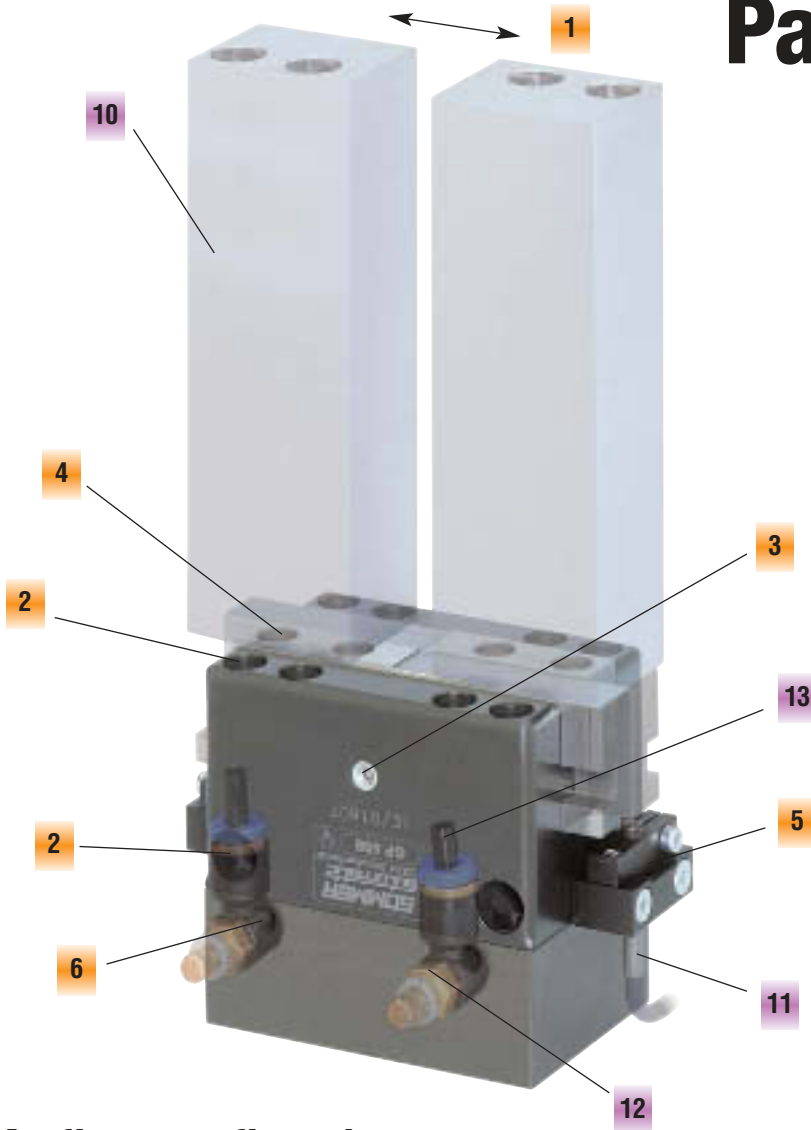


Parallel gripper

with extended T-slot guide



Features

- 1 Stroke
- 2 Hole for cap head screw
- 3 Lubricating nipple for mechanism
- 4 Removable centering sleeves
- 5 Sensor mount
- 6 Air connection at the front and bottom

Accessories

For specific accessories see page 29

- 10 Universal jaws
- 11 Proximity switch
- 12 One-way valve
- 13 PU hose

As flat as a flounder

This T-slot series is ideal for longer gripping jaws. The guide extends through the entire length of the housing and allows a low profile due to the flat design.

All types are made of hard-anodized aluminum and have hardened and ground steel jaws with an extended T-slot guide. Starting with size GP608, we offer up to 7 different models - with springs (for self-locking, opening) and without springs. These sizes are also available in a hydraulic version with an operating pressure of 30 bar. All grippers are available heat-resistant up to 150°C.

All grippers are maintenance-free up to 1.5 million cycles, after which we recommend relubrication via the lubricating nipple. If oil-free air is used, we recommend lubrication of the cylinder with Renolit. Several attachment holes allow for added mounting convenience.

