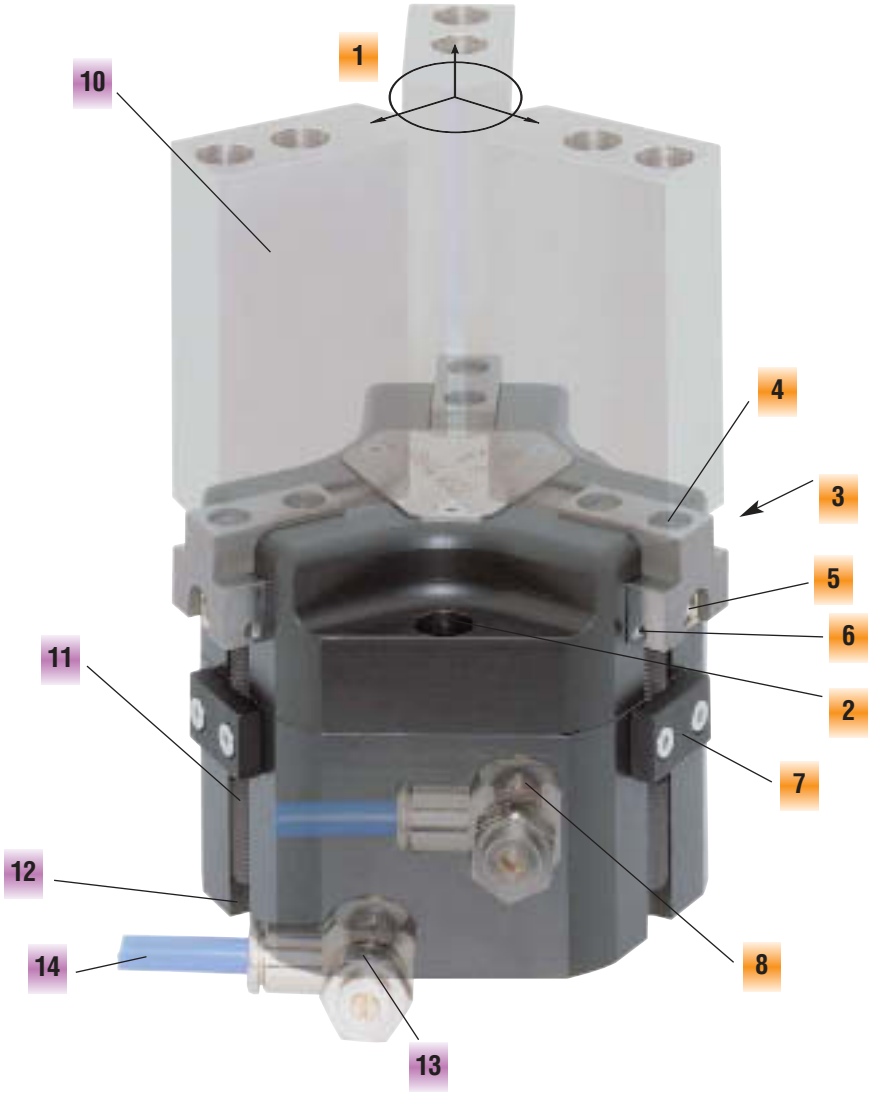
Three-jaw gripper

with T-slot guide



Features

1 Stroke
2 Hole for socket head screw
3 Lubricating nipple (on the back)
4 Removable centering sleeves
5 Spring-loaded trip dogs
6 Trip dog setscrew
7 Sensor mount
8 Air connection at the front
(alternatively at the rear and bottom)

Accessories

10 Universal jaws
11 Proximity switch, plug-in
12 Cable, plug-in
13 One-way valve
14 PU-hose

The final tests…

...have long been passed and in several respects the winner is: The T-slot guide. That's traditional mechanical engineering! Rugged and dependable in each direction.

All types are made from hard-coated aluminum and have hardened and ground T-slot steel jaws like chucks, providing maximum resistance to twisting loads and moments. We offer the first 6 sizes in up to 7 different models: with springs (for self-locking, opening and closing) and without springs. Except for the 2 smallest sizes, each is available in a hydraulic version with 30 bar operating pressure.

All jaws have a lubricating nipple on the front. Lubrication is required after one million operations. (Of course, it's possible to do without, but a little grease won't hurt...) The centering sleeves on the jaws ensure a precise mounting of the jaws, which is important if jaws are changed often. For this case, we also can supply universal jaws made of steel and aluminum. For more details, see "Accessories". The pneumatic ports for opening and closing are located on the front and bottom. At the bottom, the ports are closed with grub screws and can be used for hoseless connections.

For sensing, we have come up with something very special: Under two of the three jaws, there are spring-actuated trip dogs, which can be adjusted precisely and infinitely with a screw. The adjustment can be fixed with the grub screws located on the side of the jaws. 8 mm sensor mounts are located below the trip dogs, allowing optimum mounting of proximity switch "NJ 8-E2". For more details on the proximity switch and other accessories, see the accessory pages.

Explanations

The following abbreviations mean:

Opening / closing by spring:

NO = Standard design,
self-locking, spring opening
(long stroke – normal force)

NC = Standard design,
self-locking, spring closing
(long stroke – normal 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 – normal force)

S = Heavy-duty design
(short stroke – large force)

Hydraulic version:

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

Three-jaw gripper with T-slot guide

GD304 up to GD320

things worth knowing

Advantages and uses

… high-grip force in combination with robust T-slot guide … all versions available with grip force fail safe … high reliability and long service life …

Highlight

- compact design and minimal weight
- centrally opening and closing
- high precision
- any desired installation position
- many air connection possibilities
- position sensing possible through inductive proximity switch

… large selection of variations! …

Characteristics

Function	
Drive:	double-acting pneumatic cylinder
(depending upon model)	double-acting pneumatic cylinder with integrated spring as mechanical grip force fail-safe
Power transfer: (depending on model)	wedge and piston principle
Guide:	T-slot guide for high moment absorption from all sides
Material	
Housing:	hard-anodized aluminum
Moving parts:	nitrided steel
Maintenance	
Recommended at:	1.5 million cycles
Actuation:	clean environment – filtered high-pressure air (10μm), dry or oiled
Maintenance of the mechanics:	via integrated lubrication nipple – see owners' manual –

Basic explanations

Terms and illustrations

Grip force safety device:	required during pressure loss for maintaining position of workpiece
– pneumatic/hydraulic:	through pressure retention (one-way valve required DSV 1/8)
– mechanical:	through spring pre-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

Models

GD 3...	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	normal	●	●	
...S	pneumatic	short	high	●	●	
...SC	pneumatic	short	high		●	●
...SO	pneumatic	short	high	●		●

Accessories

Included with purchase:

- Centering sleeves

Additional accessory recommendation:

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