

Pneumatic Gripping Modules

Pneumatic · 2-Finger Radial Grippers



2-FINGER RADIAL GRIPPERS

Series	Size	Page
Universal Grippers		
GWB		676
GWB	34	680
GWB	44	684
GWB	54	688
GWB	64	692
GWB	80	696
GWB	100	700
Sealed Grippers		
DWG		704
DWG	44	708
DWG	54	712
DWG	64	716
DWG	80	720
DWG	100	724





Sizes
34 .. 100



Weight
0.14 kg .. 3.5 kg



Gripping moment
2.1 Nm .. 127 Nm



Opening angle per finger
10° .. 90°



Force-fit gripping
0.3 kg .. 6.0 kg

Application example



Rotating/gripping combination for handling small wheel spindles. The 180° opening angle of the gripper eliminates the linear unit that would otherwise be necessary.

1 2-Finger Angular Gripper GWB 64

2 Rotary Actuator SRU 35.2-180-3-4

Universal Radial Gripper

180° Angular gripper with gripping force safety device and powerful toggle drive system

Area of application

For areas of application which, in addition to a large gripping force, require the shortest possible motion sequences through the radial design of the jaw stroke.

Your advantages and benefits

Opening angle adjustable from 20° to 180°

Enabling a wide range of applications

Equipped with mechanical gripping force safety device

To keep the gripper fingers closed with the indicated spring force.

Air supply via hose-free direct connection or via fittings

For flexible pressure supply in all automated systems

Kinematics

Toggle system for extremely high gripping force at the moment of workpiece contact



General information on 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-lubricate
Pressure medium: Requirement on the quality class of compressed air according to DIN ISO 8573-1: Quality class 4

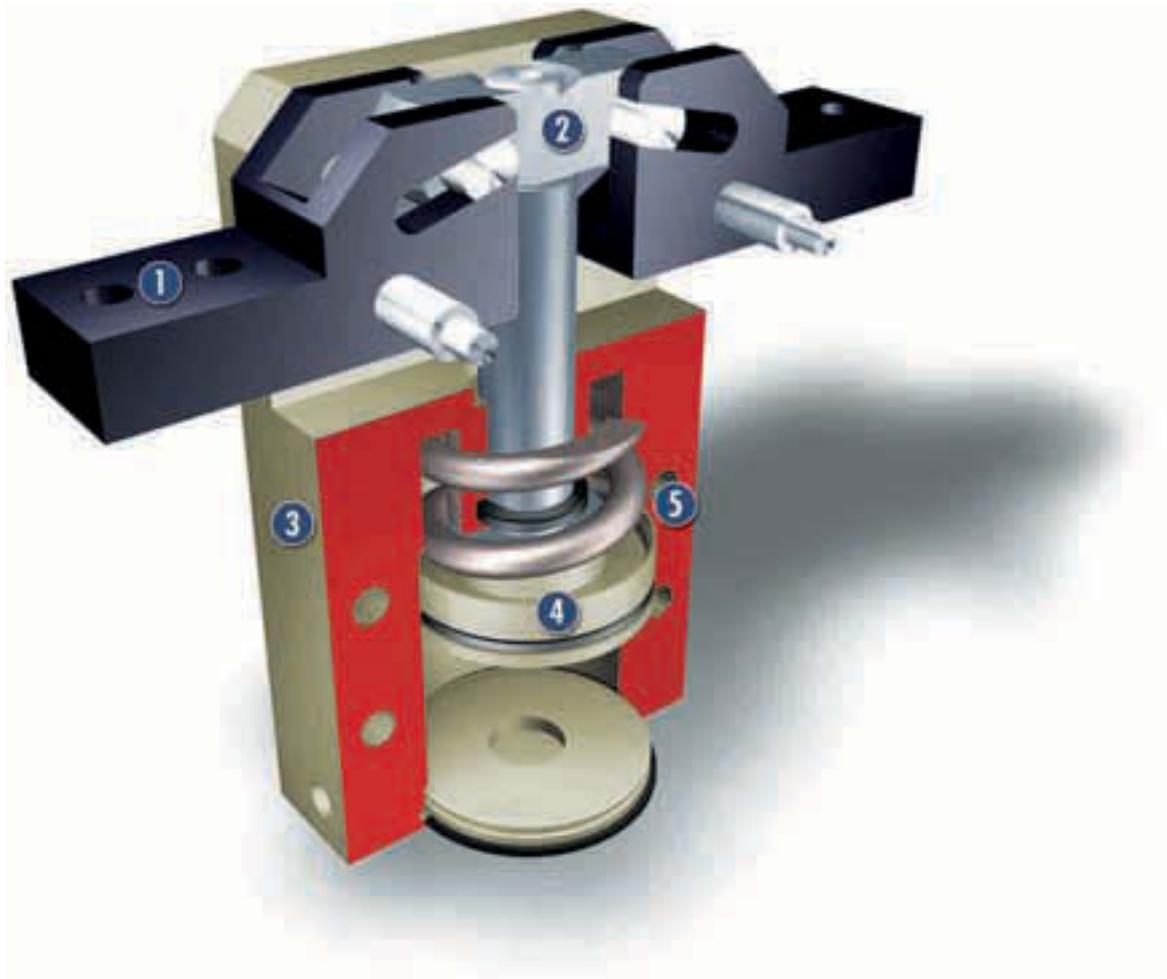
Warranty

24 months

Scope of delivery

Brackets for proximity switches, dowel pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Sectional diagram



- 1 Base jaws**
for mounting of workpiece-specific gripper fingers
- 2 Kinematics**
toggle system for extremely high gripping force at the moment of workpiece contact.
- 3 Housing**
weight-reduced thanks to the use of a hard-anodized, high-strength aluminum alloy
- 4 Drive**
pneumatic for high power density
- 5 Centering and mounting options**
for universal gripper mounting

Functional description

The round piston is pressed up or down by compressed air. In the process, the two pins of the crank system move in unison and relative to the groove in the top jaws. In the gripping moment, these two pins reach the largest lever arm.

Options and special information

180° angular grippers (radial grippers) are advantageous in that they save an additional stroke movement. Since each jaw rotates away by 90°, they are mostly removed from the work area; a stroke movement to retract the entire gripper can be omitted.

Accessories

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

Plastic inserts – Quentes



Gripper pads HKI



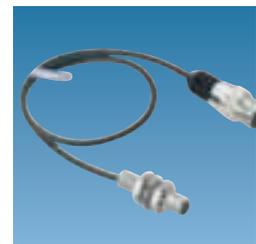
Pressure maintenance valves SDV-P



Fittings



Inductive proximity switches IN



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

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

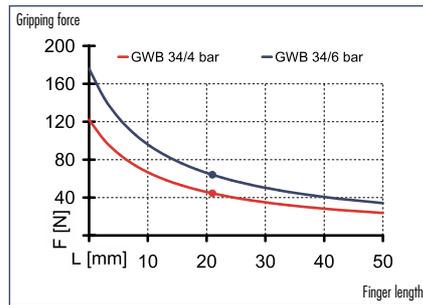
The recommended workpiece weight is calculated for force-fit gripping with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

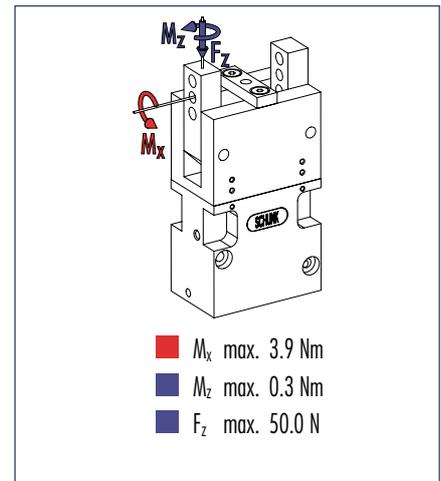
Closing and opening times are the pure movement times of the base jaws or fingers. Valve switching times, hose filling times or SPC reaction times are not included and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load



