PGF

Sizes
50 .. 125

Weight
0.3 kg .. 5.3 kg

Gripping force
240 N .. 1970 N

Stroke per finger
7.5 mm .. 31.5 mm

Workpiece weight
1.2 kg .. 7.1 kg

Application example

Assembly unit for mounting a pin in a bore with tolerances for the position.
The compensation unit compensates for the planar offset without turning the workpiece or allowing it to tilt.

1 PGF 80 2-Finger Parallel Gripper with special fingers and workpiece (pin)

2 AGE-XY-80 Compensation Unit

Universal Gripper

Universal parallel gripper with surface-guided base jaws

Area of application

Suitable for clean working environments and high part diversity thanks to its long jaw stroke and high gripping forces

Your advantages and benefits

Precise flat guide
for very good guidance characteristics

Long stroke despite a compact design
for minimal interfering contours

Mounting from two sides in three screw directions
for universal and flexible gripper assembly

Air supply via hose-free direct connection or fittings
for the flexible supply of compressed air in all automation systems

M5 connection on both sides near the guides
for the use of lubricating nipples

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

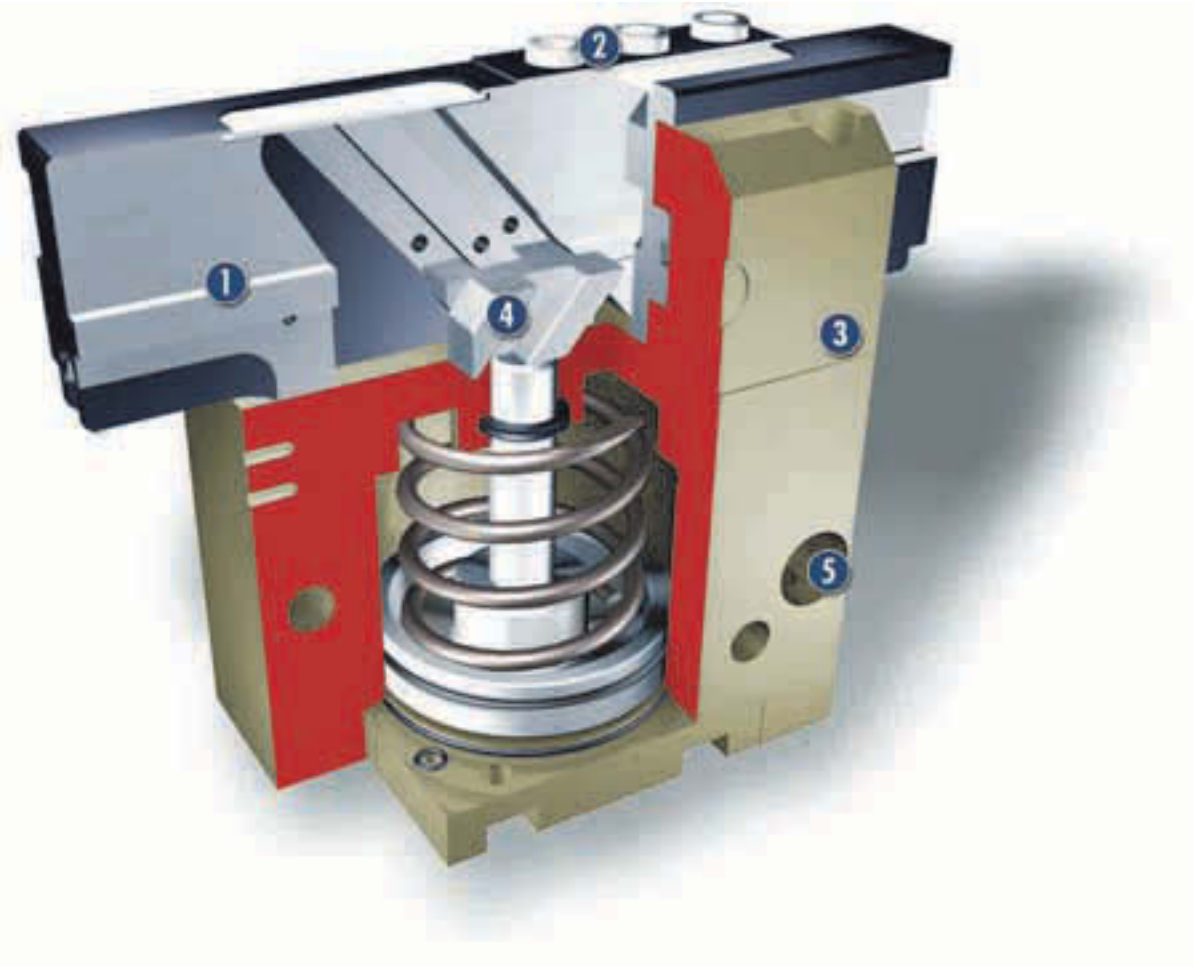
Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Brackets for proximity switches, centering sleeves, O-rings for direct connection, Assembly and Operating Manual with manufacturer's declaration

Maintenance of gripping force
with either mechanical gripping force safety device or SDV-P pressure maintenance valve

Sectional diagram



1 Guidance
precise gripping through flat, precision ground guidance along the entire length of the housing

2 Base jaws
for the connection of workpiece-specific gripper fingers

3 Housing
weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

4 Kinematics
wedge-hook principle for high power transmission and centric gripping

5 Centering and mounting possibilities
for universal gripper assembly

Function description

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

Options and special information

Due to the long guidance, the gripper is highly resistant during gripping operations when the gripper fingers are subject to high moment loads. Grippers with increased accuracy are available on request.

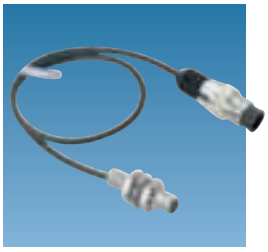
Accessories

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

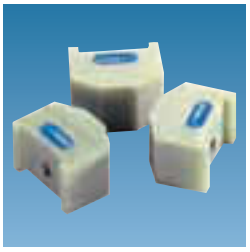
Centering sleeves

Fittings

IN inductive proximity switches

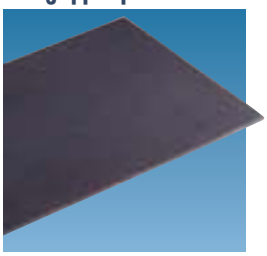


Quentes plastic inserts



W/WK/KV/GK sensor cables

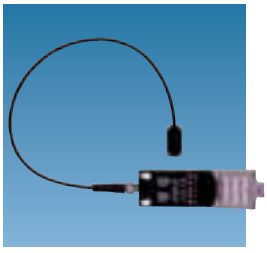
HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

FPS flexible position sensor



ⓘ 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 can find more detailed information on our accessory range in the "Accessories" catalog section.

General information on the series

Gripping force

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

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

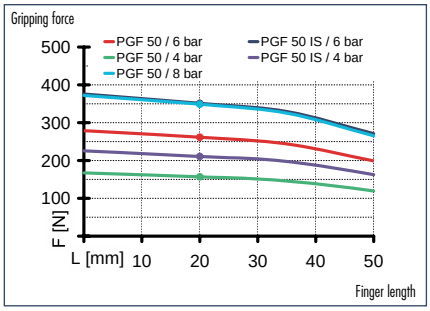
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping gripping.

