

DPG-plus

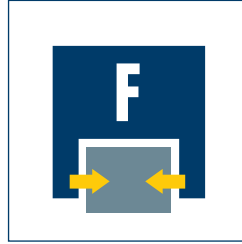
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



Sizes
50 .. 200



Weight
0.25 kg .. 9.5 kg
0.55 lbs .. 20.94 lbs



Gripping force
125 N .. 6230 N
28 lbf .. 1401 lbf

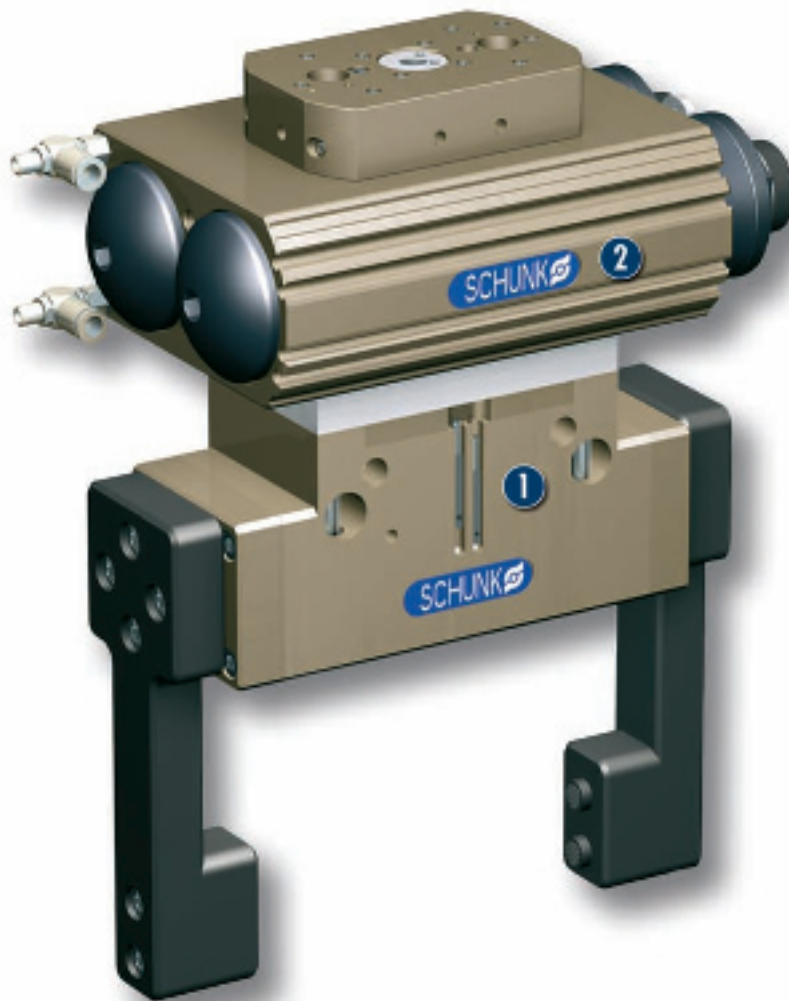


Stroke per finger
2 mm .. 25 mm
0.079 in .. 0.984 in



Workpiece weight
0.6 kg .. 22.1 kg
1.32 lbs .. 48.72 lbs

Application example



Sealed and extremely robust rotary gripping combination for use in tough environments such as foundries, grinding shops or forges

1 DPG-plus 125 2-Finger Parallel Gripper, with fingers equipped with carbide clamping inserts

2 SRU 35.1-180-3-4 Rotary Actuator in sealed IP67 version

Sealed Grippers

Despite the high moment load capabilities of the base jaws, this sealed 2-finger parallel gripper conforms to the IP 67 requirements and does not permit any substances from the working environment to penetrate the interior of the unit.

Area of application

The DPG-plus is ideally suited for the handling of rough or dirty workpieces. Its area of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing and underwater.

Your advantages and benefits

Robust interior multiple-tooth guidance
for the precise handling of all kinds of workpieces

Wiper seal on the outer round guide
for permanent, secure gripper sealing

High maximum moments
suitable for the use of long gripper fingers

Sealed 2-finger parallel gripper
is conform to IP67 requirements despite high moment-load capabilities

Oval piston drive design
for maximum gripping forces

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

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

Compact dimensions
for minimal interfering contours in handling



General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Hardened steel

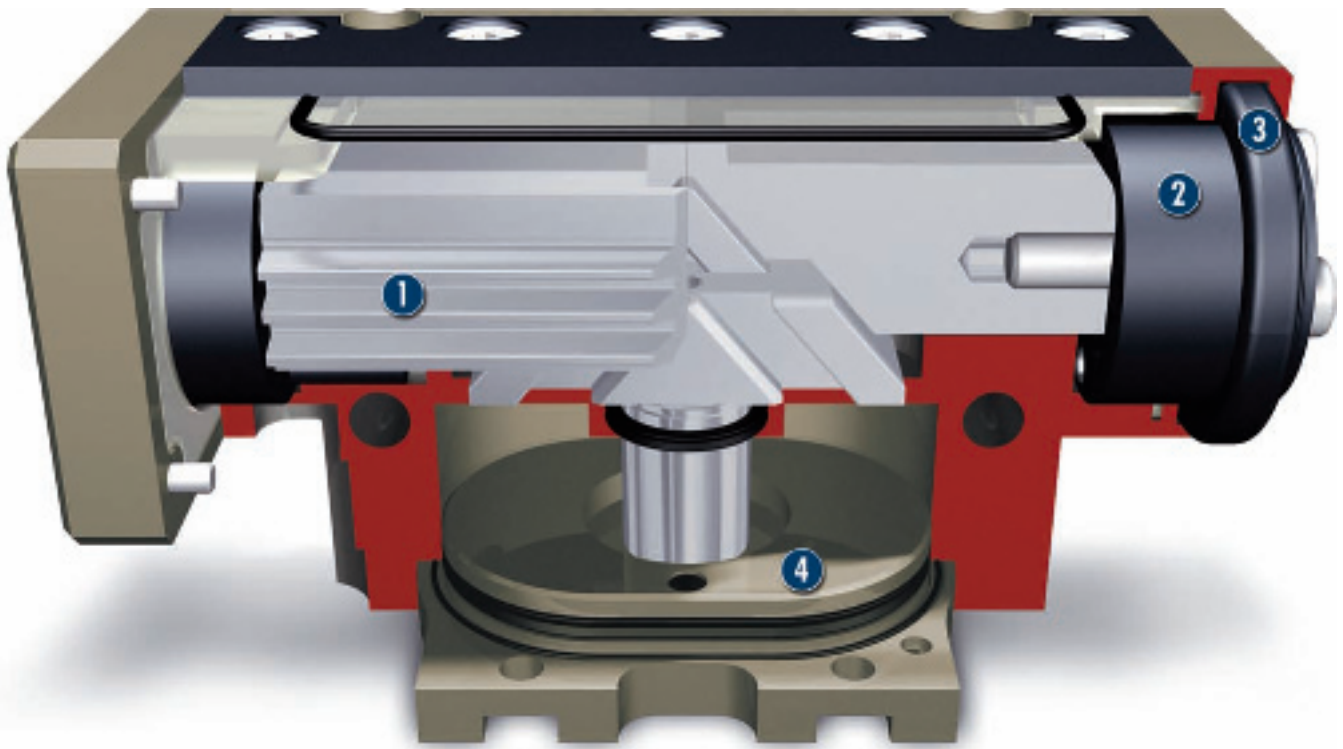
Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

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

Sectional diagram



1 Inner base jaw
(multiple-tooth guidance)
for heavy moment loads

2 Outer base jaw (round)
providing a sealable, round surface

3 Wiper seal
for permanent, secure gripper sealing

4 Oval piston with rod and wedge
hook
for power generation and transmission

Function description

The piston is moved up or down by means of compressed air. The angled active surfaces of the wedge hook produce a synchronized, parallel jaw movement.

Options and special information

Please note that an additional hose for bleeding or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Version with higher grip forces

When higher gripping forces are required

Accessories

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

Centering sleeves



Fittings



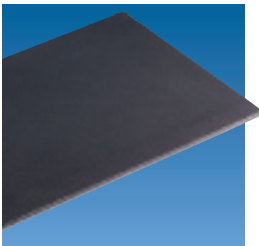
MMS magnetic switch



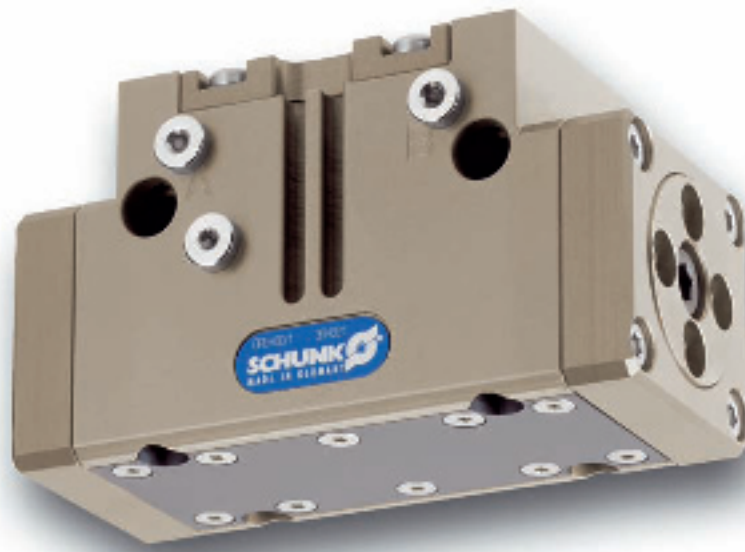
Quentes plastic inserts



HKI gripper pads



SDV-P pressure maintenance valves



W/WK/KV/GK 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 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 gripping.

Closing and opening times

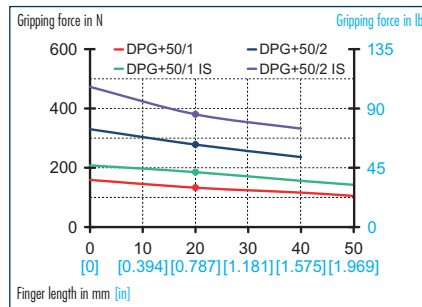
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

DPG-plus 50

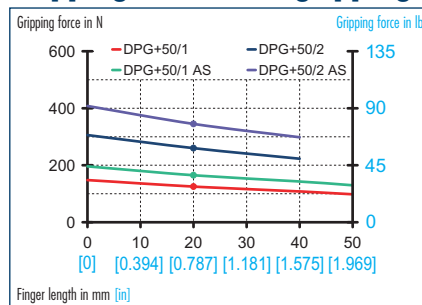
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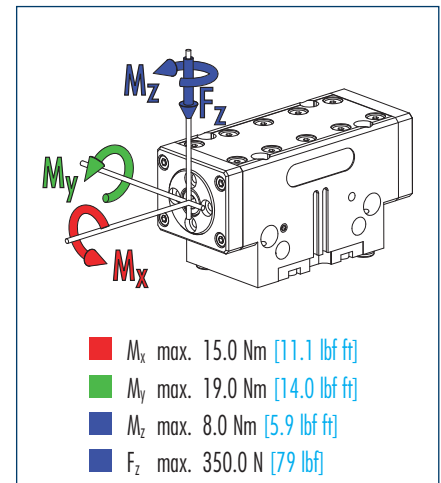
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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

