

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

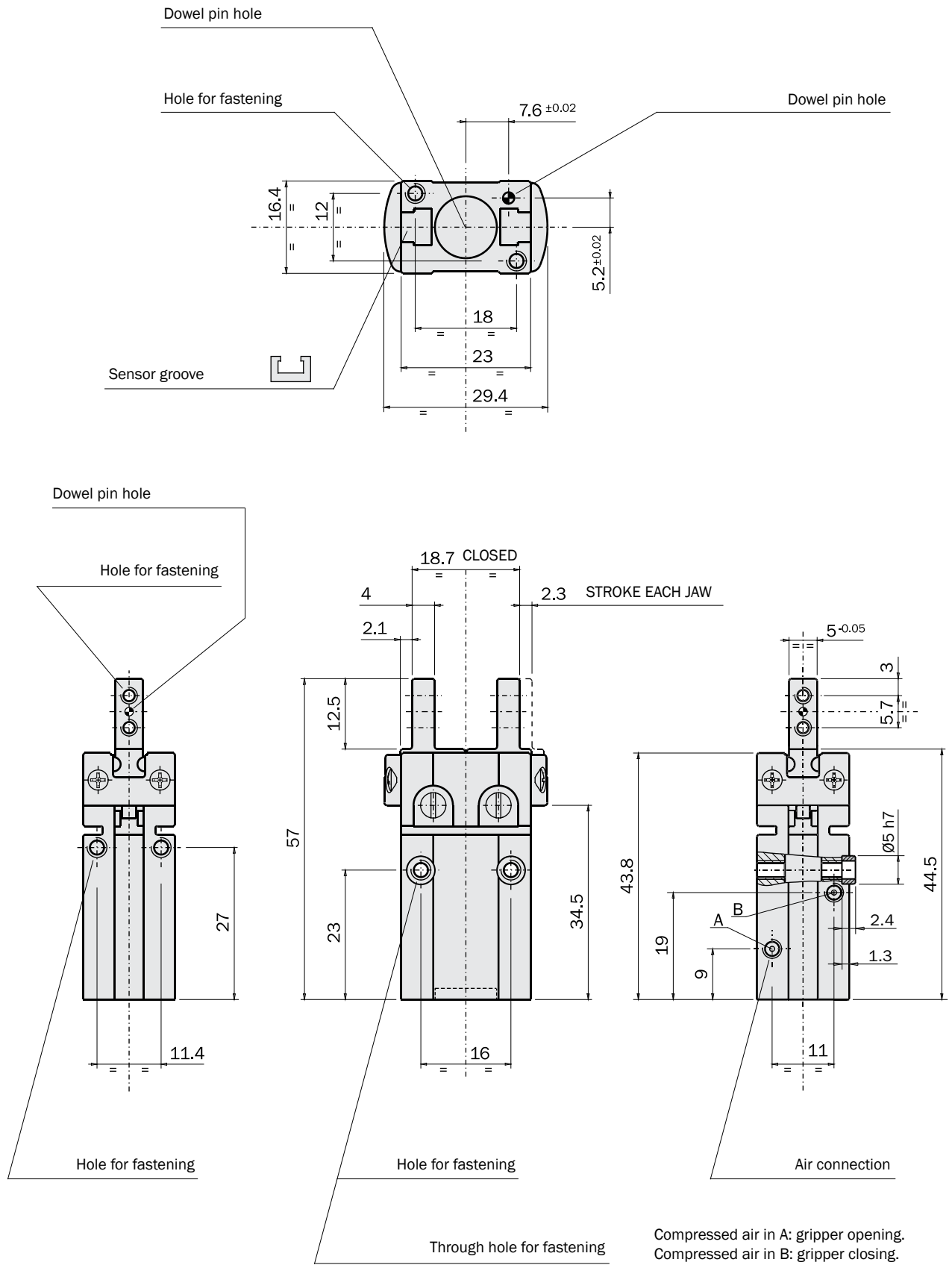
- Double acting.
- Exclusive backlash adjusting system.
- Long life and reliability, maintenance free.
- Various options for fastening.
- Optional proximity magnetic sensors.
- Spring closed (-NC) or spring open (-NO) option.
- FDA-H1 food-grade grease.



