

Pinza pneumatica a 2 griffe ad azione parallela autocentrante serie SGP

- Azionamento a doppio effetto.
- Meccanismo di regolazione del gioco brevettato.
- Prestazioni elevate in dimensioni ridotte.
- Costruzione robusta: grande durata e affidabilità senza manutenzione.
- Diverse possibilità di fissaggio e alimentazione.
- Predisposta per sensori induttivi regolabili.

2-jaw parallel-acting self-centering pneumatic gripper series SGP

- Double acting.
- Patented 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.
- Different options for fastening and feeding.
- Prepared for adjustable inductive sensors.



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 Pressure range	2 ÷ 8 bar			
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	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 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 Total stroke (±0.3 mm)	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
Tolleranza max ripetibilità Maximum repeatability tolerance	±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

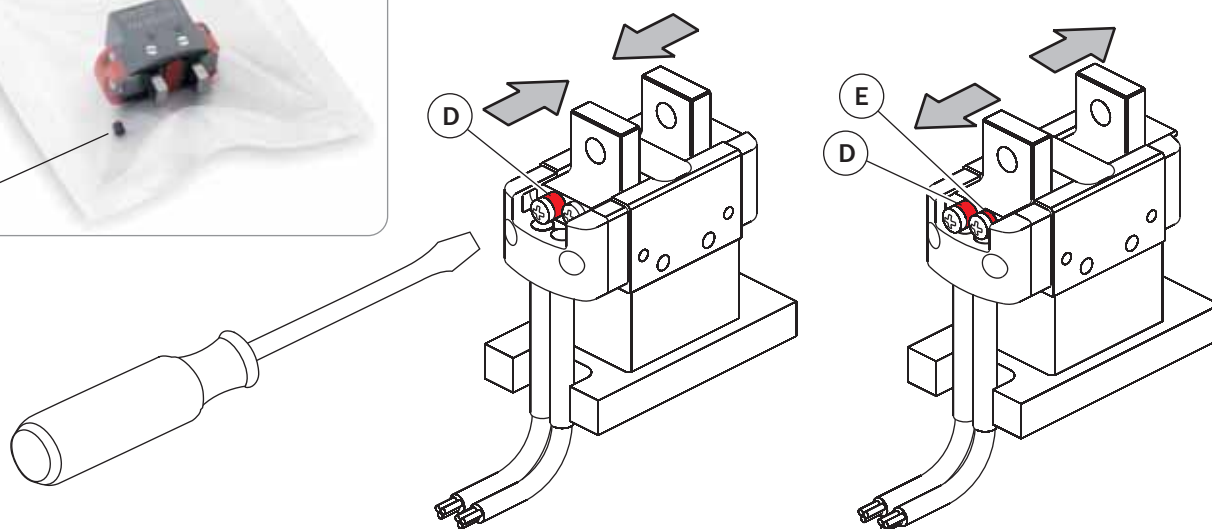


Pinza totalmente aperta / Fully open gripper

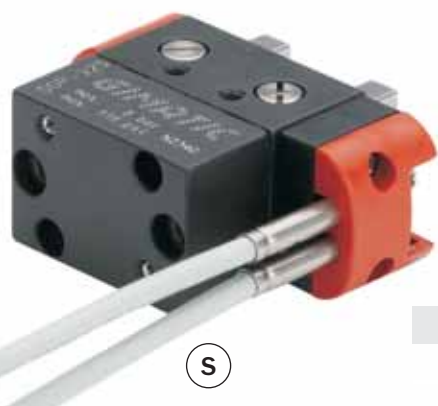


Agendo sulle viti si regola la posizione di lettura dei sensori.
Il distanziale di plastica (D) è da accorciare in base alla regolazione.
Il secondo distanziale (E) é da installare, se la pinza è usata per serrare un carico dall'interno.

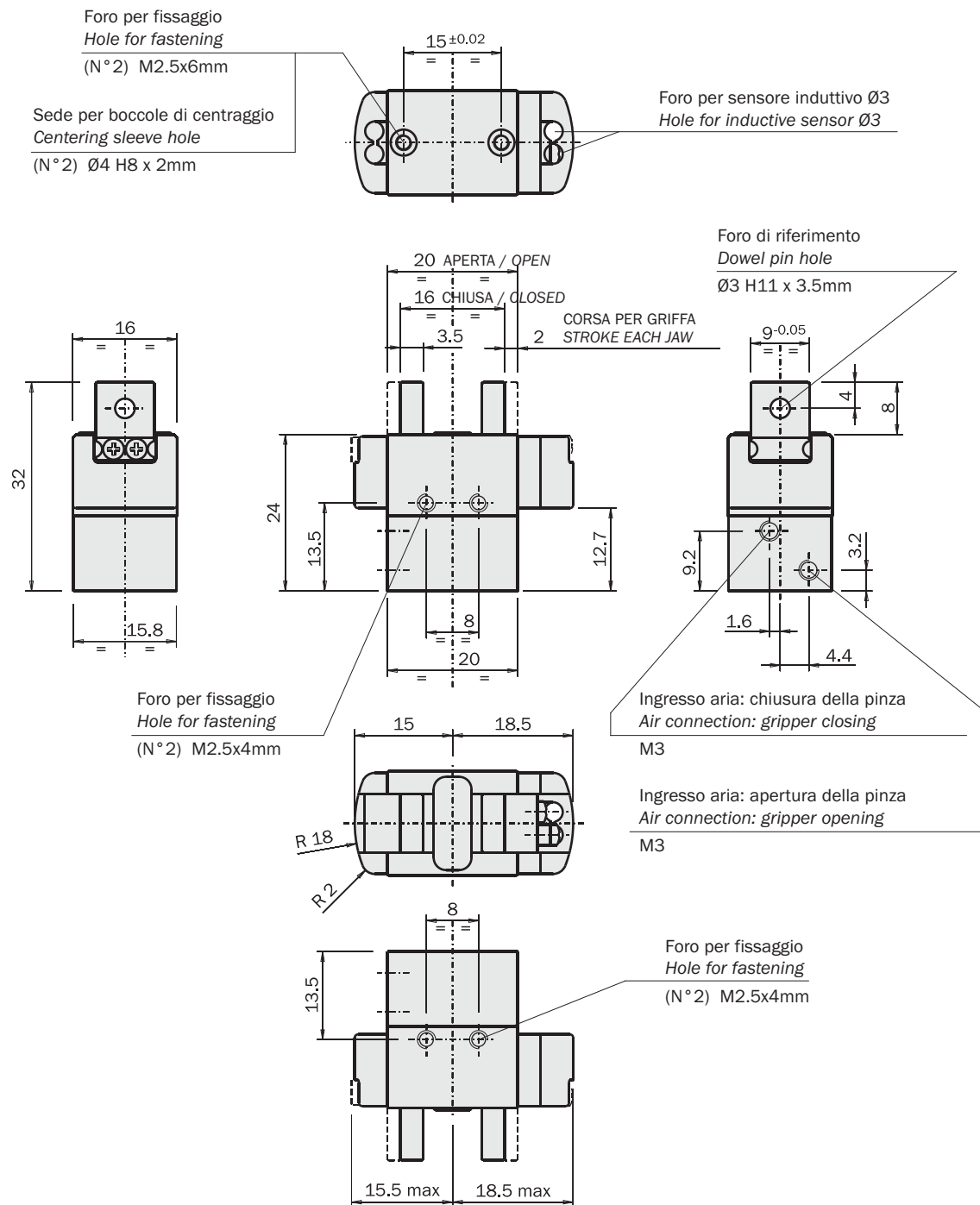
The detected position can be adjusted by the screws.
The plastic spacer (D) has to be shortened according to the adjustment.
The second spacer (E) is to be installed, when the gripper is used for internal gripping applications.