Closing and opening times

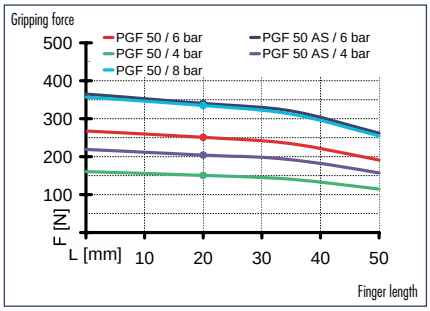
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PGF 50

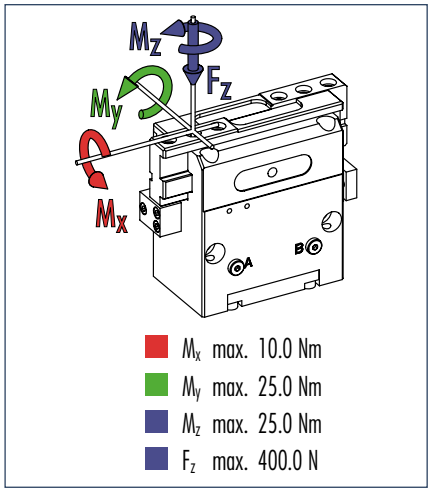
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

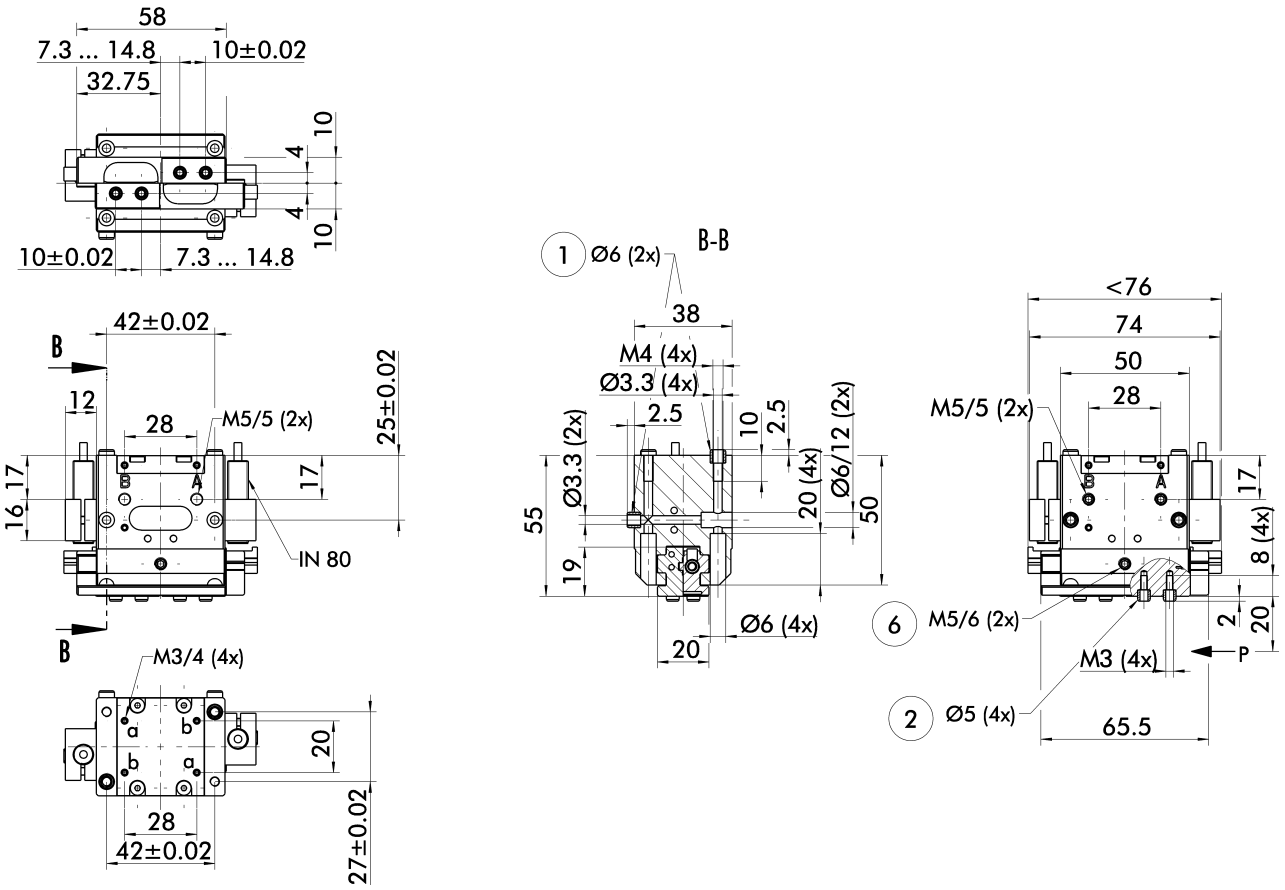


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PGF 50	PGF 50 AS	PGF 50 IS
	ID	0340360	0340361	0340362
Stroke per finger	[mm]	7.5	7.5	7.5
Closing force	[N]	240.0	340.0	
Opening force	[N]	260.0		350.0
Min. gripping force through spring	[N]		100.0	100.0
Weight	[kg]	0.3	0.35	0.35
Recommended workpiece weight	[kg]	1.2	1.2	1.2
Air consumption per double stroke	[cm³]	14.0	14.0	14.0
Nominal pressure	[bar]	6.0	6.0	6.0
Minimum pressure	[bar]	3.5	4.0	4.0
Maximum pressure	[bar]	8.0	6.5	6.5
Closing time	[s]	0.03	0.03	0.07
Opening time	[s]	0.03	0.07	0.03
Closing/opening time with spring only	[s]		0.5	0.5
Max. permitted finger length	[mm]	50.0	50.0	50.0
Max. permitted weight per finger	[kg]	0.25	0.25	0.25
IP rating		40	40	40
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0
Repeat accuracy	[mm]	0.02	0.02	0.02

Main views

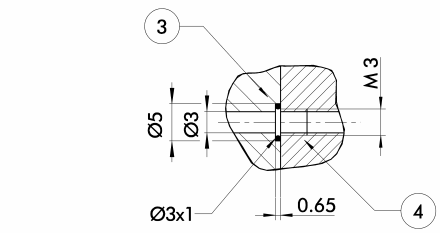


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ 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
⑥ Lubricating nipple connection

