

PWG-S

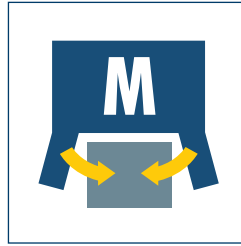
Pneumatic · 2-Finger Angular Gripper · Universal Angular Gripper



Sizes
40 .. 80



Weight
0.21 kg .. 1.2 kg



Gripping moment
6 Nm .. 51 Nm

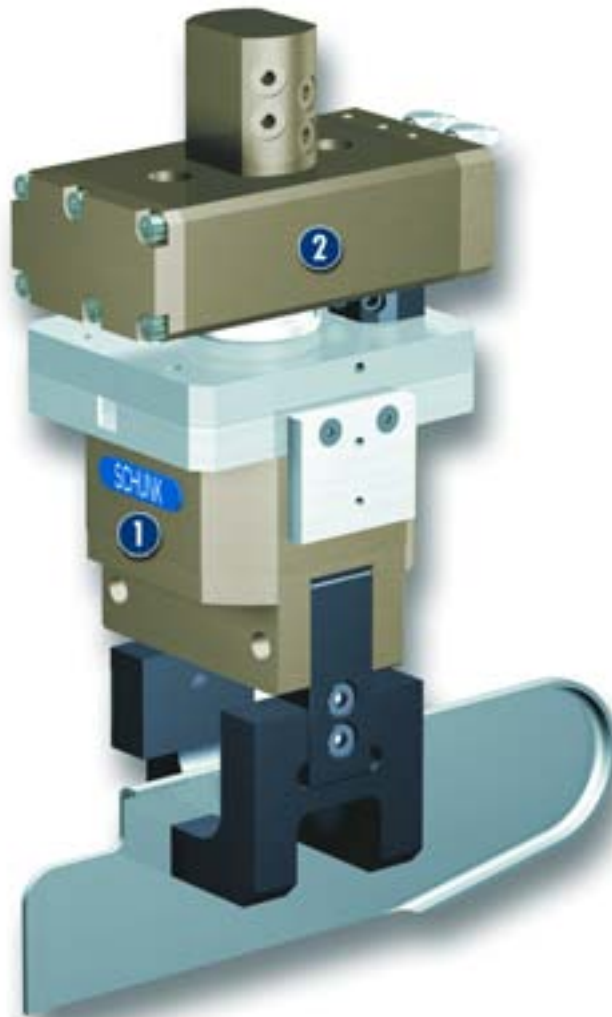


Opening angle per finger
20°



Workpiece weight
0.9 kg .. 4.8 kg

Application example



Rotating/gripping combination for flexible handling of sheet metal components.

① 2-Finger Angular Gripper PWG-S 80

② Rotary Actuator OSE-A 22-4

Universal Angular Gripper

Robust 2-finger angular gripper with spring-mounted gripping force safety device

Area of application

For universal use in clean and slightly dirty environments

Your advantages and benefits

Spring-mounted maintenance of gripping force for O.D. gripping

Holds the workpiece on a loss of pressure, always integrated

Proximity switch mounted directly without additional brackets

Eliminating unnecessary interfering contours

Minimum gripper dimensions with maximum gripping force

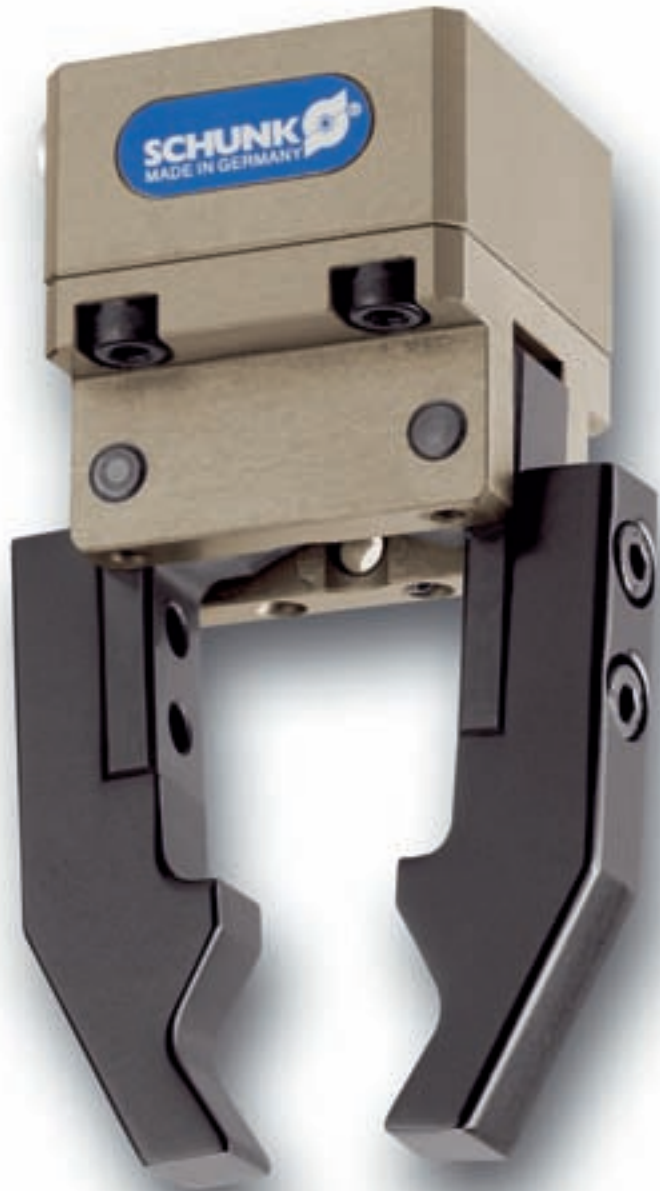
Therefore ensuring a high power to size ratio

Robust gripper design

Enabling a wide range of applications

Kinematics

for high power transmission and synchronized gripping



Information about the series

Working principle

Toggle drive system

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
 Pressure medium: Requirements on quality of the compressed air according to
 DIN ISO 8573-1: 6 4 4.

