

Pneumatic Grippers Swivel Modules



ROTARY GRIPPERS MODULES

Series	Size	Page
GSM		748
Parallel Grippers		
GSM-P		750
GSM-P	32	754
GSM-P	40	760
GSM-P	50	766
GSM-P	64	772
Centric Grippers		
GSM-Z		778
GSM-Z	30	782
GSM-Z	38	788
GSM-Z	45	794





Sizes
40 .. 80



Weight
0.21 kg .. 1.2 kg



Gripping moment
6 Nm .. 51 Nm

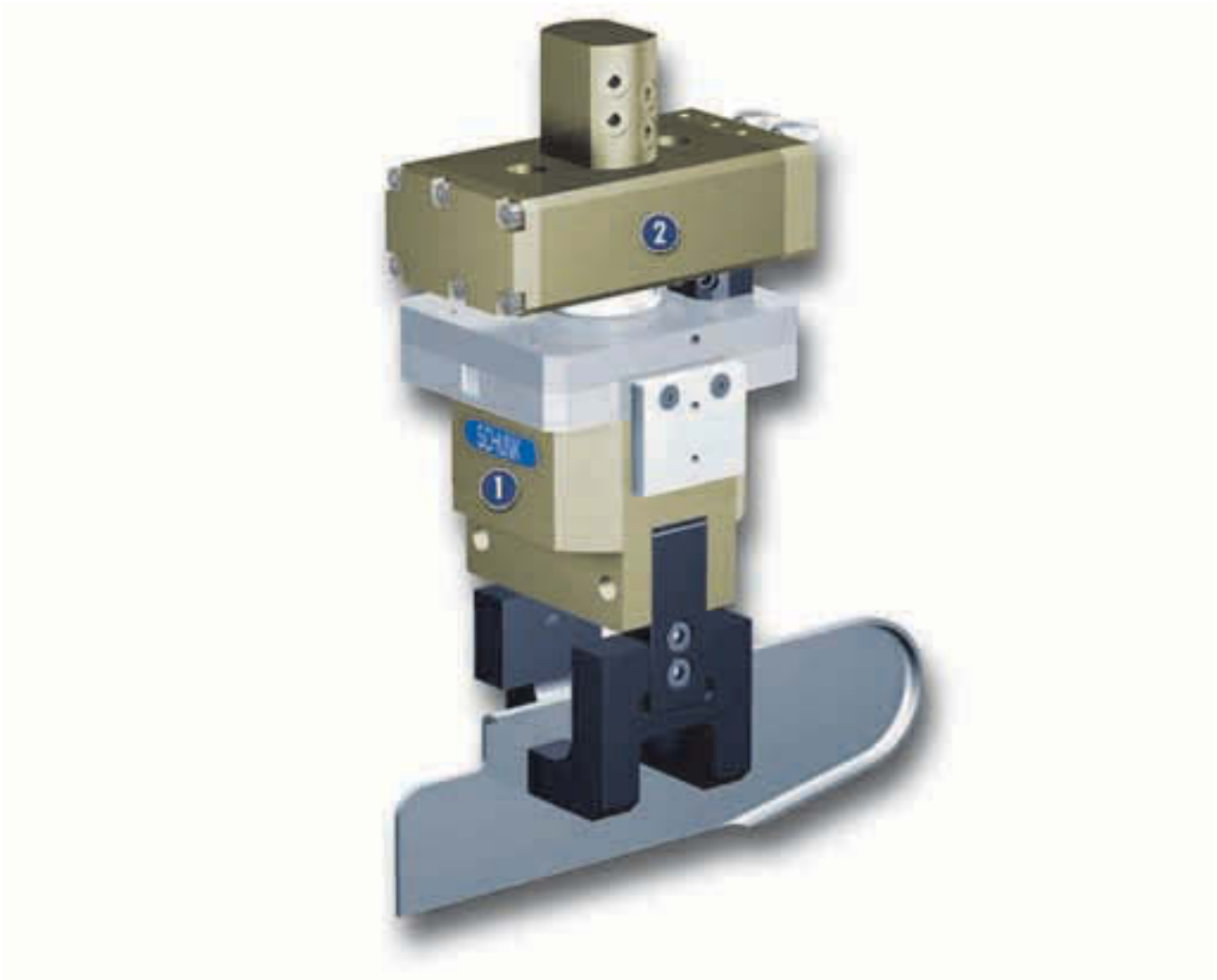


Opening angle per finger
20°



Force-fit gripping
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 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 jaws material

Steel

Actuation

Pneumatic, via filtered compressed air (10 µm): Dry, lubricated or non-lubricated
 Pressure medium: Requirement on the quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty