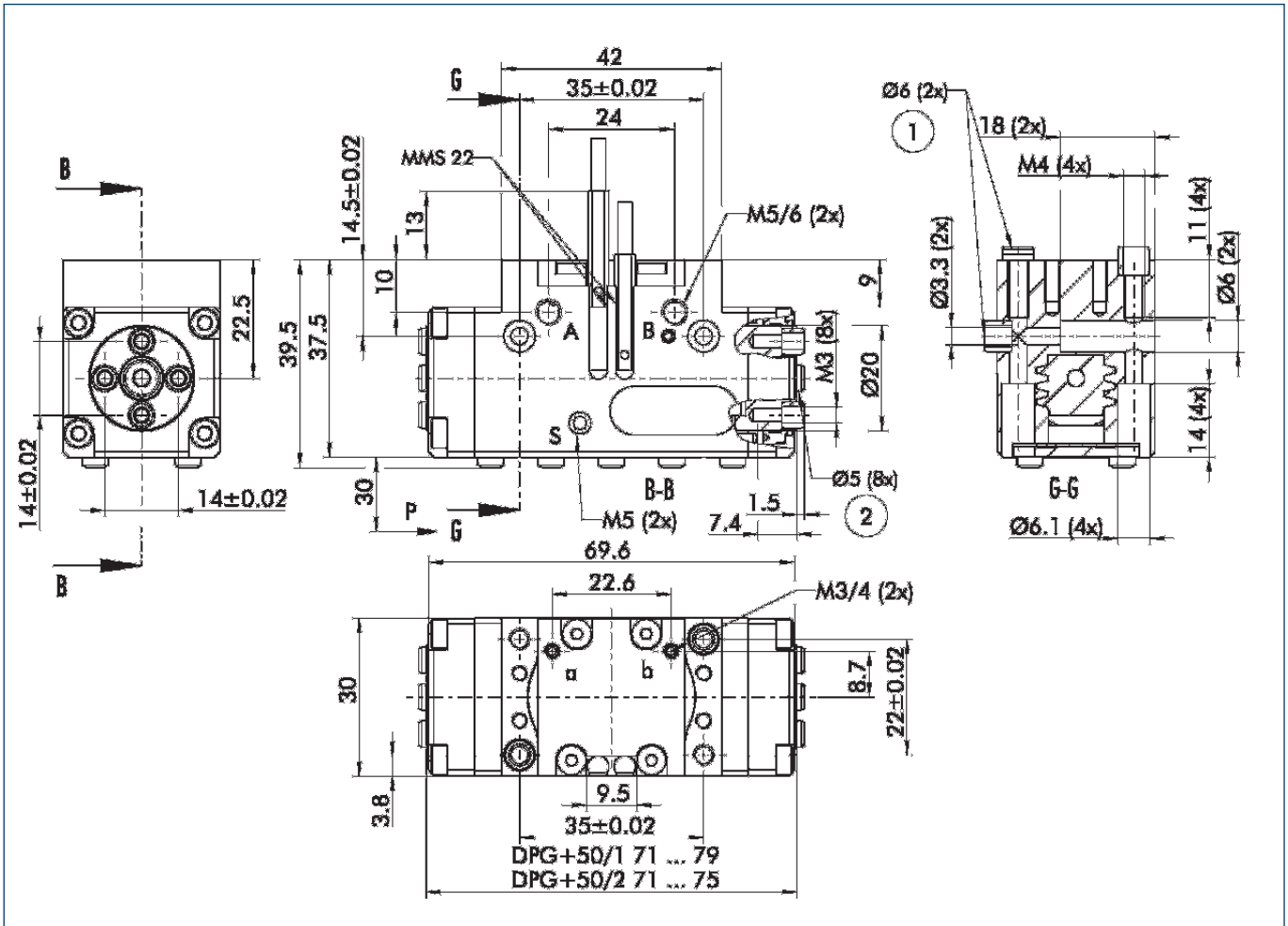
Description		DPG-plus 50-1	DPG-plus 50-2	DPG-plus 50-1 AS	DPG-plus 50-2 AS	DPG-plus 50-1 IS	DPG-plus 50-2 IS
ID		0304301	0304302	0304303	0304304	0304305	0304306
Stroke per jaw	mm [in]	4.0 [0.157]	2.0 [0.079]	4.0 [0.157]	2.0 [0.079]	4.0 [0.157]	2.0 [0.079]
Closing force	N [lbf]	125.0 [28]	260.0 [58]	165.0 [37]	345.0 [78]		
Opening force	N [lbf]	130.0 [29]	275.0 [62]			185.0 [42]	380.0 [85]
Min. spring force	N [lbf]			40.0 [9.0]	85.0 [19.1]	40.0 [9.0]	85.0 [19.1]
Weight	kg [lbs]	0.25 [0.55]	0.25 [0.55]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]
Recommended workpiece weight	kg [lbs]	0.6 [1.32]	1.3 [2.87]	0.6 [1.32]	1.3 [2.87]	0.6 [1.32]	1.3 [2.87]
Air consumption per double stroke	cm ³ [in ³]	5.0 [0.31]	5.0 [0.31]	12.0 [0.73]	12.0 [0.73]	12.0 [0.73]	12.0 [0.73]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.03	0.03	0.03	0.03	0.05	0.05
Opening time	s	0.03	0.03	0.05	0.05	0.03	0.03
Max. permitted finger length	mm [in]	50.0 [1.969]	40.0 [1.575]	50.0 [1.969]	40.0 [1.575]	50.0 [1.969]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force	ID	0304307
Description		DPG-plus 50-1-KVZ
Closing force	N [lbf]	225.0 [51]
Opening force	N [lbf]	235.0 [53]
Weight	kg [lbs]	0.29 [0.64]
Maximum pressure	bar [psi]	6.0 [87]
Air consumption per double stroke	cm ³ [in ³]	10.0 [0.61]
Max. permitted finger length	mm [in]	40.0 [1.575]

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

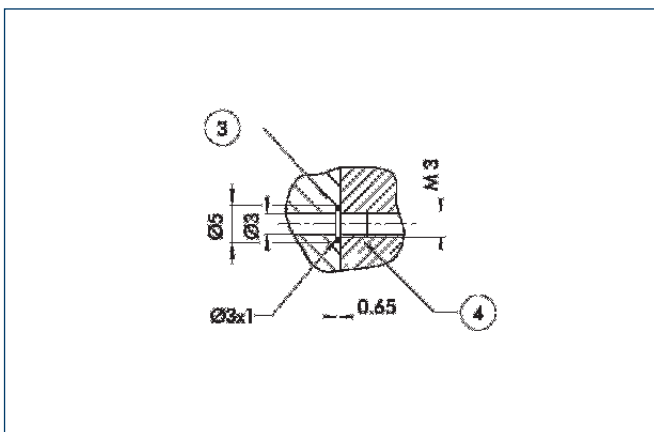


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S, s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

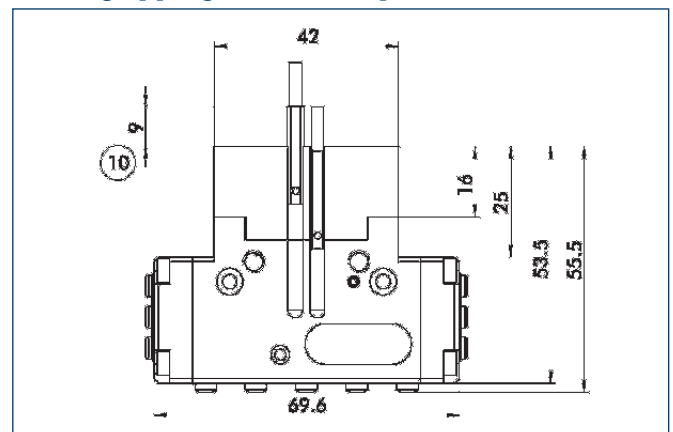
Hoseless direct connection



- 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.

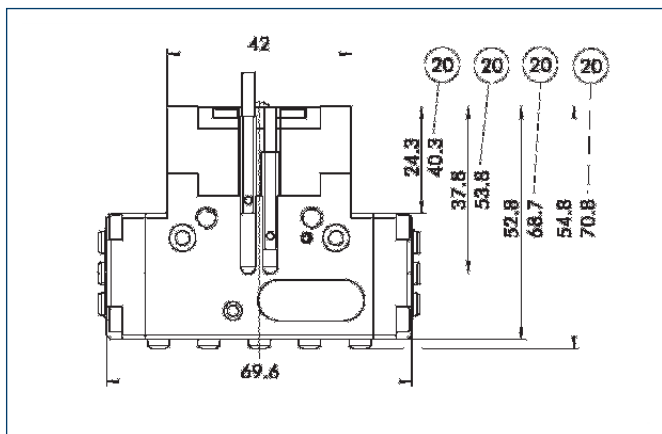
AS/IS gripping force safety device



- ⑩ Projection only with AS version

The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

KVZ for increased grip force



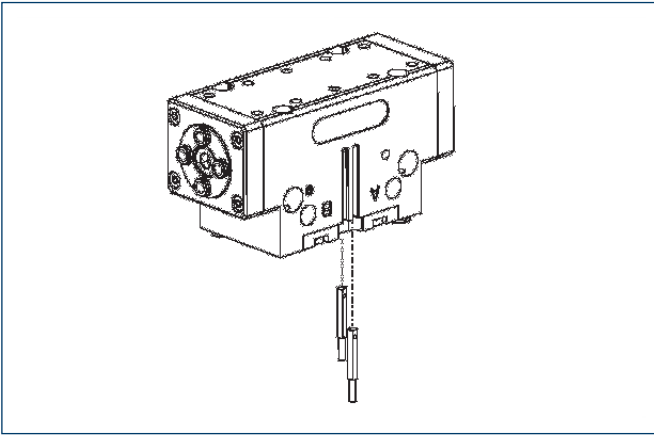
② With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

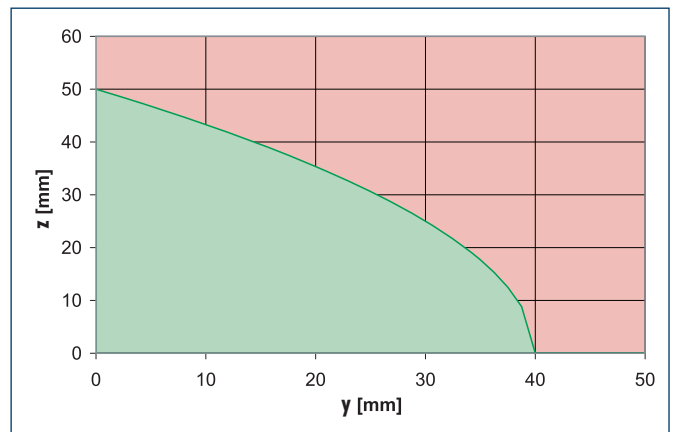
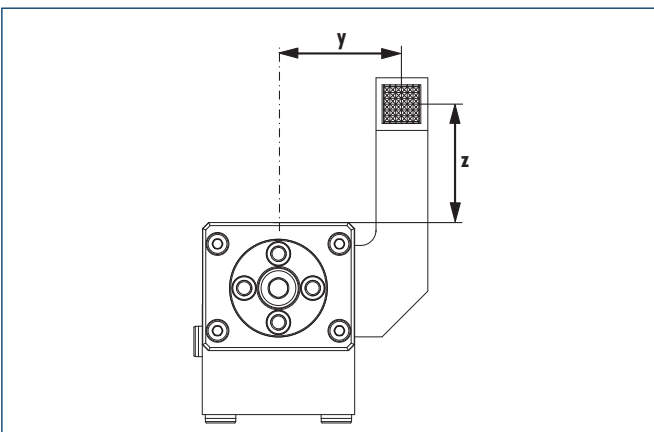
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

Maximum permitted overhang



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

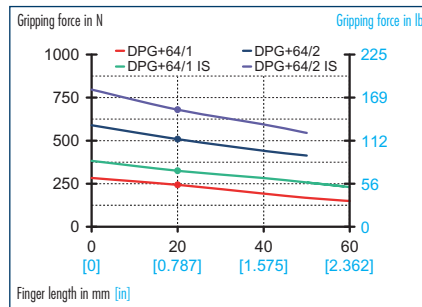
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DPG-plus 64

