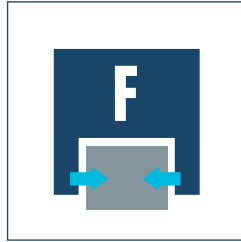




**Sizes**  
16 ... 45



**Weight**  
0.01 kg ... 0.29 kg



**Gripping force**  
20 N ... 310 N



**Stroke per finger**  
1 mm ... 5 mm



**Workpiece weight**  
0.05 kg ... 1.15 kg

## Application example



Handling device for direct mounting to a robot  
for screwing in sealing plugs

- 1 3-Finger Centric Gripper MPZ
- 2 Rotary feed-through DDF

**Gripper for small components**

small 3-Finger Centric Gripper with base jaws guided on T-slots

**Field of application**

for universal use in clean to slightly dirty working environments, especially suitable for gripping small workpieces

**Your advantages and benefits****T-slot guidance**

for precise gripping at high moment loads

**Finger position monitoring**

also possible via FPS

**Air supply via hose-free direct connection or screw connections**

for the flexible supply of compressed air in all automation systems

**General note to the series****Principle of function**

Wedge-hook kinematics

**Housing material**

Aluminum alloy, hard-anodized

**Base jaw material**

Steel

**Actuation**

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

**Warranty**

24 months (details, general terms and conditions and operation manuals can be downloaded under [www.schunk.com](http://www.schunk.com))

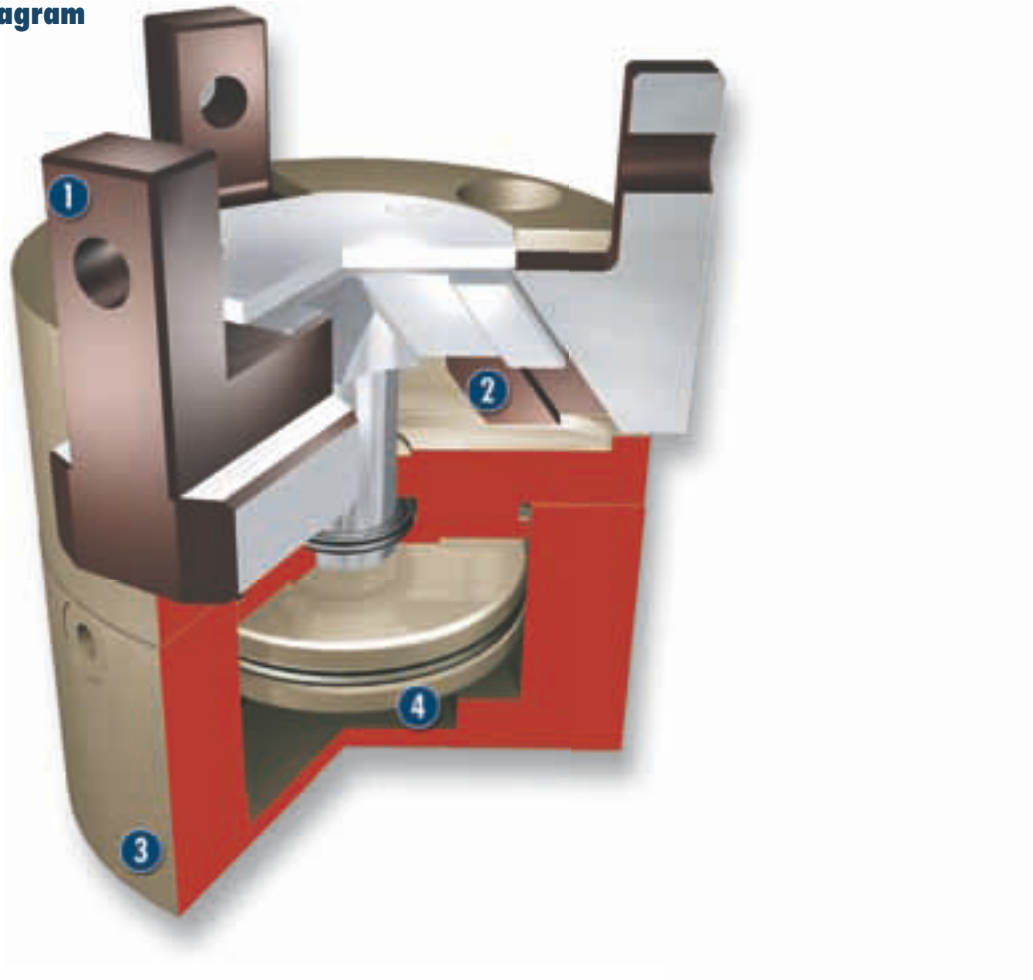
**Scope of delivery**

Centering sleeves, centering pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

**Gripping force maintenance device**

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

## Sectional diagram



- 1 T-slot guidance**  
for precise gripping with high moment loads
- 2 Wedge-hook design**  
for high power transmission and centric gripping
- 3 Housing**  
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Drive**  
pneumatic, powerful and easy to handle

## Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

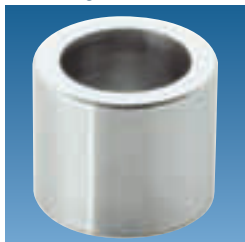
## Options and special information

Small and compact 3-Finger Centric Gripper for fast gripping applications. Monitoring of the smallest differences in stroke possible via FPS system.

### Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



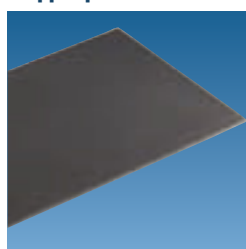
Sensor cables



Plastic inserts



Gripper pads



Pressure maintenance valve



Sensor Distributor



Flexible Position Sensor



Finger blanks



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

### General note to the series

#### Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

#### Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

#### Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

#### Workpiece weight

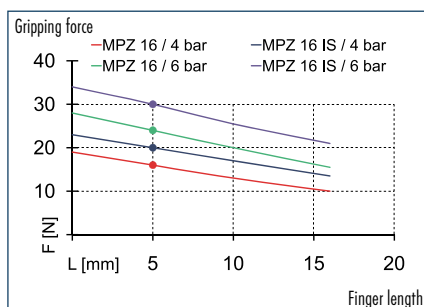
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

#### Closing and opening times

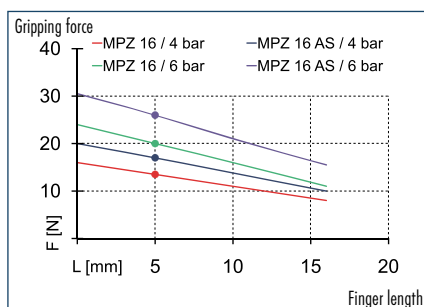
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



