

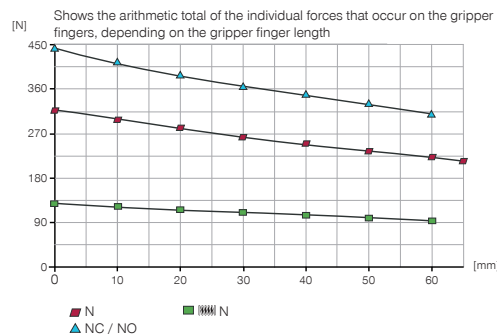
3-JAW CONCENTRIC GRIPPERS

INSTALLATION SIZE GPD5003

PRODUCT SPECIFICATIONS

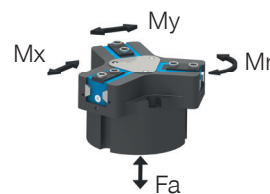


Gripping force diagram



Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



| | |
|---------|-----|
| Mr [Nm] | 7 |
| Mx [Nm] | 14 |
| My [Nm] | 13 |
| Fa [N] | 550 |

TECHNICAL DATA

| Technical data | | | |
|---|---------------|----------------|----------------|
| Order no. | GPD5003N-00-A | GPD5003NC-00-A | GPD5003NO-00-A |
| Stroke per jaw [mm] | 2.5 | 2.5 | 2.5 |
| Gripping force in closing [N] | 310 | 440 | |
| Gripping force in opening [N] | 335 | | 465 |
| Gripping force secured by spring min. [N] | | 130 | 130 |
| Closing time [s] | 0.015 | 0.01 | 0.02 |
| Opening time [s] | 0.015 | 0.02 | 0.01 |
| Permissible weight per jaw max [kg] | 0.12 | 0.12 | 0.12 |
| Length of the gripper fingers max. [mm] | 65 | 60 | 60 |
| Repetition accuracy +/- [mm] | 0.01 | 0.01 | 0.01 |
| Operating pressure min. [bar] | 3 | 4 | 4 |
| Operating pressure max. [bar] | 8 | 7 | 7 |
| Nominal operating pressure [bar] | 6 | 6 | 6 |
| Operating temperature [°C] | -10 ... +90 | -10 ... +90 | 10 ... +90 |
| Air volume per cycle [cm³] | 4.2 | 9.5 | 9.5 |
| Protection to IEC 60529 | IP64 | IP64 | IP64 |
| Weight [kg] | 0.14 | 0.18 | 0.18 |

| Technical Data - High Temperature Version | | | |
|---|---------------|----------------|----------------|
| Order no. | GPD5003N-20-A | GPD5003NC-20-A | GPD5003NO-20-A |
| Operating temperature [°C] | -10 ... +130 | -10 ... +130 | -10 ... +130 |

