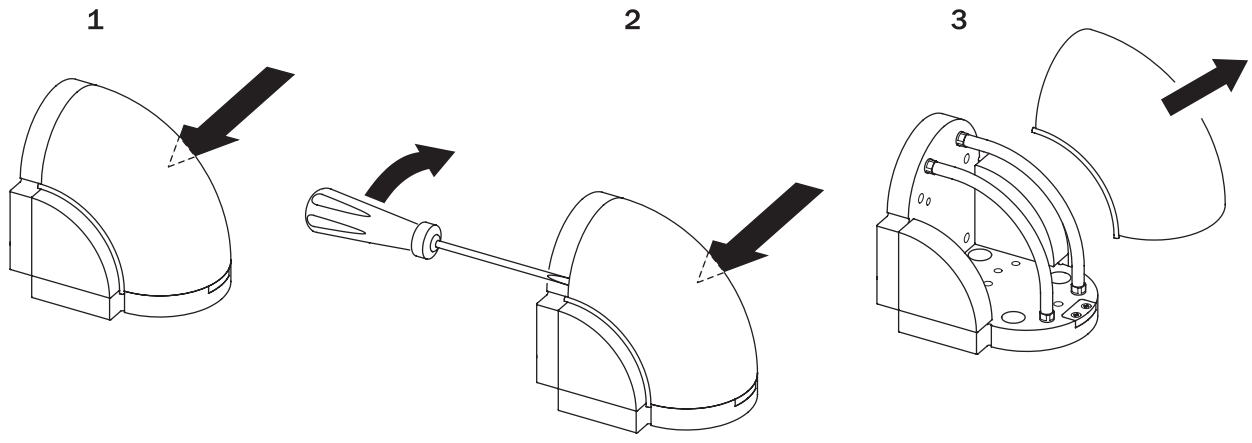
ATTENZIONE: la non osservanza di tali istruzioni può danneggiare irreparabilmente il carter.

Cover removal

To open correctly the A25, follow the instructions below in sequence:

- *press on the plastic part as shown;*
- *while keeping it pressed, insert a screwdriver in the slot and raise the plastic cover.*

CAUTION: failure to follow the above instructions properly can result in an irreparable damage of the cover.

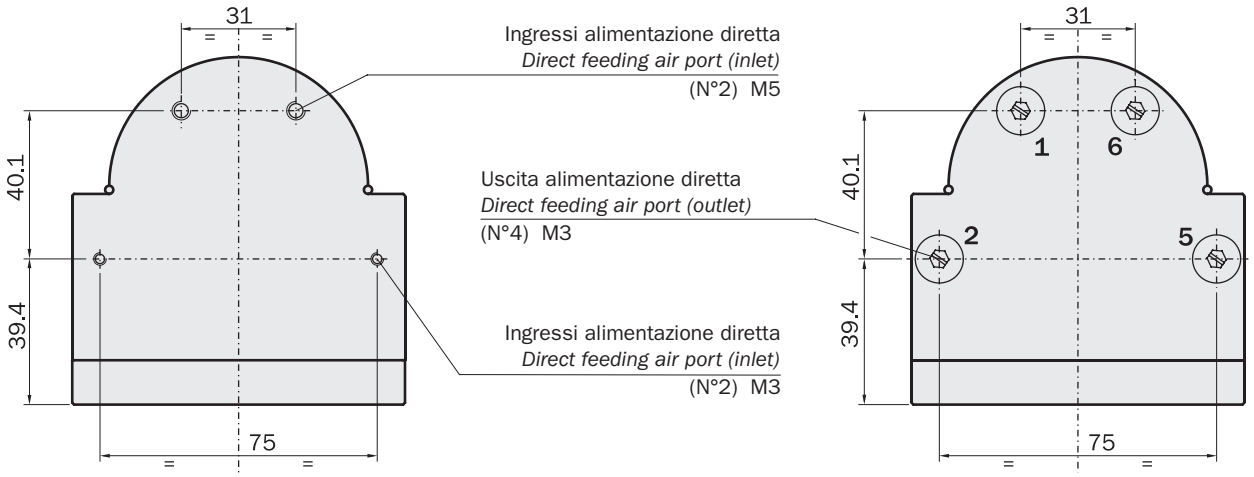


Alimentazione

L'interfaccia è dotata di quattro canali di alimentazione, che consentono di portare l'aria compressa da una faccia all'altra, per alimentare direttamente eventuali accessori, senza bisogno di tubi esterni.

Feeding

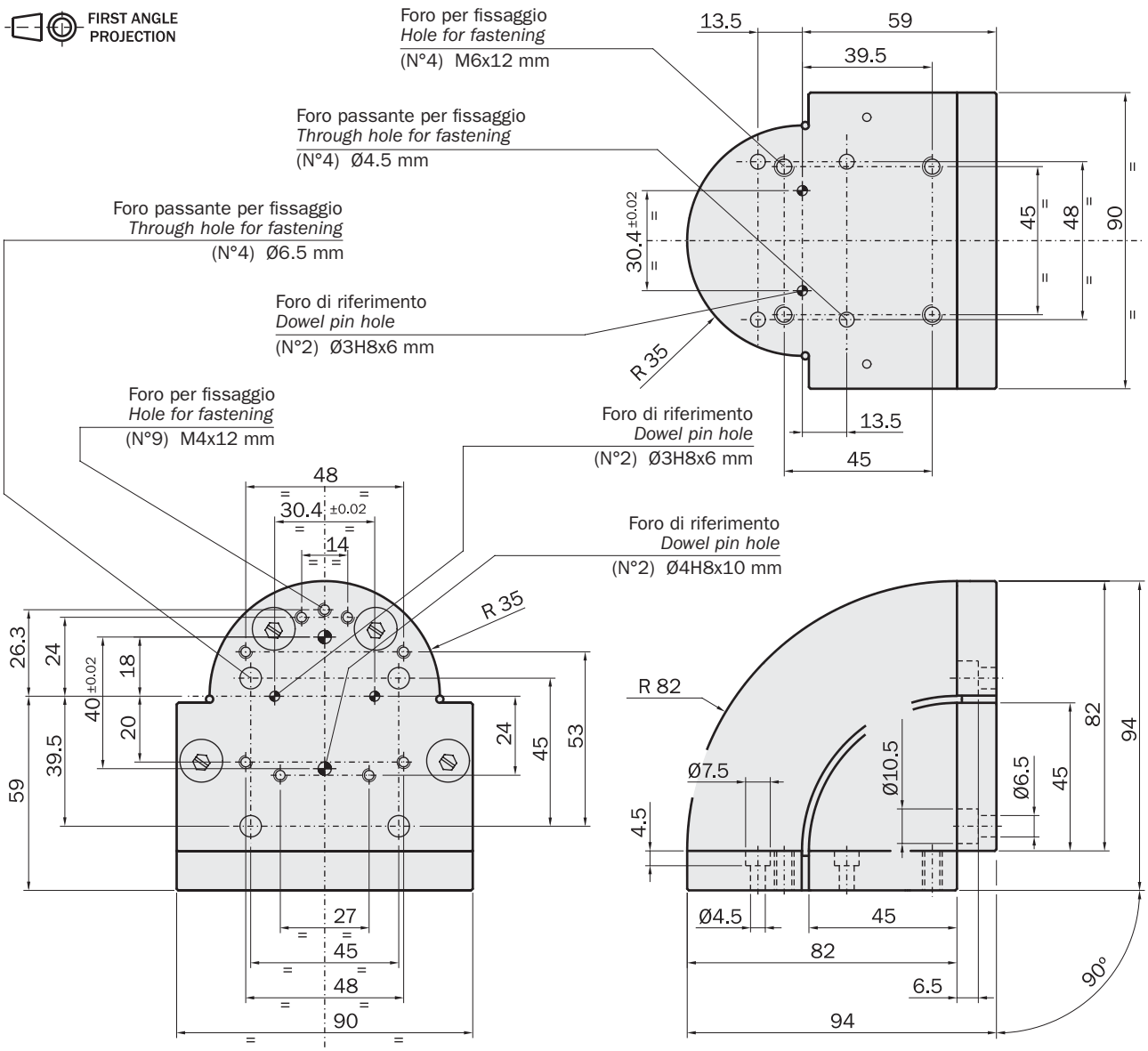
The interface is provided with four integrated air leads, which bring the compressed air from one side to the other, allowing the direct feeding of accessories without external hoses.



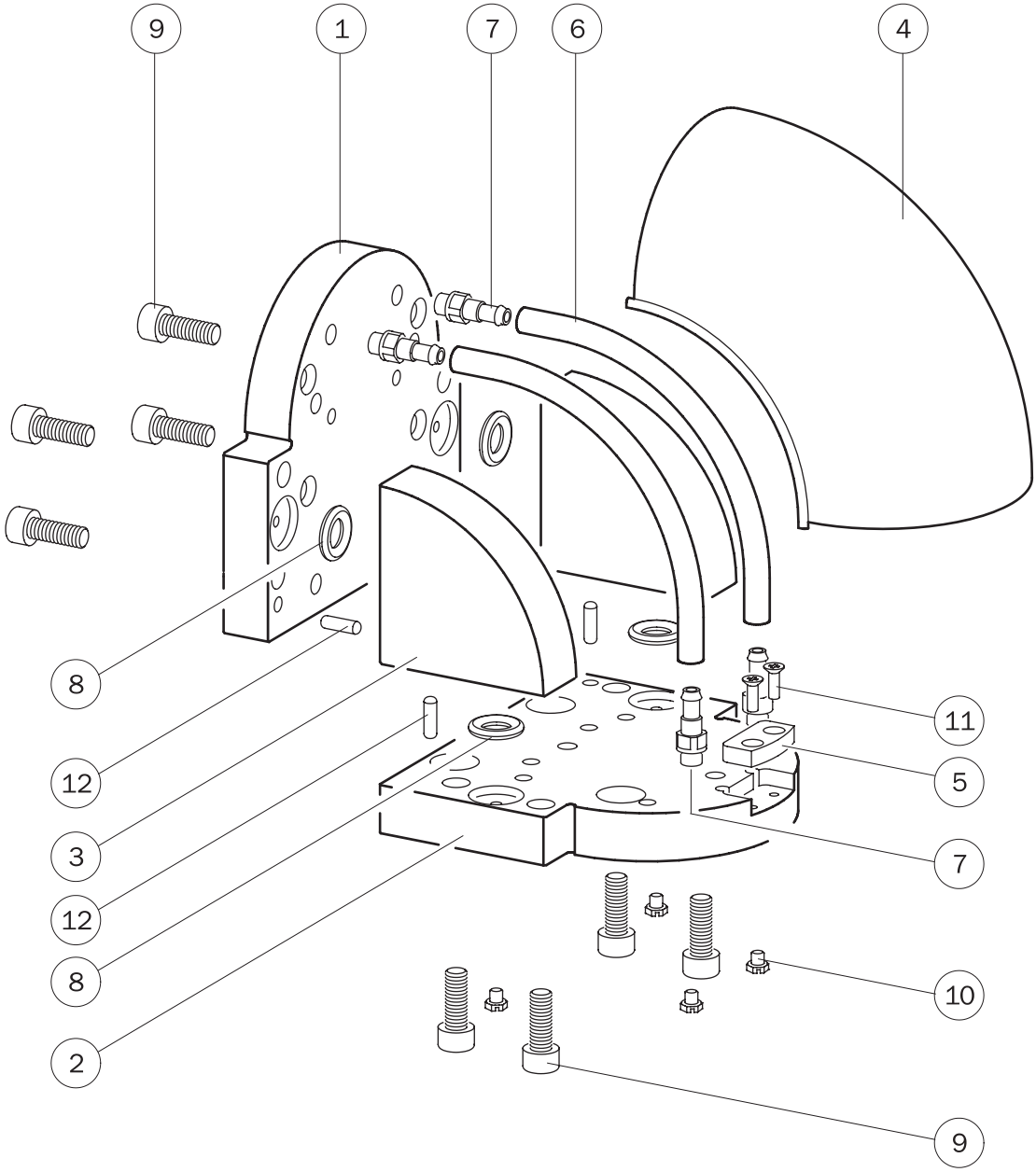
Dimensioni (mm) / *Dimensions (mm)*

A25

FIRST ANGLE PROJECTION



Elenco delle parti / *Part list*



1	Piastra di interfaccia	A25-1	*Plate*	*1*
2	Piastra di interfaccia	A25-2	*Plate*	*2*
3	Spalla	A25-3	*Shoulder*	*3*
4	Calotta	A25-4	*Cover*	*4*
5	Inserto	M2550-16	*Insert*	*5*
6	Tubo	Ø6xØ4 L=28 mm	*Hose*	*6*
7	Nipplo spinato M5	DT-186	*Fitting*	*7*
8	Anello di tenuta O-RING	Ø2.62x7.6 (GUAR-060)	*O-RING gasket*	*8*
9	Vite	M5x14 mm DIN 912 INOX A2	*Screw*	*9*
10	Tappo M3	DT-205	*Plug M3*	*10*
11	Vite	M2.5x8 mm DIN 965A INOX A2	*Screw*	*11*
12	Spina di riferimento	Ø3x10 mm DIN 6325	*Dowel pin*	*12*

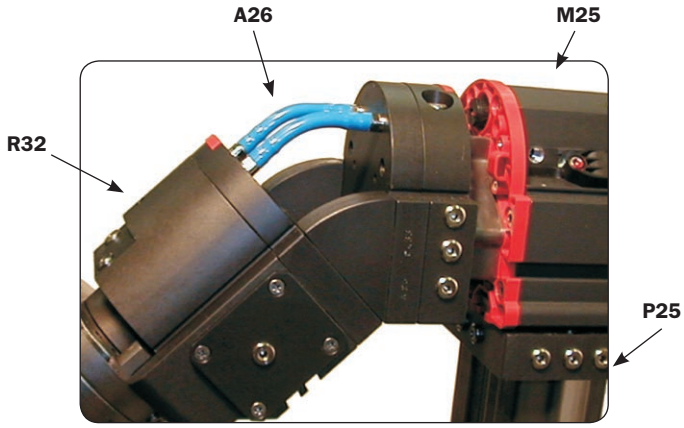
Interfaccia A26 (+45°)

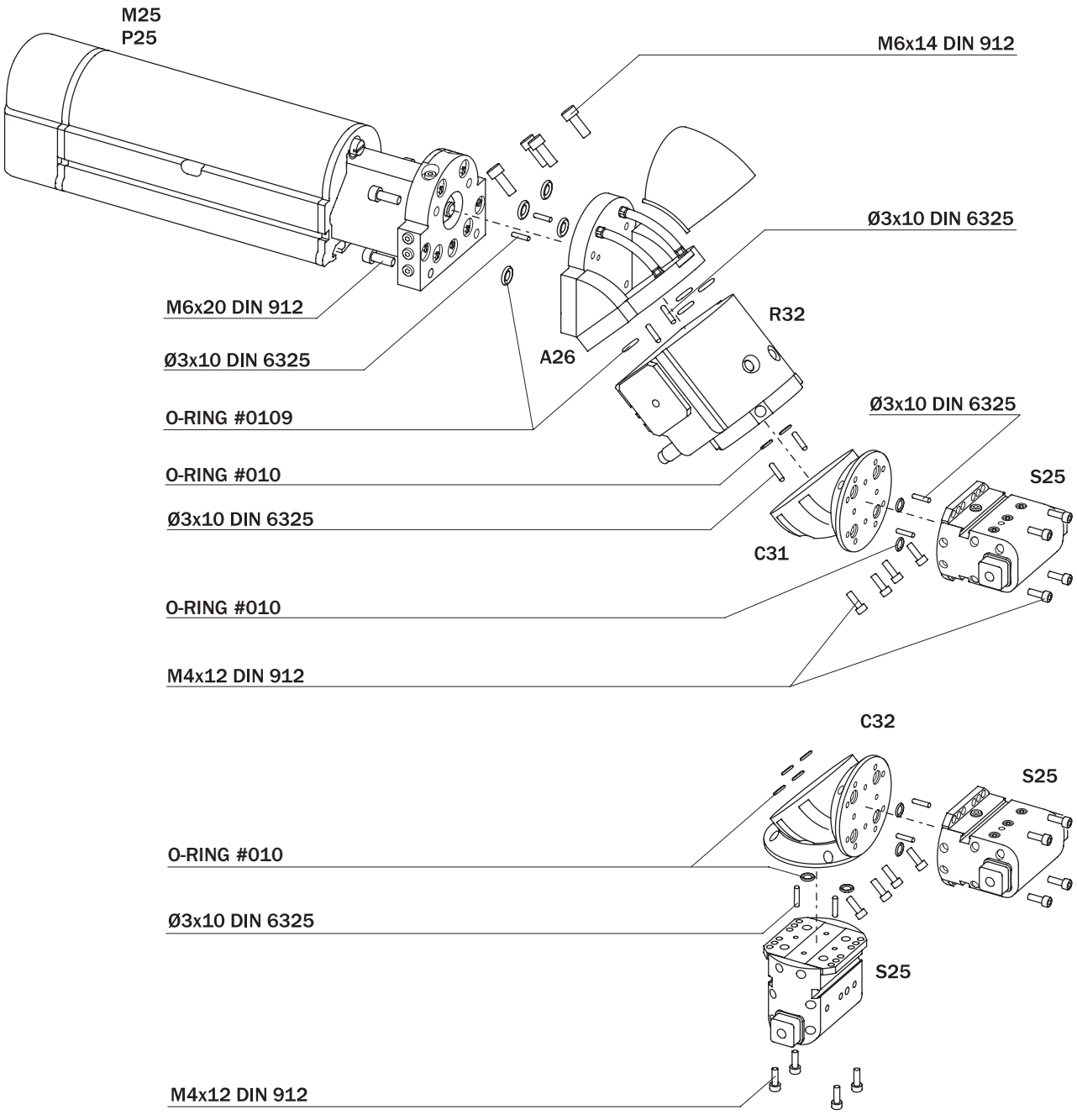
- L'interfaccia A26 viene utilizzata nel caso di traslazione orizzontale quando è necessario fare ruotare l'asse di presa di 90° (verticale - orizzontale) rispetto al piano di lavoro.
- Peso: 0.5 kg.

Interface A26 (+45°)

- *The interface A26 is of use when, in case of horizontal translation, it is necessary to rotate the picking axis by 90° (vertical - horizontal).*
- *Weight: 0.5 kg.*





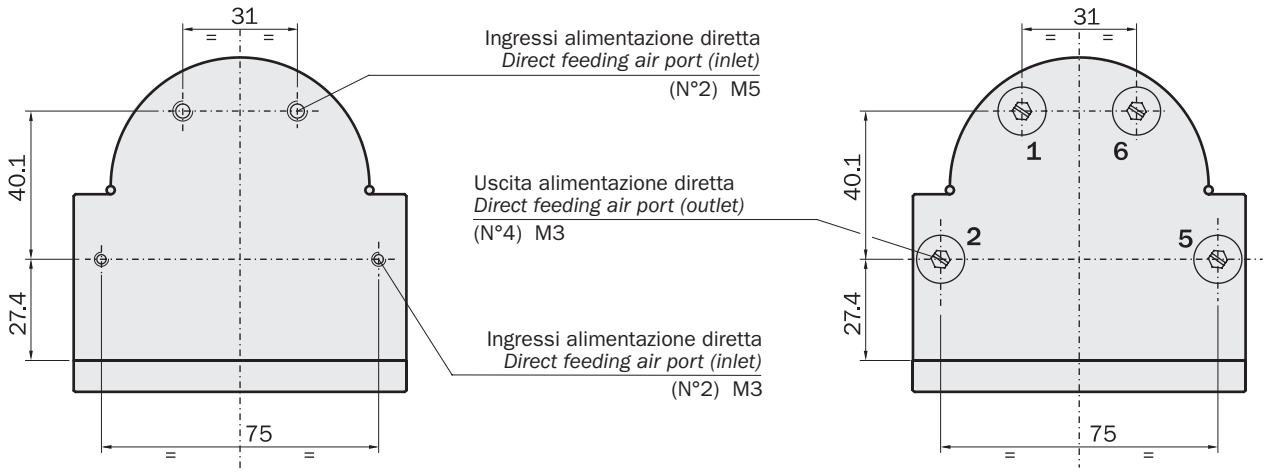


Alimentazione

L'interfaccia è dotata di quattro canali di alimentazione, che consentono di portare l'aria compressa da una faccia all'altra, per alimentare direttamente eventuali accessori, senza bisogno di tubi esterni.

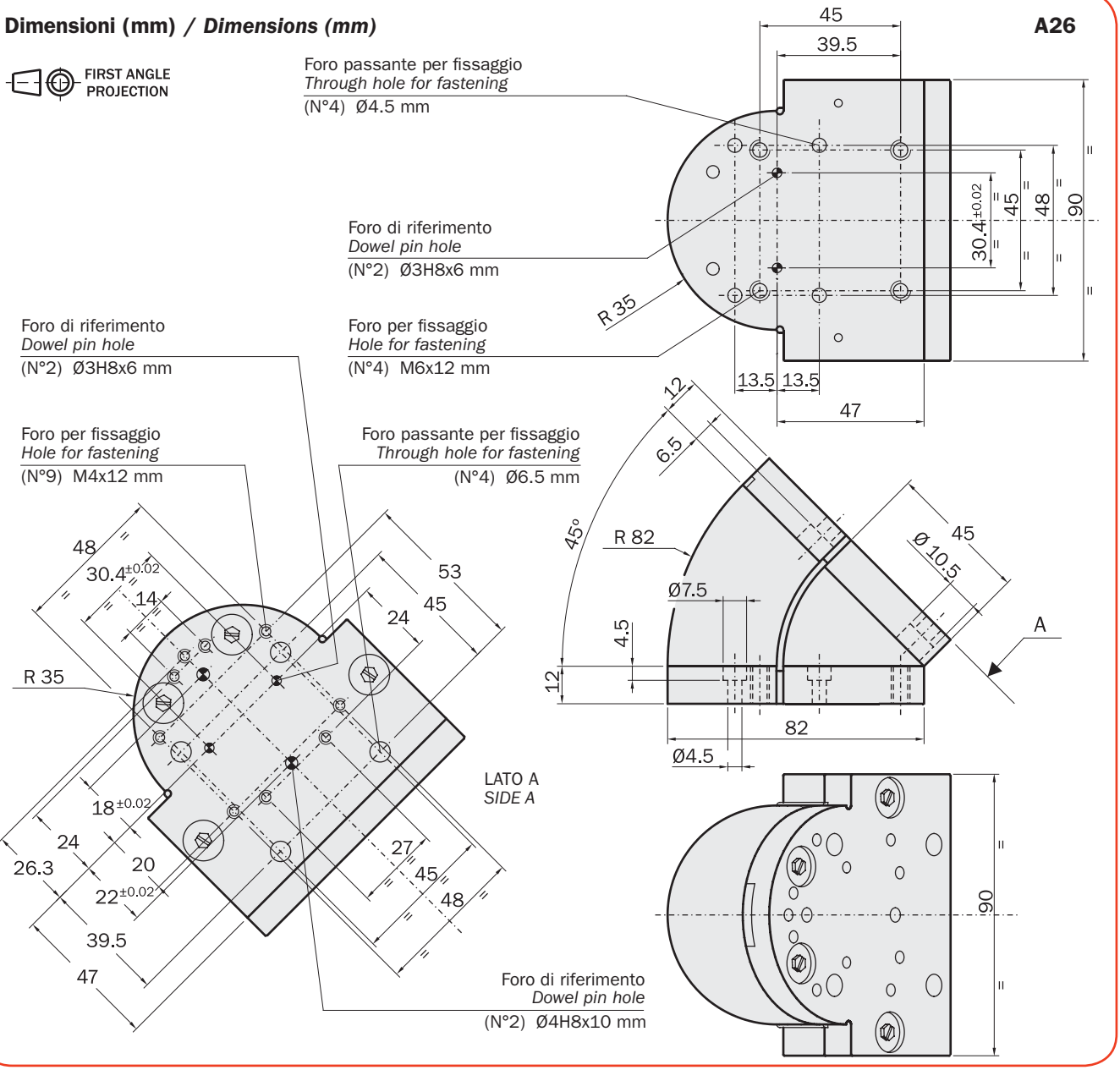
Feeding

The interface is equipped with four air feeding channels, which bring the compressed air from one side to the other, allowing the direct feeding of accessories without external hoses.



Dimensioni (mm) / *Dimensions (mm)*

A26



Rimozione della copertura

Per accedere correttamente alla zona interna di fissaggio dell'interfaccia A26, seguire le istruzioni qui riportate in sequenza:

- premere leggermente nella posizione e nel senso indicati dalla freccia (1);
- mantenendo la pressione, infilare un cacciavite nella fessura creatasi e fare leva nel senso indicato dalla freccia (2) (3).

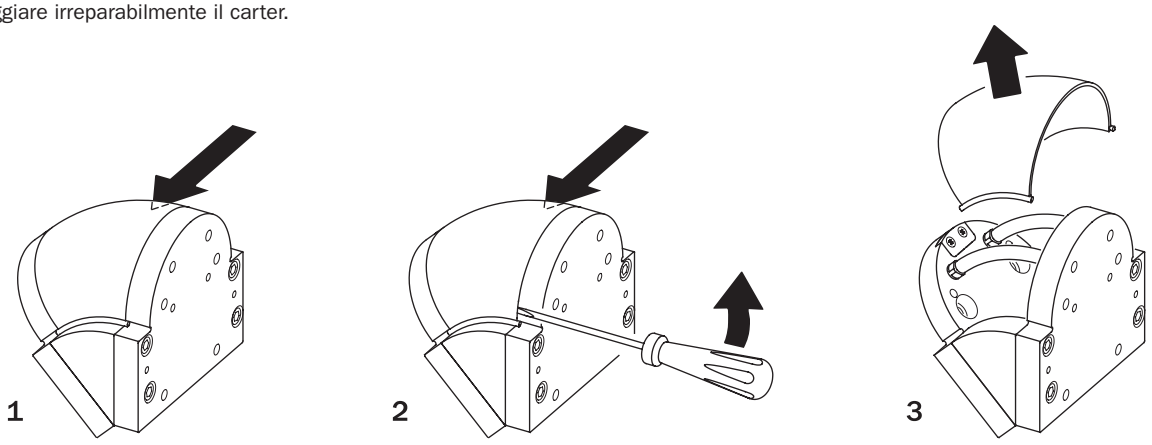
ATTENZIONE: la non osservanza di tali istruzioni può danneggiare irreparabilmente il carter.

Cover removal

To open correctly the A26, follow the instructions below in sequence:

- *press on the plastic part as shown (1);*
- *while keeping it pressed, insert a screwdriver in the slot and raise the plastic cover (2) (3).*

CAUTION: failure to follow the above instructions properly can result in an irreparable damage of the cover.



Istruzioni di montaggio

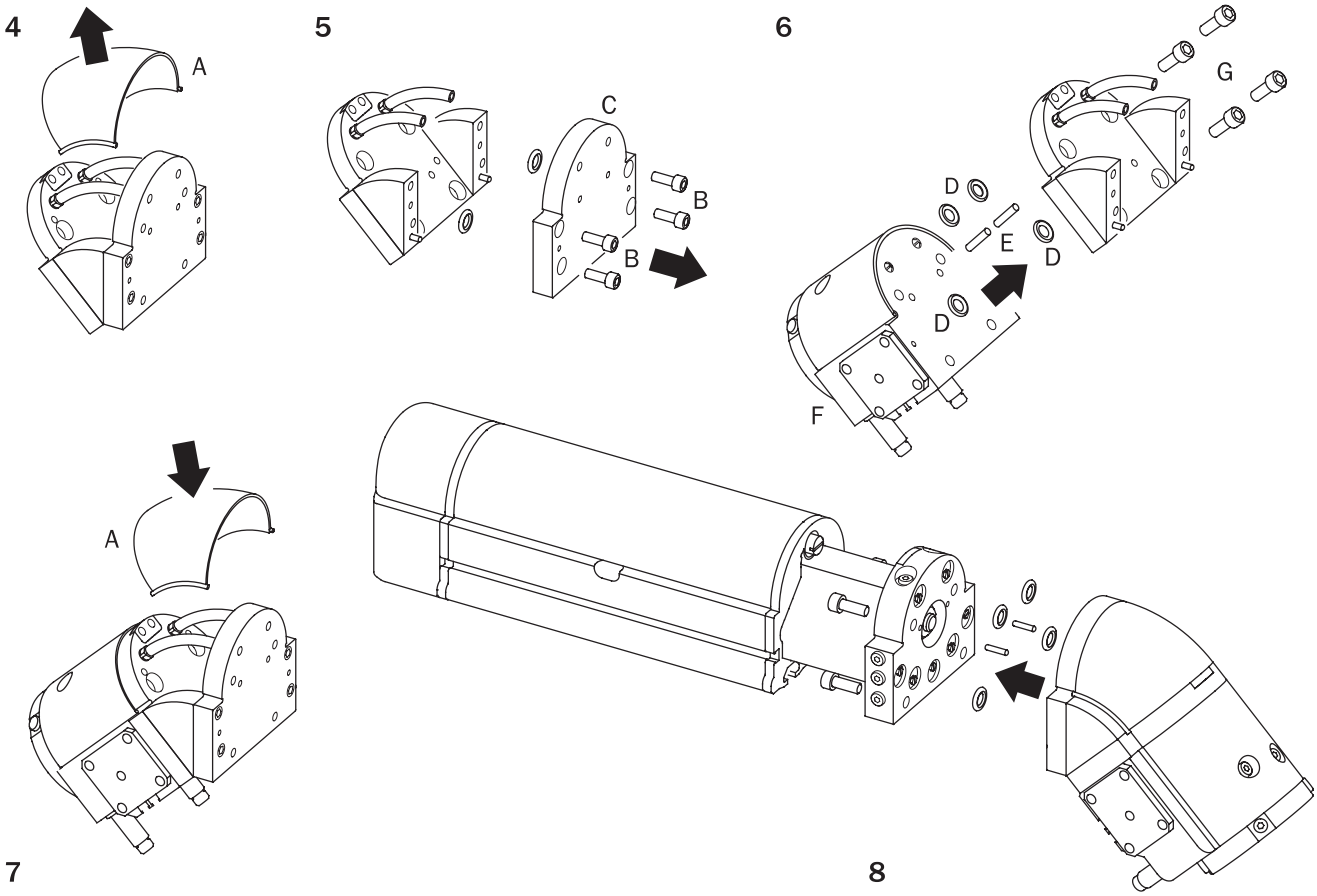
Prima di montare l'interfaccia A26 sull'attuatore lineare M25, fissarla all'attuatore rotante R32 come di seguito illustrato:

- rimuovere la copertura (A) come descritto sopra;
- svitare le viti (B) e smontare la piastra (C);
- posizionare nelle proprie sedi gli o-ring (D) e le spine di centraggio (E), quindi bloccare l'attuatore rotante R32 (F) con le viti (G).

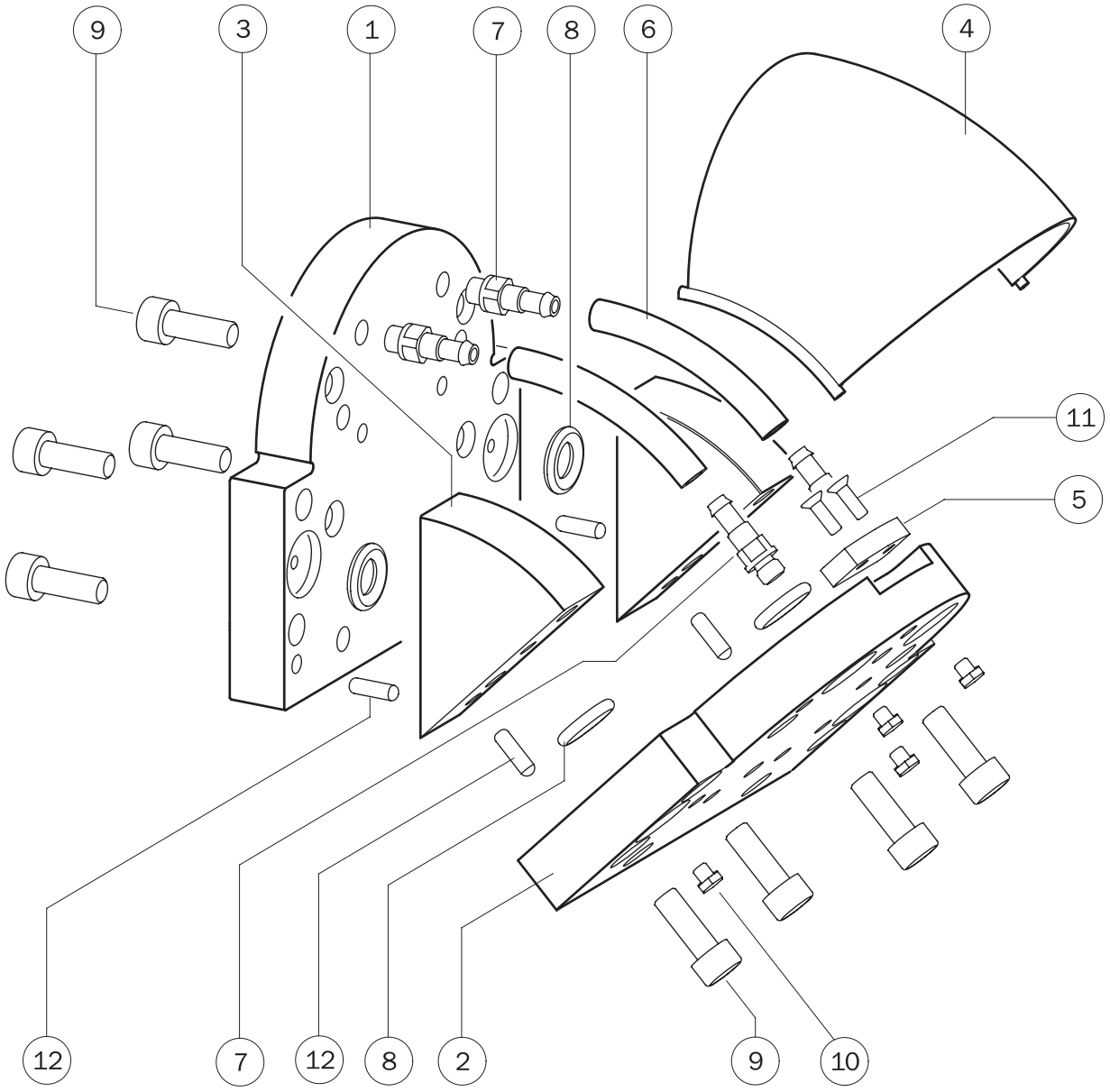
Mounting instructions

Before mounting the interface A26 on the linear actuator M25, it is necessary to fit it to the swivelling actuator R32 following the instructions below in sequence:

- *Remove the plastic cover (A) as previously explained;*
- *Unscrew the screws (B) and disassemble the plate (C);*
- *Position the o-ring gaskets (D), and dowel pins (E) in their seats and then fasten the swivelling actuator R32 (F) with the screws (G).*



Elenco delle parti / *Part list*



1	Piastra di interfaccia	A25-1	*Plate*	*1*
2	Piastra di interfaccia	A25-2	*Plate*	*2*
3	Spalla	A26-3	*Shoulder*	*3*
4	Calotta	A26-4	*Cover*	*4*
5	Inserto	M2550-16	*Insert*	*5*
6	Tubo	Ø6xØ4 L=45 mm	*Hose*	*6*
7	Nipplo spinato M5	DT-186	*Fitting*	*7*
8	Anello di tenuta O-RING	Ø2.62x7.6 (GUAR-060)	*O-RING gasket*	*8*
9	Vite	M5x14 mm DIN 912 INOX A2	*Screw*	*9*
10	Tappo M3	DT-205	*Plug M3*	*10*
11	Vite	M2.5x8 mm DIN 965A INOX A2	*Screw*	*11*
12	Spina di riferimento	Ø3x10 mm DIN 6325	*Dowel pin*	*12*

Interfaccia A27 (-45°)

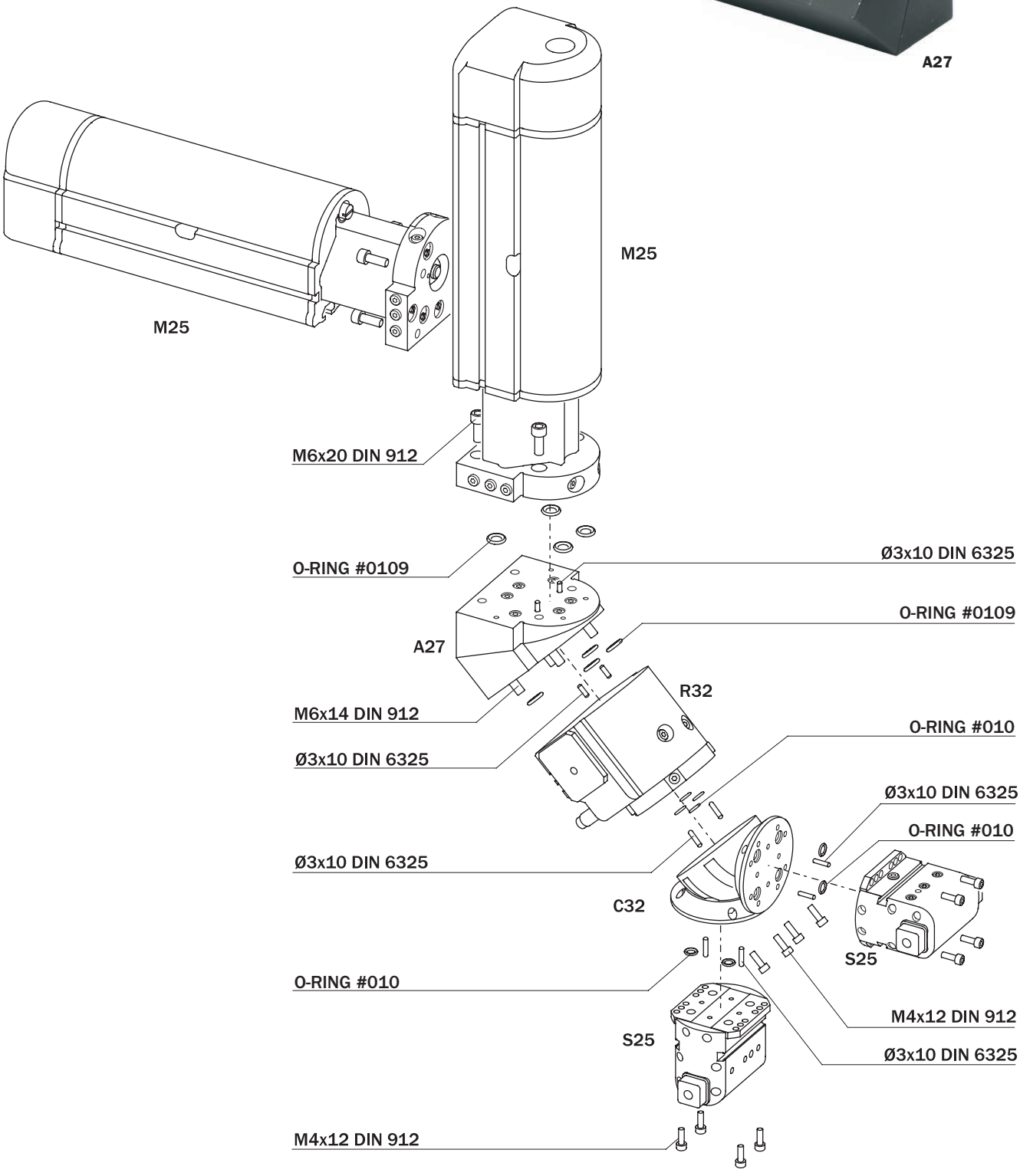
- L'interfaccia A27 viene utilizzata nel caso di traslazione verticale quando è necessario fare ruotare l'asse di presa, di una o due pinze, di 90° (verticale - orizzontale) rispetto al piano di lavoro.
- Peso: 0.750 kg.

Interface A27 (-45°)

- *The interface A27 is of use when, in case of vertical translation, it is necessary to rotate the picking axis, of one or two grippers, by 90° (vertical - horizontal).*
- *Weight: 0.750 kg.*



A27

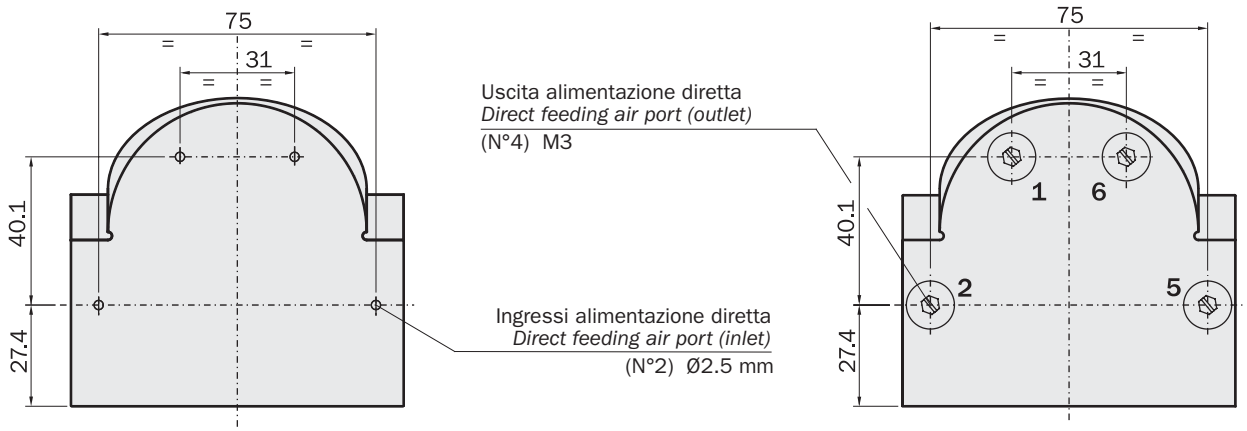


Alimentazione

L'interfaccia è dotata di quattro canali di alimentazione, che consentono di portare l'aria compressa da una faccia all'altra, per alimentare direttamente eventuali accessori, senza bisogno di tubi esterni.

Feeding

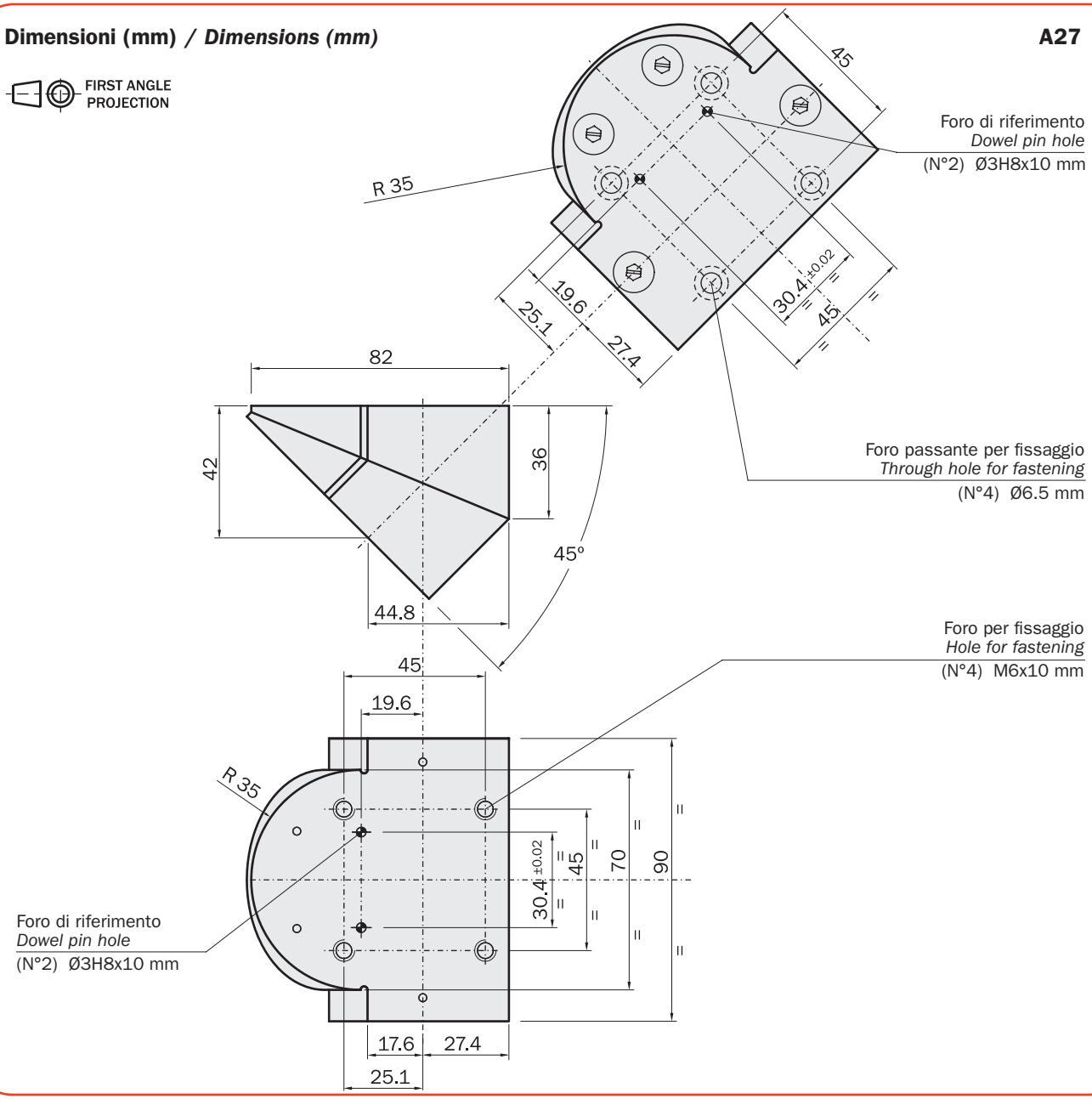
The interface is provided with four integrated air channels, which bring the compressed air from one side to the other, allowing the direct feeding of accessories without external hoses.



Dimensioni (mm) / *Dimensions (mm)*

A27

FIRST ANGLE PROJECTION



Istruzioni di montaggio

Prima di montare l'interfaccia A27 sull'attuatore lineare M25, fissarla all'attuatore rotante R32 come di seguito illustrato:

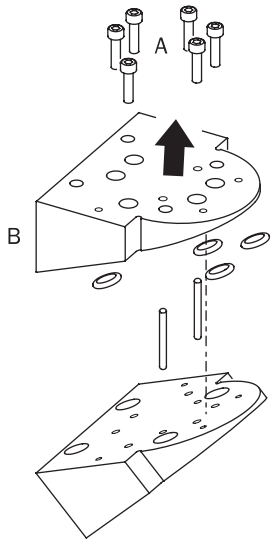
- svitare le viti (A) e smontare la piastra (B);
- posizionare nelle proprie sedi gli o-ring (C) e le spine di centraggio (D), quindi bloccare l'attuatore rotante R32 (E) con le viti (F).

Mounting instructions

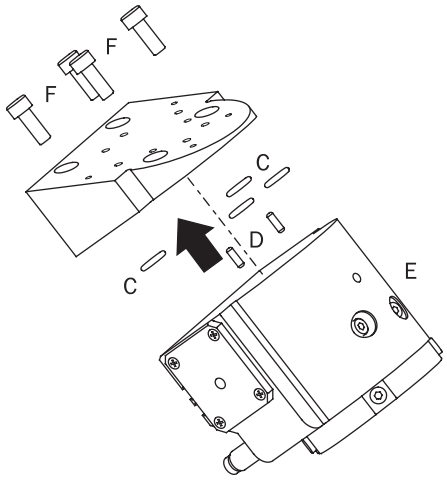
Before mounting the interface A27 on the linear actuator M25, it is necessary to fit it to the swivelling actuator R32 following the instructions below in sequence:

- *Unscrew the screws (A) and disassemble the plate (B);*
- *Position the o-ring gaskets (C), and dowel pins (D) in their seats and then, fasten the swivelling actuator R32 (E) with the screws (F).*

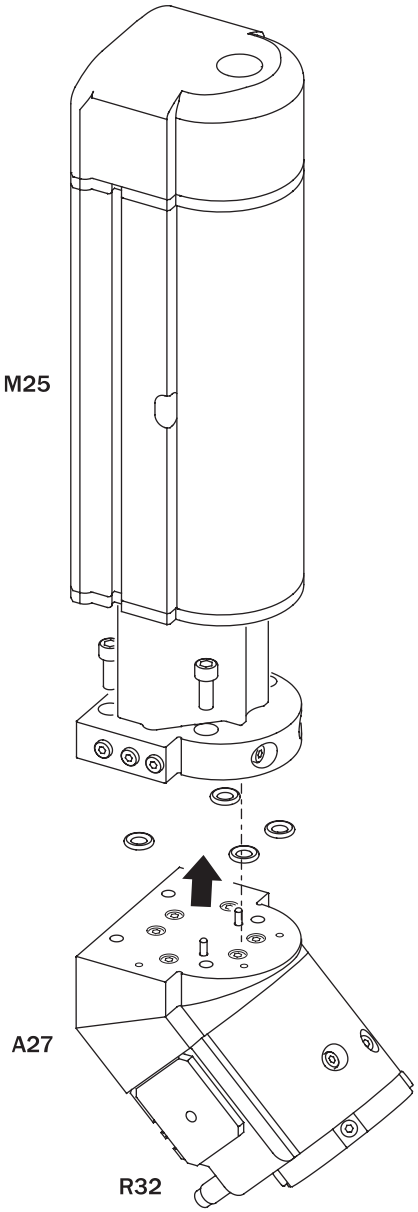
1



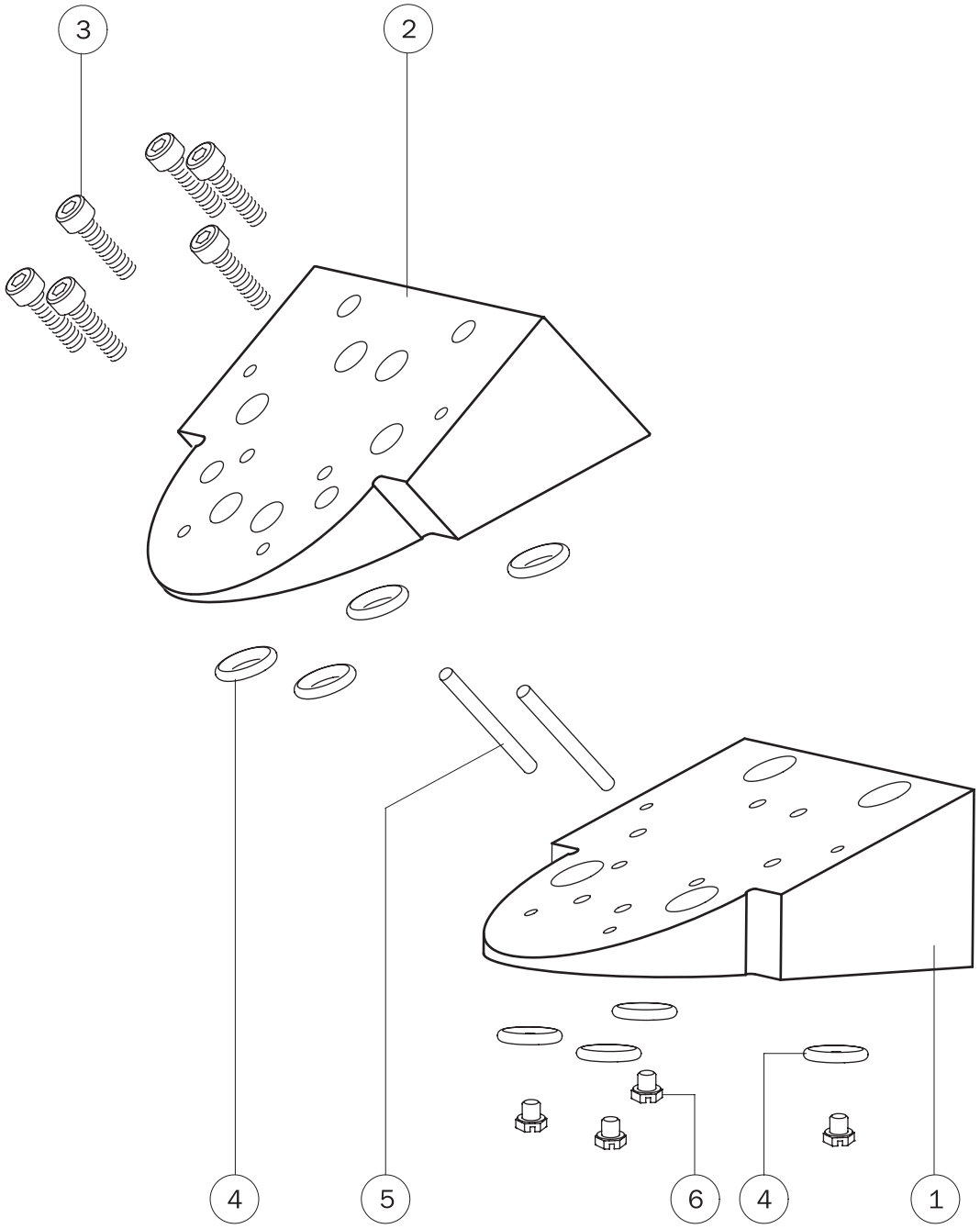
2



3



Elenco delle parti / *Part list*



1	Piastra di interfaccia	B32-3	*Plate*	*1*
2	Piastra di interfaccia	B32-4	*Plate*	*2*
3	Vite	M4x16 mm DIN 912 INOX A2	*Screw*	*3*
4	Anello di tenuta O-RING	Ø2.62x7.6 (GUAR-060)	*O-RING gasket*	*4*
5	Spina di riferimento	Ø3x30 mm DIN 6325	*Dowel pin*	*5*
6	Tappo M3	DT-205	*Plug M3*	*6*

Interfaccia A28 (-90°)

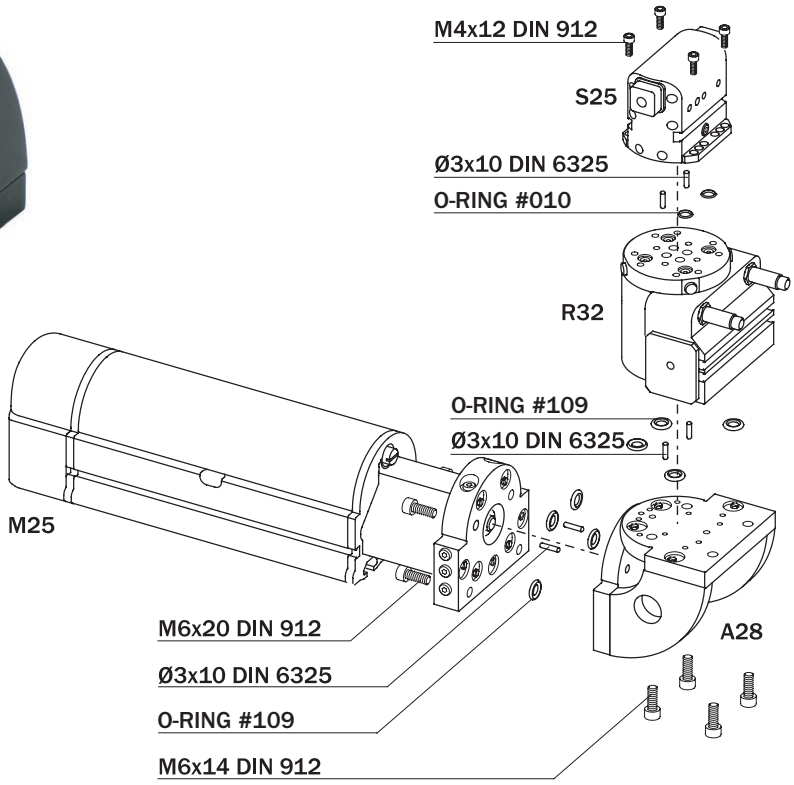
- L'interfaccia A28 è necessaria quando l'asse di rotazione e/o di presa debba essere posto a -90° rispetto all'asse di traslazione.
- Peso: 0.6 kg.

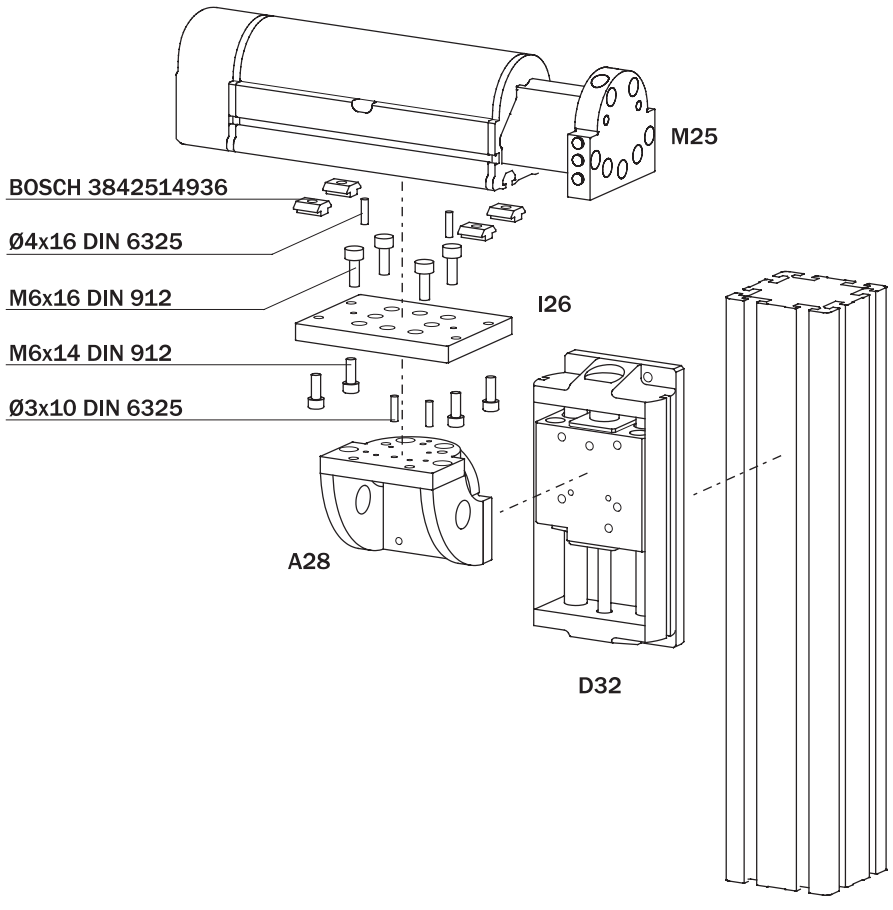
Interface A28 (-90°)

- *The interface A28 is used when the axis of rotation and/or picking must be at -90° to the translation axis.*
- *Weight: 0.6 kg.*



A28



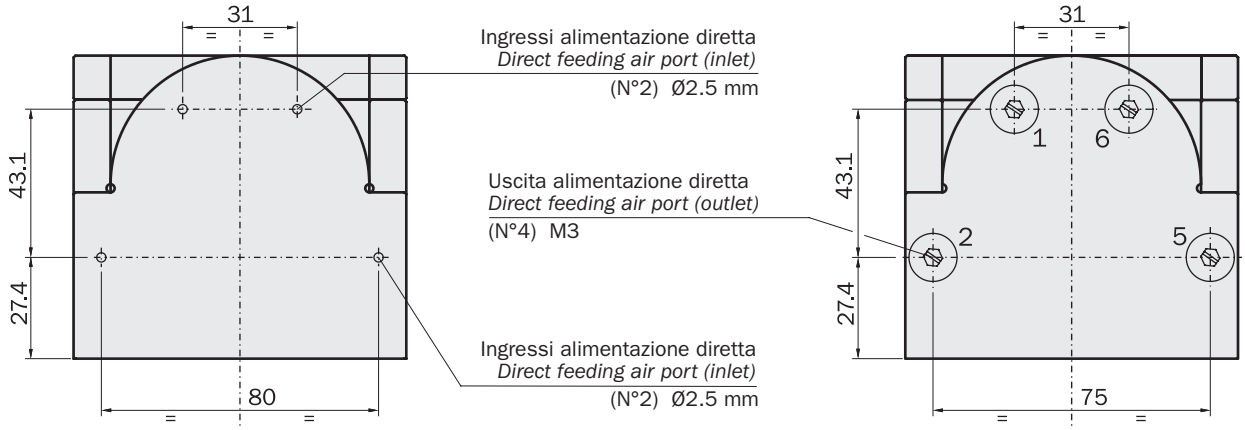


Alimentazione

L'interfaccia è dotata di quattro canali di alimentazione, che consentono di portare l'aria compressa da una faccia all'altra, per alimentare direttamente eventuali accessori, senza bisogno di tubi esterni.

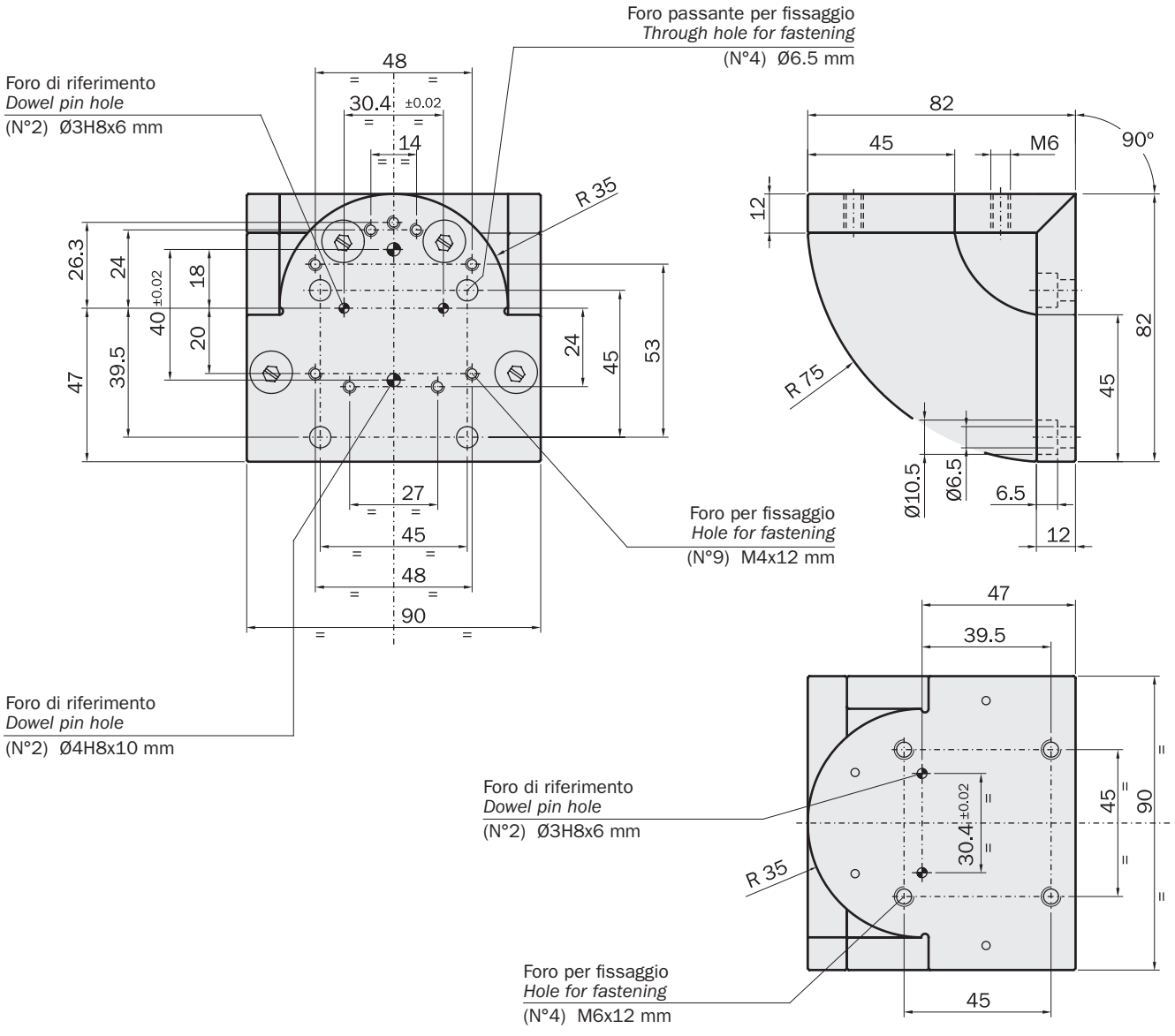
Feeding

The interface is provided with four integrated air channels, which bring the compressed air from one side to the other, allowing the direct feeding of accessories without external hoses.

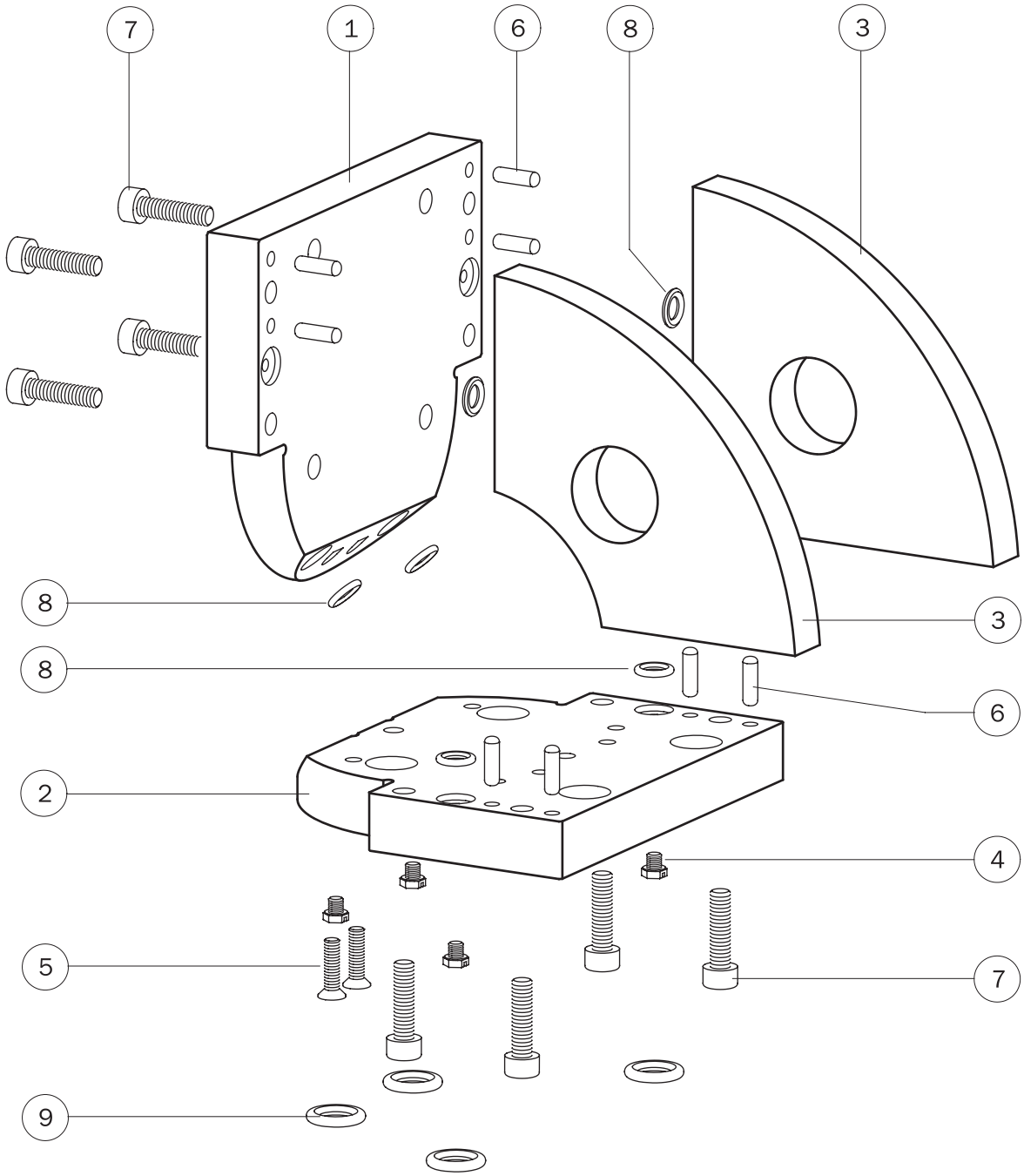


Dimensioni (mm) / *Dimensions (mm)*

A28



Elenco delle parti / *Part list*



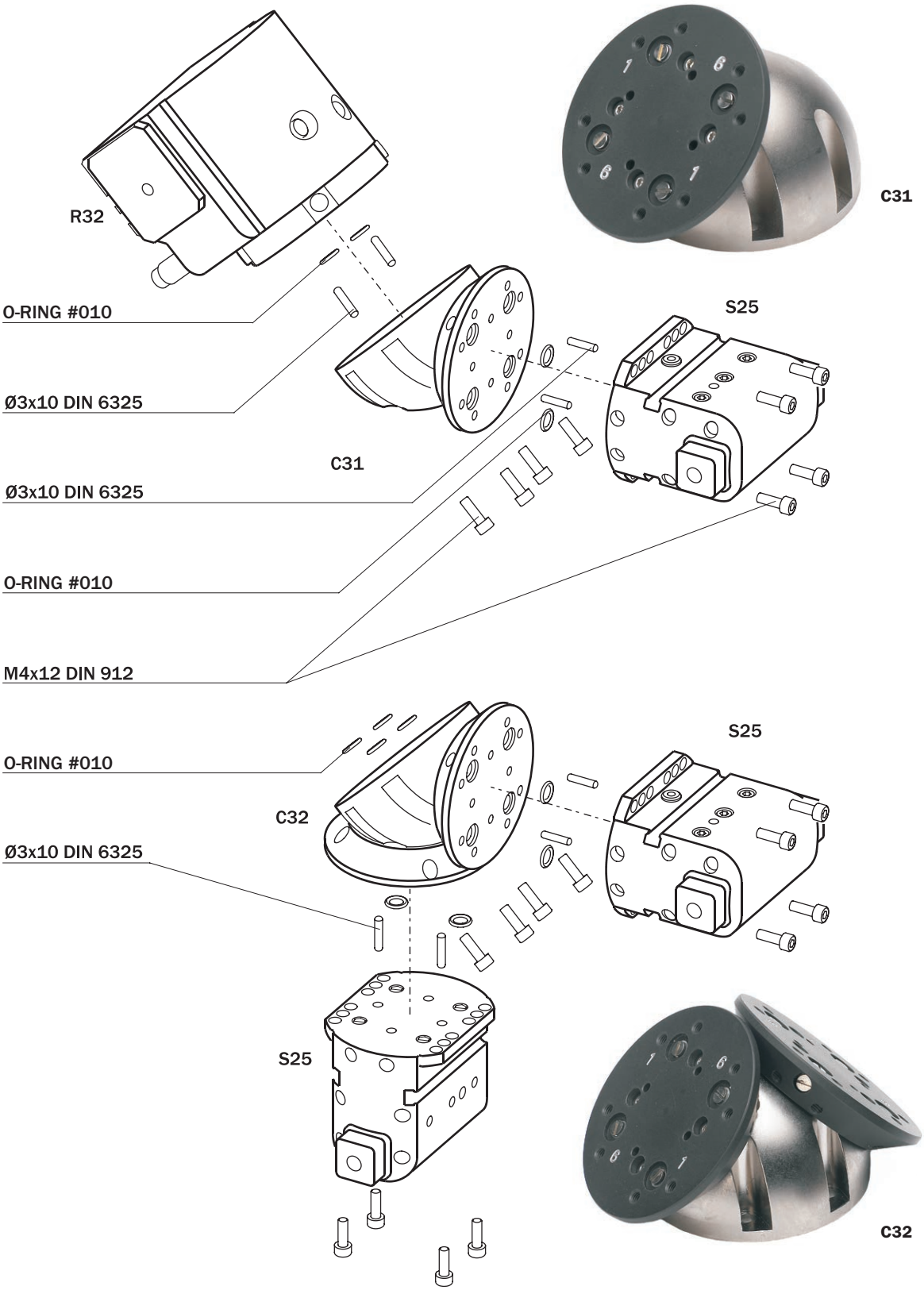
1	Piastra di interfaccia	A28-1	*Plate*	*1*
2	Piastra di interfaccia	A28-2	*Plate*	*2*
3	Spalla	A28-3	*Shoulder*	*3*
4	Tappo M3	DT-205	*Plug M3*	*4*
5	Vite	M3x12 mm DIN 965A INOX A2	*Screw*	*5*
6	Spina di riferimento	Ø3x10 mm DIN 6325	*Dowel pin*	*6*
7	Vite	M4x16 mm DIN 912 INOX A2	*Screw*	*7*
8	Anello di tenuta O-RING	Ø1.78x4.48 (GUAR-029)	*O-RING gasket*	*8*
9	Anello di tenuta O-RING	Ø2.62x7.6 (GUAR-060)	*O-RING gasket*	*9*

Interfaccia di brandeggio C31

- L'interfaccia C31 si utilizza con l'attuatore rotante R32: è necessaria per ruotare di 90° un asse di presa (verticale - orizzontale).
- Peso: 0.360 kg.

Swivel interface C31

- *The interface C31 is used with the swivelling actuator R32, when the gripper axis must be rotated by 90° (vertical-horizontal).*
- *Weight: 0.360 kg.*



Interfaccia di brandeggio C32

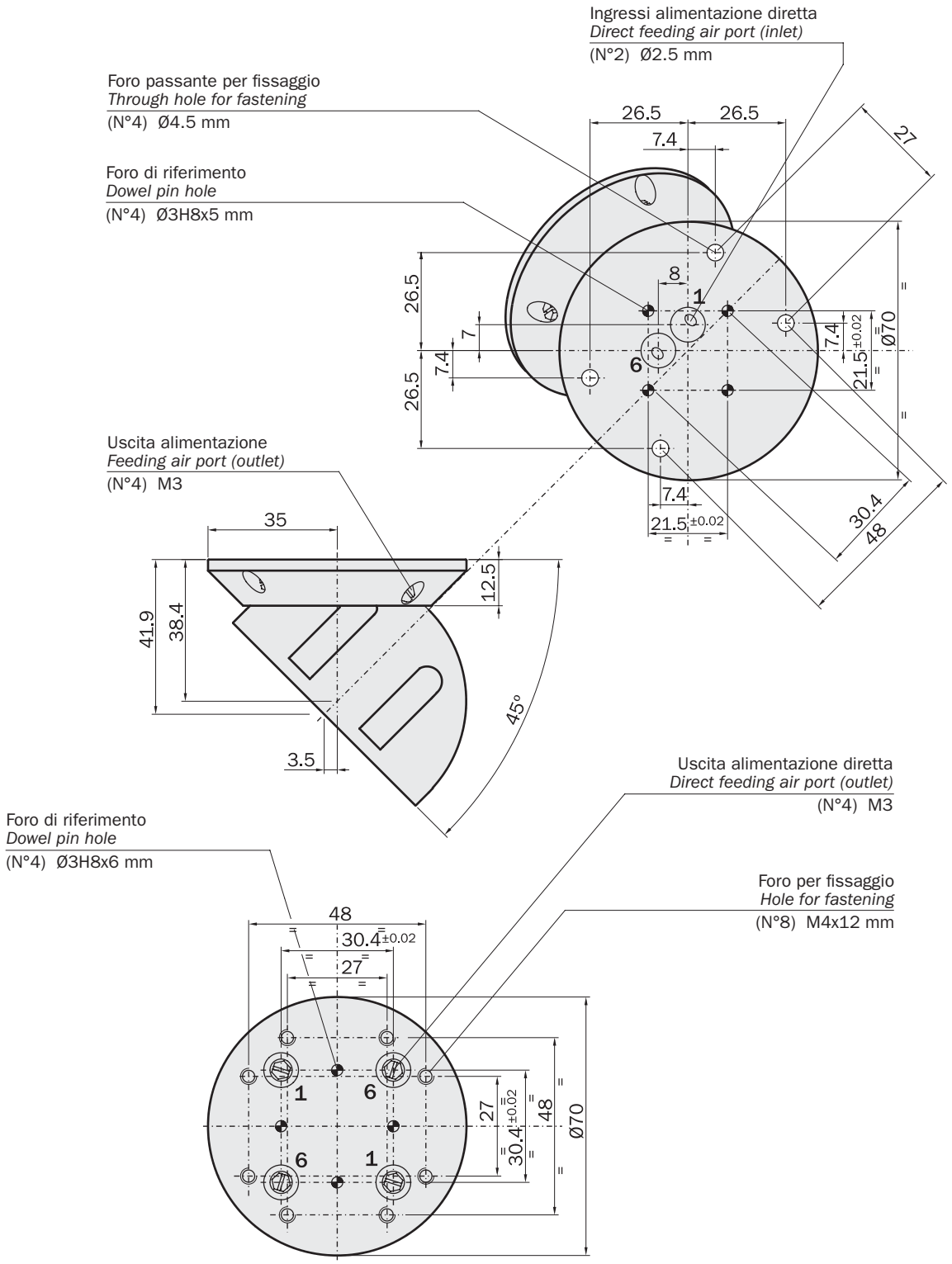
- L'interfaccia C32 si utilizza con l'attuatore rotante R32: è necessaria per ruotare di 90° due assi di presa (verticale - orizzontale).
- Peso: 0.440 kg.

Swivel interface C32

- *The interface C32 is used with the swivelling actuator R32, when two gripper axes must be rotated by 90° (vertical - horizontal).*
- *Weight: 0.440 kg.*

Elenco delle parti / *Part list*

C31

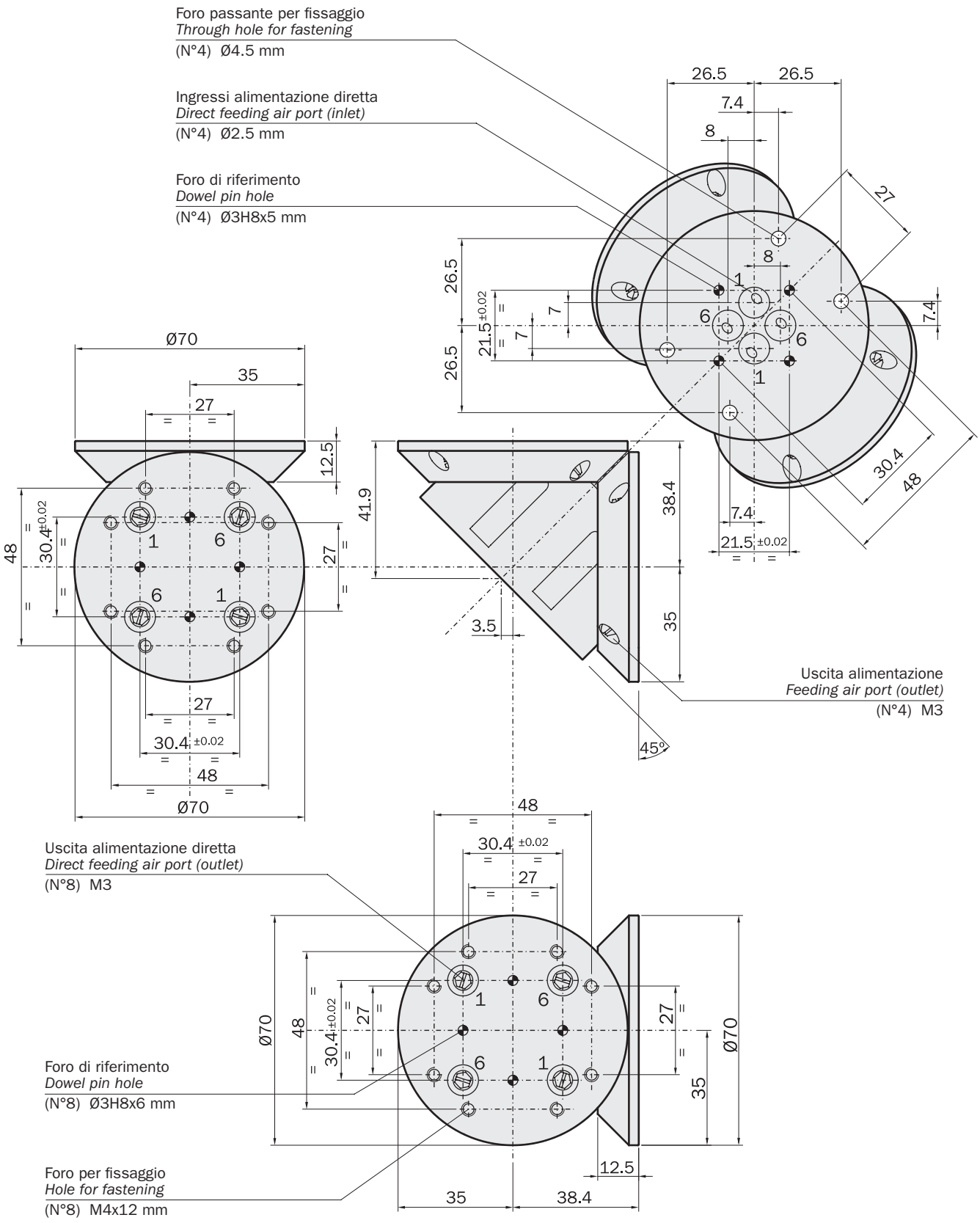


FIRST ANGLE PROJECTION

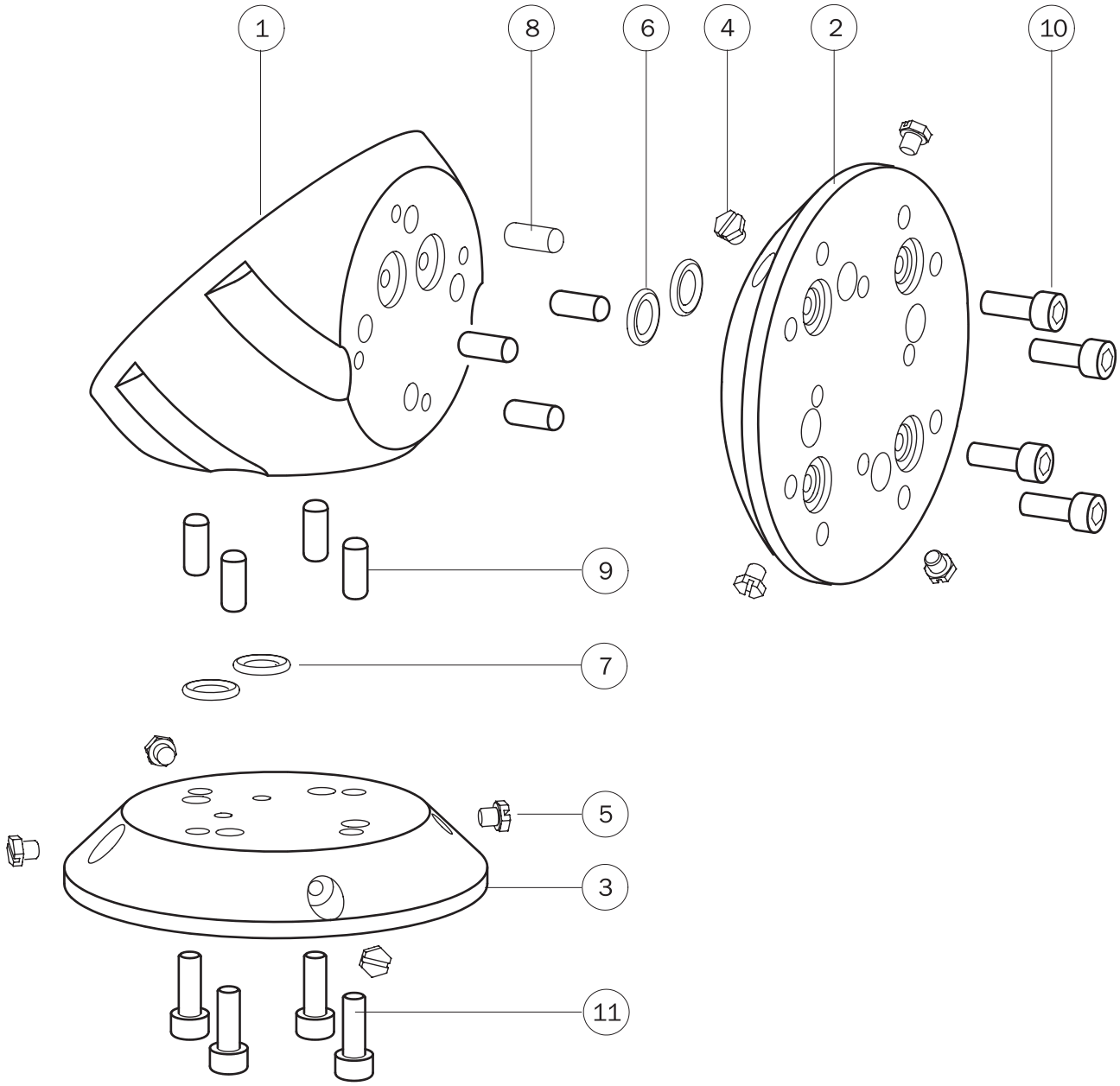
ATTUATORI LINEARI
LINEAR ACTUATORS

Elenco delle parti / *Part list*

C32



Elenco delle parti / *Part list*



		C31	C32		
1	Calotta	C31-1	B32-1	*Cover*	*1*
2	Disco supporto pinza	B32-2	B32-2	*Disk*	*2*
3	Disco supporto pinza	-	B32-2	*Disk*	*3*
4	Tappo M3	DT-205		*Plug M3*	*4*
5	Tappo M3	-	DT-205	*Plug M3*	*5*
6	Anello di tenuta O-RING	Ø1.78x6.07 (GUAR-039)		*O-RING gasket*	*6*
7	Anello di tenuta O-RING	-	Ø1.78x6.07 (GUAR-039)	*O-RING gasket*	*7*
8	Spina di riferimento	Ø4x10 mm DIN 6325		*Dowel pin*	*8*
9	Spina di riferimento	-	Ø4x10 mm DIN 6325	*Dowel pin*	*9*
10	Vite	M3x12 mm DIN 912 INOX A2		*Screw*	*10*
11	Vite	-	M3x12 mm DIN 912 INOX A2	*Screw*	*11*

Interfaccia I25

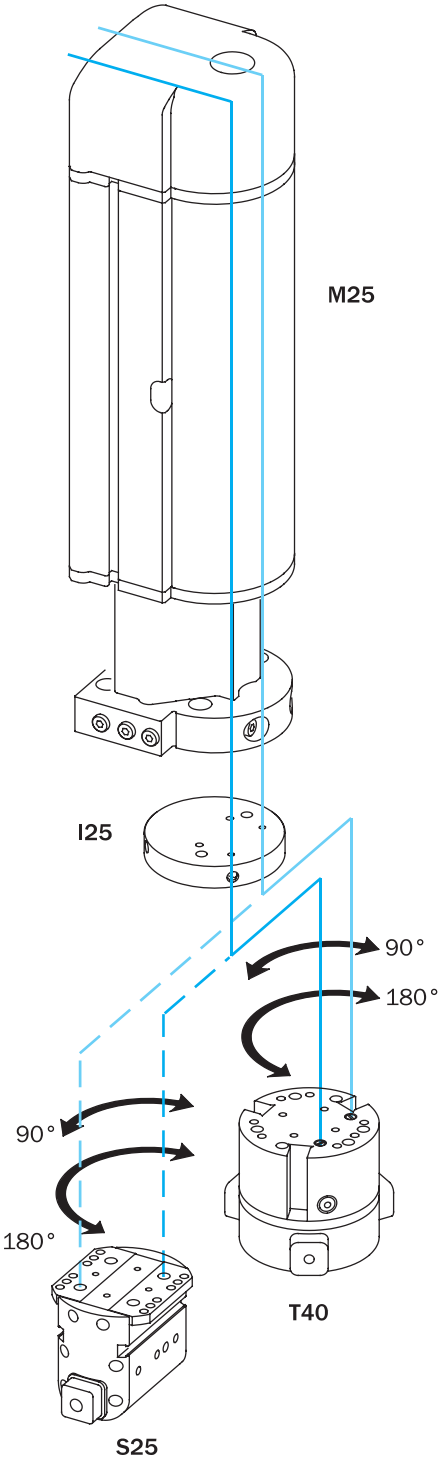
- L'interfaccia I25 è necessaria qualora si voglia alimentare la pinza S25 o T40 utilizzando la distribuzione integrata dell'aria compressa.
- Le pinze S25 e T40, con l'interfaccia I25, possono essere montate indifferentemente in posizioni sfasate di 90° oppure di 180°.
- Peso: 0.120 kg.

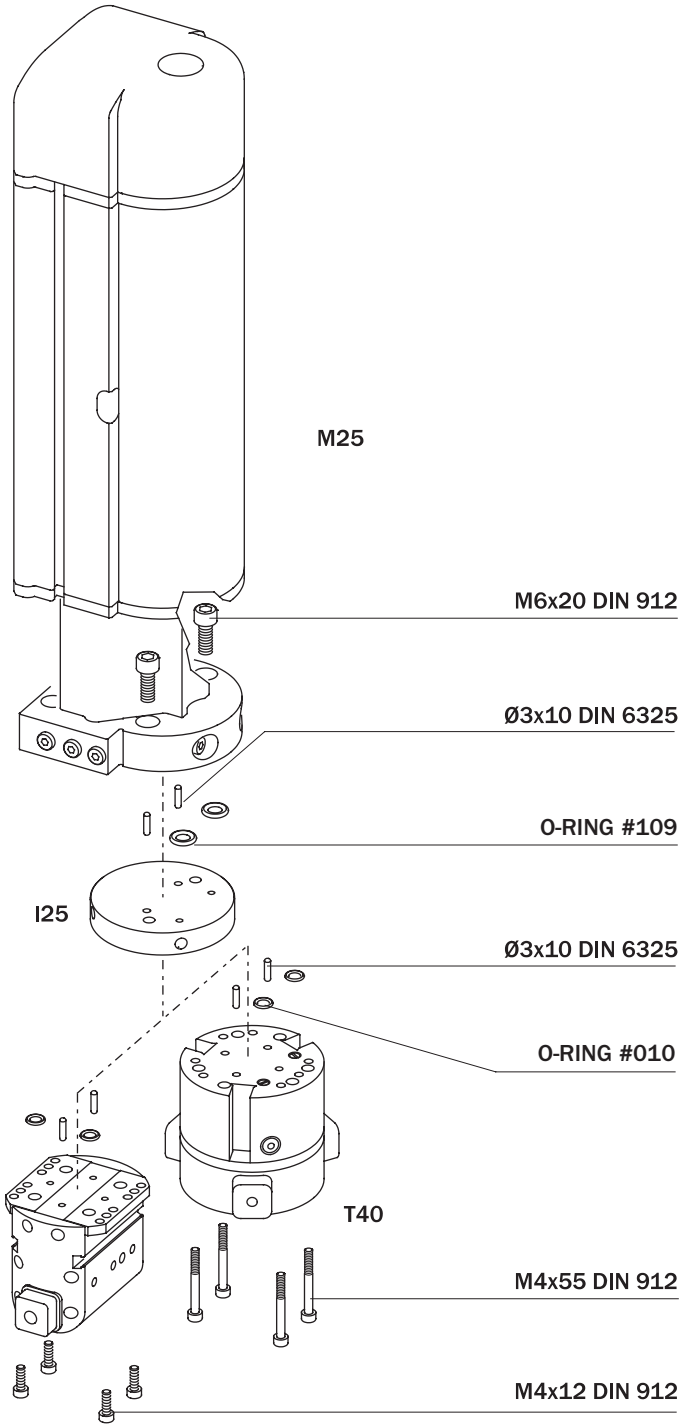
Interface I25

- *The interface I25 is necessary when direct integrated compressed air feeding is needed for S25 or T40 grippers.*
- *With the interface I25, the S25 and T40 grippers can be fitted at a 90° or 180° offset position.*
- *Weight: 0.120 kg.*



I25



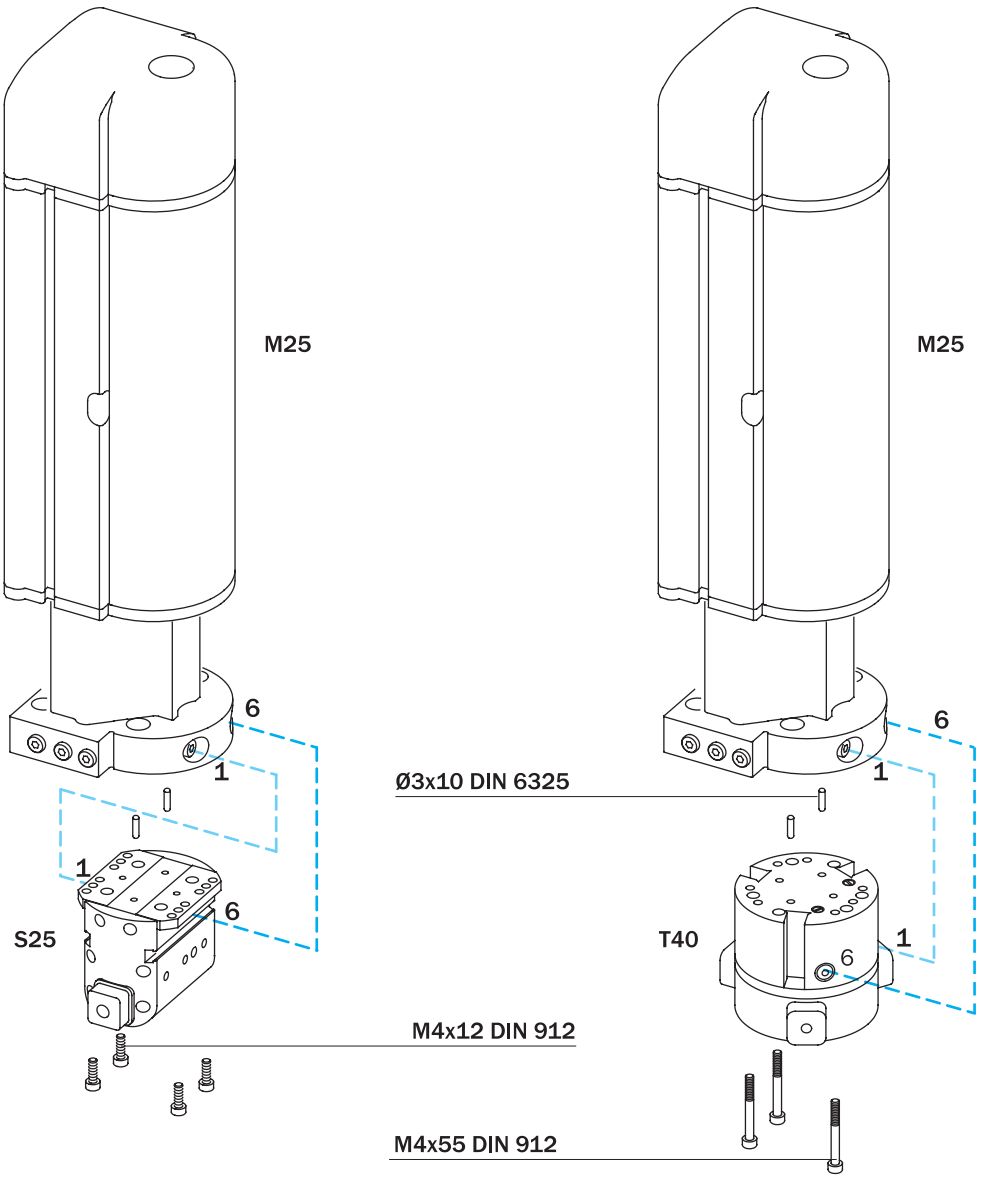


Fissaggio senza interfaccia

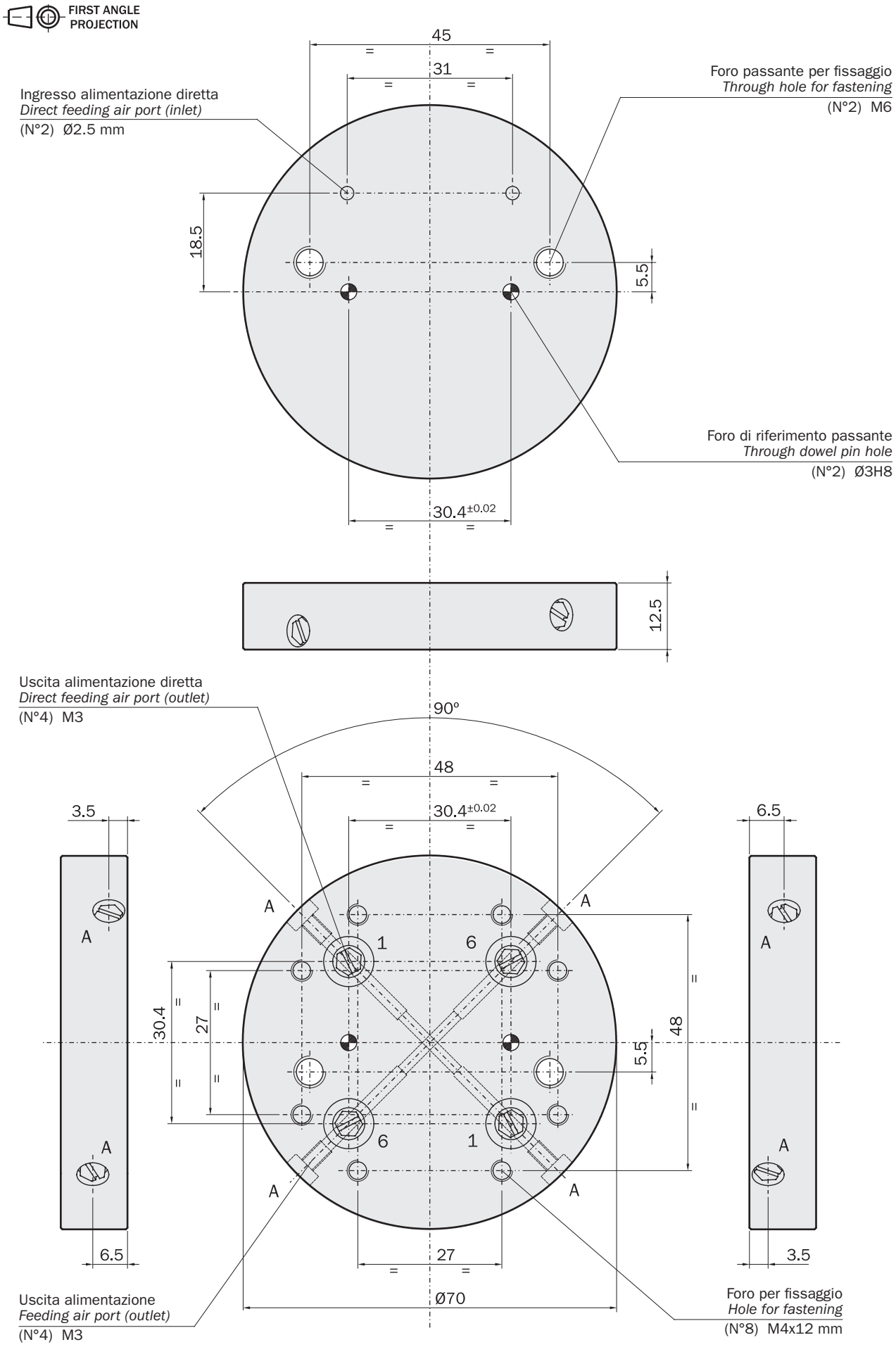
E' comunque possibile il fissaggio diretto su M25 delle pinze S25, T40, GM-0025 e GM-0050 senza usare nessuna interfaccia, utilizzando per l'alimentazione pneumatica tubi e raccordi esterni.

Mounting without interface

It is possible to mount the grippers S25, T40, GM-0025 and GM-0050 directly on the linear unit M25 without interface, with external hoses and fittings for the compressed air feeding.



Dimensioni (mm) / *Dimensions (mm)*

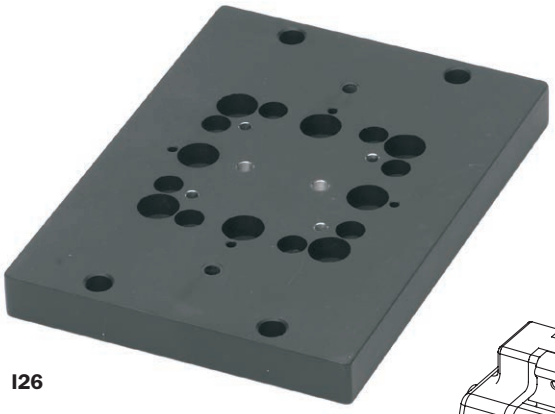


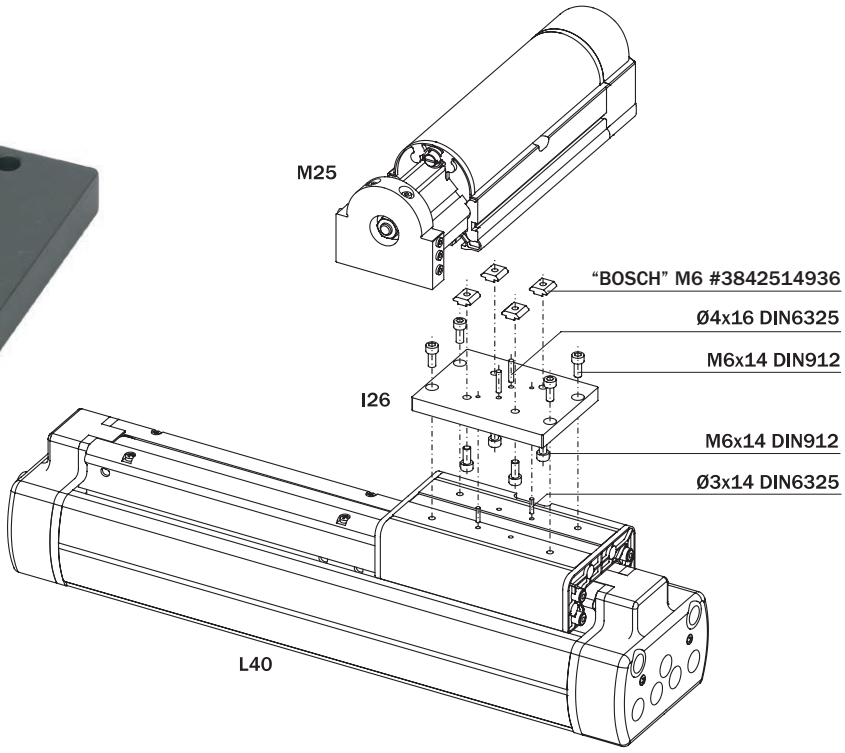
Interfaccia I26

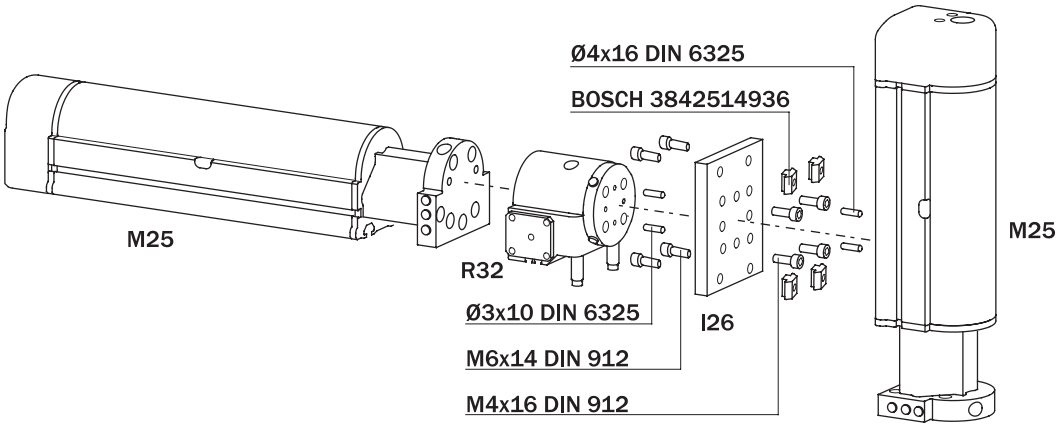
- L'interfaccia I26 è necessaria qualora si vogliano assemblare le seguenti combinazioni:
  - l'attuatore rotante R32 oppure R63 con l'attuatore lineare M25;
  - la slitta D32 o L40 con l'attuatore lineare M25.
- L'interfaccia I26 non dispone di passaggi per l'alimentazione integrata, è quindi necessario ricorrere a tubi e raccordi esterni.
- Peso: 0.350 kg.

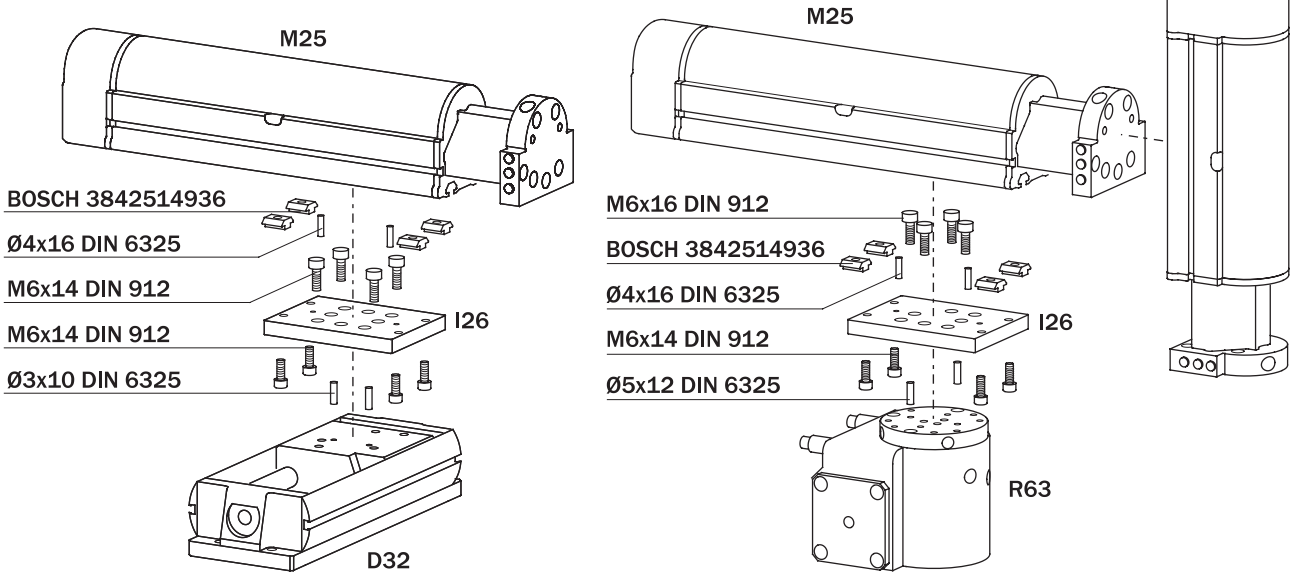
Interface I26

- *The interface I26 allows the assembly of the following units:*
  - *swivelling actuator R32 or R63 with a linear actuator M25;*
  - *slide D32 or L40 with linear actuator M25.*
- *Take note that the I26 is not provided with air leads: fittings and external hoses are necessary.*
- *Weight: 0.350 kg.*





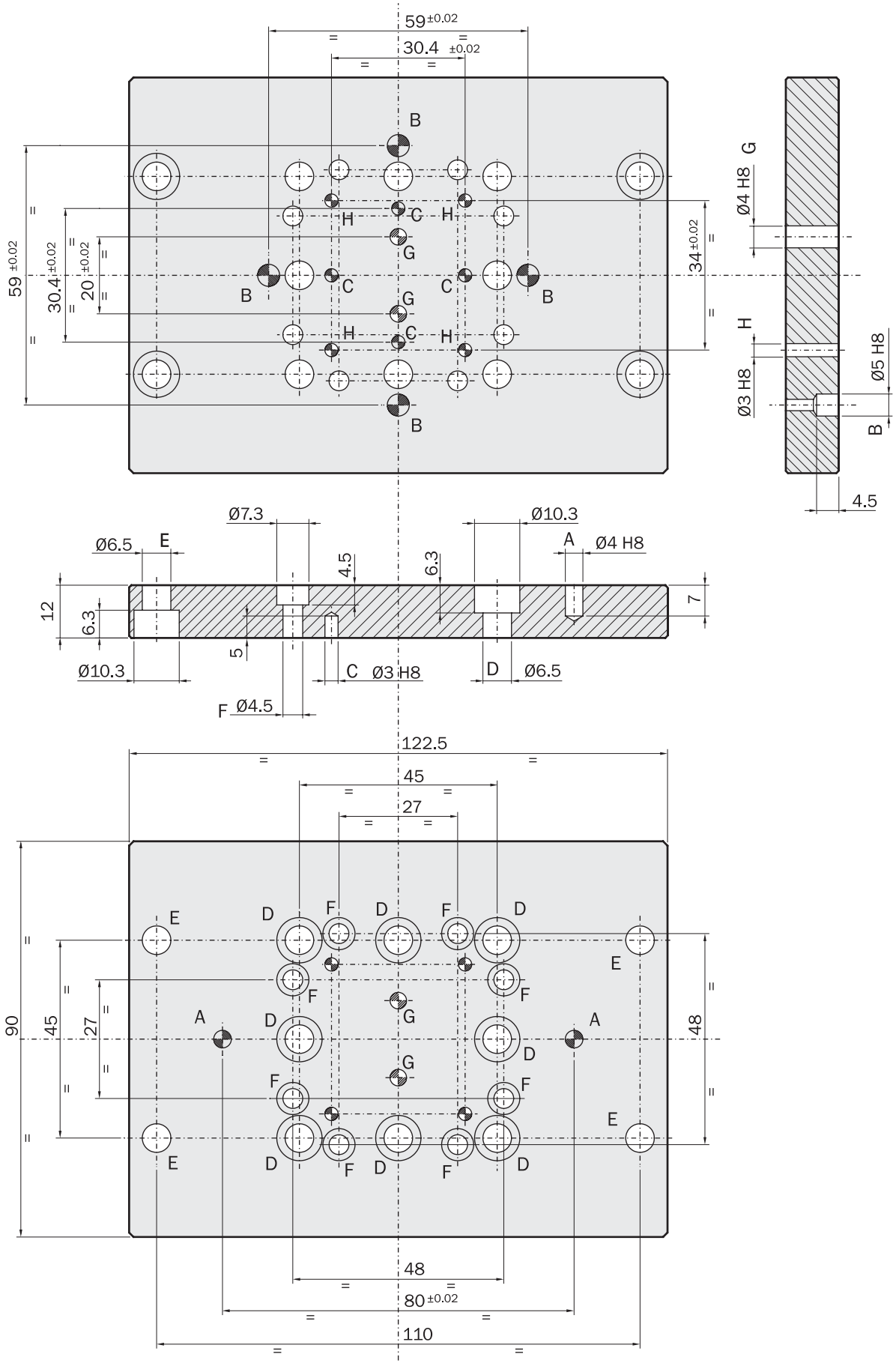




Dimensioni (mm) / *Dimensions (mm)*

I26

FIRST ANGLE PROJECTION



Interfaccia I27

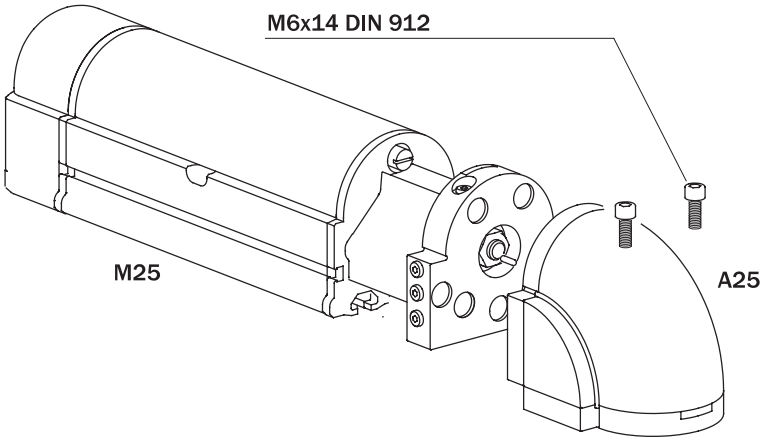
- L'interfaccia I27 è necessaria per montare le pinze della serie ZX.
- Può essere montata indifferentemente in posizioni sfasate di 90° o 180°.
- L'interfaccia non dispone di passaggi per l'alimentazione integrata, è quindi necessario ricorrere a tubi e raccordi esterni.
- Peso: 0.150 kg.

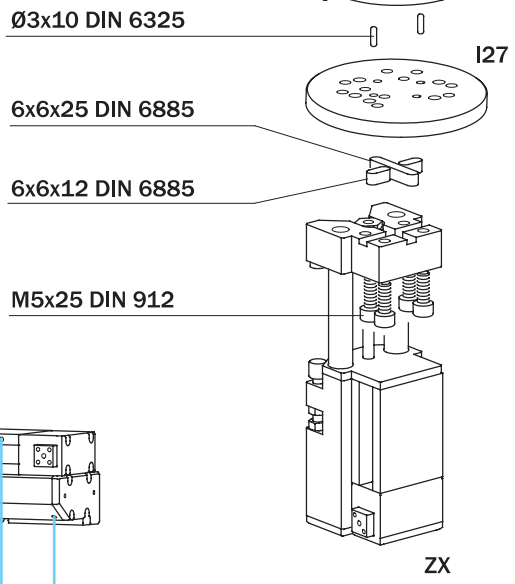
Interface I27

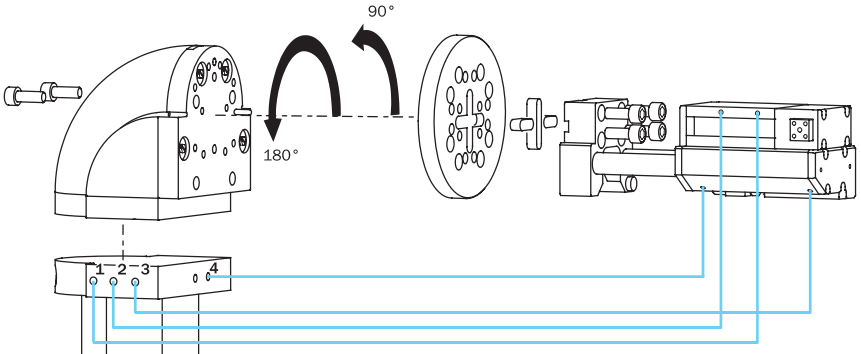
- *The interface I27 is necessary to mount the grippers of the ZX series.*
- *It can be mounted with a 90° or 180° phase displacement.*
- *The I27 is not provided with air leads: fittings and external hoses are necessary.*
- *Weight: 0.150 kg.*

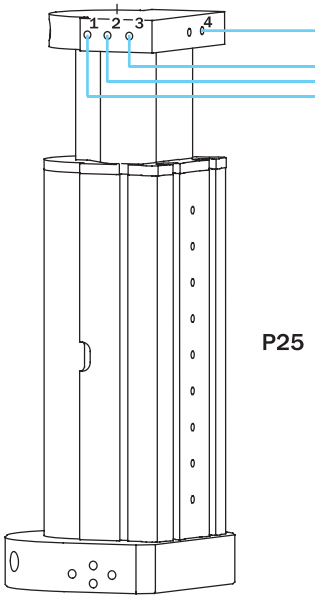


I27





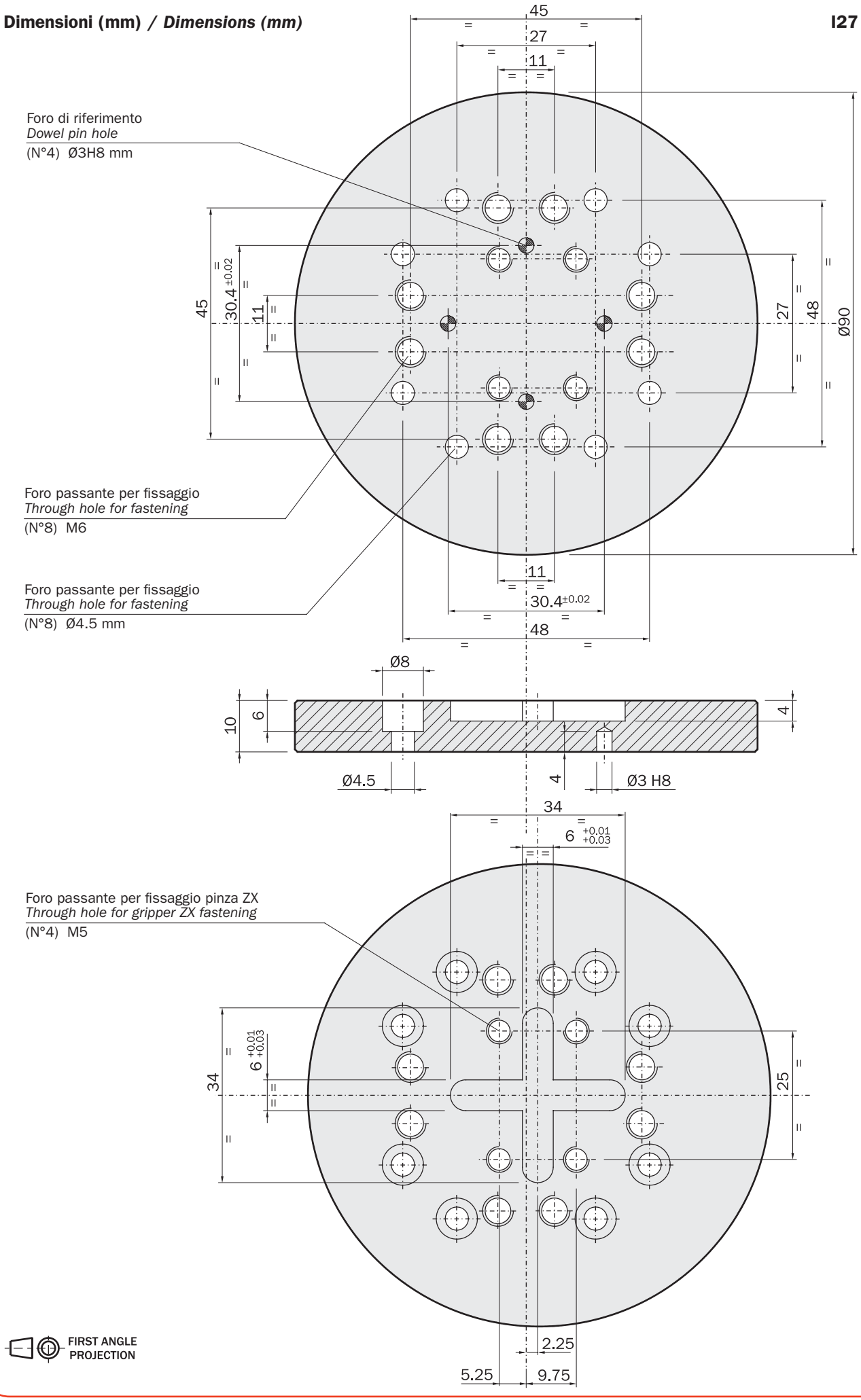




P25

Dimensioni (mm) / *Dimensions (mm)*

I27

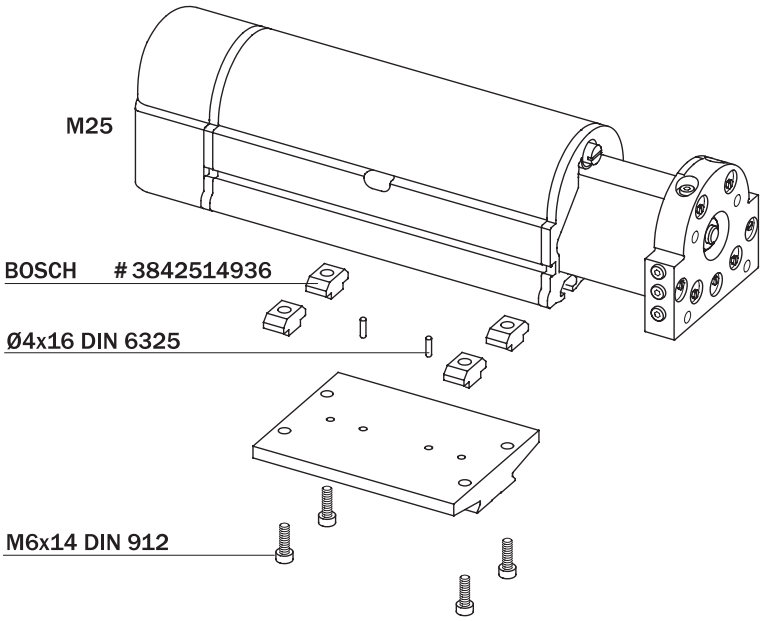


Interfaccia I28

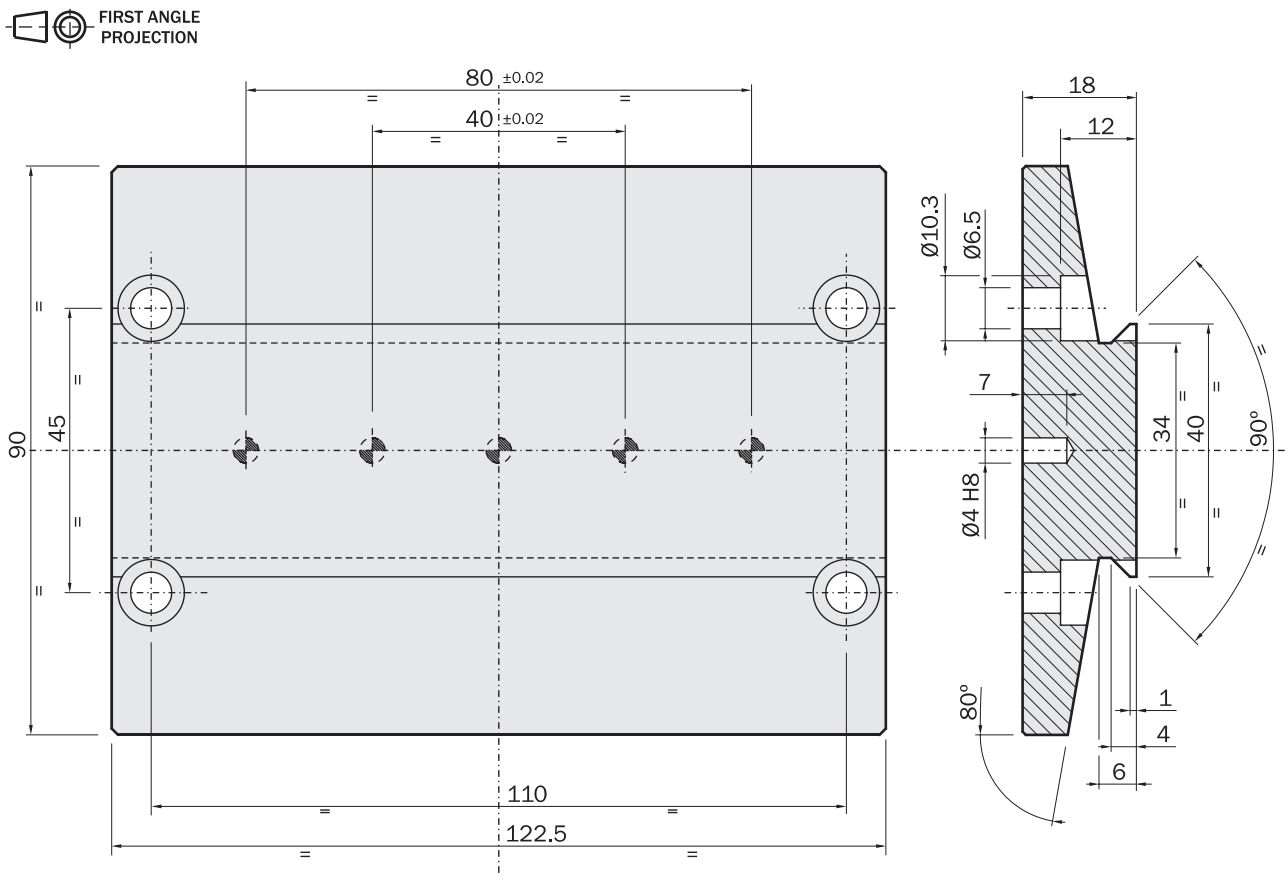
- L'interfaccia I28 è usata per fissare l'attuatore lineare M25 (o P25).
- La particolare conformazione a coda di rondine permette un fissaggio sicuro e preciso.
- Peso: 0.400 kg.

Interface I28

- *The interface I28 is used to fasten the linear actuator M25 (or P25).*
- *The dovetail shape allows a precise and safe positioning.*
- *Weight: 0.400 kg.*



Dimensioni (mm) / *Dimensions (mm)* — I28

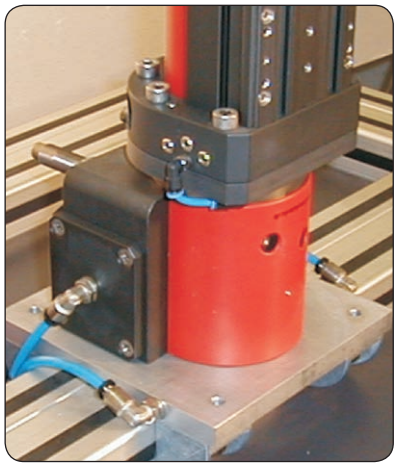


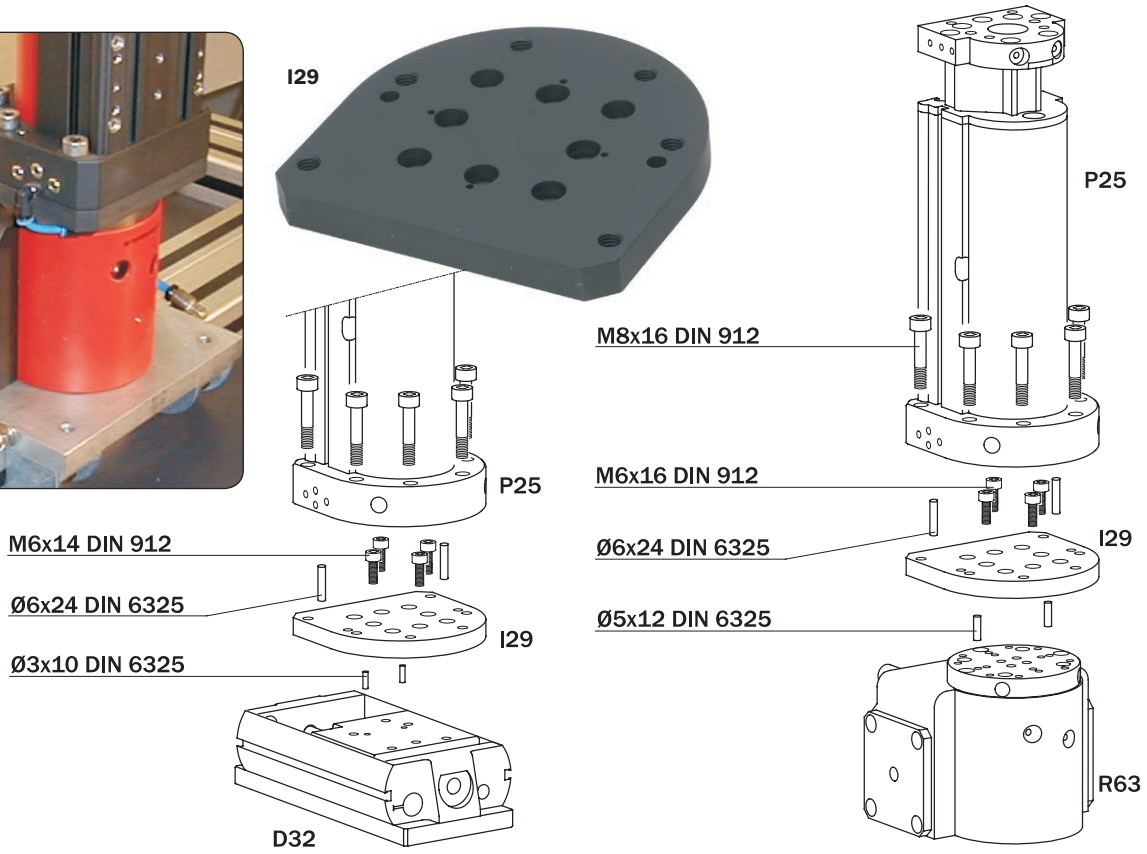
Interfaccia I29

- L'interfaccia I29 è usata per fissare il sollevatore P25 sull'attuatore rotante R63 oppure sulla slitta D32.
- Peso: 0.340 kg.

Interface I29

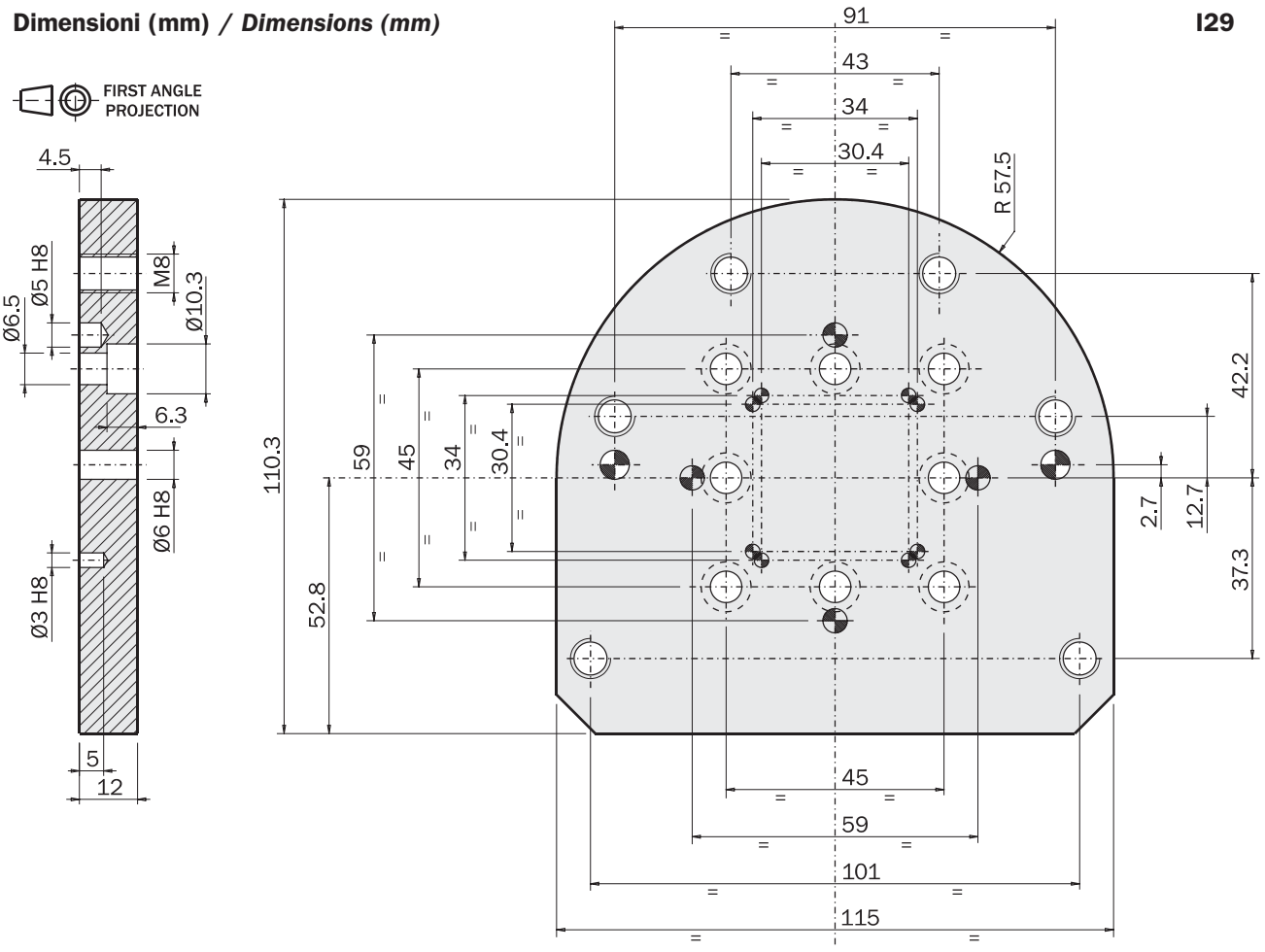
- *The interface I29 is used to fasten the lifting unit P25 on the swivelling unit R63 or on the slide D32.*
- *Weight: 0.340 kg.*





Dimensioni (mm) / *Dimensions (mm)*

I29



Kit di montaggio

Nella tabella sono indicati i codici di ordinazione dei kit contenenti le viti, spine e guarnizioni necessarie.
E' anche indicata la pagina del catalogo dove è mostrato il montaggio.

