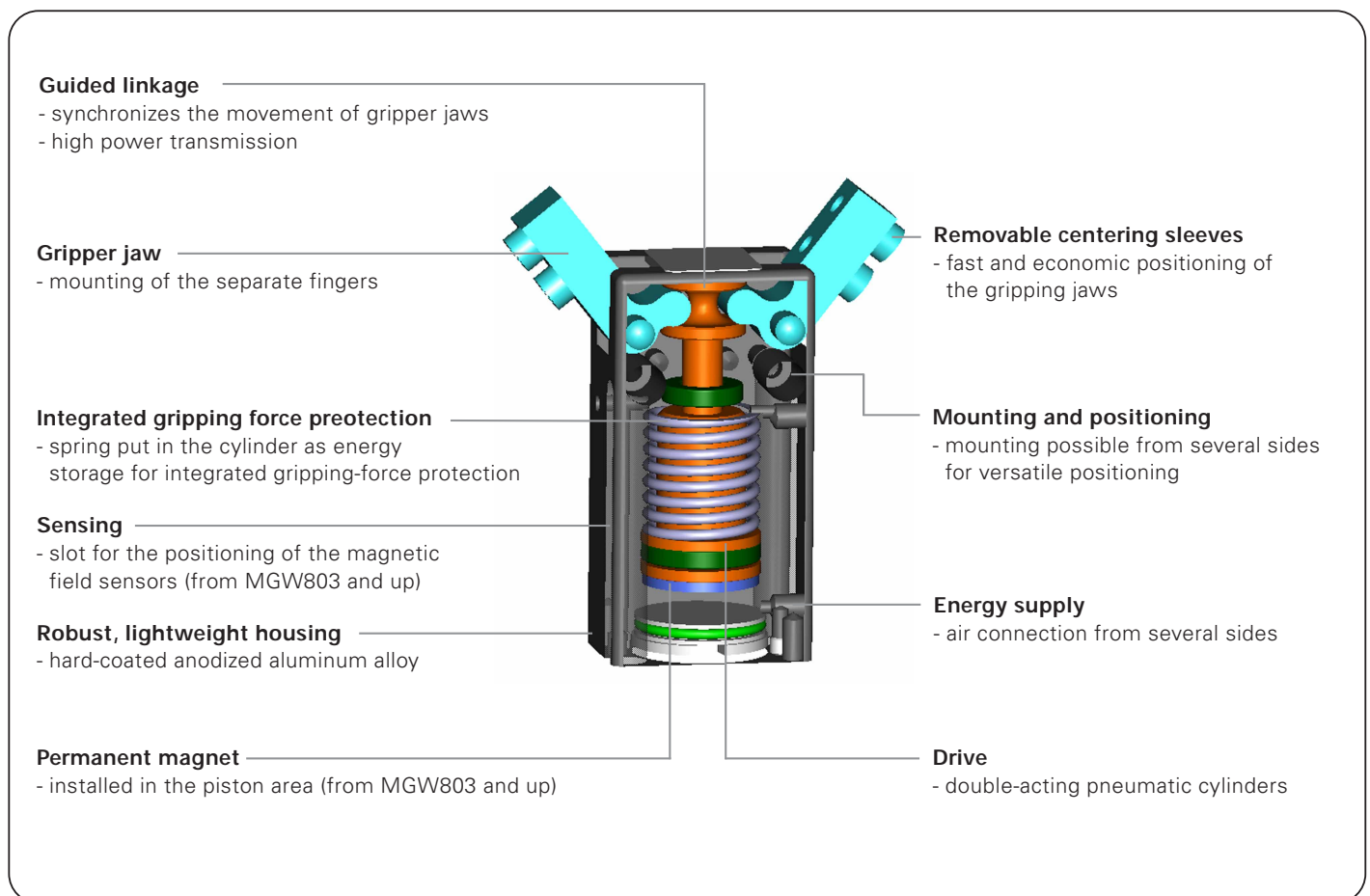


Mini-Angular Gripper

➤ Features

- Miniature design, four sizes, max. outside dimensions 24x18x44 mm, stroke 37.5° per jaw
- Sensing of the piston position through magnetic field sensor (from MGW803 and up)
- Available with mechanical gripping-force safety device

Functional diagram



Terms

- Gripping force:** the arithmetic sum of the individual forces occurring at the jaws
- Closing/opening time:** time required for gripper jaws to cover maximum stroke distance
- Repeatability:** end stops after 50/100 consecutive cycles
- Cycles:** one complete movement of the piston forward and back
- Maintenance:** recommended at 10 million cycles (please refer to the operating manual for constraints)
 - low operating costs due to longer maintenance intervals
 - long lifespan