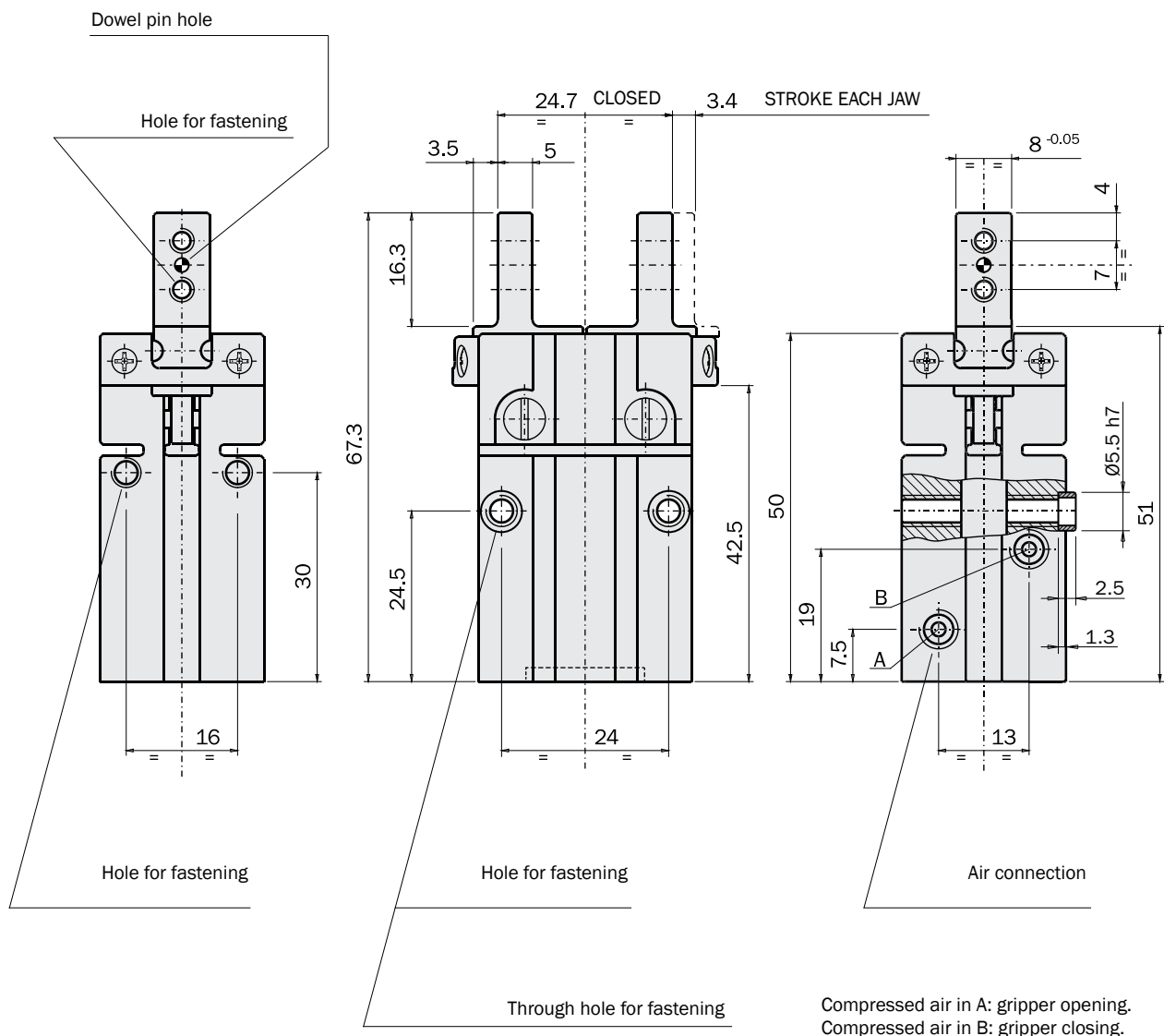
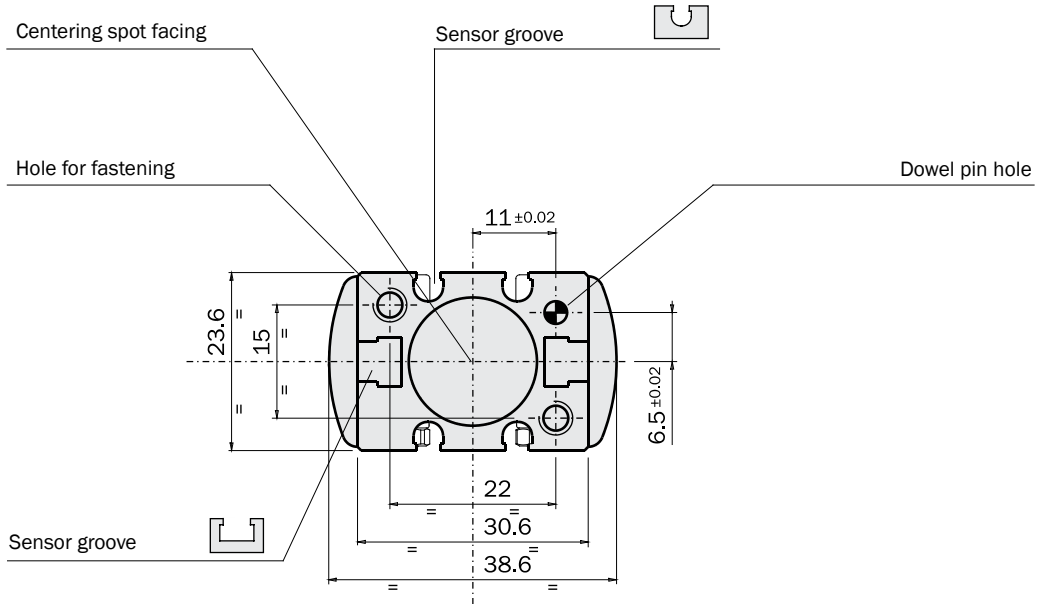
	GS-10	GS-16	GS-20	GS-25	GS-32	GS-40
Medium	Compressed air in compliance with ISO 8573-1:2010 [7:4:4]					
Operating pressure range	2.5 ÷ 8 bar	1.5 ÷ 8 bar			1 ÷ 8 bar	
Operating temperature range	5° ÷ 60°C.					
Opening gripping force at 6 bar on each jaw	18 N	50 N	106 N	141 N	250 N	350 N
Opening total gripping force at 6 bar	36 N	100 N	212 N	282 N	500 N	700 N
Closing gripping force at 6 bar on each jaw	14 N	43 N	93 N	127 N	215 N	307 N
Closing total gripping force at 6 bar	28 N	86 N	186 N	254 N	430 N	614 N
Total stroke	4.6 mm	6.8 mm	10.4 mm	14.4 mm	22 mm	30 mm
Maximum working frequency	3 Hz	3 Hz	2 Hz	2 Hz	2 Hz	2 Hz
Cycle air consumption	0.7 cm ³	3 cm ³	7 cm ³	14 cm ³	28 cm ³	61 cm ³
Closing time without load	0.01 s	0.02 s	0.05 s	0.07 s	0.09 s	0.12 s
Repetition accuracy	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm	0.02 mm
Weight	45 g	98 g	207 g	365 g	645 g	1155 g

Dimensions (mm)