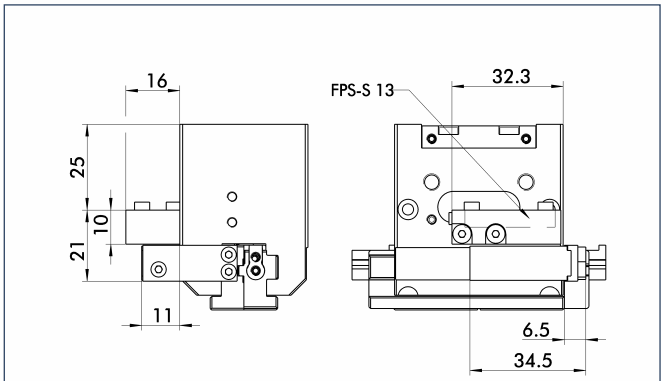
Hoseless direct connection



③ Adapter
④ Gripper

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

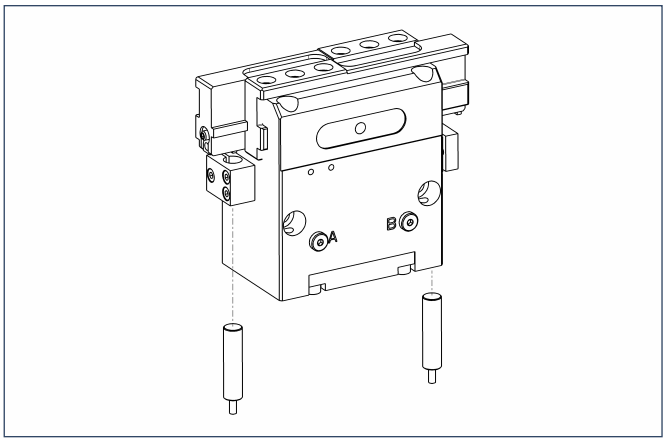
Mounting kit for FPS



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.

Description	ID
AS-PGF 50	0302731

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

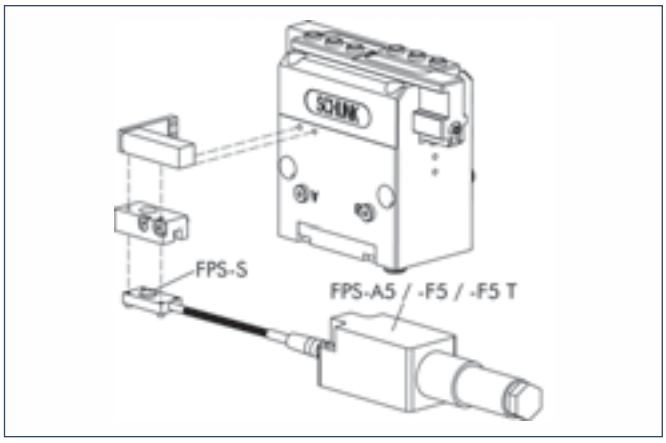
Extension cables for proximity switches/magnetic switches

Description	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

ⓘ 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.

Sensor system



Measuring system:
FPS position monitor

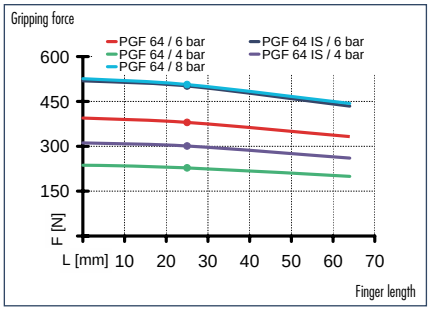
Description	ID
AS-PGF 50	0302731
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (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.

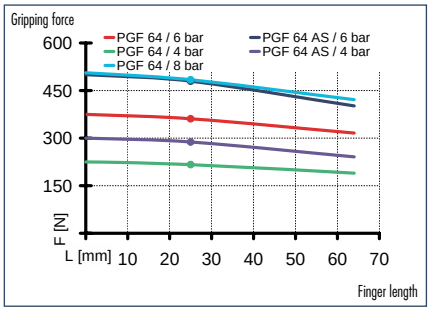
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PGF 64

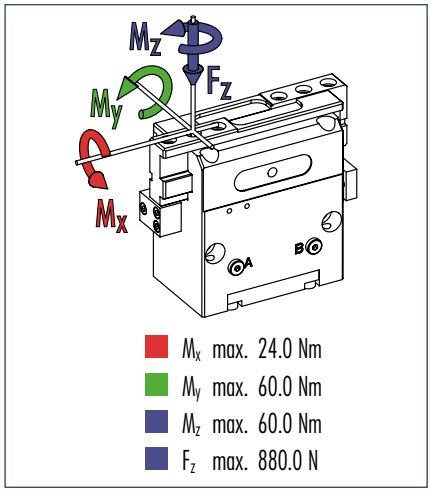
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