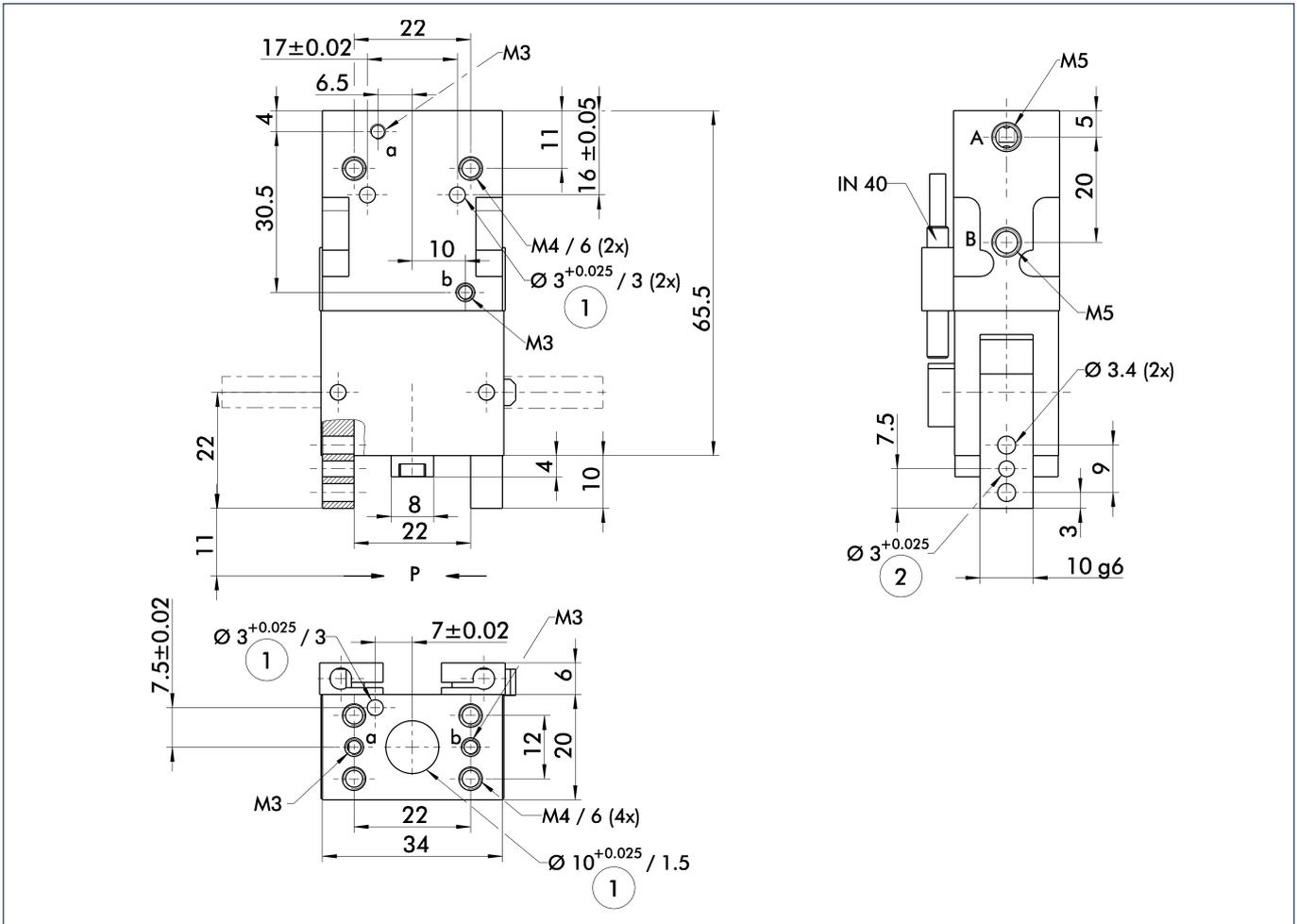
① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	GWB 34	
	ID	0307135
Opening angle per jaw	[°]	90.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	2.112
Closing moment secured by springs	[Nm]	0.5
Weight	[kg]	0.14
Recommended workpiece weight	[kg]	0.3
Air consumption per double stroke	[cm ³]	4.5
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	6.5
Closing time	[s]	0.3
Opening time	[s]	0.4
Max. permitted finger length	[mm]	40.0
Max. permitted weight per finger	[kg]	0.07
IP rating		20
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.1

① The opening angle of the base jaw can be limited.

Main views

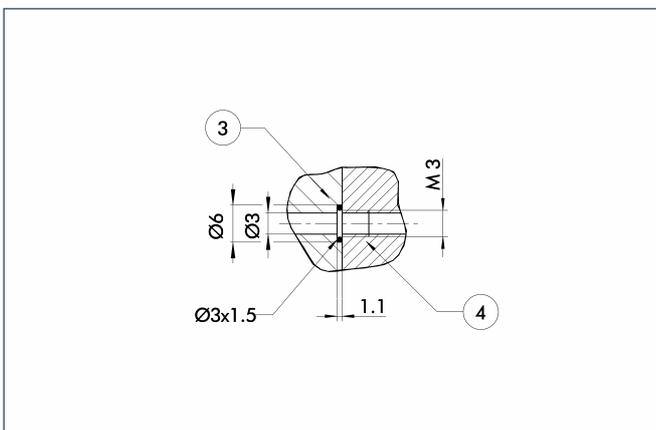


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

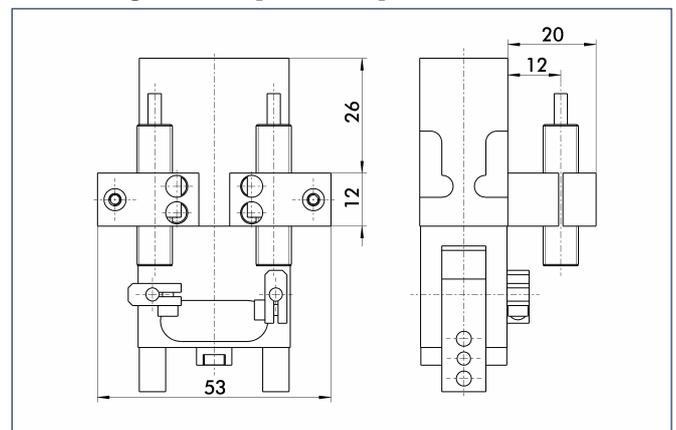
Hose-free direct connection



- 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.

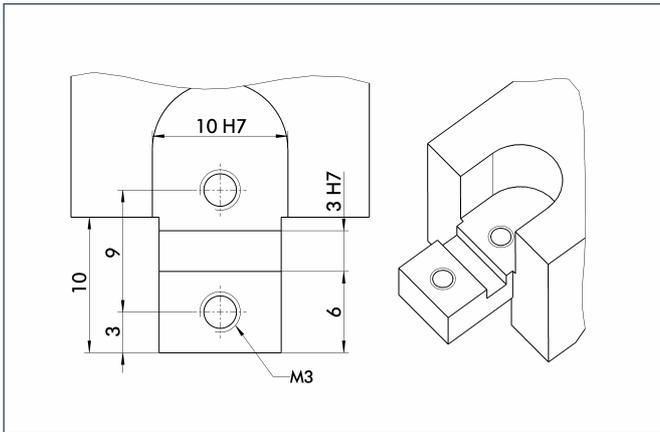
Mounting kit for proximity switch M8/M12



The mounting kit consists of 2 mounting brackets, 2 intermediate sleeves and small components. The proximity switches must be ordered separately.