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.



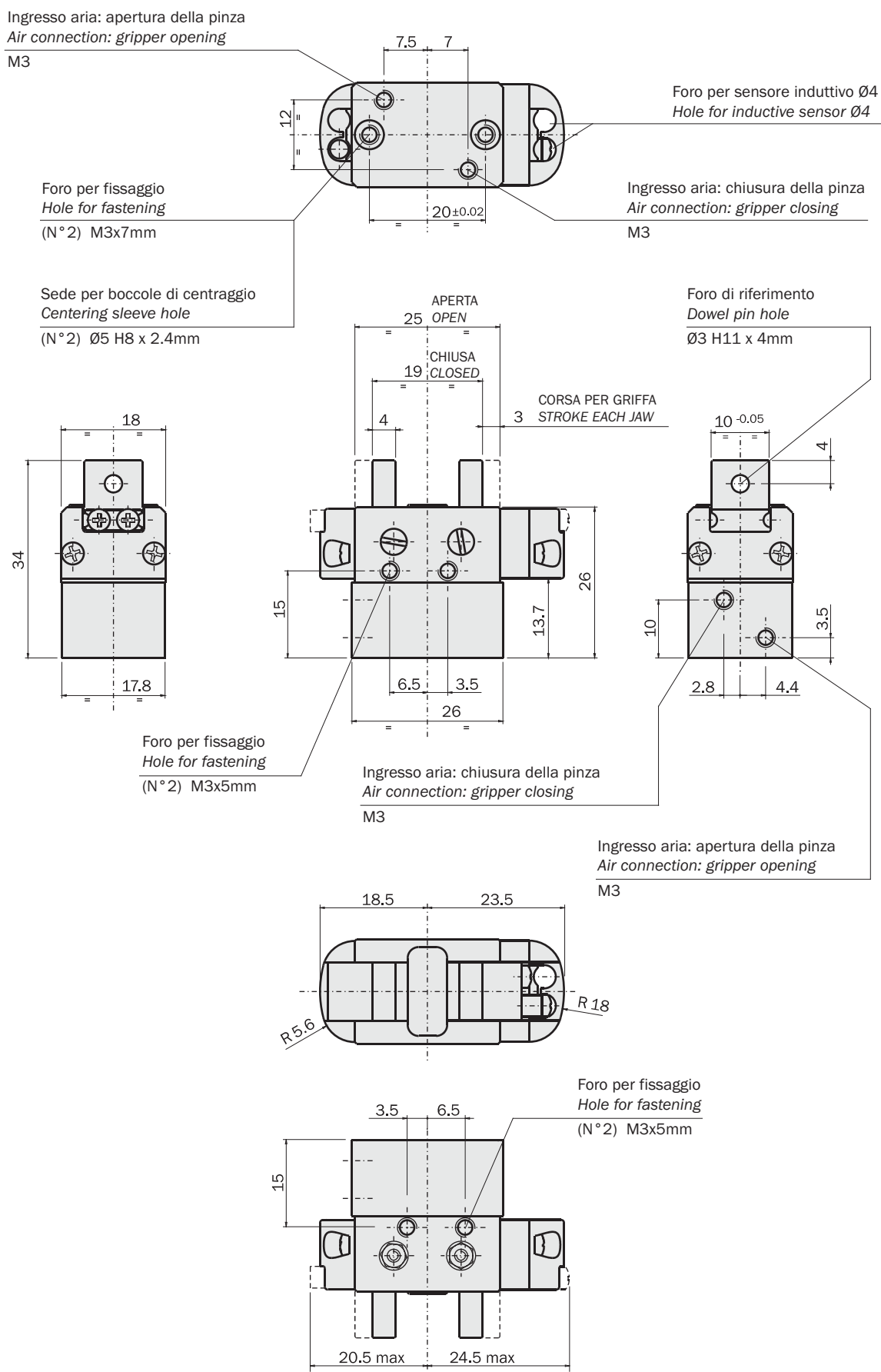
	SGP-20S	SGP-25S	SGP-32S	SGP-40S
S	Ø3mm	Ø4mm	Ø4mm	Ø4mm