GS-10



09/2022

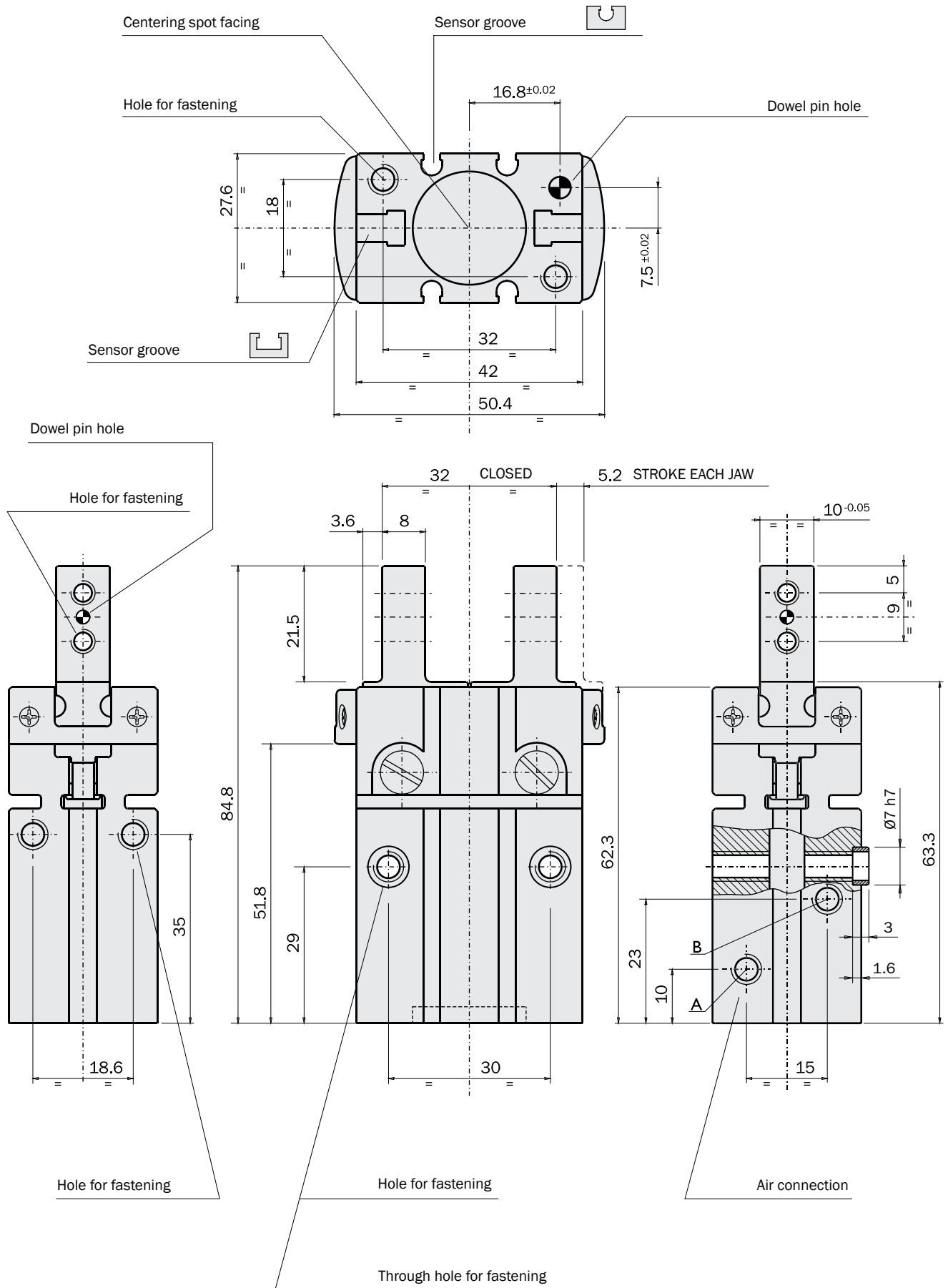


FIRST ANGLE PROJECTION

Rotary Units
Quick Changer
Profiles and Brackets
Grippers
Linear Actuators
Suspensions
Nippers
Robot Kit
Options
Sensors

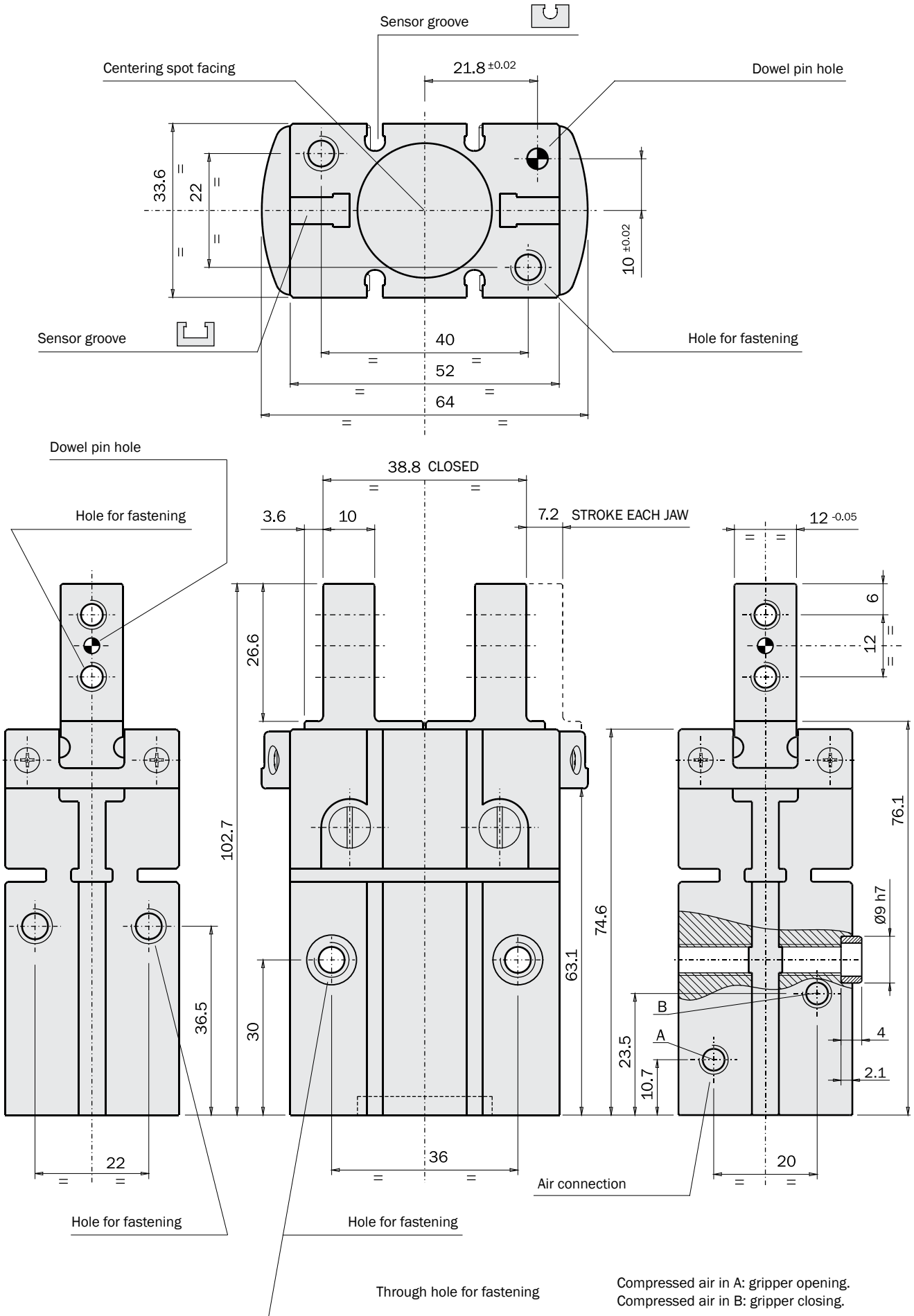
Dimensions (mm)

