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.

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.*

SXT4008

SXT5012

SXT6315

	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*	650 N	1050 N	1650 N
Forza di serraggio totale in apertura a 6 bar *Opening total gripping force at 6 bar*	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*	500 N	800 N	1200 N
Forza di serraggio totale in chiusura a 6 bar *Closing total gripping force at 6 bar*	1500 N	2400 N	3600 N
Corsa ±0.5 mm *Stroke*	3x8 mm	3x12 mm	3x15 mm
Frequenza max funzionamento continuativo *Maximum working frequency*	2 Hz	2 Hz	1 Hz
Consumo d'aria per ciclo *Cycle air consumption*	60 cm^3	140 cm^3	270 cm^3
Tempo di apertura / chiusura senza carico *Opening / Closing time without load*	0.02 s	0.05 s	0.15 s
Ripetibilità *Repetition accuracy*	0.05 mm	0.05 mm	0.05 mm
Peso *Weight*	1100 g	2000 g	3800 g

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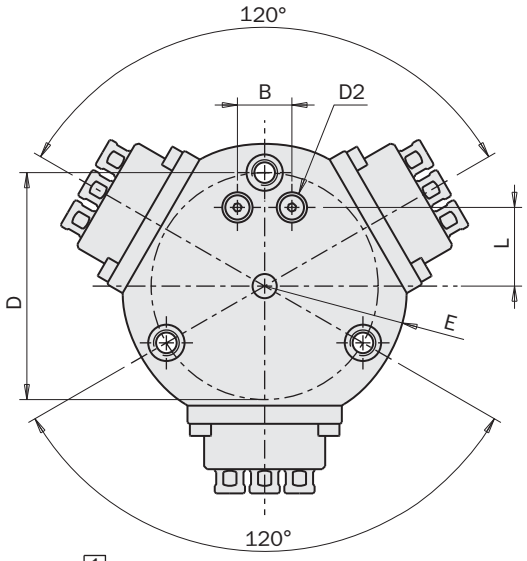
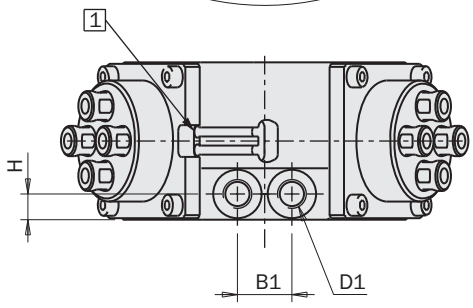
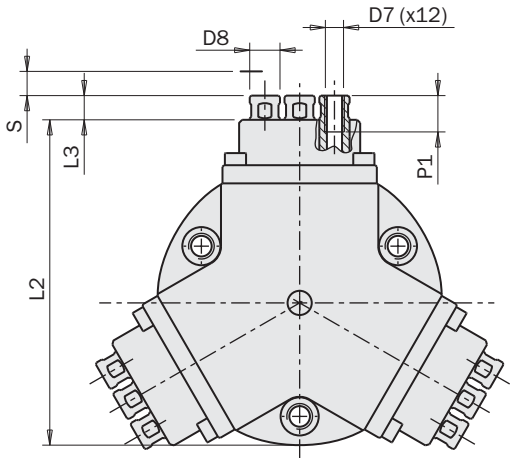
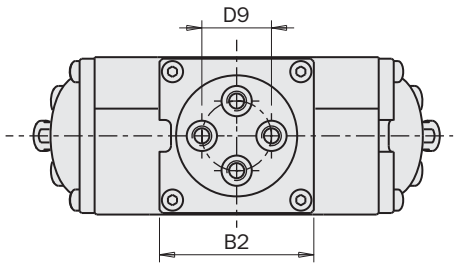
Dimensioni (mm) / *Dimensions (mm)*

FIRST ANGLE PROJECTION

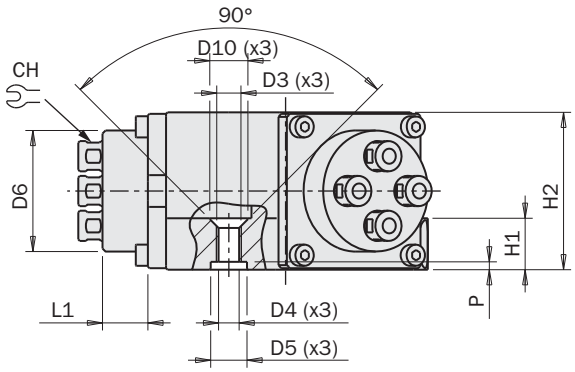








1 Sede per sensori
Sensor groove



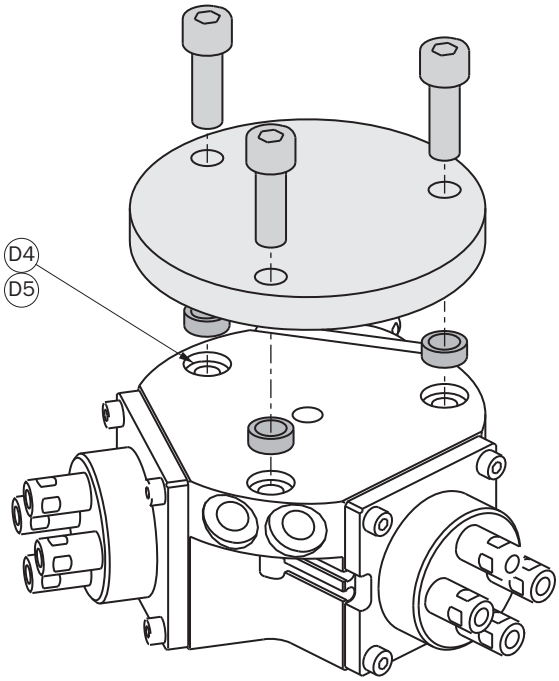
		SXT4008	SXT5012	SXT6315
B		18	24	24
B1		18	24	24
B2		51	63	78
D	±0.02	Ø75	Ø98	Ø114
D1		G1/8	G1/8	G1/8
D2		M5	M5	M5
D3		Ø6.8	Ø6.8	Ø8.5
D4		M8	M8	M10
D5	H8	Ø12	Ø12	Ø14
D6		Ø40	Ø50	Ø63
D7		M6	M8	M10
D8	f7	Ø10	Ø12	Ø16
D9	±0.02	Ø23	Ø33	Ø38
D10		Ø12.6	Ø12.6	Ø17.3
E		R47	R58	R69
H		8.5	10	11
H1		17	20	22
H2		52	64	80
L		26	38	45
L1		15	18	26
L2		107.5	141.5	162
L3		8	8.5	9.5
P	+0.1	2.6	2.6	2.6
P1		12	20	20
S (x2)		8	12	15
CH		9	11	14

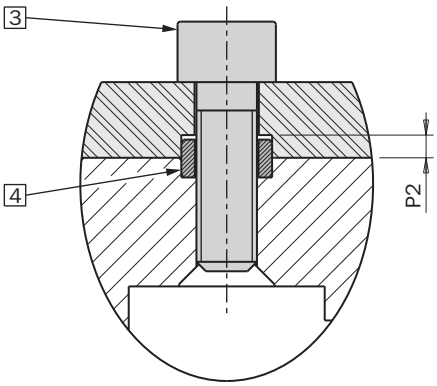
Fissaggio della pinza

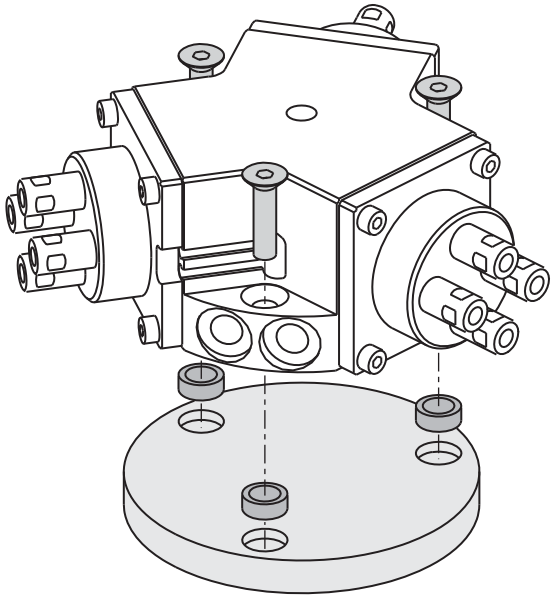
La pinza può essere montata in posizione fissa oppure su parti in movimento: in questo caso va considerata la forza d'inerzia cui la pinza ed il suo carico sono sottoposti.
Per fissare la pinza usare tre viti nei fori filettati (D4) e tre boccole [4] nelle lamature (D5).
È possibile fissare la pinza sia dall'alto che dal basso.
Le tre boccole sono fornite nella confezione della pinza.

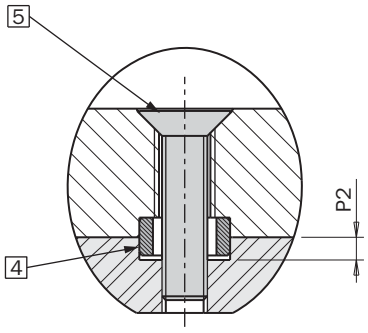
Gripper fastening

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.









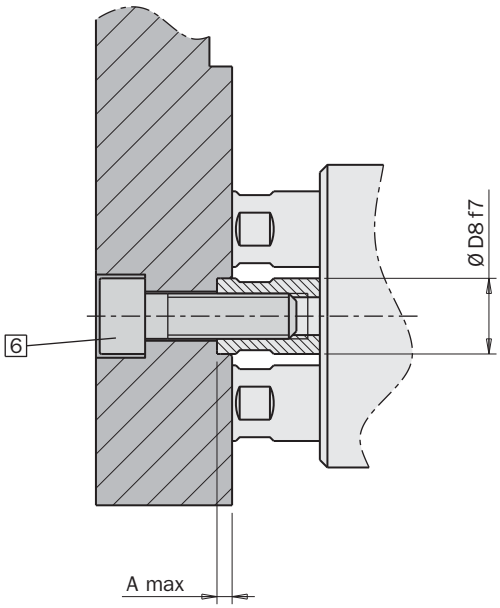
	SXT4008	SXT5012	SXT6315
[3]	M8	M8	M10
[4]	Ø12h7 x 8.4 x 5	Ø12h7 x 8.4 x 5	Ø14h7 x 10.5 x 6
[5]	M6	M6	M8
P2	$2.8^{-0.2}$	$2.8^{-0.2}$	$3.8^{-0.2}$

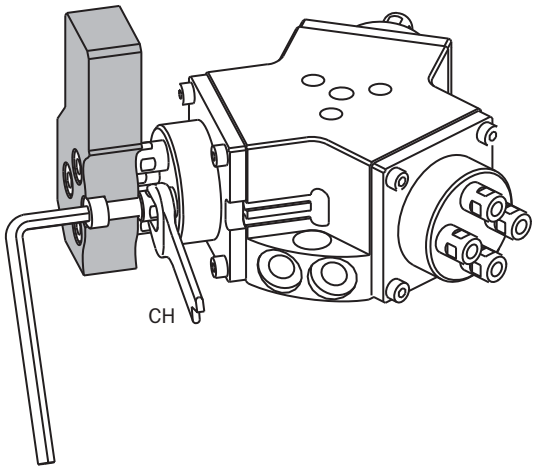
Fissaggio delle estremità di presa

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.

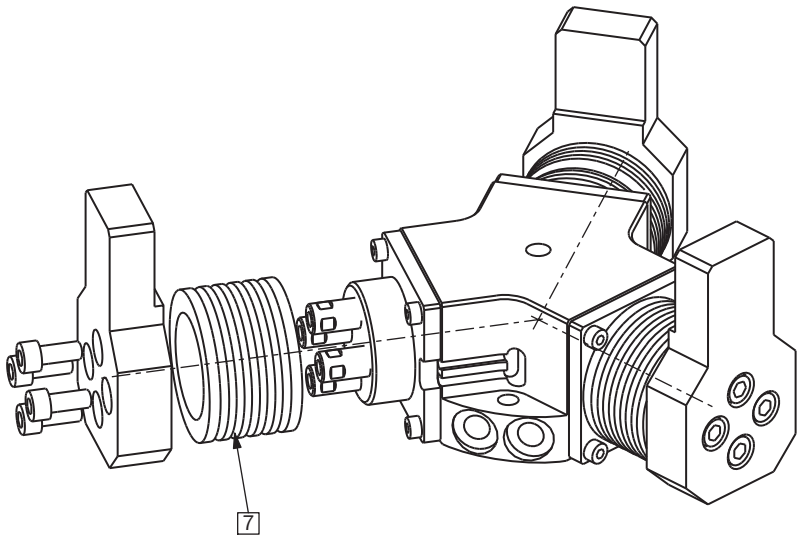




	SXT4008	SXT5012	SXT6315
A	2	2	2
[6]	M6	M8	M10

Come opzione è disponibile un soffietto in Silicone [7] per proteggere le colonne.
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 SX40S01 for the gripper SXT4008.
Code SX50S01 for the gripper SXT5012.
Code SX63S01 for the gripper SXT6315.



SXT

Forza di serraggio

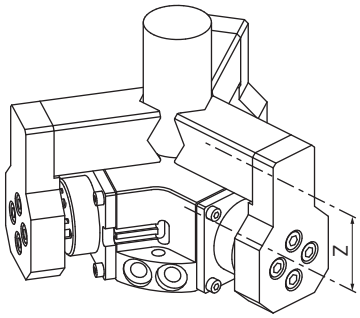
I grafici mostrano la forza media per griffa espressa dalla pinza in funzione della pressione e della distanza Z del punto di presa.

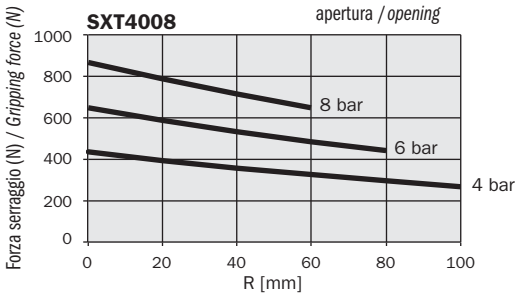
Gripping force

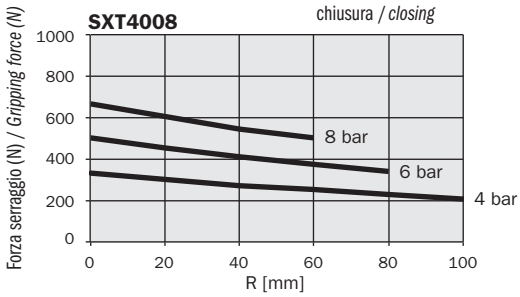
The graphs show the medium gripping force on each jaw, as a function of the operating pressure and the distance Z of the gripping point.

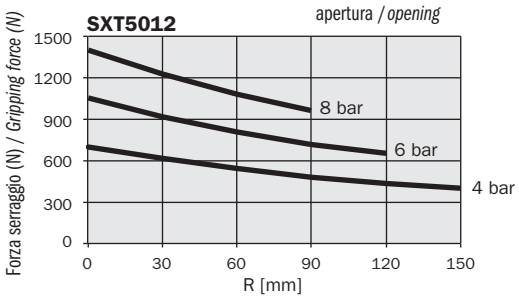
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il triplo.

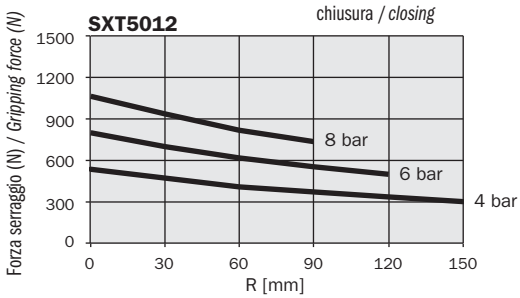
The force shown in these graphs refers to one jaw.
The total force is triple.

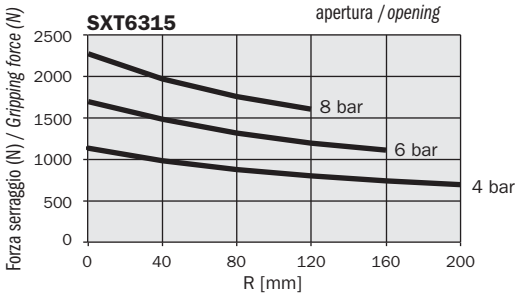


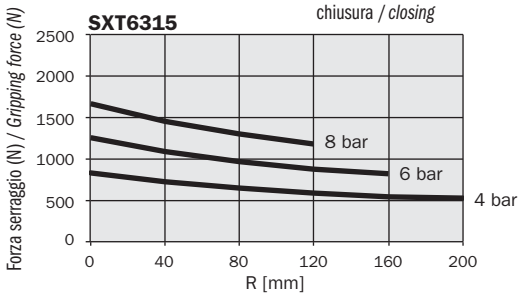












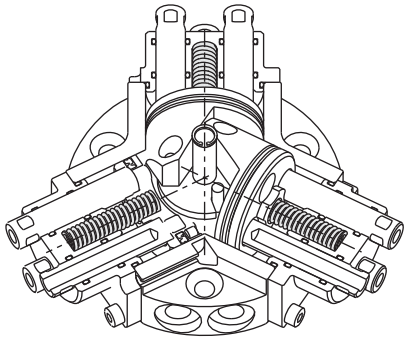
Versioni a molla

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

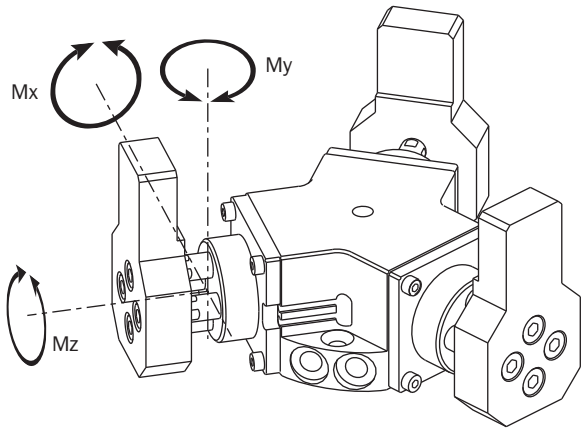


Carichi di sicurezza

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).



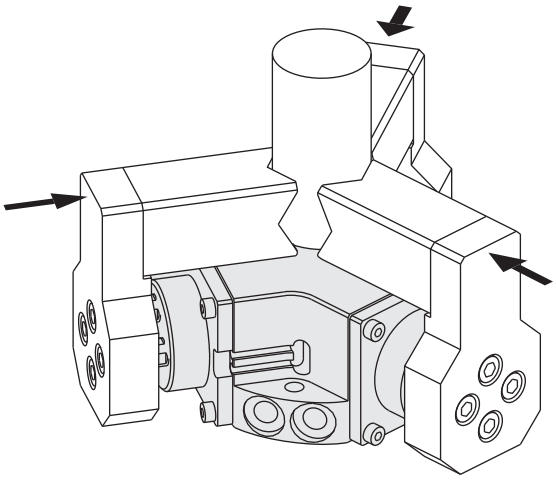
	SXT4008	SXT5012	SXT6315
Mx s	40 Nm	90 Nm	190 Nm
My s	40 Nm	90 Nm	190 Nm
Mz s	20 Nm	40 Nm	100 Nm
Mx d	0.5 Nm	1.2 Nm	2.7 Nm
My d	0.5 Nm	1.2 Nm	2.7 Nm
Mz d	0.5 Nm	1.2 Nm	2.7 Nm
m	700 g	1400 g	2100 g

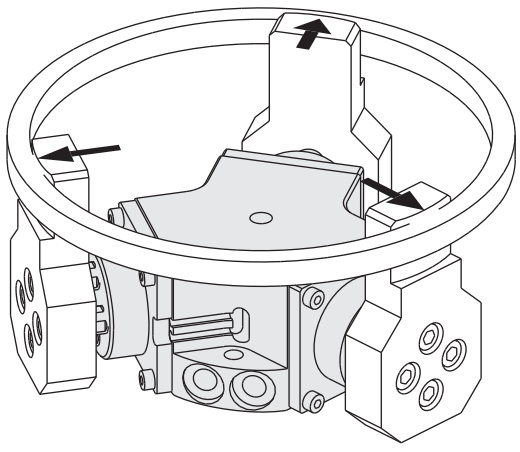
Serraggio

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.





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Sensori

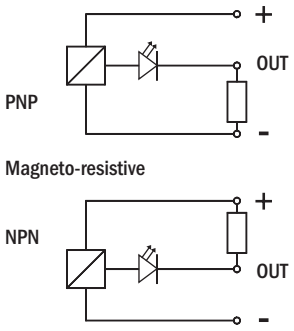
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse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

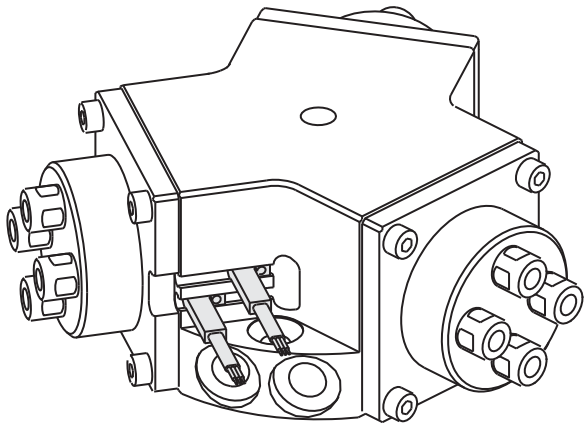
The sensors that can be used are:



			SXT
SN4N225-G	PNP	2.5m cable	☑
SN4M225-G	NPN	2.5m cable	☑
SN3N203-G	PNP	M8 connector	☑
SN3M203-G	NPN	M8 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.