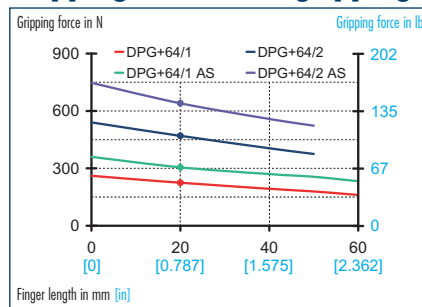
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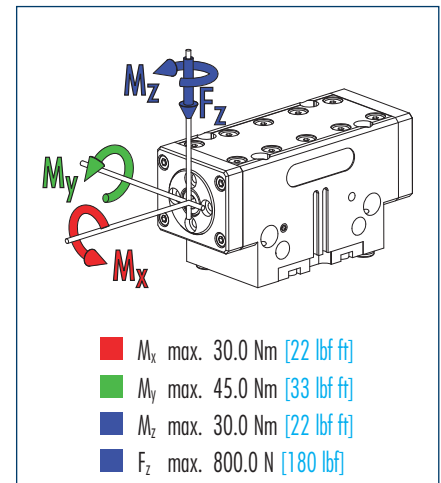
Gripping force, I.D. gripping



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

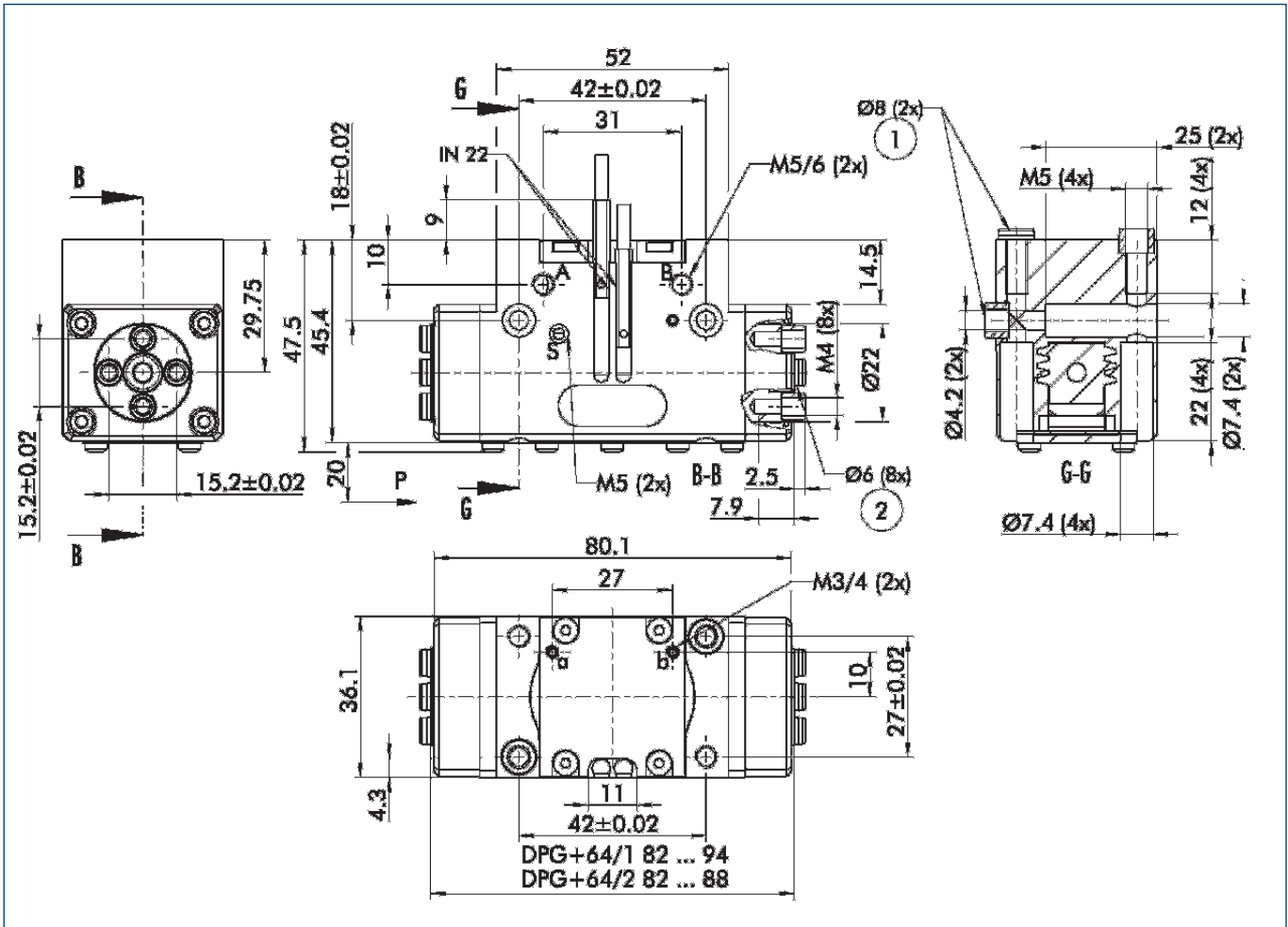
Description		DPG-plus 64-1	DPG-plus 64-2	DPG-plus 64-1 AS	DPG-plus 64-2 AS	DPG-plus 64-1 IS	DPG-plus 64-2 IS
	ID	0304311	0304312	0304313	0304314	0304315	0304316
Stroke per jaw	mm [in]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]
Closing force	N [lbf]	225.0 [51]	470.0 [106]	305.0 [69]	640.0 [144]		
Opening force	N [lbf]	240.0 [54]	500.0 [112]			325.0 [73]	680.0 [153]
Min. spring force	N [lbf]			80.0 [18.0]	170.0 [38]	80.0 [18.0]	170.0 [38]
Weight	kg [lbs]	0.39 [0.86]	0.39 [0.86]	0.46 [1.01]	0.46 [1.01]	0.46 [1.01]	0.46 [1.01]
Recommended workpiece weight	kg [lbs]	1.1 [2.43]	2.3 [5.07]	1.1 [2.43]	2.3 [5.07]	1.1 [2.43]	2.3 [5.07]
Air consumption per double stroke	cm ³ [in ³]	9.0 [0.55]	9.0 [0.55]	24.0 [1.46]	24.0 [1.46]	24.0 [1.46]	24.0 [1.46]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.04	0.04	0.03	0.03	0.06	0.06
Opening time	s	0.04	0.04	0.06	0.06	0.03	0.03
Max. permitted finger length	mm [in]	64.0 [2.520]	50.0 [1.969]	64.0 [2.520]	50.0 [1.969]	64.0 [2.520]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force		ID	0304317
Description		DPG-plus 64-1-KVZ	
Closing force	N [lbf]	405.0 [91]	
Opening force	N [lbf]	440.0 [99]	
Weight	kg [lbs]	0.47 [1.04]	
Maximum pressure	bar [psi]	6.0 [87]	
Air consumption per double stroke	cm ³ [in ³]	9.0 [0.55]	
Max. permitted finger length	mm [in]	50.0 [1.969]	

ⓘ Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

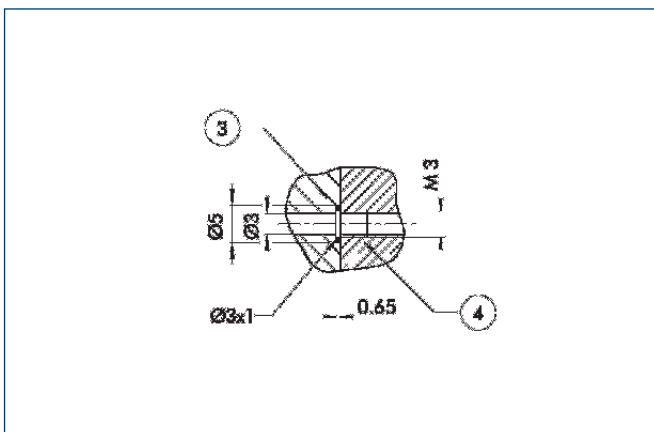


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

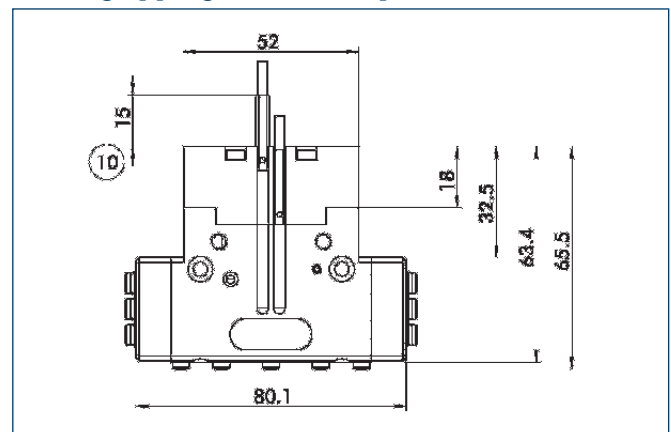
Hoseless direct connection



- ③ Adapter
- ④ Gripper

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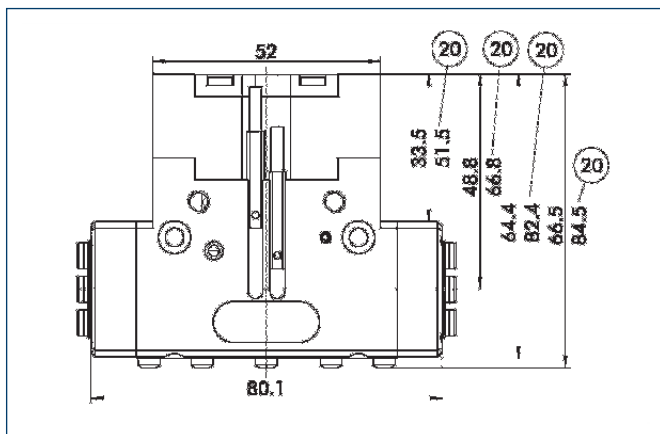
AS/IS gripping force safety device



- ⑩ Projection only with AS version

The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

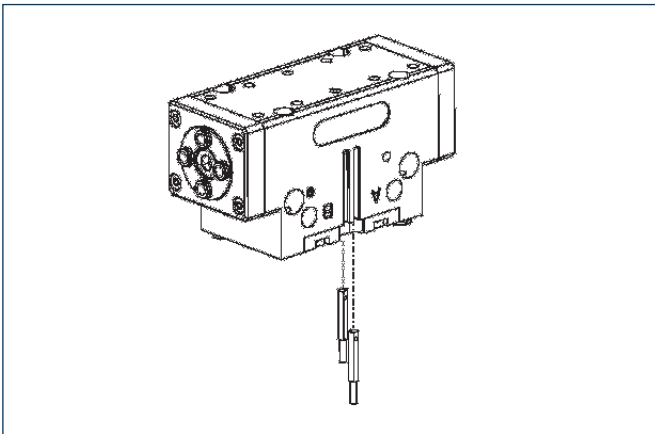
KVZ for increased grip force



⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Sensor system



Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

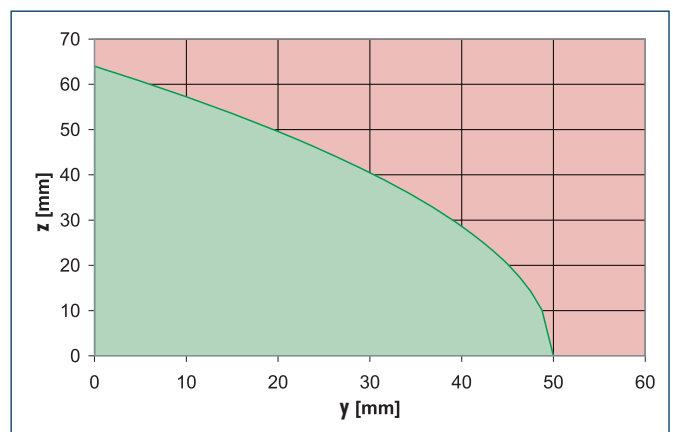
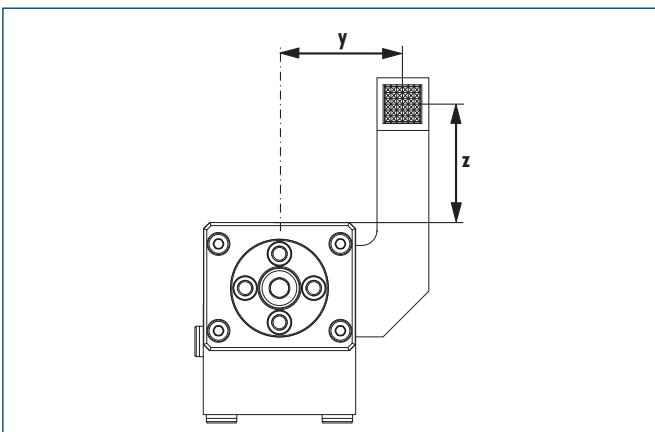
End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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