GS-20



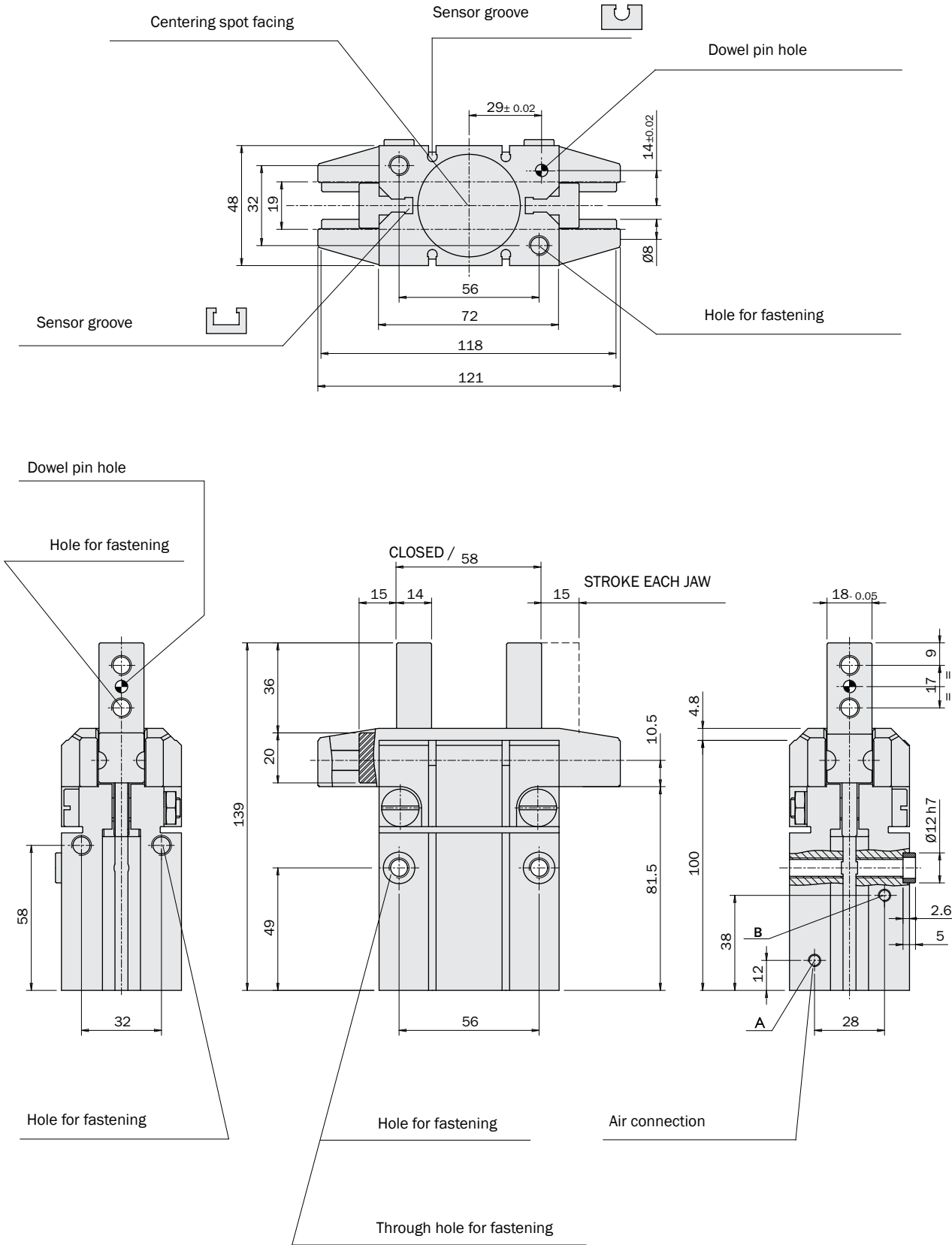
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.





FIRST ANGLE PROJECTION

Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors

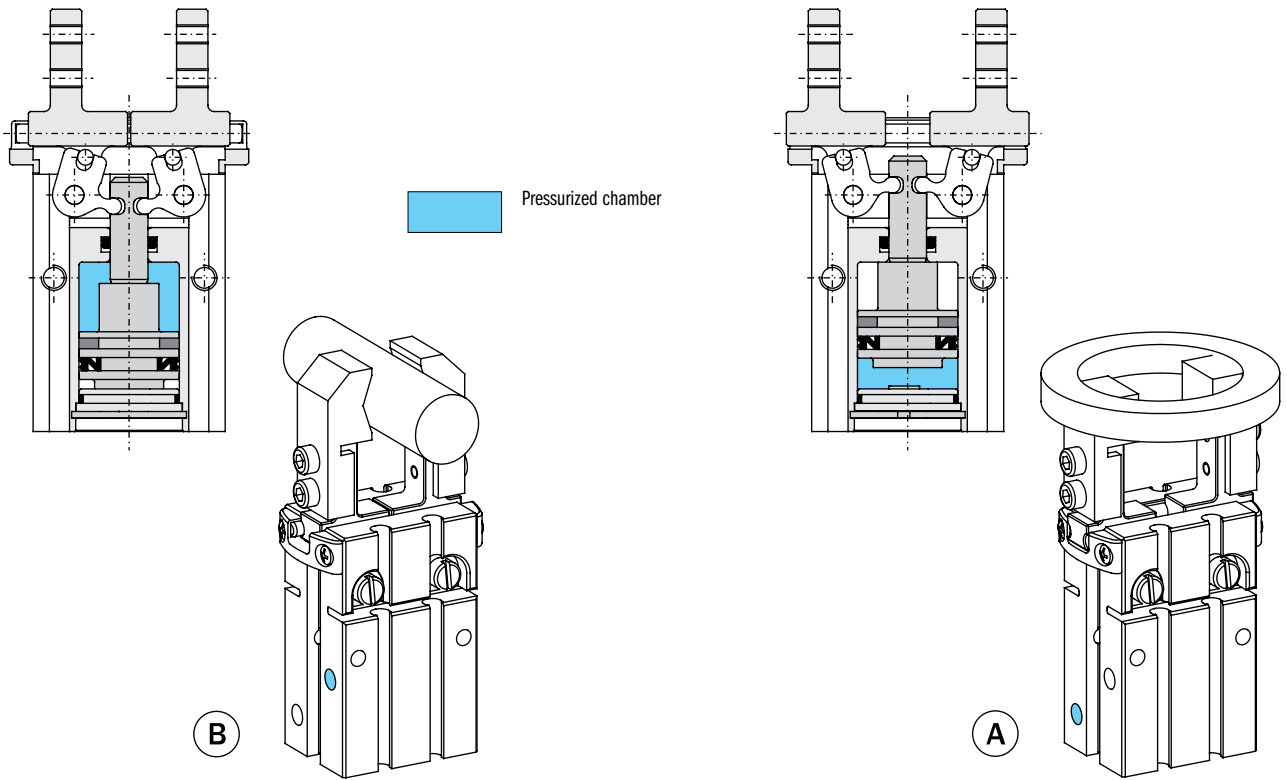


Compressed air in A: gripper opening.
Compressed air in B: gripper closing.