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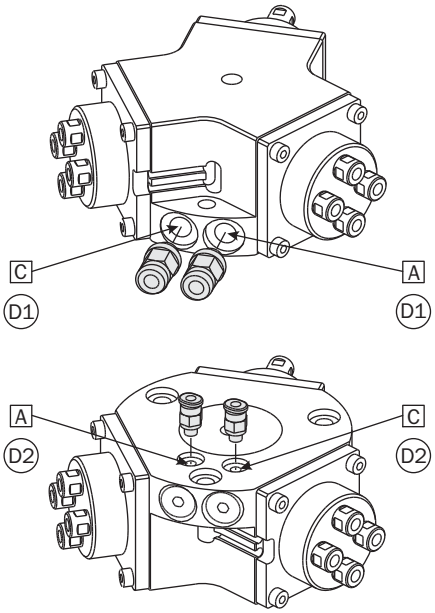
Connessione pneumatica

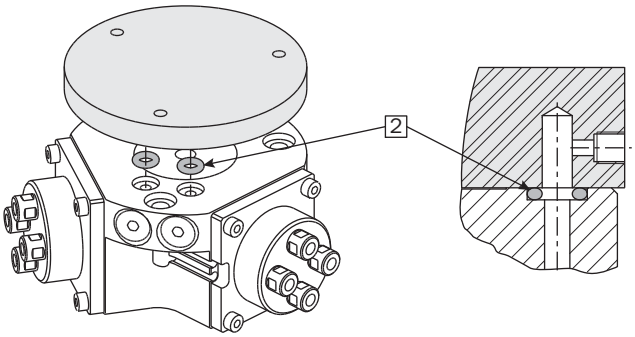
La pinza può essere alimentata con aria compressa dai fori laterali o inferiori montando i raccordi dell'aria ed i relativi tubi (non forniti).
Oppure si può alimentare direttamente dalla piastra di fissaggio rimuovendo i tappi e interponendo degli O-Ring (non forniti).
Aria compressa in A: apertura 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.



	SXT4008	SXT5012	SXT6315
[2]	Ø2.62x5.23	Ø2.62x5.23	Ø2.62x5.23
D1	G1/8	G1/8	G1/8
D2	M5	M5	M5



Circuito pneumatico

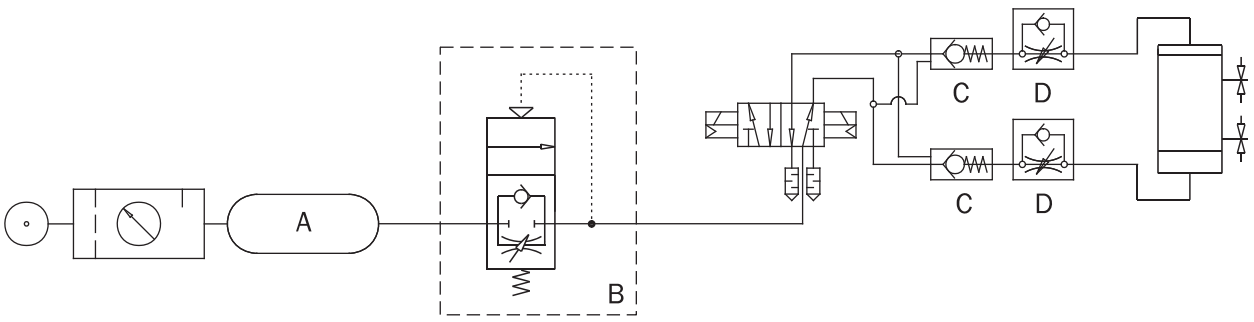
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

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).



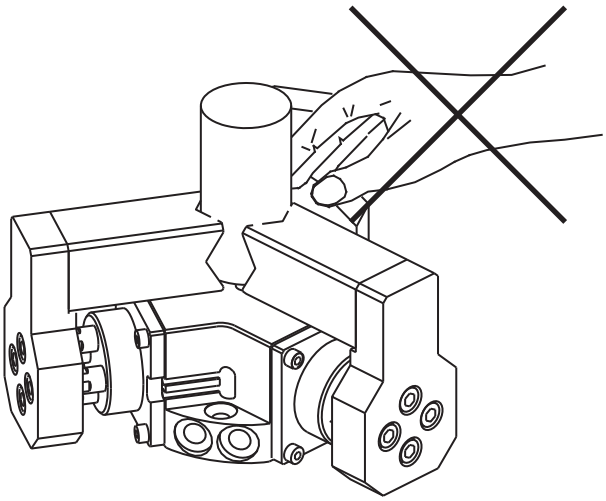
SXT

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

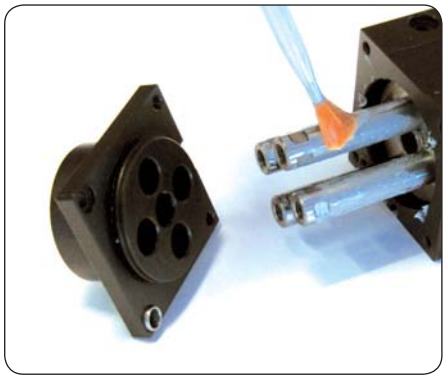
La pinza va ingrassata ogni 5 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

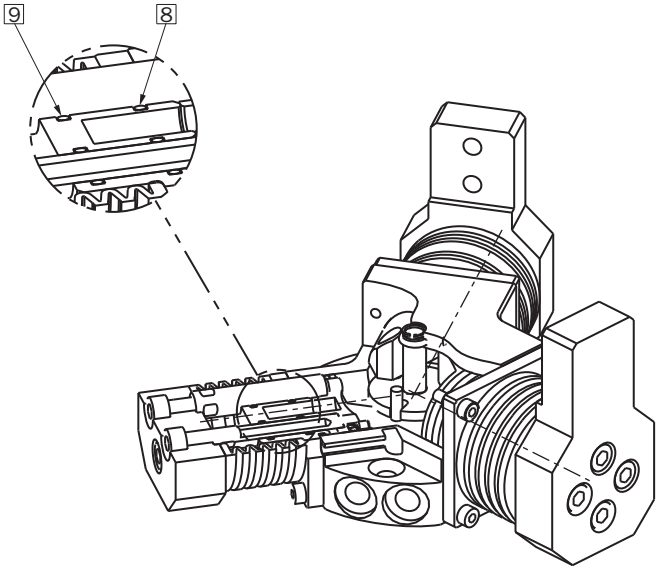
Dopo aver rimosso le testate, si possono ingrassare le colonne e sostituire gli O-Ring.
Quello interno è in NBR [8], quello esterno in Viton [9].
Tirando le colonne, si possono anche rimuovere i pistoni e si può accedere al meccanismo.

Maintenance

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

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.





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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

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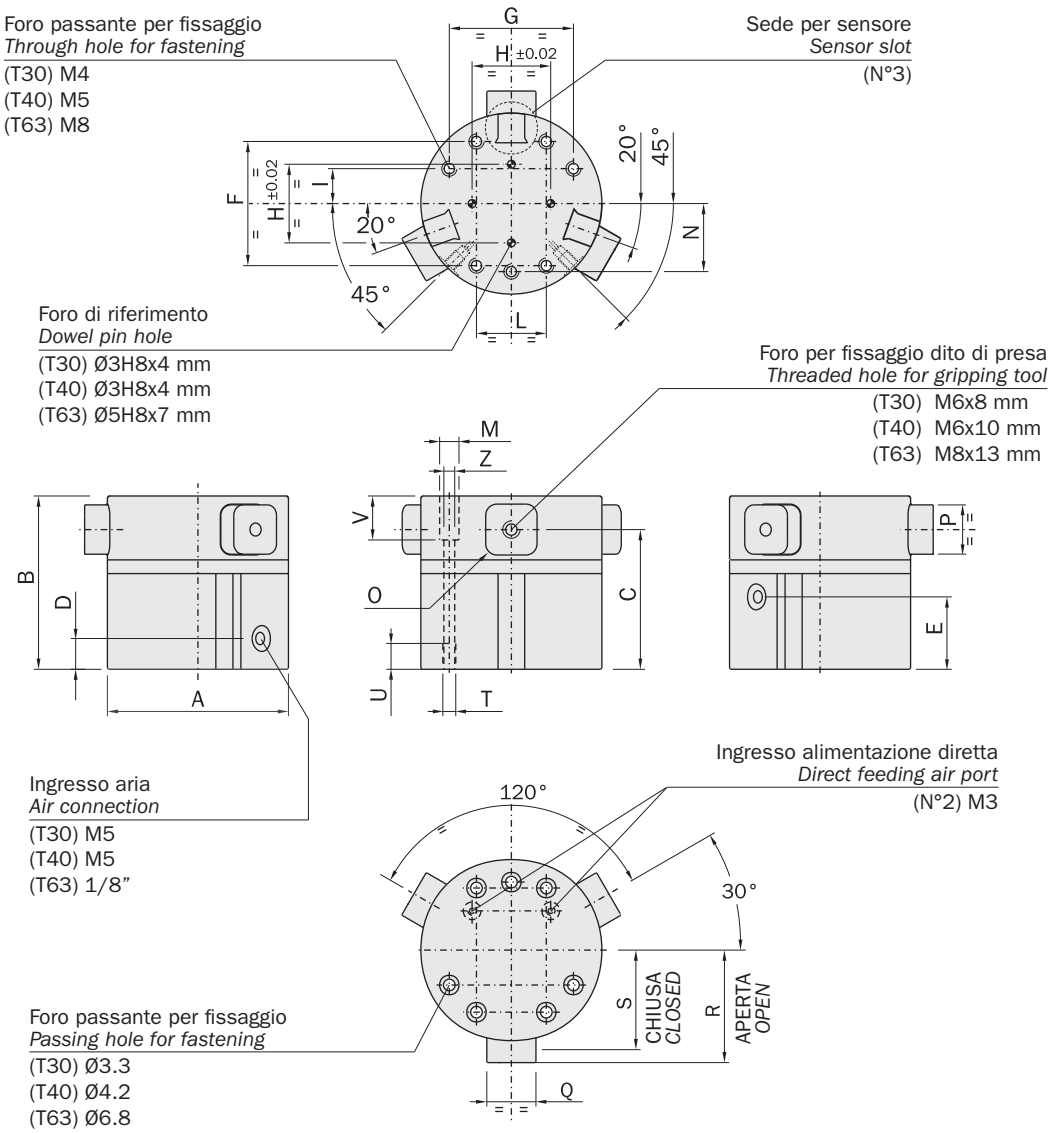
Dimensioni (mm) / *Dimensions (mm)*

	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

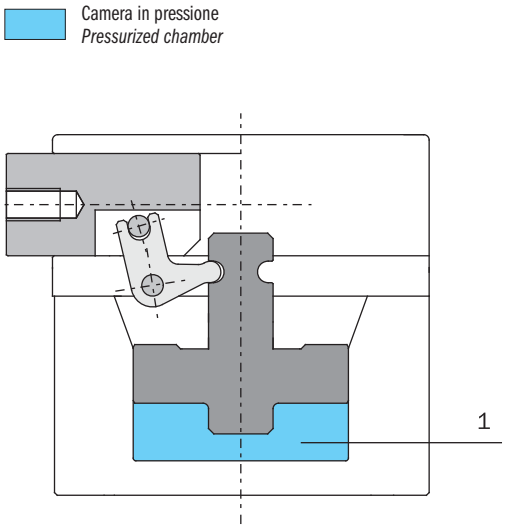
La configurazione a tre griffe consente di afferrare correttamente carichi di diverso diametro, mantenendo sempre lo stesso centro.
L'azionamento sfrutta tre leve per trasmettere il movimento alle griffe che, essendo mosse da un unico pistone hanno movimento simmetrico ed autocentrante.

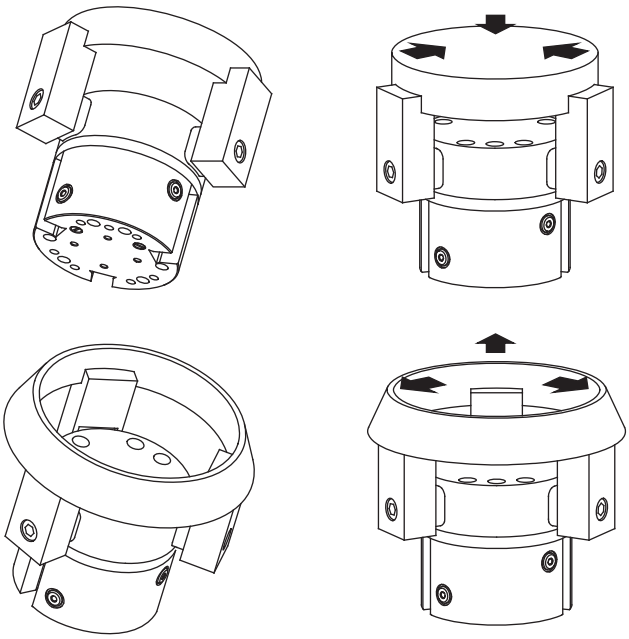
La pinza è a doppio effetto e può quindi essere usata per serrare il carico sia dall'esterno che dall'interno.

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.



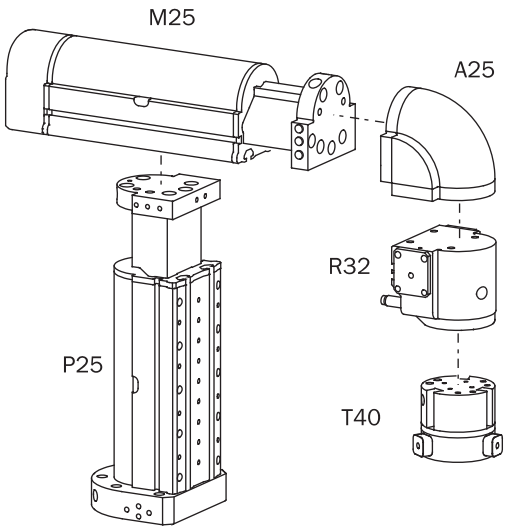


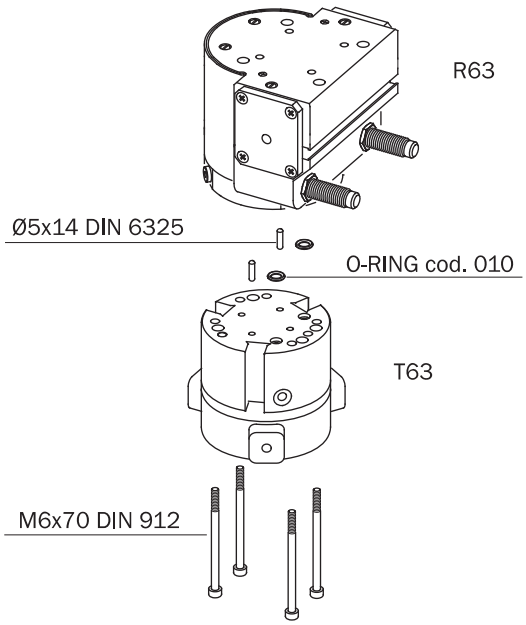
Esempi di applicazione

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

Application examples

These grippers can be easily mounted with Gimapick elements.





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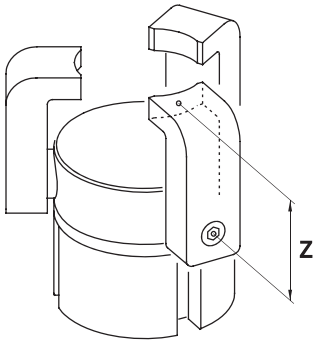
Forza di serraggio

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

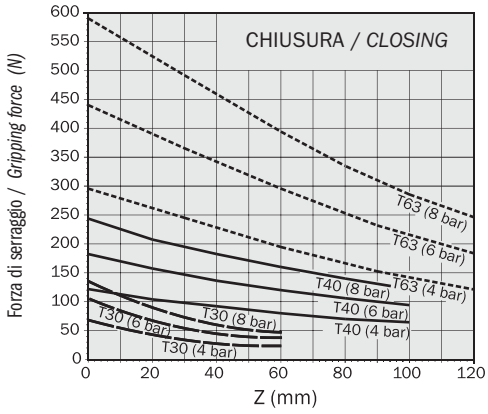
Gripping force

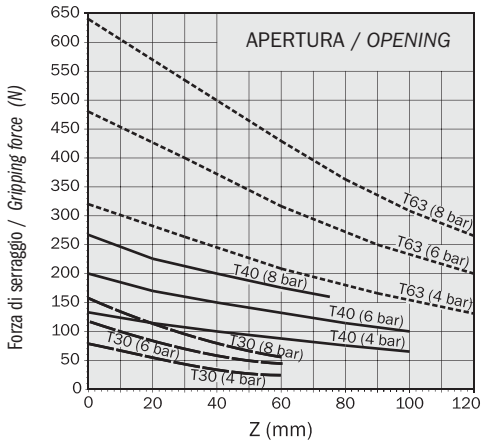
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length (Z).



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.



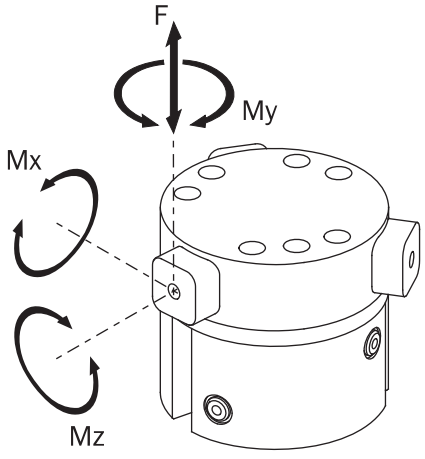


Carichi di sicurezza

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

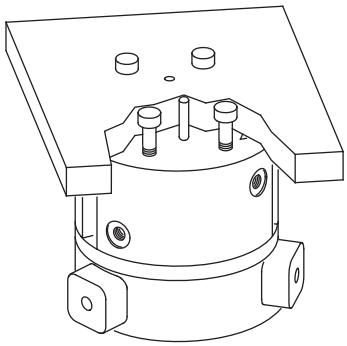
(*) senza regolazione di velocità
(*) without speed adjustment

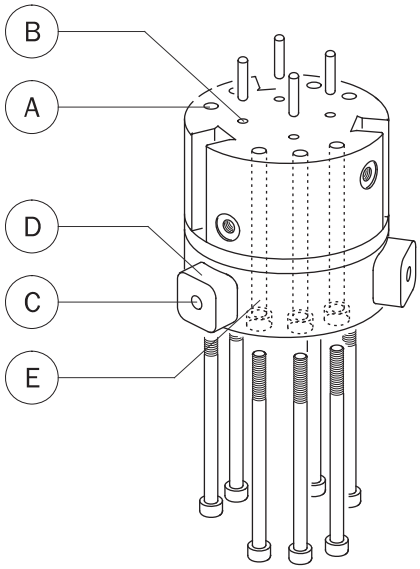
Fissaggio della pinza

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.