Maximum permitted overhang



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

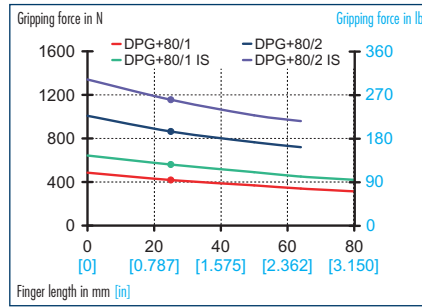
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DPG-plus 80

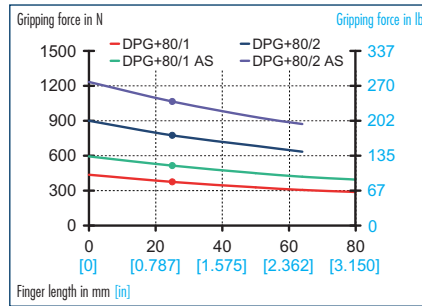
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



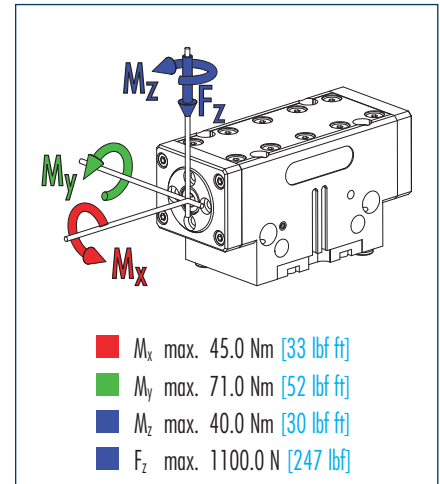
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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

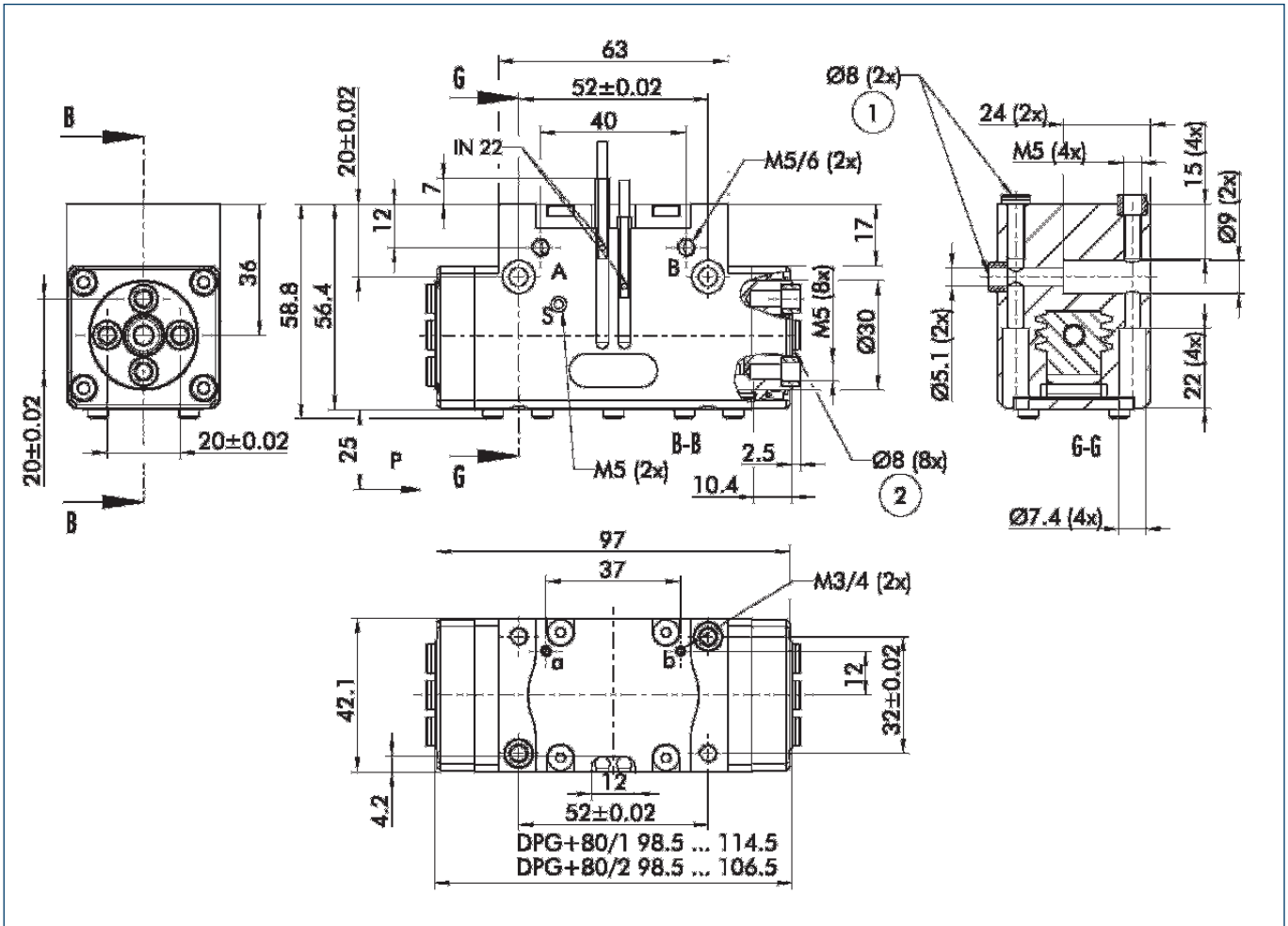
Description		DPG-plus 80-1	DPG-plus 80-2	DPG-plus 80-1 AS	DPG-plus 80-2 AS	DPG-plus 80-1 IS	DPG-plus 80-2 IS
ID		0304321	0304322	0304323	0304324	0304325	0304326
Stroke per jaw	mm [in]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]
Closing force	N [lbf]	375.0 [84]	775.0 [174]	515.0 [116]	1065.0 [239]		
Opening force	N [lbf]	415.0 [93]	860.0 [193]			560.0 [126]	1155.0 [260]
Min. spring force	N [lbf]			140.0 [31]	290.0 [65]	140.0 [31]	290.0 [65]
Weight	kg [lbs]	0.68 [1.50]	0.68 [1.50]	0.8 [1.76]	0.8 [1.76]	0.8 [1.76]	0.8 [1.76]
Recommended workpiece weight	kg [lbs]	1.8 [3.97]	3.8 [8.38]	1.8 [3.97]	3.8 [8.38]	1.8 [3.97]	3.8 [8.38]
Air consumption per double stroke	cm ³ [in ³]	21.0 [1.28]	21.0 [1.28]	45.0 [2.75]	45.0 [2.75]	45.0 [2.75]	45.0 [2.75]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.05	0.05	0.04	0.04	0.07	0.07
Opening time	s	0.05	0.05	0.07	0.07	0.04	0.04
Max. permitted finger length	mm [in]	80.0 [3.150]	64.0 [2.520]	80.0 [3.150]	64.0 [2.520]	80.0 [3.150]	64.0 [2.520]
Max. permitted weight per finger	kg [lbs]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force		ID	0304327
Description		DPG-plus 80-1-KVZ	
Closing force	N [lbf]	675.0 [152]	
Opening force	N [lbf]	755.0 [170]	
Weight	kg [lbs]	0.85 [1.87]	
Maximum pressure	bar [psi]	6.0 [87]	
Air consumption per double stroke	cm ³ [in ³]	42.0 [2.56]	
Max. permitted finger length	mm [in]	64.0 [2.520]	

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

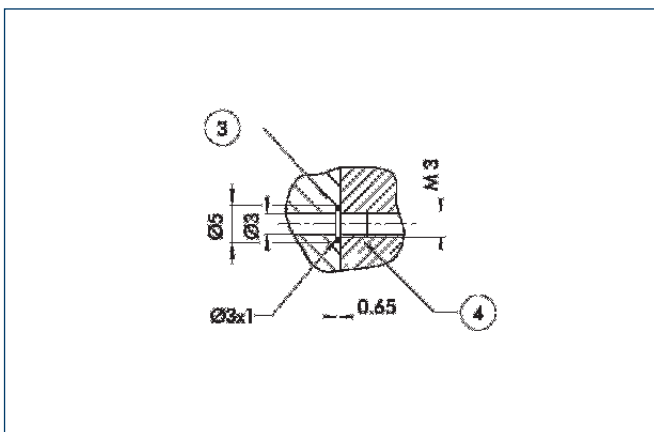


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

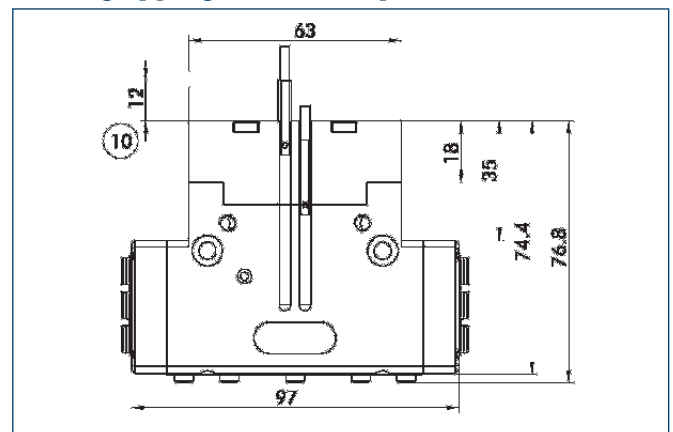
Hoseless direct connection



- 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.