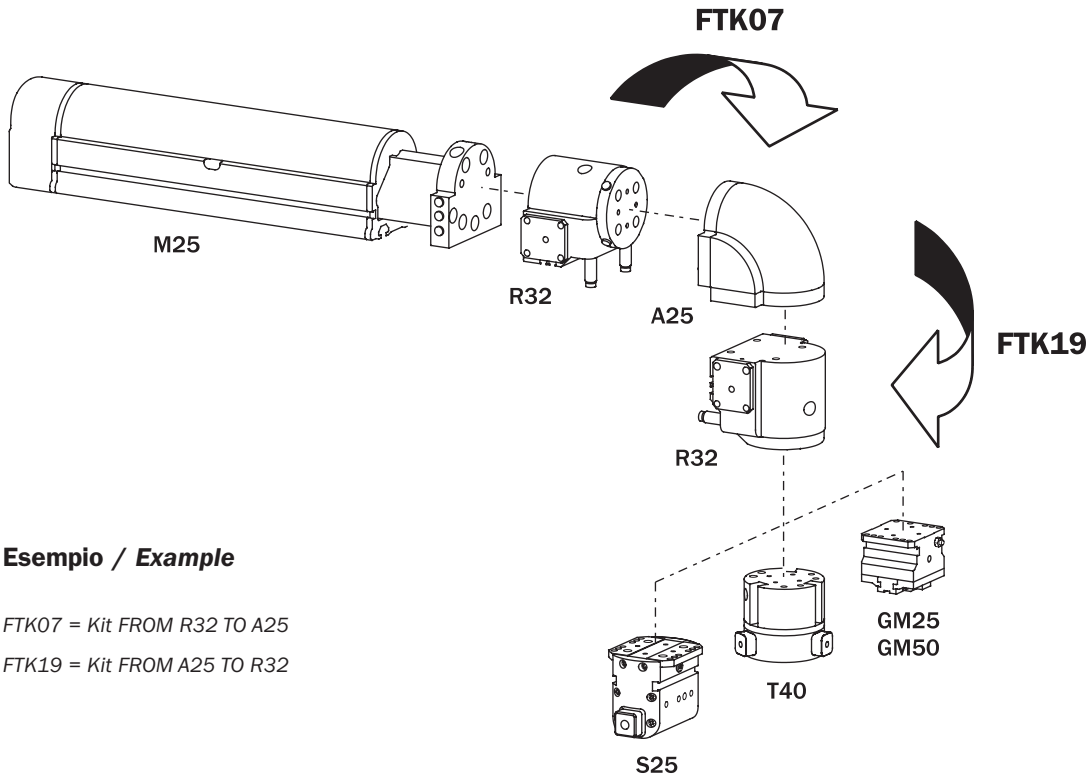
Assembly kit

On the table below there are the ordering codes including pins, screws, seals and the page number in which the assembly is showed.

TO / FROM

TO \ FROM	A25 A26	A27	A28	C31 C32	D32	I25	I26	I27	I28	I29	L40	M25	P25	R32 R33	R63 R64
A25/A26												FTK03 p636	FTK03 p636	FTK07 -	
A27												FTK03 p644	FTK03 p644		
A28					FTK18 p648							FTK03 p648	FTK03 p648		
C31/C32														FTK05 p651	
D32													FTK01 p602		
GM25/50				FTK06 p576		FTK06 p578						FTK06 p577	FTK06 p577	FTK06 p577	
I25	FTK10 p574	FTK10 -	FTK10 -									FTK16 p655	FTK16 p655		
I26			FTK12 p648		FTK18 p658						FTK13 p658			FTK14 p658	FTK15 p658
I27	FTK20 p660	FTK20 -	FTK20 -									FTK20 p660	FTK20 p660	FTK06 -	
I29					FTK18 -										FTK15 -
M25					FTK22 p570		FTK02 p658		FTK02 p662			FTK22 p575	FTK22 p574		
P25							FTK02 p658		FTK02 p662	FTK11 p663					
R32/R33	FTK19 p640	FTK19 p644	FTK19 -									FTK03 p577	FTK03 p581		
R63/R64															
S25				FTK04 p651		FTK04 p655						FTK06 p591	FTK21 p591	FTK04 p80	
T40	FTK08 p574		FTK08 -	FTK08 p576		FTK08 p655						FTK17 p655	FTK17 p655	FTK08 p574	
ZX								FTK09 p660							

Kit di montaggio / *Assembly kit*



Esempio / *Example*

FTK07 = Kit FROM R32 TO A25

FTK19 = Kit FROM A25 TO R32

Codice Gimatic *Gimatic code*	Descrizione *Description*		Quantità *Quantity*
FTK01			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-011	Vite *Screw*	M6x20mm DIN 912 INOX A2	4
GUAR-060	Anello di tenuta O-RING *O-RING gasket*	Ø2.62x7.6mm	2
FTK02			
SPINA-014	Spina di riferimento *Dowel pin*	Ø4x16mm DIN 6325	2
VITE-115	Vite *Screw*	M6x14mm DIN 912 INOX A2	4
VITE-125	Dado a T *T-nut*	cod. 3842514936	4
FTK03			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-011	Vite *Screw*	M6x20mm DIN 912 INOX A2	4
GUAR-060	Anello di tenuta O-RING *O-RING gasket*	Ø2.62x7.6mm	4
FTK04			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-029	Vite *Screw*	M4x12mm DIN 912 INOX A2	4
GUAR-039	Anello di tenuta O-RING *O-RING gasket*	Ø1.78x6.07mm	2

Kit di montaggio / *Assembly kit*

Codice Gimatic *Gimatic code*	Descrizione *Description*		Quantità *Quantity*
FTK05			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-029	Vite *Screw*	M4x12mm DIN 912 INOX A2	4
GUAR-039	Anello di tenuta O-RING *O-RING gasket*	Ø1.78x6.07mm	4
FTK06			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-029	Vite *Screw*	M4x12mm DIN 912 INOX A2	4
FTK07			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-061	Vite *Screw*	M4x16mm DIN 912 INOX A2	4
FTK08			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-156	Vite *Screw*	M4x55mm DIN 912 INOX A2	4
GUAR-039	Anello di tenuta O-RING *O-RING gasket*	Ø1.78x6.07mm	2
FTK09			
SPINA-130	Chiavetta *Key*	6x6x25mm DIN 6885A	1
SPINA-131	Chiavetta *Key*	6x6x12mm DIN 6885A	2
VITE-065	Vite *Screw*	M5x25mm DIN 912 INOX A2	4
FTK10			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-084	Vite *Screw*	M6x16mm DIN 912 INOX A2	2
GUAR-060	Anello di tenuta O-RING *O-RING gasket*	Ø2.62x7.6mm	2
FTK11			
SPINA-051	Spina di riferimento *Dowel pin*	Ø6x24 mm DIN 6325	2
VITE-208	Vite *Screw*	M8x40mm DIN 912 INOX A2	6

Kit di montaggio / *Assembly kit*

Codice Gimatic *Gimatic code*	Descrizione *Description*		Quantità *Quantity*
FTK12			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-084	Vite *Screw*	M6x16mm DIN 912 INOX A2	4
FTK13			
SPINA-007	Spina di riferimento *Dowel pin*	Ø3x14mm DIN 6325	2
VITE-115	Vite *Screw*	M6x14mm DIN 912 INOX A2	4
FTK14			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-061	Vite *Screw*	M4x16mm DIN 912 INOX A2	4
FTK15			
SPINA-044	Spina di riferimento *Dowel pin*	Ø5x12mm DIN 6325	2
VITE-084	Vite *Screw*	M6x16mm DIN 912 INOX A2	4
FTK16			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-011	Vite *Screw*	M6x20mm DIN 912 INOX A2	2
GUAR-060	Anello di tenuta O-RING *O-RING gasket*	Ø2.62x7.6mm	2
FTK17			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-156	Vite *Screw*	M4x55mm DIN 912 INOX A2	3
FTK18			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-115	Vite *Screw*	M6x14mm DIN 912 INOX A2	4
FTK19			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-115	Vite *Screw*	M6x14mm DIN 912 INOX A2	4
GUAR-060	Anello di tenuta O-RING *O-RING gasket*	Ø2.62x7.6mm	4

Kit di montaggio / *Assembly kit*

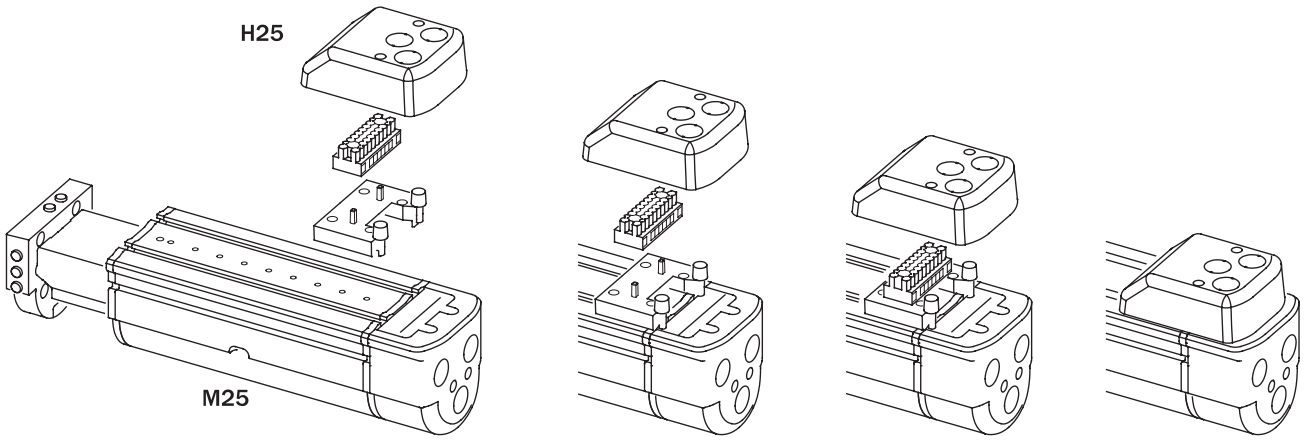
Codice Gimatic *Gimatic code*	Descrizione *Description*		Quantità *Quantity*
FTK20			
SPINA-006	Spina di riferimento *Dowel pin*	Ø3x10mm DIN 6325	2
VITE-115	Vite *Screw*	M6x14mm DIN 912 INOX A2	2
FTK21			
SPINA-090	Spina di riferimento *Dowel pin*	Ø3x8mm DIN 6325	2
VITE-029	Vite *Screw*	M4x12mm DIN 912 INOX A2	4
FTK22			
SPINA-012	Spina di riferimento *Dowel pin*	Ø4x20mm DIN 6325	2
VITE-011	Vite *Screw*	M6x20mm DIN 912 INOX A2	4
VITE-125	Dado a T *T-nut*	cod. 3842514936	4

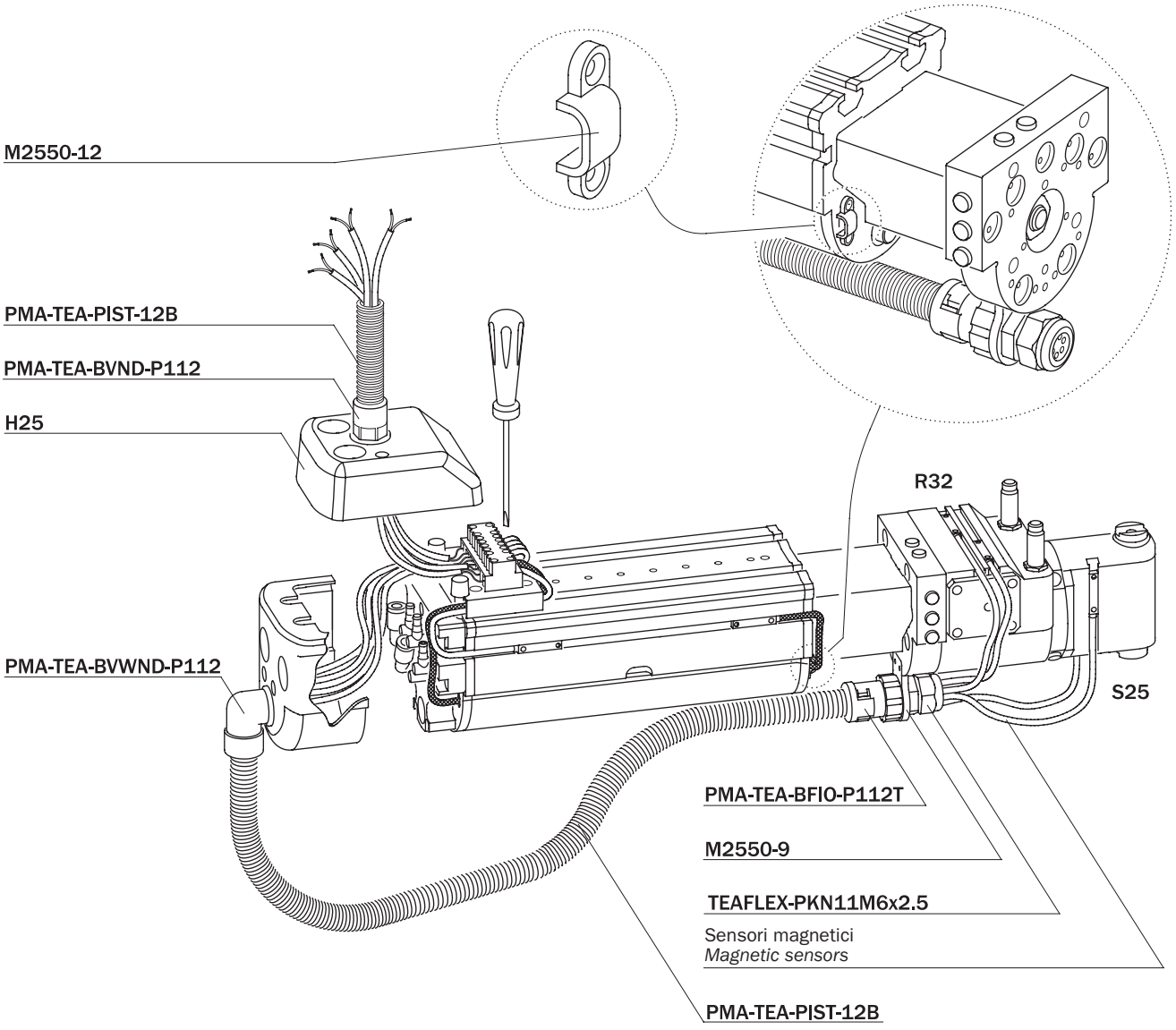
Scatola di derivazione H25

- La scatola di derivazione serve per effettuare il cablaggio in modo semplice e razionale.
- Consente, durante la sostituzione di sensori guasti, una parziale sconnessione.
- E' possibile connettervi fino a sei sensori.

Junction box H25

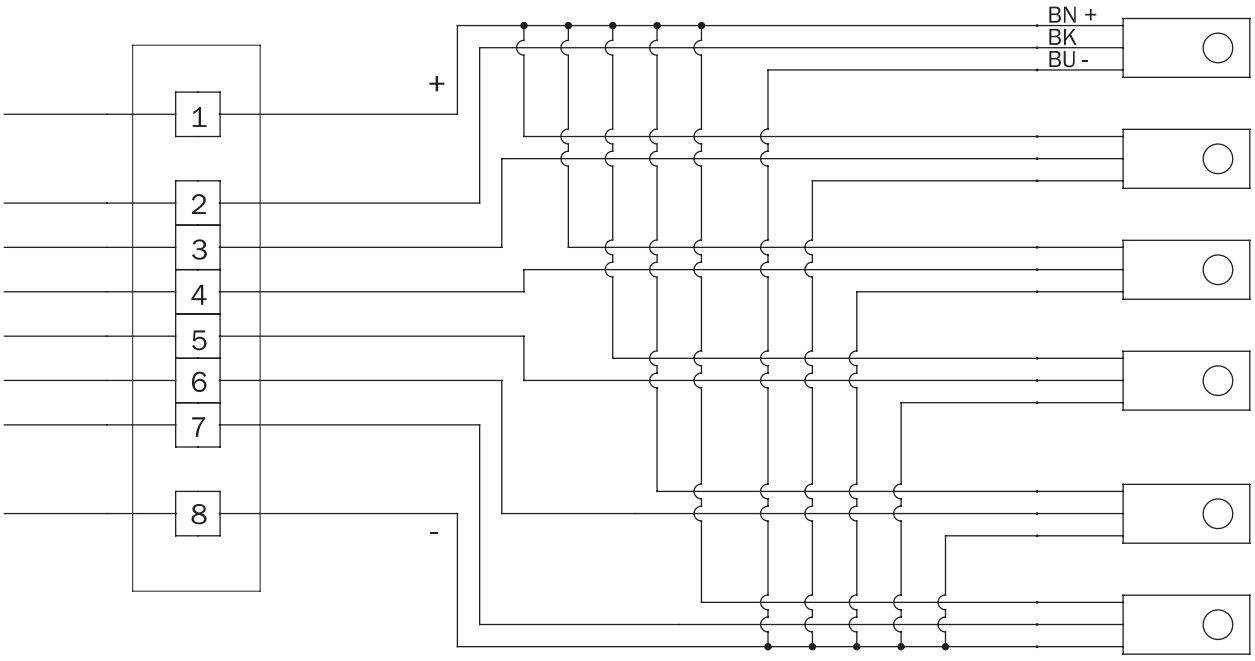
- *The junction box makes easy the connection of the sensors.*
- *It allows the replacement of broken sensors by partial detachment.*
- *Up to six sensors can be connected.*





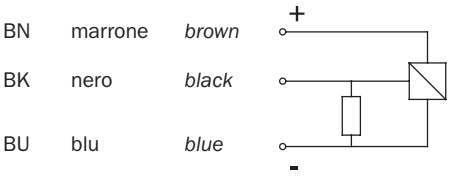
Connessione di sei sensori sulla scatola di derivazione H25

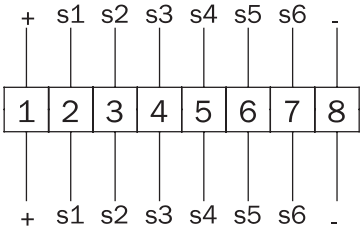
Six sensor wiring with the junction box H25

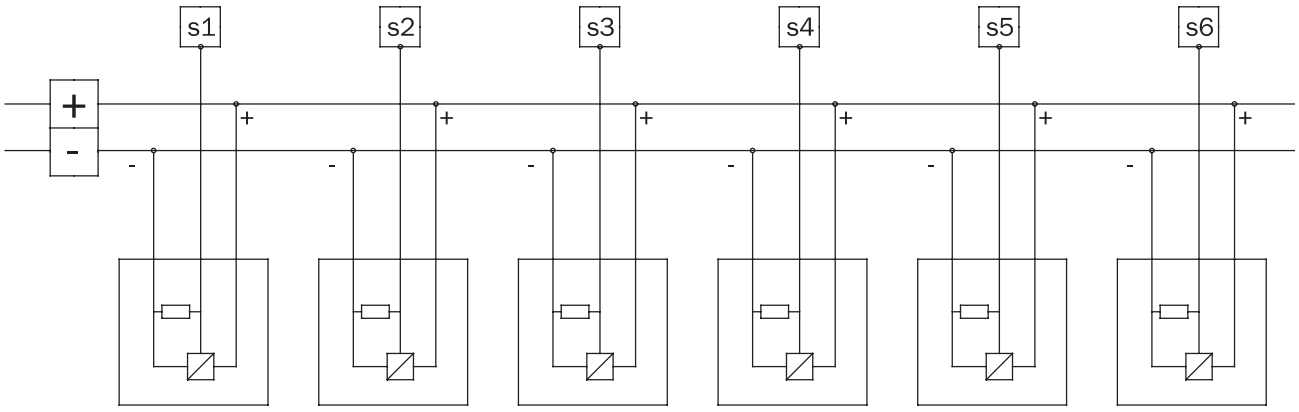


H25
Scatola di derivazione
Junction box

SL...
Sensori
Sensors





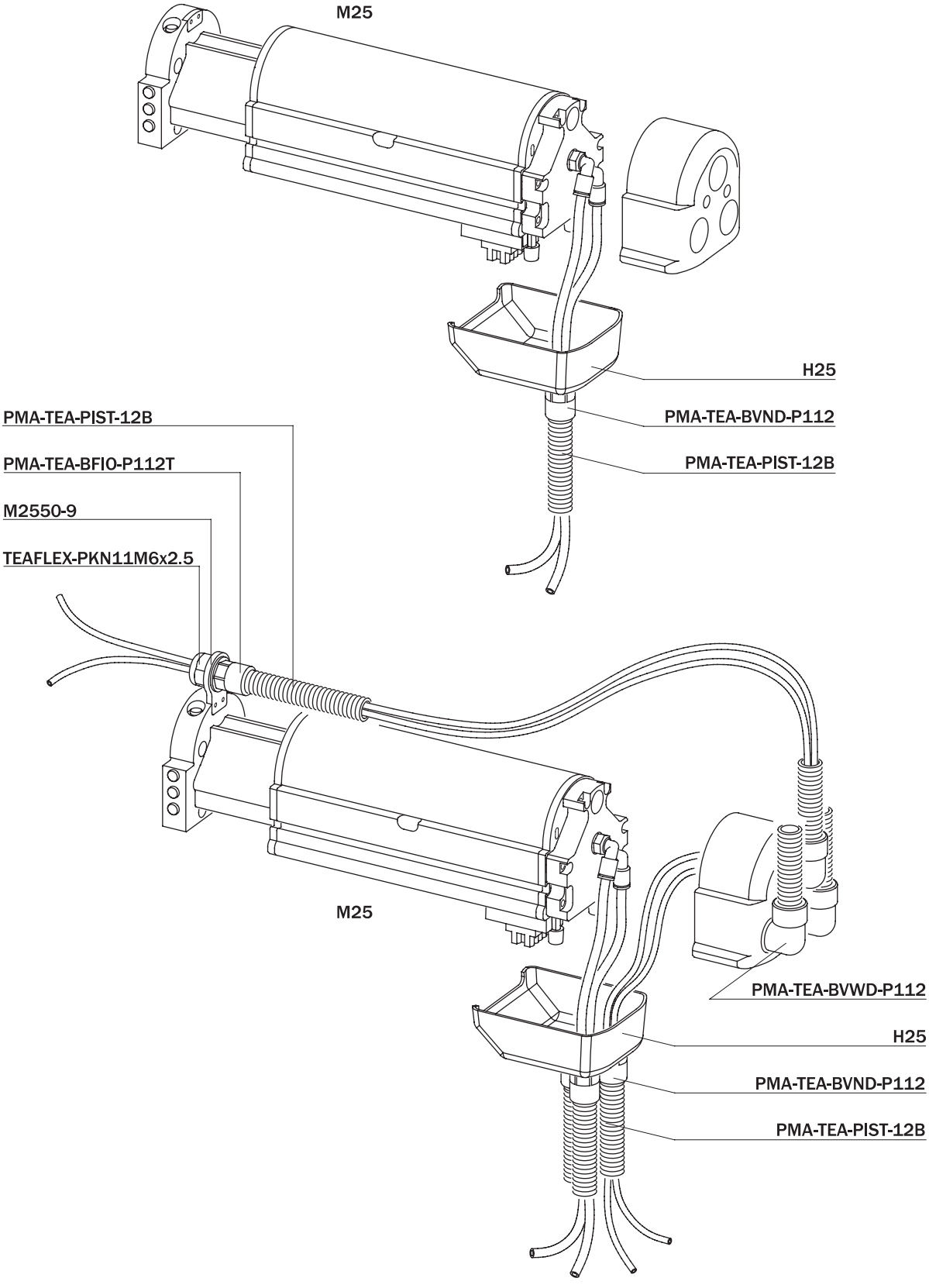


Esempi di applicazione della scatola di derivazione H25

La scatola di derivazione H25 può essere utilizzata anche per fissare i tubi di alimentazione dell'aria compressa.

Application examples of the junction box H25

The junction box H25 can also be used to house the compressed air hoses.

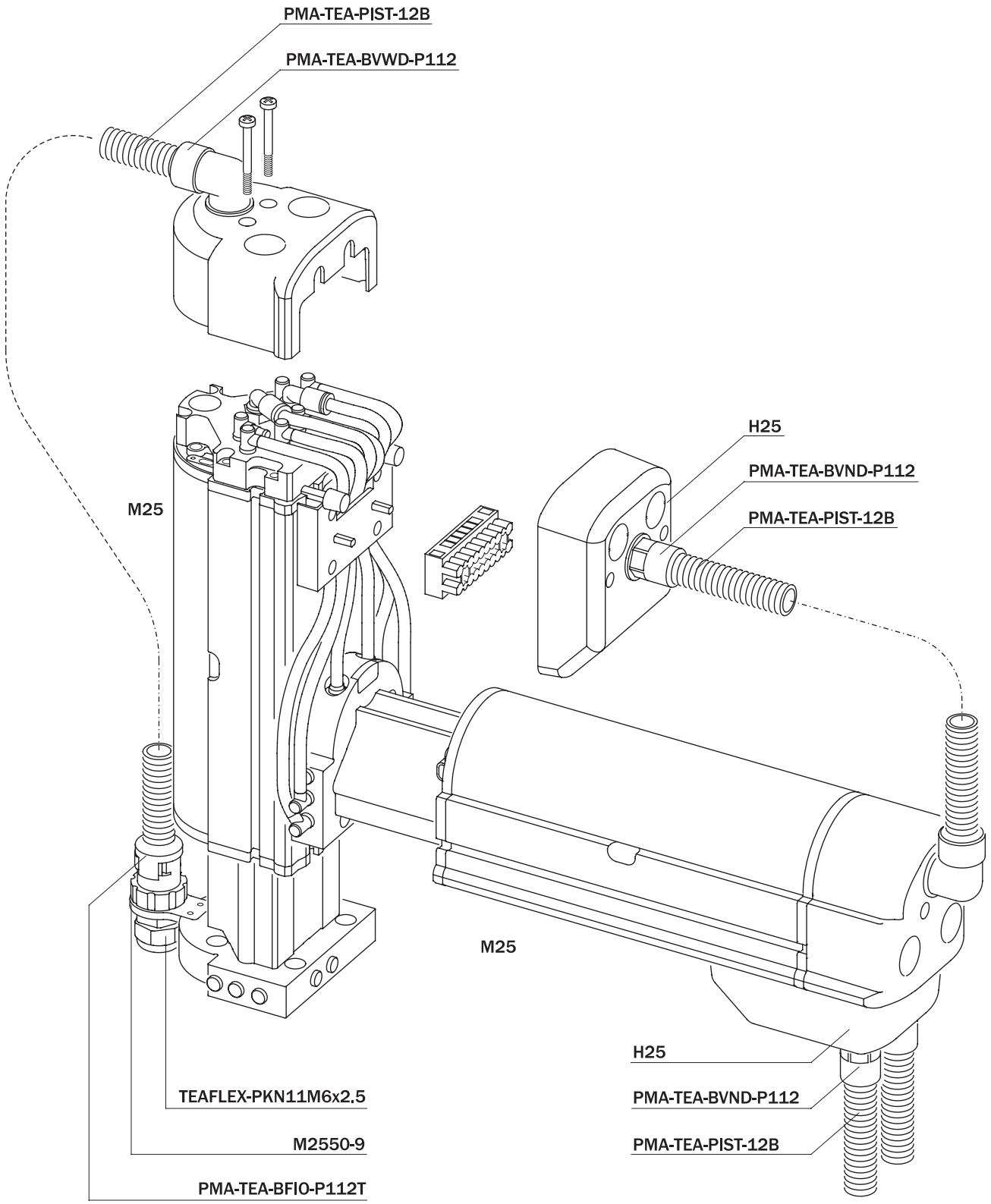


Esempi di applicazione della scatola di derivazione H25

Quando due attuatori M25, con distribuzione integrata, vengono interconnessi, i tubi di collegamento vanno bloccati con la basetta di supporto della scatola H25.

Application examples of the junction box H25

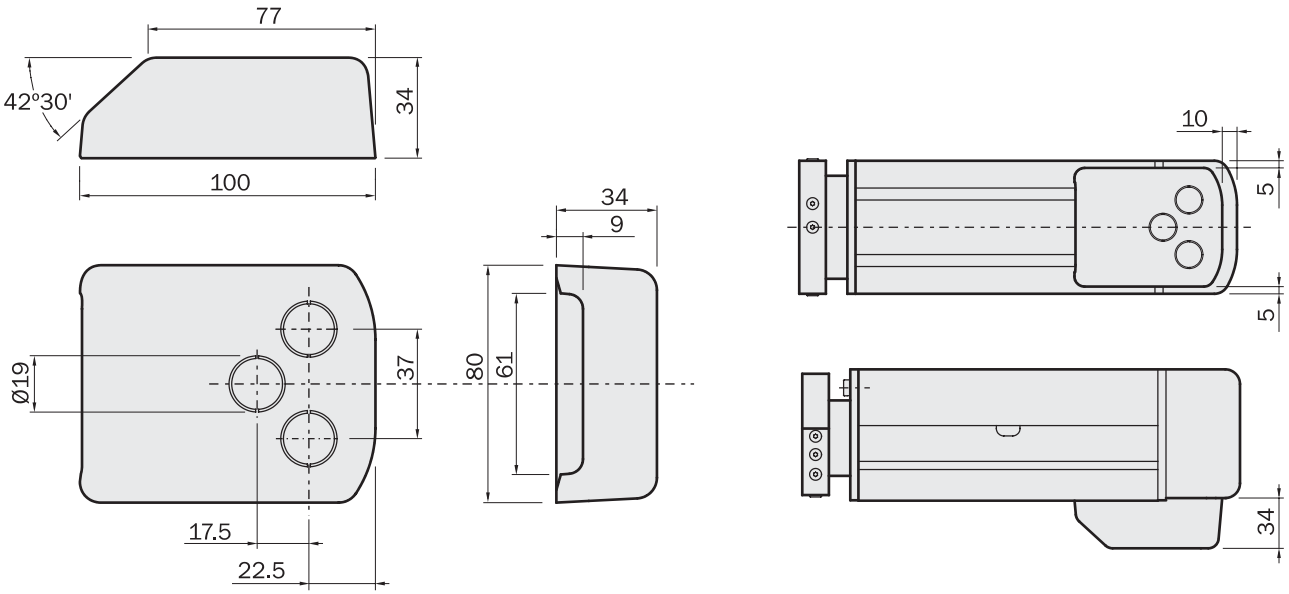
If two actuators M25 with integrated air leads are interconnected, the support of the junction box must be used to hold the hoses.



Dimensioni (mm) / *Dimensions (mm)*

H25

FIRST ANGLE PROJECTION

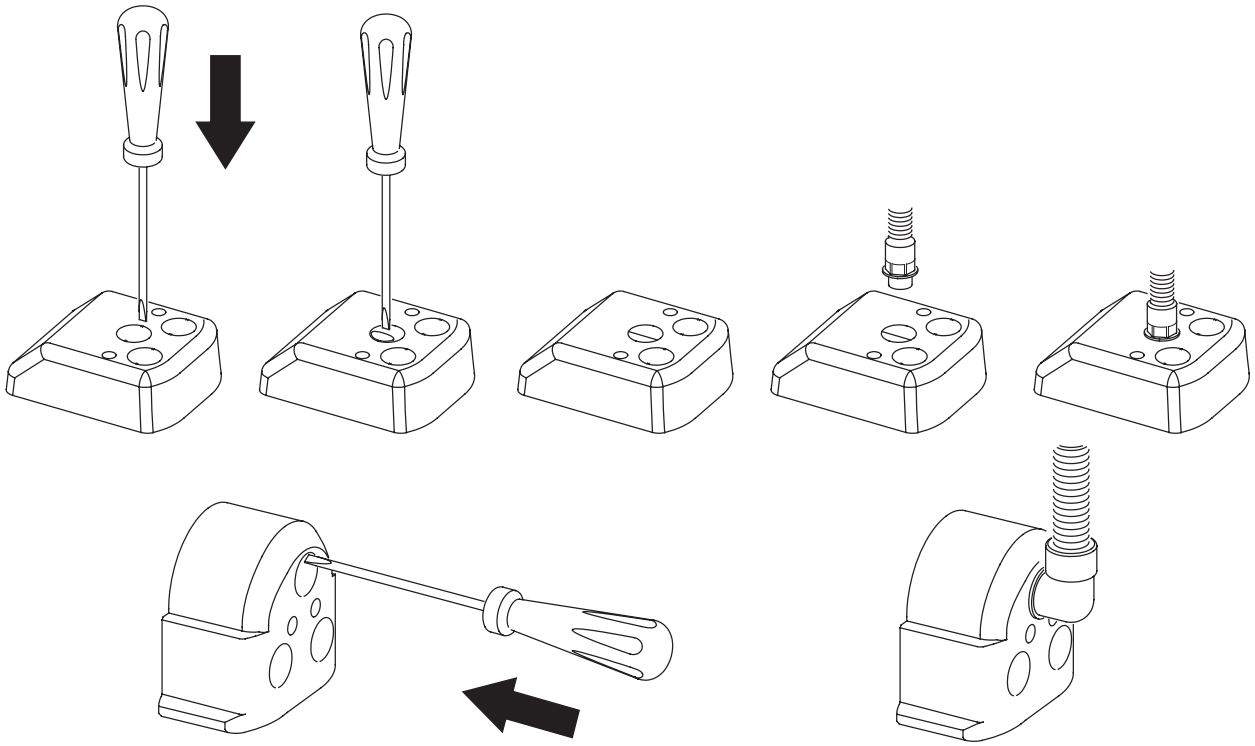


Raccordi

Per applicare il raccordo maschio dritto PMA-TEA-BVND-P112 e quello a 90° PMA-TEA-BVWD-P112 alla scatola di derivazione Gimapick H25 (oppure al carter M2550-13), si deve asportare il diaframma rompendo il setto pre intagliato con un cacciavite.

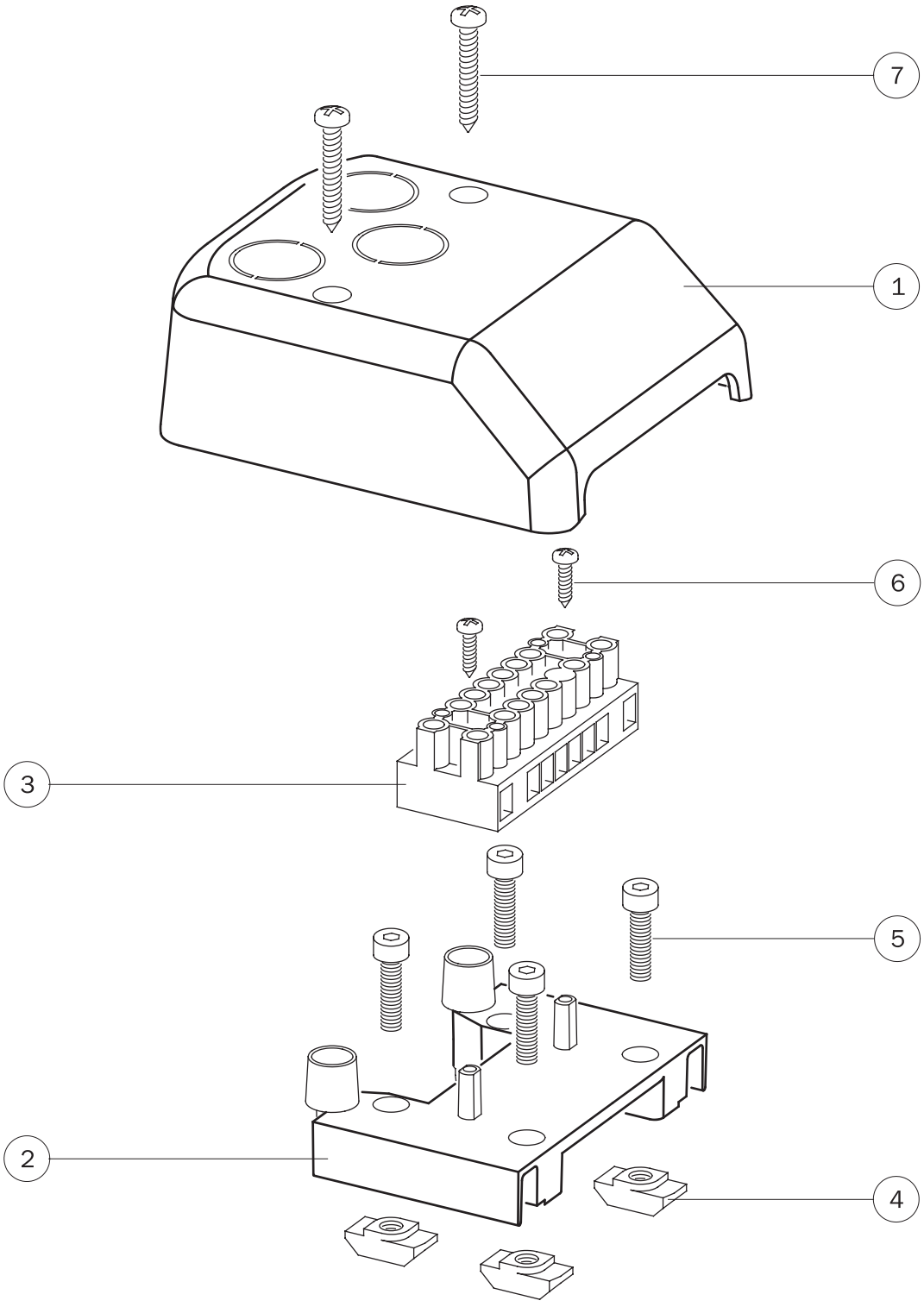
Fittings

To fit the sheath male fitting PMA-TEA-BVND-P112 or the sheath elbow male fitting PMA-TEA-BVWD-P112 to the Gimapick H25 junction box (or to the carter M2550-13), you must remove the diaphragm, breaking the septum with a screwdriver.



Elenco delle parti / *Part list*

H25



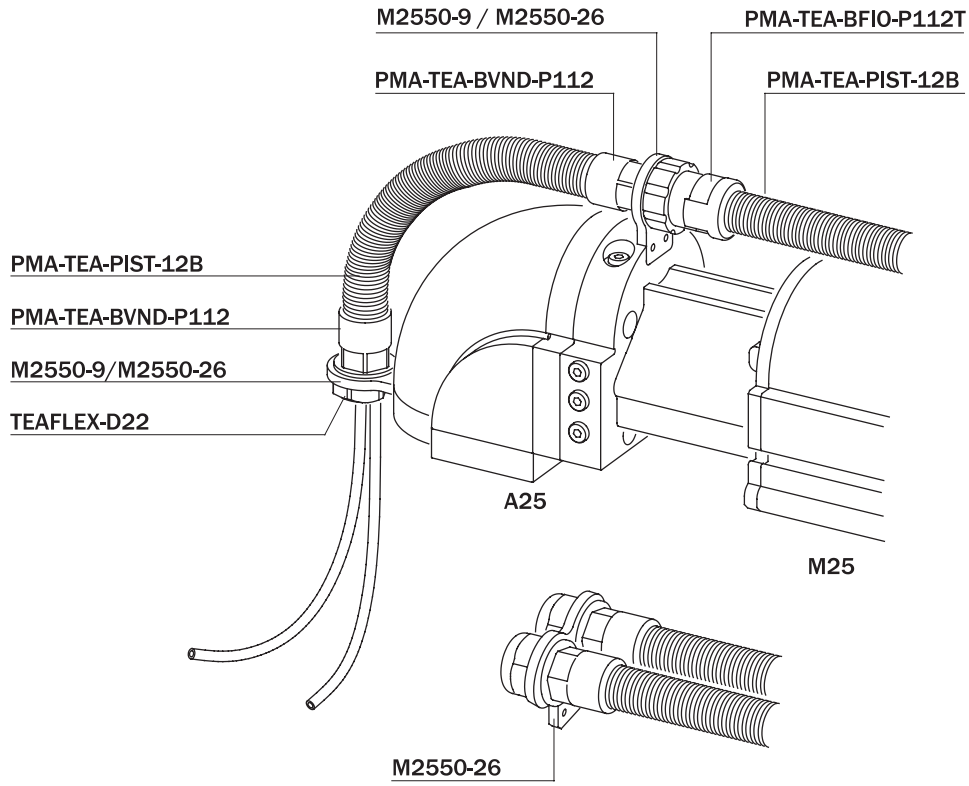
1	Scatola di derivazione	M2550-19	*Junction box*	*1*
2	Ponte	M2550-21	*Bridge*	*2*
3	Morsettiera	KL 16/8 PA 2940008530	*Terminal block*	*3*
4	Dado	BOSCH cod. 3842501773	*Nut*	*4*
5	Vite	M4x14mm DIN 912 INOX A2	*Screw*	*5*
6	Vite autofilettante	Ø2.9x9.5 mm DIN 7981	*Screw*	*6*
7	Vite autofilettante	Ø3.5x25 mm DIN 7981	*Screw*	*7*

M2550-9 e M2550-26

- La staffa di fissaggio, singola o doppia, può essere applicata alla parte mobile dell'attuatore M25 e all'interfaccia A25 o A26.

M2550-9 and M2550-26

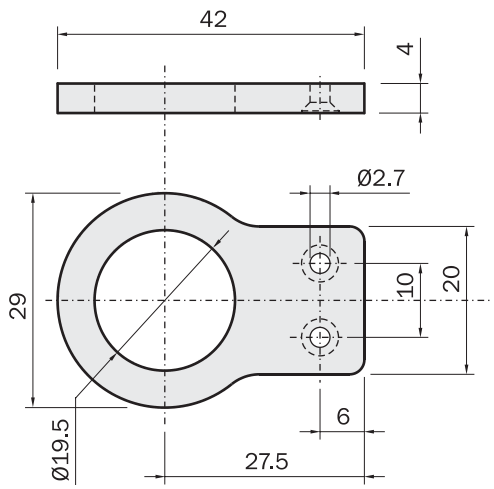
- *The bracket, single or double, can be mounted on the head of the moving part of the actuator M25 and on the interface A25 or A26 as well.*



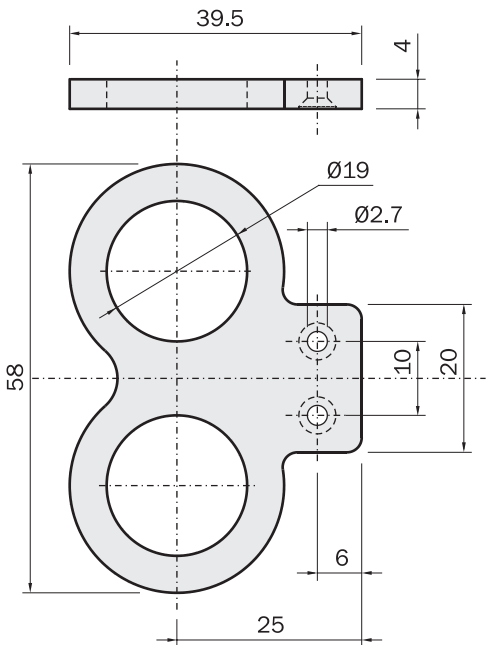
Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

M2550-9



M2550-26



Connessioni

Nella serie Gimapick sono disponibili vari accessori che rendono più agevoli connessioni elettriche e pneumatiche.

Raccordo femmina dritto

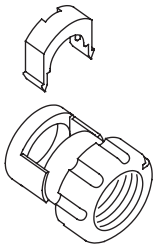
Per guaina con diametro interno 12mm: consente il passaggio dei cavi elettrici e dei tubi per l'aria compressa.
La clip di ancoraggio (A) assicura un'elevata resistenza allo sfilamento ed elimina problemi di torsione o di vibrazione.

Connections

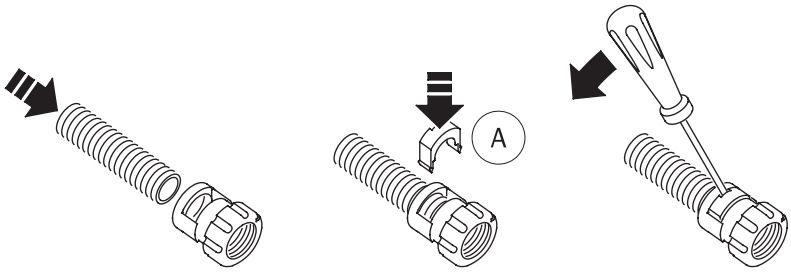
Some optional parts are available in the Gimapick series to facilitate the electrical and pneumatic connections.

Sheath female fitting

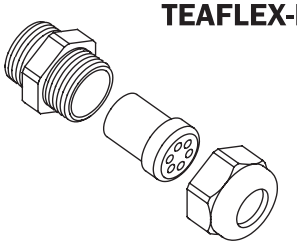
To use with12mm bore sheath, for wires and hoses.
The sheath locking bracket (A) fastens with a good resistance to the traction, torsion and vibration as well.



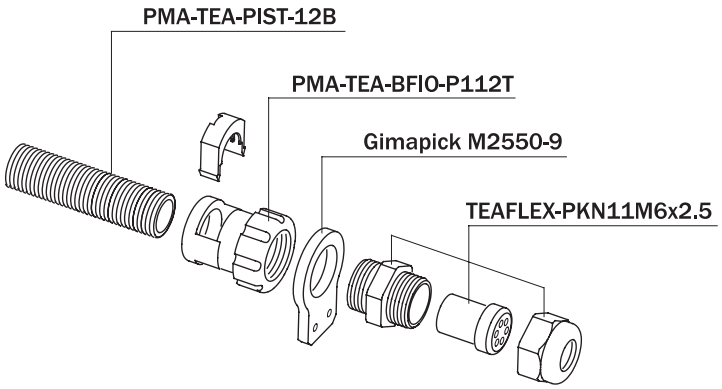
PMA-TEA-BFIO-P112T



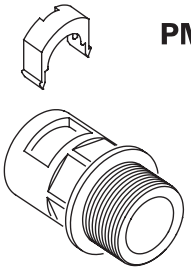
Gruppo completo pressacavo / *Complete wire locking assembly*



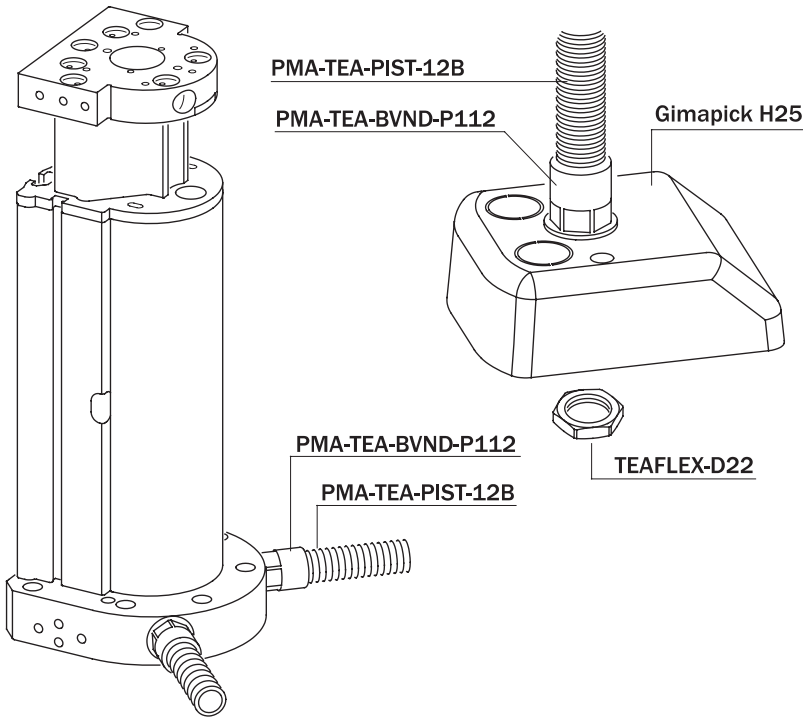
TEAFLEX-PKN11M6x2.5



Raccordo dritto maschio / *Sheath male fitting*

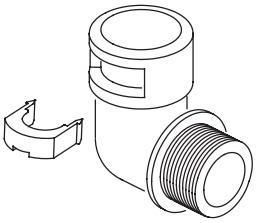


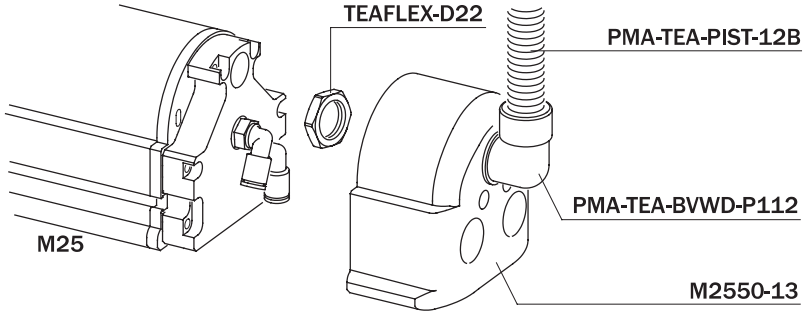
PMA-TEA-BVND-P112



Raccordo a 90° maschio / *Sheath elbow male fitting*

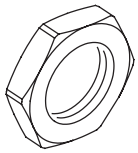
PMA-TEA-BVWD-P112

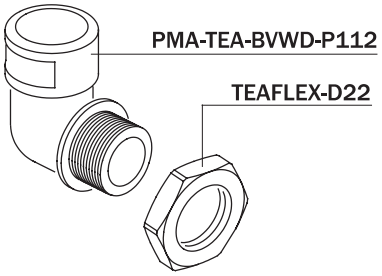


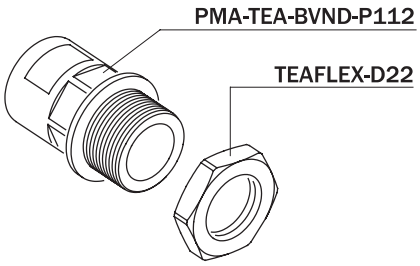


Dado di bloccaggio / *Locking nut*

TEAFLEX-D22

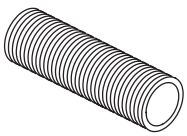


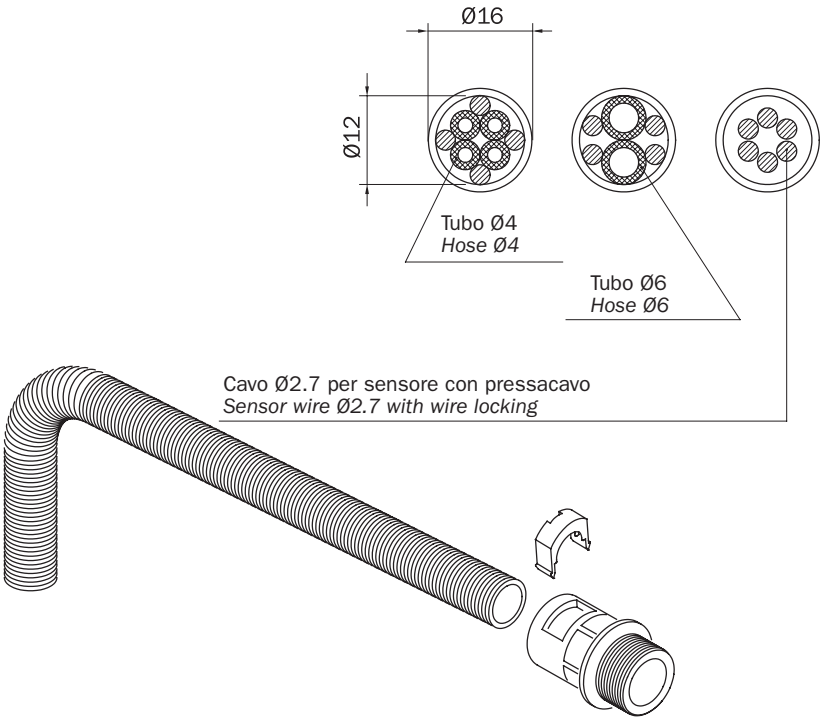




Guaina passacavo / *Sheath*

PMA-TEA-PIST-12B



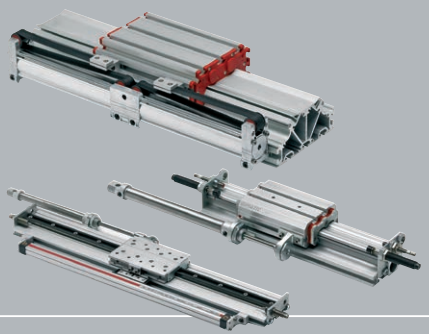


Pinze pneumatiche
Pneumatic grippers

Pinze ad espansione
Air hands

Attuatori lineari
Linear actuators

Guide lineari
Linear guidances



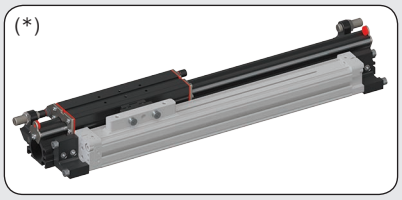
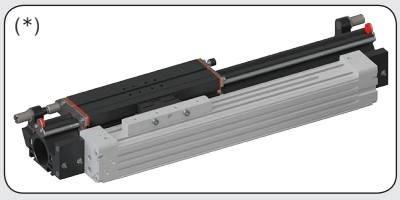
Unità rotanti
Rotary units

Guide lineari a ricircolo di sfere per cilindri senza stelo serie ZVL

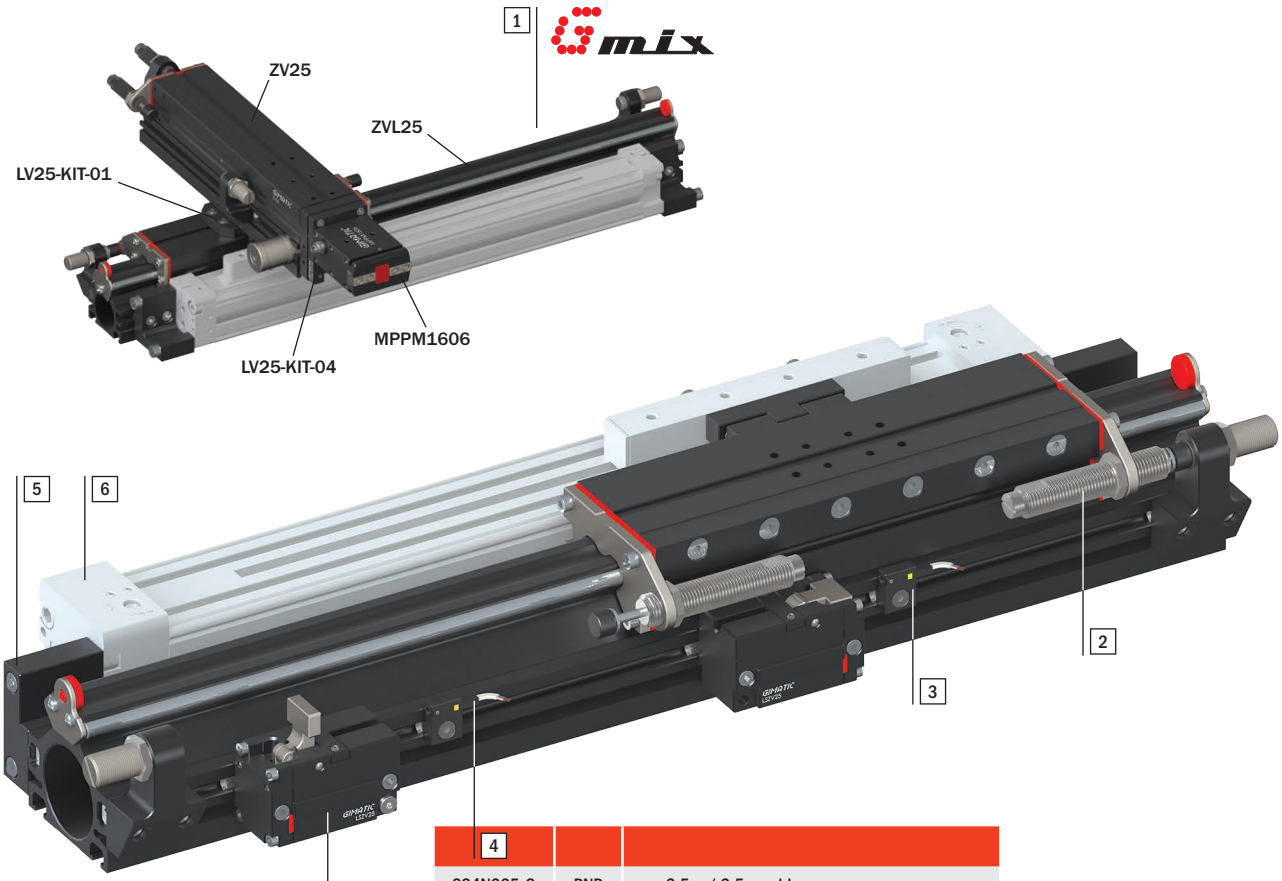
- Compatibile con il sistema G-mix 1.
- Due taglie disponibili per cilindri taglia 18 o 32.
- Fornito con deceleratori idraulici 2 e staffe porta-sensori 3.
- Sensori magnetici opzionali 4.
- Staffe opzionali 5 per il montaggio di cilindri senza stelo standard 6.
- Attuatore opzionale per le fermate intermedie 7.

Linear recirculating ball bearing guides for rodless cylinders (series ZVL)

- *Compatible with the G-mix system* 1.
- *Two sizes available for size 18 or 32 cylinders.*
- *Provided with hydraulic shock-absorbers* 2 *and sensor brackets* 3.
- *Optional magnetic sensors* 4.
- *Optional brackets* 5 *for standard rodless cylinders* 6.
- *Optional actuator for intermediate stops* 7.

	NEW ZVL250200	NEW ZVL250300	NEW ZVL250500	NEW ZVL400200	NEW ZVL400300	NEW ZVL400500	NEW ZVL400700	NEW ZVL401000
Schema *Lay-out*	Per cilindri senza stelo Festo DGC-K-18 *For Festo DGC-K-18 rodless cylinders* (*) 			Per cilindri senza stelo Festo DGC-K-32 *For Festo DGC-K-32 rodless cylinders* (*) 				
Corsa *Stroke* (S)	200 mm	300 mm	500 mm	200 mm	300 mm	500 mm	700 mm	1000 mm
Lunghezza *Lenght* (L)	420 mm	520 mm	720 mm	530 mm	630 mm	830 mm	1030 mm	1330 mm
Peso *Weight*	1330 g	1530 g	1940 g	3700 g	4100 g	4900 g	5800 g	7000 g

(*) I cilindri non sono forniti / *Cylinders not supplied*

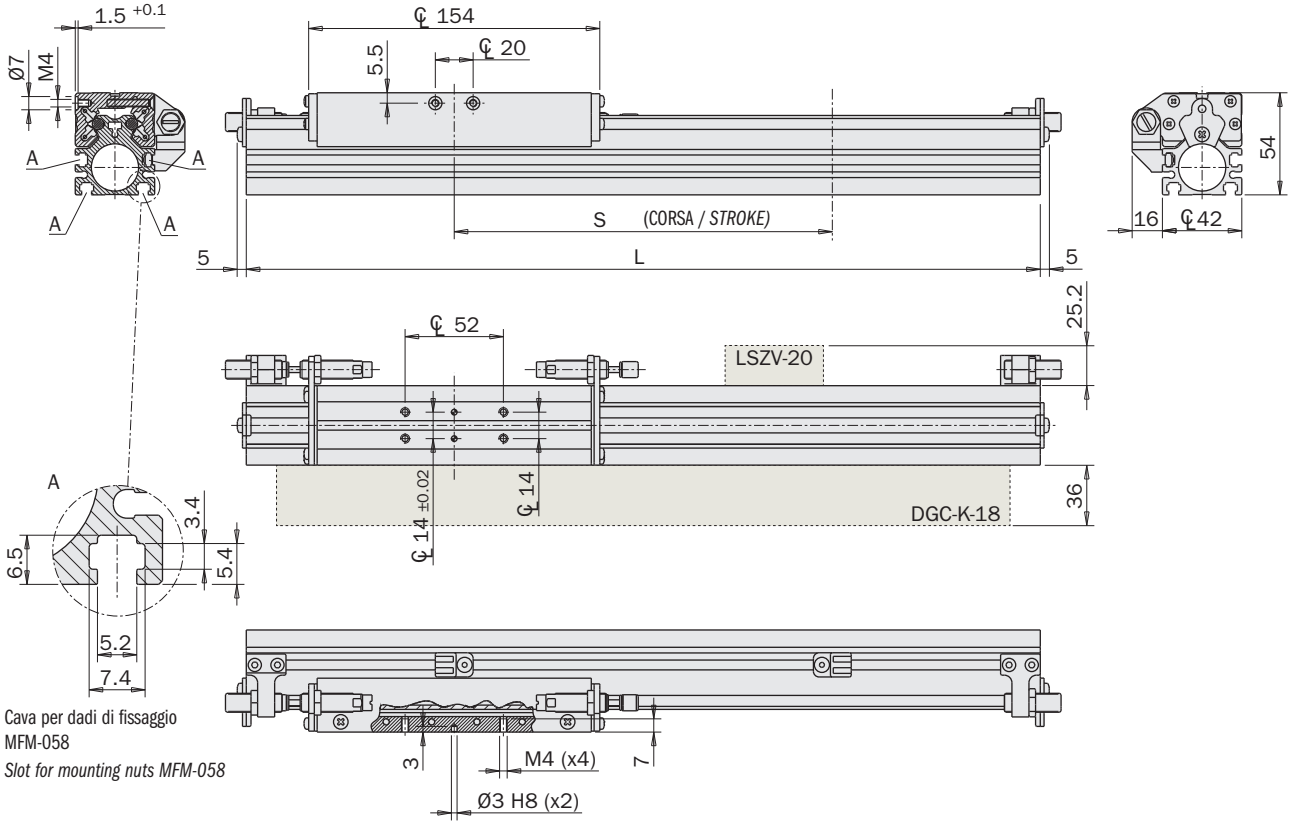


7	
ZVL25	LSZV-20
ZVL40	LSZV-25

4		
SS4N225-G	PNP	cavo 2.5m / 2.5m cable
SS4M225-G	NPN	cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 connector
SS3M203-G	NPN	Connettore M8 / M8 connector

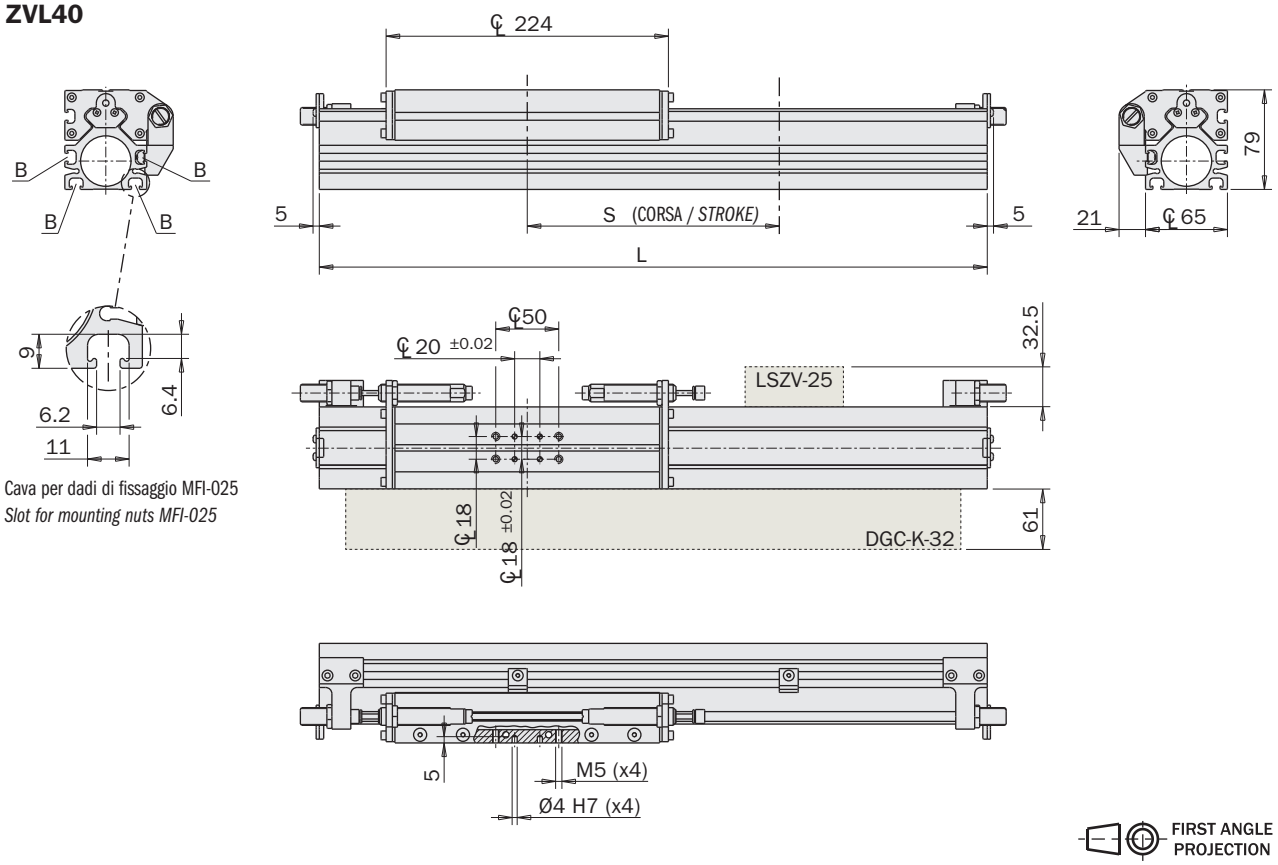
Dimensioni (mm) / *Dimensions (mm)*

ZVL25



Cava per dadi di fissaggio MFM-058
Slot for mounting nuts MFM-058

ZVL40

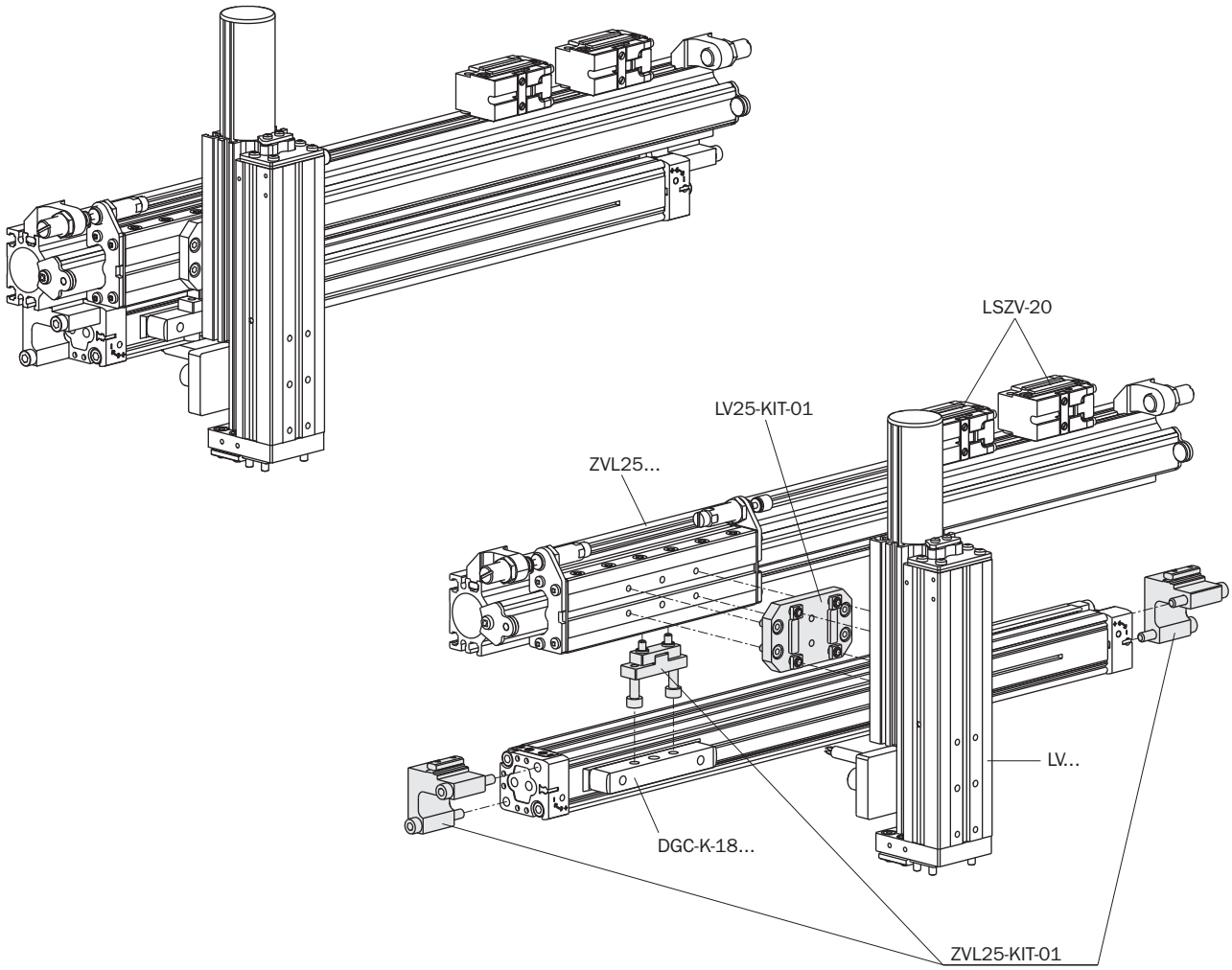


Cava per dadi di fissaggio MFI-025
Slot for mounting nuts MFI-025

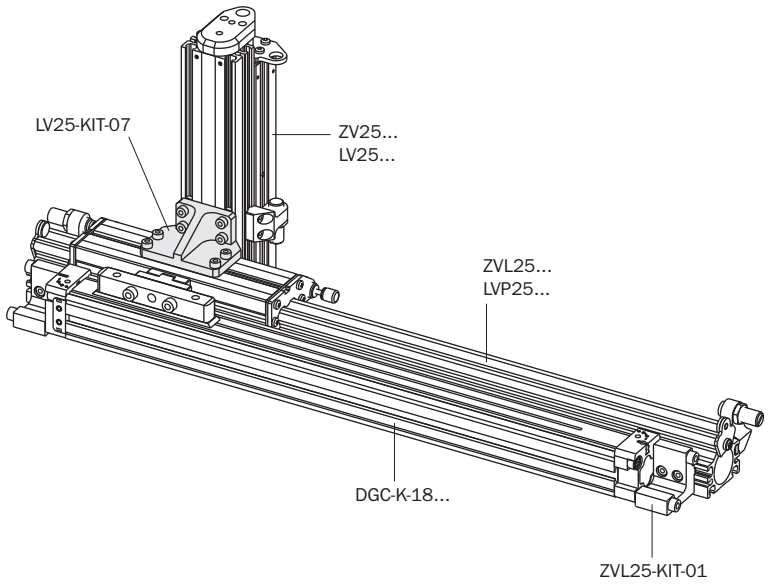
FIRST ANGLE PROJECTION

GUIDE LINEARI
LINEAR GUIDES

Esempio di applicazione con LV25-KIT-01 ***Application example with LV25-KIT-01***

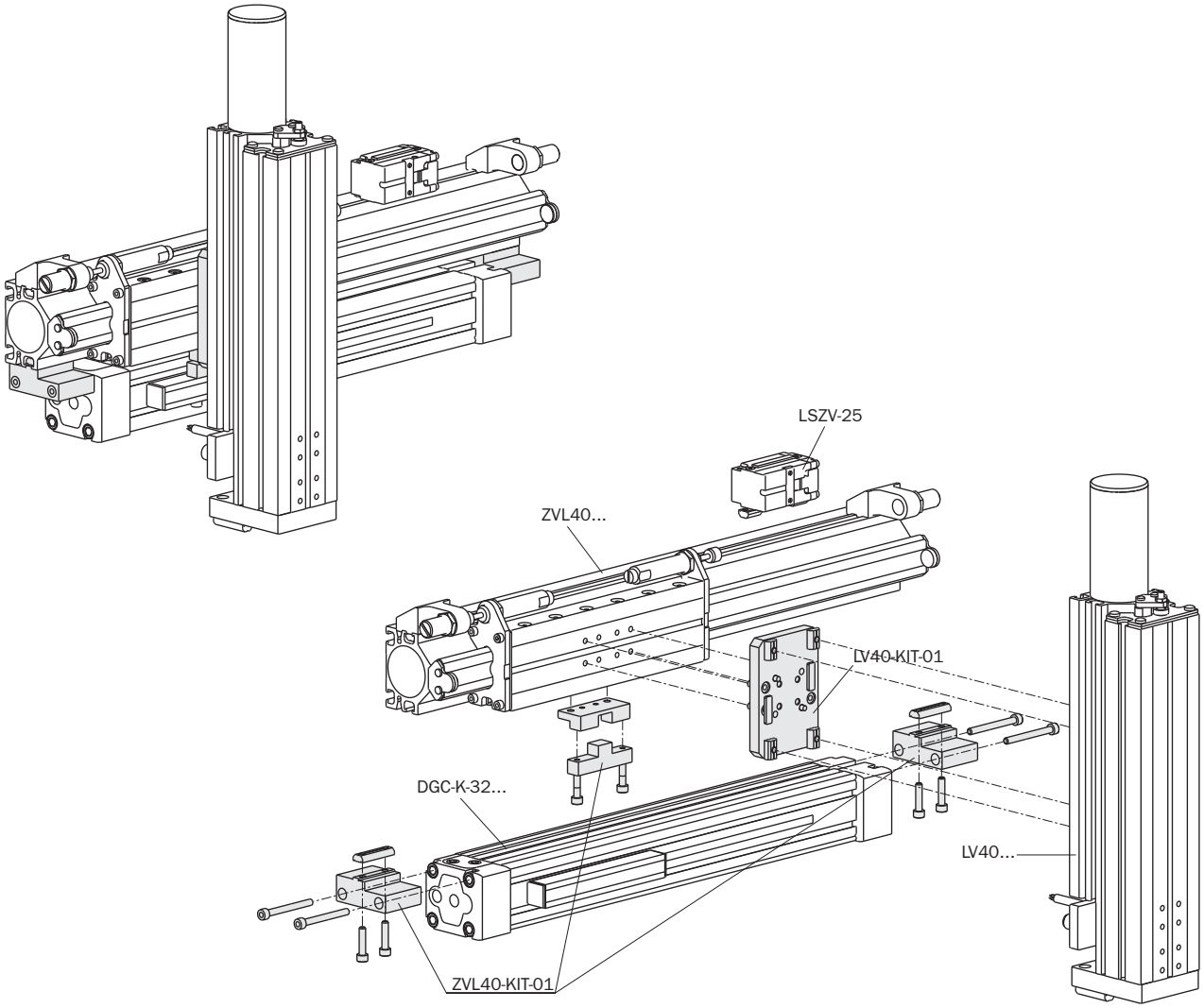


Esempio di applicazione con LV25-KIT-07 ***Application example with LV25-KIT-07***



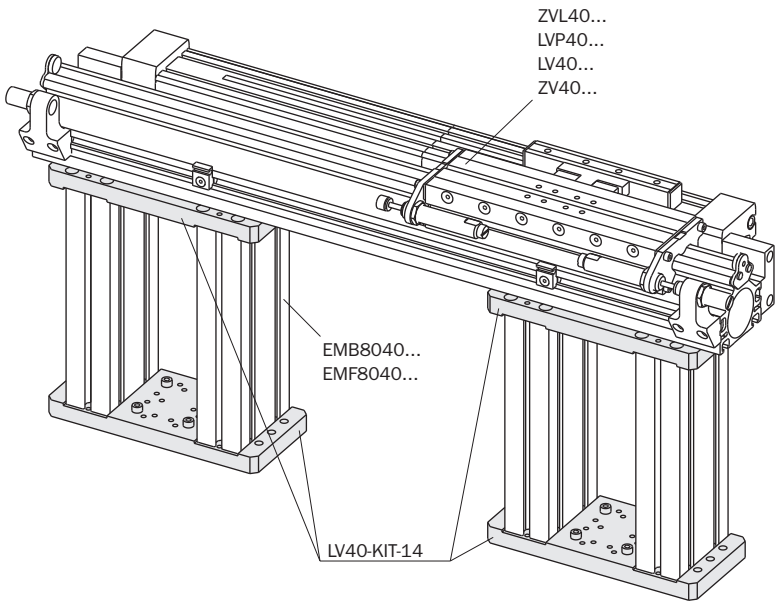
Esempio di applicazione con LV40-KIT-01

Application example with LV40-KIT-01

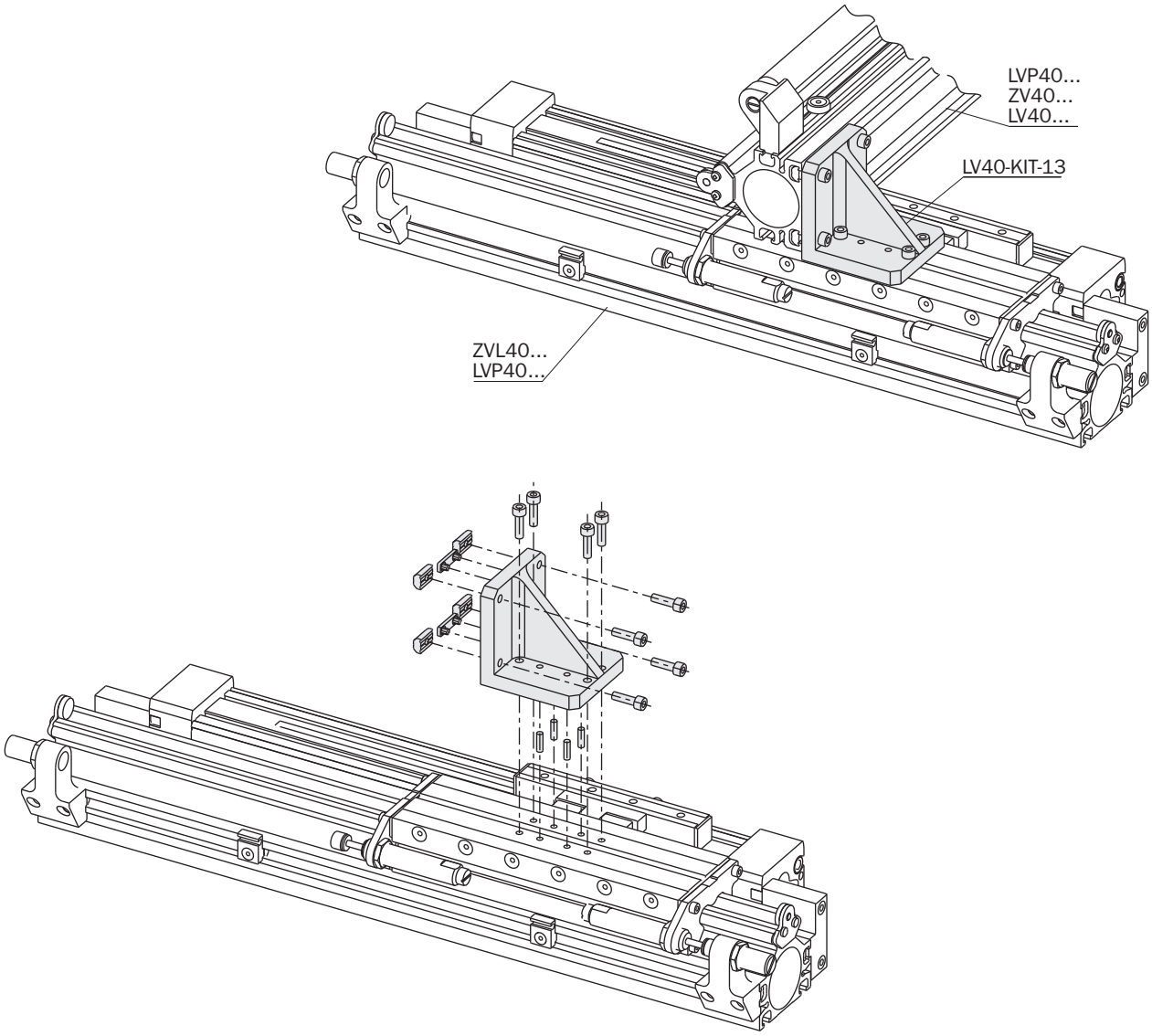


Esempio di applicazione con LV40-KIT-14

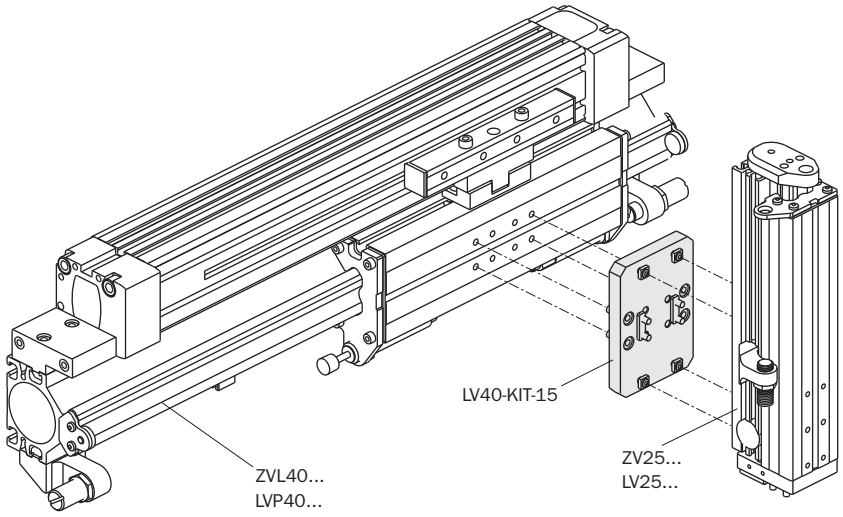
Application example with LV40-KIT-14



Esempio di applicazione con LV40-KIT-13 ***Application example with LV40-KIT-13***



Esempio di applicazione con LV40-KIT-15 ***Application example with LV40-KIT-15***



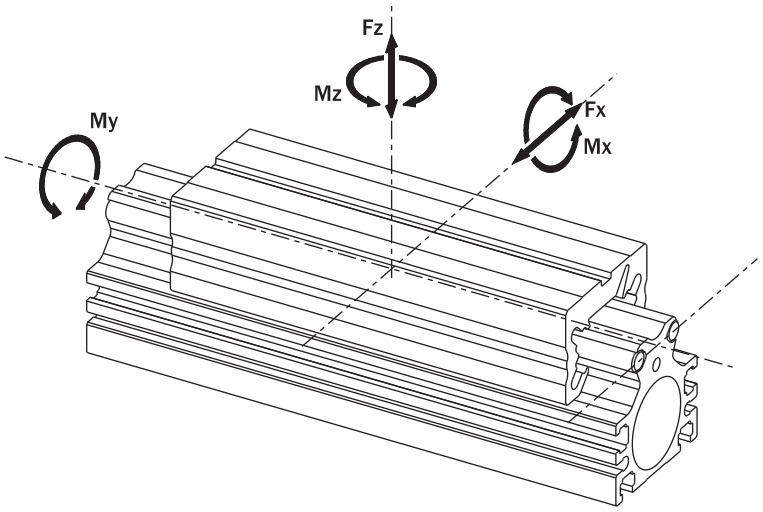
Carichi di sicurezza

Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Verificare che l'indice di carico LF sia inferiore all'unità.

Safety loads

Excessive loads can damage the unit, cause operation problems and endanger the safety of the operator.
Check that the load factor LF is lower than 1.

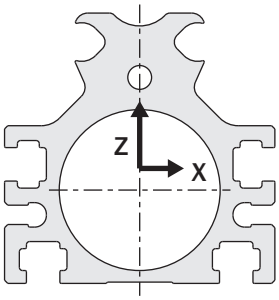
	ZVL25	ZVL40
Fx	1200 N	2500 N
Fz	1200 N	2500 N
Mx	40 Nm	120 Nm
My	11 Nm	31 Nm
Mz	40 Nm	120 Nm



$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leq 1$$

Momenti d'inerzia del profilo estruso in alluminio

Moments of inertia for the extruded aluminium profile



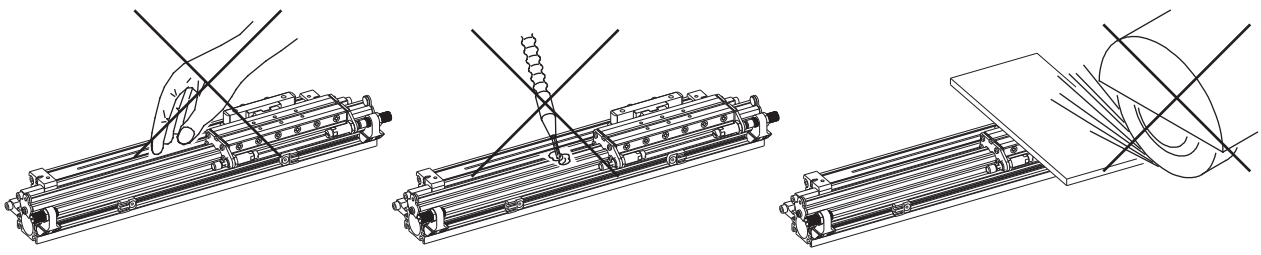
	ZVL25	ZVL40
Ix	83479 mm^4	444096 mm^4
Iz	100191 mm^4	450893 mm^4

Avvertenze

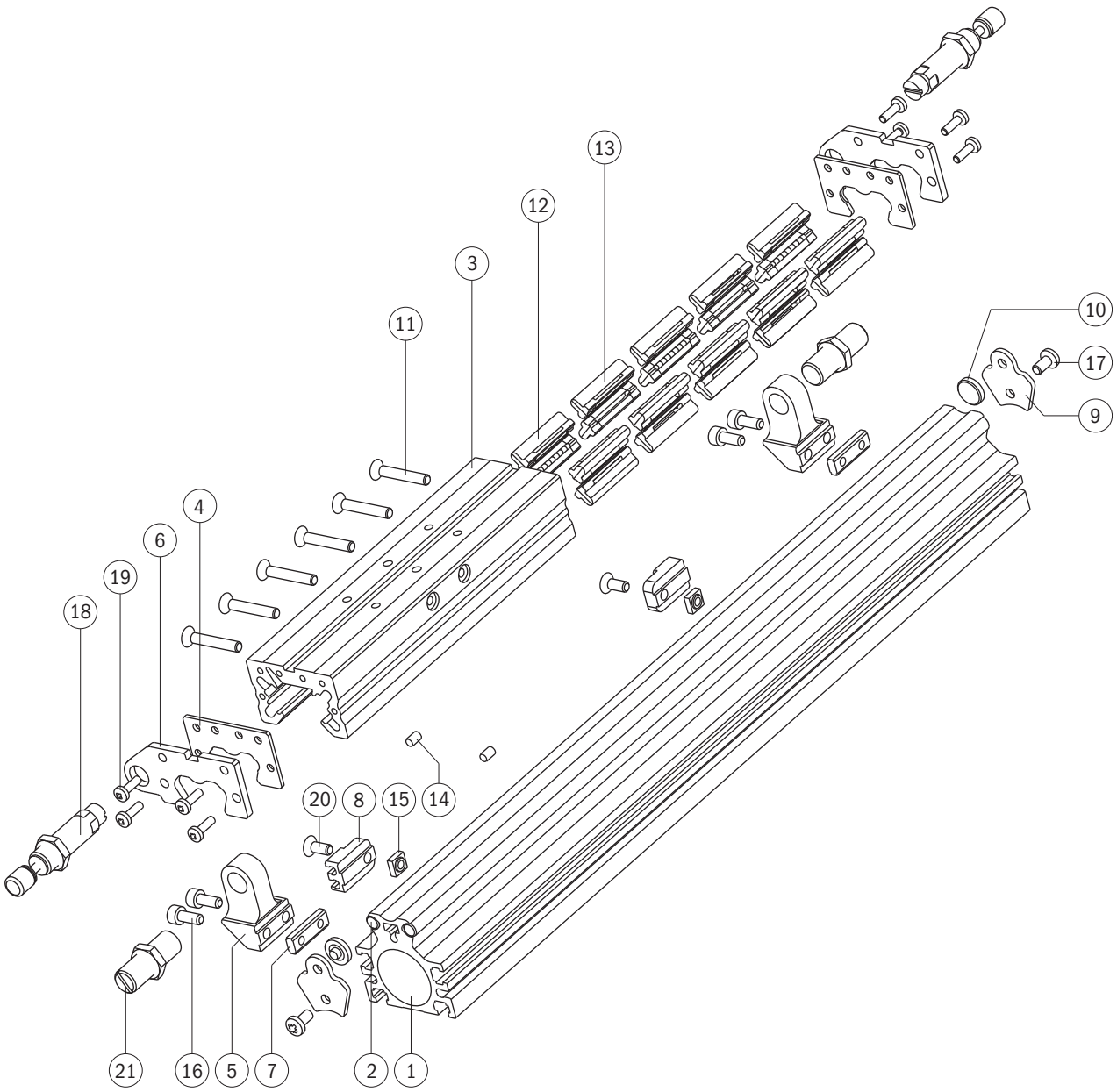
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they will damage the slide.
Never let non-authorised persons or objects be within the operating range of the slide.
Never operate the slide on a machine that does not comply with the safety standards and laws of your country.



Vista esplosa / ***Exploded view***



Elenco delle parti / *Part list*

		ZVL250200	ZVL250300	ZVL250500		
1	Profilo guida	ZVL250200-01	ZVL250300-01	ZVL250500-01	*Guide profile*	*1*
2	Colonna	ZVL250200-03	ZVL250300-03	ZVL250500-03	*Guide rod*	*2*
3	Carrello	ZVL250200-02			*Carrier*	*3*
4	Protezione carrello	ZV25030-06			*Carrier protection*	*4*
5	Supporto fine-corsa	ZV25030-11			*Stroke end bracket*	*5*
6	Portadeceleratore carrello	ZV25030-24			*Carrier shock absorber holder*	*6*
7	Dado doppio M4	ZV25030-31			*M4 double nut*	*7*
8	Basetta porta sensore	LV25050-22			*Sensor holder bracket*	*8*
9	Bloccaggio colonne	LVP25-06			*Guide rod locking plate*	*9*
10	Gommino di sicurezza	LVP25-07			*Safety rubber pad*	*10*
11	Vite	VITE-092 (M4x25 DIN 965A INOX A2)			*Screw*	*11*
12	Cartuccia a ricircolo di sfere	C2521			*Recirculating ball bushing*	*12*
13	Semi-guscio cartuccia	2521			*Bushing half-case*	*13*
14	Magnete	PAR-06-7			*Magnet*	*14*
15	Dado M4	MFM-058			*M4 nut*	*15*
16	Vite	VITE-264 (M4x10 DIN 912 Z/B)			*Screw*	*16*
17	Vite	VITE-337 (4x8 DIN 7500C Z/B			*Screw*	*17*
18	Deceleratore idraulico M10x1	TK10-3MB MB 32848-B3			*Hydraulic shock absorber M10x1*	*18*
19	Vite	VITE-074 (M3x10 DIN 7985A INOX A2)			*Screw*	*19*
20	Vite	VITE-352 (M4x10 UNI 5933 Z/B)			*Screw*	*20*
21	Sottogruppo finecorsa	FPD1030-00			*Stroke end subunit*	*21*

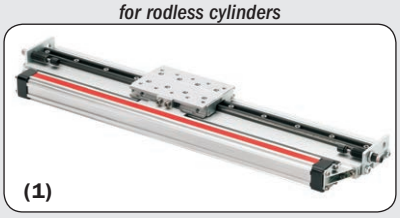
		ZVL400200	ZVL400300	ZVL400500	ZVL400700	ZVL401000		
1	Profilo guida	ZVL400200-01	ZVL400300-01	ZVL400500-01	ZVL400700-01	ZVL401000-01	*Guide profile*	*1*
2	Colonna	ZVL400200-02	ZVL400300-02	ZVL400500-02	ZVL400700-02	ZVL401000-02	*Guide rod*	*2*
3	Carrello	LVP40-01					*Carrier*	*3*
4	Protezione carrello	ZV40050-06					*Carrier protection*	*4*
5	Supporto fine-corsa	ZV40050-32					*Stroke end bracket*	*5*
6	Portadeceleratore carrello	ZV40050-24					*Carrier shock absorber holder*	*6*
7	Dado doppio M5	MFI-016					*M5 double nut*	*7*
8	Basetta porta sensore	LV40050-22					*Sensor holder bracket*	*8*
9	Bloccaggio colonne	LVP40-06					*Guide rod locking plate*	*9*
10	Gommino di sicurezza	LVP40-10					*Safety rubber pad*	*10*
11	Vite	VITE-272 (M5x40 DIN 7991 Z/B)					*Screw*	*11*
12	Cartuccia a ricircolo di sfere	C-327					*Recirculating ball bushing*	*12*
13	Semi-guscio cartuccia	327					*Bushing half-case*	*13*
14	Magnete	PAR-06-7					*Magnet*	*14*
15	Dado M4	MFI-177					*M4 nut*	*15*
16	Vite	VITE-048 (M5x14 DIN 912 INOX A2)					*Screw*	*16*
17	Vite	VITE-074 (M3x10 DIN 7985A INOX A2)					*Screw*	*17*
18	Deceleratore idraulico M14x1.5	PM25MC-2B SP22039					*Hydraulic shock absorber M14x1.5*	*18*
19	Vite	VITE-061 (M4x16 DIN 912 INOX A2)					*Screw*	*19*
20	Vite	VITE-189 (M4x14 UNI 5933 INOX A2)					*Screw*	*20*
21	Sottogruppo finecorsa	FPD1440-00					*Stroke end subunit*	*21*

Guide lineari a ricircolo di sfere serie LZ

- Sistema di guida a ricircolo di sfere.
- Ultrapiatta: solo 30mm di spessore.
- Diverse possibilità di montaggio con dadi a T.
- Vari kit opzionali per il montaggio di accessori.

Linear guides with recirculating ball-bearings series LZ

- *Recirculating ball-bearing guide system.*
- *Very flat: 30mm thickness only.*
- *Several mounting options with T-nuts.*
- *Optional kits for accessories.*

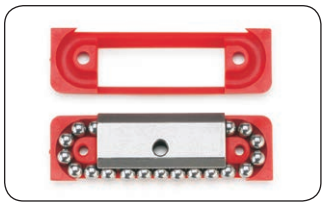
	LZ00-0050	LZ00-0100	LZ00-0160	LZ00-0200	LZ01-0200	LZ01-0300	LZ01-0400
Schema *Lay-out*	per cilindri ISO 6432 *for ISO 6432 cylinders*  (1)				per cilindri senza stelo *for rodless cylinders*  (1)		
Corsa *Stroke*	50 mm	100 mm	160 mm	200 mm	200 mm	300 mm	400 mm
L	190 mm	240 mm	300 mm	340 mm	375 mm	475 mm	575 mm
M	17.5 mm	17.5 mm	17.5 mm	17.5 mm	35 mm	35 mm	35 mm
Peso *Weight*	645 g	750 g	875 g	965 g	1070 g	1290 g	1500 g

(1) I cilindri non sono forniti / *Cylinders not supplied*

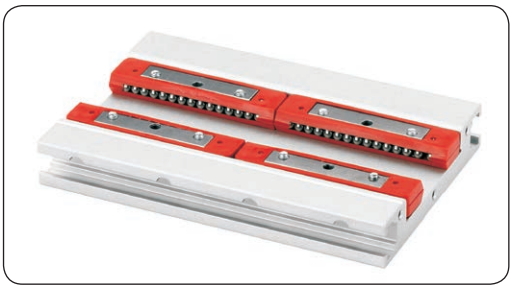
Il carrello è ricavato da un estruso di alluminio nel quale sono previste le sedi per le cartucce a ricircolo di sfere e le cave a T per i vari fissaggi.
La particolare forma permette l'azzeramento del gioco e la registrazione del precarico tramite le quattro viti di regolazione.

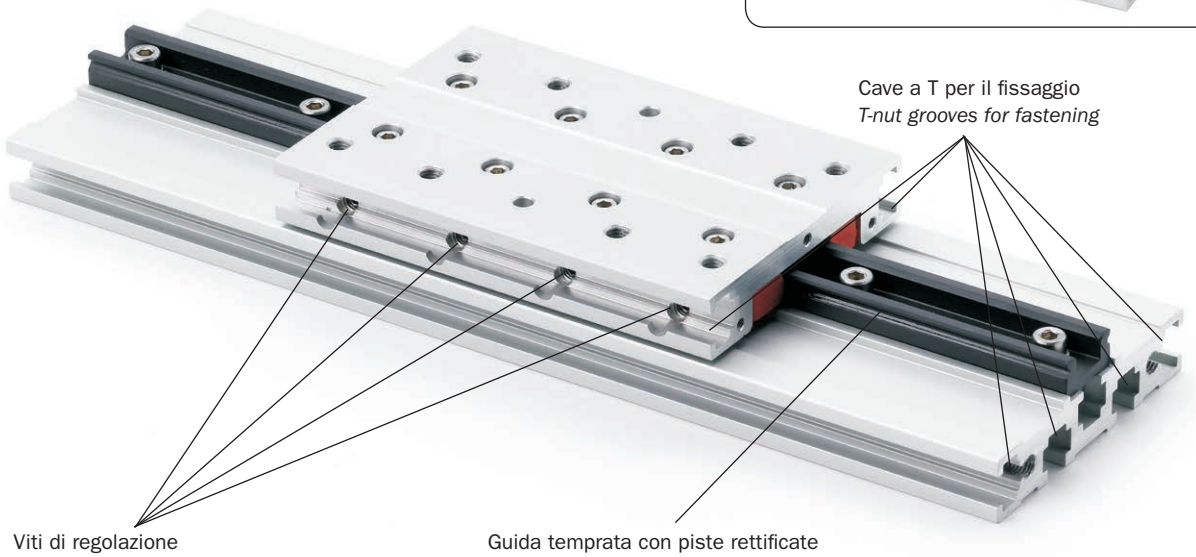
The carrier is made from an aluminium extruded profile, in which the housings for the recirculating ball bearings and the T-nut grooves are located.
Thanks to the carrier special profile, with four adjustment screws, it is possible to set the carrier backlash to zero and to adjust the correct bearing preload.

Cartuccia a ricircolo di sfere
Recirculating ball bearing

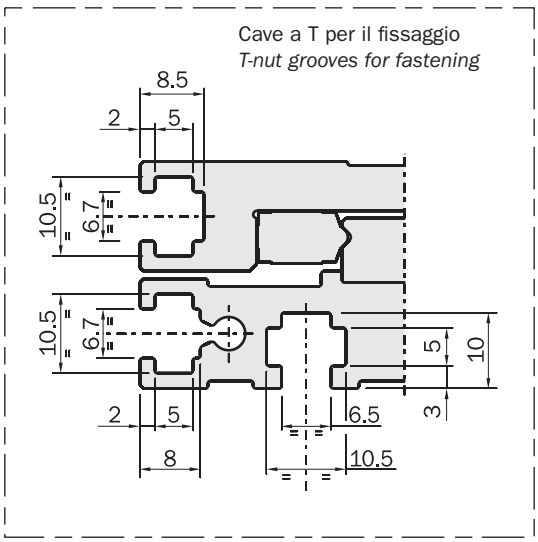


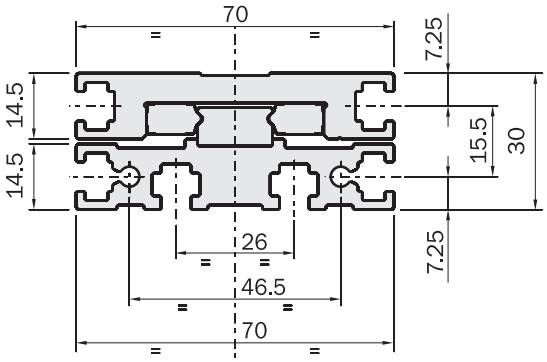
Carrello con cartucce a ricircolo di sfere
Carrier with recirculating ball bearings

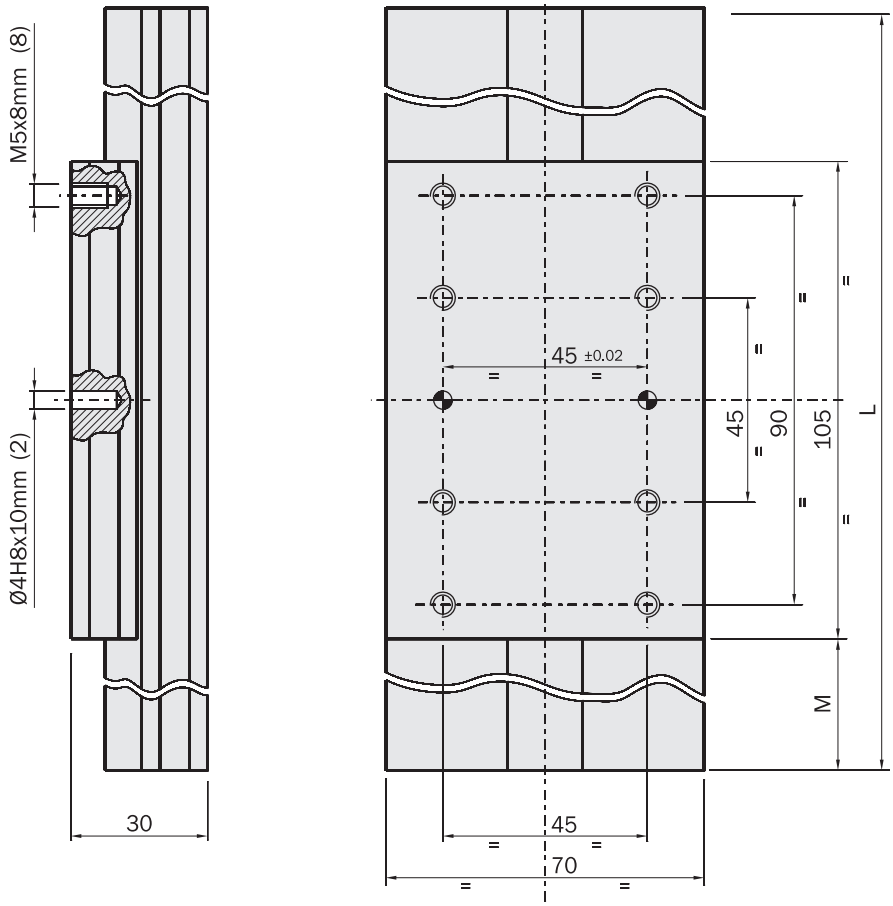




Dimensioni (mm) / *Dimensions (mm)*







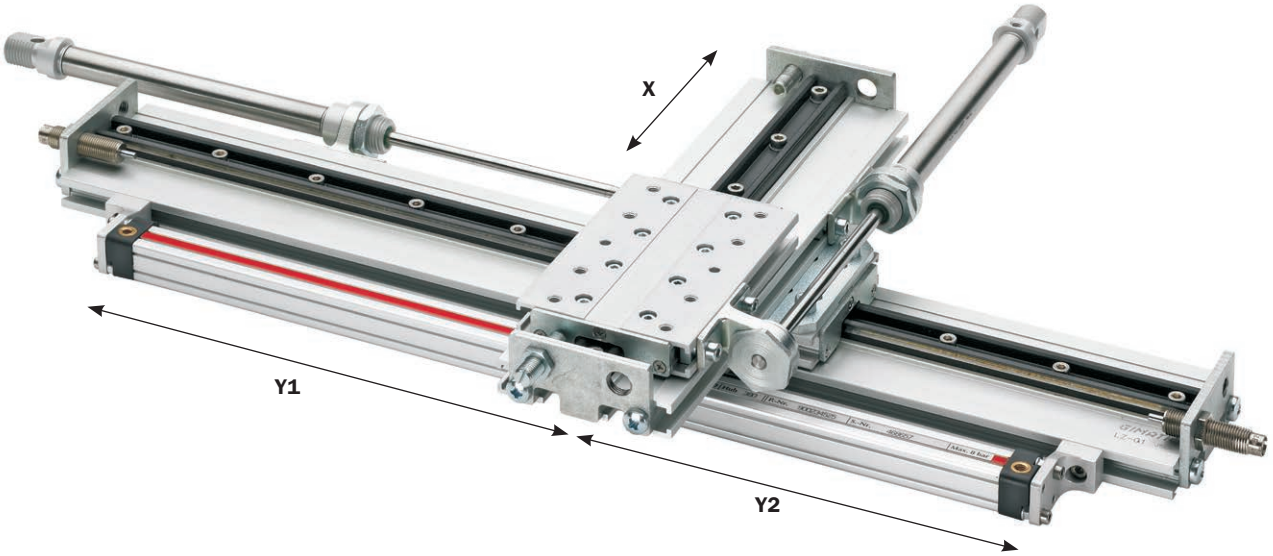
FIRST ANGLE PROJECTION

Esempio di applicazione

Manipolatore a due assi con arresto intermedio.
Il carrello dell'asse Y è unito alla rotaia dell'asse X, con il kit LZK-013-2.

Application example

Two-axis manipulator with intermediate stop.
The carrier of the Y axis is connected to the rail of the X axis, by the LZK-013-2 mounting kit

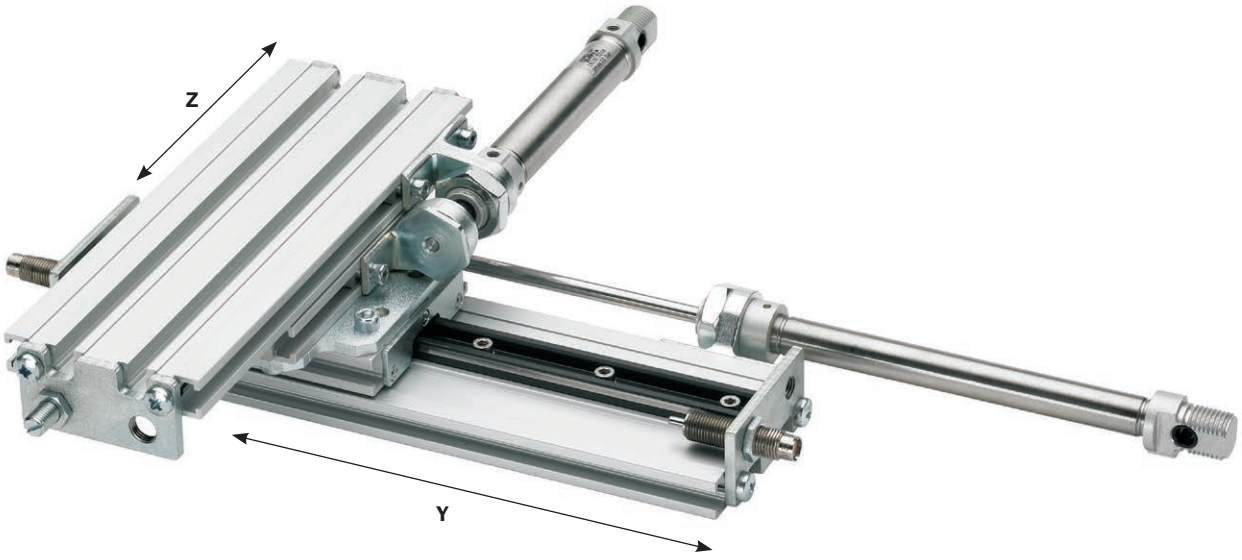


Esempio di applicazione

Manipolatore a due assi, tipo portale.
Il carrello dell'asse Y è unito al carrello dell'asse Z, con il kit LZK-013-1.

Application example

Two-axis manipulator, linear gantry style.
The carrier of the Y axis is connected to the carrier of the Z axis, by the LZK-013-1 mounting kit.

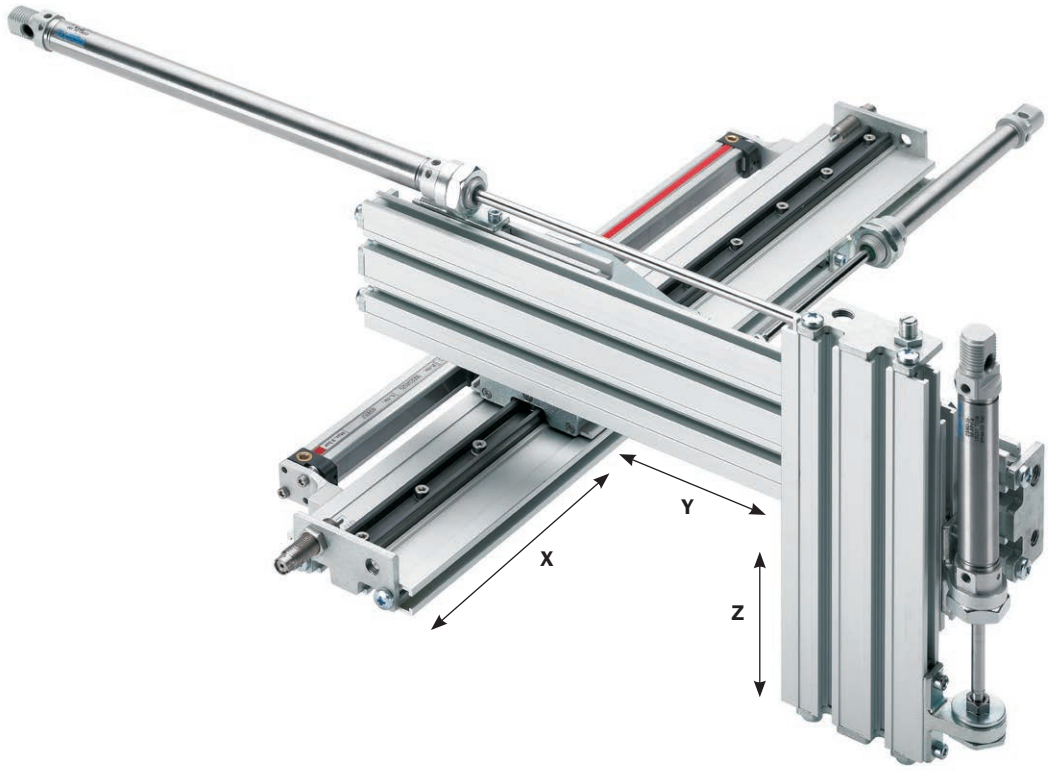


Esempio di applicazione

Manipolatore a tre assi.
Utilizzando due squadrette LLK-021 è possibile unire i carrelli su due piani perpendicolari.

Application example

Three-axis manipulator, area gantry style.
With two LLK-021 brackets, it is possible to connect carriers along two perpendicular planes.

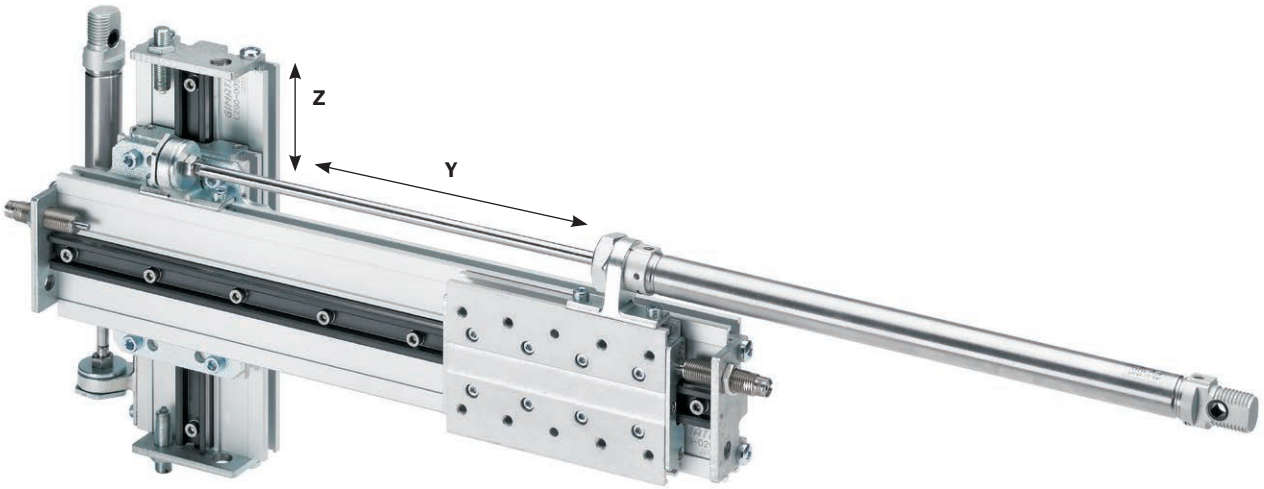


Esempio di applicazione

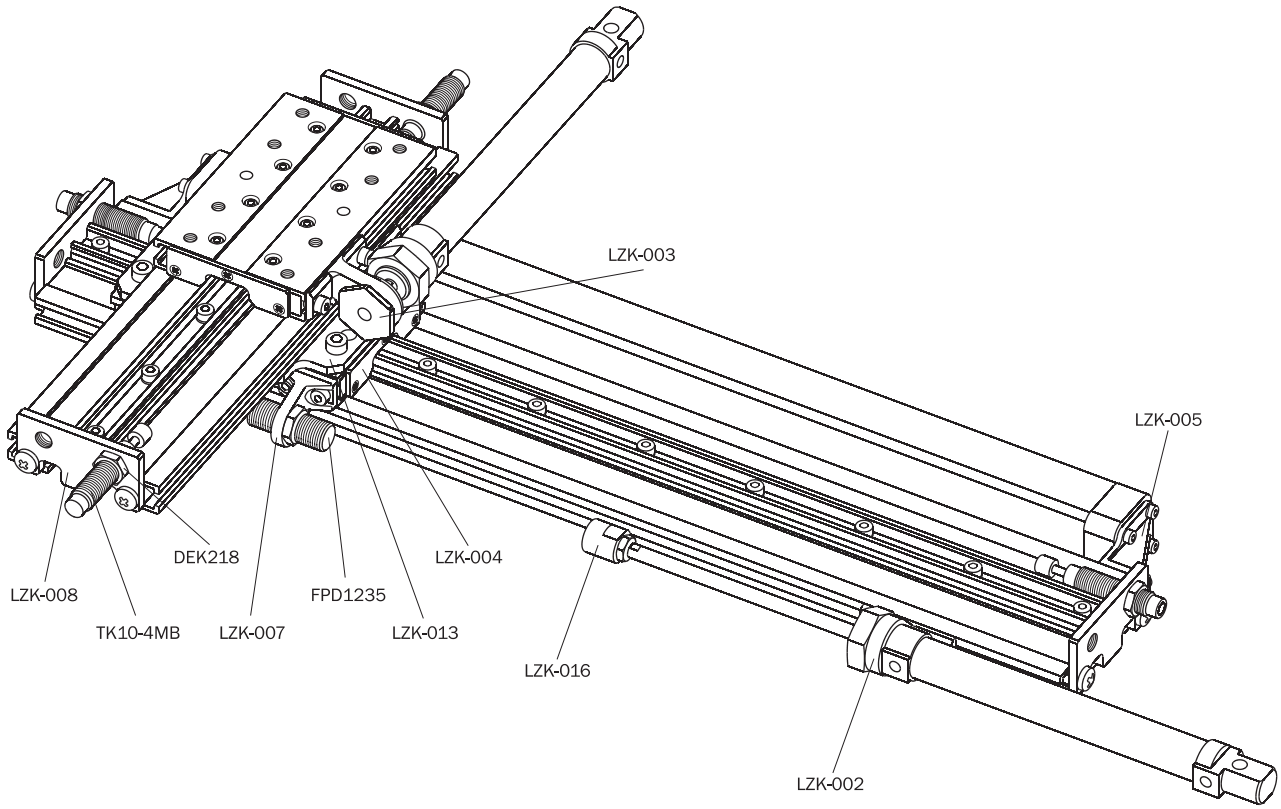
Manipolatore a due assi, tipo Pick & Place.
Il carrello dell'asse Z è unito alla rotaia dell'asse Y, con il kit LZK-013-2.

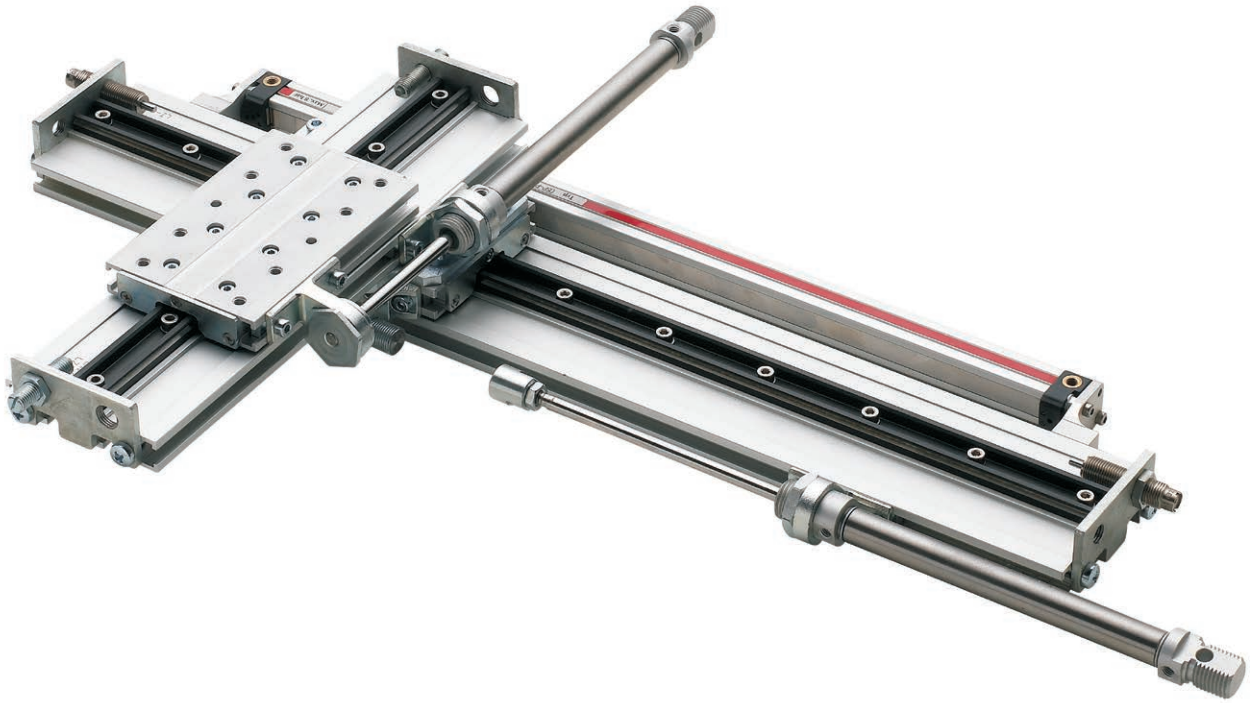
Application example

Pick & Place two-axis manipulator.
The carrier of the Z axis is connected to the rail of the Y axis, by the LZK-013-2 mounting kit.

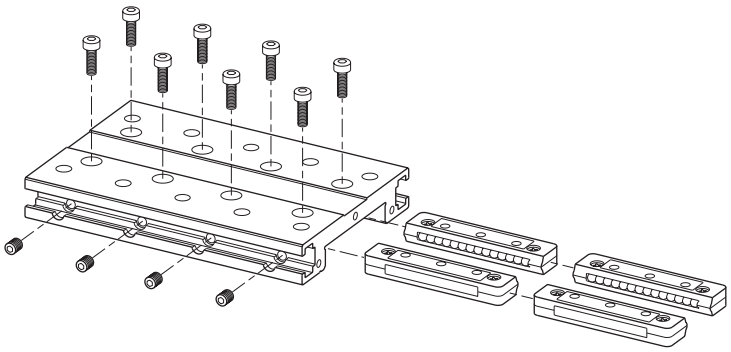


Kit opzionali / *Optional kits*

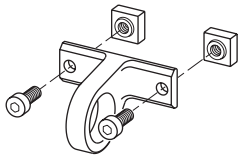




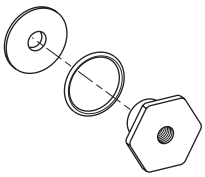
LZK-001 (220 g)
Carrello
Carrier



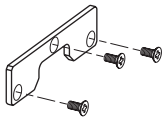
LZK-002 (45 g)
Anello di fissaggio per cilindri Ø12 e Ø16 ISO 6432
Cylinder holder for ISO 6432 cylinders Ø12 and Ø16



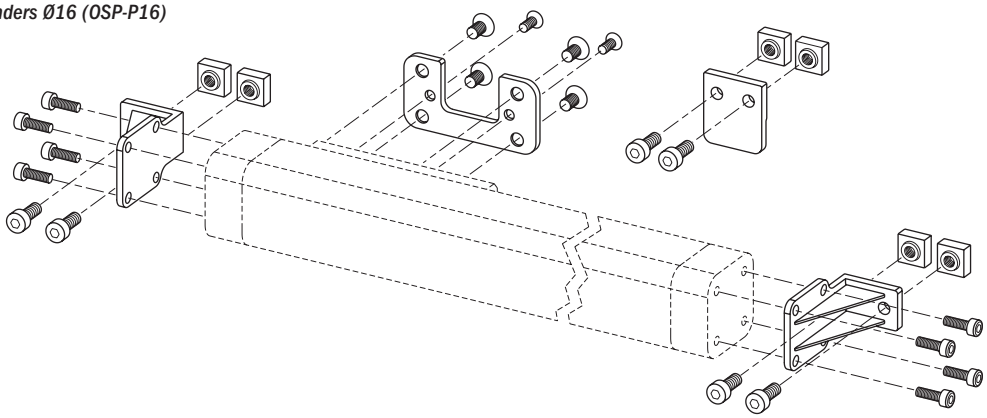
LZK-003 (25 g)
Giunto M6 per cilindri Ø12 e Ø16 ISO 6432
Cylinder rod bolt M6 for ISO 6432 cylinders Ø12 and Ø16



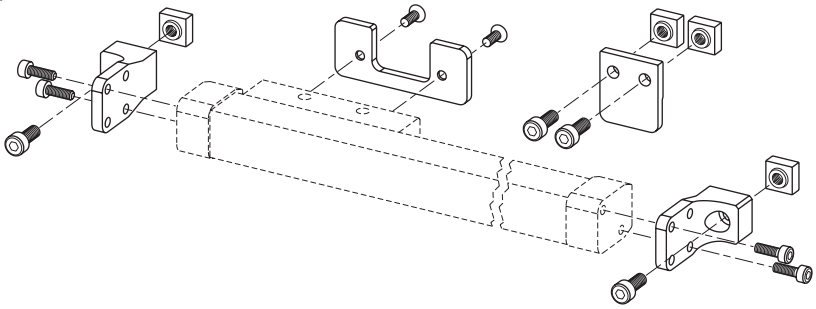
LZK-004 (15 g)
Protezione in acciaio
Steel plate



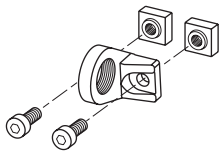
LZK-005 (135 g)
Kit di fissaggio per cilindro senza stelo Origa Ø16 (OSP-P16)
Fastening kit for Origa rodless cylinders Ø16 (OSP-P16)



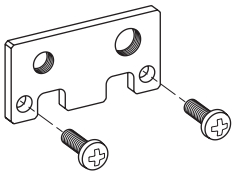
LZK-006 (70 g)
Kit di fissaggio cilindro senza stelo Origa Ø10 (OSP-P10)
Fastening kit for Origa rodless cylinders Ø10 (OSP-P10)



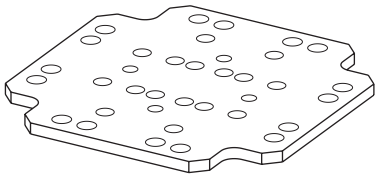
LZK-007 (40 g)
Staffa filettata M12x1 per il fissaggio laterale di deceleratori o grani di fermo per cilindri ISO 6432
Threaded bracket (M12x1) for the side fastening of shock absorbers or end stroke grub screws for cylinders ISO 6432



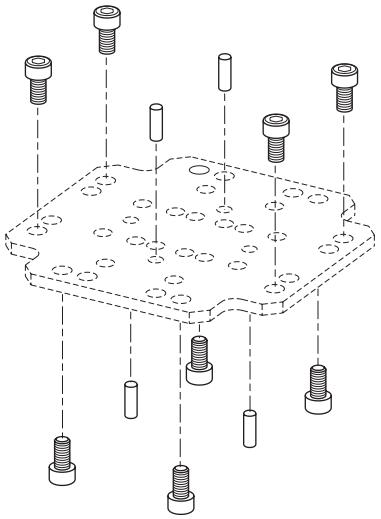
LZK-008 (50 g)
Testata
End plate



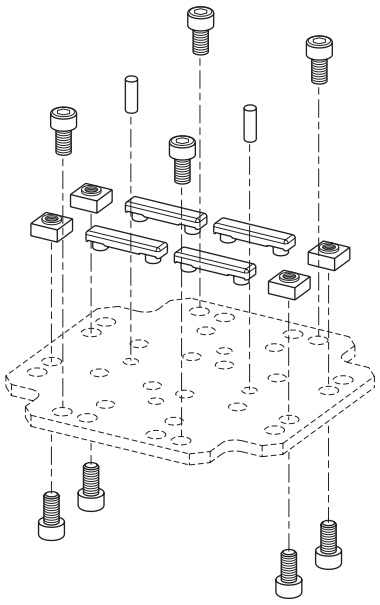
LZK-013 (290 g)
Interfaccia di montaggio
Mounting interface plate



LZK-013-01 (30 g)
Kit per il fissaggio carrello-carrello
Mounting kit carrier to carrier

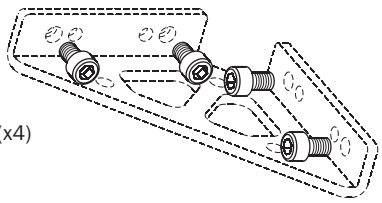


LZK-013-02 (50 g)
Kit per il fissaggio carrello-rotaia
Mounting kit carrier to rail

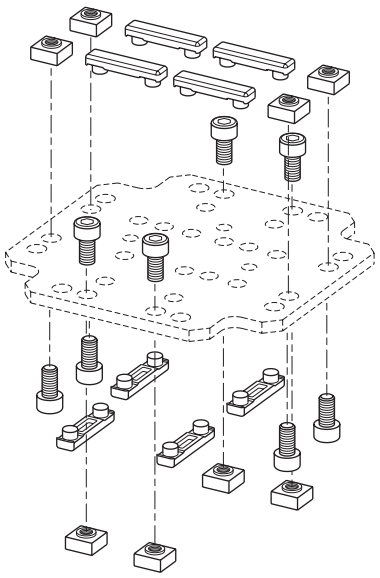


FTK30 (25 g)
Kit viti per LLK-021
Screw kit for LLK-021

M5x12mm DIN912 INOX (x4)



LZK-013-03 (65 g)
Kit per il fissaggio rotaia-rotaia
Mounting kit rail to rail



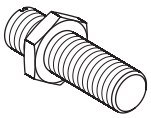
LZK-016 (20 g)
Terminale per cilindro M6 (1 pezzo)
End block for cylinder rod (1 piece)



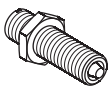
FGD/FPD
Fine corsa
End stroke

FGD0830	M8x1	L=30 mm
FGD1030	M10x1	L=30 mm
FGD1235	M12x1	L=35 mm
FPD0830	M8x1	L=30 mm
FPD1030	M10x1	L=30 mm
FPD1235	M12x1	L=35 mm

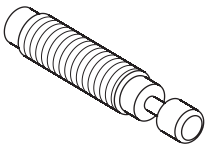
FPD



FGD



TK10-4MB (16 g)
Deceleratore idraulico (M10x1)
Shock-absorber (M10x1)

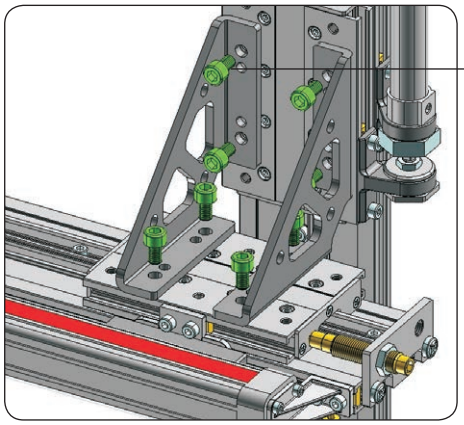


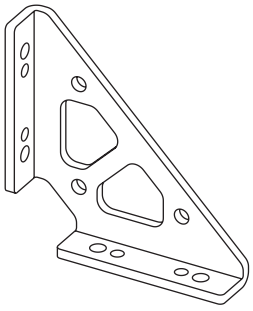
MFM
Dado (1 pezzo)
Nut (1 piece)

MFM-059	M5
MFM-070	M4



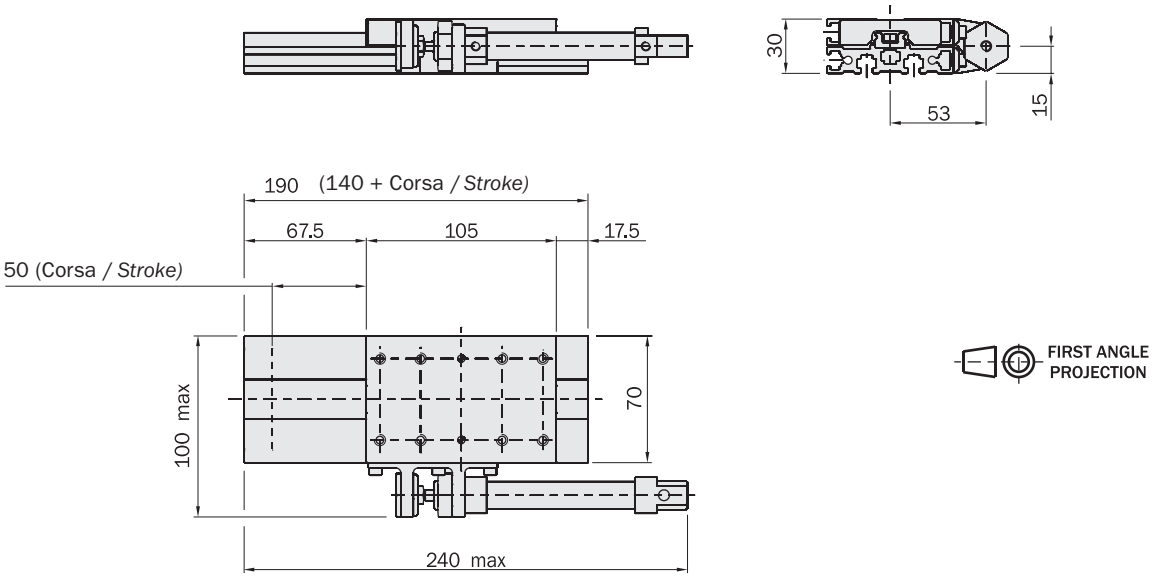
LLK-021 (170 g)
Squadra di fissaggio 90°
90° mounting bracket



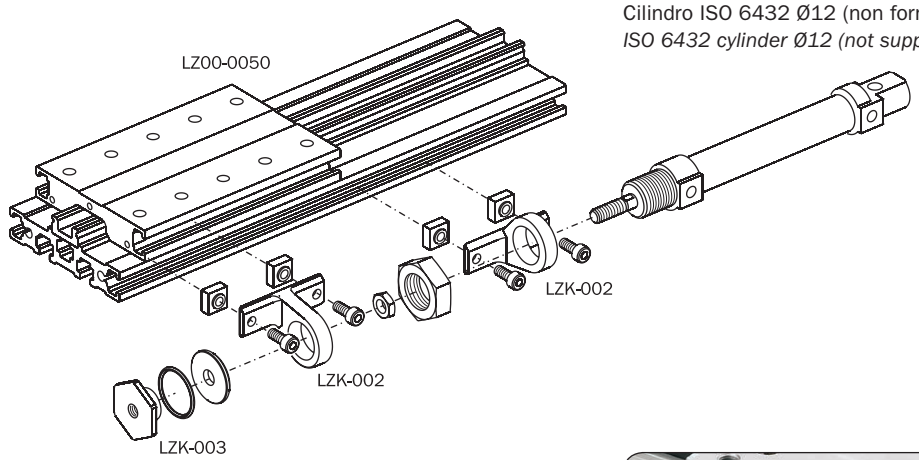


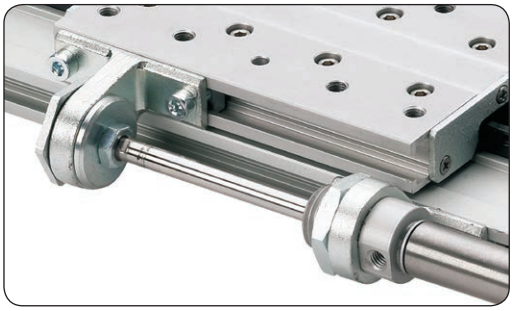
Esempio: Slitta di alesaggio 12mm (cilindro ISO 6432) e corsa 50mm.