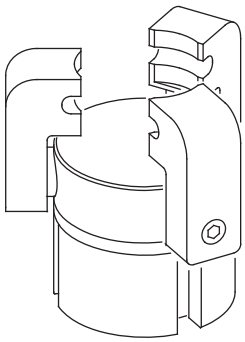
	T30	T40	T63
A	M4x8 mm	M5x10 mm	M8x16 mm
B	Ø3H8x4 mm	Ø3H8x4 mm	Ø5H8x7 mm
E	Ø3.3 mm	Ø4.2 mm	Ø6.8 mm

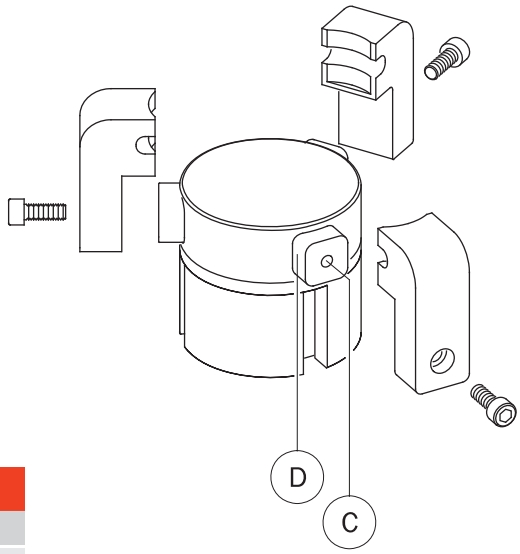
Fissaggio delle estremità di presa

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

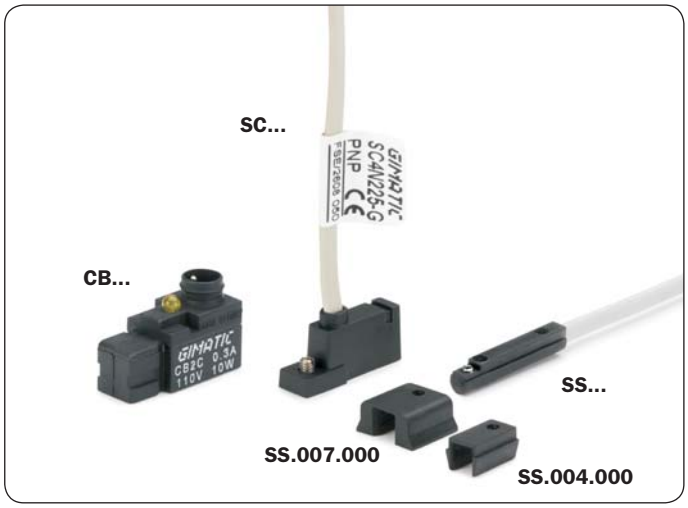
Il rilevamento della posizione di lavoro è affidato a uno o più (max. 3) sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone. Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

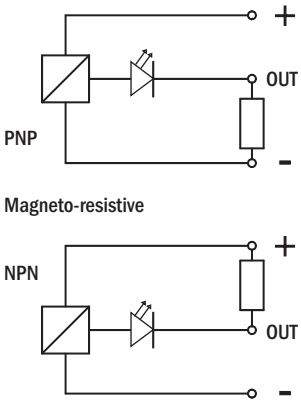
I sensori utilizzabili sono:

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:





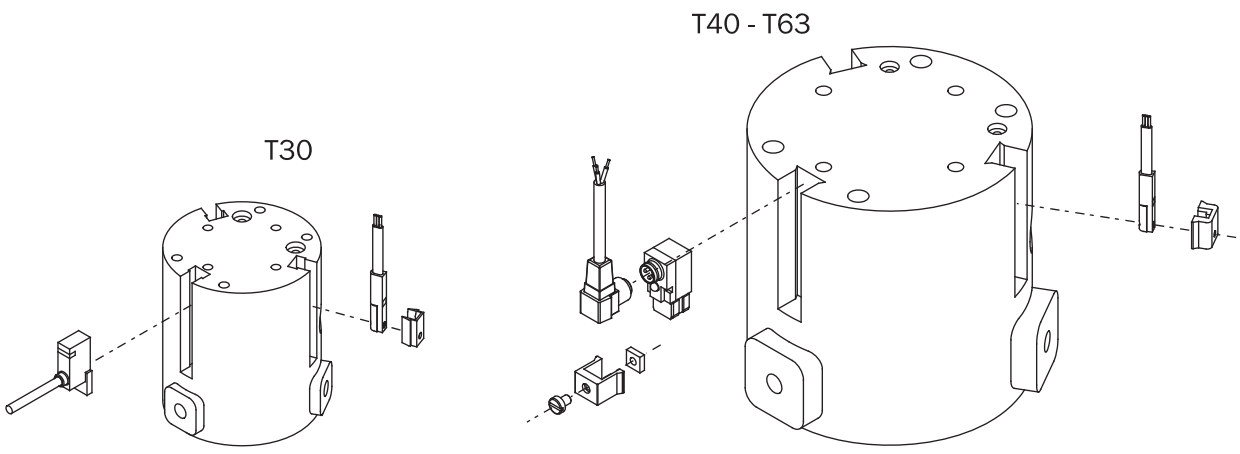
			T30	T40	T63
CB3N2-G	PNP	M8 connector	☐	☑	☑
SC4N225Y	PNP	2.5m cable	☑	☐	☐
SC3N203Y	PNP	M8 connector	☑	☐	☐
SS4N225-G	PNP	2.5m cable	☑ (2)	☑ (1)	☑ (1)
SS4M225-G	NPN	2.5m cable	☑ (2)	☑ (1)	☑ (1)
SS3N203-G	PNP	M8 connector	☑ (2)	☑ (1)	☑ (1)
SS3M203-G	NPN	M8 connector	☑ (2)	☑ (1)	☑ (1)

(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

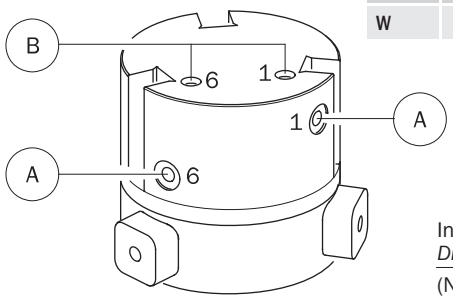
The compressed air feeding is accomplished on the lateral air ports (A) with fittings and hoses (not supplied), or directly on the bottom air ports (B).

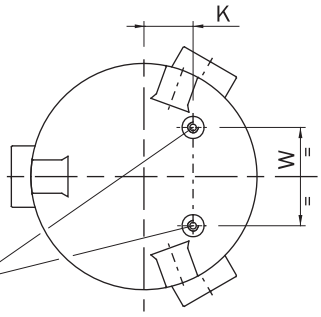
Compressed air in 1: gripper opening.
Compressed air in 6: gripper closing.

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

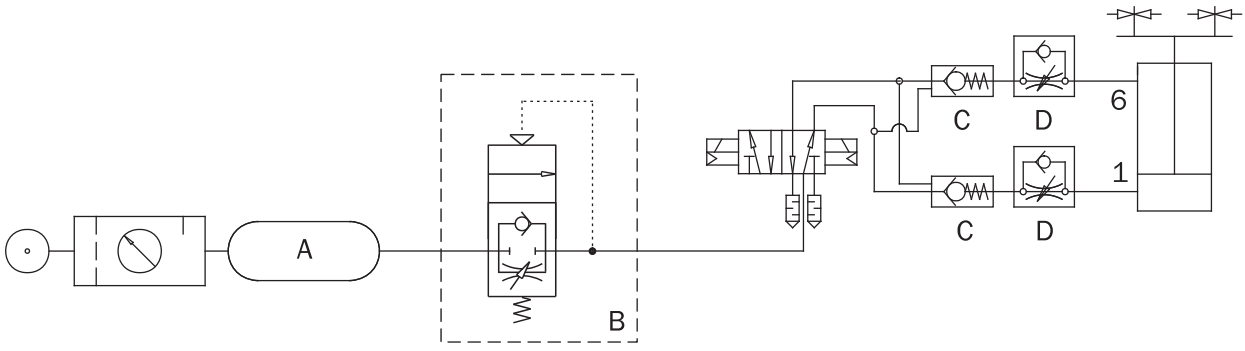
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

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).

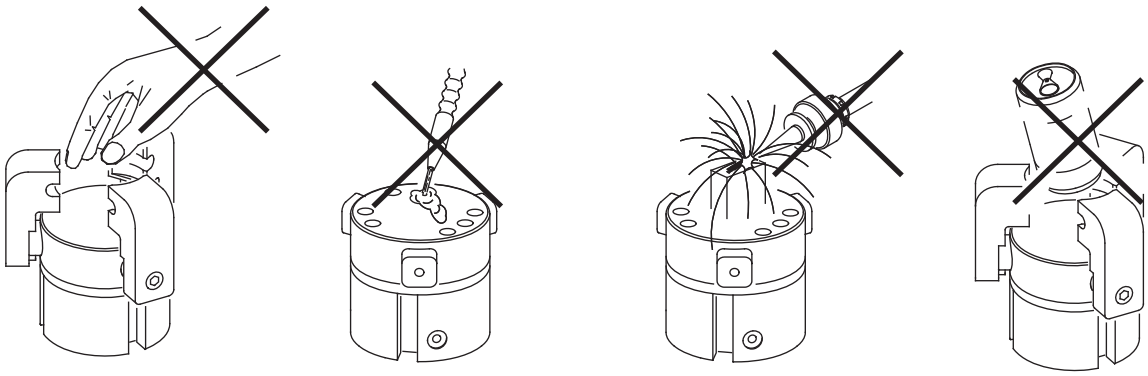


Avvertenze

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

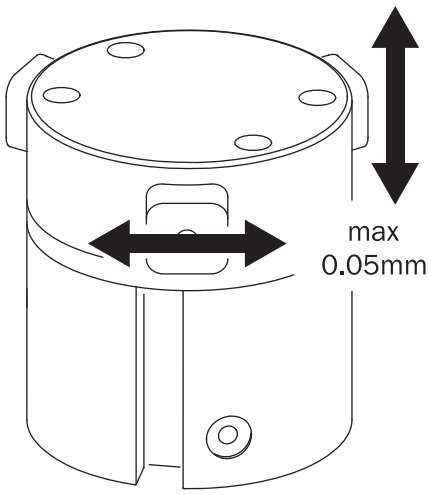
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

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.



TH

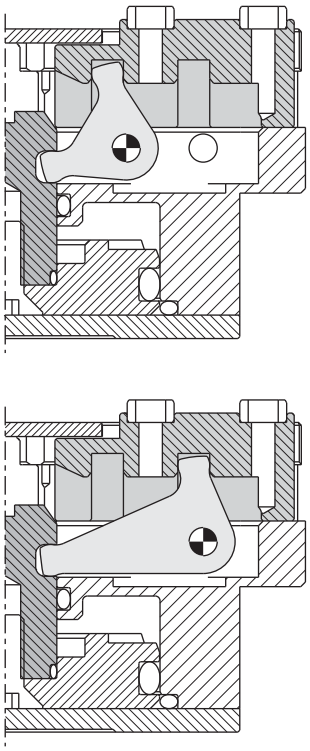
Pinza pneumatica a 3 griffe ad azione parallela autocentrante serie TH

- 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.

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.*

(1)



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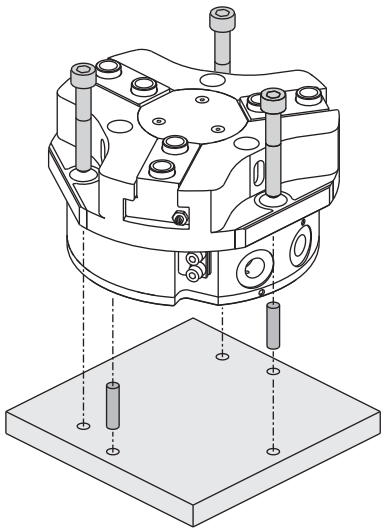
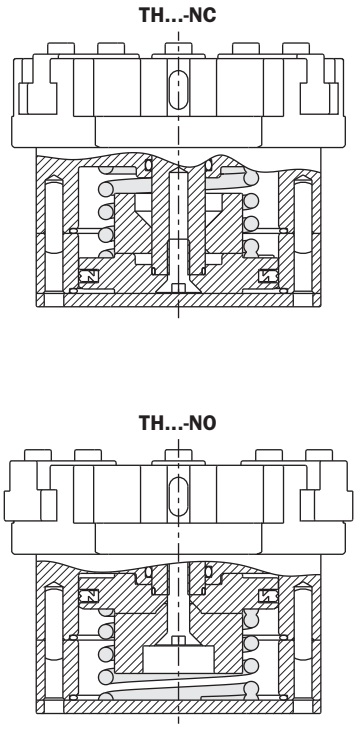


(3)



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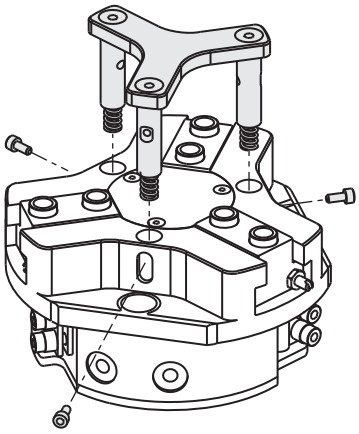
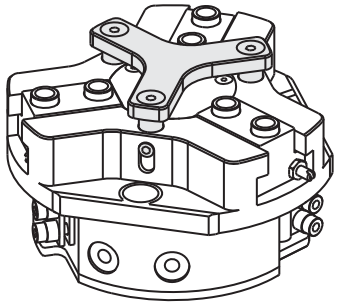
Spintore opzionale

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

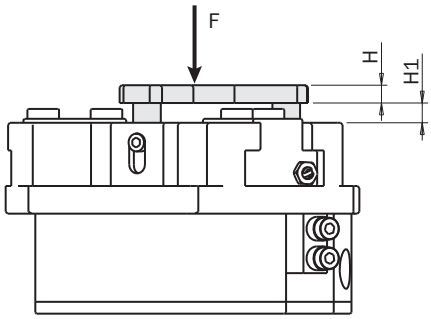
This accessory can be installed in the TH grippers, to hold the payload during the gripper release, by a pushing force F.
As an example, when the chuck of a machining equipment is loaded.
It is supplied disassembled, with the codes in the table below.





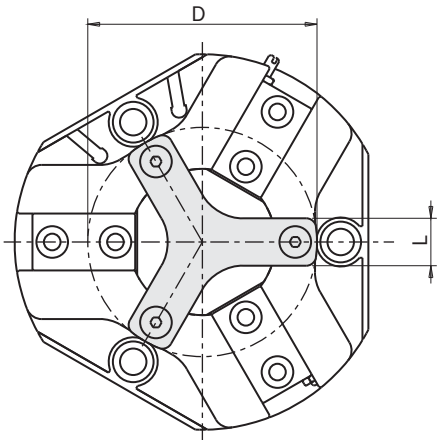
Forza / *Force*

	TH27K	TH33K	TH45K	TH54K	TH76K	TH96K	TH125K
F	10N	15N	20N	30N	50N	100N	200N



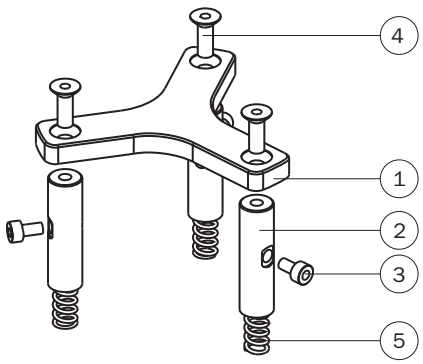
Dimensioni (mm) / *Dimensions (mm)*

	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



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

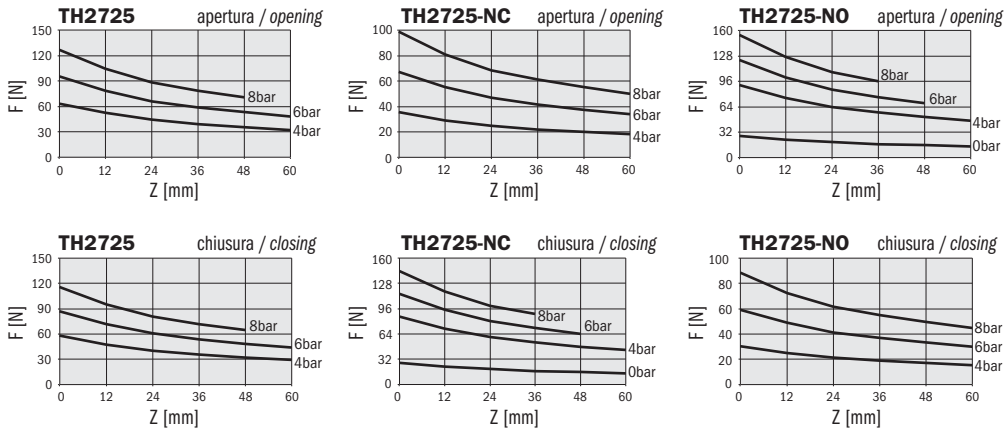
	TH2725	TH2725-NC	TH2725-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*		
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
Temperatura di esercizio *Operating temperature range*	5 ÷ 60°C.		
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

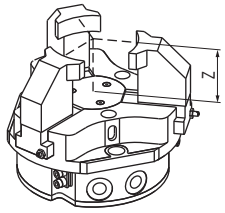
Forza di serraggio

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.

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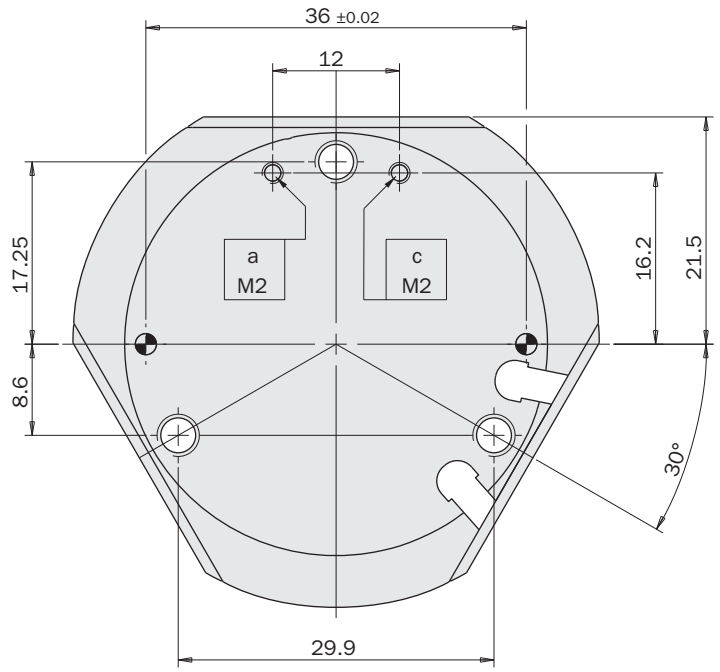
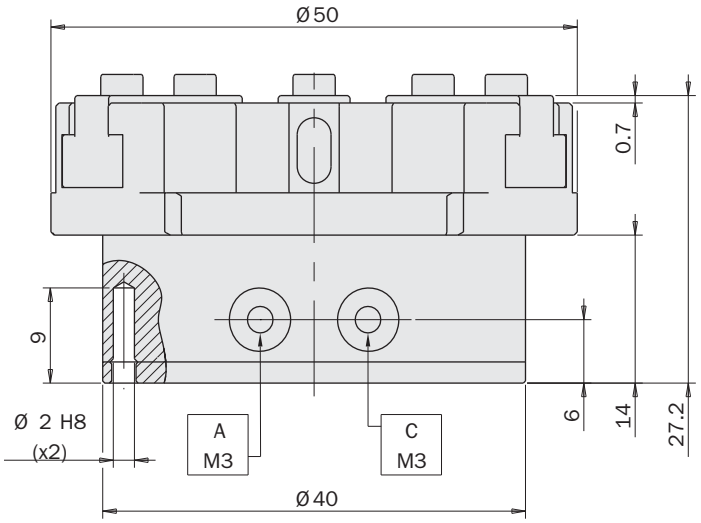
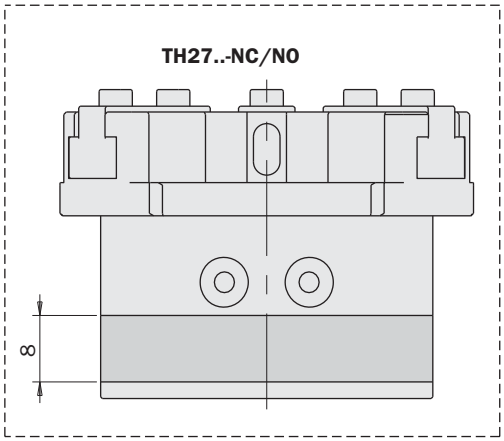
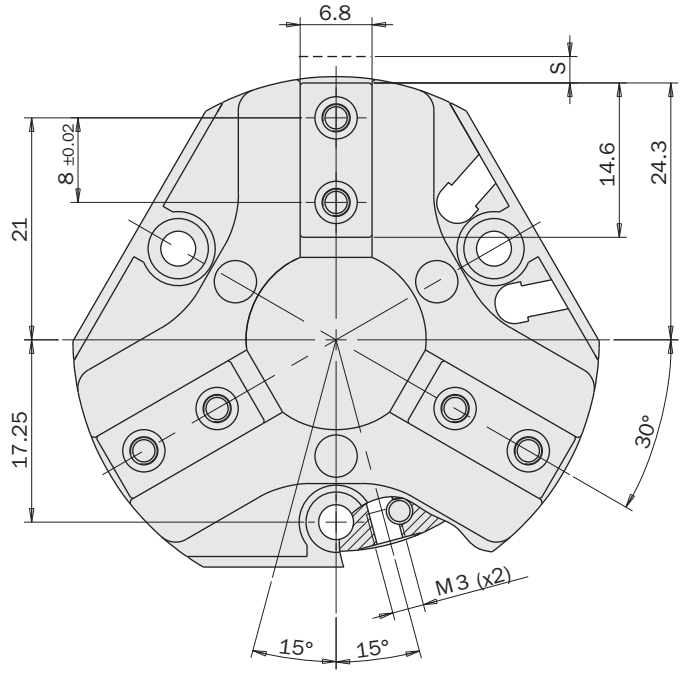
Dimensioni (mm) / *Dimensions (mm)*

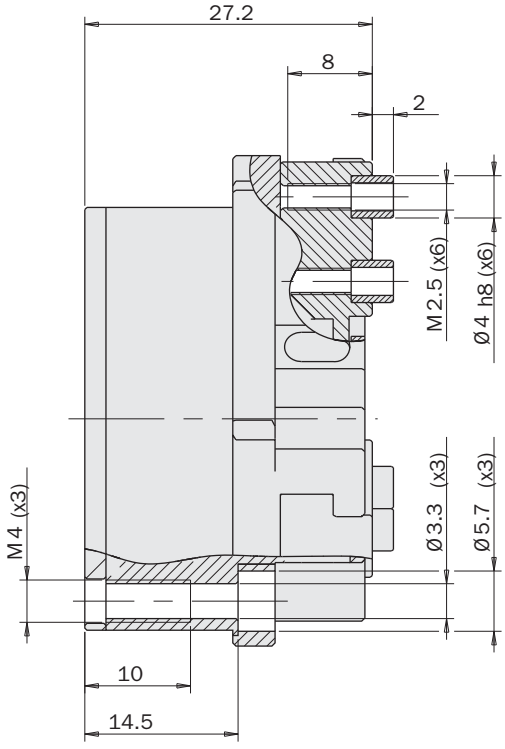
TH27











FIRST ANGLE PROJECTION

09/2011

TH

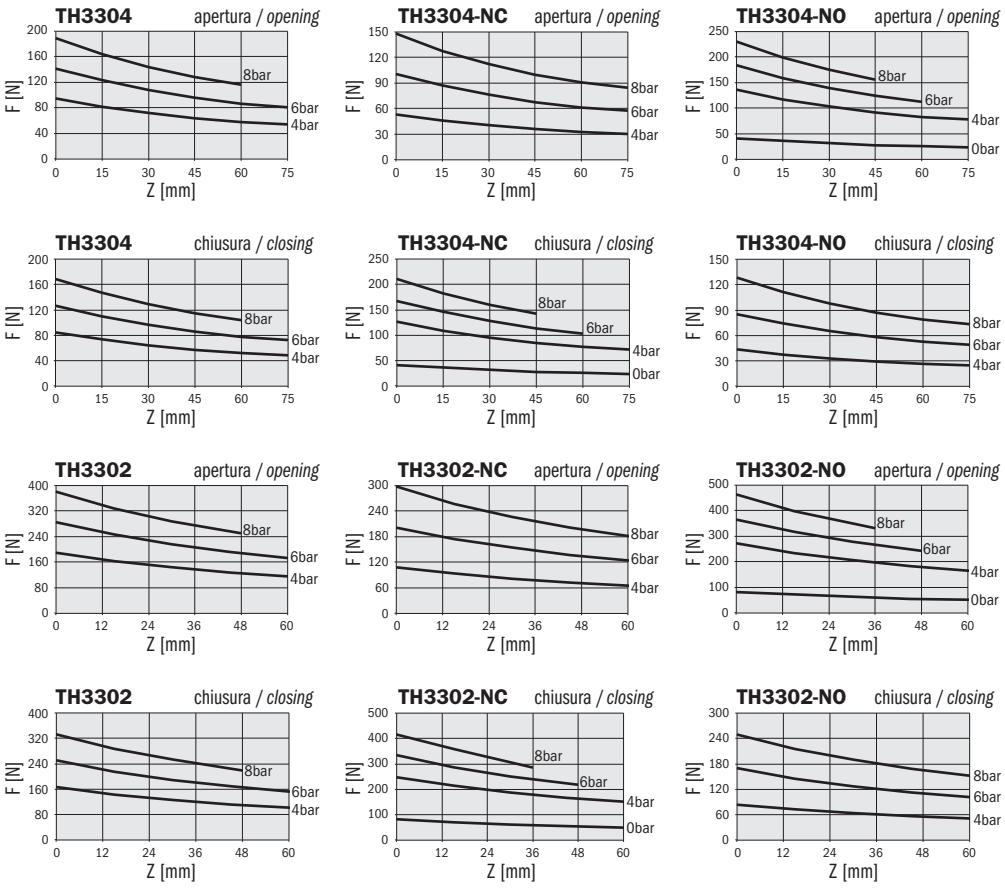
	TH3304	TH3304-NC	TH3304-NO	TH3302	TH3302-NC	TH3302-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
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

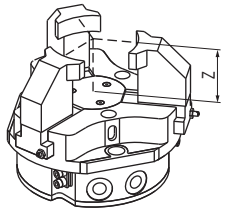
Forza di serraggio

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.