AS/IS gripping force safety device



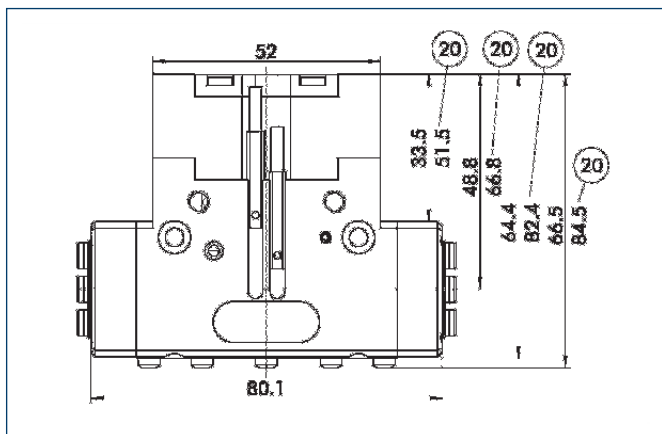
- ⑩ Projection only with AS version

The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPG-plus 80

Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers

KVZ for increased grip force

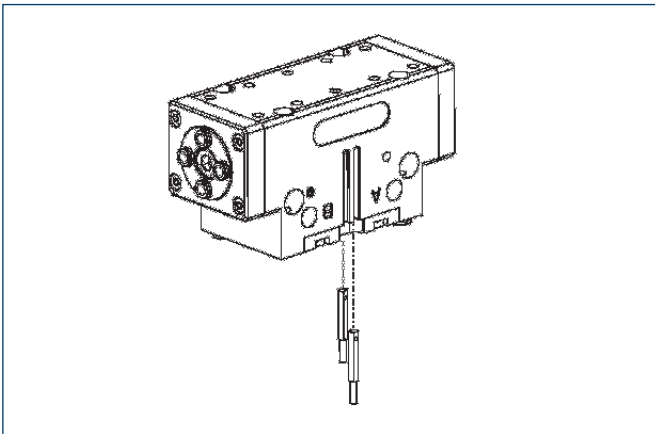


⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

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

Sensor system



Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

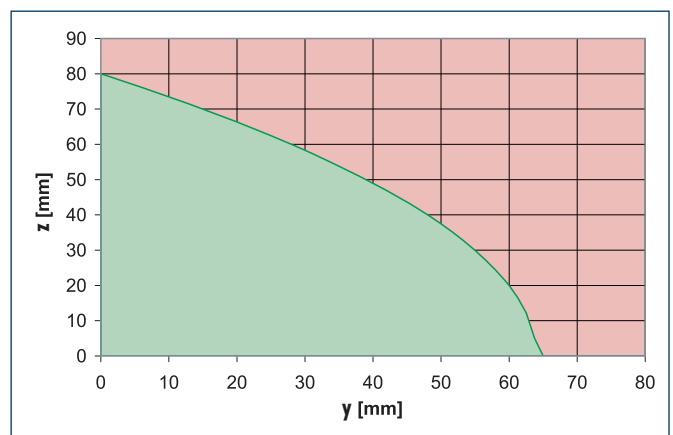
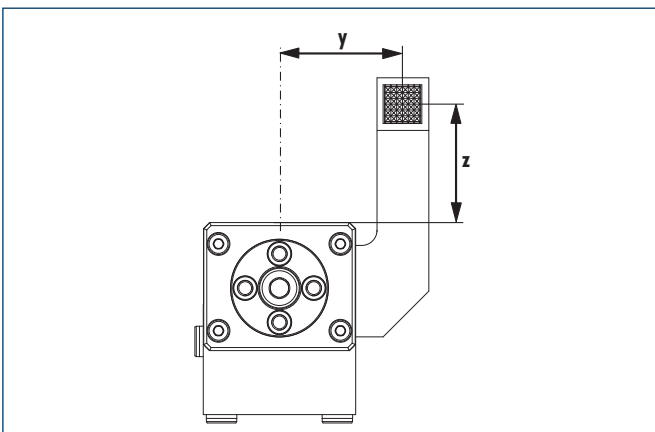
End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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

Maximum permitted overhang



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

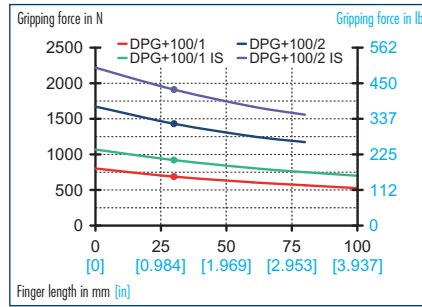
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

DPG-plus 100

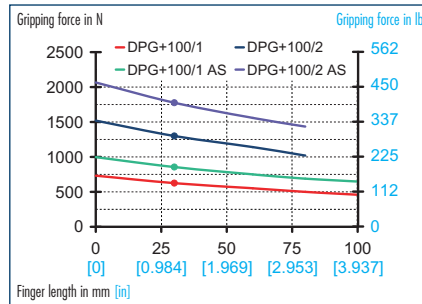
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



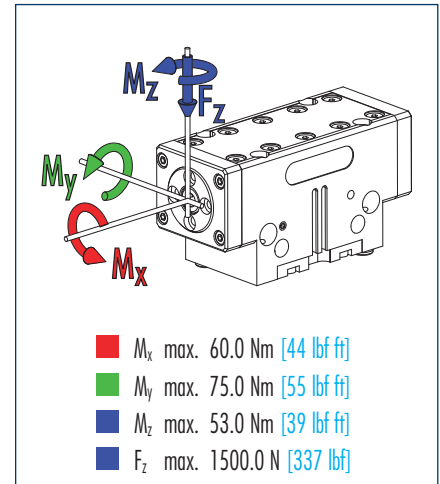
Gripping force, I.D. gripping



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

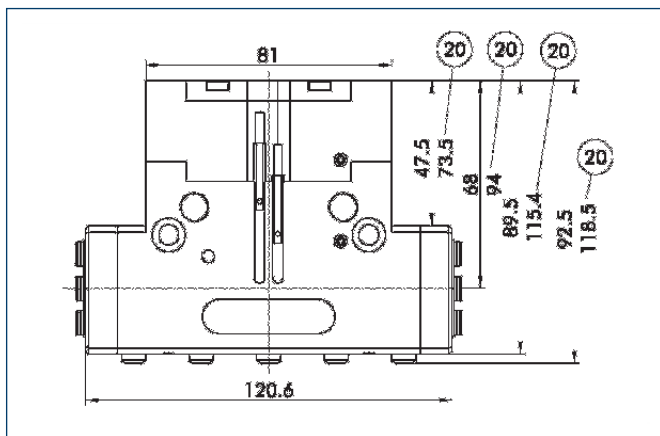
Description		DPG-plus 100-1	DPG-plus 100-2	DPG-plus 100-1 AS	DPG-plus 100-2 AS	DPG-plus 100-1 IS	DPG-plus 100-2 IS
ID		0304331	0304332	0304333	0304334	0304335	0304336
Stroke per jaw	mm [in]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]
Closing force	N [lbf]	625.0 [141]	1300.0 [292]	855.0 [192]	1775.0 [399]		
Opening force	N [lbf]	685.0 [154]	1430.0 [321]			920.0 [207]	1910.0 [429]
Min. spring force	N [lbf]			230.0 [52]	475.0 [107]	230.0 [52]	475.0 [107]
Weight	kg [lbs]	1.1 [2.43]	1.1 [2.43]	1.35 [2.98]	1.35 [2.98]	1.35 [2.98]	1.35 [2.98]
Recommended workpiece weight	kg [lbs]	3.1 [6.83]	6.5 [14.33]	3.1 [6.83]	6.5 [14.33]	3.1 [6.83]	6.5 [14.33]
Air consumption per double stroke	cm ³ [in ³]	40.0 [2.44]	40.0 [2.44]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.09	0.09	0.07	0.07	0.12	0.12
Opening time	s	0.09	0.09	0.12	0.12	0.07	0.07
Max. permitted finger length	mm [in]	100.0 [3.937]	80.0 [3.150]	100.0 [3.937]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force	ID	0304337
Description		DPG-plus 100-1-KVZ
Closing force	N [lbf]	1125.0 [253]
Opening force	N [lbf]	1240.0 [279]
Weight	kg [lbs]	1.38 [3.04]
Maximum pressure	bar [psi]	6.0 [87]
Air consumption per double stroke	cm ³ [in ³]	80.0 [4.88]
Max. permitted finger length	mm [in]	80.0 [3.150]

ⓘ Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

KVZ for increased grip force



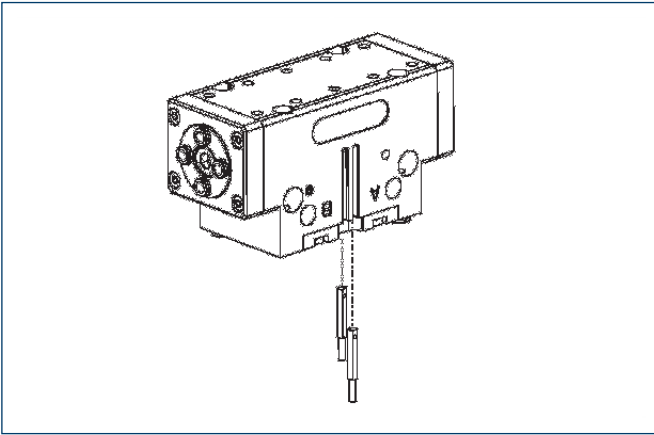
⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



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

Sensor system



Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

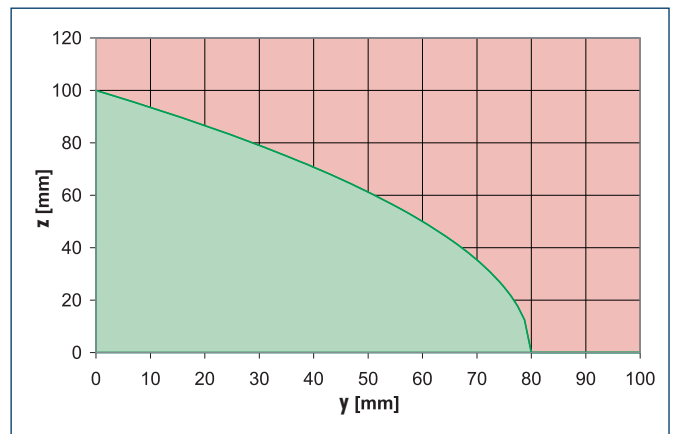
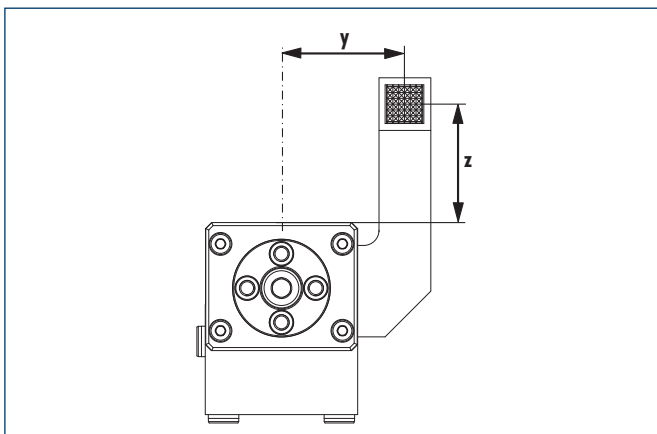
End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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

Maximum permitted overhang



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



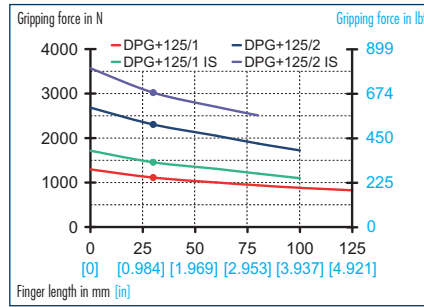
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

DPG-plus 125

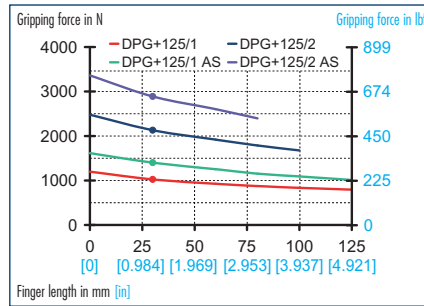
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



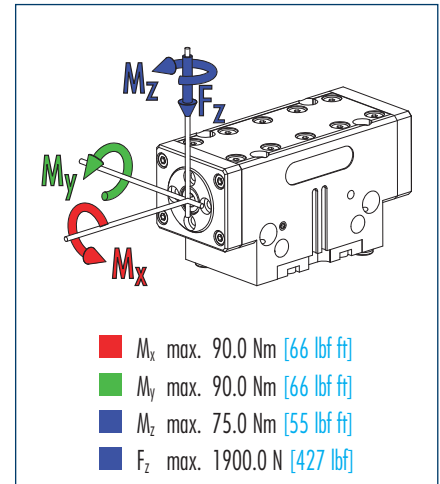
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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