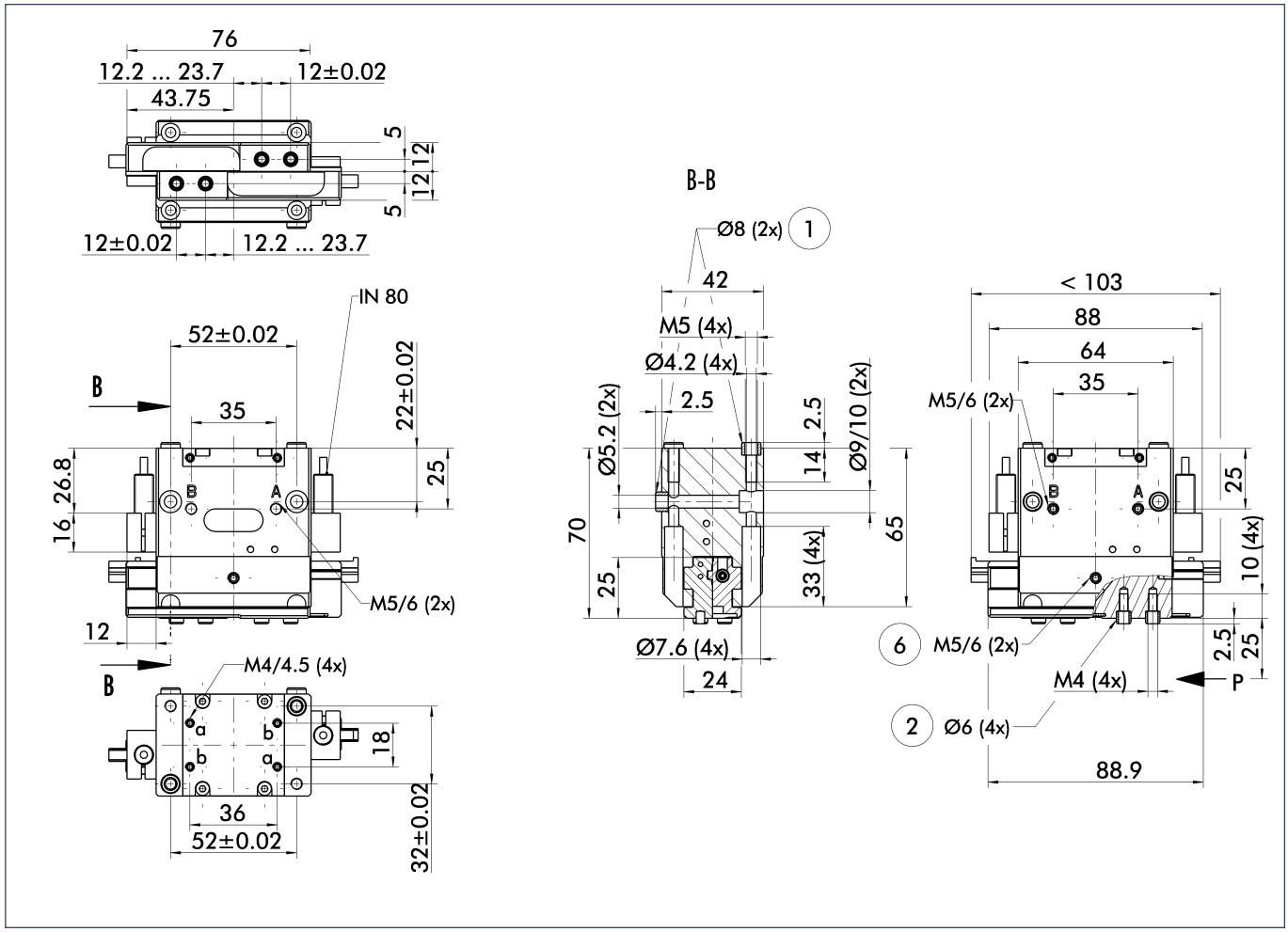


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PGF 64	PGF 64 AS	PGF 64 IS
	ID	0340365	0340366	0340367
Stroke per finger	[mm]	11.5	11.5	11.5
Closing force	[N]	360.0	480.0	
Opening force	[N]	380.0		500.0
Min. gripping force through spring	[N]		120.0	120.0
Weight	[kg]	0.6	0.7	0.7
Recommended workpiece weight	[kg]	1.8	1.8	1.8
Air consumption per double stroke	[cm^3]	30.0	30.0	30.0
Nominal pressure	[bar]	6.0	6.0	6.0
Minimum pressure	[bar]	3.5	4.0	4.0
Maximum pressure	[bar]	8.0	6.5	6.5
Closing time	[s]	0.06	0.05	0.1
Opening time	[s]	0.06	0.1	0.05
Closing/opening time with spring only	[s]		0.5	0.5
Max. permitted finger length	[mm]	64.0	64.0	64.0
Max. permitted weight per finger	[kg]	0.4	0.4	0.4
IP rating		40	40	40
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0
Repeat accuracy	[mm]	0.02	0.02	0.02

Main views

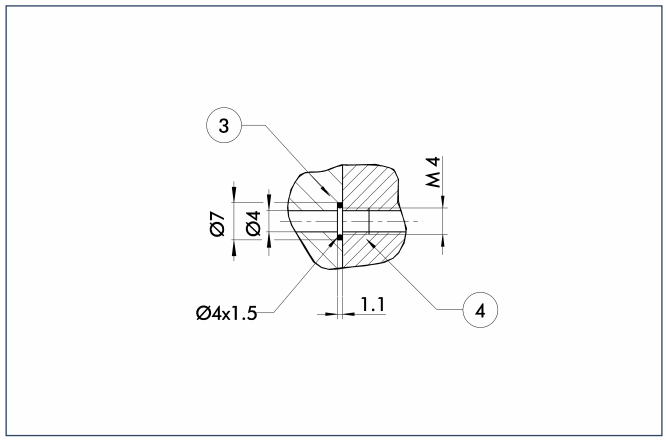


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ 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
⑥ Lubricating nipple connection

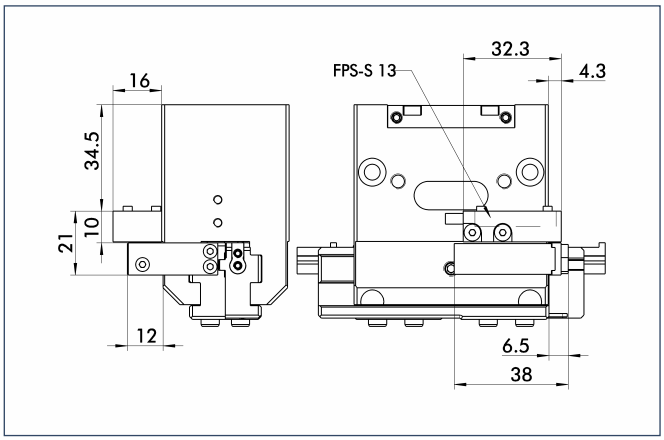
Hoseless direct connection



③ Adapter
④ Gripper

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

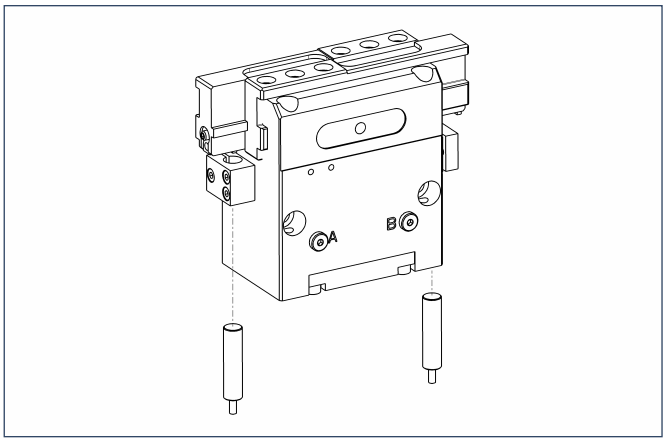
Mounting kit for FPS



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.

Description	ID
AS-PGF 64	0302732

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

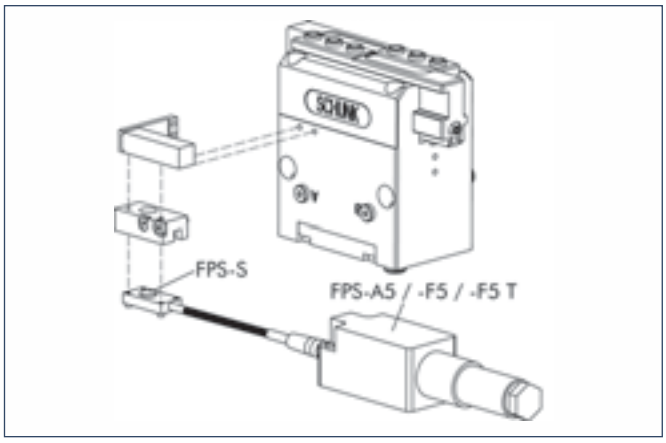
Extension cables for proximity switches/magnetic switches

Description	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

ⓘ 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.

Sensor system



Measuring system:
FPS position monitor

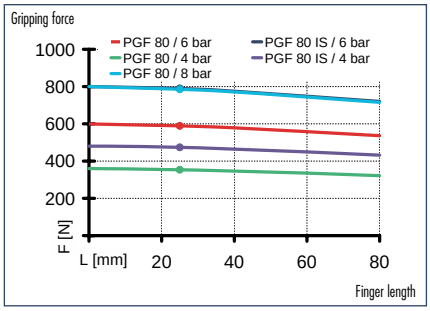
Description	ID
AS-PGF 64	0302732
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (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.