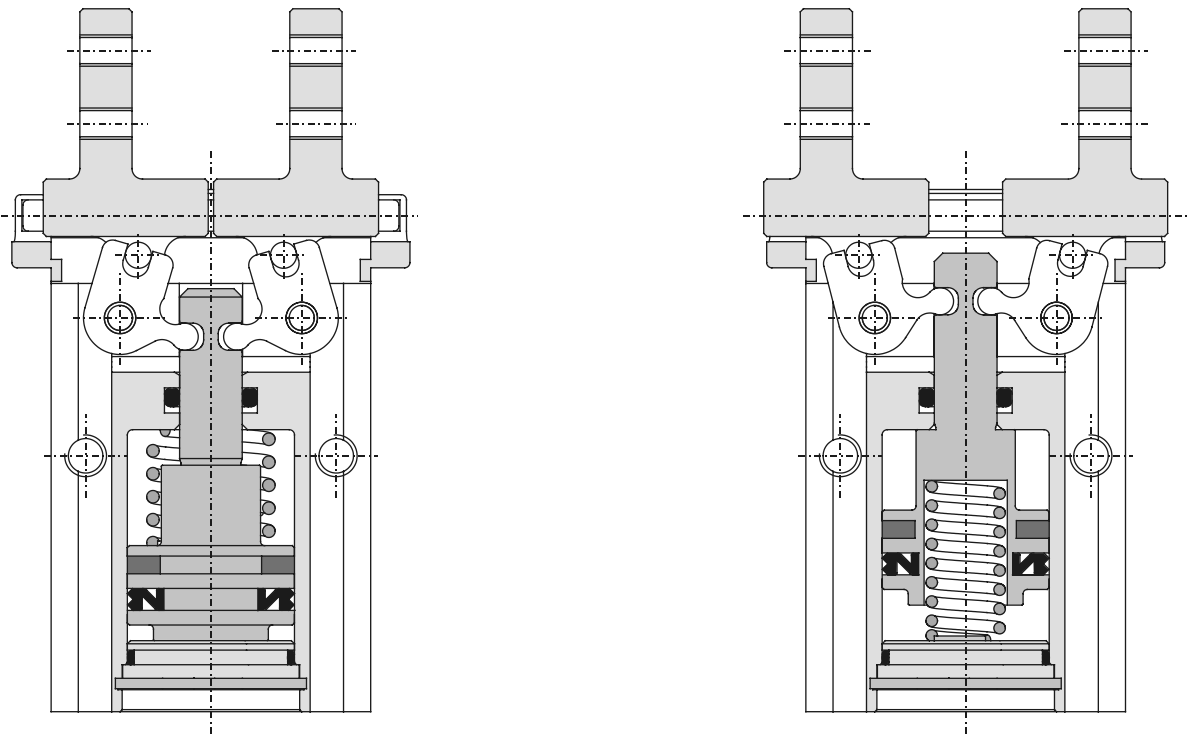


Gripping

The gripper is double-acting for either internal (A) or external (B) gripping applications. The opening force is higher.



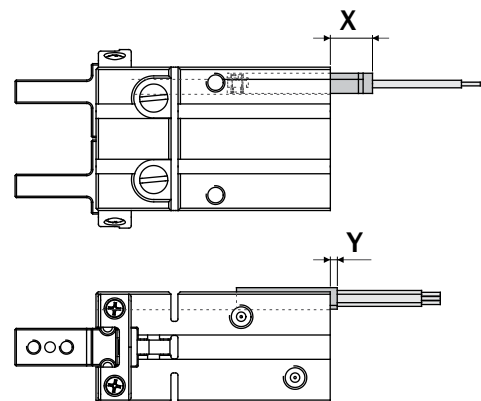
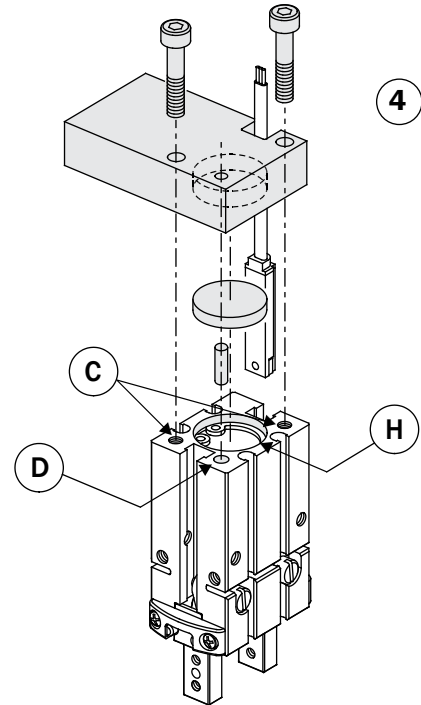
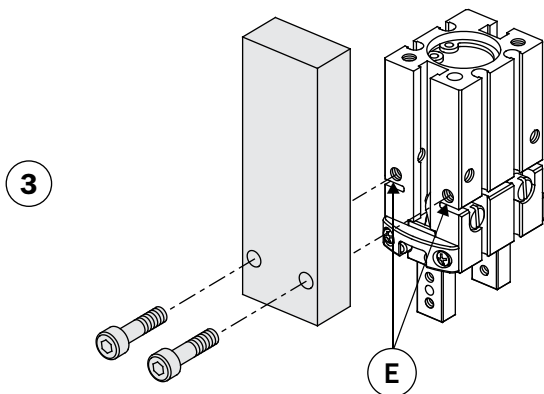
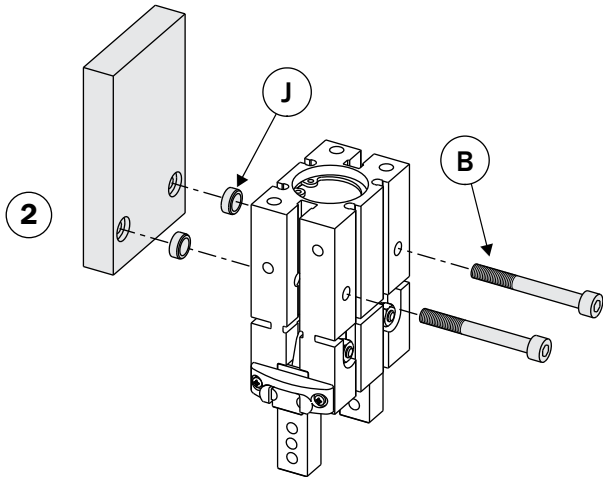
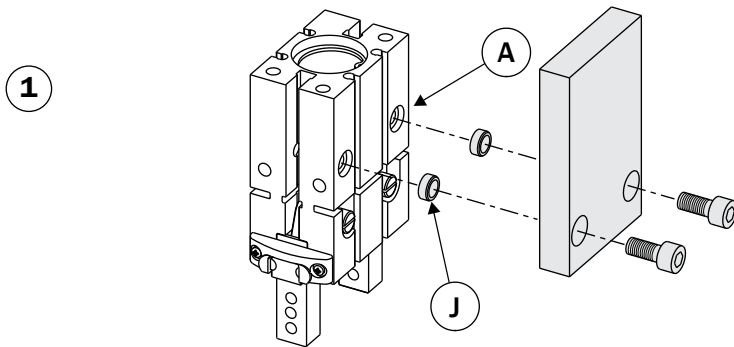
It is also available, on request, with a closing (-NC) or opening (-NO) spring.