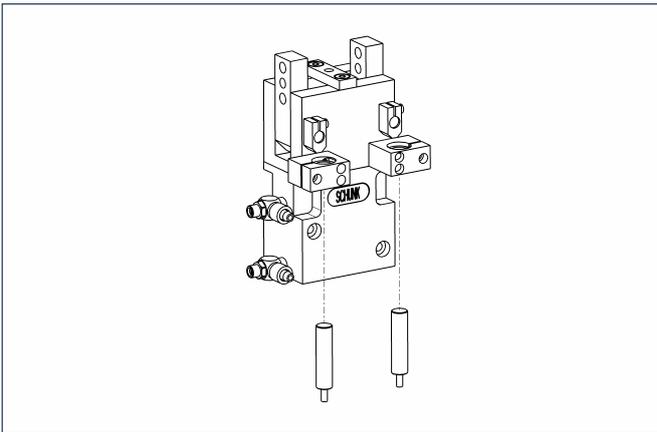
Designation	ID
HG-GWB 34	0300740

Finger design



Suggestion for connection dimensions – Gripper fingers

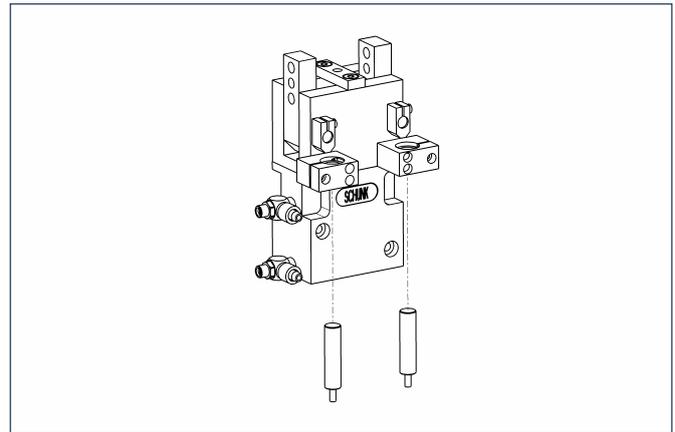
Sensor systems



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.



End position monitoring: Inductive proximity switches, mounted with mounting kit

Designation	ID	Recommended product
HG-GWB 34	0300740	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

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

Extension cables for proximity switches/magnetic switches

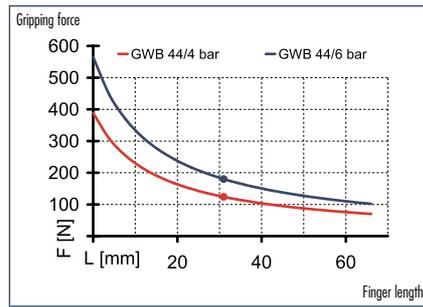
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

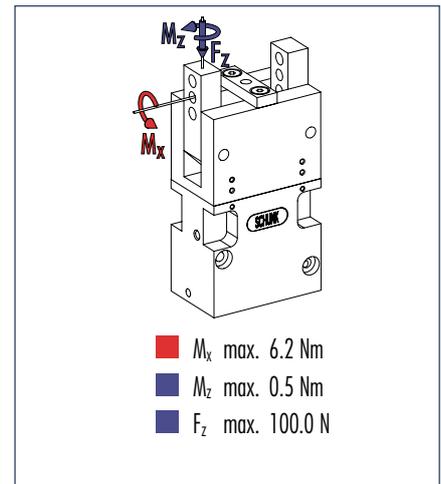
 You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



Gripping force, O.D. gripping



Finger load



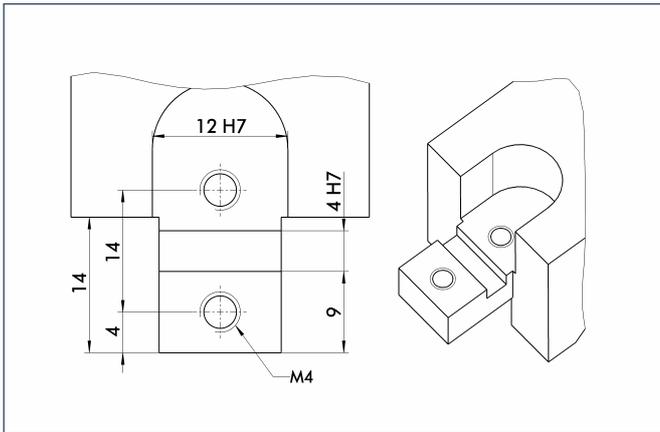
① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	GWB 44	
	ID	0307136
Opening angle per jaw	[°]	90.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	8.19
Closing moment secured by springs	[Nm]	1.8
Weight	[kg]	0.34
Recommended workpiece weight	[kg]	0.9
Fluid consumption per double stroke	[cm ³]	16.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	6.5
Closing time	[s]	0.4
Opening time	[s]	0.5
Max. permitted finger length	[mm]	50.0
Max. permitted weight per finger	[kg]	0.12
IP rating		20
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.1

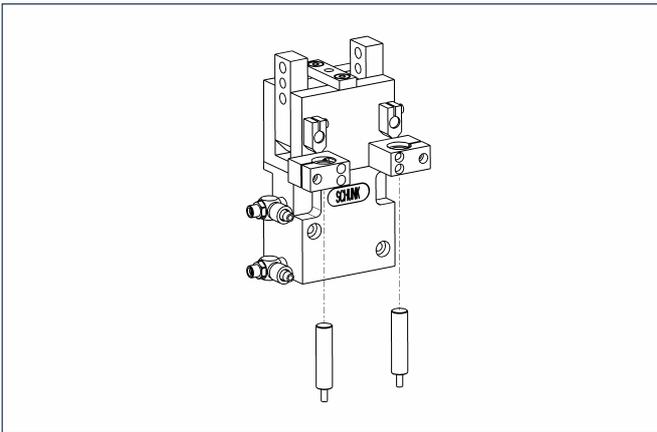
① The opening angle of the base jaw can be limited.

Finger design



Suggestion for connection dimensions – Gripper fingers

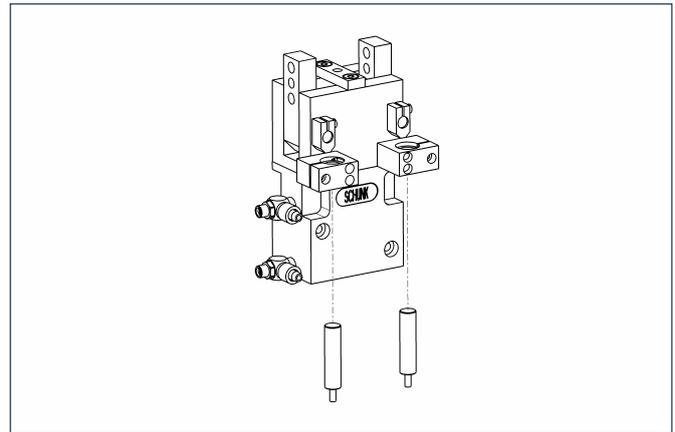
Sensor systems



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.



End position monitoring: Inductive proximity switches, mounted with mounting kit

Designation	ID	Recommended product
HG-GWB 44	0300741	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

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

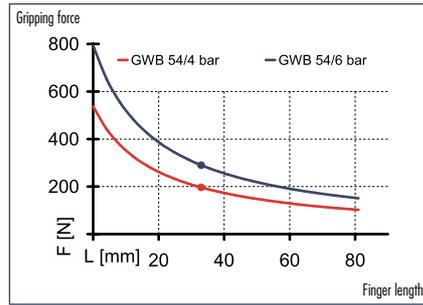
① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.