24 months

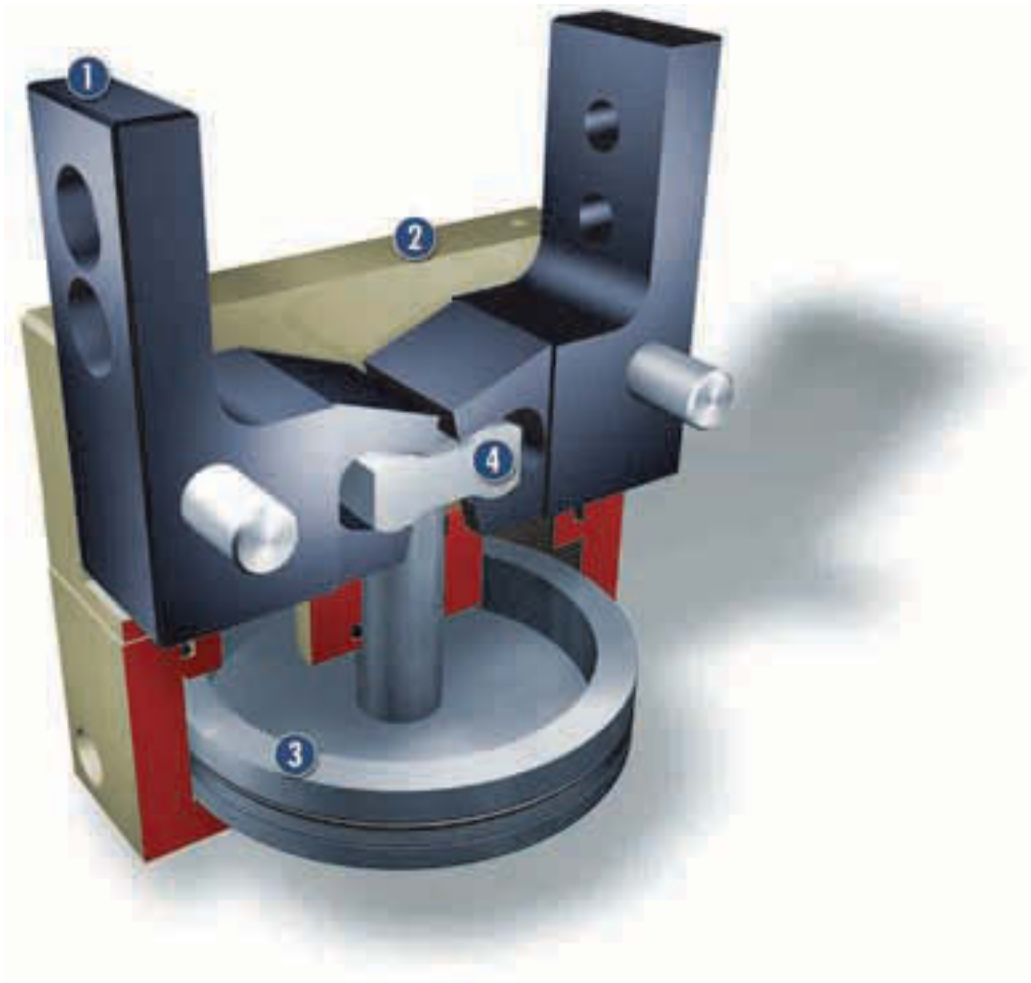
Scope of delivery

O-rings for direct connection, centering sleeves and dowel pins, 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 adaptation 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

Functional 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

The opening angle can be reduced on request.

Accessories

SCHUNK accessories – the suitable complement for the highest level of functionality, reliability and controlled production of all automation modules.

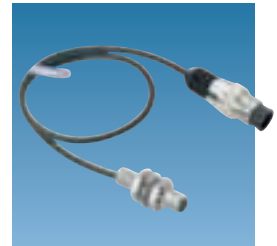
Guide sleeves



Fittings



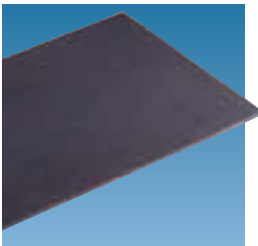
Inductive proximity switches IN



Plastic inserts – Quentes



Gripper pads HKI



Pressure maintenance valves SDV-P



Sensor cables W/WK/KV/GK



Sensor distributor V



① Please refer to the additional views at the end of each size for the specific size of the required accessory, availability for the gripper size, the description and the ID No. You can find more detailed information on our range of accessories in the "Accessories" catalog section.

General information on the series

Gripping moment

The gripping moment describes the arithmetic total of the gripping moments for each 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 is the case for heavy fingers, and/or the opening angle must be reduced. The gripper's life may be shortened.

Repeat accuracy

Is defined as the variance of the end position after 100 consecutive strokes.