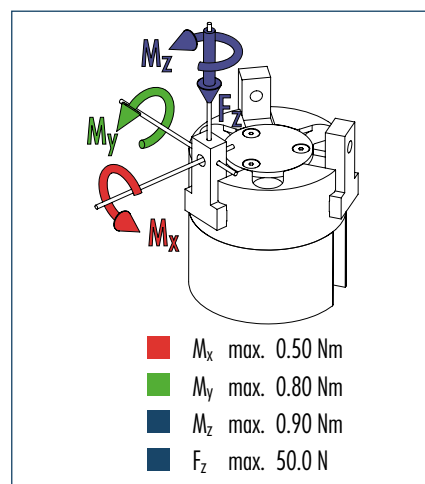
### Gripping force, I.D. gripping



### Gripping force, O.D. gripping



### Finger load

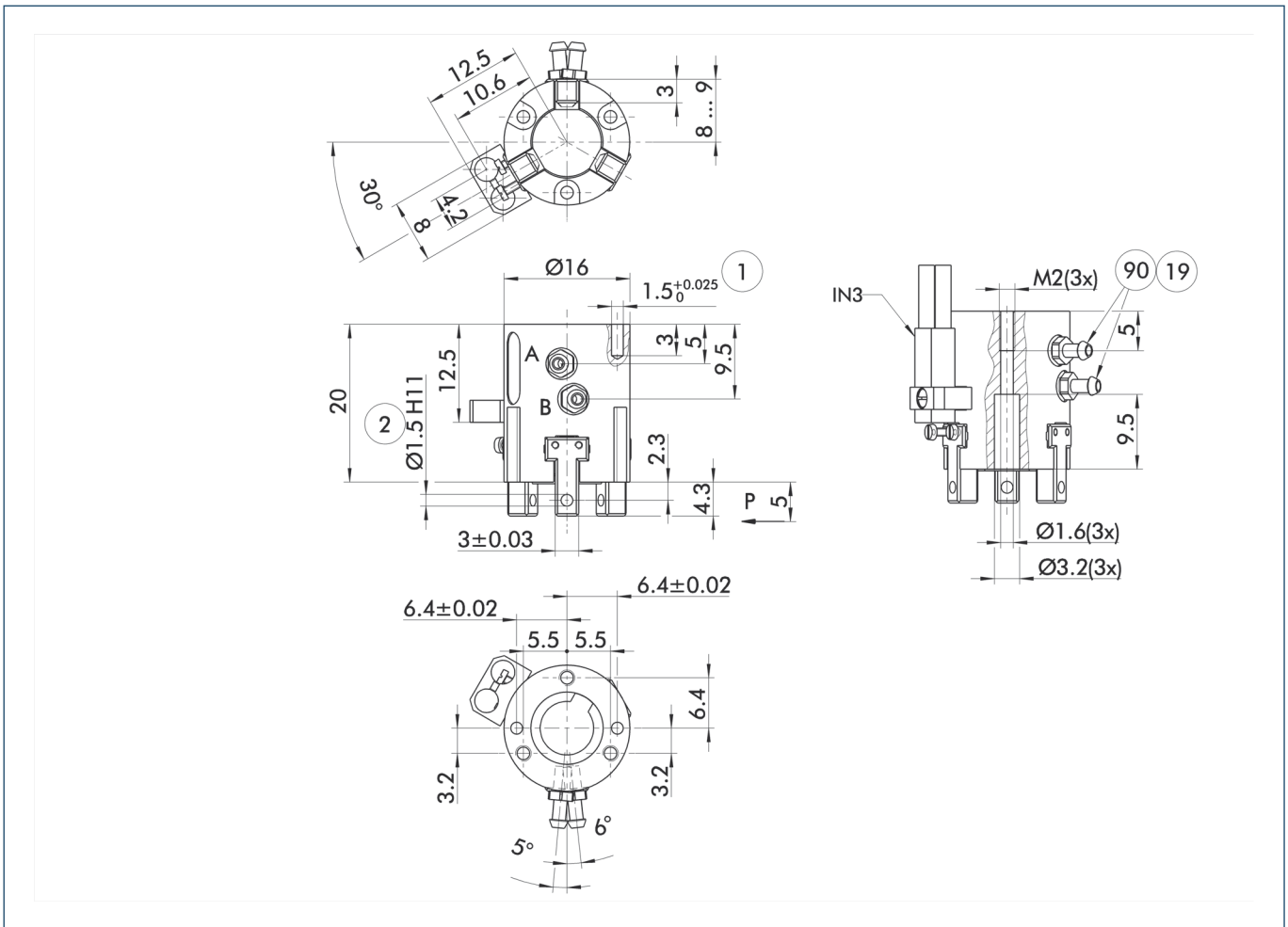


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

Description		MPZ 16	MPZ 16-AS	MPZ 16-IS
ID		0340480	0340481	0340482
Stroke per finger	[mm]	1	1	1
Closing force	[N]	20	26	
Opening force	[N]	24		30
Min. spring force	[N]		6	6
Weight	[kg]	0.01	0.02	0.02
Recommended workpiece weight	[kg]	0.05	0.05	0.05
Air consumption per double stroke	[cm <sup>3</sup> ]	0.15	0.4	0.4
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	16	16	16
Max. permitted weight per finger	[kg]	0.02	0.02	0.02
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

### Main view



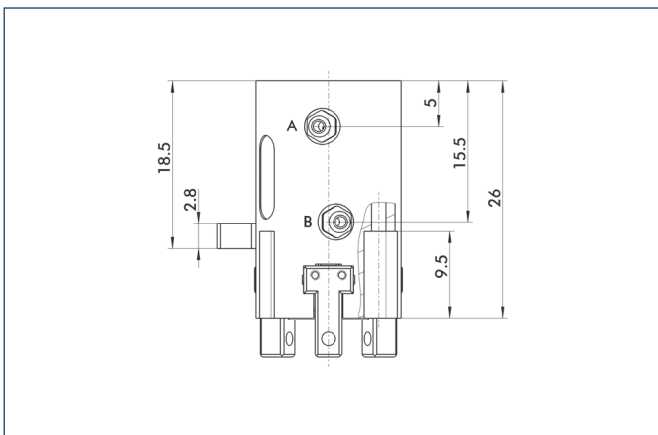
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening  
B, b Main/direct connection, gripper closing  
① Gripper connection  
② Finger connection

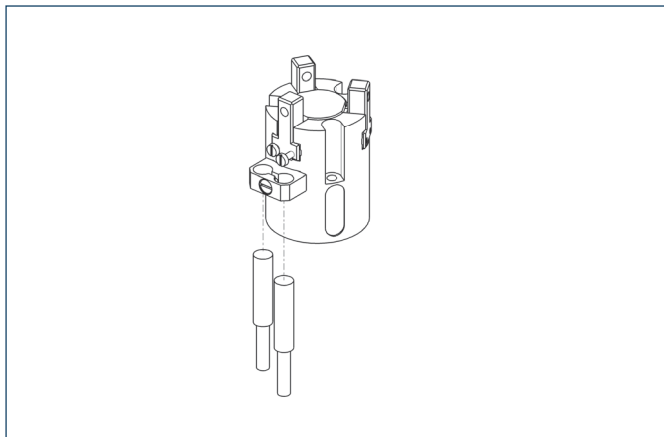
①9 Air connection  
⑨0 Polyurethane hoses with an I.D. of 1.6 mm.  
Source: AC Aircontrols GmbH, Kempen, Germany

### AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

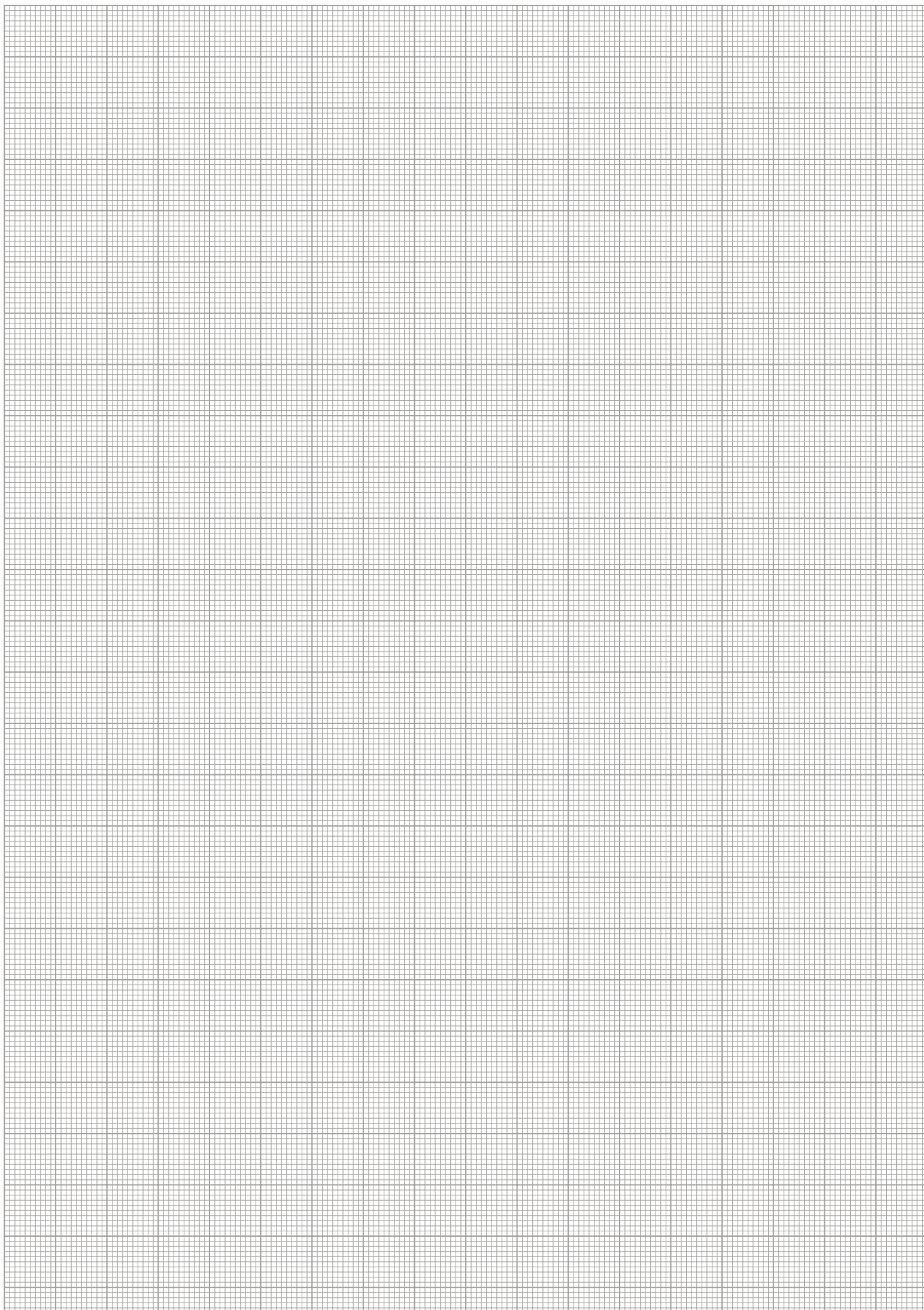
## Inductive proximity switches



End position monitoring for direct mounting

Description	ID
Inductive proximity switches	
IN 3-S-M8-PNP	0301466
Connection cables	
KA BG08-L 3P-0300-PNP	0301622
KA BG08-L 3P-0500-PNP	0301623
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
Cable extensions	
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497

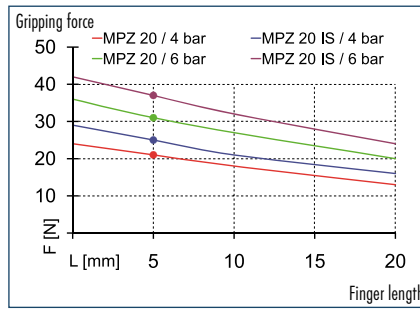
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