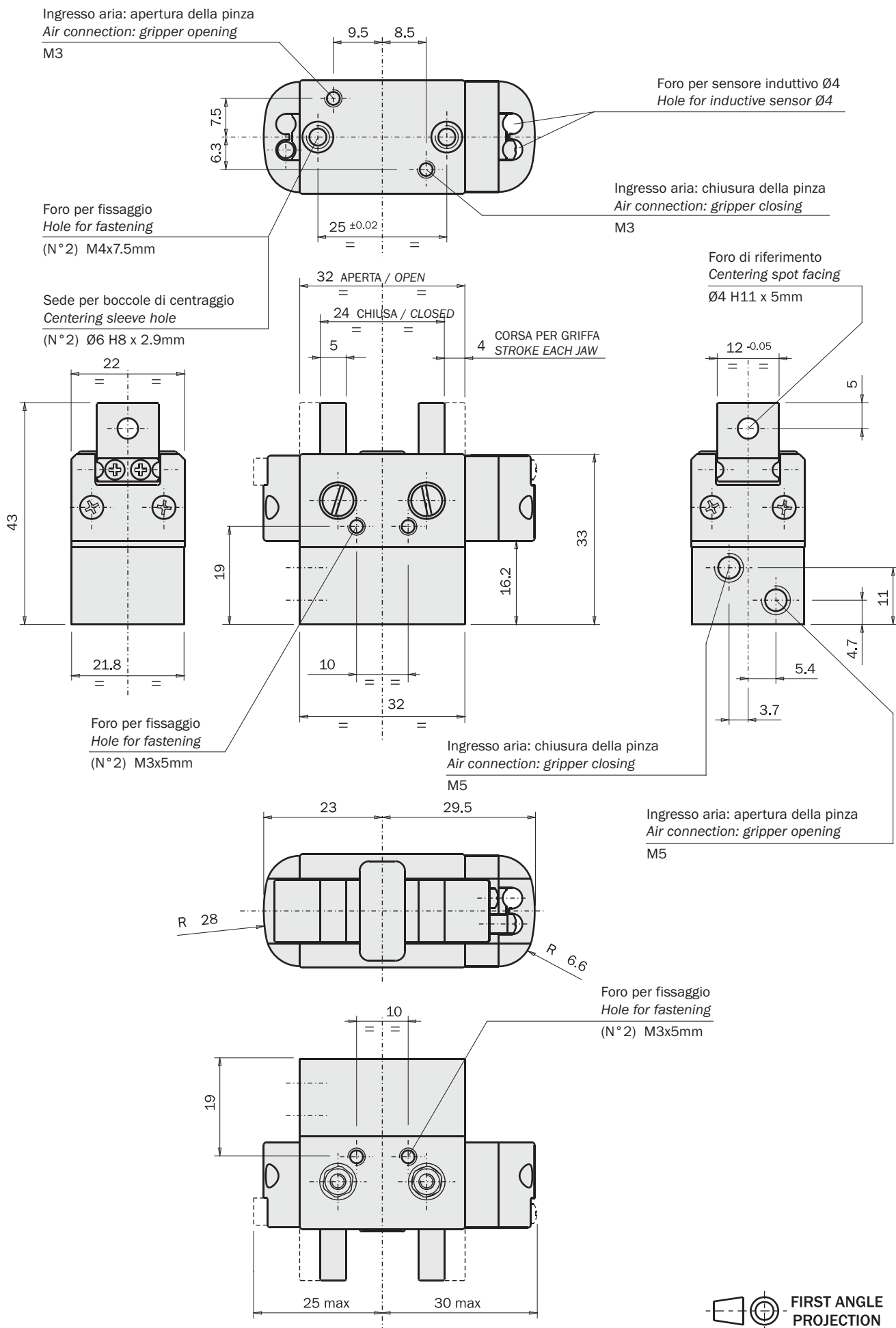
FIRST ANGLE PROJECTION

02/2010

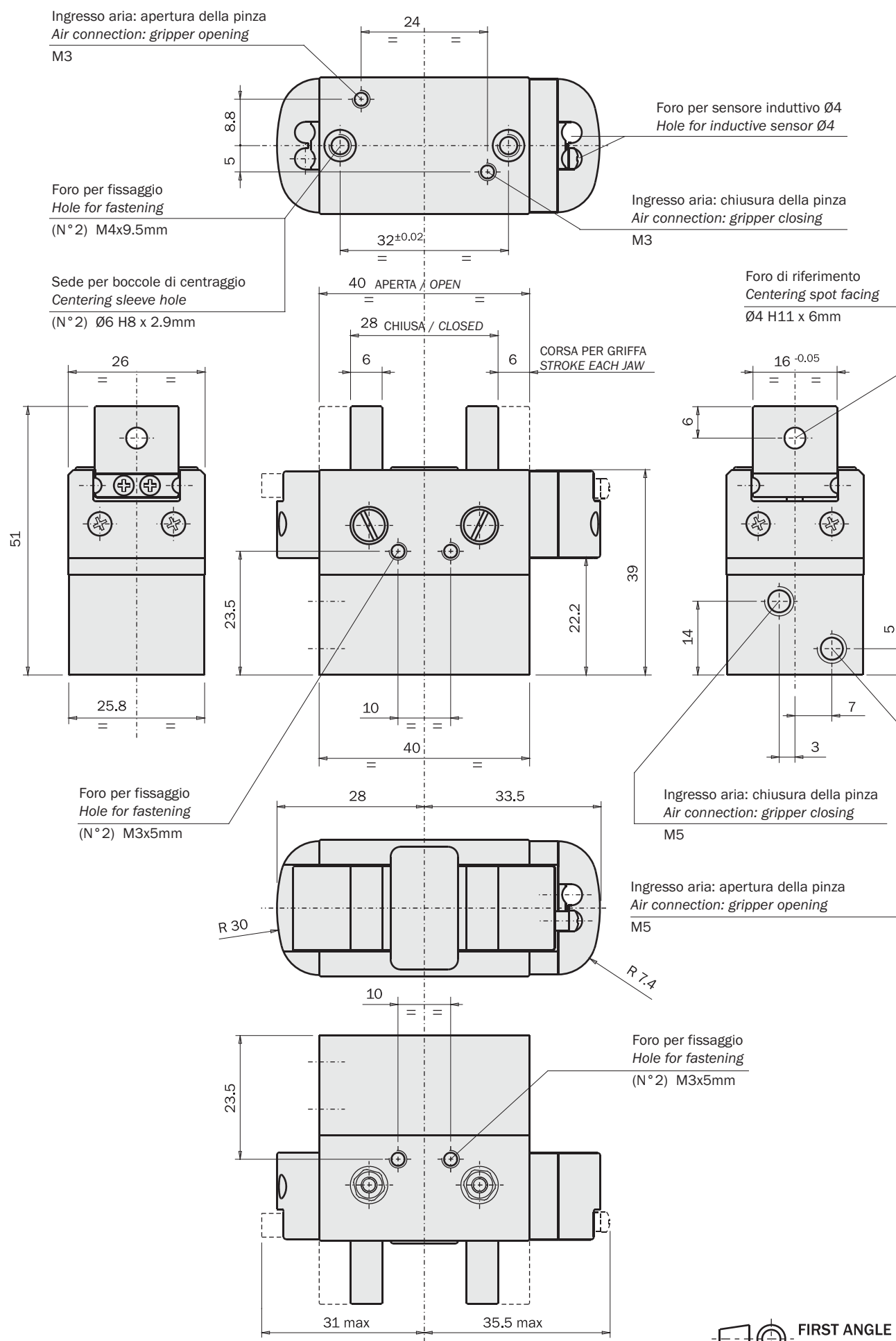
Dimensioni (mm) / Dimensions (mm)