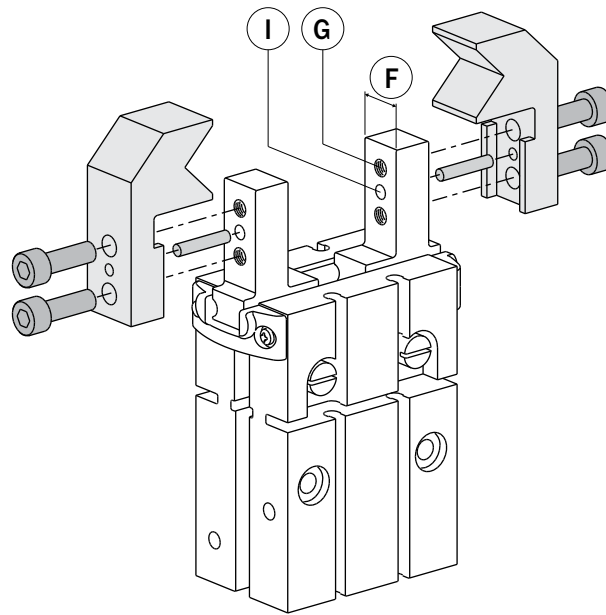
Fastening

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

- 1- To fasten the gripper on the wider side, use a plate with two through holes and two screws to be screwed on the threaded holes (A) on the gripper housing.
Use 2 centering sleeves (J), where available.
- 2- It is possible to fasten the gripper on the wider side also with two screws (B) passing through the threaded holes (A).
In this case sensors on the T-slot could be unusable.
Use 2 centering sleeves (J), where available.
- 3- To fasten the gripper on the narrow side, two screws passing through the holes on the plate, must be screwed into the threaded holes (E) on the gripper housing.
- 4- The gripper can be fastened on the bottom as well, using two screws passing through the holes on the plate and screwed into the threaded holes (C) on the gripper housing.
For the reference use a pin on the dowel pin hole (D) and a centering disc in the spot face (H). In this case the necessary room for sensor must be provided (X and Y).



The gripping tools must be as short and light as possible. They must be fastened by two screws (G). For a precise positioning on the jaw use the calibrated dimension (F), or the dowel pin holes (I).



	GS-10	GS-16	GS-20	GS-25	GS-32	GS-40
A	M3x5.5 mm	M4x8 mm	M5x10 mm	M6x12 mm	M6x12 mm	M8x21 mm
B	M2.5x22 mm	M3x30 mm	M4x35 mm	M5x45 mm	M5x50 mm	M6x60 mm
C	M3x6 mm	M4x8 mm	M5x10 mm	M6x12 mm	M6x12 mm	M8x17 mm
D	Ø2H9 x 3 mm	Ø3H9 x 3 mm	Ø4H9 x 4 mm	Ø4H9 x 4 mm	Ø5H9 x 5 mm	Ø5H9 x 5 mm
E	M3x6 mm	M4x4.5 mm	M5x8 mm	M6x10 mm	M6x10 mm	M8x21 mm
F	5 ^{-0.05} mm	8 ^{-0.05} mm	10 ^{-0.05} mm	12 ^{-0.05} mm	15 ^{-0.05} mm	18 ^{-0.05} mm
G	M2.5x4 mm	M3x5 mm	M4x8 mm	M5x10 mm	M6x12 mm	M8x14 mm
H	Ø11H9 x 2 mm	Ø17H9 x 2 mm	Ø21H9 x 3 mm	Ø26H9 x 3.5 mm	Ø34H9 x 4 mm	Ø41 ^{+0.02} x 3 mm
I	Ø1.5H8 x 4 mm	Ø2H8 x 5 mm	Ø2.5H8 x 8 mm	Ø3H8 x 10 mm	Ø4H8 x 12 mm	Ø5H8 x 14 mm