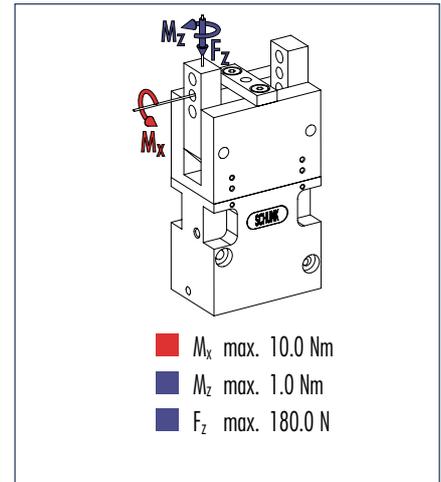
You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



Gripping force, O.D. gripping



Finger load



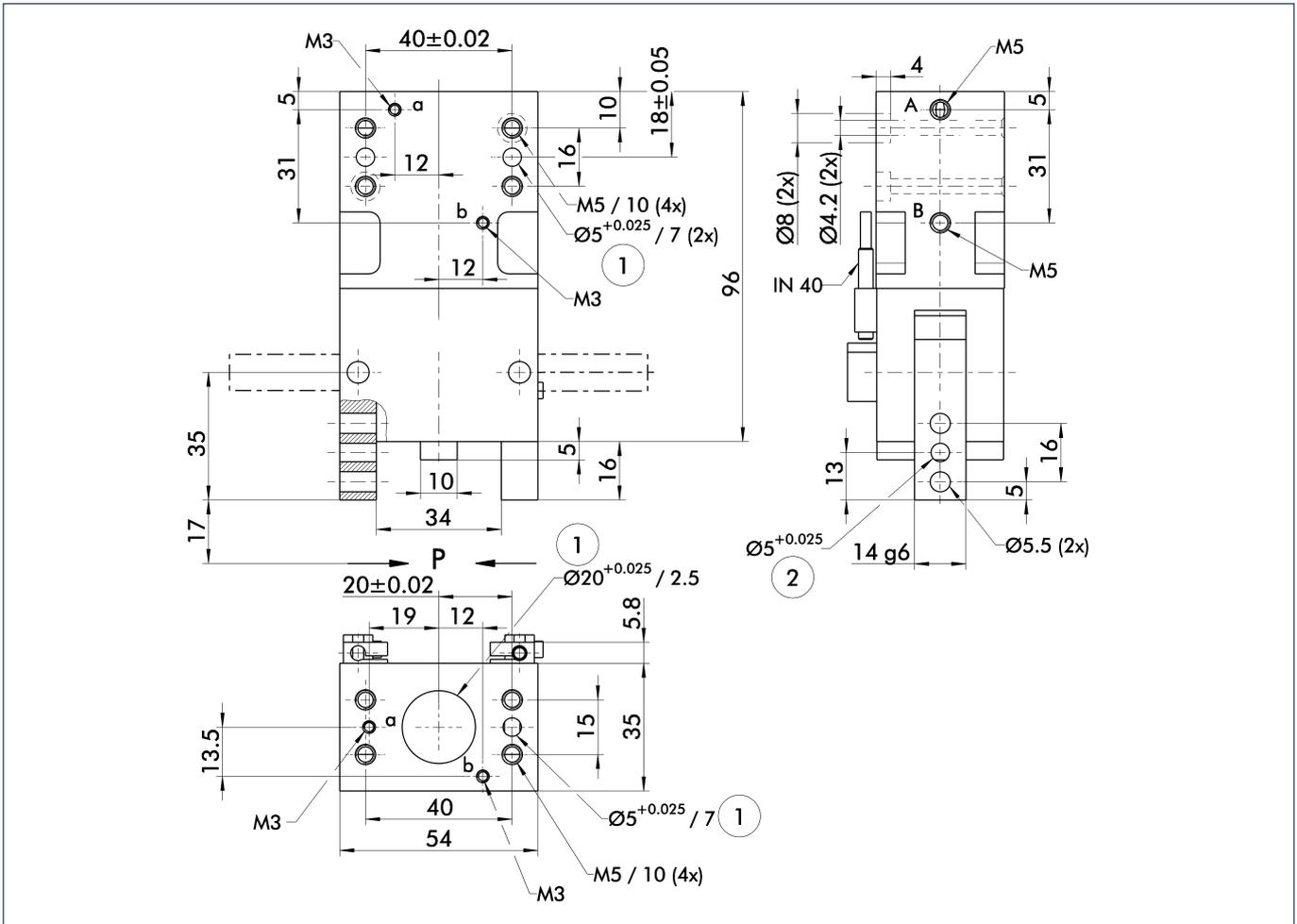
① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	GWB 54	
	ID	0307137
Opening angle per jaw	[°]	90.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	15.08
Closing moment secured by springs	[Nm]	2.9
Weight	[kg]	0.56
Recommended workpiece weight	[kg]	1.4
Air consumption per double stroke	[cm ³]	36.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	6.5
Closing time	[s]	0.6
Opening time	[s]	0.7
Max. permitted finger length	[mm]	60.0
Max. permitted weight per finger	[kg]	0.2
IP rating		20
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.1

① The opening angle of the base jaw can be limited.

Main views

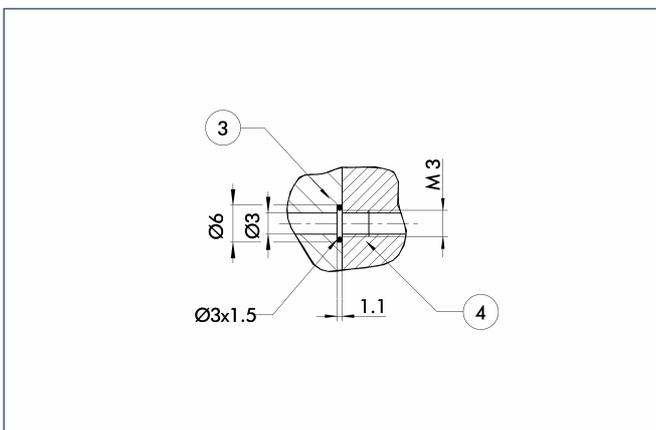


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

- A,a Main connection, direct connection – Open gripper
- B,b Main connection, direct connection – Close gripper
- ① Gripper connection
- ② Finger connection

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).

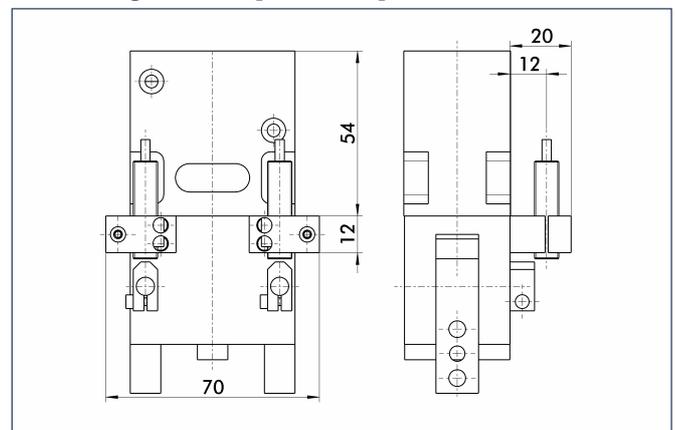
Hose-free direct connection



- 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.

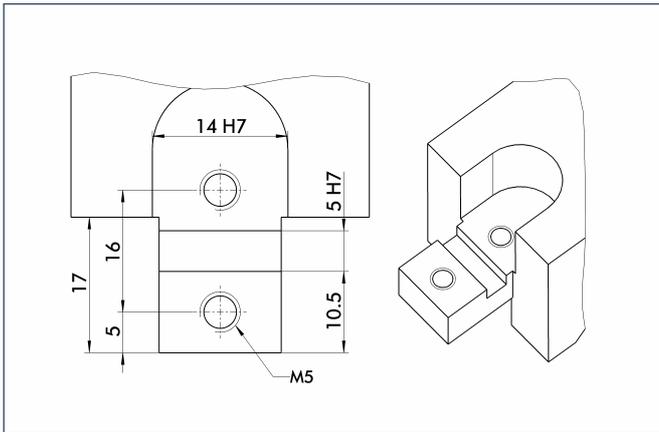
Mounting kit for proximity switch M8/M12



The mounting kit consists of 2 mounting brackets, 2 intermediate sleeves and small components. The proximity switches must be ordered separately.