Dimensioni (mm) / Dimensions (mm)



Dimensioni (mm) / Dimensions (mm)

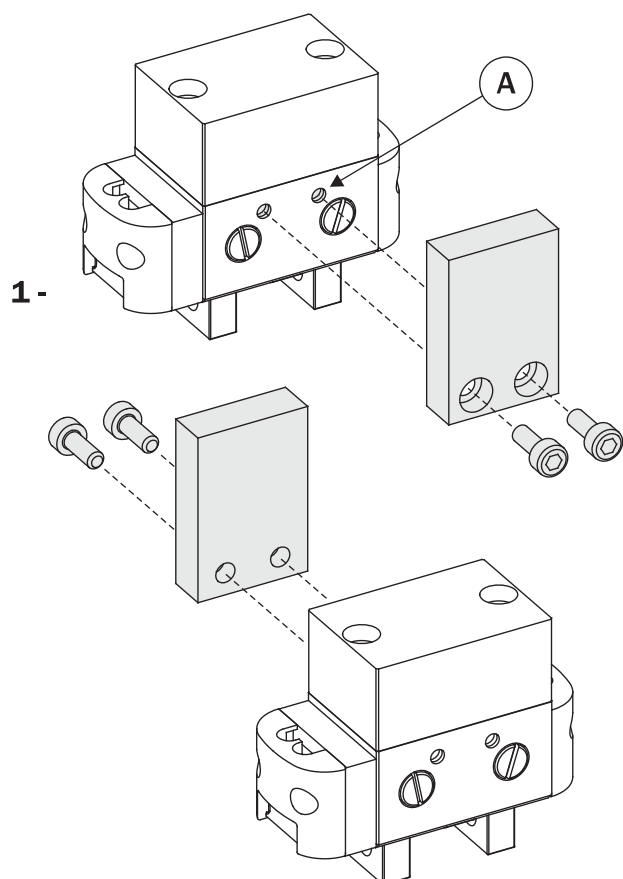


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Fissaggio

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.

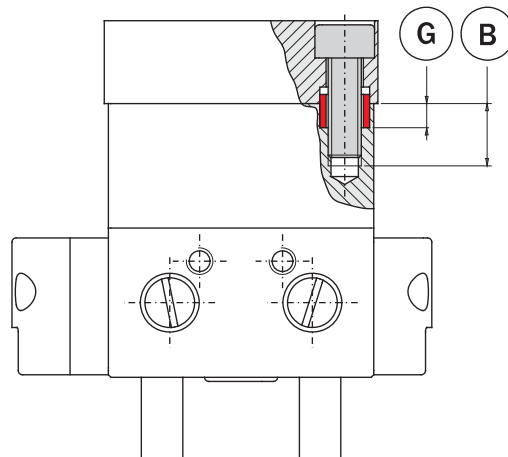
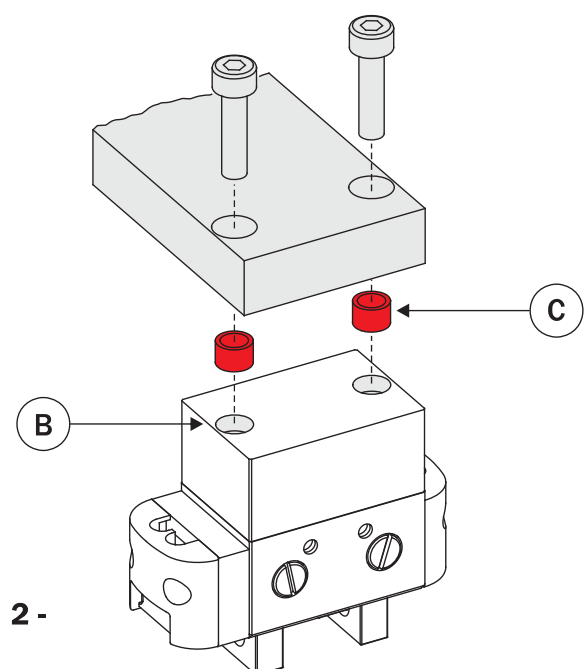
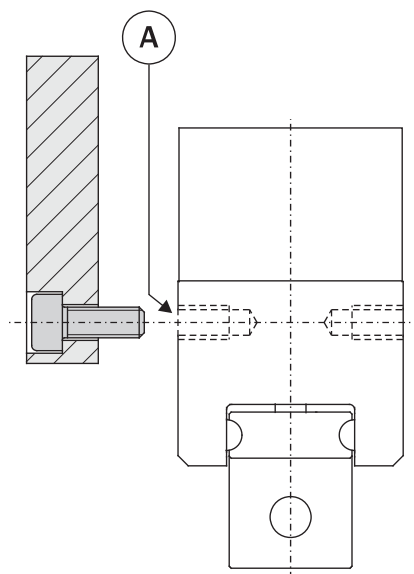
- 1 - Per fissare la pinza su un lato utilizzare due viti passanti nella piastra ed avvitate nei fori filettati (A) della pinza (presenti sulle due facce).
- 2 - Per fissare la pinza sul fondo utilizzare due viti passanti nella piastra ed avvitate nei fori filettati (B). Usare anche le due boccole (C) fornite nella confezione, per il centraggio nei fori calibrati (G).