Warranty

24 months

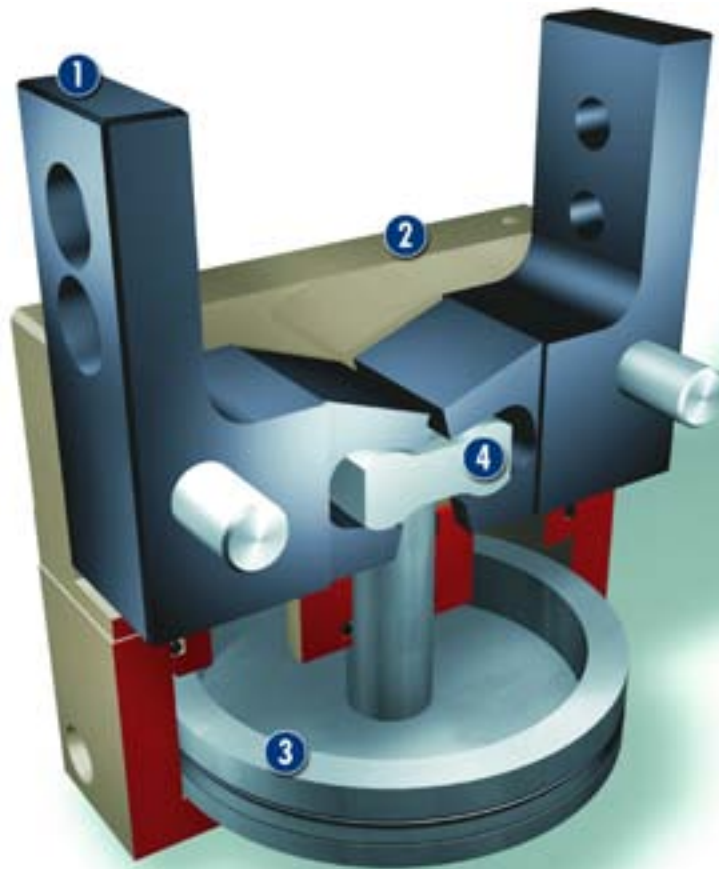
Scope of delivery

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

Gripping force safety device

Always equipped with mechanical gripping force safety device for O.D. gripping

Sectional diagram



- 1 Gripper jaws**
for the connection of workpiece-specific gripper fingers
- 2 Housing**
weight-reduced thanks to the use of a hard-anodized, high-strength aluminum alloy
- 3 Drive**
pneumatic piston for actuation
- 4 Kinematics**
lever mechanism for synchronized gripping

Function description

The piston is pressed up or down by compressed air. Using the guided lever system, the kinematics transfers the base jaws' vertical motion into a synchronized, angled motion.

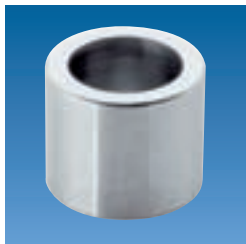
Options and special information

Reduced opening angle available on request.

Accessories

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

Centering sleeves



Fittings



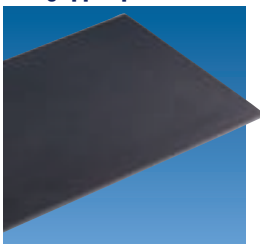
IN inductive proximity switches



Quentes plastic inserts



HKI gripper pads



SDV-P pressure maintenance valves



KV/KA sensor cables



V sensor distributors



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 information on the series

Gripping moment

is the arithmetic total of gripping moments for each claw jaw.

Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis. If the maximum permitted finger length is exceeded, the speed of the jaw movement must also be throttled, as in the case for heavy fingers, and/or the opening angle must be reduced. The grippers life may be shortened.

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

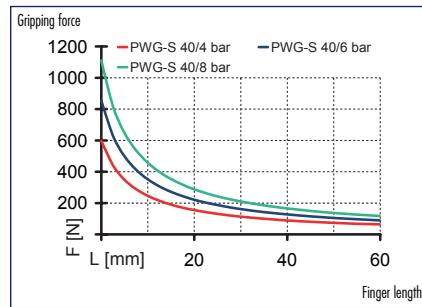
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PWG-S 40