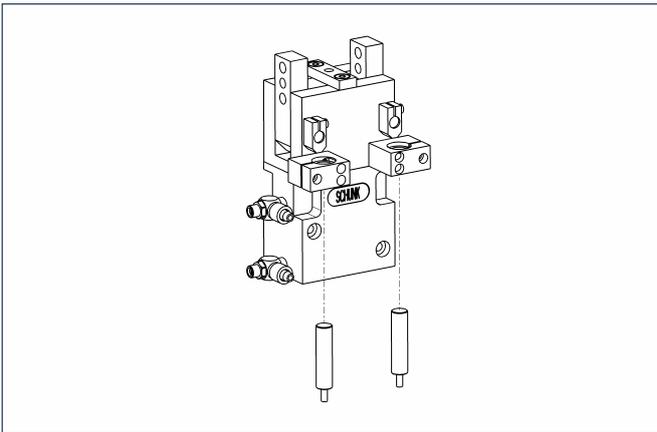
Designation	ID
HG-GWB 54-80	0300742

Finger design



Suggestion for connection dimensions – Gripper fingers

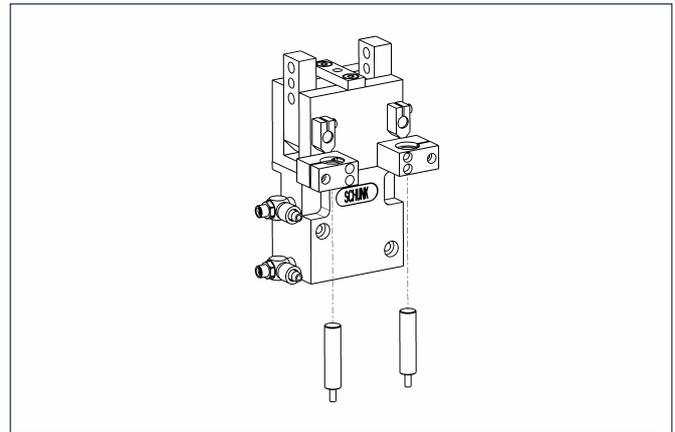
Sensor systems



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.



End position monitoring: Inductive proximity switches, mounted with mounting kit

Designation	ID	Recommended product
HG-GWB 54-80	0300742	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

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

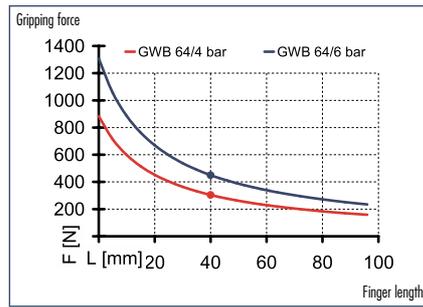
① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.



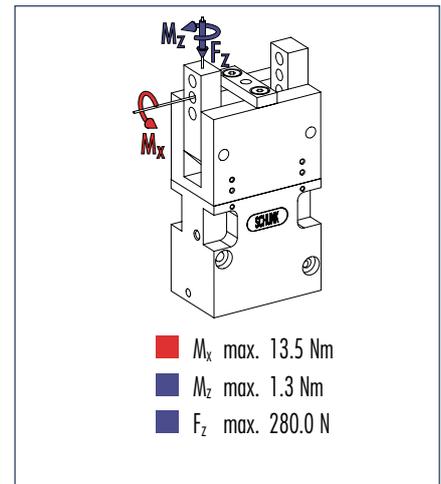
You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



Gripping force, O.D. gripping



Finger load



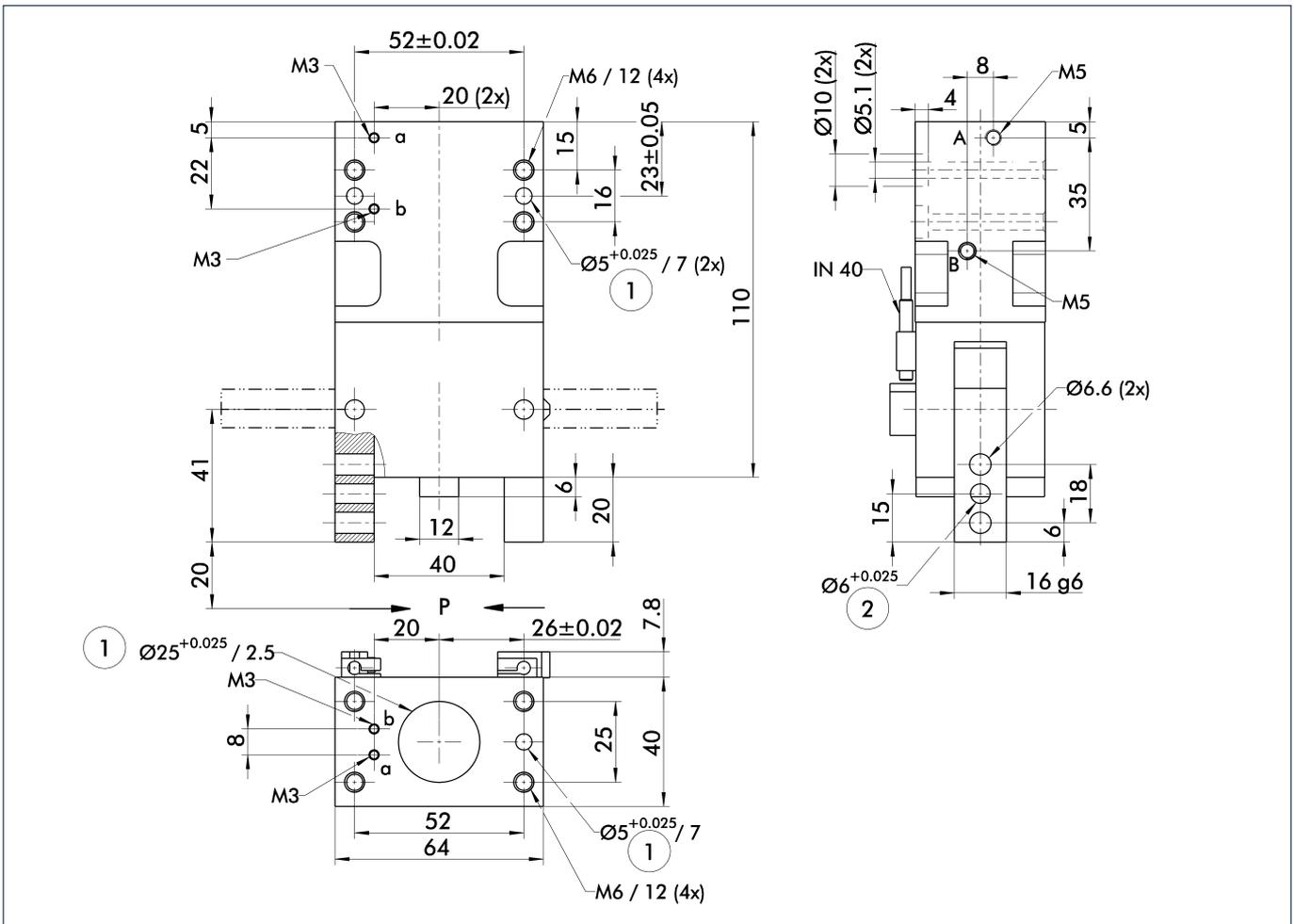
① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	GWB 64	
	ID	0307138
Opening angle per jaw	[°]	90.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	27.45
Closing moment secured by springs	[Nm]	5.2
Weight	[kg]	0.85
Recommended workpiece weight	[kg]	2.2
Air consumption per double stroke	[cm ³]	57.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	6.5
Closing time	[s]	0.6
Opening time	[s]	0.7
Max. permitted finger length	[mm]	80.0
Max. permitted weight per finger	[kg]	0.32
IP rating		20
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.1

① The opening angle of the base jaw can be limited.