Fastening

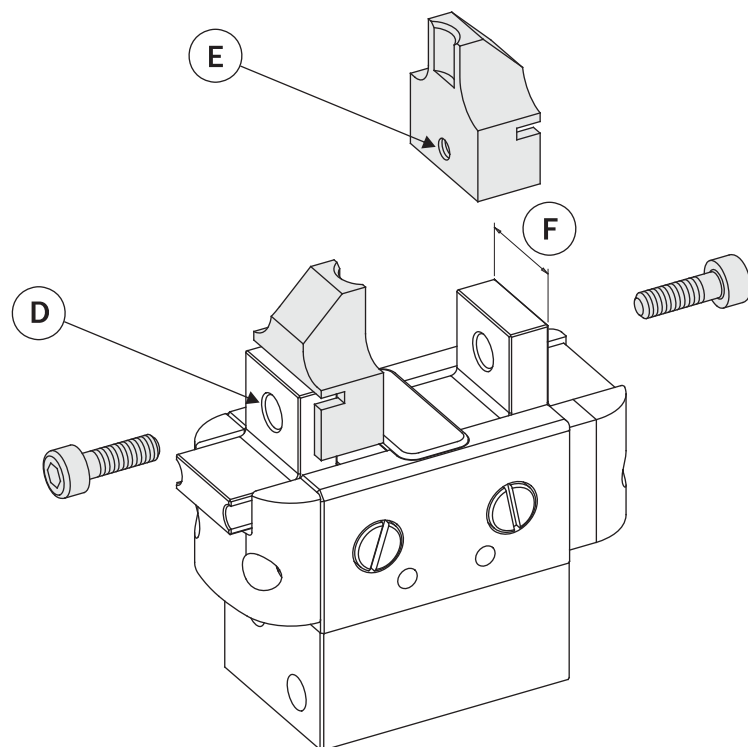
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

- 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 (A). They are on both sides of the gripper housing.
- 2 - To fasten gripper to base use two screws passing through the holes in the plate and screwed in the threaded holes (B). Use also the two centering sleeves (C) supplied in the packaging, in the calibrated holes (G).



Costruire le dita di presa il più possibile corte e leggere.
Fissarle con una vite passante nel foro (D) ed avvitata nel foro filettato del dito di presa (E).
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 one screw in the through hole (D) to be screwed in the threaded hole (E) in the gripping tool.
For a precise positioning on the jaw use the calibrated dimension (F).



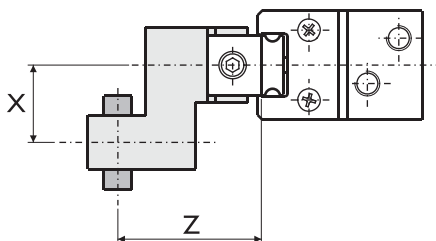
	SGP-20S	SGP-25S	SGP-32S	SGP-40S
A	M2.5x4 mm	M3x5 mm	M3x5 mm	M3x5 mm
B	M2.5x6 mm	M3x7 mm	M4x7.5 mm	M4x9.5 mm
C	Ø4h8 x Ø2.6 x 4 mm	Ø5h7 x Ø3.2 x 4.4 mm	Ø6h7 x Ø4.2 x 5.3 mm	Ø6h7 x Ø4.2 x 5.3 mm
D	Ø3H11 x 3.5 mm	Ø3H11 x 4 mm	Ø4H11 x 5 mm	Ø4H11 x 6 mm
E	M3	M3	M4	M4
F	g ^{-0.05} mm	10 ^{-0.05} mm	12 ^{-0.05} mm	16 ^{-0.05} mm
G	Ø4H8 x 2 mm	Ø5H8 x 2.4 mm	Ø6H8 x 2.9 mm	Ø6H8 x 2.9 mm

Forza di serraggio

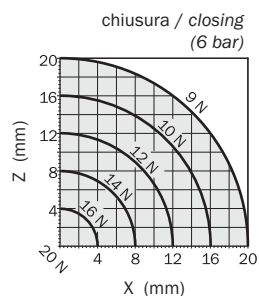
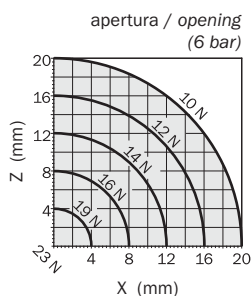
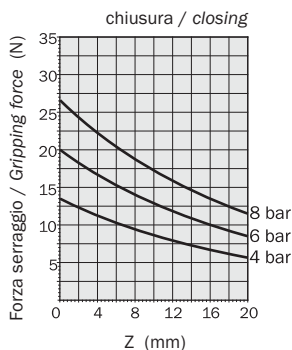
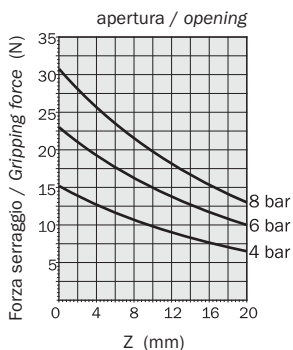
I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

Gripping force

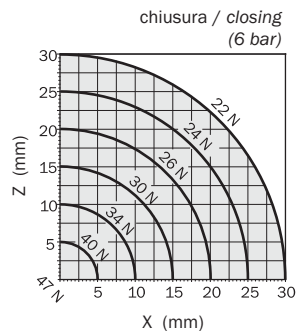
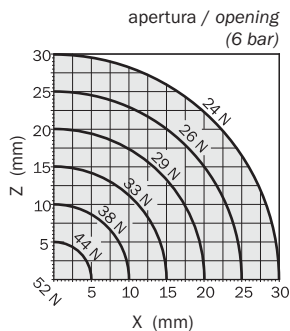
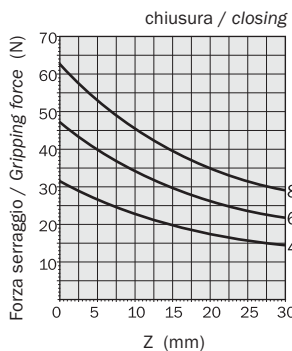
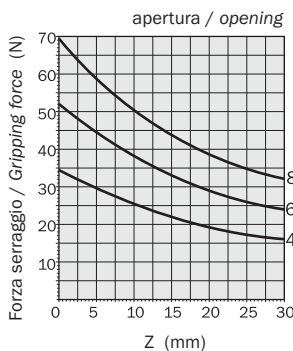
The graphs show the medium gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.