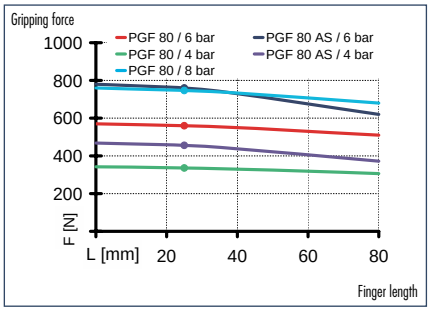
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PGF 80

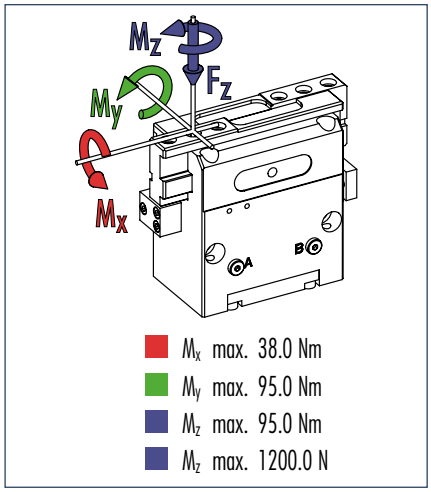
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

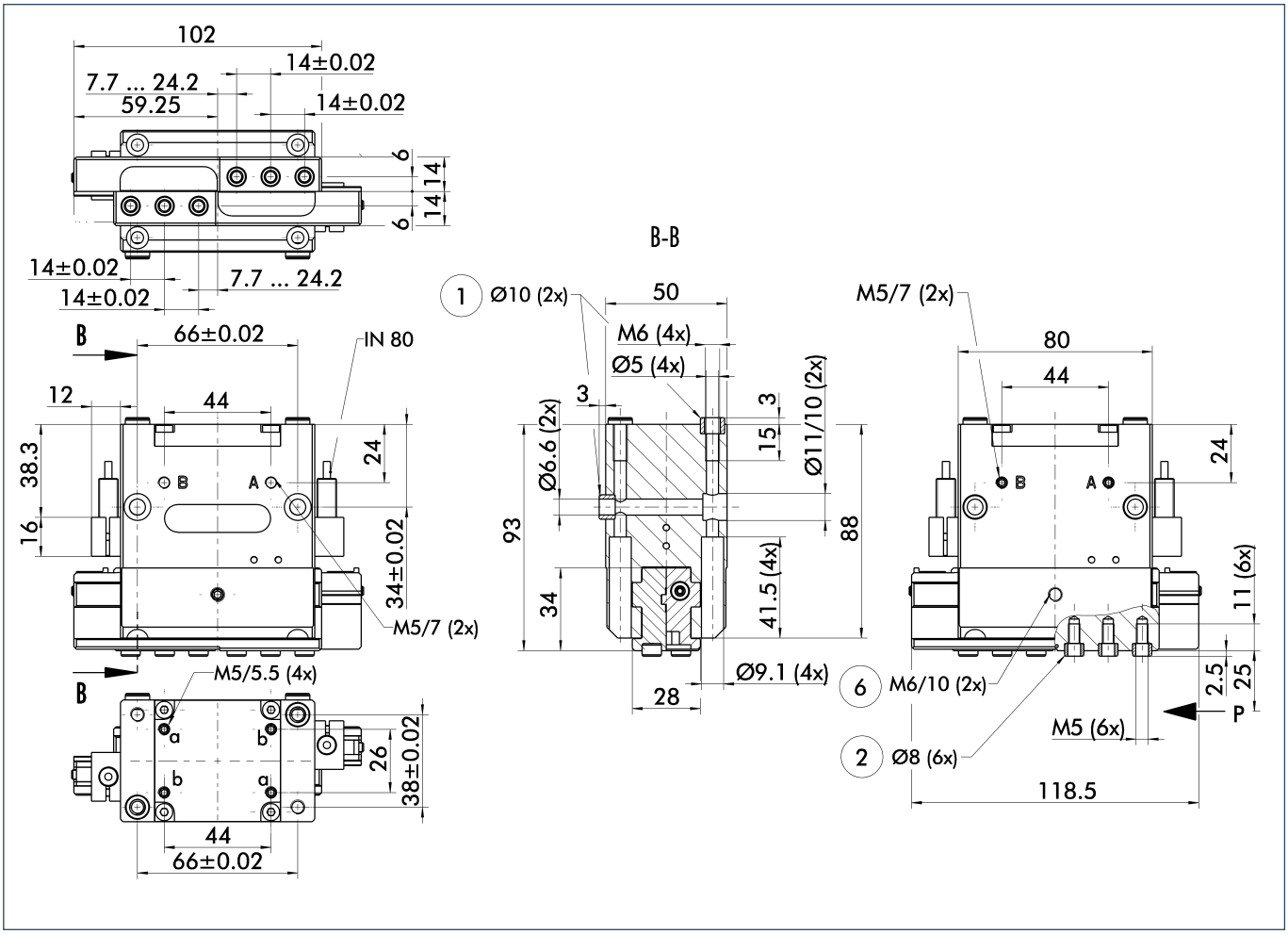


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PGF 80	PGF 80 AS	PGF 80 IS
	ID	0340370	0340371	0340372
Stroke per finger	[mm]	16.5	16.5	16.5
Closing force	[N]	560.0	760.0	
Opening force	[N]	590.0		790.0
Min. gripping force through spring	[N]		200.0	200.0
Weight	[kg]	1.15	1.25	1.25
Recommended workpiece weight	[kg]	2.8	2.8	2.8
Air consumption per double stroke	[cm^3]	77.0	77.0	77.0
Nominal pressure	[bar]	6.0	6.0	6.0
Minimum pressure	[bar]	3.5	4.0	4.0
Maximum pressure	[bar]	8.0	6.5	6.5
Closing time	[s]	0.1	0.08	0.14
Opening time	[s]	0.1	0.14	0.08
Closing/opening time with spring only	[s]		0.6	0.6
Max. permitted finger length	[mm]	80.0	80.0	80.0
Max. permitted weight per finger	[kg]	0.75	0.75	0.75
IP rating		40	40	40
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0
Repeat accuracy	[mm]	0.02	0.02	0.02

Main views

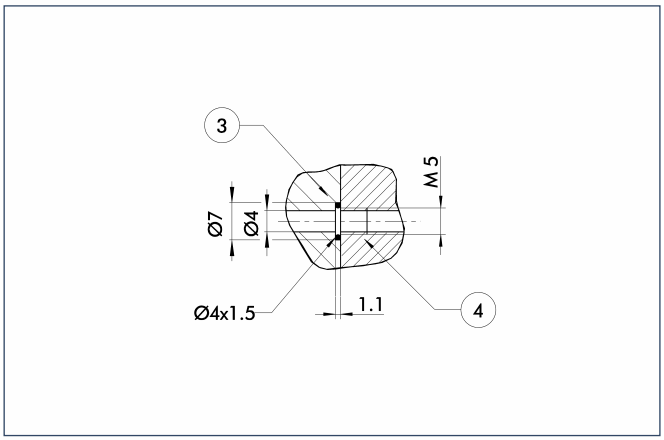


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ 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
⑥ Lubricating nipple connection