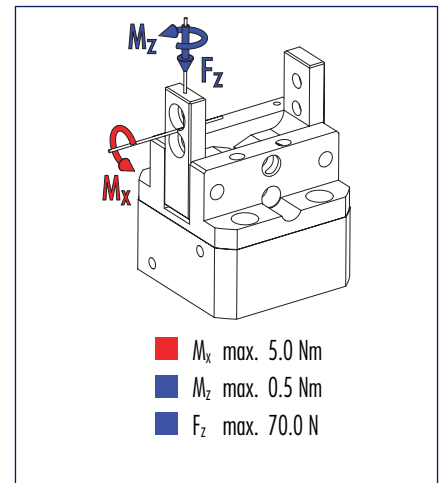
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Gripping force, O.D. gripping



Finger load

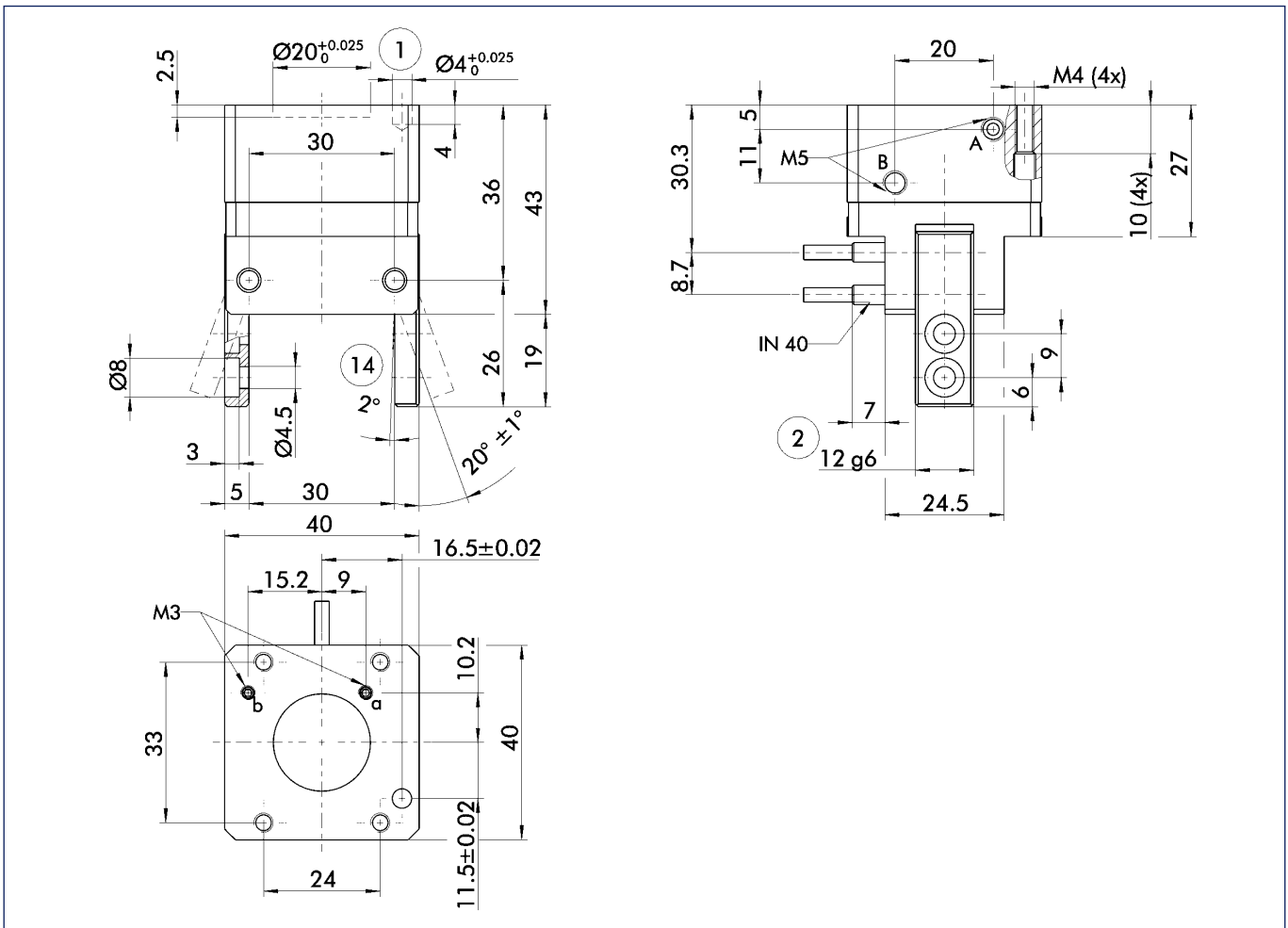


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PWG-S 40
	ID	0302611
Opening angle per jaw	[°]	20.0
Opening angle per jaw up to	[°]	2.0
Closing moment	[Nm]	5.98
Closing moment ensured by spring	[Nm]	0.9
Weight	[kg]	0.21
Recommended workpiece weight	[kg]	0.9
Air consumption per double stroke	[cm ³]	7.5
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	8.0
Closing time	[s]	0.01
Opening time	[s]	0.01
Max. permitted finger length	[mm]	40.0
Max. permitted weight per finger	[kg]	0.15
IP rating		20
Min. ambient temperature	[°C]	-10.0
Température ambiante max.	[°C]	90.0
Repeat accuracy	[mm]	0.05