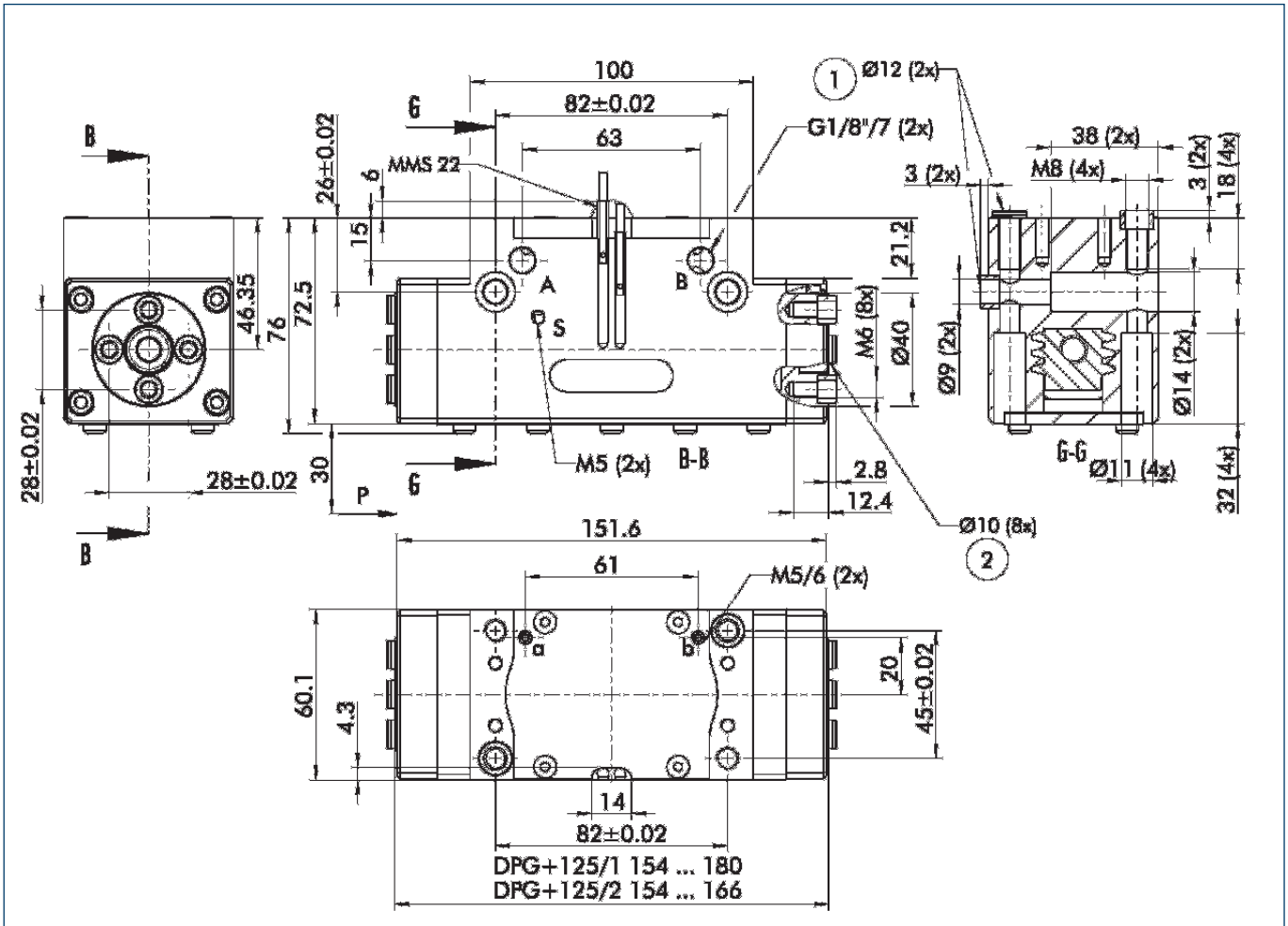
Description		DPG-plus 125-1	DPG-plus 125-2	DPG-plus 125-1 AS	DPG-plus 125-2 AS	DPG-plus 125-1 IS	DPG-plus 125-2 IS
ID		0304341	3043342	0304343	0304344	0304345	0304346
Stroke per jaw	mm [in]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]
Closing force	N [lbf]	1025.0 [230]	2130.0 [479]	1400.0 [315]	2890.0 [650]		
Opening force	N [lbf]	1110.0 [250]	2300.0 [517]			1455.0 [327]	3020.0 [679]
Min. spring force	N [lbf]			375.0 [84]	760.0 [171]	375.0 [84]	760.0 [171]
Weight	kg [lbs]	1.9 [4.19]	1.9 [4.19]	2.35 [5.18]	2.35 [5.18]	2.35 [5.18]	2.35 [5.18]
Recommended workpiece weight	kg [lbs]	5.1 [11.24]	10.6 [23.37]	5.1 [11.24]	10.6 [23.37]	5.1 [11.24]	10.6 [23.37]
Air consumption per double stroke	cm ³ [in ³]	81.0 [4.94]	81.0 [4.94]	158.0 [9.64]	158.0 [9.64]	158.0 [9.64]	158.0 [9.64]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.13	0.13	0.11	0.11	0.16	0.16
Opening time	s	0.13	0.13	0.16	0.16	0.11	0.11
Max. permitted finger length	mm [in]	125.0 [4.921]	100.0 [3.937]	125.0 [4.921]	80.0 [3.150]	100.0 [3.937]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force	ID	0304347
Description		DPG-plus 125-1-KVZ
Closing force	N [lbf]	1845.0 [415]
Opening force	N [lbf]	2000.0 [450]
Weight	kg [lbs]	2.4 [5.29]
Maximum pressure	bar [psi]	6.0 [87]
Air consumption per double stroke	cm ³ [in ³]	162.0 [9.89]
Max. permitted finger length	mm [in]	80.0 [3.150]

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

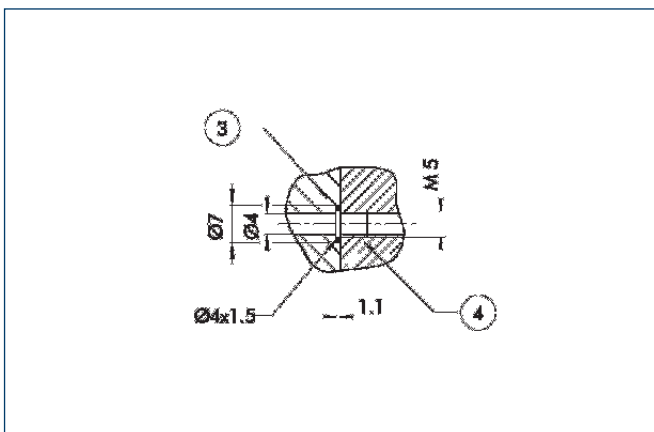


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

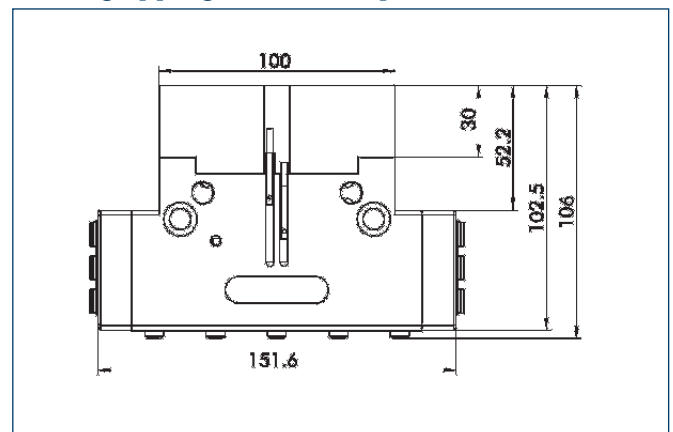
Hoseless direct connection



- ③ Adapter
- ④ Gripper

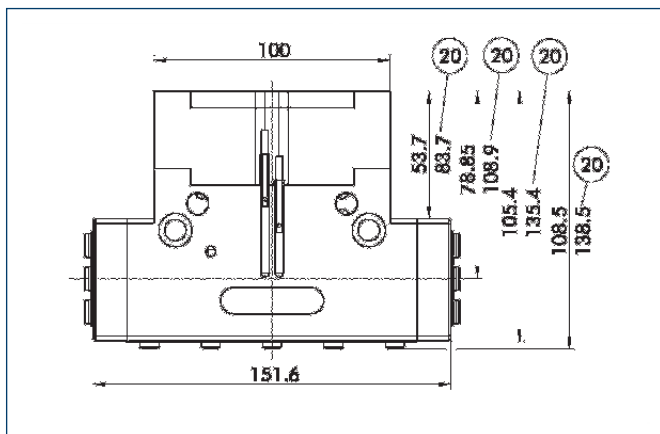
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

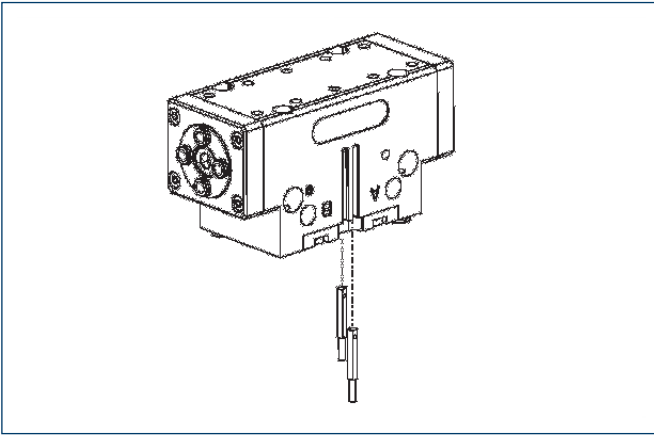
KVZ for increased grip force



② With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

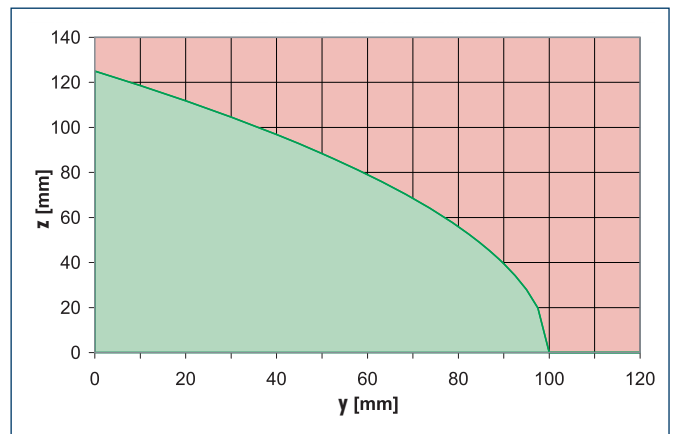
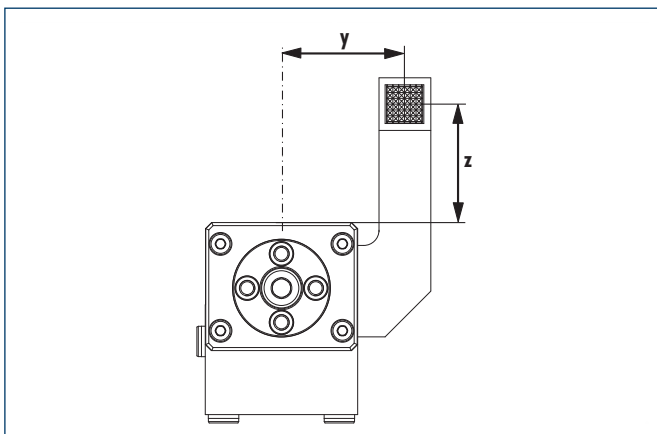
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

Maximum permitted overhang



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

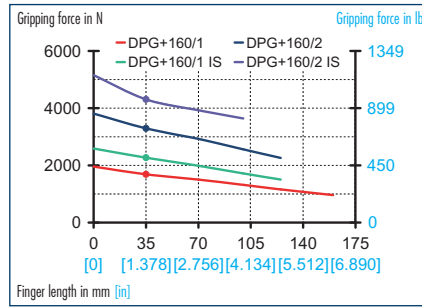
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

DPG-plus 160

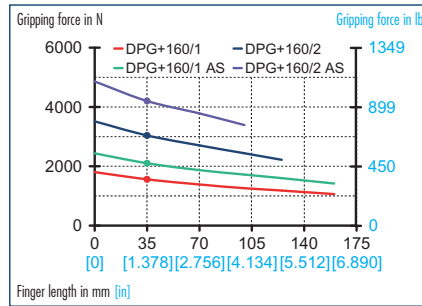
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