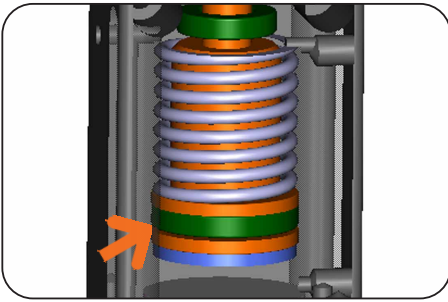
Model guide

- N:** normal stroke, normal force
- C:** double acting cylinder, self-locking, spring closing (long stroke - standard force)

Order No.	Stroke per jaw	Internal grip moment	External grip moment	Self locking via
MGW801N	37.5°	0.03 Nm	0.025 Nm	DSV*
MGW802N	37.5°	0.05 Nm	0.045 Nm	DSV*
MGW803N	37.5°	0.15 Nm	0.14 Nm	DSV*
MGW803NC	37.5°	-	0.3 Nm	Spring
MGW804N	37.5°	0.47 Nm	0.4 Nm	DSV*
MGW804NC	37.5°	-	0.5 Nm	Spring

**DSV= Pressure safety valve/one-way valve (Part No. DSV1/8)*

Mini-Angular Gripper



Drive

N Models

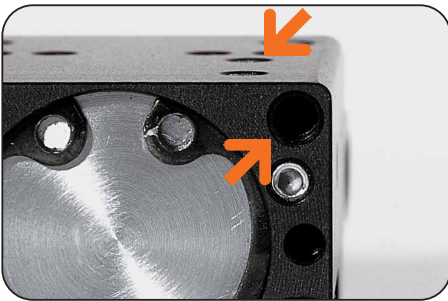
Double-acting pneumatic cylinder

- maximum power in both opening and closing
- grip force up to 105 N

NC Models

Double-acting pneumatic cylinders with integrated spring as mechanical safety device (in the event of pressure loss)

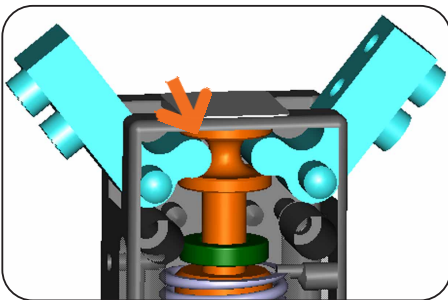
- optimal transmission of power and grip force by spring



Connections

Attachments and positioning possibilities

- flexible mounting options
- optimal utilization to the application parameters



Power transfer

Compulsory-led linkage

- optimal transmission of power to gripping force
- self-centering
- synchronized jaw movement
- high repeatability



Gripper jaw positioning

Positioning of the tooling fingers via centering sleeves

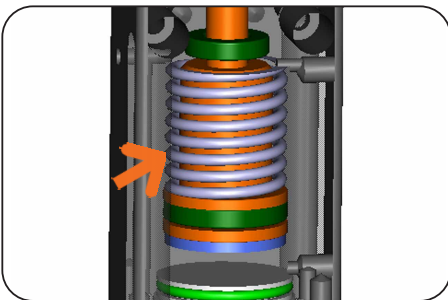
- precise positioning of the individual gripper fingers
- fast, easy, and economical switching of tooling fingers
- space-saving design maximizes size of mounting holes



Position sensing

Sensing of the piston-position through Magnetic field sensor (from MGW803 and up)

- positive feedback
- compact
- for magnetic field sensor with C-nut bracket



Grip-force safety device

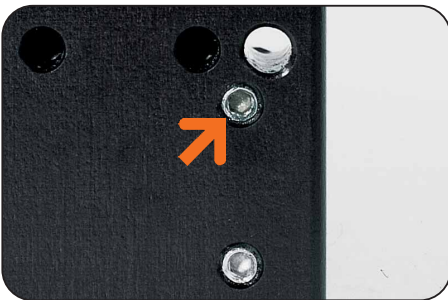
NC Models (from MGW803)

Energy retention through spring mounted cylinder

- reliable mechanical grip-force retention
- compact design

N external pressure retention safety valve

- grip-force retention through the use of optional pressure retention safety valve (Part Nr. DSV1/8). This type of grip-force retention is restricted by the inevitable leakage of the pneumatic system.