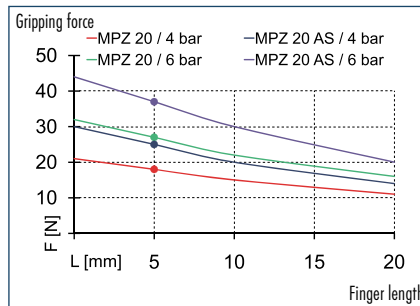




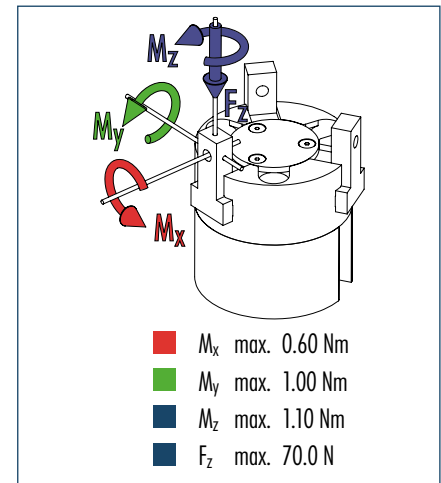
### Gripping force, I.D. gripping



### Gripping force, O.D. gripping



### Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

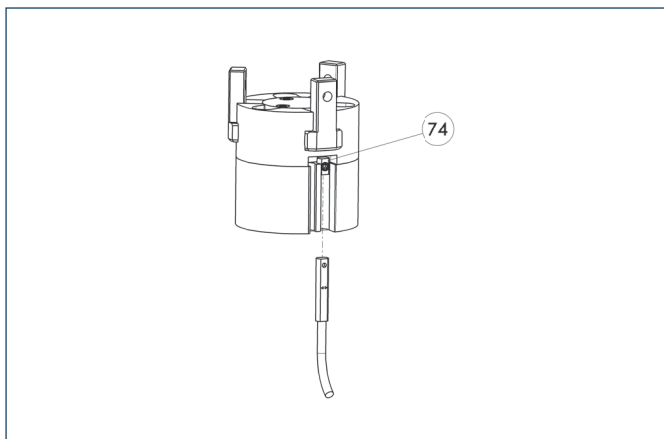
Description		MPZ 20	MPZ 20-AS	MPZ 20-IS
ID		0340490	0340491	0340492
Stroke per finger	[mm]	1.5	1.5	1.5
Closing force	[N]	26	34	
Opening force	[N]	30		38
Min. spring force	[N]		8	8
Weight	[kg]	0.02	0.03	0.03
Recommended workpiece weight	[kg]	0.1	0.1	0.1
Air consumption per double stroke	[cm <sup>3</sup> ]	0.3	0.7	0.7
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	20	20	20
Max. permitted weight per finger	[kg]	0.03	0.03	0.03
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

[illegible]

⑧⑩ Depth of the centering sleeve hole in the matching part

571

### Programmable magnetic switch



74 Stop for MMS-P

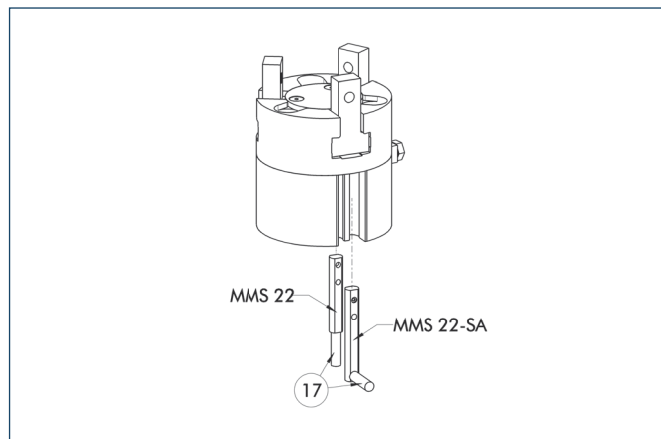
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
<b>Programmable magnetic switch</b>		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
<b>Connection cables</b>		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
<b>Sensor Distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

### Electronic magnetic switches

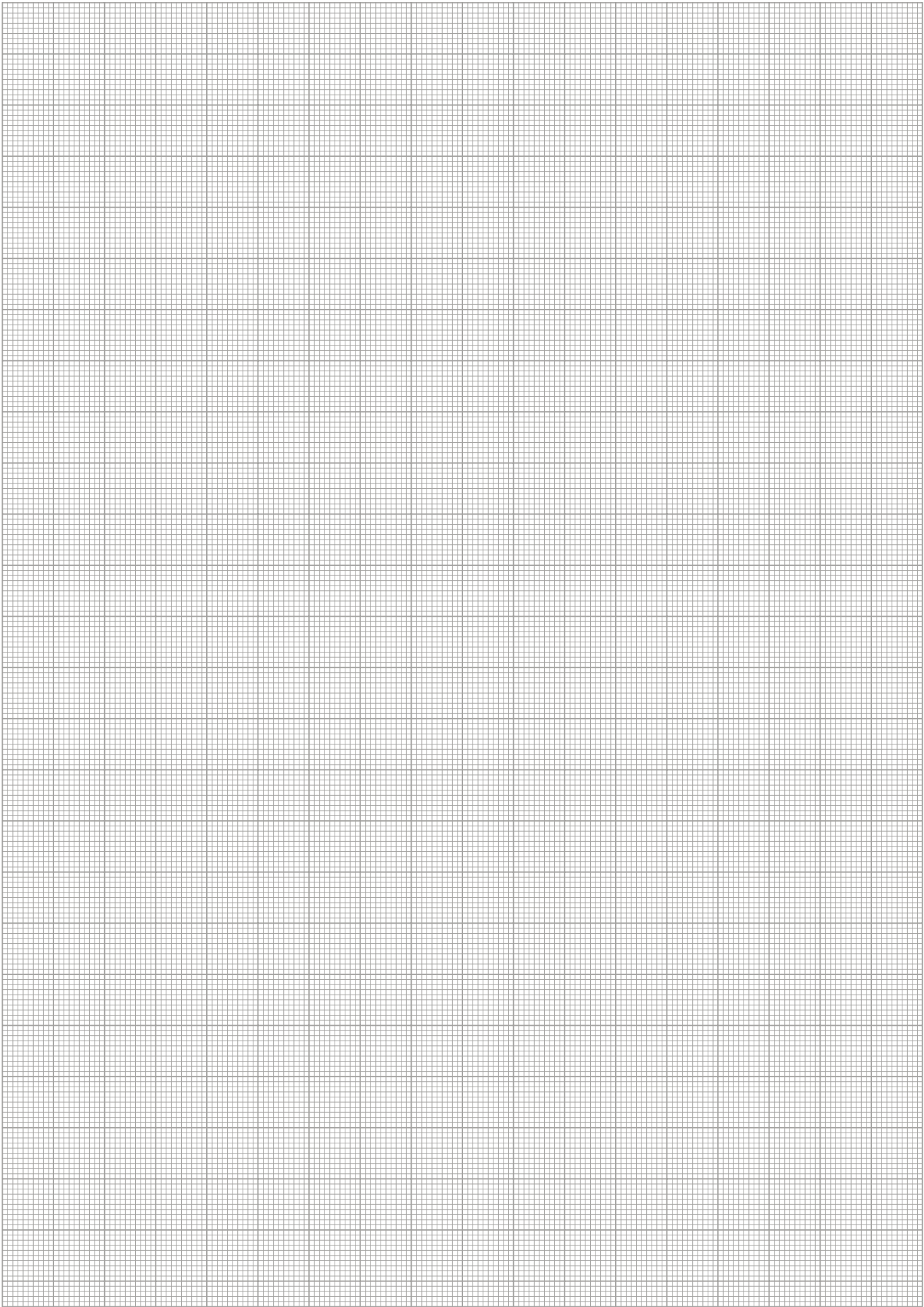


17 Cable outlet

End position monitoring for mounting in the C-slot

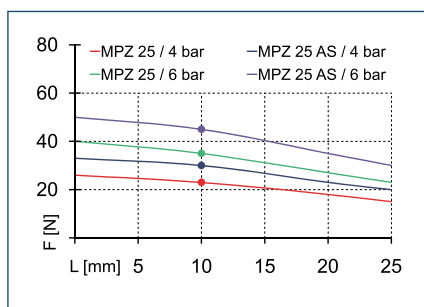
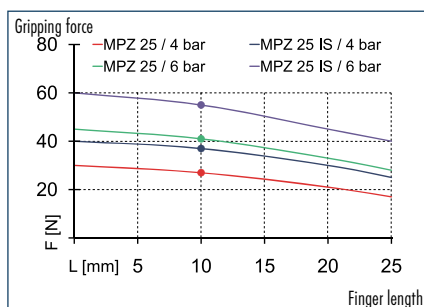
Description	ID	Recommended product
<b>Electronic magnetic switches</b>		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
<b>Connection cables</b>		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

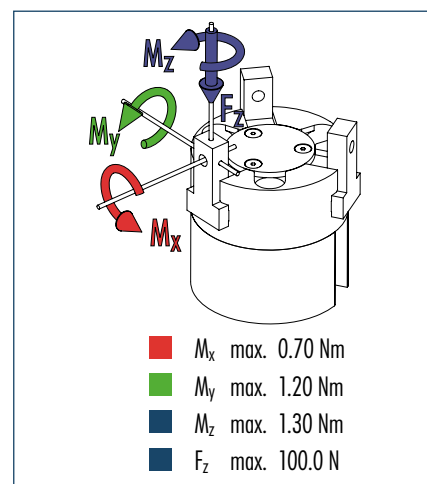




## Gripping force, O.D. gripping



## Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

Description		MPZ 25	MPZ 25-AS	MPZ 25-IS
ID		0340500	0340501	0340502
Stroke per finger	[mm]	2	2	2
Closing force	[N]	35	47	
Opening force	[N]	40		55
Min. spring force	[N]		12	15
Weight	[kg]	0.04	0.06	0.06
Recommended workpiece weight	[kg]	0.2	0.2	0.2
Air consumption per double stroke	[cm <sup>3</sup> ]	0.6	1.8	1.8
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	25	25	25
Max. permitted weight per finger	[kg]	0.03	0.03	0.03
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

Technical drawing of a mechanical part, showing three views: top, front, and side.