Workpiece weight

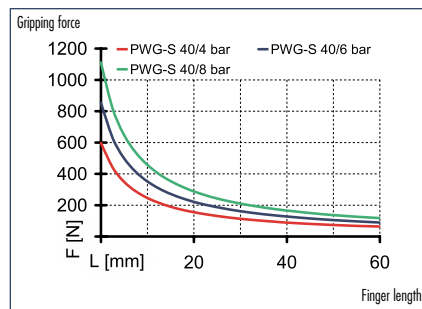
The recommended workpiece weight is calculated for force-fit gripping with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

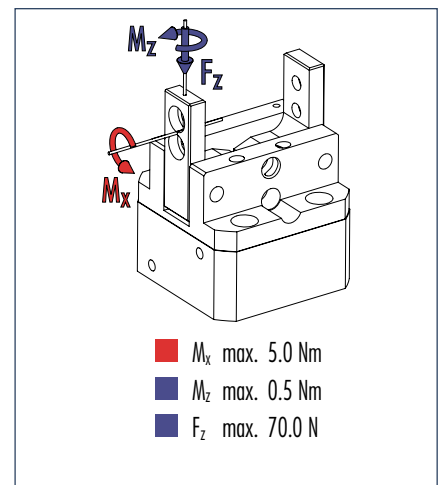
Closing and opening times are the pure movement times of the base jaws or fingers. Valve switching times, hose filling times or PLC reaction times are not included and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load

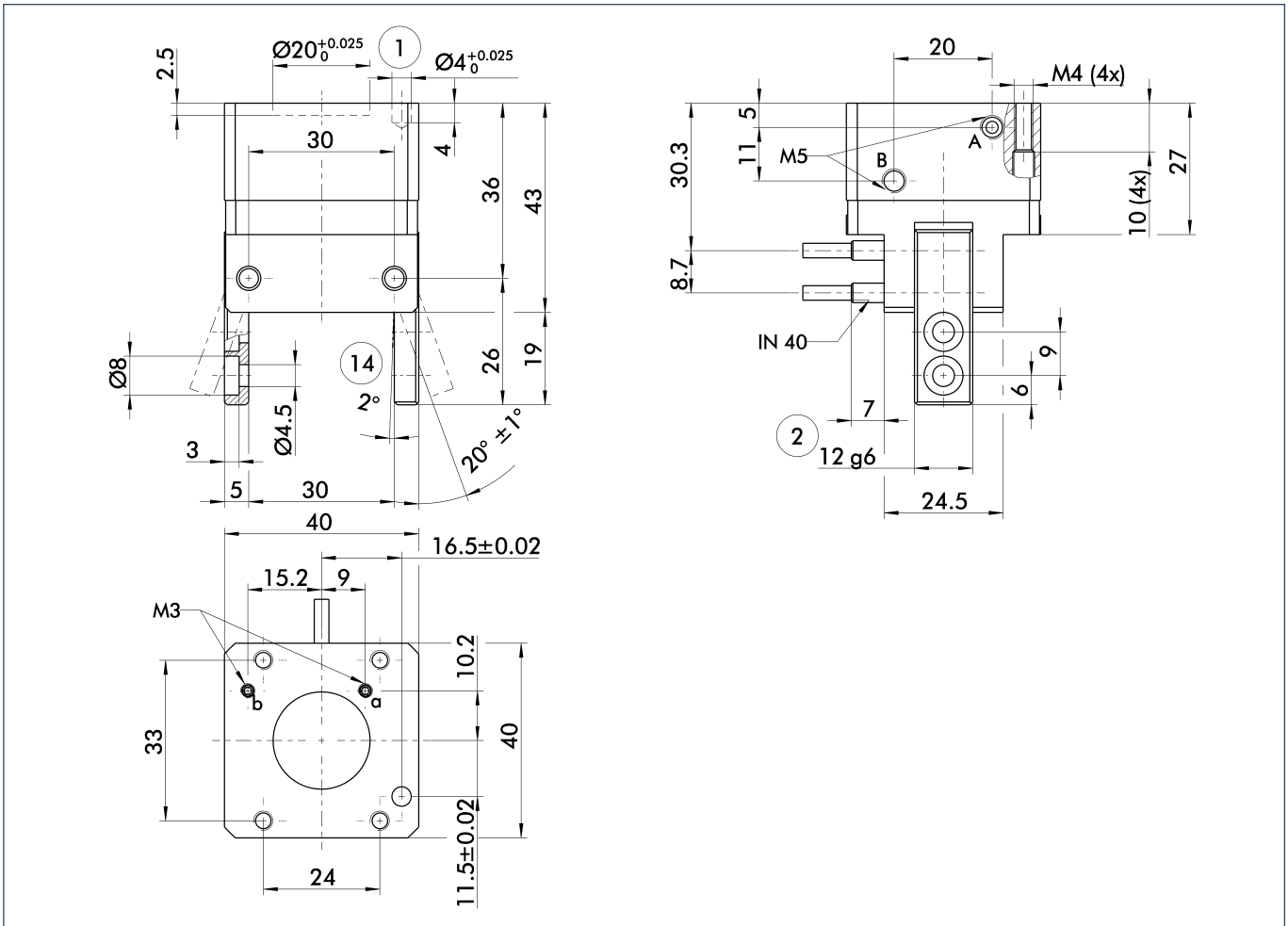


① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	PWG-S 40	
	ID	0302611
Opening angle per jaw	[°]	20.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	5.98
Closing moment secured by springs	[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
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.05