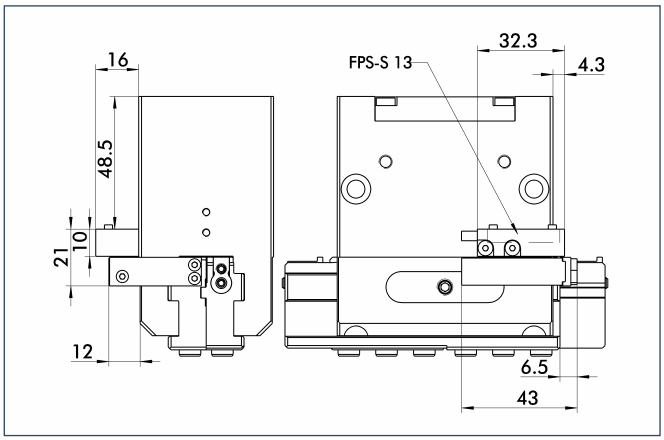
Hoseless direct connection



③ Adapter
④ Gripper

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

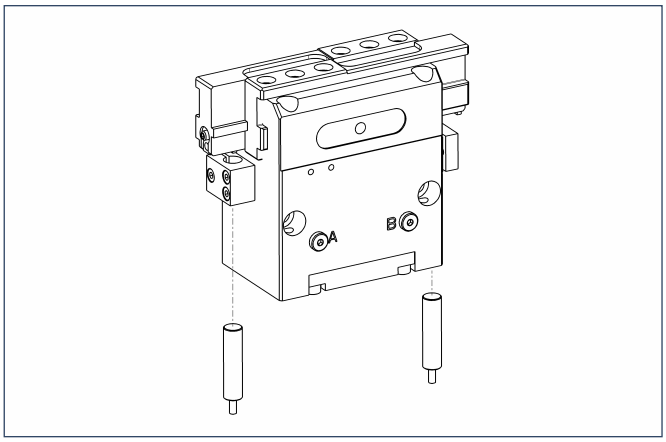
Mounting kit for FPS



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.

Description	ID
AS-PGF 80	0302733

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

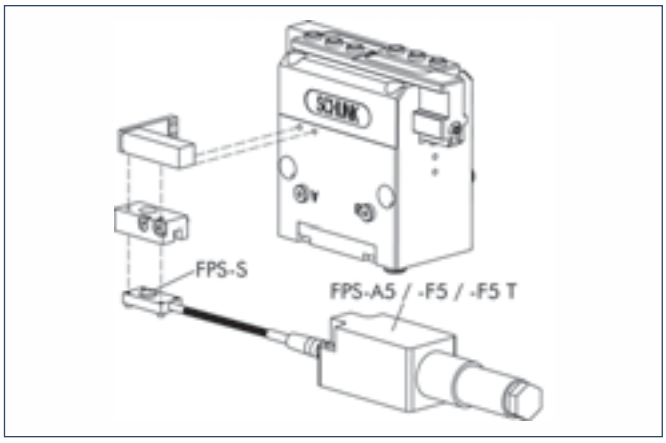
Extension cables for proximity switches/magnetic switches

Description	ID
AS-PGF 80	0302733
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

ⓘ 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.

Sensor system



Measuring system:
FPS position monitor

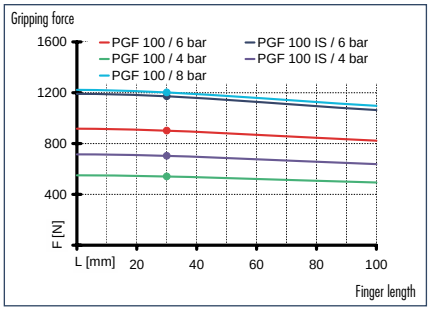
Description	ID
AS-PGF 80	0302733
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (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.

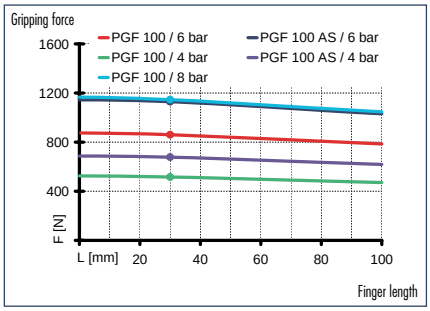
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PGF 100

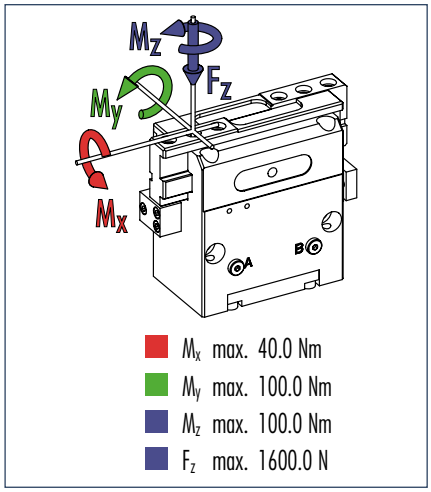
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