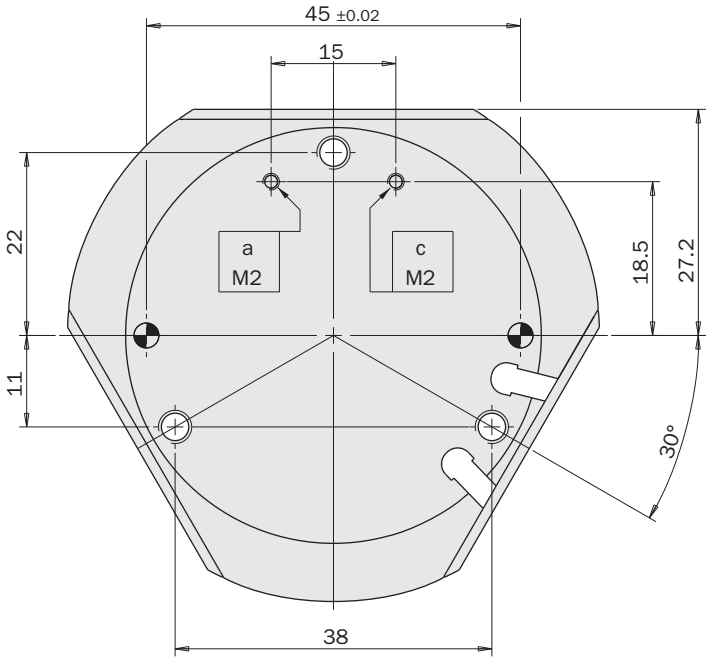
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

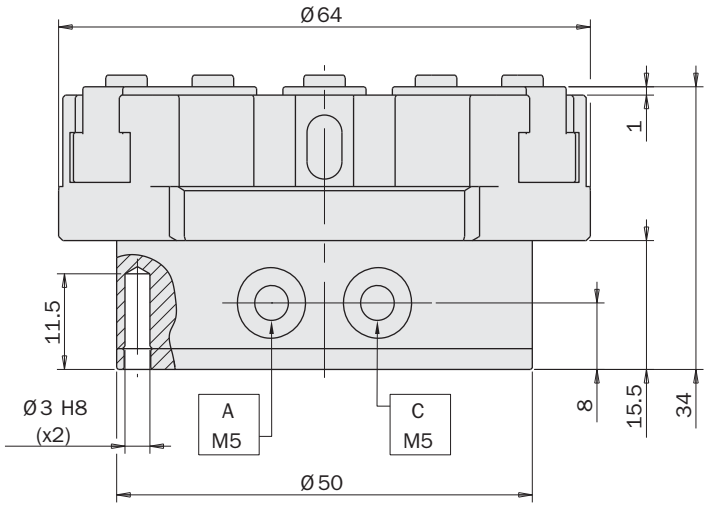
The force shown in these graphs refers to one jaw. The total force is triple.

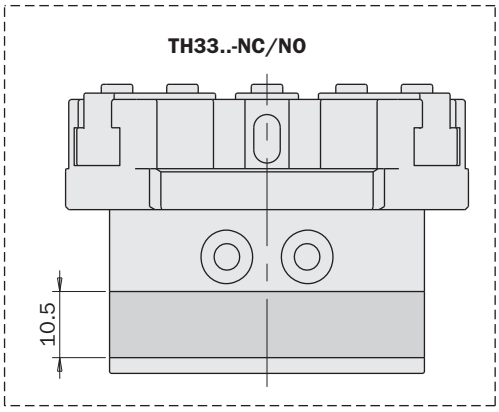
09/2011

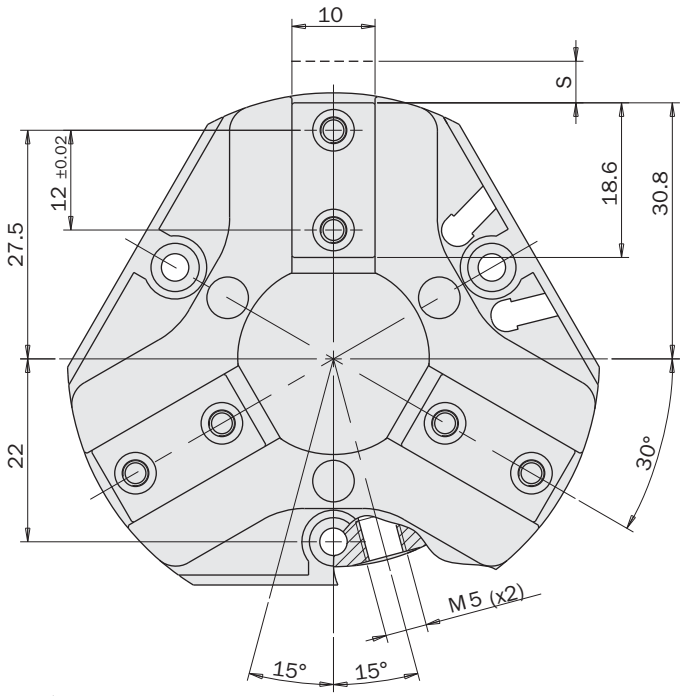
Dimensioni (mm) / *Dimensions (mm)*

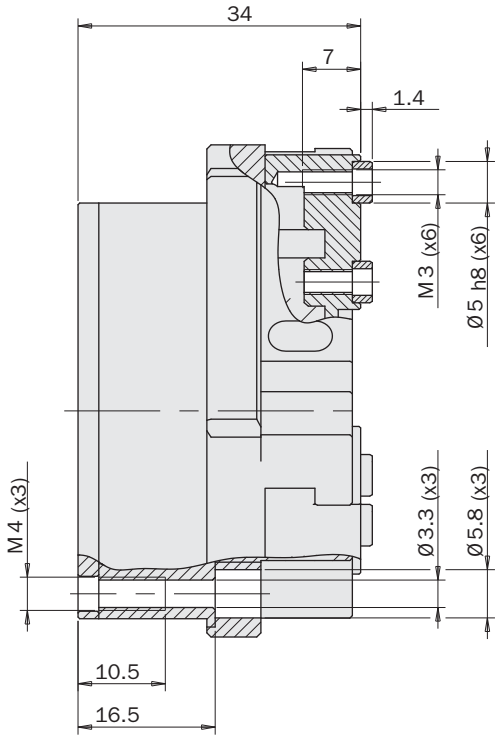
TH33











FIRST ANGLE PROJECTION

09/2011

TH

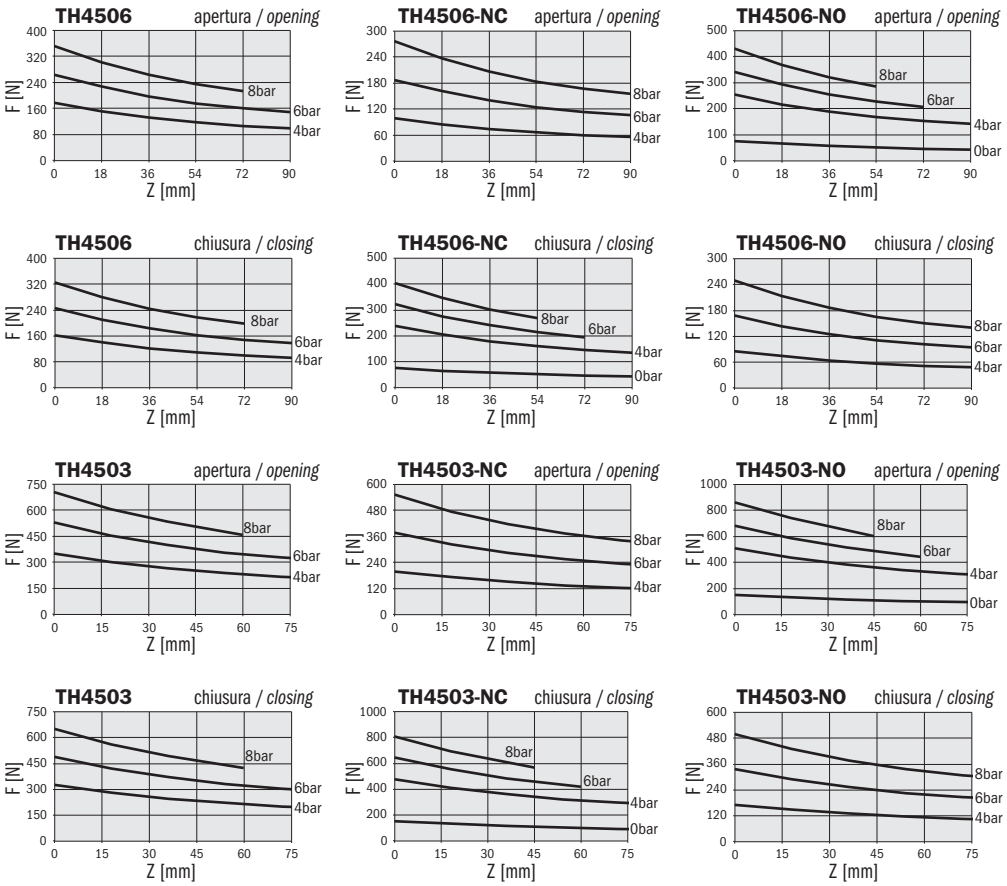
	TH4506	TH4506-NC	TH4506-NO	TH4503	TH4503-NC	TH4503-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
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

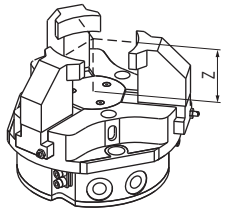
Forza di serraggio

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.



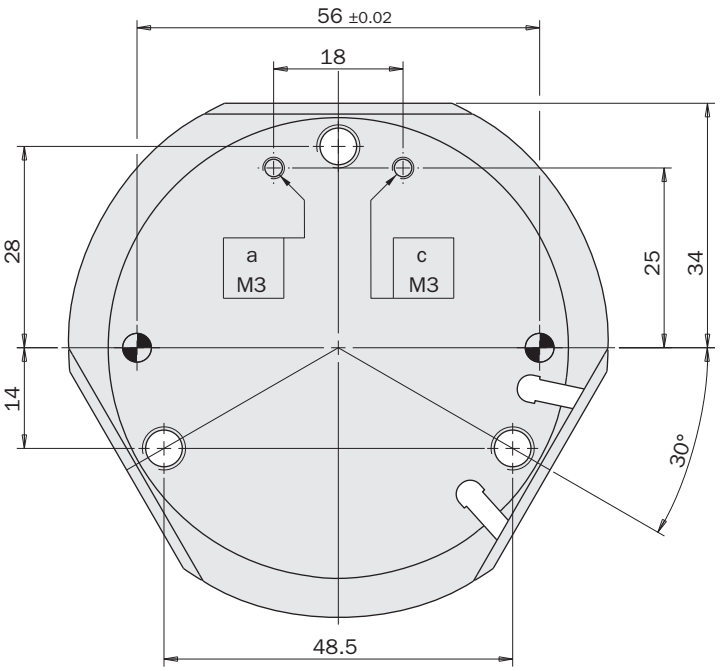


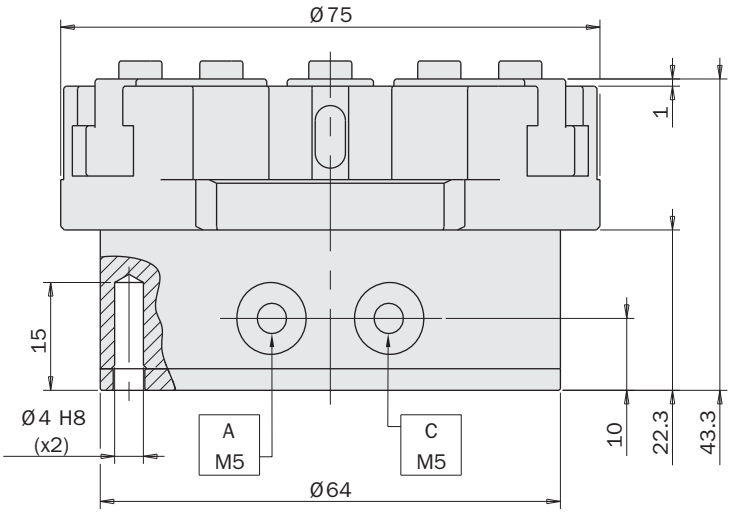
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

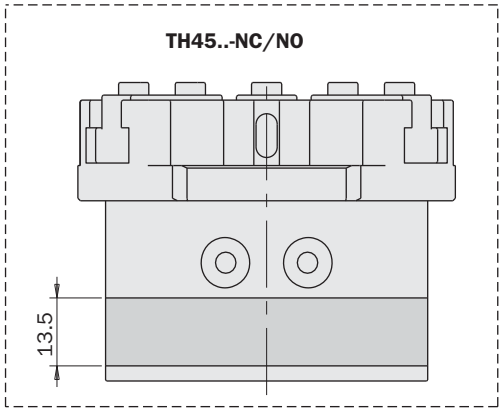
The force shown in these graphs refers to one jaw. The total force is triple.

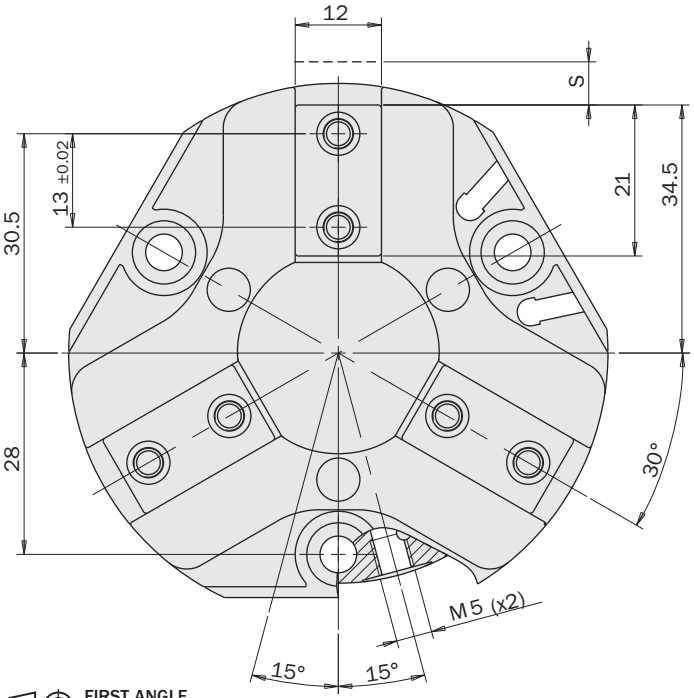
Dimensioni (mm) / *Dimensions (mm)*

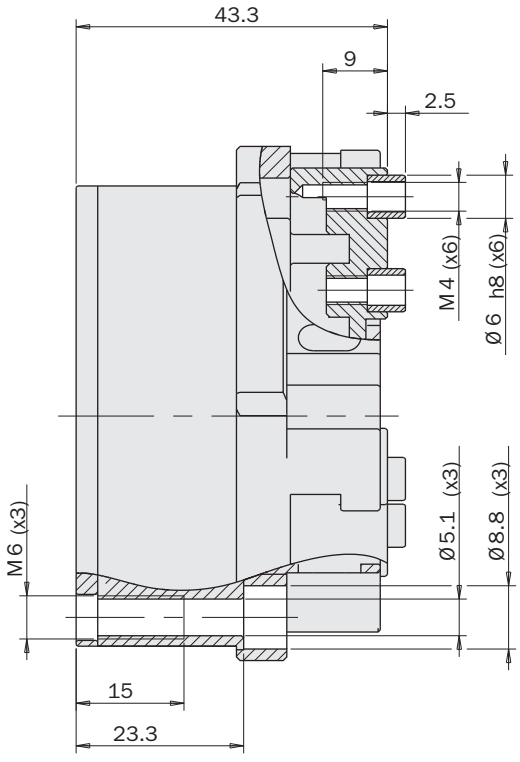
TH45











FIRST ANGLE PROJECTION

09/2011

TH

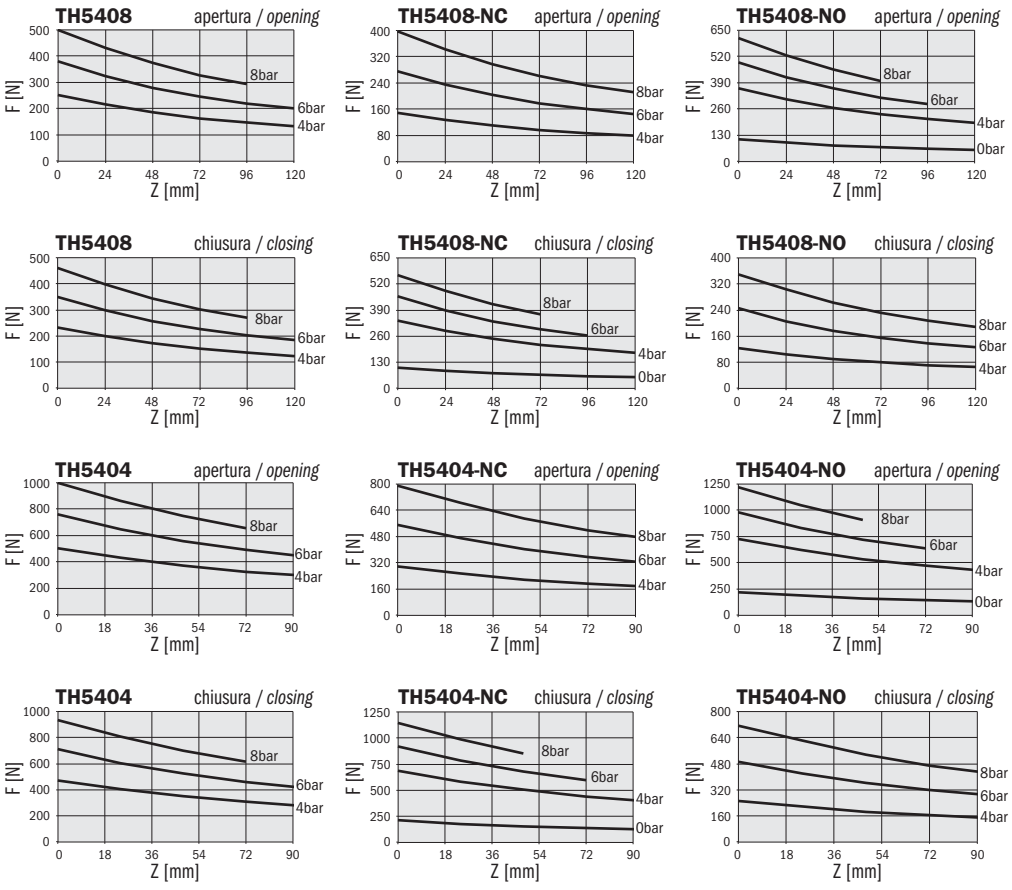
	TH5408	TH5408-NC	TH5408-NO	TH5404	TH5404-NC	TH5404-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
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

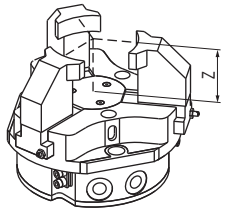
Forza di serraggio

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.