Main views

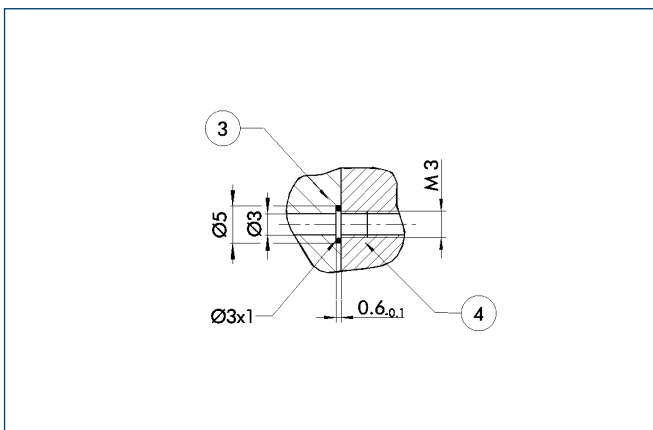


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection
- ⑭ Clamping reserve per finger

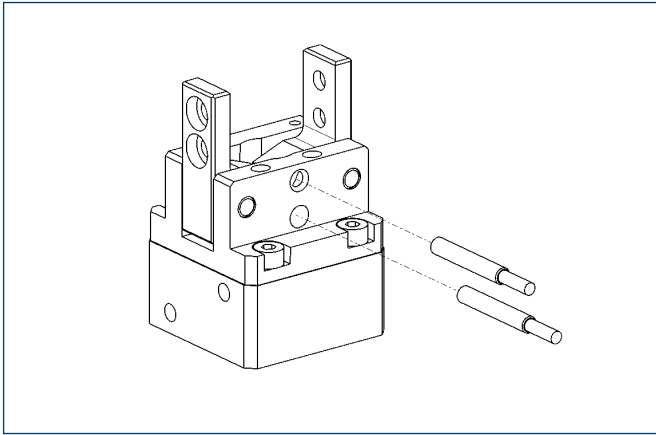
Hose-free direct connection



- ③ Adapter
- ④ Gripper

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

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

Description	ID	Recommended product
IN 40-S-M12	0301574	
IN 40-S-M5-NPN	0301492	
IN 40-S-M5-PNP	0301491	
IN 40-S-M8	0301474	•
INK 40-S	0301555	

① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

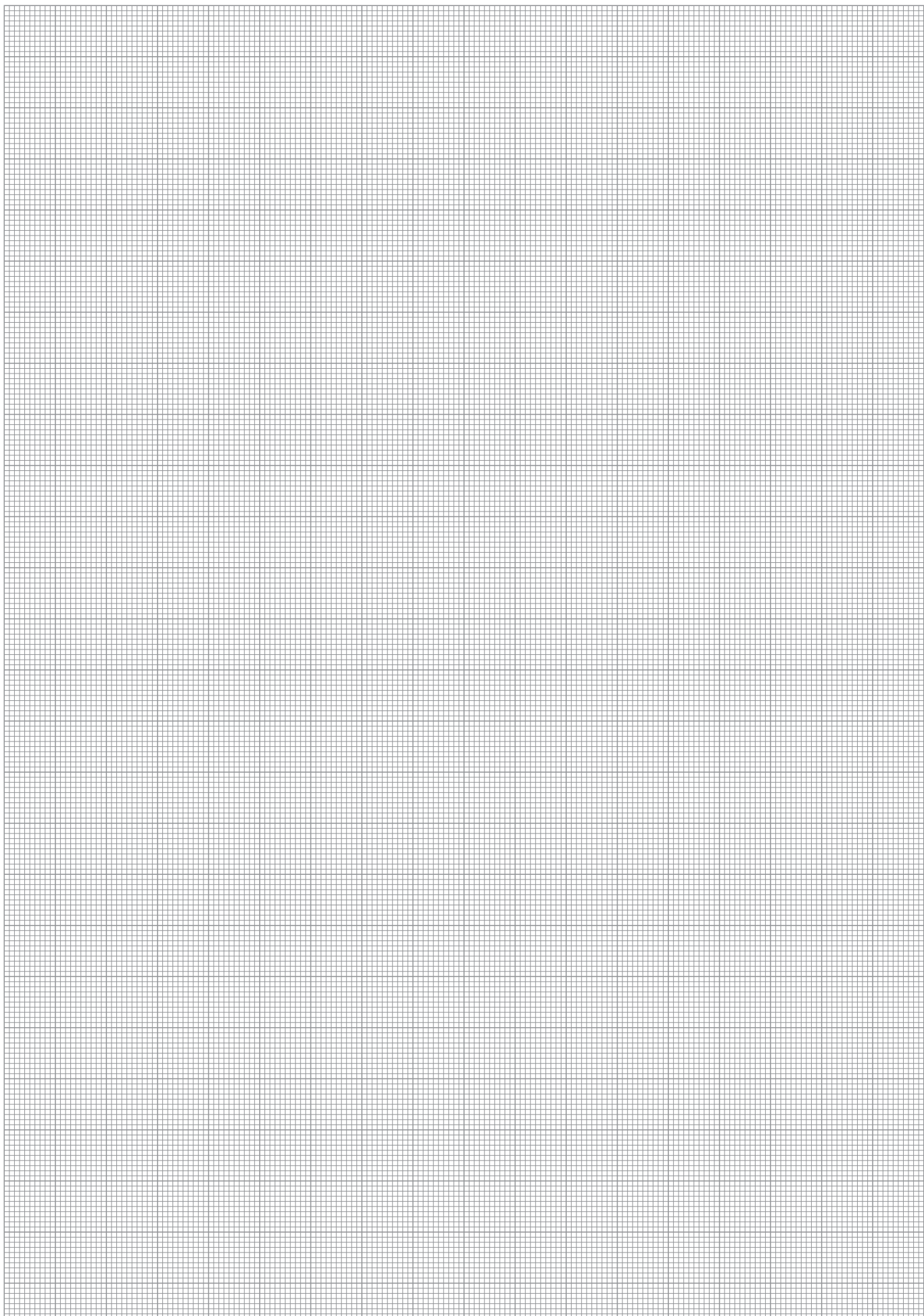
Extension cables for proximity switches/magnetic switches