Energy supply

Flexible at several sides possibly

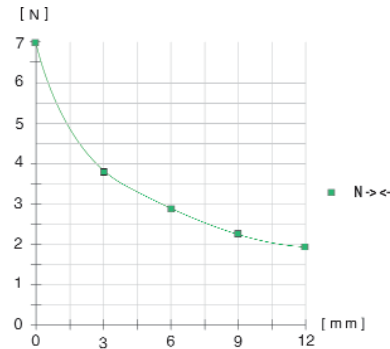
- optimal integration into the workroom through individual connection option
- tubeless air connection possible, no additional sturgeon-contours (from MGW802 and up)

Mini-Angular Gripper



Gripping-force diagram

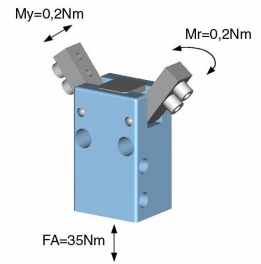
Gripping force as a function of jaw length.



Measured from upper edge of housing ◆

Forces and moments

Max. allowable static forces and moments.



Included with purchase



Centering sleeves
Part No. BDST80100

Recommended accessories

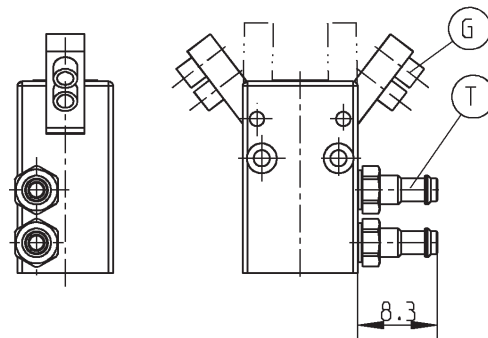


Compressed air fittings
(Straight)
Part No. GVM3



Pressure safety valve/
one-way valve
Part No. DSV1/8

Accessories



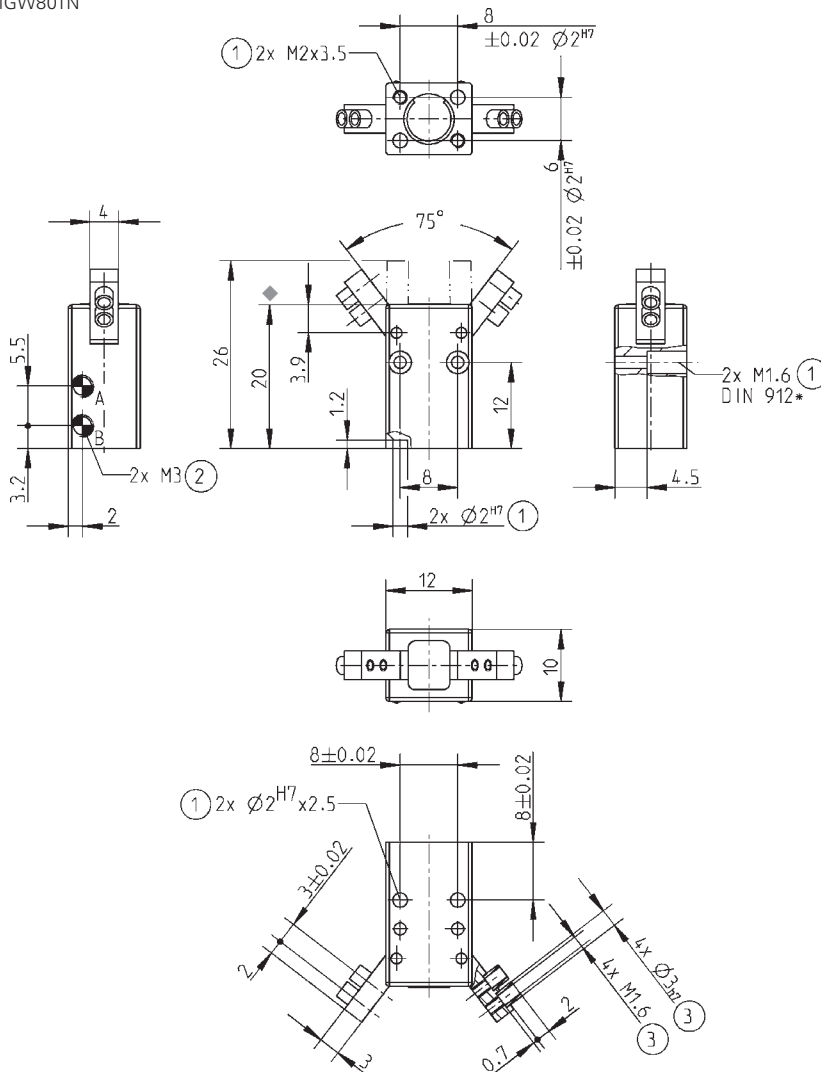
Order No.:	MGW801N
Stroke per jaw [°]:	37.5
Gripping torque in closing [Nm]:	0.025
Gripping torque in opening [Nm]:	0.03
Max. suggested workpiece weight [g]*:	9
Gripping force secured by spring min./max. [N]:	-
Closing time/opening time [s]:	0.01
Repeatability +/- [mm]:	0.025
Operating pressure min./max. [bar]:	3/8
Operating temperature min./max. [°C]**:	5/80
Air volume per cycle [cm ³]:	0.14
Weight [g]:	8