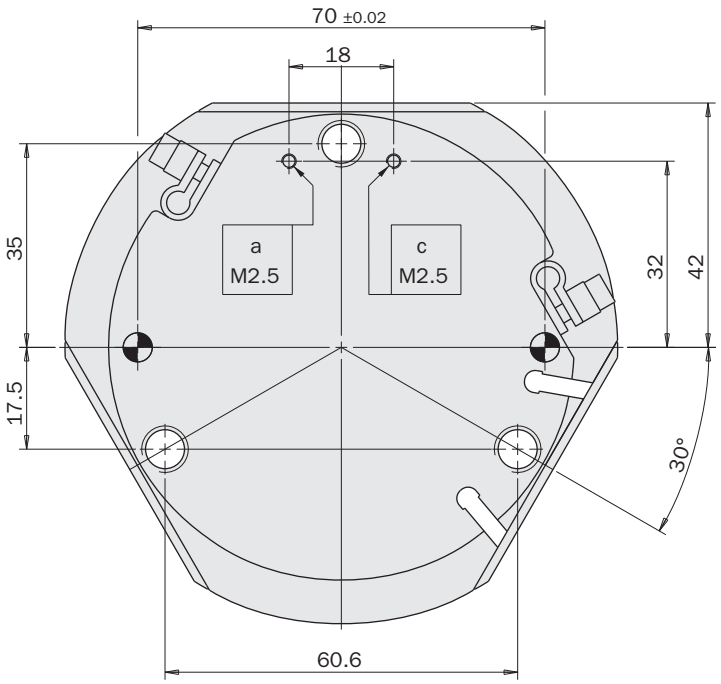
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

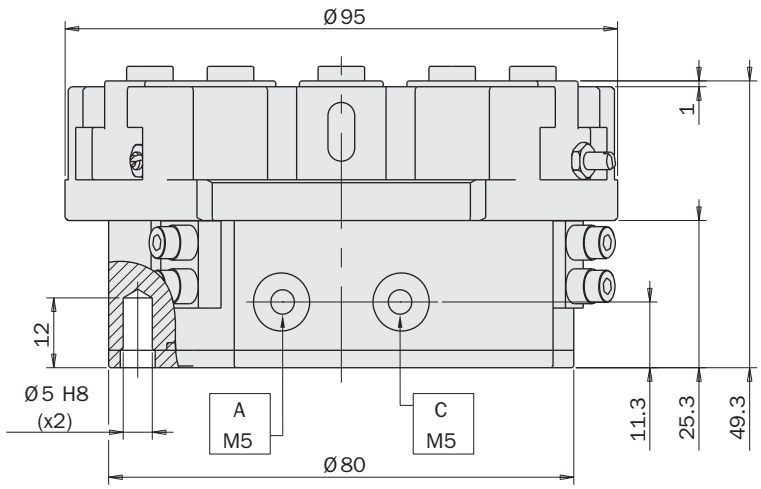
The force shown in these graphs refers to one jaw. The total force is triple.

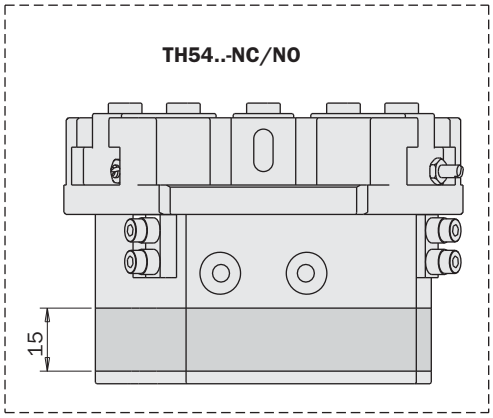
09/2011

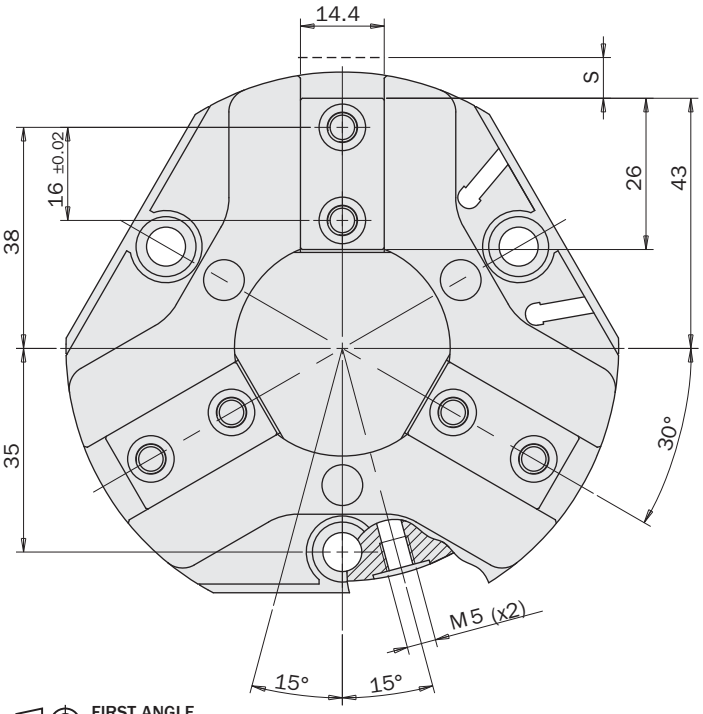
Dimensioni (mm) / *Dimensions (mm)*

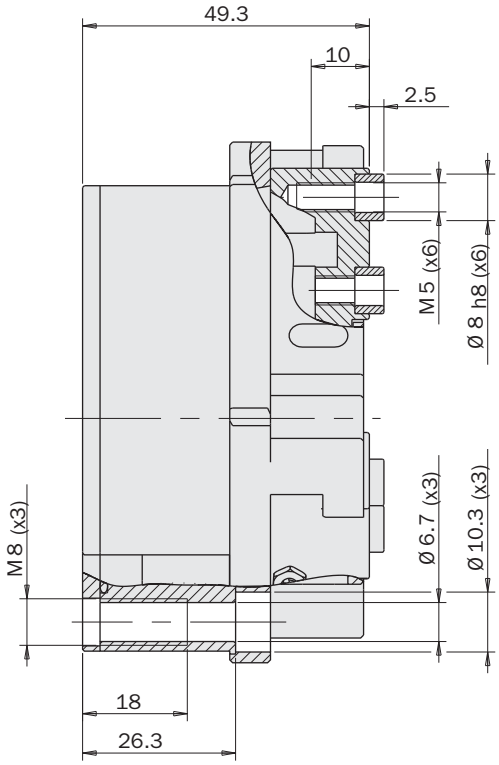
TH54











FIRST ANGLE PROJECTION

09/2011

TH

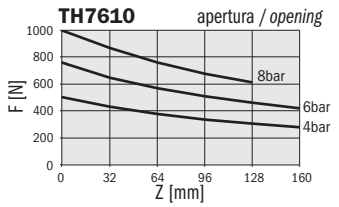
	TH7610	TH7610-NC	TH7610-NO	TH7605	TH7605-NC	TH7605-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
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

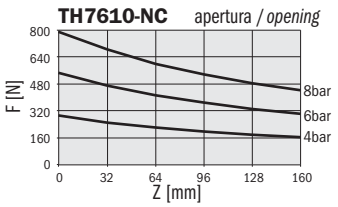
Forza di serraggio

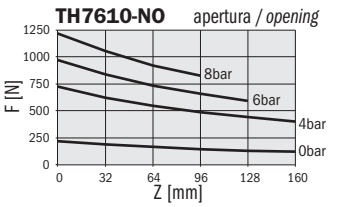
I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

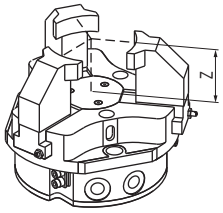
Gripping force

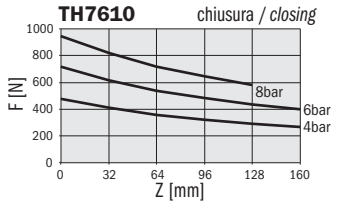
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

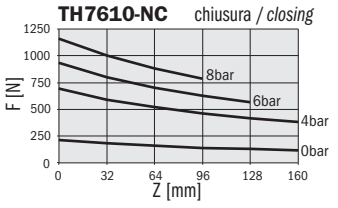


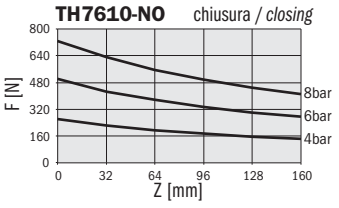


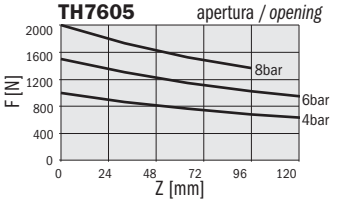


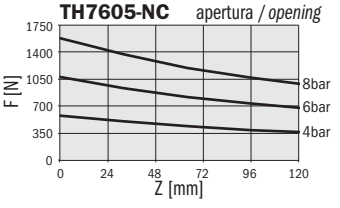


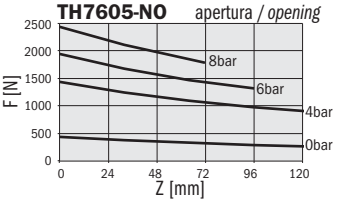


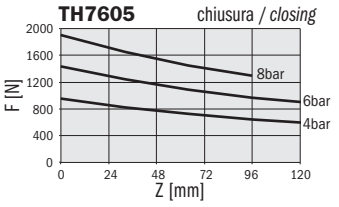


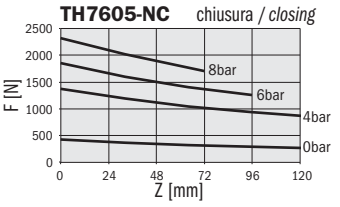


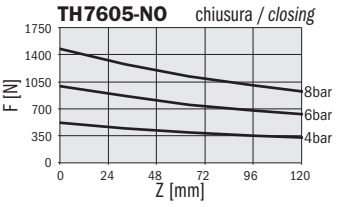












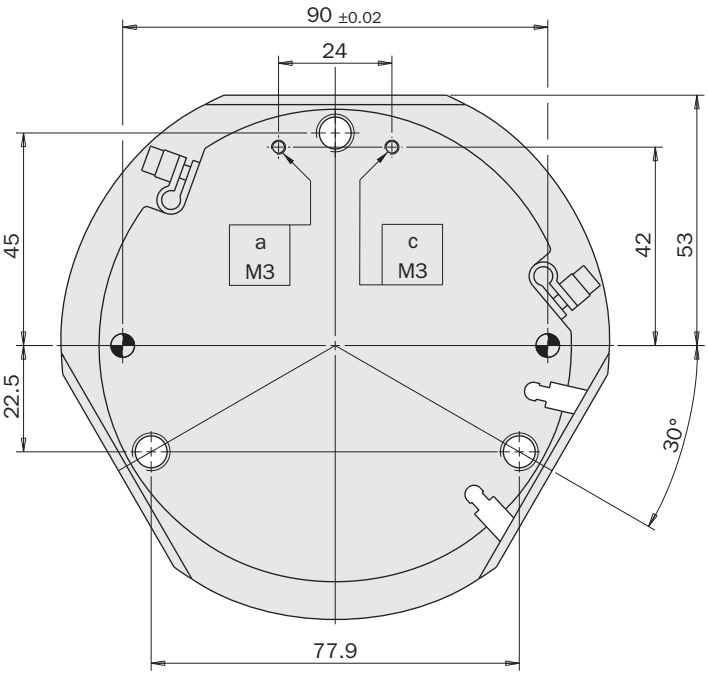
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

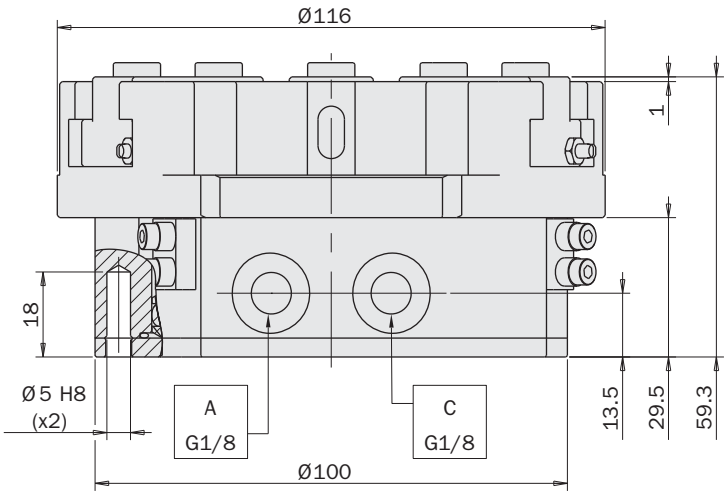
The force shown in these graphs refers to one jaw. The total force is triple.

09/2011

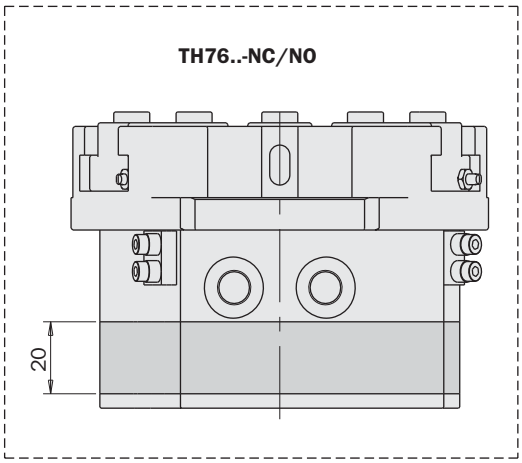
Dimensioni (mm) / *Dimensions (mm)*

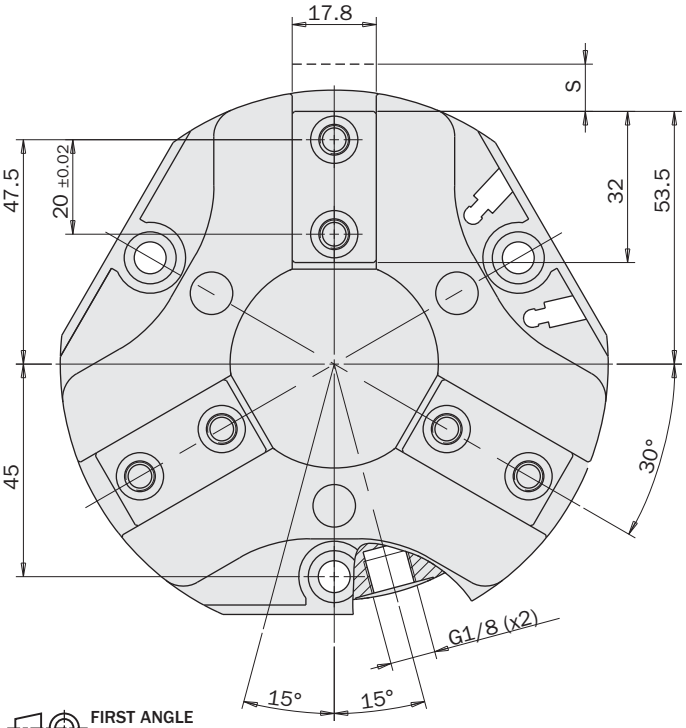
TH76

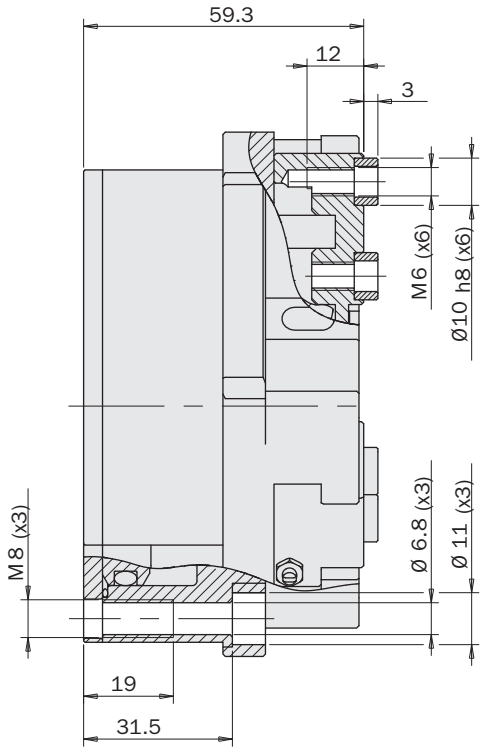




TH76..-NC/NO







FIRST ANGLE PROJECTION

09/2011

TH

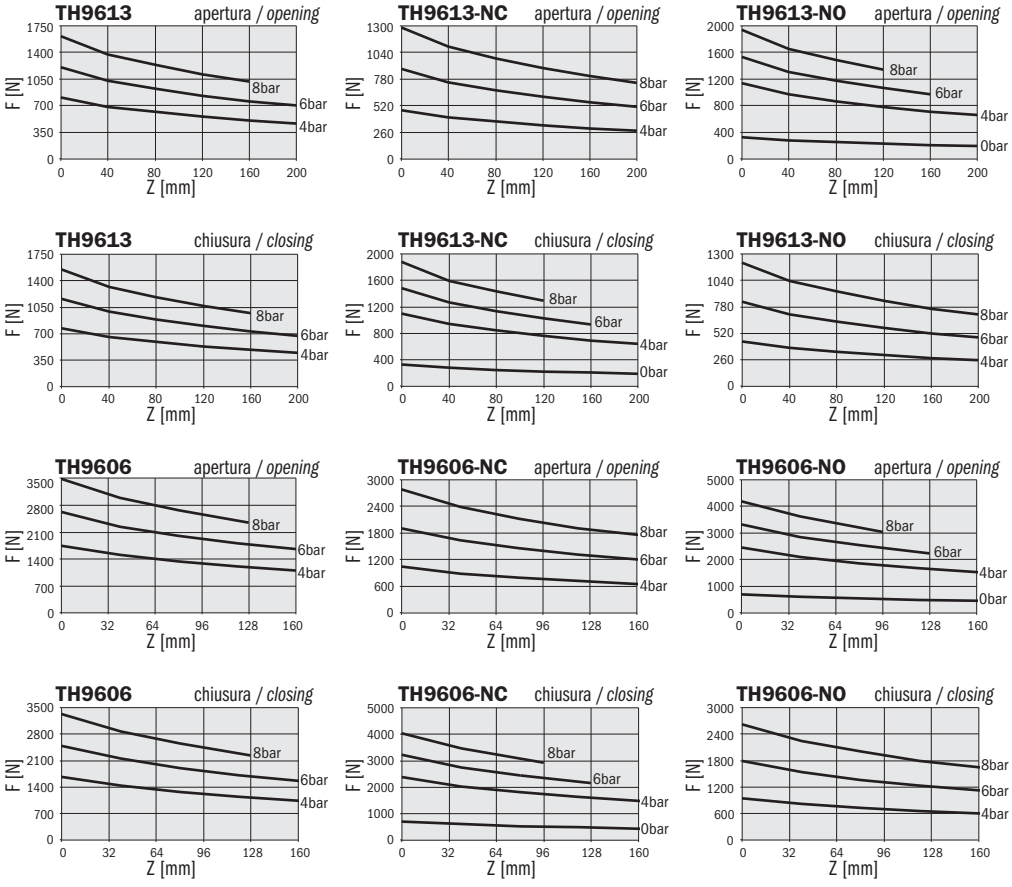
	TH9613	TH9613-NC	TH9613-NO	TH9606	TH9606-NC	TH9606-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar	1.5 ÷ 8bar	3.5 ÷ 8bar	3.5 ÷ 8bar
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

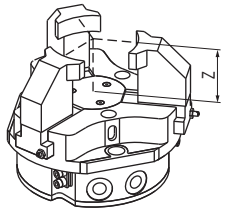
Forza di serraggio

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.





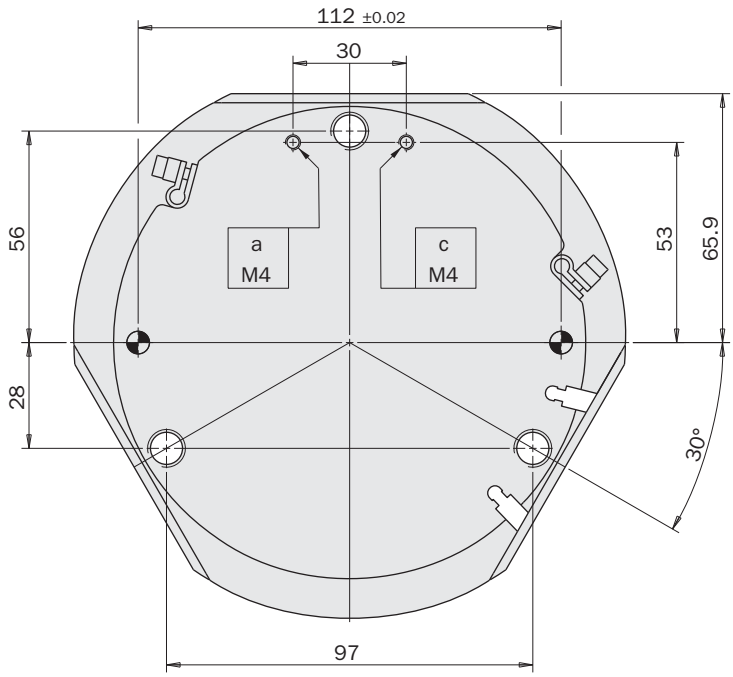
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

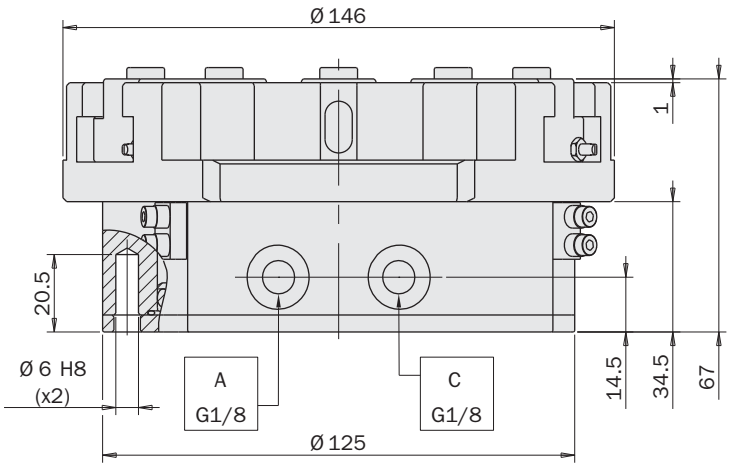
The force shown in these graphs refers to one jaw. The total force is triple.