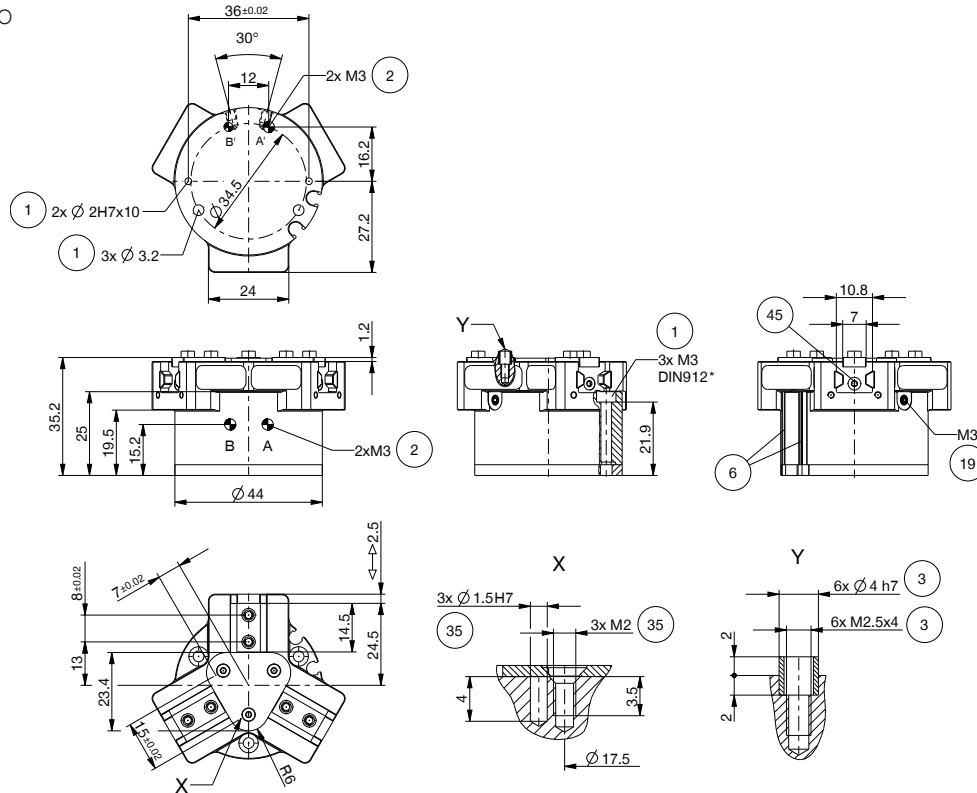
| Technical Data - Protector Version | | | |
|------------------------------------|---------------|----------------|----------------|
| Order no. | GPD5003N-21-A | GPD5003NC-21-A | GPD5003NO-21-A |
| Protection to IEC 60529 | IP67 * | IP67 * | IP67 * |
| Weight [kg] | 0.18 | 0.22 | 0.22 |

| Technical Data - High Temperature Protector Version | | | |
|---|---------------|----------------|----------------|
| Order no. | GPD5003N-24-A | GPD5003NC-24-A | GPD5003NO-24-A |
| Operating temperature [°C] | -10 ... +130 | -10 ... +130 | -10 ... +130 |
| Protection to IEC 60529 | IP67 * | IP67 * | IP67 * |
| Weight [kg] | 0.18 | 0.22 | 0.22 |

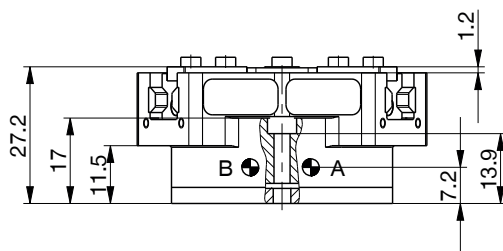
*with purged air (max. 0,5 bar)

