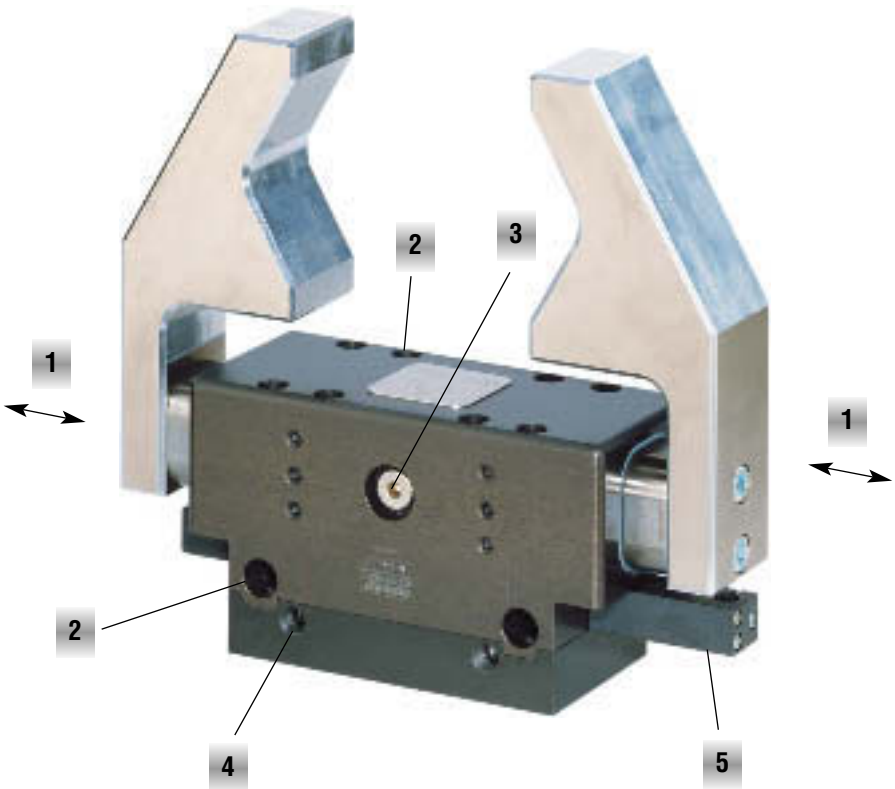
Parallel gripper

with sealed 4-sided guides



Features

1 Stroke
2 Hole for socket head screw
3 Access for lubricating the mechanism
4 Air connection at the front, rear and bottom
5 Proximity switch bracket

The dirtiest job is no problem…

for this gripper. It is watertight, no matter if under a coolant shower, in the water or in a fine dust environment. This series is made of hard-anodized aluminum and is equipped with hardened, ground steel jaws. The grippers are available with or without a spring for self-locking or boosting power. Except for the 3 smallest sizes, each is available in a hydraulic version with 30 bar operating pressure. All grippers are also available heat-resistant up to 150° C.

A plug, which can be opened for lubrication, is fitted between the jaws on all grippers. All grippers are maintenance-free up to 1.5 million cycles. The air connections are located on the front, rear and bottom. The bottom ports are closed with grub screws and can be used for tubeless connections.

This series has a multitude of attachment holes for added mounting convenience.
The centering sleeves on the jaws ensure a precise mounting of the jaws, which is important if jaws are changed often. In this case, we also offer universal jaws made of steel or aluminum with preinstalled cams.

Sensing of the open or closed position is done with two supplied trip dogs installed on the jaws. The best position for the trip dogs is shown in the illustration for each universal jaw. Please refer to the accessory section.
Mounts for a 8 mm proximity switch are installed under the jaws. We recommend the "NJ 8-E2".

For more details on proximity switches, universal jaws and other accessories, see the accessory pages.

Note:
The pressure equalization of the sealed mechanism is by means of a connection with the piston chamber, which prevents pump effects.The sealed jaws, when opened, act as an additional piston. For internal gripping, the operating pressure must be reduced as specified.

Explanations

The following abbreviations mean:

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)

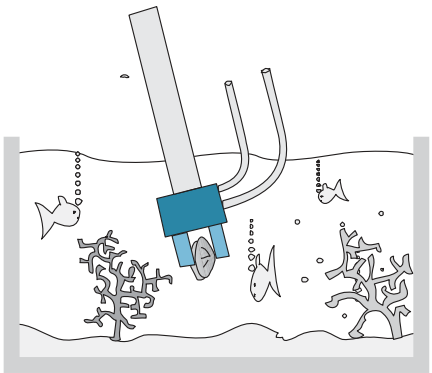
Without spring:

N = Standard design
(long stroke - standard force)