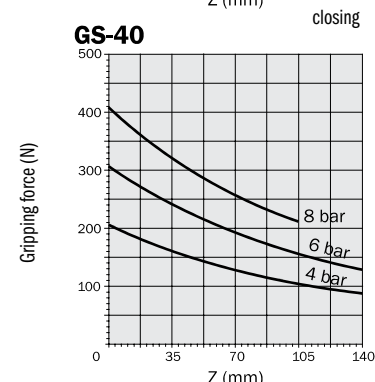
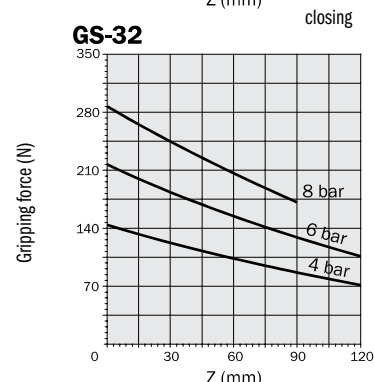
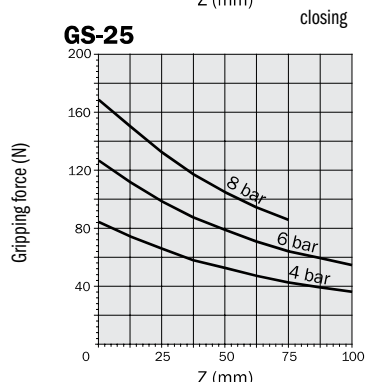
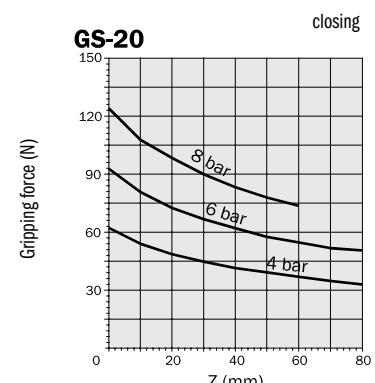
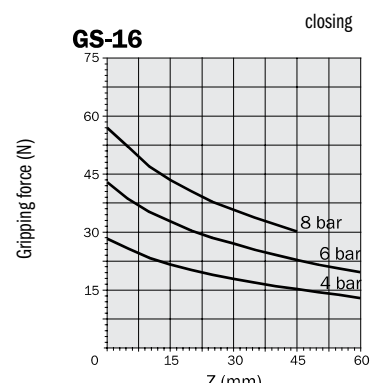
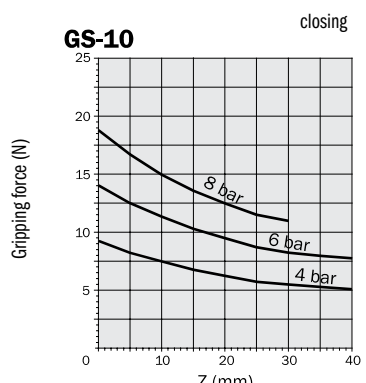
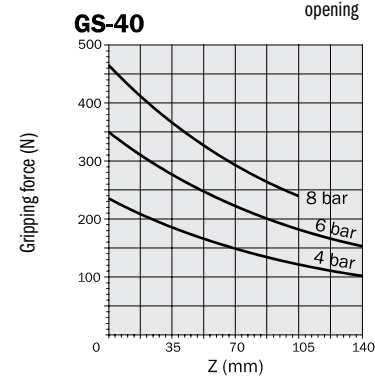
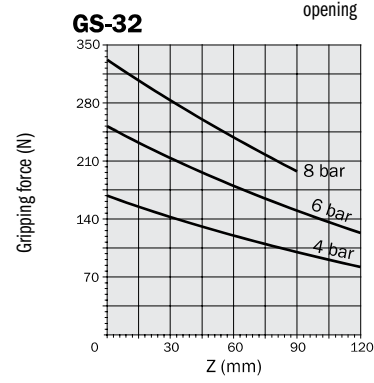
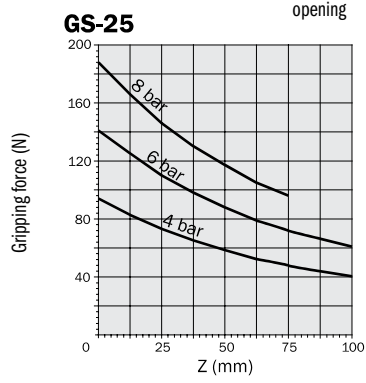
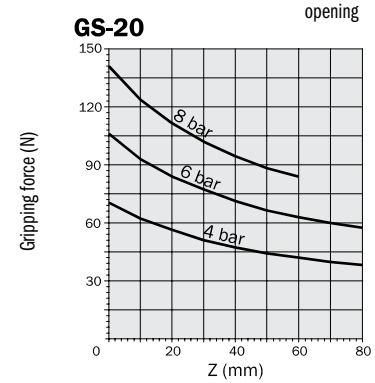
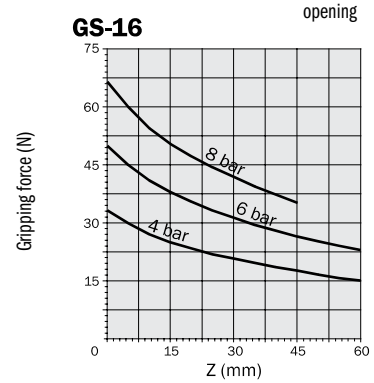
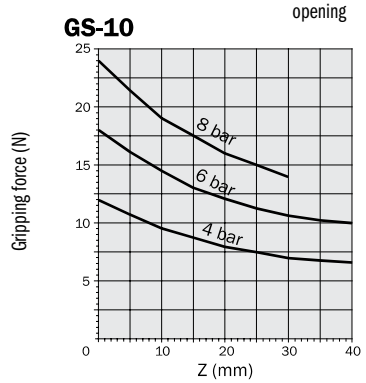
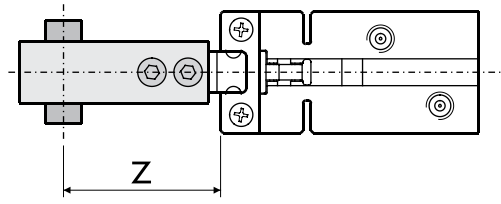
Sensors

SC	-	X=2 mm	X=0 mm	X=0 mm	X=0 mm	X=0 mm
SL	X=10 mm + cable	X=10 mm + cable	X=9 mm + cable	X=7 mm + cable	X=7 mm + cable	X=7 mm + cable
SN	-	X=0 mm	X=0 mm	X=0 mm	X=0 mm	X=0 mm
SS	X=2 mm + cable	X=Y=3 mm + cable	X=Y=1 mm + cable	X=Y=1 mm + cable	cable	cable