Main views

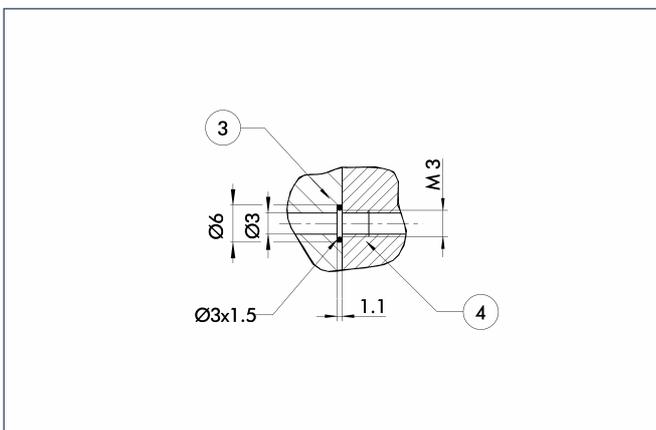


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

- A,a Main connection, direct connection – Open gripper
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- ② Finger connection

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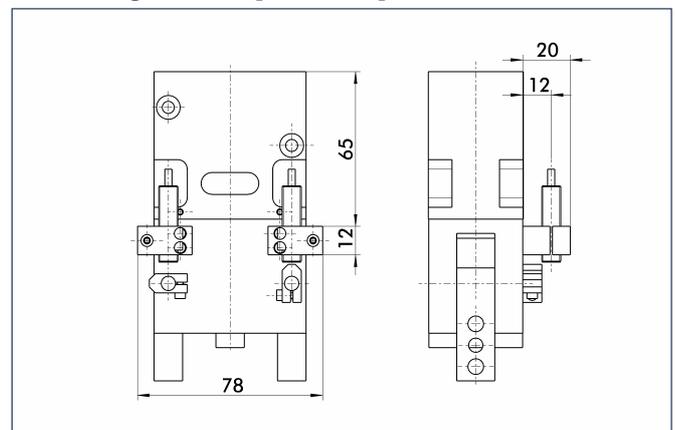
Hose-free direct connection



- 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.

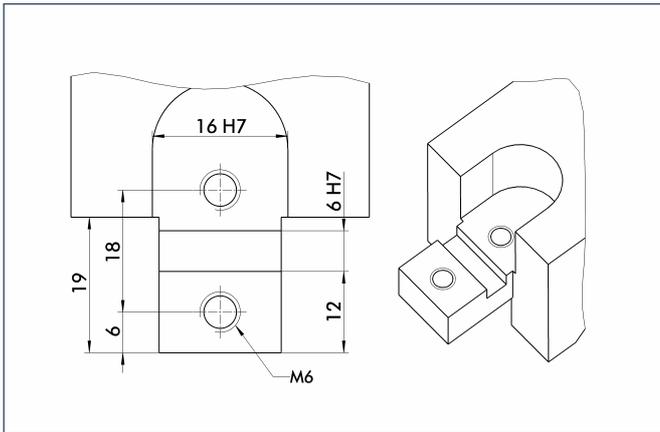
Mounting kit for proximity switch M8/M12



The mounting kit consists of 2 mounting brackets, 2 intermediate sleeves and small components. The proximity switches must be ordered separately.

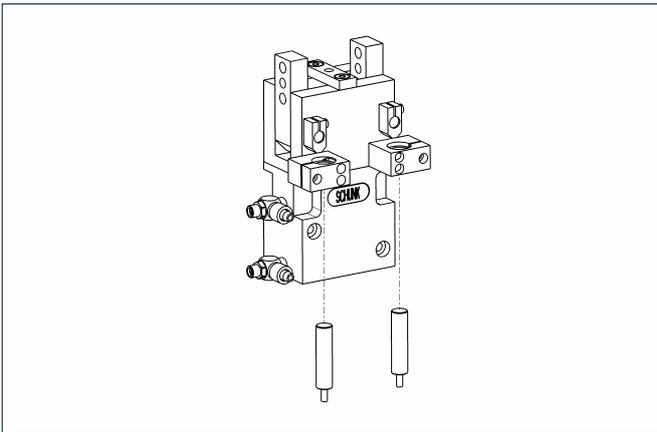
Designation	ID
HG-GWB 54-80	0300742

Finger design



Suggestion for connection dimensions – Gripper fingers

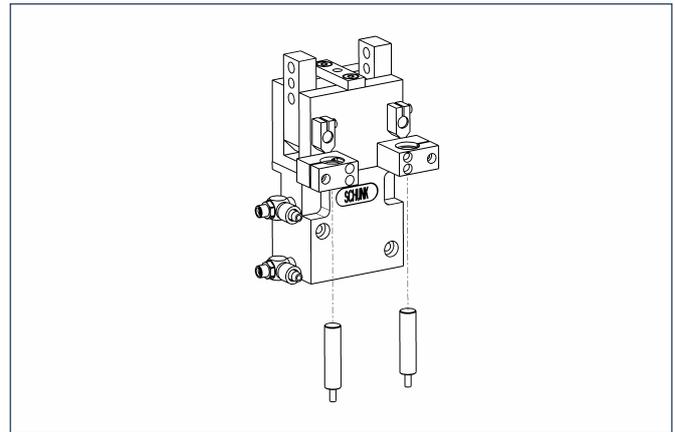
Sensor systems



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.



End position monitoring: Inductive proximity switches, mounted with mounting kit

Designation	ID	Recommended product
HG-GWB 54-80	0300742	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

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

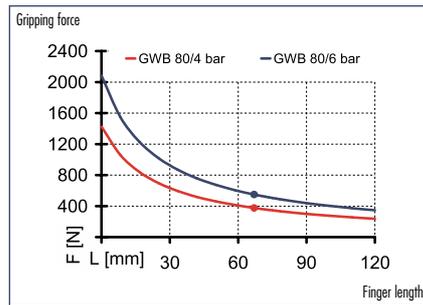
① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.



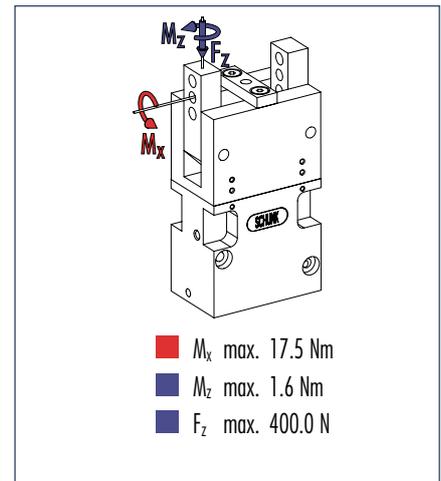
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Gripping force, O.D. gripping