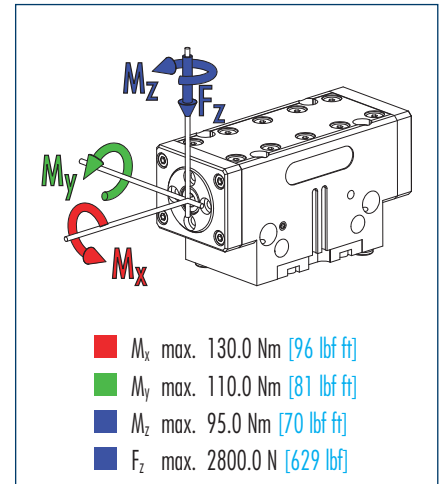
Gripping force, I.D. gripping



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

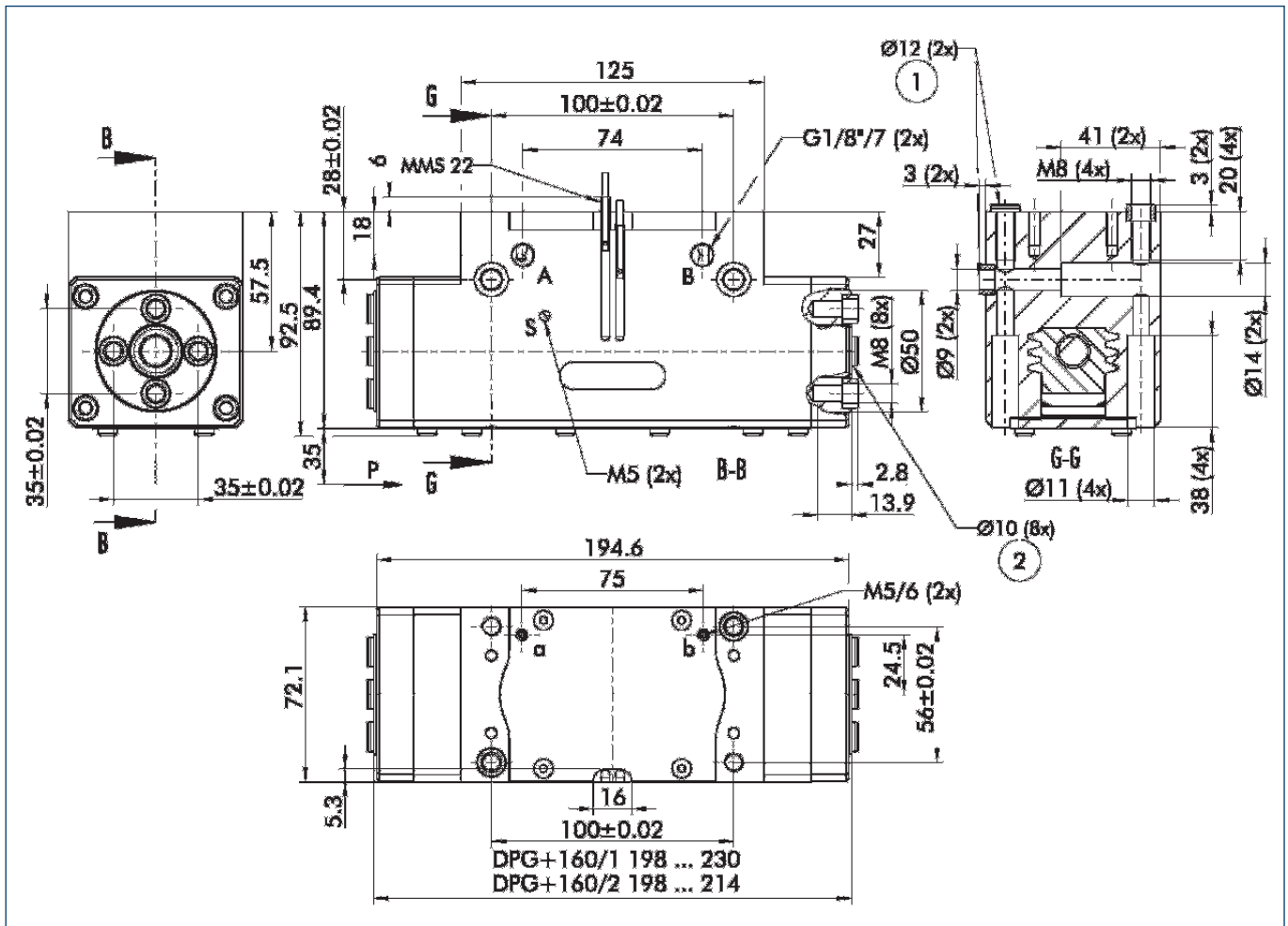
Description		DPG-plus 160-1	DPG-plus 160-2	DPG-plus 160-1 AS	DPG-plus 160-2 AS	DPG-plus 160-1 IS	DPG-plus 160-2 IS
ID		0304351	0304352	0304353	0304354	0304355	0304356
Stroke per jaw	mm [in]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]
Closing force	N [lbf]	1560.0 [351]	3040.0 [683]	2100.0 [472]	4200.0 [944]		
Opening force	N [lbf]	1680.0 [378]	3290.0 [740]			2270.0 [510]	4305.0 [968]
Min. spring force	N [lbf]			540.0 [121]	1160.0 [261]	540.0 [121]	1160.0 [261]
Weight	kg [lbs]	3.65 [8.05]	3.65 [8.05]	4.65 [10.25]	4.65 [10.25]	4.65 [10.25]	4.65 [10.25]
Recommended workpiece weight	kg [lbs]	7.8 [17.20]	15.2 [33.51]	7.8 [17.20]	15.2 [33.51]	7.8 [17.20]	15.2 [33.51]
Air consumption per double stroke	cm ³ [in ³]	157.0 [9.58]	157.0 [9.58]	265.0 [16.17]	265.0 [16.17]	265.0 [16.17]	265.0 [16.17]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.19	0.19	0.16	0.16	0.33	0.33
Opening time	s	0.19	0.19	0.33	0.33	0.16	0.16
Max. permitted finger length	mm [in]	160.0 [6.299]	125.0 [4.921]	160.0 [6.299]	100.0 [3.937]	125.0 [4.921]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force	ID	0304357
Description		DPG-plus 160-1-KVZ
Closing force	N [lbf]	2810.0 [632]
Opening force	N [lbf]	
Weight	kg [lbs]	5.8 [12.79]
Maximum pressure	bar [psi]	6.0 [87]
Air consumption per double stroke	cm ³ [in ³]	314.0 [19.16]
Max. permitted finger length	mm [in]	100.0 [3.937]

ⓘ Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

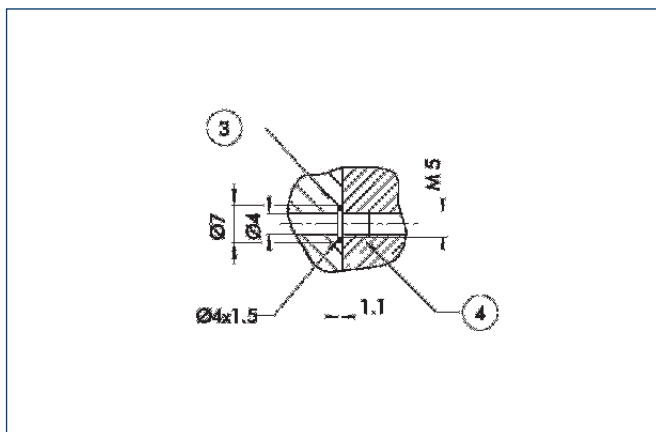


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

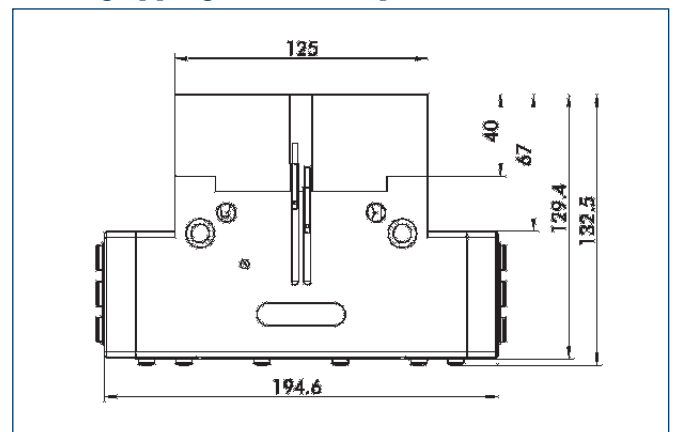
Hoseless direct connection



- 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.

AS/IS gripping force safety device

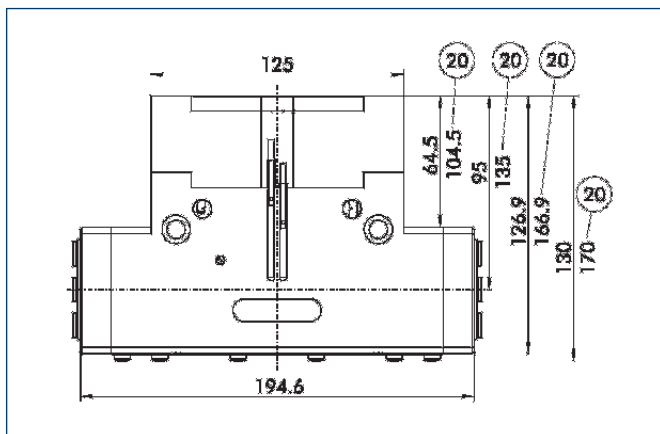


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPG-plus 160

Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers

KVZ for increased grip force



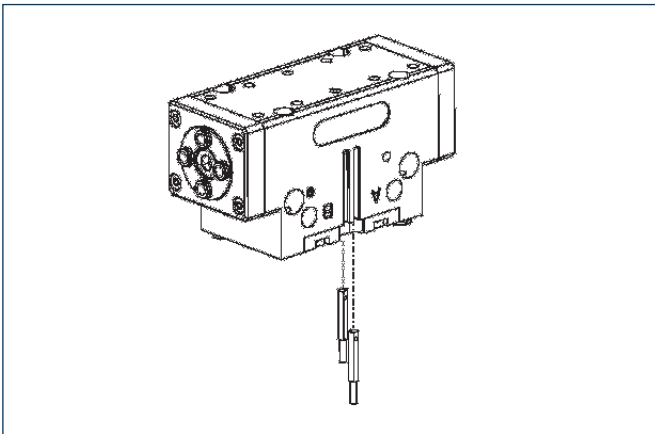
⑳ With AS/IS version

The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

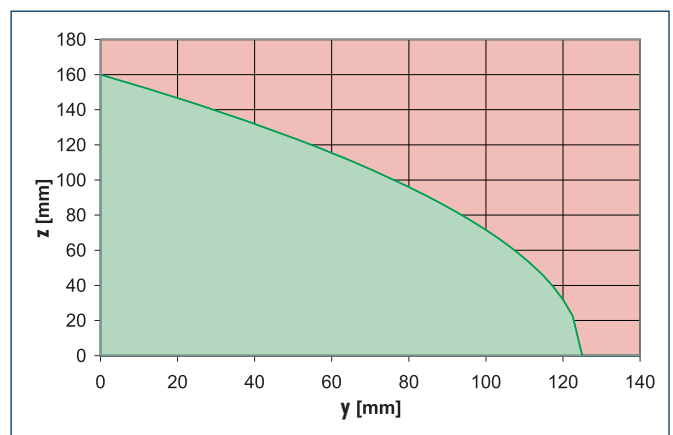
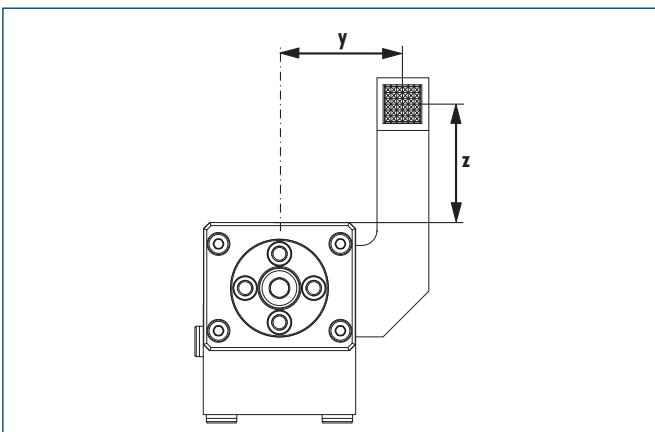
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