Main views

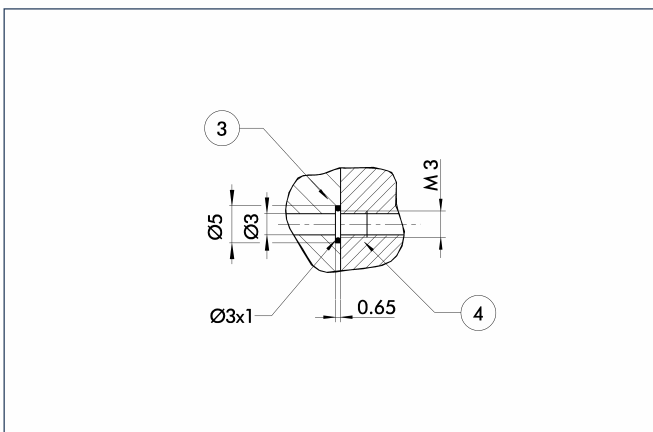


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

- A,a Main connection, direct connection – Open gripper
- B,b Main connection, direct connection – Close gripper
- ① Gripper connection
- ② Finger connection
- ⑭ Clamping reserve per finger

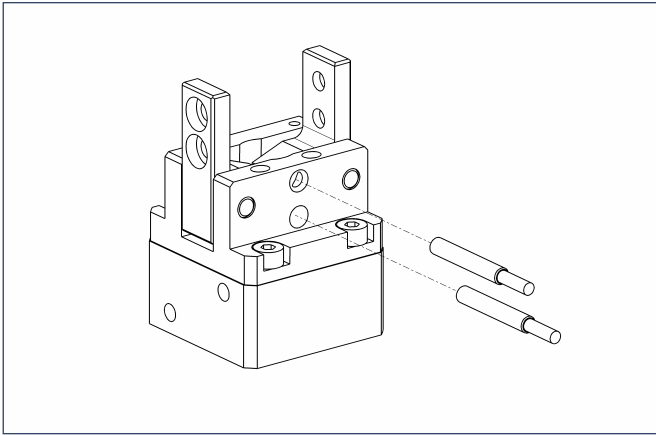
Hose-free direct connection



- ③ Adapter
- ④ Gripper

The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Sensor systems



End position monitoring:

Inductive proximity switches, for direct mounting

Designation	ID	Recommended product
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

① Two sensors (NO contacts/S) are required per gripper as well as an optional extension cable.

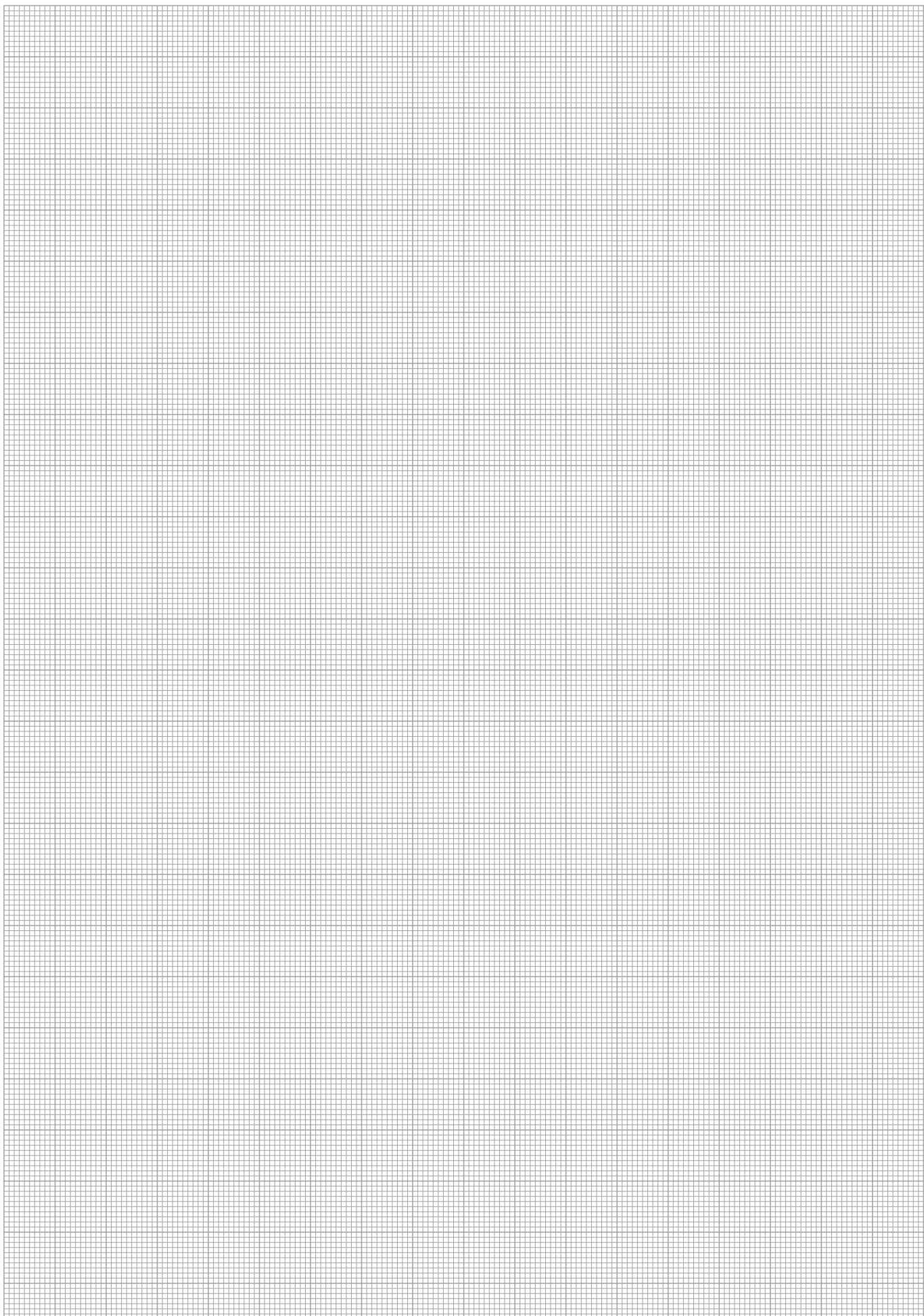
Extension cables for proximity switches/magnetic switches

Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.

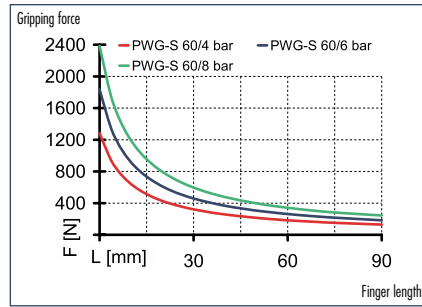


You can find detailed information and components of the specified accessory in the "Accessories" catalog section.

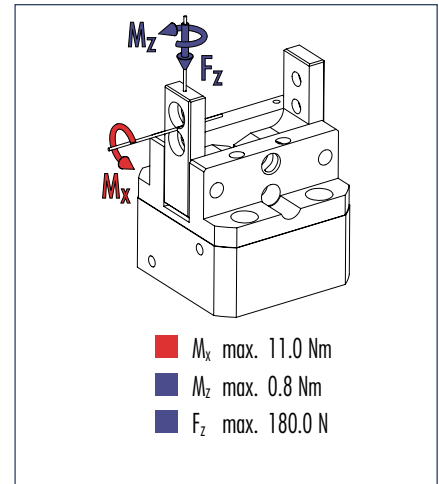




Gripping force, O.D. gripping



Finger load

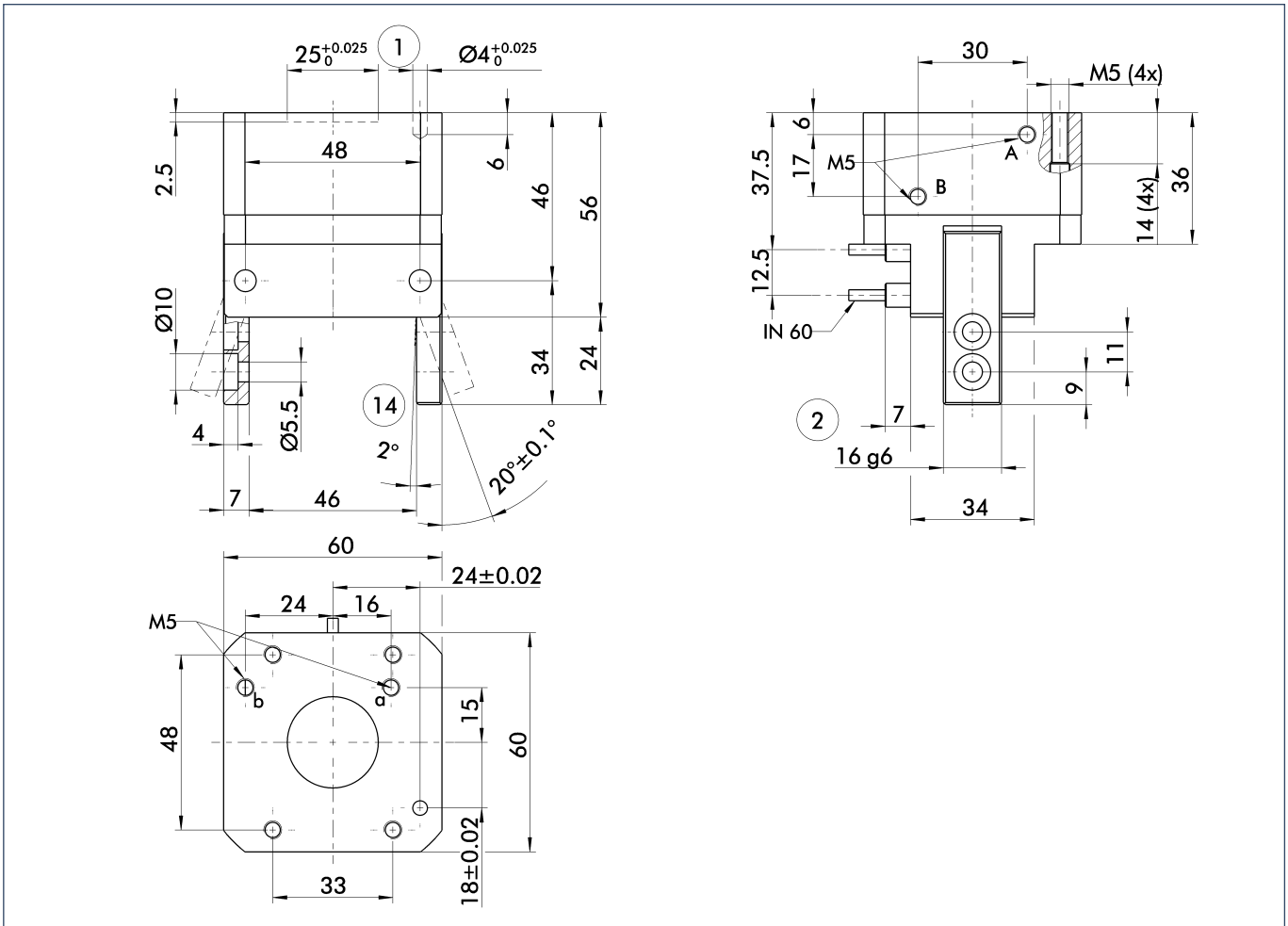


① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	PWG-S 60	
	ID	0302612
Opening angle per jaw	[°]	20.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	18.36
Closing moment secured by springs	[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