All data measured at 6 bar

* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$,
Spacing from upper edge of housing $\blacklozenge = 10$ mm

** High-temperature-resistant model (up to 150° C) add "T" to part number

MGW801N



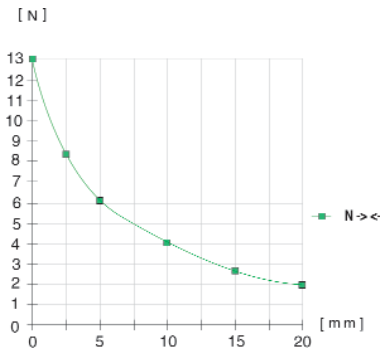
- ① Gripper mounting
 - ② Power supply
 - ③ Jaw fastening
 - A Air connection (closing)
 - B Air connection (opening)
- * equivalent to ISO 4762

Mini-Angular Gripper



Gripping-force diagram

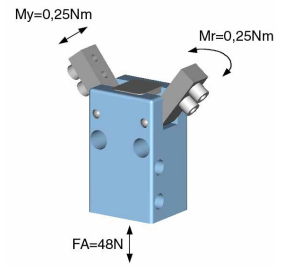
Gripping force as a function of jaw length.



Measured from upper edge of housing ◆

Forces and moments

Max. allowable static forces and moments.



