

## Pinza pneumatica a 2 griffe ad azione parallela autocentrante serie SJJ

- Piano superiore rettificato.
- Elevata precisione dimensionale.
- Guida robusta.
- Diverse possibilità di fissaggio e alimentazione.
- Predisposizione per sensori induttivi.

## 2-jaw parallel-acting self-centering pneumatic gripper series SJJ

- Ground upper side.
- High dimensional accuracy.
- Robust guidance.
- Different options for fastening and for air feeding.
- Designed for inductive sensors.



	SJJ3012	SJJ3508	SJJ3516	SJJ4320	SJJ5026
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	125 N	300 N	150 N	325 N	440 N
Forza di serraggio totale in apertura a 6 bar Opening total gripping force at 6 bar	250 N	600 N	300 N	650 N	880 N
Forza di serraggio per griffa in chiusura a 6 bar Closing gripping force at 6 bar each jaw	116 N	279 N	140 N	300 N	406 N
Forza di serraggio totale in chiusura a 6 bar Closing total gripping force at 6 bar	232 N	558 N	280 N	600 N	812 N
Corsa totale Total stroke (±0.3 mm)	12 mm	8 mm	16 mm	20 mm	26 mm
Frequenza max funzionamento continuativo Maximum working frequency	3 Hz	3 Hz	3 Hz	2 Hz	2 Hz
Consumo d'aria per ciclo Cycle air consumption	7 cm <sup>3</sup>	13 cm <sup>3</sup>	13 cm <sup>3</sup>	29 cm <sup>3</sup>	56 cm <sup>3</sup>
Tempo di apertura / chiusura senza carico Opening / Closing time without load	0.014 s	0.012 s	0.018 s	0.064 s	0.045 s
Peso Weight	230 g	410 g	410 g	650 g	1130 g

## Sensori

Il rilevamento della posizione delle griffe può essere effettuato con sensori induttivi (non forniti).

Questi rilevano la presenza di una parte metallica (M) la cui posizione nella griffa è regolabile.

Per il fissaggio è disponibile il kit SJJ-A01 che comprende la staffa e le viti necessarie per il montaggio di un sensore induttivo di diametro 4mm.

Per montare due sensori (uno sotto ogni griffa) bisogna ordinare due SJJ-A01.

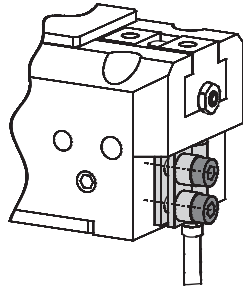


**SJJ-A01**  
(3g)

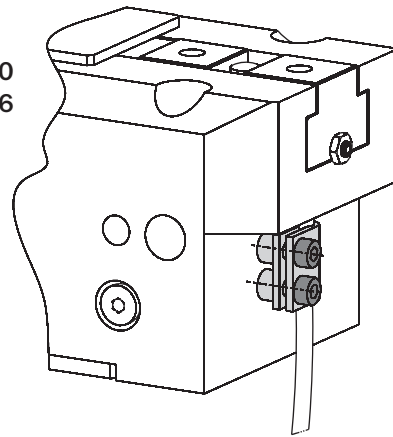
Vanno montati da una parte o dall'altra a seconda della pinza, come mostrato nelle figure sottostanti.

The kits must be mounted on one side or on the other accordingly with the gripper code (see pictures below).