Example: Slide with 12mm piston bore (ISO 6432) and 50mm stroke.



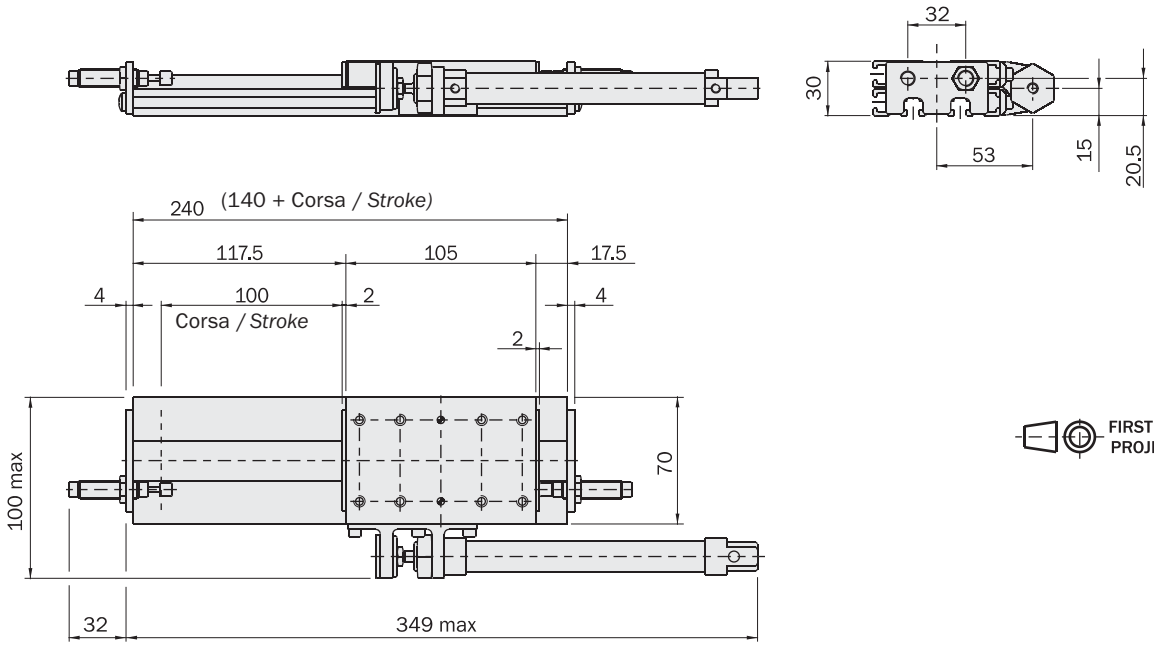
Cilindro ISO 6432 Ø12 (non fornito)
ISO 6432 cylinder Ø12 (not supplied)



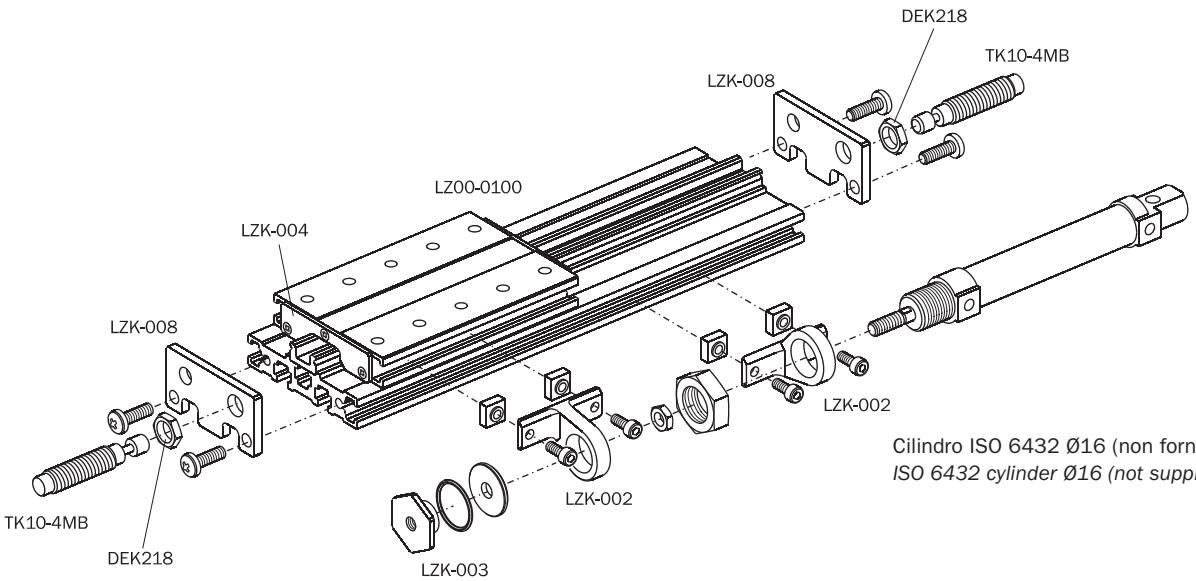


Esempio: Slitta di alesaggio 16mm (cilindro ISO 6432) e corsa 100mm, con deceleratori idraulici sulle testate.

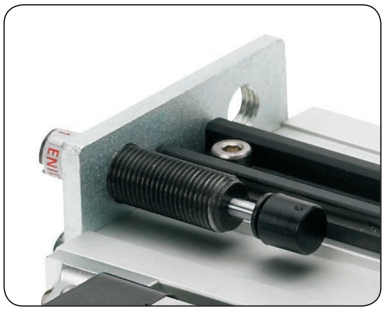
Example: Slide with 16mm piston bore (ISO 6432) and 100mm stroke, with hydraulic shock-absorbers on the end plates.

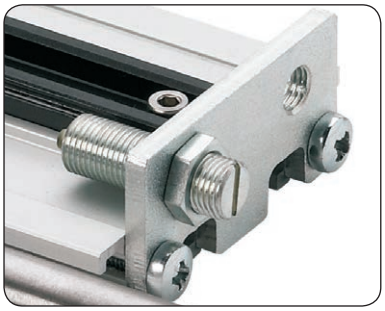


FIRST ANGLE PROJECTION



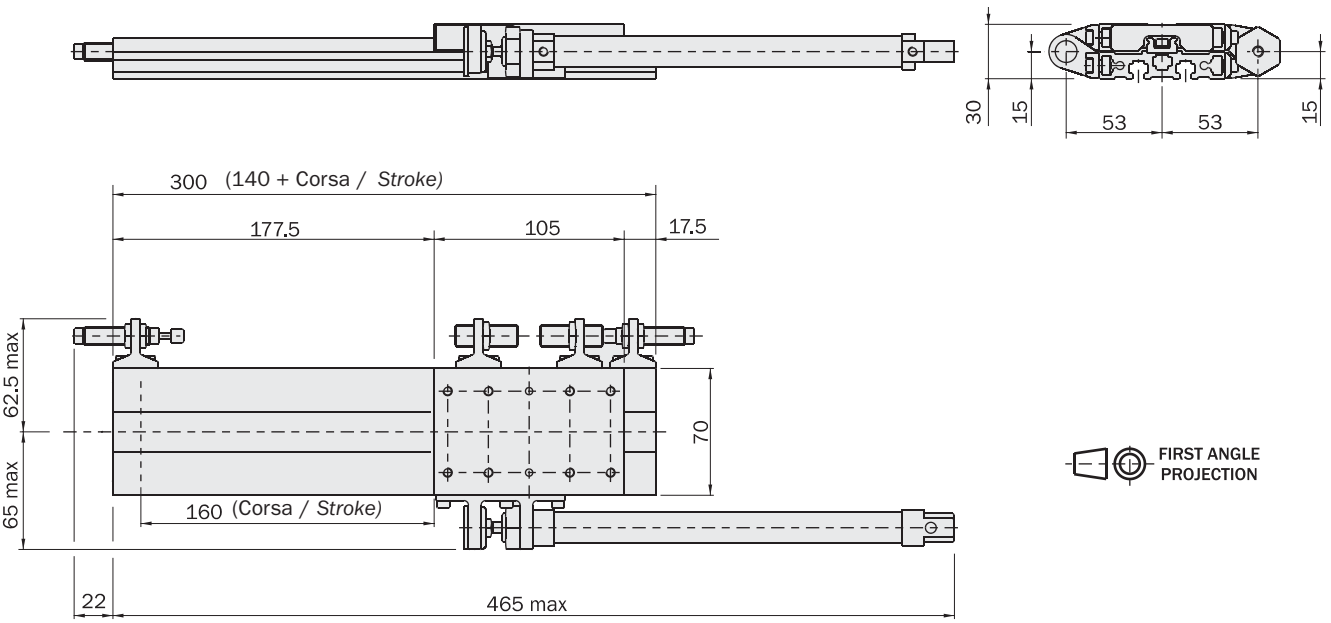
Cilindro ISO 6432 Ø16 (non fornito)
ISO 6432 cylinder Ø16 (not supplied)

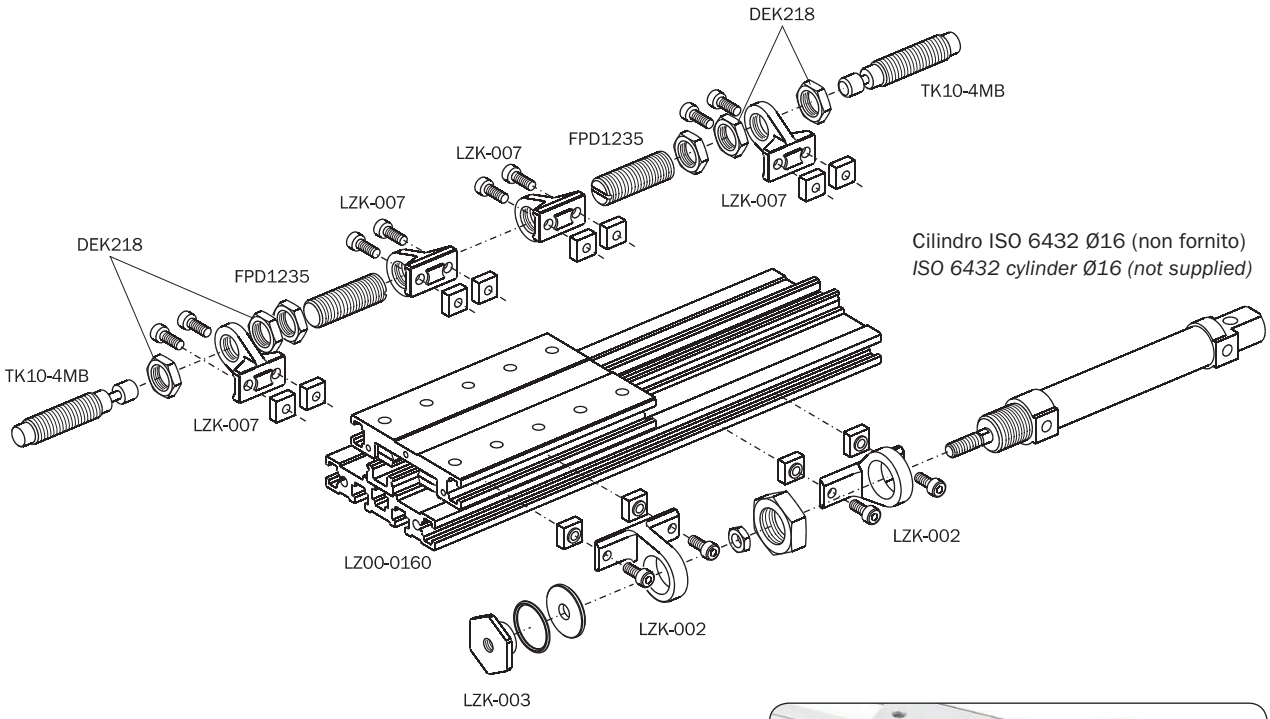


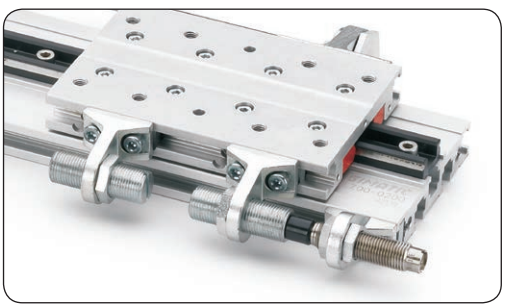


Esempio: Slitta di alesaggio 16mm (cilindro ISO 6432) e corsa 160mm, con deceleratori idraulici sul fianco.

Example: Slide with 16mm piston bore (ISO 6432) and 160mm stroke, with hydraulic shock-absorbers on one side.

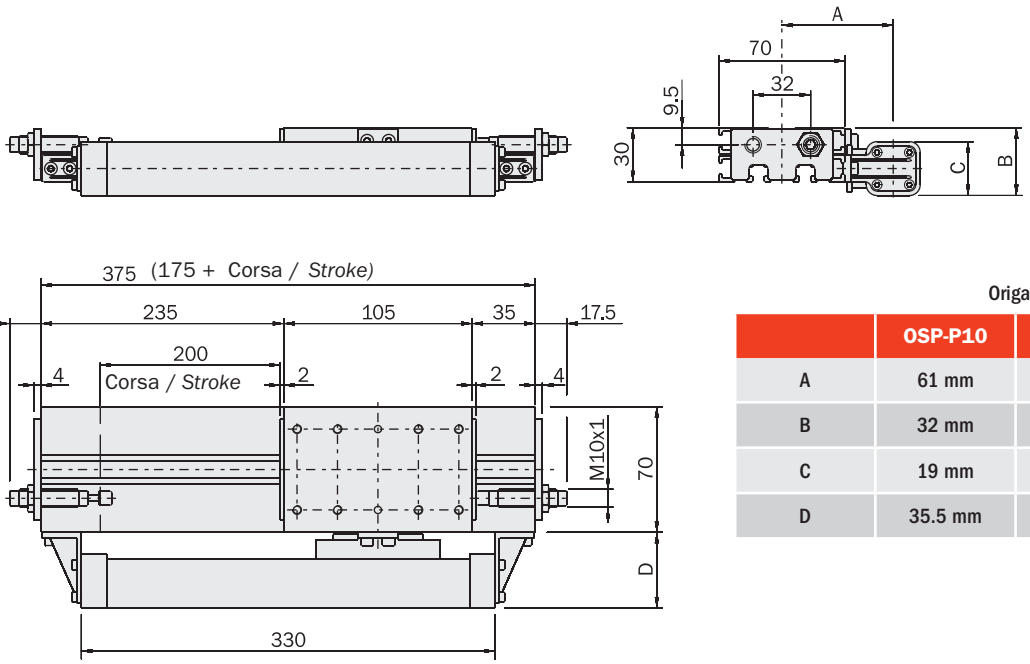




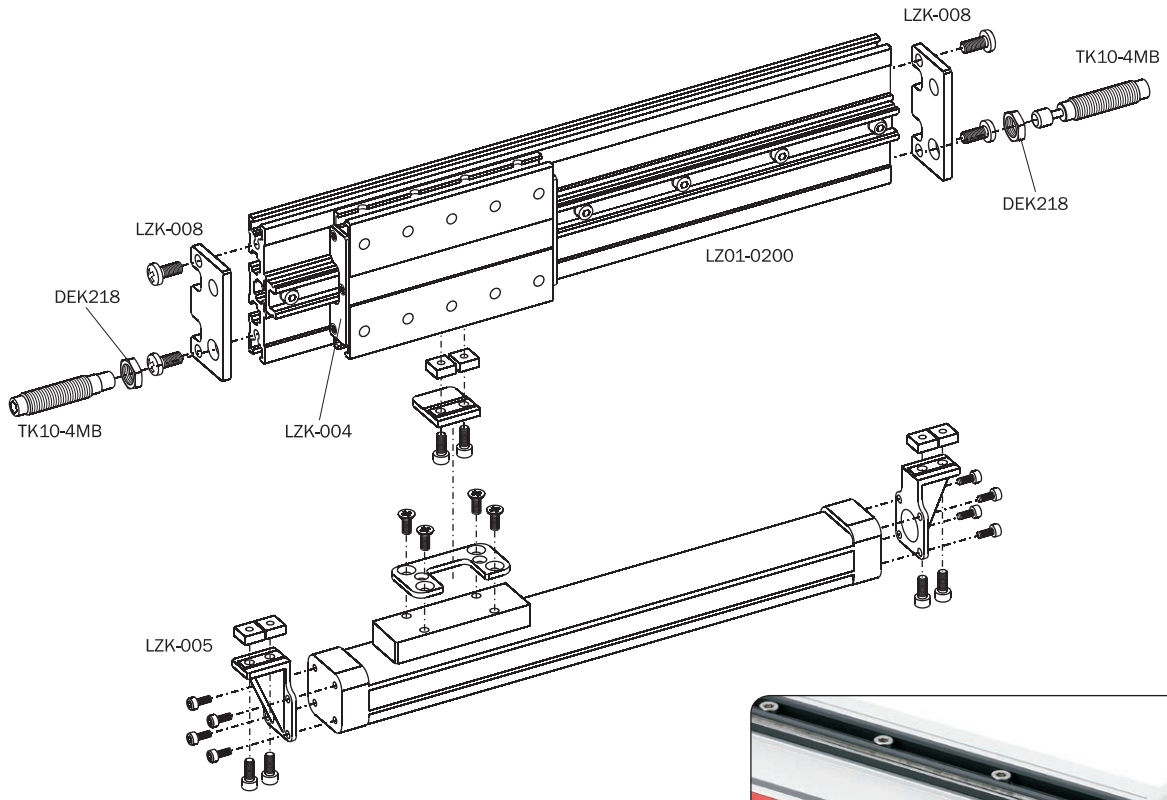


Esempio: Slitta pneumatica azionata da cilindro senza stelo, con deceleratori idraulici sulle testate.

Example: Pneumatic slide powered by a rodless cylinder, with hydraulic shock-absorbers on the end plates.



	Origa	
	OSP-P10	**OSP-P16**
A	61 mm	62 mm
B	32 mm	38 mm
C	19 mm	30 mm
D	35.5 mm	42 mm



Cilindro senza stelo Origa Ø16 (non fornito)
Rodless cylinder Origa Ø16 (not supplied)

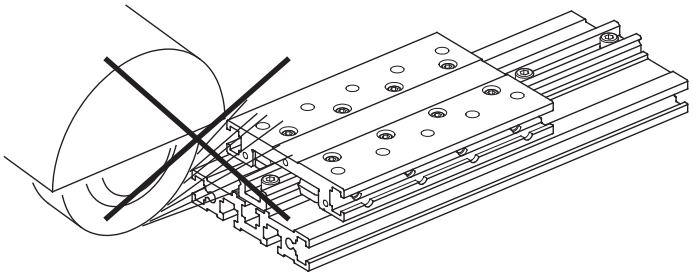


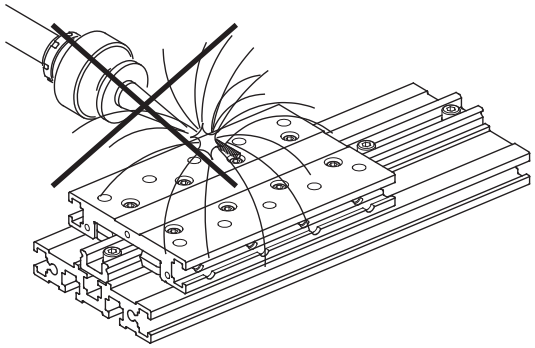
Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della slitta.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della slitta.
La slitta non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

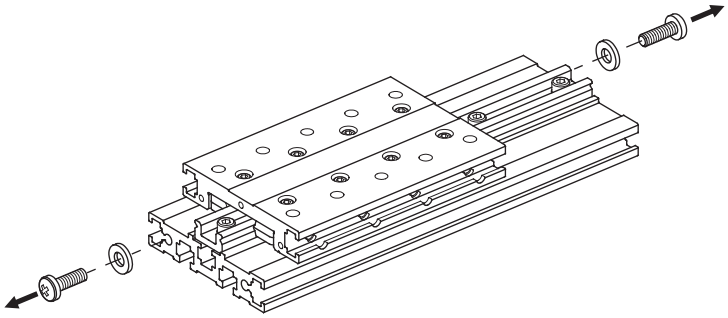
Never let the slide come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the slide.
Never let personnel or objects stand within the operating range of the unit.
Never operate the slide if the machine on which it is fitted does not comply with safety laws and standards of your country.

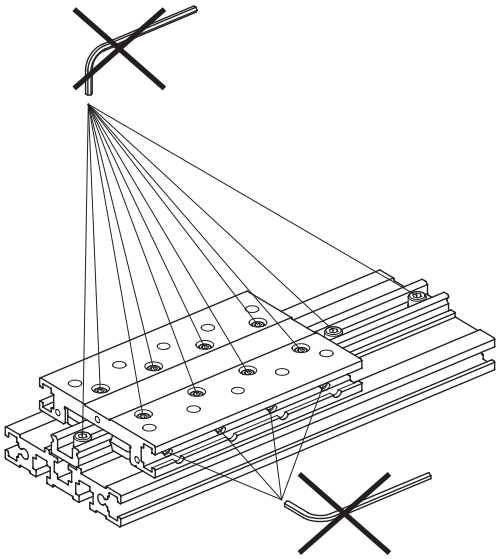




Rimuovere le viti di sicurezza solo prima della messa in funzione: servono ad evitare la fuoriuscita del carrello.
Le altre viti, indicate in figura, servono per la registrazione dei cuscinetti a ricircolo di sfere: non devono essere avvitate o svitate.

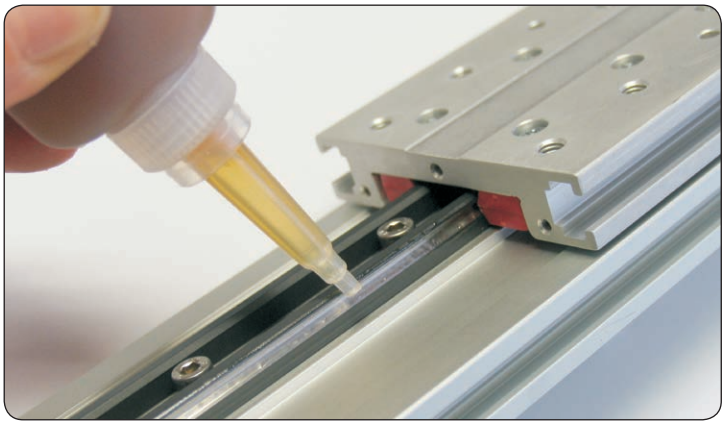
The safety screws should be removed only before operating the slide: they are necessary to prevent the carriage from falling over.
The other screws, shown in the picture, must not be fastened or unfastened: they are used to adjust the recirculating ball bearing.





Tenere pulita la guida di scorrimento dei cuscinetti.
Controllarla periodicamente e lubrificarla quando appare secca.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

Keep clean the bearing guideway.
Periodically check it and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.

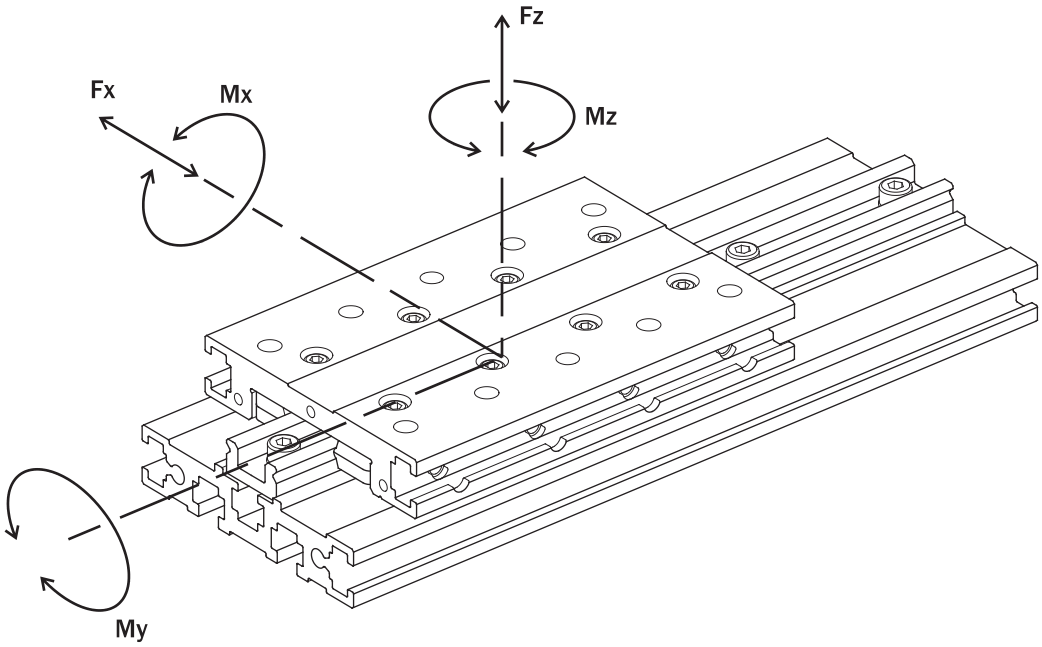


Carichi di sicurezza

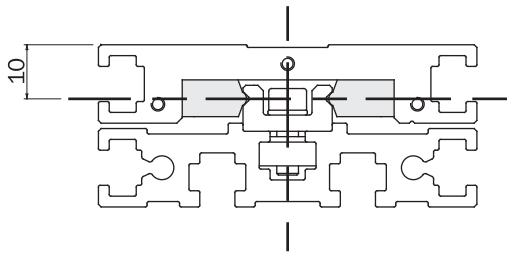
Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore. Verificare che l'indice di carico LF sia inferiore all'unità.

Safety loads

Excessive loads can damage the unit, cause functioning troubles and endanger the safety of the operator.
The load factor LF must be lower than 1.

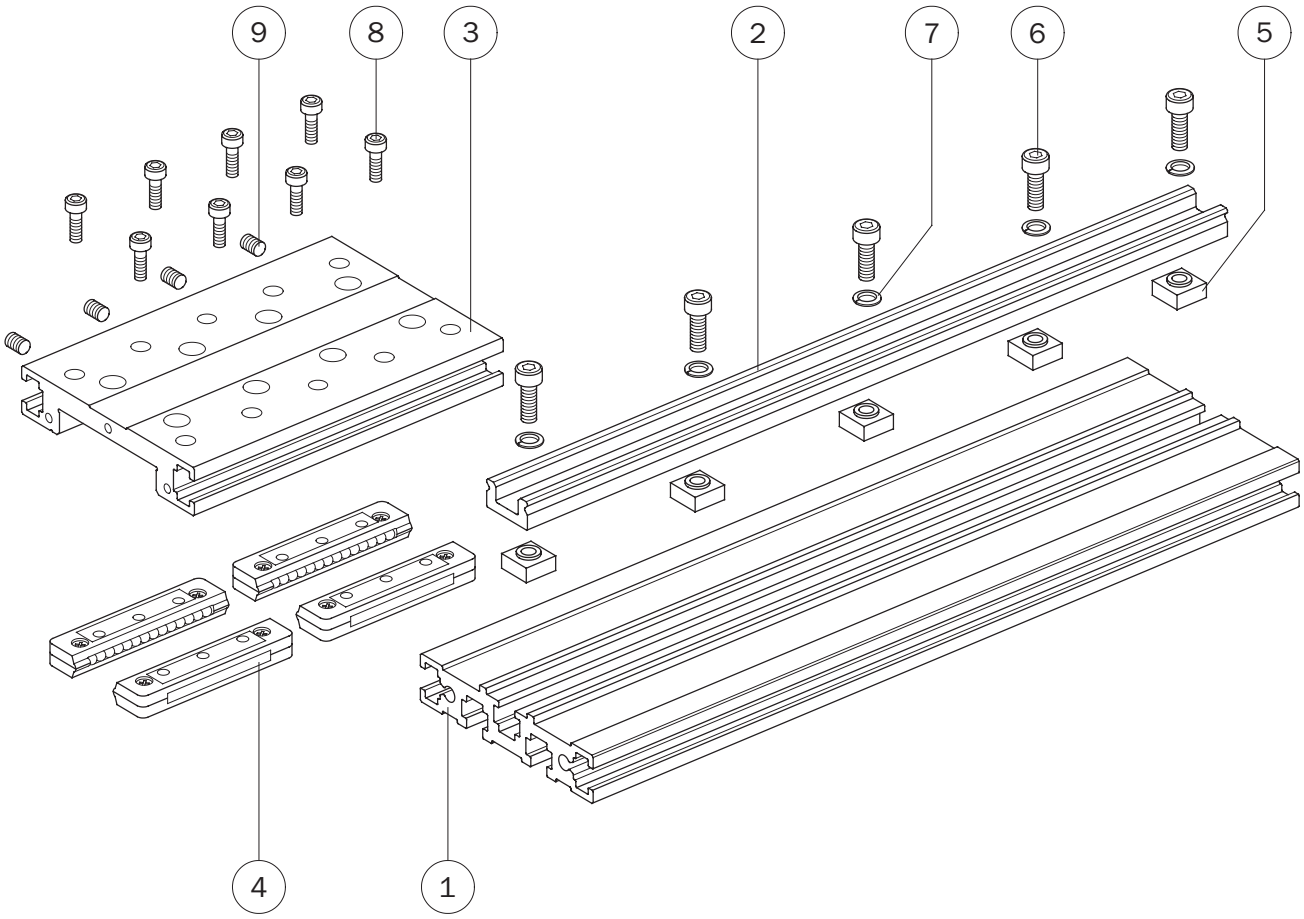


$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leqslant 1$$



	max
Fx	100 N
Fz	100 N
Mx	10 Nm
My	5 Nm
Mz	10 Nm

Elenco delle parti / *Part list*



		LZ		
1	Profilo in alluminio	ESTR-LZ...	*Alu profile*	*1*
2	Guida	TRAF-LZ...	*Guideway*	*2*
3	Carrello	LZ12-03	*Carrier*	*3*
4	Cartuccia ricircolo di sfere	CZ334	*Ball bushing*	*4*
5	Dado	MFM-070	*Nut*	*5*
6	Vite	VITE-029 (M4x12mm DIN 912)	*Screw*	*6*
7	Rosetta elastica	VITE-220 (4.3 UNI 1751-B)	*Elastic washer*	*7*
8	Vite	VITE-302 (M3x10mm DIN 912)	*Screw*	*8*
9	Grano	VITE-273 (M4x5mm DIN 913)	*Grub screw*	*9*

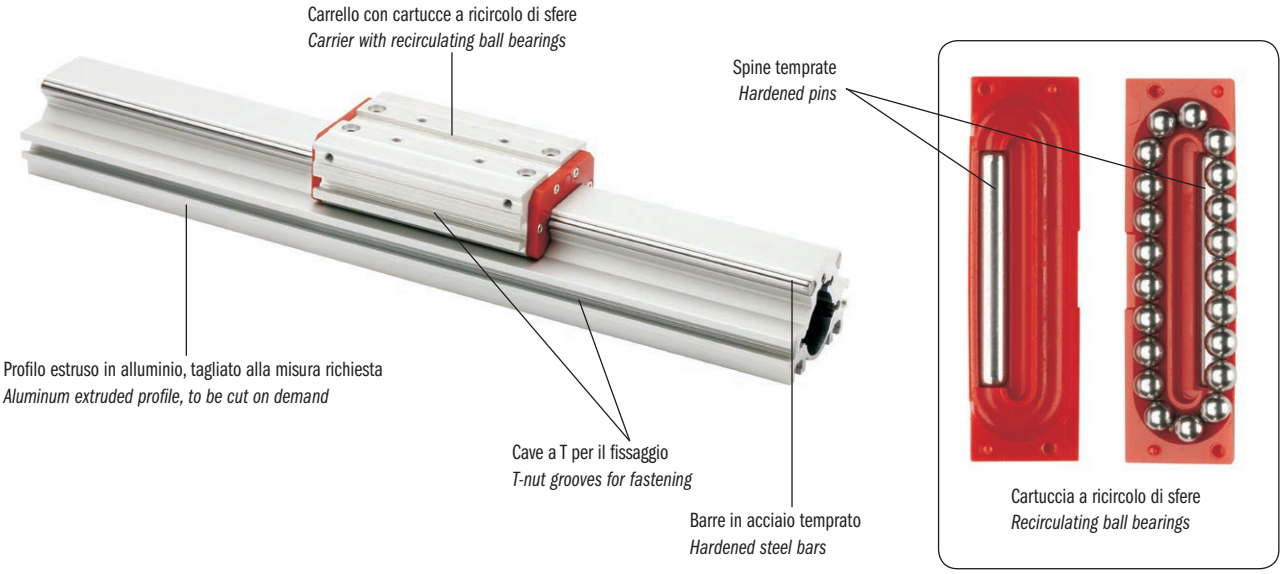
Note / *Notes*

Guide lineari a ricircolo di sfere (serie LP)

- Sistema di guida a ricircolo di sfere.
- Diverse possibilità di montaggio con dadi a T.
- Vari kit opzionali per il montaggio di accessori.
- E' possibile montare più di un carrello per ogni profilo.

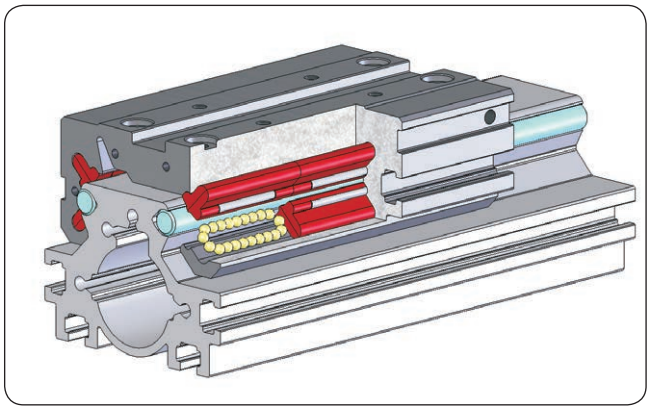
Linear guides with recirculating ball bearings (series LP)

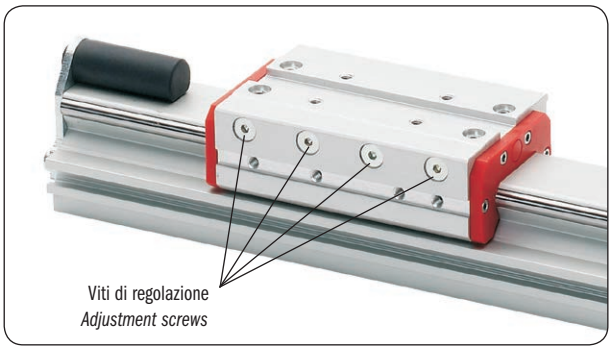
- *Recirculating ball-bearing guide system.*
- *Several mounting options with T-nuts.*
- *Optional kits for accessories.*
- *More than one carrier can be fitted to each rail.*



Il carrello è ricavato da un estruso di alluminio nel quale sono previste le sedi per le cartucce a ricircolo di sfere.
La particolare forma permette l'azzeramento del gioco e la registrazione del precarico tramite le quattro viti di regolazione.
L'assemblaggio completo del carrello, il montaggio sulle barre, la registrazione e la prima lubrificazione sono effettuati in fabbrica.

The carrier is made from an aluminium extruded profile, in which the housings for the recirculating ball bearings are located.
Thanks to the carrier special profile, with four adjustment screws, it is possible to set to zero the carrier backlash and to adjust the correct bearing preload.
The carrier assembling, mounting on the bars, preloading and the first lubrication are made in Gimatic.
Two or more carriers, on demand, can be mounted on the same rail, to increase the load capacity or to get two or more independent slides.



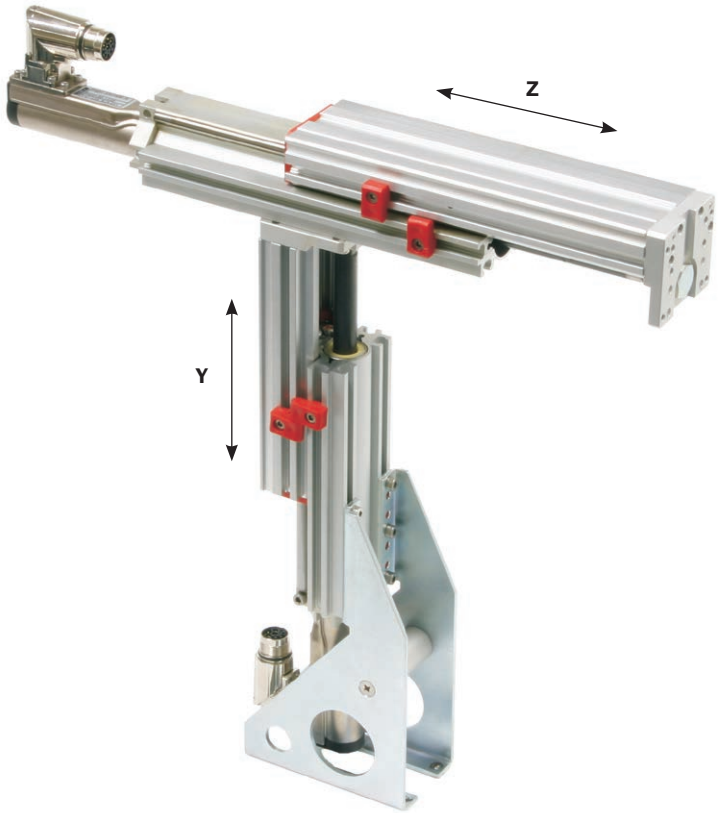


Sulla guida lineare possono essere montati due o più carrelli, a richiesta, per aumentare la capacità di carico, oppure per avere due o più slitte comandabili in modo indipendente.



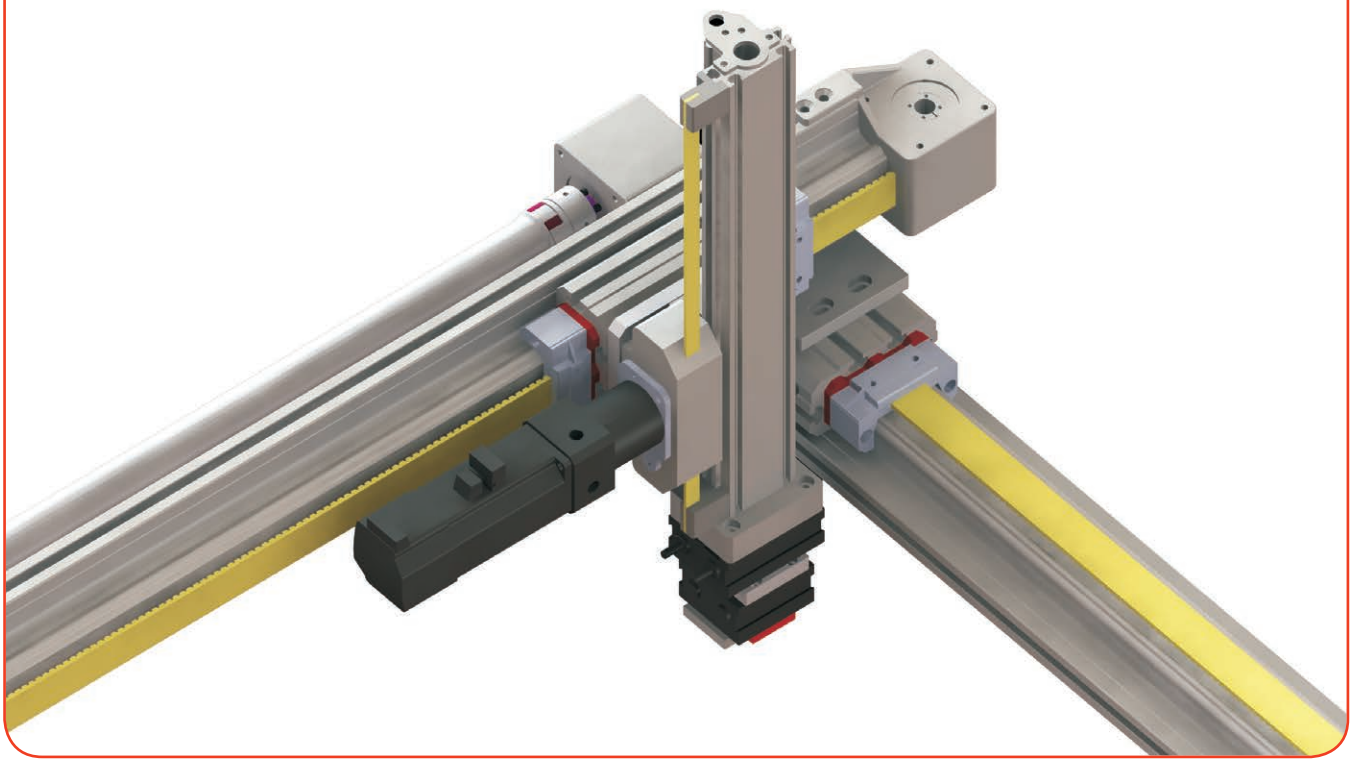
Esempio di applicazione
Manipolatore Y-Z tipo Pick & Place, azionato da motori lineari.

Application example
Y-Z Pick & Place manipulator, powered by linear motors.



Esempio di applicazione
Asse verticale in manipolatore a portale.

Application example
Vertical axis in gantry manipulator.

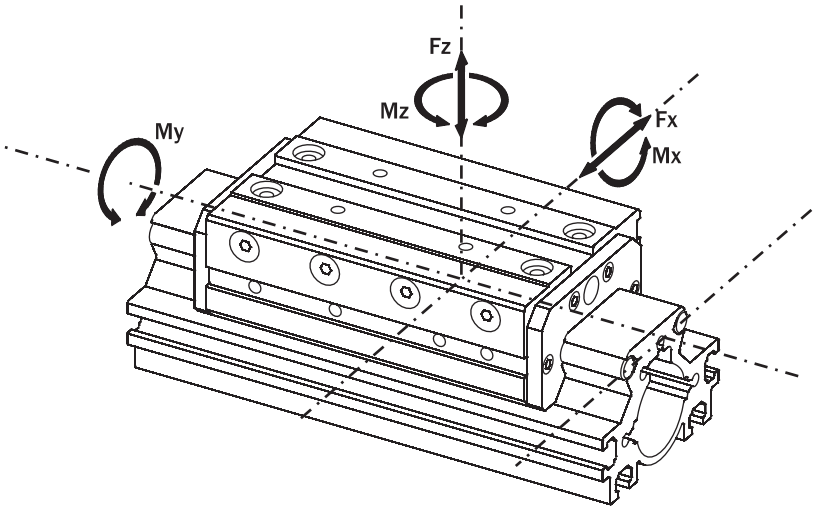


Carichi di sicurezza

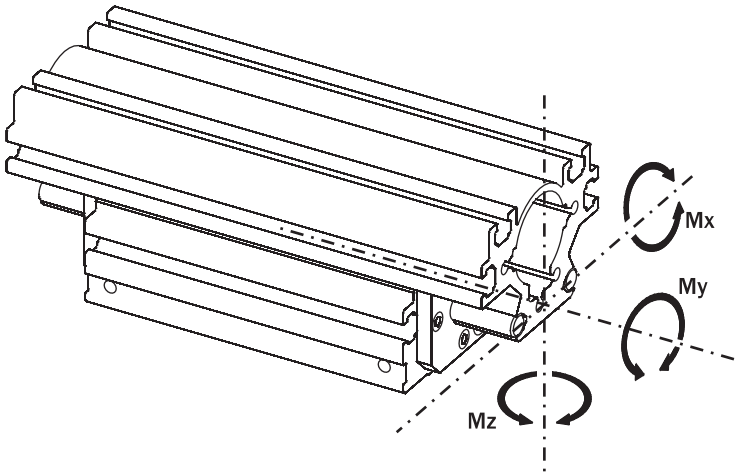
Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Verificare che l'indice di carico LF sia inferiore all'unità.

Safety loads

Excessive loads can damage the unit, cause functioning troubles and endanger the safety of the operator.
The load factor LF must be lower than 1.



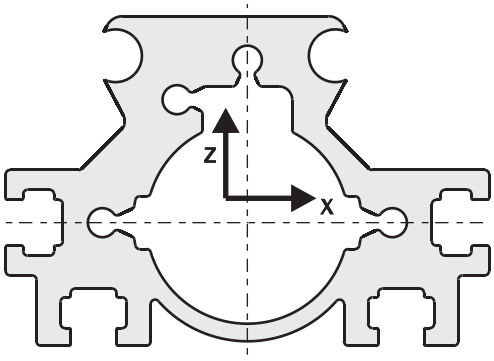
$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leq 1$$



	max
Fx	1200 N
Fz	1200 N
Mx	20 Nm
My	15 Nm
Mz	20 Nm

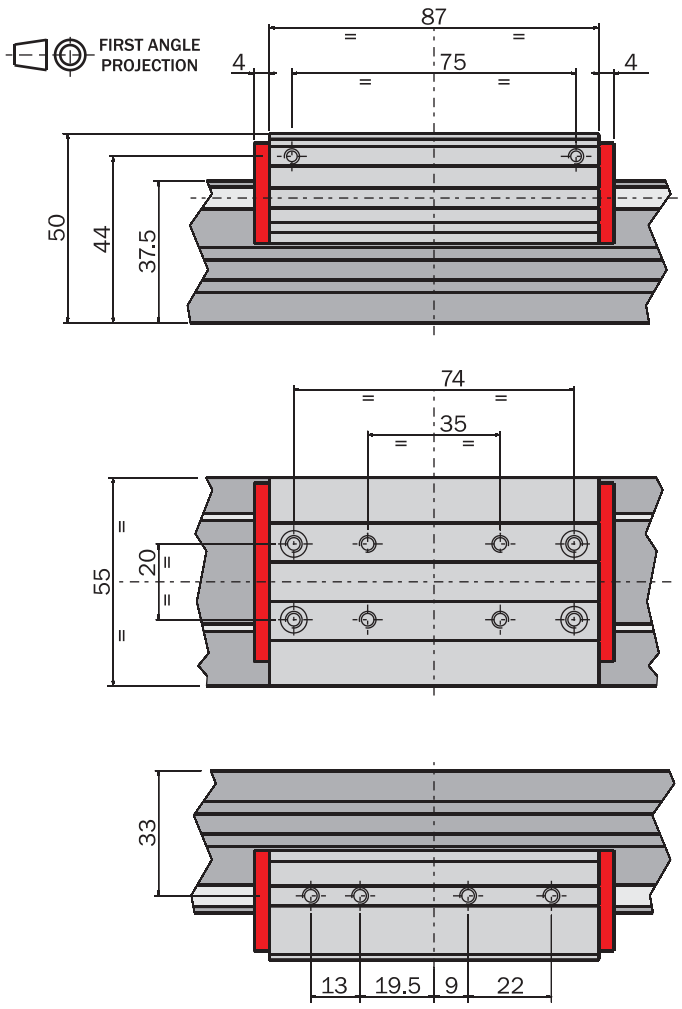
Momenti d'inerzia del profilo estruso in alluminio

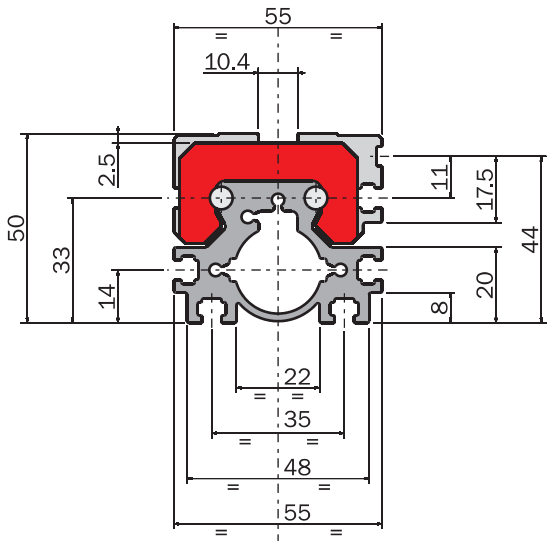
Area moment of inertia for the extruded aluminum profile



Ix= 88617 mm⁴
Iz= 163056 mm⁴

Dimensioni (mm) / *Dimensions (mm)*





Calcolo del peso

Ogni carrello completo pesa 0.22 kg .
La guida (profilo in alluminio più barre in acciaio) pesa 2.28 kg/m .

Weight calculation

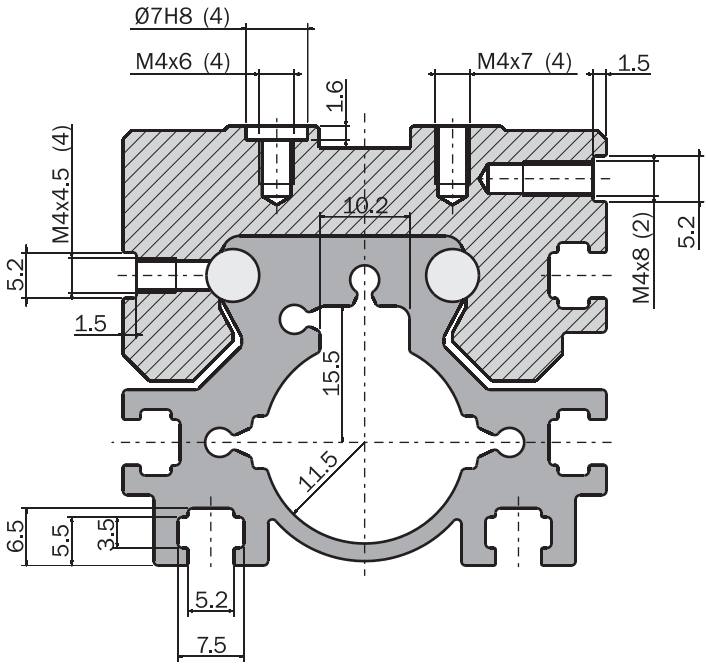
The weight of the carrier is 0.22 kg .
The weight of the guide (alu profile plus steel bars) is 2.28 kg/m .

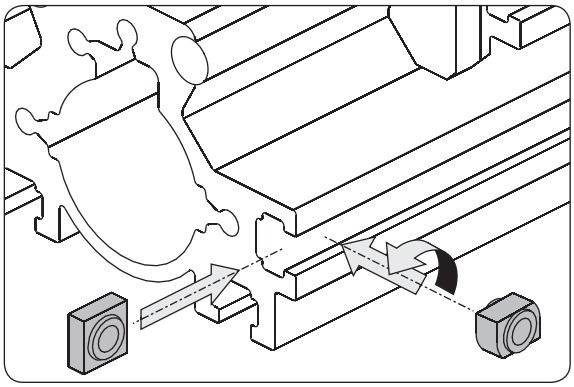
Cave per dadi a "T"

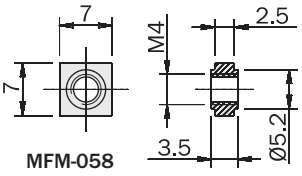
Tutte le cave hanno le stesse dimensioni.
Ci si possono montare due tipi di dadi a T.

T-nut grooves

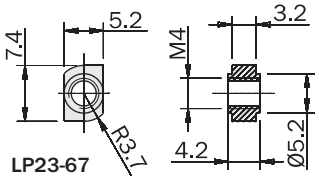
All grooves have the same size.
Two T-nut types can be used.







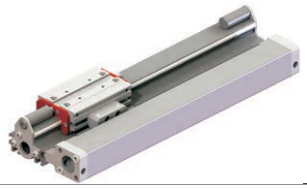
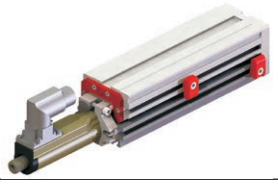
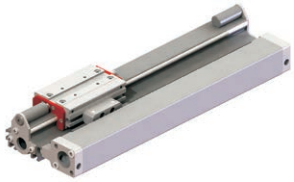
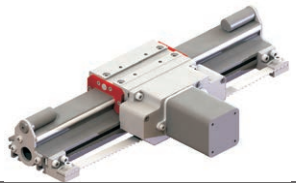
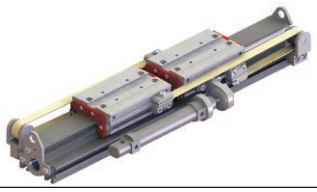
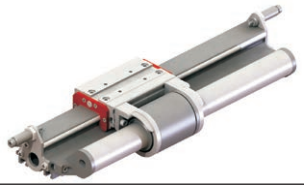
MFM-058



LP23-67

Codice di ordinazione / *Ordering code*

LP XX - XXXX

		Corsa / *Stroke [mm] (*)*	
Per cilindri ISO Ø12, Ø16 *For ISO cylinders Ø12, Ø16*	**00**	**0÷1500** (1)	
Per cilindro senza stelo Origa OSP-P16 *For Origa OSP-P16 rodless cylinder*	**01**	**0÷1500** (1)	
Per motori lineari LinMot P01-23 *For linear motor LinMot P01-23*	**02**	**0050** **0100**	
Per cilindro senza stelo Festo DGC-K-18 e per motori lineari LinMot *For Festo DGC-K-18 rodless cylinder*	**03**	**0÷1500** (1)	
Trasmissione a omega, completa di calettatore per alberi Ø10 *Omega transmission, with Ø10 shaft locking assembly*	**06**	**0÷1500** (1)	
Trasmissione a cinghia e pulegge, completa di calettatore per alberi Ø10 *Belt drive and pulleys, with Ø10 shaft locking assembly*	**07**	**0÷1500** (1)	
Con due carrelli autocentranti *With two self-centering carriers*	**08**	**96÷1500** (1)	
Con cilindro senza stelo Ø25 a trascinamento magnetico *With rodless cylinder Ø25 magnetically coupled*	**10**	**0300** **0500** **1000** **1500**	

(*) Per LP08 la corsa è il massimo interasse fra i due carrelli.

(1) E' possibile ordinare lunghezze di guida con step di 1mm.

(2) E' possibile ordinare lunghezze di guida con step di 100mm.

Consultare il fornitore per lunghezze fuori standard.

(*) For the LP08 the stroke is intended like the maximum interaxis between the two carriers.

(1) It is possible to order any guide length in 1mm steps.

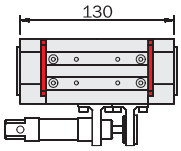
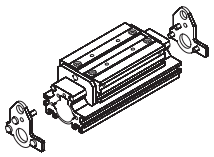
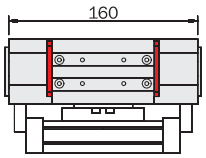
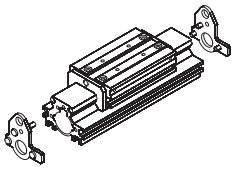
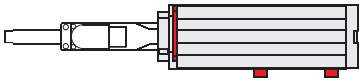
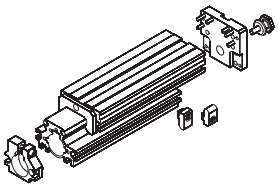
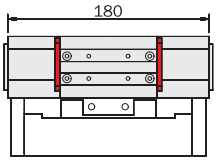
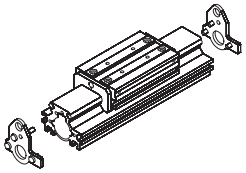
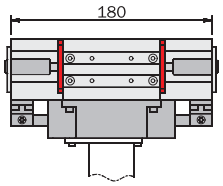
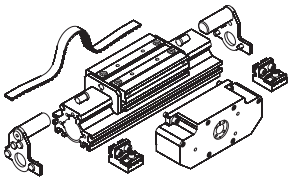
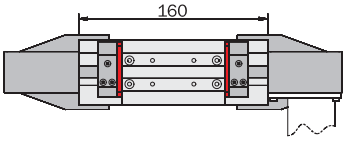
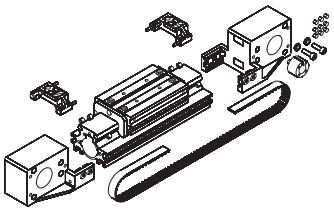
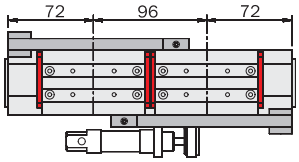
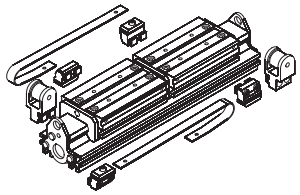
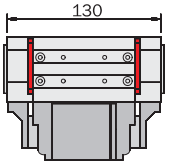
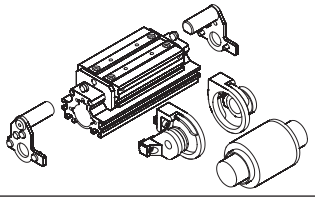
(2) It is possible to order any guide length in 100mm steps.

Consult factory for special lengths.

Le parti fornite con ciascun codice di ordinazione sono qui evidenziate.

The parts supplied with the ordering codes are here highlighted.

Ingombro della corsa zero [mm] e peso [g/mm]
Zero-stroke length [mm] and weight [g/mm]

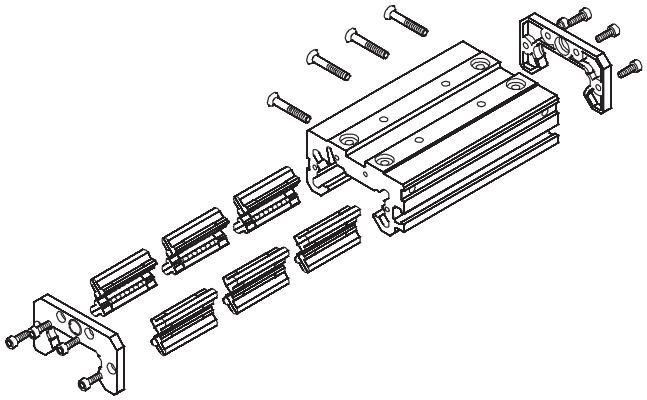
LP00		575g + 2.28 g/mm	
LP01		640g + 2.28 g/mm	
LP02-0050 **LP02-0100**		800g 1000g	
LP03		685g + 2.28 g/mm	
LP06		1300g + 2.3 g/mm	
LP07		1470g + 2.33 g/mm	
LP08		940g + 2.34 g/mm	
LP10-0300 **LP10-0500** **LP10-1000** **LP10-1500**		1970g 2500g 3860g 5200g	

Esistono varie interfacce e kit opzionali per il fissaggio dei cilindri, dei fine corsa, dei deceleratori e dei sensori.
Sono venduti in confezioni singole, non assemblati alla guida lineare.
I cilindri, i motori ed i riduttori non sono forniti.

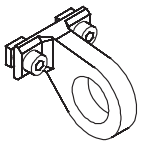
There are also several optional interfaces and kits with the brackets to mount the cylinders, the end stroke stoppers, the shock-absorbers and the sensors.
They are sold in single packages, not assembled with the guide.
The cylinders, the motors and gear reducers are not supplied.

Kit opzionali / *Optional kits*

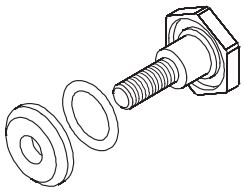
LPK-001 (220 g)
Carrello supplementare (montato da Gimatic su una guida LP)
Additional carrier (mounted on a LP guide by Gimatic)



LPK-002 (40 g)
Anello per fissaggio cilindro Ø12 / Ø16
Cylinder holder Ø12 / Ø16



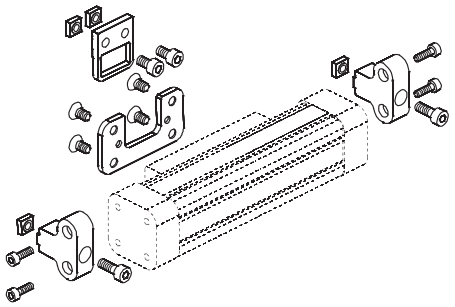
LPK-003 (15 g)
Giunto per stelo LinMot P01-23Sx80
Rod bolt for LinMot P01-23Sx80



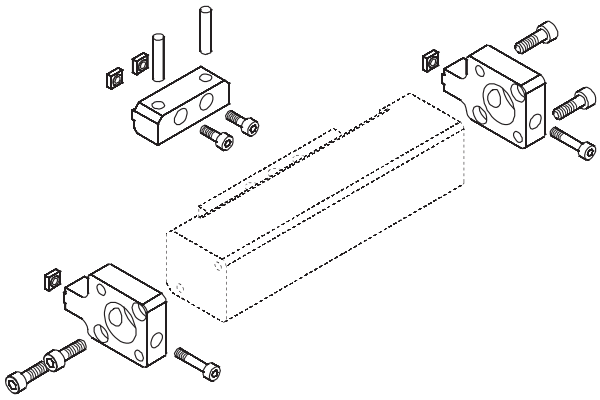
LPK-004 (2 g)
Riscontro corto per deceleratore (per LP00 e LP10)
Shock-absorber short stopper (for LP00 and LP10)



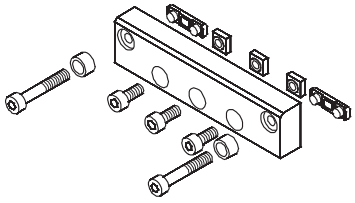
LPK-005 (65 g)
Kit fissaggio cilindro senza stelo Origa Ø16 (OSP-P16)
Fastening kit for Origa rodless cylinder Ø16 (OSP-P16)



LPK-006 (95 g)
Kit fissaggio cilindro senza stelo Festo Ø18 (DGC-K-18)
Fastening kit for Festo rodless cylinder Ø18 (DGC-K-18)

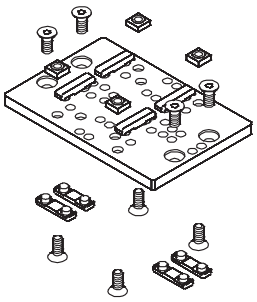


LPK-012 (60 g)
Kit fissaggio statore LinMot P01-23Sx80
Stator fastening kit for LinMot P01-23Sx80

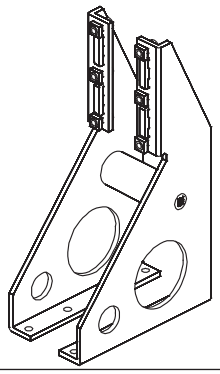


Kit opzionali / *Optional kits*

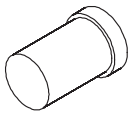
LPK-013 (75 g)
Interfaccia di montaggio per il carrello
Mounting interface plate for the carrier



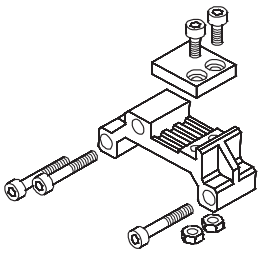
LPK-021 (530 g)
Kit per fissaggio verticale LP02
Vertical mounting kit for LP02



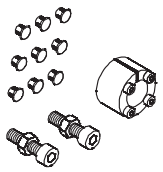
LPK-027 (4 g)
Riscontro lungo per deceleratore (per LP01 e LP03)
Shock-absorber long stopper (for LP01 and LP03)



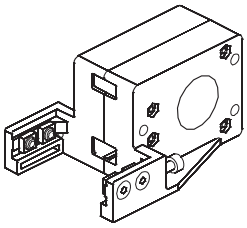
LPK-032 (40 g)
Blocca cinghia per trasmissione a cinghia
Belt clamp for belt drive



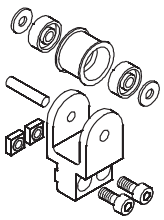
LPK-033 (25 g)
Calettatore, tensionatore e tappi per LP07
Locking assembly, belt tensioner and plugs for LP07



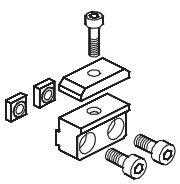
LPK-034 (370 g)
Puleggia per trasmissione a cinghia
Pulley for belt drive



LPK-035 (30 g)
Rinvio per autocentraggio pinza
Transmission wheel for self-centering gripper

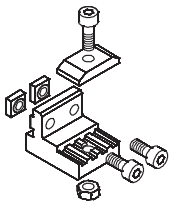


LPK-036 (15 g)
Blocca cinghia per autocentraggio pinza
Belt clamp for self-centering gripper

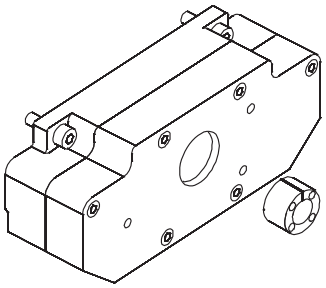


Kit opzionali / *Optional kits*

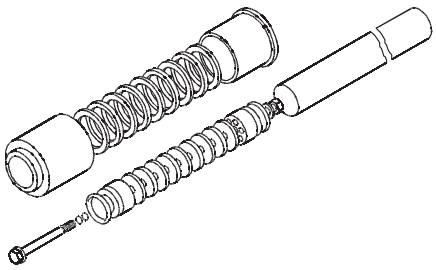
LPK-037 (35 g)
Staffa bloccaggio cinghia dentata sistema Omega
Clamping bracket for Omega system belt



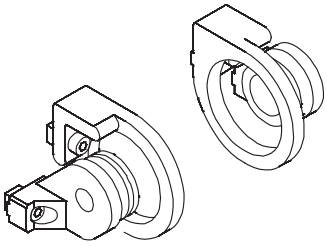
LPK-038 (530 g)
Gruppo pulegge per trasmissione a omega
Pulleys assembly for omega transmission



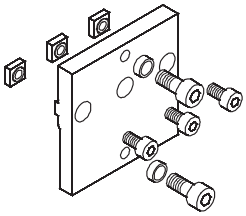
LPK-039 (300 g)
Pistone per cilindro senza stelo a trascinamento magnetico
Piston for magnetically coupled rodless cylinder



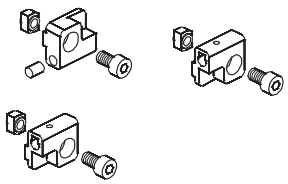
LPK-040 (210 g)
Kit di fissaggio per cilindro senza stelo a trascinamento magnetico LPK-039
Fastening kit for magnetically coupled rodless cylinder LPK-039



LPK-045 (50 g)
Piastra di interfaccia per flangia LinMot PF02-23
Interface plate for LinMot flange PF02-23



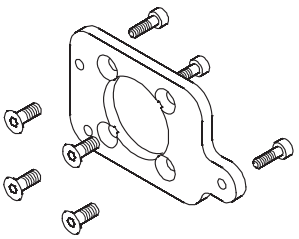
LPK-046 (10 g)
Staffe per sensori
Sensor brackets



LP23-67 (1 g)
Dado ad innesto M4 per cava 5 (1 pezzo)
M4 rhombus T-nut for slot 5 (1 piece)

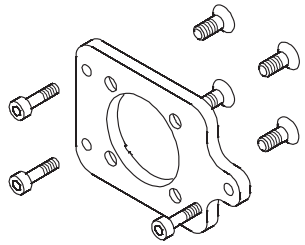


LPK-048 (60 g)
Interfaccia per riduttore epicicloidale per alberi Ø10 (LP06)
Adapter plate for planetary gear for shafts Ø10 (LP06)

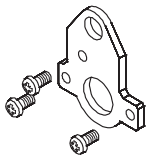


Kit opzionali / *Optional kits*

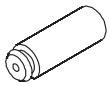
LPK-049 (50 g)
Interfaccia per riduttore epicicloidale per alberi Ø10 (LP07)
Adapter plate for planetary gear for shafts Ø10 (LP07)



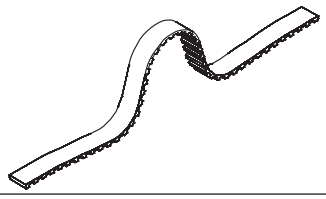
LPK-050 (25 g)
Testata
End plate



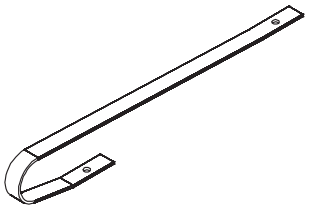
LPK-051 (6 g)
Ammortizzatore in gomma
Rubber stopper



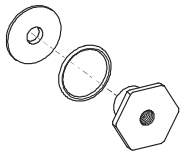
LP23-53 (21 g/m)
Cinghia dentata per LP06 e LP07
Timing belt for LP06 and LP07



LP23-54 (20 g/m)
Cinghia piana per LP08 e LL08
Flat belt for LP08 and LL08



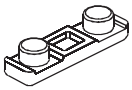
LZK-003 (23 g)
Giunto M6 per cilindri Ø12 e Ø16 ISO 6432
Cylinder rod bolt M6 for ISO 6432 cylinders Ø12 and Ø16



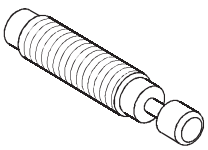
MFM-058 (2 g)
Dado (1 pezzo)
T-nut (1 piece)



MFP-A19 (4 g)
Linguette di centraggio piatte (10 pezzi)
Flat centering feather keys (10 pieces)

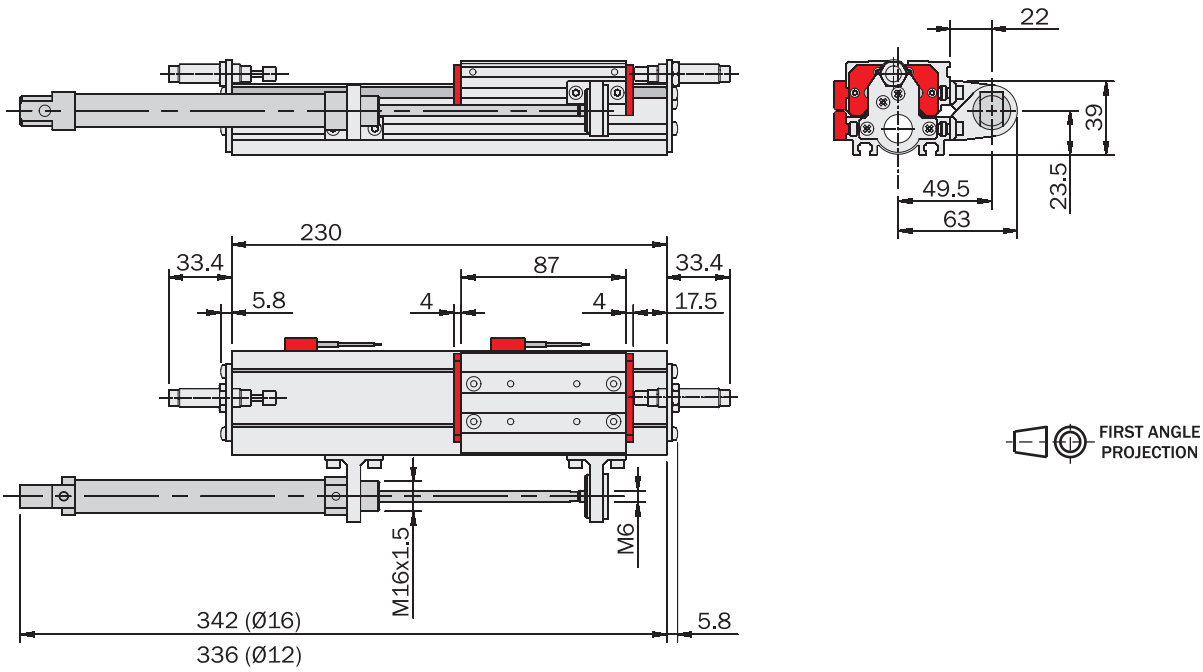


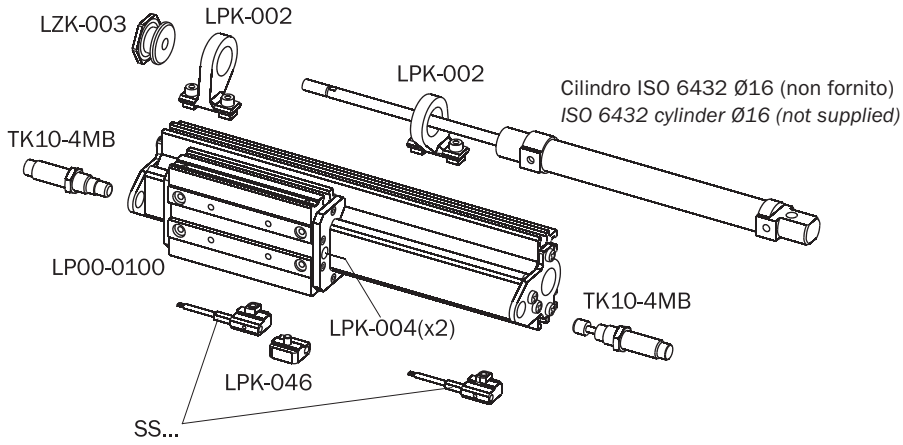
TK10-4MB (16 g)
Deceleratore idraulico (M10x1)
Shock-absorber (M10x1)



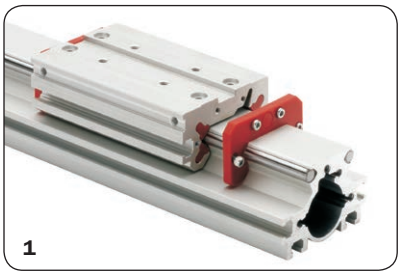
Esempio: Slitta di alesaggio 16mm (cilindro ISO 6432), corsa 100mm, con deceleratori idraulici e sensori

Example: Slide with 16mm piston bore (ISO 6432), 100mm stroke, with hydraulic shock-absorbers and sensors



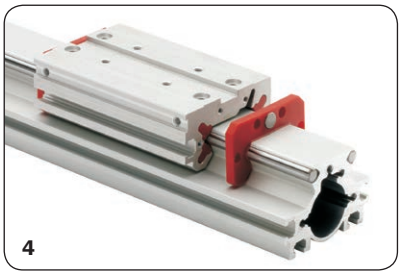


Montaggio LPK-004 e LPK-027 / *LPK-004 and LPK-027 mounting*





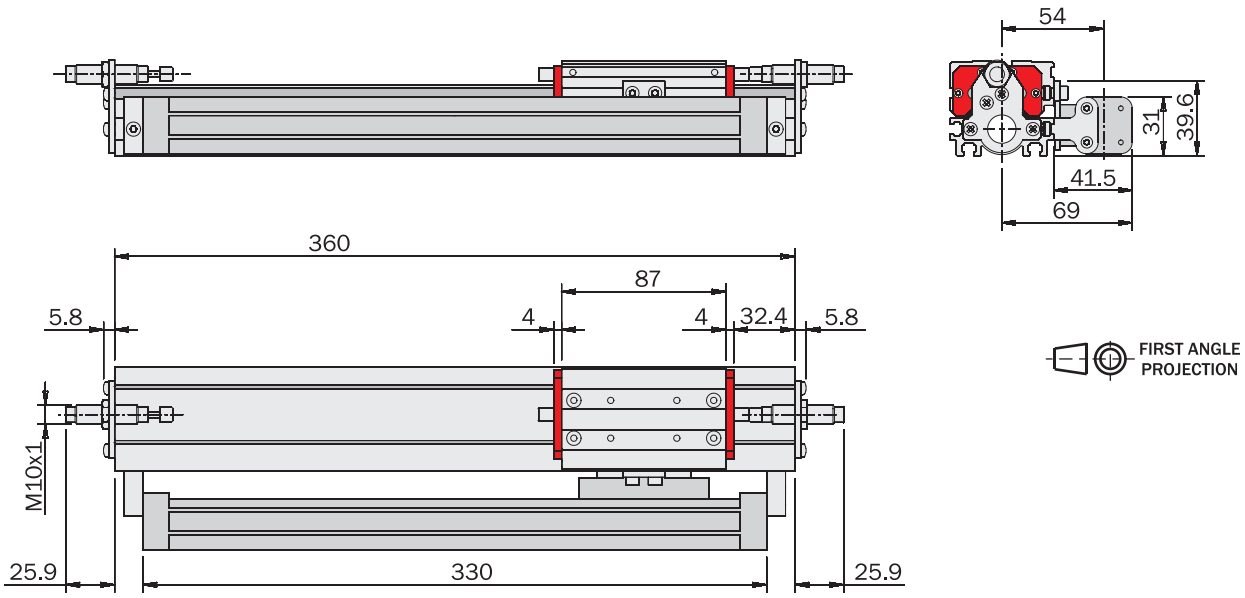


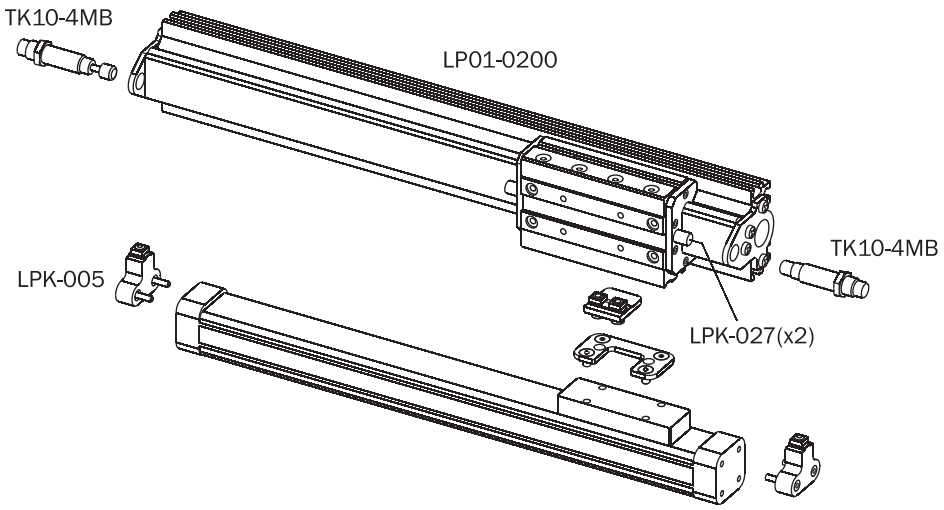




Esempio: Slitta di alesaggio 16mm, corsa 200mm, con deceleratori idraulici, movimentata da cilindro senza stelo Origa

Example: Slide with 16mm piston bore, 200mm stroke, with hydraulic shock-absorbers, powered by the Origa rodless cylinder

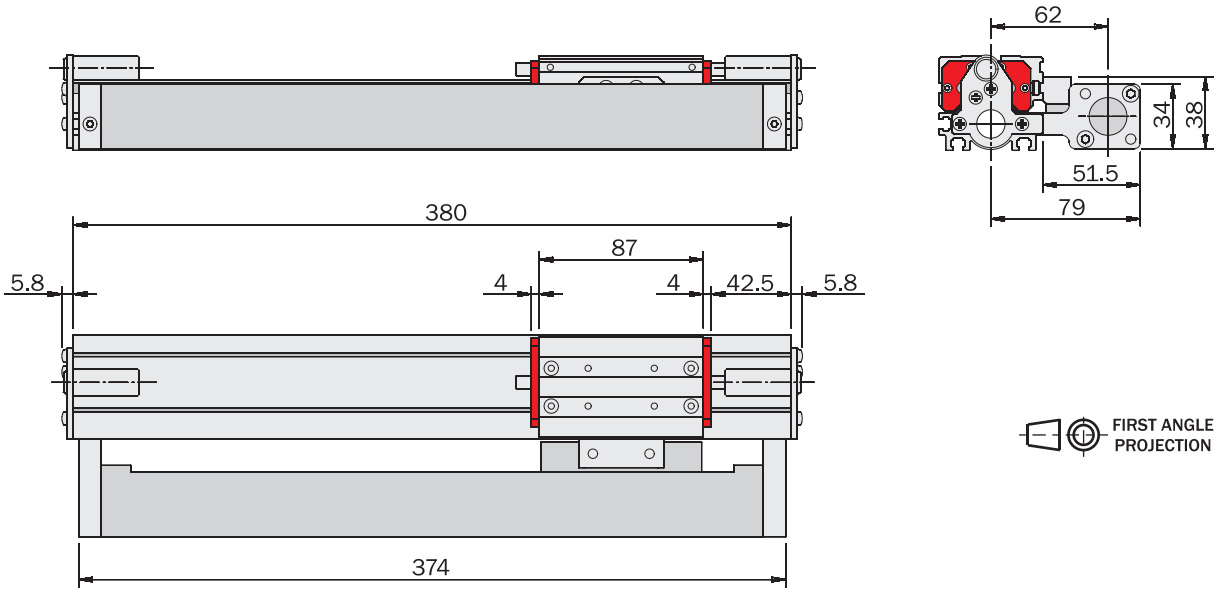


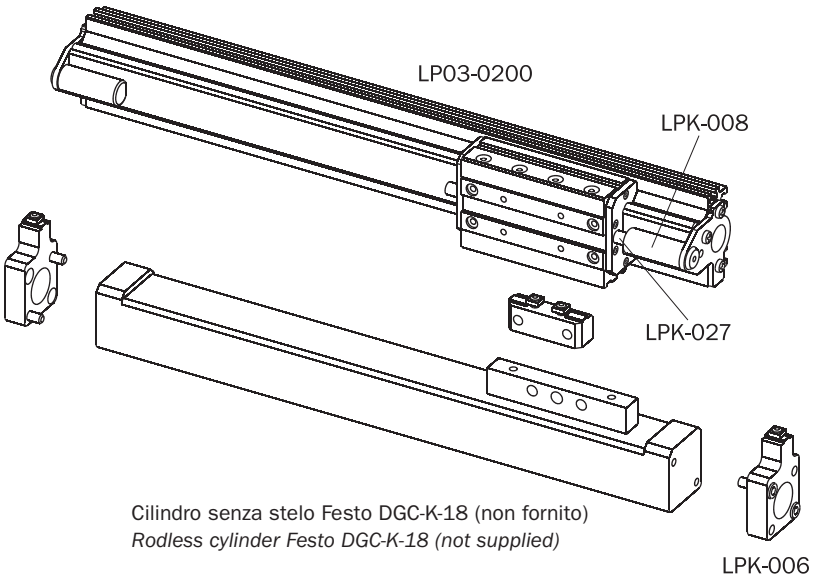


Cilindro senza stelo Origa OSP-P16 (non fornito)
Rodless cylinder Origa OSP-P16 (not supplied)

Esempio: Slitta di alesaggio 18mm, corsa 200mm, con fine-corsa d'emergenza in gomma, movimentata da cilindro senza stelo Festo

Example: Slide with 18mm piston bore, 200mm stroke, with rubber emergency stoppers, powered by the Festo rodless cylinder

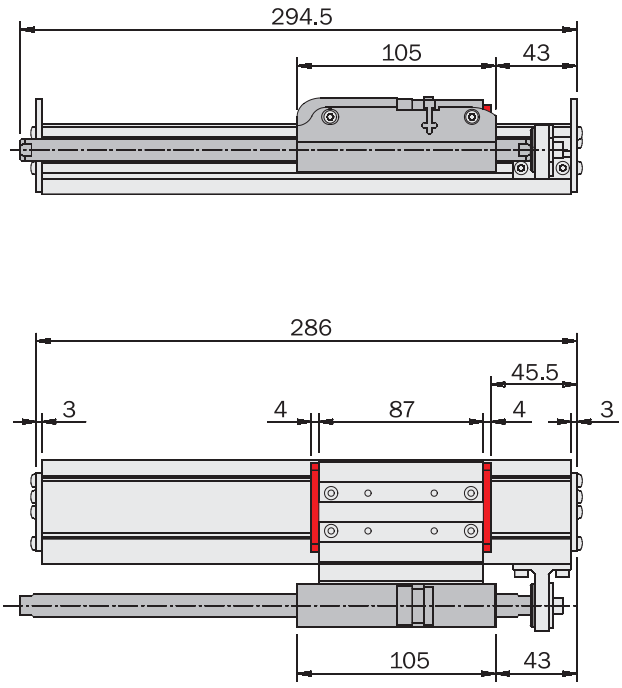


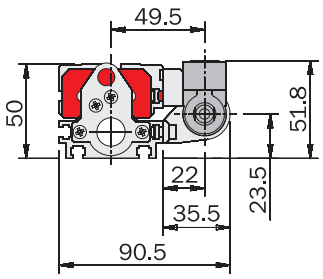


Cilindro senza stelo Festo DGC-K-18 (non fornito)
Rodless cylinder Festo DGC-K-18 (not supplied)

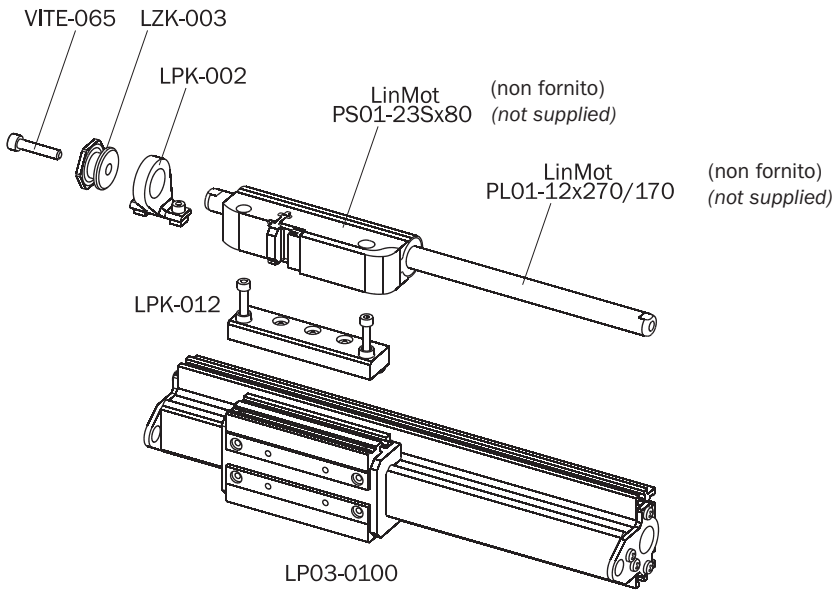
Esempio: Slitta di corsa 100mm, azionata da motore lineare LinMot compatto

Example: Slide, 100mm stroke, powered by a LinMot compact linear motor



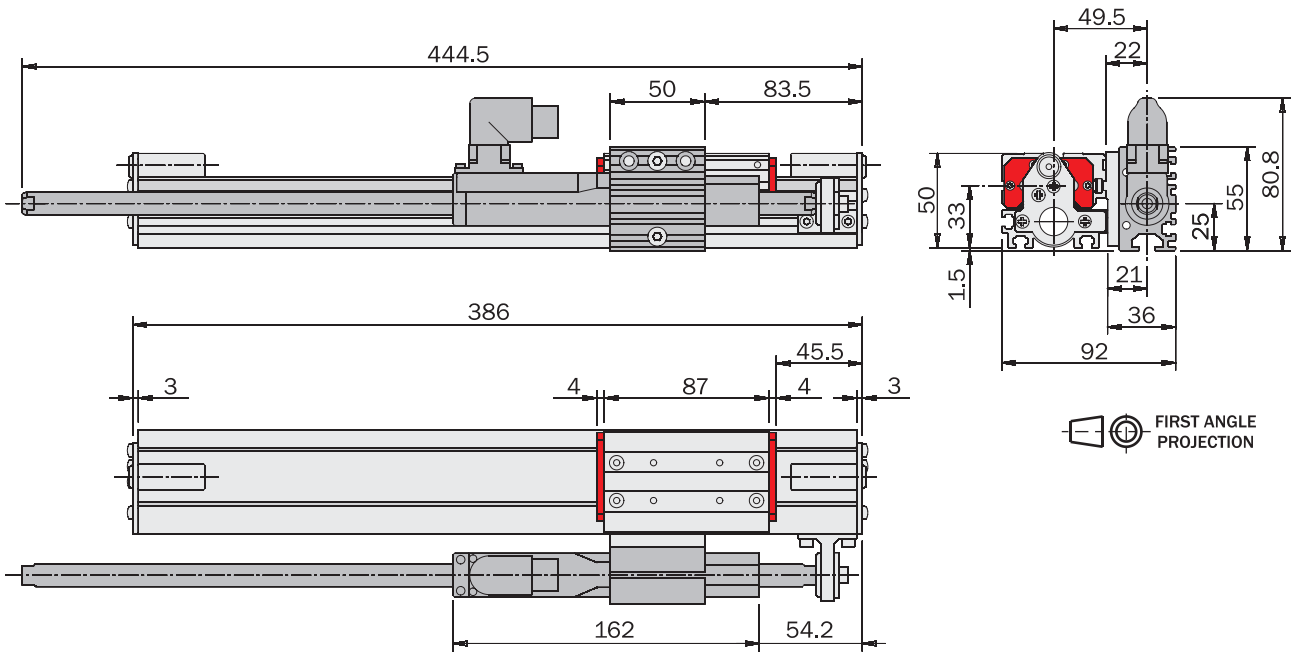


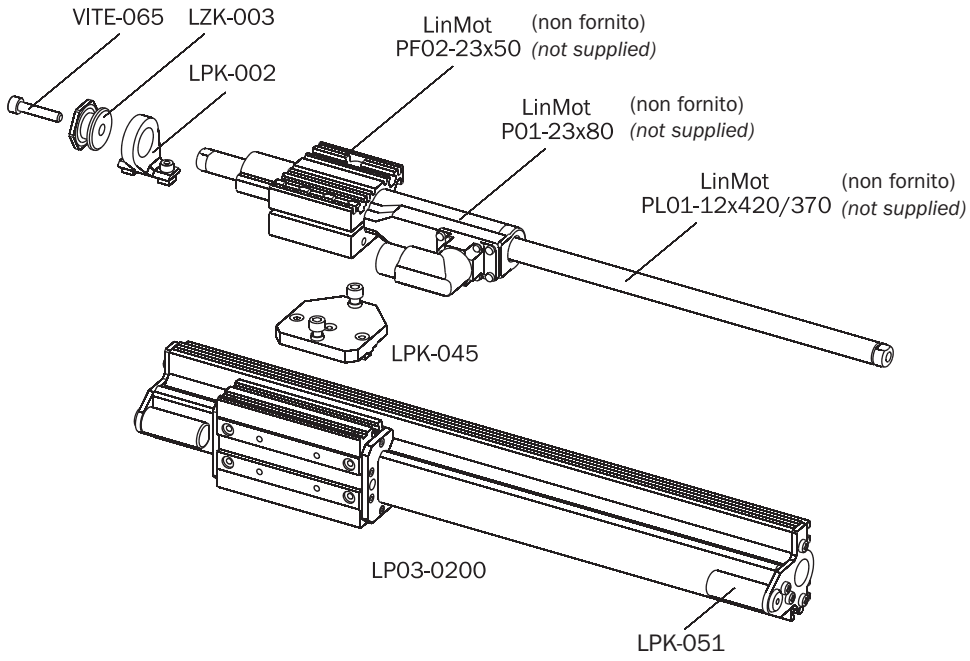
FIRST ANGLE PROJECTION



Esempio: Slitta di corsa 200mm, con fine-corsa d'emergenza in gomma, azionata da motore lineare LinMot

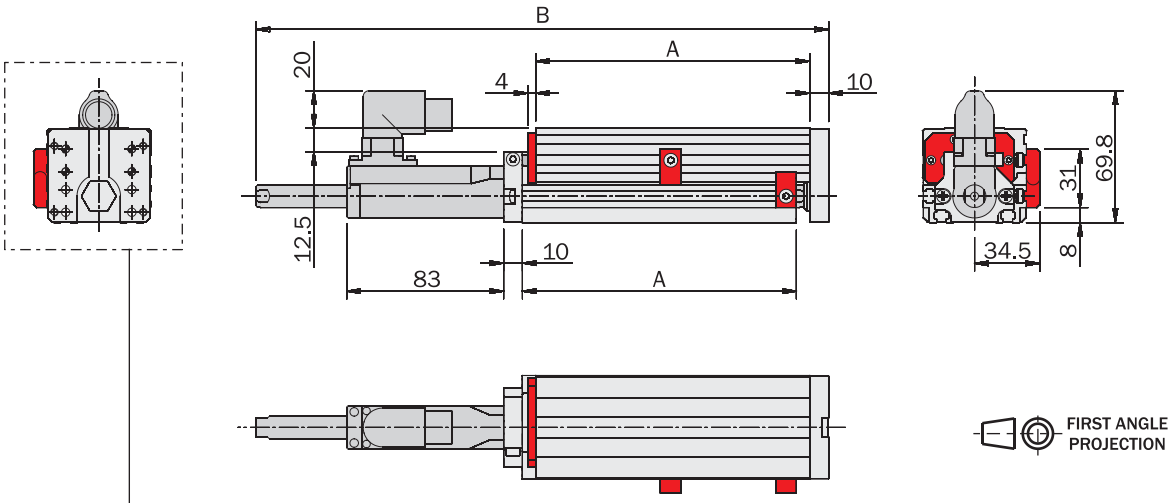
Example: Slide, 200mm stroke, with rubber emergency stoppers, powered by a LinMot linear motor

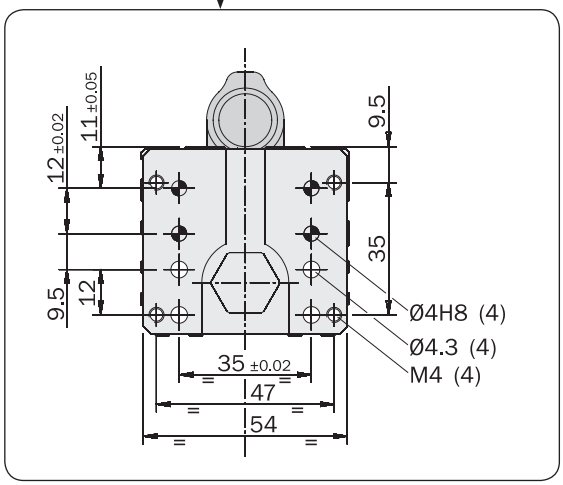




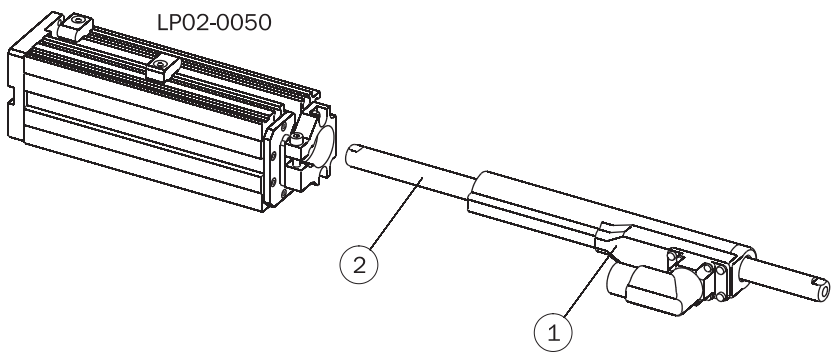
Esempio: Slitte LP02-0050 e LP02-0100 azionate da motore lineare LinMot in linea

Example: Slides LP02-0050 and LP02-0100, powered by an in-line LinMot linear motor



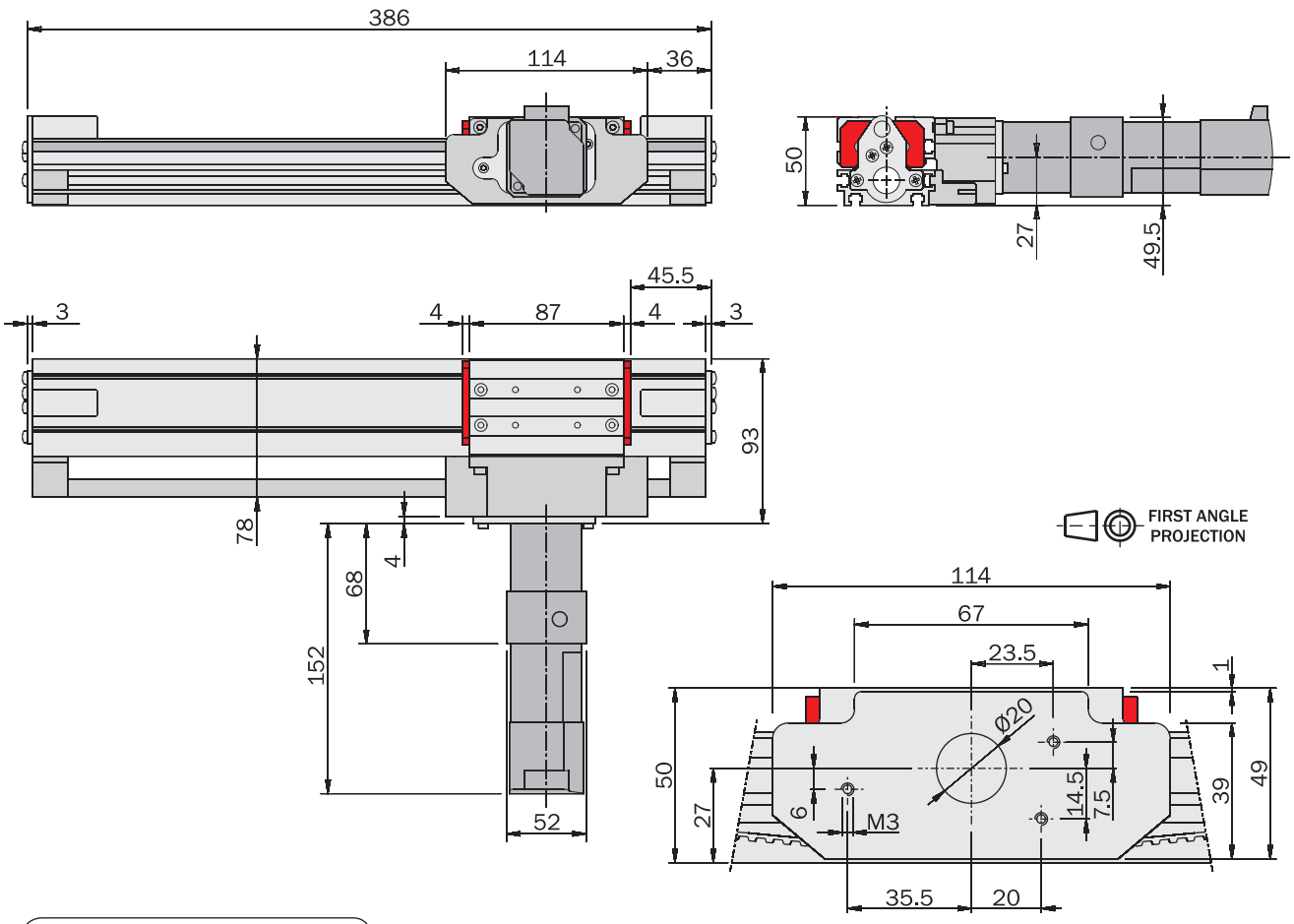


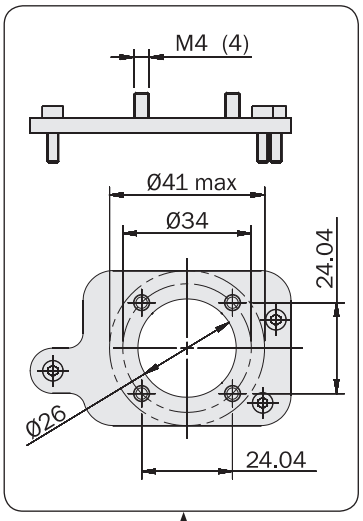
	LP02-0050	LP02-0100
A	145mm	195mm
B	303mm	363mm
1	LinMot P01-23x160/70x210 (non fornito / not supplied)	LinMot P01-23x160/130x270 (non fornito / not supplied)
2	LinMot PL02-12x290/240 (non fornito / not supplied)	LinMot PL02-12x350/300 (non fornito / not supplied)

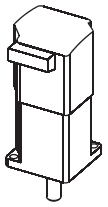


Esempio: Slitta con trasmissione ad omega (corsa 200mm) azionata da motoriduttore

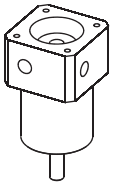
Example: Slide with omega transmission (200mm stroke) powered by servomotor and gear reducer



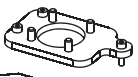




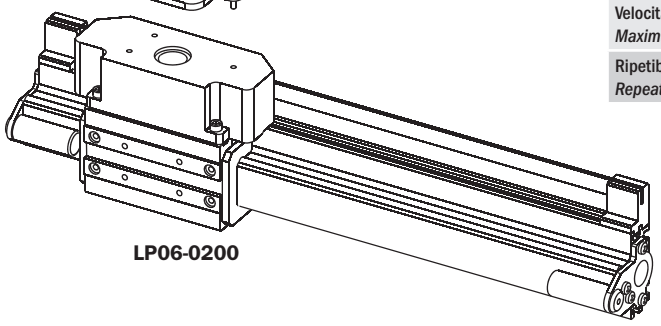
Motore Mitsubishi / Mitsubishi motor
HF-KE13W1-S100 (100W)
(non fornito) / (not supplied)



Riduttore Pini / Pini gear reducer
GL4038X253046
(non fornito) / (not supplied)



LPK-048

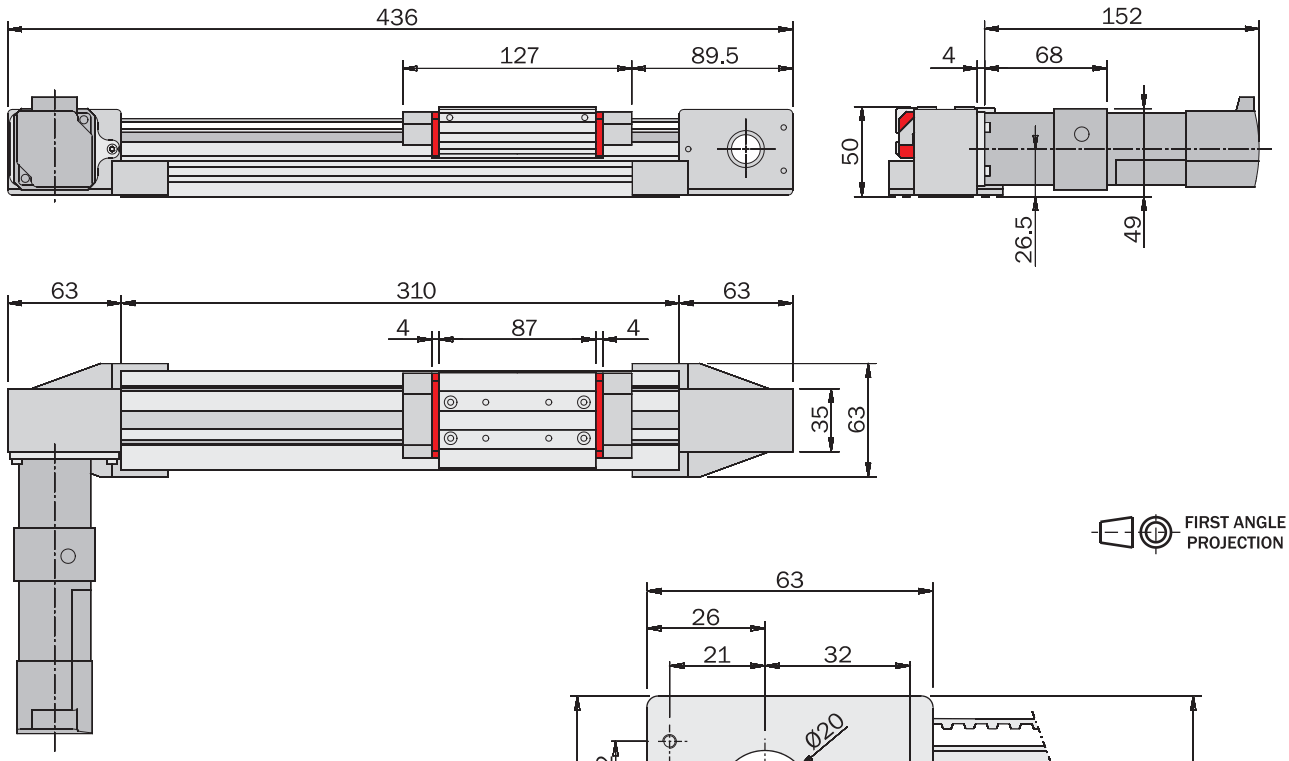


LP06-0200

Cinghia *Belt*	T5-10
Carico ammesso sulla cinghia *Allowable tensile load on the belt*	320N
Diametro calettatore *Lock unit diameter*	10mm
Coppia per serraggio calettatore *Torque for lock unit mounting*	1.2Nm
Corsa per ogni rotazione puleggia *Stroke per pulley revolution*	100mm
Inerzia pulegge *Pulleys inertia*	17kgmm^2
Massa del carrello *Carrier mass*	0.75kg
Attrito del carrello *Carrier friction*	12N
Carico dinamico dei cuscinetti (C) *Bearings dynamic load rate (C)*	4360N
Carico statico dei cuscinetti (Co) *Bearings static load rate (Co)*	2600N
Velocità massima *Maximum speed*	2m/s
Ripetibilità *Repeatability*	±0.1mm

Esempio: Slitta con trasmissione a cinghia (corsa 150mm) azionata da motoriduttore

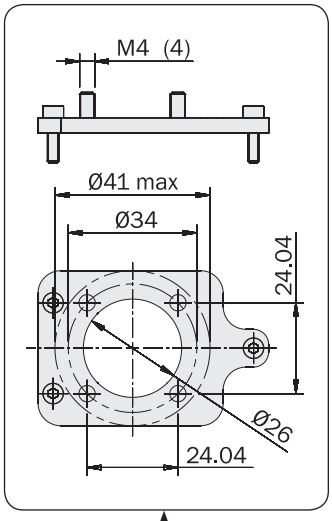
Example: Slide with belt drive (150mm stroke) powered by servomotor and gear reducer

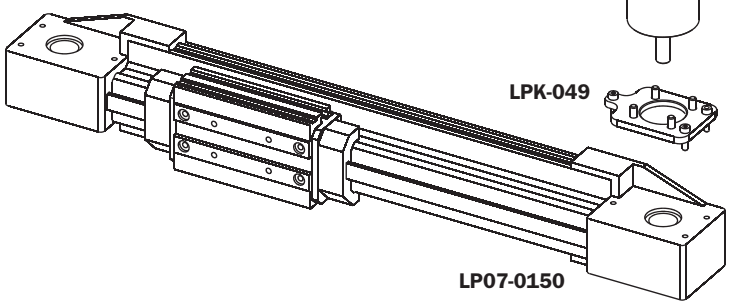


Cinghia *Belt*	T5-10
Carico ammesso sulla cinghia *Allowable tensile load on the belt*	320N
Diametro calettatore *Lock unit diameter*	10mm
Coppia per serraggio calettatore *Torque for lock unit mounting*	1.2Nm
Corsa per ogni rotazione puleggia *Stroke per pulley revolution*	100mm
Inerzia pulegge *Pulleys inertia*	18kgmm^2
Massa del carrello *Carrier mass*	0.3kg
Attrito del carrello *Carrier friction*	11N
Carico dinamico dei cuscinetti (C) *Bearings dynamic load rate (C)*	4360N
Carico statico dei cuscinetti (Co) *Bearings static load rate (Co)*	2600N
Velocità massima *Maximum speed*	2m/s
Ripetibilità *Repeatability*	±0.1mm

Motore Mitsubishi / Mitsubishi motor
HF-KE13W1-S100 (100W)
(non fornito) / (not supplied)

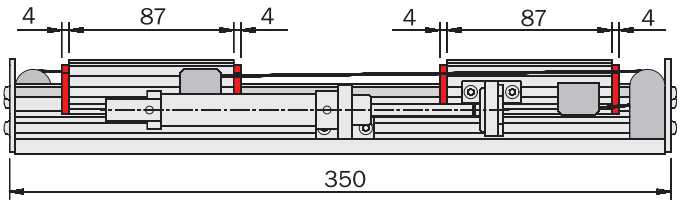
Riduttore Pini / Pini gear reducer
GL4038X253046
(non fornito) / (not supplied)

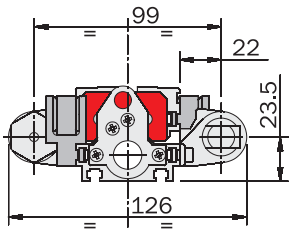


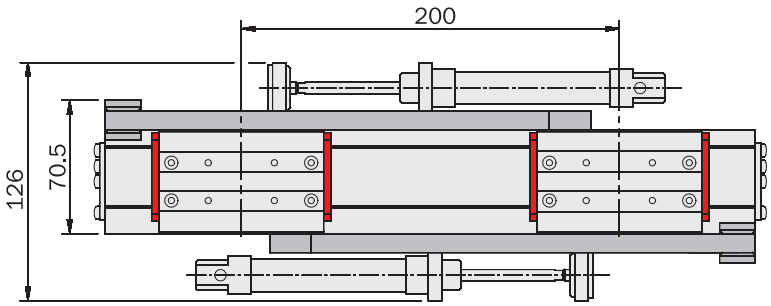


Esempio: Pinza autocentrante (interasse: 200mm) azionata da due cilindri ISO 6432 di alesaggio 16mm e corsa 50mm

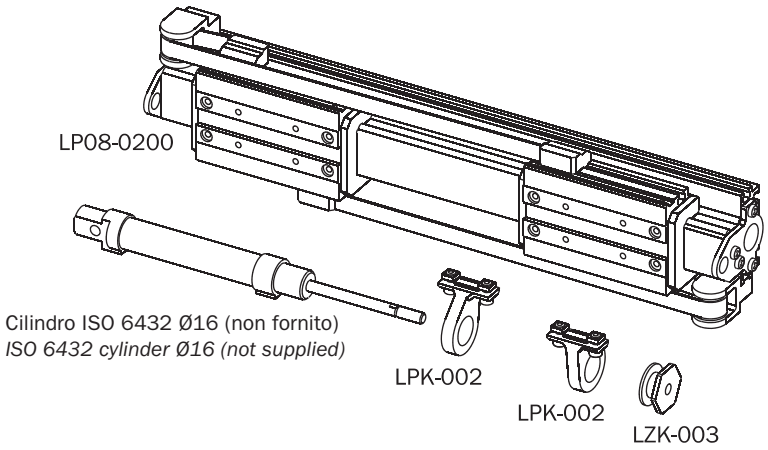
Example: Selfcentering gripper (interaxis: 200mm) powered by two 16mm ISO 6432 cylinders, stroke 50mm



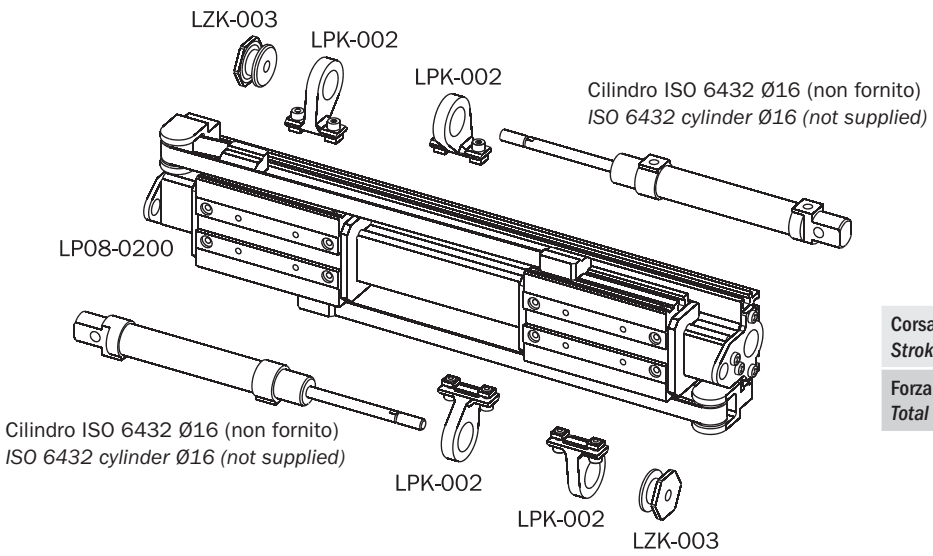




FIRST ANGLE PROJECTION



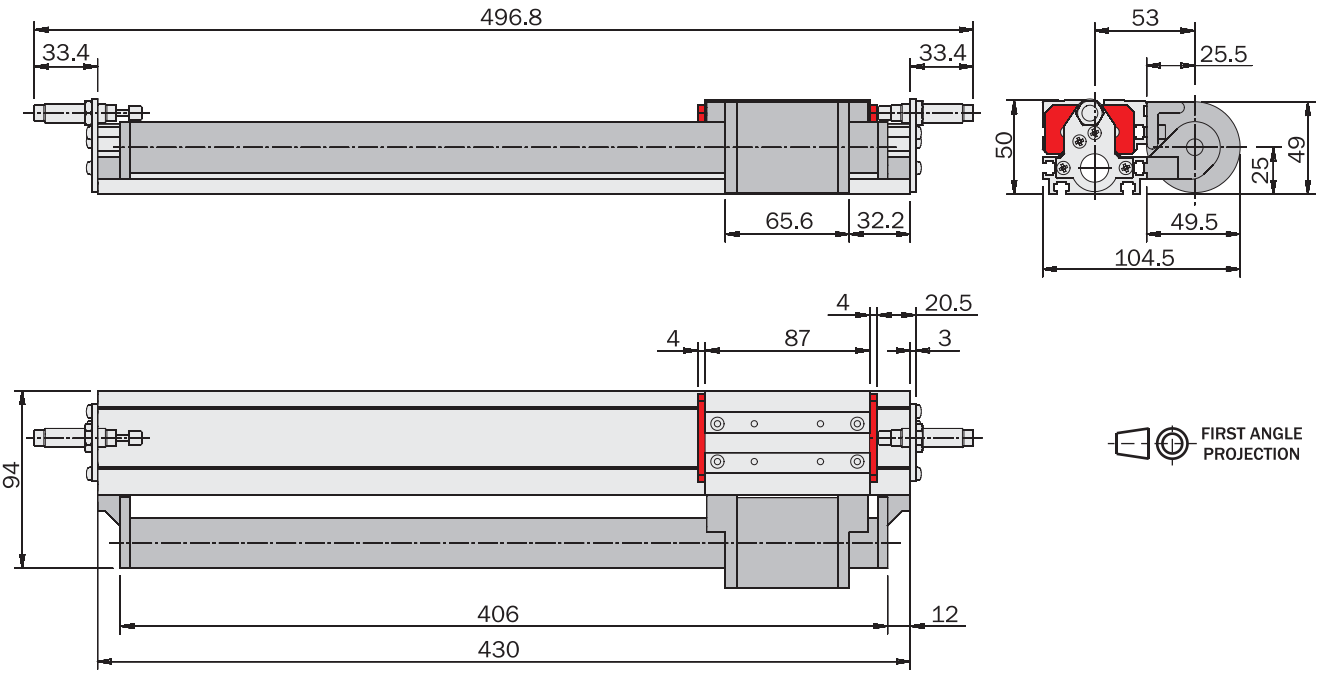
Corsa *Stroke*	2x50 mm
Forza totale a 6 bar *Total force at 6 bar*	100 N



Corsa *Stroke*	2x50 mm
Forza totale a 6 bar *Total force at 6 bar*	200 N

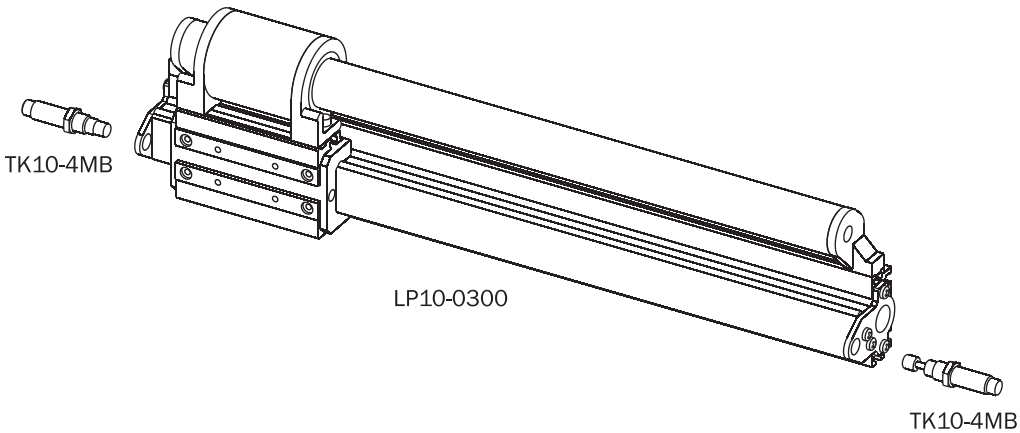
Esempio: Attuatore pneumatico (alesaggio 25mm, corsa 300mm) a trascinamento magnetico, con deceleratori idraulici

Example: Pneumatic actuator (piston bore: 25mm, stroke: 300mm) magnetically coupled, with hydraulic shock-absorbers



Avvertenza
La pressione massima di utilizzo è 5bar

Caution
Maximum working pressure is 5bar



LPK-013

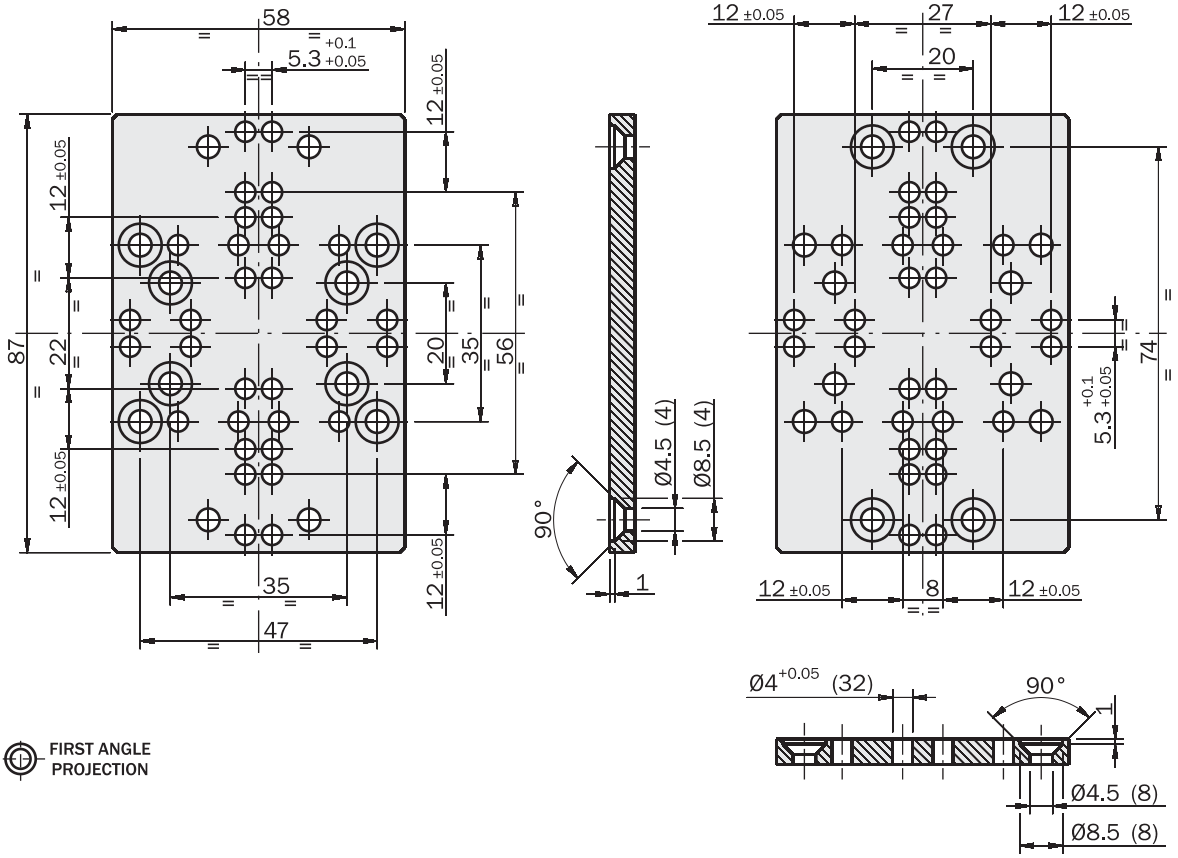
Interfaccia di montaggio

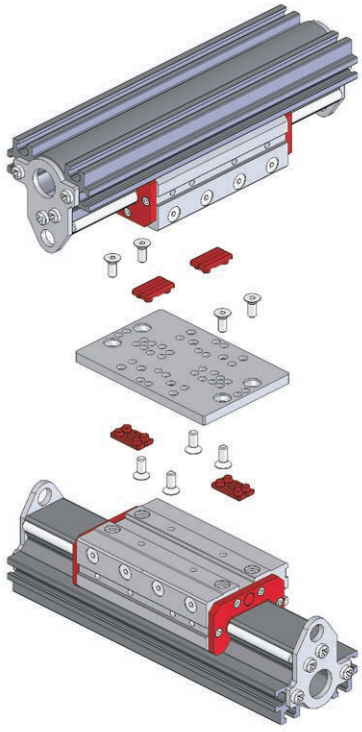
Va fissata al carrello e serve per il montaggio diretto di un'altra guida LP.
Peso: 75 g

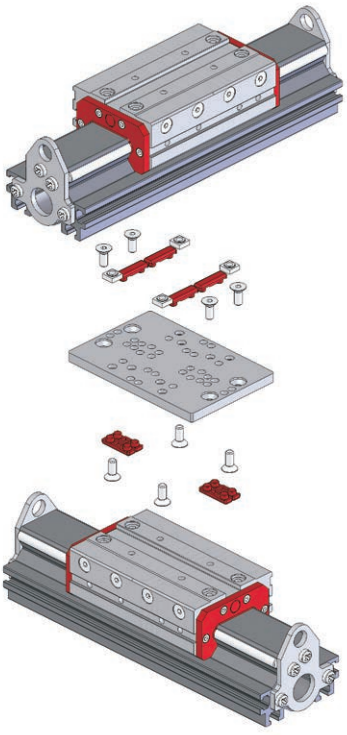
LPK-013

Mounting interface plate

It must be fixed to the carrier for direct mounting of an additional guide LP.
Weight : 75 g







Sensori

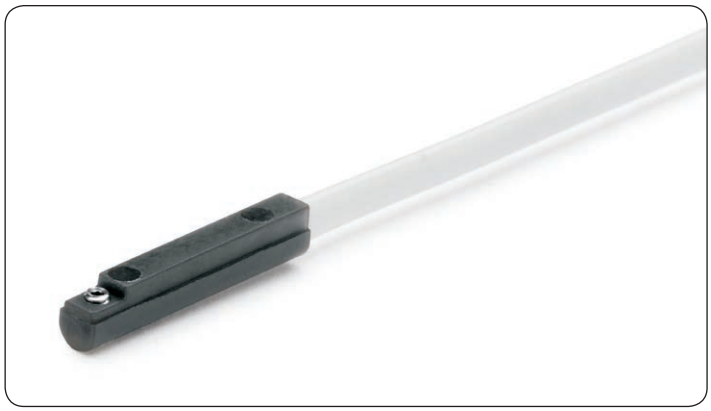
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso un magnete.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

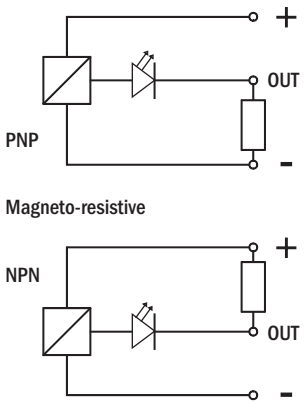
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet.
The use of magnetic proximity sensors is therefore to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

Use sensors:

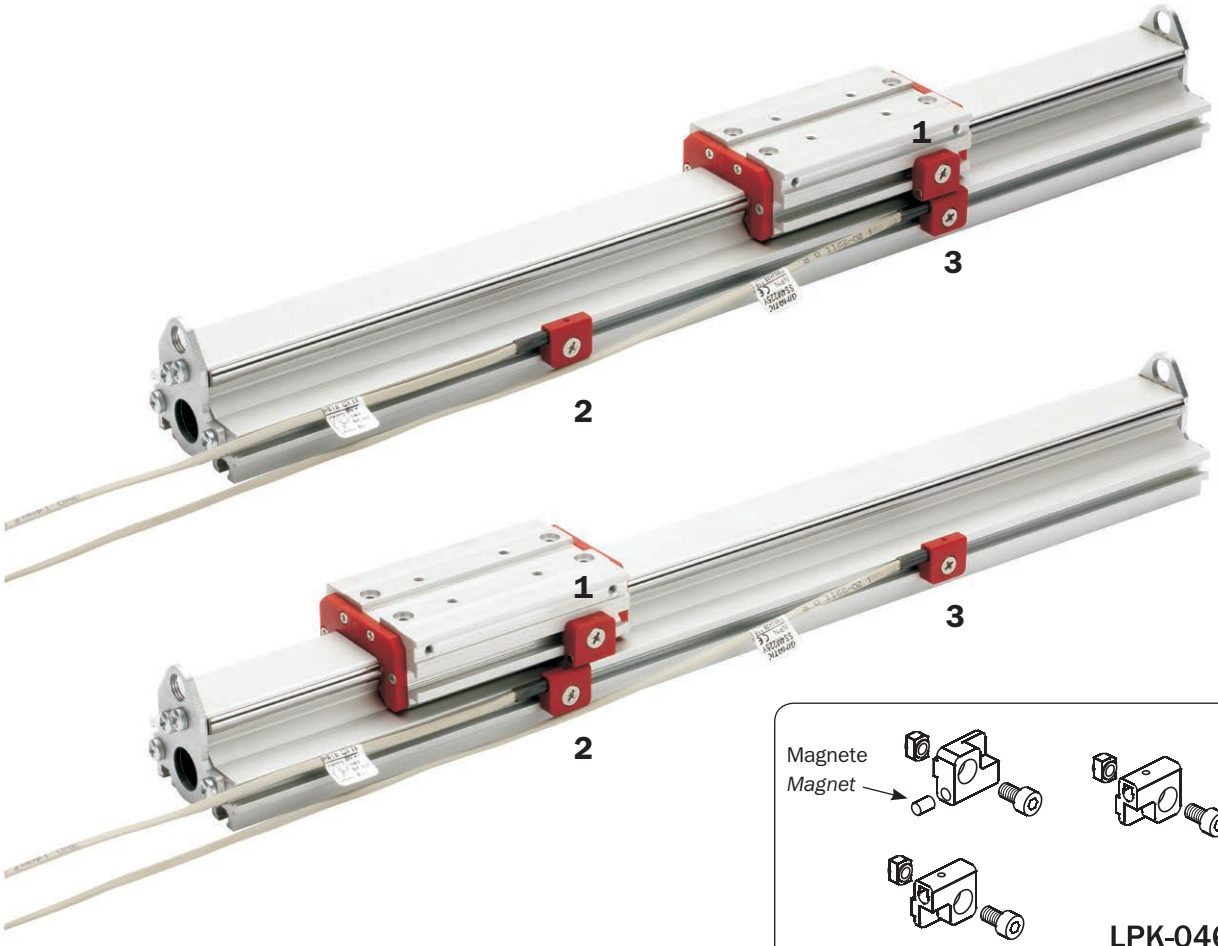




			LP...
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

Per montare 2 sensori è necessario il kit LPK-046.

One kit LPK-046 is necessary to mount two sensors.

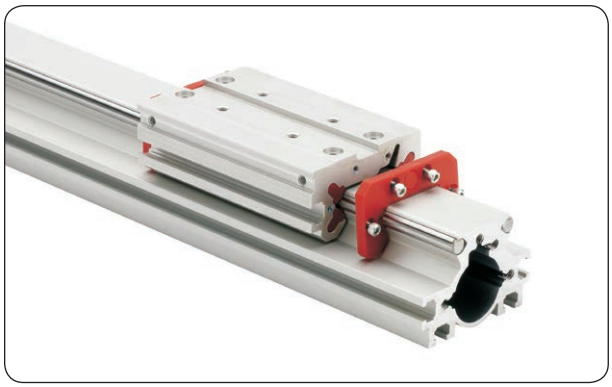


Lubrificazione

Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

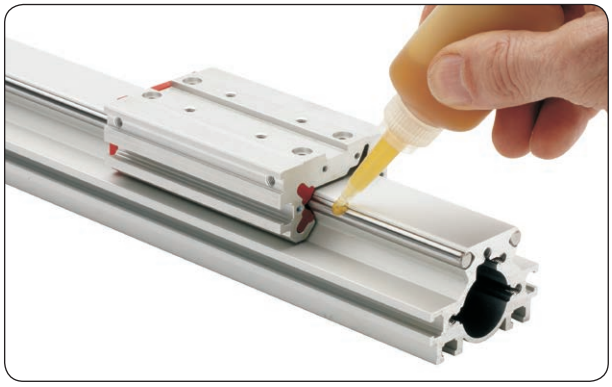
Lubrication

Periodically check the steel bars and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.