The centering sleeves on the jaws ensure a precise mounting of the tooling fingers, which is important if they are changed often. For this case, we also can supply universal jaws made

of steel or aluminum. For more details, see 'Accessories'.

Pneumatic ports for opening and closing are located on the front, back and bottom. At the bottom, the ports are closed with grub screws and can be used for tubeless connections. For sensing, there is a 3 mm sensor mount located beneath the jaws. The two largest sizes will accommodate our sensor mounts for various M3 hole diameters underneath each jaw. In this case, we recommend sensor mount KB 8 for proximity switch NJ 8-E2.

For more details on the proximity switch and other accessories, see the accessory pages.

Note:

If the gripper is used as a single-acting device with spring, the unused port must be vented or an air filter must be installed to prevent a vacuum in the piston chamber from hindering operation.

Explanations

Opening / closing by spring:

- NO** = Standard design, self-locking, spring opening (long stroke - standard force)
- NC** = Standard design, self-locking, spring closing (long stroke - standard force)
- SC** = Heavy-duty design, self-locking, spring closing (short stroke - large force)
- SO** = Heavy-duty design, self-locking, spring opening (short stroke - large force)

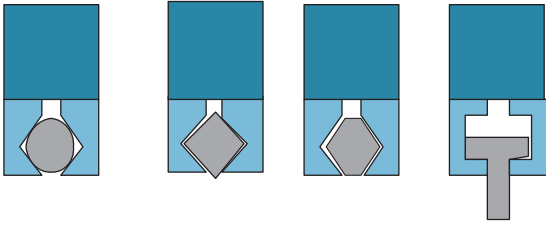
Without spring:

- N** = Standard design (long stroke - standard force)
- S** = Heavy-duty design (short stroke - large force)

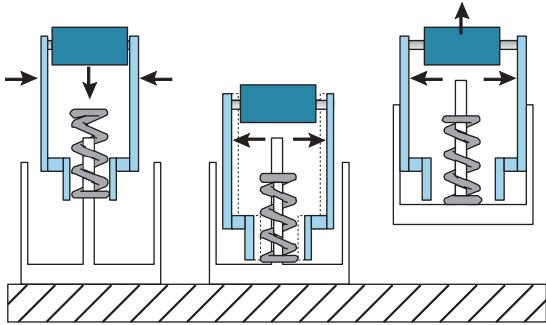
Hydraulic version:

- NH** = Standard design, hydraulic up to 40 bar (long stroke - large force)

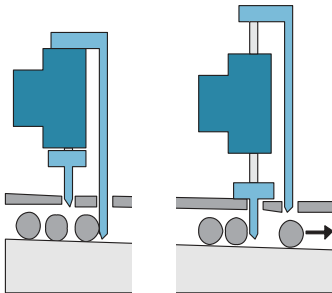
Application Ideas



Various types of work pieces can be gripped and longer gripping jaws can be installed.



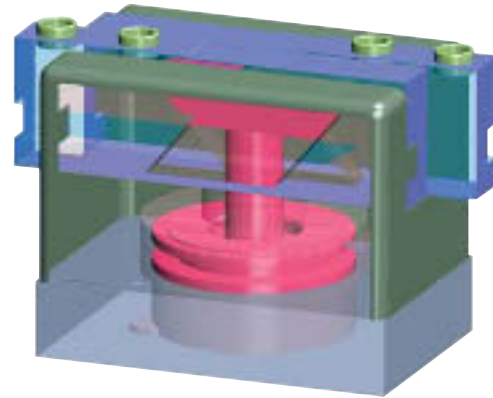
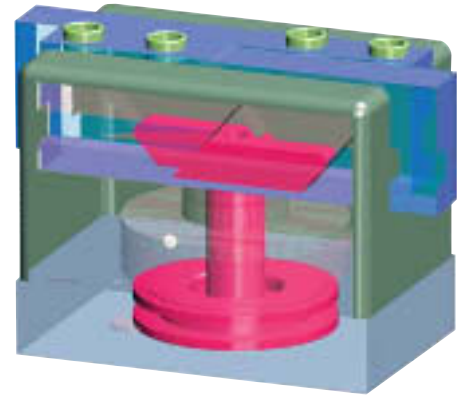
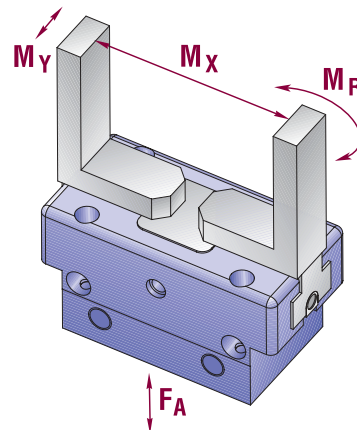
For example, the longer jaws can be installed if a shock absorber assembly is fitted (above).