**Top View:**

- Overall diameter:  $\varnothing 25$
- Central hole diameter:  $\varnothing 2.5$
- Distance from center to mounting holes:  $11 \dots 13$
- Mounting hole diameter:  $\varnothing 5.6$
- Mounting hole depth:  $4$
- Mounting hole spacing:  $11 \dots 13$

**Front View:**

- Overall height:  $30$
- Overall width:  $\varnothing 25$
- Central slot width:  $2.5$
- Mounting hole diameter:  $\varnothing 5.6$
- Mounting hole depth:  $4$
- Mounting hole spacing:  $11 \dots 13$
- Mounting hole diameter:  $\varnothing 5.6$
- Mounting hole depth:  $4$
- Mounting hole spacing:  $11 \dots 13$

**Side View:**

- Overall height:  $30$
- Overall width:  $\varnothing 25$
- Central slot width:  $2.5$
- Mounting hole diameter:  $\varnothing 5.6$
- Mounting hole depth:  $4$
- Mounting hole spacing:  $11 \dots 13$
- Mounting hole diameter:  $\varnothing 5.6$
- Mounting hole depth:  $4$
- Mounting hole spacing:  $11 \dots 13$

**Dimensions and Tolerances:**

- Central hole diameter:  $\varnothing 2.5 \pm 0.02$
- Central slot width:  $2.5 \pm 0.02$
- Mounting hole diameter:  $\varnothing 5.6 \pm 0.02$
- Mounting hole depth:  $4 \pm 0.02$
- Mounting hole spacing:  $11 \dots 13$
- Mounting hole diameter:  $\varnothing 5.6 \pm 0.02$
- Mounting hole depth:  $4 \pm 0.02$
- Mounting hole spacing:  $11 \dots 13$

**Labels:**

- MMS 22
- M2.5

⑧⑩ Depth of the centering sleeve hole in the matching part

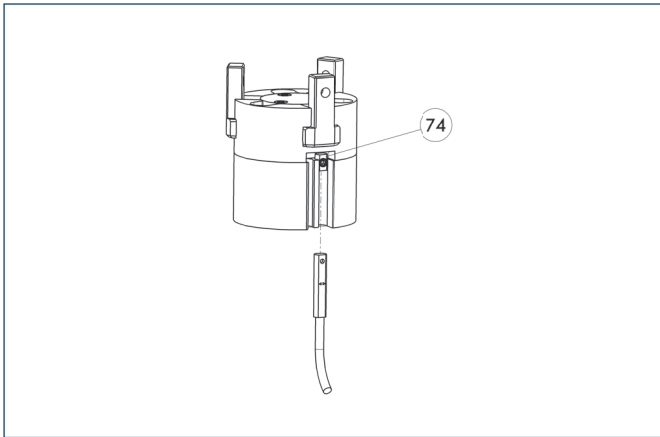
Technical drawing of a mechanical part, likely a bush or sleeve, showing dimensions and callouts:

- Callout 3: Points to the outer diameter of the part, labeled  $\varnothing 4.5$ .
- Callout 4: Points to the inner diameter of the part, labeled  $\varnothing 2.5$ .
- Dimension  $\varnothing 2.5$ : Indicates the inner diameter of the part.
- Dimension  $\varnothing 4.5$ : Indicates the outer diameter of the part.
- Dimension  $M 2.5$ : Indicates the thread specification for the inner hole.
- Dimension  $0.65$ : Indicates the length of the part.
- Dimension  $\varnothing 2.5 \times 1$ : Indicates the thread specification for the inner hole, including a length of 1 unit.

- 
- Technical drawing of a cable gland (type 1) showing dimensions and mounting details. The drawing includes a side view and a cross-sectional view. The side view shows a rectangular body with a circular mounting hole (A) and a circular cable entry hole (B). The cross-sectional view shows the internal structure, including a central cable and a locking mechanism. Dimensions are indicated: 6.2 for the mounting hole diameter, 28 for the body height, and 42 for the total height. The mounting hole is labeled 'A' and the cable entry hole is labeled 'B'.

575

## Programmable magnetic switch



74 Stop for MMS-P

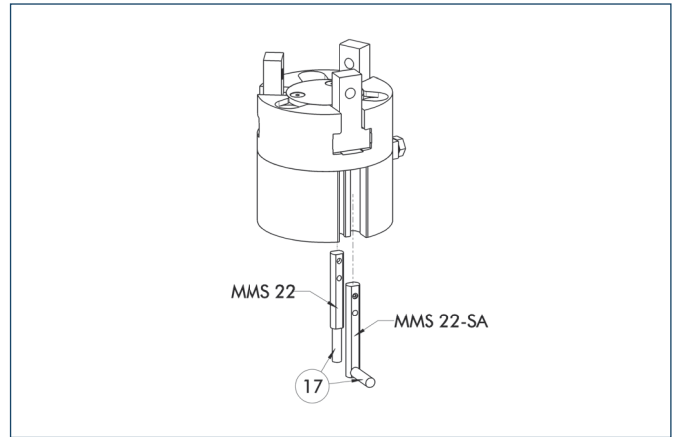
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
<b>Programmable magnetic switch</b>		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
<b>Connection cables</b>		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
<b>Sensor Distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

## Electronic magnetic switches

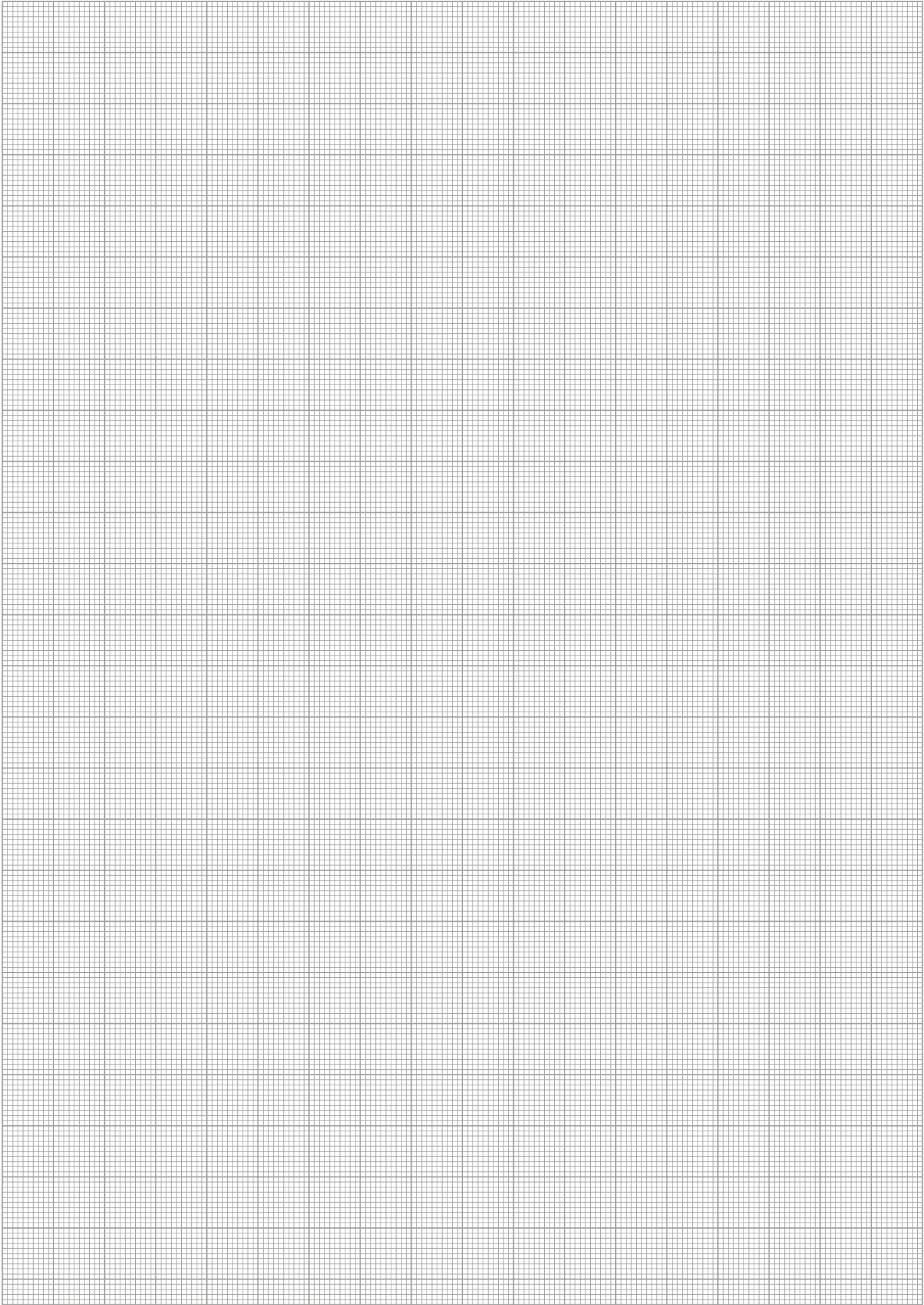


17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
<b>Electronic magnetic switches</b>		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
<b>Connection cables</b>		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