Rimuovere la protezione rossa (quattro viti)

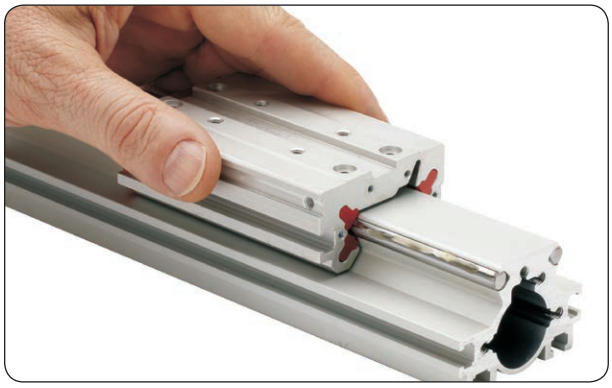
Remove the four screws and then the red plastic plate



Applicare il lubrificante sulle colonne di guida in acciaio

Lubricate the steel bars

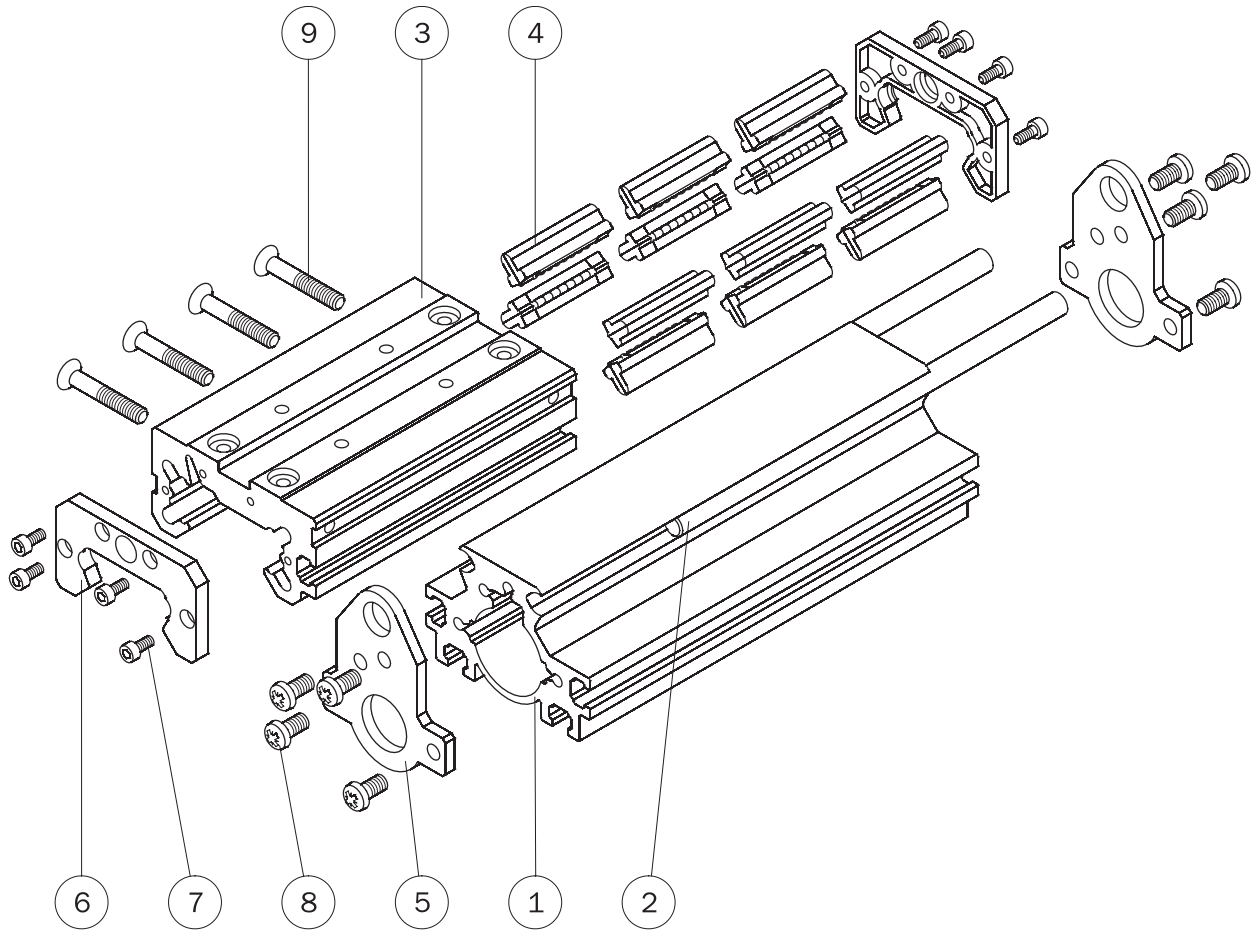




Muovere il carrello per distribuire il lubrificante nelle cartucce

Move the carrier to distribute the lubricant in the ball bearings

Elenco delle parti / *Part list*



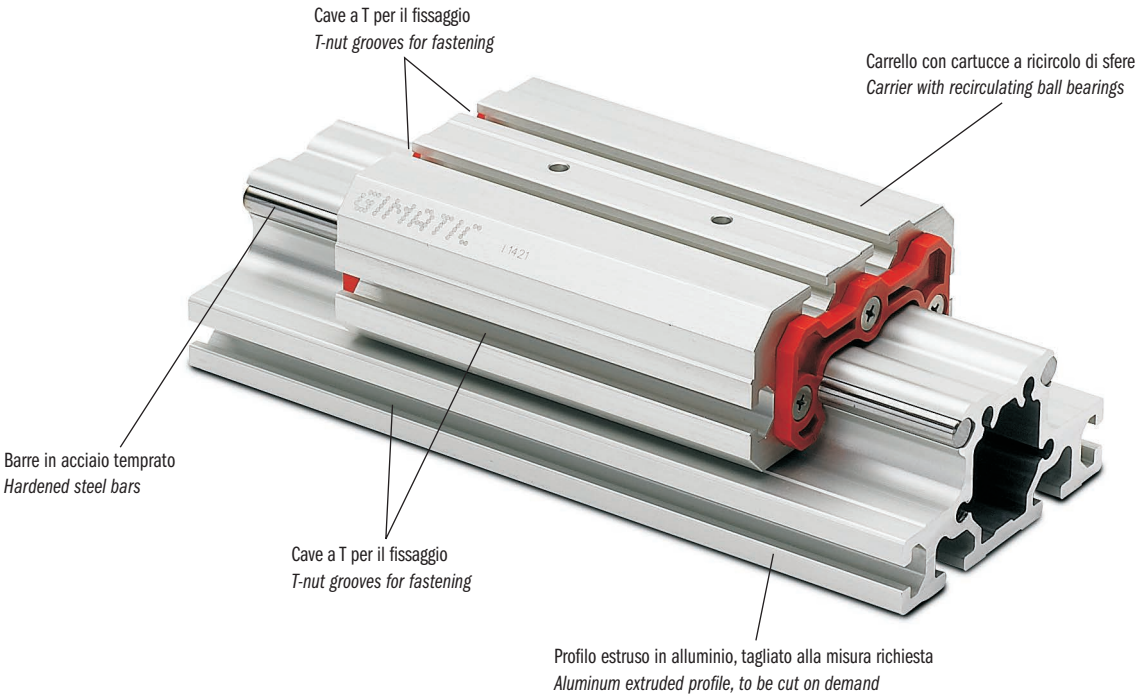
		LP		
1	Profilo in alluminio	ESTR-LP23-02	*Alu profile*	*1*
2	Guida	BARRA-002 Ø6 mm	*Guideway*	*2*
3	Carrello	LP23-10	*Carrier*	*3*
4	Cartuccia ricircolo di sfere	C-2521	*Ball bushing*	*4*
5	Testata	LP23-12	*End plate*	*5*
6	Protezione carrello	LP23-05	*Protection*	*6*
7	Vite	M2.5x6 mm DIN912 Z/B	*Screw*	*7*
8	Vite	M4x8 mm DIN7500C Z/B	*Screw*	*8*
9	Vite	M4x25 mm UNI5933 Z/B	*Screw*	*9*

Guide lineari a ricircolo di sfere serie LL

- Sistema di guida a ricircolo di sfere.
- Semplici da usare ed economiche.
- Diverse possibilità di montaggio con dadi a T.
- Vari kit opzionali per il montaggio di accessori.
- Qualsiasi lunghezza fino a 6000mm è possibile.
- E' possibile montare più di un carrello per ogni profilo.

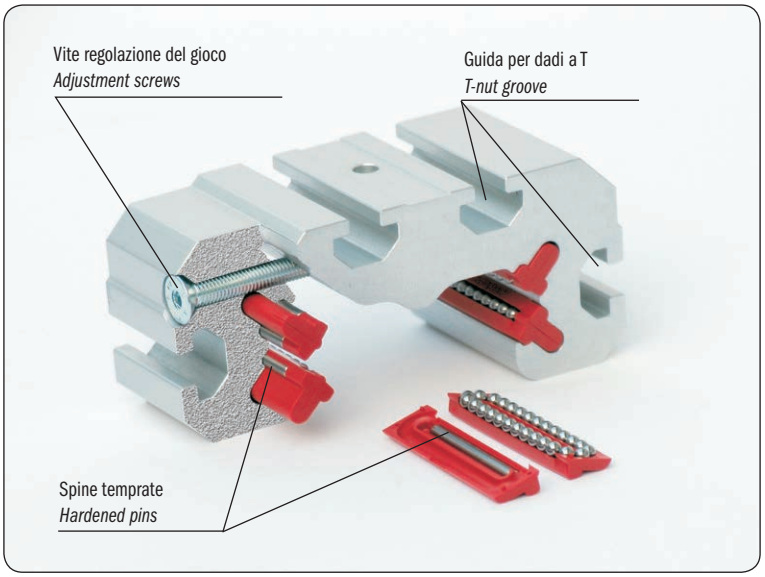
Linear guidance with recirculating ball-bearing series LL

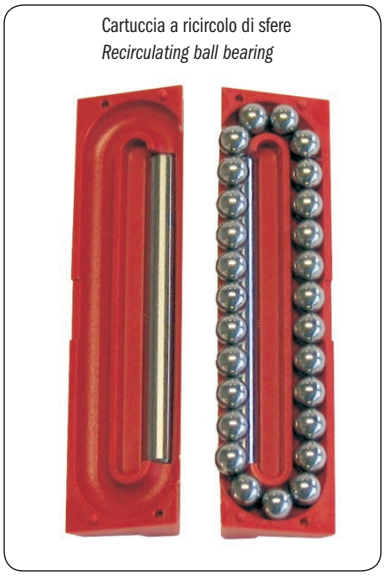
- *Recirculating ball-bearing guide system.*
- *Easy fitting and inexpensive.*
- *Several mounting options with T-nuts.*
- *Optional kits for accessories.*
- *Available in any length up to 6000mm.*
- *More than one carrier per rail is possible.*



Il carrello è ricavato da un estruso di alluminio nel quale sono previste le sedi per le cartucce a ricircolo di sfere e le cave a T per i vari fissaggi.
La particolare forma permette l'azzeramento del gioco e la registrazione del precarico tramite le quattro viti di regolazione.
L'assemblaggio completo del carrello, il montaggio sulle barre, la registrazione e la prima lubrificazione sono effettuati in fabbrica.
Sulla guida lineare possono essere montati due o più carrelli, a richiesta, per aumentare la capacità di carico, oppure per avere due o più slitte comandabili in modo indipendente.

The carrier is made from an aluminium extruded profile, in which the housings for the recirculating ball bearings and the T-nut grooves are located.
Thanks to the carrier special profile, with four adjustment screws, it is possible to set to zero the carrier backlash and to adjust the correct bearing preload.
The carrier assembling, mounting on the bars, preloading and the first lubrication are made in Gimatic.
Two or more carriers, on demand, can be mounted on the same rail, to increase the load capacity or to get two or more independent slides.



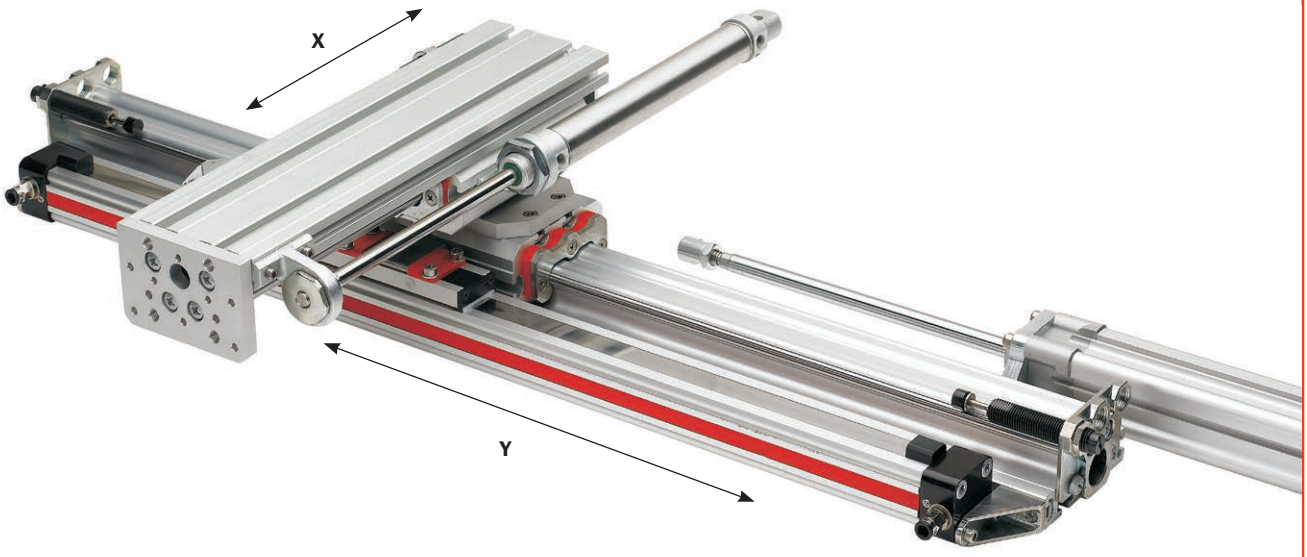


Esempio di applicazione

Manipolatore Y-X con arresto intermedio su Y, azionato da cilindri pneumatici.

Application example

Y-X manipulator with intermediate stop along Y, powered by pneumatic cylinders.

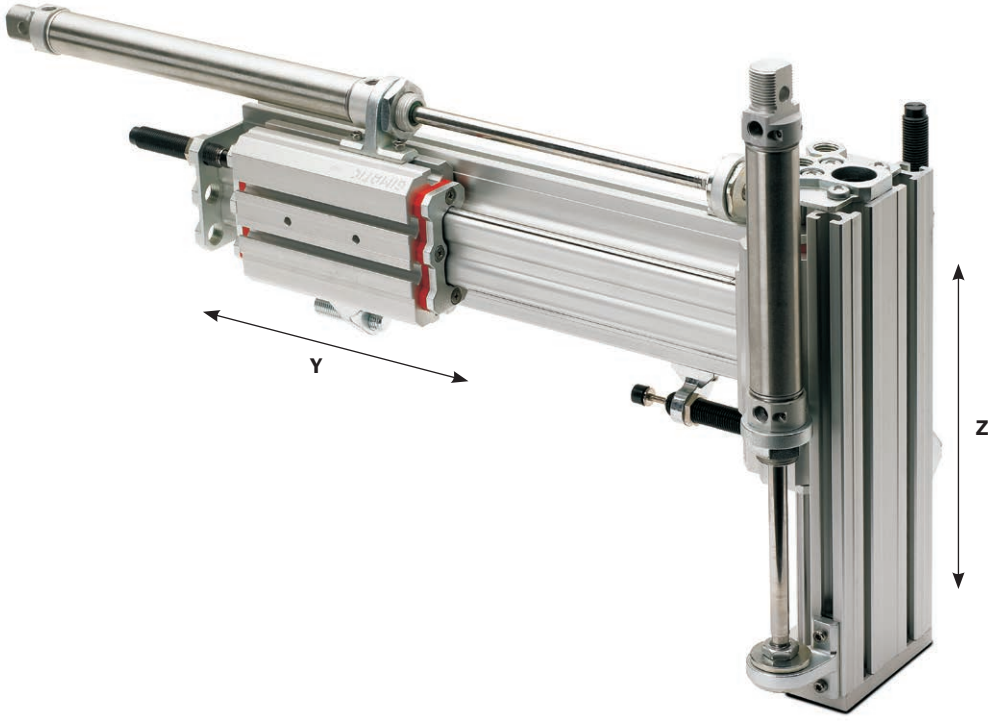


Esempio di applicazione

Manipolatore Y-Z tipo Pick & Place, azionato da cilindri pneumatici.

Application example

Y-Z Pick & Place manipulator, powered by pneumatic cylinders.

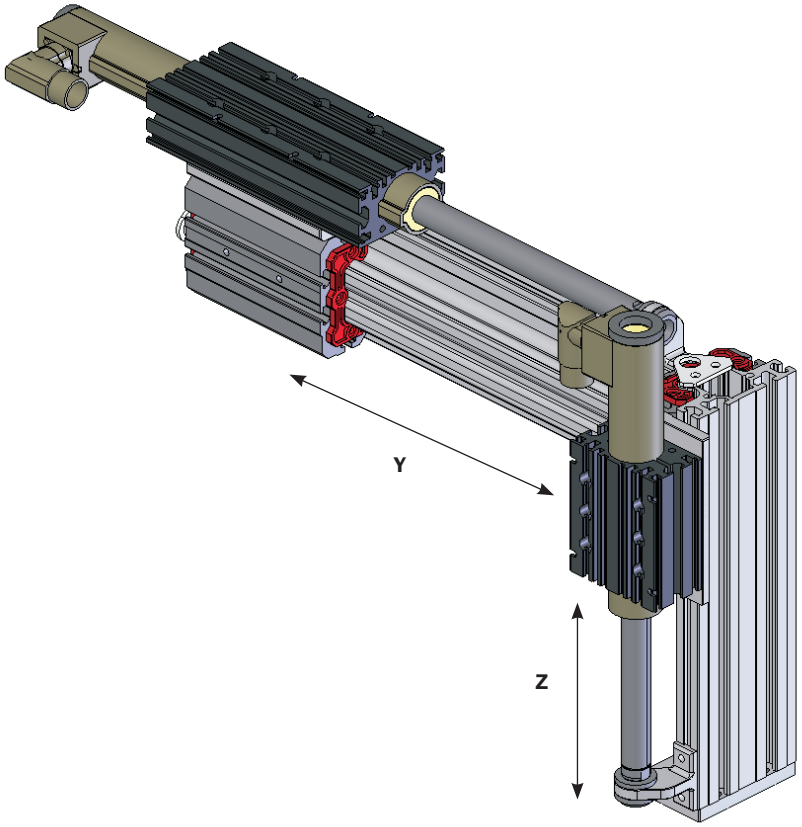


Esempio di applicazione

Manipolatore Y-Z tipo Pick & Place, azionato da motori lineari.

Application example

Y-Z Pick & Place manipulator, powered by linear motors.

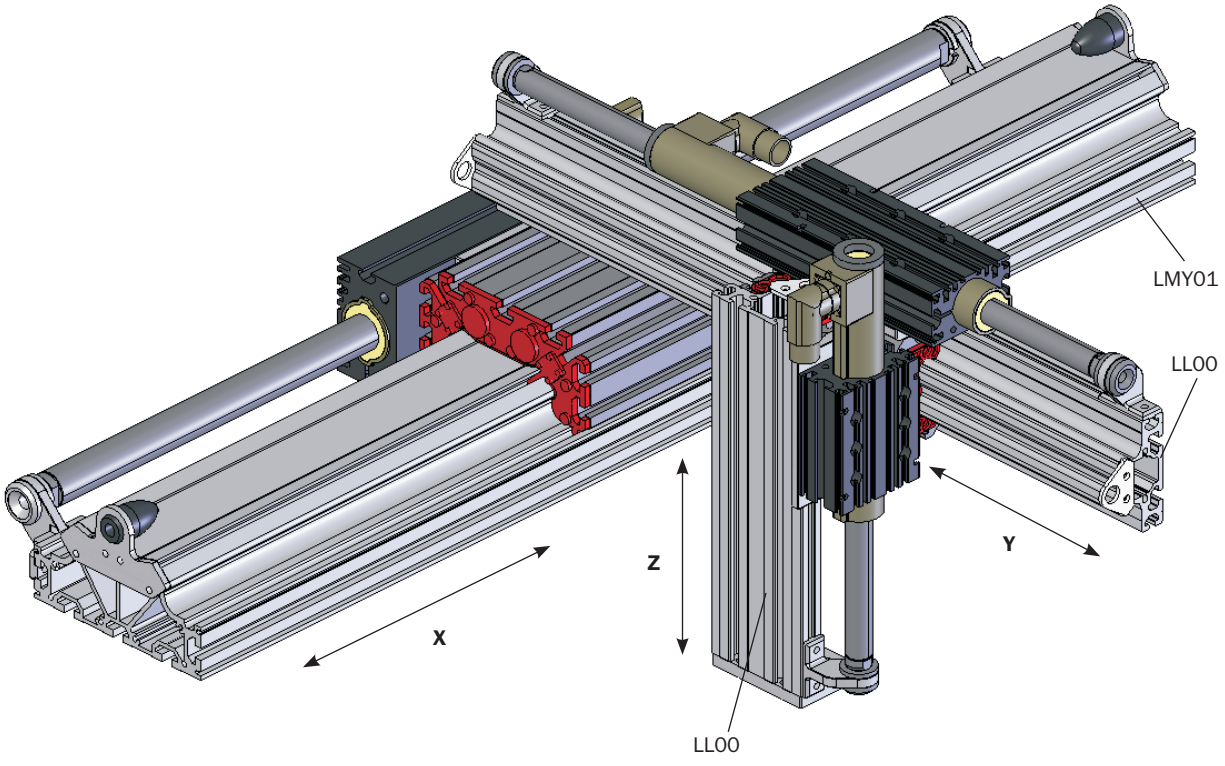


Esempio di applicazione

Manipolatore X-Y-Z, azionato da motori lineari.

Application example

X-Y-Z manipulator, powered by linear motors.

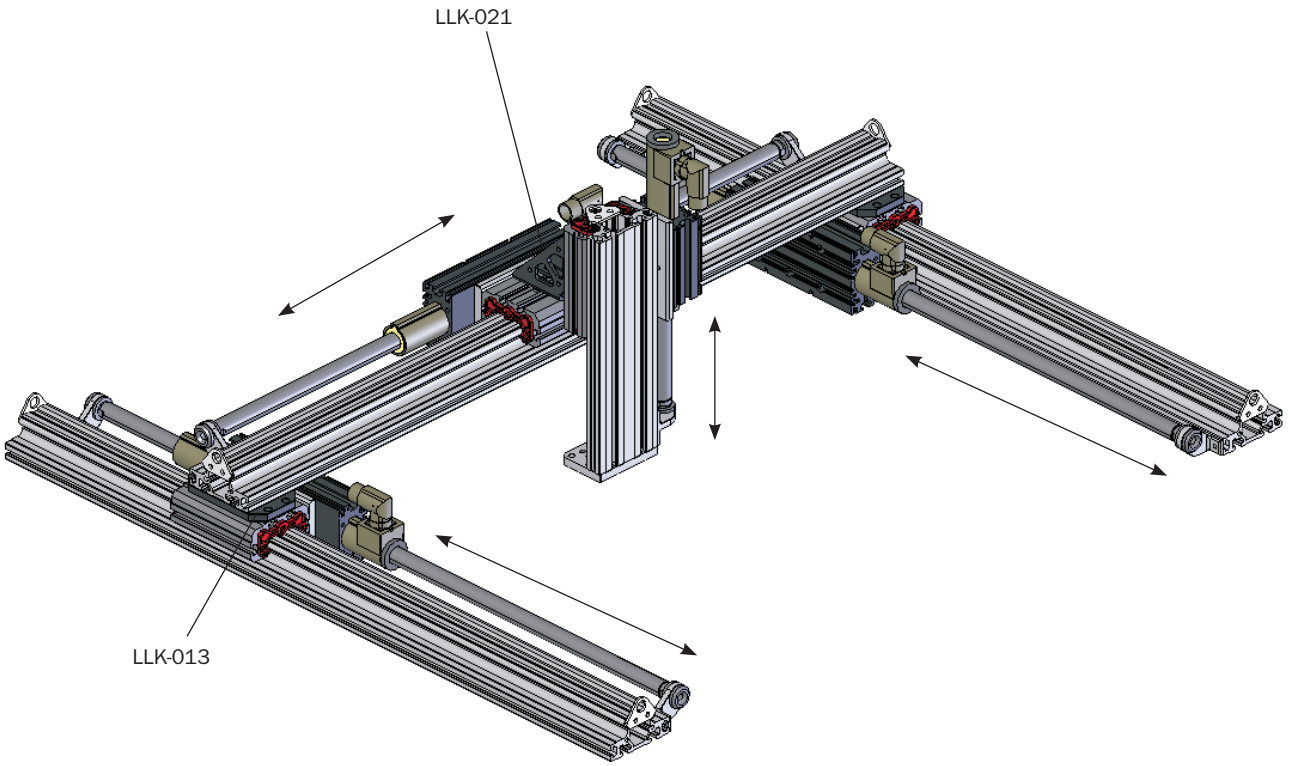


Esempio di applicazione

Portale a 3 assi, costituito da 4 guide LL, azionate da motori lineari.

Application example

3-axis gantry, assembled with 4 LL guidances, powered by linear motors.

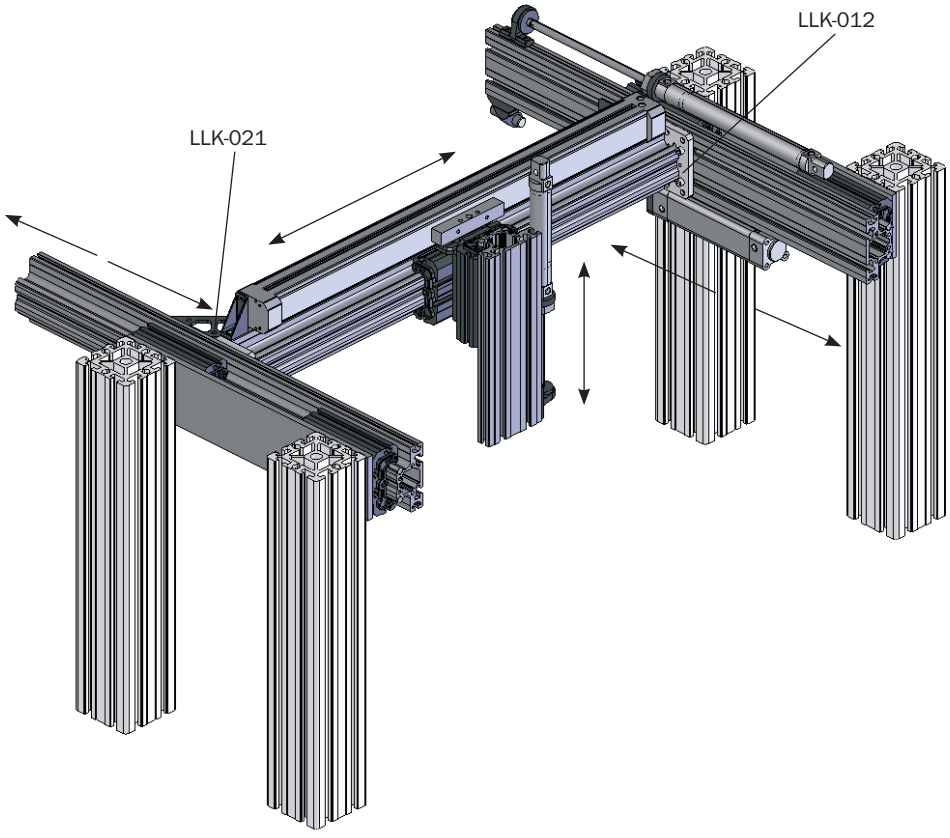


Esempio di applicazione

Portale a 3 assi, costituito da 4 guide LL, azionate da cilindri pneumatici.

Application example

3-axis gantry, assembled with 4 LL guidances, powered by pneumatic cylinders.

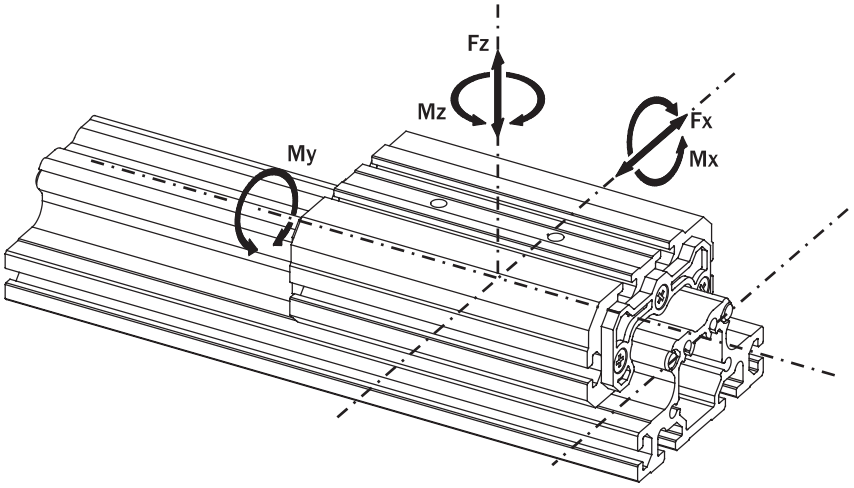


Carichi di sicurezza

Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore.
Verificare che l'indice di carico LF sia inferiore all'unità.

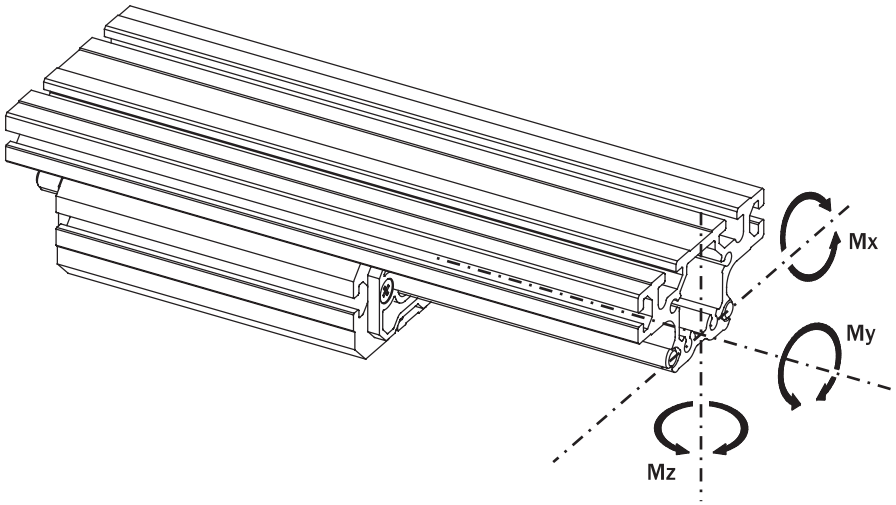
Safety loads

Excessive loads can damage the unit, cause functioning troubles and endanger the safety of the operator.
The load factor LF must be lower than 1.



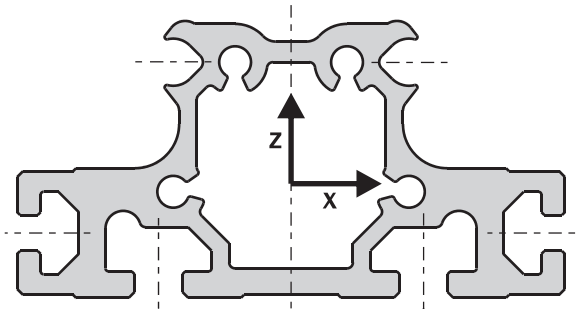
$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leq 1$$

	max
Fx	2500 N
Fz	2500 N
Mx	56 Nm
My	50 Nm
Mz	56 Nm



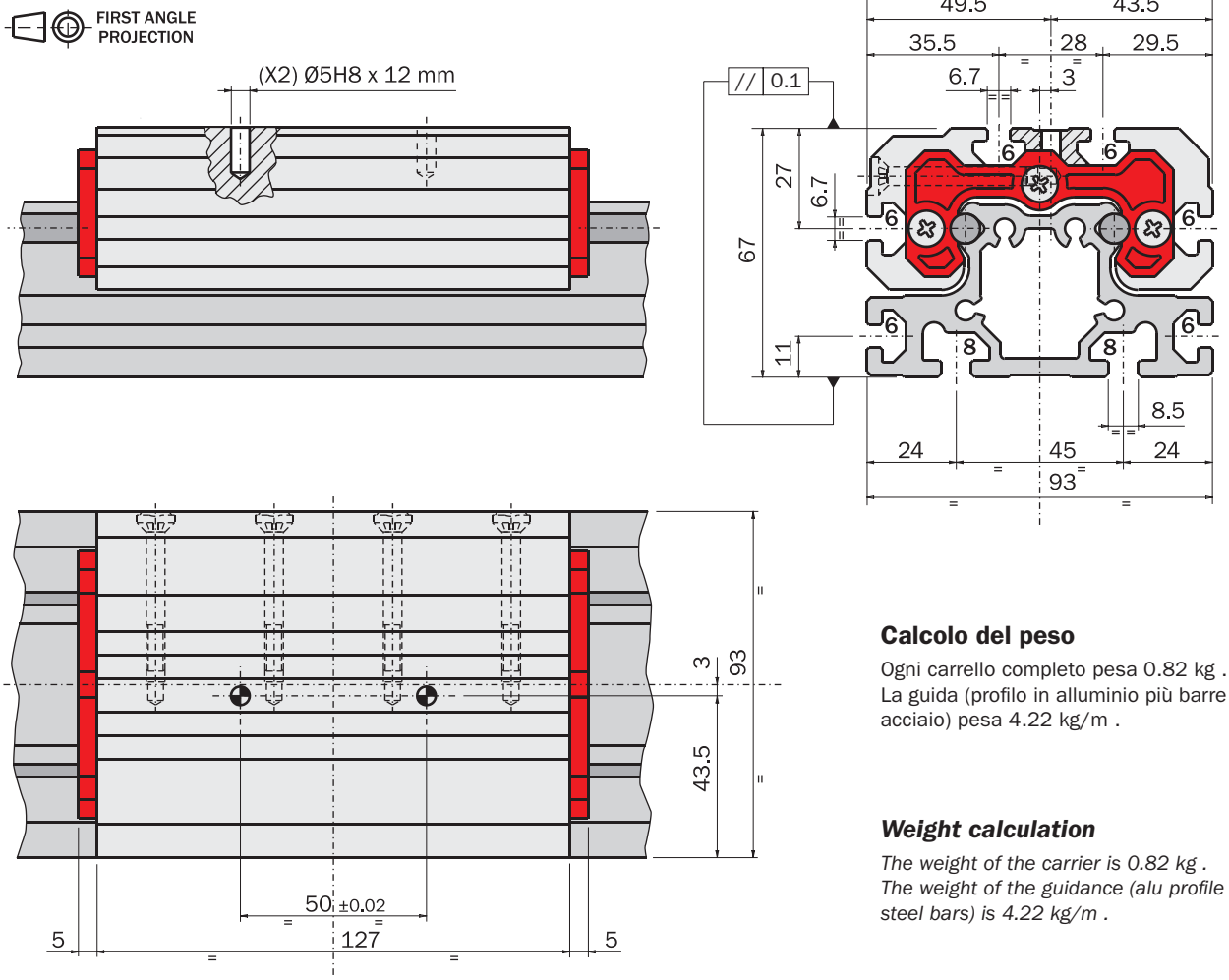
Momenti d'inerzia del profilo estruso in alluminio

Area moment of inertia for the extruded aluminum profile



Ix= 267709 mm⁴
Iz= 907959 mm⁴

Dimensioni (mm) / *Dimensions (mm)*



Calcolo del peso

Ogni carrello completo pesa 0.82 kg .
La guida (profilo in alluminio più barre in acciaio) pesa 4.22 kg/m .

Weight calculation

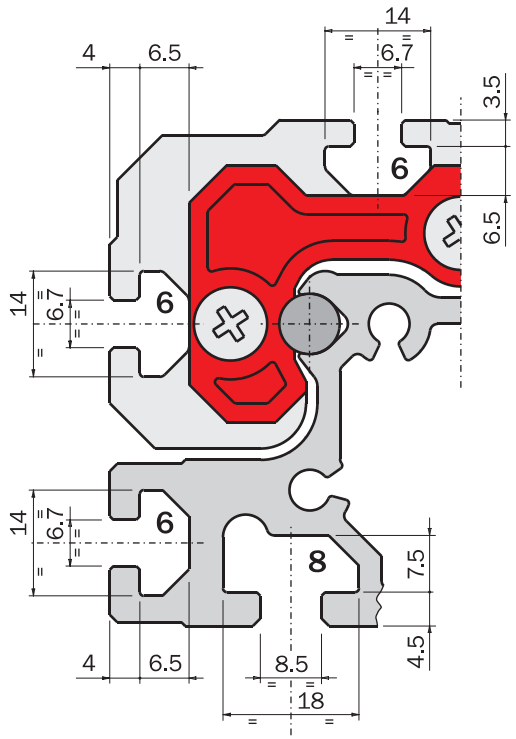
The weight of the carrier is 0.82 kg .
The weight of the guidance (alu profile plus steel bars) is 4.22 kg/m .

Cave per dadi a "T"

Sulla guida esistono due misure delle cave (6 ed 8).
Ci si possono montare quattro tipi di dadi a T.

T-nut grooves

There are two groove sizes on the guidance (6 and 8).
And it is possible to use in them four T-nut types.



Cava / Slot

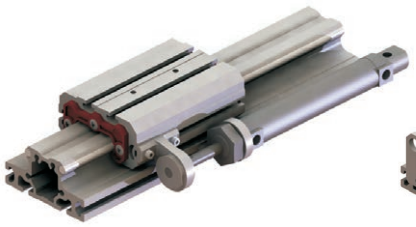
	6	8
Dado *Nut*	LL25-09 (M4)	LL25-10 (M6)
	LL25-23 (M5)	VITE-243 (M6 Bosch)

Codice di ordinazione / *Ordering code*

L L X X - X X X X

Corsa / *Stroke [mm] (*)*

LL00
Per cilindri ISO Ø20, Ø25, Ø32
For ISO cylinders Ø20, Ø25, Ø32



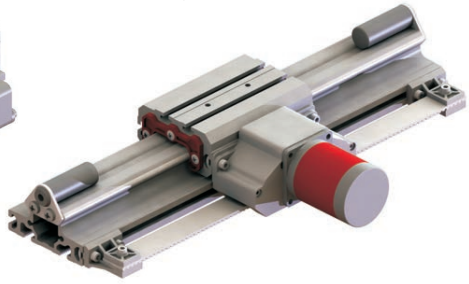
	s [mm]	m
LL00	0÷5830 (1)	1560g+4.2g/mm

LL01
Per cilindri senza stelo Ø25
For rodless cylinders Ø25



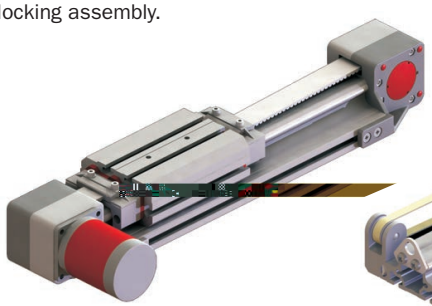
	s [mm]	m
LL01	0÷5740 (1)	1980g+4.2g/mm

LL06
Trasmissione a omega, completa di calettatore per alberi Ø12
Omega transmission, with Ø12 shaft locking assembly



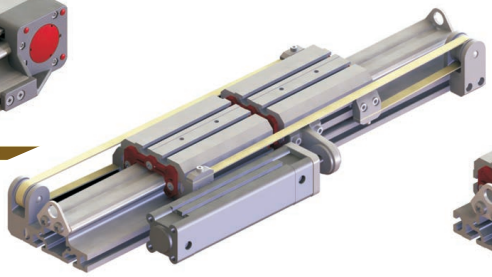
	s [mm]	m
LL06	0÷5700 (2)	3220g+4.3g/mm

LL07
Trasmissione a cinghia e pulegge, completa di calettatore per alberi Ø12
Belt drive and pulleys, with Ø12 shaft locking assembly.



	s [mm]	m
LL07	0÷1500 (2)	3660g+4.4g/mm

LL08
Con due carrelli autocentranti
With two self-centering carriers



	s [mm]	m
LL08	140÷2000 (1)	3000g+4.3g/mm

LL10
Per cilindro senza stelo Ø25 a trascinamento magnetico
For rodless cylinder Ø25 magnetically coupled



	s [mm]	m
LL10-0300	300	3600
LL10-0500	500	4550
LL10-1000	1000	6900
LL10-1500	1500	9250

(*) Per LL08 la corsa è il massimo interasse fra i due carrelli.

(1) E' possibile ordinare lunghezze di guida con step di 1mm.
(2) E' possibile ordinare lunghezze di guida con step di 100mm.

La lunghezza totale della guida è la somma della corsa utile e dell'ingombro della corsa zero:
170mm per LL00;
260mm per LL01;
265mm per LL06;
220mm per LL07;
210mm per LL08;
170mm per LL10.

La lunghezza totale della guida deve essere inferiore a 6000mm.
Esistono varie interfacce e kit opzionali per il fissaggio dei cilindri, dei fine corsa, dei deceleratori e dei sensori.
Sono venduti in confezioni singole, non assemblati alla guida lineare.
I cilindri non sono forniti.

(*) For the LL08 the stroke is intended like the maximum interaxis between the two carriers.
(1) It is possible to order any guidance length in 1mm steps.
(2) It is possible to order any guidance length in 100mm steps.

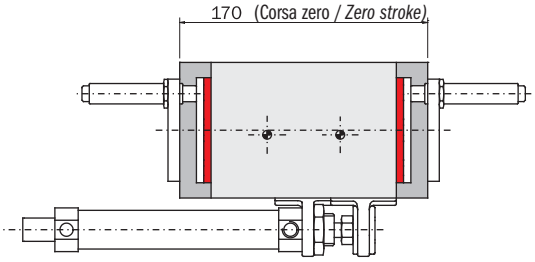
The total length of the guidance is the sum of the carrier travel plus the zero stroke length:
170mm for LL00;
260mm for LL01;
265mm for LL06;
220mm for LL07;
210mm for LL08;
170mm for LL10.

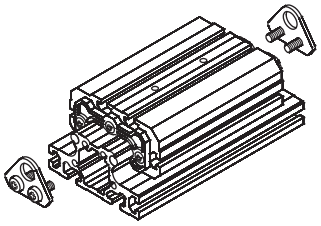
The total length of the guidance must be lower than 6000mm.
There are also several optional interfaces and kits with the brackets to mount the cylinders, the end stroke stoppers, the shock-absorbers and the sensors.
They are sold in single packages, not assembled with the guidance.
The cylinders are not supplied.

Le parti fornite con ciascun codice di ordinazione sono qui evidenziate.

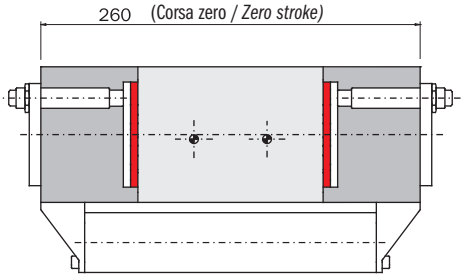
The parts supplied with the ordering codes are here highlighted.

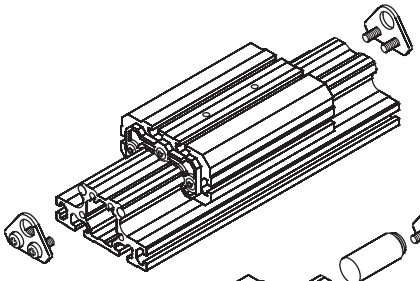
LL00



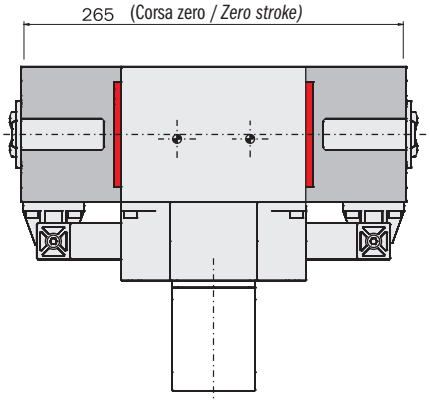


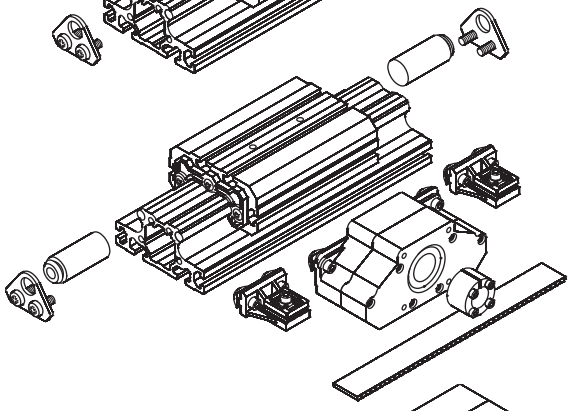
LL01



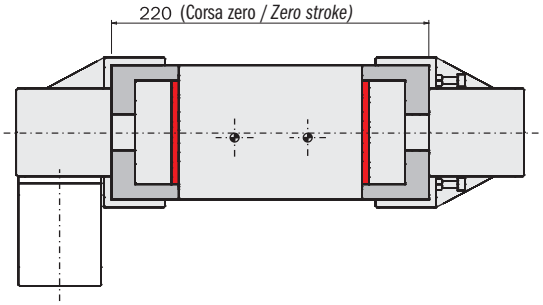


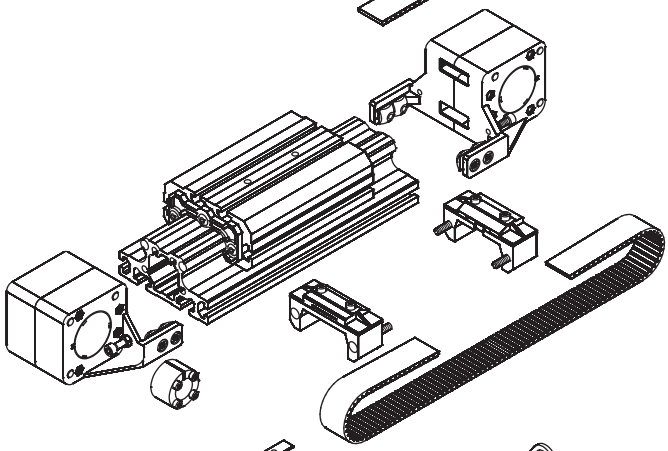
LL06



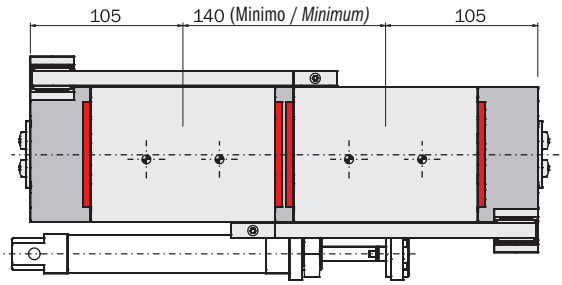


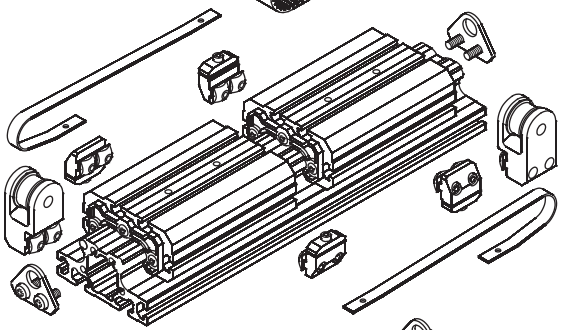
LL07



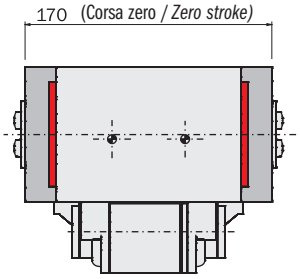


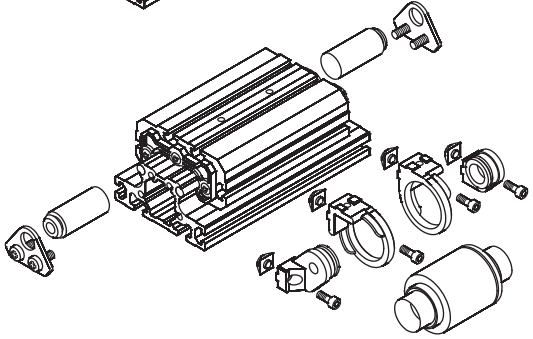
LL08





LL10



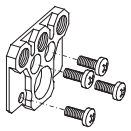


Kit opzionali / *Optional kits*

Testata per fissaggio deceleratori, sensori induttivi di finecorsa o grani di fermo

End plate for the fastening of shock-absorbers, end stroke grub screws and inductive sensors

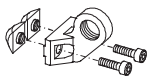
- LLK-008



Staffa fissaggio deceleratori o grani di fermo

Bracket for the side fastening of shock-absorbers, or end stroke grub screws

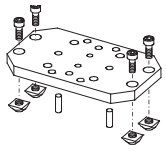
- LLK-007
- LLK-020
- LLK-025
- LLK-026



Interfaccia di montaggio per il carrello

Mounting interface plate for the carrier

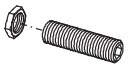
- LLK-013



Grano di fermo

End stroke grub screw

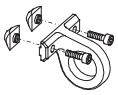
- LLK-024



Staffa per fissaggio cilindro ISO 6432 Ø20 / Ø25

Cylinder holder Ø20 / Ø25

- LLK-002



Cilindro ISO 6432 Ø20 / Ø25 (non fornito)

ISO 6432 cylinder Ø20 / Ø25 (not supplied)

Terminale per cilindro Ø25 e Ø32

End block for cylinder rods Ø25 and Ø32

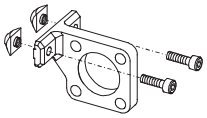
- LLK-016

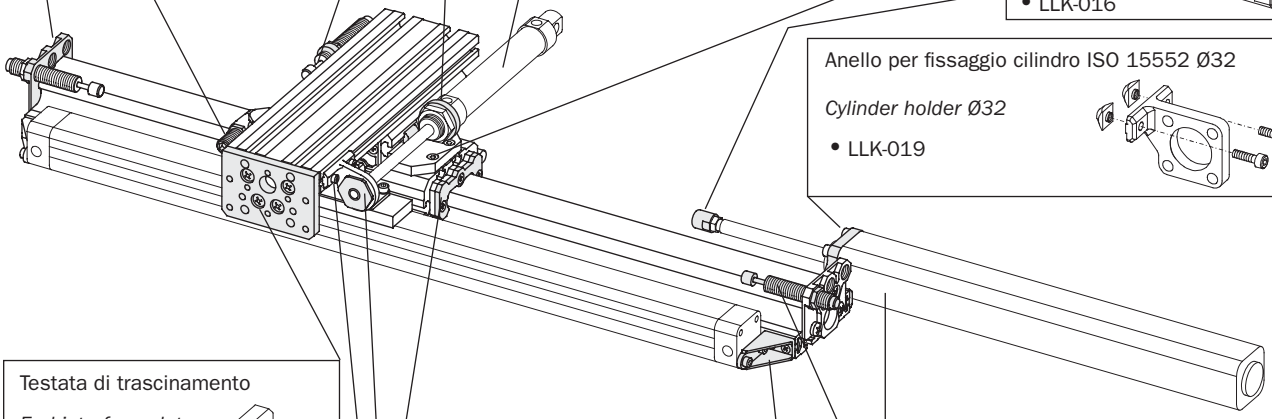


Anello per fissaggio cilindro ISO 15552 Ø32

Cylinder holder Ø32

- LLK-019

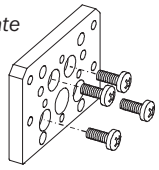




Testata di trascinamento

End interface plate

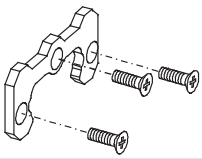
- LLK-012



Protezione in acciaio per il carrello

Steel plate for the carrier

- LLK-004



Cilindro ISO 15552 Ø32 (non fornito)

ISO 15552 cylinder Ø32 (not supplied)

Deceleratore idraulico

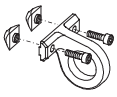
Shock-absorber

- SPM25MC1SB
- PM25MC-2SB-SP22039

Anello per giunto cilindro ISO

Cylinder holder

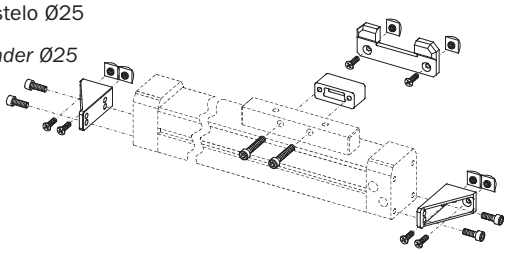
- LLK-002 (Ø20 / Ø25)
- LLK-018 (Ø32)



Kit fissaggio cilindro senza stelo Ø25

Fastening kit for rodless cylinder Ø25

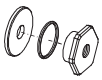
- LLK-005 (Origa)
- LLK-006 (Festo)
- LLK-022 (Ultraline)
- LLK-023 (Norgren)

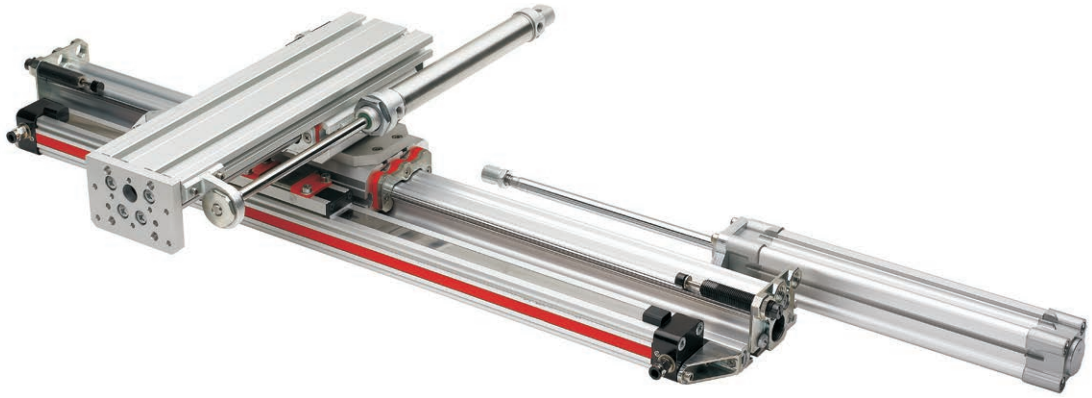


Giunto per cilindro ISO

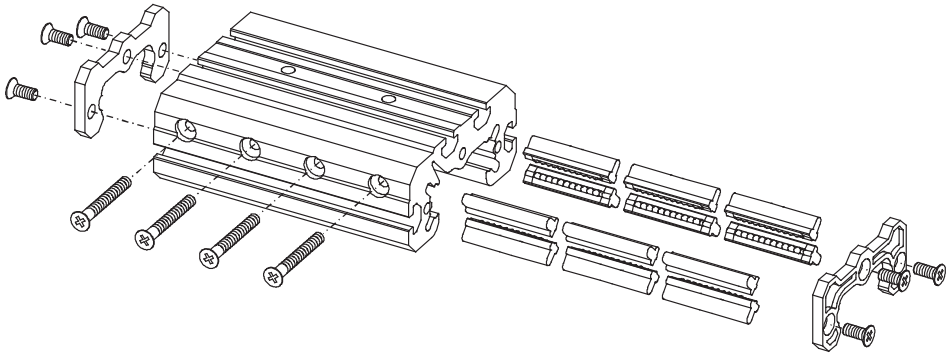
Cylinder rod bolt

- LLK-003 (Ø25 / Ø32)
- LLK-017 (Ø20)

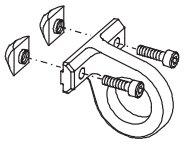




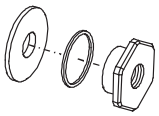
LLK-001 (832 g)
Carrello addizionale
Additional carrier



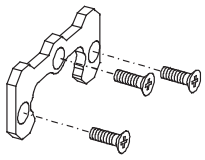
LLK-002 (93 g)
Anello per fissaggio cilindro Ø20 / Ø25
Cylinder holder Ø20 / Ø25



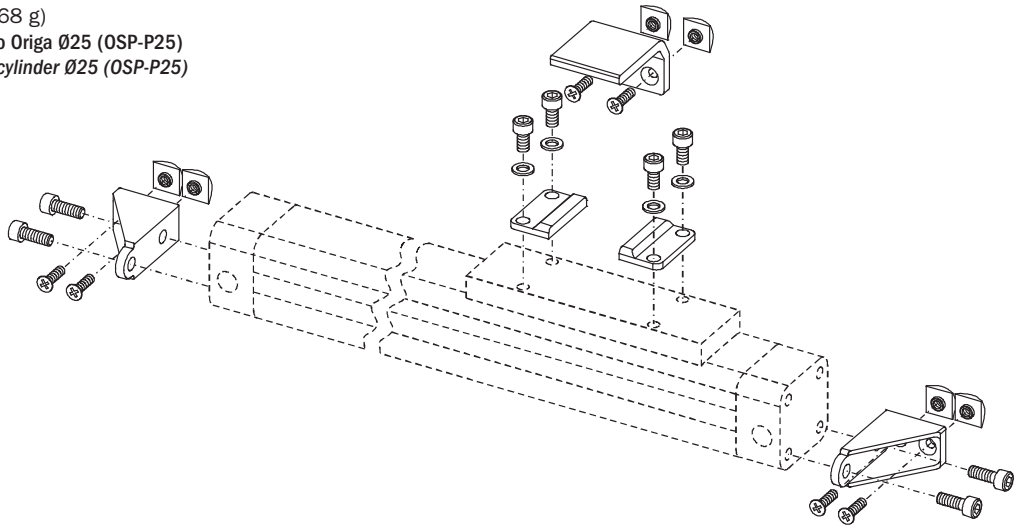
LLK-003 (57 g)
Giunto M10x1.25 per stelo cilindro Ø25 / Ø32
Rod bolt M10x1.25 for cylinder Ø25 / Ø32



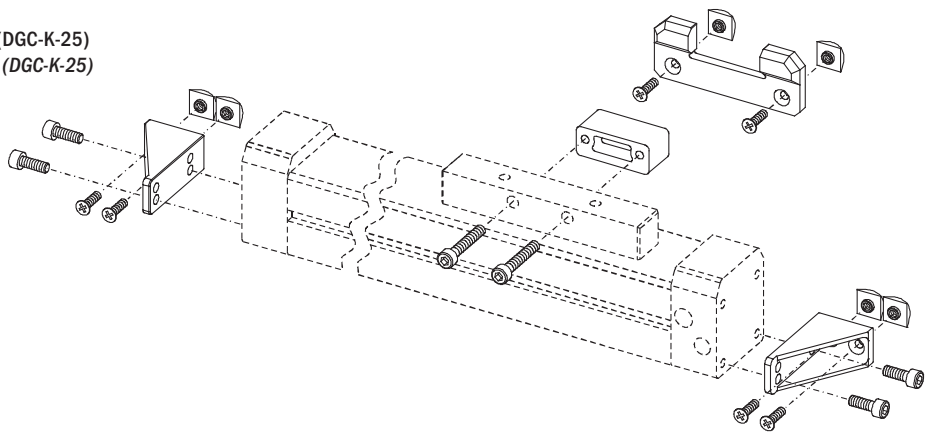
LLK-004 (59 g)
Protezione in acciaio per il carrello
Steel plate for the carrier



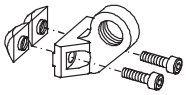
LLK-005 (268 g)
Kit fissaggio cilindro senza stelo Origa Ø25 (OSP-P25)
Fastening kit for Origa rodless cylinder Ø25 (OSP-P25)



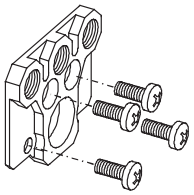
LLK-006 (314 g)
Kit fissaggio cilindro senza stelo Festo Ø25 (DGC-K-25)
Fastening kit for Festo rodless cylinder Ø25 (DGC-K-25)



LLK-007 (69 g)
Staffa filettata M14x1.5 per il fissaggio laterale di deceleratori o grani di fermo per cilindri Ø20 e Ø25
Threaded bracket (M14x1.5) for the side fastening of shock absorbers or end stroke grub screws for cylinders Ø20 and Ø25



LLK-008 (137 g)
Testata
End plate



LL25-09 (5 g)
Dado a T M4 per cava 6 (1 pezzo)
M4 T-nut for slot 6 (1 piece)



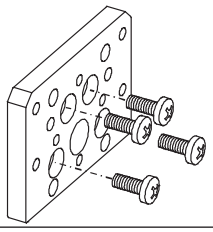
LL25-10 (9 g)
Dado a T M6 per cava 8 (1 pezzo)
M6 T-nut for slot 8 (1 piece)



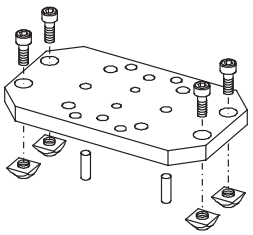
VITE-243 (7 g)
Dado a T M6 intercambiabile Bosch per cava 8 (1 pezzo)
M6 T-nut Bosch interchangeable for slot 8 (1 piece)



LLK-012 (137 g)
Testata di trascinamento
End interface plate



LLK-013 (262 g)
Interfaccia di montaggio per il carrello
Mounting interface plate for the carrier



LL25-23 (5 g)
Dado a T M5 per cava 6 (1 pezzo)
M5 T-nut for slot 6 (1 piece)



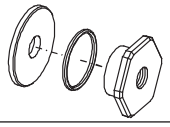
LLK-015 (16 g)
Riduzione porta-sensori M14x1.5 / M8x1 (1 pezzo)
Sensor holder adaptor M14x1.5 / M8x1 (1 piece)



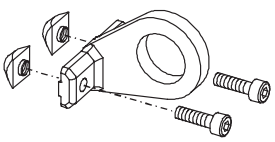
LLK-016 (24 g)
Terminale M10x1.25 per stelo cilindro Ø25 / Ø32 (1 pezzo)
End block M10x1.25 for the rod of a cylinder Ø25 / Ø32 (1 piece)



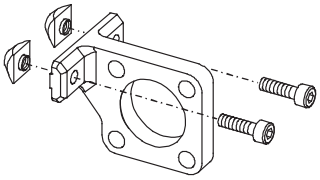
LLK-017 (57 g)
Giunto M8 per stelo cilindro Ø20
Rod bolt M8 for cylinder Ø20



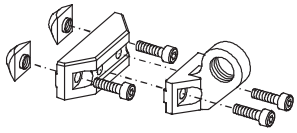
LLK-018 (130 g)
Anello fissaggio giunto per cilindro Ø32
Rod bolt holder for cylinder Ø32



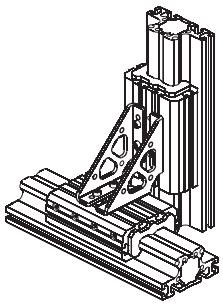
LLK-019 (172 g)
Anello per fissaggio cilindro Ø32
Cylinder holder Ø32

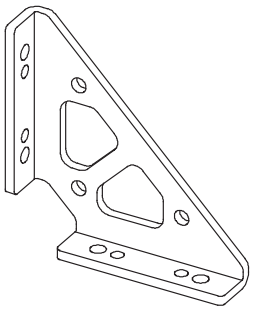


LLK-020 (96 g)
Staffa filettata M14x1.5 per il fissaggio laterale di deceleratori o grani di fermo per cilindro Ø32
Threaded bracket (M14x1.5) for the side fastening of shock absorbers or end stroke grub screws for cylinder Ø32

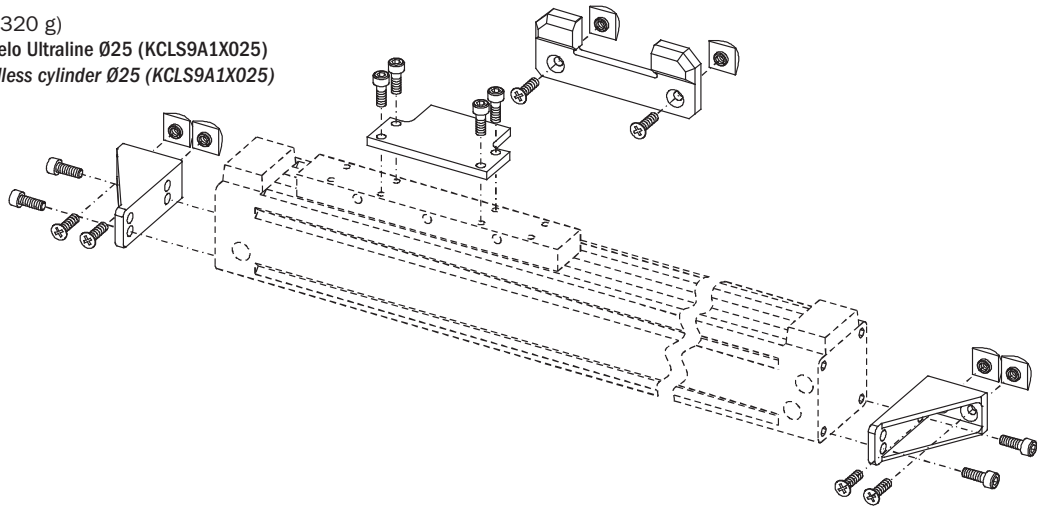


LLK-021 (170 g)
Squadra di fissaggio (1 pezzo)
90° mounting bracket (1 piece)

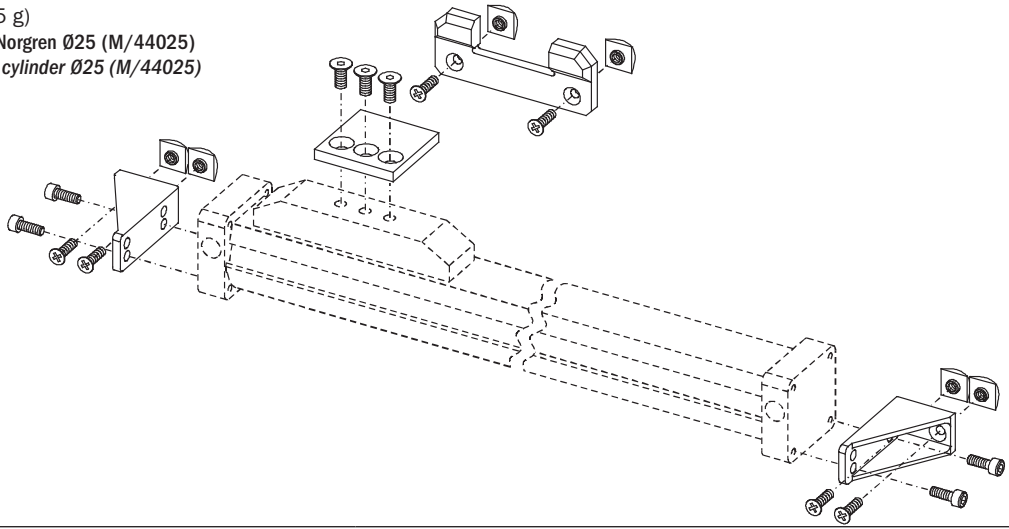




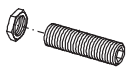
LLK-022 (320 g)
Kit fissaggio cilindro senza stelo Ultraline Ø25 (KCLS9A1X025)
Fastening kit for Ultraline rodless cylinder Ø25 (KCLS9A1X025)



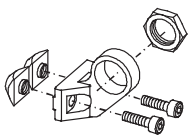
LLK-023 (315 g)
Kit fissaggio cilindro senza stelo Norgren Ø25 (M/44025)
Fastening kit for Norgren rodless cylinder Ø25 (M/44025)



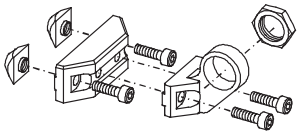
LLK-024 (55 g)
Grano di fermo
End stroke grub screw



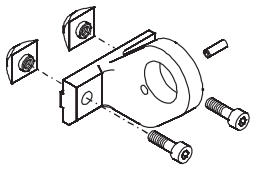
LLK-025 (72 g)
Staffa Ø15 per il fissaggio laterale di deceleratori o grani di fermo per cilindri Ø20 e Ø25
Bracket Ø15 for the side fastening of shock absorbers or end stroke grub screws for cylinders Ø20 and Ø25



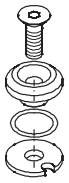
LLK-026 (100 g)
Staffa Ø15 per il fissaggio laterale di deceleratori o grani di fermo per cilindro Ø32
Bracket Ø15 for the side fastening of shock absorbers or end stroke grub screws for cylinder Ø32



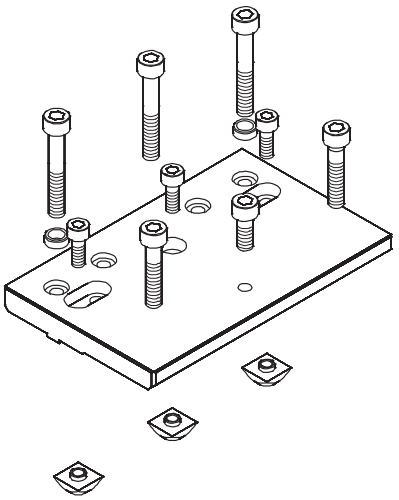
LLK-027 (100 g)
Anello per giunto slider LinMot PL01-20
Bracket for slider bolt for LinMot PL01-20



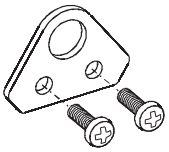
LLK-028 (60 g)
Giunto per slider LinMot PL01-20
Slider bolt for LinMot PL01-20



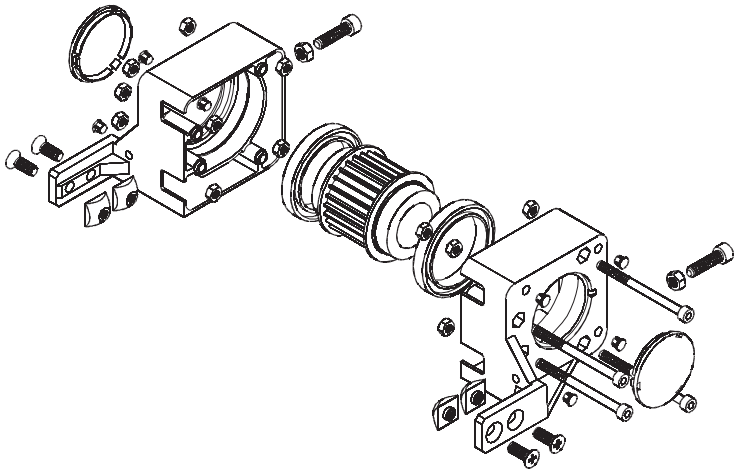
LLK-029 (280 g)
Piastra di interfaccia per flangia LinMot PF02-37
Interface plate for LinMot flange PF02-37



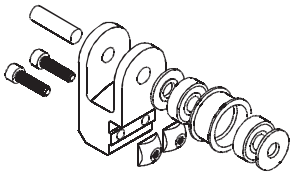
LLK-031 (30 g)
Piastra per fine corsa d'emergenza
Emergency stopper plate



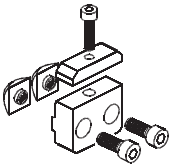
LLK-034 (800 g)
Puleggia per trasmissione a cinghia
Pulley for belt drive



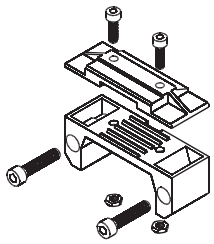
LLK-035 (135 g)
Rinvio per autocentraggio pinza
Transmission wheel for self-centering gripper



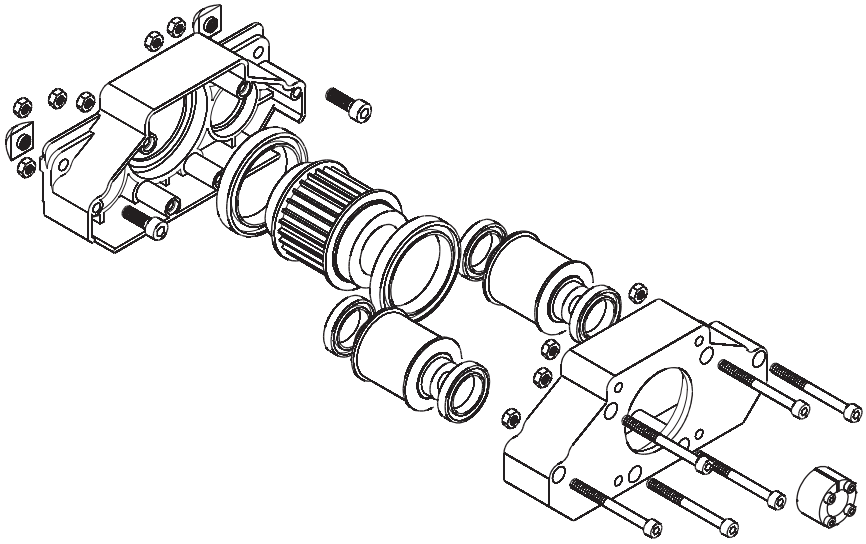
LLK-036 (35 g)
Blocca cinghia per autocentraggio pinza
Belt clamp for self-centering gripper



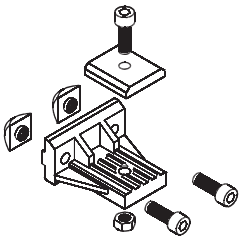
LLK-037 (135 g)
Blocca cinghia per trasmissione a cinghia
Belt clamp for belt drive



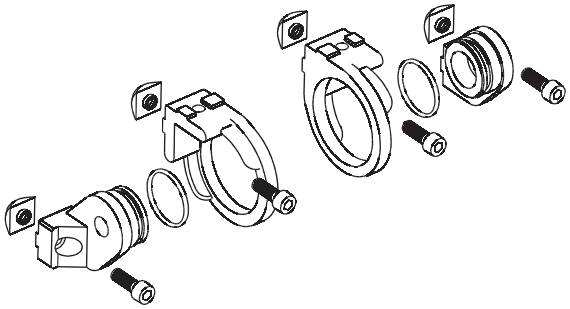
LLK-038 (950 g)
Gruppo pulegge per trasmissione a omega
Pulleys assembly for omega transmission



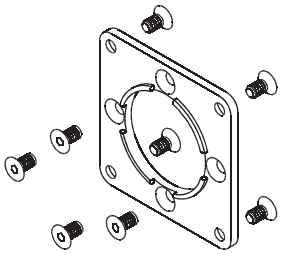
LLK-039 (100 g)
Blocca cinghia per trasmissione a omega
Belt clamp for omega transmission



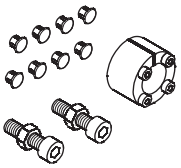
LLK-040 (275 g)
Kit di fissaggio per cilindro senza stelo a trascinamento magnetico LPK-039
Fastening kit for magnetically coupled rodless cylinder LPK-039



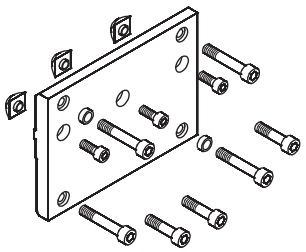
LLK-041 (25 g)
Interfaccia per riduttore epicicloidale
Adapter plate for planetary gear



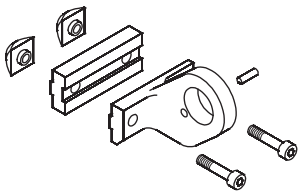
LLK-042 (35 g)
Calettatore, tensionatore e tappi per LL07
Locking assembly, belt tensioner and plugs for LL07



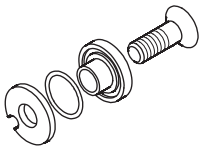
LLK-043 (380 g)
Piastra di interfaccia per flangia LinMot PF01-48 (per guida Gimatic LL01)
Interface plate for LinMot flange PF01-48 (for Gimatic LL01 guidance)



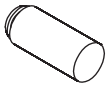
LLK-044 (120 g)
Anello per giunto per slider LinMot PL01-48 (per guida Gimatic LL01)
Bracket for slider bolt for LinMot PL01-48 (for Gimatic LL01 guidance)



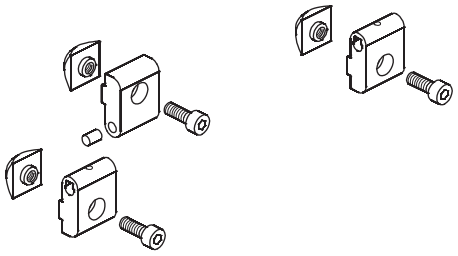
LLK-045 (55 g)
Giunto per slider LinMot PL01-48 (per guida Gimatic LL01)
Slider bolt for LinMot PL01-48 (for Gimatic LL01 guidance)



LLK-046 (8 g)
Ammortizzatore in gomma
Rubber stopper



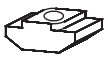
LLK-050 (30 g)
Staffe per sensori
Sensor brackets



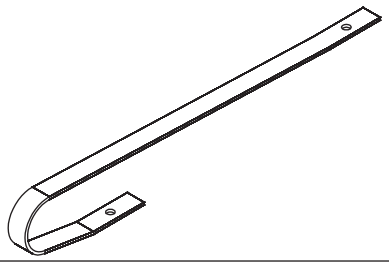
LL25-97 (3 g)
Dado ad innesto M4 per cava 6 (1 pezzo)
M4 rhombus T-nut for slot 6 (1 piece)



LL25-98 (6 g)
Dado ad innesto M6 per cava 8 (1 pezzo)
M6 rhombus T-nut for slot 8 (1 piece)

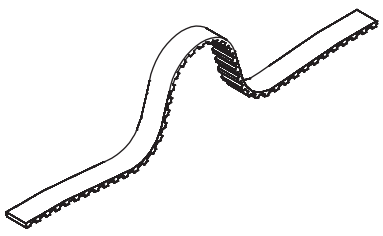


LP23-54 (20 g/m)
Cinghia piana per LL08
Flat belt for LL08



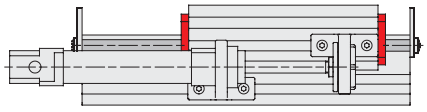
LL25-108 (90 g/m)
Cinghia dentata per LL06
Timing belt for LL06

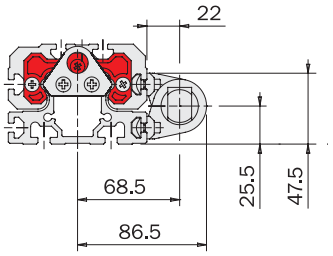
LM-111 (90 g/m)
Cinghia dentata per LL07
Timing belt for LL07

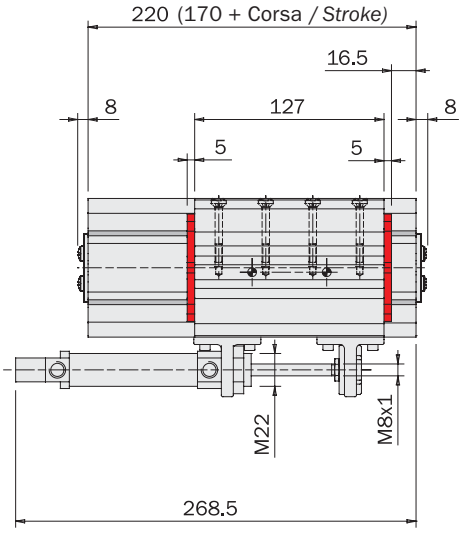


Esempio: Slitta di alesaggio 20mm (cilindro ISO 6432) e corsa 50mm

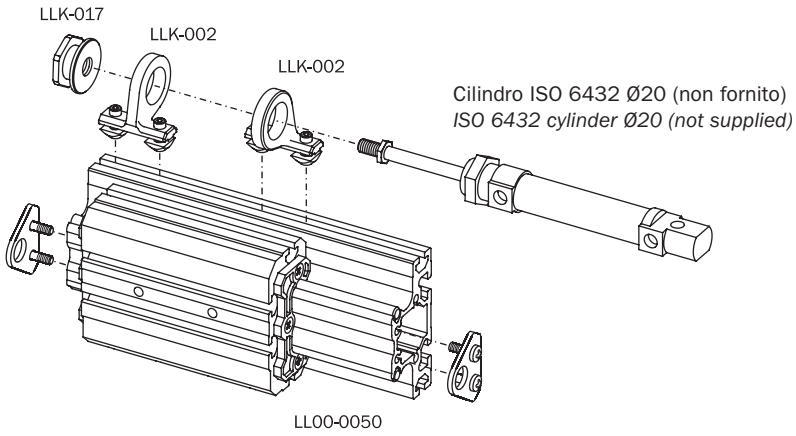
Example: Slide with 20mm piston bore (ISO 6432) and 50mm stroke





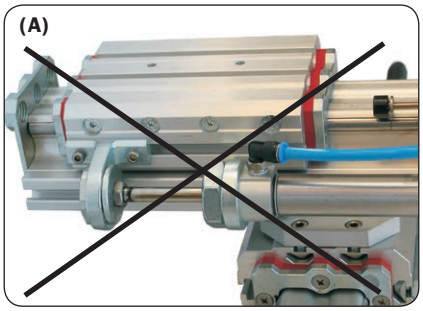


FIRST ANGLE PROJECTION



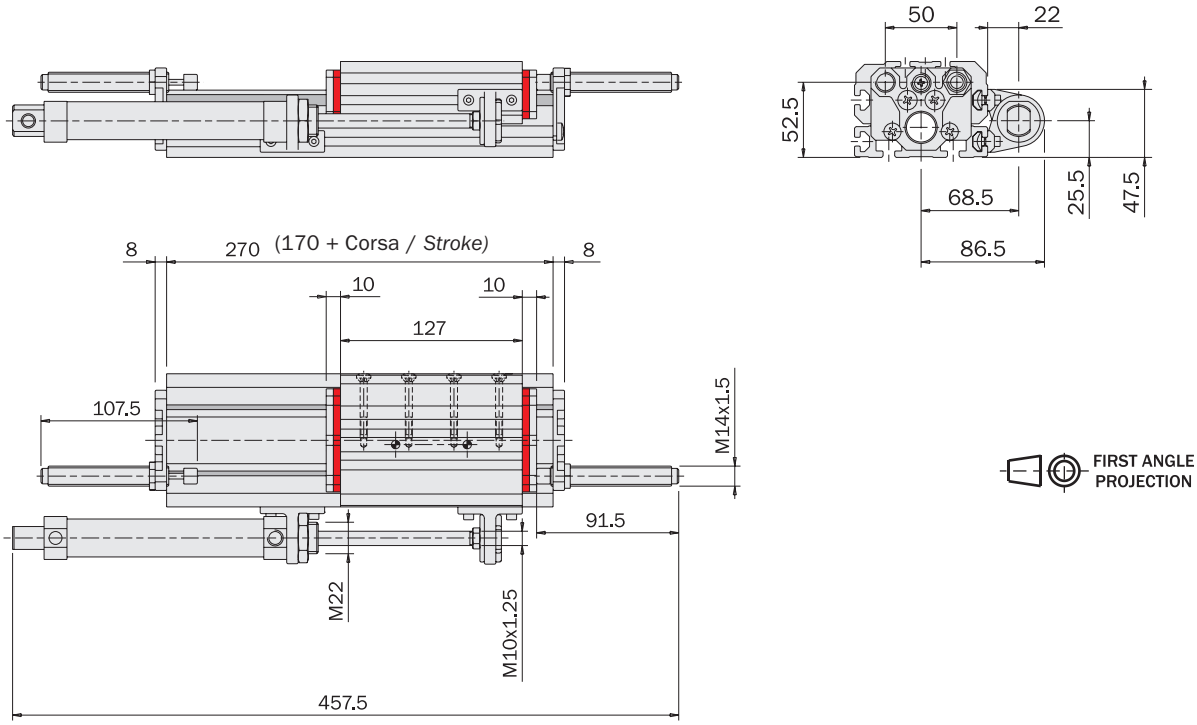
(A)
Avvertenza
Il lato del carrello con le viti di regolazione si flette, quando si fa le registrazione del precarico.
Quindi si deve evitare di collegare il cilindro, o altri componenti che necessitino di un posizionamento preciso, su quel lato.

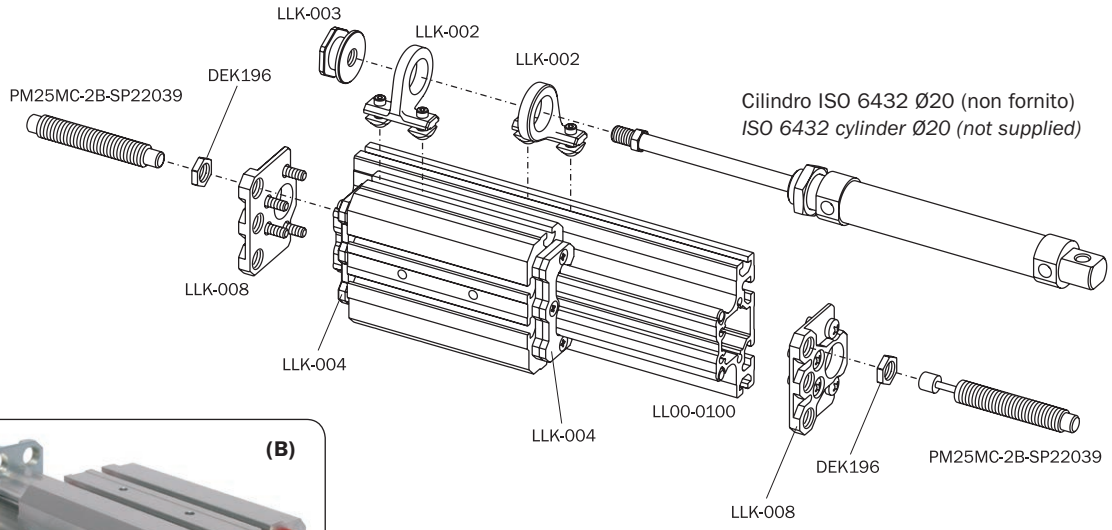
Caution
The side of the carrier with the adjustment screws bends, when the preload is set. Thus, the cylinder, or other parts needing a precise positioning, should not be mounted on that side.

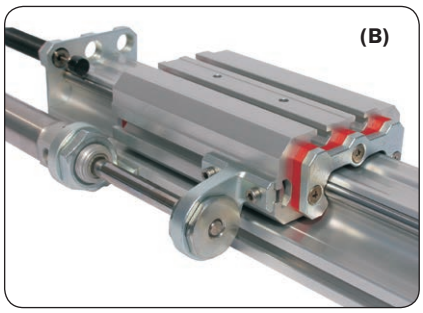


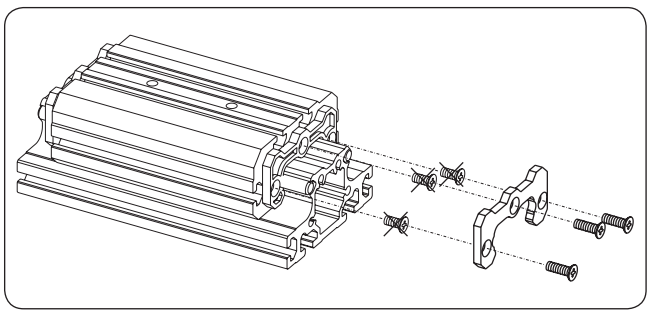
Esempio: Slitta di alesaggio 25mm (cilindro ISO 6432) e corsa 100mm, con deceleratori idraulici sulle testate

Example: Slide with 25mm piston bore (ISO 6432) and 100mm stroke, with hydraulic shock-absorbers on the end plates







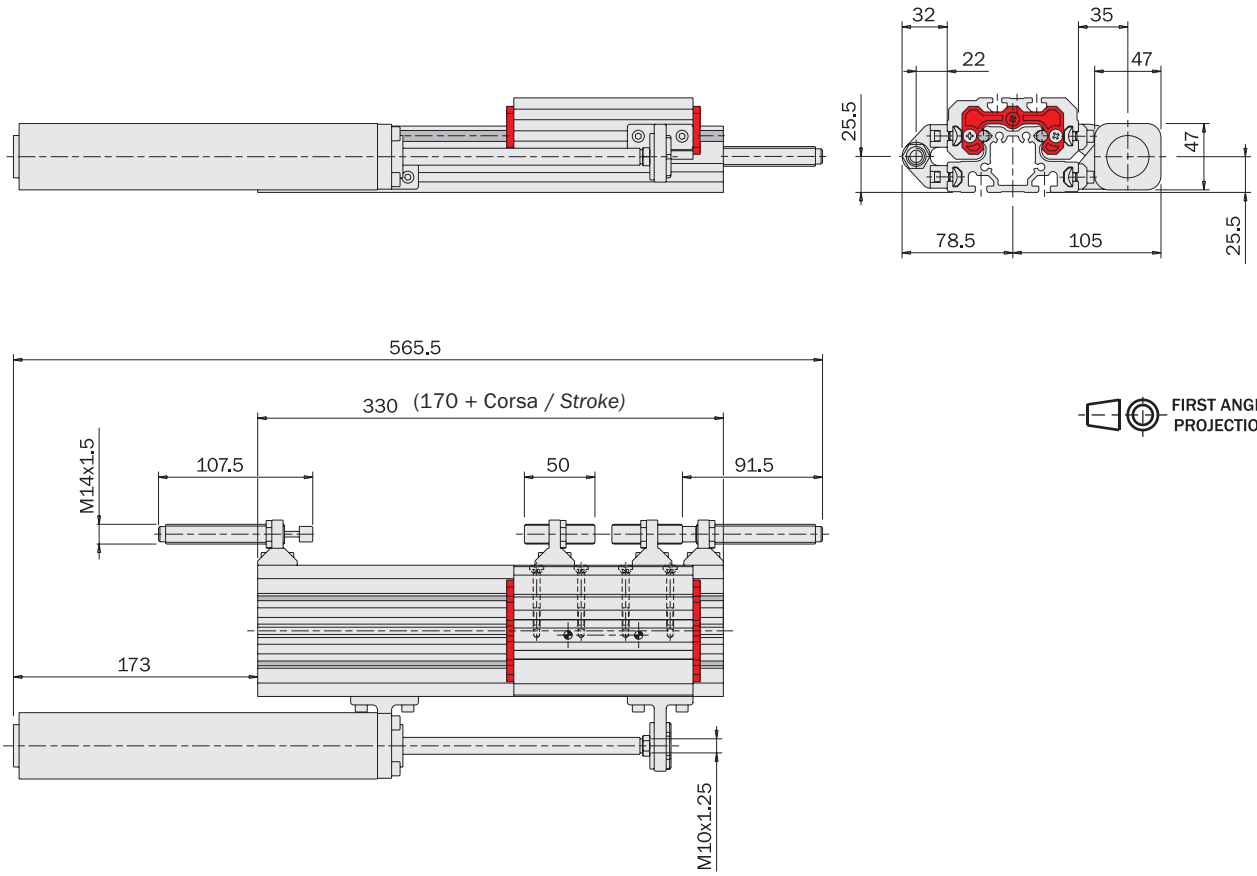


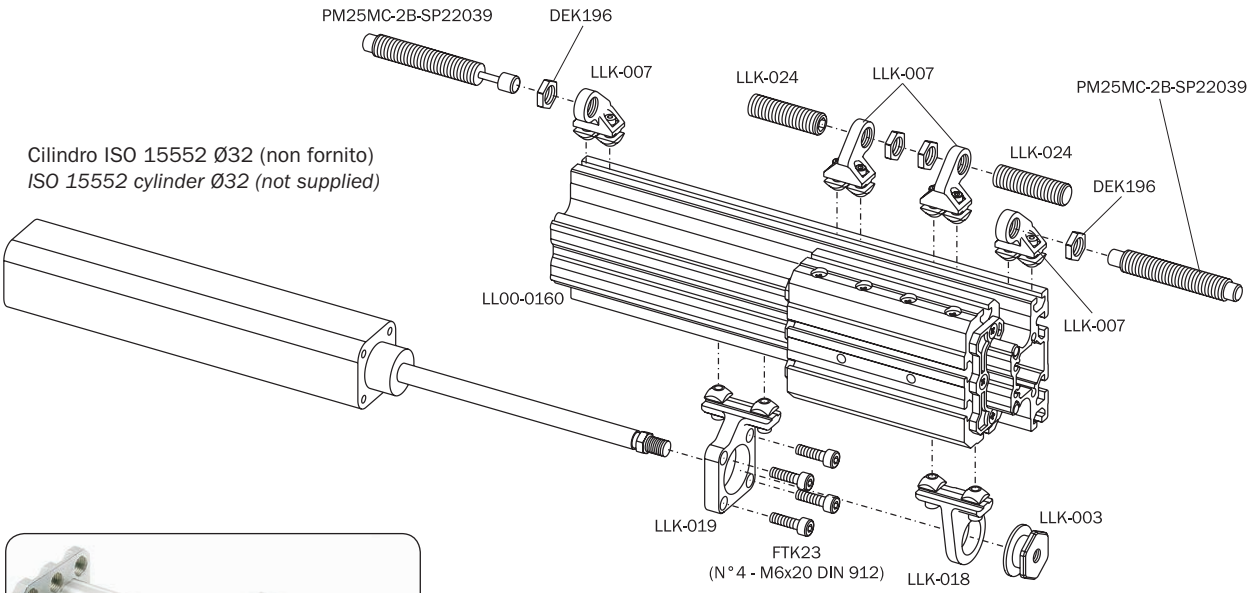
(B)
Avvertenza
La protezione di plastica rossa non deve essere rimossa, quando si applica la protezione in acciaio LLK-004, che fa da riscontro per il deceleratore.
Si devono rimuovere solo le sue tre viti corte, per poi fissare insieme entrambe le protezioni con le viti lunghe fornite nel kit LLK-004.

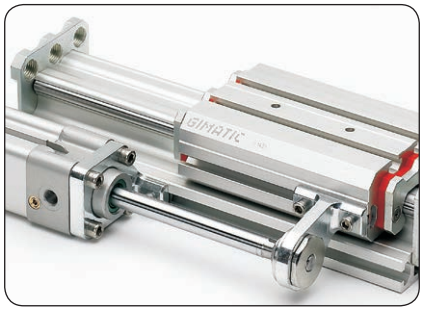
Caution
The red plastic cover must not be removed, when the steel plate LLK-004 (working against the shock-absorber) is used.
Remove only its three short screws and then fasten both the plastic and steel protections, with the longer screws, supplied in the kit LLK-004.

Esempio: Slitta di alesaggio 32mm (cilindro ISO 15552) e corsa 160mm, con deceleratori idraulici sul fianco

Example: Slide with 32mm piston bore (ISO 15552) and 160mm stroke, with hydraulic shock-absorbers on one side

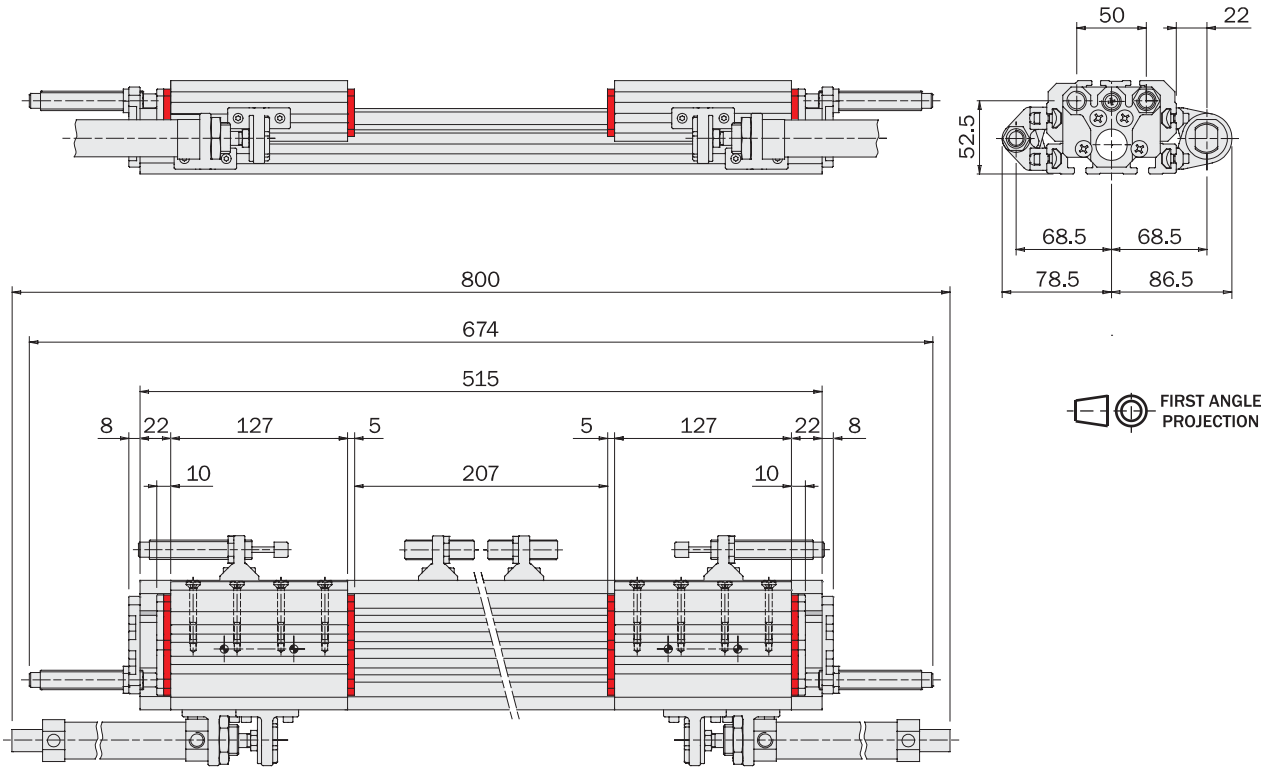


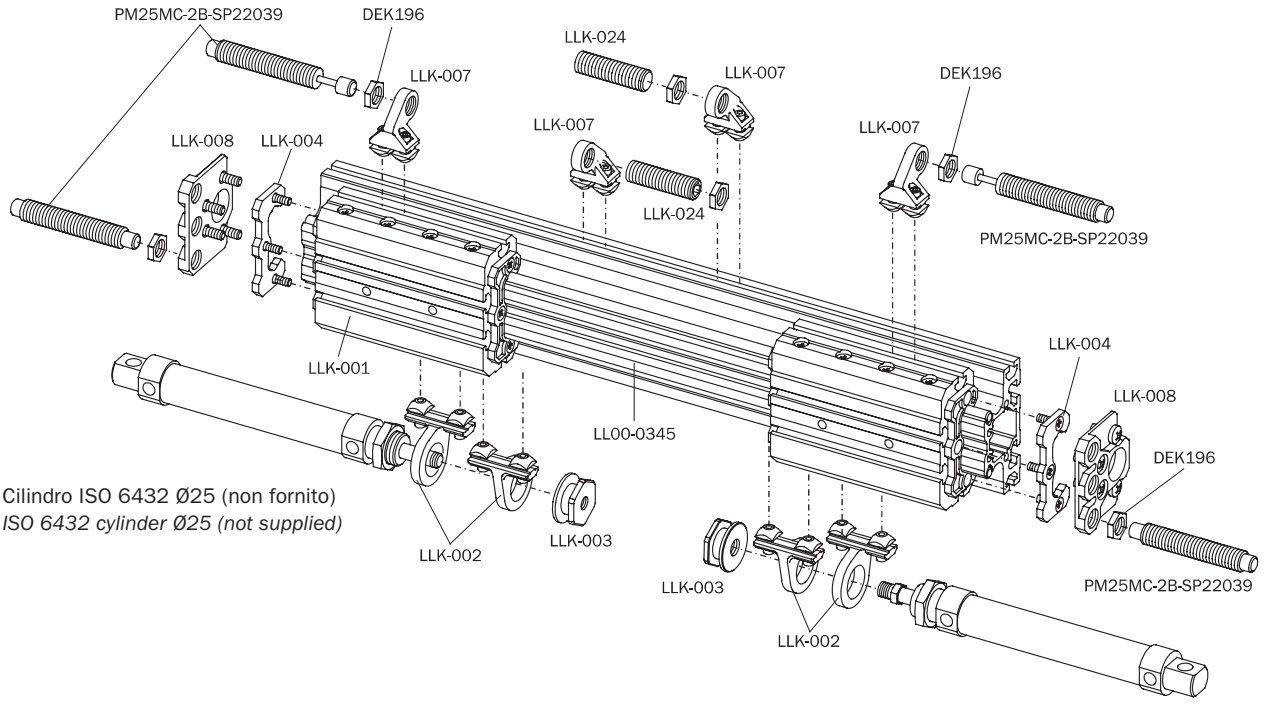




Esempio: Due slitte indipendenti sullo stesso asse di alesaggio 25mm (cilindro ISO 6432) e corsa 2x100mm, con deceleratori idraulici

Example: Two independent slides on the same profile with 25mm piston bore (ISO 6432) and 2x100mm stroke, with hydraulic shock-absorbers



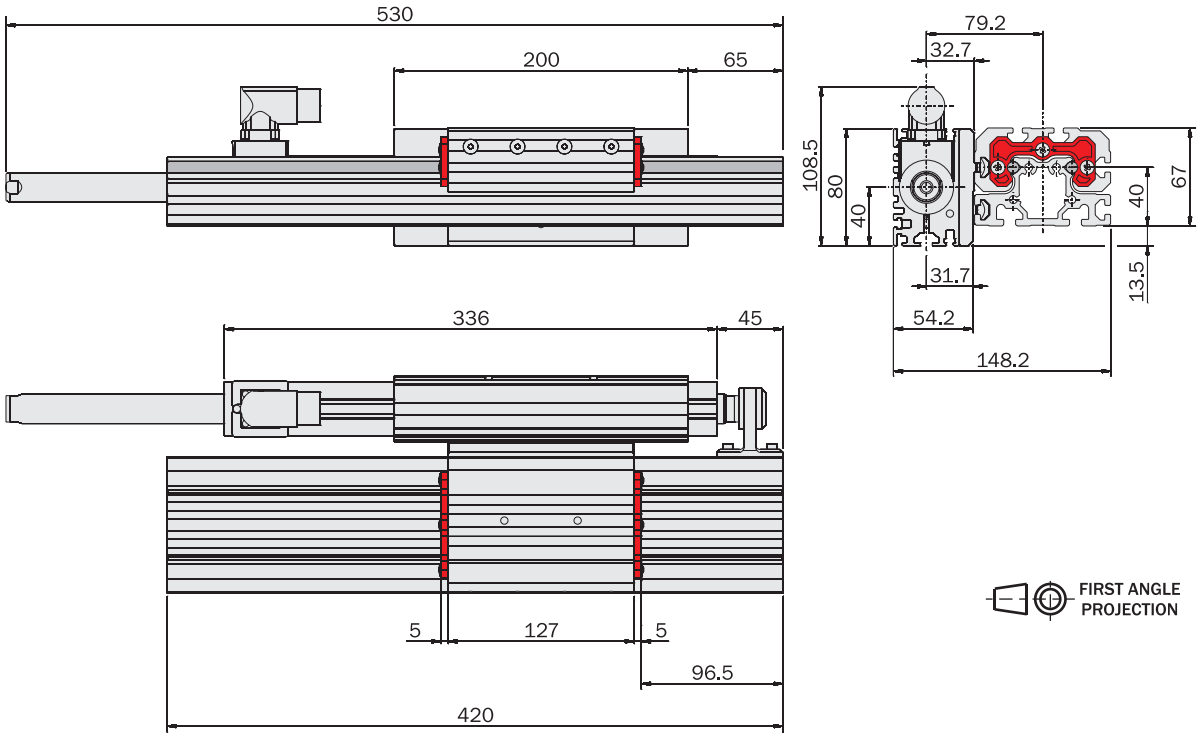


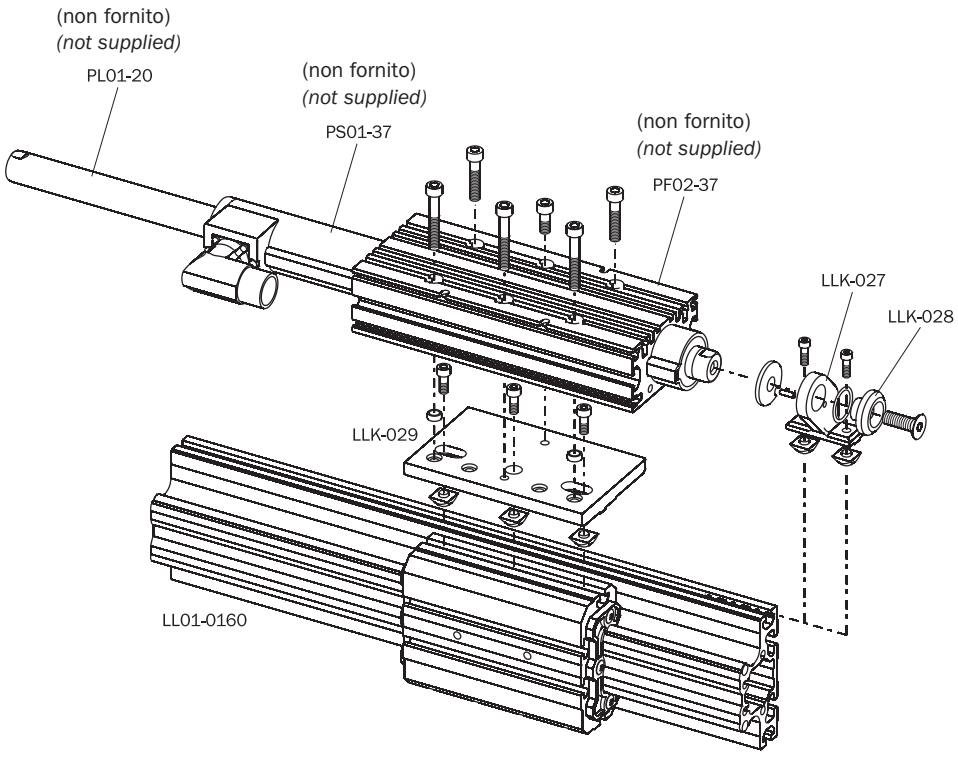
Cilindro ISO 6432 Ø25 (non fornito)
ISO 6432 cylinder Ø25 (not supplied)

Cilindro ISO 6432 Ø25 (non fornito)
ISO 6432 cylinder Ø25 (not supplied)

Esempio: Slitta di corsa 160mm azionata da motore lineare LinMot.

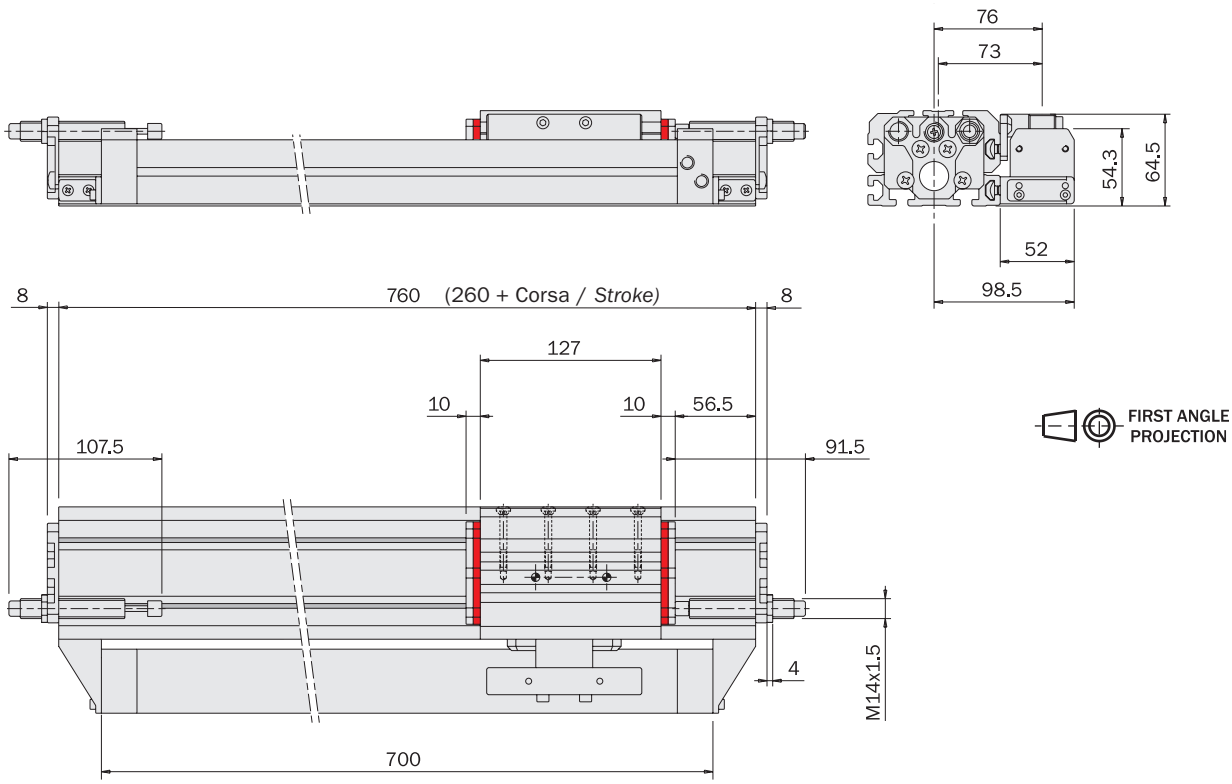
Example: Slide, 160mm stroke, powered by a LinMot linear motor.

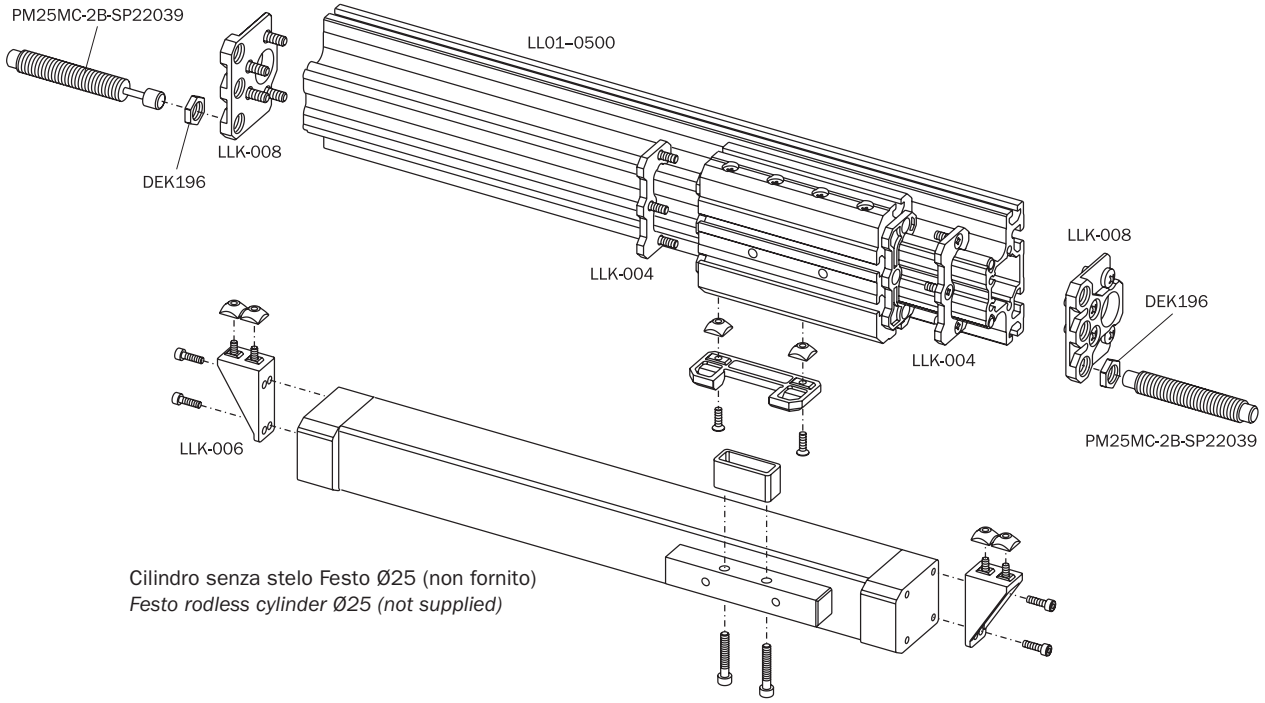




Esempio: Slitta di alesaggio 25mm e corsa 500mm con deceleratori idraulici movimentata da cilindro senza stelo Festo

Example: Slide with 25mm piston bore and 500mm stroke, with hydraulic shock-absorbers, powered by the Festo rodless cylinder





Cilindro senza stelo Festo Ø25 (non fornito)
Festo rodless cylinder Ø25 (not supplied)

Kit di fissaggio per cilindro senza stelo

Kit for fastening rodless cylinder

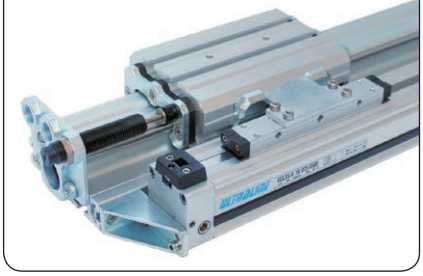
LLK-005 + Origa OSP-P25



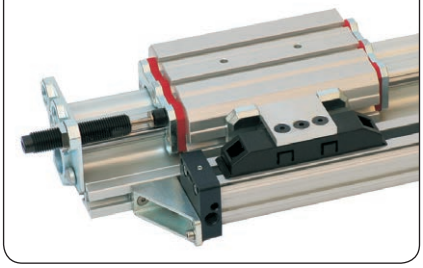
LLK-006 + Festo DGC-K-25

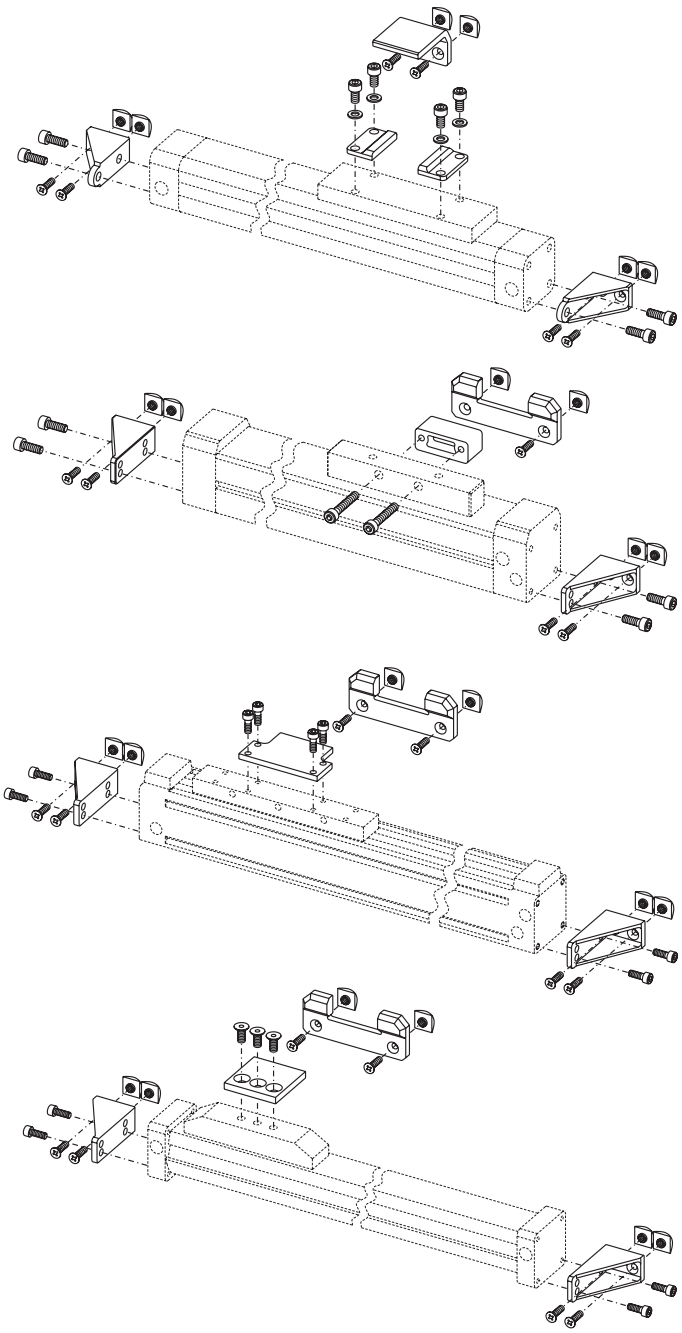


LLK-22 + Ultraline KCLS9A1X025

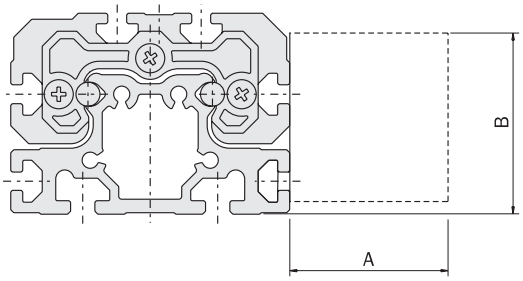


LLK-023: Norgren LINTRA M/44025



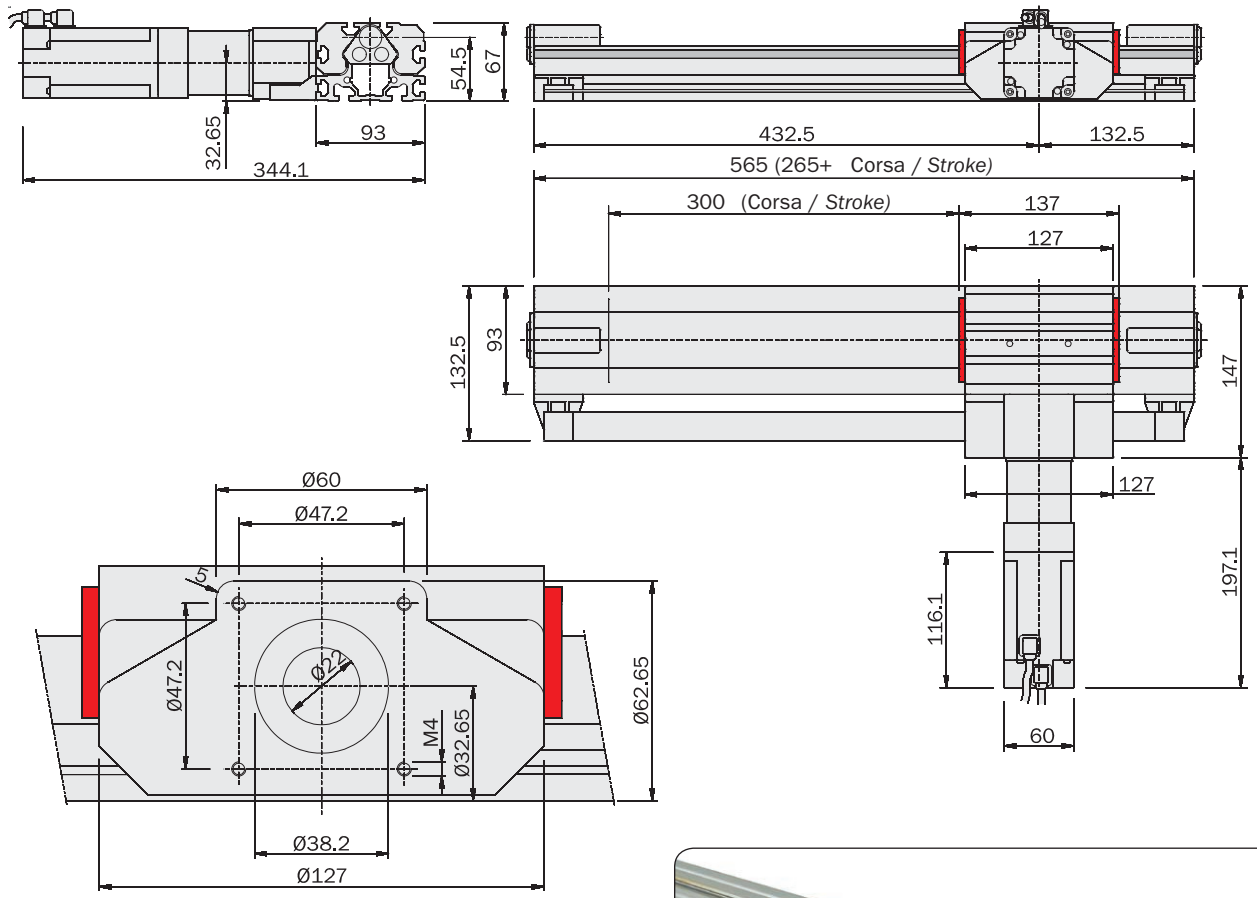


	A	B
Origa OSP-P25 + LLK-005	48 mm	65 mm
Festo DGC-K-25 + LLK-006	52 mm	65 mm
Ultraline KCLS9A1X025 + LLK-022	52 mm	65 mm
Norgren Lintra M/44025 + LLK-023	52 mm	65 mm

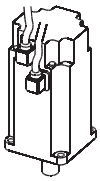


Esempio: Slitta con trasmissione ad omega (corsa 300mm) azionata da motoriduttore

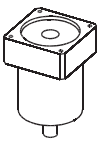
Example: Slide with omega transmission (300mm stroke) powered by servomotor and gear reducer





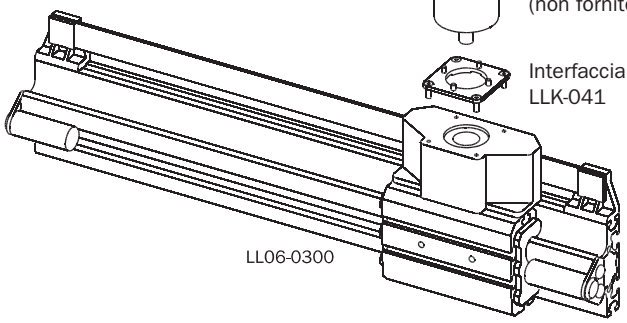


Motore Mitsubishi
Mitsubishi motor
HF-KE23BW1-S100 (200W)
(non fornito) / (not supplied)



Riduttore Tecnoingranaggi
Tecnoingranaggi gear reducer
LC050.1.5.12'.14.30.50.70
(non fornito) / (not supplied)

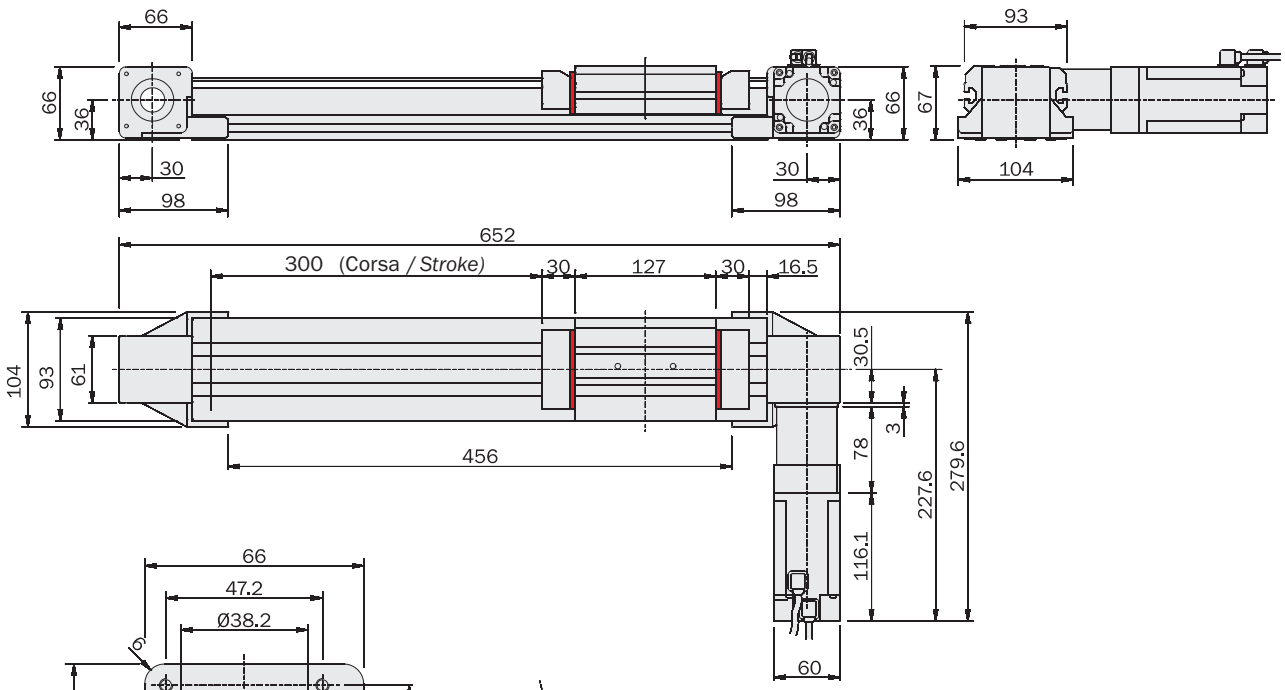
Interfaccia / Interface
LLK-041

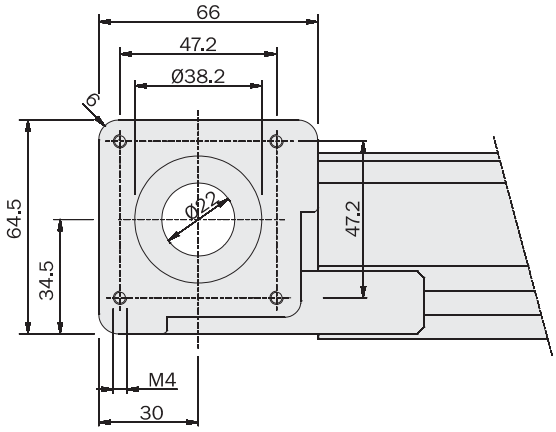


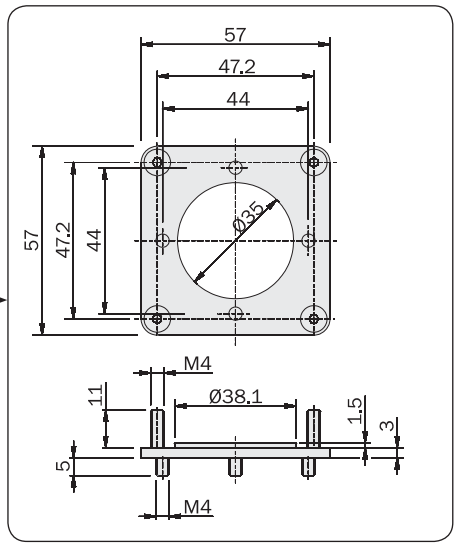
Cinghia *Belt*	T5-25
Carico ammesso sulla cinghia *Allowable tensile load on the belt*	1960 N
Diametro calettatore *Lock unit diameter*	12 mm
Coppia per serraggio calettatore *Locking set installation torque*	1.2 Nm
Corsa per ogni rotazione puleggia *Stroke per pulley revolution*	130 mm
Inerzia pulegge *Pulleys inertia*	57 Kgmm^2
Massa del carrello *Carrier mass*	1.77 kg
Attrito del carrello *Carrier friction*	30 N
Carico dinamico dei cuscinetti (C) *Bearings dynamic load rate (C)*	4940 N
Carico statico dei cuscinetti (Co) *Bearings static load rate (Co)*	3450 N
Velocità massima *Maximum speed*	2 m/s
Ripetibilità *Repeatability*	±0.1 mm

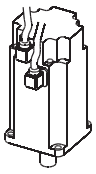
Esempio: Slitta con trasmissione a cinghia (corsa 300mm) azionata da motoriduttore

Example: Slide with belt drive (300mm stroke) powered by servomotor and gear reducer

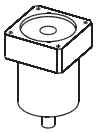








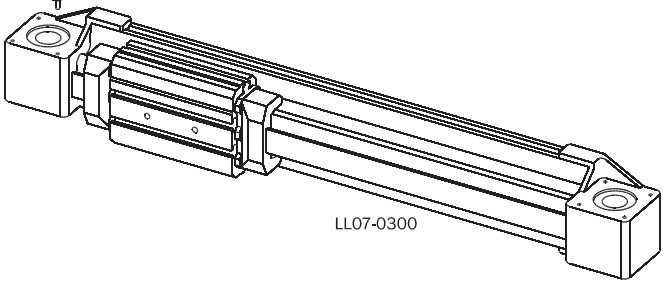
Motore Mitsubishi / Mitsubishi motor
HF-KE23BW1-S100 (200W)
(non fornito) / (not supplied)



Riduttore Tecnoingranaggi
Tecnoingranaggi gear reducer
LC050.1.5.12'.14.30.50.70
(non fornito) / (not supplied)



Interfaccia / Interface
LLK-041

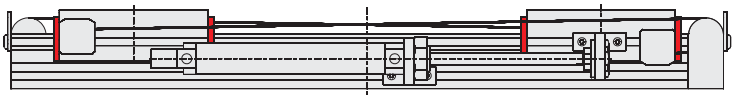


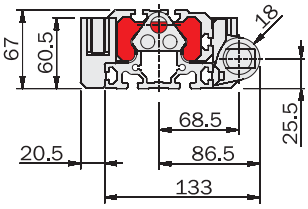
LL07-0300

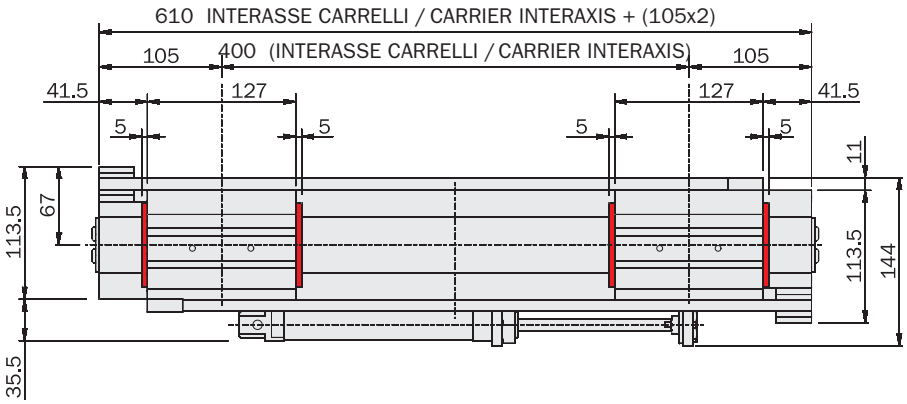
Cinghia *Belt*	AT5-25
Carico ammesso sulla cinghia *Allowable tensile load on the belt*	1840 N
Diametro calettatore *Lock unit diameter*	12 mm
Coppia per serraggio calettatore *Locking set installation torque*	1.2 Nm
Corsa per ogni rotazione puleggia *Stroke per pulley revolution*	130 mm
Inerzia pulegge *Pulleys inertia*	78 Kgmm^2
Massa del carrello *Carrier mass*	1.09 kg
Attrito del carrello *Carrier friction*	24 N
Carico dinamico dei cuscinetti (C) *Bearings dynamic load rate (C)*	4940 N
Carico statico dei cuscinetti (Co) *Bearings static load rate (Co)*	3450 N
Velocità massima *Maximum speed*	2 m/s
Ripetibilità *Repeatability*	±0.1 mm

Esempio: Pinza autocentrante (interasse: 400mm) azionata da cilindri ISO 6432 alesaggio 25mm

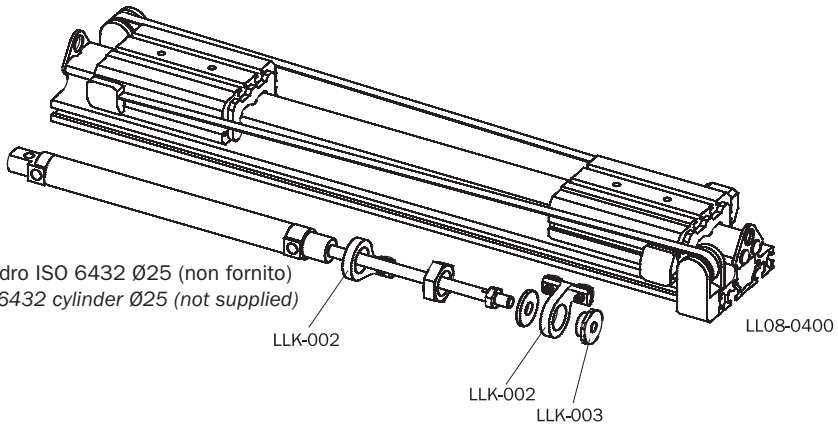
Example: Selfcentering gripper (interaxis: 400mm) powered by 25mm ISO 6432 cylinders



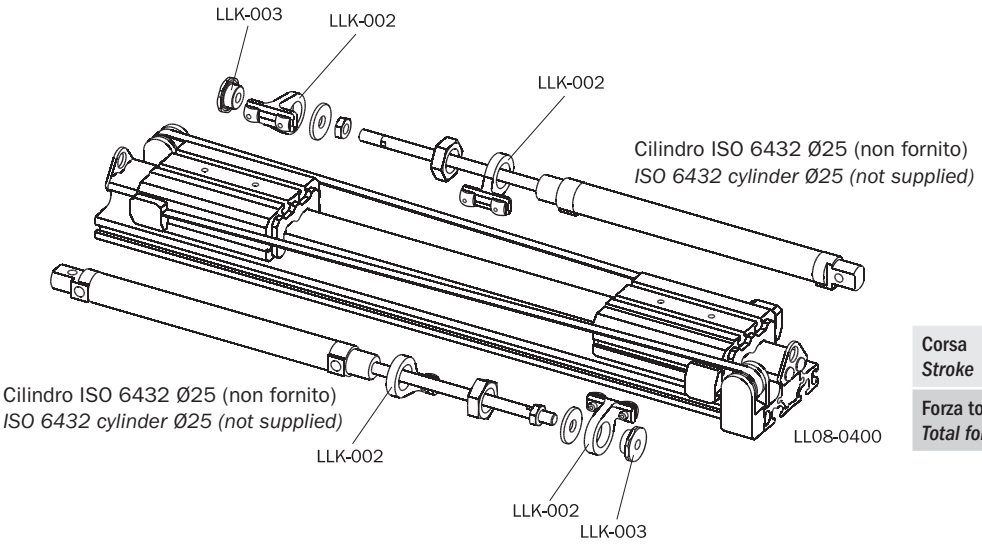




FIRST ANGLE PROJECTION



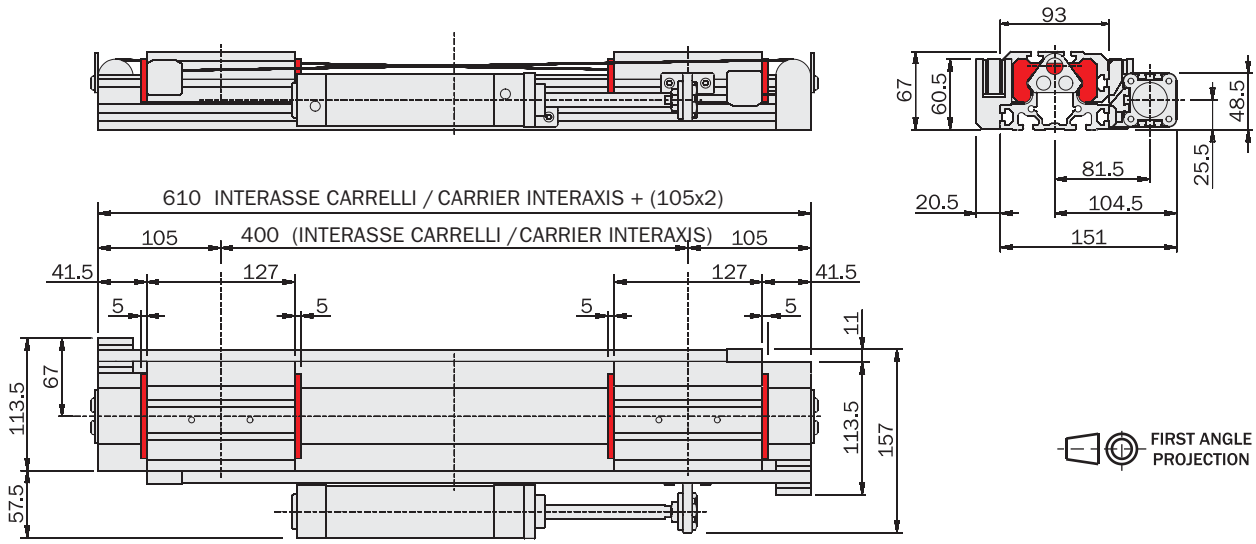
Corsa *Stroke*	2x130 mm
Forza totale a 6 bar *Total force at 6 bar*	250 N

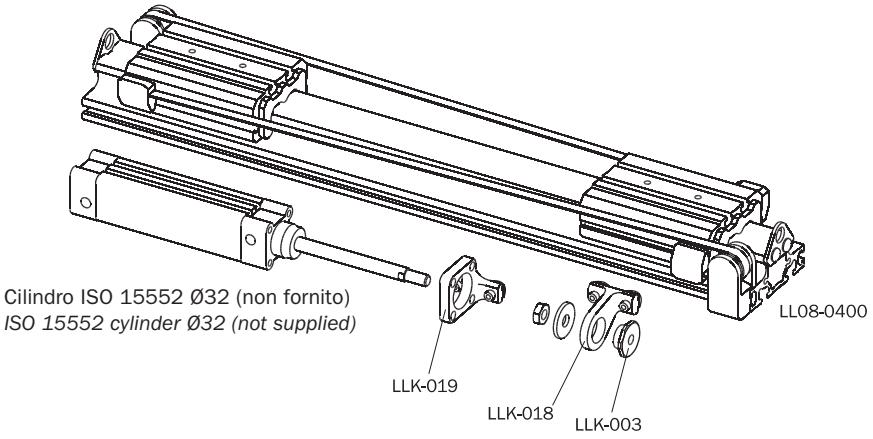


Corsa *Stroke*	2x130 mm
Forza totale a 6 bar *Total force at 6 bar*	500 N

Esempio: Pinza autocentrante (interasse: 400mm) azionata da cilindri ISO 15552 alesaggio 32mm

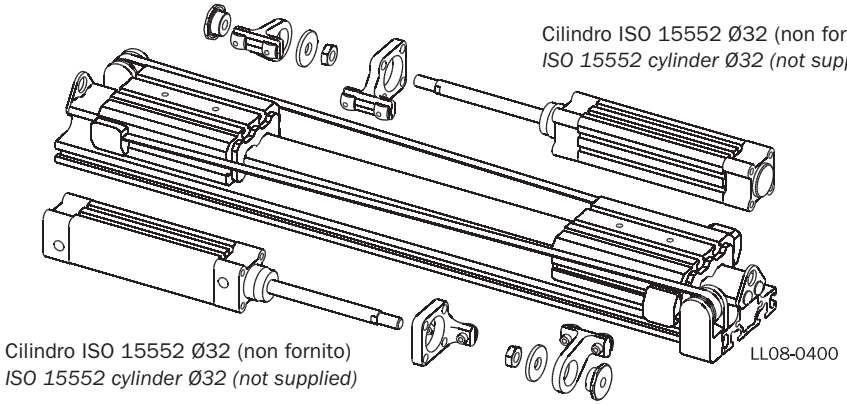
Example: Selfcentering gripper (interaxis: 400mm) powered by 32mm ISO 15552 cylinders





Cilindro ISO 15552 Ø32 (non fornito)
ISO 15552 cylinder Ø32 (not supplied)

Corsa *Stroke*	2x130 mm
Forza totale a 6 bar *Total force at 6 bar*	400 N



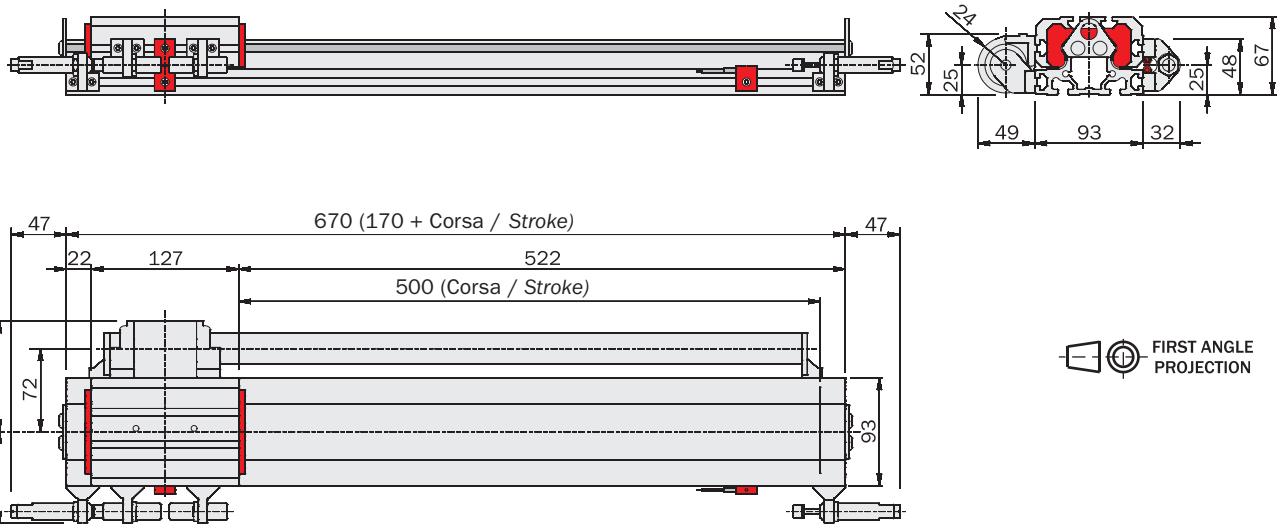
Cilindro ISO 15552 Ø32 (non fornito)
ISO 15552 cylinder Ø32 (not supplied)

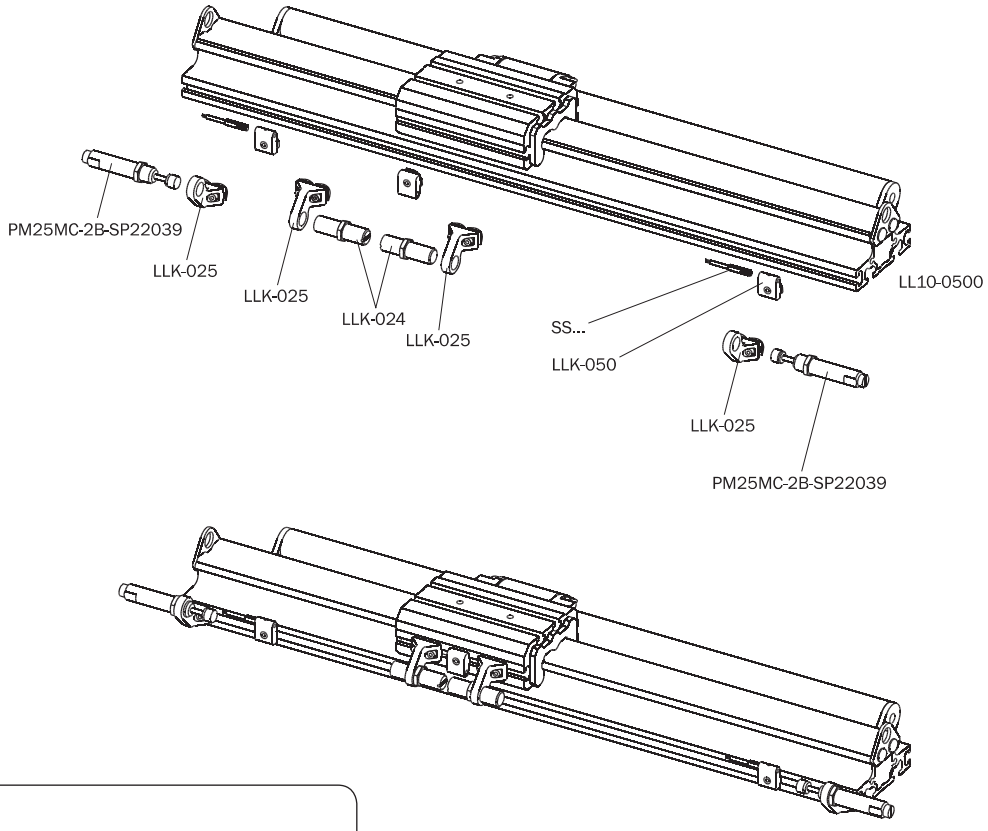
Cilindro ISO 15552 Ø32 (non fornito)
ISO 15552 cylinder Ø32 (not supplied)

Corsa *Stroke*	2x130 mm
Forza totale a 6 bar *Total force at 6 bar*	800 N

Esempio: Attuatore pneumatico (alesaggio 25mm, corsa 500mm) a trascinamento magnetico, con deceleratori idraulici e kit sensori

Example: Pneumatic actuator (piston bore: 25mm, stroke: 500mm) magnetically coupled, with hydraulic shock-absorbers and sensor brackets





Avvertenza
La pressione massima di utilizzo è 5bar

Caution
Maximum working pressure is 5bar

Sensori

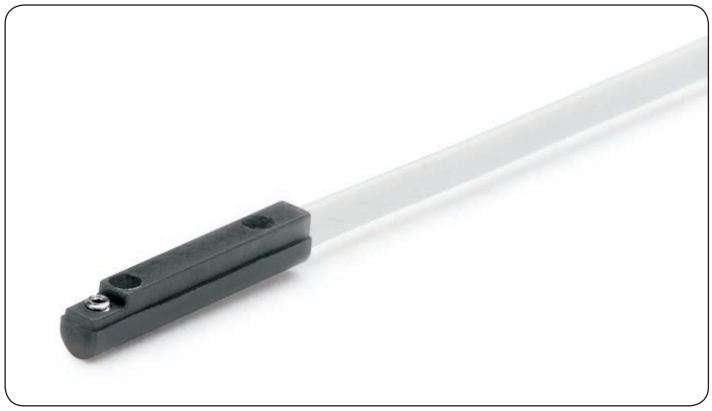
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso un magnete.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

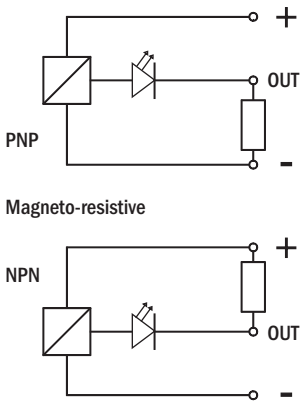
Sensors

The operating position can be checked by one or more magnetic sensors (optional), that detect the position by a magnet. Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

I sensori utilizzabili sono:

Use sensors:

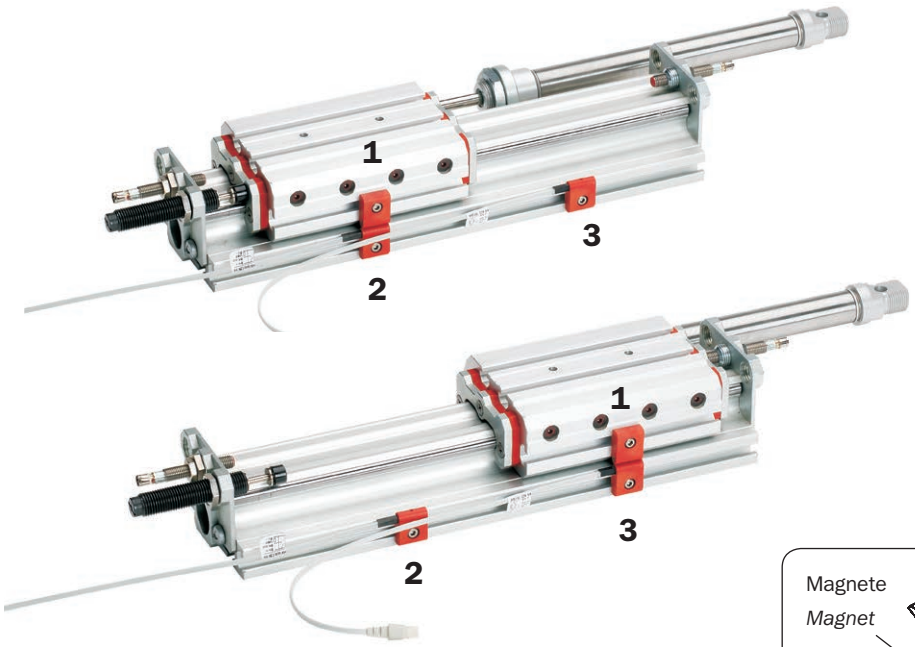


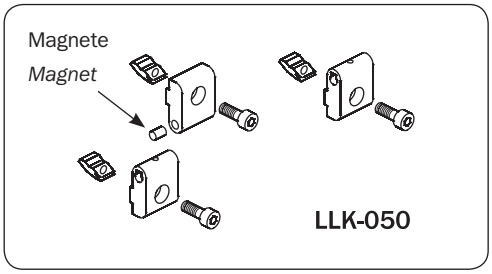


			LL...
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

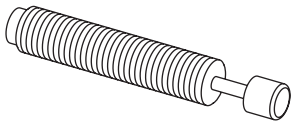
Per montare 2 sensori è necessario il kit LLK-050.