Included with purchase



Centering sleeves
Part No. BDST80200

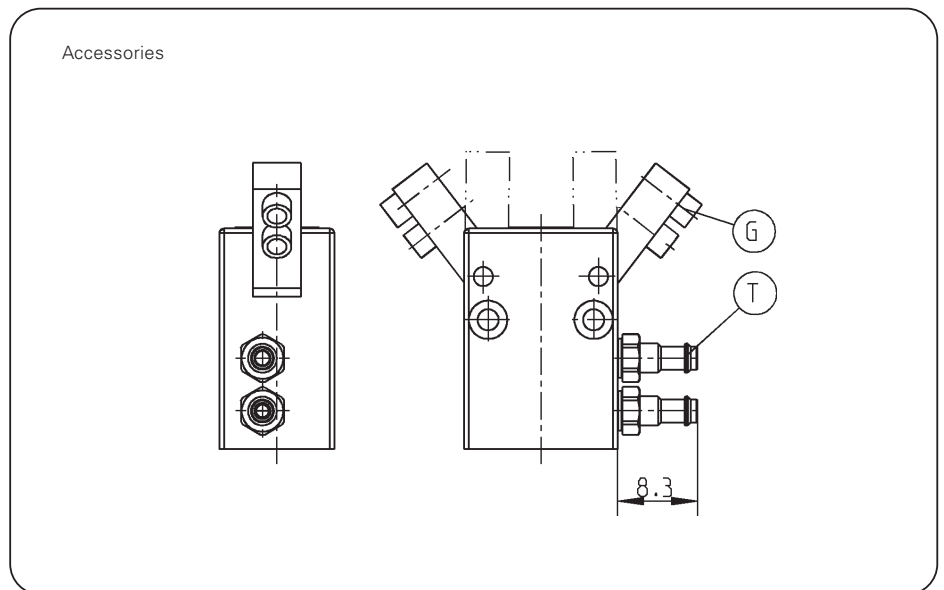
Recommended accessories



Compressed air fittings
(Straight)
Part No. GVM3



Pressure safety valve/
one-way valve
Part No. DSV1/8

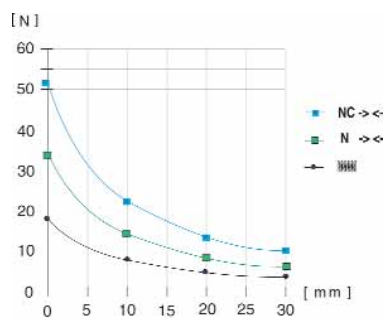


Mini-Angular Gripper



Gripping-force diagram

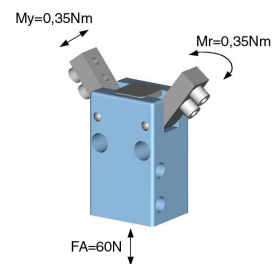
Gripping force as a function of jaw length.



Measured from upper edge of housing

Forces and moments

Max. allowable static forces and moments.