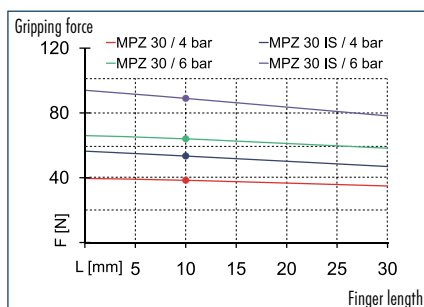
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



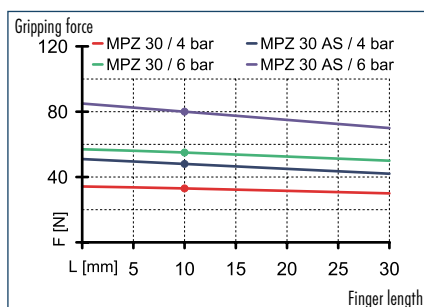




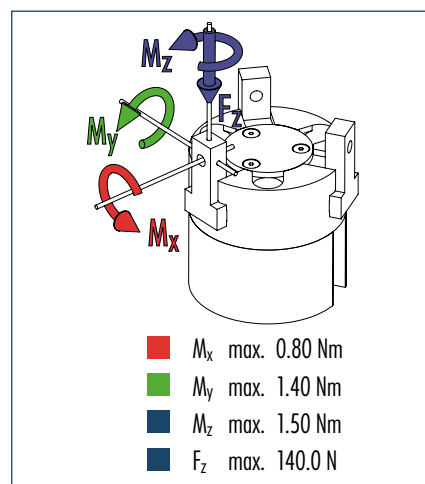
### Gripping force, I.D. gripping



### Gripping force, O.D. gripping



### Finger load

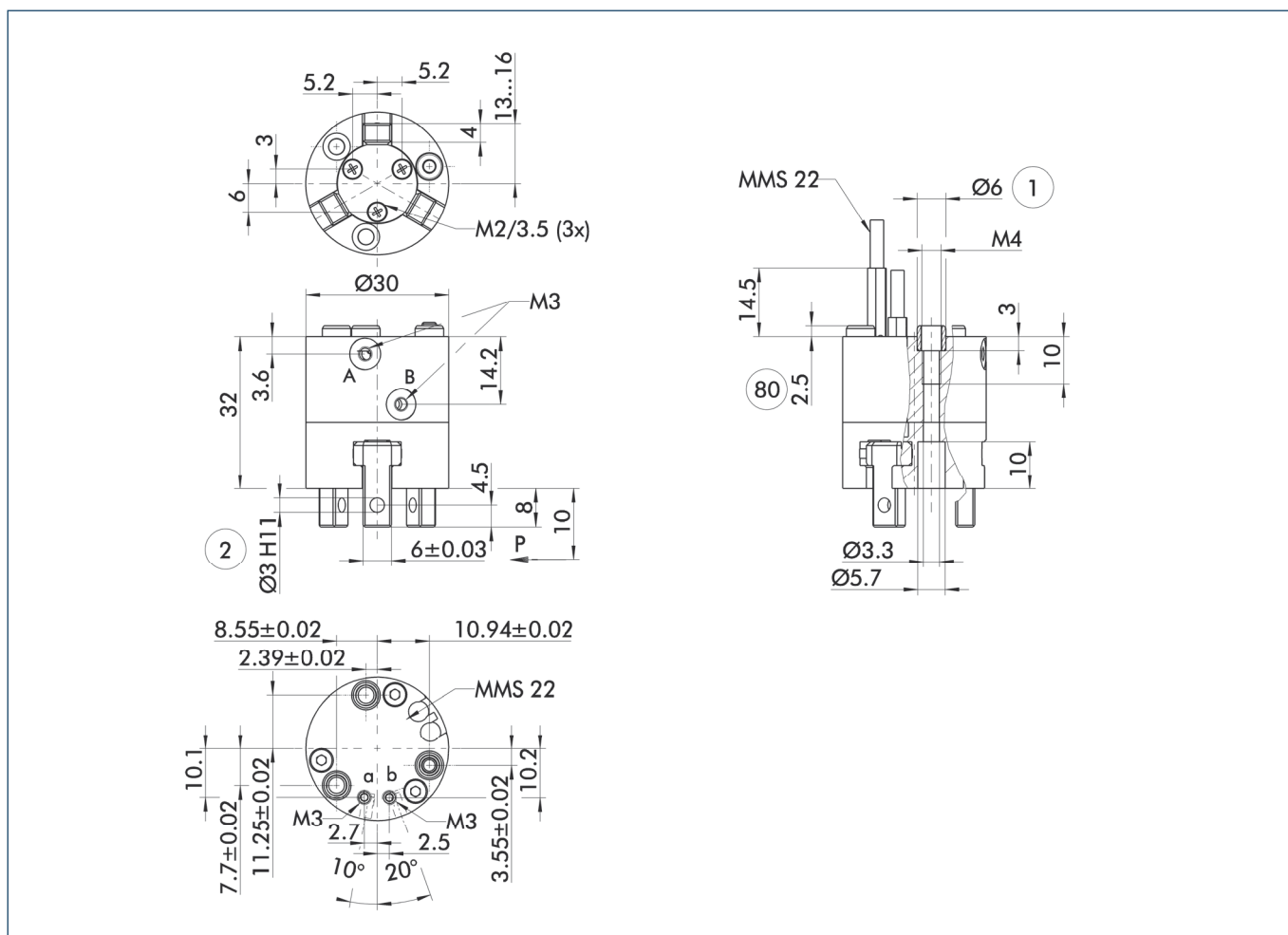


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

### Technical data

Description		MPZ 30	MPZ 30 FPS	MPZ 30-AS	MPZ 30-IS
ID		0340510	0340513	0340511	0340512
Stroke per finger	[mm]	3	3	3	3
Closing force	[N]	55	55	80	
Opening force	[N]	65	65		90
Min. spring force	[N]			25	25
Weight	[kg]	0.08	0.1	0.09	0.09
Recommended workpiece weight	[kg]	0.28	0.28	0.28	0.28
Air consumption per double stroke	[cm <sup>3</sup> ]	2.01	2.01	2.01	2.01
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	30	30	30	30
Max. permitted weight per finger	[kg]	0.03	0.03	0.03	0.03
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

### Main view



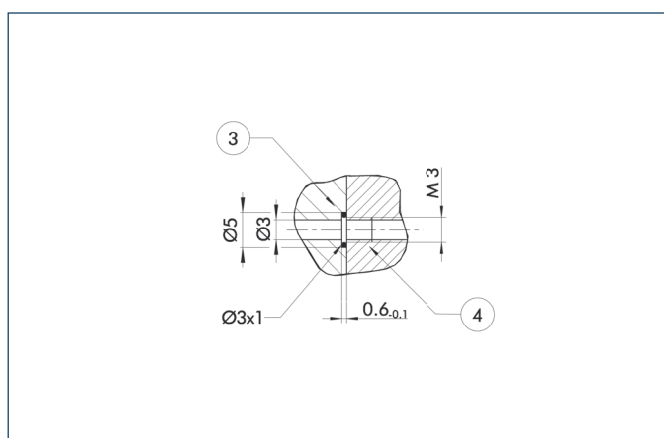
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening  
B, b Main/direct connection, gripper closing  
① Gripper connection  
② Finger connection

80 Depth of the centering sleeve hole in the matching part

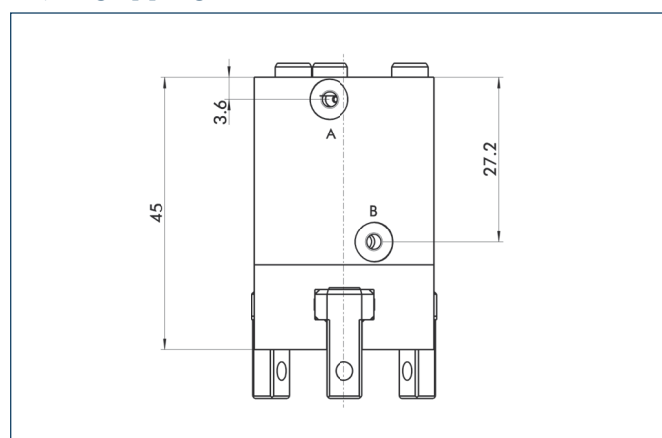
### Hose-free direct connection



③ Adapter  
④ Gripper

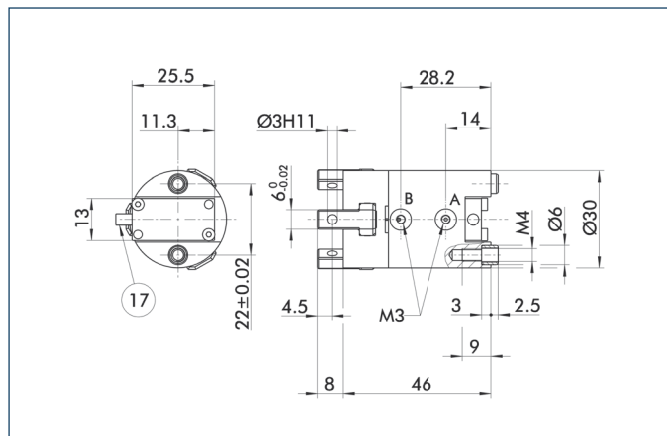
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

### AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

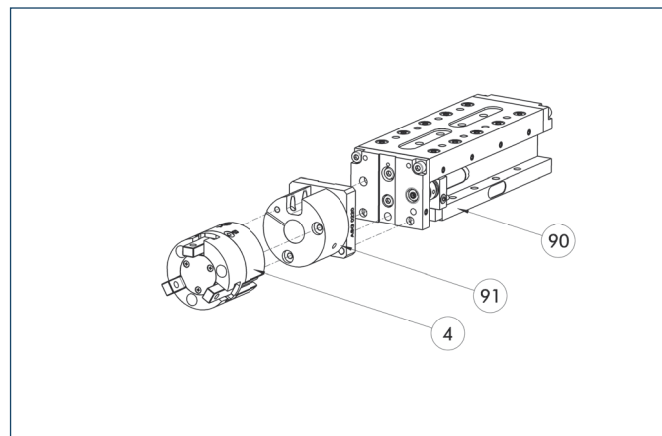
### Flexible Position Sensor



17 Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

### Modular Assembly Automation



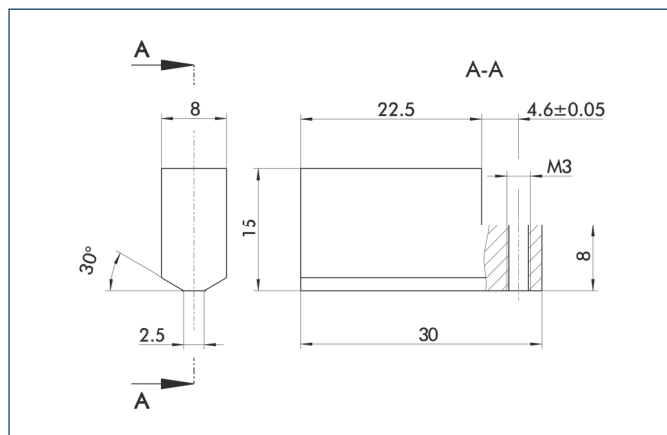
4 Gripper

90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

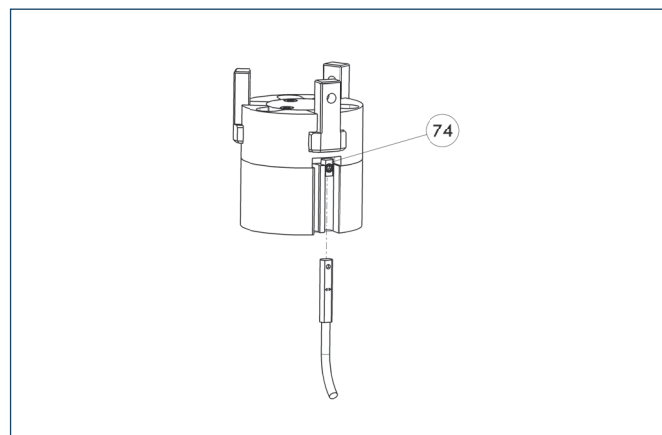
### Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 30	0340519	Aluminum	3

### Programmable magnetic switch



74 Stop for MMS-P

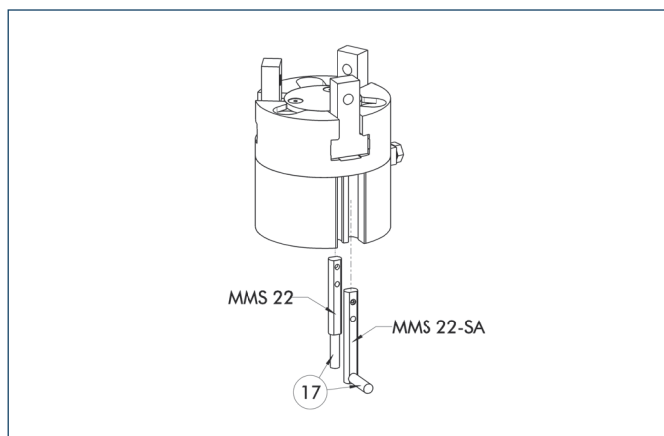
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

### Electronic magnetic switches



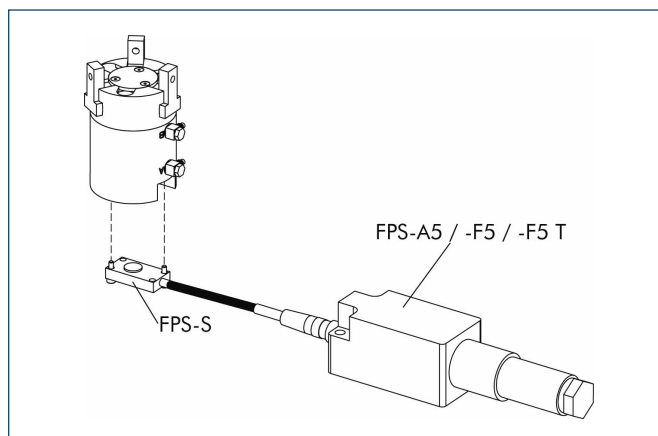
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
<b>Electronic magnetic switches</b>		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	•
<b>Connection cables</b>		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
<b>Electronic Processor</b>	
FPS-F5	0301805
FPS-F5 T	0301807
<b>Sensor</b>	
FPS-S 13	0301705

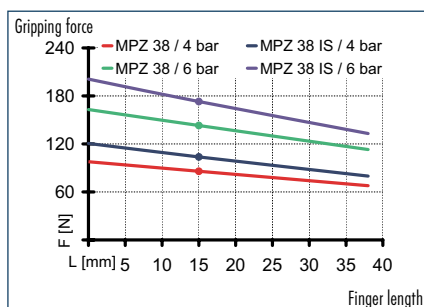
① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



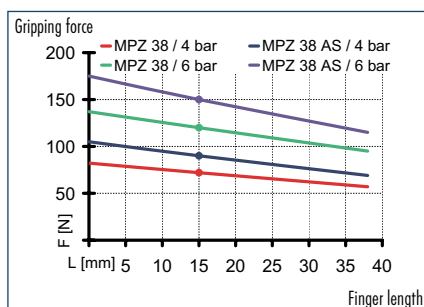
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



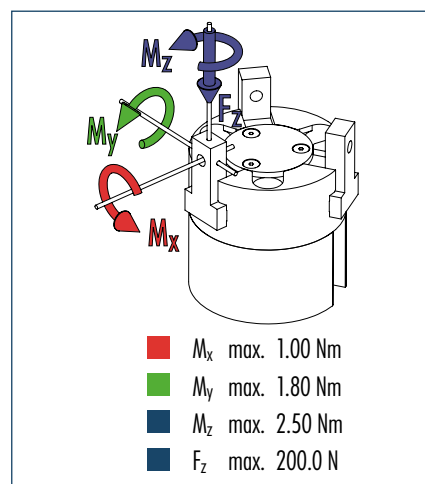
### Gripping force, I.D. gripping



### Gripping force, O.D. gripping



### Finger load

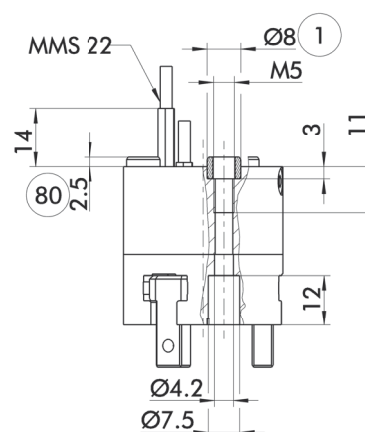
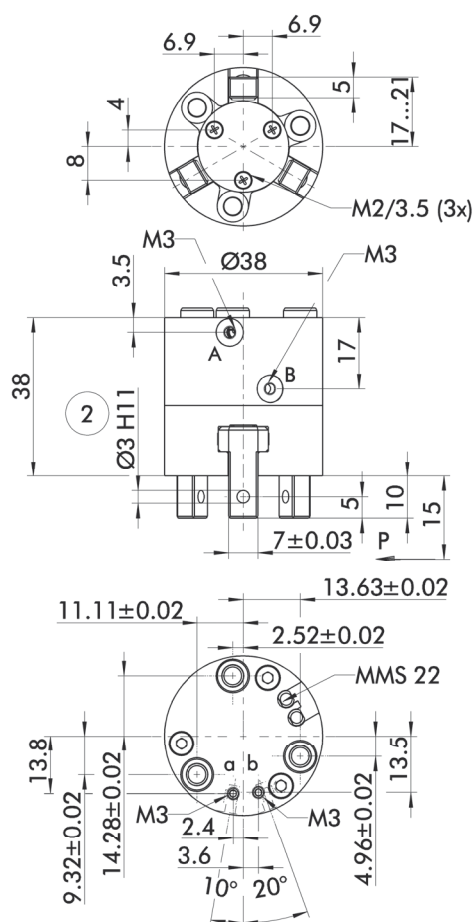


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

Description		MPZ 38	MPZ 38 FPS	MPZ 38-AS	MPZ 38-IS
ID		0340520	0340523	0340521	0340522
Stroke per finger	[mm]	4	4	4	4
Closing force	[N]	120	120	150	
Opening force	[N]	140	140		180
Min. spring force	[N]			30	40
Weight	[kg]	0.14	0.19	0.19	0.19
Recommended workpiece weight	[kg]	0.6	0.6	0.6	0.6
Air consumption per double stroke	[cm <sup>3</sup> ]	4.08	4.08	4.08	4.08
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	38	38	38	38
Max. permitted weight per finger	[kg]	0.05	0.05	0.05	0.05
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class					
ISO-classification 14644-1		5	5	5	5