One kit LLK-050 is necessary to mount two sensors.





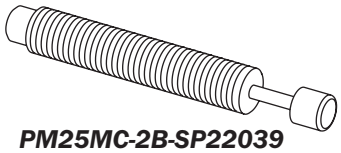
Deceleratori



SPM25MC-1B-SP21365B

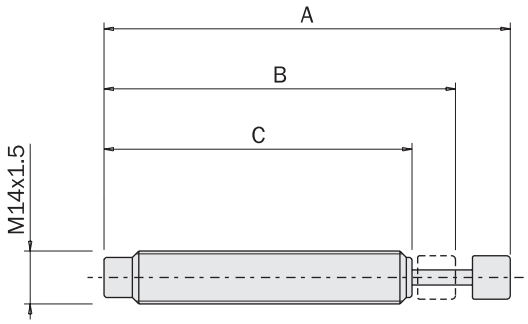
- Peso / Weight: 67 g

Shock-absorbers

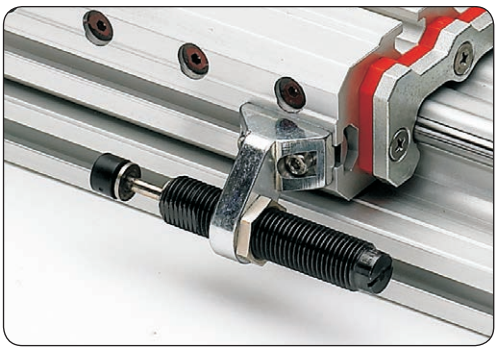


PM25MC-2B-SP22039

- *Peso / Weight: 75 g*



	A	B	C
SPM25MC-1B-SP21365B	92.5 mm	79 mm	70 mm
PM25MC-2B-SP22039	107.5 mm	91.5 mm	81.5 mm



LLK-024

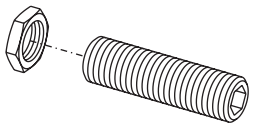
Fermo meccanico rigido M14x1.5x50

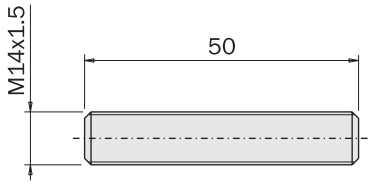
- Peso: 55 g

LLK-024

End stroke grub screw M14x1.5x50

- *Weight: 55 g*

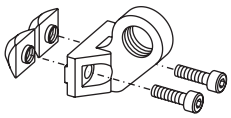






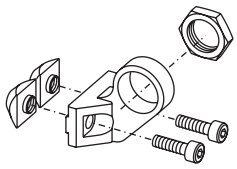
Staffe di fissaggio per deceleratori o fermi meccanici

Brackets for shock-absorbers or end stroke grub screws



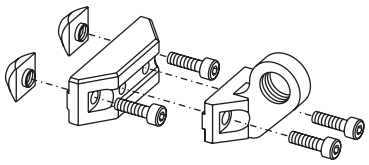
LLK-007

- Peso / Weight: 69 g



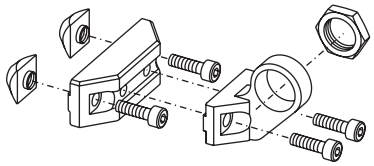
LLK-025

- Peso / Weight: 72 g



LLK-020

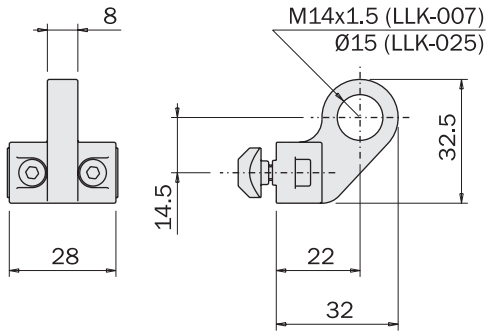
- Peso / Weight: 96 g

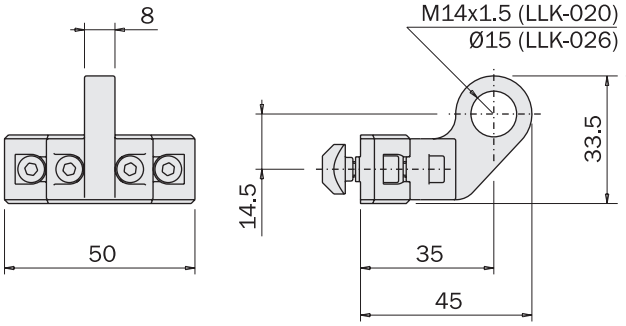


LLK-026

- Peso / Weight: 100 g

Dimensioni (mm) / *Dimensions (mm)*



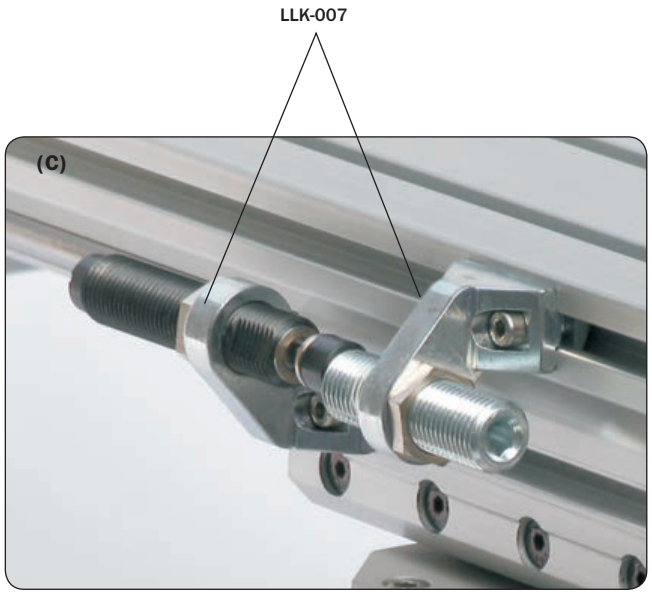


Esempio di utilizzo / *Application example*

(C)

Avvertenza
Quando si utilizzano le staffe filettate (LLK-007 o LLK-020) sul lato del carrello con le viti di regolazione, è possibile che si verifichi il disallineamento mostrato in figura.
Le staffe senza filetto (LLK-025 o LLK-026) consentono il recupero del disallineamento.

Caution
When the threaded brackets (LLK-007 or LLK-020) are used on the side of the carrier with the adjustment screws, the misalignment showed in the photo is possible.
The brackets without thread (LLK-025 or LLK-026) avoid this problem.

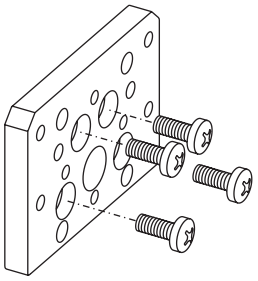


LLK-012
Testata di trascinamento

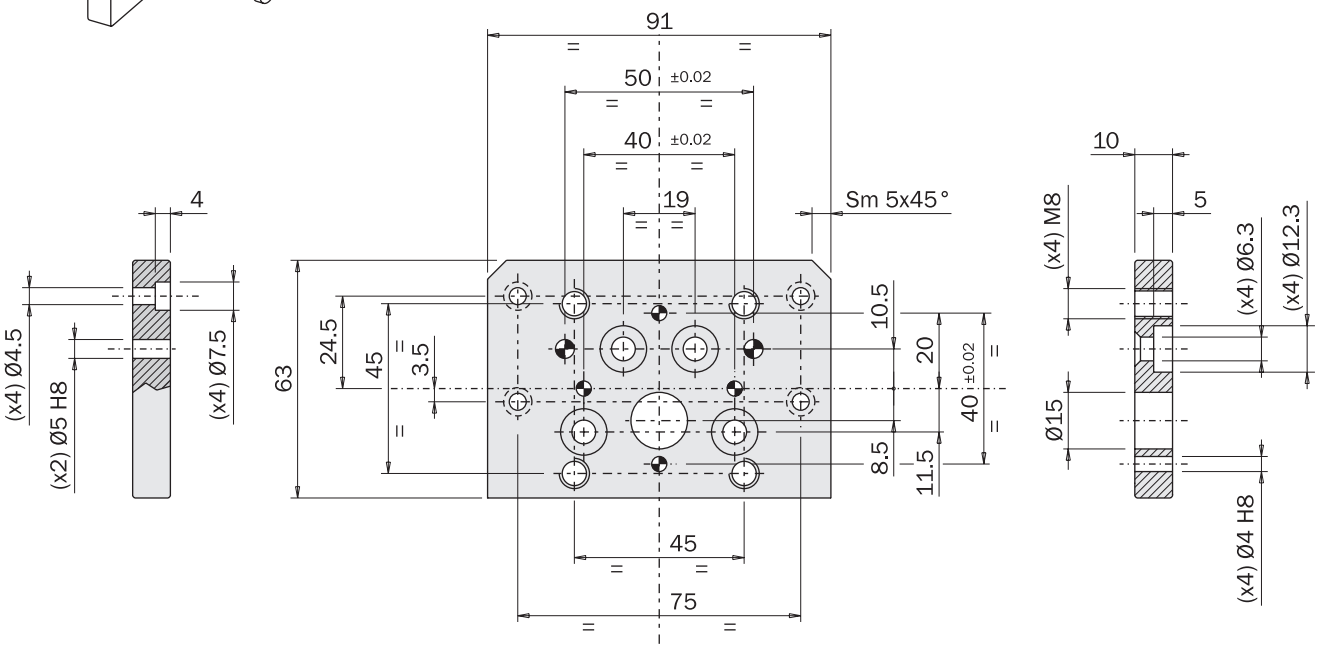
Va fissata all'estremità del profilo in alluminio, con le quattro viti autofilettanti fornite e serve per il montaggio diretto di un'altra guida LL, oppure di un attuatore rotante R32/3.
Può essere utile anche per fissare altri componenti.
Peso: 137 g

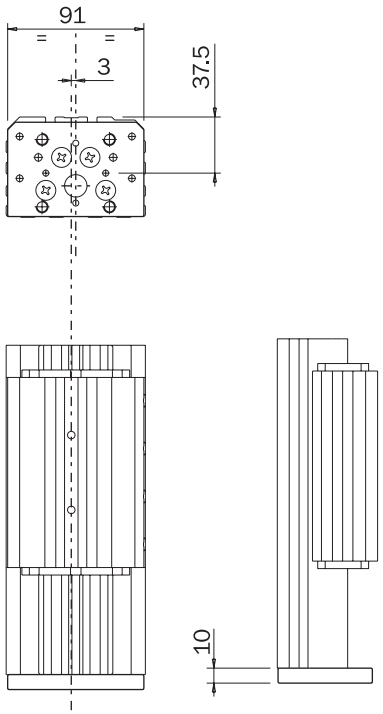
LLK-012
End interface plate

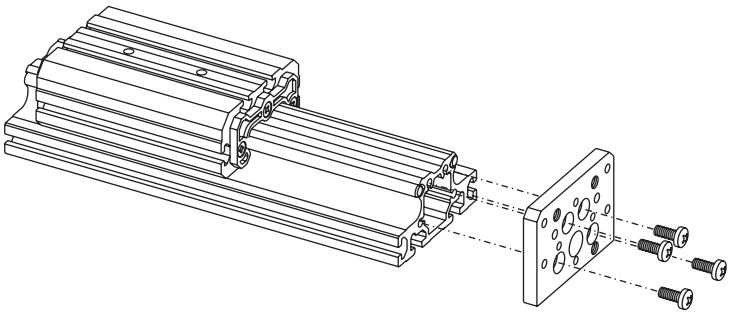
It must be fixed at the end side of the aluminium profile, by four screws (supplied) and it makes possible to mount directly a second LL guidance, or a R32/3 swiveling unit.
It can be used also to mount other components.
Weight: 137 g

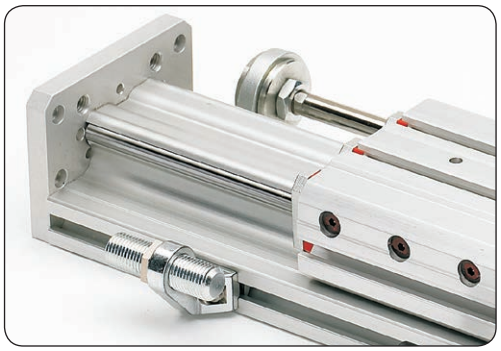






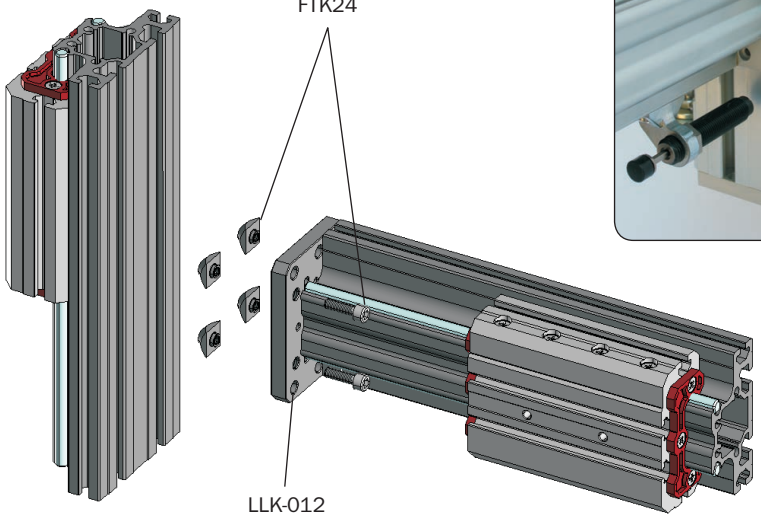


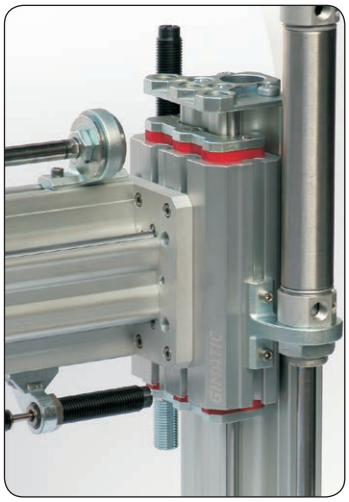


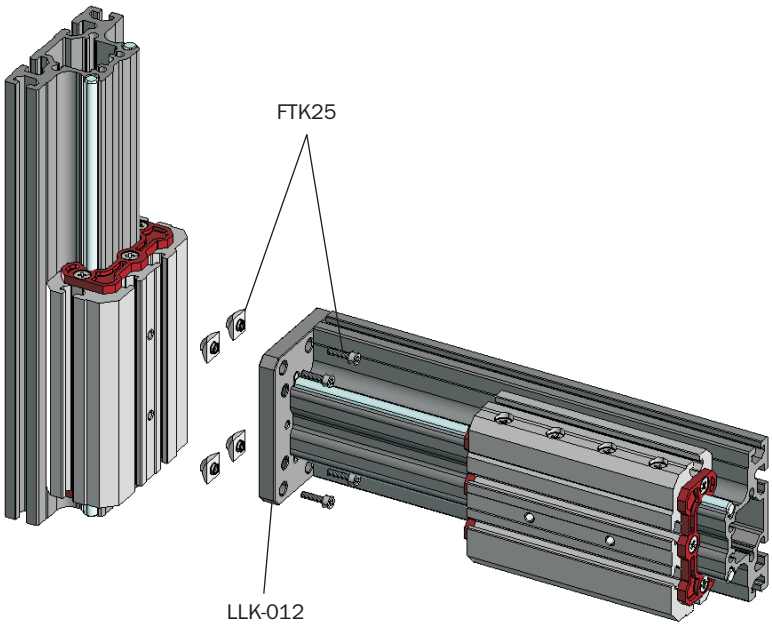


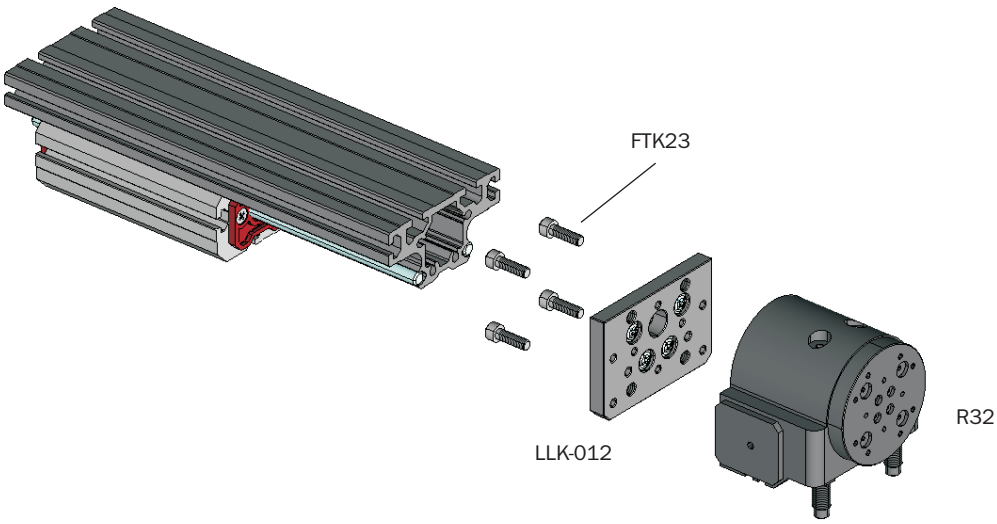





FTK24
LLK-012




FTK25
LLK-012

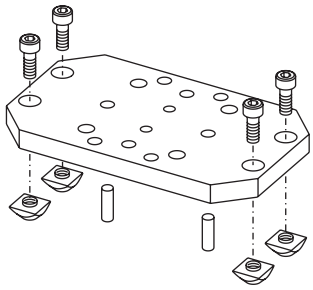

FTK23
LLK-012
R32

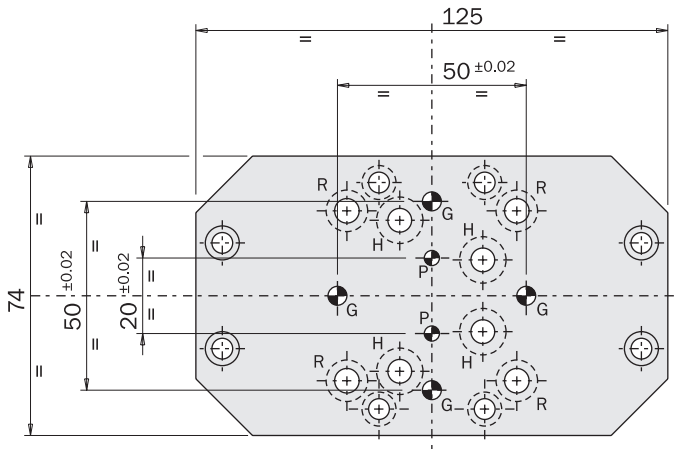
LLK-013
Interfaccia di montaggio

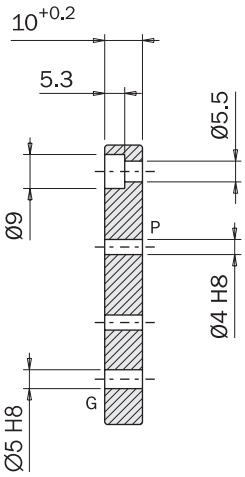
Va fissata all'estremità del profilo in alluminio, o al carrello, e serve per il montaggio diretto di un'altra guida LL, oppure di un attuatore rotante R32/3, o attuatore lineare M25.
Può essere utile anche per fissare altri componenti.
Peso: 262 g

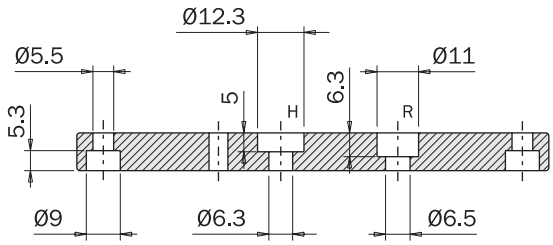
LLK-013
Mounting interface plate

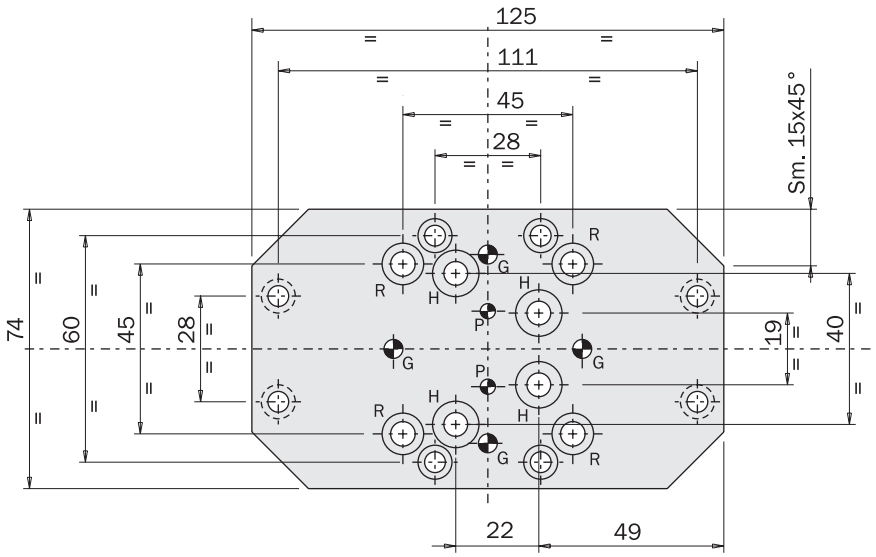
It must be fixed at the end side of the aluminium profile, or on the carrier and it makes possible to mount directly a second LL guidance, or a R32/3 swiveling unit, or a linear actuator M25. It can be used also to mount other components.
Weight: 262 g





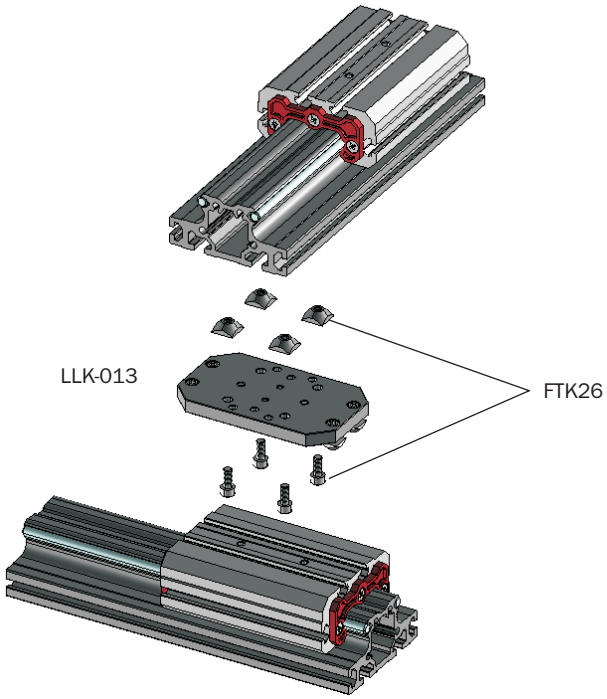


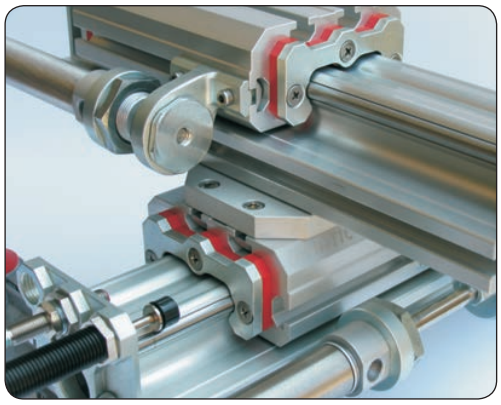


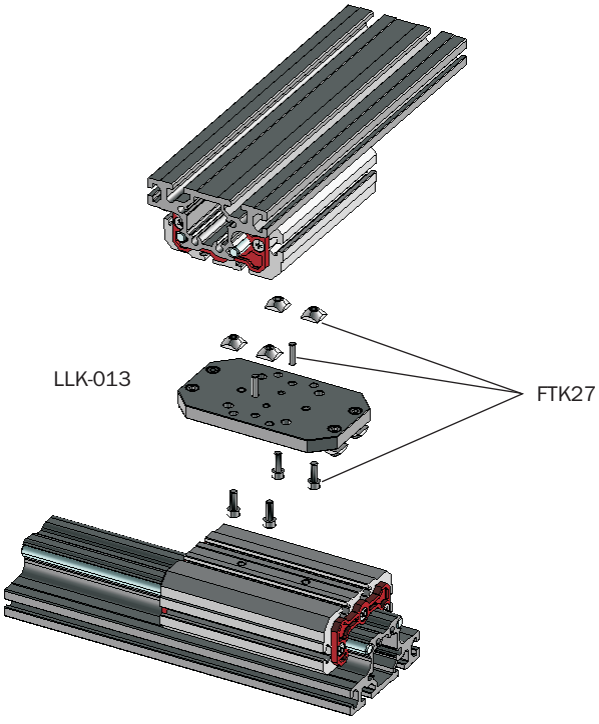


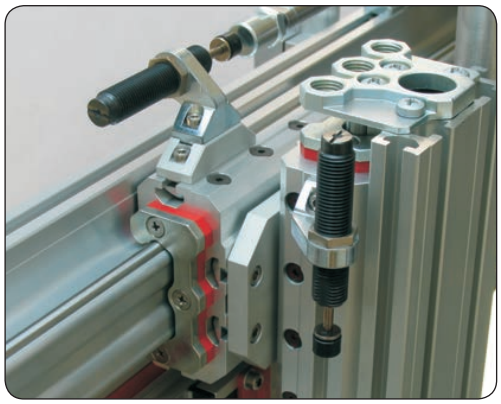
FIRST ANGLE PROJECTION

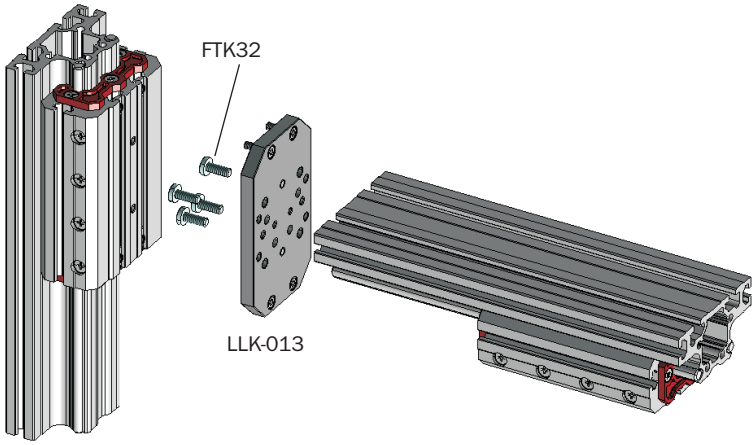
03/2015


LLK-013
FTK26

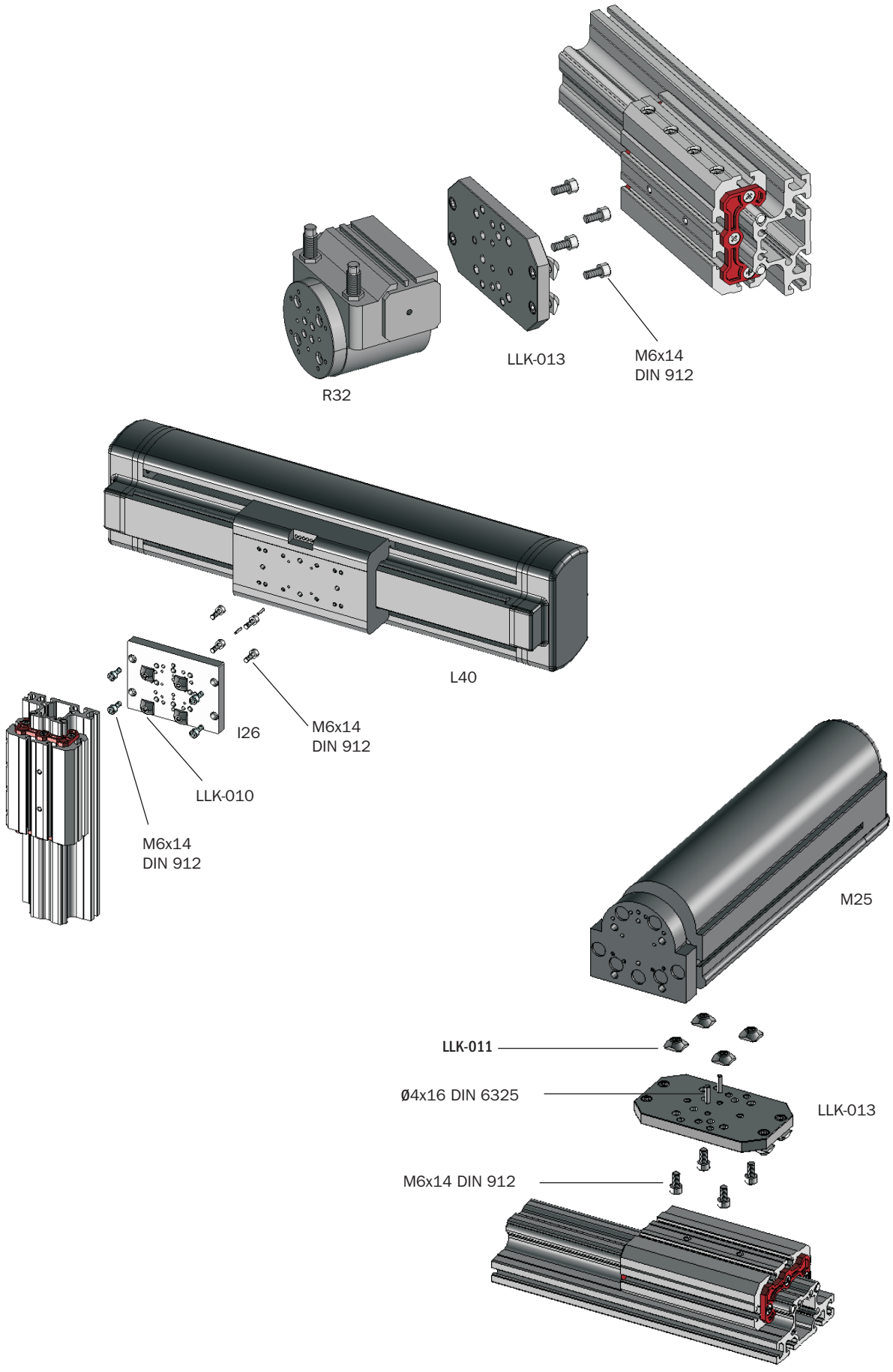



LLK-013
FTK27




FTK32
LLK-013

Assemblaggio con altri componenti Gimatic ***Matching other Gimatic components***

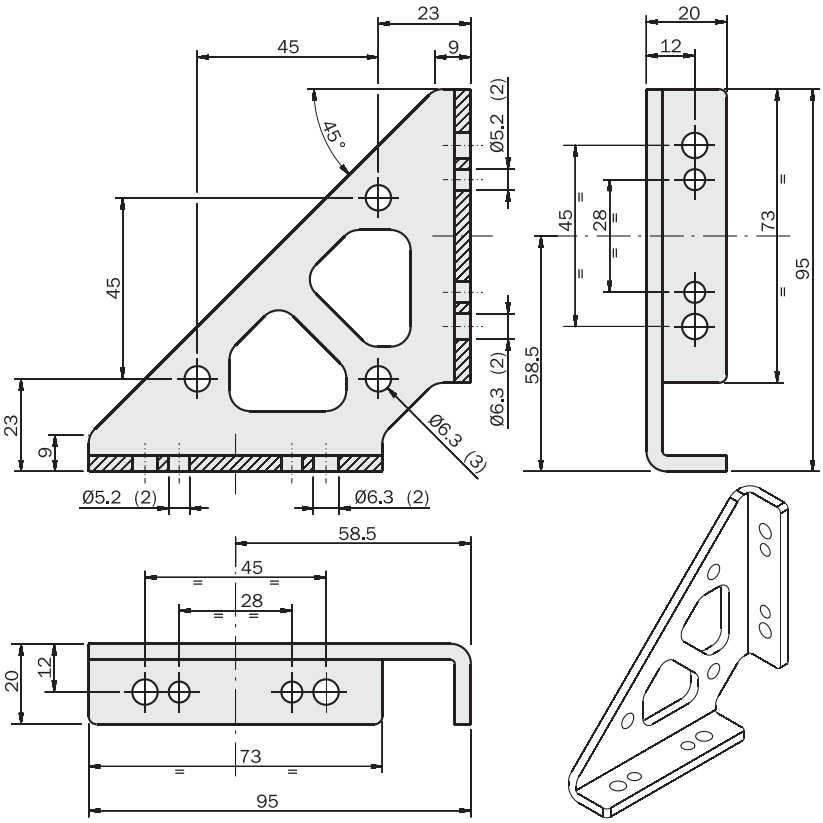


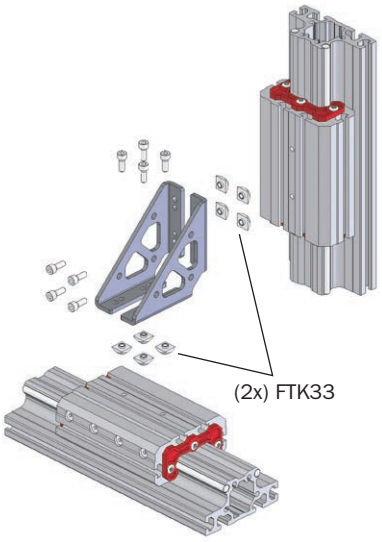
LLK-021
Squadra di fissaggio

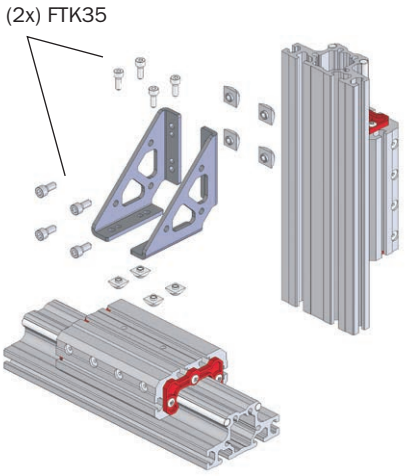
Viti e dadi forniti a parte: codici FTK...
Peso: 170 g

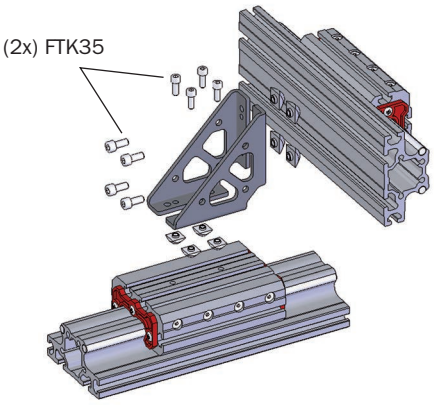
LLK-021
90° mounting bracket

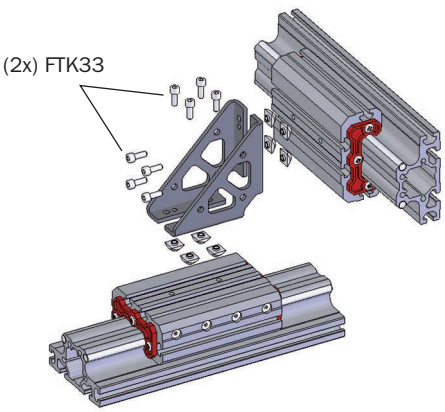
Nuts and screws are supplied apart: codes FTK...
Weight: 170 g

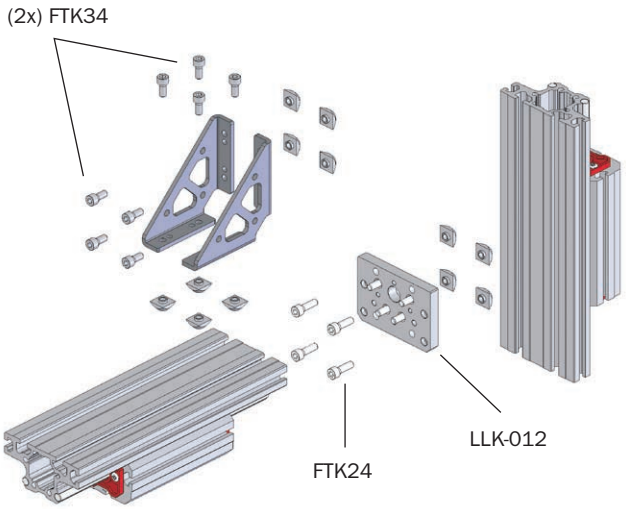






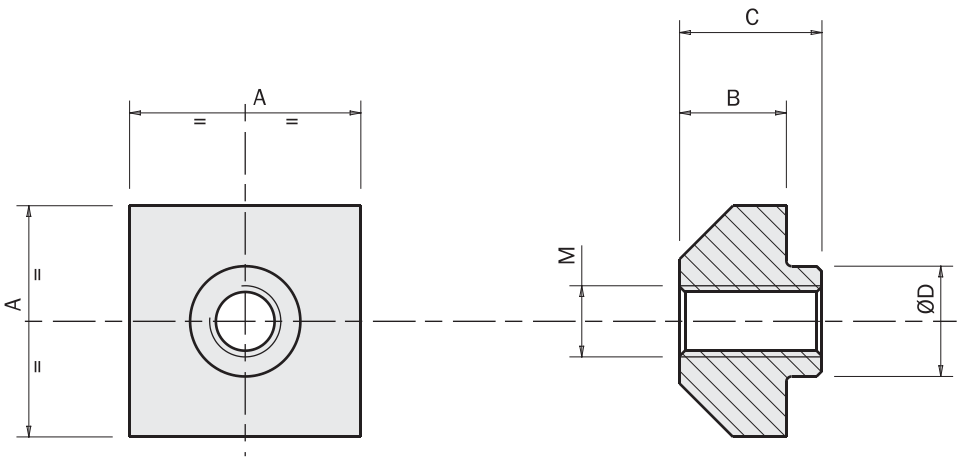






Dadi di fissaggio

Nuts for fastening



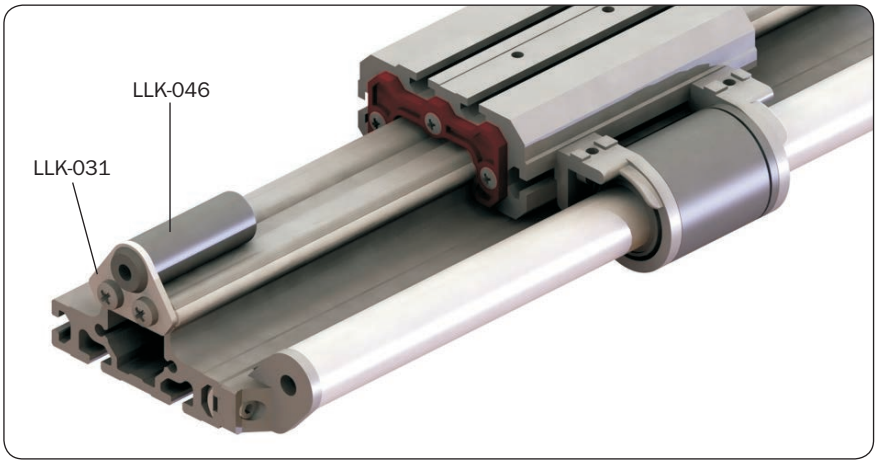
	A	B	C	ØD	M	Cava / *Slot*	Peso / *Weight*
LL25-09	13	6	8	Ø6.2	M4	6	5 g
LL25-10	16	7.3	9.8	Ø8	M6	8	9 g
VITE-243	16	6.3	8.3	Ø8	M6	8	7 g
LL25-23	13	6	8	Ø6.2	M5	6	5 g

LLK-031
Fine corsa d'emergenza

La piastrina LLK-031 serve come fine corsa d'emergenza, per evitare la fuoriuscita del carrello.
La si può anche utilizzare per fissare un ammortizzatore di gomma (LLK-046).
Nelle unità dotate di serie della piastrina LLK-031, le barre in acciaio non sono cianfrinate nel profilo in alluminio.
Quindi, se la piastrina viene rimossa, si deve sempre montare una delle piastre (LLK-008 o LLK-012) che fanno da contenimento per le barre in acciaio.
Peso: 30 g

LLK-031
Emergency stop plate

The end plate LLK-031 is an emergency stopper, to avoid the carrier going out of the rail.
It can be used also to mount a rubber damper (LLK-046).
In the units assembled in factory with the end plate LLK-031, the steel bars are not caulked in the aluminium profile.
Therefore, if the end plate is removed, one of the plates LLK-008 or LLK-012 must be mounted, to hold the steel bars in their housing.
Weight: 30 g

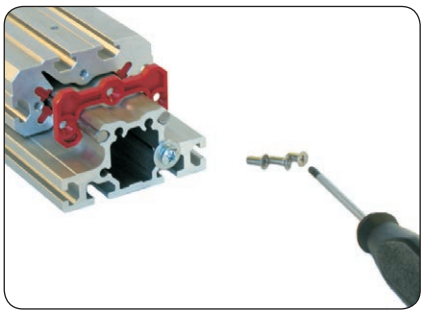


Lubrificazione

Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

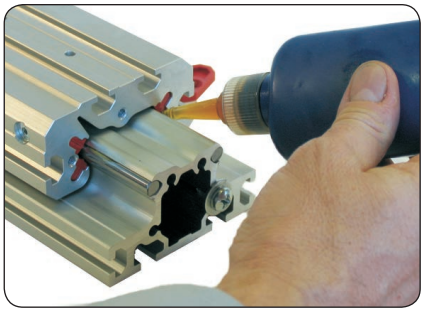
Lubrication

Periodically check the steel bars and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.



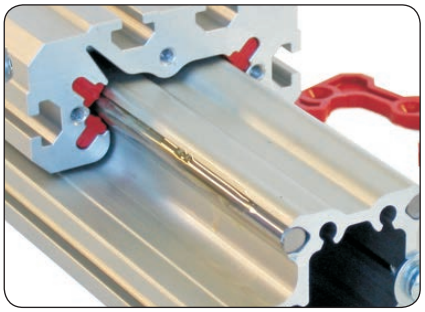
Rimuovere la protezione rossa (tre viti)

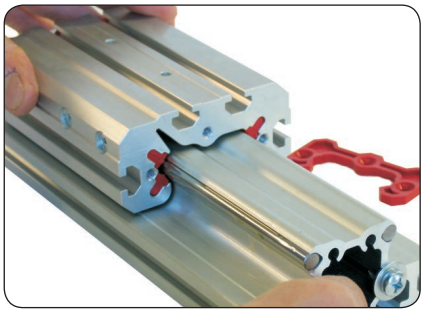
Remove the three screws and then the red plastic plate



Applicare il lubrificante sulle colonne di guida in acciaio

Lubricate the steel bars





Muovere il carrello per distribuire il lubrificante nelle cartucce

Move the carrier to distribute the lubricant in the ball bearings

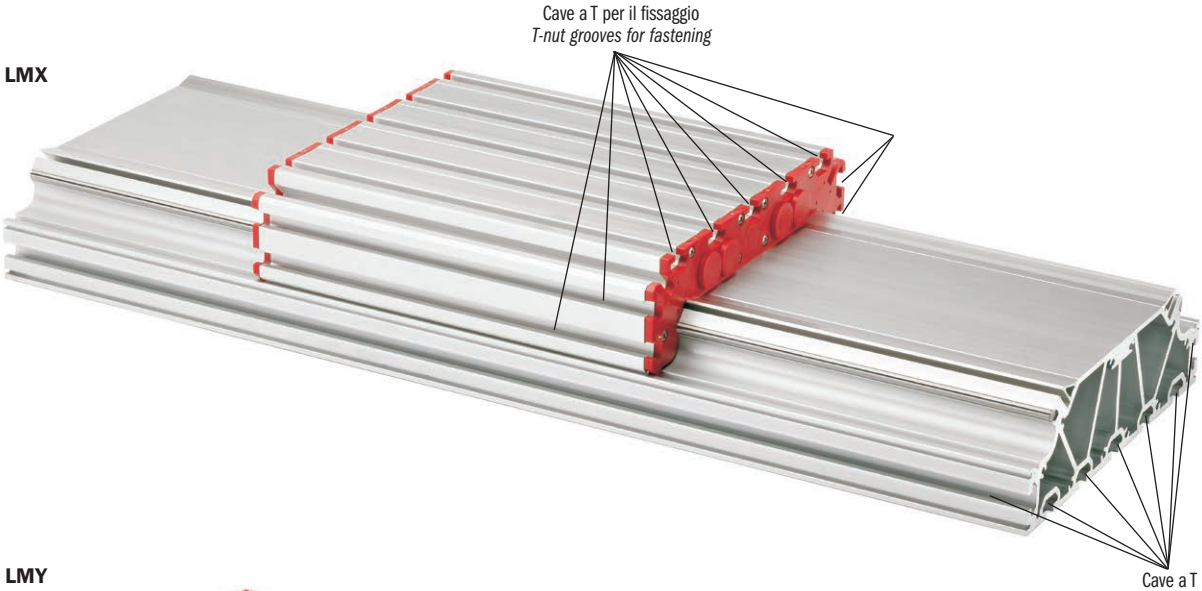
Guide lineari a ricircolo di sfere serie LM

- Sistema di guida a ricircolo di sfere.
- Diverse possibilità di montaggio con dadi a T.
- Vari kit opzionali per il montaggio di accessori.
- Qualsiasi lunghezza fino a 6000 mm è possibile.
- E' possibile montare più di un carrello per ogni profilo.

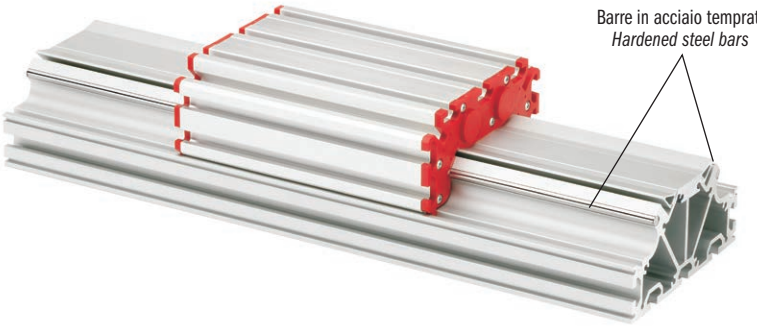
Linear guidances with recirculating ball-bearing series LM

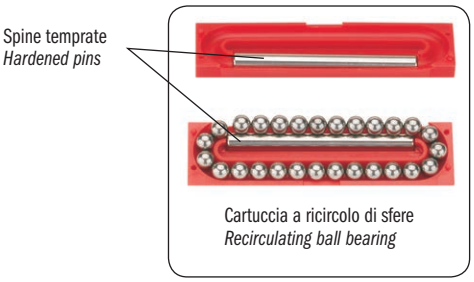
- *Recirculating ball-bearing guide system.*
- *Several mounting options with T-nuts.*
- *Optional kits for accessories.*
- *Available in any length up to 6000 mm.*
- *More than one carrier can be fitted to each rail.*

LMX



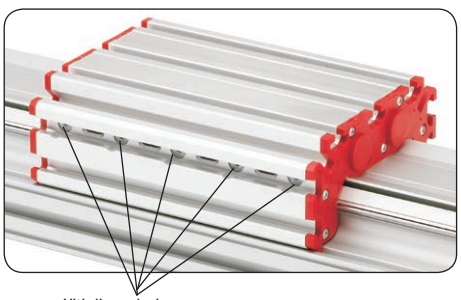
LMY

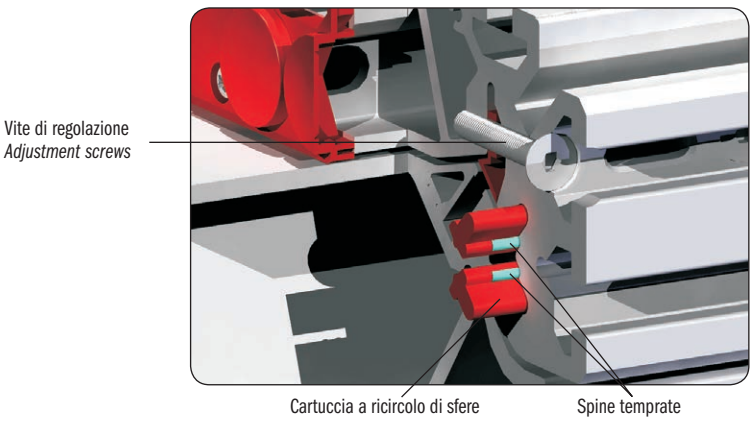




Il carrello è ricavato da un estruso di alluminio nel quale sono previste le sedi per le cartucce a ricircolo di sfere e le cave a T per i vari fissaggi.
La particolare forma permette l'azzeramento del gioco e la registrazione del precarico tramite le viti di regolazione.
L'assemblaggio completo del carrello, il montaggio sulle barre, la registrazione e la prima lubrificazione sono effettuati in fabbrica.
Sulla guida lineare possono essere montati due o più carrelli, a richiesta, per aumentare la capacità di carico, oppure per avere due o più slitte comandabili in modo indipendente.

The carrier is made from an aluminium extruded profile, in which the housings for the recirculating ball bearings and the T-nut grooves are located.
Thanks to the carrier special profile, with adjustment screws, it is possible to set the carrier backlash to zero and to adjust the correct bearing preload.
The carrier assembling, the mounting on the bars, the preloading and the first lubrication are made in Gimatic.
Two or more carriers, on demand, can be mounted on the same rail, to increase the load capacity or to get two or more independent slides.



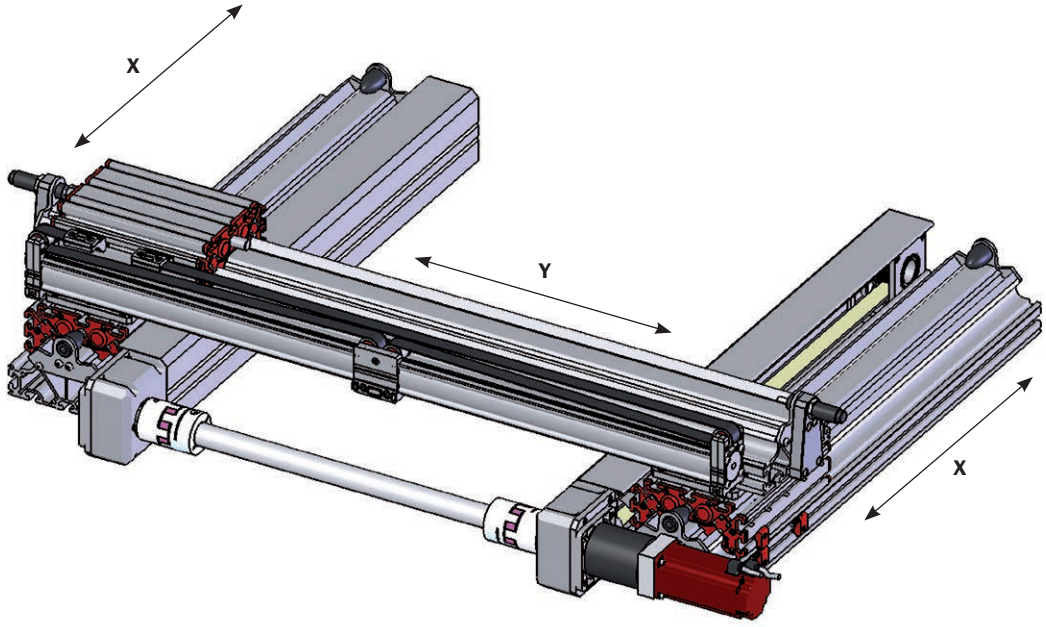


Esempio di applicazione

Pallettizzatore X-Y elettrico-pneumatico con albero di sincronizzazione.

Application example

X-Y electric-pneumatic palletizer with line shaft.

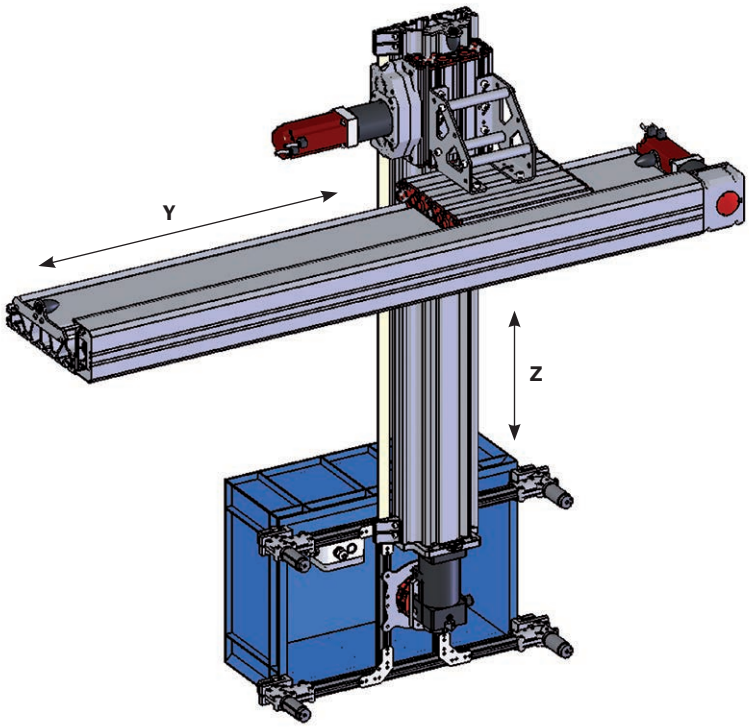


Esempio di applicazione

Manipolatore Y-Z elettrico a portale.

Application example

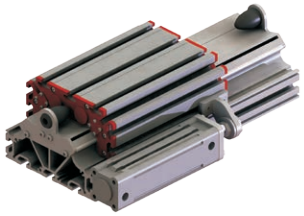
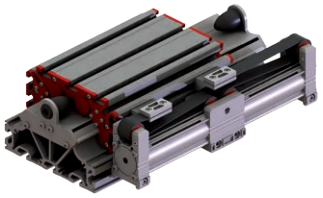
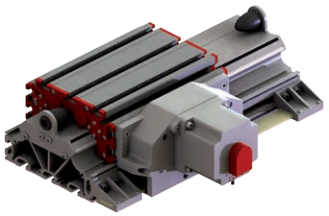
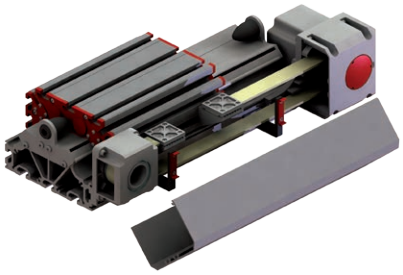
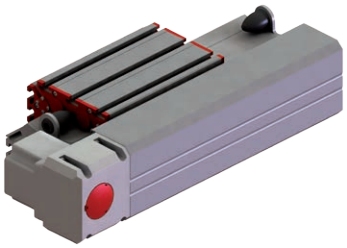
Y-Z electric gantry manipulator.



Codice di ordinazione / *Ordering code*

L M Y X X - X X X X

Corsa (mm)
Stroke (mm)

Per cilindri ISO Ø40 e Ø50 e per cilindri senza stelo Ø32 *For ISO cylinders Ø40 and Ø50 and for rodless cylinders Ø32*	**01**	**0÷5700** (1)	
Con cilindro pneumatico e trasmissione a cinghia *With pneumatic cylinder and belt drive* Forza a 6 bar / *Force at 6 bar*: 350 N	**03**	**0300** **0500** **0800** **1000** **1500** **2000**	
Trasmissione a omega, completa di calettatore per alberi Ø16 Omega transmission, with Ø16 shaft locking assembly	**06**	**0÷5700** (2)	
Con trasmissione destra a cinghia e pulegge, completa di calettatore per alberi Ø16 *With right belt drive and pulleys, with Ø16 shaft locking assembly*	**07D**	**0÷2700** (2)	
Con trasmissione sinistra a cinghia e pulegge, completa di calettatore per alberi Ø16 *With left belt drive and pulleys, with Ø16 shaft locking assembly*	**07S**	**0÷2700** (2)	

(1) E' possibile ordinare lunghezze di guida con step di 1mm.
(2) E' possibile ordinare lunghezze di guida con step di 100mm.

Consultare il fornitore per lunghezze fuori standard.

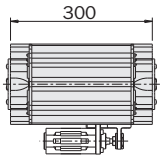
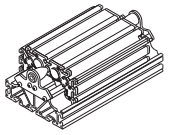
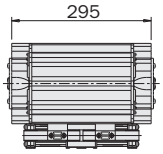
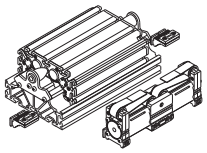
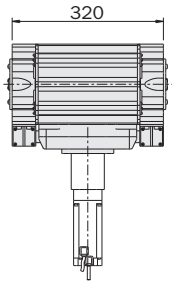
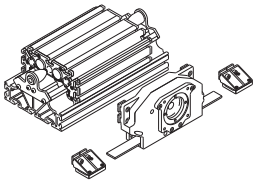
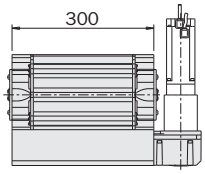
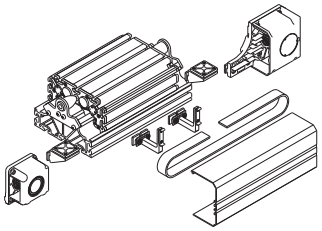
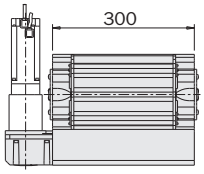
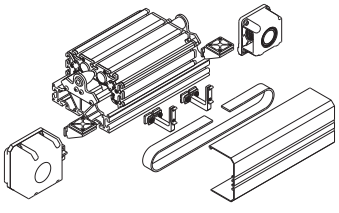
(1) It is possible to order any guidance length in 1mm steps.
(2) It is possible to order any guidance length in 100mm steps.

Consult factory for special lengths.

Le parti fornite con ciascun codice di ordinazione sono qui evidenziate.

The parts supplied with the ordering codes are here highlighted.

Ingombro della corsa zero (mm) e peso (g/mm)
Zero-stroke length (mm) and weight (g/mm)

LMY01		**6100g + 11.06g/mm**	
LMY03-0300		**11350g**	
LMY03-0500		**14000g**	
LMY03-0800		**18000g**	
LMY03-1000		**20600g**	
LMY03-1500		**27200g**	
LMY03-2000		**33800g**	
LMY06		**9000g + 11.15g/mm**	
LMY07D		**9400g + 13g/mm**	
LMY07S		**9400g + 13g/mm**	

Esistono varie interfacce e kit opzionali per il fissaggio dei cilindri, dei fine corsa, dei deceleratori e dei sensori.
Sono venduti in confezioni singole, non assemblati alla guida lineare.
I cilindri, i motori ed i riduttori non sono forniti.

There are also several optional interfaces and kits with the brackets to mount the cylinders, the end stroke stoppers, the shock-absorbers and the sensors.
They are sold in single packages, not assembled with the guidance.
The cylinders, the motors and gear reducers are not supplied.

Codice di ordinazione / *Ordering code*

L M X X X - X X X X

Corsa (mm)
Stroke (mm)

Per cilindri ISO Ø40 e Ø50 e per cilindri senza stelo Ø32 *For ISO cylinders Ø40 and Ø50 and for rodless cylinders Ø32*	**01**	**0÷5600** (1)

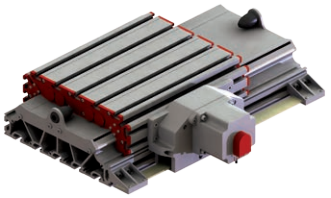


Con cilindro pneumatico e trasmissione a cinghia *With pneumatic cylinder and belt drive*	**03**	**0300** **0500** **0800** **1000** **1500** **2000**

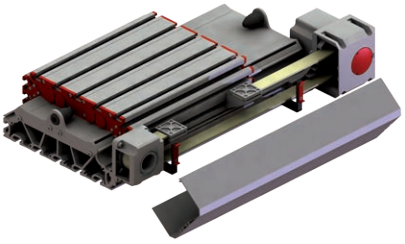
Forza a 6 bar *Force at 6 bar*	350 N



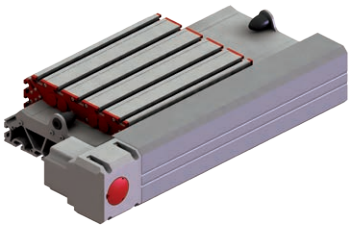
Trasmissione a omega, completa di calettatore per alberi Ø16 Omega transmission, with Ø16 shaft locking assembly	**06**	**0÷5600** (2)



Con trasmissione destra a cinghia e pulegge, completa di calettatore per alberi Ø16 *With right belt drive and pulleys, with Ø16 shaft locking assembly*	**07D**	**0÷2600** (2)



Con trasmissione sinistra a cinghia e pulegge, completa di calettatore per alberi Ø16 *With left belt drive and pulleys, with Ø16 shaft locking assembly*	**07S**	**0÷2600** (2)



(1) E' possibile ordinare lunghezze di guida con step di 1mm.
(2) E' possibile ordinare lunghezze di guida con step di 100mm.

Consultare il fornitore per lunghezze fuori standard.

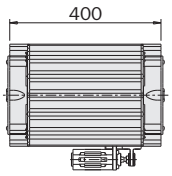
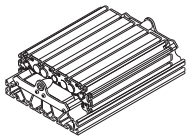
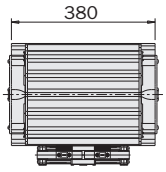
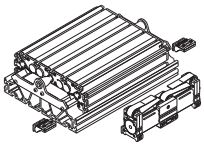
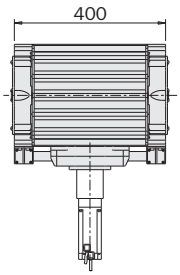
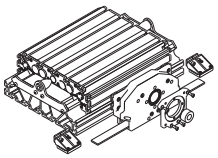
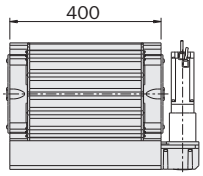
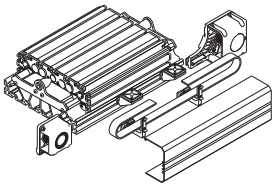
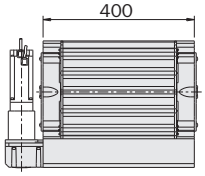
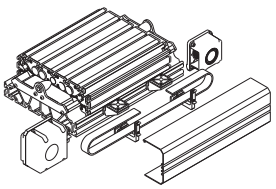
(1) It is possible to order any guidance length in 1mm steps.
(2) It is possible to order any guidance length in 100mm steps.

Consult factory for special lengths.

Le parti fornite con ciascun codice di ordinazione sono qui evidenziate.

The parts supplied with the ordering codes are here highlighted.

Ingombro della corsa zero (mm) e peso (g/mm)
Zero-stroke length (mm) and weight (g/mm)

LMX01		**11800g + 16.4g/mm**	
LMX03-0300		**18150g**	
LMX03-0500		**21850g**	
LMX03-0800		**27450g**	
LMX03-1000		**31150g**	
LMX03-1500		**40400g**	
LMX03-2000		**49700g**	
LMX06		**14700g + 16.5g/mm**	
LMX07D		**15100g + 18.2g/mm**	
LMX07S		**15100g + 18.2g/mm**	

Esistono varie interfacce e kit opzionali per il fissaggio dei cilindri, dei fine corsa, dei deceleratori e dei sensori.
Sono venduti in confezioni singole, non assemblati alla guida lineare.
I cilindri, i motori ed i riduttori non sono forniti.

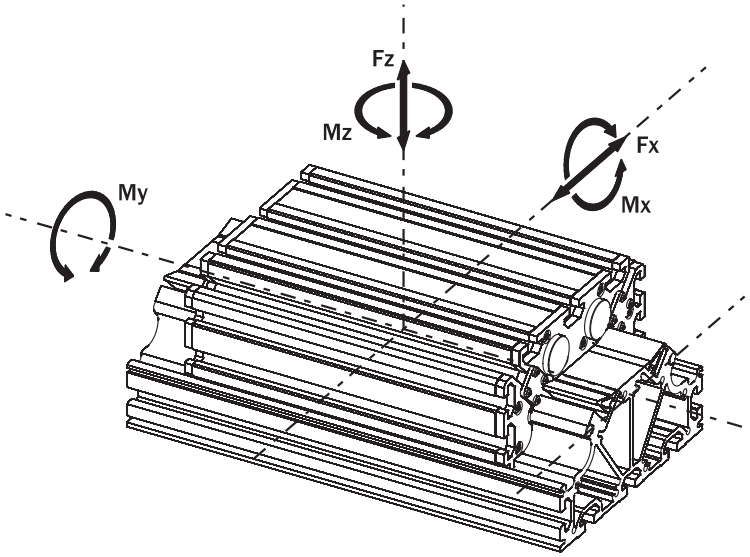
There are also several optional interfaces and kits with the brackets to mount the cylinders, the end stroke stoppers, the shock-absorbers and the sensors.
They are sold in single packages, not assembled with the guidance.
The cylinders, the motors and gear reducers are not supplied.

Carichi di sicurezza

Carichi eccessivi possono danneggiare l'unità, causare difficoltà di funzionamento e compromettere la sicurezza dell'operatore. Verificare che l'indice di carico LF sia inferiore all'unità.

Safety loads

Excessive loads can damage the unit, cause functioning troubles and endanger the safety of the operator.
The load factor LF must be lower than 1.

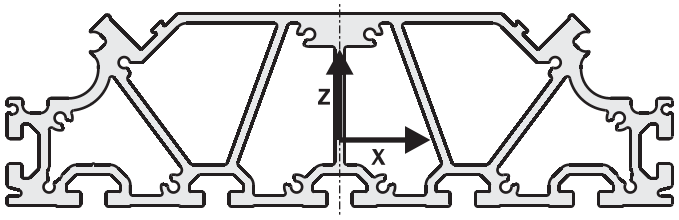


	max LMY	max LMX
Fx	4000 N	6000 N
Fz	4000 N	6000 N
Mx	150 Nm	300 Nm
My	200 Nm	500 Nm
Mz	150 Nm	300 Nm

$$LF = \frac{Fx}{Fx\ max} + \frac{Fz}{Fz\ max} + \frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} \leqslant 1$$

Momenti d'inerzia del profilo estruso in alluminio

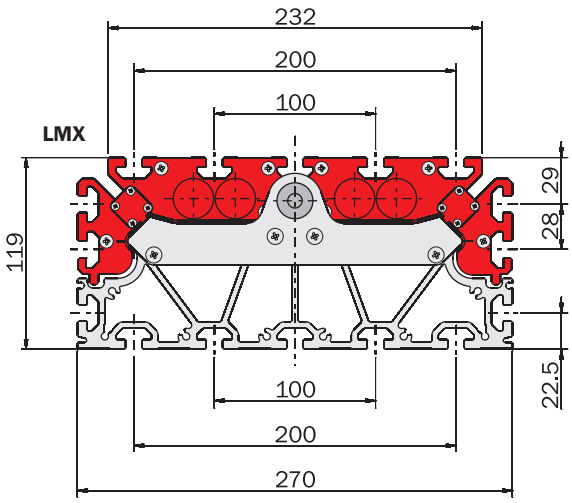
Area moment of inertia for the extruded aluminum profile

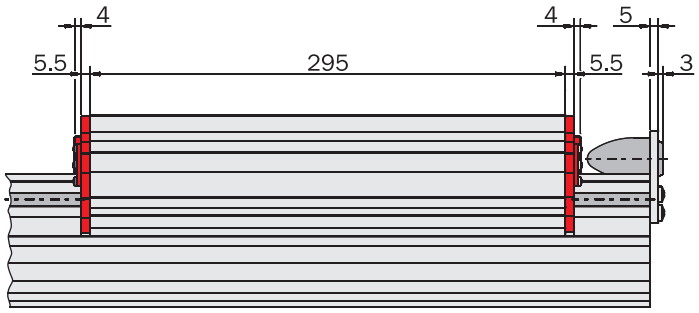


LMY
Ix= 2373134 mm⁴
Iz= 9228665 mm⁴

LMX
Ix= 4092646 mm⁴
Iz= 36395012 mm⁴

Dimensioni (mm) / *Dimensions (mm)*



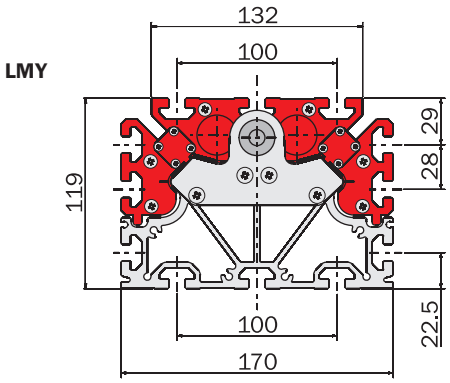


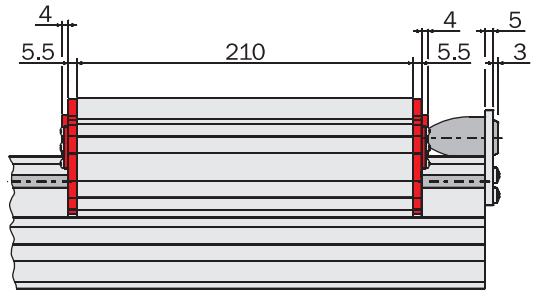
Calcolo del peso

Ogni carrello completo pesa 4.76 kg.
La guida (profilo in alluminio più barre in acciaio) pesa 16.4 kg/m .

Weight calculation

The weight of the carrier is 4.76 kg.
The weight of the guidance (alu profile plus steel bars) is 16.4 kg/m .





FIRST ANGLE PROJECTION

Calcolo del peso

Ogni carrello completo pesa 2.51 kg.
La guida (profilo in alluminio più barre in acciaio) pesa 11.06 kg/m .

Weight calculation

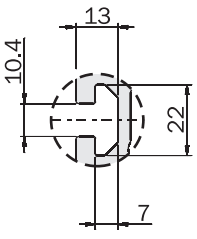
The weight of the carrier is 2.51 kg.
The weight of the guidance (alu profile plus steel bars) is 11.06 kg/m .

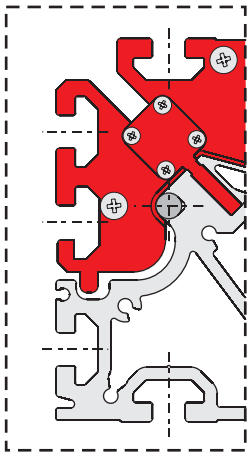
Dadi a "T"

Le cave sono tutte uguali.
I dadi utilizzabili hanno due filetti diversi (M6 o M8).

T-nuts

All the grooves have the same dimensions.
The T-nuts have two different threads (M6 or M8).





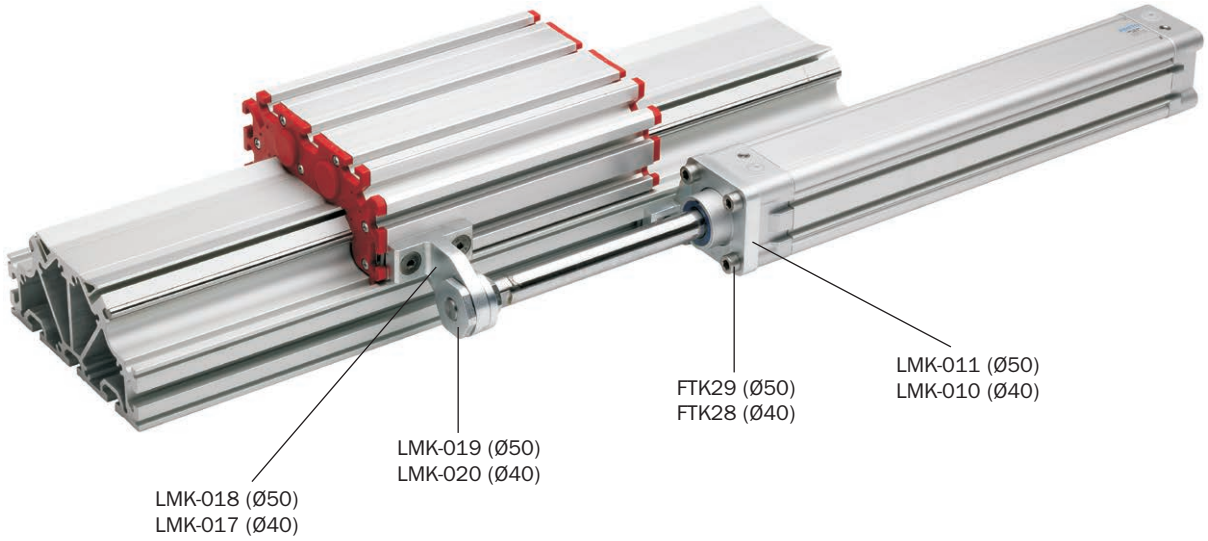
	Dado / *Nut*
M6	LM-019
M8	LM-037

Esempio di applicazione

La guida lineare LMY01 (e la LMX01) può essere azionata da un cilindro pneumatico ISO 15552 di alesaggio 50 mm (o 40 mm).
Gimatic fornisce le staffe di ancoraggio.

Application example

The linear guidance LMY01 (and the LMX01) can be powered by an ISO 15552 pneumatic cylinder with piston bore 50 mm (or 40 mm).
Gimatic supplies the brackets.

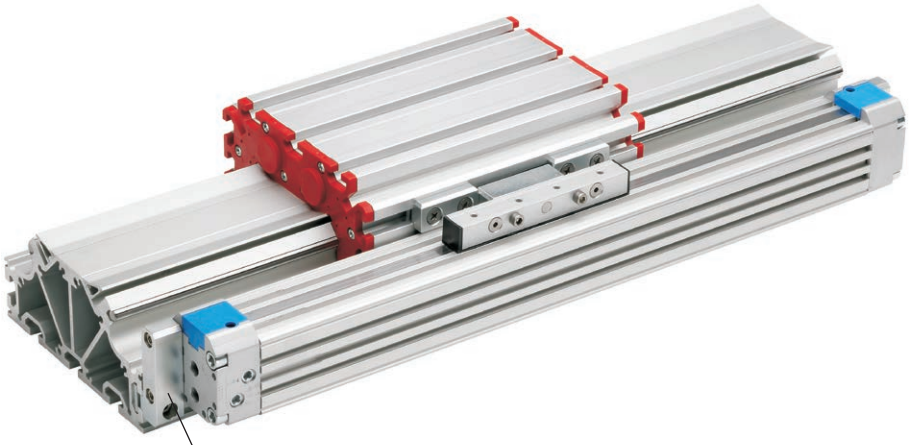


Esempio di applicazione

La guida lineare LMY01 (e la LMX01) può essere azionata da un cilindro pneumatico senza stelo di alesaggio 32 mm.
Gimatic fornisce le staffe di ancoraggio per i cilindri più diffusi.

Application example

The linear guidance LMY01 (and the LMX01) can be powered by a pneumatic rodless cylinder with piston bore 32 mm.
Gimatic supplies the brackets for the most well known cylinders.



Esempio di applicazione

La guida lineare LMY03 (e la LMX03) è dotata di un azionamento pneumatico di alesaggio 40 mm ed una trasmissione a cinghia che raddoppia la corsa.

Application example

The linear guidance LMY03 (and the LMX03) is provided with a pneumatic actuator (40 mm piston bore) and a belt drive to double the carrier stroke.



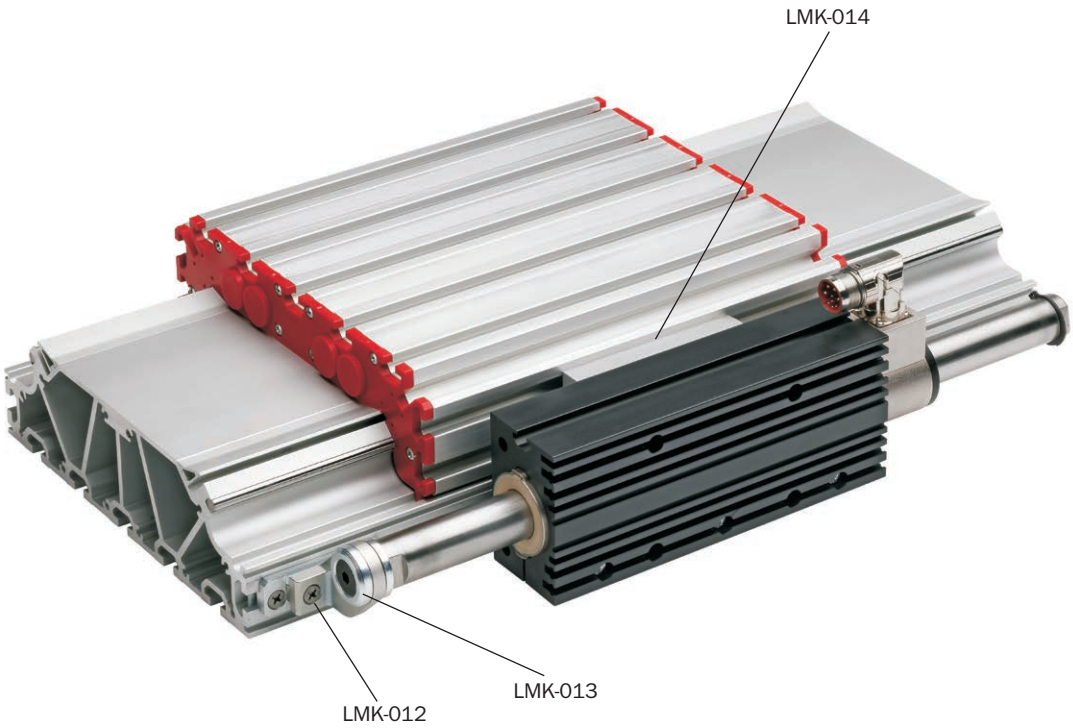
Forza a 6 bar *Force at 6 bar*	350 N

Esempio di applicazione

La guida lineare LMX01 (e la LMY01) può essere azionata da motori lineari.
Gimatic fornisce le staffe di ancoraggio.

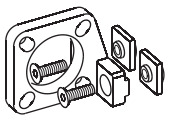
Application example

The linear guidance LMX01 (and the LMY01) can be powered by linear motors.
Gimatic supplies the brackets.

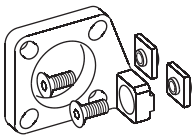


Kit opzionali / *Optional kits*

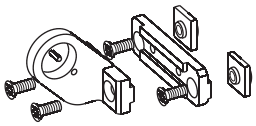
LMK-010 (240 g)
Anello per fissaggio cilindro Ø40
Cylinder holder Ø40



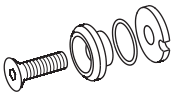
LMK-011 (400 g)
Anello per fissaggio cilindro Ø50
Cylinder holder Ø50



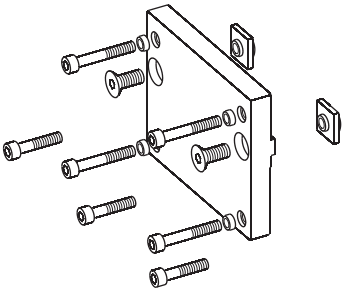
LMK-012 (300 g)
Anello per giunto slider LinMot Ø28
Bracket for LinMot Ø28 slider bolt



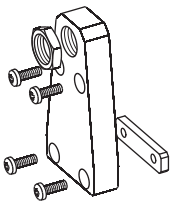
LMK-013 (95 g)
Giunto per slider LinMot Ø28
LinMot slider bolt Ø28



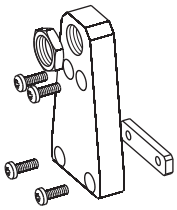
LMK-014 (530 g)
Piastra d'interfaccia per statore LinMot PF01-48
Interface plate for LinMot stator PF01-48



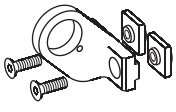
LMK-015 (220 g)
Supporto deceleratore per guida LMX
Shock-absorber bracket for LMX guidance



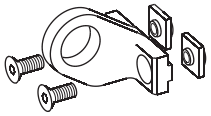
LMK-016 (220 g)
Supporto deceleratore per guida LMY
Shock-absorber bracket for LMY guidance



LMK-017 (180 g)
Anello per fissaggio giunto cilindro Ø40
Rod bolt holder for cylinder Ø40

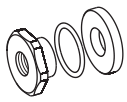


LMK-018 (270 g)
Anello per fissaggio giunto cilindro Ø50
Rod bolt holder for cylinder Ø50

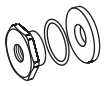


Kit opzionali / *Optional kits*

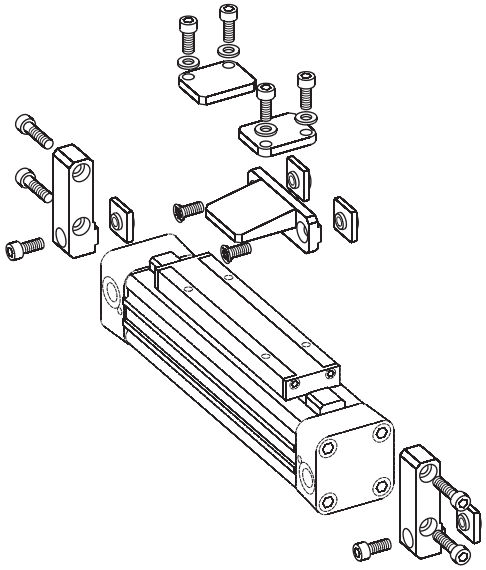
LMK-019 (110 g)
Giunto per stelo cilindro Ø50
Rod bolt for cylinder Ø50



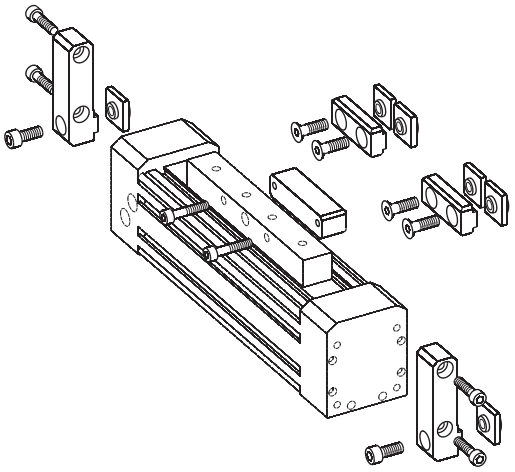
LMK-020 (55 g)
Giunto per stelo cilindro Ø40
Rod bolt for cylinder Ø40



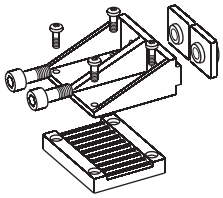
LMK-021 (680 g)
Kit fissaggio cilindro senza stelo Origa Ø32 (OSP-P32)
Fastening kit for Origa rodless cylinder Ø32 (OSP-P32)



LMK-022 (660 g)
Kit fissaggio cilindro senza stelo Festo Ø32 (DGC-K-32)
Fastening kit for Festo rodless cylinder Ø32 (DGC-K-32)

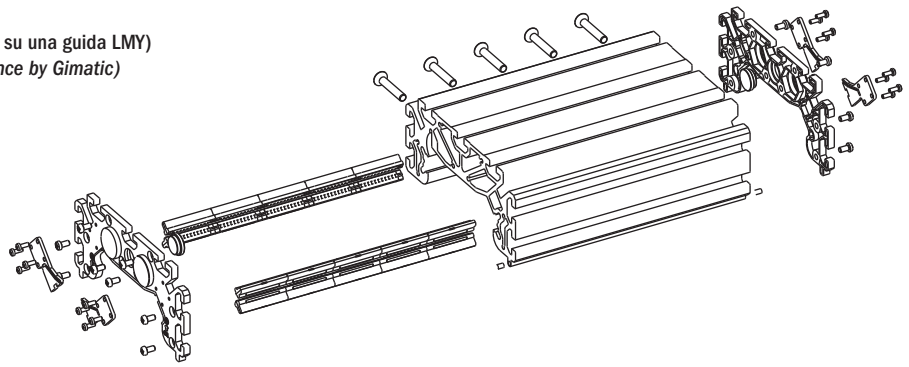


LMK-023 (200 g)
Staffa bloccaggio cinghia dentata sistema Omega
Clamping bracket for Omega system belt

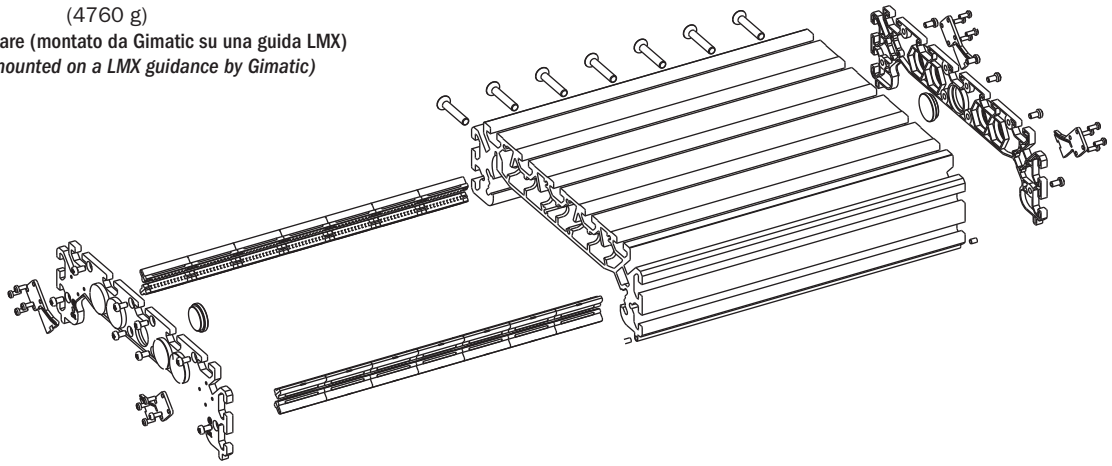


Kit opzionali / *Optional kits*

LMK-025 (2510 g)
Carrello supplementare (montato da Gimatic su una guida LMY)
Additional carrier (mounted on a LMY guidance by Gimatic)



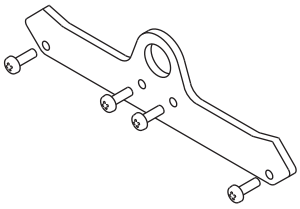
LMK-026 (4760 g)
Carrello supplementare (montato da Gimatic su una guida LMX)
Additional carrier (mounted on a LMX guidance by Gimatic)



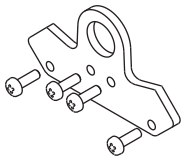
LMK-027 (40 g)
Battuta di fine corsa per deceleratori su LMX
End stroke button for shock-absorbers on LMX



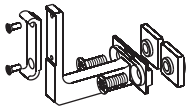
LMK-028 (245 g)
Testata per LMX
End plate for LMX



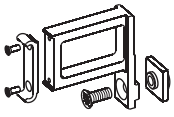
LMK-029 (140 g)
Testata per LMY
End plate for LMY



LMK-032 (110 g)
Supporto carter (con cilindro)
Cover bracket (with cylinder)

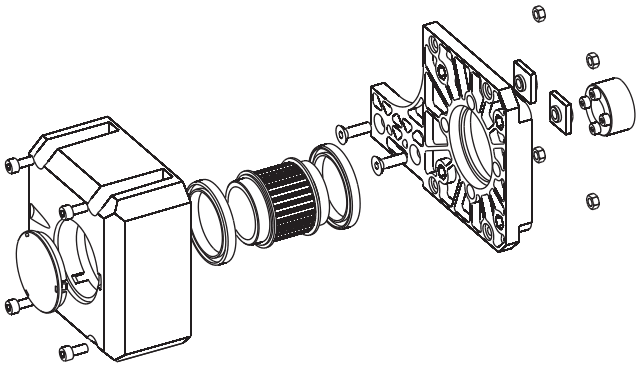


LMK-033 (100 g)
Supporto carter (con catena)
Cover bracket (with energy chain)

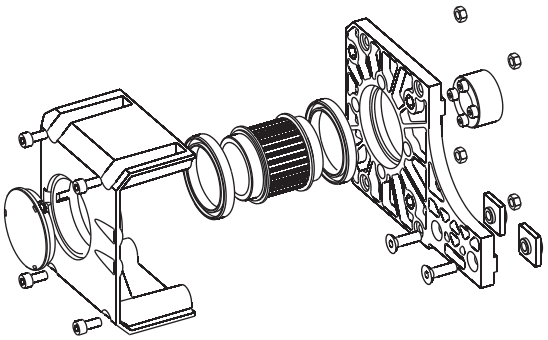


Kit opzionali / *Optional kits*

LMK-034D (1540 g)
Puleggia motrice destra AT5-25
Pulley AT5-25 for right motor



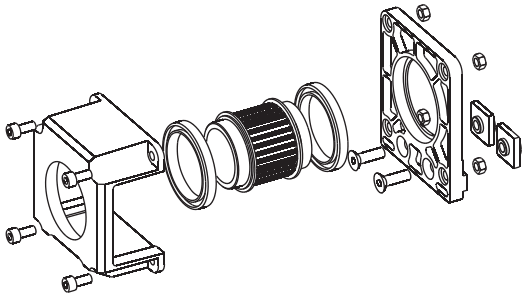
LMK-034S (1540 g)
Puleggia motrice sinistra AT5-25
Pulley AT5-25 for left motor



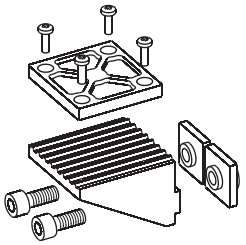
LMK-035 (25 g)
Battuta di fine corsa per deceleratori su LMY
End stroke button for shock-absorbers on LMY



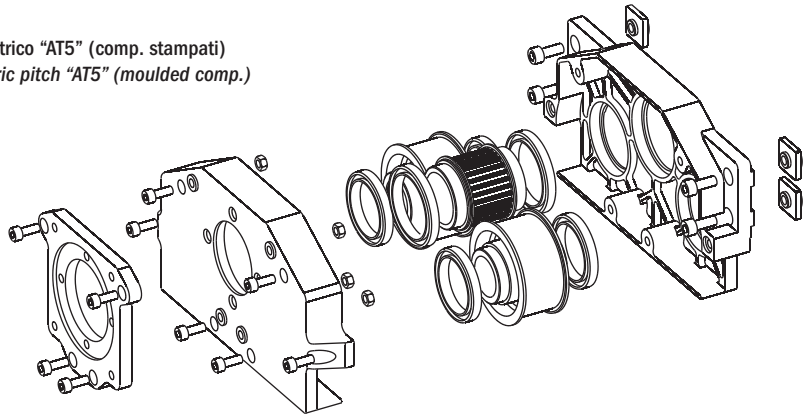
LMK-036 (650 g)
Puleggia di rinvio AT5-25
Idle pulley AT5-25



LMK-037 (200 g)
Bloccaggio per cinghia dentata AT5-25
Clamp for AT5-25 belt



LMK-038 (2420 g)
Sottogruppo puleggia dentata trasmissione "omega" p. metrico "AT5" (comp. stampati)
Subassembly of "omega" transmission toothed pulley metric pitch "AT5" (moulded comp.)

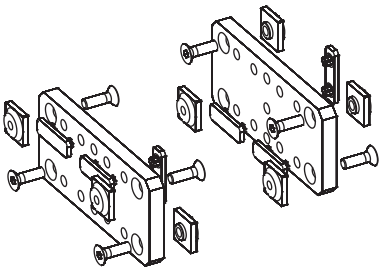


Kit opzionali / *Optional kits*

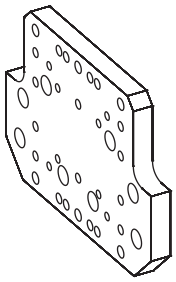
LMK-039 (15 g)
Ammortizzatore in gomma
Rubber stopper



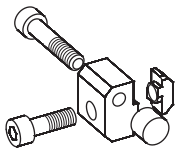
LMK-040 (590 g)
Sottogruppo interfaccia guide LMX/LMY
Subassembly of interface for guidances LMX/LMY



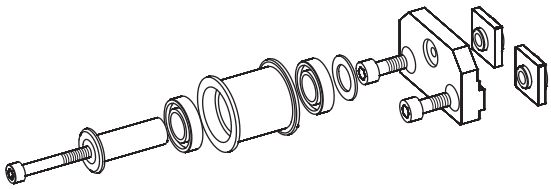
LMK-041 (600 g)
Sottogruppo interfaccia LM/LL/RBT
Subassembly of interface LM/LL/RBT



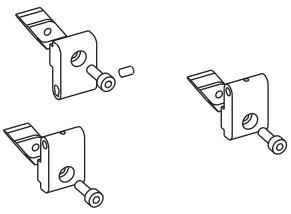
LMK-042 (70 g)
Sottogruppo regolatore tensione cinghia dentata
Subassembly of belt tension regulator



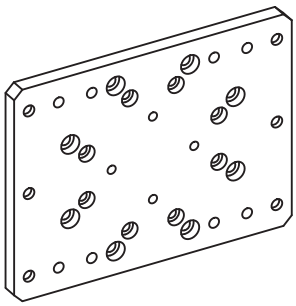
LMK-043 (135 g)
Sottogruppo tenditore
Subassembly of tightener



LMK-044 (60 g)
Staffe per sensori
Sensor bracket

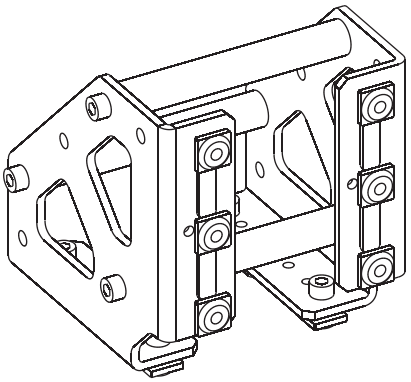


LMK-045 (550 g)
Interfaccia di montaggio
Mounting interface plate

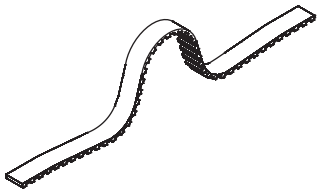


Kit opzionali / *Optional kits*

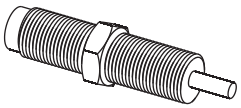
LMK-046 (2700 g)
Squadra di fissaggio
90° mounting bracket



LM-111 (90 g/m)
Cinghia dentata per LL06 - LL07 - LMX06 - LMX07 - LMY06 - LMY07
Timing belt for LL06 - LL07 - LMX06 - LMX07 - LMY06 - LMY07



MC225M (150 g)
Deceleratore idraulico (M20x1.5)
Shock-absorber (M20x1.5)



LM-019 (15 g)
Dado a T M6 per cave LM (1 pezzo)
M6 T-nut for LM slots (1 piece)



LM-037 (15 g)
Dado a T M8 per cave LM (1 pezzo)
M8 T-nut for LM slots (1 piece)

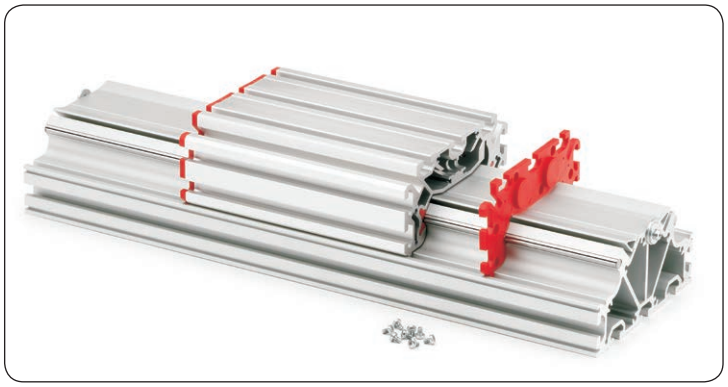


Lubrificazione

Controllare periodicamente le colonne di guida e lubrificarle quando sono secche.
L'apposito grasso è disponibile in tubetti da 90 grammi.
Codice di ordinazione: GLP500-90.

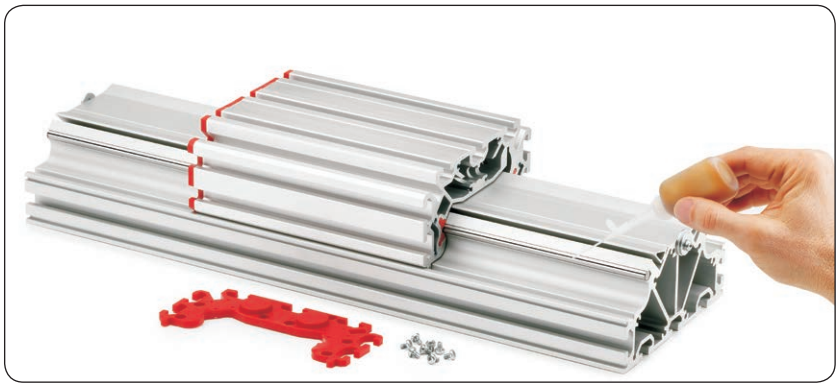
Lubrication

Periodically check the steel bars and lubricate when dry.
The suitable grease is available in 90 grams tubes.
Ordering code: GLP500-90.



Rimuovere la protezione rossa.

Remove the red plastic plate.



Applicare il lubrificante sulle colonne di guida in acciaio.

Lubricate the steel bars.



Muovere il carrello per distribuire il lubrificante nelle cartucce.

Move the carrier to distribute the lubricant in the ball bearings.

Sensori

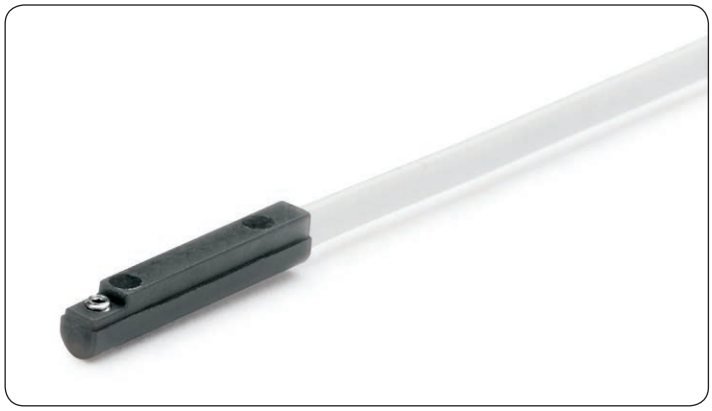
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso un magnete.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

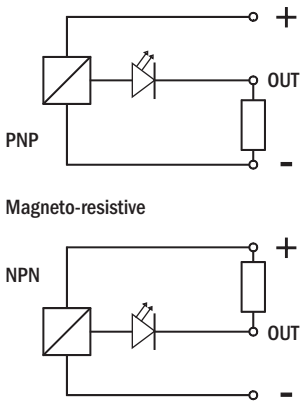
Sensors

The operating position can be checked by one or more magnetic sensors (optional), that detect the position by a magnet. Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

I sensori utilizzabili sono:

Use sensors:



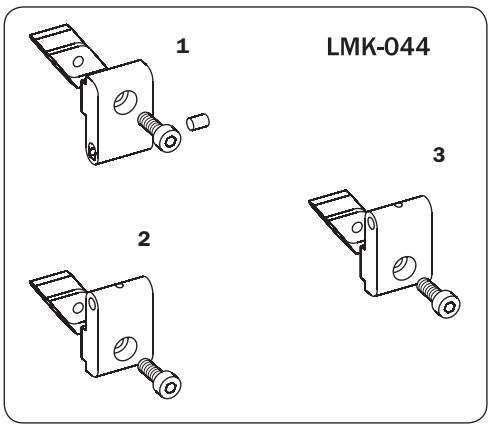


			LM...
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑

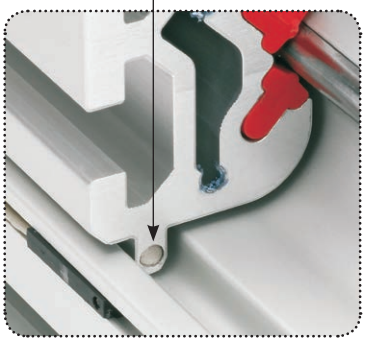
Per montare 2 sensori è necessario il kit LMK-044.

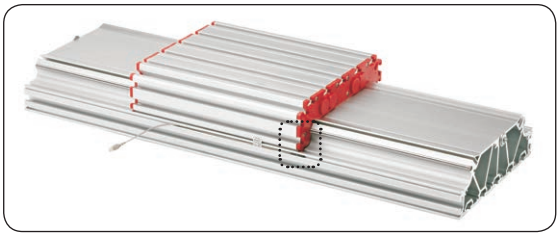
One kit LMK-044 is necessary to mount two sensors.





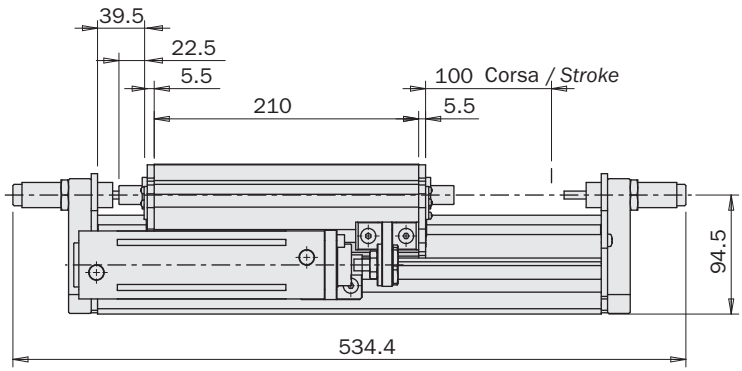
Magnete addizionale
Additional magnet

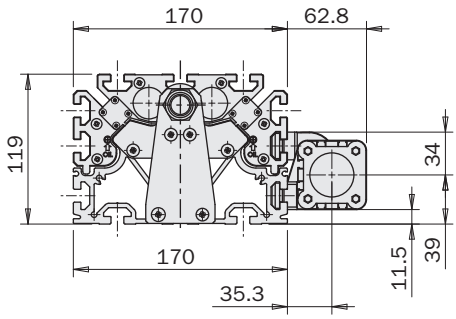


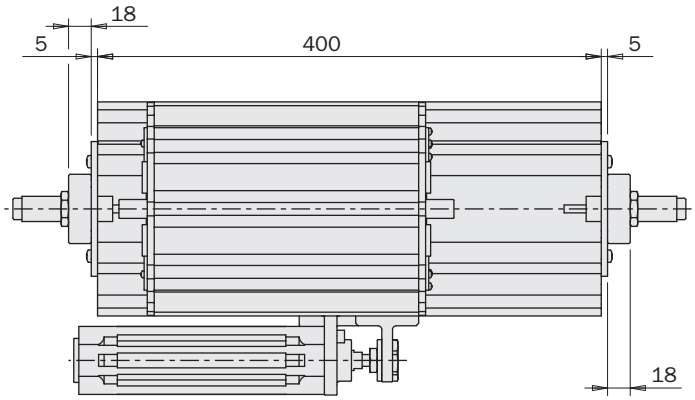


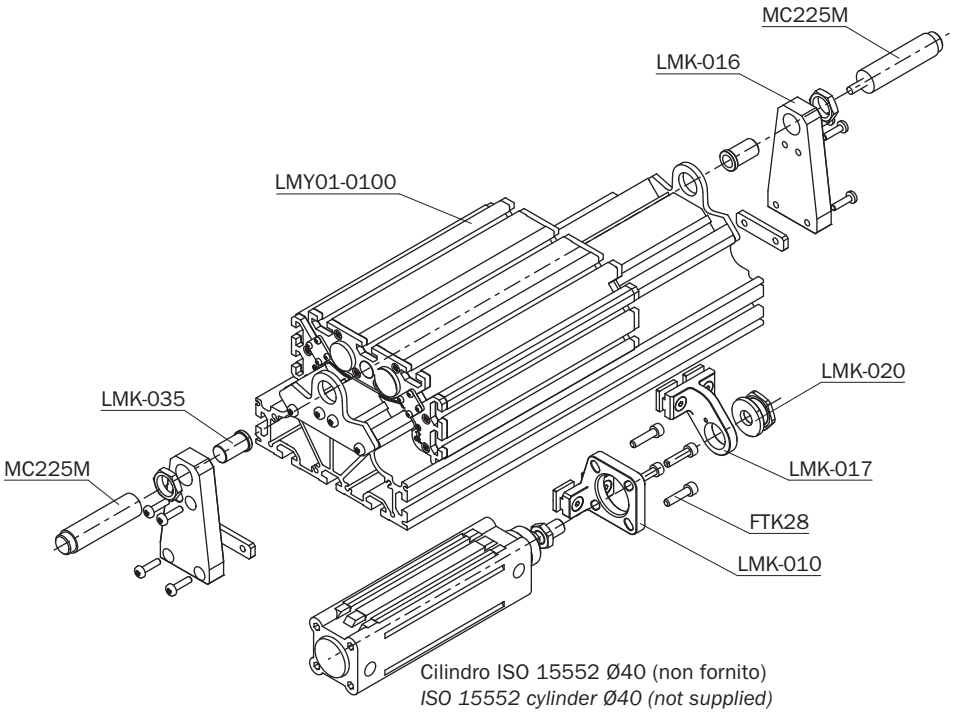
Esempio: Slitta di alesaggio 40mm (cilindro ISO 15552) e corsa 100mm, con deceleratori idraulici

Example: Slide with 40mm piston bore (ISO 15552) and 100mm stroke, with hydraulic shock-absorbers





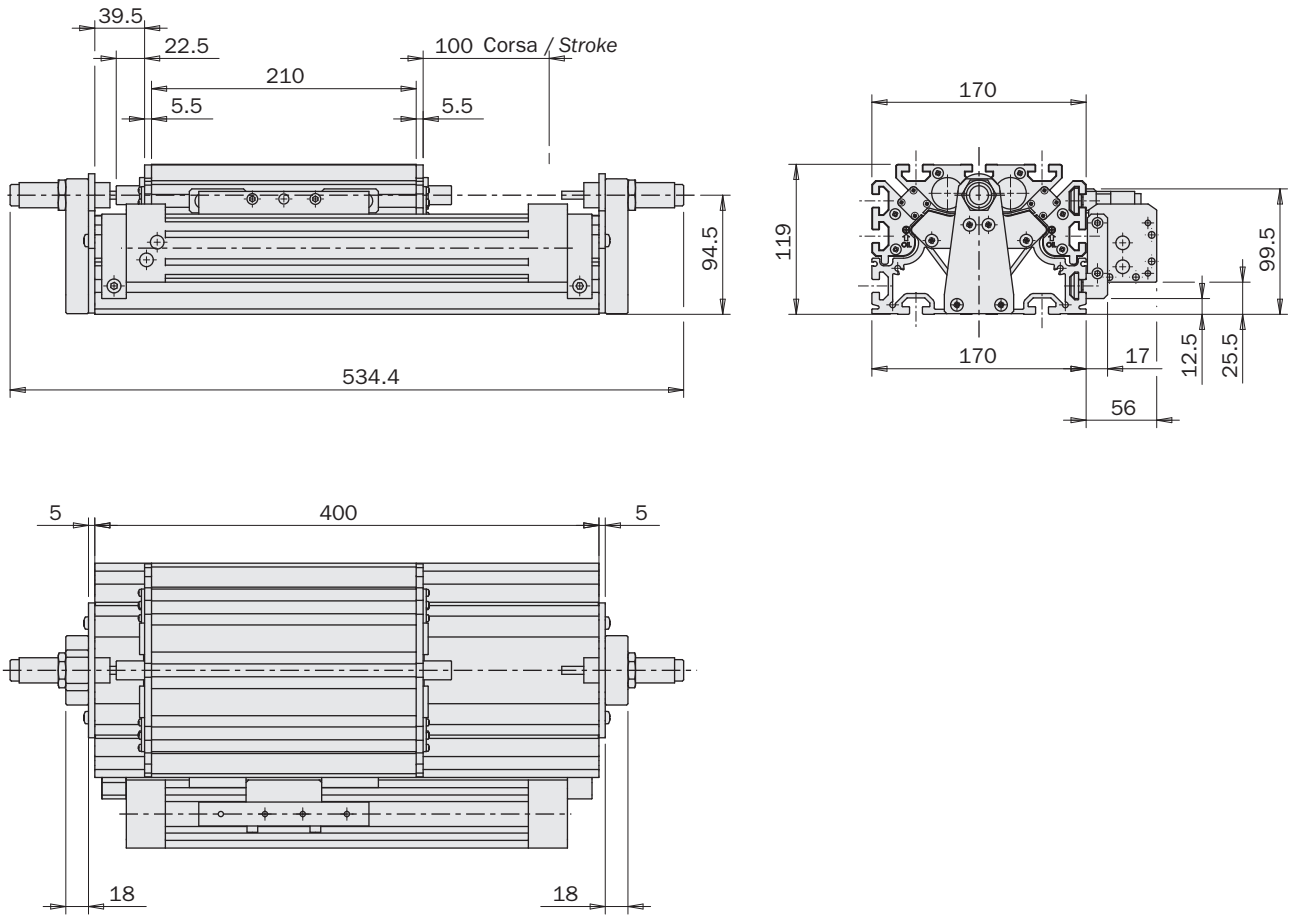


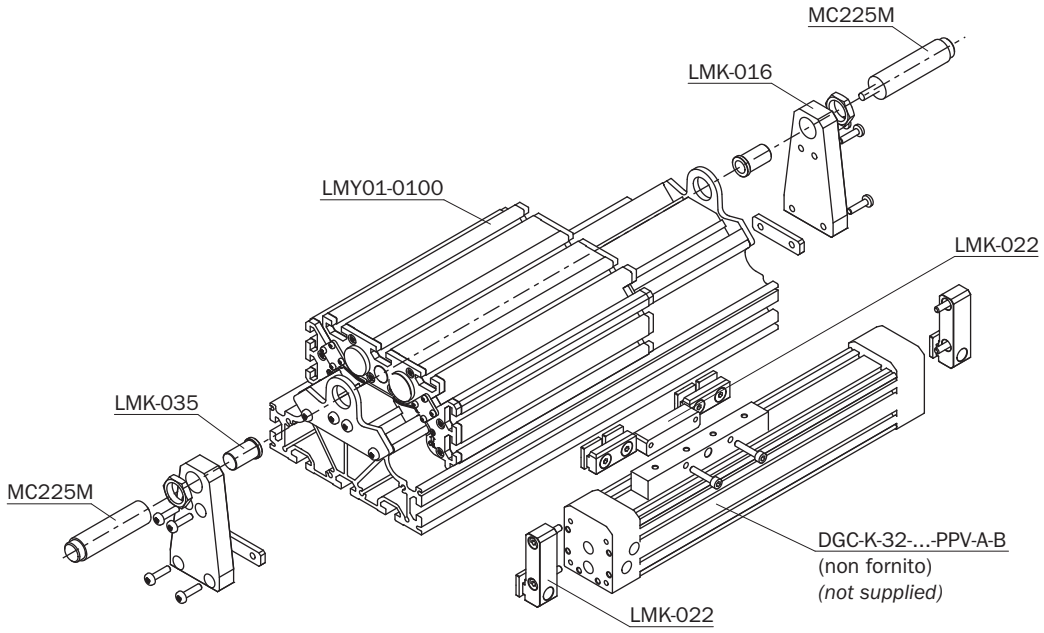


Cilindro ISO 15552 Ø40 (non fornito)
ISO 15552 cylinder Ø40 (not supplied)

Esempio: Slitta di alesaggio 32mm e corsa 100mm, con deceleratori idraulici, movimentata da cilindro senza stelo Festo

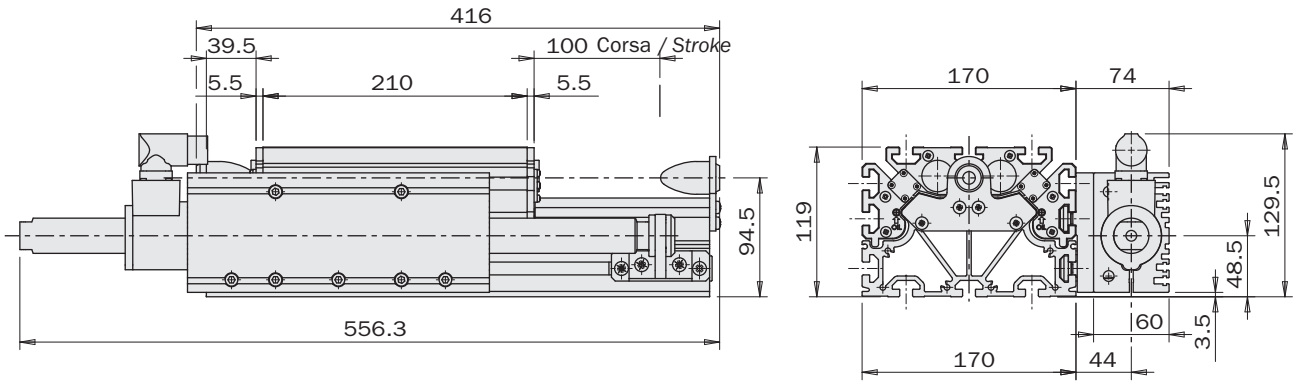
Example: Slide with 32mm piston bore and 100mm stroke, with hydraulic shock-absorbers, powered by the Festo rodless cylinder

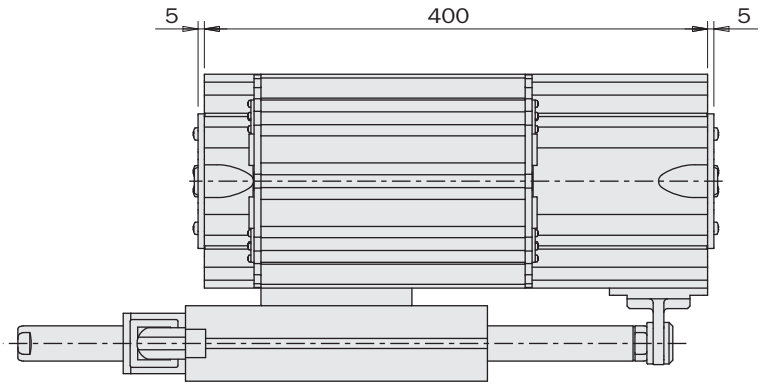


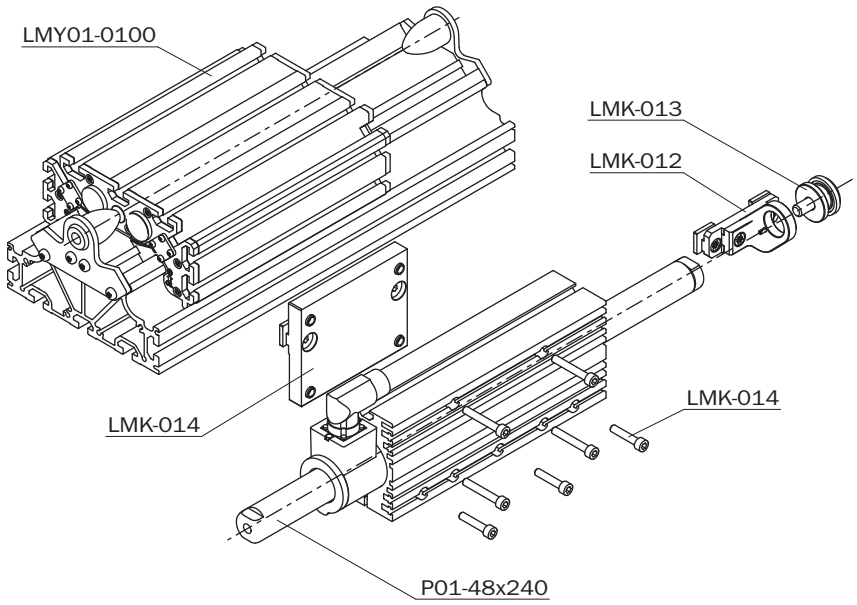


Esempio: Slitta di corsa 100mm, azionata da motore lineare LinMot

Example: Slide, 100mm stroke, powered by a LinMot linear motor

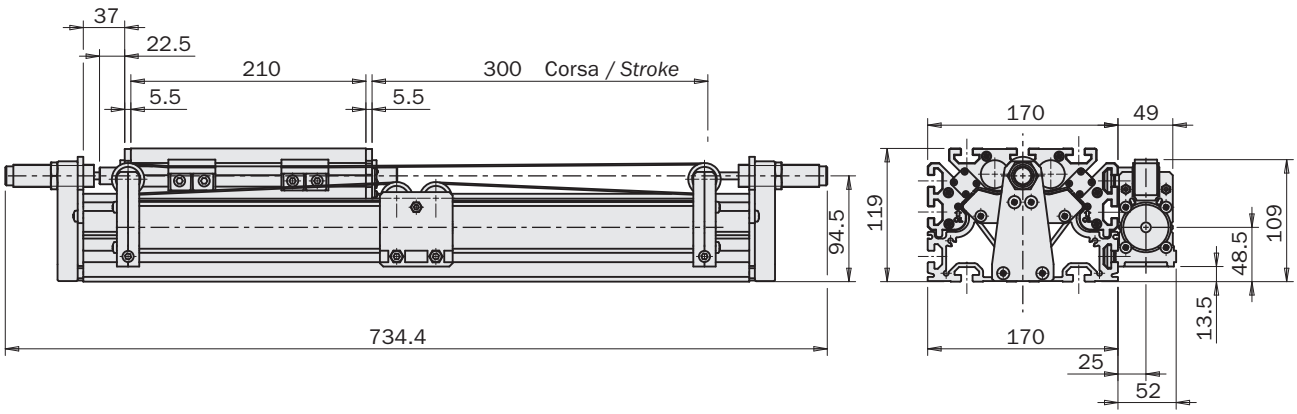


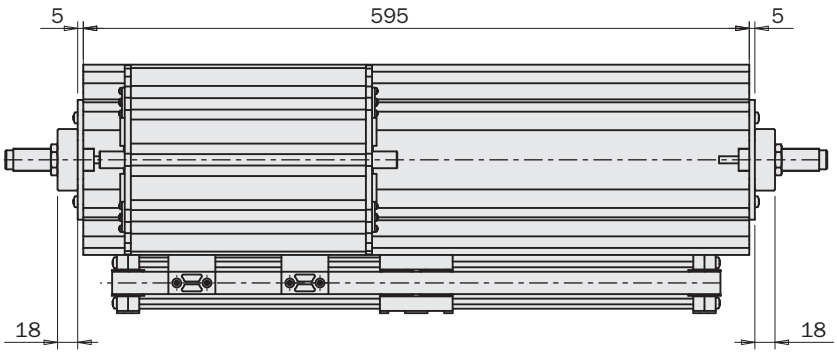


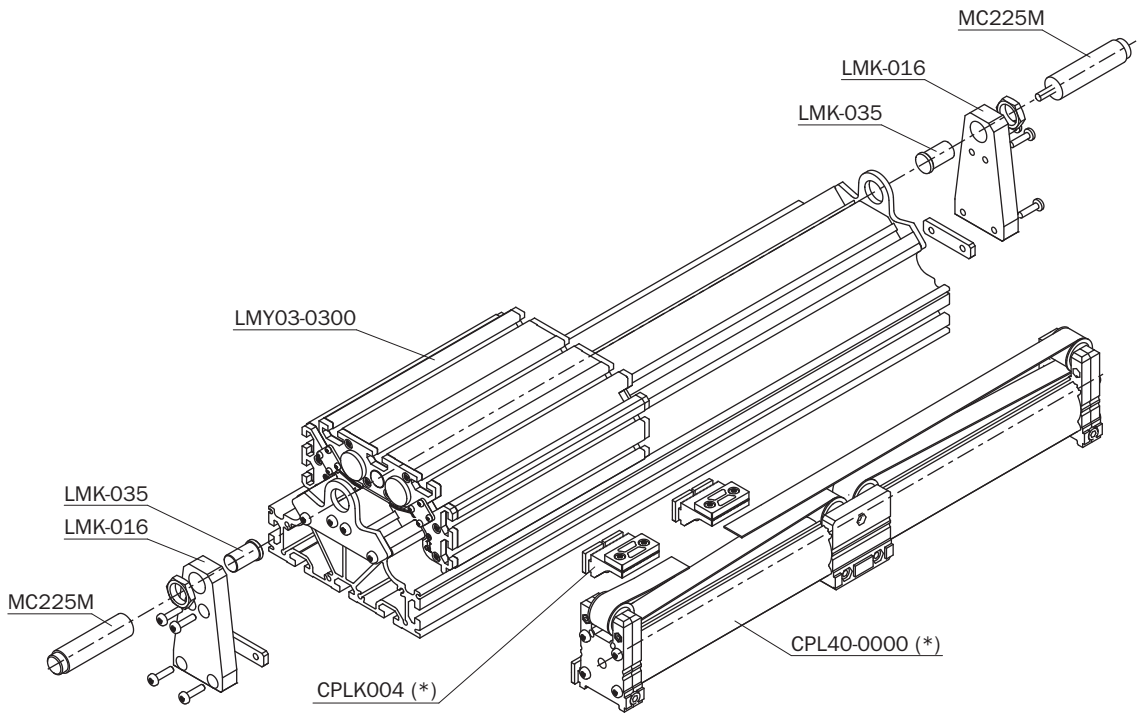


Esempio: Slitta di corsa 300mm con cilindro diametro 40mm e trasmissione 2:1

Example: Slide, 300mm stroke, with 40mm cylinder and 2:1 transmission



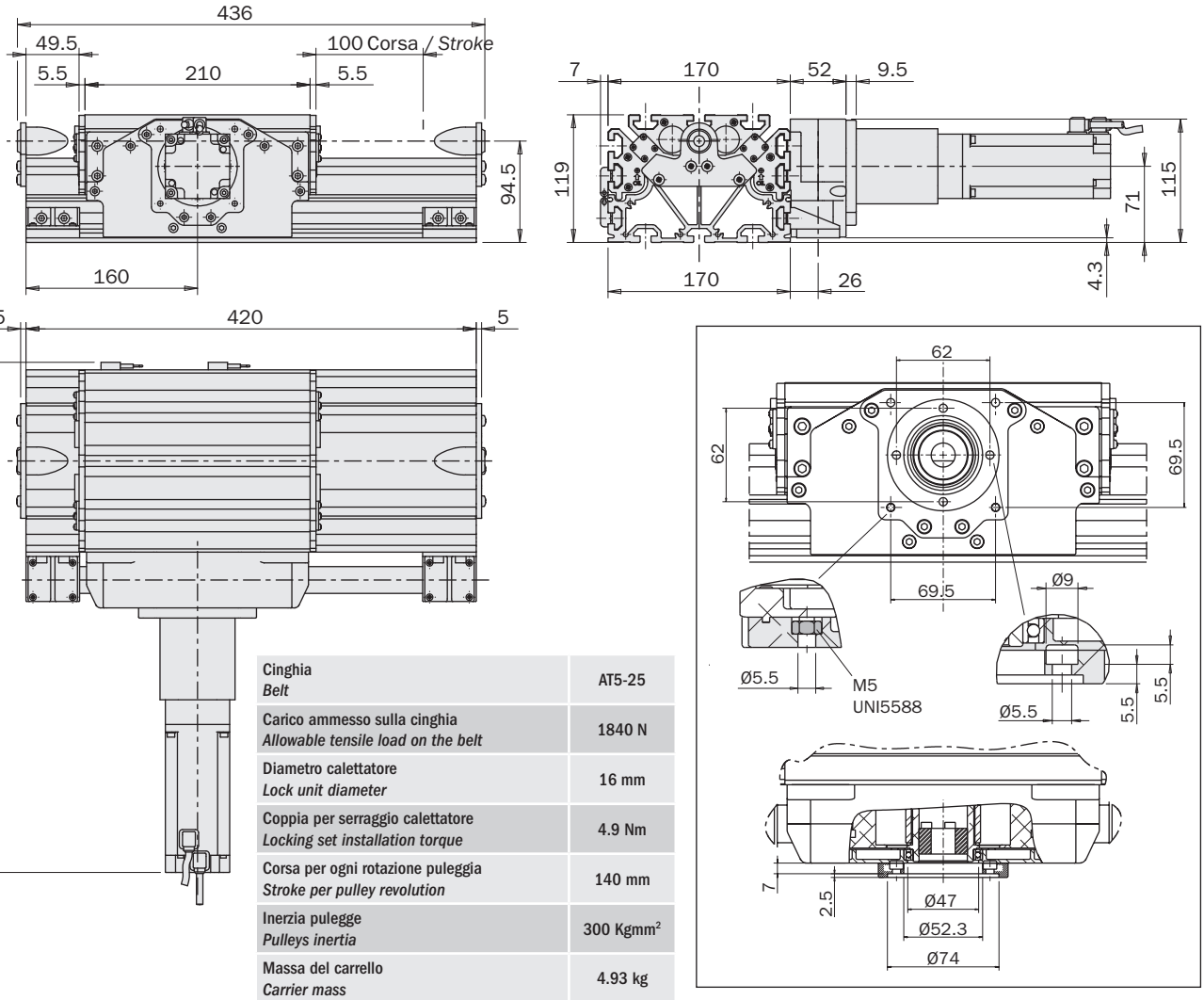




(*)
inclusi in LMY03-...
included in LMY03-...