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.05

Main views

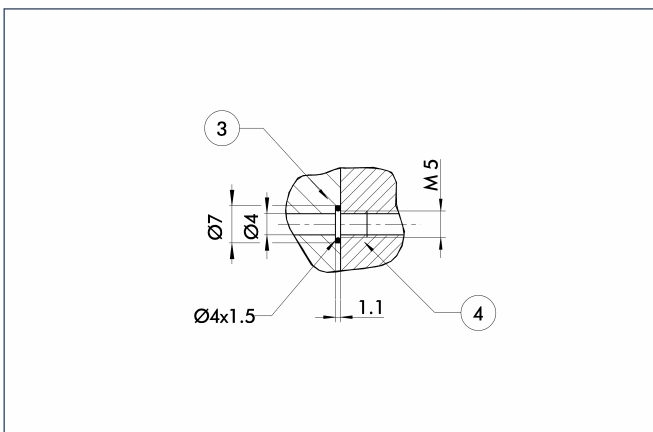


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- ⑭ Clamping reserve per finger

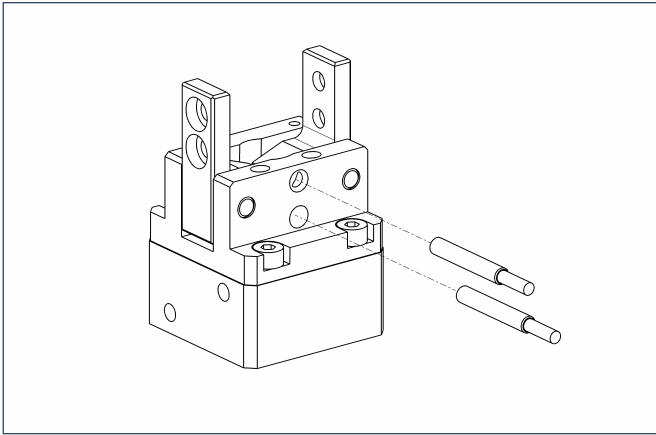
Hose-free direct connection



- ③ Adapter
- ④ Gripper

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Sensor systems



End position monitoring:

Inductive proximity switches, for direct mounting

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

- ① Two sensors (NO contacts/S) are required per gripper as well as an optional extension cable.