**SJJ3012**  
**SJJ3508**  
**SJJ3516**

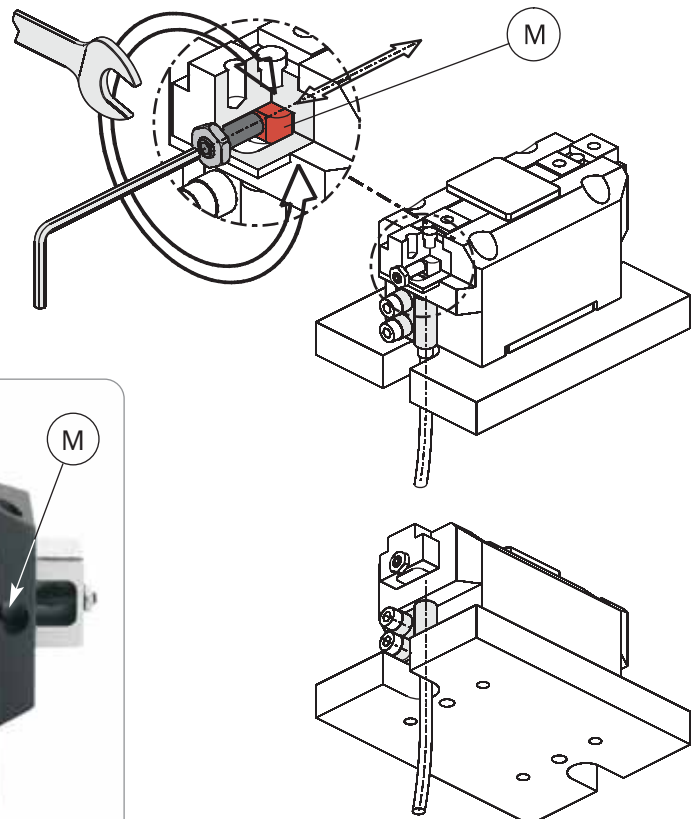


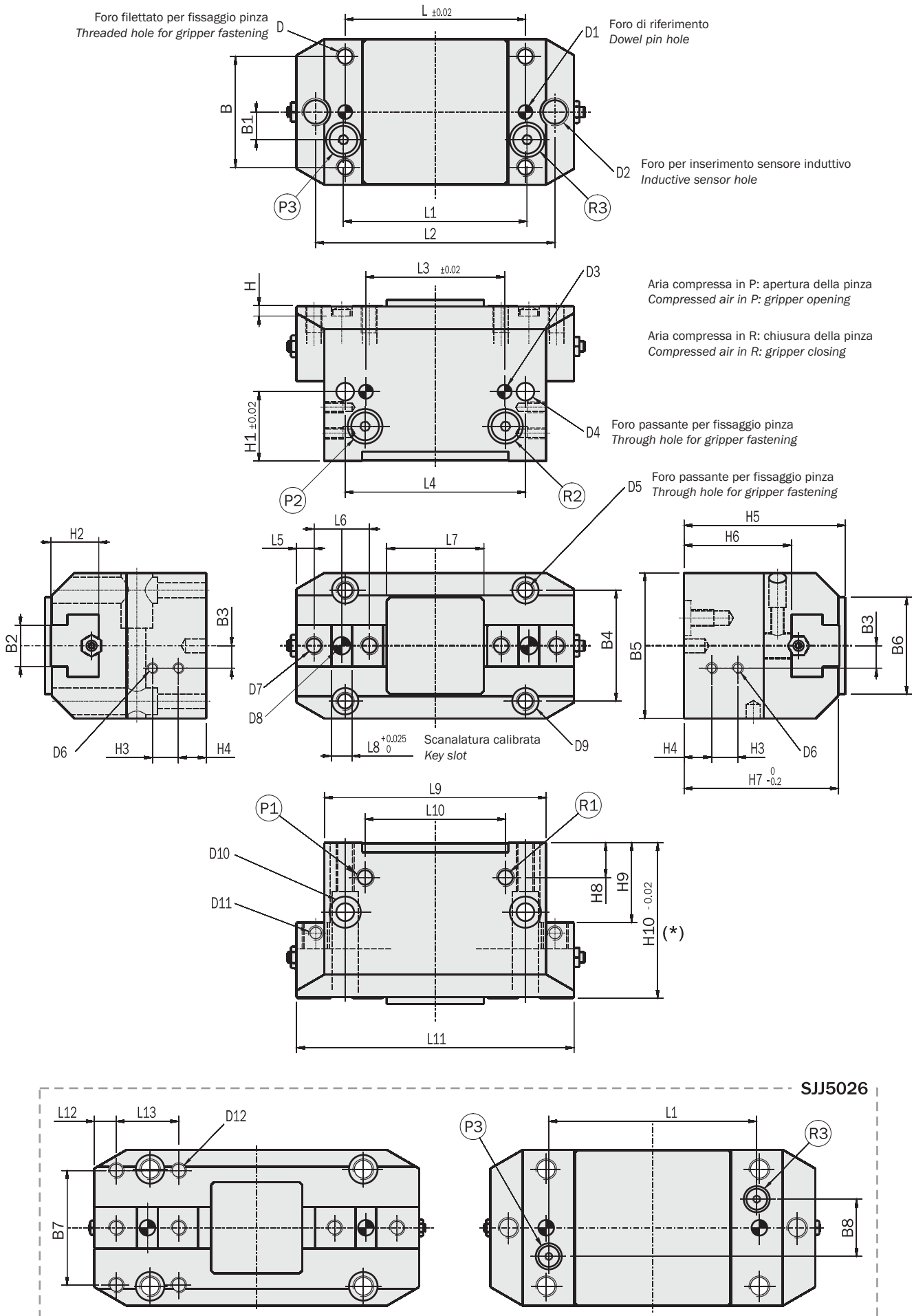
**SJJ4320**  
**SJJ5026**



Dopo aver fissato il sensore va regolata la posizione della parte metallica (M) per stabilire il punto di accensione.

After the sensor fastening, the position of the metal part (M) must be adjusted to select the on point.





## Dimensioni (mm) / Dimensions (mm)

	SJJ3012	SJJ3508	SJJ3516	SJJ4320	SJJ5026
B	27	32	32	38	45
B1	6	8	8	9.5	/
B2	10	12	12	14	16
B3	6.5	6.5	6.5	6.5	6.5
B4	27	32	32	38	45
B5	36	42	42	50	60
B6	24	28	28	28	35
B7	/	/	/	/	44
B8	/	/	/	/	22
D	(#4) M5x12	(#4) M5x14	(#4) M5x14	(#4) M6x19	(#4) M8x21
D1	+0.025 (#2) Ø4x4	(#2) Ø4x6	(#2) Ø4x6	(#2) Ø5x6	(#2) Ø6x8
D2	(#2) Ø4.5	(#2) M8x1	(#2) M8x1	(#2) M8x1	(#2) M8x1
D3	+0.03 Ø4x4	(#2) Ø4x4	(#2) Ø4x4	Ø5x6	Ø6x8
D4	(#2) Ø4.5	(#2) Ø5.1	(#2) Ø5.1	(#2) Ø6.5	(#2) Ø9
D5	(#4) Ø4.2	(#4) Ø4.2	(#4) Ø4.2	(#4) Ø5.1	(#4) Ø6.8
D6	(#4) M3x6	(#4) M3x6	(#4) M3x6	(#4) M3x6	(#4) M3x6
D7	(#4) M4x8	(#4) M5x10	(#4) M5x10	(#4) M6x12	(#4) M6x12
D8	(#2) Ø4m6	(#2) Ø5m6	(#2) Ø5m6	(#2) Ø6m6	(#2) Ø6m6
D9	(#4) Ø7.4	(#4) Ø7.6	(#4) Ø7.6	(#4) Ø9	(#4) Ø11
D10	(#2) Ø8x13	(#2) Ø9x16	(#2) Ø9x16	(#2) Ø11x19	(#2) Ø15x28
D11	/	(#2) M4	(#2) M4	(#2) M4	(#2) M4
D12	/	/	/	/	(#4) M6x12
H	2.5	3	3	3	3.6
H1	±0.02 18	20	20	25	30
H2	12.3	13.8	13.8	15.8	16.8
H3	7.5	7.5	7.5	7.5	7.5
H4	5	8	8	12.5	16.5
H5	37.5	46.5	46.5	52.5	60.5
H6	23.5	31	31	35	42
H7	-0.2 35.5	44.5	44.5	50.5	58.5
H8	10.5	10	10	14	15
H9	17	23	23	28	32
H10	-0.02 (*) 35.8	44.8	44.8	50.8	58.8
L	±0.02 42	52	52	66	82
L1	43	53	53	65	80
L2	58	69	69	90	111
L3	±0.02 20	40	40	50	60
L4	42	52	52	66	82
L5	4	5	5	6	8.5
L6	13	16	16	20	24
L7	20	28	28	28	35
L8	+0.025 5	6	6	8	8
L9	52	64	64	80	100
L10	31	40.5	40.5	48	61
L11	64	80	80	100	125
L12	/	/	/	/	8.5
L13	/	/	/	/	24