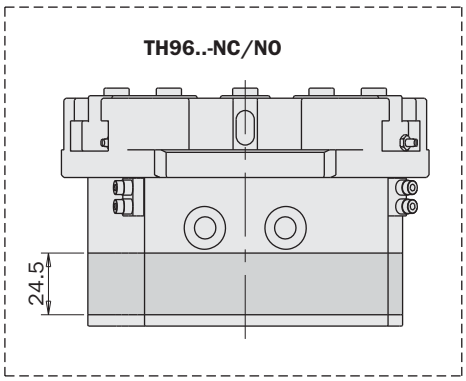
09/2011

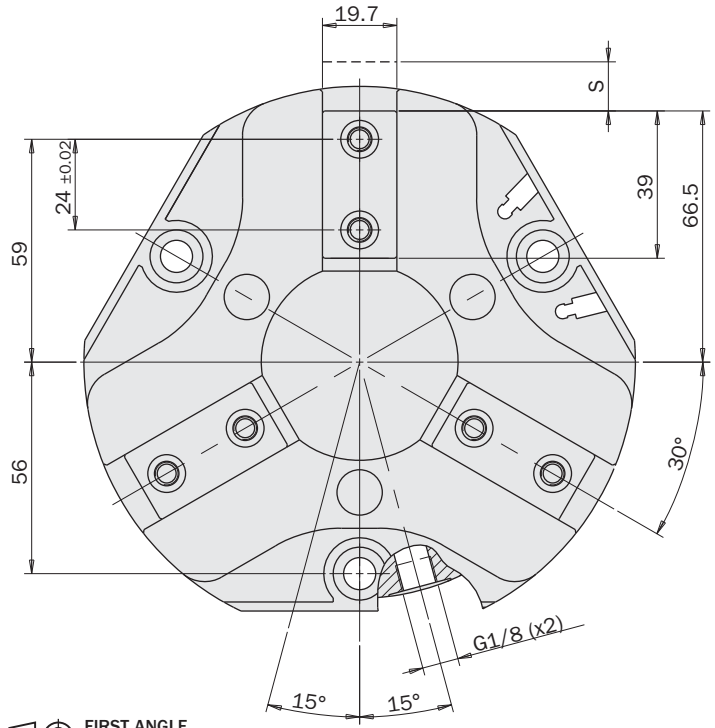
Dimensioni (mm) / *Dimensions (mm)*

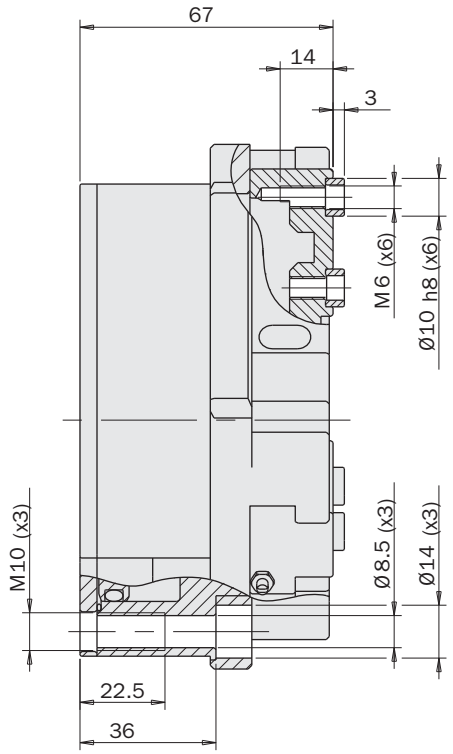
TH96











FIRST ANGLE PROJECTION

09/2011

TH

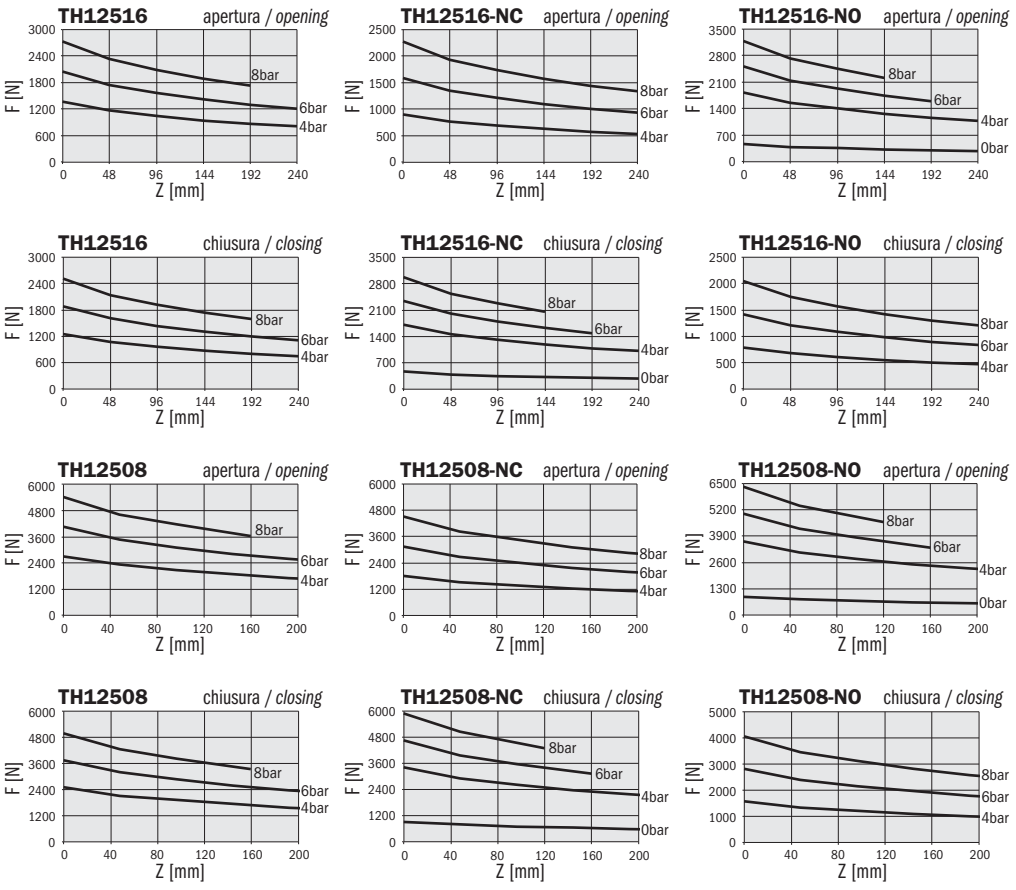
	TH12516	TH12516-NC	TH12516-NO	TH12508	TH12508-NC	TH12508-NO
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*					
Pressione di esercizio *Operating pressure range*	1.5 ÷ 8bar	3 ÷ 8bar	3 ÷ 8bar	1.5 ÷ 8bar	3 ÷ 8bar	3z ÷ 8bar
Temperatura 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

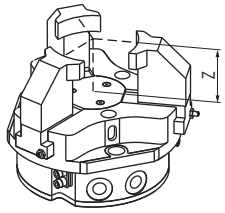
Forza di serraggio

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.





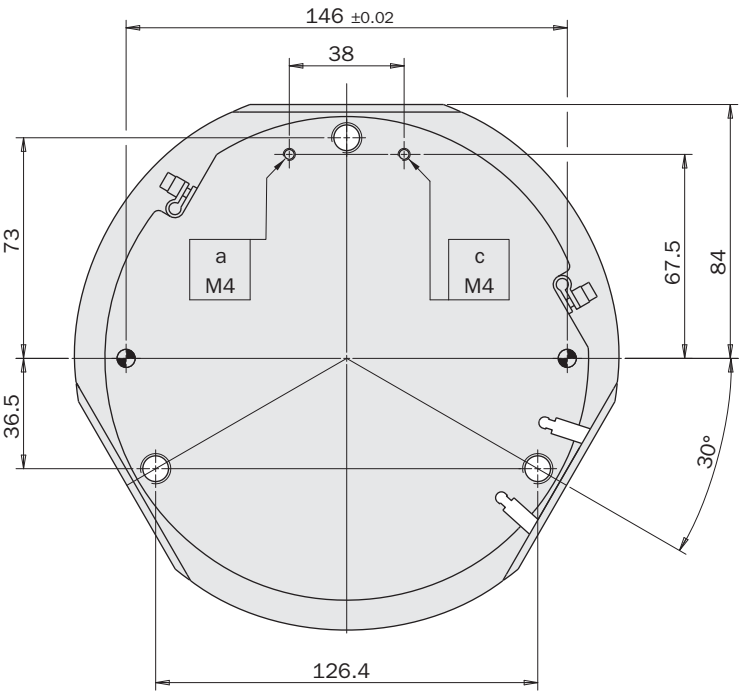
La forza indicata in questi grafici è riferita alla singola griffa. La forza totale è il triplo.

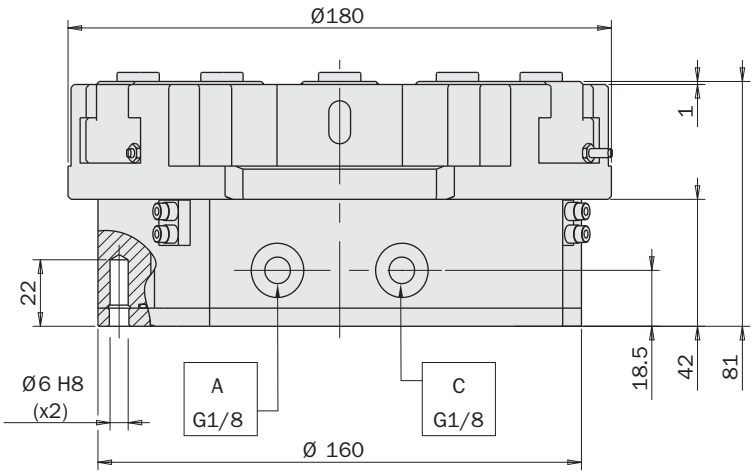
The force shown in these graphs refers to one jaw. The total force is triple.

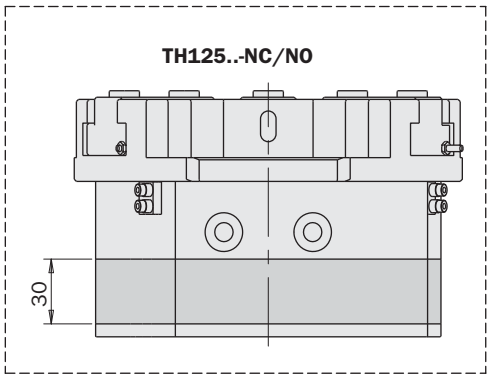
09/2011

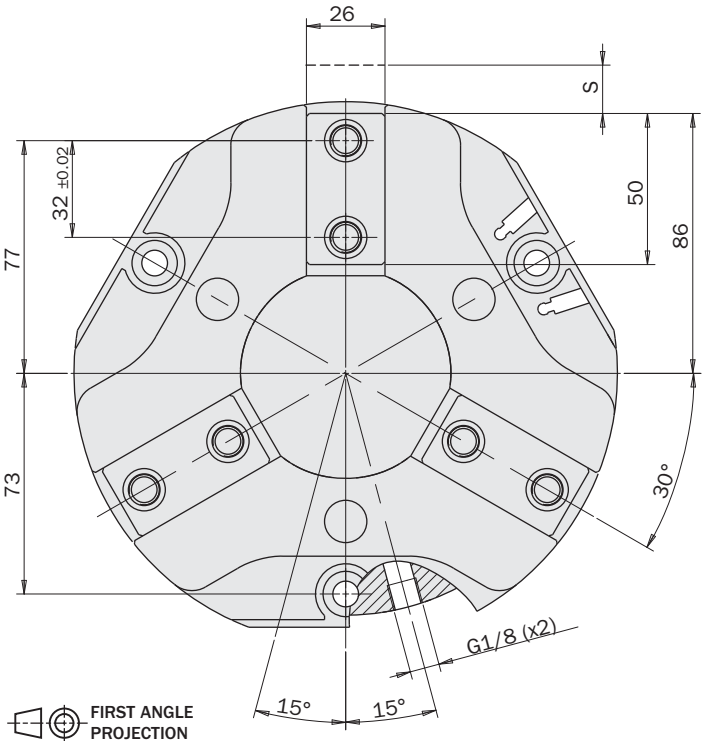
Dimensioni (mm) / *Dimensions (mm)*

TH125

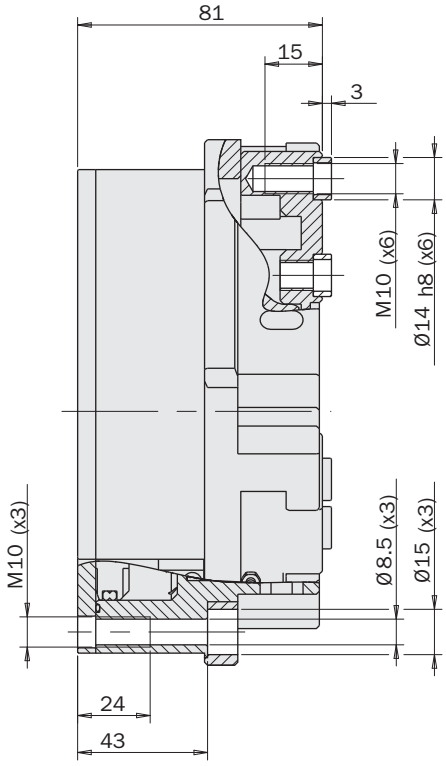








FIRST ANGLE PROJECTION



09/2011

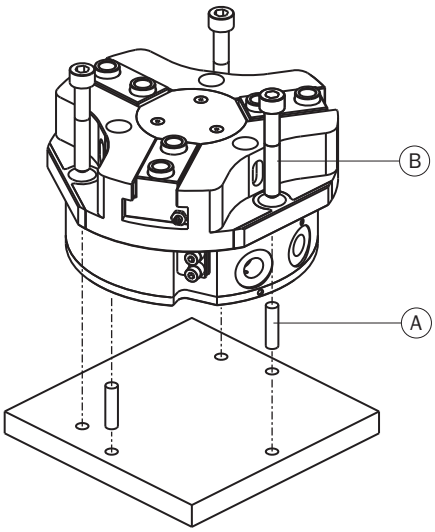
TH

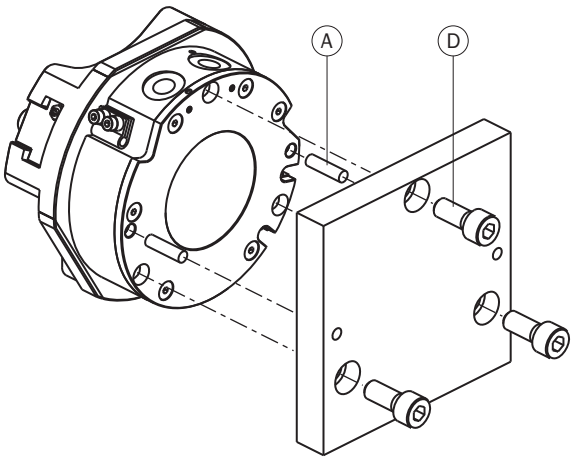
Fissaggio della pinza

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).





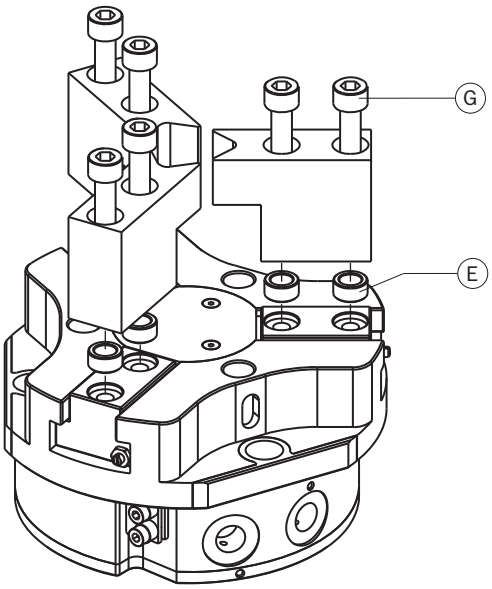
	TH27	TH33	TH46	TH54	TH76	TH96	TH125
A	Ø2	Ø3	Ø4	Ø5	Ø5	Ø6	Ø6
B	M3	M3	M5	M6	M6	M8	M8
D	M4	M4	M6	M8	M8	M10	M10

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.

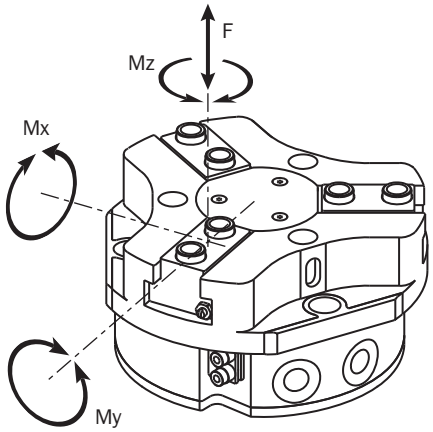
6 centering rings for the gripping tools are supplied in the packaging.

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

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.

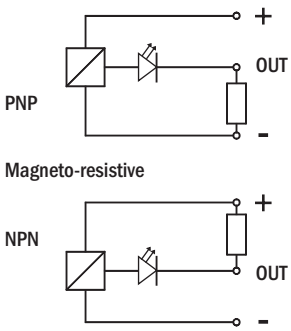
Magnetic sensors (optional)

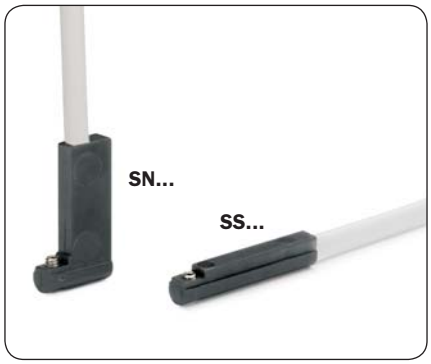
The operating position can be checked by one or two magnetic sensors, that detect the magnet on the piston inside.
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

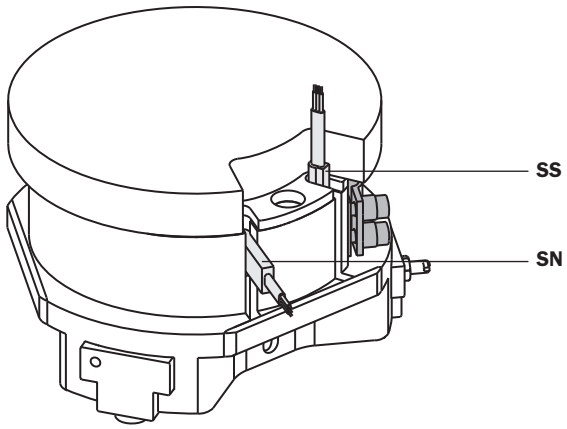
I sensori utilizzabili sono:

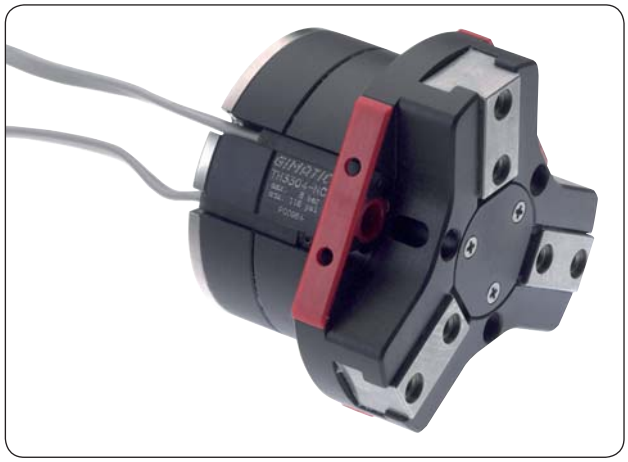
Use sensors:

			TH
SN4N225-G	PNP	2.5m cable	☑
SN4M225-G	NPN	2.5m cable	☑
SN3N203-G	PNP	M8 connector	☑
SN3M203-G	NPN	M8 connector	☑
SS4N225-G	PNP	2.5m cable	☑
SS4M225-G	NPN	2.5m cable	☑
SS3N203-G	PNP	M8 connector	☑
SS3M203-G	NPN	M8 connector	☑

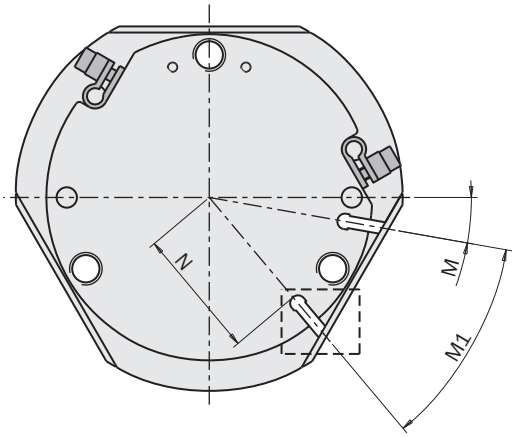


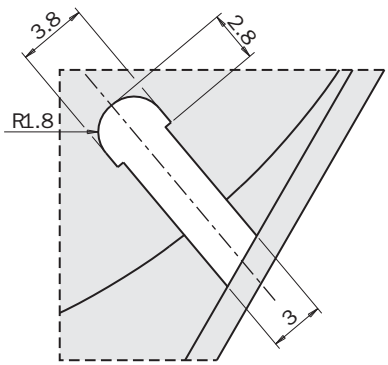






	TH27	TH33	TH46	TH54	TH76	TH96	TH125
N	15.4	19.6	25.5	32	41.2	53.5	67
M	11.5°	14°	12°	10°	13°	14°	18°
M1	37°	32°	36°	40°	34°	32°	24°





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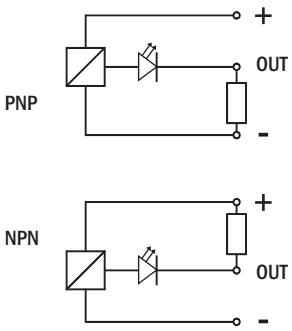
Sensori induttivi (opzionali)

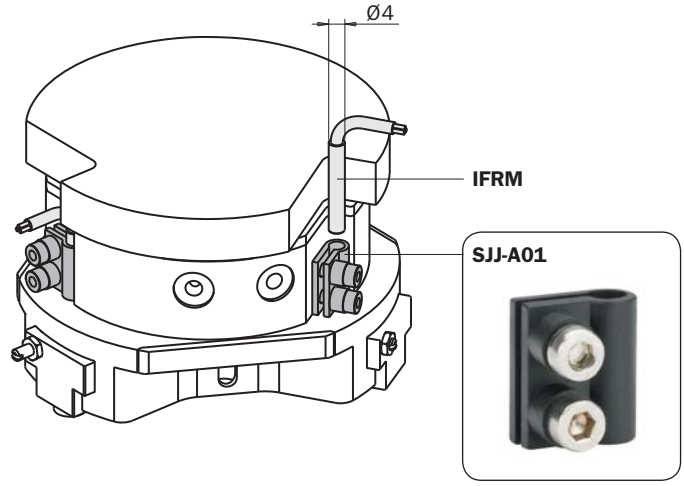
Sulle taglie più grandi é anche possibile usare sensori induttivi di diametro 4mm, che si fissano con i supporti SJJ-A01 (forniti nella confezione).
Dopo aver fissato il sensore va regolata la posizione della parte metallica (M) per stabilire il punto di accensione.