Included with purchase

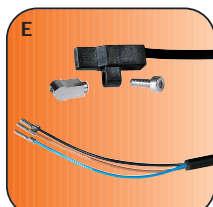


Centering sleeves
Part No. BDST80320

Recommended accessories



Compressed air fittings
(Angled)
Part No. WVM3



Magnetic field sensor
Part No. MFS103KHC42



Magnetic field sensor
(Quick connect)
Part No. MFS103SKHC42



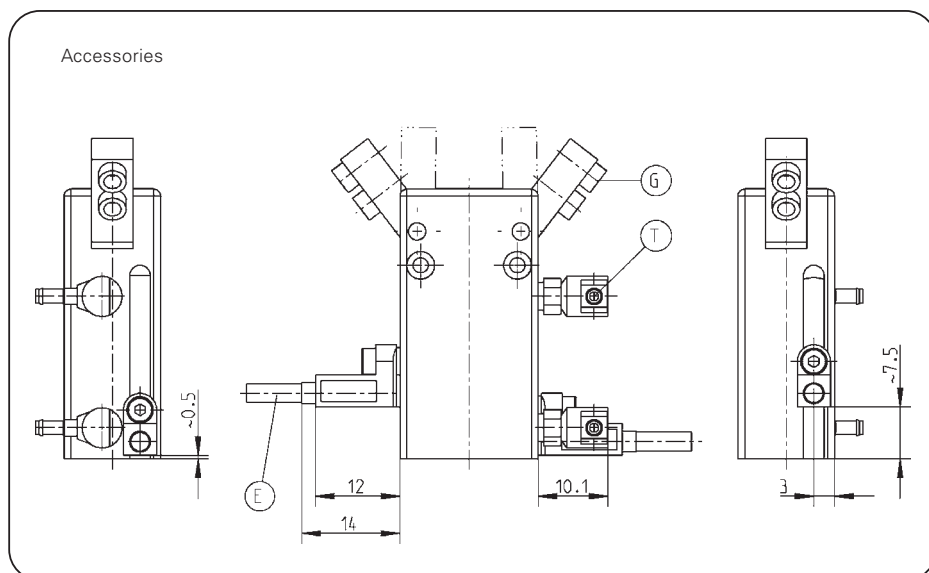
Cable (Angle plug)
Part No. KAW500



Connector 3-plug
Part No. S12-G-3



Pressure safety valve/
one-way valve
Part No. DSV1/8



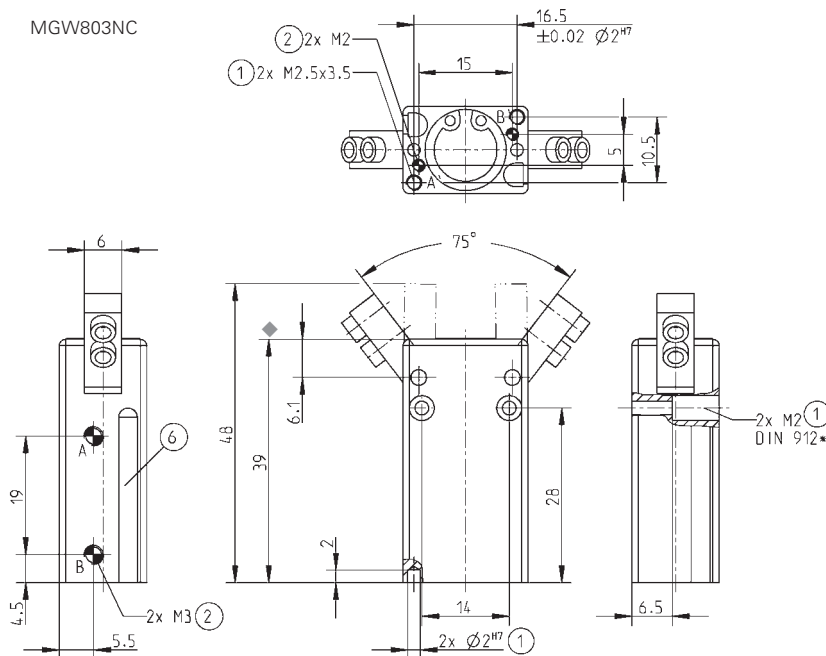
Order No.:	MGW803N	MGW803NC
Stroke per jaw [°]:	3.5	3.5
Gripping torque in closing [Nm]:	0.14	0.3
Gripping torque in opening [Nm]:	0.15	-
Max. suggested workpiece weight [g]*:	39	59
Gripping force secured by spring min./max. [N]:	-	16.4/20.7
Closing time/opening time [s]:	0.01	0.01/0.03
Repeatability +/- [mm]:	0.025	0.025
Operating pressure min./max. [bar]:	3/8	3/8
Operating temperature min./max. [°C]**:	5/80	5/80
Air volume per cycle [cm ³]:	0.64	1
Weight [g]:	25	39

All data measured at 6 bar

* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$,
Spacing from upper edge of housing $\blacklozenge = 20$ mm

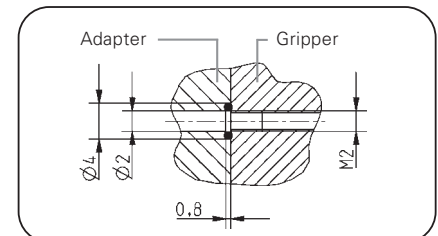
** High-temperature-resistant model (up to 150° C) add "T" to part number

MGW803NC

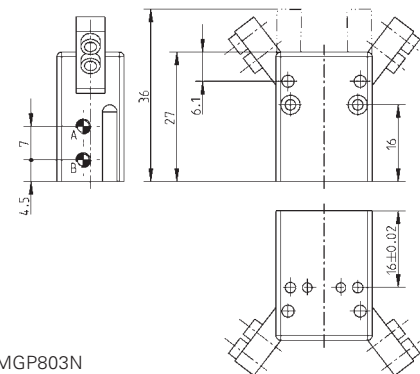
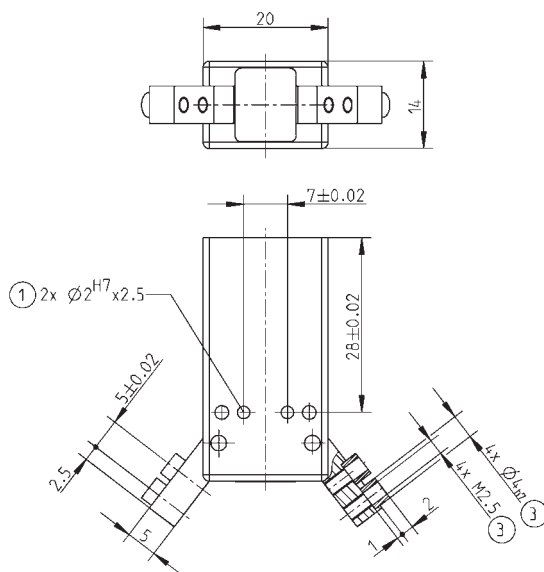


- ① Gripper mounting
- ② Power supply
- ③ Jaw fastening
- ⑥ Slot for magnetic field sensor
- A Air connection (closing)
- B Air connection (opening)
- A Alternate air connection (closing)
- B Alternate air connection (opening)

* equivalent to ISO 4762



Hoseless air connection



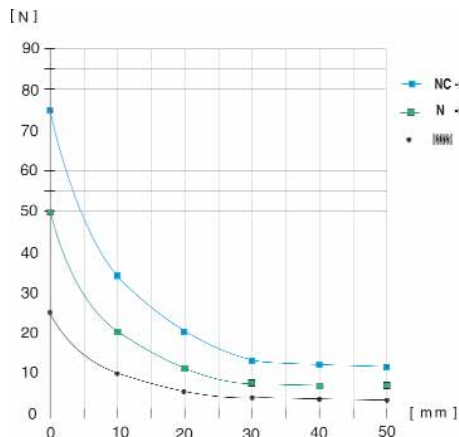
MGP803N

Mini-Angular Gripper



Gripping-force diagram

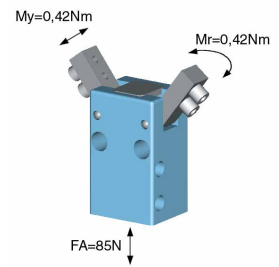
Gripping force as a function of jaw length.