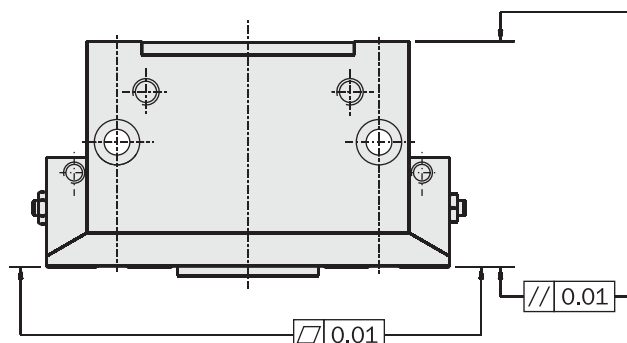
(\*)

Le griffe ed i corpi sono selezionati prima di assemblarli allo scopo di ottenere il minimo gioco di accoppiamento richiesto per la guida. Inoltre il piano superiore delle griffe viene rettificato, dopo il montaggio.

In questo modo le pinze SJJ possono garantire un'elevata precisione dimensionale.

(\*)

The jaws and the gripper housing are selected before assembling, to get the correct clearance for the guidance. Furthermore the upper plain of the jaws is ground after the assembly. In this way the SJJ grippers can get their high dimensional accuracy.



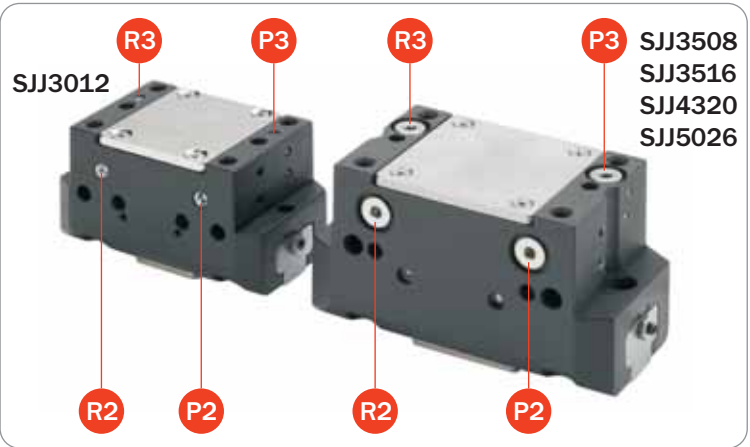
**Connessione pneumatica**

La pinza si alimenta con aria compressa dai fori laterali (P1 ed R1) montandovi i raccordi dell'aria ed i relativi tubi (non forniti).



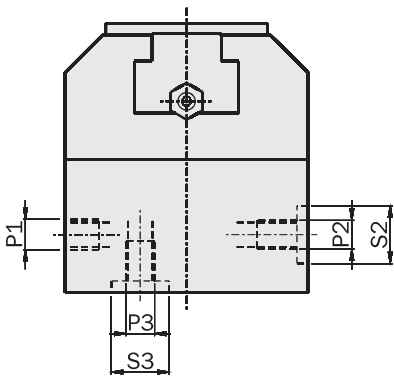
**Compressed air feeding**

The compressed air feeding can be accomplished on the lateral air ports (P1 and R1) with fittings and hoses (not supplied).

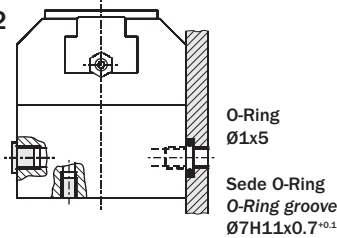


Oppure, dopo aver tappato P1 ed R1 (tappi non forniti), si possono utilizzare i fori sull'altro fianco (P2 ed R2), oppure sul fondo (P3 ed R3), anche per alimentazione diretta senza raccordi.

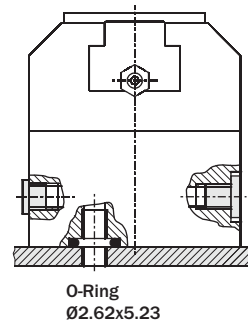
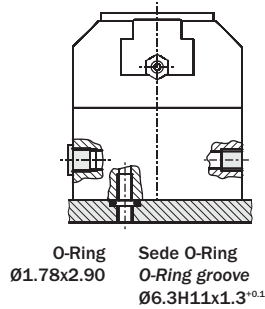
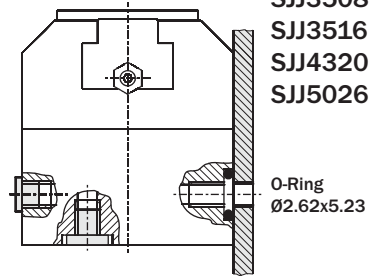
Otherwise, after closing P1 and R1 (plugs not supplied), it is possible to use the air ports on the other side (P2 and R2), or on the bottom (P3 and R3), even for direct air feeding without fittings.