Finger load



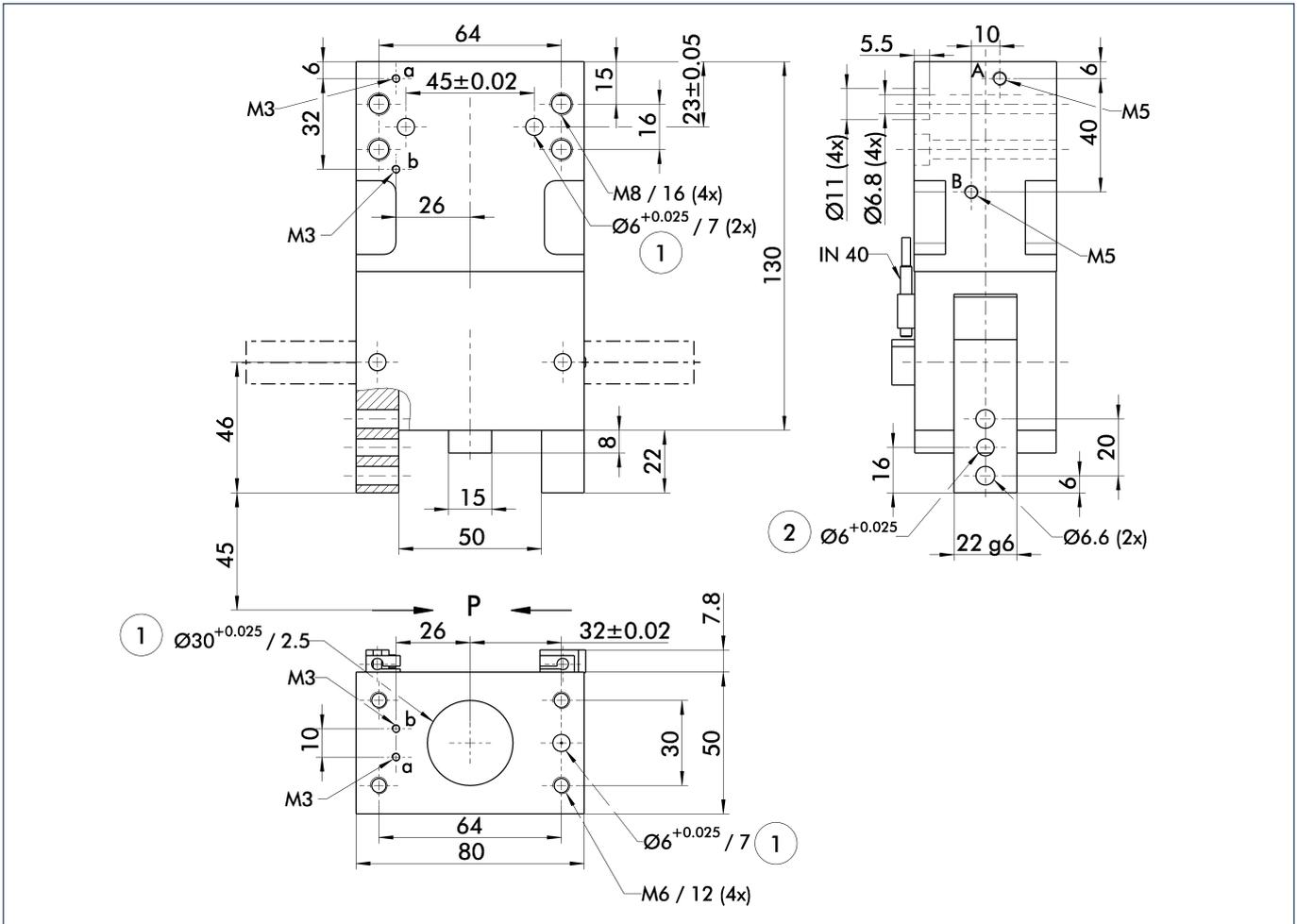
① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	GWB 80	
	ID	0307139
Opening angle per jaw	[°]	90.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	50.0
Closing moment secured by springs	[Nm]	10.5
Weight	[kg]	1.6
Recommended workpiece weight	[kg]	2.7
Air consumption per double stroke	[cm ³]	110.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	6.5
Closing time	[s]	0.7
Opening time	[s]	0.8
Max. permitted finger length	[mm]	100.0
Max. permitted weight per finger	[kg]	0.6
IP rating		20
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.1

① The opening angle of the base jaw can be limited.

Main views

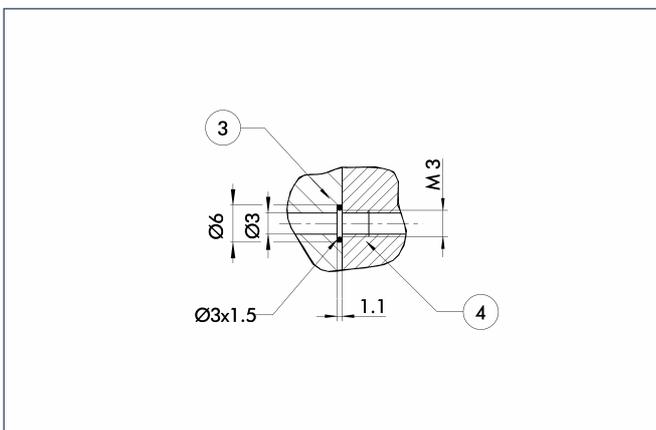


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

- A,a Main connection, direct connection – Open gripper
- B,b Main connection, direct connection – Close gripper
- ① Gripper connection
- ② Finger connection

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).

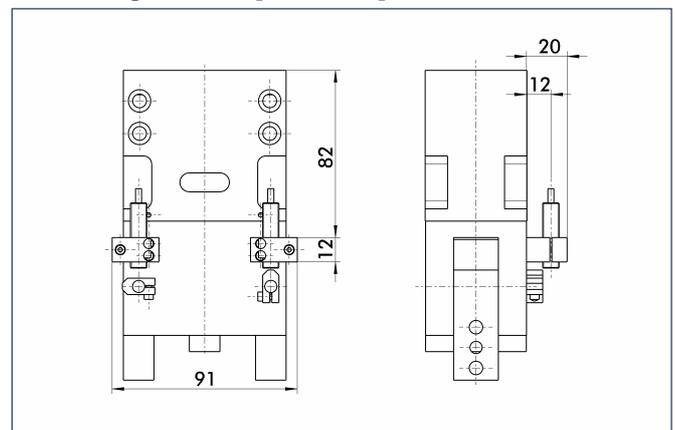
Hose-free direct connection



- 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.

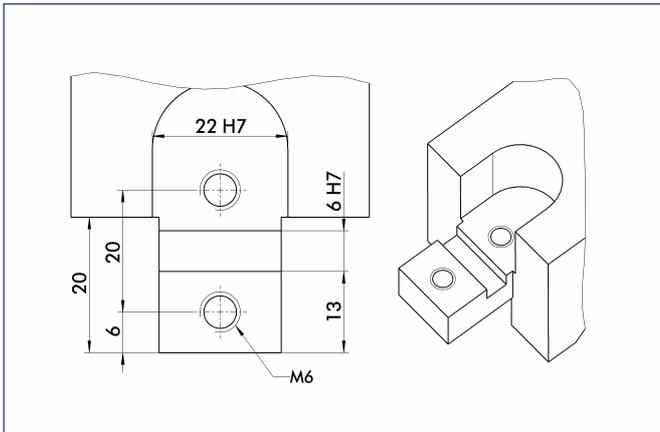
Mounting kit for proximity switch M8/M12



The mounting kit consists of 2 mounting brackets, 2 intermediate sleeves and small components. The proximity switches must be ordered separately.

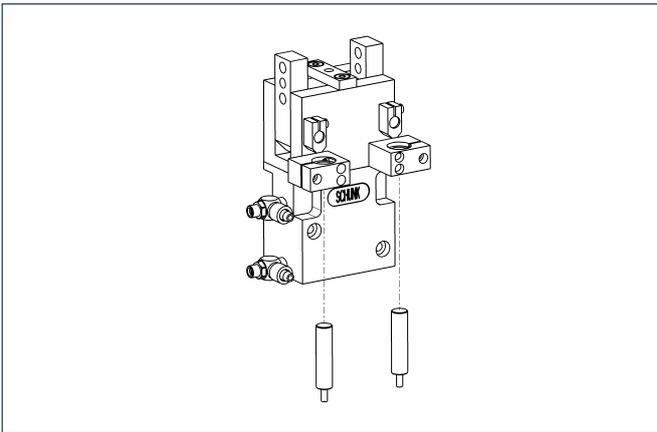
Designation	ID
HG-GWB 54-80	0300742

Finger design



Suggestion for connection dimensions – Gripper fingers

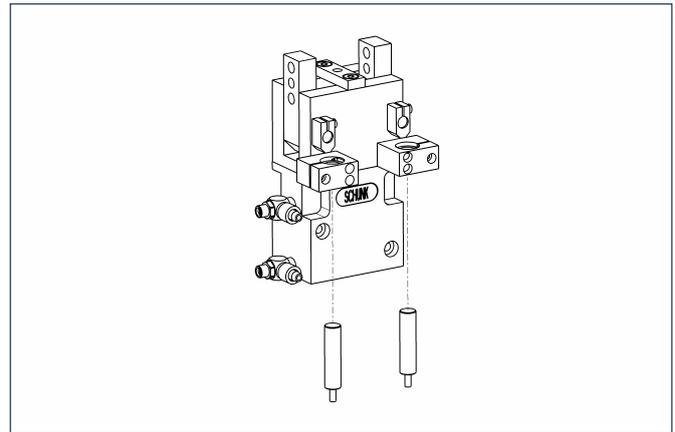
Sensor systems



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.