Measured from upper edge of housing

Forces and moments

Max. allowable static forces and moments.



Included with purchase

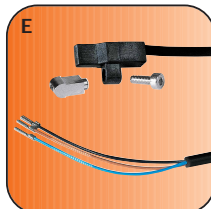


Centering sleeves
Part No. BDST40400

Recommended accessories



Compressed air fittings
(Angled)
Part No. WVM3



Magnetic field sensor
Part No. MFS103KHC42



Magnetic field sensor
(Quick connect)
Part No. MFS103SKHC42



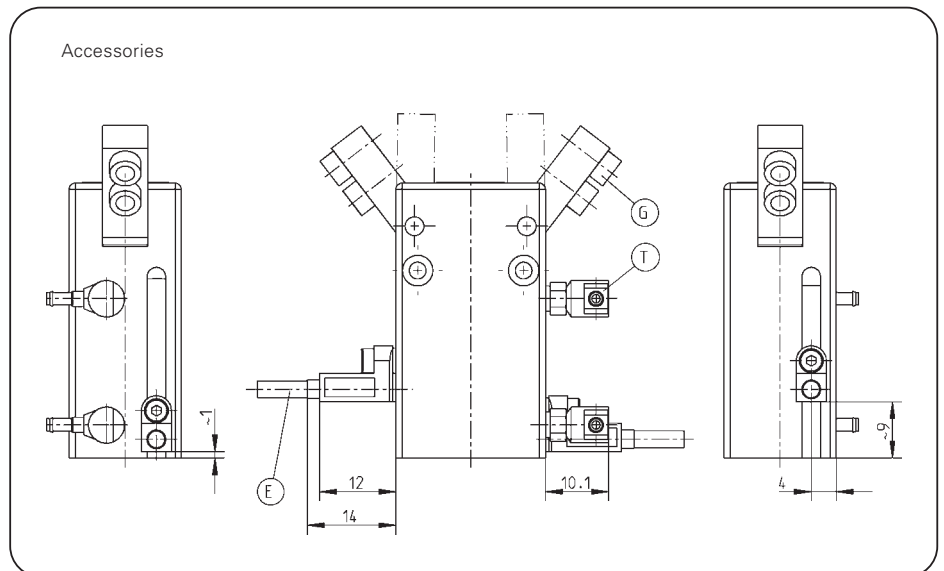
Cable (Angle plug)
Part No. KAW500



Connector 3-plug
Part No. S12-G-3



Pressure safety valve/
one-way valve
Part No. DSV1/8





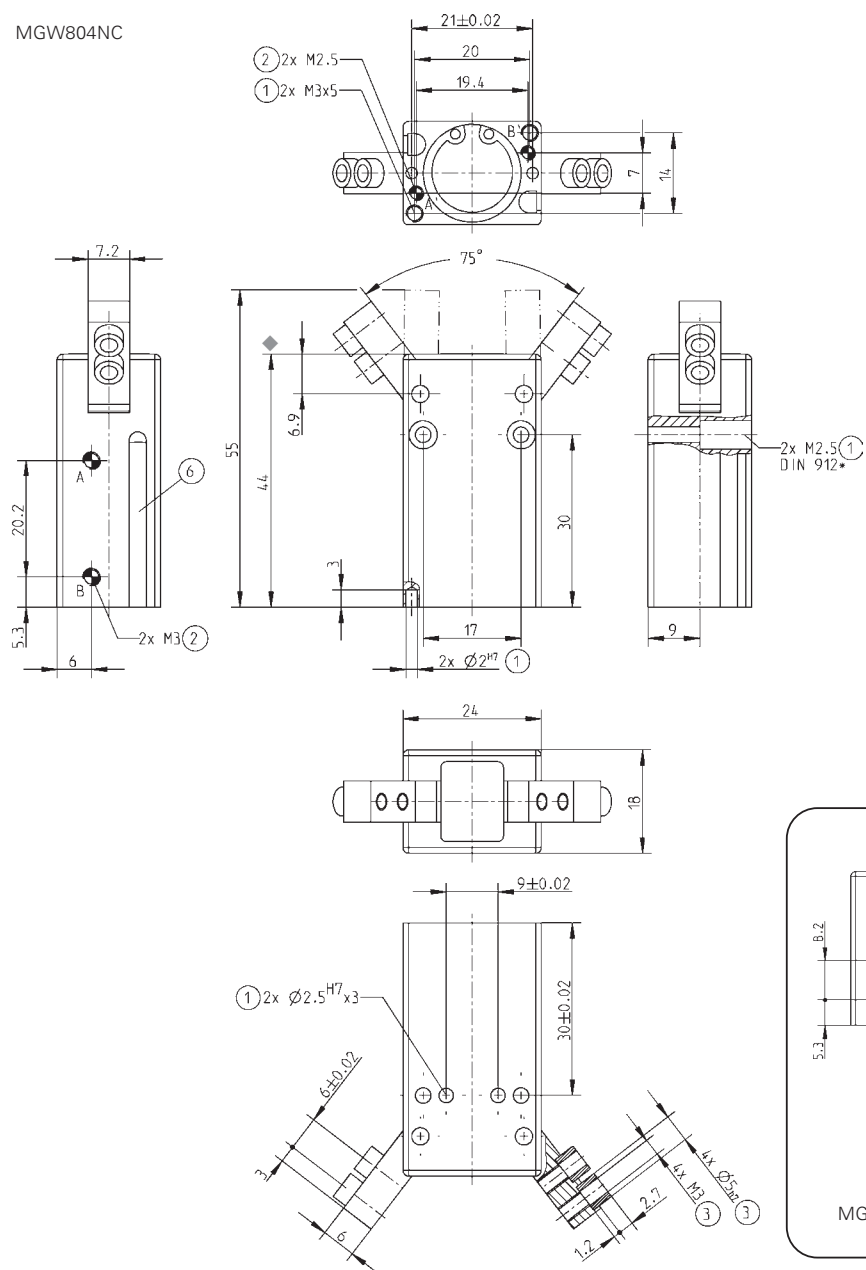
Order No.:	MGW804N	MGW804NC
Stroke per jaw [°]:	3.5	37.5
Gripping torque in closing [Nm]:	0.35	0.52
Gripping torque in opening [Nm]:	0.4	-
Max. suggested workpiece weight [g]*:	56	83
Gripping force secured by spring min./max. [N]:	-	24.6/32.0