SJJ3012



SJJ3508  
SJJ3516  
SJJ4320  
SJJ5026



	<b>SJJ3012</b>	<b>SJJ3508</b>	<b>SJJ3516</b>	<b>SJJ4320</b>	<b>SJJ5026</b>
<b>P1 = R1</b>	M5x6mm	M5x6mm	M5x6mm	G1/8"x7mm	G1/8"x7mm
<b>P2 = R2</b>	M5x6mm	M5x6mm	M5x6mm	M5x6mm	M5x6mm
<b>P3 = R3</b>	M3x5mm	M5x5mm	M5x5mm	M5x5mm	M5x5mm
<b>S2 = S3</b>	-	Ø10x2mm	Ø10x2mm	Ø10x2mm	Ø10x2mm

Aria compressa in P1, P2 ed P3: apertura della pinza.  
Aria compressa in R1, R2 ed R3: chiusura della pinza.

Compressed air in P1, P2 and P3: gripper opening.  
Compressed air in R1, R2 and R3: gripper closing.

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.

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.

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

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).

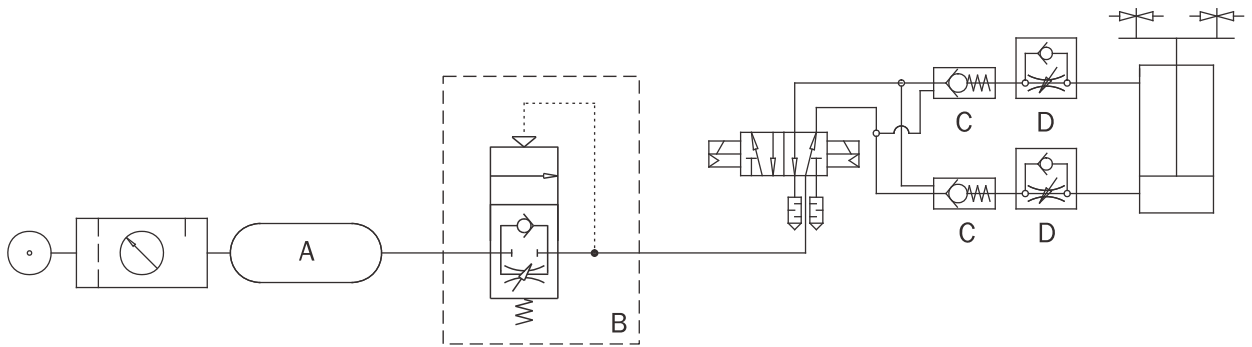
## Pneumatic circuit

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.

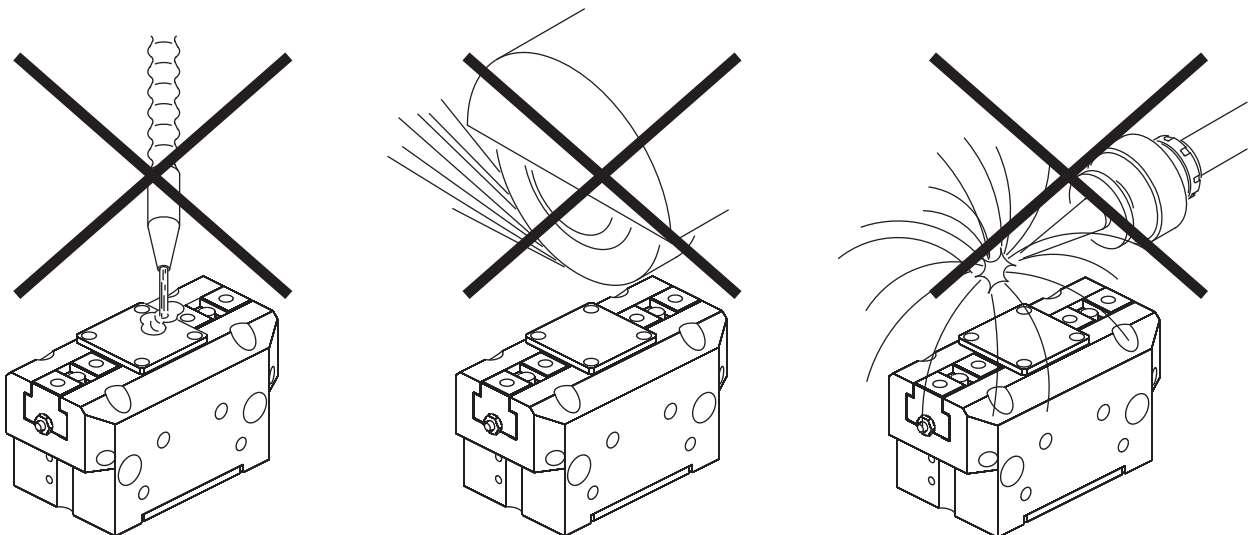
La pinza non deve essere messa in servizio prima che la macchina di cui fa parte sia stata dichiarata conforme alle disposizioni di sicurezza vigenti.

## 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.

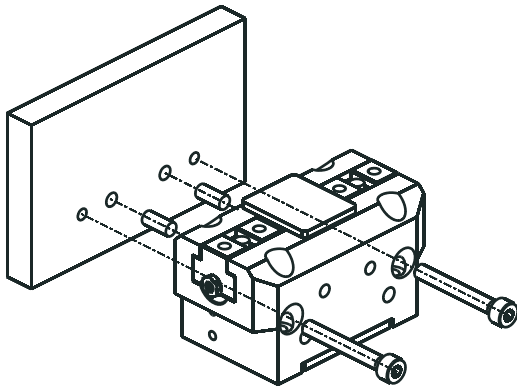
The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



## 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 (D4) e due spine nei fori calibrati (D3).
- 2- Per fissare la pinza sul fondo usare quattro viti passanti attraverso i fori (D5) e due spine nei fori calibrati (D1).
- 3- Il fissaggio sul fondo è possibile anche usando le due spine nei fori calibrati (D1) e quattro viti passanti nella piastra e avvitate in (D).