Parallel grippers can also be used for separating parts.
 A Gripper closing - all the balls are retained
 B Gripper opening - one ball is released, the others are retained.
 (also see our separator)

Schematic...

On every product page, you will find the following schematic which helps describe the max allowable forces and movements for that particular model.



Operation

A double-acting pneumatic cylinder drives a slide (red). The guided T-slot jaws (blue) are moved linearly to open and closed positions by the slope on the slide. On the "S" version, the slopes are steeper. The translation allows more force with a shorter stroke. In the NC and SC models, a compression spring is installed at the top of the piston chamber, which can be used for self-locking and boosting power during closing or for single-acting operation. Conversely, the NO and SO models have a spring installed at the bottom of the position chamber, which supports opening.

Parallel gripper with extended T-slot guide

GP604/GP608/GP612

things worth knowing

Advantages and uses

... optimal guide relationship ... also available with grip force safety device
 ... very reliable and long service life



- ▶ compact design and minimal weight
 - ▶ centrally opening
 - ▶ high-precision
 - ▶ any desired installation position
 - ▶ multiple air connections
 - ▶ position sensing possible through inductive proximity switch
- ... ideal for long gripper jaws! ...

Characteristics

Function

Drive: double-acting pneumatic cylinder
 (depending upon model) double-acting pneumatic cylinder with integrated spring safety device in the event of pressure loss

Power transfer: wedge and piston principle with varying transmission
 (depending on model)

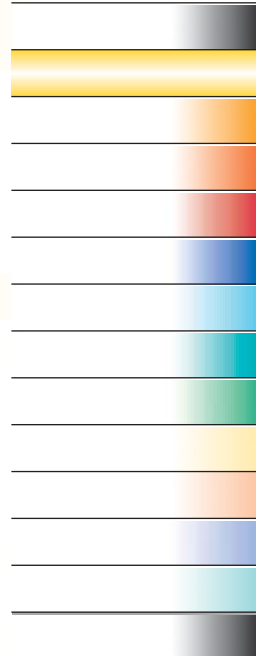
Guide: flat guide for high moment absorption (Mx) during external and internal gripping

Material

Housing: hard-anodized aluminum
 Moving parts: nitrided steel

Maintenance

Recommended at: 1.5 million cycles
 Actuation: filtered high-pressure air (10 µm), dry or oiled
 Maintenance of the mechanics: thru integrated lubrication nipple – see owners' manual –



Basic explanations

Terms and illustrations

Grip force safety device: required during pressure loss for maintaining position of work piece
 – pneumatic/hydraulic: through pressure retention
 – mechanical: through spring tension
 – spring power: specifications based on minimum spring pre-tension
 Total power: arithmetic sum of the individual elements on the gripper jaws
 Closing and opening time: required time for the gripper jaws to cover the maximum stroke length

Model guide

GP6...	Drive	Stroke	Power	Internal gripping	External gripping	Mechanical fail safe
...N	pneumatic	large	normal	●	●	
...NC	pneumatic	large	normal		●	●
...NO	pneumatic	large	normal	●		●
...NH	hydraulic	large	high	●	●	
...S	pneumatic	short	high	●	●	
...SC	pneumatic	short	high		●	●
...SO	pneumatic	short	high	●		●

Accessories

Included in purchase price:

- ▶ Centering sleeves

Additional accessory recommendation:

- ▶ Universal jaws Page 33
- ▶ Inductive proximity switch Page 428
- ▶ Inductive proximity switch bracket Page 432
- ▶ Pneumatic fittings Page 442
- ▶ Tubing Page 444
- ▶ Control valves Page 445
- ▶ Pressure safety valves Page 447