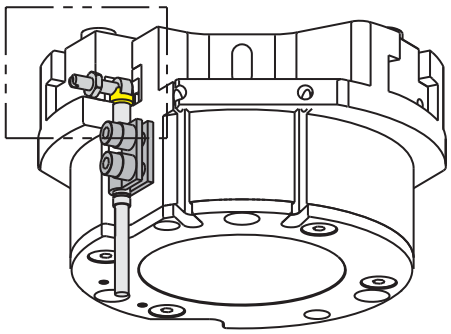
Inductive sensors (optional)

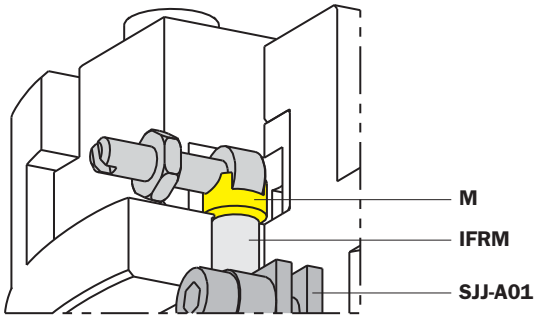
With the larger sizes it is also possible to use inductive sensors diameter 4mm, which can be fastened by the holders SJJ-A01 (supplied).
After the sensor fastening, the position of the metal part (M) must be adjusted to select the on point.

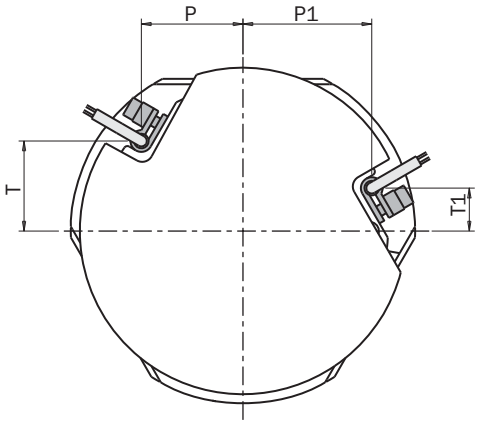
			TH54 TH76 TH96 TH125
IFRM04N15A1/L	NPN	2.5m cable	☑
IFRM04P15A1/L	PNP	2.5m cable	☑











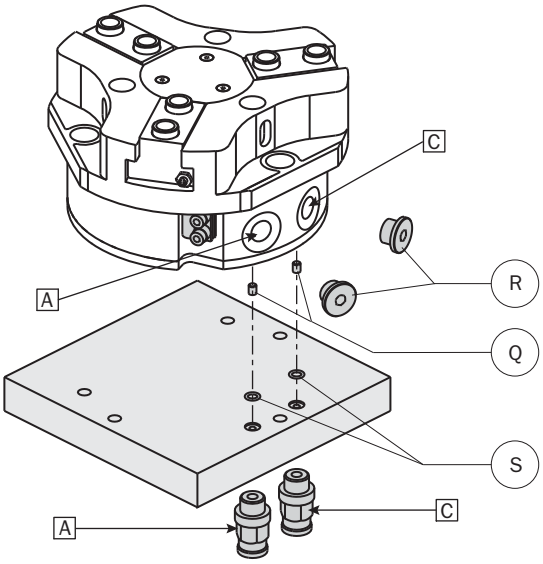
	TH54	TH76	TH96	TH125
P	28	34.8	45.6	56.8
P1	35.5	44.1	56.2	71.3
T	10.9	14.7	20.2	24.4
T1	24.9	30.8	38.6	49.6

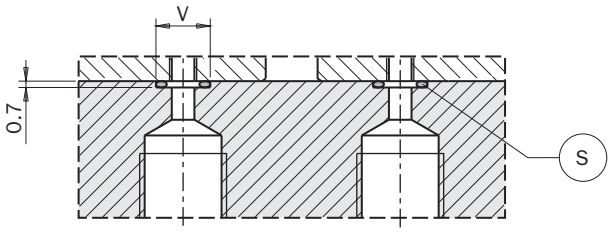
Connessione pneumatica

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

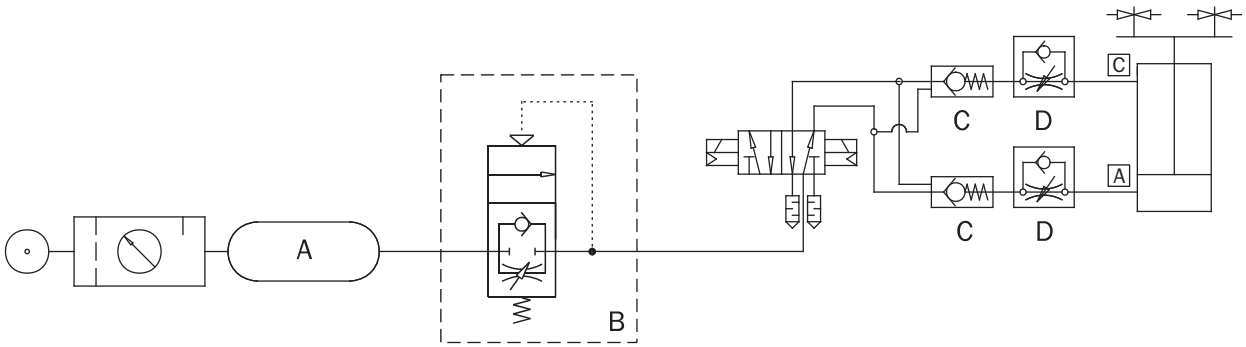
Possibili inconvenienti sul circuito di alimentazione dell'aria compressa:
1- Oscillazioni di pressione.
2- Riempimento pinza vuota all'avvio.
3- Improvvisa mancanza di pressione.
4- Velocità di azionamento eccessiva.

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).

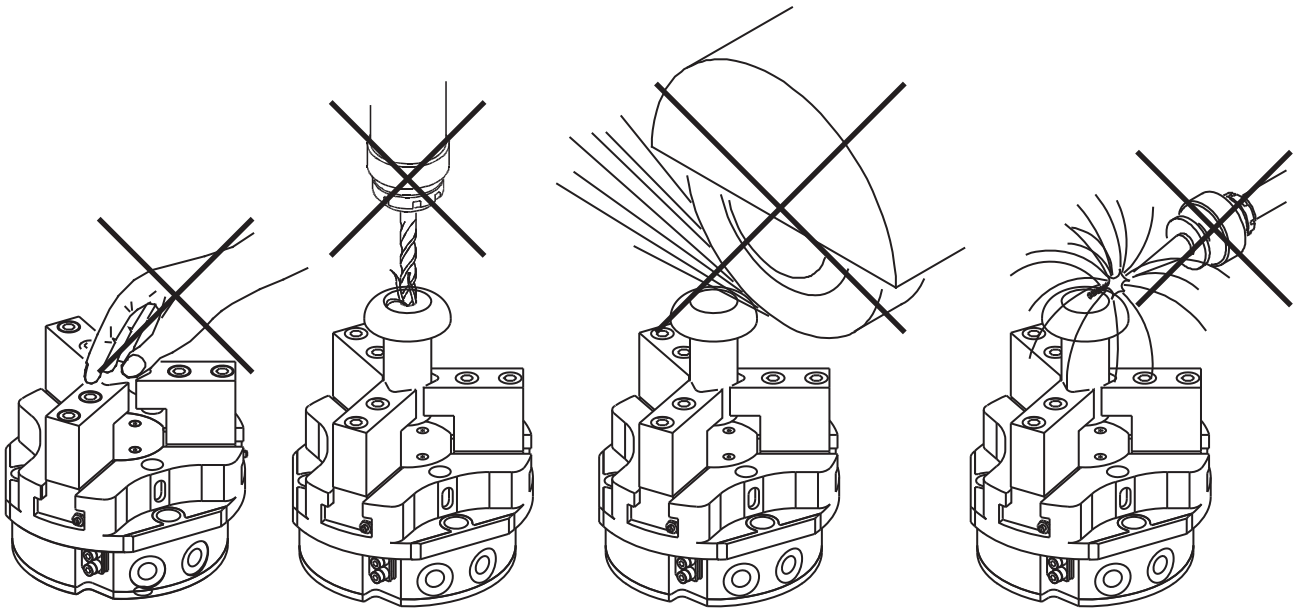


Avvertenze

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

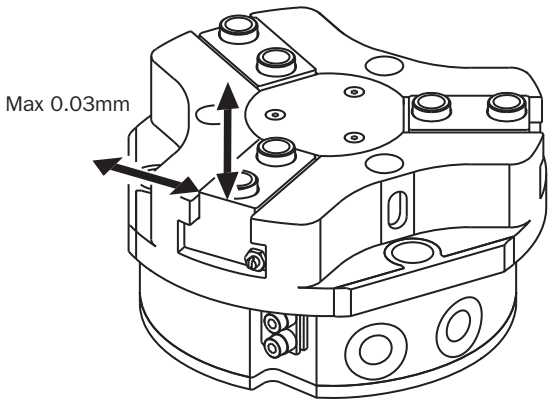
La pinza va ingrassata ogni 5 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

Il gioco delle griffe è indicato qui sotto.

Maintenance

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

The figure below shows the jaw backlash.



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

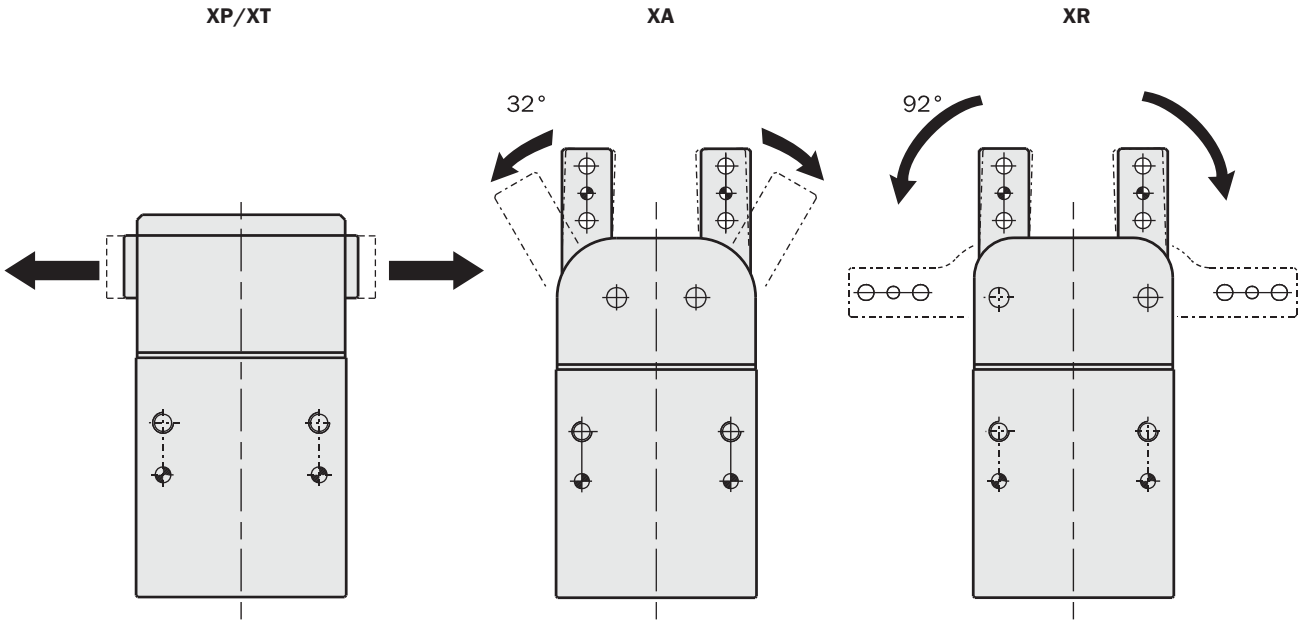
XT-20

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).

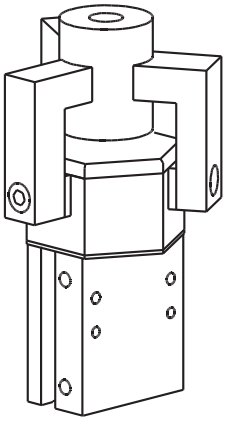


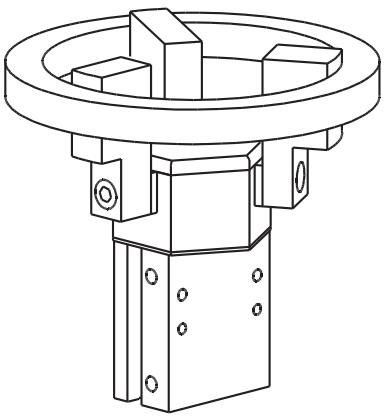
Serraggio

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.



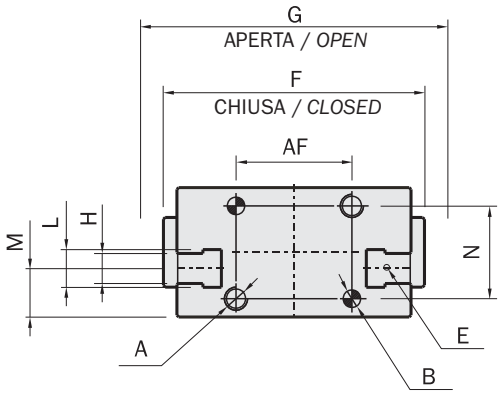


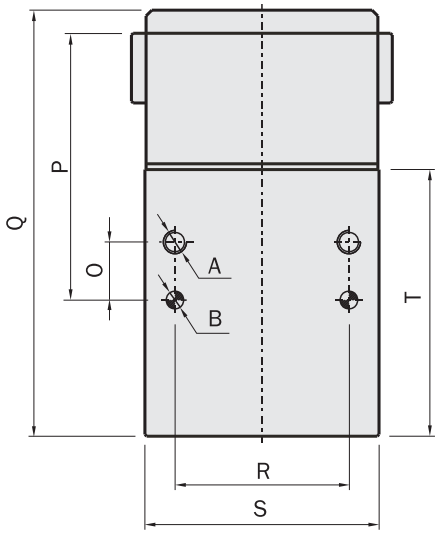
	XP-20	XP-26
Fluido *Medium*	Aria compressa filtrata, lubrificata / non lubrificata *Filtered, lubricated / non lubricated compressed air*	
Pressione di esercizio *Operating pressure range*	2÷8 bar	
Temperatura di esercizio *Operating temperature range*	5÷60 °C.	
Forza di serraggio per griffa in chiusura 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

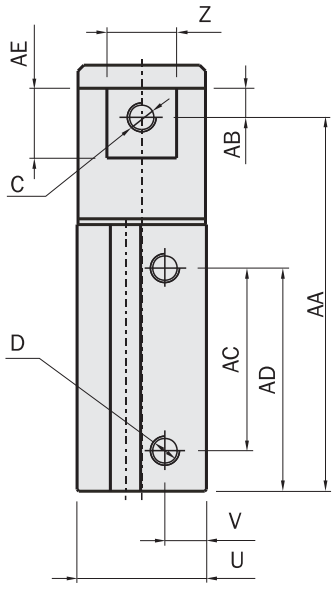
Dimensioni (mm) / *Dimensions (mm)*

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

09/2011

	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

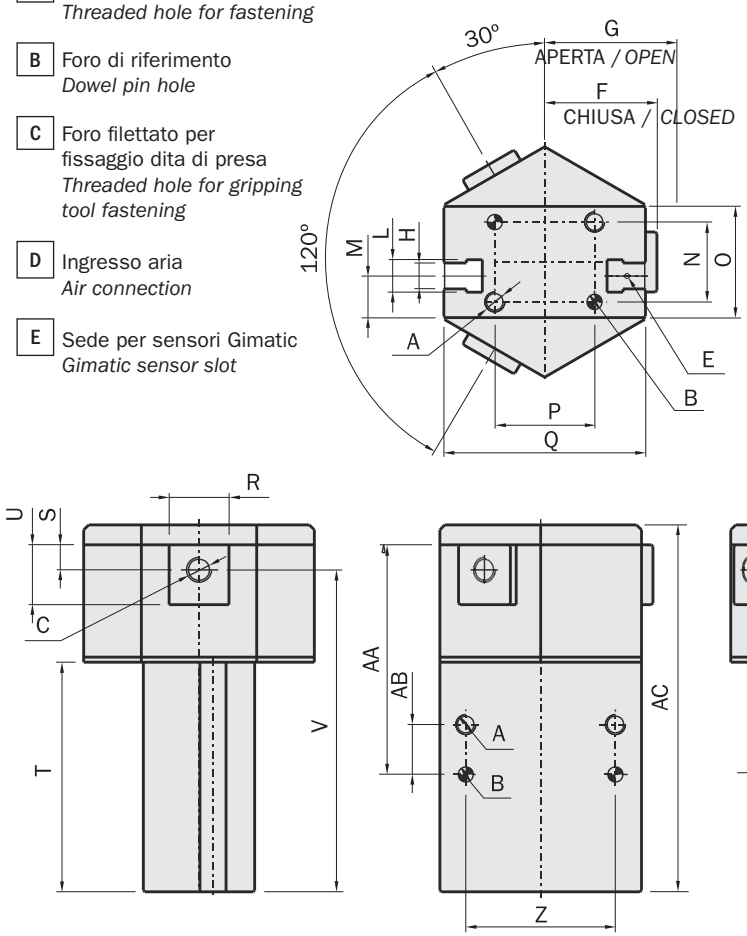
A Foro filettato per fissaggio
Threaded hole for fastening