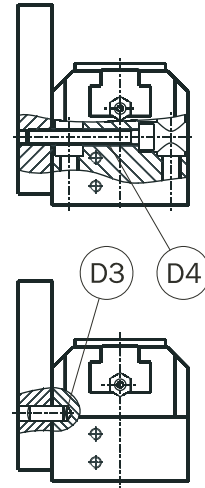


1

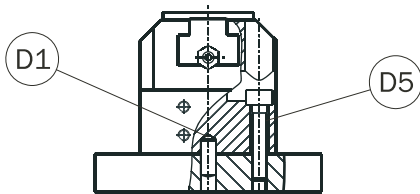
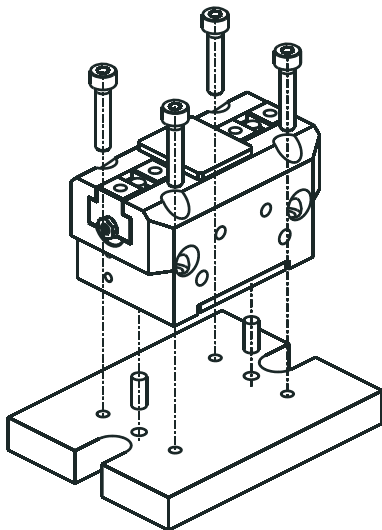
## Fastening

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.

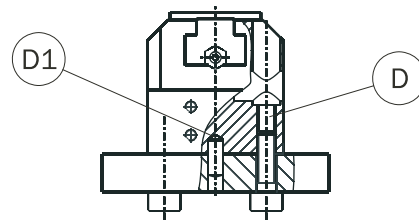
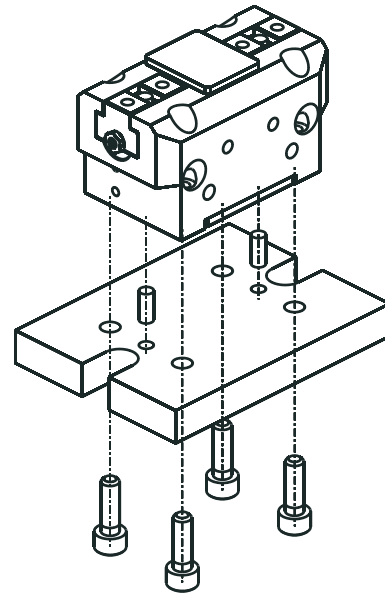
- 1- To fasten gripper side insert two screws in the through holes (D4) and two dowel pins in the holes (D3).
- 2- To fasten gripper to base use four screws in the through holes (D5) and two dowel pins in the holes (D1).
- 3- To fasten gripper to base you can also use four screws through the plate screwed in (D) and two dowel pins in the holes (D1).



2

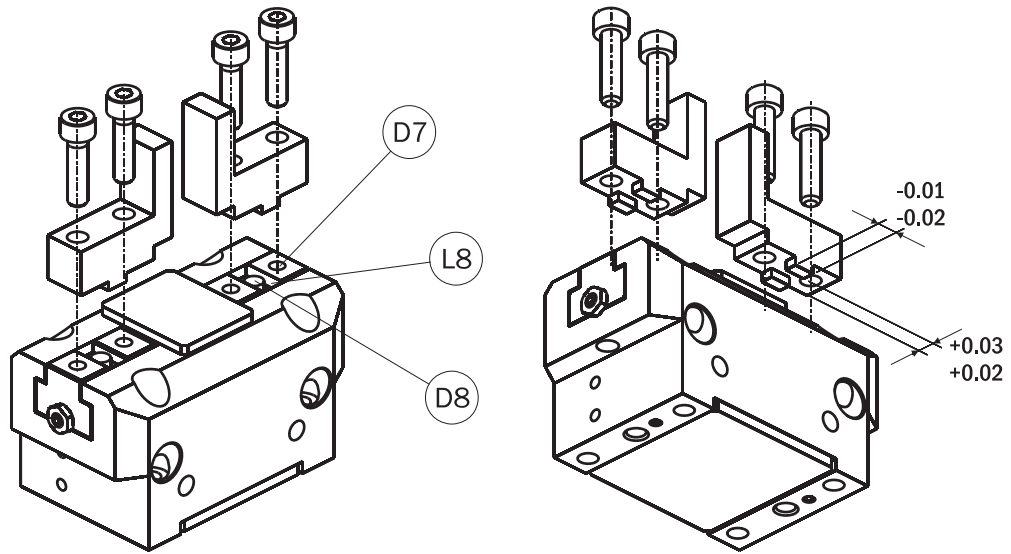


3



Costruire le dita di presa il più possibile corte e leggere.  
 Fissarle con due viti nei fori filettati (D7).  
 Per il centraggio sulle griffe utilizzare le scanalature calibrate (L8) e la spina (D8) piantata nella griffa.

The gripping tools must be as short and light as possible.  
 They must be fastened by two screws (D7).  
 For a precise positioning on the jaws use the key slots (L8) and the dowel pin (D8) pressed in the jaw.