Description	ID
KA BG05-L 3P-0300	0301652
KA BG08-L 3P-0300-PNP	0301622
KA BW05-L 3P-0300	0301650
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KA BW12-L 3P-0300-PNP	0301503
KA BW12-L 3P-0500-PNP	0301507
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

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



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

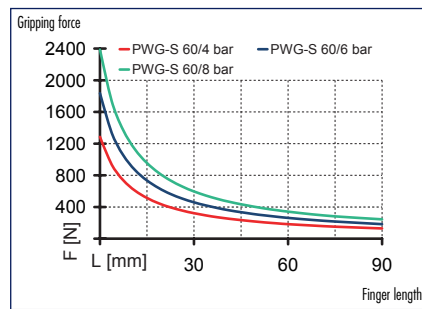


PWG-S 60

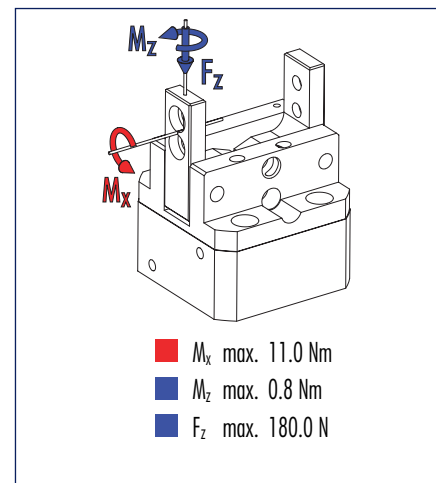
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Gripping force, O.D. gripping