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

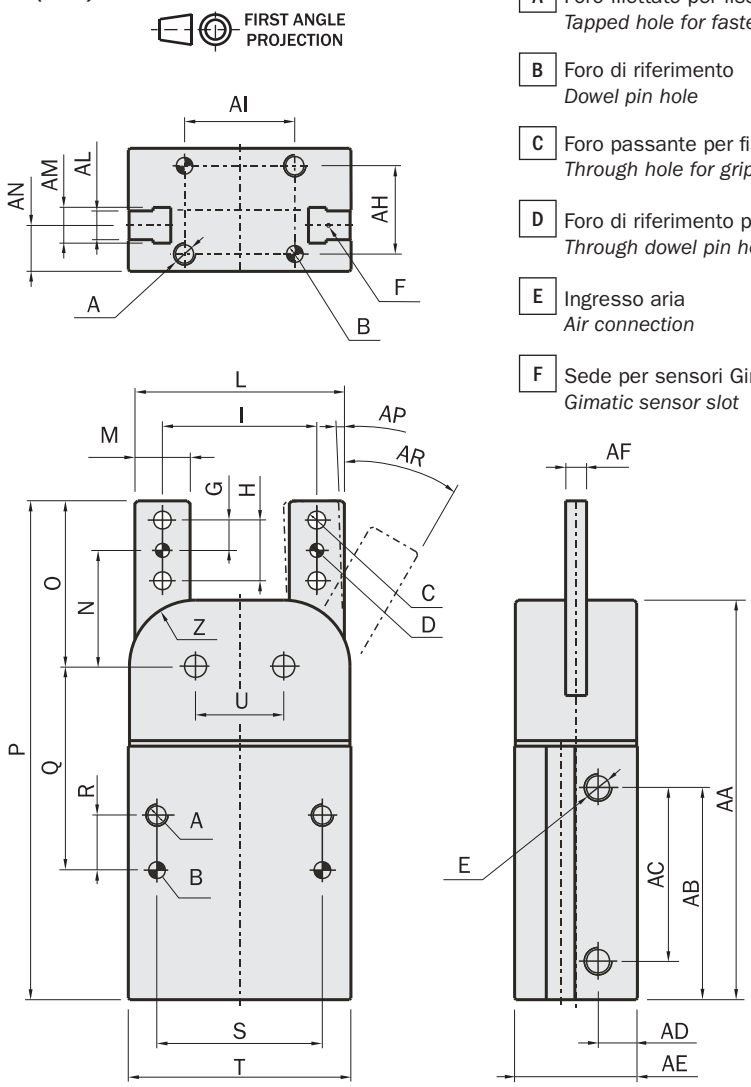


	XT-20	XT-26
A	M4x6	M5x10
B	Ø3x6	Ø4x6
C	M5x8	M6x9
D	M5	
E	SC - SL - SS - SN	
F	22.4	27.1
G	26	33.7
H	5.2	
L	6.5	
M	8.35	11.15
N	16	21
O	22.3	30.3
P	20	25
Q	40.4	50.4
R	12	15
S	5	6.5
T	46	42.8
U	12	15
V	64.5	65.5
Z	30	36
AA	46	56
AB	10	12
AC	73.5	77
AD	31.5	30
AE	38.5	36.5
AF	7.15	10.15

	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*	135 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

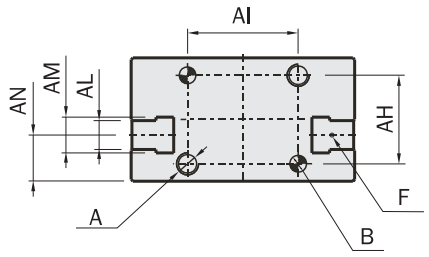
E Ingresso aria
Air connection

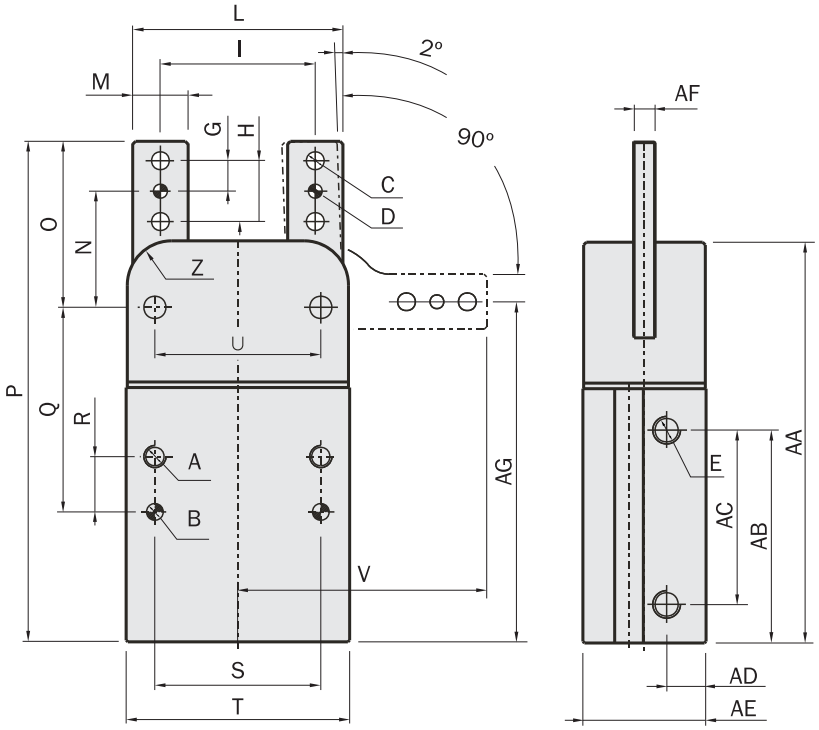
F Sede per sensori Gimatic
Gimatic sensor slot

	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

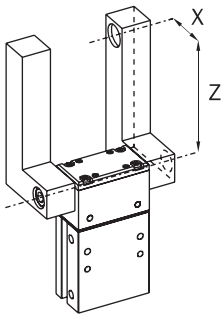
	XR-20	XR-26
A	M4x6	M5x10
B	Ø3x6	Ø4x8
C	Ø3.2	Ø4.3
D	Ø2.5H8	Ø3H8
E	M5	
F	SC - SL - SS - SN	
G	5.5	6
H	11	12
I	28	31
L	38	45
M	10	14
N	21	25.7
O	30	36.7
P	90.5	95.1
Q	37	42.4
R	10	12
S	30	36
T	40.4	50.4
U	30	39
V	45	56.2
Z	R=8	
AA	72.5	73.6
AB	38.5	36.5
AC	31.5	30
AD	7.15	10.15
AE	22.3	30.3
AF	3.8	5.4
AG	61.5	62.4
AH	16	21
AI	20	25
AL	5.2	
AM	6.5	
AN	8.35	11.15

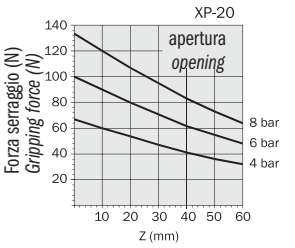
Forza di serraggio

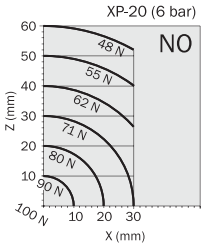
XP-... I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione, del braccio di leva Z e del disassamento del punto di presa X.

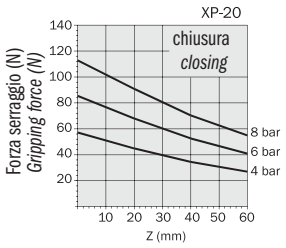
Gripping force

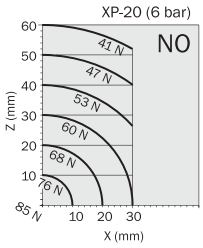
XP-... The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

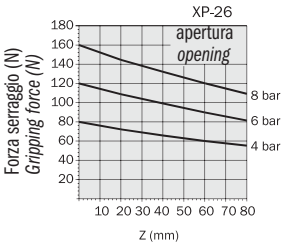


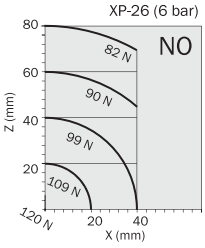


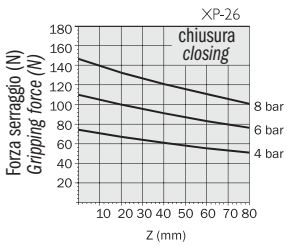


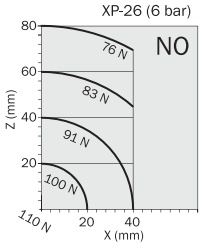










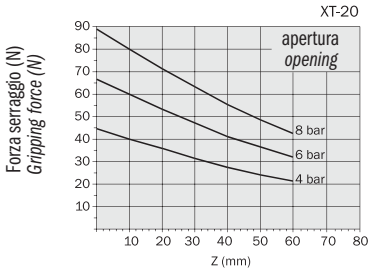


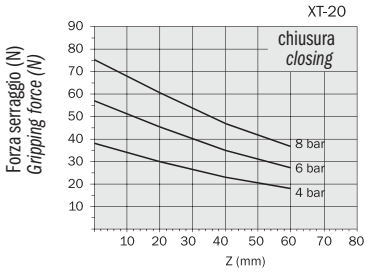
XT-... I grafici mostrano la forza per griffa espressa dalla pinza in funzione della pressione e del braccio di leva Z.

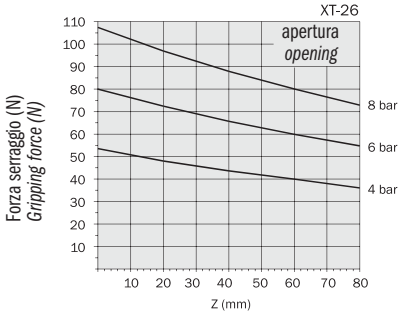
XT-... The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

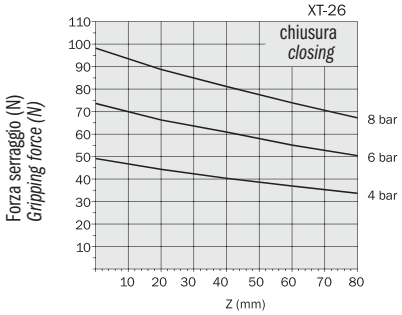
La forza indicata in questi grafici è riferita alla singola griffa.
La forza totale è il doppio.

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



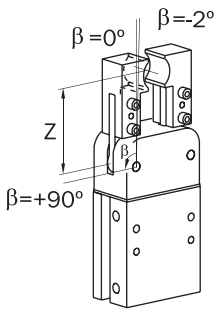


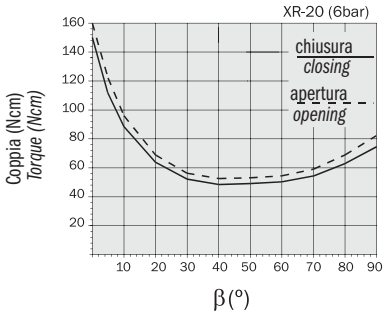


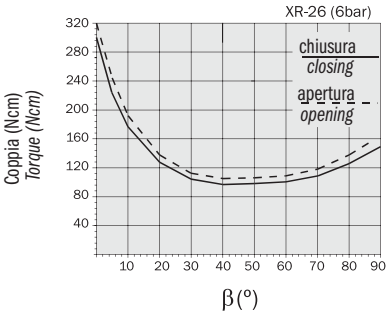


XR-... I grafici mostrano la coppia per griffa espressa dalla pinza in funzione della posizione angolare ß della griffa.

XR-... The graphs show the gripping torque on each jaw, as a function of the angular position ß of the jaw.





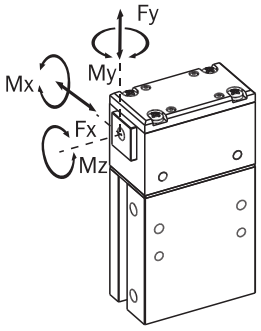


Carichi di sicurezza

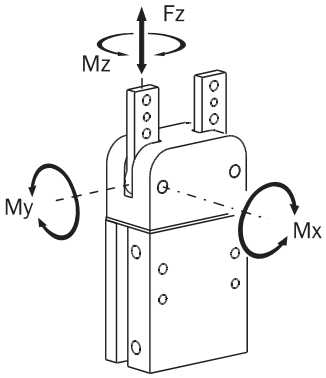
Consultare la tabella per i carichi massimi ammissibili.
Forze e coppie eccessive possono danneggiare la pinza e causare difficoltà di funzionamento compromettendo la sicurezza dell'operatore.
Fx s, Fy s, Fz s, Mx s, My s, Mz s, sono i carichi massimi ammissibili in condizioni statiche, cioè con le griffe 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

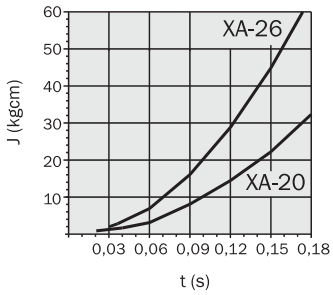
Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
Fx s, Fy s, Fz s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.
Fx d, Fy d, Fz d, Mx d, My d, 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.

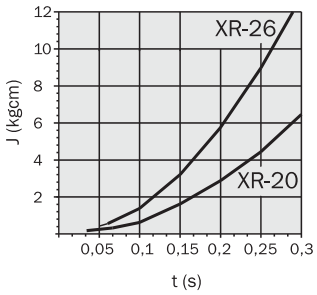


	XP-20	XP-26	XT-20	XT-26
Fx s	80 N	150 N	80 N	150 N
Fy s	60 N	100 N	60 N	100 N
Mx s	3 Nm	7.2 Nm	3 Nm	7.2 Nm
My s	2 Nm	5.5 Nm	2 Nm	5.5 Nm
Mz s	2 Nm	5.5 Nm	2 Nm	5.5 Nm
Fx d	1 N	2 N	1 N	2 N
Fy d	1 N	2 N	1 N	2 N
Mx d	3 Ncm	7.2 Ncm	3 Ncm	7.2 Ncm
My d	2 Ncm	5.5 Ncm	2 Ncm	5.5 Ncm
Mz d	2 Ncm	5.5 Ncm	2 Ncm	5.5 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.

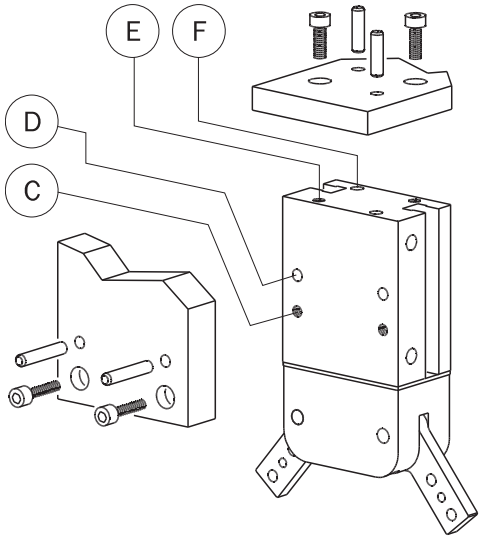
Lasciare lo spazio necessario per i raccordi dell'aria.

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.



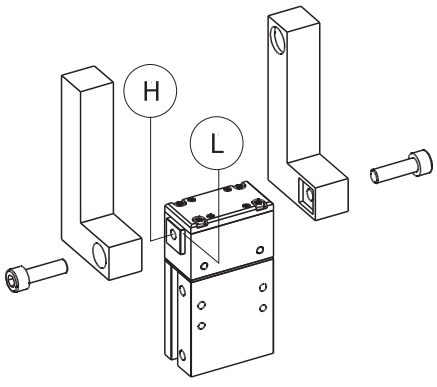
		X...-20	X...-26
C	E	M4x6 mm	M5x10 mm
D	F	Ø3H8x6 mm	Ø4H8x8 mm

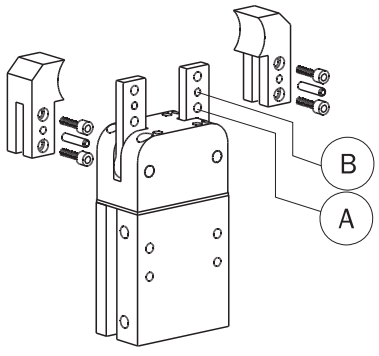
Fissaggio delle estremità di presa

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 $^{-0.005}$	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

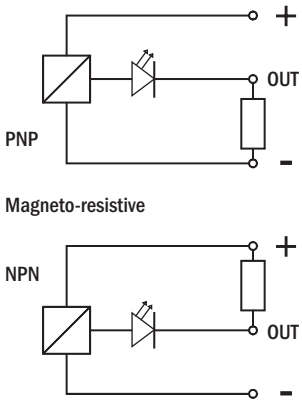
Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone.
Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse 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	2.5m cable	☑	☑	☑	☑
SC3N203Y	PNP	M8 connector	☑	☑	☑	☑
SL4N225-G	PNP	2.5m cable	☑	☑	☑	☑
SL4M225-G	NPN	2.5m cable	☑	☑	☑	☑
SL3N203-G	PNP	M8 connector	☑	☑	☑	☑
SL3M203-G	NPN	M8 connector	☑	☑	☑	☑
SS4N225-G	PNP	2.5m cable	☑ (1)	☑ (1)	☑ (1)	☑ (1)
SS4M225-G	NPN	2.5m cable	☑ (1)	☑ (1)	☑ (1)	☑ (1)
SS3N203-G	PNP	M8 connector	☑ (1)	☑ (1)	☑ (1)	☑ (1)
SS3M203-G	NPN	M8 connector	☑ (1)	☑ (1)	☑ (1)	☑ (1)

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

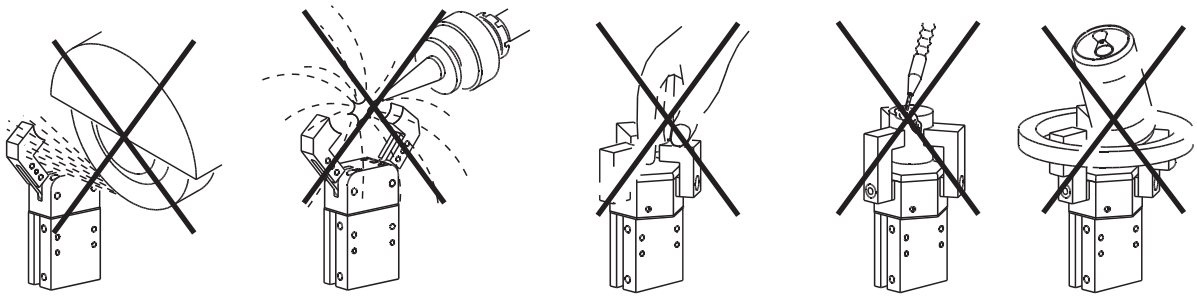
(1)
By the adapter (SS.004.000) provided with the pack K-SENS.

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

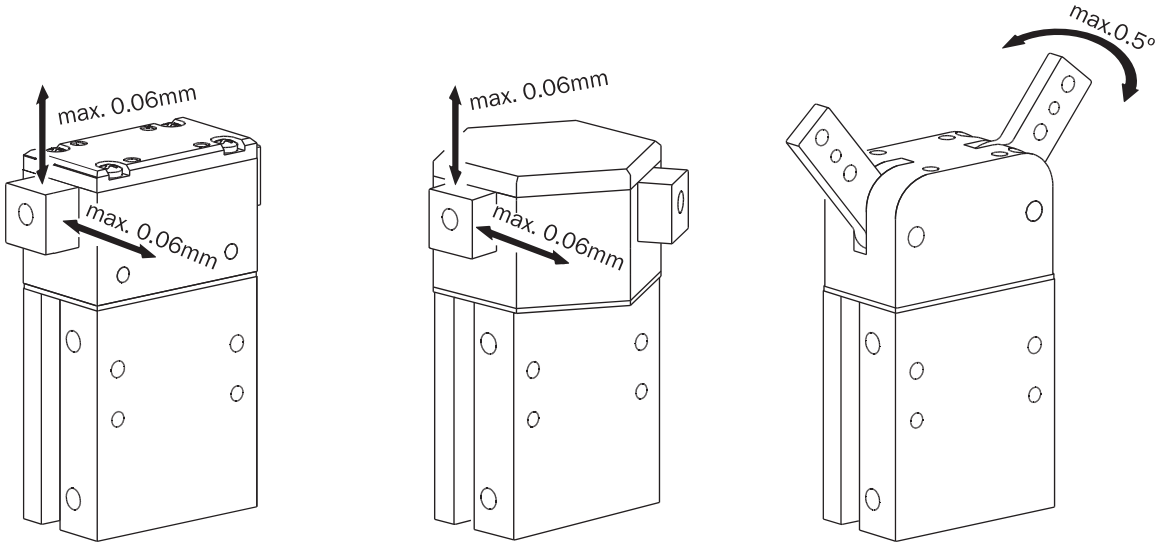
La pinza va ingrassata ogni 10 milioni di cicli con:
- Molykote DX (parti metalliche).
- Molykote PG75 (guarnizioni).

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.



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.

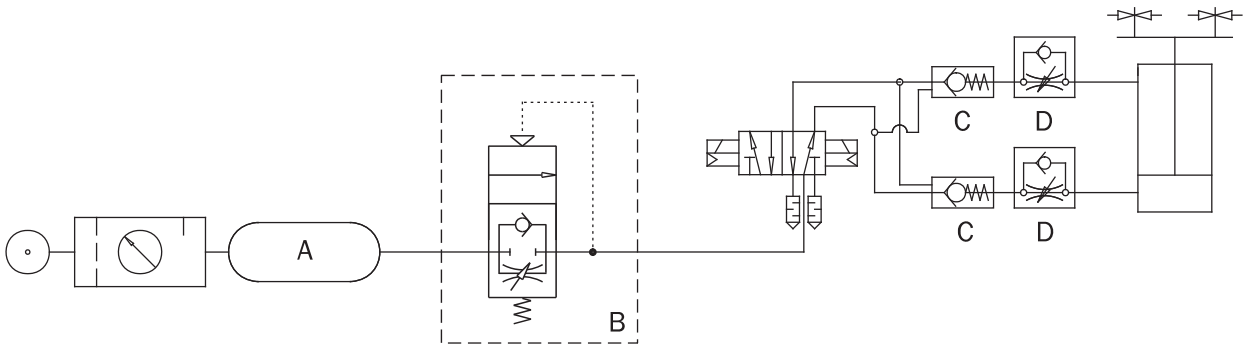
The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.

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).