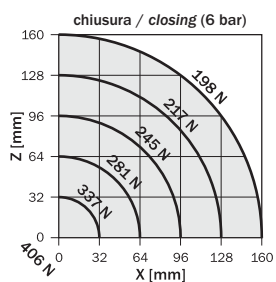
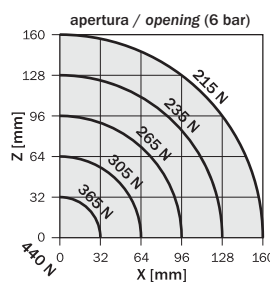
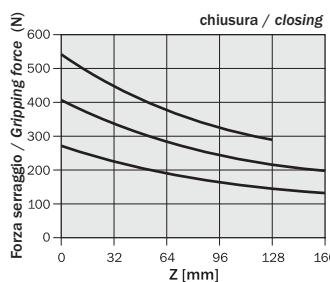
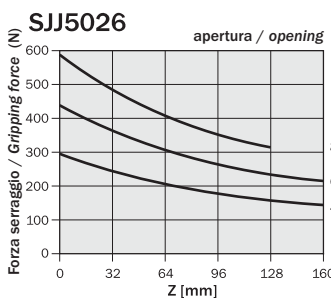
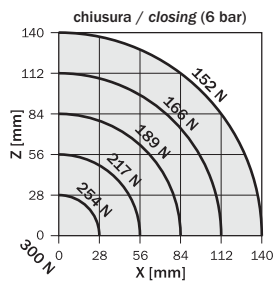
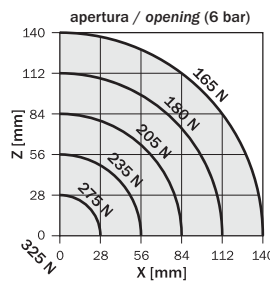
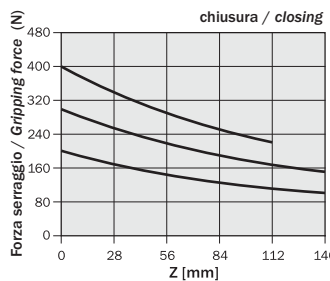
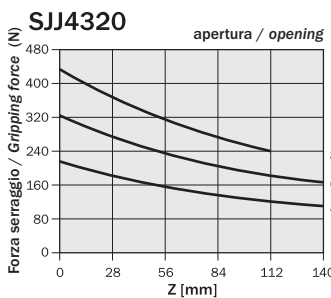
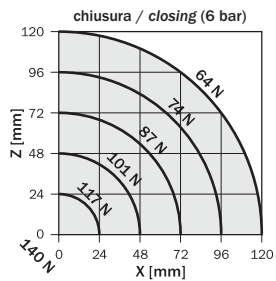
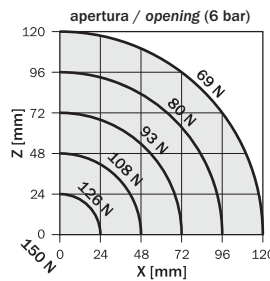
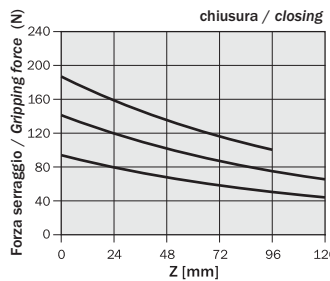
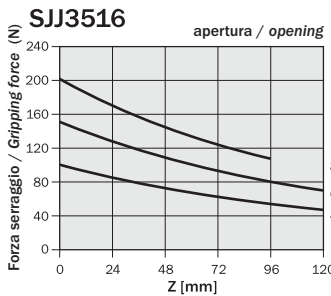
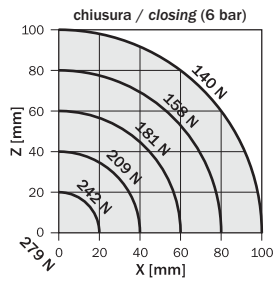
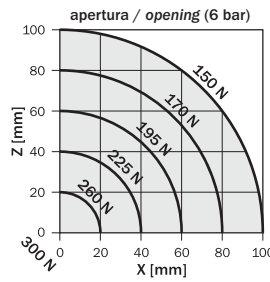
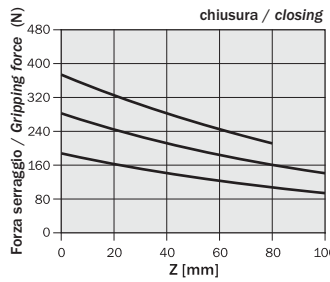
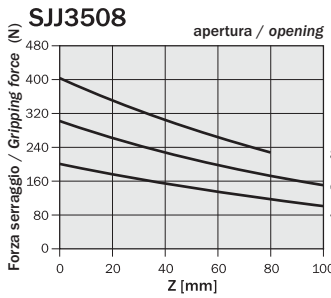
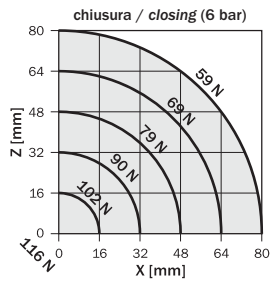
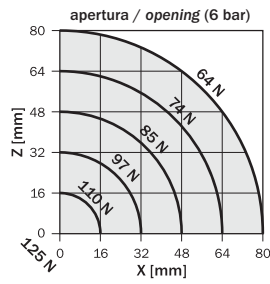
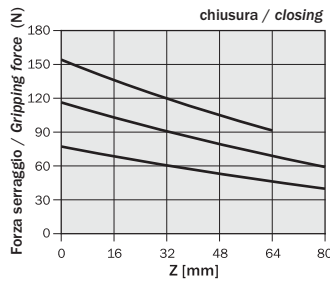
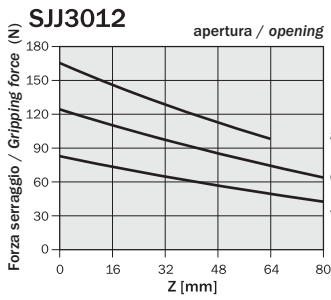
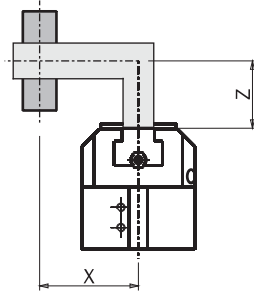
	SJJ3012	SJJ3508	SJJ3516	SJJ4320	SJJ5026
<b>D</b>	M5x12mm	M5x14mm	M5x14mm	M6x19mm	M8x21mm
<b>D1</b>	+0.025	Ø4x4mm	Ø4x6mm	Ø5x6mm	Ø6x8mm
<b>D3</b>	+0.03	Ø4x4mm	Ø4x4mm	Ø5x6mm	Ø6x8mm
<b>D4</b>		Ø4.5mm	Ø5.1mm	Ø6.5mm	Ø9mm
<b>D5</b>		Ø4.2mm	Ø4.2mm	Ø5.1mm	Ø6.8mm
<b>D7</b>		M4x8mm	M5x10mm	M6x12mm	M6x12mm
<b>D8</b>	m6	Ø4mm	Ø5mm	Ø6mm	Ø6mm
<b>L8</b>	+0.025	5mm	6mm	8mm	8mm