Finger load

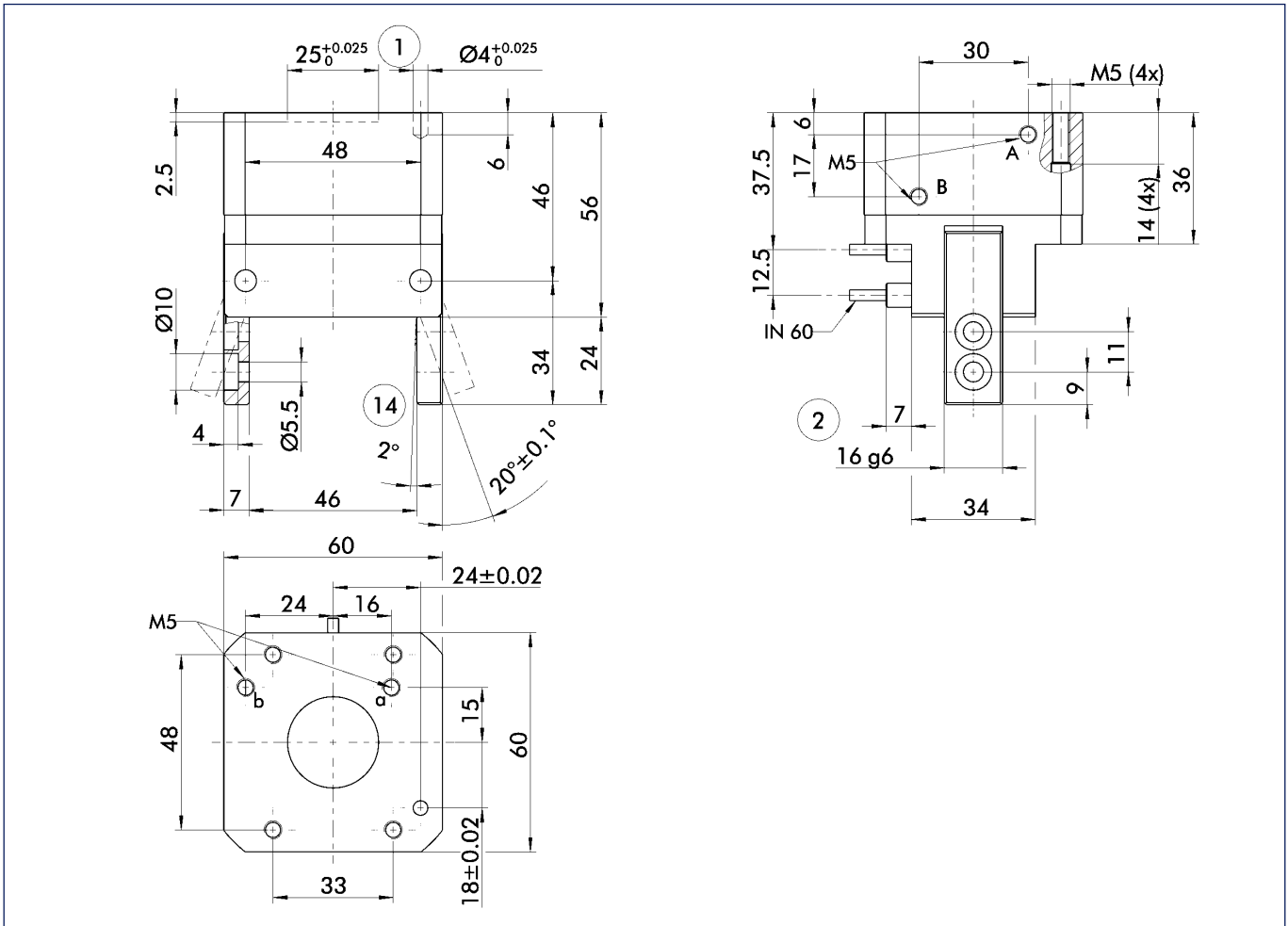


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PWG-S 60
	ID	0302612
Opening angle per jaw	[°]	20.0
Opening angle per jaw up to	[°]	2.0
Closing moment	[Nm]	18.36
Closing moment ensured by spring	[Nm]	2.4
Weight	[kg]	0.62
Recommended workpiece weight	[kg]	2.2
Air consumption per double stroke	[cm ³]	29.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	8.0
Closing time	[s]	0.03
Opening time	[s]	0.03
Max. permitted finger length	[mm]	60.0
Max. permitted weight per finger	[kg]	0.4
IP rating		20
Min. ambient temperature	[°C]	-10.0
Température ambiante max.	[°C]	90.0
Repeat accuracy	[mm]	0.05

Main views

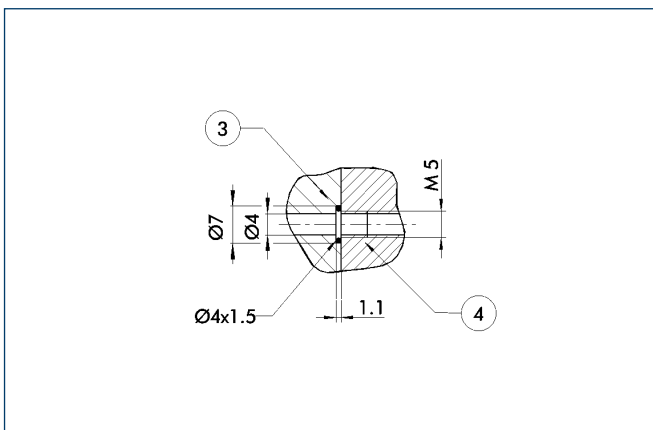


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection
- ⑬ Clamping reserve per finger

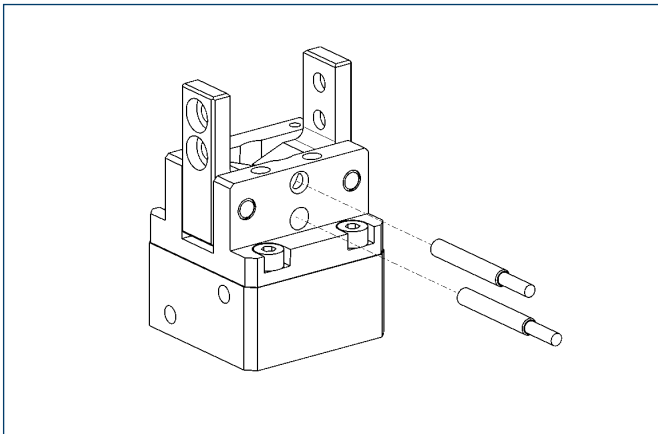
Hose-free direct connection



- ③ Adapter
- ④ Gripper

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

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

Description	ID	Recommended product
IN 60-S-M12	0301585	
IN 60-S-M8	0301485	•
INK 60-S	0301553	

① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

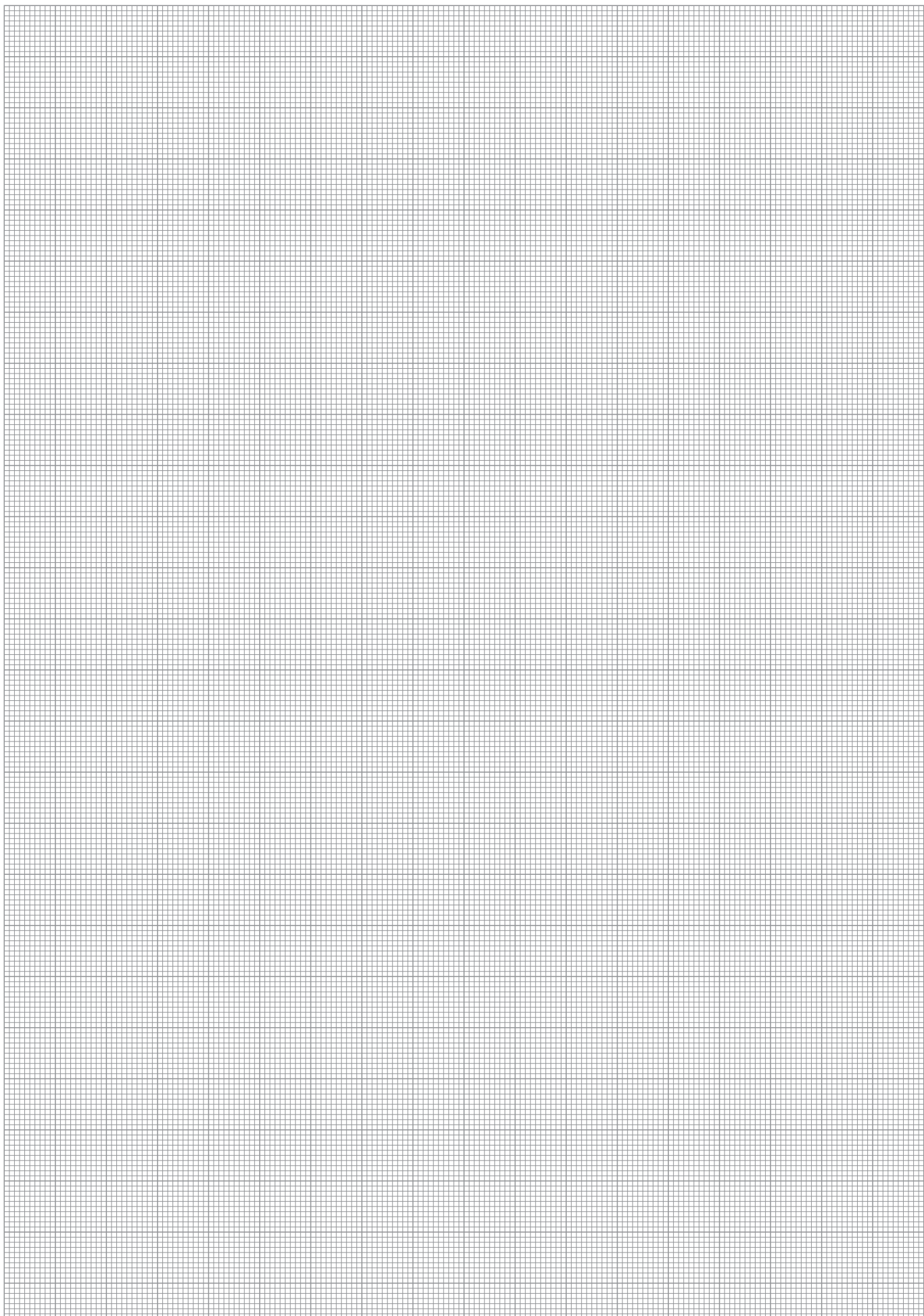
Extension cables for proximity switches/magnetic switches

Description	ID
KA BG08-L 3P-0300-PNP	0301622
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KA BW12-L 3P-0300-PNP	0301503
KA BW12-L 3P-0500-PNP	0301507
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

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



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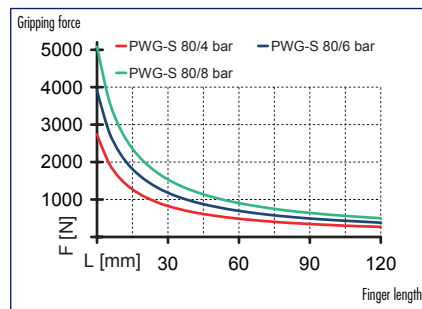


PWG-S 80

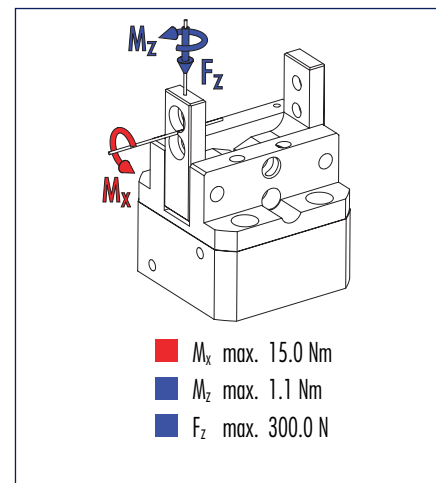
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Gripping force, O.D. gripping