Esempio: Slitta di corsa 100mm con trasmissione ad omega, azionata da motoriduttore

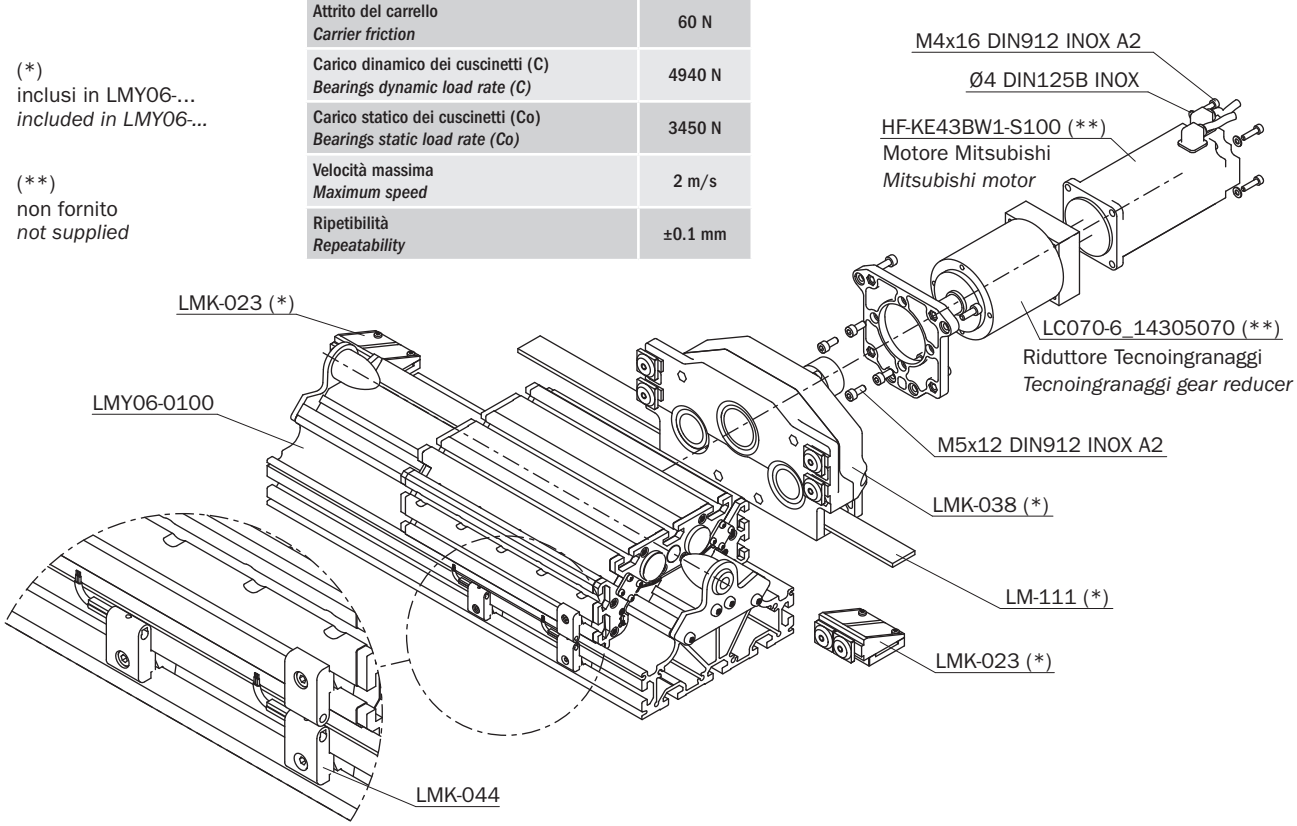
Example: Slide, 100mm stroke, with omega transmission, powered by servomotor and gear reducer



Cinghia *Belt*	AT5-25
Carico ammesso sulla cinghia *Allowable tensile load on the belt*	1840 N
Diametro calettatore *Lock unit diameter*	16 mm
Coppia per serraggio calettatore *Locking set installation torque*	4.9 Nm
Corsa per ogni rotazione puleggia *Stroke per pulley revolution*	140 mm
Inerzia pulegge *Pulleys inertia*	300 Kgmm^2
Massa del carrello *Carrier mass*	4.93 kg
Attrito del carrello *Carrier friction*	60 N
Carico dinamico dei cuscinetti (C) *Bearings dynamic load rate (C)*	4940 N
Carico statico dei cuscinetti (Co) *Bearings static load rate (Co)*	3450 N
Velocità massima *Maximum speed*	2 m/s
Ripetibilità *Repeatability*	±0.1 mm

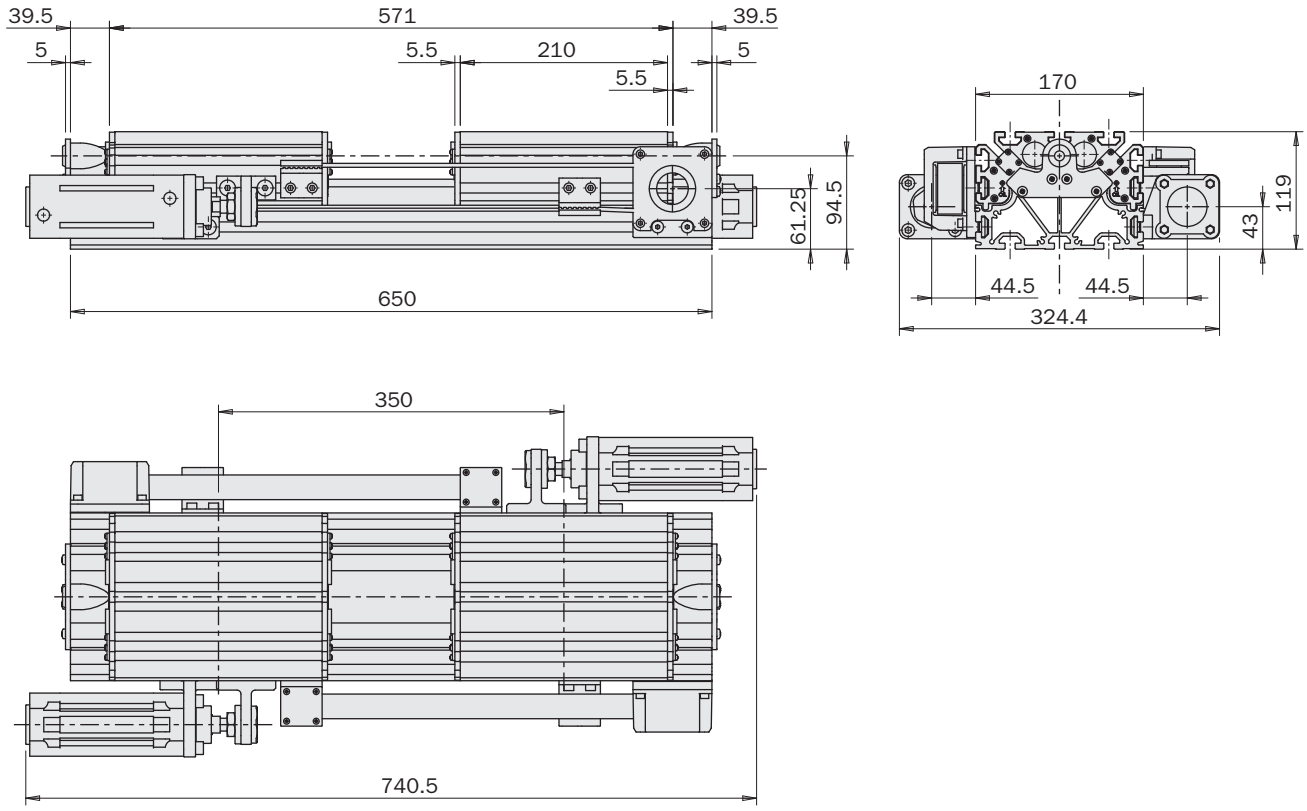
(*)
inclusi in LMY06-...
included in LMY06-...

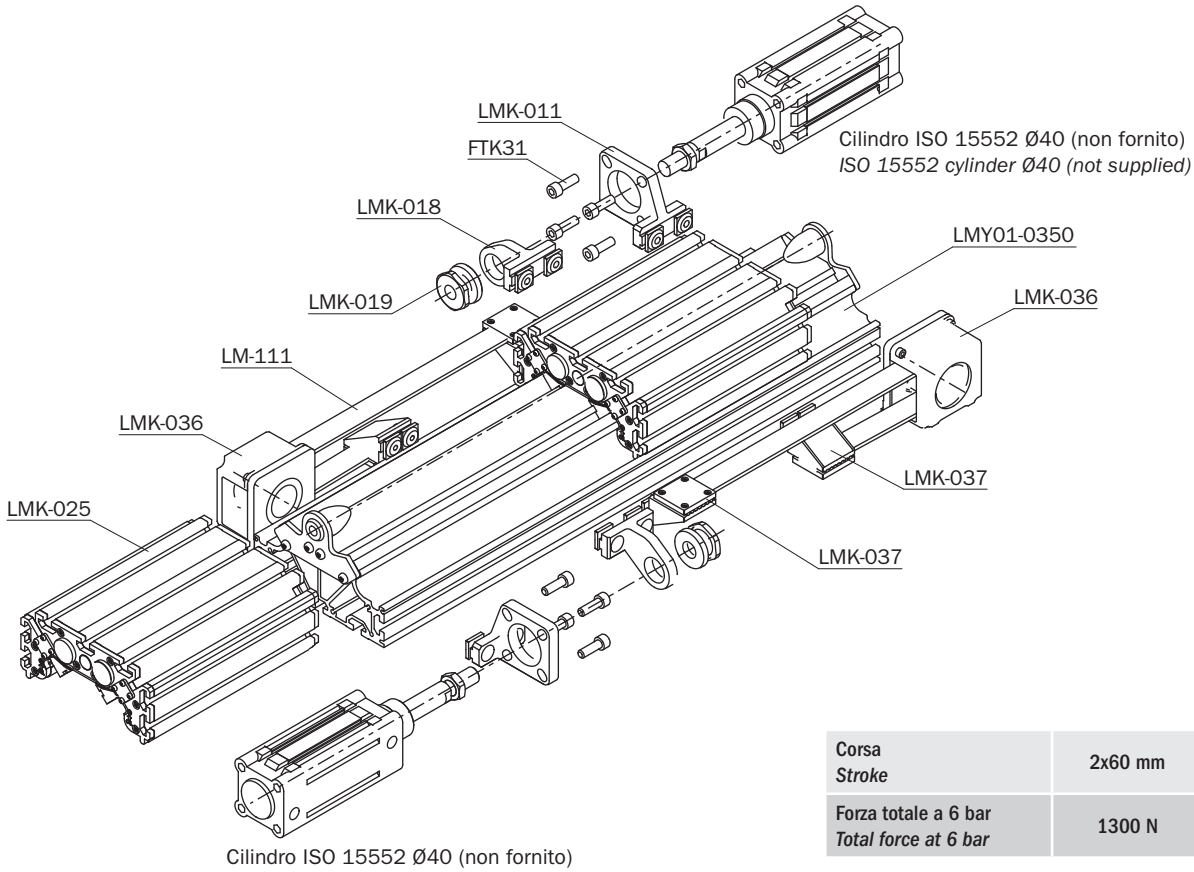
(**)
non fornito
not supplied



Esempio: Pinza autocentrante (interasse: 350mm) azionata da cilindri ISO 15552 alesaggio 40mm

Example: Self-centering gripper (interaxis: 350mm) powered by 40mm ISO 15552 cylinders





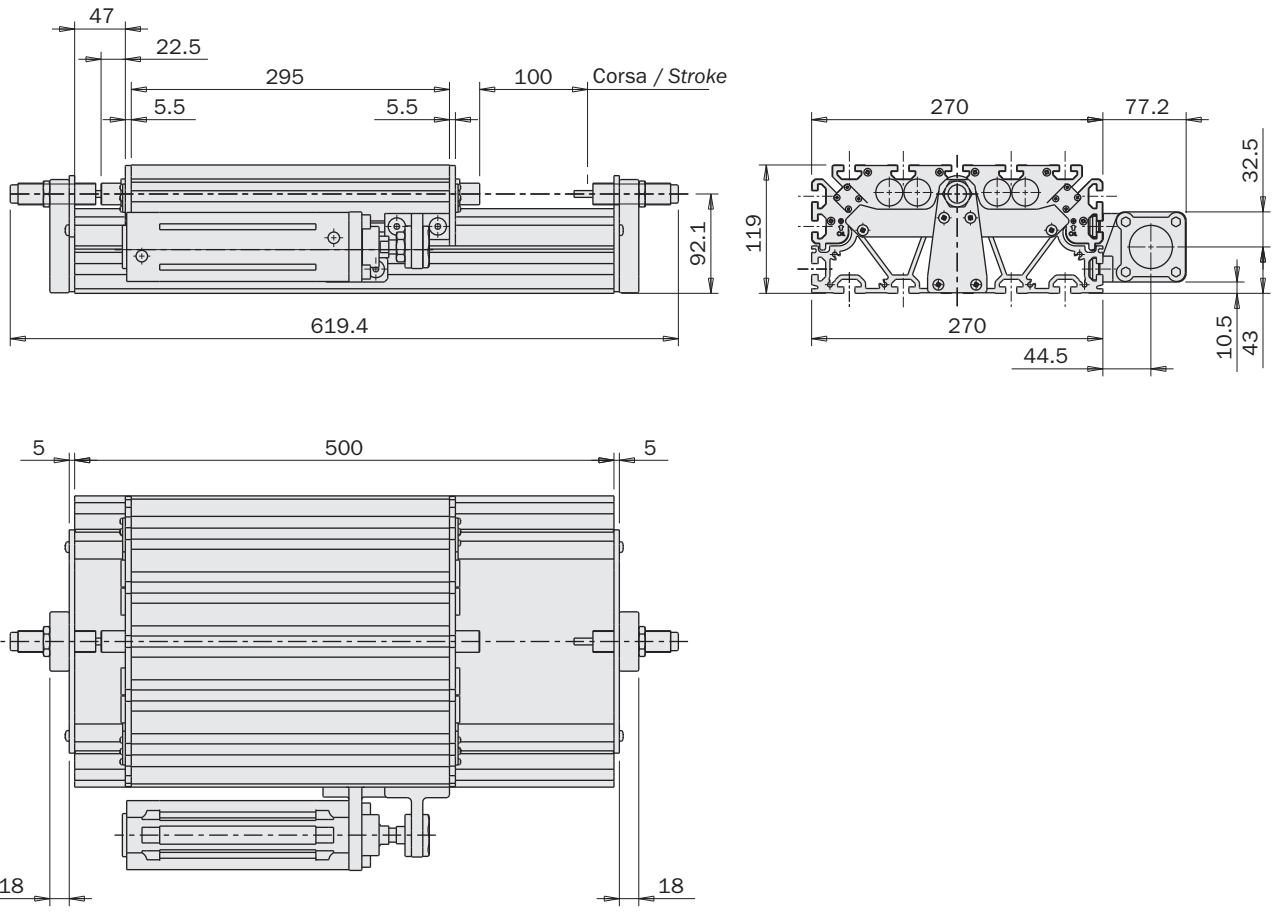
Cilindro ISO 15552 Ø40 (non fornito)
ISO 15552 cylinder Ø40 (not supplied)

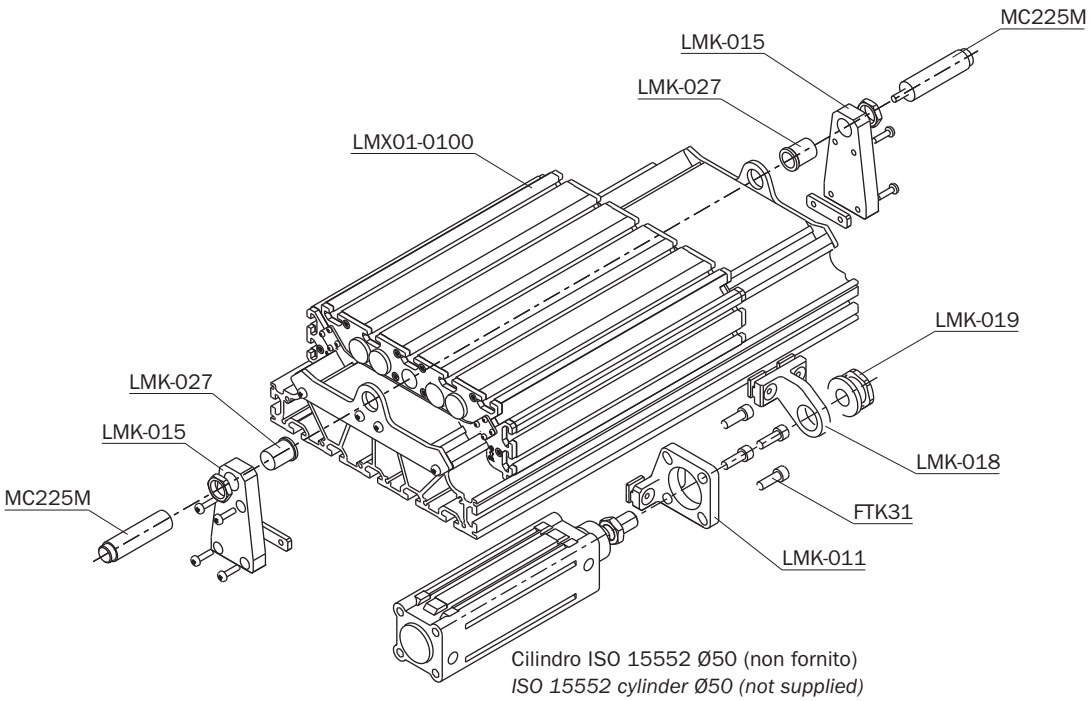
Cilindro ISO 15552 Ø40 (non fornito)
ISO 15552 cylinder Ø40 (not supplied)

Corsa *Stroke*	2x60 mm
Forza totale a 6 bar *Total force at 6 bar*	1300 N

Esempio: Slitta di alesaggio 50mm (cilindro ISO 15552) e corsa 100mm, con deceleratori idraulici

Example: Slide with 50mm piston bore (ISO 15552) and 100mm stroke, with hydraulic shock-absorbers

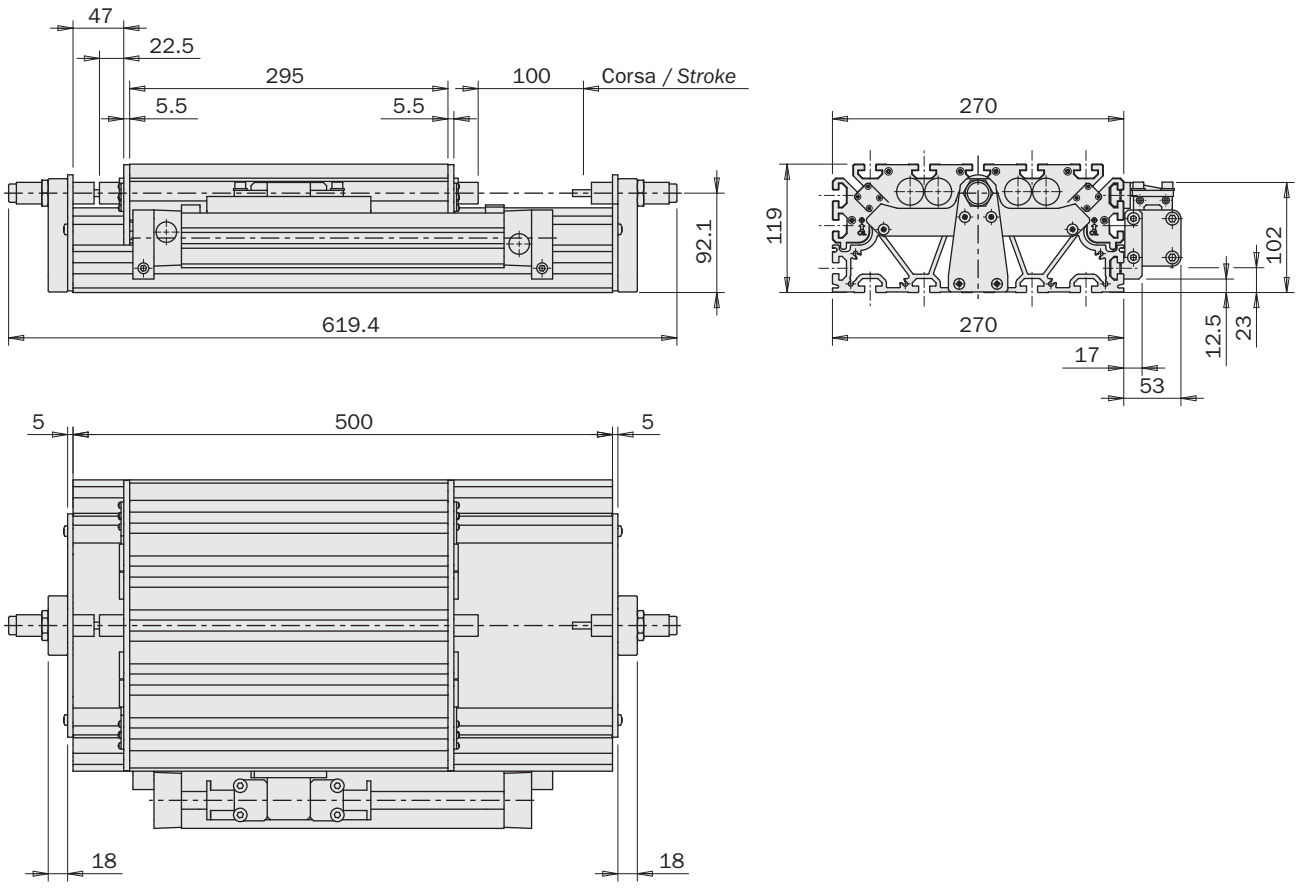


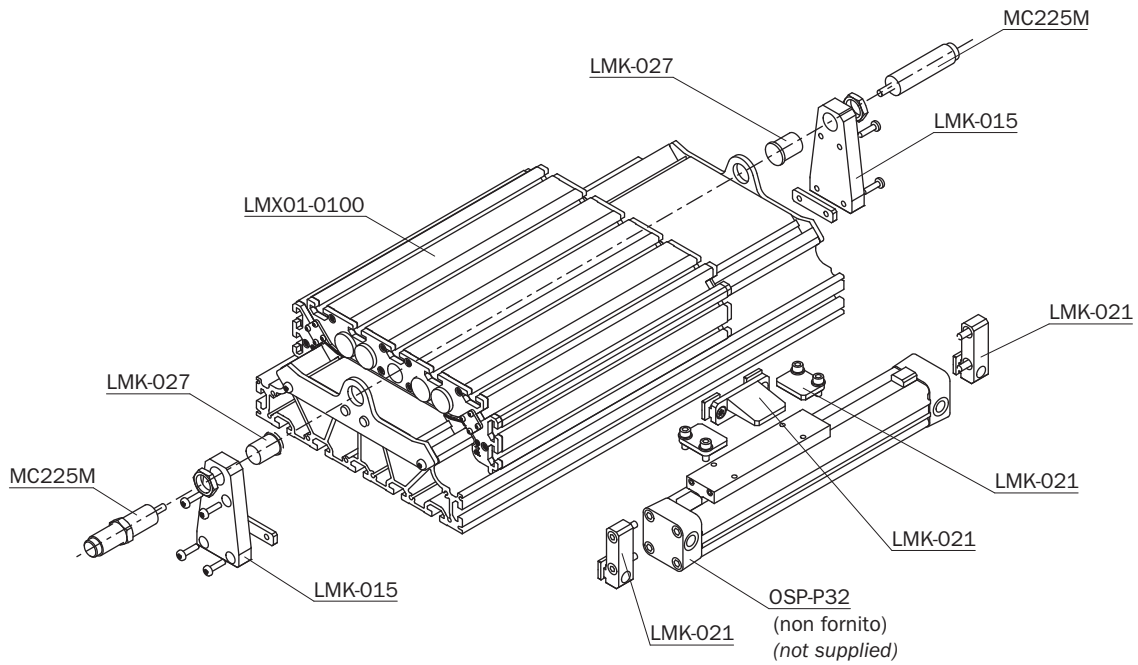


Cilindro ISO 15552 Ø50 (non fornito)
ISO 15552 cylinder Ø50 (not supplied)

Esempio: Slitta di alesaggio 32mm e corsa 100mm, con deceleratori idraulici, movimentata da cilindro senza stelo Origa

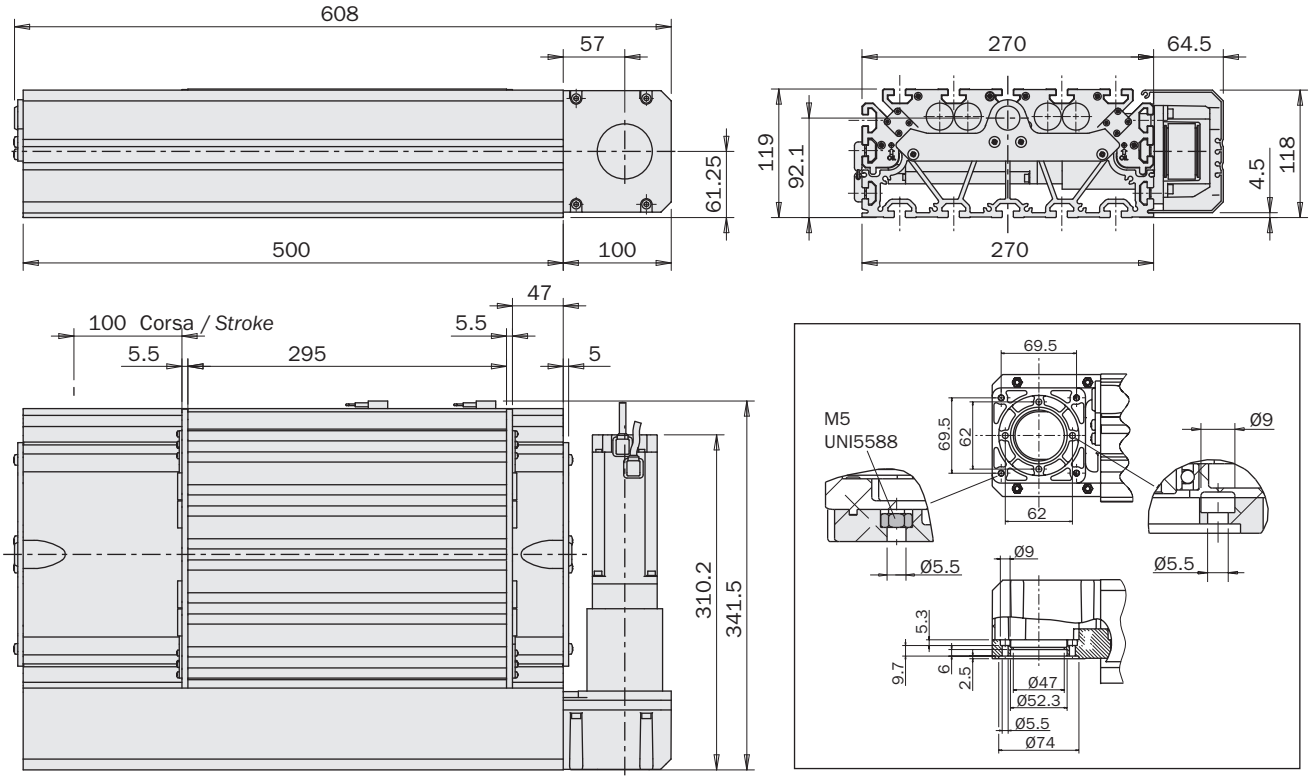
Example: Slide with 32mm piston bore and 100mm stroke, with hydraulic shock-absorbers, powered by the Origa rodless cylinder





Esempio: Slitta di corsa 100mm con trasmissione a cinghia, azionata da motoriduttore

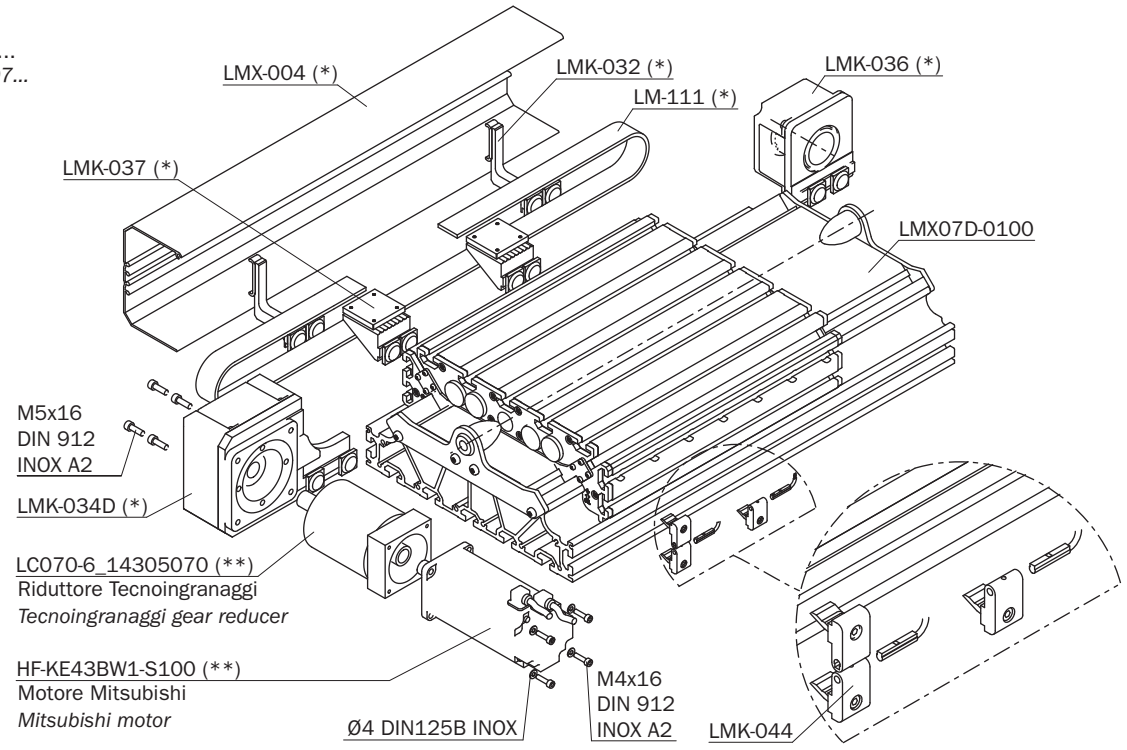
Example: Example: Slide, 100mm stroke, with belt drive, powered by servomotor and gear reducer



Cinghia *Belt*	AT5-25	Massa del carrello *Carrier mass*	4.80 kg
Carico ammesso sulla cinghia *Allowable tensile load on the belt*	1840 N	Attrito del carrello *Carrier friction*	65 N
Diametro calettatore *Lock unit diameter*	16 mm	Carico dinamico dei cuscinetti (C) *Bearings dynamic load rate (C)*	4940 N
Coppia per serraggio calettatore *Locking set installation torque*	4.9 Nm	Carico statico dei cuscinetti (Co) *Bearings static load rate (Co)*	3450 N
Corsa per ogni rotazione puleggia *Stroke per pulley revolution*	140 mm	Velocità massima *Maximum speed*	2 m/s
Inerzia pulegge *Pulleys inertia*	90 Kgmm^2	Ripetibilità *Repeatability*	±0.1 mm

(*)
inclusi in LMX07...
included in LMX07...

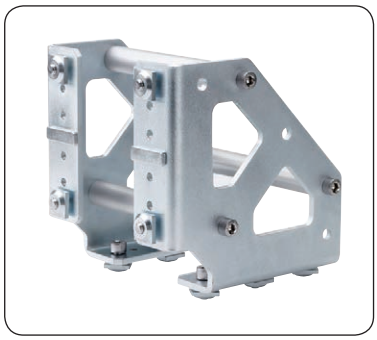
(**)
non fornito
not supplied



LMK-046

Squadra di fissaggio

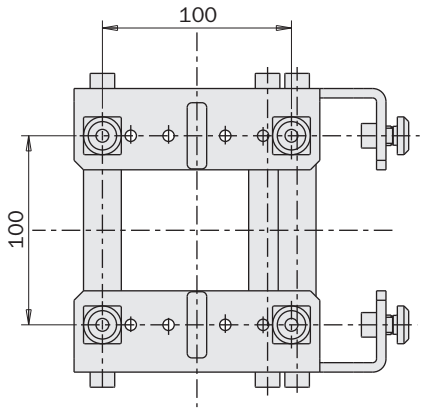
Peso: 2700g.

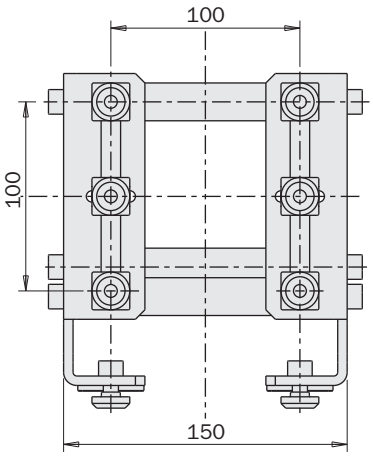


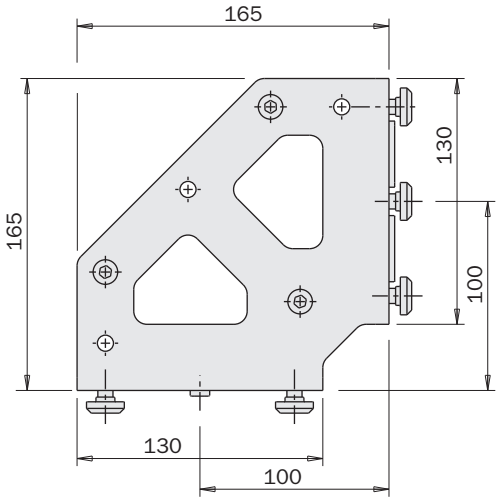
LMK-046

90° mounting bracket

Weight: 2700g.

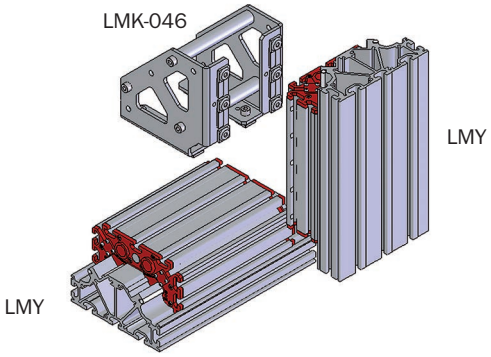


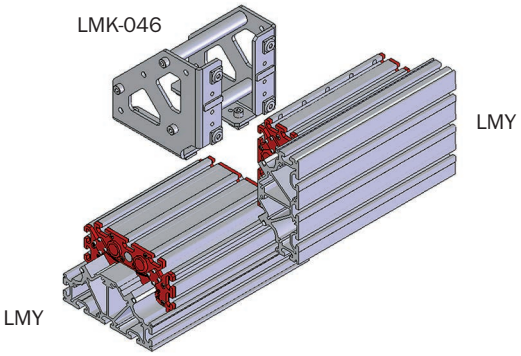


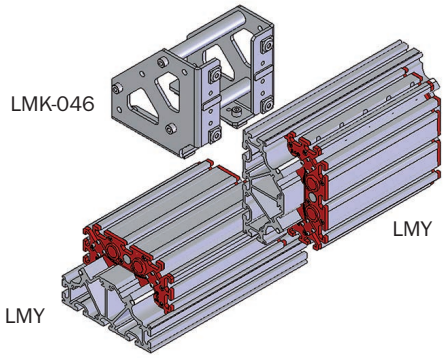


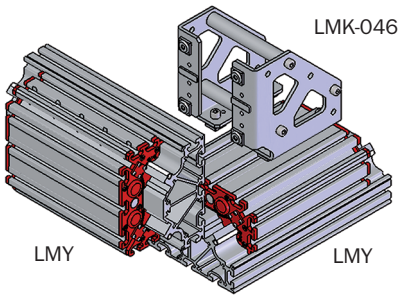
FIRST ANGLE PROJECTION

Esempi di applicazione / *Application examples*









LMK-040

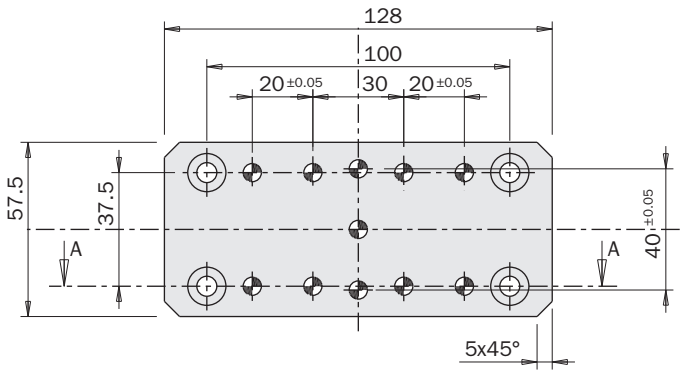
Sottogruppo interfaccia guide LMX/LMY

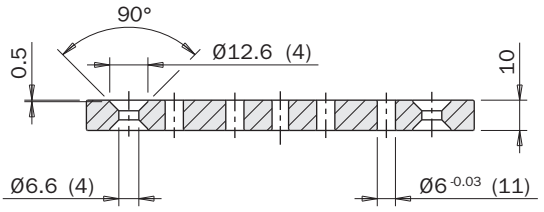
Peso: 590g.

LMK-040

Subassembly of interface for guidances LMX/LMY

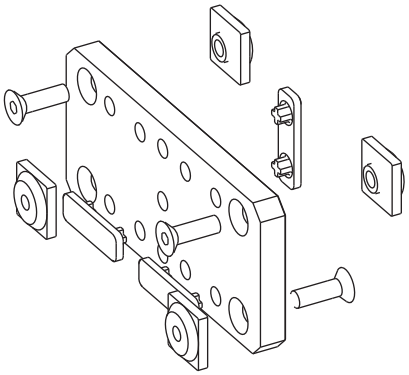
Weight: 590g.

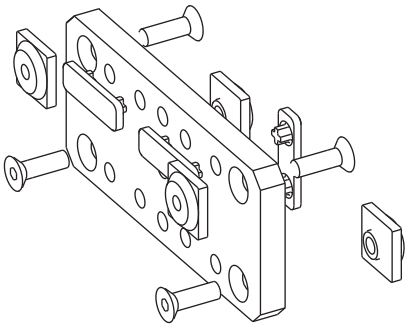


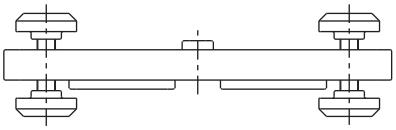


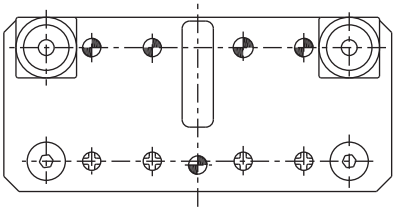
SEZIONE A-A

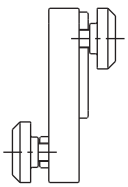
FIRST ANGLE PROJECTION

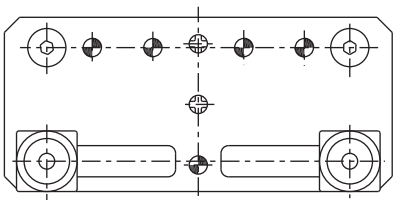


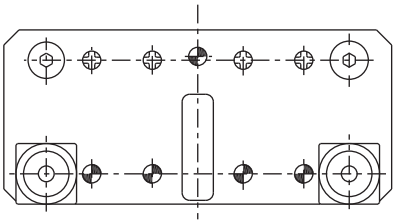


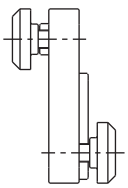


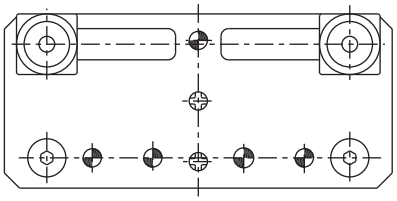




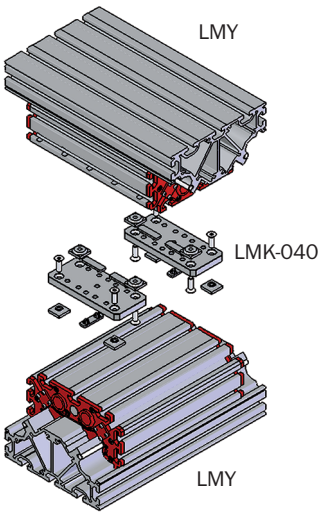


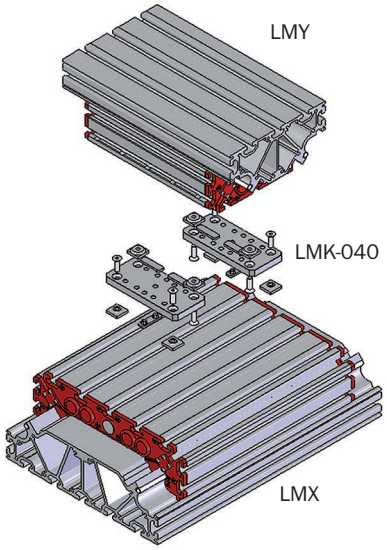


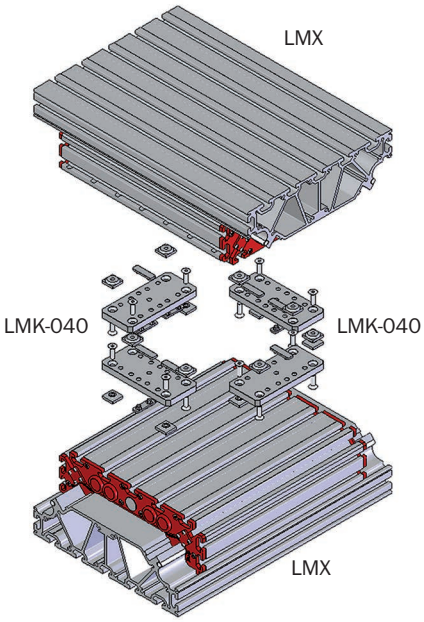


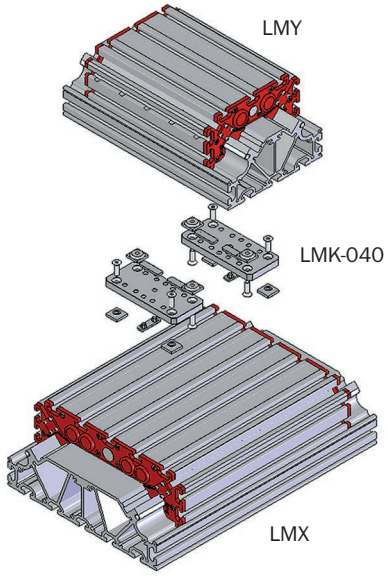


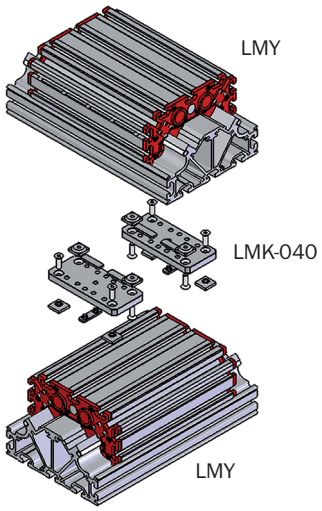
Esempi di applicazione / *Application examples*











LMK-041

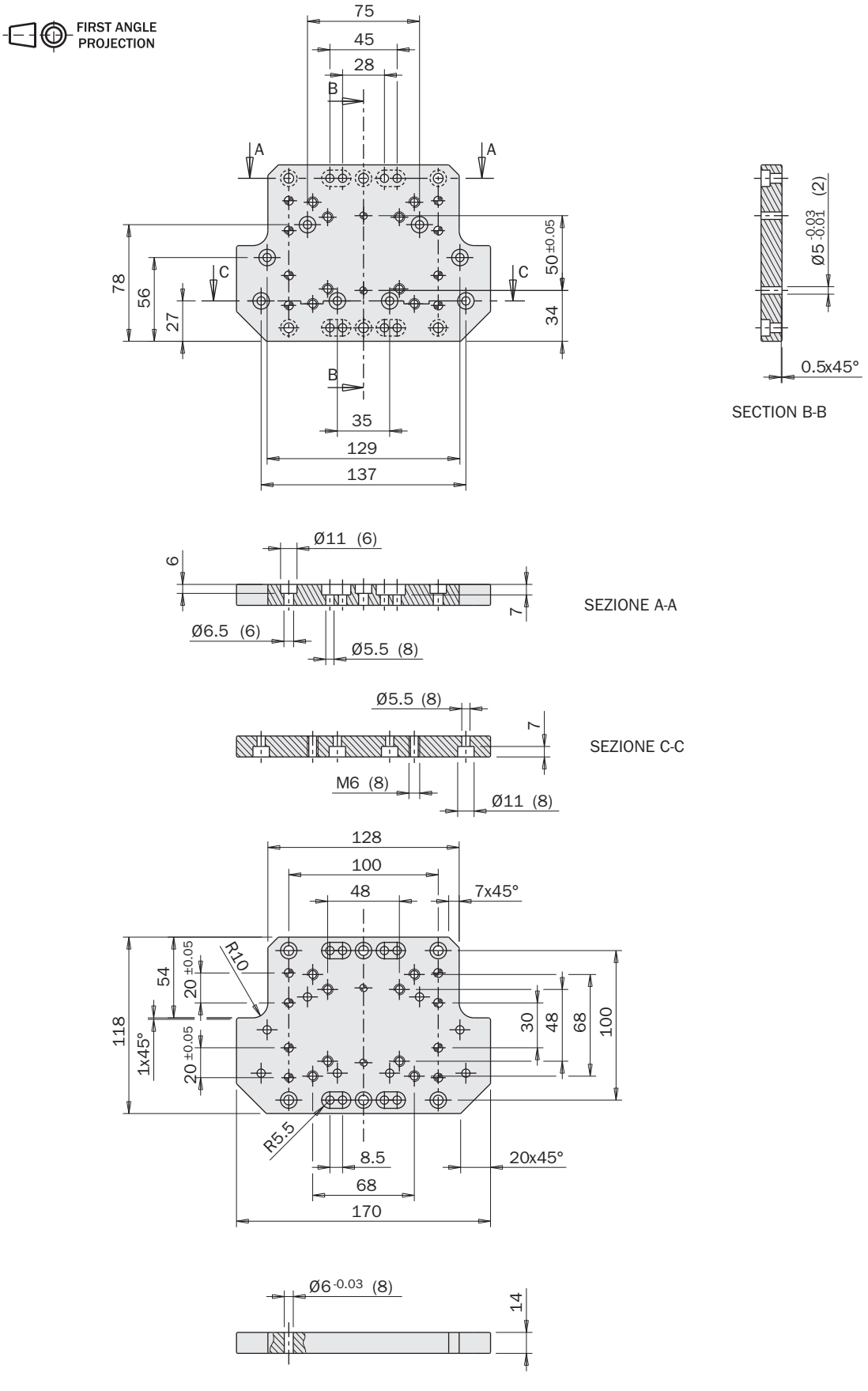
Sottogruppo interfaccia LM/LL/RBT

Peso: 600g.

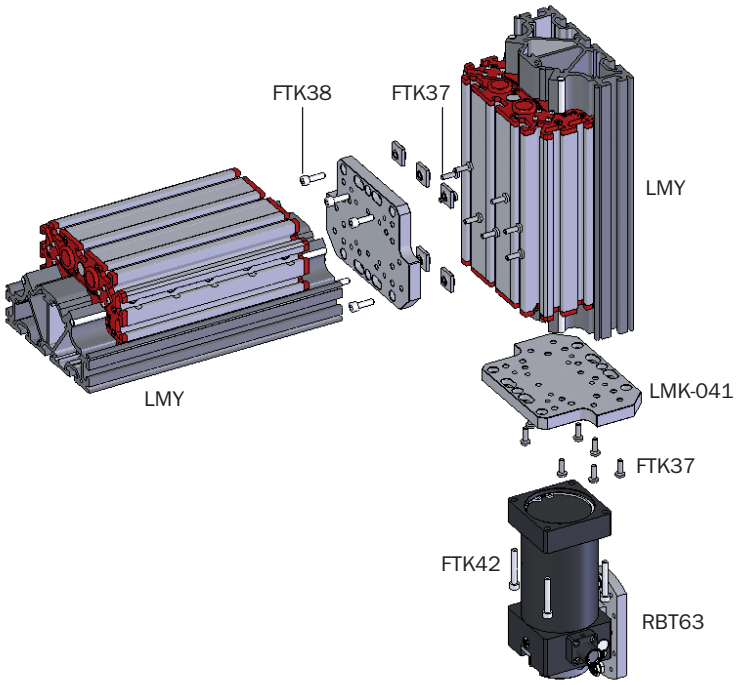
LMK-041

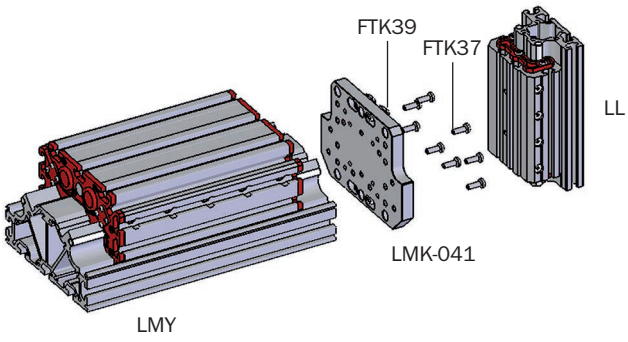
Subassembly of interface LM/LL/RBT

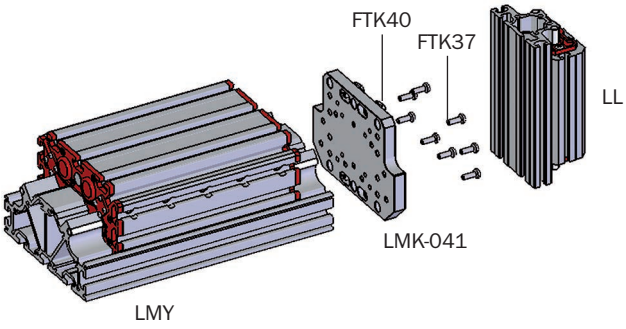
Weight: 600g.



Esempi di applicazione / *Application examples*







LMK-045

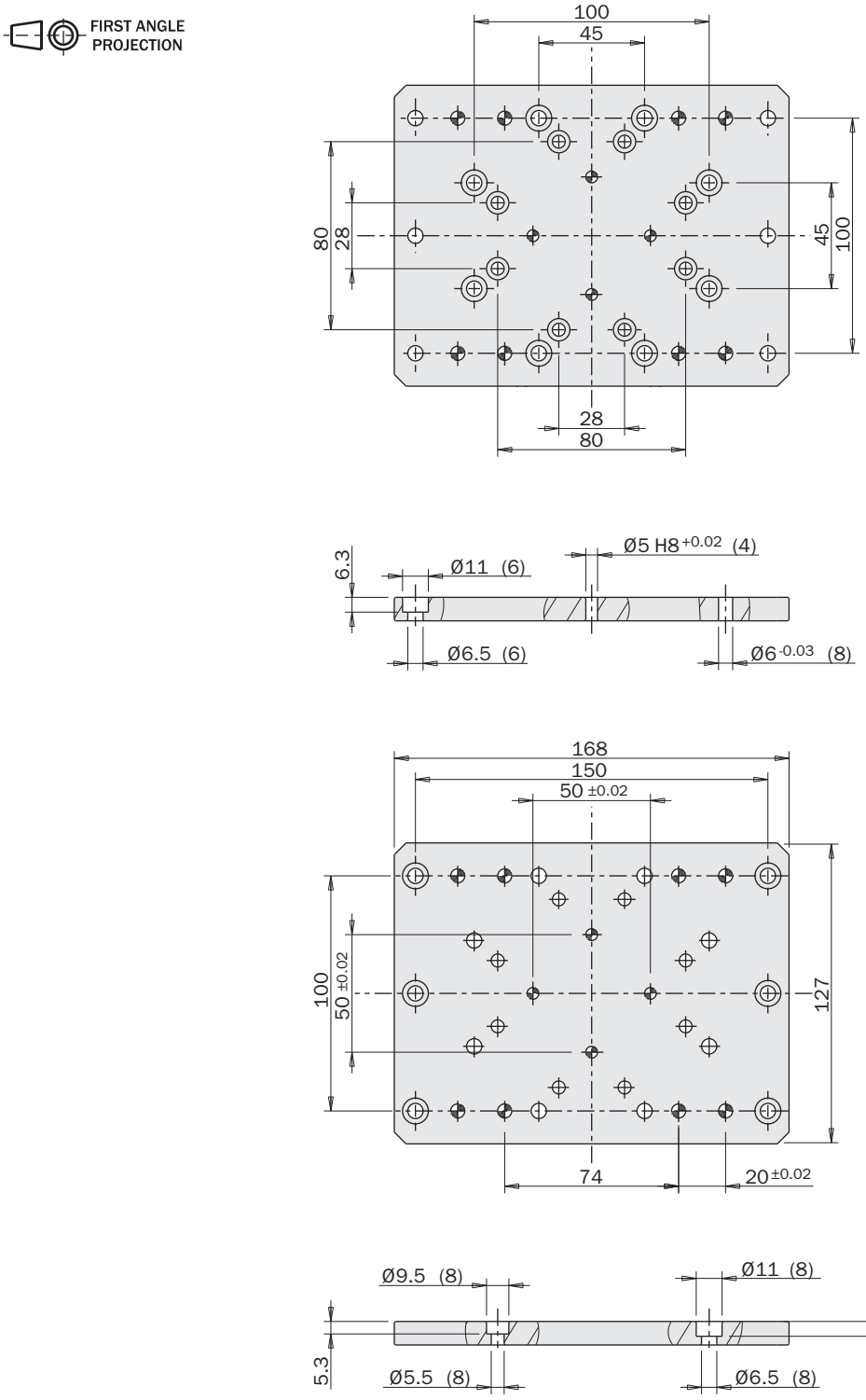
Interfaccia di montaggio LM/LL

Peso: 550g.

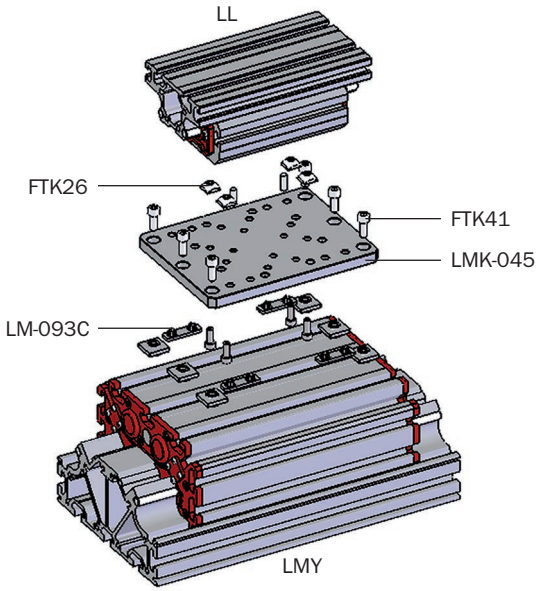
LMK-045

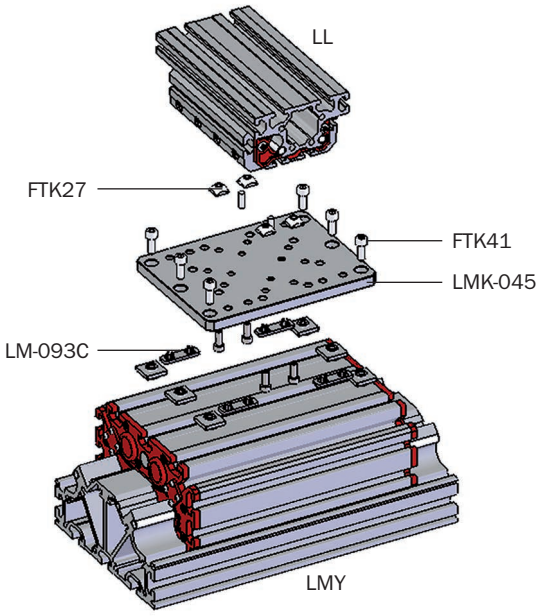
Mounting interface plate LM/LL

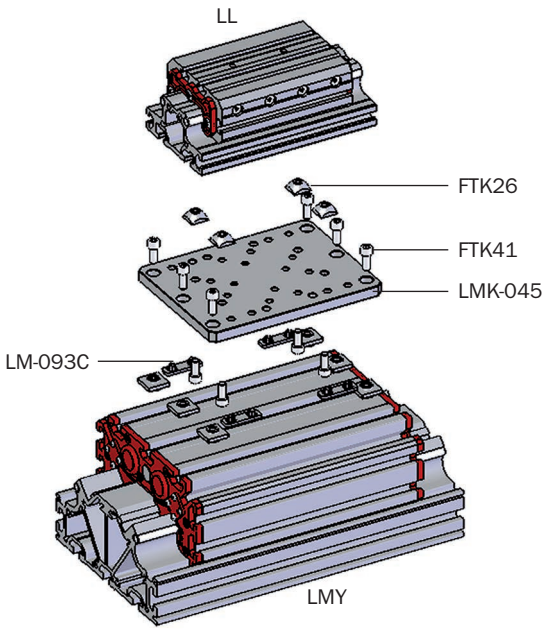
Weight: 550g.

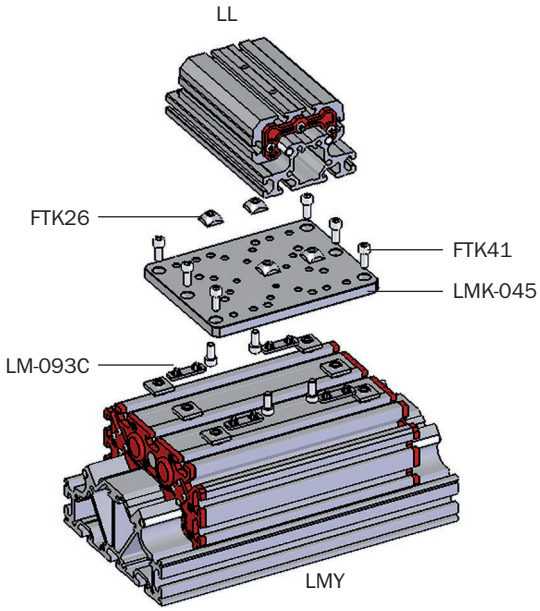


Esempi di applicazione / *Application examples*









Pinze pneumatiche
Pneumatic grippers

Pinze ad espansione
Air hands

Attuatori lineari
Linear actuators

Guide lineari
Linear guidances

Unità rotanti
Rotary units

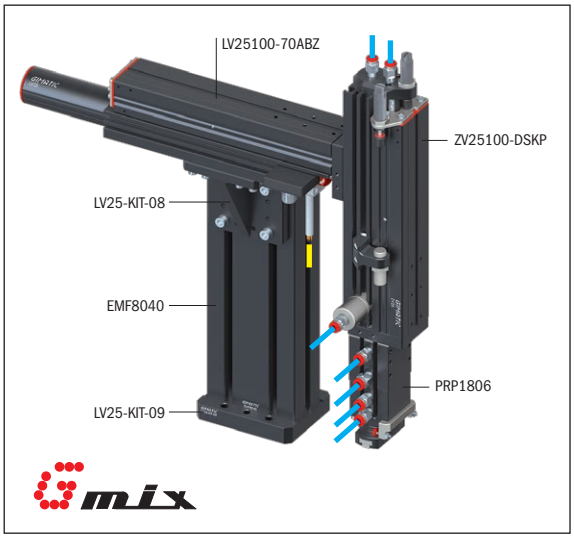


Pinza parallela pneumatica integrata con rotatore

- Compatibile con il sistema G-mix.
- Angolo di rotazione selezionabile.
- Pinza e rotatore integrati: i quattro sensori ed i quattro tubi non ruotano.
- Sensori magnetici opzionali.
- Disponibile su richiesta anche con molla in chiusura (-NC) o in apertura (-NO).

Pneumatic parallel gripper with rotator

- *Compatible with the G-mix system.*
- *Selectable rotation angle.*
- *Gripper with integrated rotator: the four sensors and the four hoses do not rotate.*
- *Optional magnetic sensors.*
- *Spring closed (-NC) or spring open (-NO) option available upon request.*





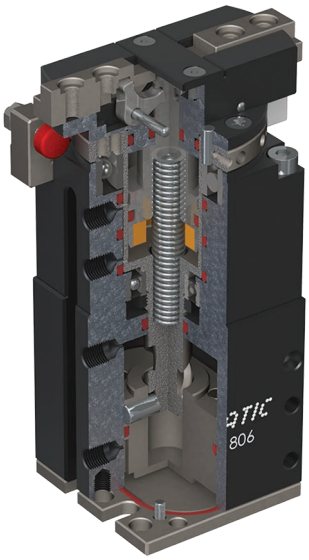
NEW NEW

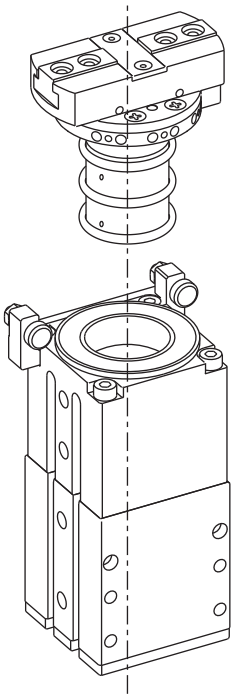
(*)
Articolo in preparazione
Under construction

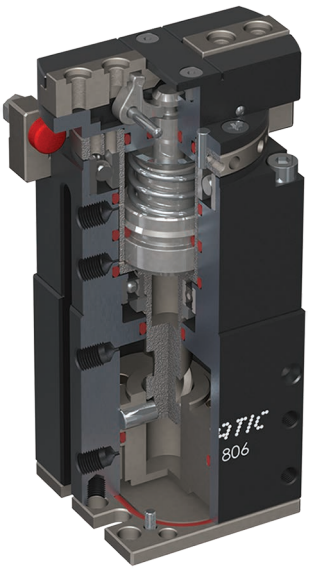
	PRP1806 (*)	PRP3516 (*)
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure*	3 ÷ 8 bar	
Temperatura di esercizio *Operating temperature*	5° ÷ 60°C.	
Forza di serraggio per griffa in apertura a 6 bar *Opening gripping force on each jaw at 6 bar*	68 N	250 N
Forza di serraggio totale in apertura a 6 bar *Total opening gripping force at 6 bar*	136 N	500 N
Forza di serraggio per griffa in chiusura a 6 bar *Closing gripping force on each jaw at 6 bar*	60 N	220 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	120 N	440 N
Corsa totale pinza (±0.3 mm) *Gripper total stroke*	6 mm	16 mm
Consumo d'aria per ciclo pinza *Air consumption per gripper cycle*	3 cm^3	24 cm^3
Tempo minimo di chiusura / apertura pinza *Minimum gripper closing / opening timer*	0.02 s	0.04 s
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	85 Ncm	320 Ncm
Corsa angolare massima *Maximum angular angle*	180°	180°
Consumo d'aria per ciclo rotatore *Air consumption per rotator cycle*	13 cm^3	50 cm^3
Tempo minimo per rotazione di 180° *Minimum time for 180° rotation*	0.20 s	0.30 s
Peso *Weight*	320 g	1580 g

Schema di funzionamento

Operation principle





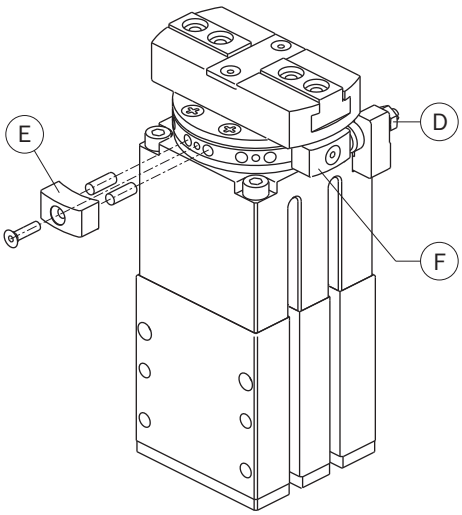


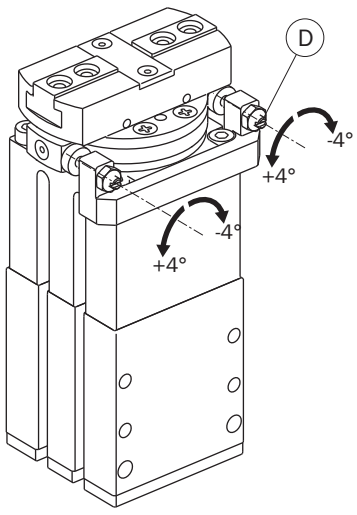
Angolo di rotazione

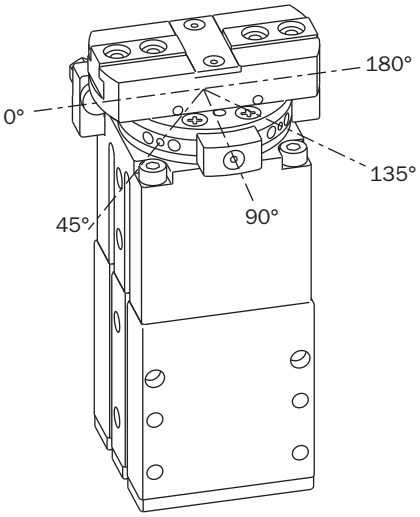
Le pinze sono fornite nella configurazione adatta per effettuare rotazioni di 180°, cioè con il blocchetto di fine-corsa (F) montato sul disco.
È comunque fornito nella confezione un secondo blocchetto (E) che consente di ridurre la corsa a 90° oppure 45° oppure 135°.
Poi è possibile una regolazione fine (+/-4°) delle posizioni di fine-corsa agendo sulle viti di registro (D).

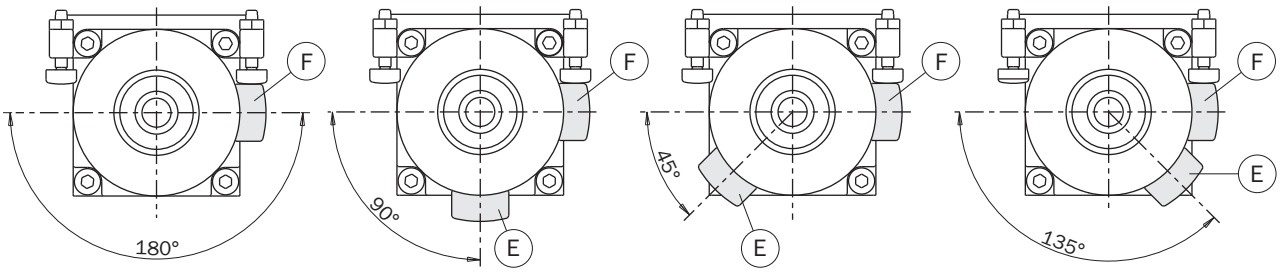
Rotation angle

The grippers are supplied in a configuration suitable for 180° rotations, that is with the stroke end block (F) mounted on the disc.
However, the package includes a second block (E) which enables to reduce the stroke to 90° or 45° or 135°.
A fine adjustment (+/-4°) of the stroke-end positions is also possible with the adjustment screws (D).

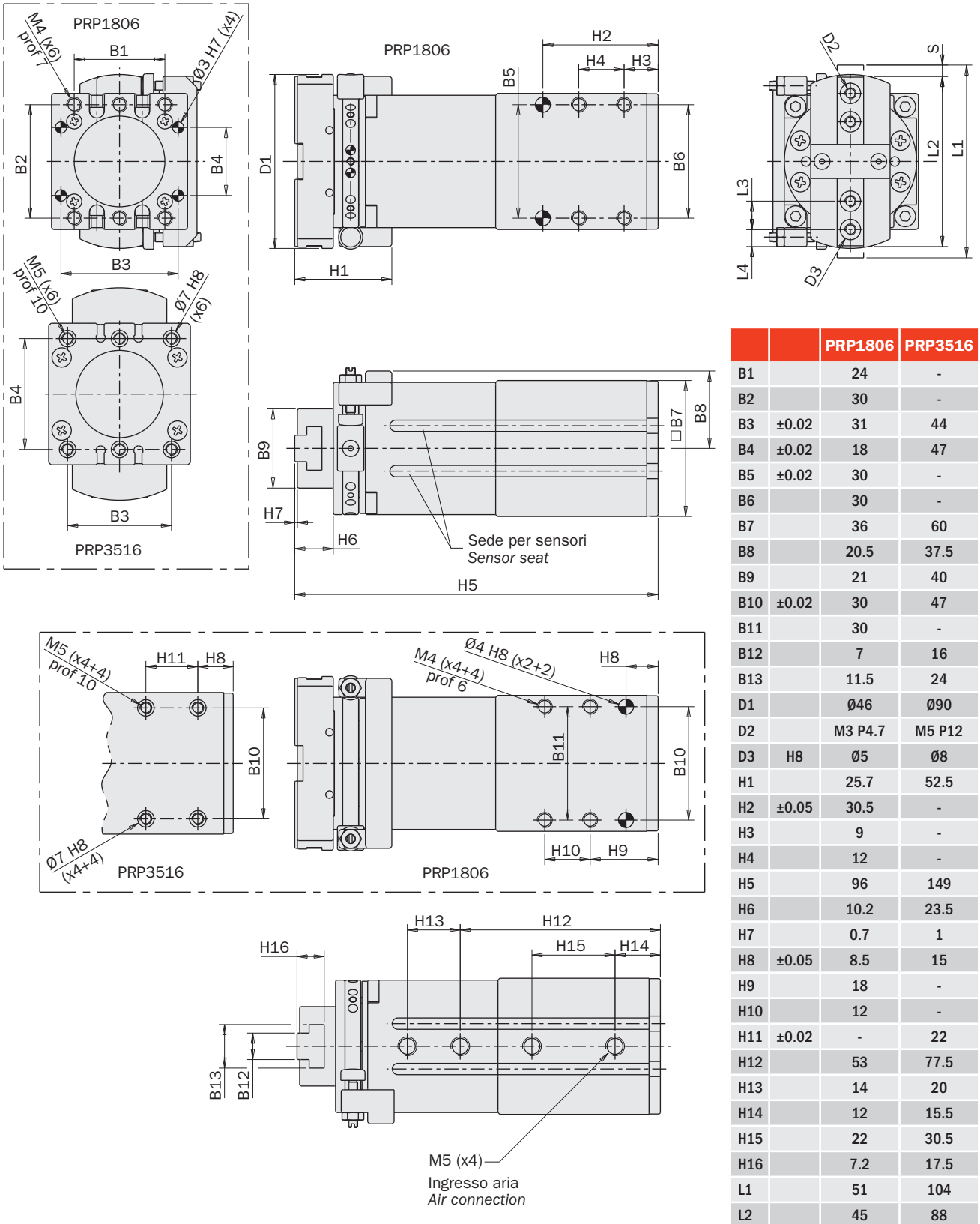








Dimensioni (mm) / *Dimensions (mm)*



		PRP1806	PRP3516
B1		24	-
B2		30	-
B3	±0.02	31	44
B4	±0.02	18	47
B5	±0.02	30	-
B6		30	-
B7		36	60
B8		20.5	37.5
B9		21	40
B10	±0.02	30	47
B11		30	-
B12		7	16
B13		11.5	24
D1		Ø46	Ø90
D2		M3 P4.7	M5 P12
D3	H8	Ø5	Ø8
H1		25.7	52.5
H2	±0.05	30.5	-
H3		9	-
H4		12	-
H5		96	149
H6		10.2	23.5
H7		0.7	1
H8	±0.05	8.5	15
H9		18	-
H10		12	-
H11	±0.02	-	22
H12		53	77.5
H13		14	20
H14		12	15.5
H15		22	30.5
H16		7.2	17.5
L1		51	104
L2		45	88
L3	±0.02	7.5	18
L4	±0.05	4.5	7

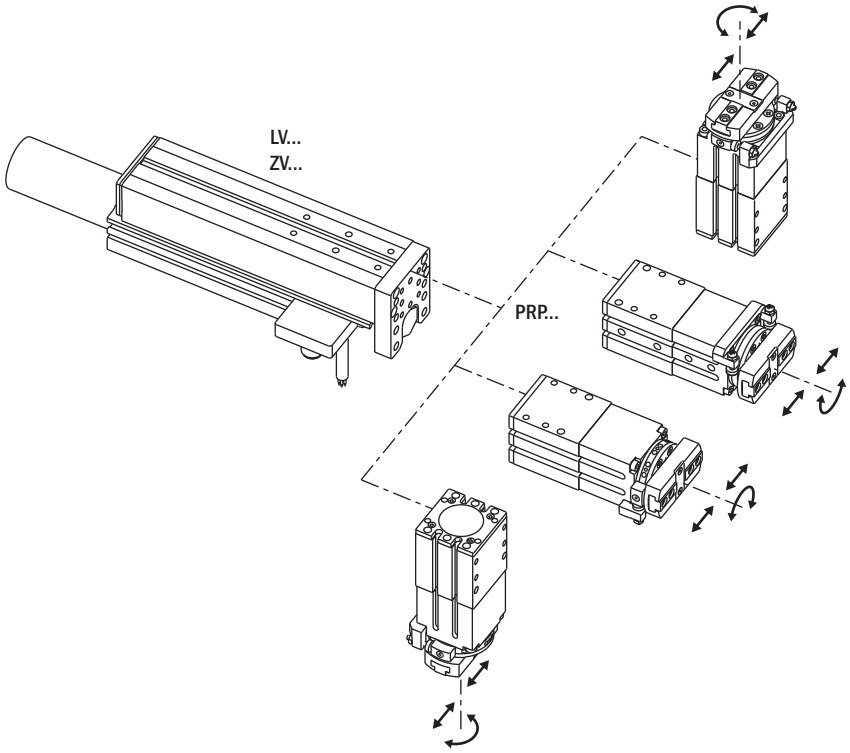
FIRST ANGLE PROJECTION

Esempio di applicazione

Le pinze PRP si possono montare sulle slitte del sistema G-mix (ZV pneumatiche o LV elettriche), senza nessuna interfaccia, nelle quattro posizioni mostrate in figura.

Application example

The grippers of the PRP series can be mounted on the slides of the G-mix system (ZV pneumatic or LV electric), with no interface, in the four positions shown in the figure.



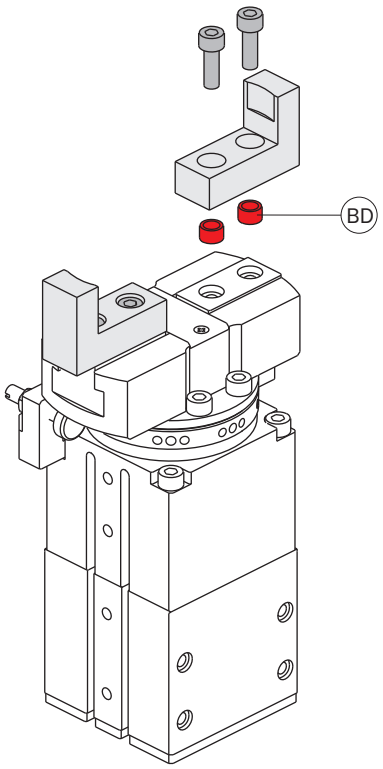
	PRP
LV25 ZV25	PRP1806
LV40 ZV40	PRP3516

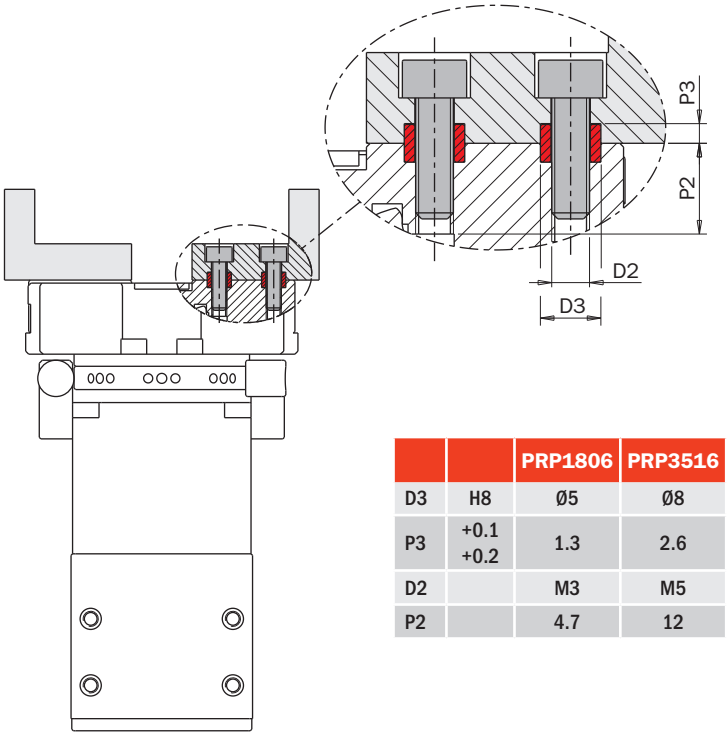
Fissaggio delle estremità di presa

Costruire le dita di presa il più possibile corte e leggere. Usare le boccole (BD) fornite con la pinza per il centraggio.

Fastening the gripping tools

The gripping fingers must be as short and light as possible. For a precise centring, use the bushes (BD) supplied with the gripper.





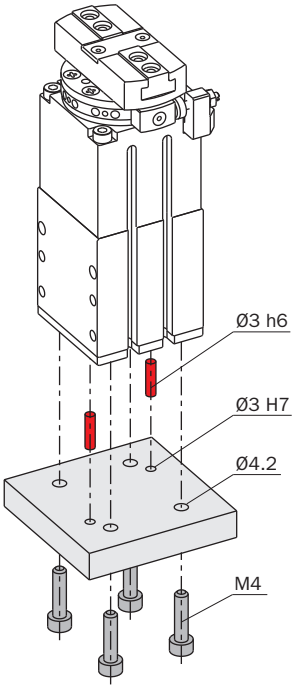
		PRP1806	PRP3516
D3	H8	Ø5	Ø8
P3	+0.1 +0.2	1.3	2.6
D2		M3	M5
P2		4.7	12

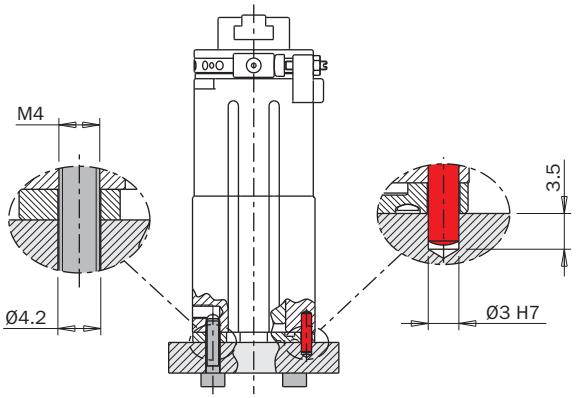
Fissaggio della pinza PRP1806

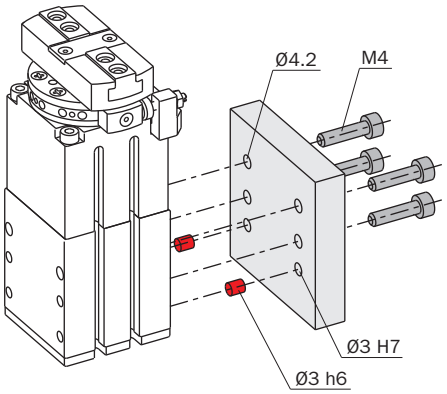
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.

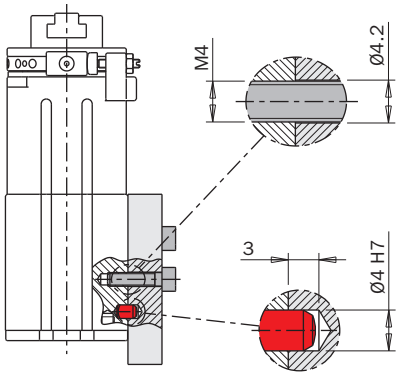
Fastening of gripper PRP1806

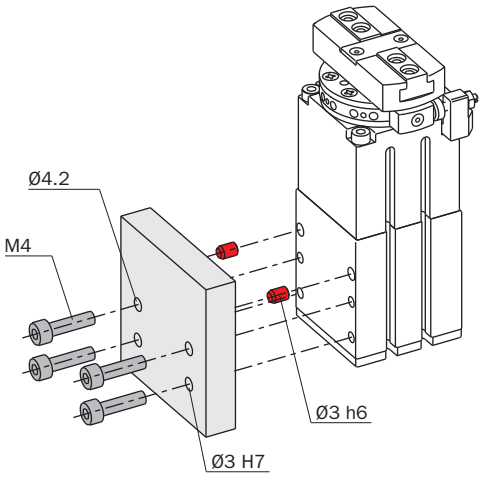
The gripper can be fastened to a static or moving part. When on a moving part, attention must be paid to the inertial force to which the gripper and its load are subjected.

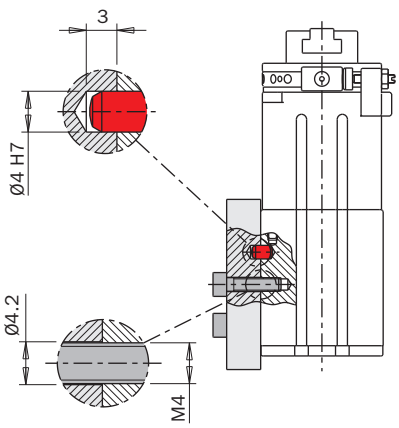










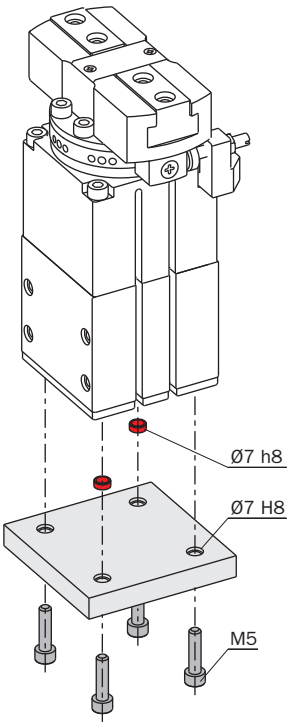


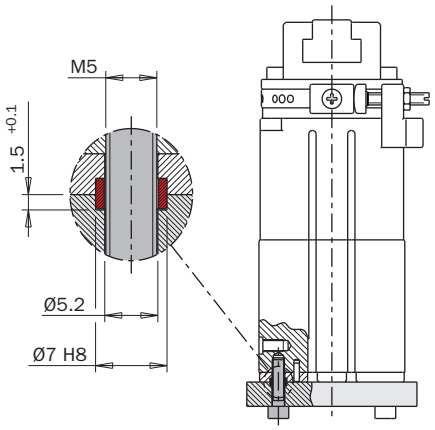
Fissaggio della pinza PRP3516

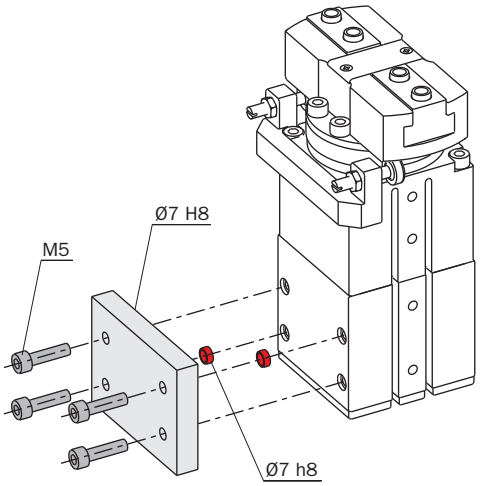
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.

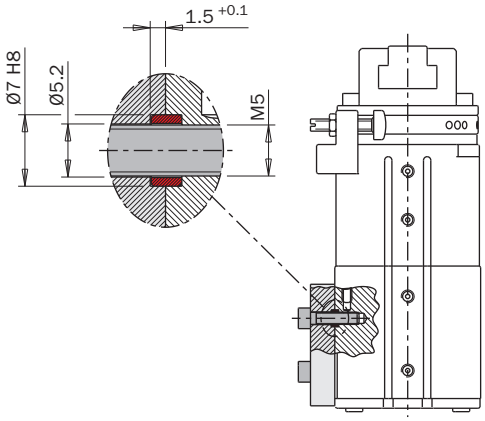
Fastening of gripper PRP3516

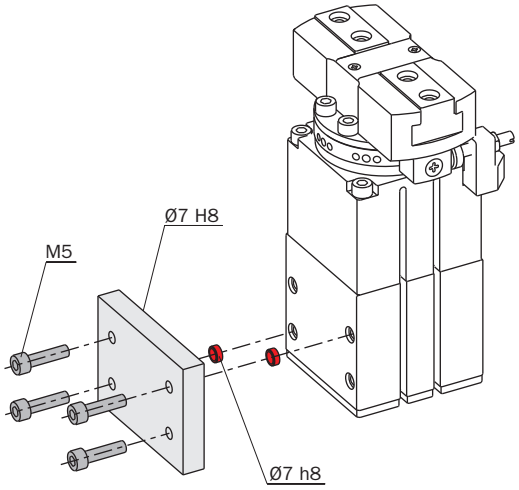
The gripper can be fastened to a static or moving part. When on a moving part, attention must be paid to the inertial force to which the gripper and its load are subjected.

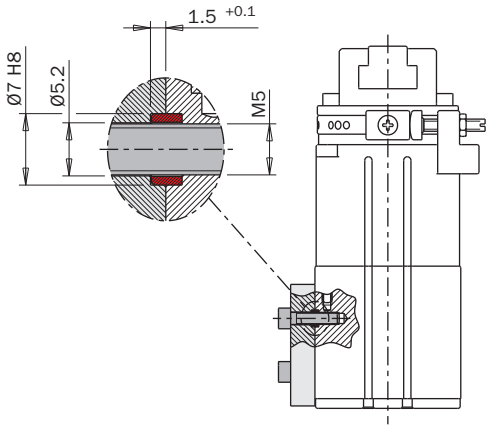










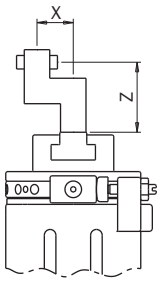


Forza di serraggio

I grafici mostrano la forza (F) per griffa espressa dalla pinza in funzione della pressione, del braccio di leva (Z) e del disassamento del punto di presa (X).
Diminuire la pressione se la pinza è impiegata nella zona rossa.

Gripping force

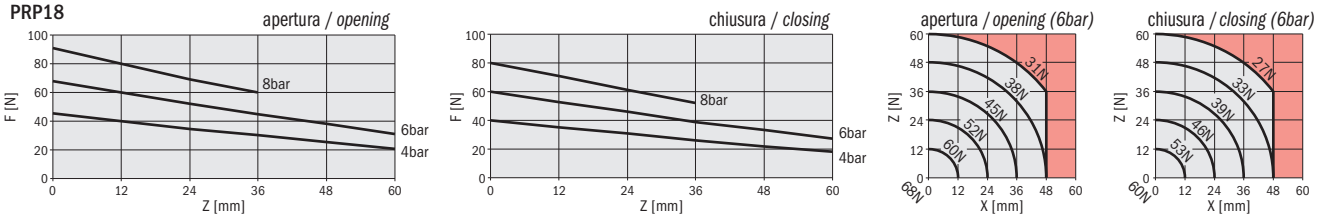
The graphs show the force (F) produced by the gripper on each jaw, as a function of the operating pressure, of the gripping tool length (Z) and of the off-set position of the gripping point (X). Decrease the pressure if the gripper is used in the red zone.



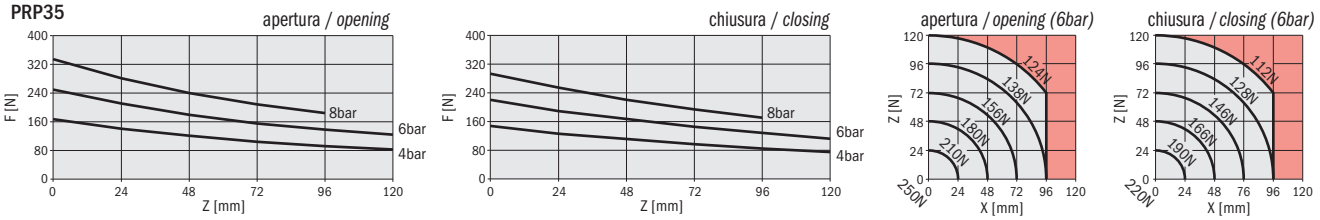
**La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.**

The force shown in these graphs refers to one jaw. The total force is double.

PRP18



PRP35



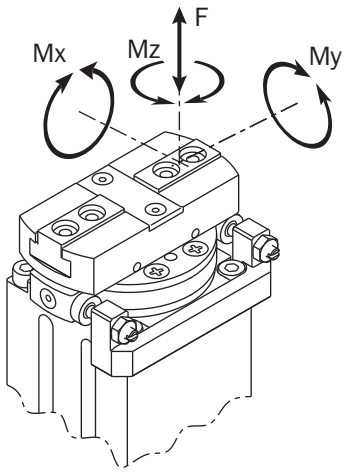
Carichi di sicurezza

Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
F s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.
F d, Mx d, My d, Mz d, sono i carichi massimi ammissibili in condizioni dinamiche, cioè con le griffe in movimento.
m, è il massimo peso ammissibile su ogni dito di presa quando la pinza è utilizzata senza regolazione di velocità; per dita più pesanti si deve diminuire la velocità delle griffe agendo sui regolatori di flusso (non forniti).

Safety loads

*Check the table for the maximum permitted loads.
Excessive forces or torques can damage the gripper, cause operation problems and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are the maximum permitted loads under static conditions, that is with motionless jaws.
F d, Mx d, My d, Mz d, are the maximum permitted loads under dynamic conditions, that is with running jaws.
m, is the maximum permitted weight of each gripping finger, when the gripper works without speed adjustment. If the weight of the gripping fingers is over the permitted value, it is necessary to decrease the jaw speed by acting on the flow controllers (not supplied).*

	PRP1806	PRP3516
F s	40 N	400 N
Mx s	2 Nm	18 Nm
My s	1.5 Nm	20 Nm
Mz s	2 Nm	15 Nm
F d	2 N	9 N
Mx d	0.06 Nm	0.5 Nm
My d	0.06 Nm	0.5 Nm
Mz d	0.06 Nm	0.5 Nm
m	100 g	600 g



Sensori

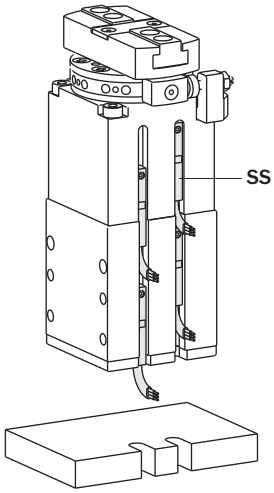
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sui pistoni.

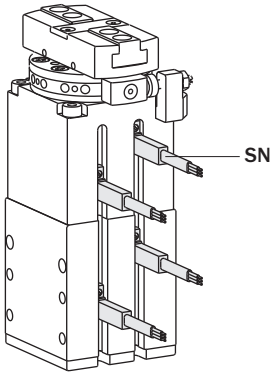
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

I sensori utilizzabili sono:

SN4N225-G	PNP	Cavo 2.5m / 2.5m cable
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable
SN3N203-G	PNP	Connettore M8 / M8 connector
SN3M203-G	NPN	Connettore M8 / M8 connector
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 connector
SS3M203-G	NPN	Connettore M8 / M8 connector

Sono tutti dotati di un cavo piatto a tre fili e di un led.



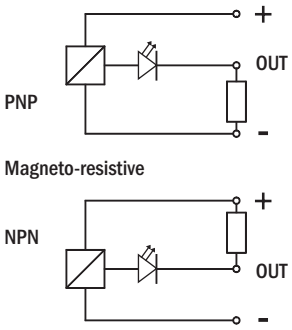


Sensors

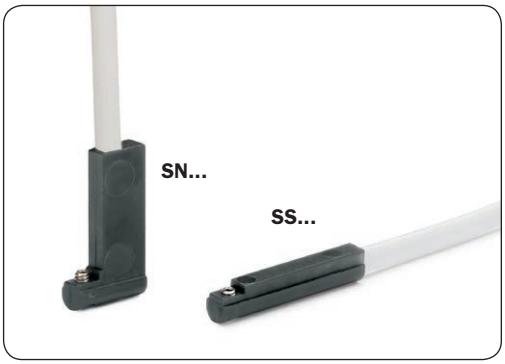
The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the pistons.

The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:



They are all provided with a flat 3-wire cable and a LED.

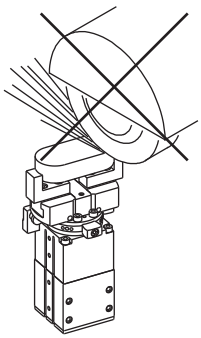


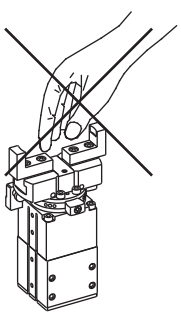
Avvertenze

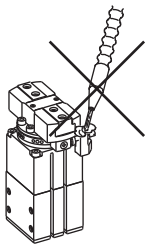
Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità della pinza.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione della pinza.
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

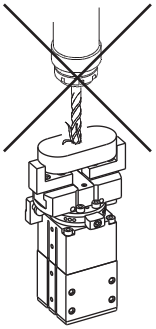
Caution

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they will damage the gripper.
Never let non-authorised persons or objects be within the operating range of the gripper.
Never operate the gripper on a machine that does not comply with the safety standards and laws of your country.

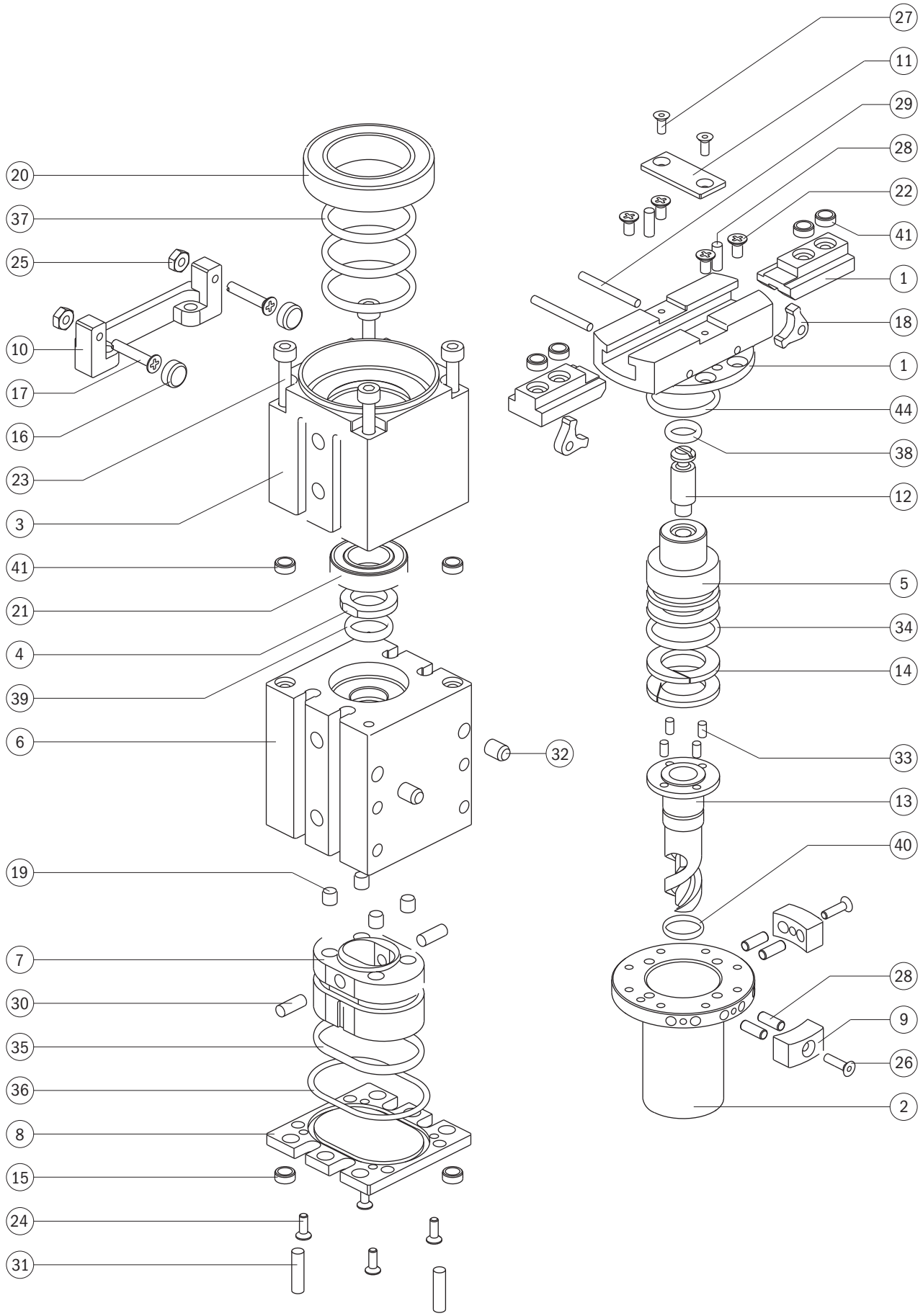








Vista esplosa / *Exploded view*



Elenco delle parti / *Part list*

		PRP1806	PRP3516		
1	Sottogruppo griffe e portafulcro	PRP1806-S	PRP3516-S	*Jaws and fulcrum holder subunit*	*1*
2	Disco con cilindro	PRP1806-02	PRP3516-02	*Disc with cylinder*	*2*
3	Corpo superiore	PRP1806-03	PRP3516-03	*Upper body*	*3*
4	Ghiera	PRP1806-04	PRP3516-04	*Slotted round nut*	*4*
5	Pistone	PRP1806-05	PRP3516-05	*Piston*	*5*
6	Corpo inferiore	PRP1806-06	PRP3516-06	*Lower body*	*6*
7	Pistone ovale	PRP1806-07	PRP3516-07	*Oval piston*	*7*
8	Fondello	PRP1806-08	PRP3516-08	*End plate*	*8*
9	Blocchetto di fermo	PRP1806-09	PRP3516-09	*Stop plate*	*9*
10	Flangia stopper	PRP1806-10	PRP3516-10	*Stop flange*	*10*
11	Protezione superiore	PRP1806-12	PRP3516-12	*Upper cover plate*	*11*
12	Stelo per pistone	PRP1806-13	PRP3516-15	*Piston rod*	*12*
13	Disco con camma	PRP1806-14	PRP3516-16	*Disc with cam*	*13*
14	Magnete	PRP1806-15	PAR-35-10B	*Magnet*	*14*
15	Boccola	-	ZBH-7 (390677)	*Bush*	*15*
16	Ammortizzatore	MRE16180-13	PRP3516-13	*Bumper*	*16*
17	Vite	MRE16180-14	PRP3516-18 (M10x1)	*Screw*	*17*
18	Leva	PAR-10-8C	PAR-20-8C	*Lever*	*18*
19	Magnete	R63-180-20	PAR-06-7	*Magnet*	*19*
20	Cuscinetto radiale	CUSC-022 (20x32x7 61804rs)	CUSC-009 (17x35x8 ISB 16003)	*Ball bearing*	*20*
21	Cuscinetto radiale	CUSC-040 (10x19x5 61800 zz)	CUSC-027 (40x52x7 ISB 61808)	*Ball bearing*	*21*
22	Vite	VITE-058 (M2.5x5 DIN 965A INOX A2)	VITE-027 (M5x10 DIN 912 INOX A2)	*Screw*	*22*
23	Vite	VITE-118 (M3x40 DIN 912 INOX A2)	VITE-381 (M5x60 DIN 912 INOX A2)	*Screw*	*23*
24	Vite	VITE-068 (M2x6 DIN 965A INOX A2)	VITE-028 (M4x10 DIN 965A INOX A2)	*Screw*	*24*
25	Dado	VITE-210 (M2.5 DIN 934 INOX A2)	VITE-218 (M10x1)	*Nut*	*25*
26	Vite	VITE-237 (M2x8 DIN 7991)	VITE-045 (M4x16 DIN 965A INOX A2)	*Screw*	*26*
27	Vite	VITE-238 (M2x5 DIN 7991)	VITE-060 (M2.x8 DIN 965A INOX A2)	*Screw*	*27*
28	Rullino	SPINA-055 (Ø2.5x7 DIN 5402)	SPINA-007 (Ø3x14 DIN 6325)	*Roller pin*	*28*
29	Spina	SPINA-078 (Ø2x20 DIN 6325)	SPINA-132 (Ø4x40 DIN 6325)	*Pin*	*29*
30	Rullino	SPINA-194 (Ø4x7 DIN 5402)	SPINA-201 (Ø5x14 DIN 5402)	*Roller pin*	*30*
31	Spina	SPINA-022 (Ø3x12 DIN 6325)	-	*Pin*	*31*
32	Spina	SPINA-184 (Ø4x6 DIN 6325)	-	*Pin*	*32*
33	Rullino	SPINA-107 (Ø2x3.8 DIN 5402)	SPINA-195 (Ø3x5.8 DIN 5402)	*Roller pin*	*33*
34	O-Ring	GUAR-007H (Ø1.78x14)	GUAR-150H (Ø2.62x29.82 HNBR)	*O-Ring*	*34*
35	O-Ring	GUAR-025H (Ø1.78x21.95)	GUAR-225H (Ø3.53x37.69)	*O-Ring*	*35*
36	O-Ring	GUAR-181 (Ø1.5x26)	GUAR-028 (Ø1.78x44.17)	*O-Ring*	*36*
37	O-Ring	GUAR-052H (Ø1.78x20.35 HNBR)	GUAR-201H (Ø2.62x39.34 HNBR)	*O-Ring*	*37*
38	O-Ring	GUAR-039H (Ø1.78x6.07 HNBR)	GUAR-095H (Ø1.78x11.89)	*O-Ring*	*38*
39	O-Ring	GUAR-013H (Ø1.78x8.73 HNBR)	GUAR-033H (Ø2.62x11.91 HNBR)	*O-Ring*	*39*
40	O-Ring	GUAR-085 (Ø1x8)	GUAR-080 (Ø1.78x10.82)	*O-Ring*	*40*
41	Boccola	ZBH-5 (354237)	LP23-62	*Bush*	*41*
42	O-Ring	-	GUAR-089 (Ø1x10)	*O-Ring*	*42*
43	Vite	-	VITE-048 (M5x14 DIN 912 INOX A2)	*Screw*	*43*
44	O-Ring	GUAR-007H (Ø1.78x14)	GUAR-009 (Ø1.78x31.47)	*O-Ring*	*44*
45	Spina	-	SPINA-090 (Ø3x8 DIN 6325)	*Pin*	*45*

Connessione pneumatica

L'unità si alimenta con aria compressa dai fori laterali (Q, S, P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

Aria compressa in Q: rotazione oraria.
Aria compressa in S: rotazione antioraria.

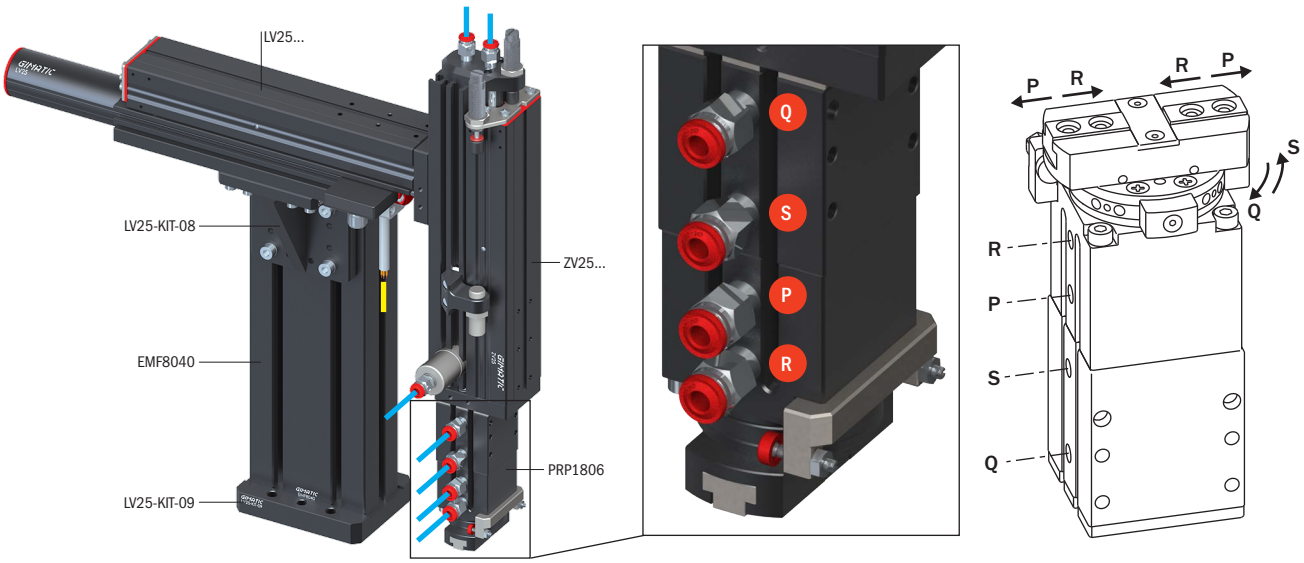
Aria compressa in P: apertura della pinza.
Aria compressa in R: chiusura della pinza.

Pneumatic connection

The unit is driven by compressed air supplied through the side air ports (Q, S, P and R) with appropriate air fittings and relevant hoses (not supplied).

Compressed air in Q: clockwise rotation.
Compressed air in S: anticlockwise rotation.

Compressed air in P: gripper opening.
Compressed air in R: gripper closing.



Circuito pneumatico

Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

La pinza è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata. La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutta la vita della pinza.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

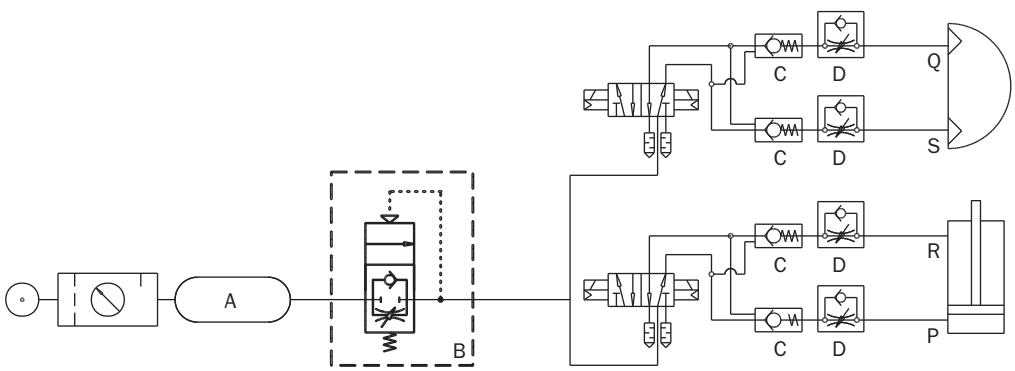
Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variations.
2- Pressurising the empty gripper at start-up.
3- Sudden lack of pressure.
4- Excessive drive speed.

Possible solutions to the above issues:
1- External compressed air storage (A).
2- Start-up valve (B).
3- Safety valves (C).
4- Flow controllers (D).

The gripper is driven by filtered compressed air (5÷40 µm), not necessarily lubricated. The initial choice on air lubrication (lubricated or not) must be kept for the entire service life of the gripper.

The pneumatic circuit must be pressurised progressively, to avoid uncontrolled movements.



Note / ***Notes***

Attuatori rotanti pneumatici a 2 posizioni (serie AR)

- Compatibile con il sistema G-mix.
- Adatti per rotazioni di 45°/90°/135°/180°.
- Rotazione su cuscinetti a sfera.
- Costruzione compatta.
- Deceleratori idraulici.
- Sensori magnetici opzionali.

2-position pneumatic rotary actuators (series AR)

- *Compatible with the G-mix system.*
- *Suitable for 45°/90°/135°/180° rotation angles.*
- *Rotation on ball bearings.*
- *Compact design.*
- *Hydraulic shock-absorbers.*
- *Optional magnetic sensors.*



NEW NEW

(*)
Articolo in preparazione
Under construction

	AR25180 (*)				AR40180 (*)			
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*							
Pressione di esercizio *Operating pressure*	1 ÷ 8 bar							
Temperatura di esercizio *Operating temperature*	5° ÷ 60°C.							
Frequenza max funzionamento *Maximum working frequency*	0.5 Hz							
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	85 Ncm				320 Ncm			
Corsa angolare (±8°) *Angular stroke*	45°	90°	135°	180°	45°	90°	135°	180°
Tempo di rotazione senza carico *Rotation time without load*	0.20 s	0.21 s	0.24 s	0.28 s	0.23 s	0.25 s	0.28 s	0.32 s
Consumo d'aria per ciclo *Air consumption per cycle*	9 cm^3	10 cm^3	12 cm^3	13 cm^3	35 cm^3	40 cm^3	45 cm^3	50 cm^3
Peso *Weight*	225 g				950 g			

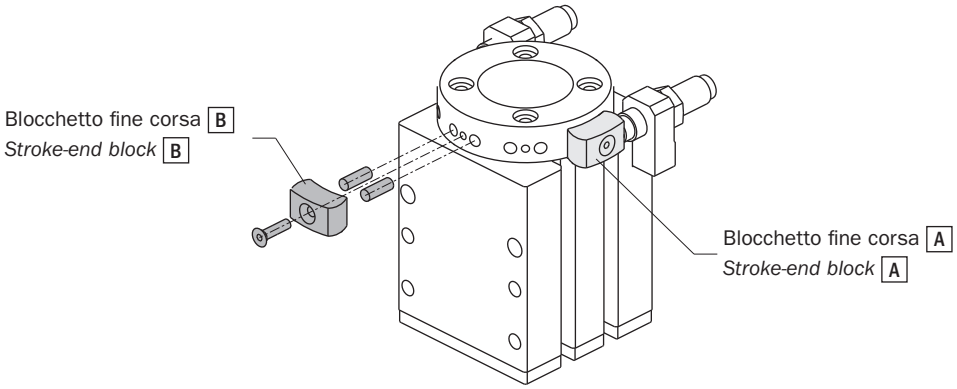


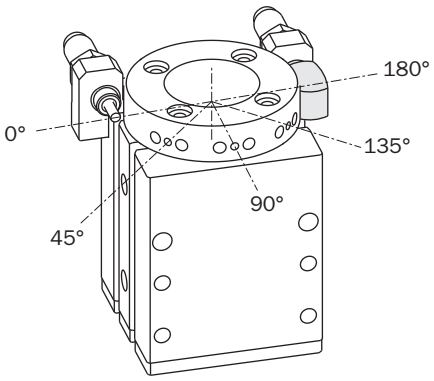
Angolo di rotazione

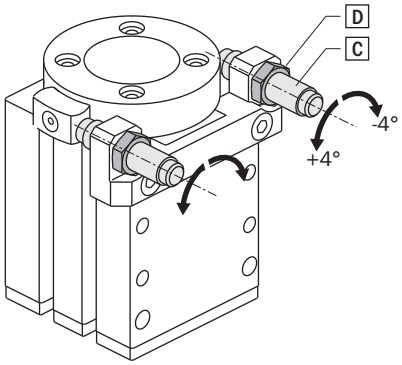
Gli attuatori della serie AR sono forniti nella configurazione adatta per effettuare rotazioni di 180°, cioè con il blocchetto A montato nella sua sede.
È comunque fornito nella confezione un secondo blocchetto B che si può montare in una delle tre sedi predisposte sul disco per ridurre l'angolo di rotazione a 45° oppure 90° oppure 135°.
Infine è possibile una regolazione micrometrica delle posizioni di fine-corsa, agendo sui deceleratori C dopo aver allentato i dadi D. Ogni deceleratore può spostare la posizione di fine-corsa di circa +/-4°.

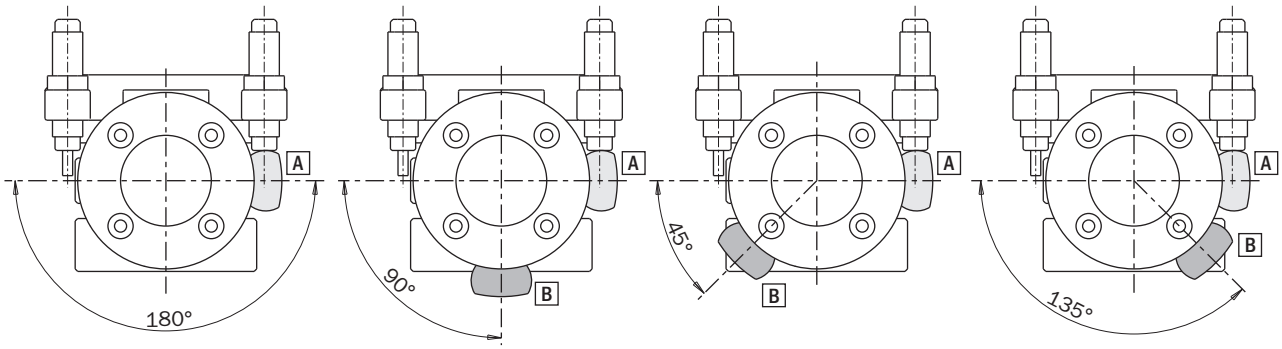
Rotation angle

The actuators of the AR series are supplied in a configuration suitable for 180° rotations, that is with the block A mounted in its seat.
However, a second block B, supplied in the product package, can be mounted in one of the three seats on the disc to reduce the rotation angle to 45° or 90° or 135°.
Furthermore, the stroke-end positions can be adjusted micrometrically by adjusting the shock-absorbers C after loosening the nuts D. Each shock-absorber can change the stroke end position by about +/-4°.

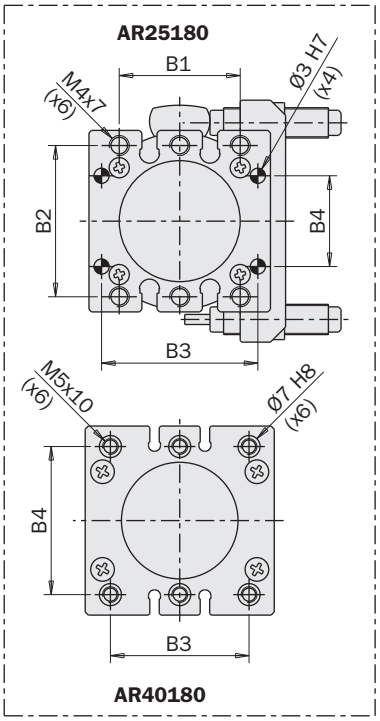


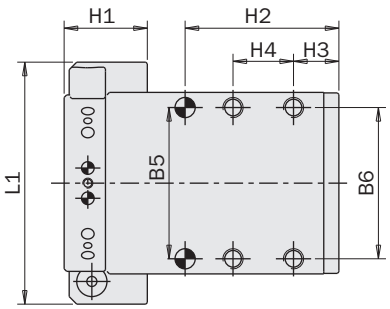


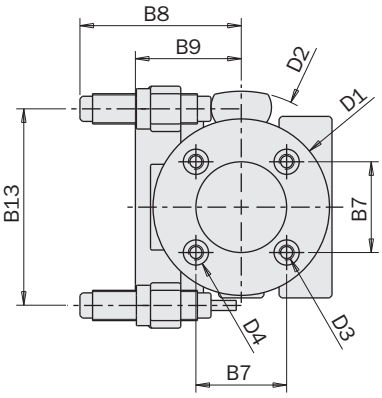


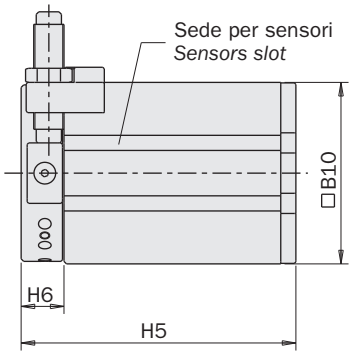


Dimensioni (mm) / *Dimensions (mm)*



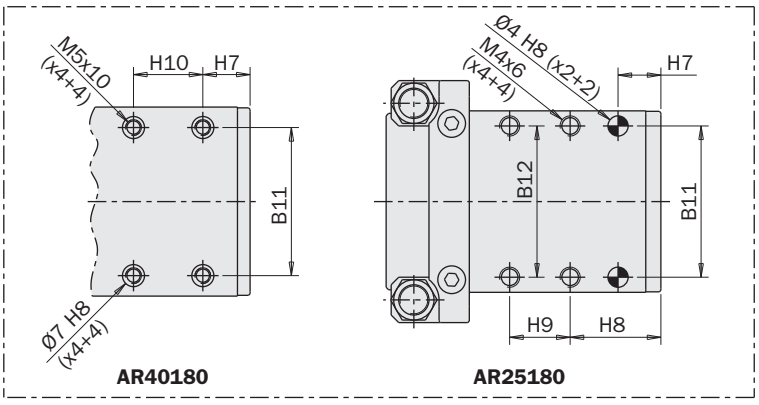


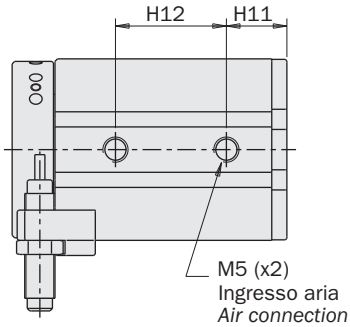




FIRST ANGLE PROJECTION

		AR25180	AR40180
B1		24	/
B2		30	/
B3	±0.02	31	44
B4	±0.02	18	47
B5	±0.02	30	/
B6		30	/
B7	±0.02	18	32
B8		32	47
B9		21	36
B10		36	60
B11	±0.02	30	47
B12		30	/
B13		39	67
D1		Ø35	Ø58
D2		Ø46	Ø80
D3		M3x8	M5x12
D4	H8	Ø5	Ø7
H1		16.5	25
H2	±0.05	30.5	/
H3		9	/
H4		12	/
H5		54.5	77
H6		8.5	13
H7	±0.05	8.5	15
H8		18	/
H9		12	/
H10	±0.02	/	22
H11		12	15.5
H12		22	33
L1		48	82





FIRST ANGLE PROJECTION

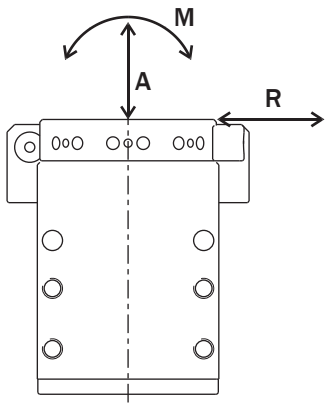
Carichi di sicurezza

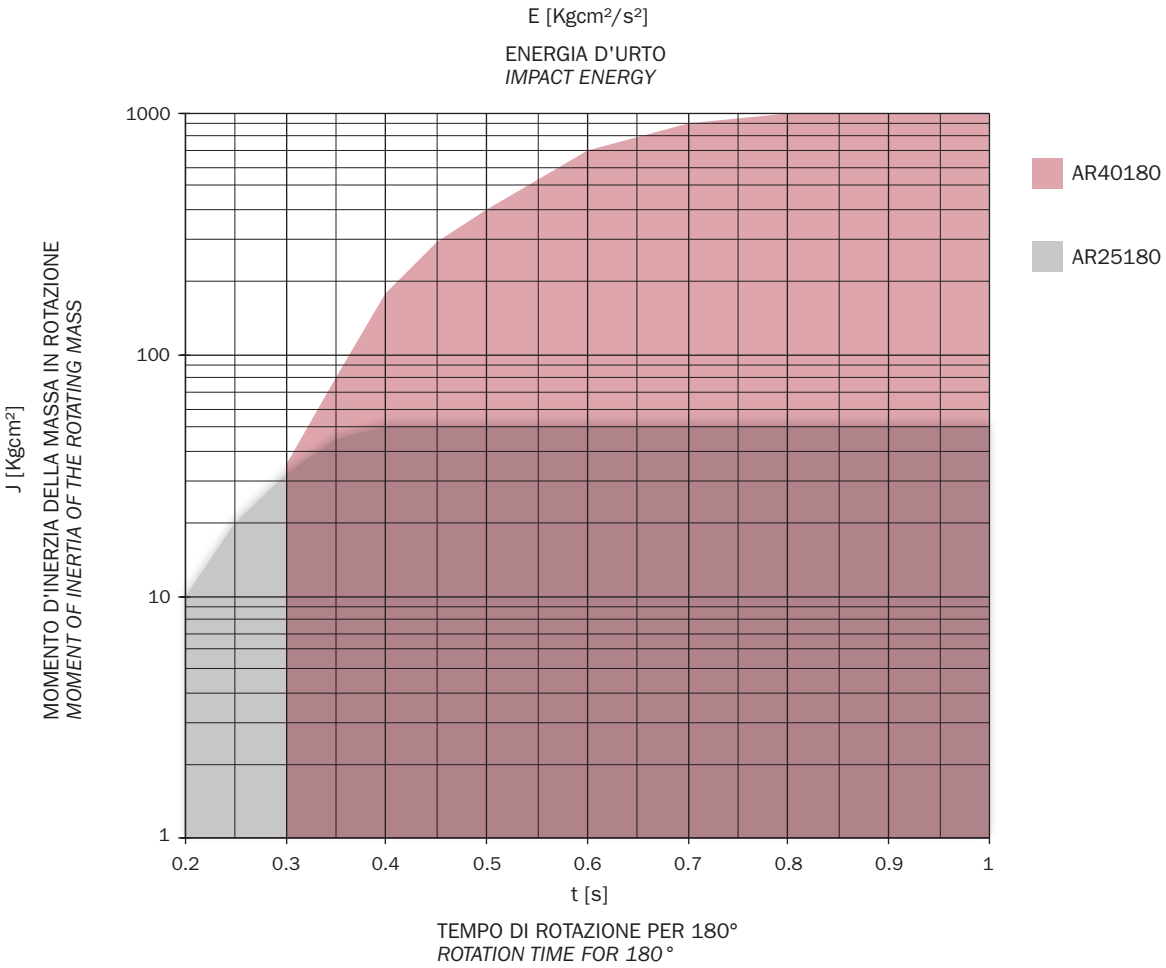
Consultare la tabella dei carichi ammissibili.
Carichi ed energia cinetica eccessivi possono danneggiare l'attuatore e comprometterne il funzionamento.
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.
Controllare periodicamente l'efficienza dei deceleratori e sostituirli subito se manifestano un decadimento delle loro prestazioni di smorzamento.

Safety loads

Check the table for maximum permitted loads.
Excessive loads or kinetic energy can damage the unit and cause functioning troubles.
Use flow controllers (not supplied) to get the right speed.
Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performances decrease.

	AR25180	AR40180
A	80 N	850 N
R	175 N	975 N
M	1.5 Nm	20 Nm



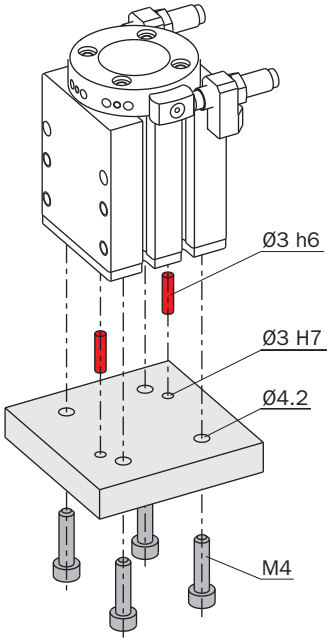


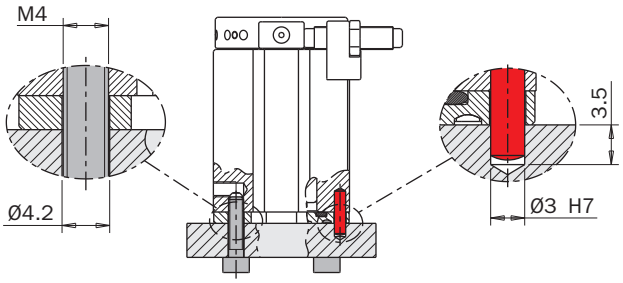
Fissaggio di AR25180

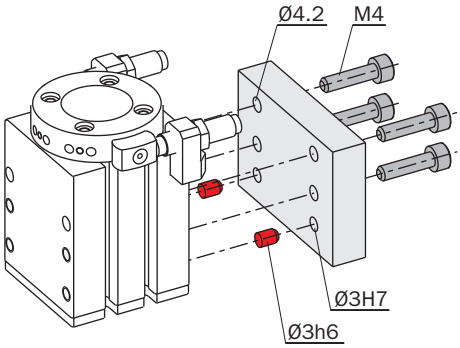
L'attuatore può essere montato in posizione fissa o su parti in movimento; in questo caso si deve considerare la forza d'inerzia cui l'attuatore ed il suo carico sono sottoposti.

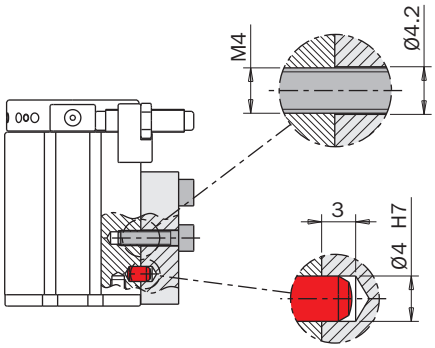
Fastening of AR25180

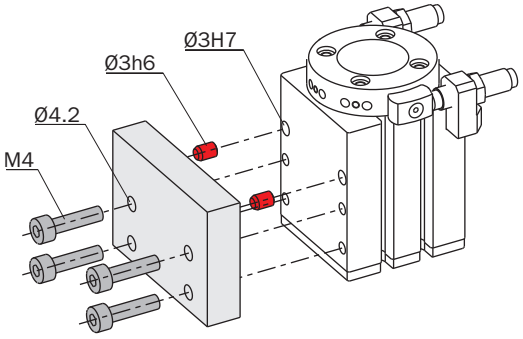
The actuator can be fastened to a static or moving part. When on a moving part, attention must be paid to the inertial force to which the actuator and its load are subjected.