End position monitoring: Inductive proximity switches, mounted with mounting kit

Designation	ID	Recommended product
HG-GWB 54-80	0300742	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

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

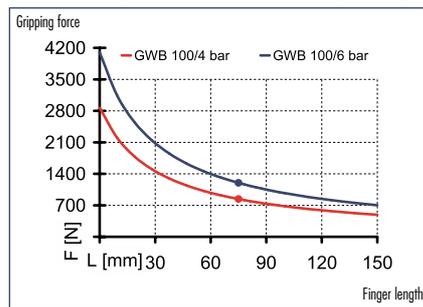
① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.



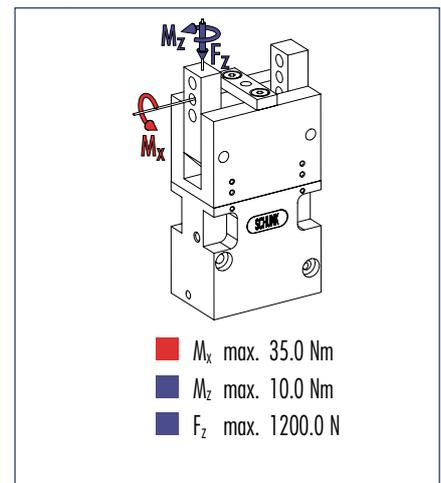
You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



Gripping force, O.D. gripping



Finger load



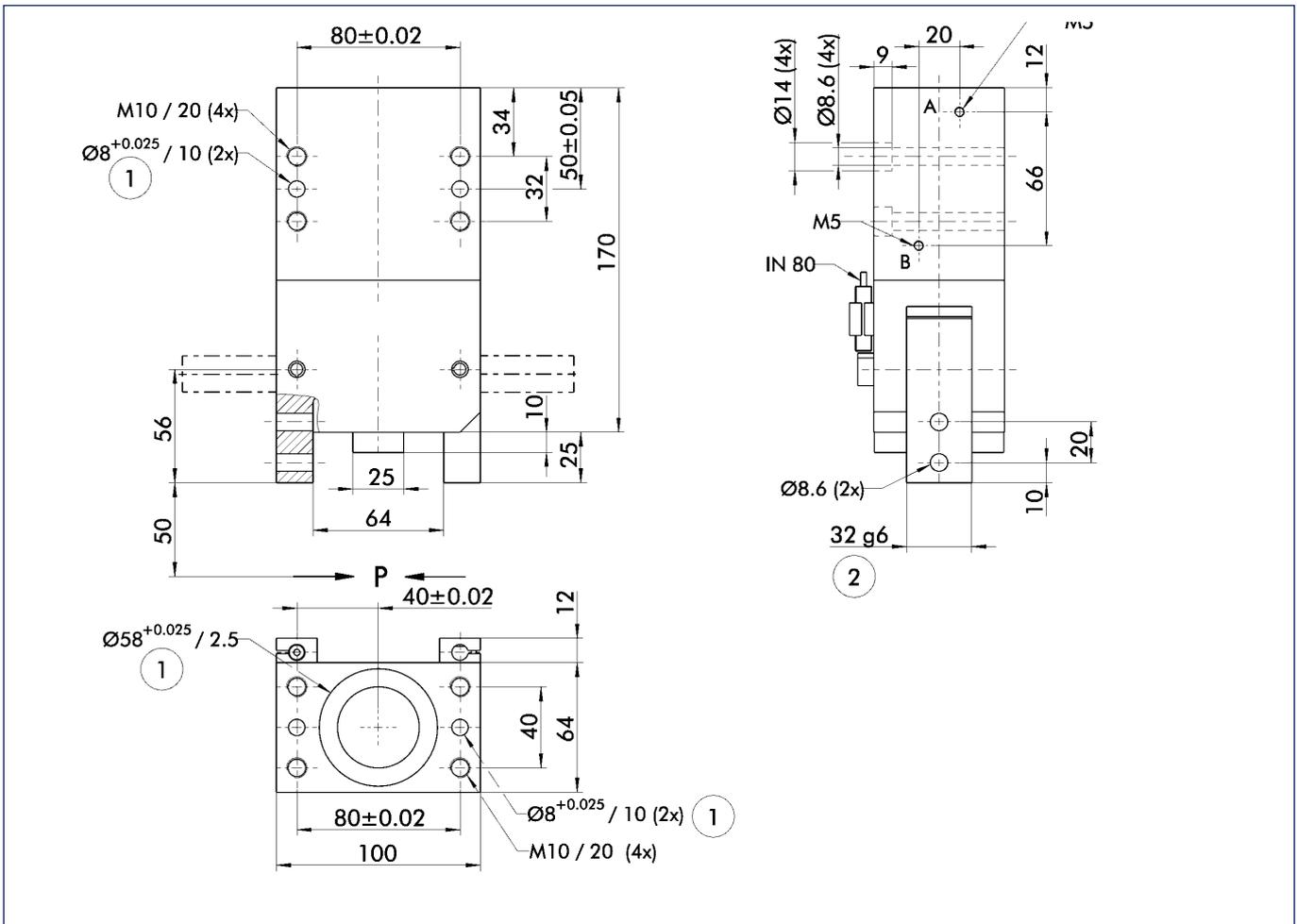
① Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation	GWB 100	
	ID	0307140
Opening angle per jaw	[°]	90.0
Fully closed included per jaw up to	[°]	2.0
Closing moment	[Nm]	127.0
Closing moment secured by springs	[Nm]	31.8
Weight	[kg]	3.5
Recommended workpiece weight	[kg]	6.0
Air consumption per double stroke	[cm ³]	217.0
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	6.5
Closing time	[s]	0.55
Opening time	[s]	0.7
Max. permitted finger length	[mm]	125.0
Max. permitted weight per finger	[kg]	1.2
IP rating		20
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.1

① The opening angle of the base jaw can be limited.

Main views

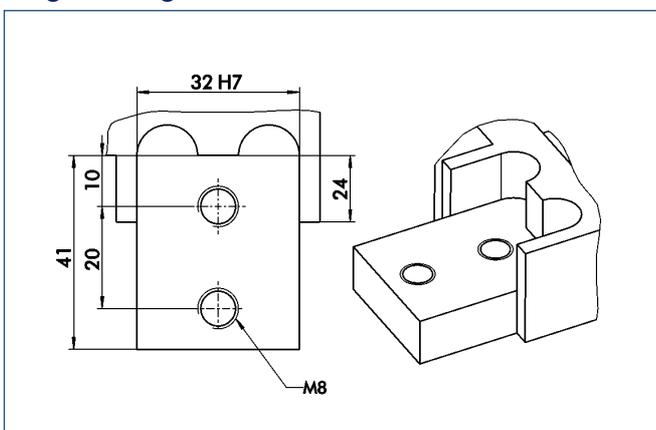


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

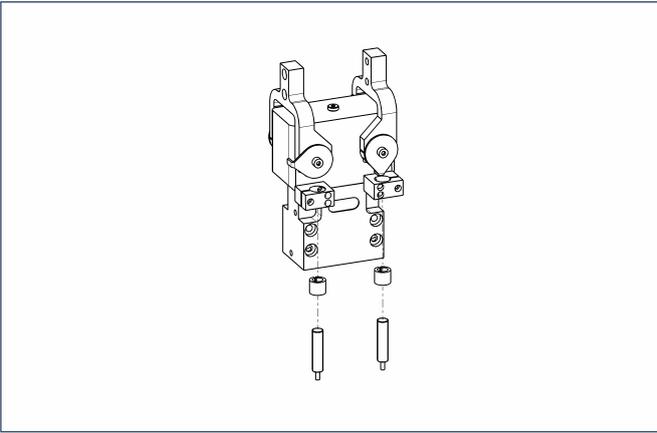
① The SDV-P pressure maintenance valve can also be used (see "Accessories" catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

Finger design



Suggested connection dimensions for gripper fingers

Sensor systems



End position monitoring:

Inductive proximity switches, for direct mounting

Designation	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

- 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.