Gripping force

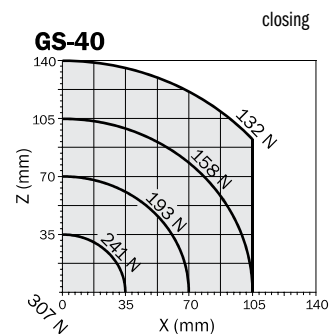
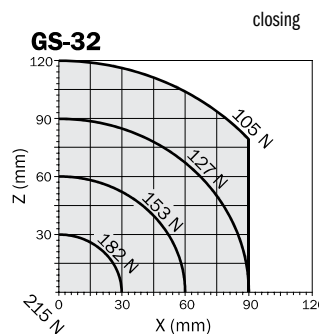
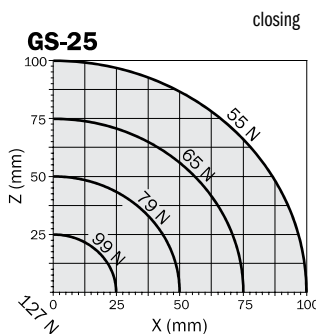
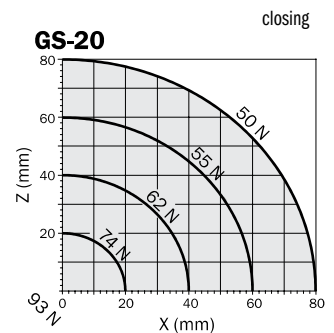
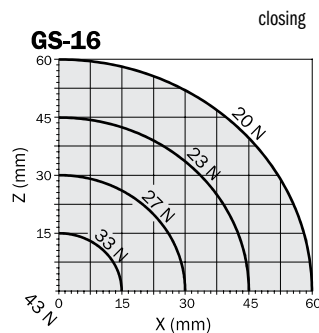
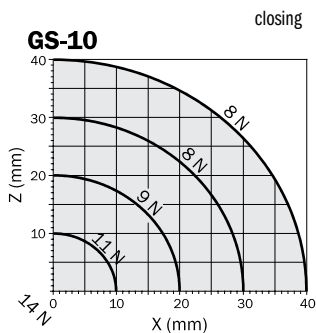
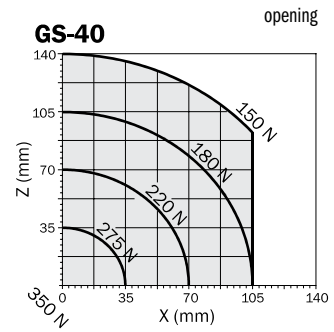
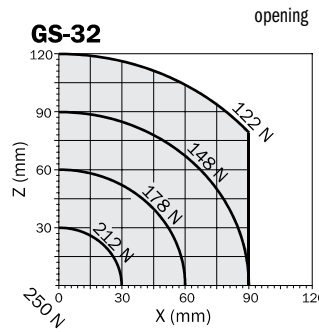
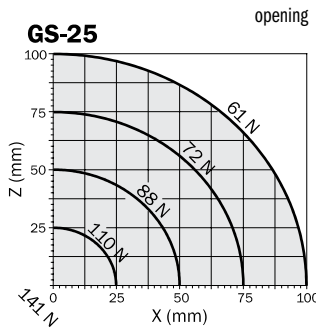
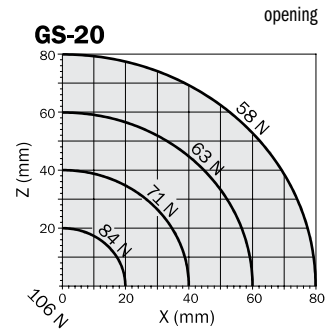
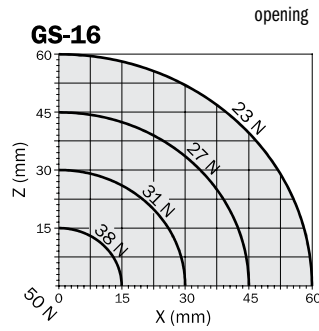
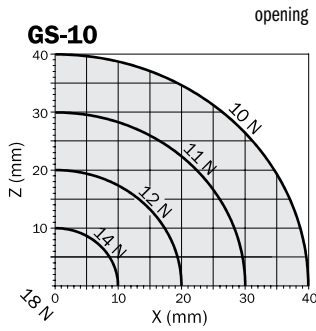
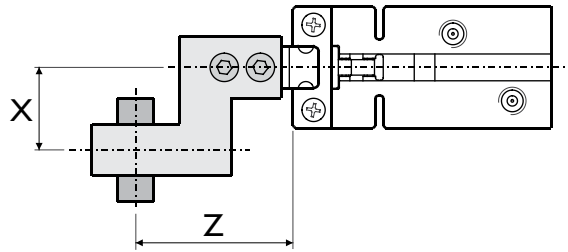
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

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



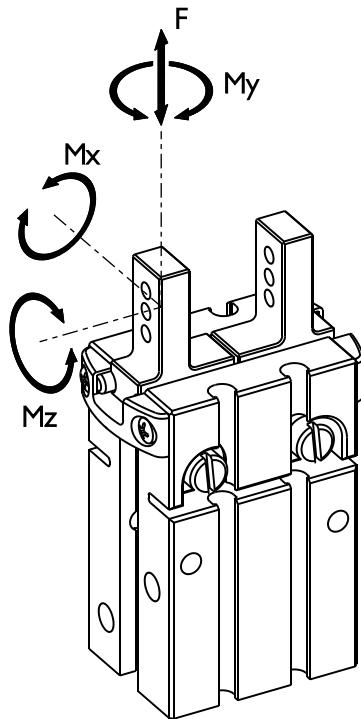
Gripping force

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



Safety loads

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



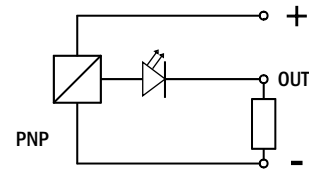
	GS-10	GS-16	GS-20	GS-25	GS-32	GS-40
F_s	25 N	50 N	75 N	125 N	200 N	300 N
M_x_s	0.4 Nm	1.5 Nm	5 Nm	8 Nm	18 Nm	30 Nm
M_y_s	0.4 Nm	1.5 Nm	5 Nm	8 Nm	12 Nm	20 Nm
M_z_s	0.4 Nm	1.5 Nm	5 Nm	8 Nm	18 Nm	30 Nm
F_d	0.4 N	0.8 N	1.5 N	2.5 N	3.5 N	4.5 N
M_x_d	0.4 Ncm	1.5 Ncm	5 Ncm	8 Ncm	18 Ncm	30 Ncm
M_y_d	0.4 Ncm	1.5 Ncm	5 Ncm	8 Ncm	18 Ncm	30 Ncm
M_z_d	0.4 Ncm	1.5 Ncm	5 Ncm	8 Ncm	18 Ncm	30 Ncm
m 0.2s	40 g	80 g	150 g	250 g	350 g	450 g
m 0.12s	35 g	65 g	125 g	200 g	250 g	300 g
m 0.09s	30 g	55 g	100 g	150 g	200 g	-
m 0.07s	25 g	45 g	75 g	100 g	-	-
m 0.05s	20 g	35 g	50 g	-	-	-
m 0.02s	15 g	25 g	-	-	-	-
m 0.01s	10 g	-	-	-	-	-

Sensors

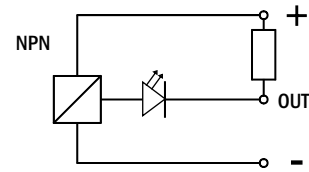
The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnet on the piston inside.

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

Use sensors:



Magneto-resistive



				GS-10	GS-16 / GS-20 / GS-25 / GS-32 / GS-40
SL4N225G	PNP	2.5m cable	\$27.20	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
SL4M225G	NPN	2.5m cable	\$27.20	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
SL3N203G	PNP	M8 snap plug connector	\$31.16	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
SL3M203G	NPN	M8 snap plug connector	\$31.16	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>
SN4N225G	PNP	2.5m cable	\$27.20	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
SN4M225G	NPN	2.5m cable	\$27.20	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
SN3N203G	PNP	M8 snap plug connector	\$31.16	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
SN3M203G	NPN	M8 snap plug connector	\$31.16	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
SS4N225G	PNP	2.5m cable	\$27.20	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
SS4M225G	NPN	2.5m cable	\$27.20	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
SS3N203G	PNP	M8 snap plug connector	\$31.16	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
SS3M203G	NPN	M8 snap plug connector	\$31.16	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)

(1) Must by the adapter K-SENS separately.