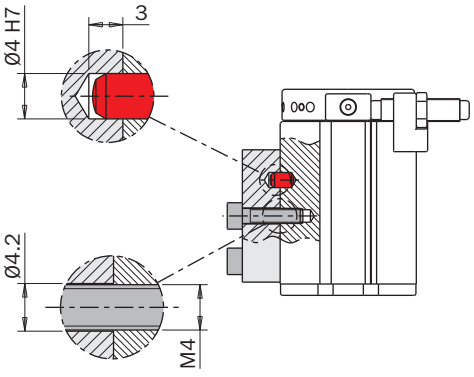










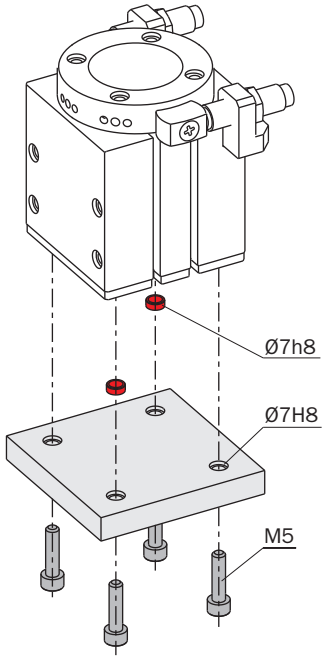


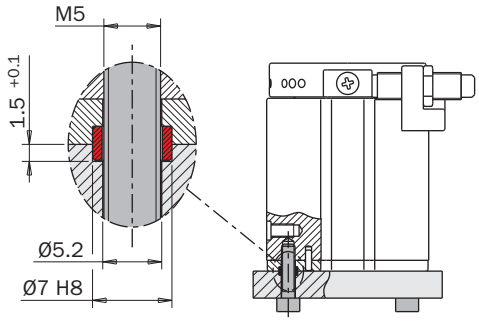
Fissaggio di AR40180

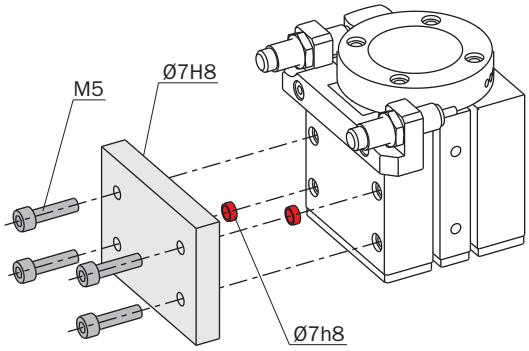
L'attuatore può essere montato in posizione fissa o su parti in movimento; in questo caso si deve considerare la forza d'inerzia cui l'attuatore ed il suo carico sono sottoposti.

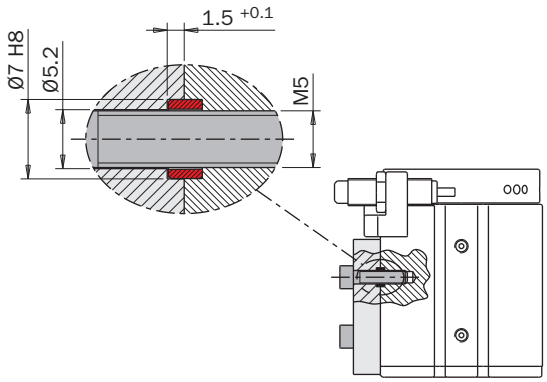
Fastening of AR40180

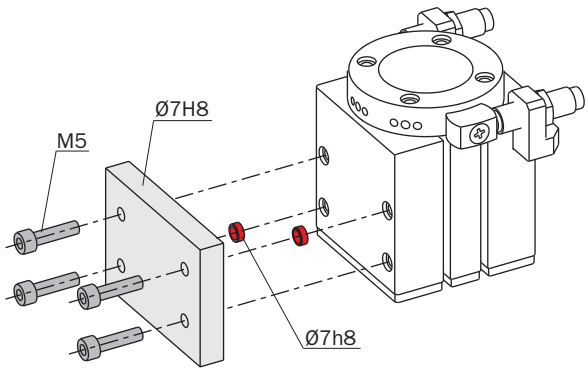
The actuator can be fastened to a static or moving part. When on a moving part, attention must be paid to the inertial force to which the actuator and its load are subjected.

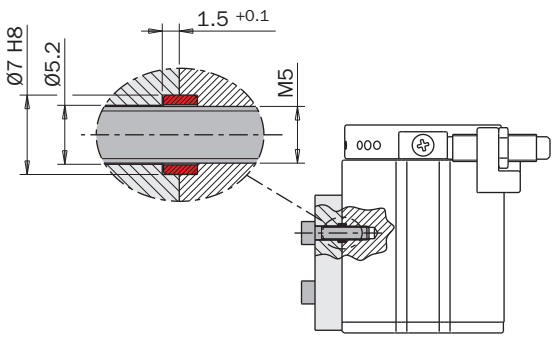










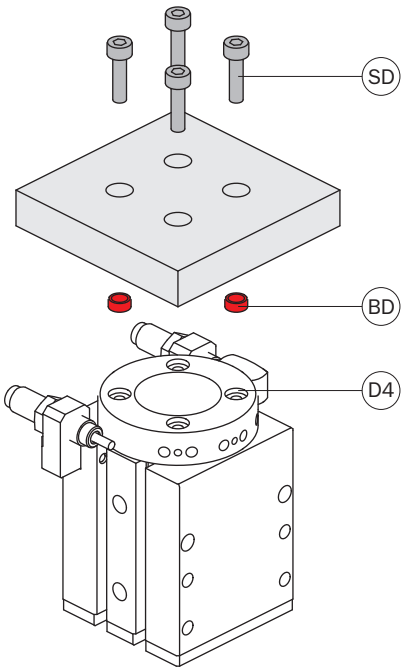


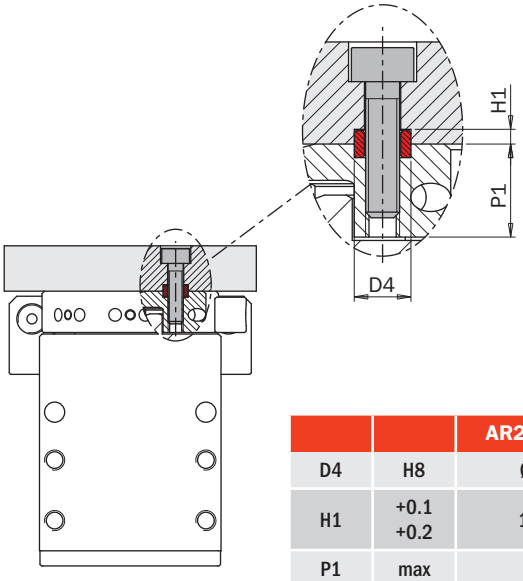
Fissaggio del carico rotante

Per il centraggio dei carichi rotanti sul pignone usare le due boccole fornite nella confezione.

Fastening of the rotating load

Use the two sleeves provided in the packaging, to centre the rotating load on the pinion.





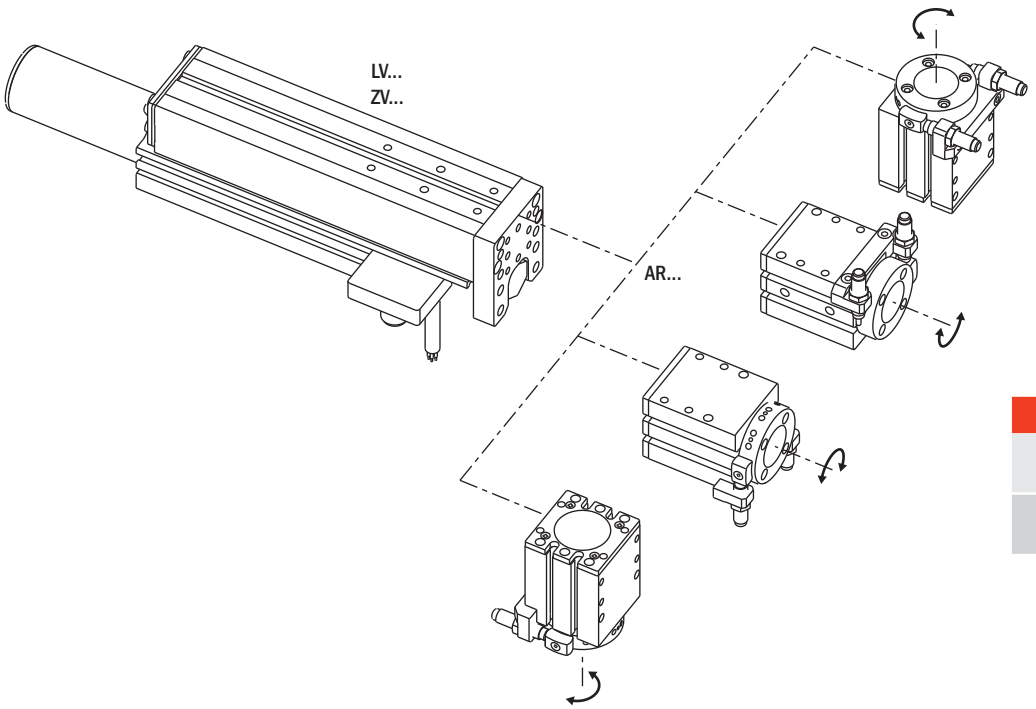
		AR25180	AR40180
D4	H8	Ø5	Ø7
H1	+0.1 +0.2	1.3	1.5
P1	max	8	12
SD		M3	M5

Esempio di applicazione

Le unità rotanti AR si possono montare sulle slitte del sistema G-mix (ZV pneumatiche o LV elettriche), senza nessuna interfaccia, nelle quattro posizioni mostrate in figura.

Application example

The rotary units of the AR series can be mounted on the slides of the G-mix system (ZV pneumatic or LV electric), with no interface, in the four positions shown in the figure.

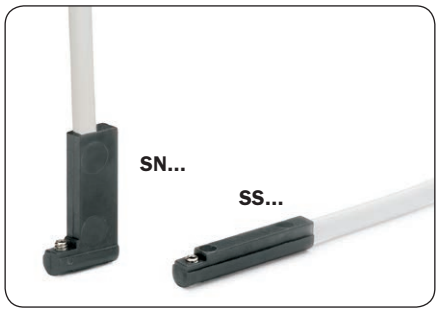


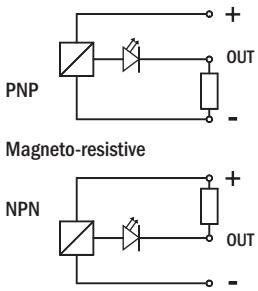
	AR
LV25 ZV25	AR25180
LV40 ZV40	AR40180

Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

I sensori utilizzabili sono:





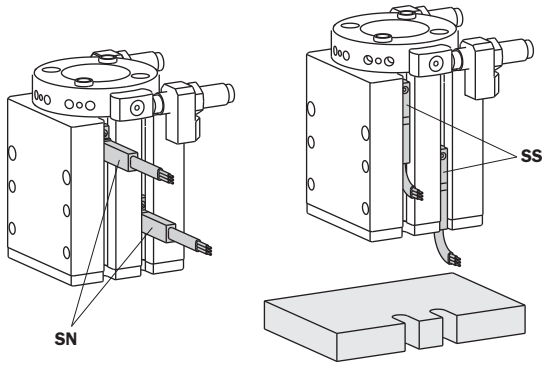
SN4N225-G	PNP	Cavo 2.5m / 2.5m cable
SN4M225-G	NPN	Cavo 2.5m / 2.5m cable
SN3N203-G	PNP	Connettore M8 / M8 connector
SN3M203-G	NPN	Connettore M8 / M8 connector
SS4N225-G	PNP	Cavo 2.5m / 2.5m cable
SS4M225-G	NPN	Cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 connector
SS3M203-G	NPN	Connettore M8 / M8 connector

Sono tutti dotati di un cavo piatto a tre fili e di un led.

Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:



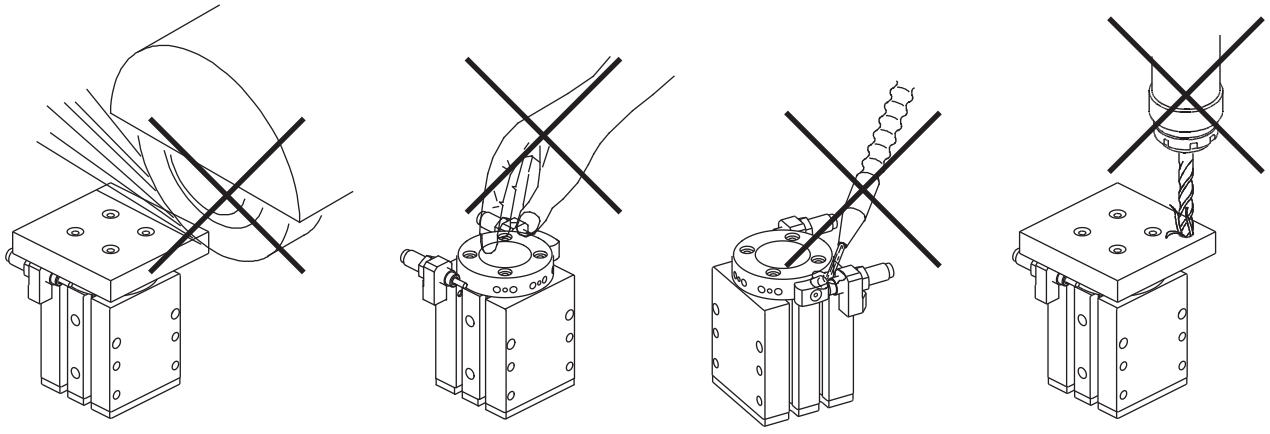
They are all provided with a flat 3-wire cable and a LED.

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità dell'attuatore.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione dell'attuatore.
L'attuatore non deve essere messo in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the actuator.
Never let non-authorised persons or objects be within the operating range of the actuator.
Never operate the actuator on a machine that does not comply with the safety standards and laws of your country.



Connessione pneumatica

L'attuatore rotante si alimenta con aria compressa dai fori laterali (Q e S) montandovi i raccordi dell'aria M5 (K) ed i relativi tubi (non forniti).

Aria compressa in Q: rotazione oraria.
Aria compressa in S: rotazione antioraria.

L'attuatore è azionato con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutto il periodo di servizio.

L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

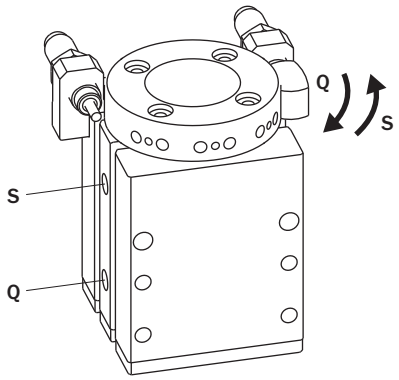
Pneumatic connection

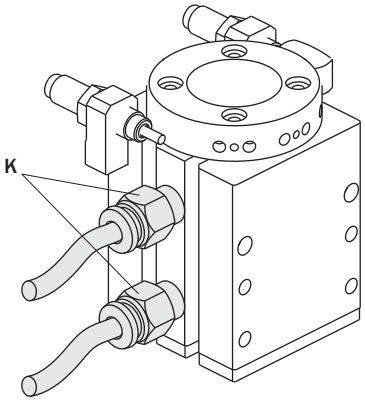
The rotary actuator is fed with compressed air through the side air ports (Q and S) with M5 fittings (K) and relevant hoses (not supplied).

Compressed air in Q: clockwise rotation.
Compressed air in S: anticlockwise rotation.

The actuator is driven by filtered compressed air (5÷40 µm), not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the entire service life of the unit.

The pneumatic circuit must be pressurised progressively, to avoid uncontrolled movements.





Circuito pneumatico

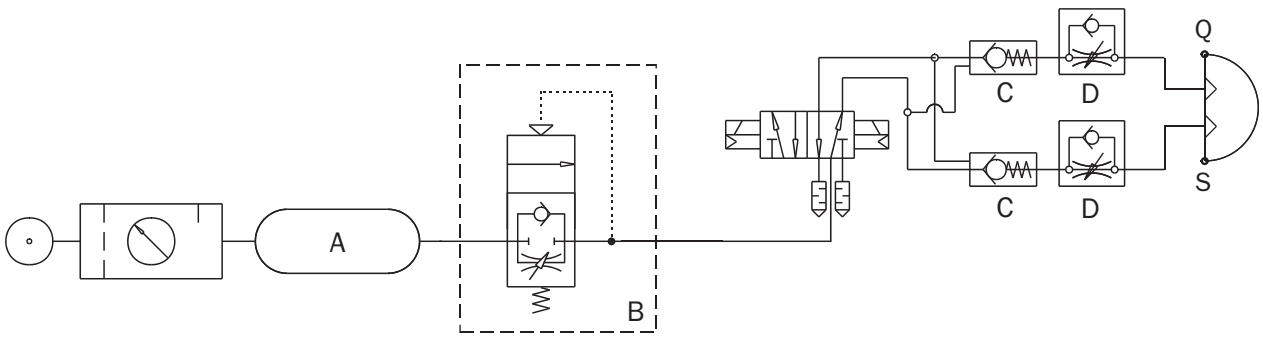
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

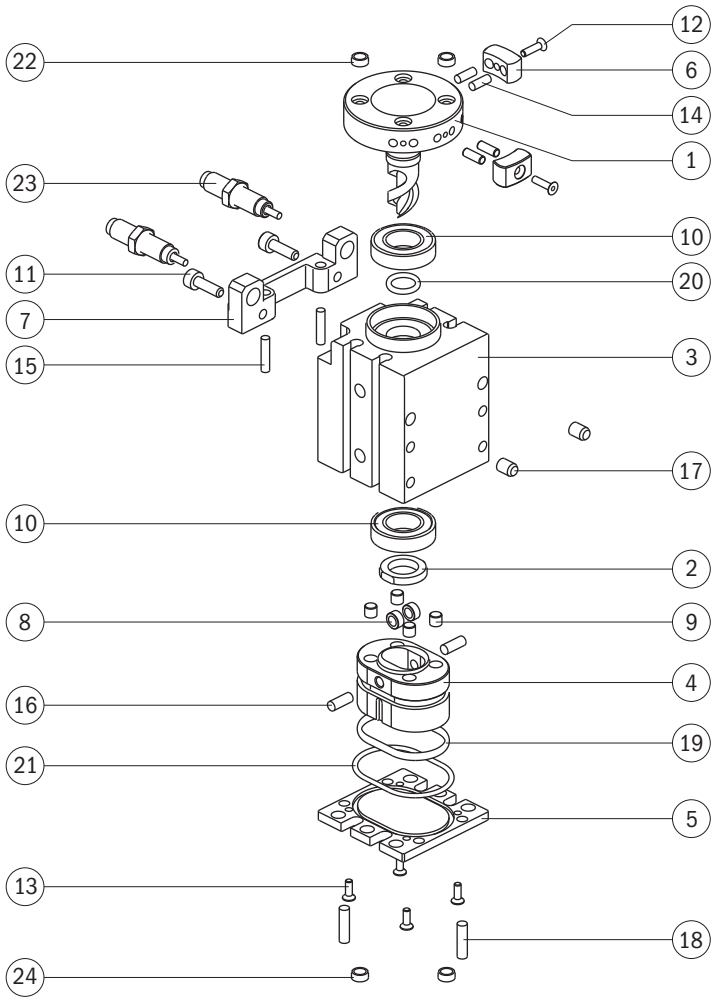
Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variations.
2- Pressurising the empty unit at start-up.
3- Sudden lack of pressure.
4- Excessive drive speed.

Possible solutions to the above issues:
1- External compressed air storage (A).
2- Start-up valve (B).
3- Safety valves (C).
4- Flow controllers (D).



Elenco delle parti / *Part list*



		AR25180	AR40180		
1	Disco	AR25180-02	AR40180-02	*Disc*	*1*
2	Ghiera	PRP1806-04	PRP3516-04	*Slotted round nut*	*2*
3	Corpo	AR25180-06	AR40180-06	*Body*	*3*
4	Pistone	PRP1806-07	PRP3516-07	*Piston*	*4*
5	Fondello	PRP1806-08	PRP3516-08	*End plate*	*5*
6	Blocchetto fine corsa	AR25180-09	AR40180-09	*Stroke-end block*	*6*
7	Flangia fine-corsa	AR25180-10	AR40180-10	*Stroke-end flange*	*7*
8	Rotella	PRP1806-16	PRP3516-17	*Roller*	*8*
9	Magnete	R63-180-20	PAR-06-7	*Magnet*	*9*
10	Cuscinetto a sfera	CUSC-040 (10x19x5 61800)	CUSC-009 (17x35x8 ISB 16003)	*Ball bearing*	*10*
11	Vite	VITE-016 (M3x10 DIN 912 INOX A2)	VITE-441 (M4x18 DIN 912 ZB)	*Screw*	*11*
12	Vite	VITE-237 (M2x8 DIN 7991)	VITE-003 (M4x14 DIN965A INOX A2)	*Screw*	*12*
13	Vite	VITE-068 (M2x6 DIN965A INOX A2)	VITE-028 (M4x10 DIN965A INOX A2)	*Screw*	*13*
14	Spina	SPINA-055 (Ø2.5x7 DIN 5402)	SPINA-007 (Ø3x14 DIN 6325)	*Pin*	*14*
15	Spina	SPINA-057 (Ø2.5x11.8)	SPINA-050 (Ø5x20 DIN 6325)	*Pin*	*15*
16	Spina	SPINA-222 (Ø3x8 DIN 5402)	SPINA-221 (Ø4x14 DIN 5402)	*Pin*	*16*
17	Spina di riferimento	SPINA-184 (Ø4x6 DIN 6325)	/	*Dowel pin*	*17*
18	Spina di riferimento	SPINA-022 (Ø3x12 DIN 6325)	SPINA-090 (Ø3x8 DIN6325)	*Dowel pin*	*18*
19	O-RING	GUAR-025H (Ø1.78x21.95)	GUAR-225H (Ø3.53x37.69)	*O-ring*	*19*
20	O-RING	GUAR-012H (Ø1.78x6.75 HNBR)	GUAR-033H (Ø2.62x11.91 HNBR)	*O-ring*	*20*
21	O-RING	GUAR-181 (Ø1.5x26)	GUAR-028 (Ø1.78x44.17)	*O-ring*	*21*
22	Boccola	ZBH-5 (354237)	ZBH-7 (390677)	*Bush*	*22*
23	Deceleratore idraulico	MC9EUM-2 (M8x1)	TK10M-1-SP18482 (M10x1)	*Hydraulic shock-absorber*	*23*
24	Boccola	/	ZBH-7 (390677)	*Bush*	*24*

Attuatori rotanti pneumatici a 2 posizioni (serie R)

- Vincitore al concorso IF Design Award 1999 di Hannover.
- Integrabile con gli altri elementi del Gimapick.
- Adatto per rotazioni di 90° o 180°.
- Deceleratori di serie.
- Rotazione su cuscinetti a sfera.
- Distributore rotante dell'aria compressa.
- Alimentazione dell'aria compressa possibile direttamente dalla piastra di fissaggio.
- Sensori magnetici opzionali.

2 position pneumatic swivelling units (series R)

- *Hannover IF Design Award 1999 winner.*
- *Modular with Gimapick system.*
- *Suitable for 90° or 180° rotation angles.*
- *Shock-absorbers.*
- *Ball bearings.*
- *Integrated rotating distributor of compressed air.*
- *Air feeding possible directly from the fixing plate.*
- *Optional magnetic sensors.*



R20 **R32** **R63**

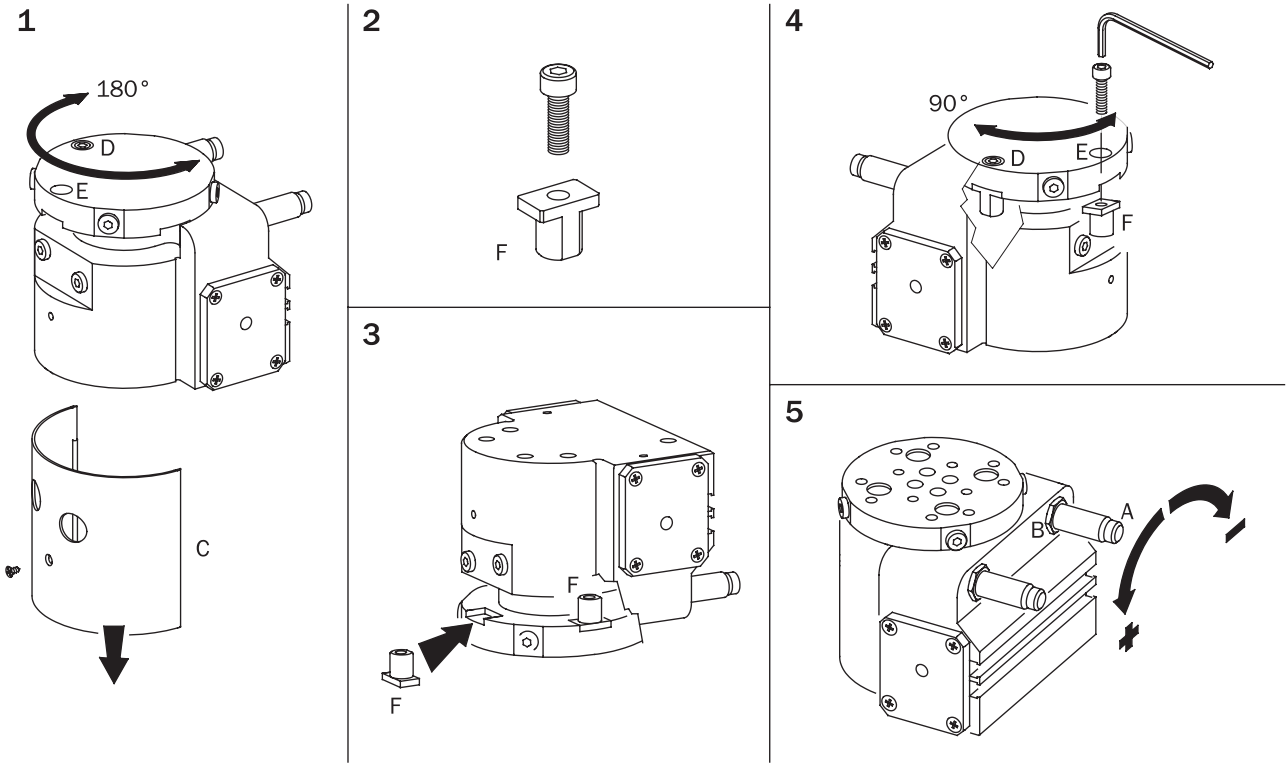
	R20		R32		R63	
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Corsa angolare *Swivelling angle*	90°	180°	90°	180°	90°	180*
Consumo d'aria *Air consumption*	8 cm^3	14 cm^3	16 cm^3	28 cm^3	115 cm^3	174 cm^3
Tempo di rotazione senza carico *Swivelling time without load*	0.09 s	0.17 s	0.08 s	0.15 s	0.2 s	0.3 s
Frequenza max funzionamento *Maximum working frequency*	1 Hz		0.5 Hz		0.5 Hz	
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	1131 Nmm		4343 Nmm		22444 Nmm	
Regolazione angolo 180° *180° angle adjustment*	± 8°		± 8°		± 8°	
Ripetibilità *Repetition accuracy*	0.02°		0.02°		0.02°	
Peso *Weight*	400 g		1000 g		3400 g	

Angolo di rotazione

Gli attuatori R20, R32 e R63 sono forniti nella configurazione adatta per effettuare rotazioni di 180°, cioè con il blocchetto di fine-corsa (F) inserito nella sede (D).
È comunque fornito nella confezione un secondo blocchetto, che montato nella sede (E), consente di ridurre a 90° l'angolo di rotazione.
Per fare questo è necessario rimuovere la protezione (C).
La vite che fissa il blocchetto va incollata con un frena filetti medio.
Infine è possibile una regolazione micrometrica delle posizioni di fine-corsa, agendo sui deceleratori (A), dopo aver allentato i dadi (B).
Ogni deceleratore può spostare la posizione di fine-corsa di circa ±4°.

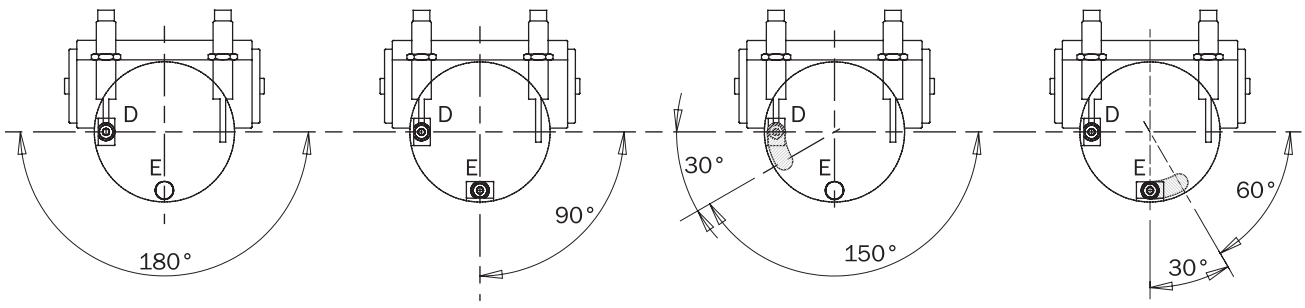
Rotation angle

The units R20, R32 and R63 are supplied with one end-stroke block (F) in the seat (D).
In this configuration they get a 180° rotation angle.
However a second block is supplied in the product packaging: mounting it in the seat (E), it reduces the stroke at 90°.
It is necessary to remove the protection (C), before mounting the second block.
Glue the screw of the second block by an anaerobic adhesive (medium resistance).
At the end the rotation angle can be furthermore adjusted changing the position of the shock-absorbers (A), after loosening the nuts (B).
Each shock-absorber can change the end-stroke position of about ±4°.



Per angoli di rotazione differenti è necessario costruire dei blocchetti fine corsa appositamente sagomati (non forniti).

To get other angles, it is necessary to build end-stroke blocks (not supplied) with a proper shape.



Attuatori rotanti pneumatici a 3 posizioni (serie R)

- Vincitore al concorso IF Design Award 1999 di Hannover.
- Integrabile con gli altri elementi del Gimapick.
- Adatto per rotazioni di 90° e 180°.
- Fine-corsa decelerato in ogni posizione.
- Rotazione su cuscinetti a sfera.
- Costruzione compatta.
- Alimentazione dell'aria compressa possibile direttamente dalla piastra di fissaggio.
- Sensori magnetici opzionali.

3 position pneumatic swivelling units (series R)

- *Hannover IF Design Award 1999 winner.*
- *Modular with Gimapick system.*
- *Suitable for 90° and 180° rotation angles.*
- *Damped end-stroke in every position.*
- *Ball bearings.*
- *Compact design.*
- *Air feeding possible directly from the fixing plate.*
- *Optional magnetic sensors.*



R21 **R33** **R64**

	R21		R33		R64	
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	3 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Corsa angolar *Swivelling angle*	90°	180°	90°	180°	90°	180*
Consumo d'aria *Air consumption*	8 cm^3	14 cm^3	16 cm^3	28 cm^3	115 cm^3	174 cm^3
Tempo di rotazione senza carico *Swivelling time without load*	0.09 s	0.17 s	0.08 s	0.15 s	0.2 s	0.3 s
Frequenza max funzionamento *Maximum working frequency*	2 Hz		1 Hz		0.5 Hz	
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	1131 Nmm		4343 Nmm		22444 Nmm	
Regolazione angolo 180° *180° angle adjustment*	± 8°		± 8°		± 8°	
Ripetibilità *Repetition accuracy*	0.02°		0.02°		0.02°	
Peso *Weight*	500 g		1200 g		3200 g	

Angolo di rotazione

R21, R33 e R64 sono attuatori rotanti a tre posizioni, cioè 0°, 90° e 180°.
I movimenti seguenti sono possibili:

- Da 0° a 180°.
- Da 180° a 0°.
- Da 0° a 90°.
- Da 90° a 0°.
- Da 90° a 180°, con l'accortezza di equilibrare la pressione nelle due camere del pistone prima di far rientrare il blocchetto mobile (D). Non è possibile il movimento diretto da 180° a 90°.

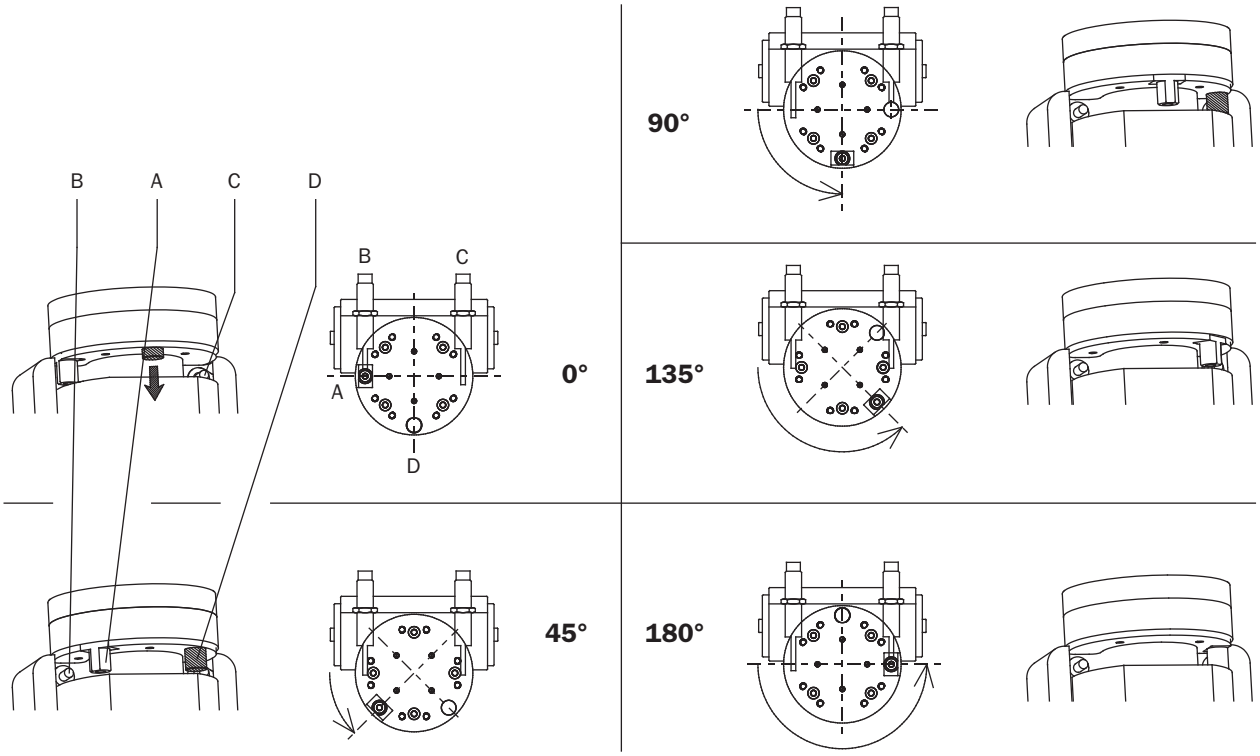
Il blocchetto fisso (A) determina la posizione a 0° contro il deceleratore (B) e a 180° contro il deceleratore (C), mentre il blocchetto mobile (D) determina la posizione a 90° contro il deceleratore (C).
Il blocchetto mobile (D) non deve essere estratto nelle posizioni fra 70° e 180°.

Rotation angle

R21, R33 and R64 are swivelling units with three positions: 0°, 90° and 180°.
These movements are possible:

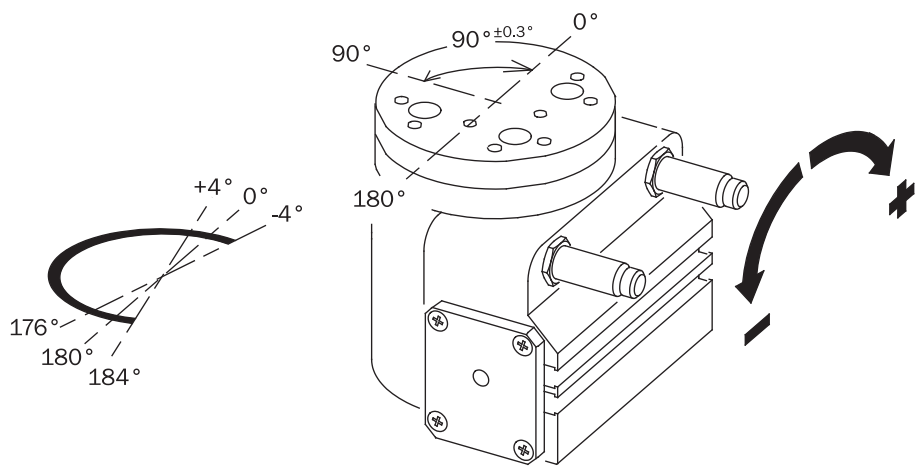
- *From 0° to 180°.*
- *From 180° to 0°.*
- *From 0° to 90°.*
- *From 90° to 0°.*
- *From 90° to 180°, before to retract the moving block (D), the pressure must be balanced on both sides of the piston. The direct rotation from 180° to 90° is not possible.*

The fixed block (A) gives the end-stroke at 0° against the shock-absorber (B) and at 180° against the shock-absorber (C), the moving block (D) at 90° against the shock-absorber (C).
The moving block (D) can't be put out between 70° to 180°.



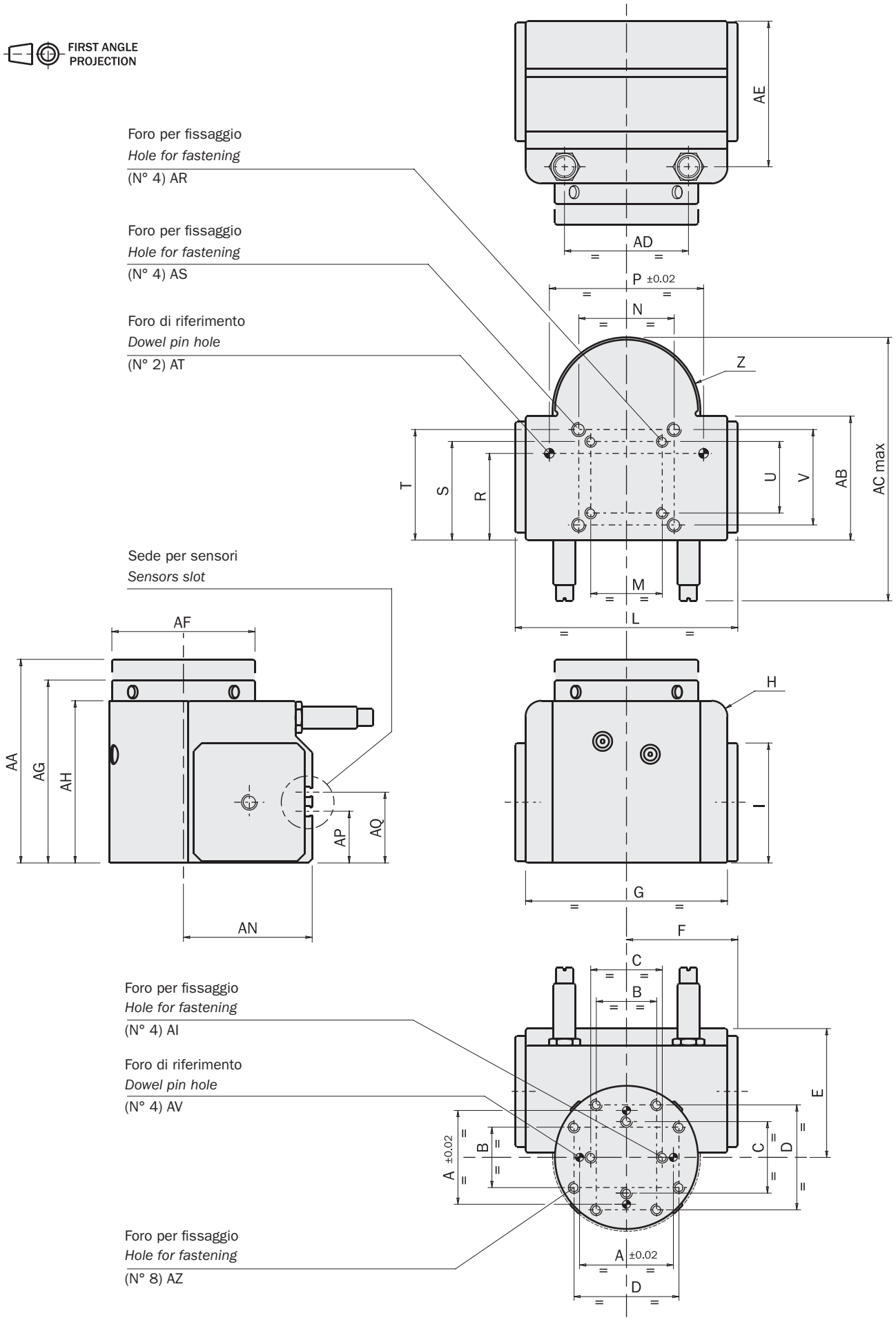
I 180° fra le due posizioni estreme sono regolabili di ±4° per parte, agendo sulla posizione dei deceleratori.
Invece i 90° (tolleranza ±0.3°) non sono registrabili.

You can adjust of about ±4° on both sides the 180° angle, by the shock-absorbers.
It is not possible to adjust the 90° (tolerance ±0.3°) angle.



Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

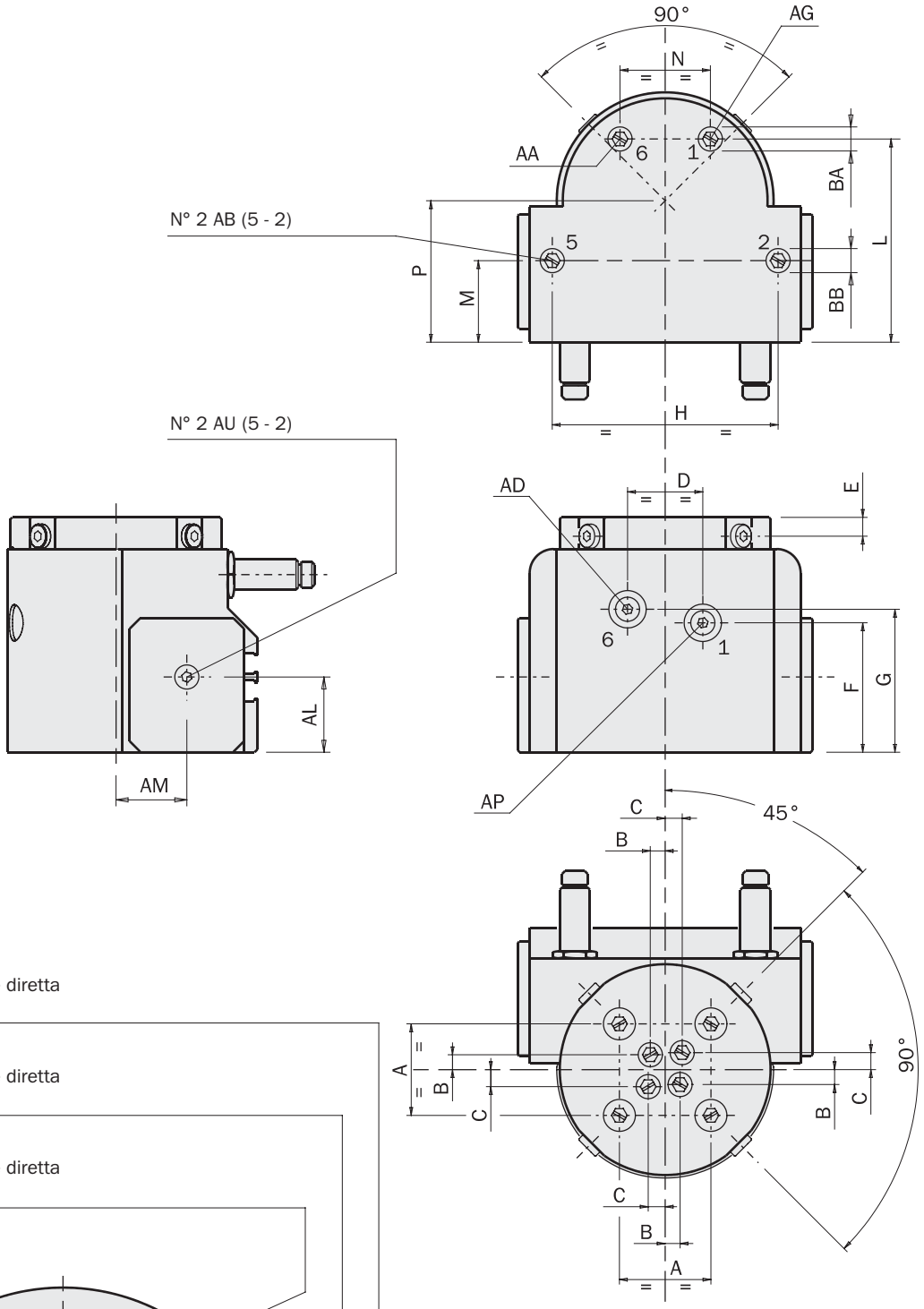


Dimensioni (mm) / *Dimensions (mm)*

	R20	R21	R32	R33	R63	R64
A	30.4	30.4	30.4	30.4	59	59
B	21	21	27	27	38	38
C	-	-	-	-	45	45
D	37	37	48	48	66	66
E	32	32	47	47	81	81
F	35	35	49	49	70	70
G	64.5	64.5	90	90	127	127
H	R 5	R 5	R 8	R 8	R 10	R 10
I	36	36	44.5	44.5	75.4	75.4
L	70	70	98	98	140	140
M	-	-	-	-	45	45
N	34	34	45	45	60	60
P	30.4	30.4	30.4	30.4	97	97
R	32	32	47	47	54.5	54.5
S	-	-	-	-	62	62
T	40.5	40.5	52.5	52.5	69.5	69.5
U	-	-	-	-	45	45
V	34	34	45	45	60	60
Z	R 26	R 26	R 36	R 36	R 46.5	R 46.5
AA	-	71	-	92	-	134
AB	30.4	30.4	45	45	77.9	77.9
AC	75	75	105	105	170	170
AD	42	42	60	60	78	78
AE	43	43	59	59	91.5	91.5
AF	Ø50	Ø50	Ø70	Ø72	Ø90	Ø90
AG	59	-	78	-	115	-
AH	51	51	67.5	67.5	102	102
AI	-	-	-	-	M6x12 mm	M6x12 mm
AN	32	32	47	47	81	81
AP	14	14	20.5	20.5	40	40
AQ	23	23	29.5	29.5	-	-
AR	-	-	-	-	M6x10 mm	M6x10 mm
AS	M4x8 mm	M4x8 mm	M6x10 mm	M6x10 mm	M8x14 mm	M8x14 mm
AT	Ø3 H8x6 mm	Ø3 H8x6 mm	Ø3 H8x6 mm	Ø3 H8x6 mm	Ø6 H8x8 mm	Ø6 H8x8 mm
AV	Ø3 H8x6 mm	Ø3 H8x6 mm	Ø3 H8x6 mm	Ø3 H8x6 mm	Ø5 H8x8 mm	Ø5 H8x8 mm
AZ	M3x6 mm	M3x6 mm	M4x10 mm	M4x10 mm	M6x12 mm	M6x12 mm

Dimensioni (mm) / *Dimensions (mm)*

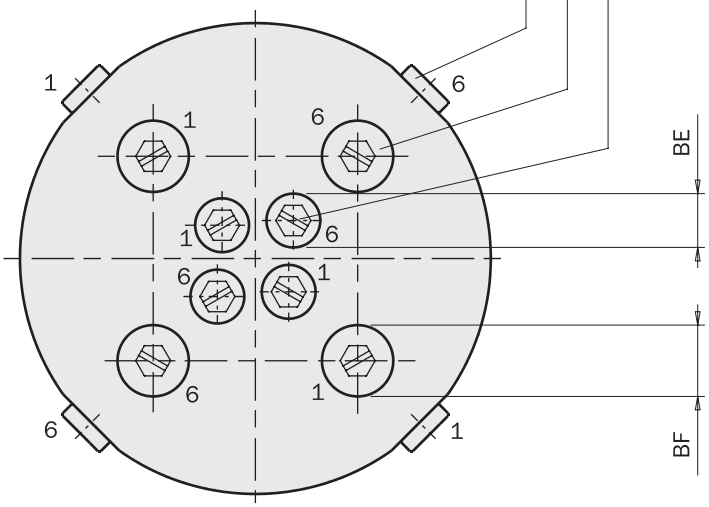
FIRST ANGLE PROJECTION



Uscita per alimentazione diretta
Outlet of direct feeding
N° 4 AE (1 - 6)

Uscita per alimentazione diretta
Outlet of direct feeding
N° 4 AF (1 - 6)

Uscita per alimentazione diretta
Outlet of direct feeding
N° 4 AC (1 - 6)



I fori indicati con lo stesso numero sono fra loro comunicanti

The air ports identified with the same number are communicating

Dimensioni (mm) / *Dimensions (mm)*

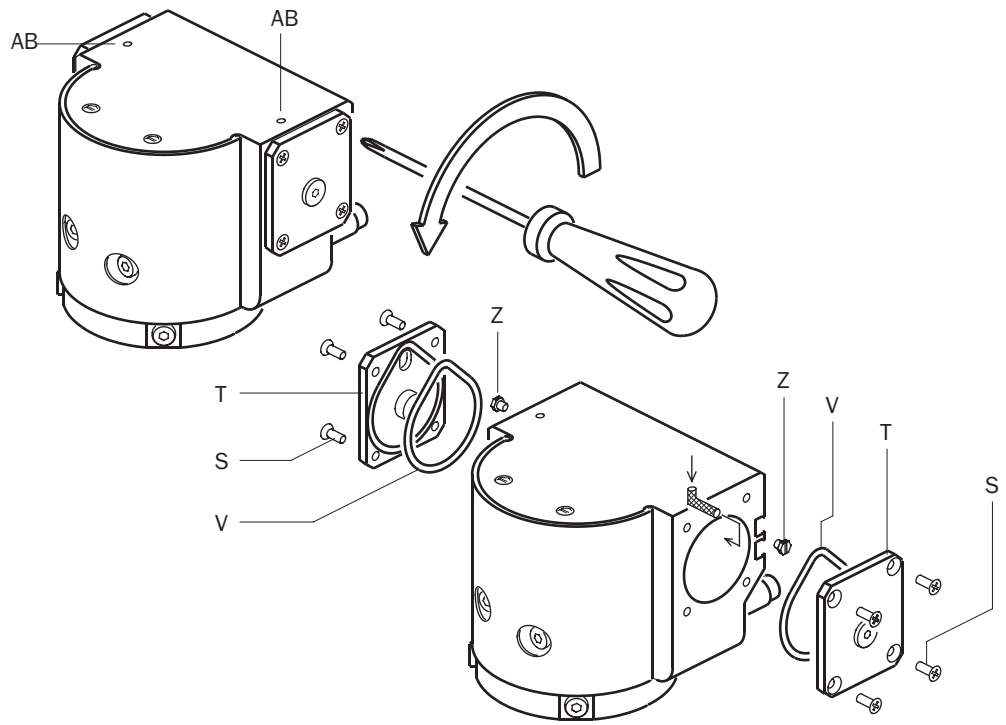
	R20	R21	R32	R33	R63	R64
A	24	-	30.4	-	48	
B	2.7	-	4.9	-	6.2	-
C	3.4	-	5.7	-	7.25	-
D	13	13	25	25	30	30
E	4.5	-	6.25	-	7.5	-
F	32	32	43	43	68.35	68.35
G	37.7	-	47.5	-	76.45	-
H	52	52	75	75	109	109
L	46	46	67.5	67.5	103.5	103.5
M	17	17	27.1	27.1	39.5	39.5
N	13	13	30	30	30	30
P	32	32	47	47	81	81
AA	M3	-	M3	-	M5	-
AB	M3	M3	Ø2	Ø2	M3	M3
AC	M3	-	M5	-	M5	-
AD	M3	-	M5	-	M5	-
AE	M3	-	M3	-	M3	-
AF	M3	-	M3	-	M3	-
AG	M3	M3	M3	M3	M5	M5
AL	18.5	18.5	25	25	38.15	38.15
AM	15	15	23.5	23.5	41.5	41.5
AP	M3	M3	M5	M5	M5	M5
AU	M5	M5	M5	M5	G 1/8	G 1/8
BA	Ø6	Ø6	Ø6	Ø6	Ø9	Ø9
BB	Ø6	Ø6	-	-	Ø6	Ø6
BE	Ø5.5	-	Ø6	-	Ø6	-
BF	Ø9.4x1.3mm	-	Ø9.4x1.3mm	-	Ø9.4x1.3mm	-

Attenzione

Nel caso degli attuatori R32 e R33, se si desidera utilizzare i fori sul fondo (AB), è necessario rimuovere i tappi (Z), posti dietro i coperchi (T), facendo attenzione alla corretta posizione della guarnizione (V) prima di riposizionare le viti (S).

Warning

The direct feeding of the rotary units R32 and R33 from the bottom air ports (AB) is possible only removing the plugs (Z) placed behind the covers (T). Reassembling the covers pay attention to the correct position of the gaskets (V), before placing the screws (S).

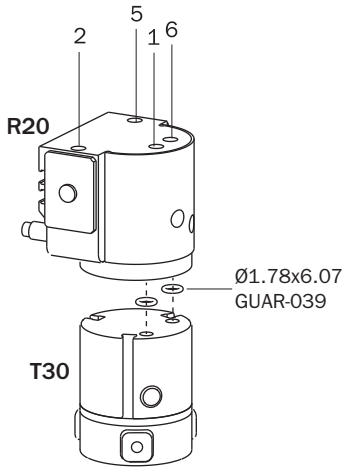


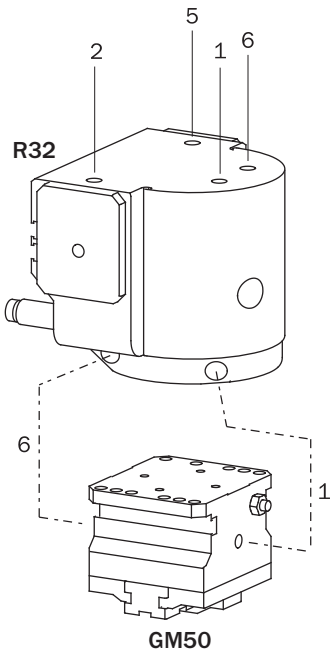
Distributore rotante

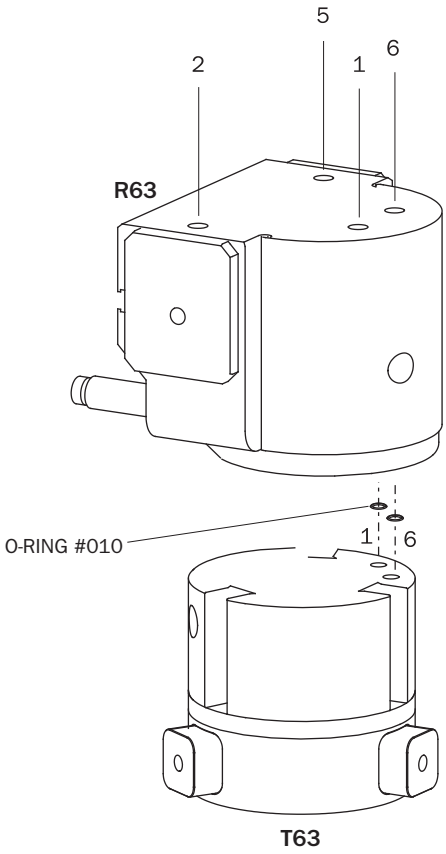
Negli attuatori R20, R32 e R63 il distributore rotante di aria compressa integrato consente di alimentare, con due canali (1 e 6), eventuali dispositivi posti sul disco senza bisogno di tubi esterni in rotazione.
Direttamente su R20 possono essere montate le pinze T30; su R32 le pinze S25, T40, GM-0025/6/7 e GM-0050/1/2; su R63 le pinze T63.
Negli attuatori R21, R33 e R64 il distributore rotante non è presente ed il canale 1 è utilizzato per l'attuazione del blocchetto mobile che fa l'arresto intermedio, mentre il canale 6 è tappato.

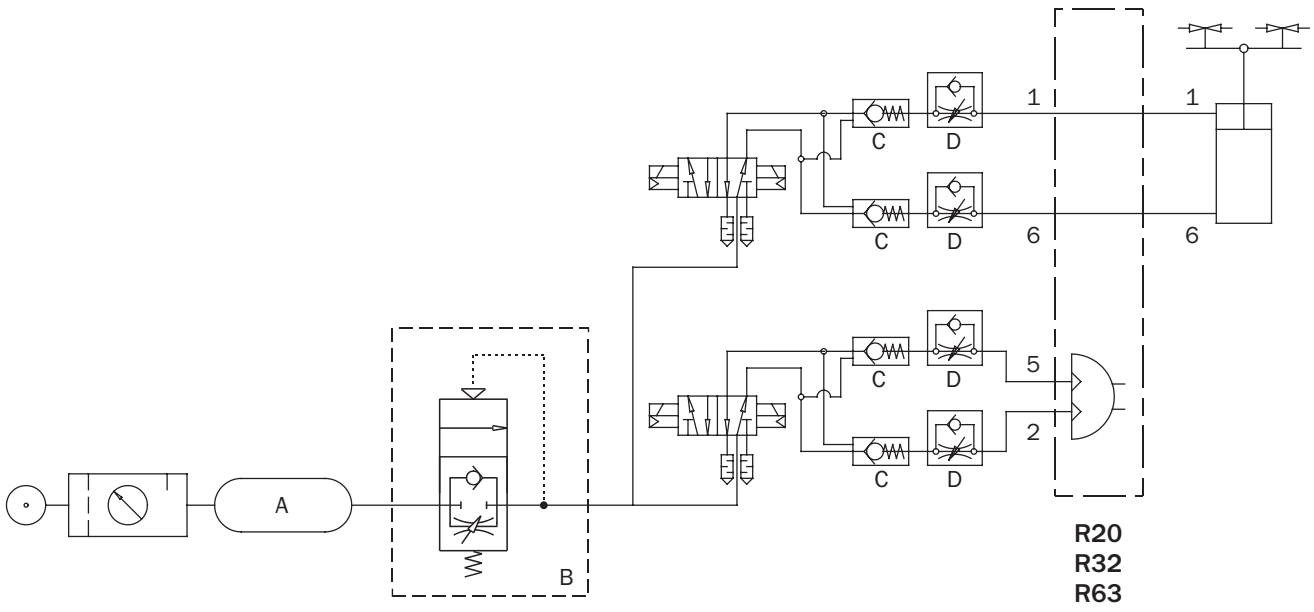
Rotating distributor

In R20, R32 and R63 the integrated rotating distributor of compressed air, with two leads (1 and 6), enables to feed compressed air to the pneumatic devices on the disc without hoses.
Directly on R20 the grippers T30 can be fitted; on R32 the grippers T40, GM-0025/6/7 and GM-0050/1/2; on R63 the grippers T63.
In R21, R33 and R64 the integrated rotating distributor is not present and the air lead 1 is used to actuate the sliding block for intermediate stopping, while the air lead 6 is plugged.









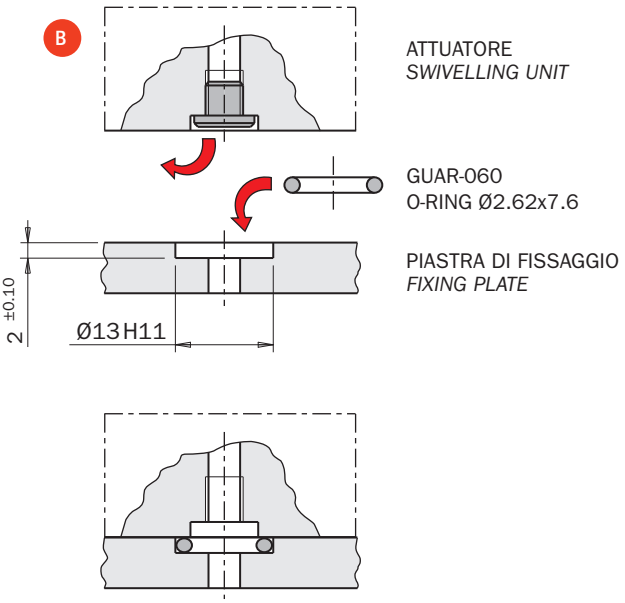
Alimentazione dell'aria compressa

L'attuatore rotante può essere alimentato dai fori laterali (A) utilizzando raccordi e tubi (non forniti), oppure dai fori posti sul fondo (B), fornendo l'aria compressa attraverso la piastra di fissaggio e gli O-Ring (GUAR-060) inclusi nella confezione.
Viene fornito con tutti i fori di alimentazione tappati, è perciò sufficiente stappare i fori che si desidera utilizzare.
I fori identificati con lo stesso numero sono tra loro comunicanti.

Compressed air feeding

The swivelling unit is fed with compressed air tfrom the side air ports (A) with appropriate fittings and tubes (not supplied), or directly from the bottom air ports (B), through the fixing plate and the O-rings (GUAR-060) supplied.
As all the air ports are plugged, it is necessary to remove only the plugs where the compressed air is needed.
The air ports identified with the same number are communicating.





Circuito pneumatico

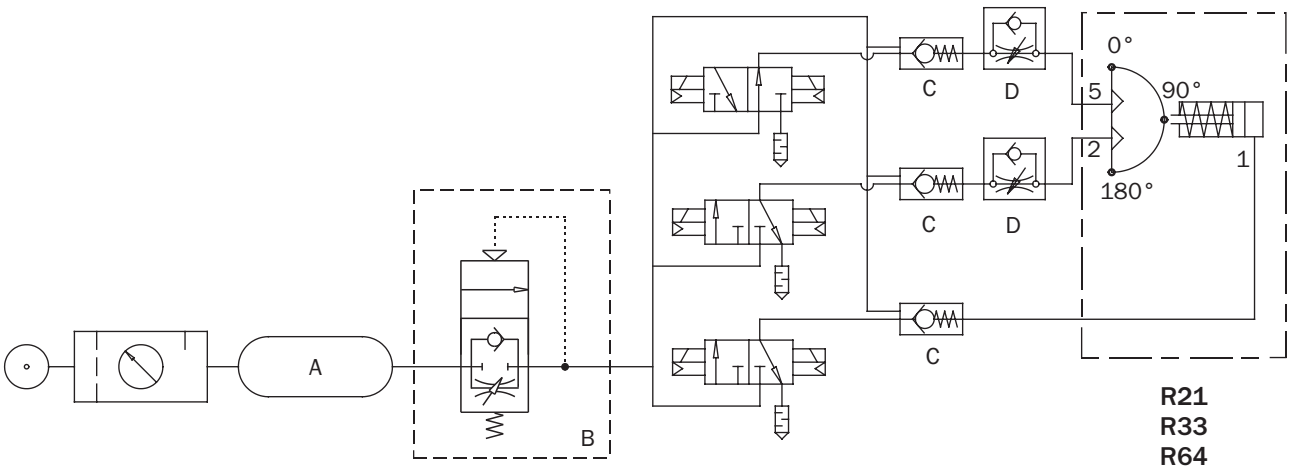
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



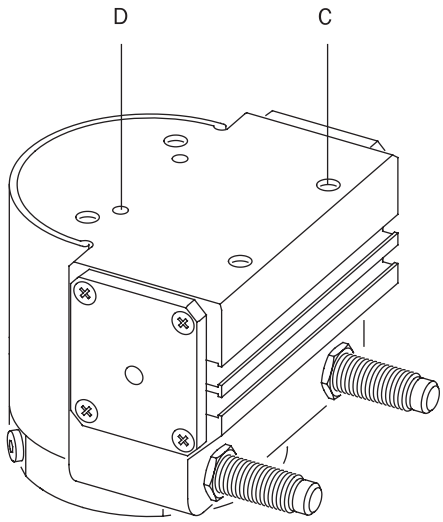
R21
R33
R64

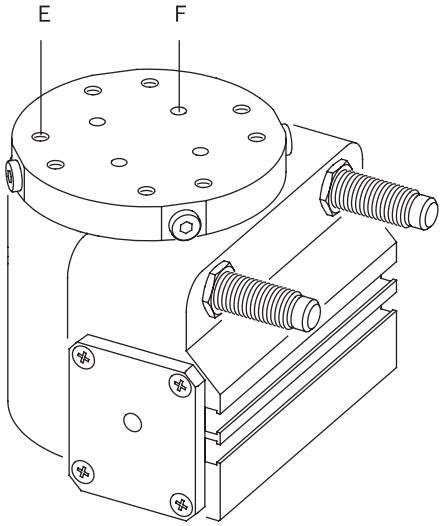
Fissaggio

L'attuatore rotante va fissato utilizzando quattro fori filettati (C) per le viti e due fori calibrati (D) per le spine di riferimento.
Il carico rotante va montato sul disco utilizzando almeno quattro degli otto fori filettati (E) ed almeno due dei quattro fori calibrati (F).

Fastening

The swivelling actuator must be fastened by four screws in the threaded holes (C) and centered by two dowel pins in the holes (D). The rotating load must be fastened on the disc using at least four threaded holes (E) and at least two dowel pin holes (F).



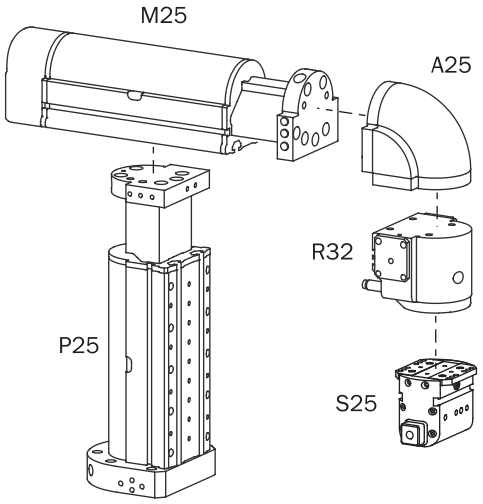


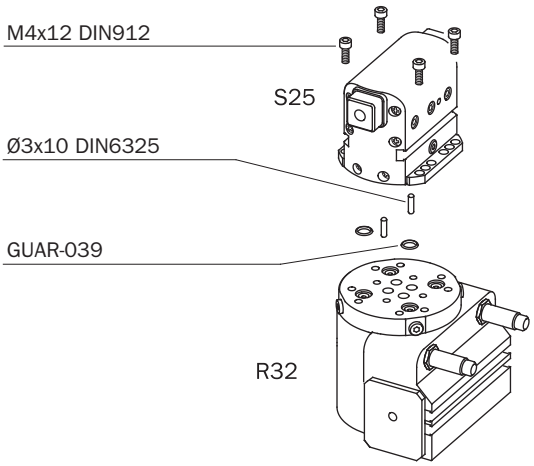
Esempi di applicazione

Questi attuatori sono facilmente integrabili con gli elementi del Gimapick.

Application examples

These units can be easily mounted with Gimapick elements.



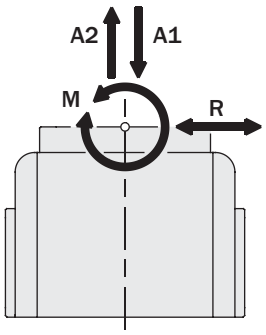


Carichi di sicurezza

Consultare la tabella dei carichi ammissibili.
Carichi ed energia cinetica eccessivi possono danneggiare l'attuatore e comprometterne il funzionamento.
A1 ed A2 [N] sono i carichi massimi ammissibili in direzione assiale in compressione ed in trazione.
R [N] è il carico massimo in direzione radiale.
M [Nm] è la coppia flettente massima ammissibile.
J [kgcm^2] è il momento d'inerzia delle masse in rotazione.
t [s] è il tempo di rotazione (per 90° o 180°).
E [kgcm^2/s^2] è l'energia cinetica dissipata da un deceleratore in un singolo urto.
Eh [kgcm^2/s^2] è l'energia cinetica dissipata in un'ora da un deceleratore.
Nh è il numero di interventi che il singolo deceleratore effettua in un'ora.

Safety loads

Check the table for maximum permitted loads.
Excessive loads or kinetic energy can damage the unit, cause functioning troubles, endanger the safety of the operator.
A1 and A2 [N] are the maximum axial loads, compressive and tractive.
R [N] is the maximum radial load.
M [Nm] is the maximum bending torque.
J [kgcm^2] is the moment of inertia of the rotating loads.
t [s] is the swivelling time (for 90° and 180°).
E [kgcm^2/s^2] is the kinetic energy dissipated by the shock-absorber each shock.
Eh [kgcm^2/s^2] is the kinetic energy dissipated by the shock-absorber per hour.
Nh is the number of shocks per hour per each shock-absorber.



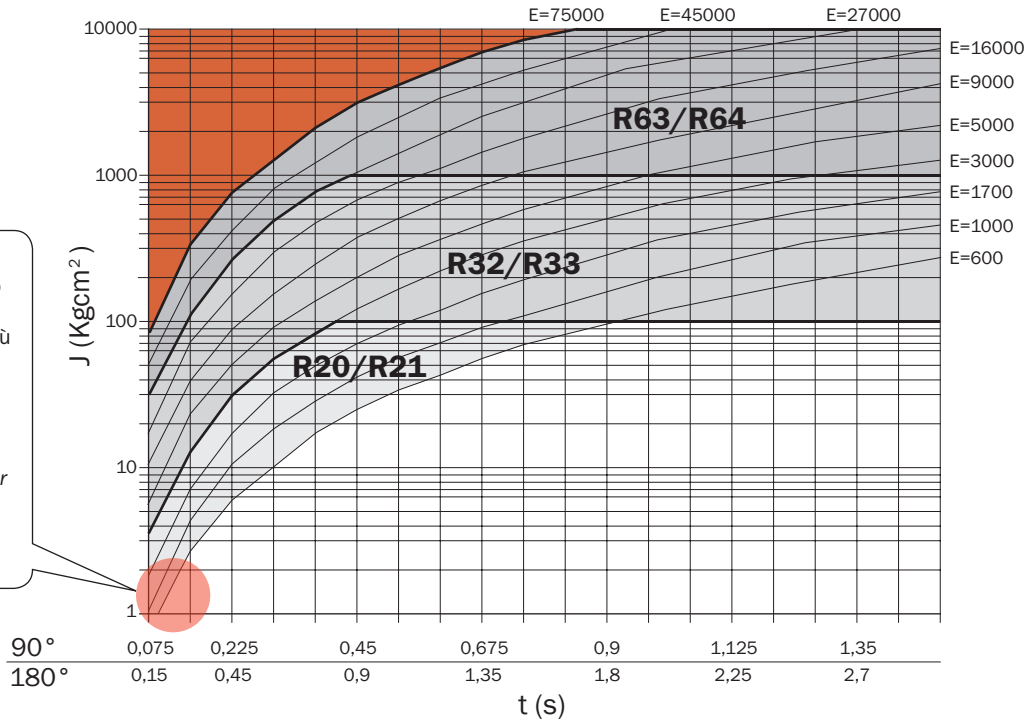
	R20/R21	R32/R33	R63/R64
A1	230 N	650 N	1100 N
A2	140 N	245 N	800 N
R	180 N	810 N	1500 N
M	5 Nm	12 Nm	32 Nm
E max	3000 kgcm^2/s^2	27000 kgcm^2/s^2	75000 kgcm^2/s^2
Eh	(E+3000)xNh	(E+10^4)xNh	(E+10^5)xNh
Eh max	40x10^6 kgcm^2/s^2	67.8x10^6 kgcm^2/s^2	34x10^7 kgcm^2/s^2

ENERGIA PER URTO
ENERGY PER SHOCK

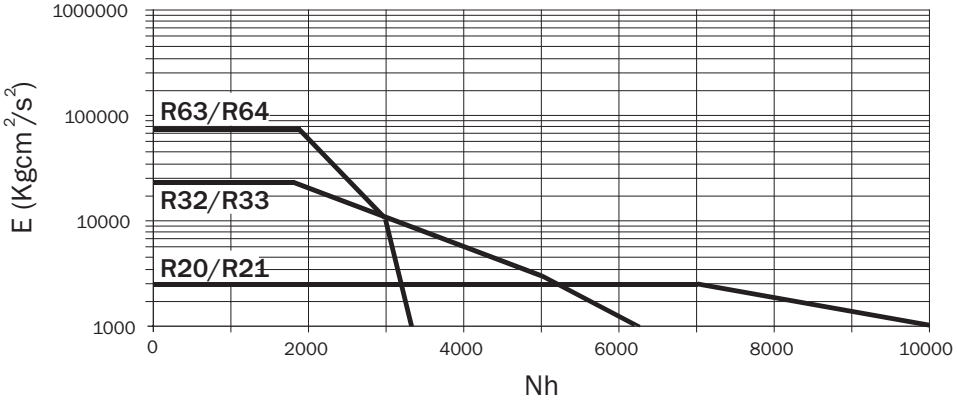
90°: E=4.935xJ/t²
180°: E=19.74xJ/t²

Quando si agisce in quest'area, sarebbe meglio sostituire il deceleratore standard con la versione più morbida: ACE MC10ML.

When working in this area, it could be better to replace the standard shock-absorber with the softer version: ACE MC10ML.



ENERGIA PER ORA
ENERGY PER HOUR



Sensori

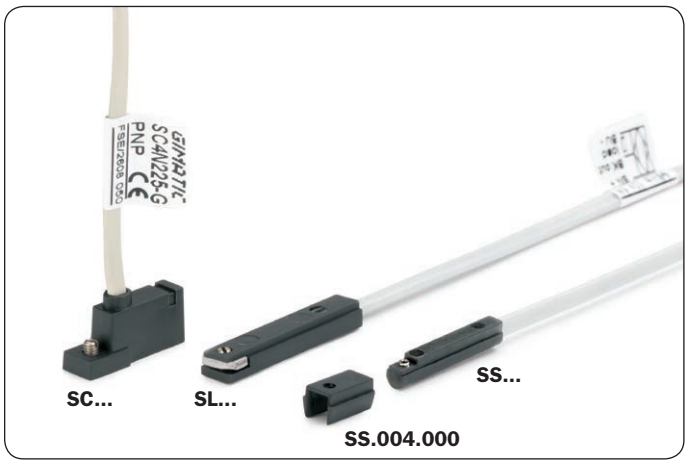
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

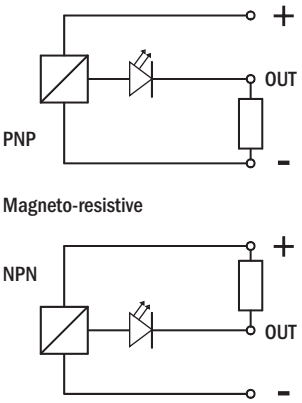
I sensori utilizzabili sono:

Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:





			R20	R32	R63	R21	R33	R64
SC4N225Y	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑
SC3N203Y	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑
SL4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☐	☐	☐
SL4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑	☐	☐	☐
SL3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☐	☐	☐
SL3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☐	☐	☐
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)	☐	☐	☐
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑ (1)	☑ (1)	☑ (1)	☐	☐	☐
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)	☐	☐	☐
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑ (1)	☑ (1)	☑ (1)	☐	☐	☐

(1)
Utilizzando l'adattatore (SS.004.000) fornito nella confezione K-SENS.

(1)
By the adapter (SS.004.000) provided with the pack K-SENS.











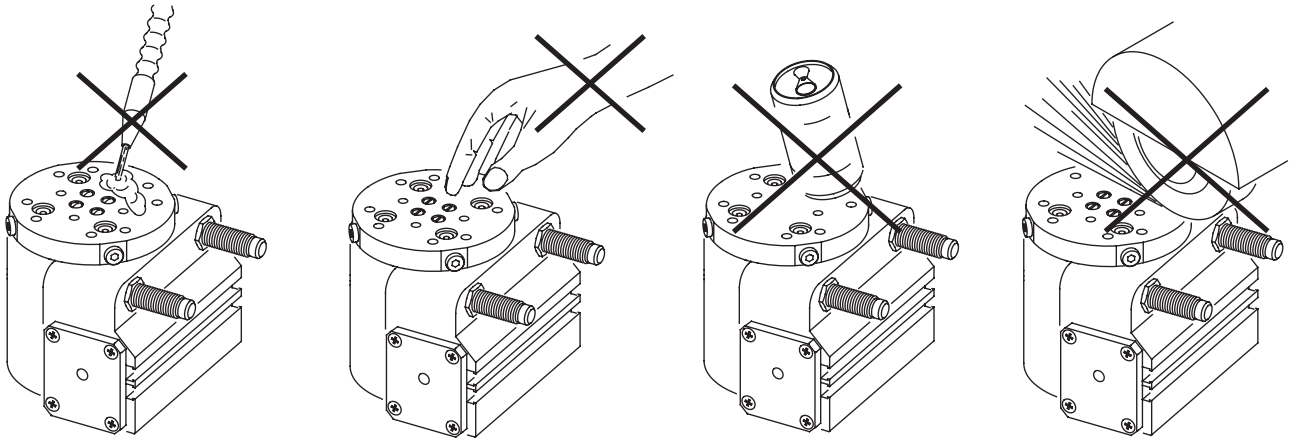


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità dell'attuatore.
Per nessun motivo, persone od oggetti estranei devono entrare nel raggio d'azione dell'attuatore.
L'attuatore non deve essere messo in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the actuator.
Never let non-authorized persons or objects stand within the operating range of the swivelling unit.
Never operate the swivelling unit if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

L'attuatore rotante va ingrassato ogni 10 milioni di rotazioni con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Controllare periodicamente l'efficienza dei deceleratori e sostituirli subito se manifestano un decadimento delle loro prestazioni di smorzamento.

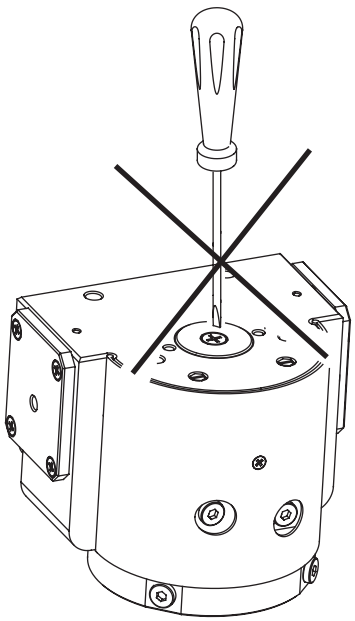
Il gioco del disco rotante è regolato in fabbrica.
NON UTILIZZARE MAI LA VITE DI REGOLAZIONE PER MODIFICARLO.

Maintenance

Grease the unit after 10 million rotations by:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

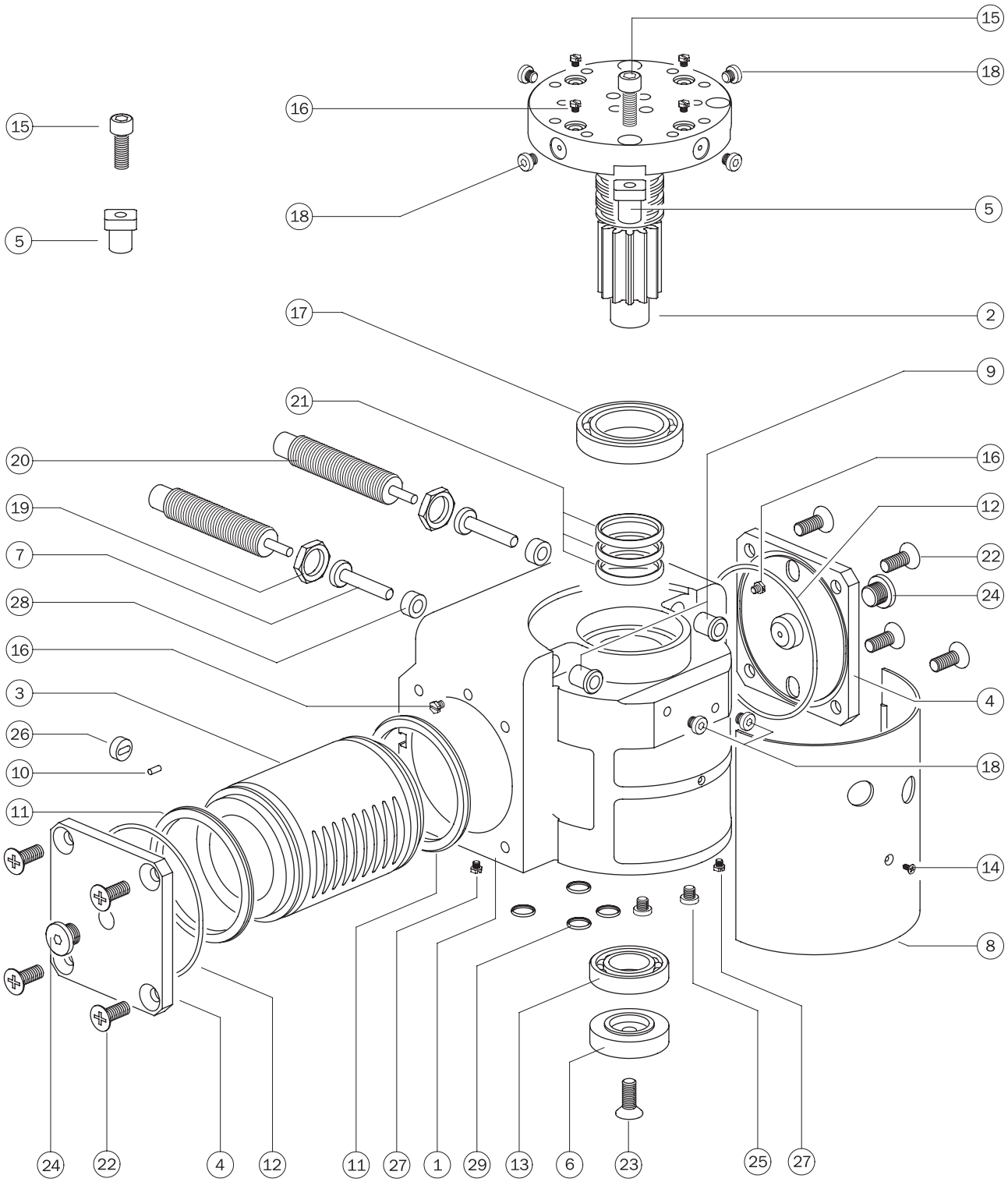
Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performances decrease.

The rotating disc backlash is set in factory.
NEVER USE THE ADJUSTING SCREW TO MODIFY IT.



Viste esplosa / *Exploded view*

R20
R32
R63

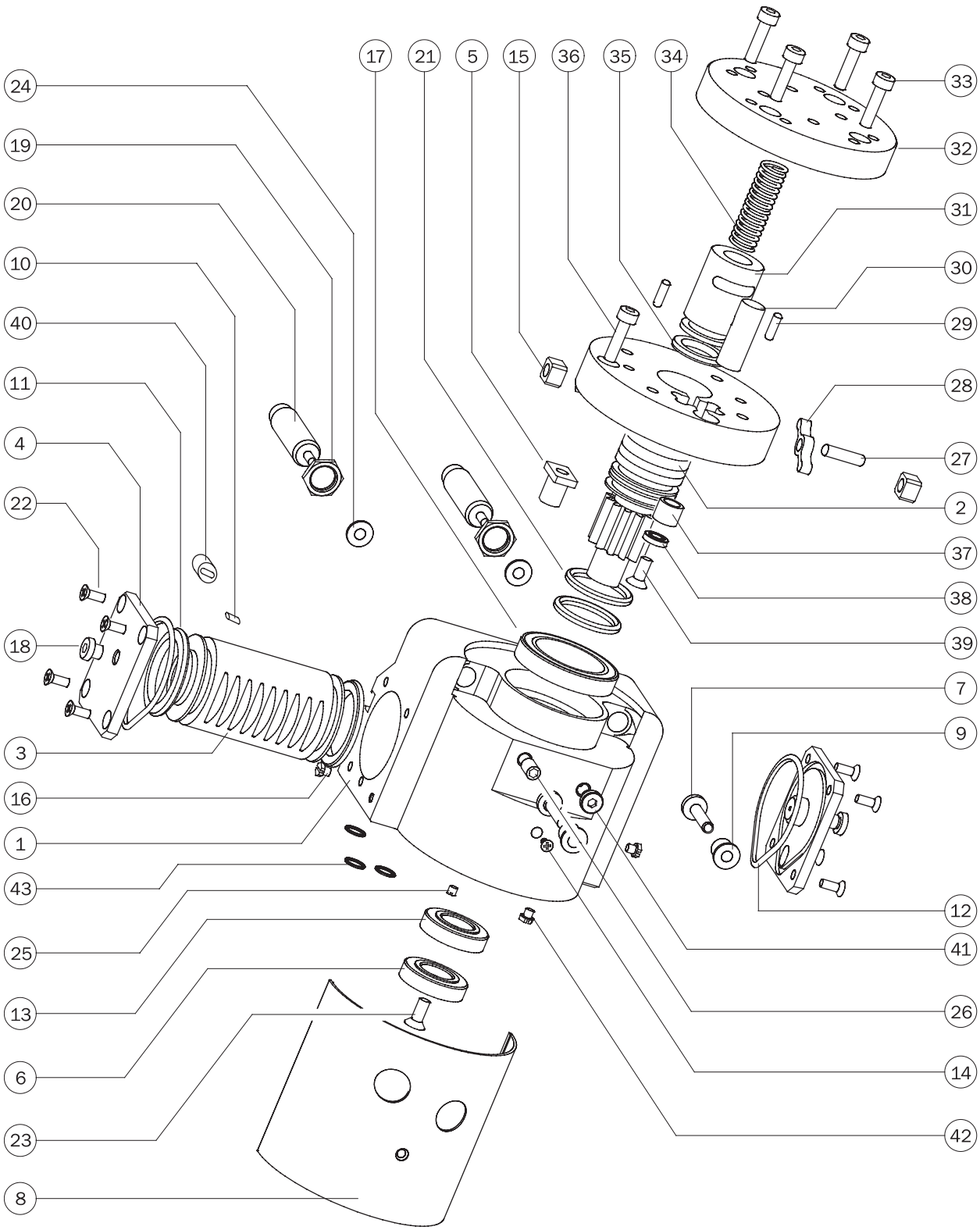


Elenco delle parti / *Part list*

		R20	R32	R63		
1	Corpo attuatore	R20-180-1	R32-180-1	R63-180-1	*Housing*	*1*
2	Disco	R20-180-2	R32-180-2	R63-180-2	*Disc*	*2*
3	Pistone	R20-180-3	R32-180-3	R63-180-3	*Piston*	*3*
4	Testata	R20-180-4	R32-180-4	R63-180-4	*Head*	*4*
5	Blocchetto fine corsa	R20-180-5	R32-180-5	R63-180-12	*End stroke block*	*5*
6	Flangia	R20-180-6	R32-180-6	R63-180-6	*Flange*	*6*
7	Stelo	R20-180-7	R32-180-7	R63-180-7	*Piston rod*	*7*
8	Protezione	R20-180-8	R32-180-8	R63-180-8	*Protection*	*8*
9	Bussola	R20-180-9	R32-180-9	R63-180-9	*Bushing*	*9*
10	Magnete	PAR-06-7	R63-180-20	R63-180-20	*Magnet*	*10*
11	Guarnizione	GUAR-120 (20.7x13.75x2.55)	GUAR-063 (32x24x3.5)	GUAR-049E (63x53x4.5)	*Gasket*	*11*
12	Anello di tenuta O-RING	GUAR-025 (Ø1.78x21.95)	GUAR-062 (Ø1.78x34.65)	GUAR-075 (Ø1.78x66.40)	*O-RING gasket*	*12*
13	Cuscinetto a sfera	CUSC-011 (Ø8xØ16x4 ISB 618/B)	CUSC-006 (Ø12xØ24x6 ISB 61901)	CUSC-009 (Ø17xØ35x8 ISB 16003)	*Ball bearing*	*13*
14	Vite autofilettante DIN 7982	VITE-103 (Ø2.2x5.5 mm)	VITE-103 (Ø2.2x5.5 mm)	VITE-103 (Ø2.2x5.5 mm)	*Screw*	*14*
15	Vite TCEI INOX A2 DIN 912	VITE-014 (M3x12 mm)	VITE-061 (M4x16 mm)	VITE-135 (M6x10 mm)	*Screw*	*15*
16	Tappo	DT-205	DT-205	DT-205	*Plug*	*16*
17	Cuscinetto a sfera	CUSC-021 (Ø17xØ26x5 ISB 61803)	CUSC-023 (Ø25xØ37x7 ISB 61805)	CUSC-008 (Ø30xØ47x9 ISB 61906)	*Ball bearing*	*17*
18	Tappo	DT-205	107-M5	107-M5	*Plug*	*18*
19	Dado	-	VITE-218 (M10x1)	VITE-196 (M14x1.5)	*Nut*	*19*
20	Deceleratore	ACE MC10MH	ENIDINE TK10M-1-SP18482	ENIDINE PM25MC-3-SP34780	*Shock-absorber*	*20*
21	Anello di tenuta O-RING	GUAR-047 (Ø1.78x12.42)	GUAR-061 (Ø2.62x20.29)	GUAR-074 (Ø2.62x25.07)	*O-RING gasket*	*21*
22	Vite TSP INOX A2 DIN 965A	VITE-035 (M3x8 mm)	VITE-035 (M3x8 mm)	VITE-054 (M6x16 mm)	*Screw*	*22*
23	Vite TSP INOX A2 DIN 965A	VITE-035 (M3x8 mm)	VITE-028 (M4x10 mm)	VITE-054 (M6x16 mm)	*Screw*	*23*
24	Tappo	107-M5	107-M5	107-1/8"	*Plug*	*24*
25	Tappo	DT-205	DT-205	107-M5	*Plug*	*25*
26	Inserto portamagnete	PE-2520-09	R32-180-25	R63-180-16	*Magnet housing*	*26*
27	Tappo	DT-205	-	DT-205	*Plug*	*27*
28	Distanziale	-	-	R63-180-10	*Spacer*	*28*
29	Anello di tenuta O-RING	GUAR-060 (Ø2.62x7.6)	GUAR-060 (Ø2.62x7.6)	GUAR-060 (Ø2.62x7.6)	*O-RING gasket*	*29*

Viste esplosa / *Exploded view*

R21
R33
R64



Elenco delle parti / *Part list*

		R21	R33	R64		
1	Corpo attuatore	R20-180-1	R32-180-1	R63-180-1	*Housing*	*1*
2	Disco rotante	R21-2	R33-2	R64-1	*Rotating disc*	*2*
3	Pistone	R20-180-3	R32-180-3	R63-180-3	*Piston*	*3*
4	Testata	R20-180-4	R32-180-4	R63-180-4	*Head*	*4*
5	Blocchetto fine corsa fisso	R20-180-5	R33-7	R63-180-12	*End-troke fixed block*	*5*
6	Flangia	R20-180-6	R32-180-6	R63-180-6	*Flange*	*6*
7	Stelo	R20-180-7	R32-180-7	R63-180-7	*Piston rod*	*7*
8	Protezione	R20-180-8	R32-180-8	R63-180-8	*Protection*	*8*
9	Bussola	R20-180-9	R32-180-9	R63-180-9	*Bushing*	*9*
10	Magnete	PAR-06-7	R63-180-20	R63-180-20	*Magnet*	*10*
11	Guarnizione	GUAR-120 (20.7x13.75x2.55)	GUAR-063 (32x24x3.5)	GUAR-049E (63x53x4.5)	*Gasket*	*11*
12	Anello di tenuta O-RING	GUAR-025 (Ø1.78x21.95)	GUAR-062 (Ø1.78x34.65)	GUAR-075 (Ø1.78x66.40)	*O-RING gasket*	*12*
13	Cuscinetto a sfera	CUSC-011 (Ø8xØ16x4 ISB 618/B)	CUSC-006 (Ø12xØ24x6 ISB 61901)	CUSC-009 (Ø17xØ35x8 ISB 16003)	*Ball bearing*	*13*
14	Vite autofilettante DIN 7982	VITE-103 (Ø2.2x5.5 mm)	VITE-103 (Ø2.2x5.5 mm)	VITE-103 (Ø2.2x5.5 mm)	*Screw*	*14*
15	Boccola	R21-6	R33-6	R64-5	*Square nut*	*15*
16	Tappo	-	DT-205	DT-205	*Plug*	*16*
17	Cuscinetto a sfera	CUSC-021 (Ø17xØ26x5 ISB 61803)	CUSC-023 (Ø25xØ37x7 ISB 61805)	CUSC-008 (Ø30xØ47x9 ISB 61906)	*Ball bearing*	*17*
18	Tappo	107-M5	107-M5	107-1/8"	*Plug*	*18*
19	Dado	-	VITE-218 (M10x1)	VITE-196 (M14x1.5)	*Nut*	*19*
20	Deceleratore	ACE MC10MH	ENIDINE TK10M-1-SP18482	ENIDINE PM25MC-3-SP34780	*Shock-absorber*	*20*
21	Anello di tenuta O-RING	GUAR-047 (Ø1.78x12.42)	GUAR-061 (Ø2.62x20.29)	GUAR-074 (Ø2.62x25.07)	*O-RING gasket*	*21*
22	Vite TSP INOX A2 DIN 965A	VITE-035 (M3x8 mm)	VITE-035 (M3x8 mm)	VITE-054 (M6x16 mm)	*Screw*	*22*
23	Vite di regolazione DIN 965A	VITE-035 (M3x8 mm)	VITE-028 (M4x10 mm)	VITE-054 (M6x16 mm)	*Regulation screw*	*23*
24	Distanziale	/	/	R63-180-10	*Spacer*	*24*
25	Vite STEI INOX A2 DIN 913	VITE-018 (M3x4 mm)	VITE-018 (M3x4 mm)	VITE-069 (M5x5 mm)	*Grub crew*	*25*
26	Vite STEI INOX A2 DIN 913	VITE-018 (M3x4 mm)	VITE-069 (M5x5 mm)	VITE-069 (M5x5 mm)	*Grub screw*	*26*
27	Spina di riferimento DIN 6325	SPINA-007 (Ø3x14 mm)	SPINA-014 (Ø4x16 mm)	SPINA-015 (Ø5x16 mm)	*Dowel pin*	*27*
28	Leva	R21-4	R33-4	R64-3	*Lever*	*28*
29	Spina di riferimento DIN 6325	SPINA-090 (Ø3x8 mm)	SPINA-006 (Ø3x10 mm)	SPINA-051 (Ø6x24 mm)	*Dowel pin*	*29*
30	Blocchetto fine corsa mobile	R21-5	R33-5	R64-7	*End-stroke sliding block*	*30*
31	Cursore	R21-1	R33-1	R33-1	*Slider*	*31*
32	Piattello	R21-3	R33-3	R64-2	*Plate*	*32*
33	Vite TCEI INOX A2 DIN 912	VITE-016 (M3x10 mm)	VITE-061 (M4x16 mm)	VITE-136 (M5x20 mm)	*Screw*	*33*
34	Molla	R21-10	K-016-12	K-016-12	*Spring*	*34*
35	Guarnizione	GUAR-118 (12.5x6.8x2.55)	GUAR-120 (20.7x13.75x2.55)	GUAR-120 (20.7x13.75x2.55)	*Gasket*	*35*
36	Vite TCEI INOX A2 DIN 912	VITE-016 (M3x10 mm)	VITE-061 (M4x16 mm)	VITE-115 (M6x14 mm)	*Screw*	*36*
37	Rotella	-	-	R63-180-14	*Roller*	*37*
38	Rondella	-	-	R63-180-15	*Washer*	*38*
39	Vite TSP INOX A2 DIN 965A	-	-	VITE-035 (M3x8 mm)	*Screw*	*39*
40	Inserto portamagnete	PE-2520-09	R32-180-25	R63-180-16	*Magnet housing*	*40*
41	Tappo	DT-205	107-M5	107-M5	*Plug*	*41*
42	Tappo	DT-205	DT-205	107-M5	*Plug*	*42*
43	Anello di tenuta O-RING	Ø2.62x7.6 (GUAR-060)	Ø2.62x7.6 (GUAR-060)	Ø2.62x7.6 (GUAR-060)	*O-RING gasket*	*43*

Attuatori rotanti pneumatici serie RT

- Movimento a pignone e cremagliera.
- Corsa regolabile in modo continuo.
- Grossi cuscinetti a sfera di supporto.
- Foro passante nel pignone.
- Fine corsa opzionali con gommino (FGD) o deceleratore idraulico.
- Dispositivo opzionale per l'arresto intermedio (RTD).
- Sensori magnetici opzionali.

Pneumatic swivelling units series RT

- *Rack and pinion movement.*
- *Continuously adjustable stroke.*
- *Large ball bearings on the shaft.*
- *Through hole in the pinion.*
- *Optional rubber bumpers (FGD) or hydraulic shock-absorber.*
- *Optional intermediate stopper (RTD).*
- *Optional proximity magnetic sensors.*



	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*						
Pressione di esercizio *Pressure range*	1.5 ÷ 8 bar						
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.						
Corsa angolare massima *Maximum swivelling angle*	190°						
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	28 Ncm	56 Ncm	198 Ncm	397 Ncm	779 Ncm	1669 Ncm	3926 Ncm
Frequenza max funzionamento *Maximum working frequency*	3 Hz	3 Hz	2 Hz	2 Hz	2 Hz	2 Hz	1 Hz
Tempo di rotazione senza carico *Swivelling time without load*	0.05 s	0.06 s	0.11 s	0.19 s	0.08 s	0.16 s	0.23 s
Consumo d'aria per ciclo *Cycle air consumption*	3.3 cm^3	6.3 cm^3	23 cm^3	45 cm^3	92 cm^3	230 cm^3	520 cm^3
Tolleranza max ripetibilità con deceleratori *Max repeatability tolerance with shock-absorber*	0.02°	0.02°	0.02°	0.02°	0.02°	0.02°	0.02°
Peso *Weight*	235 g	560 g	965 g	1680 g	2475 g	5250 g	8185 g

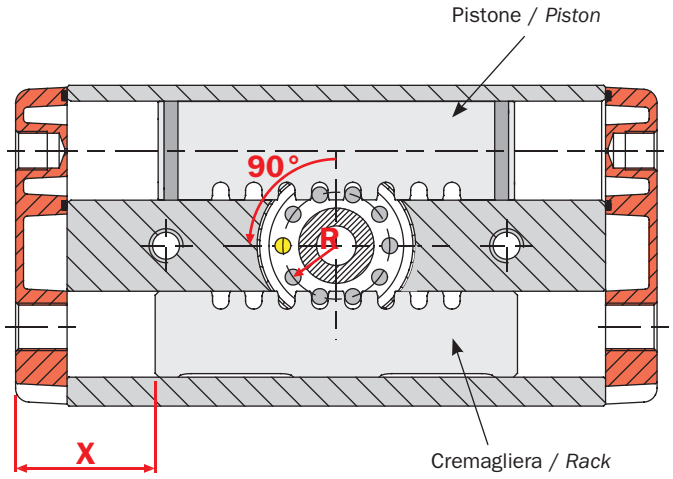
Accessori per fine corsa

Per la regolazione della corsa si possono utilizzare deceleratori idraulici, ammortizzatori di gomma (FGD), o semplici viti, a seconda dell'energia cinetica che l'unità deve sopportare.
NON SI DEVE USARE L'ATTUATORE SENZA DISPOSITIVI DI REGOLAZIONE DELLA CORSA.

End stroke accessories

For the stroke adjustment you can use hydraulic shock-absorbers, rubber bumpers (FGD), or only grub screws, according to the kinetic energy the unit has to bear.
NEVER USE THE SWIVELLING UNIT WITHOUT STROKE ADJUSTERS.





La tabella mostra i codici dei deceleratori idonei.
I fine corsa opzionali con gommino (FGD) sono prodotti Gimatic.

The table shows the codes of the suitable shock-absorbers.
The bumpers (FGD) are Gimatic products.

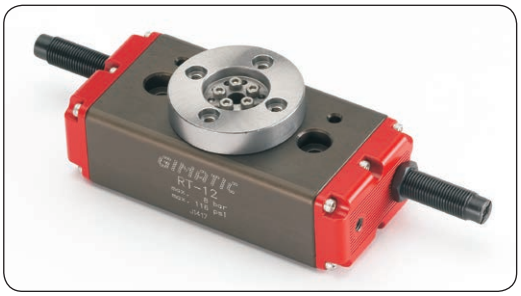
		RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
		M8x1	M10x1	M12x1	M12x1	M14x1.5	M20x1.5	M25x1.5
Deceleratori per carichi pesanti *Shock-absorbers for heavy loads*	ACE ENIDINE	MC10MH -	- TK10M-1-SP18482	MC75M3-NB-111 PM15MF-3-SP33881	MC75M3-NB-111 PM15MF-3-SP33881	MC150MH2 PM25MC-3-SP34780	MC225MH2 PM50MC-2	MC600MH2 PM100MF-3-SP37330
Deceleratori per carichi leggeri *Shock-absorbers for light loads*	ACE ENIDINE	MC10ML PMX8MC-3	MC25M-NB TK10M-4	MC75M2-NB EC015MF-2	MC75M3-NB EC015MF-2	-	-	-
Fine corsa con gommino *Rubber bumpers*		FGD0830 (L=30 mm)	FGD01030 (L=30 mm)	FGD1235 (L=35 mm)	-	-	-	-
R (mm)		6	8.25	10.5	13.5	13.5	17.5	21
$X_{90°}$ (mm)		18.5	24	27.5	35.5	37	53.5	60
$\triangle X \nabla 1°$ (mm)		0.1047	0.1417	0.1802	0.2317	0.2296	0.2976	0.3571

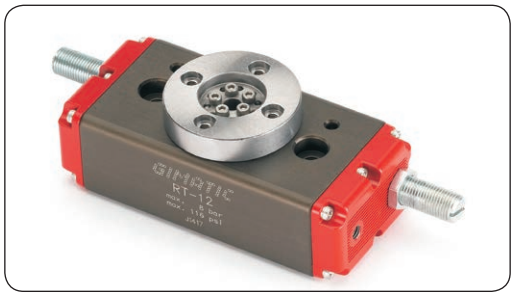
dove:
R è il raggio del pignone;
$X_{90°}$ è la lunghezza minima del dispositivo di fine corsa necessaria per ridurre la corsa dell'attuatore a 90°;
$\triangle X \nabla 1°$ è la corsa della cremagliera per ogni grado di rotazione del pignone.

where:
R is the pinion radius;
$X_{90°}$ is the minimum length of the end-stroke device to reduce the unit stroke to 90°;
$\triangle X \nabla 1°$ is the rack stroke each one degree pinion rotation.

Utilizzando gli accessori della tabella precedente è possibile ridurre la corsa dell'attuatore fino a 90°.
Se è richiesta una riduzione maggiore si deve verificare se è necessario un dispositivo di fine corsa più lungo.
Esempio:
Se è richiesto un angolo di rotazione di 70° con RT-63, la quota X dovrà essere: 60+(20x0.3571)=67.1mm .

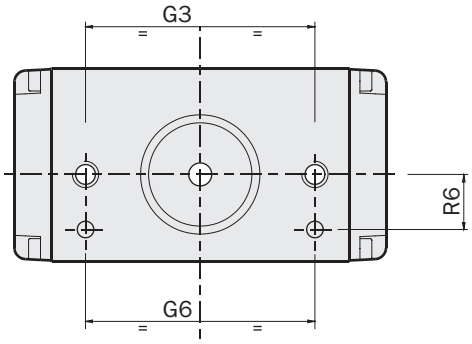
By the accessories in the previous table, it is possible to reduce the unit stroke to 90°.
If a larger stroke reduction is requested, it is necessary to check if a longer end-stroke device must be used.
Example:
If a 70° rotation angle is requested by RT-63, the dimension X will have to be: 60+(20x0.3571)=67.1mm .



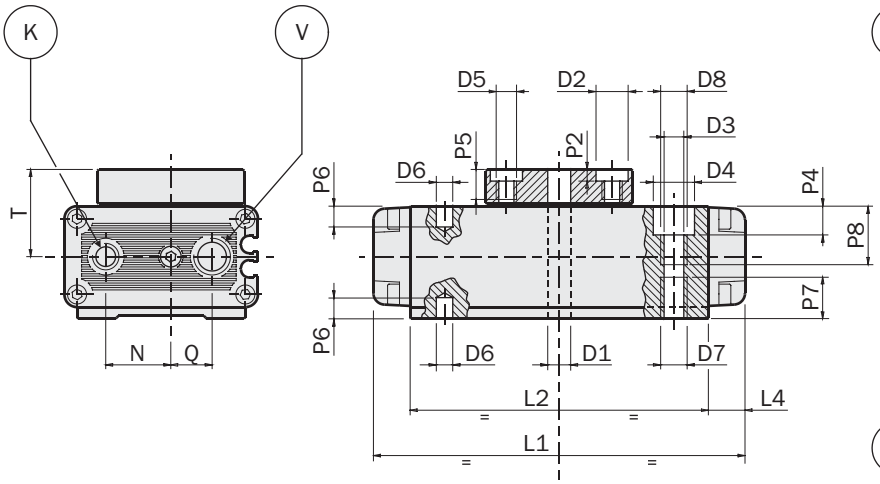


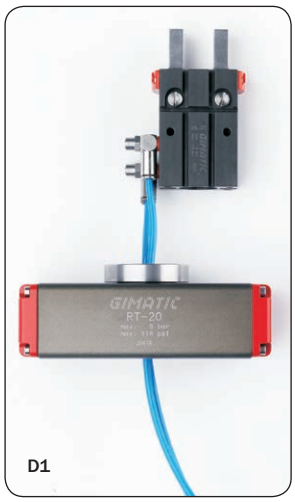
Dimensioni (mm) / *Dimensions (mm)*

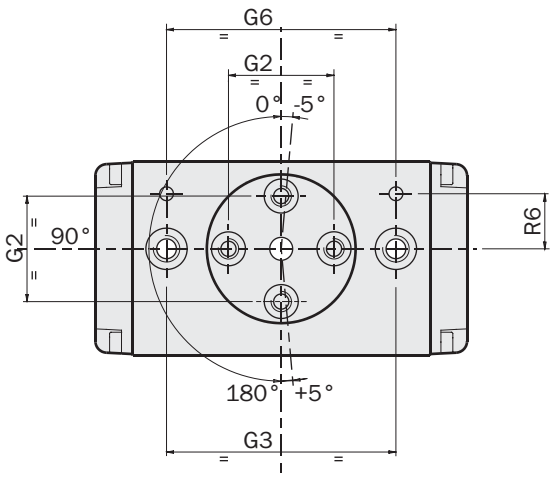
FIRST ANGLE PROJECTION

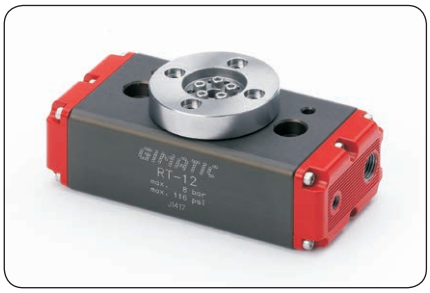












D1 Foro passante
Through hole

K Foro filettato per ingresso aria
Threaded hole for air connection

V Foro filettato per regolatori di corsa
Threaded hole for stroke adjuster

S Sede per sensori serie SS e SN
SS and SN series sensor groove

D2 Foro per boccola di centraggio
Hole for centering sleeve

D3 Foro passante per fissaggio dell'attuatore
Through hole for the unit fastening

D5 Foro filettato per fissaggio applicazione
Threaded hole for fastening

D6 Foro di riferimento dell'attuatore
Dowel pin hole

D7 Foro filettato per fissaggio dell'attuatore
Threaded hole for the unit fastening

Dimensioni (mm) / *Dimensions (mm)*

	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
A	29.75	42	49	59	71	90.5	108.5
B	21.75	32	39	45	57	72	90
C	8	10	10	14	14	18.5	18.5
D	Ø32	Ø45	Ø45	Ø65	Ø65	Ø100	Ø100
D1	Ø5	Ø6	Ø8	Ø10	Ø12	Ø18	Ø20
D2	Ø7 H8	Ø7 H8	Ø7 H8	Ø9 H8	Ø9 H8	Ø15 H8	Ø15 H8
D3	Ø4.3	Ø5.2	Ø5.2	Ø6.8	Ø6.8	Ø10.5	Ø10.5
D4	Ø9	Ø11	Ø11	Ø15	Ø15	Ø19	Ø19
D5	M4	M4	M4	M5	M5	M8	M8
D6	Ø3 H8	Ø4 H8	Ø4 H8	Ø6 H8	Ø6 H8	Ø8 H8	Ø8 H8
D7	M5	M6	M6	M8	M8	M12	M12
D8	M5	M6	M6	M8	M8	M12	M12
F	2.75	-	-	-	-	-	-
G2	23 ±0.02	31.5 ±0.02	31.5 ±0.02	50 ±0.02	50 ±0.02	76 ±0.02	76 ±0.02
G3	50	59	72	86	86	140	140
G6	50 ±0.02	59 ±0.02	72 ±0.02	86 ±0.02	86 ±0.02	140 ±0.02	140 ±0.02
K	M5	M5	M5	1/8	1/8	1/4	1/4
L1	81	108	130	162	170	230	265
L2	65	88	110	136	140	180	215
L3	38	50	65	81	100	120	150
L4	8	10	10	13	15	25	25
L5	19	25	32.5	40.5	53	64	87
N	10	13	16	24	28.5	37	48.5
P2	2.5	2.5	2.5	3	3	3.5	3.5
P4	6	6	6	10	10	13	13
P5	6.5	8	8	12	12	16	16
P6	3	4	4	6	6	8	8
P7	24.5	12	12	14	18	24	24
P8	24.5	12	12	14	18	24	24
Q	9	13	16	20.5	22	26	27
R6	12 ±0.02	13 ±0.02	13 ±0.02	25 ±0.02	25 ±0.02	30 ±0.02	30 ±0.02
V	M8x1	M10x1	M12x1	M12x1	M14x1.5	M20x1.5	M25x1.5
T	19	26	29.5	36.5	42.5	54.5	63.5

Fissaggio

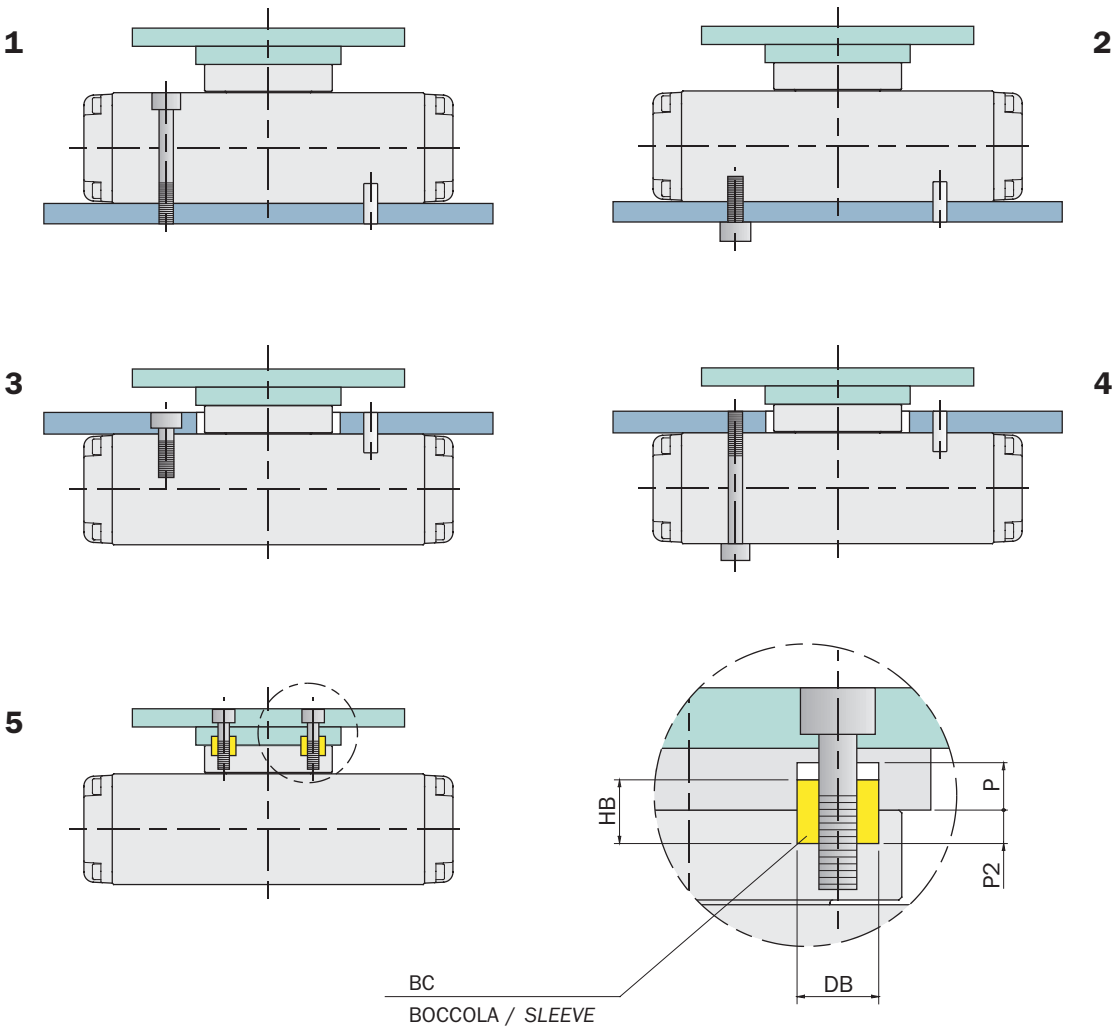
L'attuatore può essere montato in posizione fissa o su parti in movimento; in questo caso si deve considerare la forza d'inerzia cui l'attuatore ed il suo carico sono sottoposti.

Per il centraggio dei carichi rotanti sul pignone usare le quattro boccole fornite nella confezione.

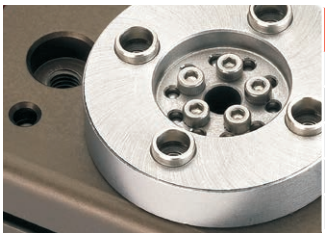
Fastening

The swivelling unit can be fastened to a static or a moving part. When on a moving part, you must pay attention to the forces created by inertia over the unit and its load.

Use the four sleeves provided in the packaging, to center the rotating load on the pinion.







	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
BC	RT-20-15			RT-35-15		RT-63-15	
DB	Ø7 h8	Ø7 h8	Ø7 h8	Ø9 h8	Ø9 h8	Ø15 h8	Ø15 h8
HB	5	5	5	6	6	7	7
P	3	3	3	3.5	3.5	4	4
P2	2.5	2.5	2.5	3	3	3.5	3.5

Sensori

Il rilevamento della posizione di lavoro è affidato a due o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sulla cremagliera.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

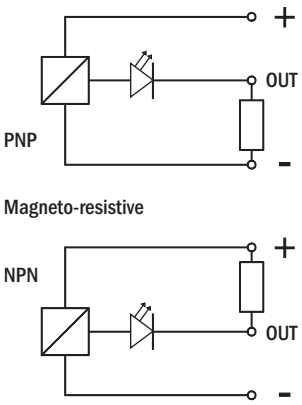
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the rack.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:



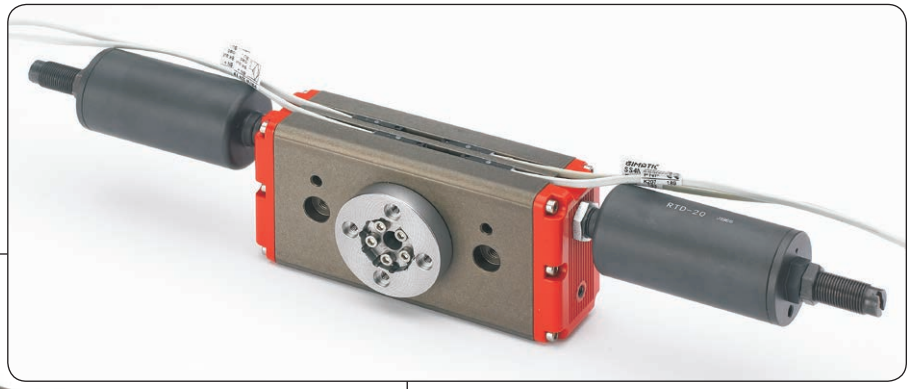


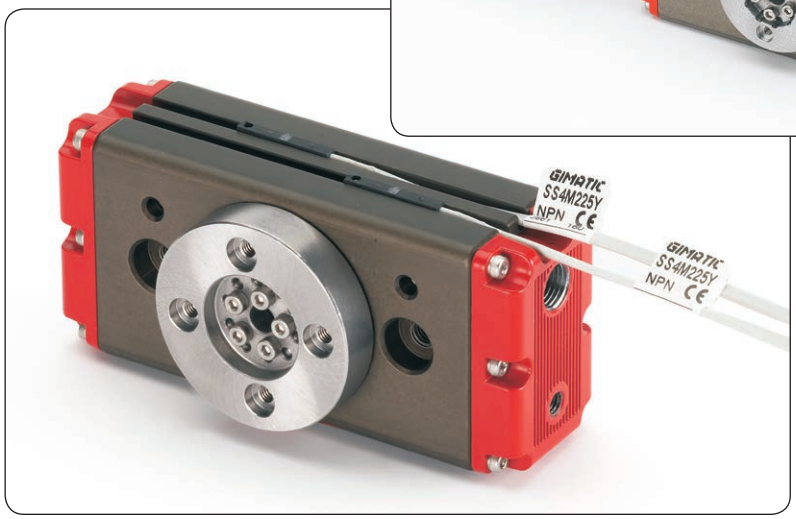
			RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
SN4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑	☑
SN4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑	☑
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑	☑
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑	☑
SS4N225-G	PNP	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑	☑
SS4M225-G	NPN	cavo 2.5m / 2.5m cable	☑	☑	☑	☑	☑	☑	☑
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑	☑
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector	☑	☑	☑	☑	☑	☑	☑

Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a flat three-wire cable and lamp.

Un sensore addizionale per ogni RTD può essere posizionato nelle cave dell'attuatore per rilevare le posizioni intermedie.





One additional sensor each RTD can be placed in the sensor slots to detect themid positions.

Connessione pneumatica

L'attuatore rotante si alimenta con aria compressa dai fori laterali (K) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

L'attuatore è azionato con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutto il periodo di servizio.

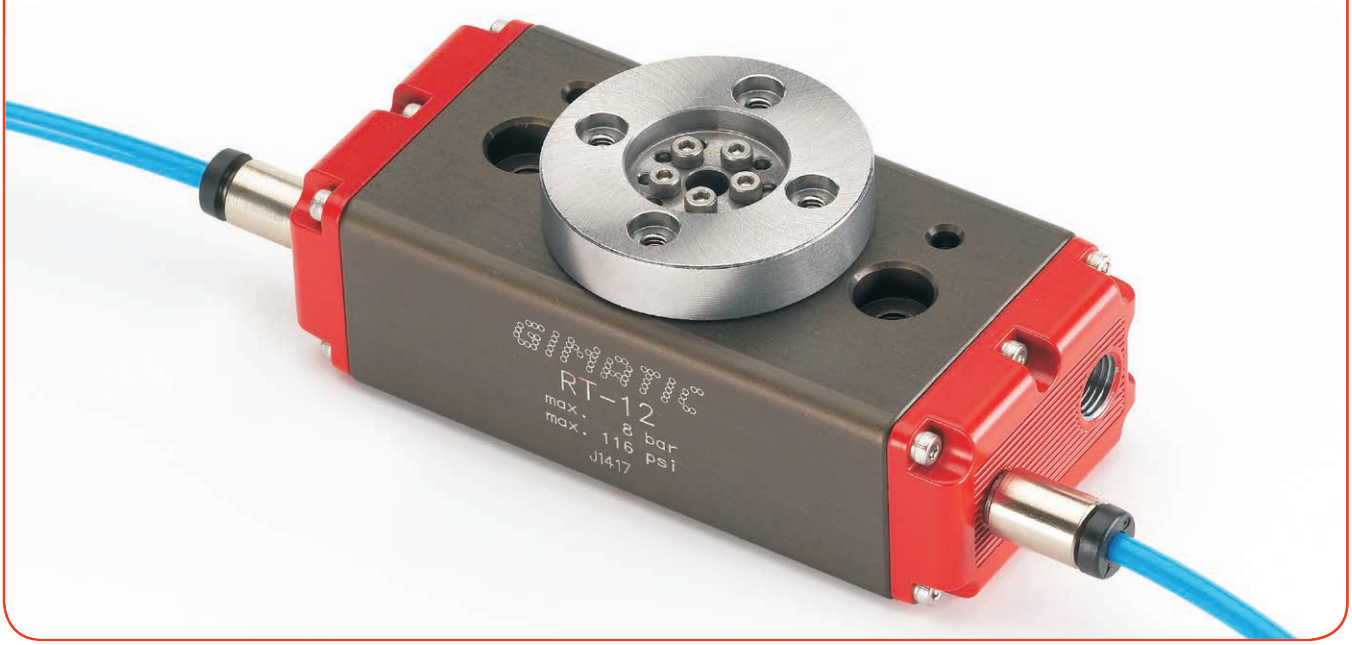
L'impianto pneumatico deve essere pressurizzato gradualmente, per evitare movimenti incontrollati.

Compressed air feeding

The swiveling unit is fed with compressed air through the side air ports (K) with appropriate fittings and tubes (not supplied).

Compressed air must be supplied filtered (5÷40 µm), not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the unit.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

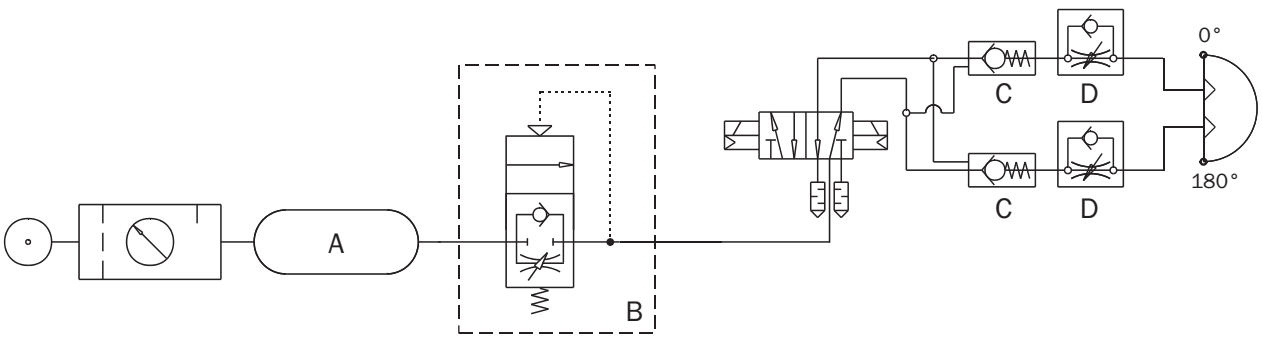
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

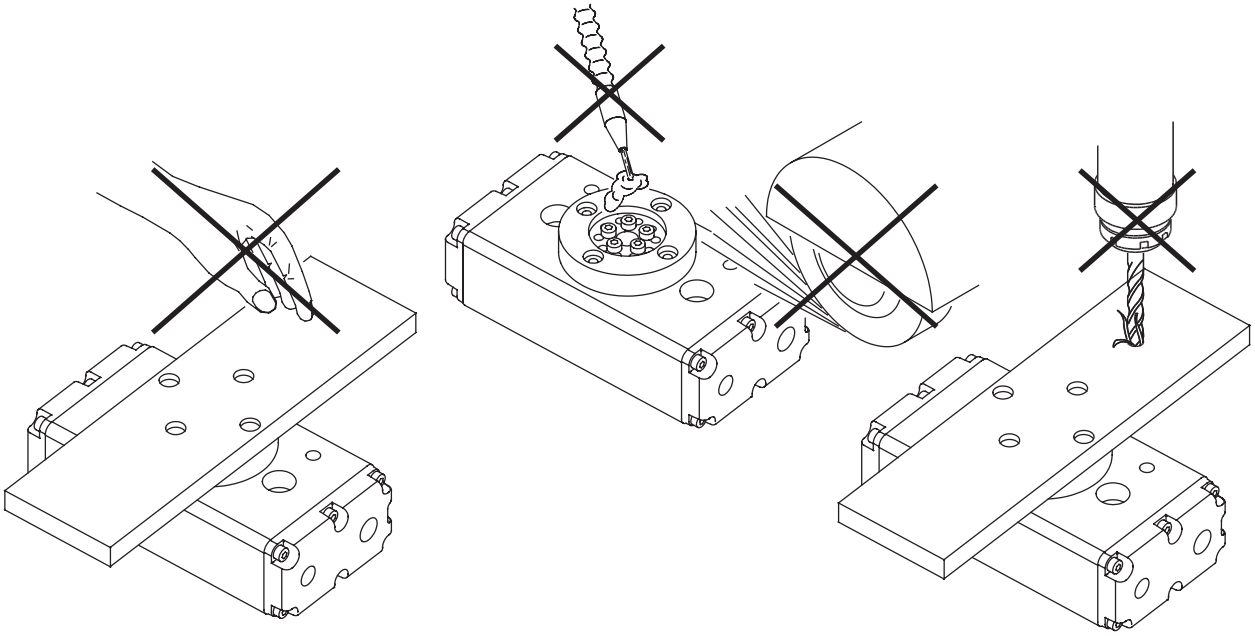


Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità dell'attuatore.
Per nessun motivo, persone od oggetti estranei devono entrare nel suo raggio d'azione.
L'unità non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Caution

Never let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the actuator.
Never let non-authorized persons or objects stand within the operating range of the unit.
Never operate the swivelling unit if the machine on which it is fitted does not comply with safety laws and standards of your country.

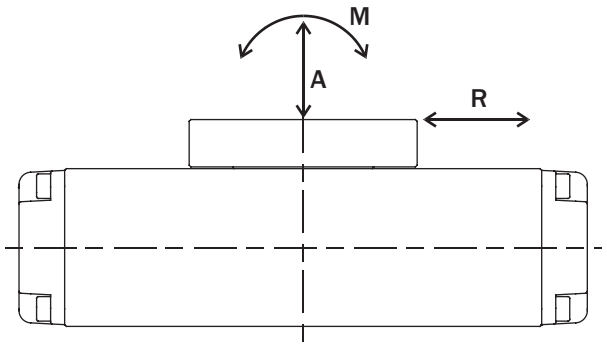


Carichi di sicurezza

Consultare la tabella dei carichi ammissibili.
Carichi ed energia cinetica eccessivi possono danneggiare l'attuatore e comprometterne il funzionamento.
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.
Controllare periodicamente l'efficienza dei deceleratori e sostituirli subito se manifestano un decadimento delle loro prestazioni di smorzamento.

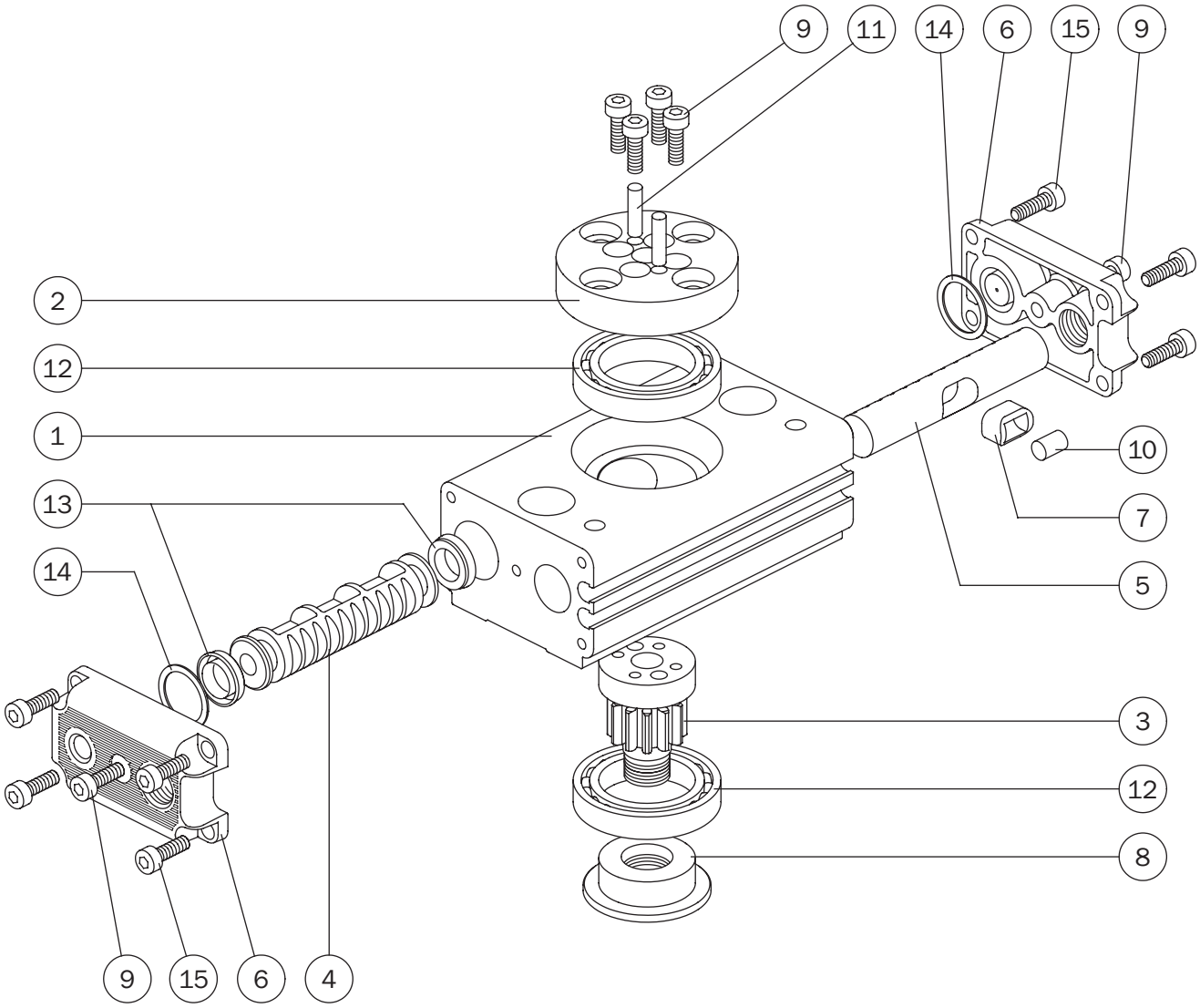
Safety loads

Check the table for maximum permitted loads.
Excessive loads or kinetic energy can damage the unit, cause functioning troubles and endanger the safety of the operator.
Use flow controllers (not supplied) to get the right speed.
Periodically check the efficiency of the shock-absorbers and replace them immediately if their damping performances decrease.