### Main view



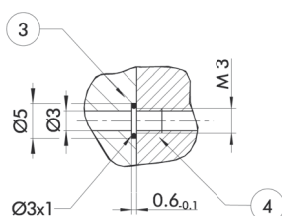
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening  
B, b Main/direct connection, gripper closing  
① Gripper connection  
② Finger connection

80 Depth of the centering sleeve hole in the matching part

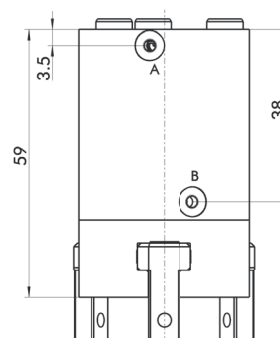
### Hose-free direct connection



③ Adapter  
④ Gripper

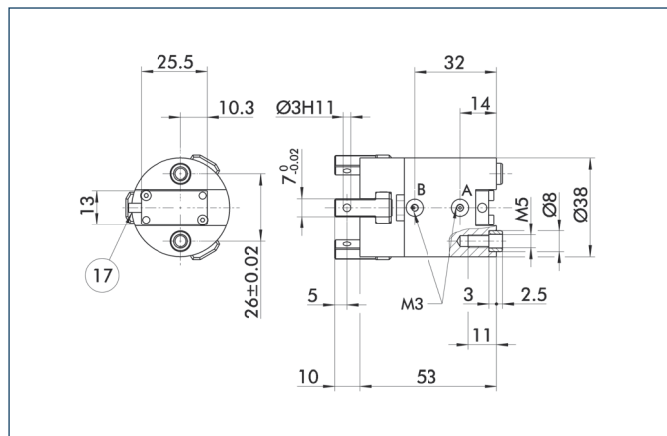
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

### AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

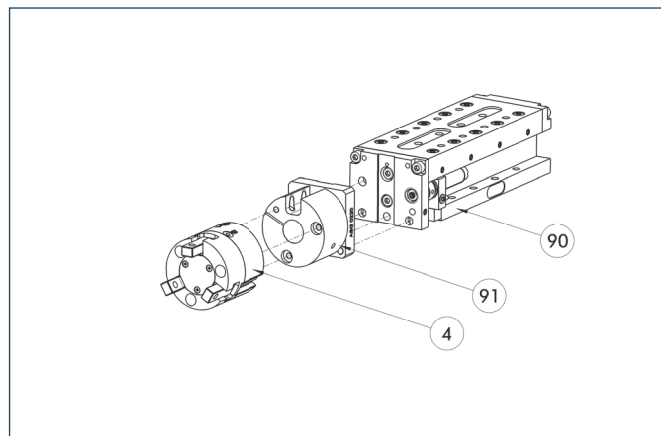
### Flexible Position Sensor



17 Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

### Modular Assembly Automation

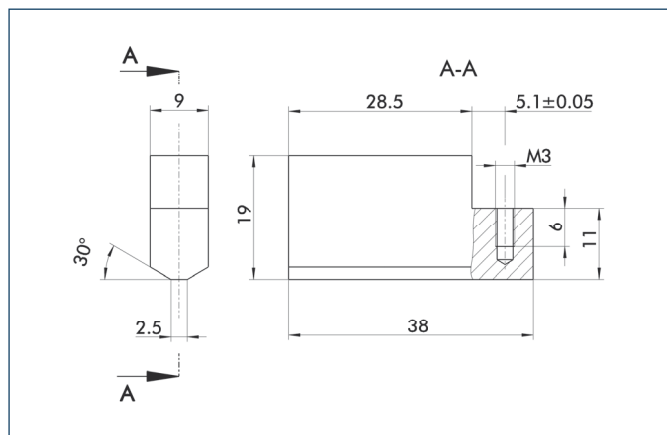


4 Gripper  
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

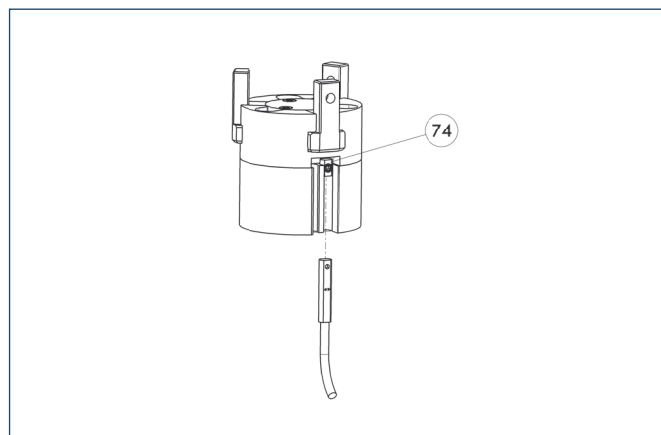
### Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 38	0340529	Aluminum	3

### Programmable magnetic switch



74 Stop for MMS-P

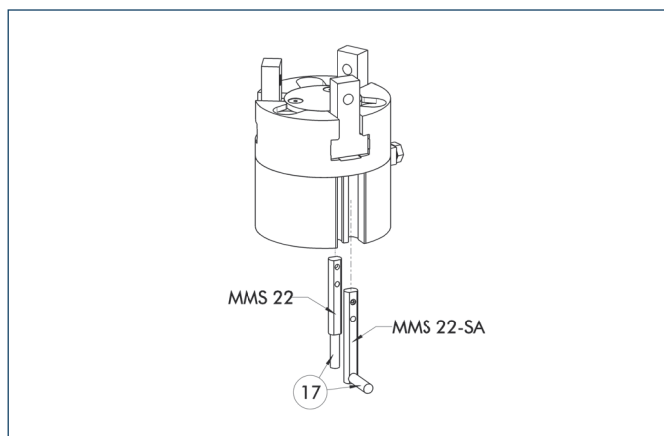
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

### Electronic magnetic switches



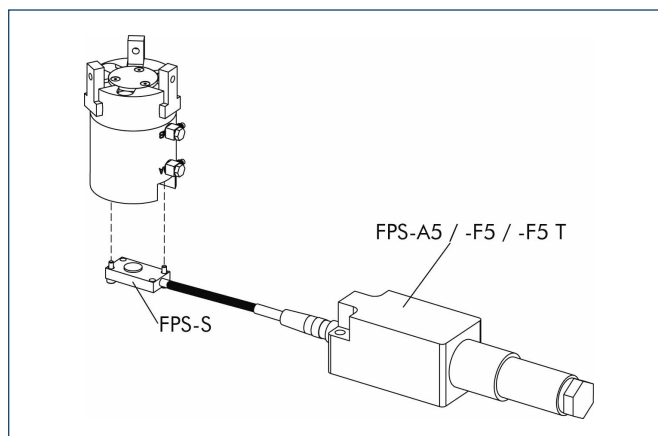
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
<b>Electronic magnetic switches</b>		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
<b>Connection cables</b>		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
<b>Electronic Processor</b>	
FPS-F5	0301805
FPS-F5 T	0301807
<b>Sensor</b>	
FPS-S 13	0301705

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

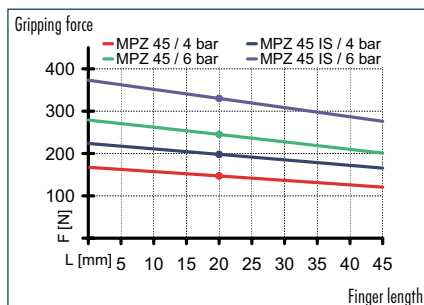


You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

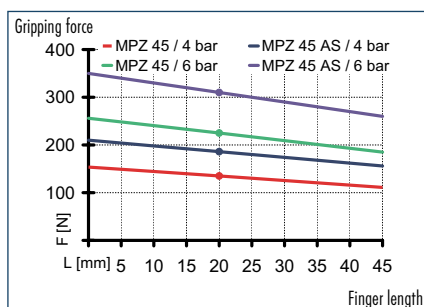




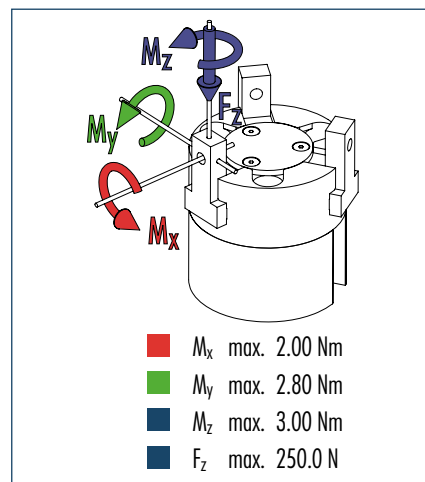
### Gripping force, I.D. gripping



### Gripping force, O.D. gripping



### Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

Description		MPZ 45	MPZ 45 FPS	MPZ 45-AS	MPZ 45-IS
ID		0340530	0340533	0340531	0340532
Stroke per finger	[mm]	5	5	5	5
Closing force	[N]	225	225	310	
Opening force	[N]	245	245		340
Min. spring force	[N]			85	95
Weight	[kg]	0.22	0.29	0.28	0.28
Recommended workpiece weight	[kg]	1.15	1.15	1.15	1.15
Air consumption per double stroke	[cm <sup>3</sup> ]	9.85	9.85	9.85	9.85
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.04/0.05	0.05/0.04
Max. permitted finger length	[mm]	45	45	45	45
Max. permitted weight per finger	[kg]	0.08	0.08	0.08	0.08
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

Technical drawing of a mechanical part (Fig. 1) showing three views: top, front, and bottom. The top view is a circle with a diameter of 45 mm, featuring six holes (three M2/3.5 and three M3) and a central hole. The front view shows a rectangular block with a total height of 43 mm and a central hole of diameter 45 mm. The bottom view is a circle with a diameter of 45 mm, featuring six holes (three M2/3.5 and three M3) and a central hole. Dimensions are given in mm.