Finger load

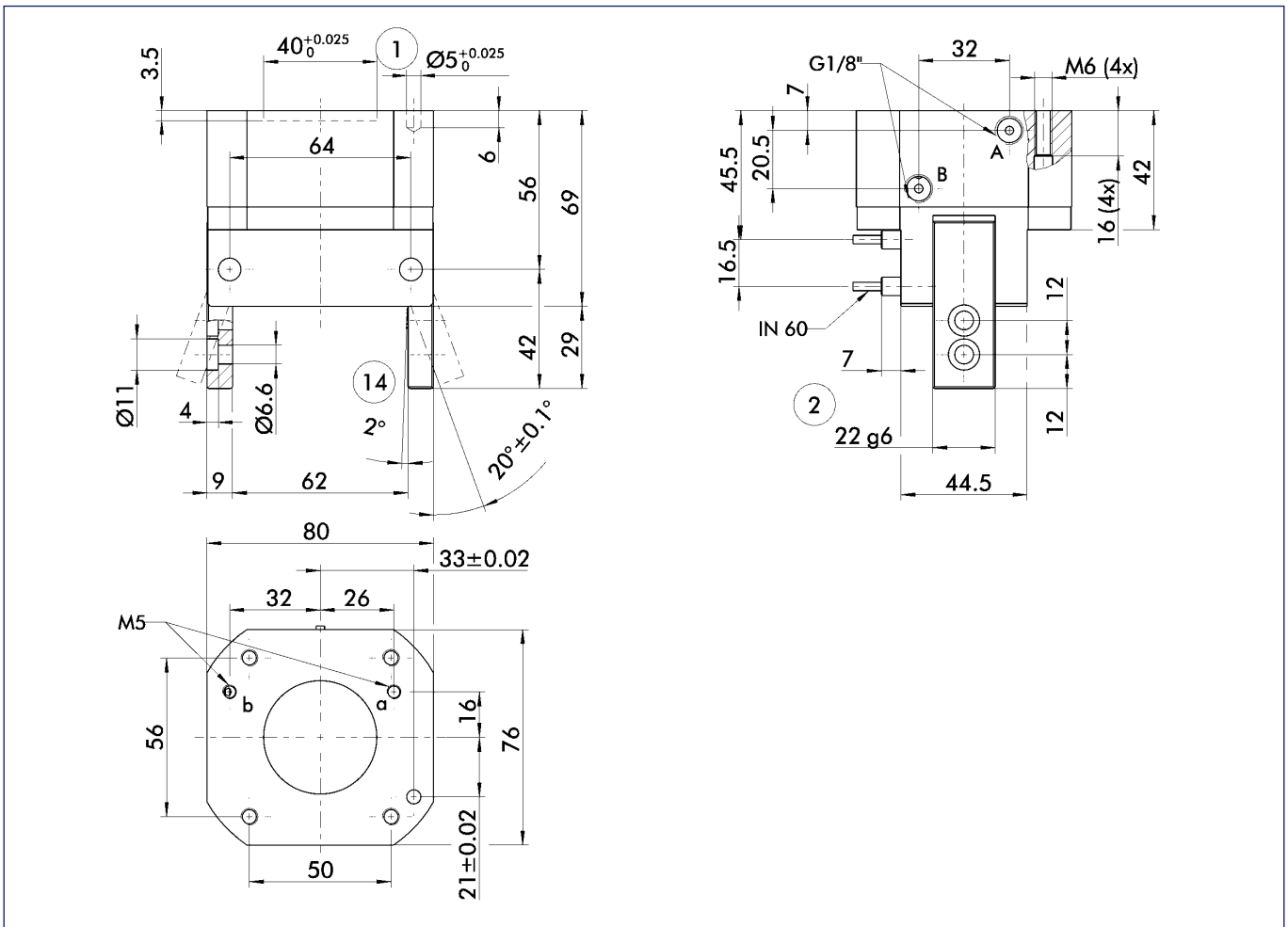


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Technical data

Description		PWG-S 80
	ID	0302613
Opening angle per jaw	[°]	20.0
Opening angle per jaw up to	[°]	2.0
Closing moment	[Nm]	50.82
Closing moment ensured by spring	[Nm]	10.1
Weight	[kg]	1.2
Recommended workpiece weight	[kg]	4.8
Air consumption per double stroke	[cm ³]	60.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	8.0
Closing time	[s]	0.05
Opening time	[s]	0.05
Max. permitted finger length	[mm]	80.0
Max. permitted weight per finger	[kg]	0.8
IP rating		20
Min. ambient temperature	[°C]	-10.0
Température ambiante max.	[°C]	90.0
Repeat accuracy	[mm]	0.05

Main views

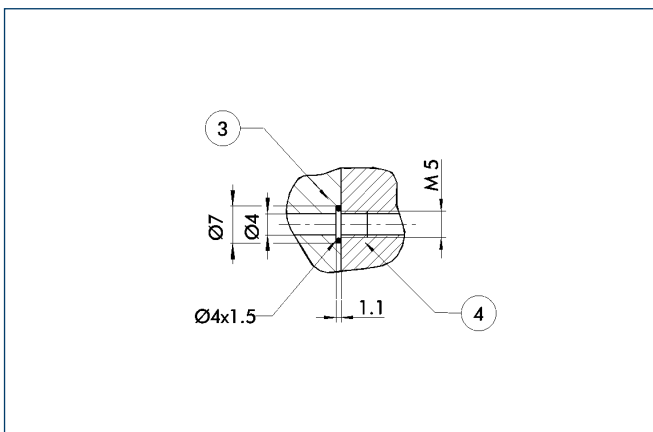


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- ⑭ Clamping reserve per finger

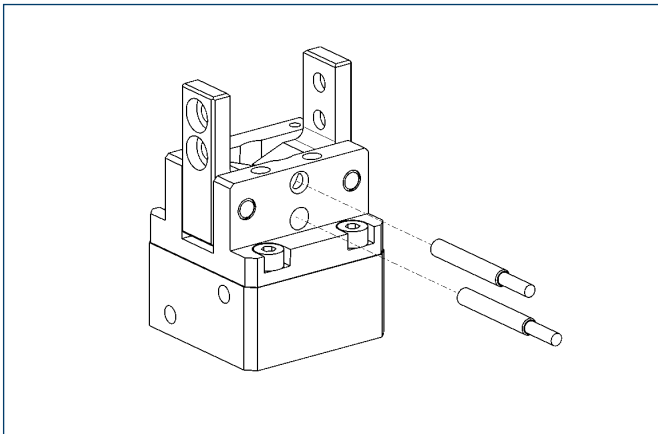
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