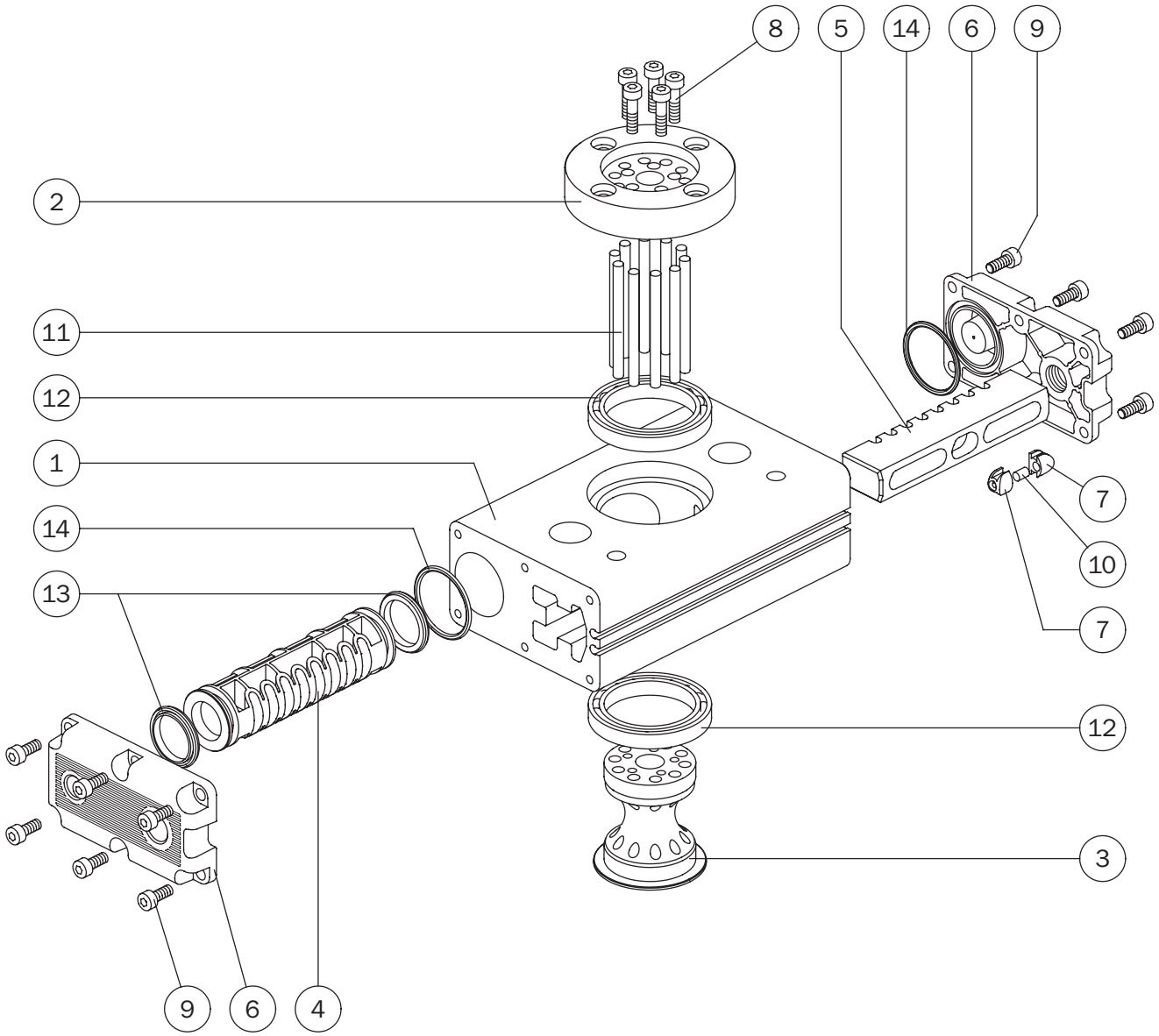
	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63
A	232 N	375 N	650 N	800 N	800 N	1075 N	1550 N
R	279 N	450 N	780 N	960 N	960 N	1290 N	1860 N
M	4.7 Nm	9.7 Nm	22 Nm	34 Nm	42 Nm	84 Nm	143 Nm

Elenco delle parti / *Part list*



		RT-10		
1	Corpo	RT10-01	*Housing*	*1*
2	Disco	RT10-02	*Disc*	*2*
3	Albero	RT10-03	*Shaft*	*3*
4	Pistone	RT10-04	*Piston*	*4*
5	Cremagliera	RT10-05	*Rack*	*5*
6	Testata	RT10-06	*End cap*	*6*
7	Porta magnete	RT10-07	*Magnet housing*	*7*
8	Ghiera	RT10-15	*Slotted round nut*	*8*
9	Vite	VITE-256 (M2.5x8 mm DIN 912 INOX A2)	*Screw*	*9*
10	Magnete	PAR-06-7	*Magnet*	*10*
11	Spina di riferimento	SPINA-149 (Ø2.5x9.8 mm DIN 5402)	*Dowel pin*	*11*
12	Cuscinetto radiale	CUSC-021 (17x26x5 ISB 61803)	*Ball bearing*	*12*
13	Guarnizione dinamica	GUAR-001 (10x6x3)	*Dinamic gasket*	*13*
14	O-Ring	GUAR-089 (Ø1x10)	*O-Ring*	*14*
15	Vite	VITE-368 (M2.5x10 mm DIN 912 INOX A2)	*Screw*	*15*

Elenco delle parti / *Part list*

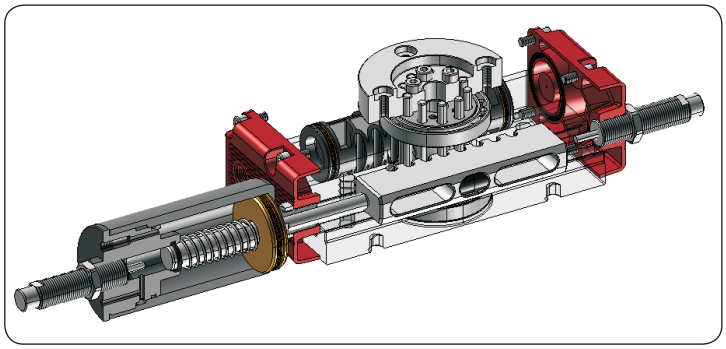


		RT-12	RT-20	RT-25	RT-35	RT-45	RT-63		
1	Corpo	RT12-01	RT20-01	RT25-01	RT35-01	RT45-01	RT63-01	*Housing*	*1*
2	Disco	RT12-02	RT20-02	RT25-02	RT35-02	RT45-02	RT63-02	*Disc*	*2*
3	Albero	RT12-03	RT20-03	RT25-03	RT35-03	RT45-03	RT63-03	*Shaft*	*3*
4	Pistone	RT12-04	RT20-04	RT25-04	RT35-04	RT45-04	RT63-04	*Piston*	*4*
5	Cremagliera	RT12-05	RT20-05	RT25-05	RT35-05	RT45-05	RT63-05	*Rack*	*5*
6	Testata	RT12-06	RT20-06	RT25-06	RT35-06	RT45-06	RT63-06	*End cap*	*6*
7	Porta magnete	RT12-07	RT12-07	RT12-07	RT12-07	RT12-07	RT12-07	*Magnet housing*	*7*
8	Vite DIN912 INOX A2	VITE-223 (M2.5x12 mm)	VITE-016 (M3x10 mm)	VITE-061 (M4x16 mm)	VITE-061 (M4x16 mm)	VITE-136 (M5x20 mm)	VITE-011 (M6x20 mm)	*Screw DIN912 INOX A2*	*8*
9	Vite DIN912 INOX A2	VITE-368 (M2.5x10 mm)	VITE-016 (M3x10 mm)	VITE-020 (M4x10 mm)	VITE-027 (M5x10 mm)	VITE-115 (M6x14 mm)	VITE-130 (M8x16 mm)	*Screw DIN912 INOX A2*	*9*
10	Magnete	PAR-06-7	PAR-06-7	PAR-06-7	PAR-06-7	PAR-06-7	PAR-06-7	*Magnet*	*10*
11	Spina DIN6325	SPINA-081 (Ø2.5x32 mm)	SPINA-135 (Ø3x40 mm)	SPINA-139 (Ø4x50 mm)	SPINA-154 (Ø5x60 mm)	SPINA-153 (Ø6x80 mm)	SPINA-152 (Ø8x90 mm)	*Dowel pin*	*11*
12	Cuscinetto radiale	CUSC-022 (20x32x7)	CUSC-023 (25x37x7)	CUSC-024 (35x47x7)	CUSC-024 (35x47x7)	CUSC-025 (45x58x7)	CUSC-026 (55x72x9)	*Ball bearing*	*12*
13	Guarnizione dinamica	GUAR-118 (12.5x6.8x2.55)	GUAR-120 (20.7x13.7x2.55)	GUAR-064 (25x19x3.5)	GUAR-123E (35x27x3.5)	GUAR-122E (45x37x3.5)	GUAR-049E (63x53x4.5)	*Dinamic gasket*	*13*
14	O-Ring	GUAR-047 (Ø1.78x12.42)	GUAR-052 (Ø1.78x20.35)	GUAR-036 (Ø1.78x26.70)	GUAR-010 (Ø1.78x37.82)	GUAR-028 (Ø1.78x44.17)	GUAR-121 (Ø2.62x64.77)	*O-Ring*	*14*

Unità per arresto intermedio serie RTD

Intermediate stopping units series RTD





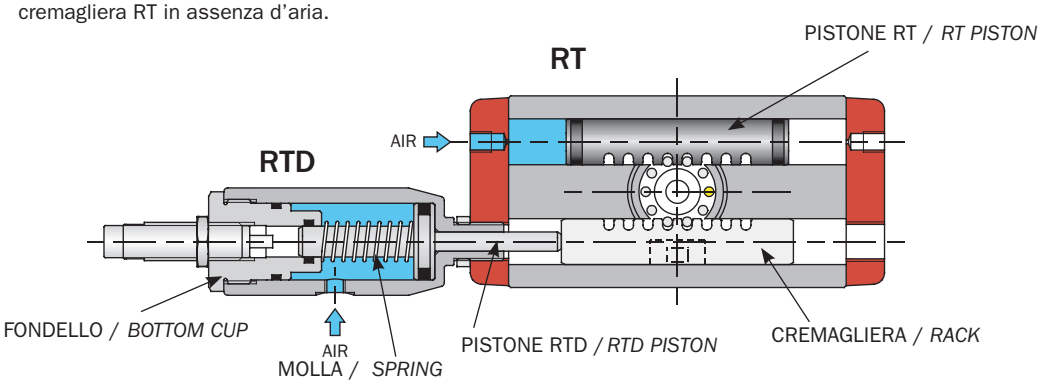
	RTD-10	RTD-12	RTD-20	RTD-25	RTD-35	RTD-45	RTD-63
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*						
Pressione di esercizio massima *Maximum pressure range*	8 bar						
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.						
Corsa per 90° *Stroke for 90°*	9.42 mm	12.75 mm	16.22 mm	20.85 mm	20.66 mm	26.78 mm	32.14 mm
Alesaggio *Piston bore*	15 mm	20 mm	30 mm	35 mm	50 mm	63 mm	80 mm
Consumo d'aria per corsa *Consumption each stroke*	2 cm^3	7 cm^3	21 cm^3	37 cm^3	74 cm^3	154 cm^3	339 cm^3
Peso *Weight*	50 g	100 g	175 g	280 g	400 g	930 g	1520 g
Da usare con *To be used with*	RT-10	RT-12	RT-20	RT-25	RT-35	RT-45	RT-63

Schema di funzionamento

Il dispositivo per arresto intermedio RTD è un limitatore di corsa, che agisce sulla cremagliera dell'attuatore rotante RT, tramite un pistone di alesaggio maggiore, rispetto a quello di RT.
Quindi alimentato alla stessa pressione, ferma RT a metà corsa.
Una molla mantiene lo stelo del pistone RTD a contatto con la cremagliera RT in assenza d'aria.

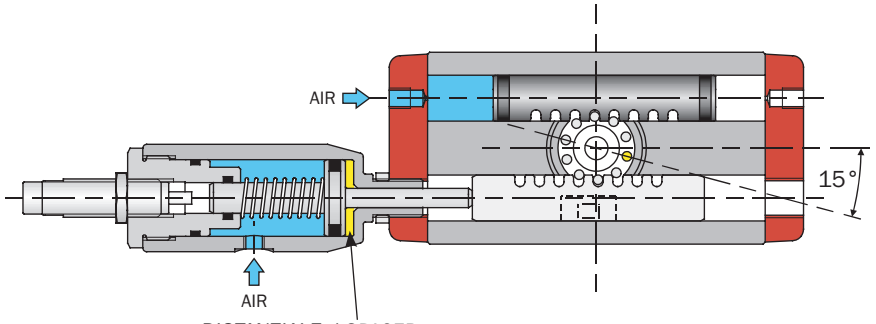
Operating principle

The intermediate stopping unit RTD is a stroke reducer, acting against the rack of the swiveling unit RT, by a piston rod.
The RTD piston bore is larger than RT and, pressurized at the same pressure, it stops in the middle the RT stroke.
When not pressurized a spring keeps the RTD piston rod against the RT rack.



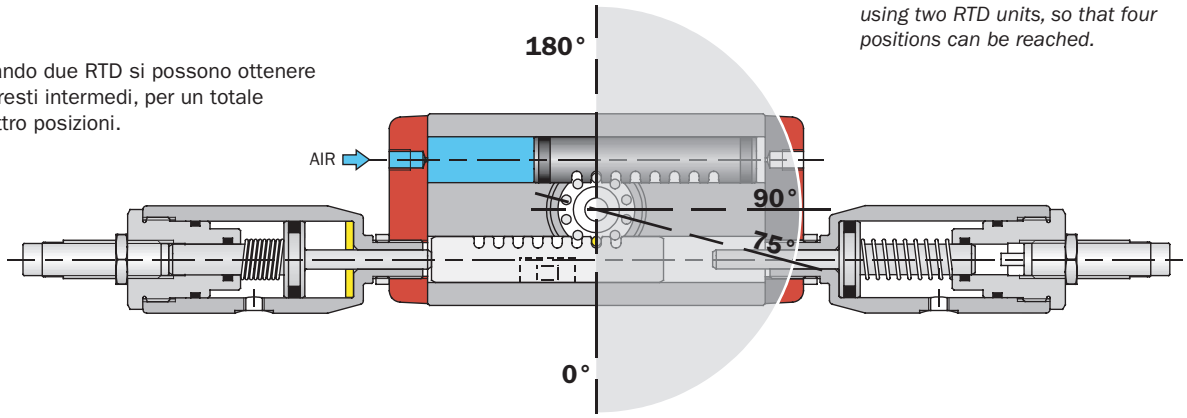
La corsa di RTD può essere facilmente regolata tramite distanziali da mettere davanti al pistone, in modo da avere l'arresto intermedio in posizioni diverse.
Per montare un distanziale si deve svitare il fondello ed estrarre il pistone.

The RTD stroke can be modified by spacers in front of the piston, so that the intermediate stop can be moved in a different position.
To mount a spacer the RTD must be open to extract the piston.



Utilizzando due RTD si possono ottenere due arresti intermedi, per un totale di quattro posizioni.

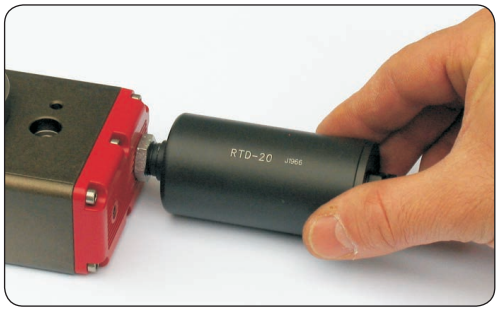
Two intermediate stops are possible using two RTD units, so that four positions can be reached.



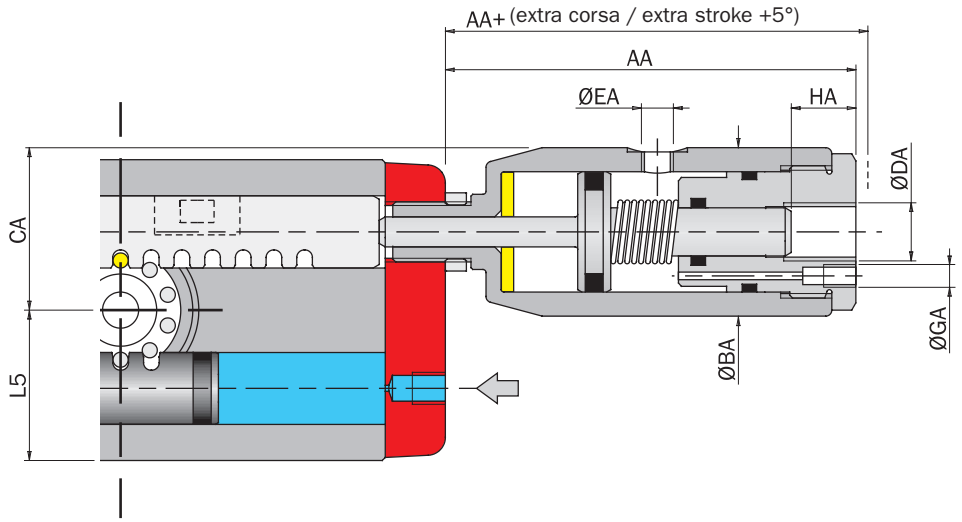
Le posizioni esterne di fine corsa possono essere regolate (0°±5° o 180°±5°) con gli stessi accessori di RT (deceleratori, ammortizzatori di gomma, grani).
La posizione di arresto centrale può essere regolata (90°±5°) avvitando/svitando RTD in RT.

The external end stroke positions can be adjusted (0°±5° or 180°±5°) by the same end stroke devices used in the RT (shock-absorbers, rubber bumpers, grub screws). The mid-stop position can be adjusted (90°±5°) by moving the whole RTD body.





Dimensioni (mm) / *Dimensions (mm)*



	RTD-10	RTD-12	RTD-20	RTD-25	RTD-35	RTD-45	RTD-63
AA	50.7	70.2	86.7	98.7	98	127.6	148.5
AA+	51.2	71	87.6	100	99	129	150.3
BA	Ø23	Ø28	Ø36	Ø44	Ø56	Ø70	Ø89
CA	20.5	27	34	42.5	50	61	71.5
DA	M8x1	M10x1	M12x1	M12x1	M14x1.5	M20x1.5	M25x1.5
EA	(n°3) M5	(n°3) M5	-	-	-	-	-
GA	-	-	M5	M5	G1/8	G1/4	G1/4
L5	19	25	32.5	40.5	53	64	87
HA	7.2	10.7	11.8	14	15.9	21.7	27.4

Circuito pneumatico

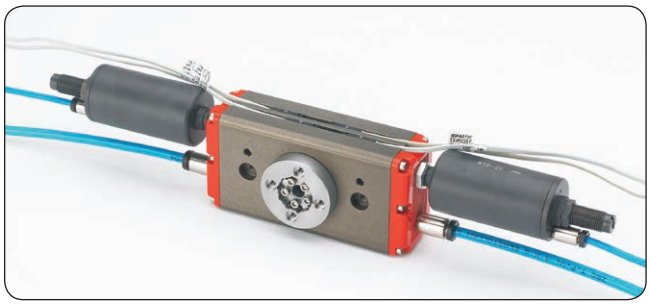
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

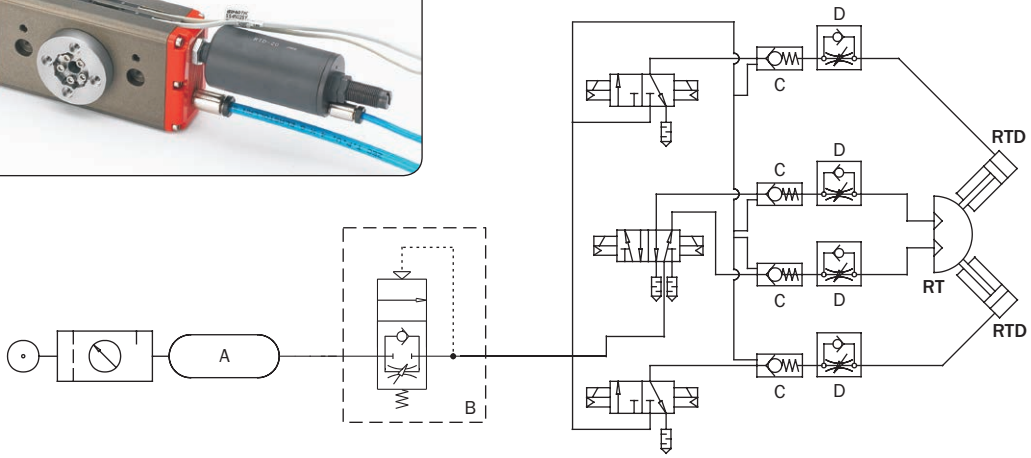
Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinder.
3- Sudden pressure black-out.
4- Excessive speed.

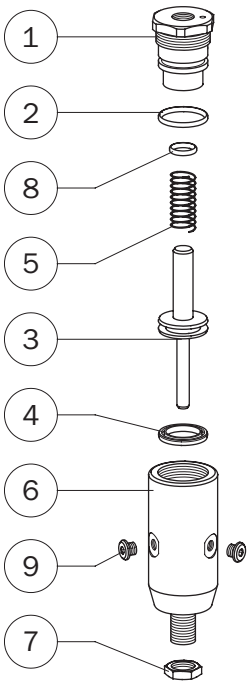
Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



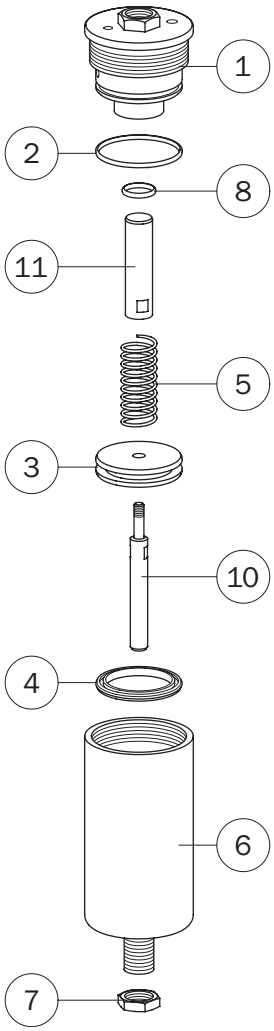


Elenco delle parti / *Part list*

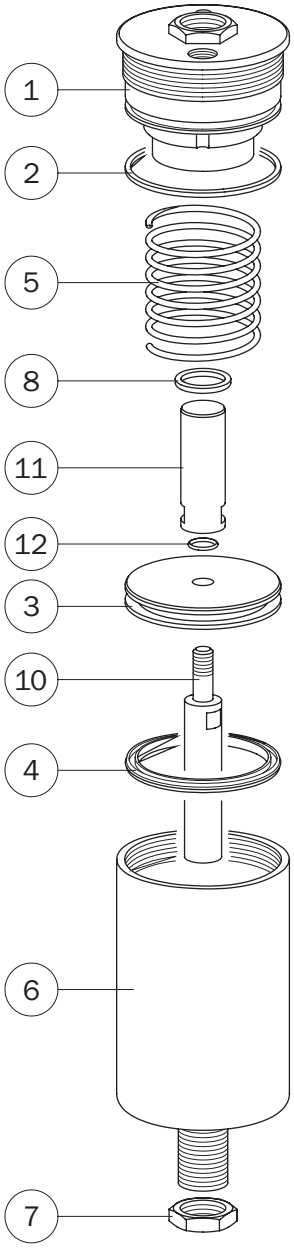
RTD-10
RTD-12



RTD-20
RTD-25



RTD-35
RTD-45
RTD-63



		RTD-10	RTD-12	RTD-20	RTD-25	RTD-35	RTD-45	RTD-63		
1	Fondello	RTD-10-7	RTD-12-7	RTD-20-7	RTD-25-7	RTD-35-7	RTD-45-7	RTD-63-7	*Bottom cup*	*1*
2	O-Ring	GUAR-047 (Ø1.78x12.42)	GUAR-076 (Ø1.78x17.17)	GUAR-036 (Ø1.78x26.70)	GUAR-009 (Ø1.78x31.47)	GUAR-127 (Ø2.62x45.69)	GUAR-128 (Ø2.62x58.42)	GUAR-132 (Ø2.62x75.27)	*O-Ring*	*2*
3	Pistone	RTD-10-03	RTD-12-03	RTD-20-03	RTD-25-03	RTD-35-03	RTD-45-03	RTD-63-03	*Piston*	*3*
4	Guarnizione	GUAR-019 (15x9x3)	GUAR-120 (20.7x13.7x2.55)	GUAR-113E (30x22x3.5)	GUAR-123E (35x27x3.5)	GUAR-114E (50x42.3.5)	GUAR-049E (63x53x4.5)	GUAR-126 (80x70x4.5)	*Gasket*	*4*
5	Molla	RTD-10-20	RTD-12-20	RTD-25-20	RTD-25-20	OFR-95-07	GN-30S-05	GN-30S-05	*Spring*	*5*
6	Corpo	RTD-10-02	RTD-12-02	RTD-20-02	RTD-25-02	RTD-35-02	RTD-45-02	RTD-63-02	*Body*	*6*
7	Dado	M8X1	M10X1	M12X1	M12X1	M14X1.5	M20X1.5	M25X1.5	*Nut*	*7*
8	O-Ring	GUAR-012 (Ø1.78x6.75)	GUAR-045 (Ø1.78x7.66)	GUAR-080 (Ø1.78x10.82)	GUAR-080 (Ø1.78x10.82)	GUAR-047 (Ø1.78x12.42)	GUAR-034 (Ø2.62x17.86)	GUAR-061 (Ø2.62x20.29)	*O-Ring*	*8*
9	Tappo	107-M5	107-M5	-	-	-	-	-	*Plug*	*9*
10	Stelo pistone	-	-	RTD-20-05	RTD-25-05	RTD-35-05	RTD-45-05	RTD-63-05	*Piston rod*	*10*
11	Riscontro per fine corsa	-	-	RTD-20-04	RTD-25-04	RTD-35-04	RTD-45-04	RTD-63-04	*End stroke stopper*	*11*
12	O-Ring	-	-	-	-	-	GUAR-013 (Ø1.78x8.73)	GUAR-080 (Ø1.78x10.82)	*O-Ring*	*12*

Tavole rotanti pneumatiche (serie ITSC)

- Disponibili in 2 taglie con 4, 6 o 8 divisioni.
- Verso di rotazione orario, o antiorario (suffisso A).
- Elevata coppia disponibile.
- Elevata capacità di carico.
- Foro passante per il passaggio di cavi e tubi.
- Peso ed ingombro limitati.

Pneumatic indexing tables (series ITSC)

- *Available in two sizes with 4, 6 or 8 positions.*
- *Available clockwise or counter clockwise (ending A).*
- *High torque.*
- *Suitable for heavy loads.*
- *Through hole for cables and hoses.*
- *Reduced weight and overall dimensions.*



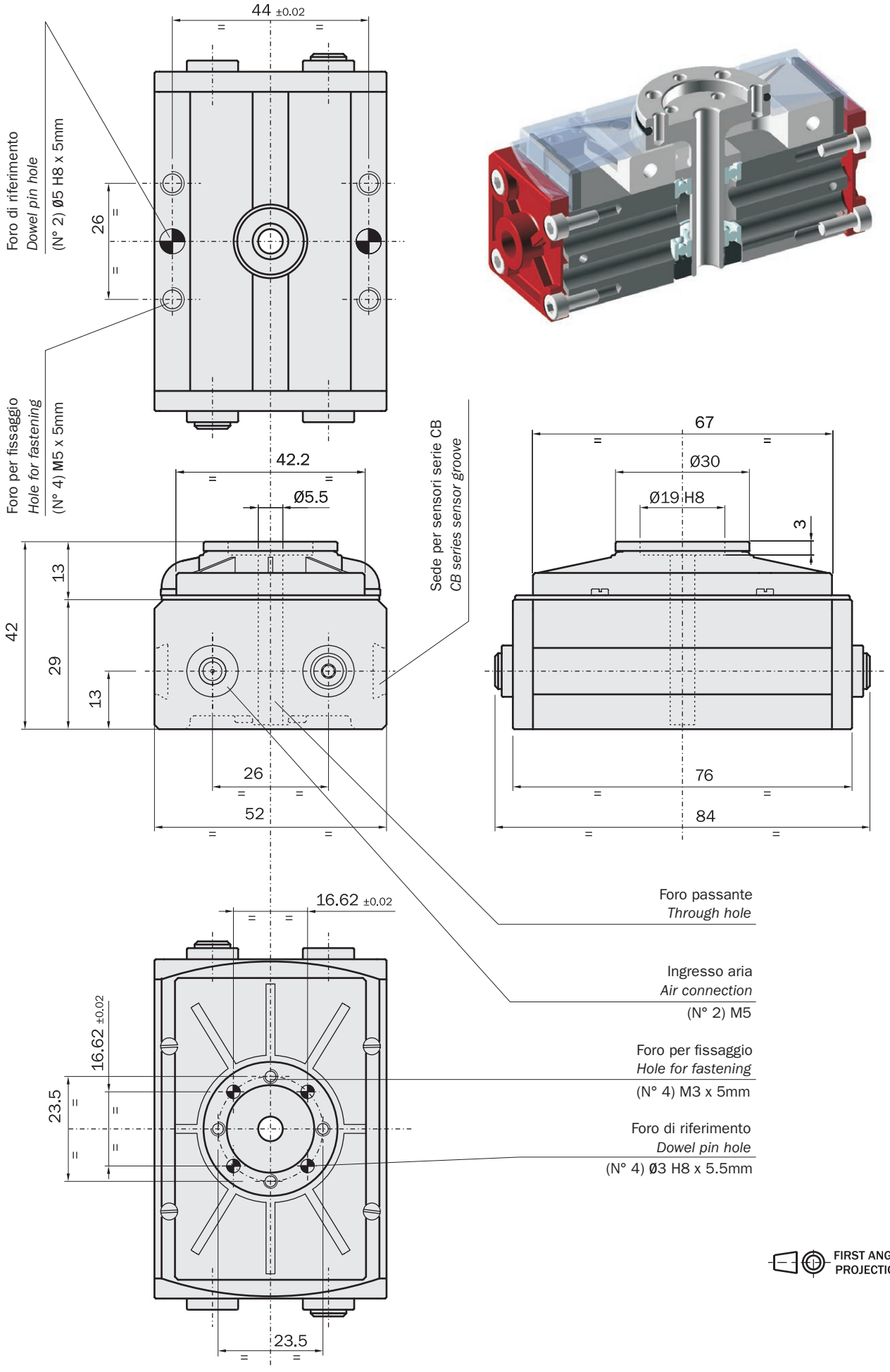
ITSC-16...



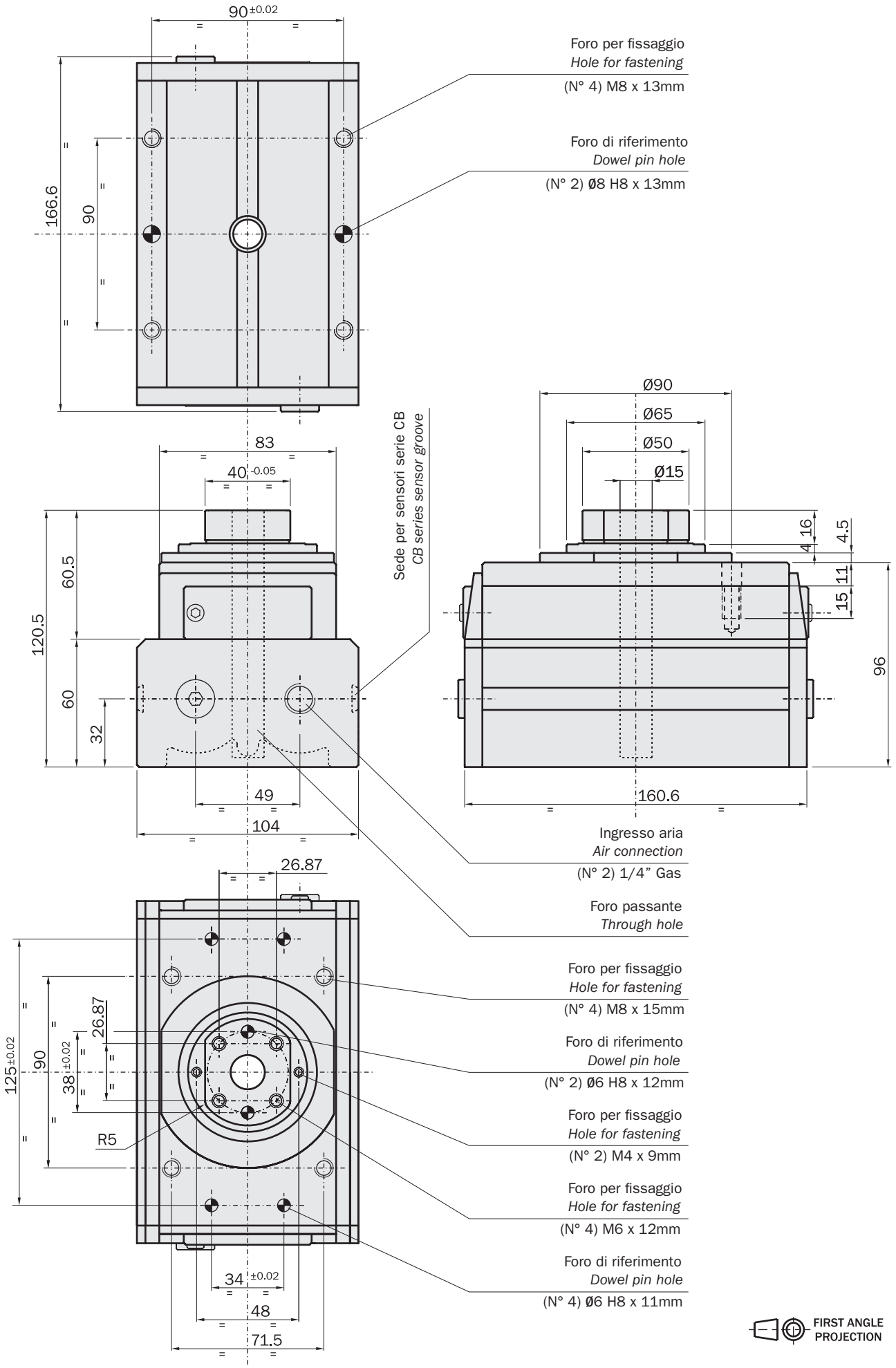
ITSC-45...

	ITSC-164 ITSC-164A	ITSC-166 ITSC-166A	ITSC-168 ITSC-168A	ITSC-454 ITSC-454A	ITSC-456 ITSC-456A	ITSC-458 ITSC-458A
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Pressure range*	2.5 ÷ 8 bar					
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.					
Corsa angolare *Swivelling angle*	4x90°	6x60°	8x45°	4x90°	6x60°	8x45°
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	1364 Nmm	1672 Nmm	1814 Nmm	22902 Nmm	26442 Nmm	28208 Nmm
Consumo d'aria *Air consumption*	8 cm³ x90°	7 cm³ x60°	7 cm³ x45°	159 cm³ x90°	146 cm³ x60°	136 cm³ x45°
Tempo di rotazione senza carico *Indexing time without load*	0.10 s x90°	0.08 s x60°	0.06 s x45°	0.15 s x90°	0.12 s x60°	0.09 s x45°
Precisione angolare *Angular precision*	± 0.12°	± 0.12°	± 0.12°	± 0.12°	± 0.12°	± 0.12°
Ripetibilità di posizione (360°) *Positioning repeatability*	± 0.02°	± 0.02°	± 0.02°	± 0.02°	± 0.02°	± 0.02°
Peso *Weight*	320 g	320 g	320 g	3740 g	3740 g	3960 g

Dimensioni (mm) / *Dimensions (mm)* ***ITSC-16...***



Dimensioni (mm) / *Dimensions (mm)* ***ITSC-45...***

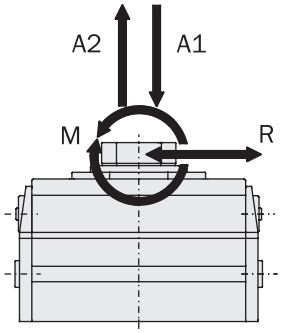


Carichi di sicurezza

Consultare la tabella dei carichi ammissibili.
Carichi ed energia cinetica eccessivi possono danneggiare l'attuatore e comprometterne il funzionamento.
A1 e A2 [N] sono i carichi massimi ammissibili in direzione assiale in compressione ed in trazione.
R [N] è il carico massimo in direzione radiale.
M [Nm] è la coppia flettente massima ammissibile.
J [kgcm^2] è il momento d'inerzia delle masse rotanti.
t [s] è il tempo di rotazione (per 90°, 60° o 45°).
J e t devono essere tali che la loro intersezione nel grafico dell'energia cinetica identifichi un punto sottostante la linea caratteristica dell'unità prescelta.
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.

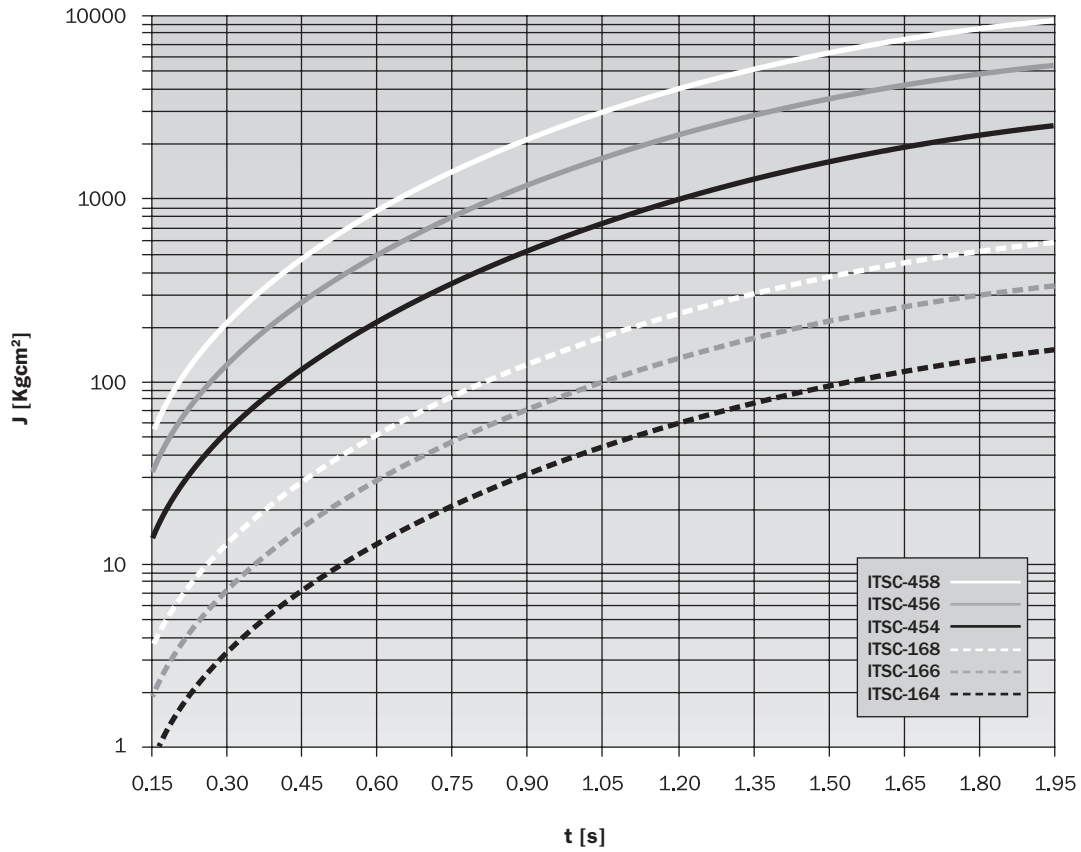
Safety loads

Check the table for maximum permitted loads.
Excessive loads or kinetic energy can damage the unit, cause functioning troubles and endanger the safety of the operator.
A1 and A2 [N] are the maximum axial loads, compressive and tractive.
R [N] is the maximum radial load.
M [Nm] is the maximum bending torque.
J [kgcm^2] is the moment of inertia of the rotating loads.
t [s] is the indexing time (for 90°, 60° or 45°).
On the graph of kinetic energy, the point of intersection of J and t values, must be down the characteristic curve of the selected unit.
Use flow controllers (not supplied) to get the right speed.



	ITSC-16...	ITSC-45...
A1	140 N	1500 N
A2	140 N	370 N
R	70 N	500 N
M	3 Nm	20 Nm

Energia cinetica / *Kinetic energy*

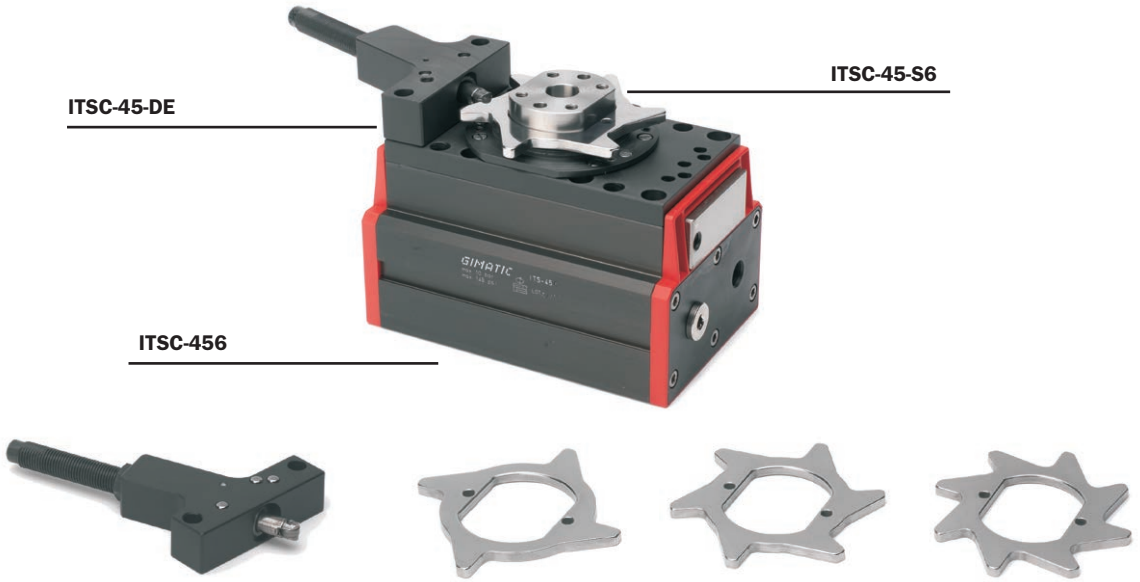


Deceleratori

Sono disponibili per la taglia maggiore (ITSC-45...) degli accessori che consentono di dissipare energia cinetica con uno o due deceleratori e quindi consentono un minor tempo di rotazione.

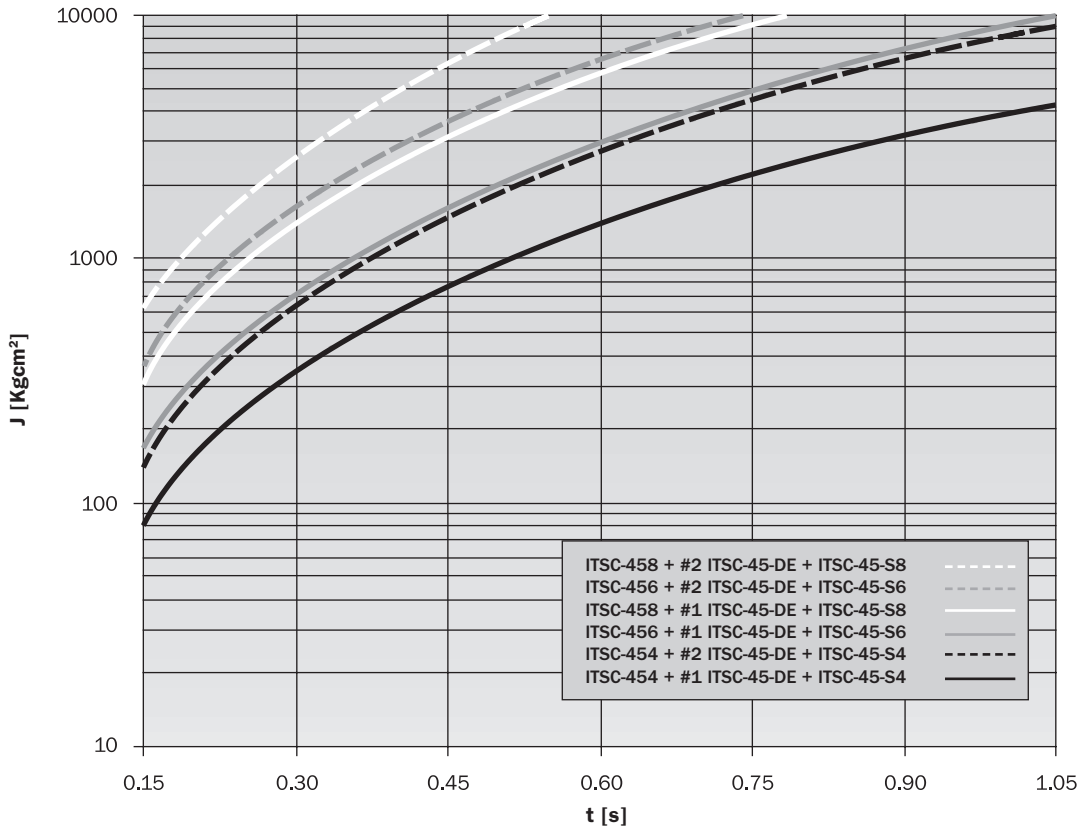
Shock-absorbers

Accessories for ITSC-45... are available to dissipate kinetic energy by means of one or two shock-absorbers.
They allow shorter indexing times.

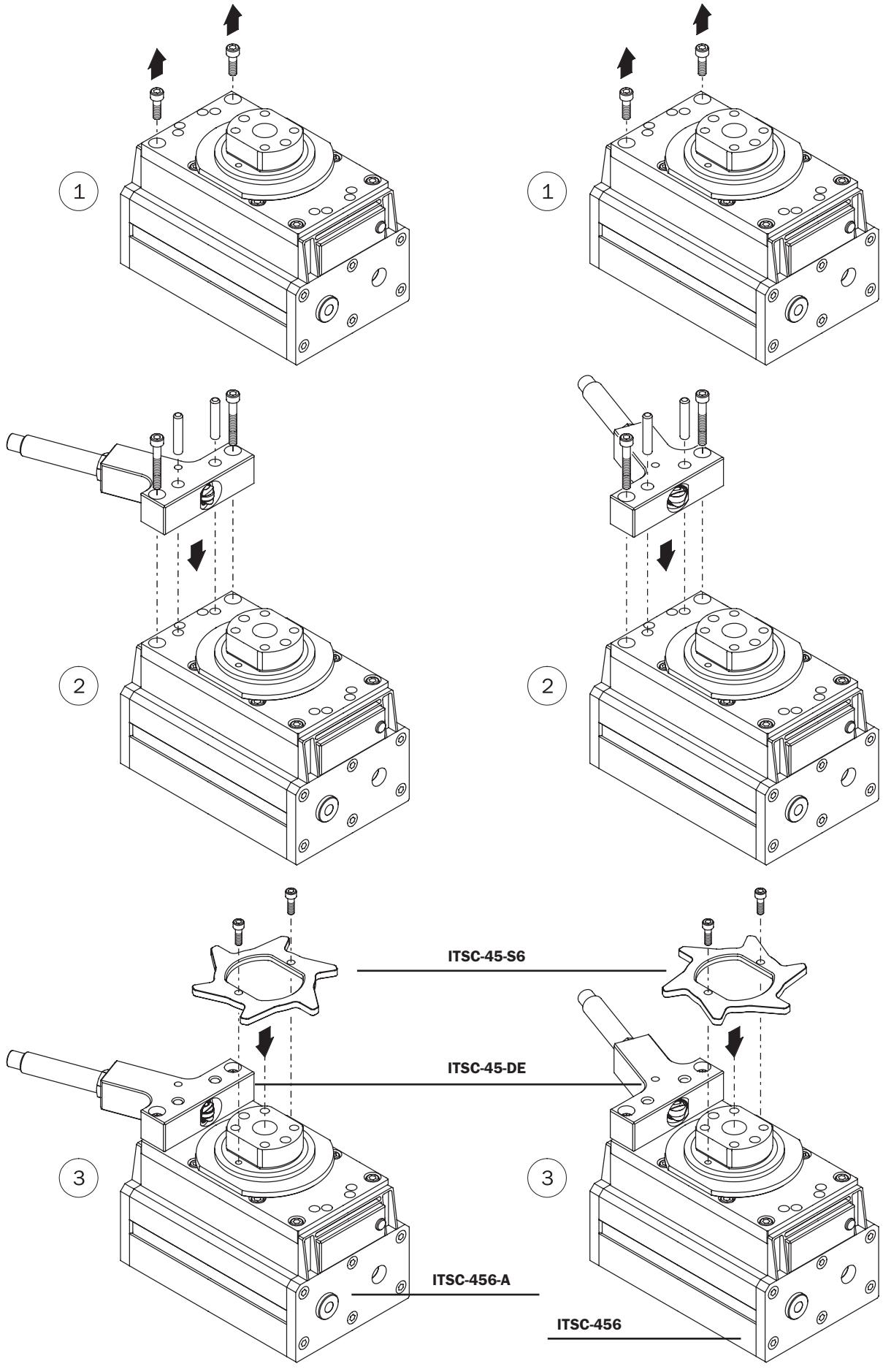


	ITSC-45-DE	ITSC-45-S4	ITSC-45-S6	ITSC-45-S8
Descrizione *Description*	Deceleratore con alloggiamento *Shock-absorber with housing*	Corona per 4 divisioni *4-cam crown*	Corona per 6 divisioni *6-cam crown*	Corona per 8 divisioni *8-cam crown*
Peso *Weight*	290 g	90 g	105 g	120 g
Adatto per: *To use on:*	ITSC-45...	ITSC-454 ITSC-454-A	ITSC-456 ITSC-456-A	ITSC-458 ITSC-458-A

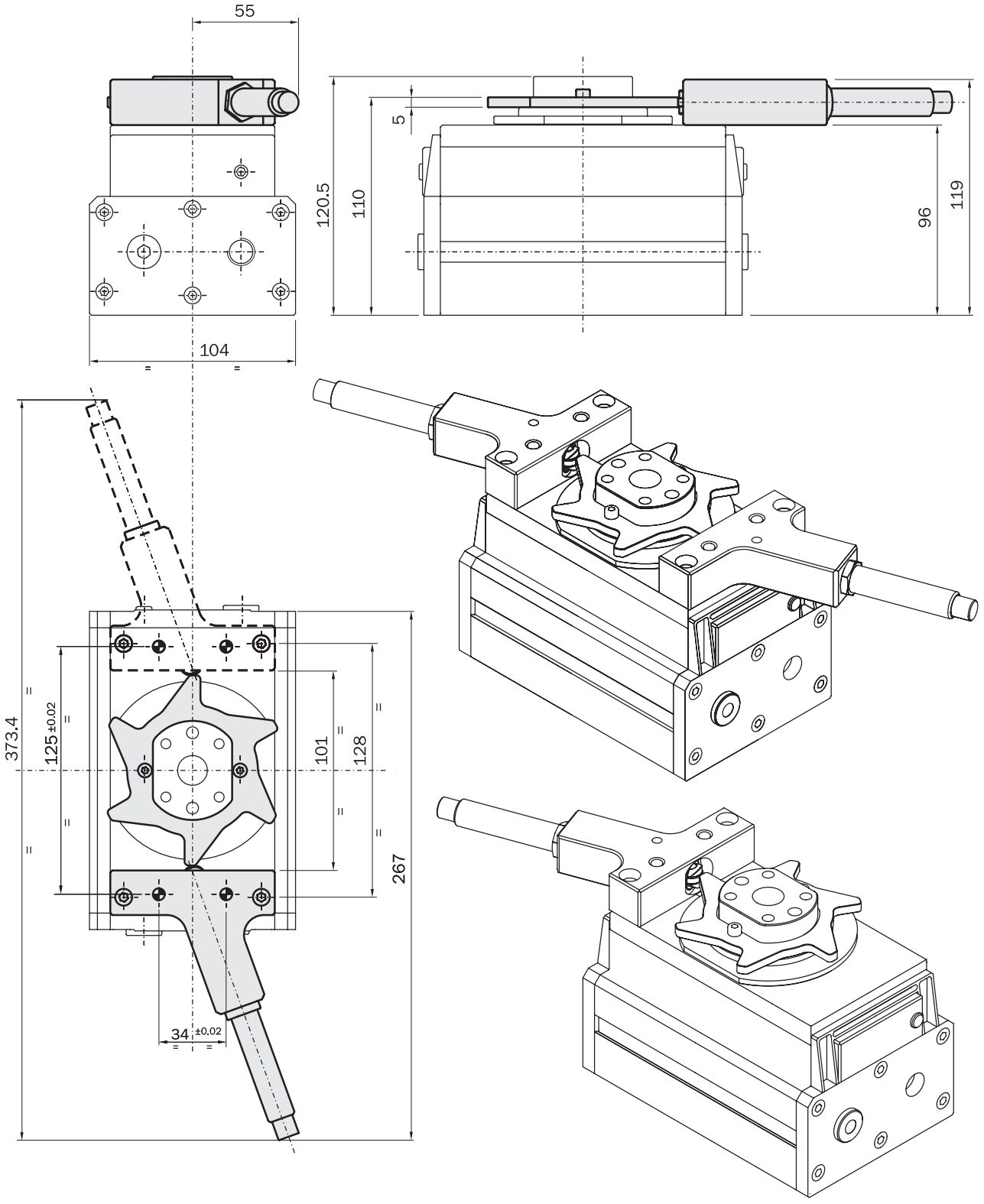
Energia cinetica / *Kinetic energy*



Montaggio del deceleratore / *Shock-absorber mounting*



Dimensioni (mm) / *Dimensions (mm)* **ITSC-45-DE**

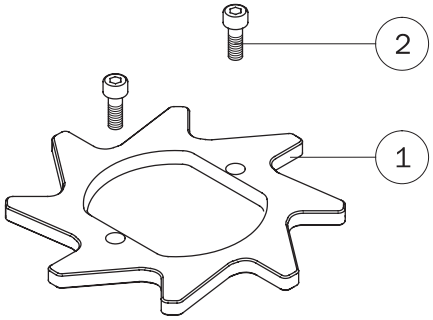


FIRST ANGLE PROJECTION

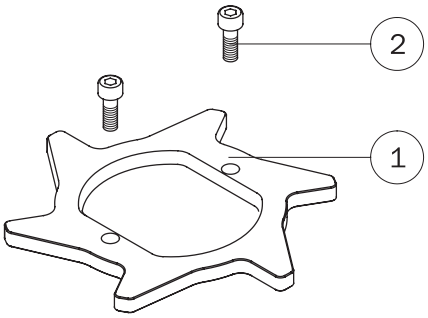
03/2015

Elenco delle parti / *Part list*

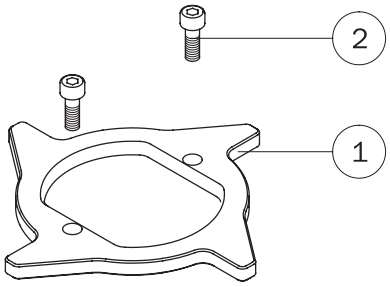
		ITSC-45-S8
1	Corona *Cam crown*	ITSC-458-12
2	Vite TCEI *Screw*	INOX A2 M4x12mm DIN 912

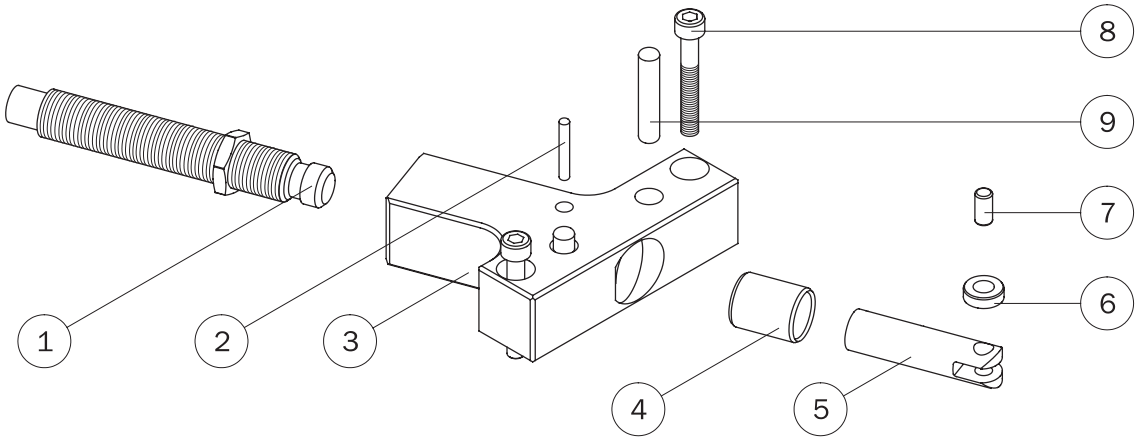


		ITSC-45-S6
1	Corona *Cam crown*	ITSC-456-12
2	Vite TCEI *Screw*	INOX A2 M4x12mm DIN 912



		ITSC-45-S4
1	Corona *Cam crown*	ITSC-454-12
2	Vite TCEI *Screw*	INOX A2 M4x12mm DIN 912





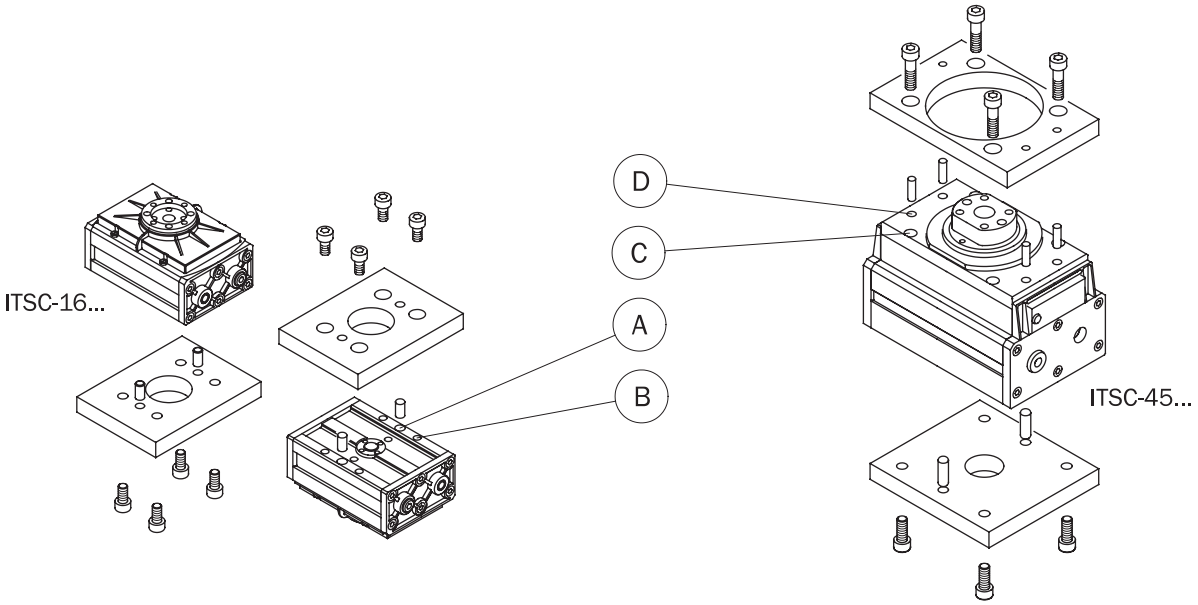
		ITSC-45-DE		
1	Deceleratore idraulico	SC190M4-NB	*Shock-absorber*	*1*
2	Spina cilindrica	SPINA-002 (Ø3x20mm DIN 6325)	*Dowel pin*	*2*
3	Blocchetto	ITSC-456-13	*Bloch*	*3*
4	Bussola	ITSC-456-16	*Bush*	*4*
5	Stelo	ITSC-456-15	*Rod*	*5*
6	Rotella	ITSC-456-14	*Roller*	*6*
7	Spina cilindrica	SPINA-028 (Ø5x10mm DIN 6325)	*Dowel pin*	*7*
8	Vite TCEI	VITE-096 (INOX A2 M5x35mm DIN 912)	*Screw*	*8*
9	Spina cilindrica	SPINA-037 (Ø6x30mm DIN 6325)	*Dowel pin*	*9*

Fissaggio della tavola rotante

La tavola rotante può essere montata in posizione fissa o su parti in movimento. In questo caso si deve considerare la forza d'inerzia cui la tavola ed il suo carico sono sottoposti.
Il fissaggio è ottenuto con due fori calibrati (A) e quattro fori filettati (B) posti sulla base inferiore del corpo.
Inoltre è possibile montare la ITSC-45... utilizzando i fori filettati (C) ed i fori spina (D) posti sulla parte superiore del corpo.
Lasciare lo spazio necessario per i raccordi dell'aria e per i sensori.

Fastening of the indexing table

The indexing table can be fastened to a static or moving part. When on a moving part, pay attention to the forces created by inertia over the unit and its load.
The fastening must be done using two dowel pin holes (A) and four threaded holes (B) on the bottom of the housing.
It is also possible to fasten the ITSC-45... by the threaded holes (C) and the dowel pin holes (D) at the top of the housing.
Allow room to mount the air fittings and the sensors.

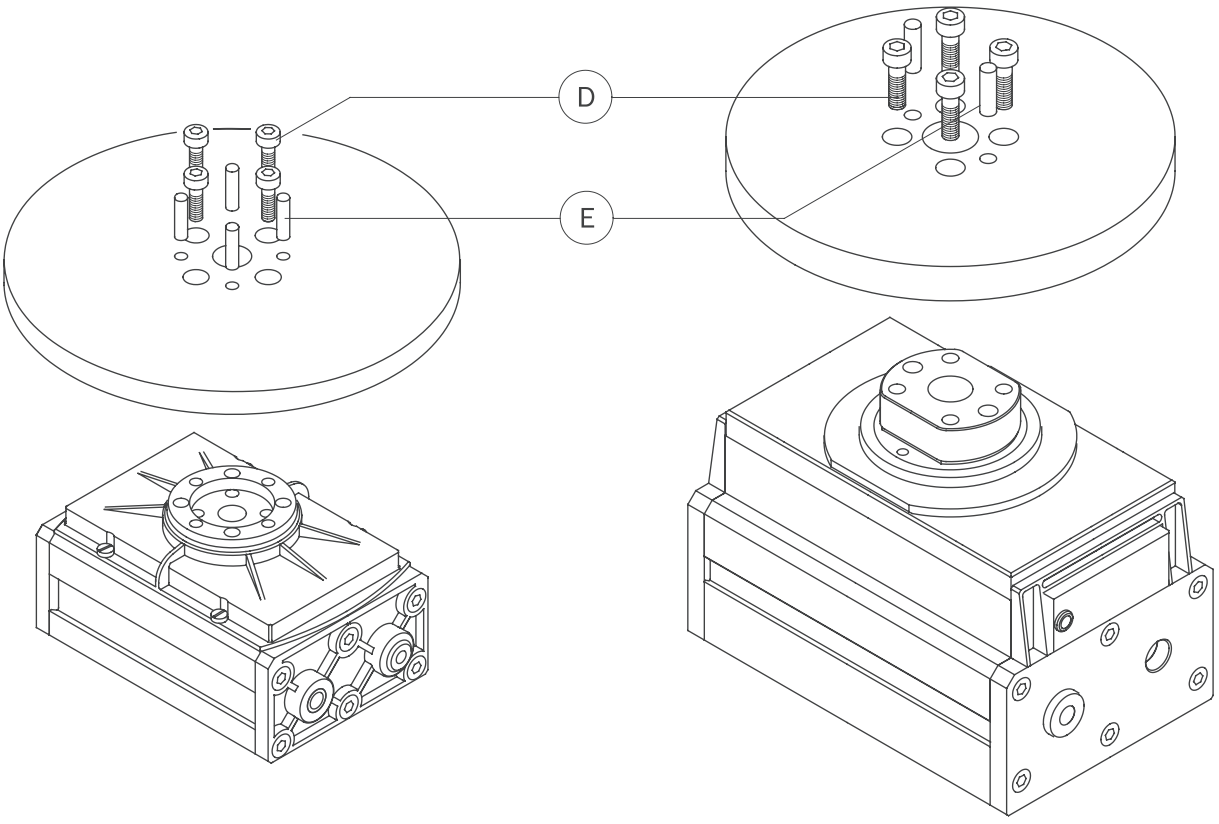


Fissaggio del carico rotante

Fissare il carico sul pignone utilizzando almeno due viti (D) e due spine (E).

Fastening of the rotating load

Fit the load on the pinion using at least two screws (D) and two dowel pins (E).



Sensori

Il rilevamento della posizione è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sui pistoni.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

I sensori utilizzabili sono:
CB3N2-G
CB3M2-G

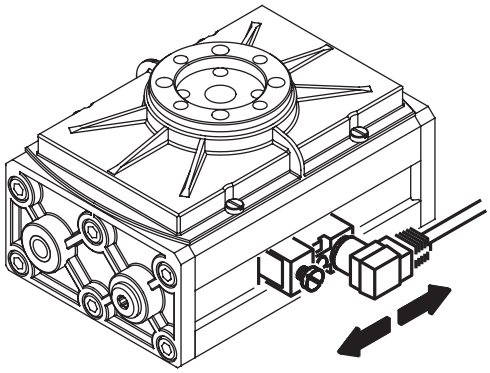
Per il montaggio:
- Inserire il dado quadrato (A) nella propria sede sull'adattatore "S 00".
- Infilare l'adattatore nella guida sulla pinza.
- Calzare il sensore sull'adattatore.
- Fare scorrere nella guida fino a raggiungere la posizione di lavoro desiderata (led acceso).
- Bloccare con la vite (B), facendo attenzione a non serrarla eccessivamente.

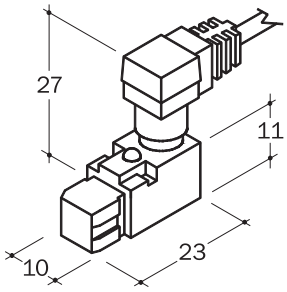
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the pistons.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

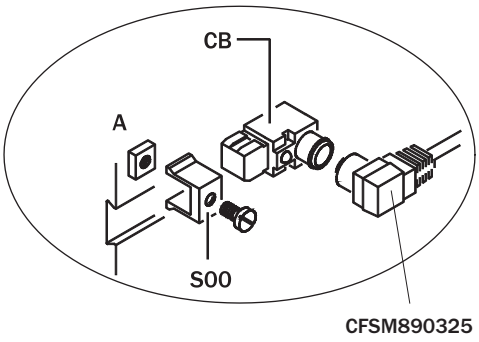
The sensors that can be used are:
CB3N2-G
CB3M2-G

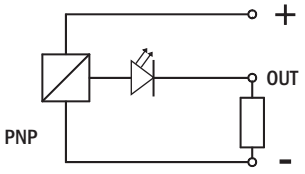
For mounting:
- *Insert the square nut (A) in its seat on the "S 00" bracket.*
- *Insert the bracket into the groove.*
- *Insert the sensor into the bracket.*
- *Run the sensor until the lamp is on.*
- *Lock the bracket with the screw (B) but do not over-tighten it.*



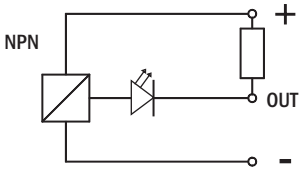


	CB3N2-G	CB3M2-G
Tensione di alimentazione (DC) *DC power supply*	6 ÷ max 30 V	
Tipo sensore *Sensor type*	PNP	NPN
Massima corrente *Max current*	250 mA	
Potenza *Power*	6 W	
Temperatura d'esercizio *Operating temperature*	-10° ÷ +70°C.	
Tempo di eccitazione *Reponse time "ON"*	0.8 µs	
Tempo di diseccitazione *Reponse time "OFF"*	0.3 µs	
Valore di eccitazione *Operate point*	40 GAUSS	
Valore di diseccitazione *Dropout point*	35 GAUSS	
Vita elettrica *Life time*	10^9 IMP	
Resistenza di contatto *Contact resistence*	-	
Resistenza agli urti *Max admitted shock*	30 G	
Grado di protezione *Environmental protection degree*	IP 67	
Caduta di tensione diretta *Voltage drop*	1 V	

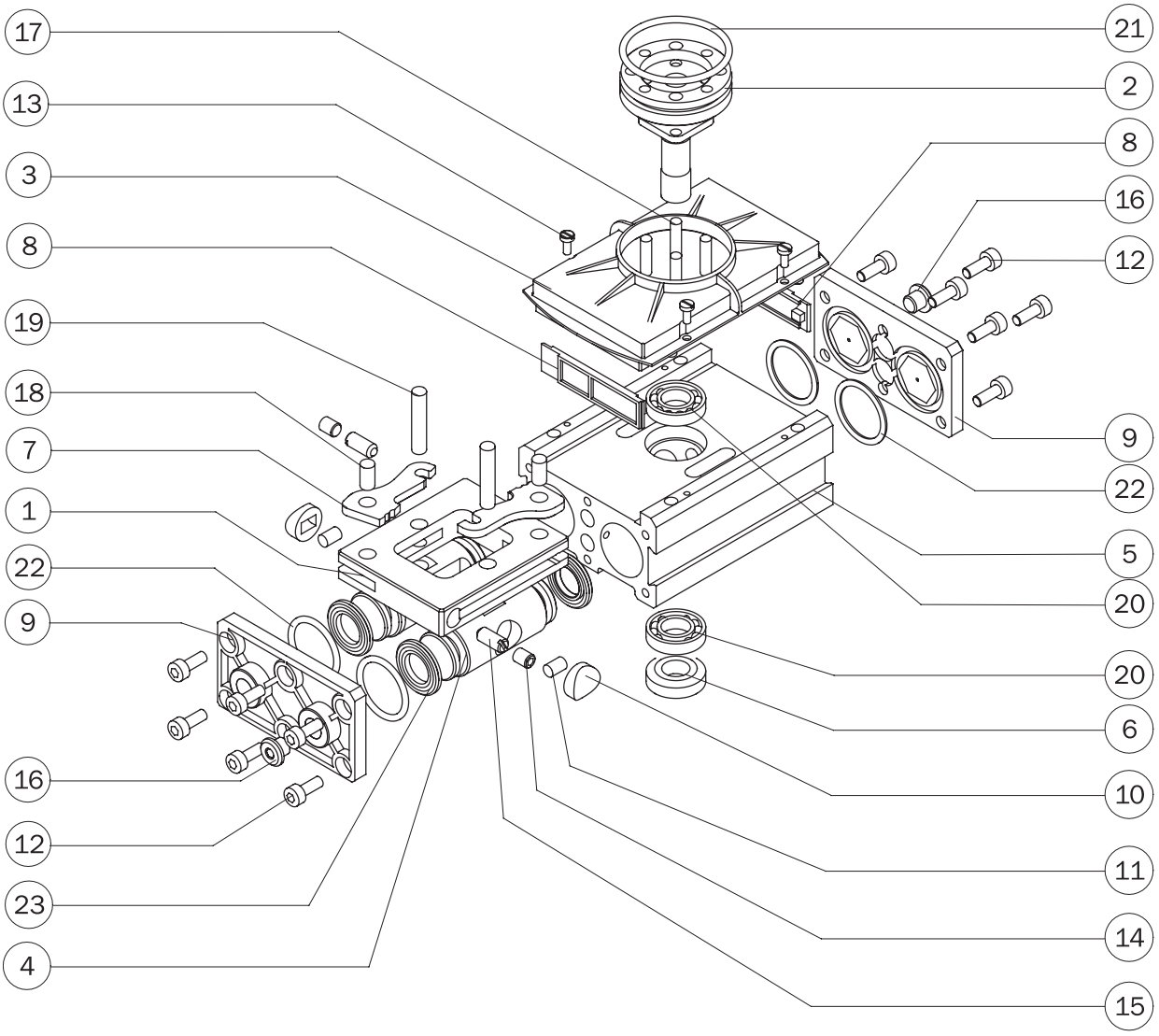




Magneto-resistive

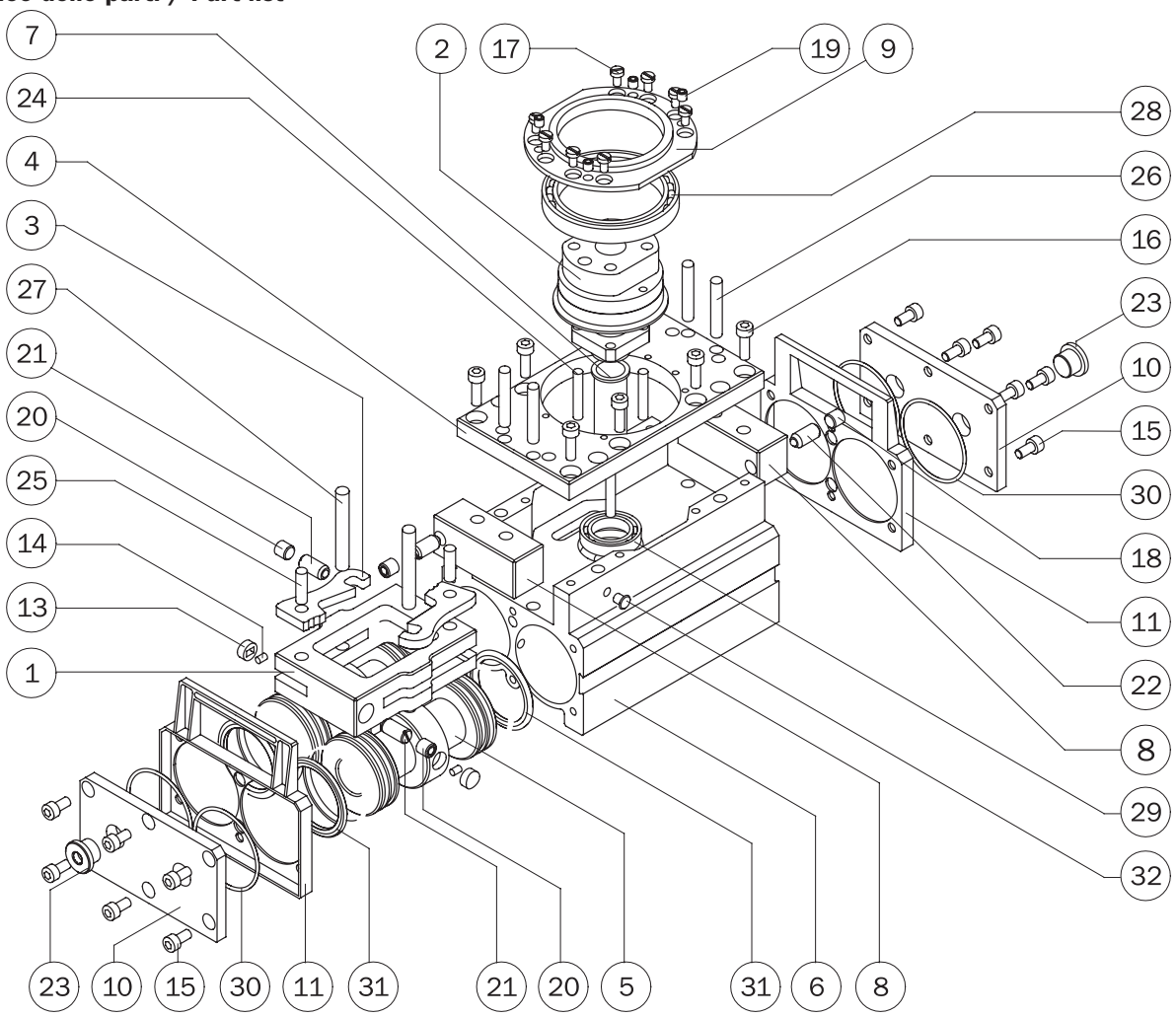


Elenco delle parti / *Part list*



		ITSC-164	ITSC-164A	ITSC-166	ITSC-166A	ITSC-168	ITSC-168A		
1	Cursore	ITS-164-1		ITS-166-1	ITS-166-1A	ITS-168-1	ITS-168-1A	*Slider*	*1*
2	Disco	ITSC-164-2		ITSC-166-2		ITSC-168-2		*Disc*	*2*
3	Copertura	ITSC-164-3		ITSC-164-3		ITSC-164-3		*Closing plate*	*3*
4	Pistone	ITSC-164-4		ITSC-164-4		ITSC-164-4		*Piston*	*4*
5	Corpo	ITSC-164-5		ITSC-164-5		ITSC-164-5		*Housing*	*5*
6	Ghiera	ITSC-164-6		ITSC-164-6		ITSC-164-6		*Slotted round nut*	*6*
7	Camma	ITS-164-6		ITS-166-2		ITS-168-2		*Cam*	*7*
8	Balestra	ITSC-164-10						*Crossbow*	*8*
9	Testata aperta	PE-1680-05A						*Opened closing plate*	*9*
10	Inserto portamagnete	PE-1610-05						*Magnet housing*	*10*
11	Magnete	PAR-06-7						*Magnet*	*11*
12	Vite	VITE-031 (INOX A2 M3x8 mm DIN 912)						*Screw*	*12*
13	Vite	VITE-056 (INOX A2 M2x5 mm DIN 84A)						*Screw*	*13*
14	Vite senza testa	VITE-021 (M4x5 mm DIN 913)						*Grub screw*	*14*
15	Grano a sfera	VITE-034 (M4 DIN 267)						*Spring plunger*	*15*
16	Tappo	107-M5						*Plug*	*16*
17	Spina di riferimento	SPINA-022 (Ø3x12 mm DIN 6325)						*Dowel pin*	*17*
18	Spina di riferimento	SPINA-034 (Ø4x8 mm DIN 6325)						*Dowel pin*	*18*
19	Spina di riferimento	SPINA-012 (Ø4x20 mm DIN 6325)						*Dowel pin*	*19*
20	Cuscinetto radiale	CUSC-011 (8x16x4)						*Ball bearing*	*20*
21	Anello di tenuta O-RING	GUAR-008 (Ø1.78x23.52)						*O-RING gasket*	*21*
22	Anello di tenuta O-RING	GUAR-023 (Ø1.78x15.60)						*O-RING gasket*	*22*
23	Guarnizione dinamica	GUAR-002P (16x9x2.5)						*Dynamic gasket*	*23*

Elenco delle parti / *Part list*



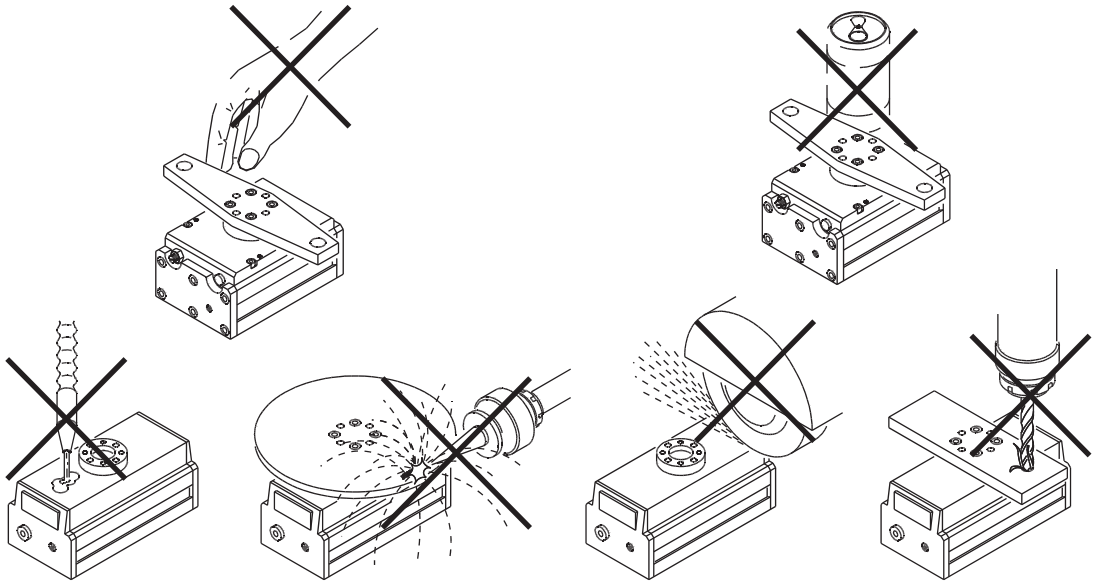
		ITSC-454	ITSC-454A	ITSC-456	ITSC-456A	ITSC-458	ITSC-458A		
1	Cursore	ITS-454-5	ITS-454-5A	ITS-456-1	ITS-456-1A	ITS-458-1	ITS-458-1A	*Slider*	*1*
2	Disco	ITSC-454-3		ITSC-456-3		ITSC-458-3		*Disc*	*2*
3	Camma	ITS-454-1		ITS-456-4		ITS-458-2		*Cam*	*3*
4	Copertura	ITSC-454-6						*Closing plate*	*4*
5	Pistone	ITSC-454-8						*Piston*	*5*
6	Corpo	ITSC-454-7						*Housing*	*6*
7	Bussola	ITS-456-10						*Bushing*	*7*
8	Blocchetto finecorsa	ITS-456-2						*End stroke block*	*8*
9	Anello	ITSC-454-11						*Cover*	*9*
10	Testata aperta	PE-4520-05A						*Opened closing plate*	*10*
11	Profilo	PE-4520-04						*Seal profil*	*11*
13	Inserto portamagnete	PE-4520-10						*Magnet housing*	*13*
14	Magnete	PAR-06-7						*Magnet*	*14*
15	Vite	VITE-027 (INOX A2 M5x10 mm DIN 912)						*Screw*	*15*
16	Vite	VITE-015 (INOX A2 M5x16 mm DIN 912)						*Screw*	*16*
17	Vite	VITE-390 (INOX A2 M4x8 mm DIN 84A)						*Screw*	*17*
18	Vite senza testa	VITE-145 (M8x8 mm DIN 913)						*Grub screw*	*18*
19	Vite senza testa	VITE-069 (M5x5 mm DIN 913)						*Grub screw*	*19*
20	Vite senza testa	VITE-145 (M8x8 mm DIN 913)				VITE-126 (M4x5 mm DIN 913)		*Grub screw*	*20*
21	Grano a sfera	VITE-033 (M8 DIN 267)				VITE-034 (M4 DIN 267)		*Spring plunger*	*21*
22	Pressore a molla	VITE-180 (M8)						*Spring plunger*	*22*
23	Tappo	1/4"						*Plug*	*23*
24	Spina di riferimento	SPINA-035 (Ø5x30 mm DIN 6325)						*Dowel pin*	*24*
25	Spina di riferimento	SPINA-026 (Ø6x20 mm DIN 6325)						*Dowel pin*	*25*
26	Spina di riferimento	SPINA-030 (Ø6x36 mm DIN 6325)						*Dowel pin*	*26*
27	Spina di riferimento	SPINA-036 (Ø7x50 mm DIN 6325)						*Dowel pin*	*27*
28	Cuscinetto radiale	CUSC-026 (55x72x9)						*Ball bearing*	*28*
29	Cuscinetto radiale	CUSC-022 (20x32x7)						*Ball bearing*	*29*
30	Anello di tenuta O-RING	GUAR-028 (Ø1.78x44.17)						*O-RING gasket*	*30*
31	Guarnizione dinamica	GUAR-122E (45x37x3.5)						*Dynamic gasket*	*31*
32	Tappo	MG-TAP-M5						*Plug*	*32*

Avvertenze

Evitare il contatto con sostanze corrosive, spruzzi di saldatura, polveri abrasive, che potrebbero danneggiare la funzionalità dell'attuatore.
Per nessun motivo, persone od oggetti estranei devono entrare nel suo raggio d'azione.
L'unità non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

Cautions

ANever let the unit come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the actuator.
Never let non-authorized persons or objects stand within the operating range of the unit.
Never operate the unit if the machine on which it is fitted does not comply with safety laws and standards of your country.



Manutenzione

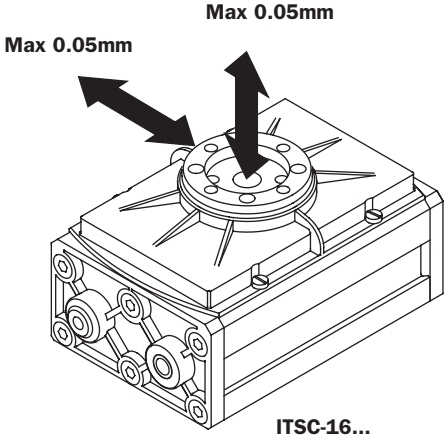
L'unità va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche);
- Molykote PG75 (guarnizioni).

Il gioco del pignone è indicato qui sotto.
Controllare periodicamente l'efficienza dei deceleratori.
Sostituirli subito se manifestano un decadimento delle loro prestazioni di smorzamento.
I deceleratori non devono essere usati come fine corsa.

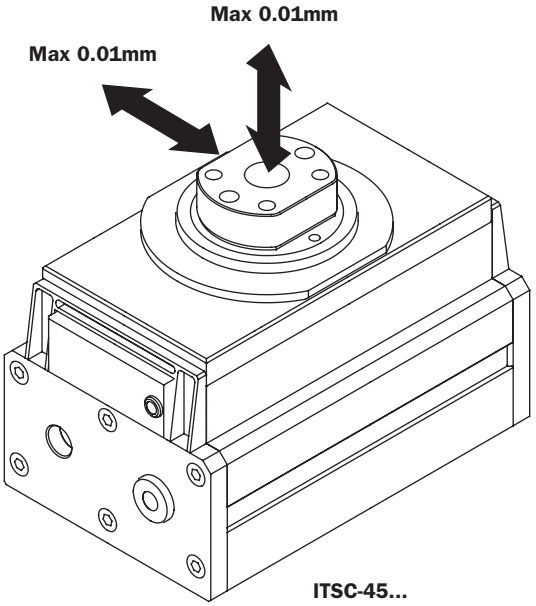
Maintenance

The unit must be greased after 10 million cycles with:
- *Molykote DX (metal on metal);*
- *Molykote PG75 (gaskets).*

The figure below shows the backlash of the pinion.
Periodically check the efficiency of the shock-absorbers.
Replace them immediately if their damping performance decreases.
The shock-absorbers must not be used as end-stroke.



ITSC-16...



ITSC-45...

Connessione pneumatica

L'unità rotante si alimenta con aria compressa dai fori laterali (P e R) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).
La tavola compie una rotazione per ogni azionamento della valvola di comando.

L'unità è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutto il periodo di servizio.

Alla prima immissione di aria, se il pignone è stato sganciato, la tavola potrebbe fare una rotazione nella direzione sbagliata.
Inoltre alla prima rotazione non è presente aria di contrasto nei pistoni, quindi i regolatori di flusso sono inefficaci.
Per questo l'impianto pneumatico deve essere pressurizzato gradualmente all'avviamento.

Compressed air feeding

The indexing table is fed with compressed air through the side air ports (P and R) with appropriate fittings and hoses (not supplied).
The indexing table performs a rotation at each cycle of the control valve.

Compressed air must be supplied filtered (5÷40 µm), not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the unit.

Upon the first supply of compressed air, if the pinion was previously disengaged, the table might rotate in the wrong direction.
Also, no exhaust air is present in the pistons at the first rotation, thus the flow controllers do not work.
For these reasons, the pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



Circuito pneumatico

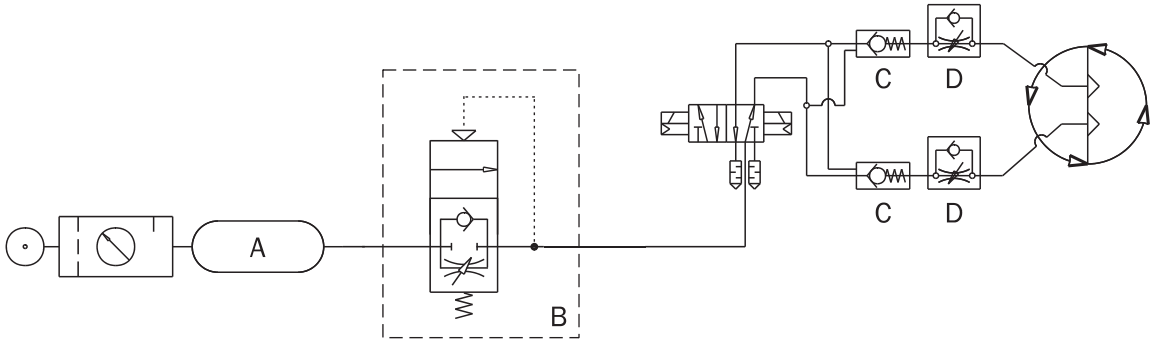
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

Pneumatic circuit

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).

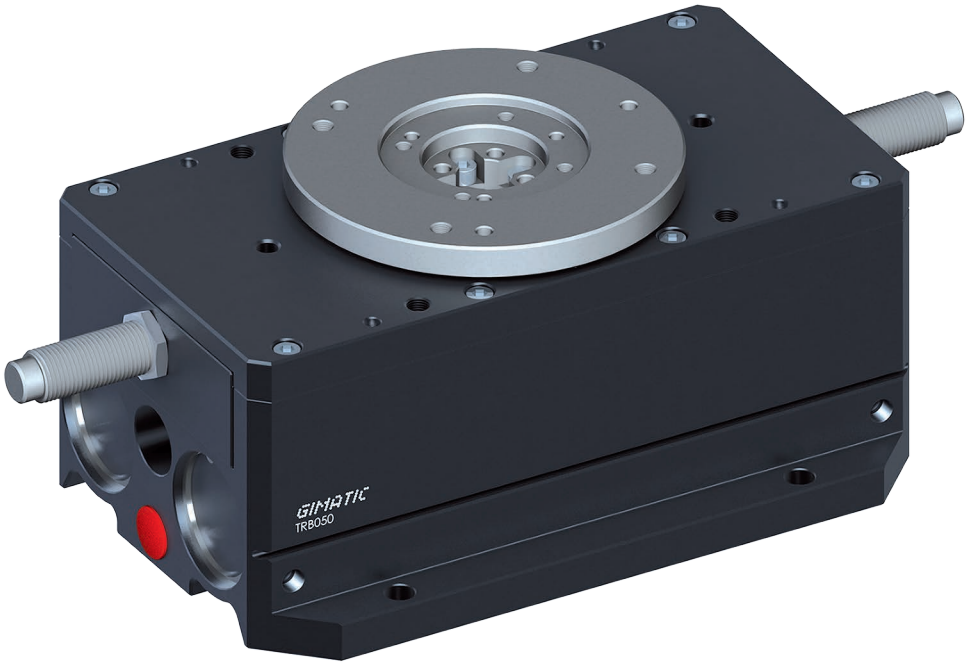


Tavole rotanti pneumatiche (serie TRB)

- Disponibili con 3, 4, 6, 8 o 12 divisioni.
- Verso di rotazione orario (suffisso C) o antiorario (suffisso A).
- Elevata coppia disponibile.
- Elevata capacità di carico.
- Foro passante per il passaggio di cavi e tubi.
- Deceleratori idraulici integrati.
- Sensori magnetici opzionali.

Pneumatic indexing tables (series TRB)

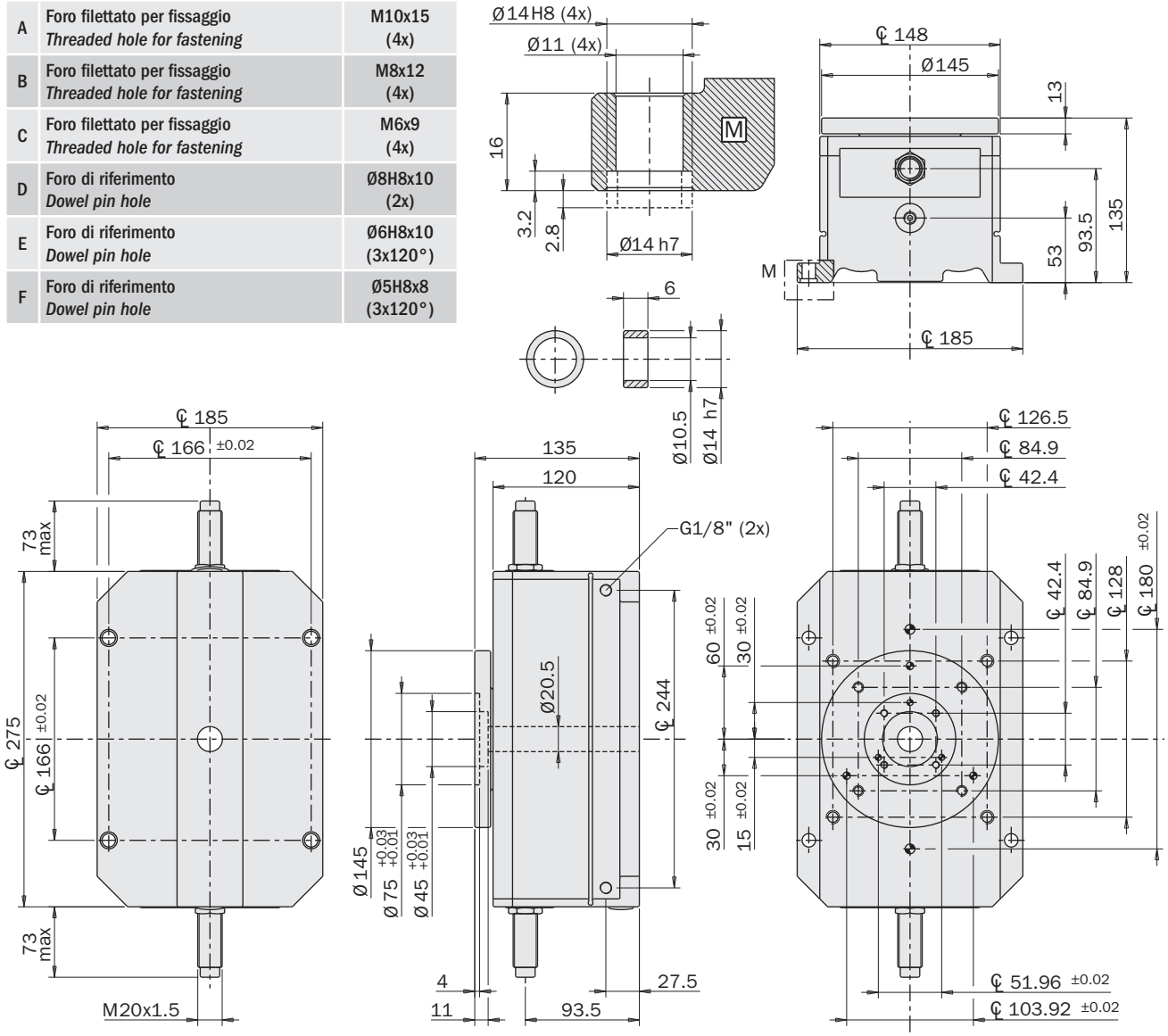
- *Available with 3, 4, 6, 8 or 12 positions.*
- *Available clockwise (ending C) or counter clockwise (ending A).*
- *High torque.*
- *Suitable for heavy loads.*
- *Through hole for cables and hoses.*
- *Integrated hydraulic shock-absorbers.*
- *Optional magnetic sensors.*



	TRB05003C TRB05003A	TRB05004C TRB05004A	TRB05006C TRB05006A	TRB05008C TRB05008A	TRB05012C TRB05012A
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*				
Pressione di esercizio *Pressure range*	2 ÷ 8 bar				
Temperatura di esercizio *Temperature range*	5° ÷ 60°C.				
Corsa angolare *Swivelling angle*	3x120°	4x90°	6x60°	8x45°	12x30°
Coppia di rotazione teorica a 6 bar *Theoretical torque at 6 bar*	70 Nm	70 Nm	70 Nm	70 Nm	70 Nm
Consumo d'aria *Air consumption*	255 cm^3 x120°	255 cm^3 x90°	255 cm^3 x60°	255 cm^3 x45°	255 cm^3 x30°
Peso *Weight*	13 kg	13 kg	13 kg	13 kg	13 kg

Dimensioni (mm) / *Dimensions (mm)*

A	Foro filettato per fissaggio *Threaded hole for fastening*	M10x15 (4x)
B	Foro filettato per fissaggio *Threaded hole for fastening*	M8x12 (4x)
C	Foro filettato per fissaggio *Threaded hole for fastening*	M6x9 (4x)
D	Foro di riferimento *Dowel pin hole*	Ø8H8x10 (2x)
E	Foro di riferimento *Dowel pin hole*	Ø6H8x10 (3x120°)
F	Foro di riferimento *Dowel pin hole*	Ø5H8x8 (3x120°)



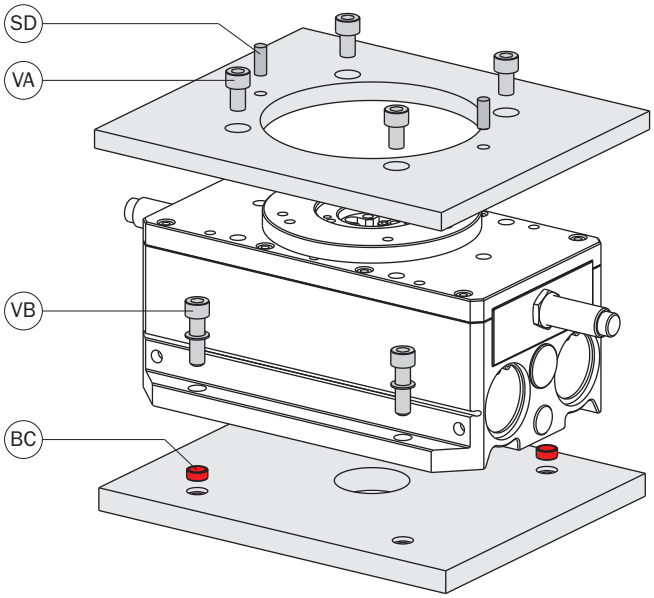
FIRST ANGLE PROJECTION

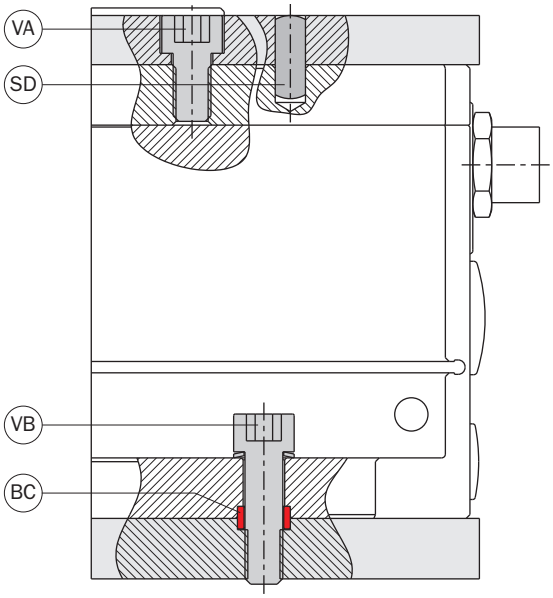
Fissaggio della tavola rotante

La tavola rotante può essere fissata sul fondo o sul coperchio. Usare quattro viti (VB) e due boccole (BC), incluse nella confezione, oppure quattro viti (VA) e due spine (SD).

Fastening of the indexing table

The indexing table can be fastened on the bottom or on the cover.
Use four screws (VB) and two centering sleeves (BC - included in the package) , or four screws (VA) and two dowel pins (SD).



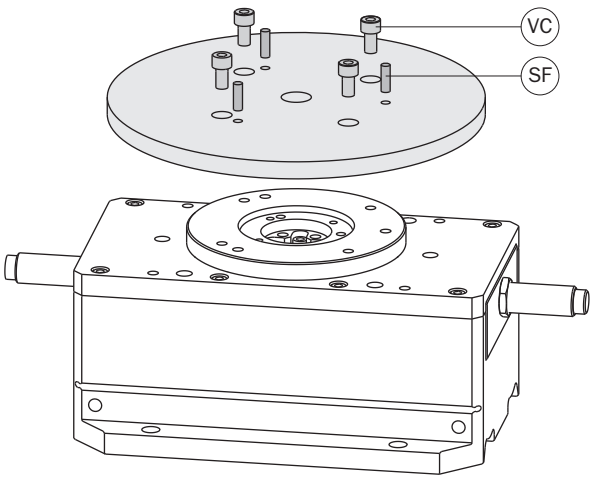


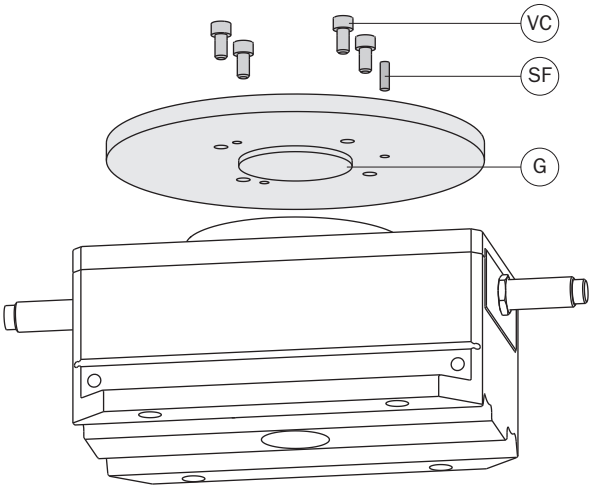
Fissaggio del carico rotante

Fissare il carico sul pignone utilizzando quattro viti (VC) e almeno due spine (SF).
Oppure una spina (SF) ed il centraggio (G).

Fastening of the rotating load

Fit the load on the pinion using four screws (VC) and at least two dowel pins (SF).
Or one dowel pin (SF) and the centering hole (G).





Sensori

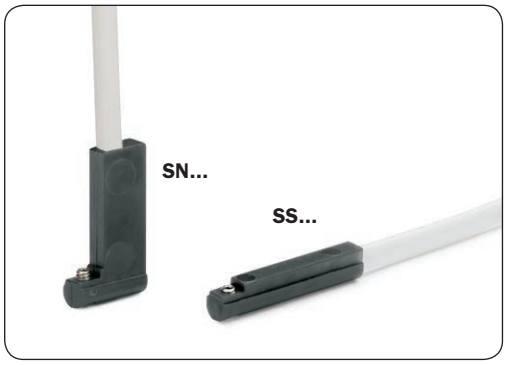
Il rilevamento della posizione è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso i magneti sui pistoni.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

Sensors

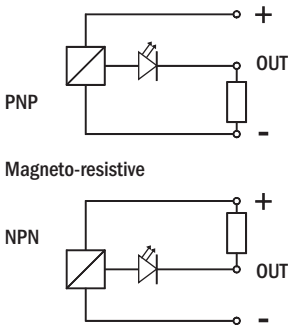
The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the pistons.
The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

I sensori utilizzabili sono:

The sensors that can be used are:



SN4N225-G	PNP	cavo 2.5m / 2.5m cable
SN4M225-G	NPN	cavo 2.5m / 2.5m cable
SN3N203-G	PNP	Connettore M8 / M8 snap plug connector
SN3M203-G	NPN	Connettore M8 / M8 snap plug connector
SS4N225-G	PNP	cavo 2.5m / 2.5m cable
SS4M225-G	NPN	cavo 2.5m / 2.5m cable
SS3N203-G	PNP	Connettore M8 / M8 snap plug connector
SS3M203-G	NPN	Connettore M8 / M8 snap plug connector



Sono tutti dotati di un cavo piatto a tre fili e di un led.

They are all provided with a flat three-wire cable and lamp.



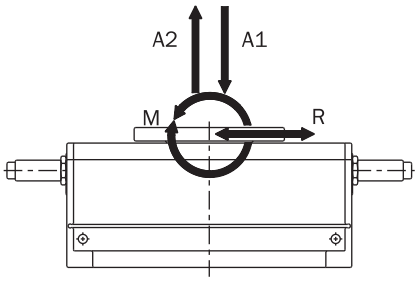
Carichi di sicurezza

Consultare la tabella dei carichi ammissibili.
Carichi ed energia cinetica eccessivi possono danneggiare l'attuatore e comprometterne il funzionamento.
A1 e A2 [N] sono i carichi massimi ammissibili in direzione assiale in compressione ed in trazione.
R [N] è il carico massimo in direzione radiale.
M [Nm] è la coppia flettente massima ammissibile.
J [kgcm^2] è il momento d'inerzia delle masse rotanti.
t [s] è il tempo di rotazione (per 120°, 90°, 60°, 45° o 30°).
J e t devono essere tali che la loro intersezione nel grafico dell'energia cinetica identifichi un punto sottostante la linea caratteristica dell'unità prescelta.
Usare i regolatori di flusso (non forniti) per ottenere la velocità desiderata.
Selezionare gli ingressi dell'aria (P o Q) in accordo alla velocità desiderata.

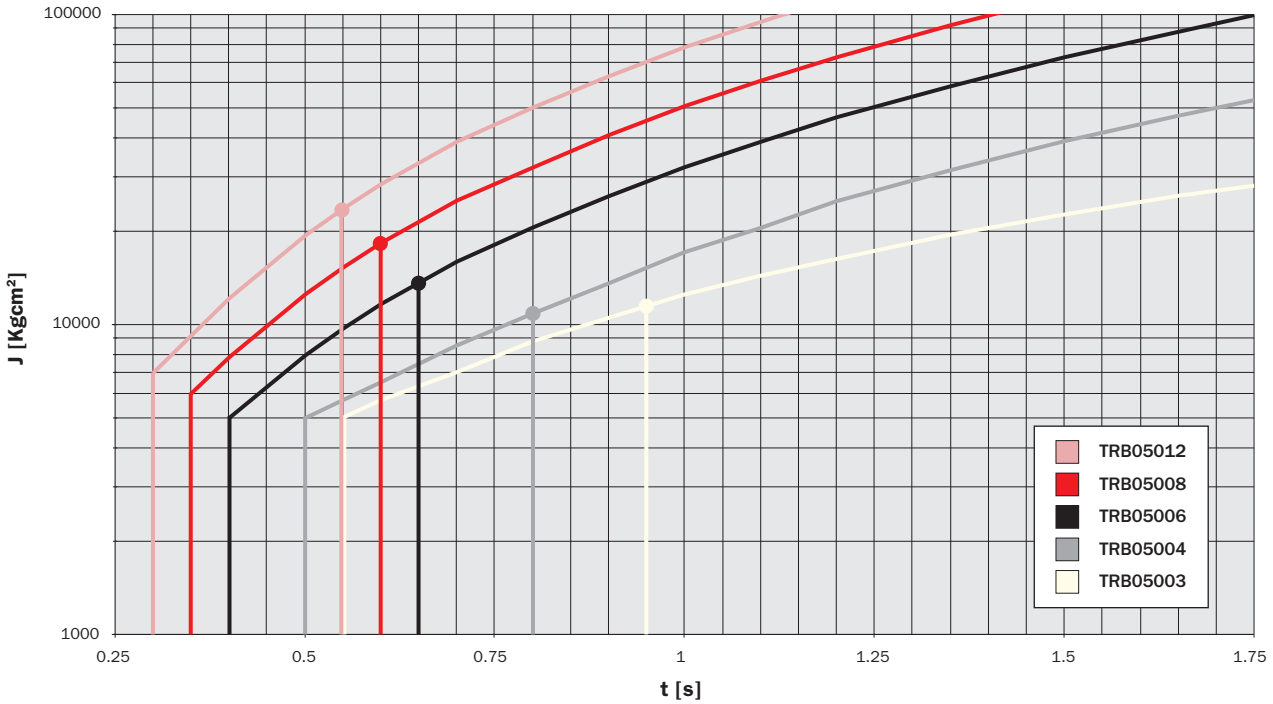
Safety loads

Check the table for maximum permitted loads.
Excessive loads or kinetic energy can damage the unit, cause functioning trouble and endanger the safety of the operator.
A1 and A2 [N] are the maximum axial loads, compressive and tractive.
R [N] is the maximum radial load.
M [Nm] is the maximum bending torque.
J [kgcm^2] is the moment of inertia of the rotating loads.
t [s] is the indexing time (for 120°, 90°, 60°, 45° or 30°).
On the graph of kinetic energy, the point of intersection of J and t values, must be below the characteristic curve of the selected unit.
Use flow controllers (not supplied) to get the right speed.
Select the air supply ports (P or Q) according to the desired speed.

	TRB050...
A1	2500 N
A2	800 N
R	1000 N
M	100 Nm



Energia cinetica / *Kinetic energy*



Connessione pneumatica

L'unità rotante si alimenta con aria compressa dai fori laterali (P) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).

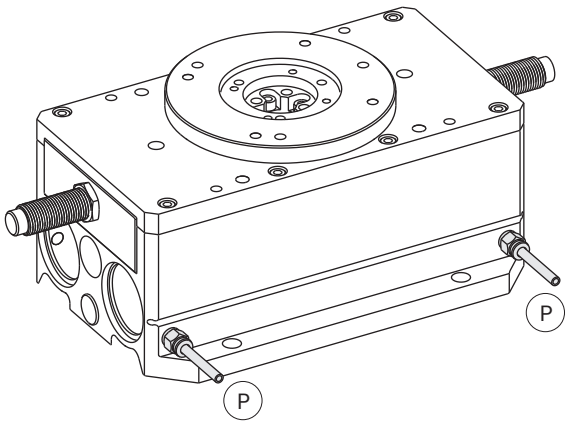
Spostando l'alimentazione in (Q), dopo aver tappato (P), si ottiene una velocità di rotazione maggiore.

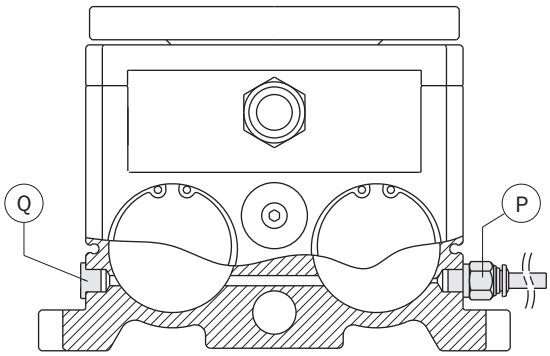
Compressed air feeding

The indexing table is fed with compressed air through the side ports (P), using suitable fittings and tubing (not supplied).

By moving the air supply to (Q), after plugging (P), a higher rotation speed is achieved.

	TRB05003C TRB05003A	TRB05004C TRB05004A	TRB05006C TRB05006A	TRB05008C TRB05008A	TRB05012C TRB05012A
Tempo di azionamento minimo con alimentazione in (P) *Minimun actuation time with air supply in (P)*	0.95 s	0.8 s	0.65 s	0.6 s	0.55 s
Tempo di azionamento minimo con alimentazione in (Q) *Minimun actuation time with air supply in (Q)*	0.55 s	0.5 s	0.4 s	0.35 s	0.3 s





Circuito pneumatico

La tavola compie una rotazione per ogni azionamento della valvola di comando.

L'unità è azionata con aria compressa filtrata (5÷40 µm) non necessariamente lubrificata.
La scelta iniziale, lubrificata o non lubrificata, deve essere mantenuta per tutto il periodo di servizio.

Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento unità vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

Accorgimenti per risolvere i problemi:
1- Serbatoio esterno (A).
2- Valvola di avviamento progressivo (B).
3- Valvole di sicurezza (C).
4- Regolatori di flusso (D).

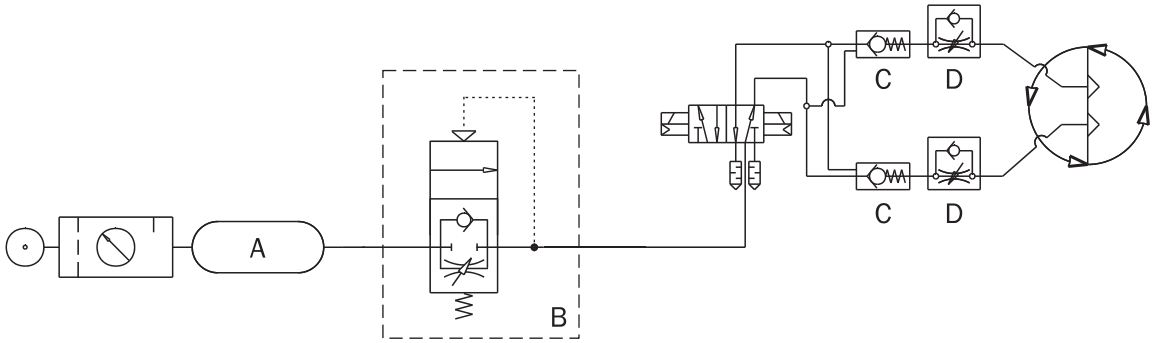
Pneumatic circuit

The indexing table performs a rotation at each cycle of the control valve.

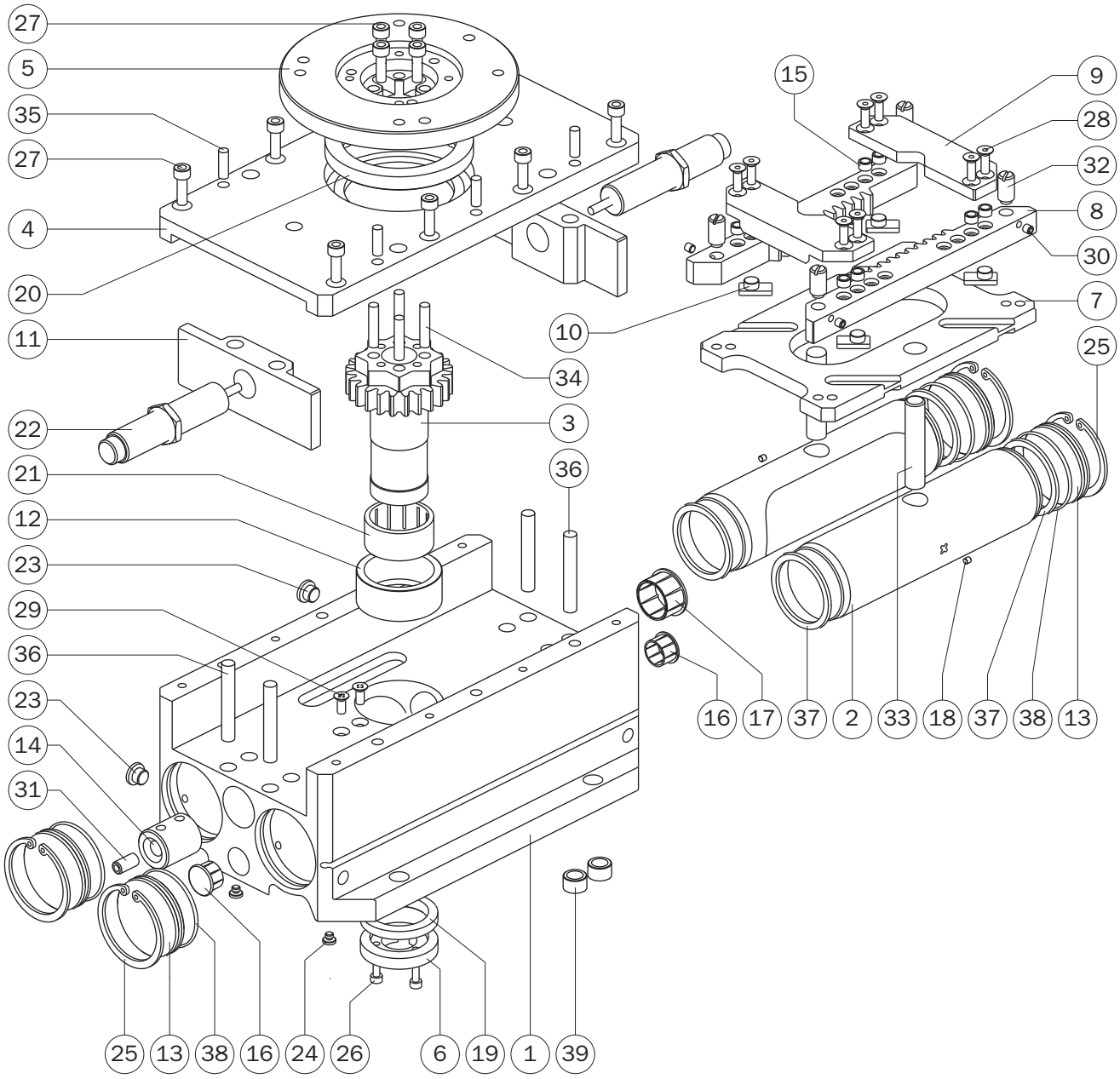
Compressed air must be supplied filtered (5÷40 µm), not necessarily lubricated.
The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the unit.

Possible problems on a compressed air circuit:
1- Pressure variation.
2- Pressurizing with empty cylinders.
3- Sudden pressure black-out.
4- Excessive speed.

Possible solutions:
1- Compressed air storage (A).
2- Start-up valve (B).
3- Safety valve (C).
4- Flow controller (D).



Vista esplosa / *Exploded view*



Elenco delle parti / *Part list*

		TRB05003C TRB05003A	TRB05004C TRB05004A	TRB05006C TRB05006A	TRB05008C TRB05008A	TRB05012C TRB05012A		
1	Corpo	TRB050-01					*Housing*	*1*
2	Pistone	TRB050-02					*Piston*	*2*
3	Pignone	TRB050-12	TRB050-09	TRB050-12	TRB050-09	TRB050-12	*Pinion*	*3*
4	Copertura	TRB050-04					*Closing plate*	*4*
5	Disco	TRB050-05					*Disc*	*5*
6	Chiusura pignone	TRB050-06					*Pinion end plate*	*6*
7	Slitta trascinamento	TRB050-07					*Slider*	*7*
8	Cremagliera	TRB050-13	TRB050-08	TRB050-13	TRB050-08	TRB050-13	*Rack*	*8*
9	Riscontro finecorsa	TRB050-14	TRB050-10	TRB050-14	TRB050-10	TRB050-14	*End stroke*	*9*
10	Pattino	TRB050-03M					*Shoe*	*10*
11	Testata	TRB050-11					*End cap*	*11*
12	Anello distanziale	TRB050-22					*Spacer ring*	*12*
13	Tappo	TRB050-15					*Plug*	*13*
14	Cilindro resettaggio	TRB050-23					*Reset cylinder*	*14*
15	Boccola	LP23-62					*Bush*	*15*
16	Tappo Ø20	MFP-015					*Plug Ø20*	*16*
17	Tappo Ø30	MFP-014					*Plug Ø30*	*17*
18	Magnete	R63-180-20					*Magnet*	*18*
19	Cuscinetto radiale	CUSC-019 (35x47x7)					*Ball bearing*	*19*
20	Cuscinetto radiale	CUSC-043 (70x90x10)					*Ball bearing*	*20*
21	Cuscinetto unidirezionale	CUSC-048 (35x42x20)					*One direction bearing*	*21*
22	Deceleratore idraulico	PM100MF-3-SP37330 (M25x1.5)					*Shock-absorber*	*22*
23	Tappo G1/8"	RG.0301500001-01					*Plug G1/8"*	*23*
24	Tappo M5	RG.0301500005-01					*Plug M5*	*24*
25	Seeger	SEEGER-031 (Ø51 DIN 472)					*Seeger*	*25*
26	Vite	VITE-286 (M4x12 DIN 912)					*Screw*	*26*
27	Vite	VITE-011 (M6x20 DIN 912)					*Screw*	*27*
28	Vite	VITE-466 (M5x16 DIN 7991)					*Screw*	*28*
29	Vite	VITE-030 (M5x12 DIN 965A)					*Screw*	*29*
30	Vite senza testa	VITE-069 (M5x5 DIN 913)					*Grub screw*	*30*
31	Vite senza testa	VITE-183 (M8x16 DIN 913)					*Grub screw*	*31*
32	Grano a sfera	VITE-467 (M10 DIN 267)					*Spring plunger*	*32*
33	Spina di riferimento	SPINA-172 (Ø12x60 DIN 6325)					*Dowel pin*	*33*
34	Spina di riferimento	SPINA-037 (Ø6x30 DIN 6325)					*Dowel pin*	*34*
35	Spina di riferimento	SPINA-026 (Ø6x20 DIN 6325)					*Dowel pin*	*35*
36	Spina di riferimento	SPINA-211 (Ø8x55 DIN 6325)					*Dowel pin*	*36*
37	Guarnizione dinamica	GUAR-015P (50x41x3)					*Dynamic gasket*	*37*
38	O-Ring	GUAR-017 (Ø1.78x47.35)					*O-Ring gasket*	*38*
39	Boccola	TH12516-09					*Bush*	*39*

Note / *Notes*

Note / *Notes*

Distributori Handling
Distributors of Handling products
Vertriebspartner Handling
Distributeurs Handling
Distribuidores Handling
Distribuidores Handling

02/04/2015

GIMATIC Group

CONSOCIATE ITALIANE

Piemonte, Liguria, Valle D'Aosta, Como, Lecco, Milano, Monza e Brianza, Pavia, Varese, Lodi, Verbania
GIMATRADE S.r.l.
Via Borgomanero, 1
28010 Veruno (NO)
Tel. +39 0322 830624
Fax +39 0322 830624
info@gimatrade.it
www.gimatrade.it

Bergamo, Brescia, Cremona, Mantova, Sondrio
Bolzano, Trento
Verona
Piacenza, Parma, Reggio Emilia
GIMATRADE BRESCIA S.r.l.
Via Chiusure, 5/b
25127 Brescia (BS)
Tel. +39 030 320212
Fax +39 030 2415436
info@gimatradebrescia.it
www.gimatradebrescia.it

Padova, Rovigo, Vicenza
Modena, Bologna, Ferrara, Ravenna, Forlì e Cesena, Rimini
GIMATRADE VICENZA S.r.l.
Via dei lillà, 26
36050 Sovizzo (VI)
Tel. +39 0444 37 12 36
Fax +39 0444 37 12 36
info@gimatradevicenza.it
www.gimatradevicenza.it

Belluno, Treviso, Pordenone, Venezia, Udine, Trieste, Gorizia
GIMATRADE TREVISO S.r.l.
Via Giovanni Verga, 21
33082 Corva di Azzano (PN)
Tel. +39 0434 646156
Fax +39 0434 646156
info@gimatradetreviso.it
www.gimatradetreviso.it

GIMATIC Group

FOREIGN SUBSIDIARIES
AUSLÄNDISCHE TOCHTERFIRMEN
ASSOCIES ETRANGERS
FILIALES EXTRANJERAS
FILIAIS ESTRANGEIRAS

Germany/Deutschland/Allemagne/ Alemania/Alemanha
GIMATIC VERTRIEB GmbH
Brunnenstr. 51
D 72411 Bodelshausen
Ph. +49 7471 96015 – 0
Fax +49 7471 96015 – 19
zentrale@gimaticvertrieb.de
www.gimaticvertrieb.de

Spain/Spanien/Espagne/España/Espanha
GIMATIC SPAIN s.l.
C/Corín Tellado n°8 - 1°A
33204 Gijón - Asturias - ESPAÑA
Ph. +34 984 493 897
Fax +34 984 493 897
jrodriguez@gimaticspain.es
www.gimaticspain.com

Turkey/Türkei/Turquie/Turquía/Turquia
GIMATIC OTOMASYON TICARET LTD. STI.
Perpa Tic. Merk. A Blok Kat:11
No:1478
34160 Okmeydani, Istanbul
Ph. +90 212 210 83 91
Fax +90 212 210 83 98
gimatic@gimatic.com.tr

Czech Republic/Tschechische Republik/ République Tchèque/República Checa/ República Checa,
Slovakia/Slowakei/Slovaquie/Eslovaquia/ Eslováquia
GIMATIC CZECH REPUBLIC, s.r.o.
Pod Hájem 290
250 73, Přezletice
Ph. +420 608 954 500
Fax +420 222 364 605
info@gimatic.cz
www.gimatic.cz

Central and Latin America/Zentral- und Südamerika/Amérique centrale et latine/ América Central y Sudamérica/América Central e Latina
GIMATIC AUTOMAÇAO Ltda
Rua Campos Salles, 190
09551-310 Bairro Barcelona
São Caetano do Sul
São Paulo - BRASIL
Ph. +55 11 4318 2550
Fax +55 11 4318 2551
gimatic@gimatic.com.br
www.gimatic.com.br

China, Hong Kong, Macao, Taiwan
GIMATIC AUTOMATION TECHNOLOGY (SHANGHAI) CO. LTD
Room 805, Block 8-9,
Lane 1500 South Lianhua Road
201108 Shanghai - CN
Ph. (+86) 021 54735580
Fax (+86) 021 54735680
info@gimatic-china.com
www.gimatic.com

Denmark/Dänemark/Danemark/Dinamarca/ Dinamarca,
Iceland/Island/Islande/Islandia/Islândia, Estonia/Estland/Estonie/Estonia/Estónia, Lithuania/Litauen/Lituanie/Lituania/ Lituânia,
Latvia/Lettland/Lettonie/Letonia/Letônia, Finland/Finnland/Finlande/Finlandia/ Finlândia,
Sweden/Schweden/Suède/Suecia/Suécia, Norway/Norwegen/Norvège/Noruega/ Noruega
GIMATIC NORDIC AB
Oestergarden 114
18637 Vallentuna - SE
Ph. +46 (8) 121 445 00
Fax +46 (0) 8 120 503 70
nordic@gimatic.se
www.gimatic.com

U.S.A.
Mexico/Mexiko/Mexique/México/México
GIMATIC USA
28300 Euclid Ave.
44092 Wickliffe, Ohio - USA
Ph. +1 216 535 4811
Fax +1 216 535 4833
sales@gimaticusa.com
www.gimaticusa.com

Korea/Korea/Corée/Corea/Coreia
GIMATIC AUTOMATION KOREA
A-#414, Banwol High Tech Village
278 Sandan-ro, Danwon-gu
Ansan-si, Gyeonggi-do, KOREA
Ph. +82 31 493 8685
Fax +82 31 493 8684
sales@gimatic.co.kr
www.gimatic.co.kr

ITALIA

Toscana
TECHNO TEAM S.r.l.
Via Di Seano, 65/67
51039 Quarrata (PT)
Tel. +39 057 374 02 09
Fax +39 057 374 02 11
info@technoteamsrl.com
www.technoteamsrl.com

Lazio, Campania, Puglia
FITAVA TRADING S.r.l.
Via Napoli, 164/168
84014 Nocera Inferiore (SA)
Tel. +39 081 517 03 56
Fax +39 081 517 03 60
info@fitavatrading.com
www.fitavatrading.com

Ancona, Pesaro Urbino, Macerata
A.T.I. S.r.l. ARTICOLI TECNICI INDUSTRIALI
Via Bruno Buozzi, 8
60044 Fabriano (AN)
Tel. +39 0732 639 111
Fax +39 0732 626 641
vendite@ati-srl.com
www.ati-srl.com

Abruzzo, Ascoli Piceno, Fermo, Macerata
TKF S.r.l.
Via Dei Castani
64014 Martinsicuro (TE)
Tel. +39 0861 762 092
Fax +39 0861 797 942
acquisti@tkfsrl.com

EUROPE

Austria/Österreich/Autriche/Austria/Áustria
BRUTECS GmbH
Groß-Dörnbach Straße, 12
A-4073 Wilhering
Ph. +43 664 380 6747
Fax +43 7221 87093
office@brutecs.com
www.brutecs.com

Belgium/Belgien/Belgique/Bélgica/Bélgica, Luxembourg/Luxemburg/Luxembourg/ Luxemburgo/Luxemburgo
CS PLASTICS
Spieveldstraat 14
9160 - Lokeren BELGIO
Ph. +32 9 262 04 60
Fax +32 9 356 00 15
info@csplastics.be
www.csplastics.be

Bulgaria/Bulgarien/Bulgarie/Bulgaria/ Bulgária
MASTER Ltd
26 Tsar Asen Str.
7000 Ruse - BULGARIA
Ph. +35 982 836 530
Fax +35 982 826 530
ruse@master-bg.com
www.master-bg.com

France/Frankreich/France/Francia/França
APORE
Z.I. De Sure 01390
Saint Andre de Corcy - FRANCE
Ph. +33 472 264477
Fax +33 472 264064
cwagnon@apore.fr
www.apore.fr

Greece/Griechenland/Grèce/Grecia/Grécia
TECNOPNEUMATIC A.E.
97, Iera Odos Str.
11855 Athens – GRECIA
Ph. +30 210 346 70 00
Fax +30 210 347 99 30
avieris@tecnopneumatic.gr
www.tecnopneumatic.gr

Hungary/Ungarn/Hongrie/Hungría/Hungria
GRIP-PLAST Kft.
Ikva u.7
H-8000 Székesfehérvár
HUNGARY
Mobil +36 302 093 773
Ph. +36 227 883 90
Fax +36 227 883 90
a.jobbagy@grip-plast.hu
www.grip-plast.hu

Netherlands/Holland/Pays-Bas/Países Bajos/Holanda
GRIPPING & HANDLING SOLUTIONS B.V.
Amer 53
5711 KJ Someren
The Netherlands
Ph. +31 654 962 059
Fax +31 493 470 176
info@g-hsolutions.com
www.g-hsolutions.com

Polonia/Polen/Pologne/Polonia/Polónia
DZV DOROTA ZDUNOWSKA
Plac Gornoslaski, 7
81509 Gdynia POLAND
Ph. +48 696 437 741
Fax +48 587 421 710
biuro@dzv.com.pl
www.dzv.com.pl

Portugal/Portugal/Portugal/Portugal/ Portugal
TECNOTRONICA Lda.
Zona Industrial da Murteira,
Lote n.22
2135 Samora Correia
PORTUGAL
Ph. +351 263 659 340
Fax +351 263 659 349
tecnotronica@mail.telepac.pt
www.tmac.pt

Russia/Russland/Russie/Rusia/Rusia
IBC SYSTEMS
Kuskovskaya str.20A, off.611A
111141 Moscow - RUSSIA
Ph. +74 957 270 528
Fax +74 957 270 529
info@ibcplastic.ru
www.ibcplastic.ru

United Kingdom/Großbritannien/ Grande-Bretagne/Reino Unido/Reino Unido
PRECISION MOTION (COFIL) Ltd
PO BOX 2034, Preston
PR5 9AD Lancashire
Ph. +44 177 233 96 33
Fax +44 177 233 63 62
stuart@precisionmotion.co.uk
www.precisionmotion.co.uk

Serbia/Serbien/Serbie/Serbia/Sérbia
Slovenia/Slowenien/Slovenie/Eslovenia/ Eslovénia
Croatia/Kroatien/Croatie/Croacia/Croácia
KOVIMEX
Podskranik 60
1380 Cerknica – SLOVENIA
Ph. +386 (170) 96 430
Fax +386 (402) 18 211
kovimex@kovimex.si
www.kovimex.si

Switzerland/Schweiz/Suisse/Suiza/Suíça
ROBXPERTS GmbH
Aachstrasse 2
9326 Horn - SWITZERLAND
Ph. +41 62 822 33 77
mail@robxperts.com
www.robxperts.com

ASIA

India/Indien/Inde/India/Índia
MPOWER
No: 210, Anna Street,
Dever Nagar, Padi,
Chennai - 600 050
Ph. +9144 - 26542728
Mobile +91 98406 01278
sales.mpower@gmail.com

NEEJTECH INDIA
305, Swagat Building C.G. Road,
Ahmedabad
380009 - GUJARAT - IN
Ph. +91 98250 40231
Fax +91 79265 61312
info@neejtech.com
www.neejtech.com

Israele/Israel/Israël/Israel/Israel
R.E.P. Automation Ltd
2, HaAmelim St.
P.O.B.10115
Haifa Bay 26110
Ph. +97 248 403 012
Fax +97 248 403 013
rep@repac.co.il
www.repac.co.il

Malesia/Malesien/Malaisie/Malasia/ Malásia
Thailand/Thailand/Thaïlande/Tailandia/ Tailândia
FUTURE STATE (Asia) Co. Ltd.
86/1 Soi Thianthalay, 22
Bangkhunthian
Thakham, Bangkhunthian
10150 Bangkok Thailand
Ph. +66 25 30 04 05
Fax +66 25 30 04 06
nianinbkk@hotmail.com
www.futurestateasia.com

Syria/Syrien/Syrie/Siria/Síria
ETTA SYSTEMS
P.O.BOX: 12850
Al Hamra St. Sha'lan
Build # 10- 3ed Floor
Damascus - SYRIA
Ph. +96 311 332 55 19
Fax +96 311 334 26 39
info@ettasystems.com
www.ettasystems.com

AMERICA

Canada/Kanada/Canada/Canadá/Canadá
SEMPRESS CANADA INC
9-3250 Ridgeway Drive
L5L-5Y6
Mississauga - Ontario - CANADA
Ph. 905.949.2324
Fax 905.949.1944
brentmccurdy@sempress.ca
www.sempress.ca

OCEANIA

Australia/Australien/Australie/Australia/ Austrália
ENKOSI PTY LTD
Unit 3/9 Nicole Close
3153 Bayswater noth vic
AUSTRALIA
Ph. +61 397 616 377
Fax +61 397 616 499
graham@enkosi.com.au
www.enkosi.com.au

Riservati tutti i diritti, traduzioni incluse.
Proibita ogni forma di riproduzione o trasmissione senza permesso scritto ed approvato da GIMATIC Srl.
Con riserva di modifiche ed aggiornamenti in qualsiasi momento e senza alcun preavviso.

All rights reserved, including translation rights.
No parts of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of GIMATIC Srl.
We reserve the right to make alterations.

CAT-HAND2015-IT-EN Ed. 03/2015

via Enzo Ferrari, 2/4
25030 Roncadelle (BS) ITALIA
tel. +39 030 2584655
fax +39 030 2583886
sales@gimatic.com
www.gimatic.com

Riservati tutti i diritti, traduzioni incluse.
Proibita ogni forma di riproduzione o trasmissione senza permesso scritto ed approvato da GIMATIC Srl.
Con riserva di modifiche ed aggiornamenti in qualsiasi momento e senza alcun preavviso.

All rights reserved, including translation rights.
No parts of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocoping or otherwise, without the prior written permission of GIMATIC Srl.
We reserve the right to make alterations.

Distribuito da / *Distributed by*

CAT-HAND2015-IT-EN