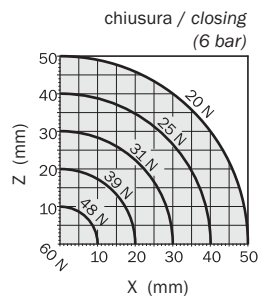
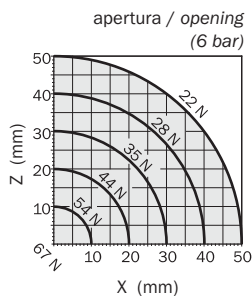
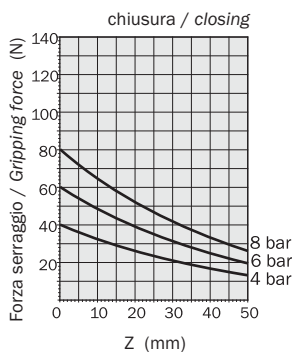
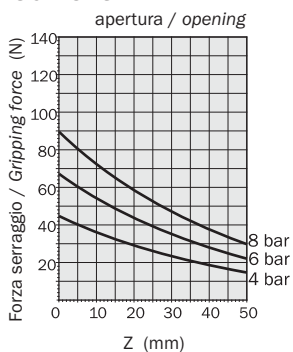
SGP-20S



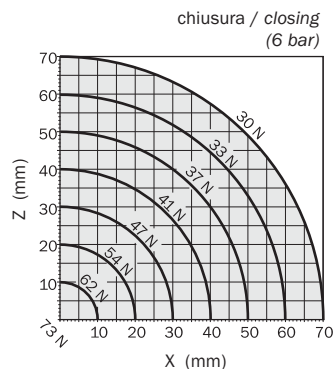
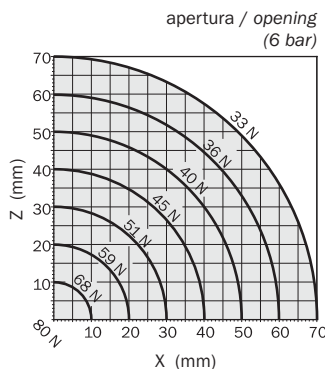
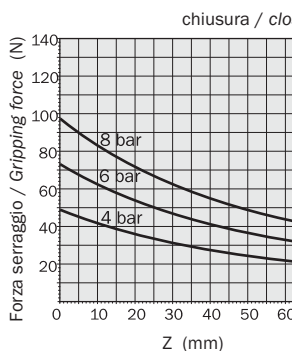
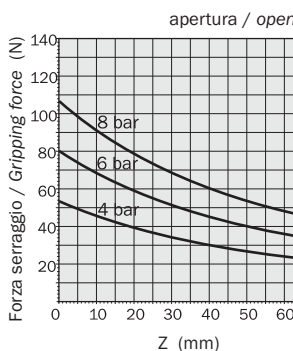
SGP-25S



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 , M_x_s , M_y_s , M_z_s , sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe ferme.

F_d , M_x_d , M_y_d , M_z_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

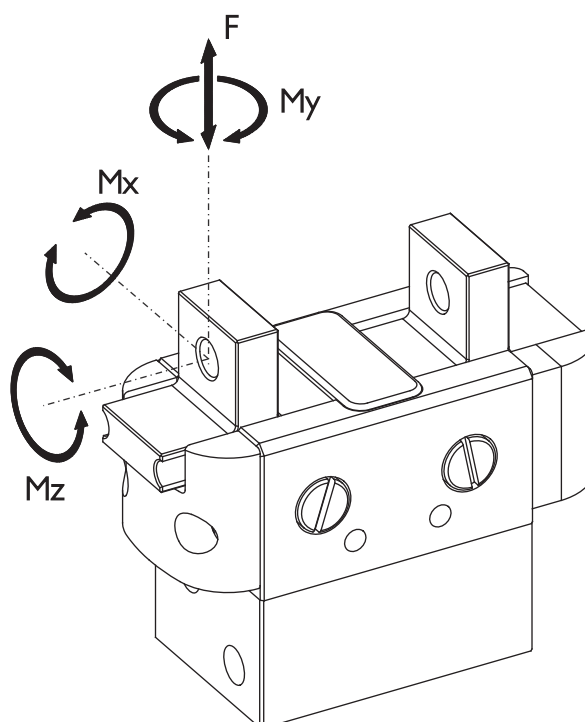
Check the table for maximum permitted loads.

Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.

F_s , M_x_s , M_y_s , M_z_s , are maximum permitted static loads. Static means with motionless jaws.

F_d , M_x_d , M_y_d , M_z_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
M_x_s	1 Nm	2 Nm	4 Nm	6 Nm
M_y_s	1 Nm	2 Nm	4 Nm	6 Nm
M_z_s	1 Nm	2 Nm	4 Nm	6 Nm
F_d	0.3 N	0.5 N	0.7 N	1.2 N
M_x_d	1 Ncm	2 Ncm	4 Ncm	6 Ncm
M_y_d	1 Ncm	2 Ncm	4 Ncm	6 Ncm
M_z_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	-	-

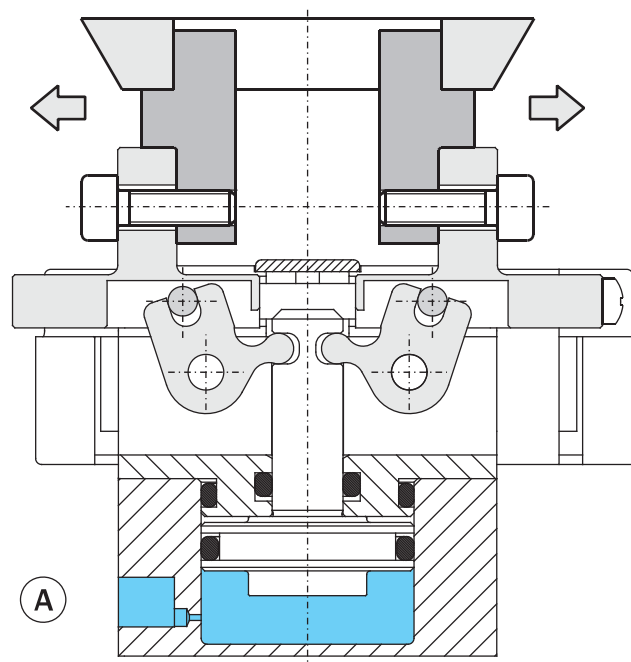
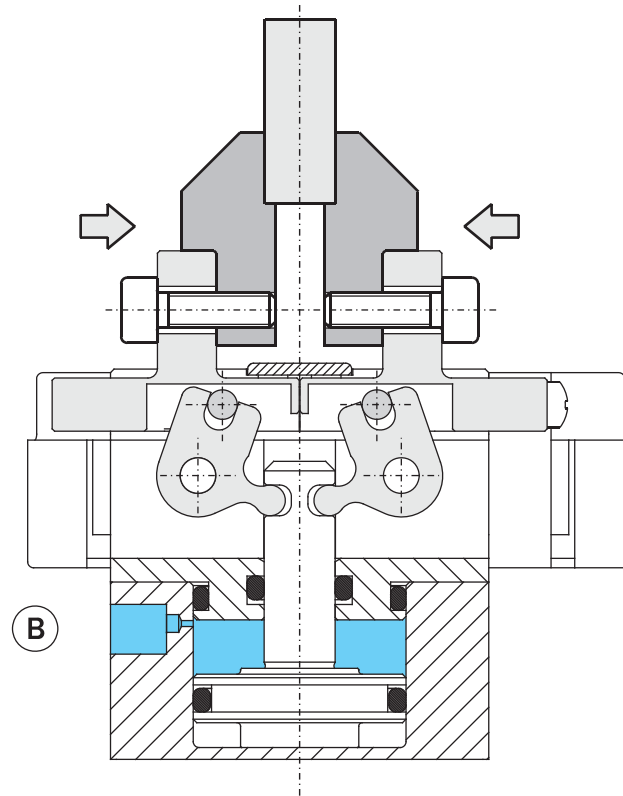
Serraggio