TECHNICAL DRAWINGS

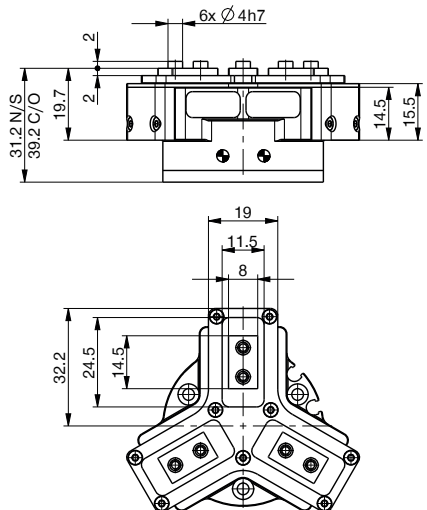
NC / NO



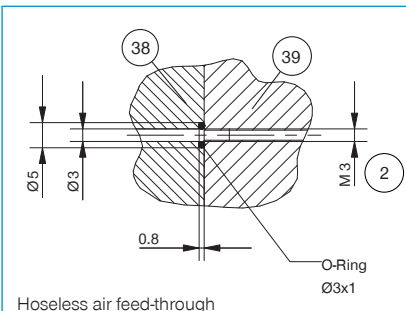
N



Protector
version

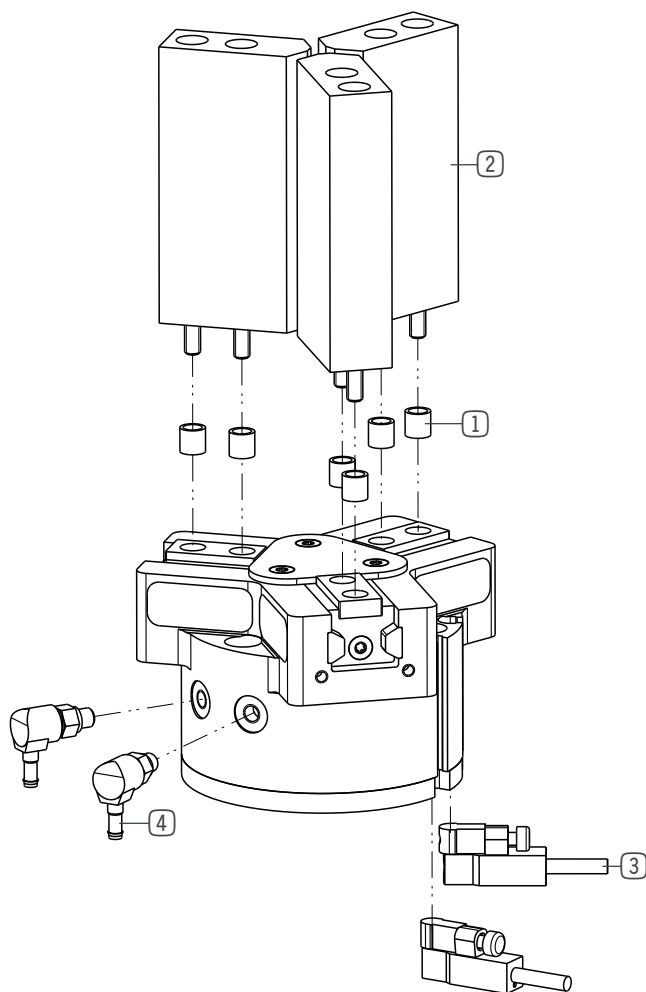


- ① Gripper attachment
- ② Energy supply
- ③ Fixing for gripper finger
- ⑥ Integrated slot for magnetic field sensor
- ⑱ Air purge connection option
- ⑳ Attachment option for customer-specific fittings
- ㉔ Adapter
- ㉕ Gripper
- ㉖ Switch cam adjustment
- Ⓐ Air connection (close)
- Ⓑ Air connection (open)
- Ⓐ Air connection, alternative (close)
- Ⓑ Air connection, alternative (open)



3-JAW CONCENTRIC GRIPPERS

INSTALLATION SIZE GPD5003



► INCLUDED IN DELIVERY



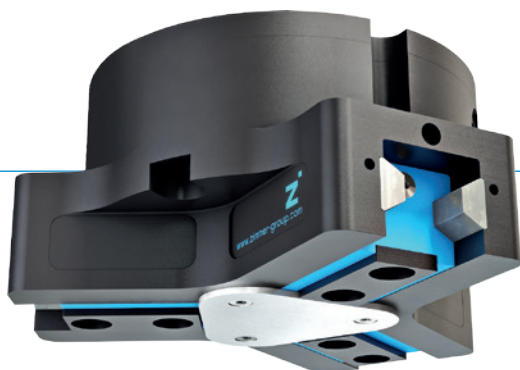
Centering Disc

DST06510

3-JAW CONCENTRIC GRIPPERS

SERIES GPD5000

▶ PRODUCT ADVANTAGES



“The Universal One”