**Top View Dimensions:**

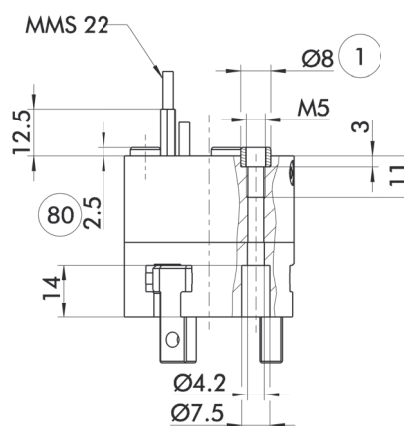
- Overall diameter:  $\varnothing 45$
- Distance from center to M2/3.5 holes: 8.7
- Distance from center to M3 holes: 10
- Distance from center to central hole: 5
- Distance from center to M2/3.5 holes (radial): 6
- Distance from center to M3 holes (radial): 20...25
- Thread specifications: M2/3.5 (3x), M3

**Front View Dimensions:**

- Total height: 43
- Distance from top to M3 holes: 4.5
- Distance from top to M2/3.5 holes: 19.4
- Distance from bottom to M3 holes: 6
- Distance from bottom to M2/3.5 holes: 12
- Distance from bottom to central hole: 20
- Distance from center to M3 holes:  $8 \pm 0.03$
- Distance from center to M2/3.5 holes:  $P$

**Bottom View Dimensions:**


- Overall diameter:  $\varnothing 45$
- Distance from center to M2/3.5 holes:  $12.37 \pm 0.02$
- Distance from center to M3 holes:  $16.9 \pm 0.02$
- Distance from center to central hole:  $4.53 \pm 0.02$
- Distance from center to M2/3.5 holes (radial):  $16.7$
- Distance from center to M3 holes (radial):  $16.9 \pm 0.02$
- Distance from center to central hole (radial):  $4.53 \pm 0.02$
- Distance from center to M2/3.5 holes (radial):  $3$
- Distance from center to M3 holes (radial):  $4.4$
- Distance from center to M2/3.5 holes (radial):  $10^\circ$
- Distance from center to M3 holes (radial):  $20^\circ$
- Thread specifications: M2/3.5, M3



⑧⑩ Depth of the centering sleeve hole in the matching part

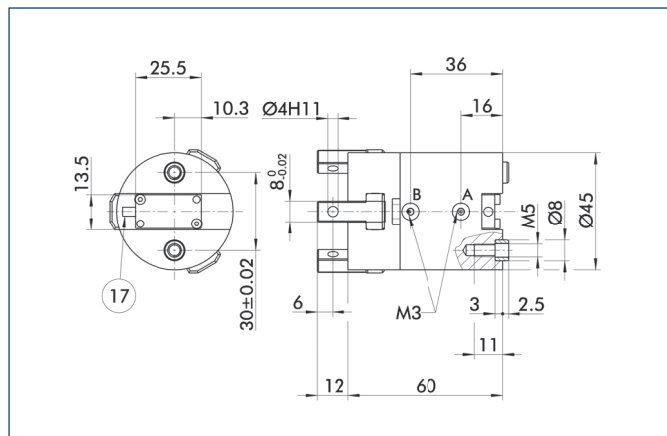
Technical drawing of a mechanical part with the following dimensions and callouts:

- Callout 3: Points to the top surface of the part.
- Callout 4: Points to the bottom surface of the part.
- Dimensions:
  - Overall width:  $\varnothing 5$
  - Inner hole diameter:  $\varnothing 3$
  - Bottom hole diameter:  $\varnothing 3 \times 1$
  - Bottom hole depth:  $0.6_{-0.1}$
  - Overall height:  $M 3$

- 
- Technical drawing of the front view of the 1000 Series 24. The drawing shows a rectangular unit with a total height of 58 and a total width of 24. There are two circular features, labeled A and B, positioned vertically. Feature A is located 4.5 units from the top edge. Feature B is located 10 units from the bottom edge. The drawing includes dimension lines and labels for these features.

587

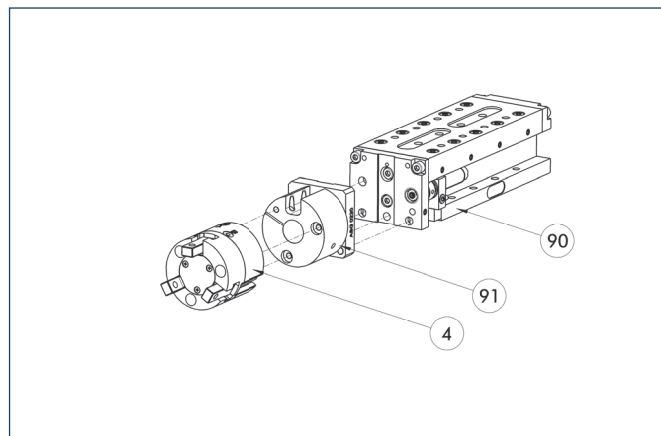
### Flexible Position Sensor



17 Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

### Modular Assembly Automation



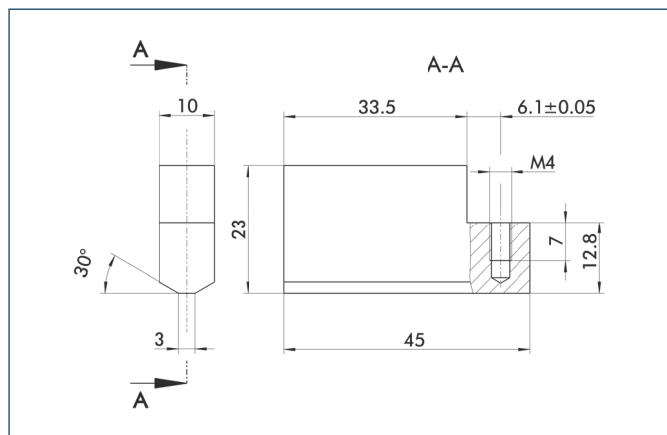
4 Gripper

90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

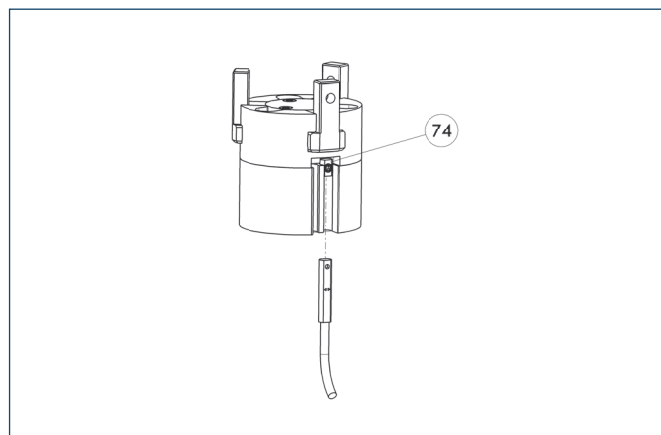
### Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 45	0340539	Aluminum	3

### Programmable magnetic switch



74 Stop for MMS-P

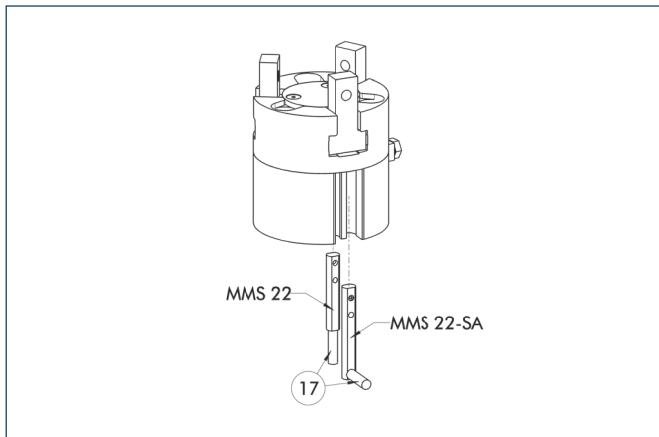
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

### Electronic magnetic switches



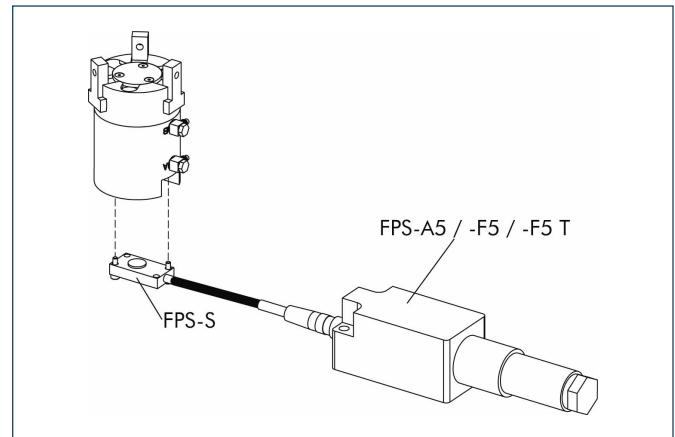
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
<b>Electronic magnetic switches</b>		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
<b>Connection cables</b>		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

### Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
<b>Electronic Processor</b>	
FPS-F5	0301805
FPS-F5 T	0301807
<b>Sensor</b>	
FPS-S 13	0301705

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.