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

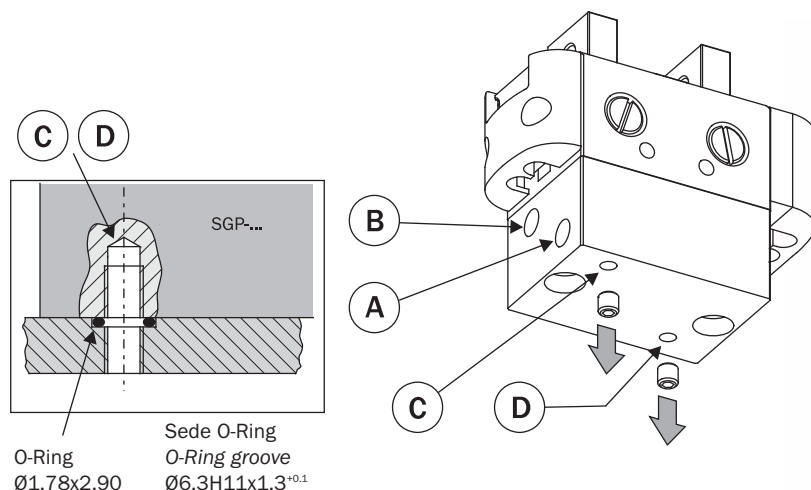


Connessione pneumatica

La pinza si alimenta con aria compressa dai fori laterali (A e B) montandovi i raccordi dell'aria ed i relativi tubi (non forniti). Oppure (eccetto SGP-20S) 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.

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). Or (except SGP-20S) it can be accomplished directly by the bottom air ports (C and D) removing the plugs.

Compressed air in A or C: gripper opening.
Compressed air in B or D: 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).

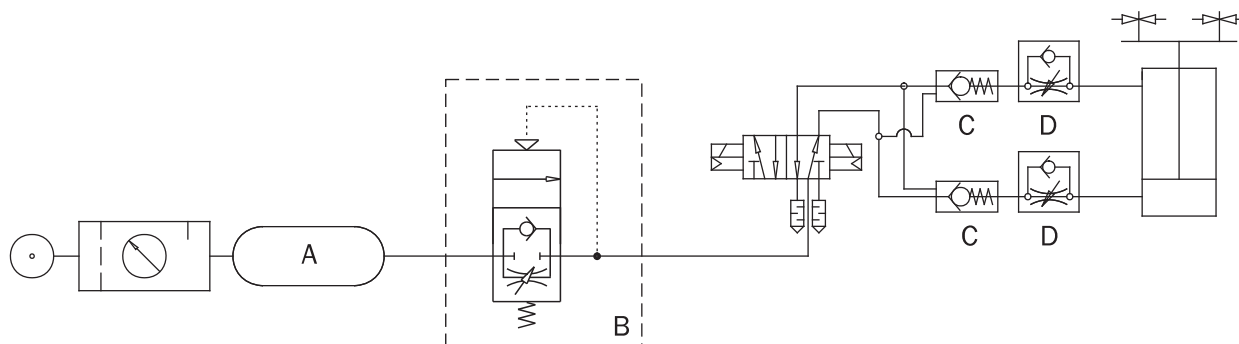
Pneumatic circuit

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.

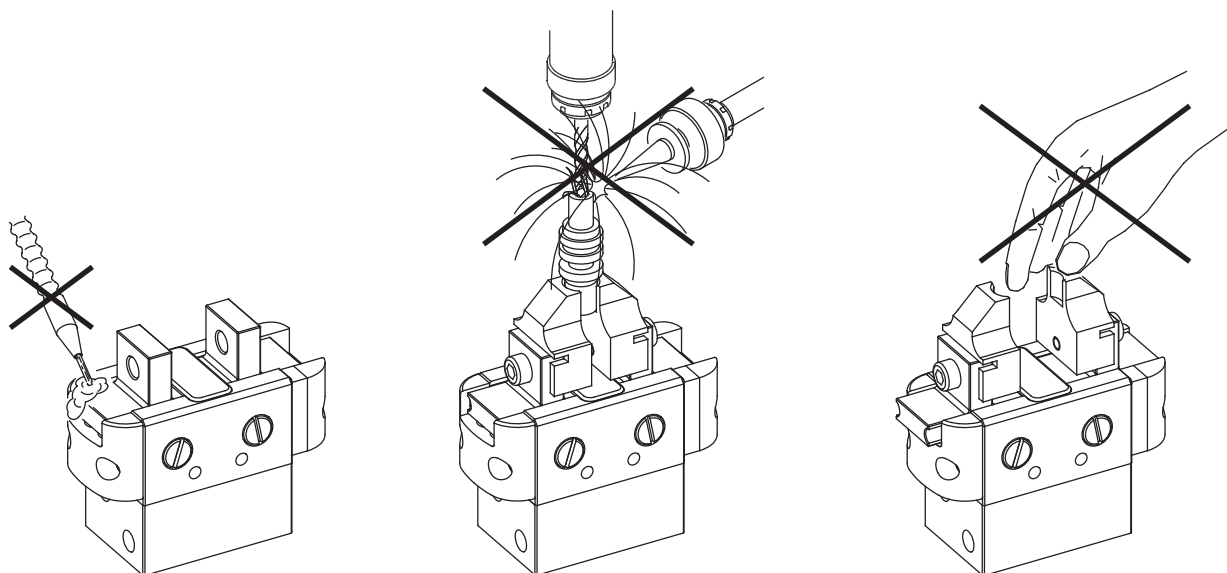
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

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 20 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.