**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.



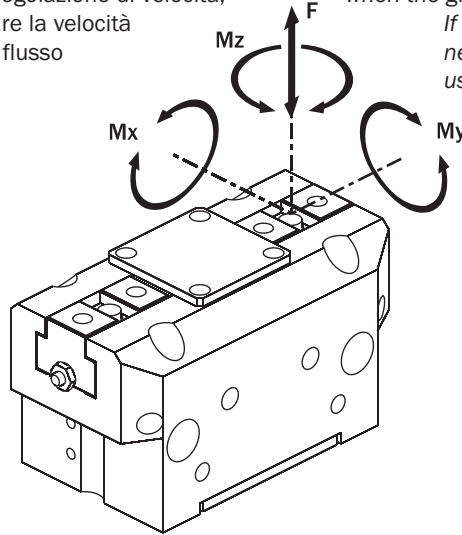
## Carichi di sicurezza

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.

$m$ , 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.

$F_s$ ,  $M_x_s$ ,  $M_y_s$ ,  $M_z_s$ , are maximum permitted static loads. Static means still jaws.

$F_d$ ,  $M_x_d$ ,  $M_y_d$ ,  $M_z_d$ , 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).

	SJJ3012	SJJ3508	SJJ3516	SJJ4320	SJJ5026
$F_s$	300 N	600 N	600 N	900 N	1200 N
$M_x_s$	6 Nm	18 Nm	10 Nm	27 Nm	40 Nm
$M_y_s$	12 Nm	30 Nm	30 Nm	60 Nm	90 Nm
$M_z_s$	6 Nm	18 Nm	10 Nm	27 Nm	40 Nm
$F_d$	3 N	6 N	6 N	9 N	12 N
$M_x_d$	12 Ncm	30 Ncm	30 Ncm	60 Ncm	90 Ncm
$M_y_d$	12 Ncm	30 Ncm	30 Ncm	60 Ncm	90 Ncm
$M_z_d$	12 Ncm	30 Ncm	30 Ncm	60 Ncm	90 Ncm
$m$	200 g	300 g	400 g	600 g	800 g

## Manutenzione

La pinza va ingrassata ogni 10 milioni di cicli con:

- Molykote DX (parti metalliche)
- Molykote PG75 (guarnizioni)

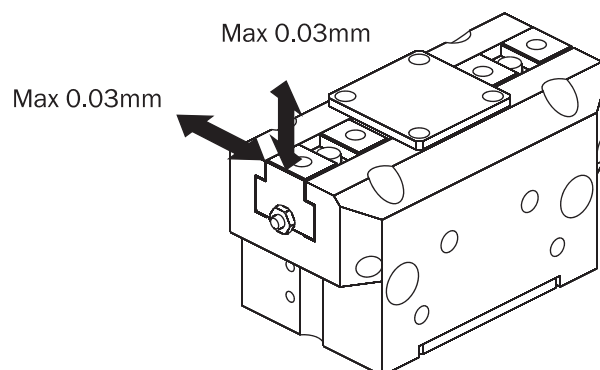
Il gioco delle griffe è indicato qui sotto.

## Maintenance

Grease the gripper after 10 million cycles with:

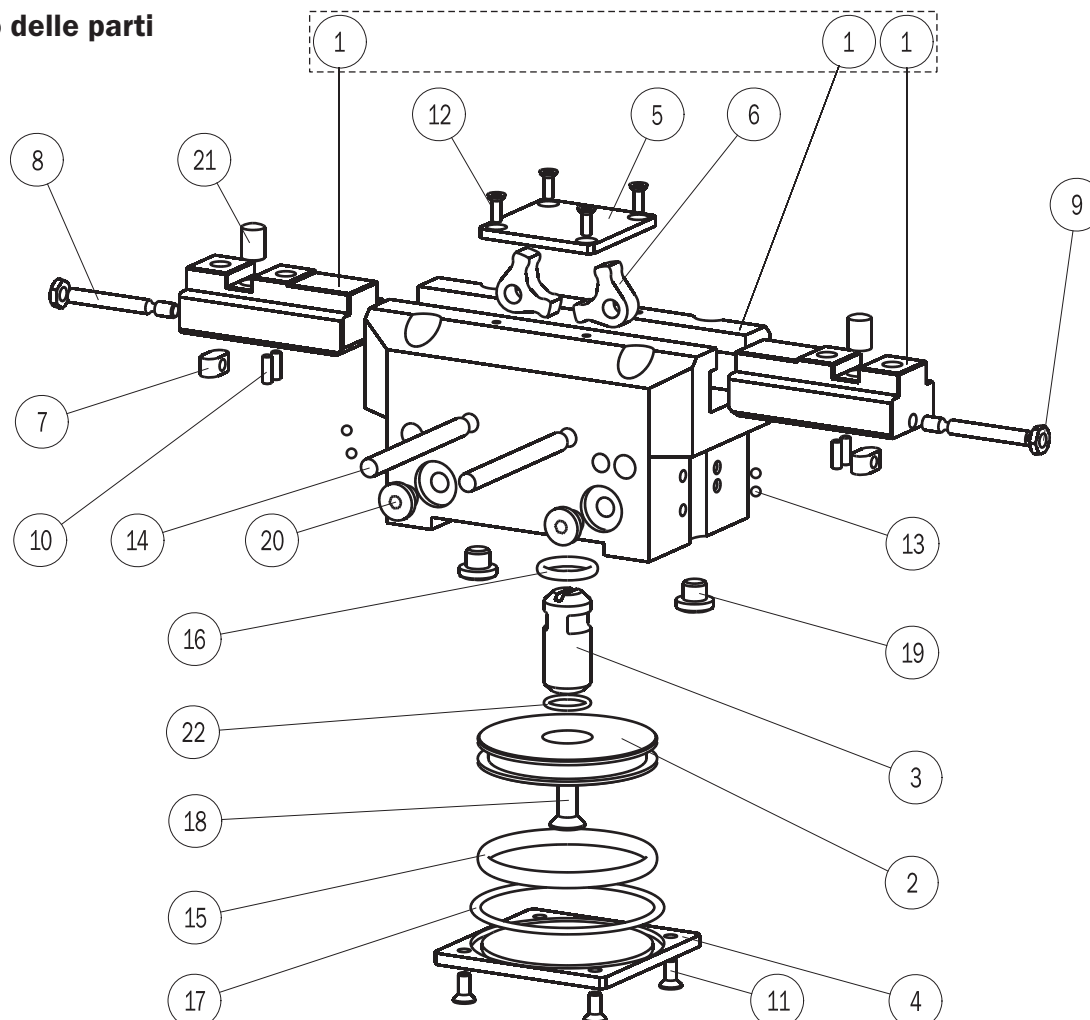
- Molykote DX (metal on metal)
- Molykote PG75 (gaskets)