Closing time/opening time [s]:	0.02/0.02	0.02/0.04
Repeatability +/- [mm]:	0.025	0.025
Operating pressure min./max. [bar]:	3/8	5/8
Operating temperature min./max. [°C]**:	5/80	5/80
Air volume per cycle [cm³]:	1.4	2
Weight [g]:	52	81

All data measured at 6 bar

* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$,
Spacing from upper edge of housing $\blacklozenge = 25$ mm

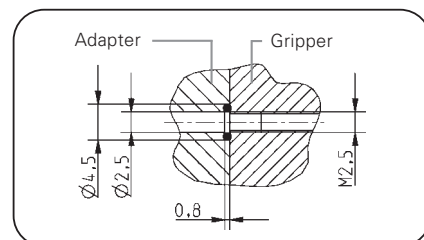
** High-temperature-resistant model (up to 150° C) add "T" to part number

MGW804NC

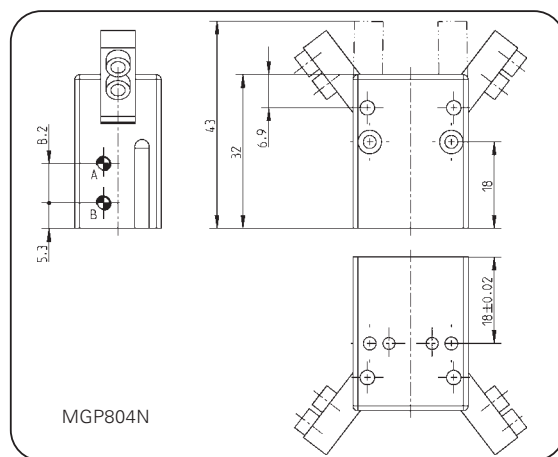


- ① Gripper mounting
- ② Power supply
- ③ Jaw fastening
- ⑥ Slot for magnetic field sensor
- Ⓐ Air connection (closing)
- Ⓑ Air connection (opening)
- Ⓐ Alternate air connection (closing)
- Ⓑ Alternate air connection (opening)

* equivalent to ISO 4762



Hoseless air connection



MGP804N