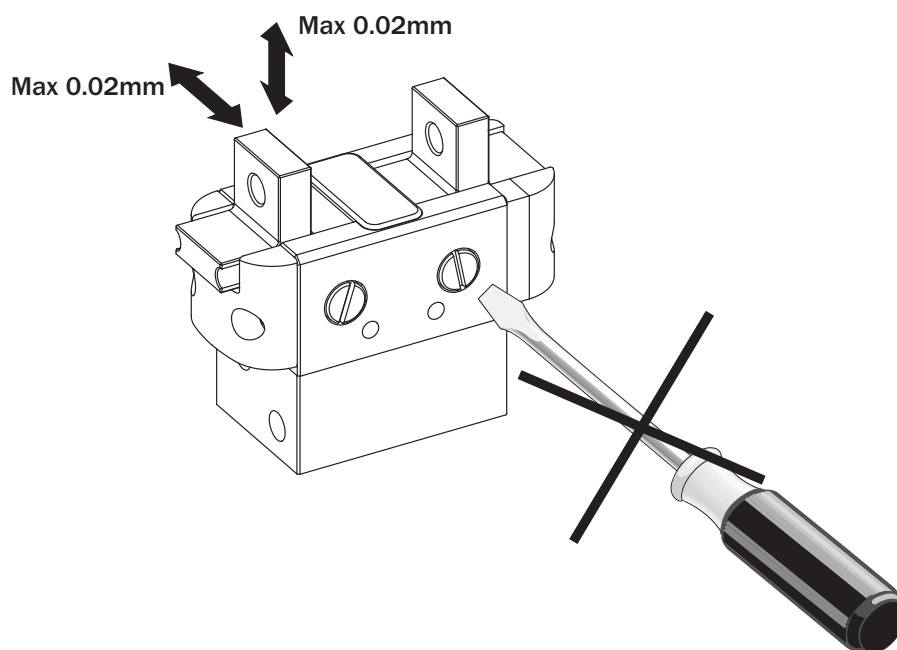
Maintenance

Grease the gripper after 20 million cycles with:

- Molykote DX (metal on metal);
- Molykote PG75 (gaskets).

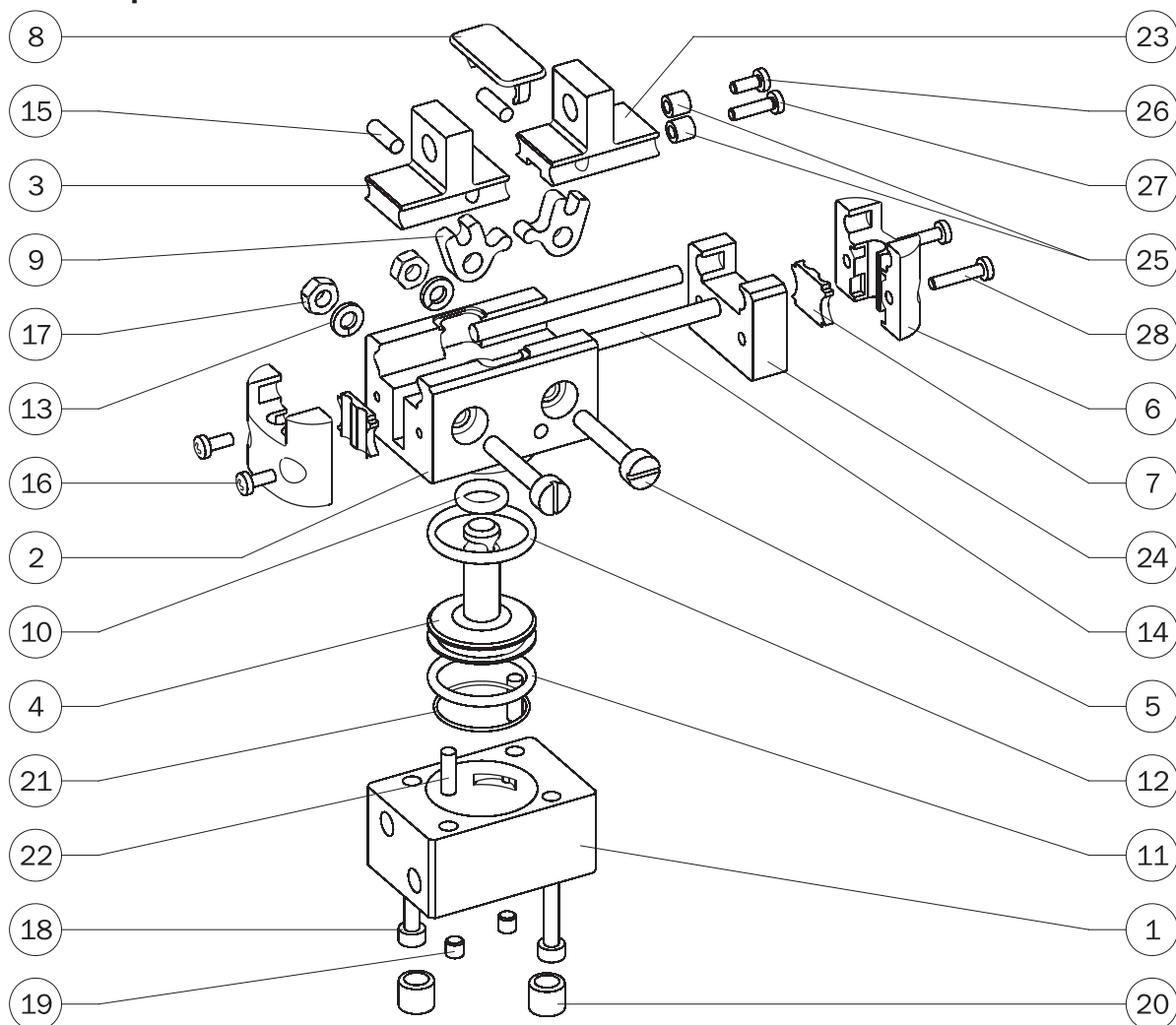
The jaw backlash, showed in the picture below, is set in factory.

NEVER USE THE ADJUSTING SCREWS TO MODIFY IT.



Elenco delle parti

Parts



	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 DIN 7985A 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- Boccia	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