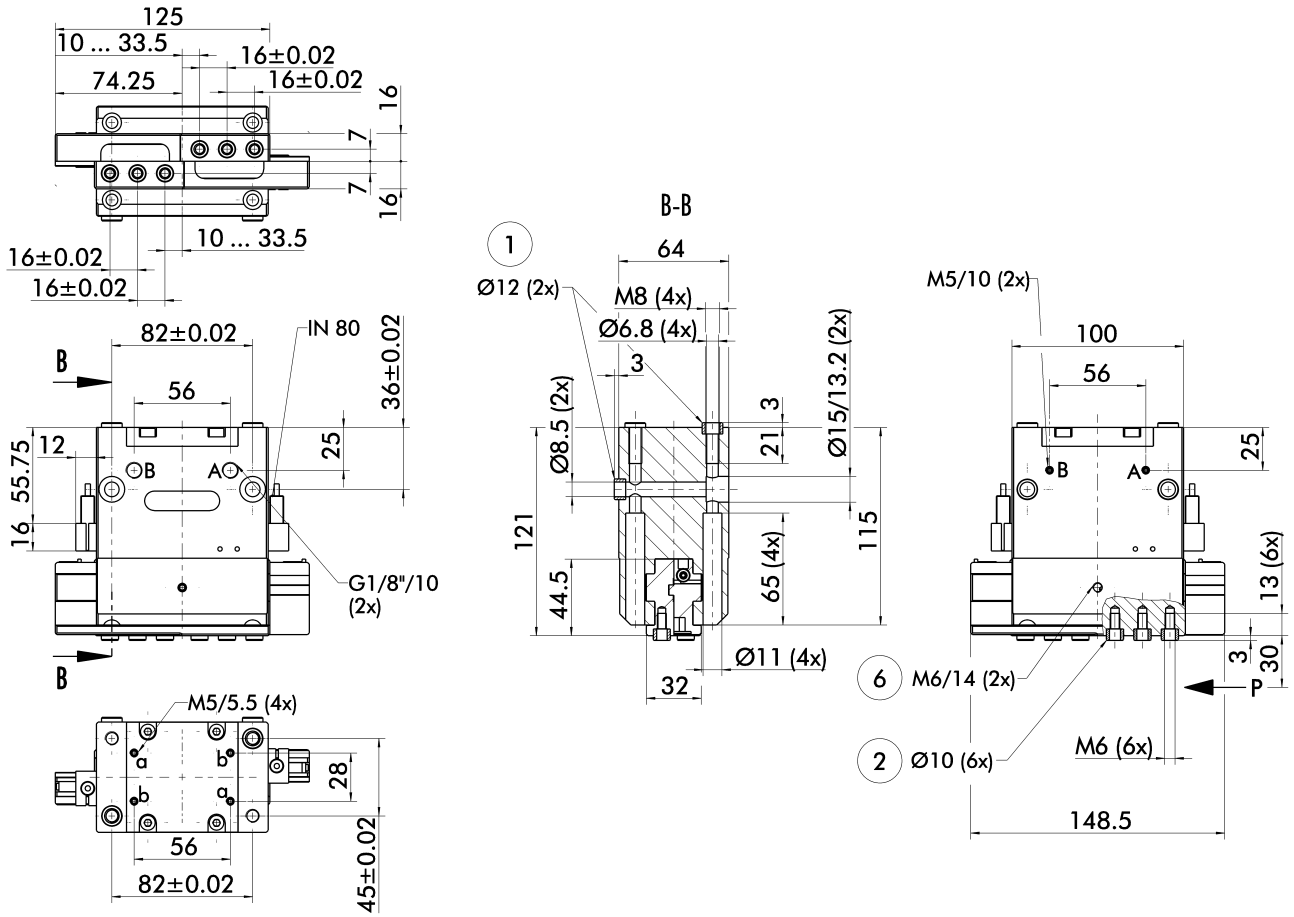


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PGF 100	PGF 100 AS	PGF 100 IS
	ID	0340380	0340381	0340382
Stroke per finger	[mm]	23.5	23.5	23.5
Closing force	[N]	880.0	1150.0	
Opening force	[N]	900.0		1200.0
Min. gripping force through spring	[N]		270.0	270.0
Weight	[kg]	2.35	2.85	2.85
Recommended workpiece weight	[kg]	4.4	4.4	4.4
Air consumption per double stroke	[cm^3]	154.0	154.0	154.0
Nominal pressure	[bar]	6.0	6.0	6.0
Minimum pressure	[bar]	3.5	4.0	4.0
Maximum pressure	[bar]	8.0	6.5	6.5
Closing time	[s]	0.15	0.16	0.25
Opening time	[s]	0.15	0.25	0.16
Closing/opening time with spring only	[s]		0.7	0.7
Max. permitted finger length	[mm]	100.0	100.0	100.0
Max. permitted weight per finger	[kg]	1.4	1.4	1.4
IP rating		40	40	40
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0
Repeat accuracy	[mm]	0.03	0.03	0.03

Main views

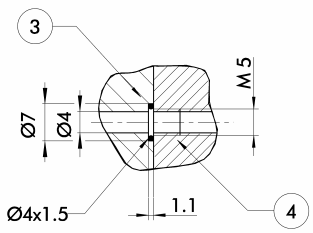


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ 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
⑥ Lubricating nipple connection

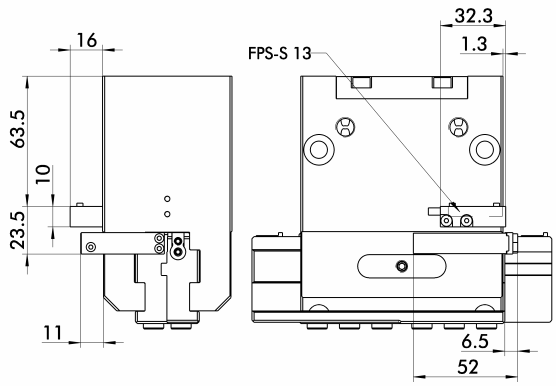
Hoseless direct connection



③ Adapter
④ Gripper

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

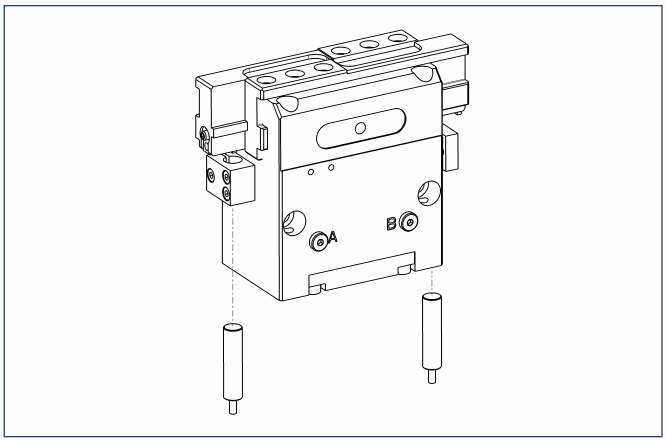
Mounting kit for FPS



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.

Description	ID
AS-PGF 100	0302734

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

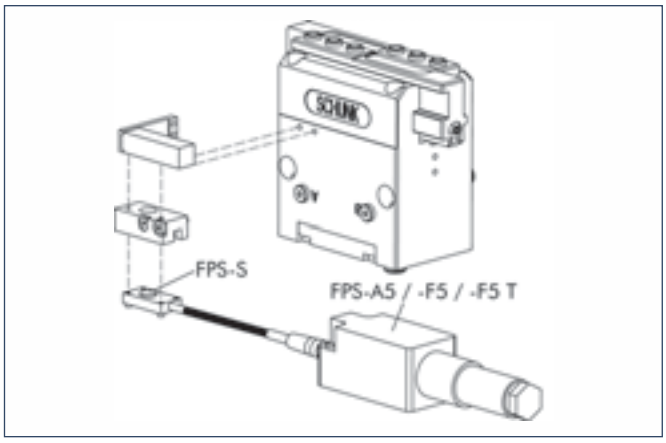
Extension cables for proximity switches/magnetic switches

Description	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

ⓘ 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.

Sensor system



Measuring system:
FPS position monitor

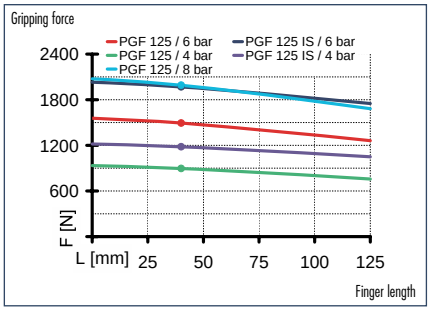
Description	ID
AS-PGF 100	0302734
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (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.

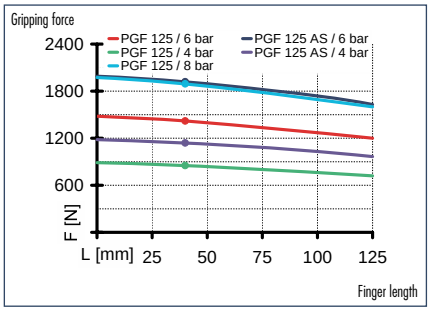
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PGF 125

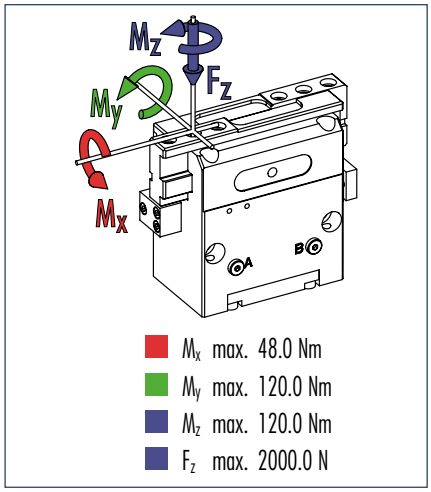
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