- ▶ Up to 30% more gripping force than the benchmark
- ▶ 10% more static forces and moments than the benchmark
- ▶ Gripper fingers up to 10% longer than the benchmark
- ▶ Gripper fingers weight up to 15% higher than the benchmark
- ▶ Sealed guide IP64 / Protector version IP67 (with purged air)
- ▶ Protected against corrosion
- ▶ Up to 30 million cycles without maintenance

▶ THE BEST PRODUCT FOR YOUR APPLICATION



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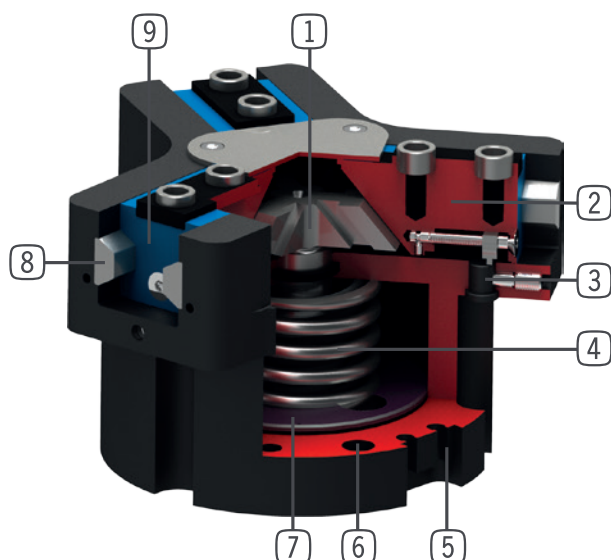
HOW TO ORDER CORRECTLY

- ▶ The product order numbers are arranged according to this diagram:

| Order no. | GPD5010 | <input type="checkbox"/> | <input type="checkbox"/> | - <input type="checkbox"/> | -A |
|---|---------|--------------------------|--------------------------|----------------------------|----|
| Basis version | N | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| High force | S | | | | |
| For external gripping, self-locking, spring closing | C | | | | |
| For internal gripping, self-locking, spring opening | O | | | | |
| temperature-resistant version to 130 °C | | | | 20 | |
| Protector version IP67 for use in adverse environments (with purged air) | | | | 21 | |
| temperature-resistant protector version IP67 for use in adverse environments (with purged air)to 130 °C | | | | 24 | |



► BENEFITS IN DETAIL



- ① **Wedge hook mechanism**
 - high forces and moments capacity
 - Synchronized gripper jaw movement
- ② **Gripper jaw**
 - Gripper fingers mounted using removable centring sleeves
 - Lubricated for life via incorporated lubrication slots
- ③ **Mounting block**
 - mounting for inductive proximity switch
- ④ **Integrated gripping force safety device**
 - Spring built into cylinder chamber as an energy store
- ⑤ **Sensing slot**
 - mounting and positioning of magnetic field sensors
- ⑥ **Mounting and positioning**
 - Alternatively, on several sides for customized mounting
 - Pneumatic and electrical versions identical apart from height
- ⑦ **Drive**
 - Double-acting pneumatic rotor cylinder
- ⑧ **Steel Linear Guide**
 - Steel in steel guide
 - Enables use of extremely long gripper fingers
- ⑨ **Dual lip seal**
 - IP64 and up to IP67 (with purged air) for Protector version
 - Prevents grease from being squeezed out, increasing service life

► SERIES CHARACTERISTICS



| | |
|------------------------------|-----------------|
| Number of installation sizes | 11 |
| Stroke per jaw | 2,5 mm - 45 mm |
| Gripping force | 310 N - 72500 N |
| Weight | 0,14 kg - 88 kg |
| AP class | 5 |



30 million maintenance-free cycles (max.)



High-strength S



IP67



Temperature-resistant



Spring closing C



Inductive sensor



Corrosion resistance



Purged air



Spring opening O



IP64



Magnetic field sensor