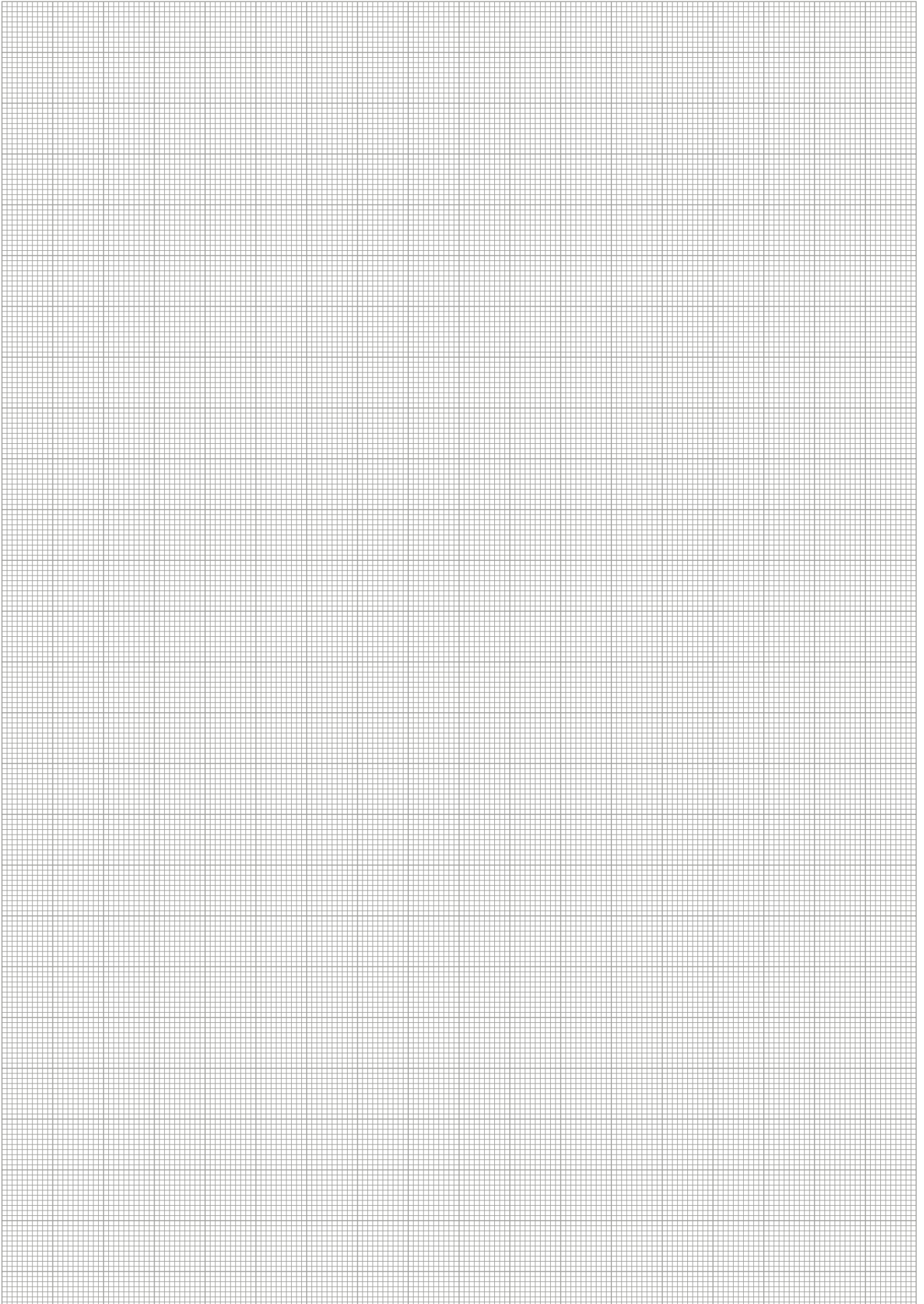
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KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

- ① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.

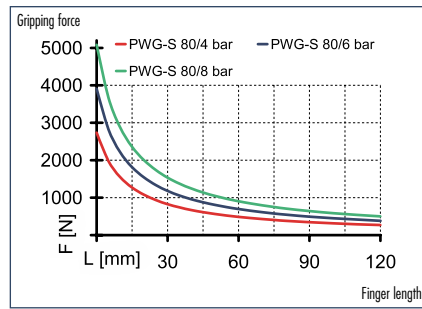


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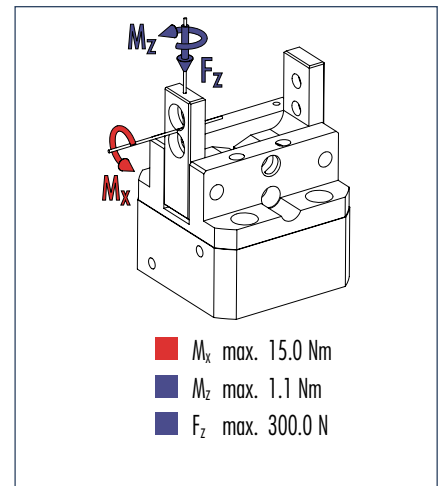