The figure below shows the jaw backlash.



## Elenco delle parti

## Parts



	<b>SJJ3012</b>	<b>SJJ3508</b>	<b>SJJ3516</b>	<b>SJJ4320</b>	<b>SJJ5026</b>	
<b>1- Gruppo corpo + griffe</b>	SJJ3012-S	SJJ3508-S	SJJ3516-S	SJJ4320-S	SJJ5026-S	Body + jaws assembly -1
<b>2- Pistone</b>	SJJ3012-03	SJJ3508-03	SJJ3508-03	SJJ4320-03	SJJ5026-03	Piston -2
<b>3- Stelo</b>	SJJ3012-04	SJJ3508-04	SJJ3508-04	SJJ4320-04	SJJ5026-04	Rod -3
<b>4- Fondello</b>	SJJ3012-05	SJJ3508-05	SJJ3508-05	SJJ4320-05	SJJ5026-05	Back end plate -4
<b>5- Copertura</b>	SJJ3012-06	SJJ3508-06	SJJ3508-06	SJJ4320-06	SJJ5026-06	Cover -5
<b>6- Leva</b>	SJJ3012-07	SJJ3508-07	SJJ3516-07	SJJ4320-07	SJJ5026-07	Lever -6
<b>7- Parte metallica</b>	SJJ3012-08	SJJ3508-08	SJJ3508-08	SJJ4320-08	SJJ5026-08	Metal part -7
<b>8- Vite speciale</b>	SJJ3012-09	SJJ3508-09	SJJ3508-09	SJJ4320-09	SJJ5026-09	Special screw -8
<b>9- Dado</b>	M3 DIN439B INOX	M3 DIN439B INOX	M3 DIN439B INOX	M3 DIN439B INOX	M3 DIN439B INOX	Nut -9
<b>10- Spina di riferimento</b>	Ø2x6.3 DIN5402	Ø2x6.3 DIN5402	Ø2x6.3 DIN5402	Ø2x6.3 DIN5402	Ø2x6.3 DIN5402	Dowel pin -10
<b>11- Vite</b>	M2.5x6 DIN965A INOX A2	M2.5x6 DIN965A INOX A2	M2.5x6 DIN965A INOX A2	M2.5x6 DIN965A INOX A2	M4x10 DIN965A INOX A2	Screw -11
<b>12- Vite</b>	M2x6 DIN965A INOX A2	M2x6 DIN965A INOX A2	M2x6 DIN965A INOX A2	M2x6 DIN965A INOX A2	M2x6 DIN965A INOX A2	Screw -12
<b>13- Sfera</b>	Ø2 DIN5401A	Ø2 DIN5401A	Ø2 DIN5401A	Ø2 DIN5401A	Ø2 DIN5401A	Ball -13
<b>14- Spina di riferimento</b>	Ø3x24 DIN6325	Ø4x40 DIN6325	Ø4x40 DIN6325	Ø4x45 DIN6325	Ø5x60 DIN6325	Dowel pin -14
<b>15- O-Ring</b>	Ø1.78x26.7 (GUAR-036)	Ø2.62x32.99 (GUAR-159)	Ø2.62x32.99 (GUAR-159)	Ø2.62x37.77 (GUAR-109)	Ø3.53x47.22 (GUAR-160)	O-Ring -15
<b>16- O-Ring</b>	Ø1.78x7.66 (GUAR-045)	Ø1.78x9.25 (GUAR-065)	Ø1.78x9.25 (GUAR-065)	Ø1.78x11.89 (GUAR-095)	Ø1.78x14 (GUAR-007)	O-Ring -16
<b>17- O-Ring</b>	Ø1.78x29.87 (GUAR-054)	Ø1.78x37.82 (GUAR-010)	Ø1.78x37.82 (GUAR-010)	Ø1.78x44.17 (GUAR-028)	Ø1.78x53.70 (GUAR-153)	O-Ring -17
<b>18- Vite</b>	M3x8 DIN965A INOX A2	M4x10 DIN965A INOX A2	M4x10 DIN965A INOX A2	M4x10 DIN965A INOX A2	M5x12 DIN965A INOX A2	Screw -18
<b>19- Vite senza testa / Tappo</b>	M3x3 DIN913 Z/B	107-M5	107-M5	107-M5	107-M5	Grub screw / Plug -19
<b>20- Vite senza testa / Tappo</b>	M5x5 DIN913 INOX A2	107-M5	107-M5	107-M5	107-M5	Grub screw / Plug -20
<b>21- Spina di riferimento</b>	Ø4x6 DIN6325	Ø5x8 DIN5402	Ø5x8 DIN5402	Ø6x10 DIN6325	Ø6x10 DIN6325	Dowel pin -21
<b>22- O-Ring</b>	Ø1x6 (GUAR-098)	Ø1x8 (GUAR-085)	Ø1x8 (GUAR-085)	Ø1x10 (GUAR-089)	Ø1x12 (GUAR-071)	O-Ring -22