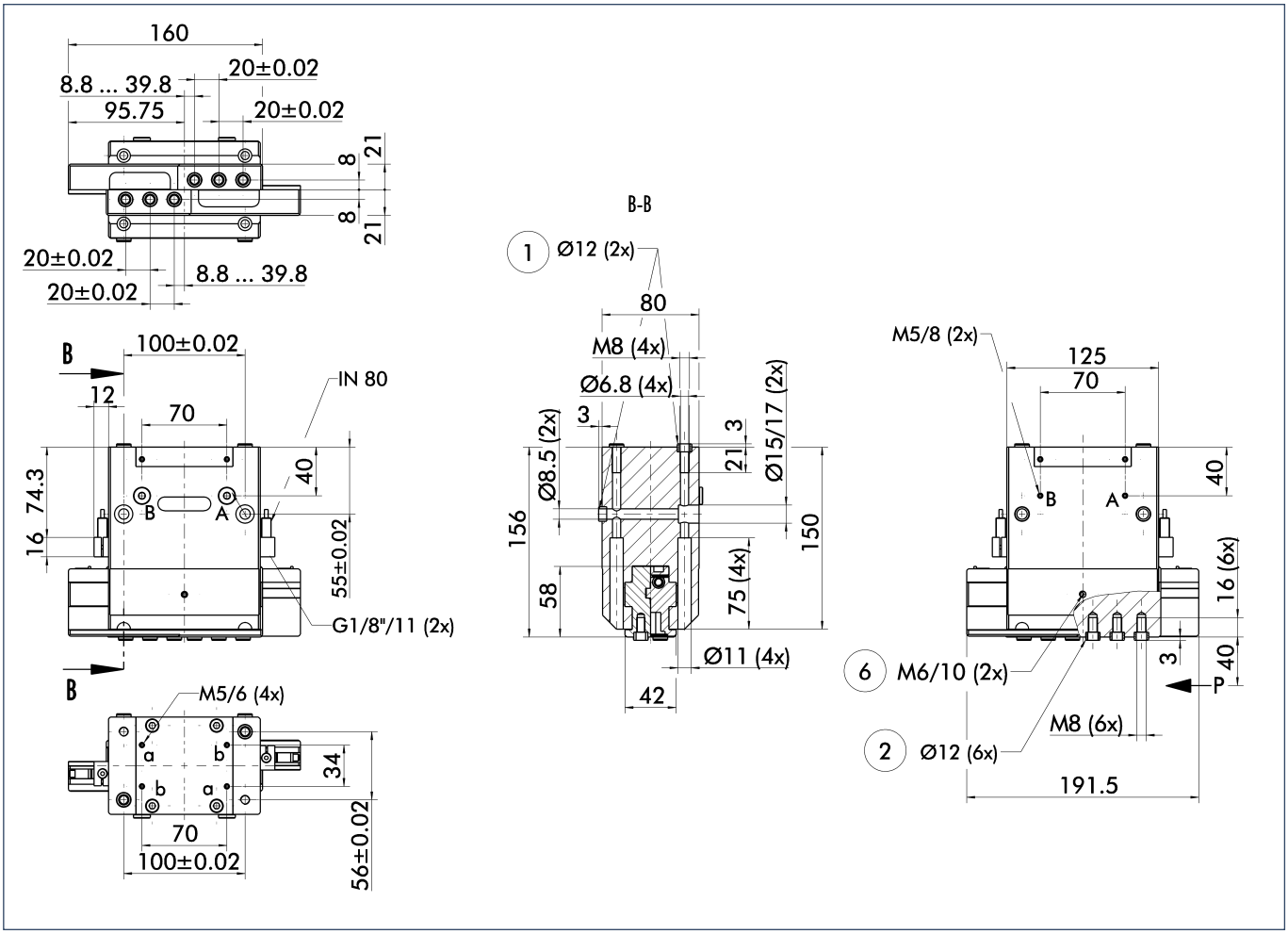


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PGF125	PGF 125 AS	PGF 125 IS
	ID	0340390	0340391	0340392
Stroke per finger	[mm]	31.5	31.5	31.5
Closing force	[N]	1420.0	1900.0	
Opening force	[N]	1490.0		1970.0
Min. gripping force through spring	[N]		480.0	480.0
Weight	[kg]	5.0	5.3	5.3
Recommended workpiece weight	[kg]	7.1	7.1	7.1
Air consumption per double stroke	[cm^3]	300.0	300.0	300.0
Nominal pressure	[bar]	6.0	6.0	6.0
Minimum pressure	[bar]	3.5	4.0	4.0
Maximum pressure	[bar]	8.0	6.5	6.5
Closing time	[s]	0.25	0.22	0.4
Opening time	[s]	0.25	0.4	0.22
Closing/opening time with spring only	[s]		0.8	0.8
Max. permitted finger length	[mm]	125.0	125.0	125.0
Max. permitted weight per finger	[kg]	2.4	2.4	2.4
IP rating		40	40	40
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	90.0	90.0	90.0
Repeat accuracy	[mm]	0.03	0.03	0.03

Main views

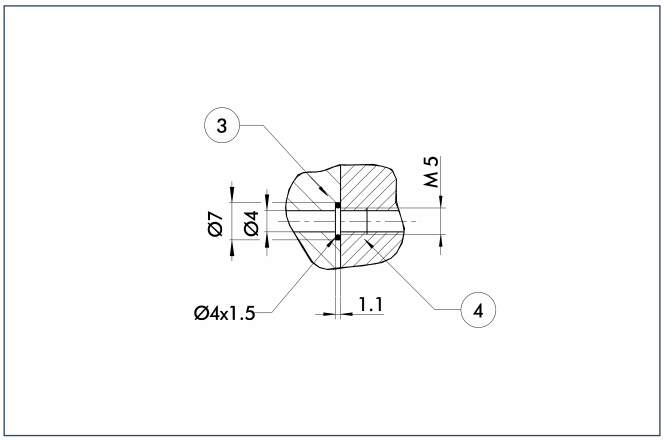


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ 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
⑥ Lubricating nipple connection

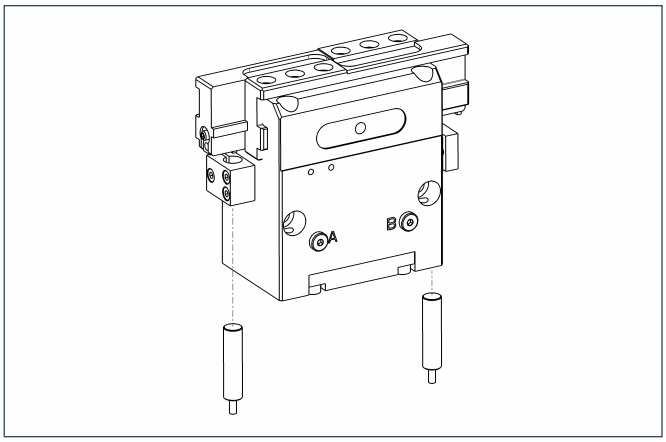
Hoseless direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air to the gripper without vulnerable 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
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IN 80/S-M8	0301478	•
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ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

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W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

ⓘ 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.