Gripping force, O.D. gripping



Finger load

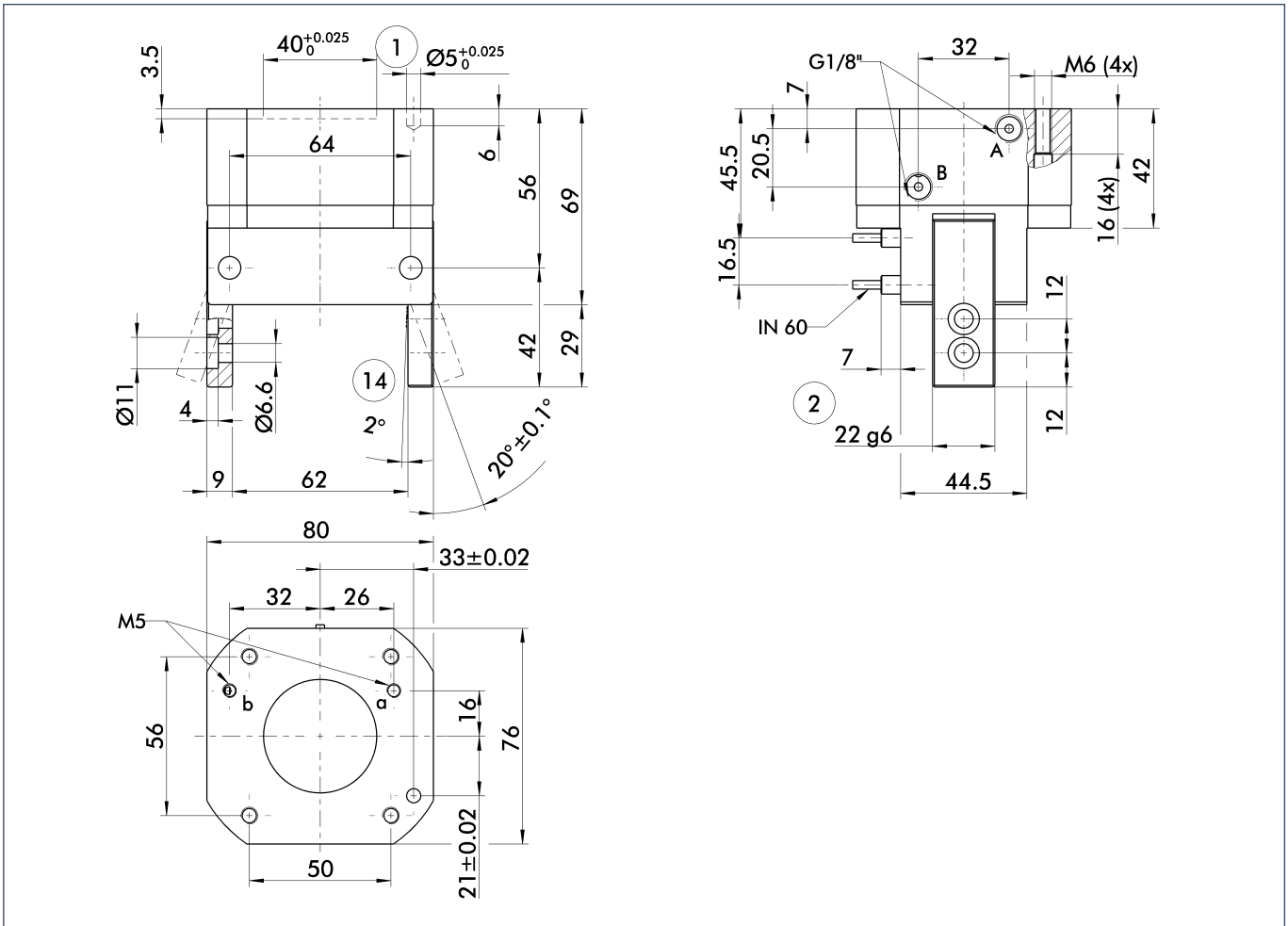


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Technical data

Designation	PWG-S 80	
	ID	0302613
Opening angle per jaw	[°]	20.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	50.82
Closing moment secured by springs	[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
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.05

Main views

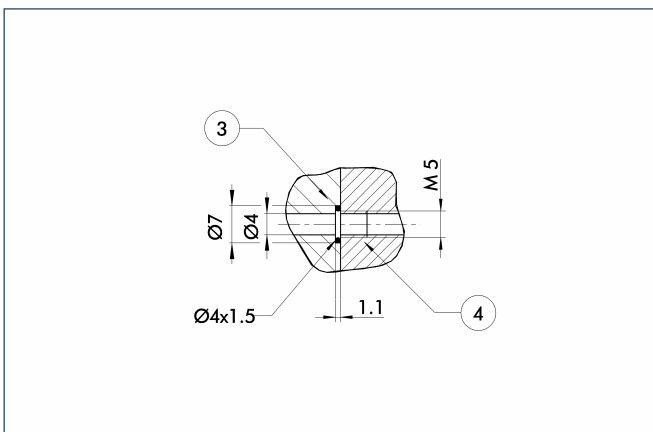


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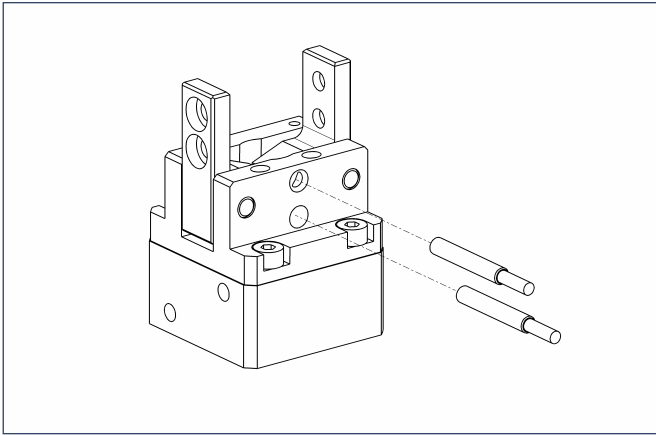
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