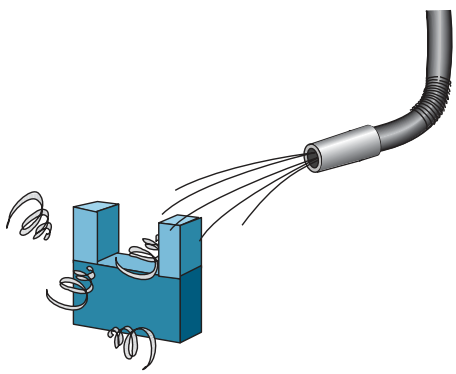
Hydraulic version:

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

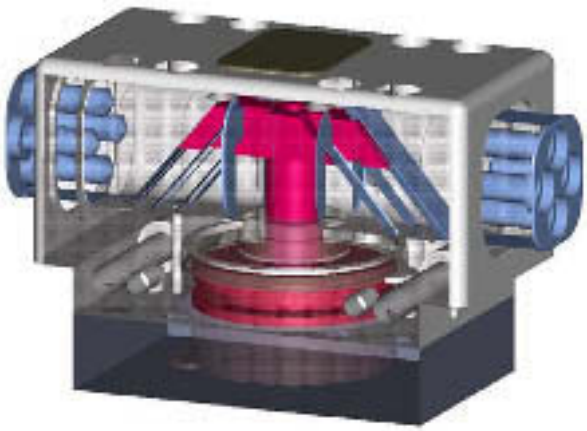
Application Ideas

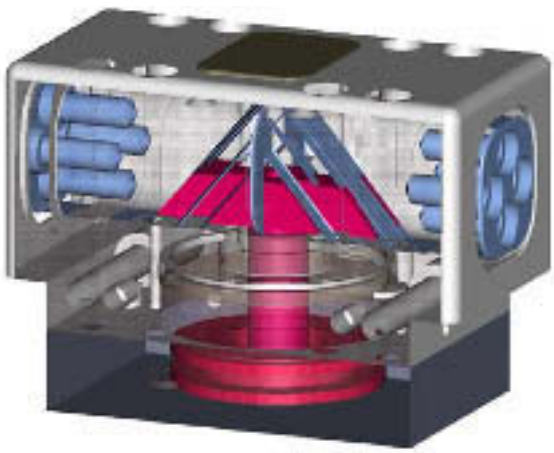


Since the gripper is sealed it can be used under water.



The GP1800 series grippers are protected against dirt, swarf and fluids such as coolants and are ideal for foundry and grinding applications.

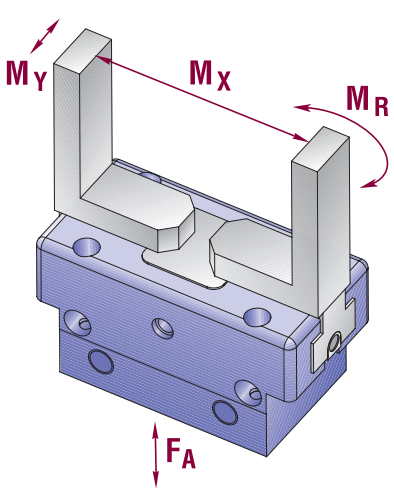




Operation

A double-acting pneumatic cylinder drives a slide (red). The force guided T-slot jaws (blue) are moved linearly to open and closed positions by the slope on the slide. A seal and a wiper (beige) around the jaws prevent the ingress of dirt and water. The protection against rotation provides high guiding stability.

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



Parallel gripper with sealed 4-sided guides

GP1803 up to GP1830

things worth knowing

Advantages and uses

… sealed gripper with precise round guide … also available with grip force safety device… compact design and minimal weight …

Highlight

- centrally opening and closing
- any desired installation position
- multiple air connection possibilities
- position sensing possible through inductive proximity switch

… ideal for dirty environments! …

Characteristics

Function	
Drive:	double-acting pneumatic cylinder
(depending upon model)	double-acting pneumatic cylinder with integrated spring as mechanical safety device in the event of pressure loss
Power transfer: (depending on model)	wedge and piston principle
Guide:	sealed 4-sided guide (for use in a very dirty environment)
Material	
Housing:	hard-anodized aluminum
Functional parts:	nitrided steel
Maintenance	
Recommended at:	1.5 million cycles
Actuation:	filtered high-pressure air (10μm), dry or oiled
Maintenance of the mechanics:	thru integrated lock screw – see owners' manual

A Combination of Advantages

Sealed four-sided guide with rounded corners

- for stability under high moment loads
- superior sealing against dirt and fluids

Basic explanations

Terms and illustrations

Grip force safety device:	required during pressure loss for maintaining position of work piece
– pneumatic/hydraulic:	through pressure retention (one-way valve required DSV 1/8)
– 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 times:	required time for the gripper jaws to cover the maximum stroke length

Model guide

GP 8…	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	●	●	

Accessories

Included in purchase price:

- Centering sleeves
- Inductive proximity switch bracket

Additional accessory recommendation:

- Universal jaws — Page 45
- Inductive proximity switch — Page 428
- Pneumatic fittings — Page 442
- Tubing — Page 444
- Control valves — Page 445
- Pressure safety valves — Page 447