Maximum permitted overhang



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

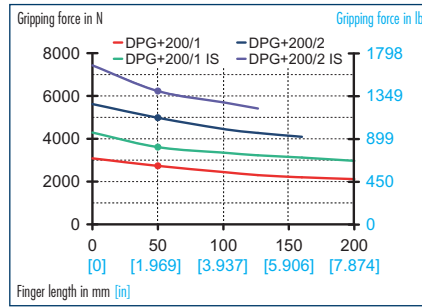
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

DPG-plus 200

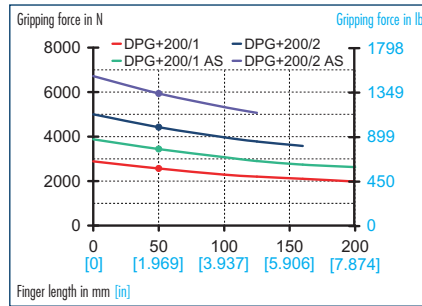
Pneumatic · 2-Finger Parallel Grippers · Sealed Grippers



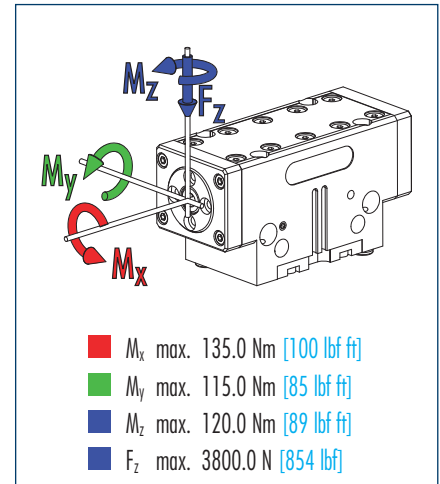
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



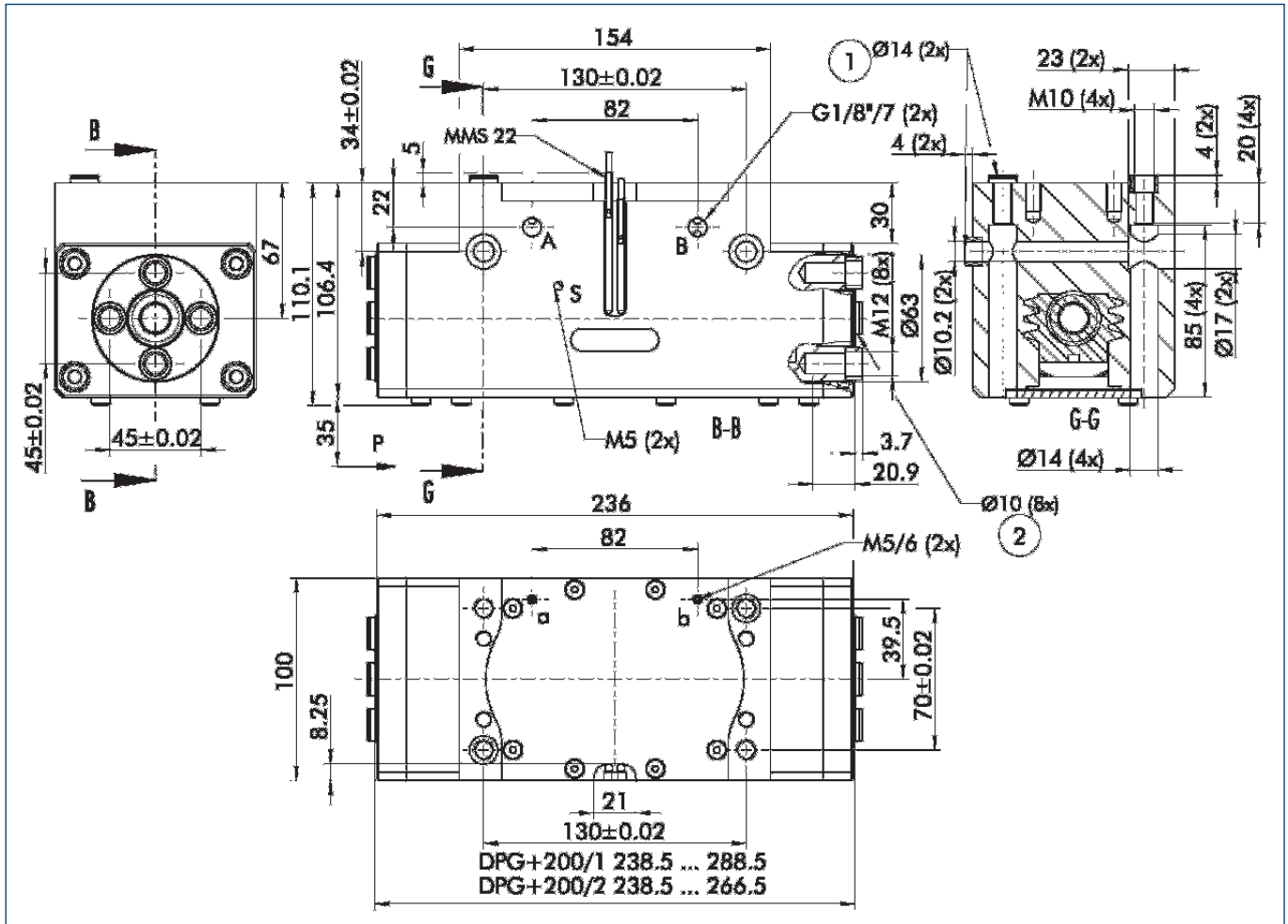
① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		DPG-plus 200-1	DPG-plus 200-2	DPG-plus 200-1 AS	DPG-plus 200-2 AS	DPG-plus 200-1 IS	DPG-plus 200-2 IS
ID		0304361	0304362	0304363	0304364	0304365	0304366
Stroke per jaw	mm [in]	25.0 [0.984]	14.0 [0.551]	25.0 [0.984]	14.0 [0.551]	25.0 [0.984]	14.0 [0.551]
Closing force	N [lbf]	2565.0 [577]	4420.0 [994]	3440.0 [773]	5940.0 [1335]		
Opening force	N [lbf]	2730.0 [614]	4970.0 [1117]			3610.0 [812]	6230.0 [1401]
Min. spring force	N [lbf]			875.0 [197]	1520.0 [342]	875.0 [197]	1520.0 [342]
Weight	kg [lbs]	7.3 [16.09]	7.3 [16.09]	9.5 [20.94]	9.5 [20.94]	9.5 [20.94]	9.5 [20.94]
Recommended workpiece weight	kg [lbs]	12.8 [28.22]	22.1 [48.72]	12.8 [28.22]	22.1 [48.72]	12.8 [28.22]	22.1 [48.72]
Air consumption per double stroke	cm ³ [in ³]	390.0 [23.80]	390.0 [23.80]	635.0 [38.75]	635.0 [38.75]	635.0 [38.75]	635.0 [38.75]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.45	0.45	0.4	0.4	0.8	0.8
Opening time	s	0.45	0.45	0.8	0.8	0.4	0.4
Max. permitted finger length	mm [in]	200.0 [7.874]	160.0 [6.299]	200.0 [7.874]	125.0 [4.921]	160.0 [6.299]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]

① Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

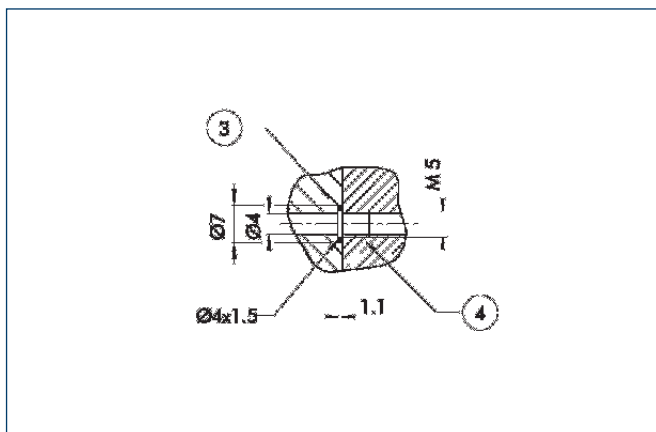


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Ventilation hole or air purge connection
- ① Gripper connection
- ② Finger connection

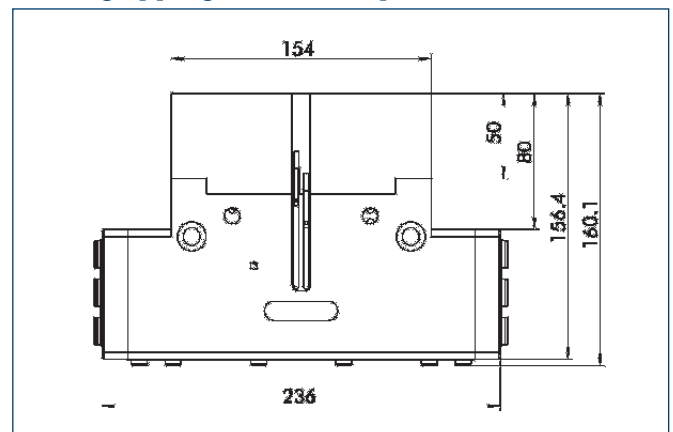
Hoseless direct connection



- ③ Adapter
- ④ Gripper

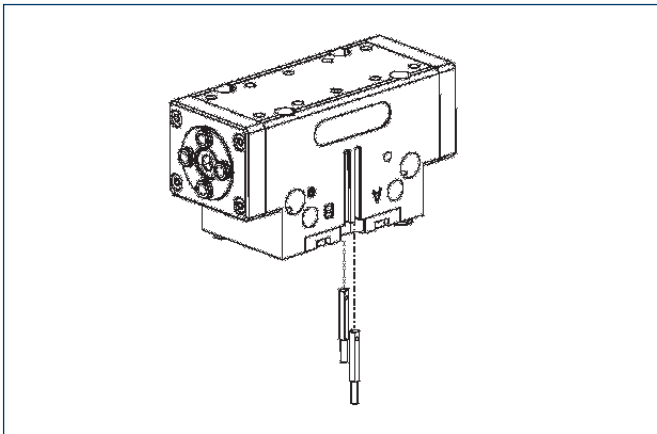
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

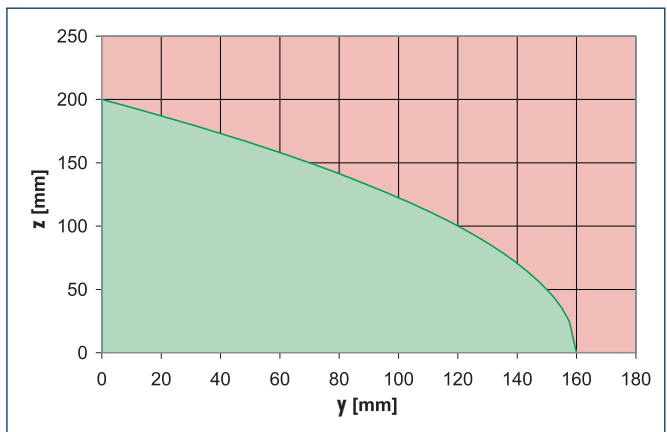
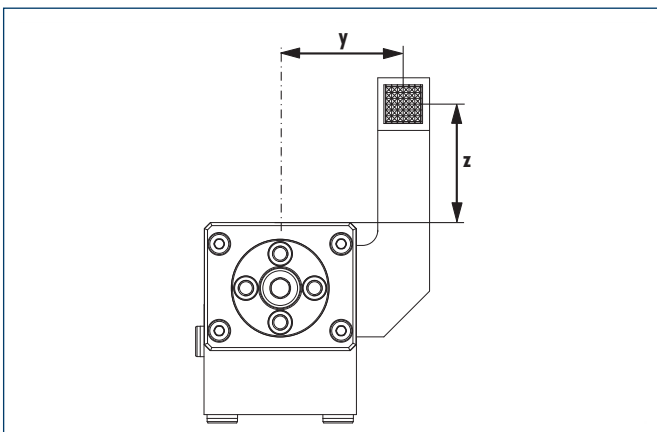
Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/ NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/ NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

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

Maximum permitted overhang

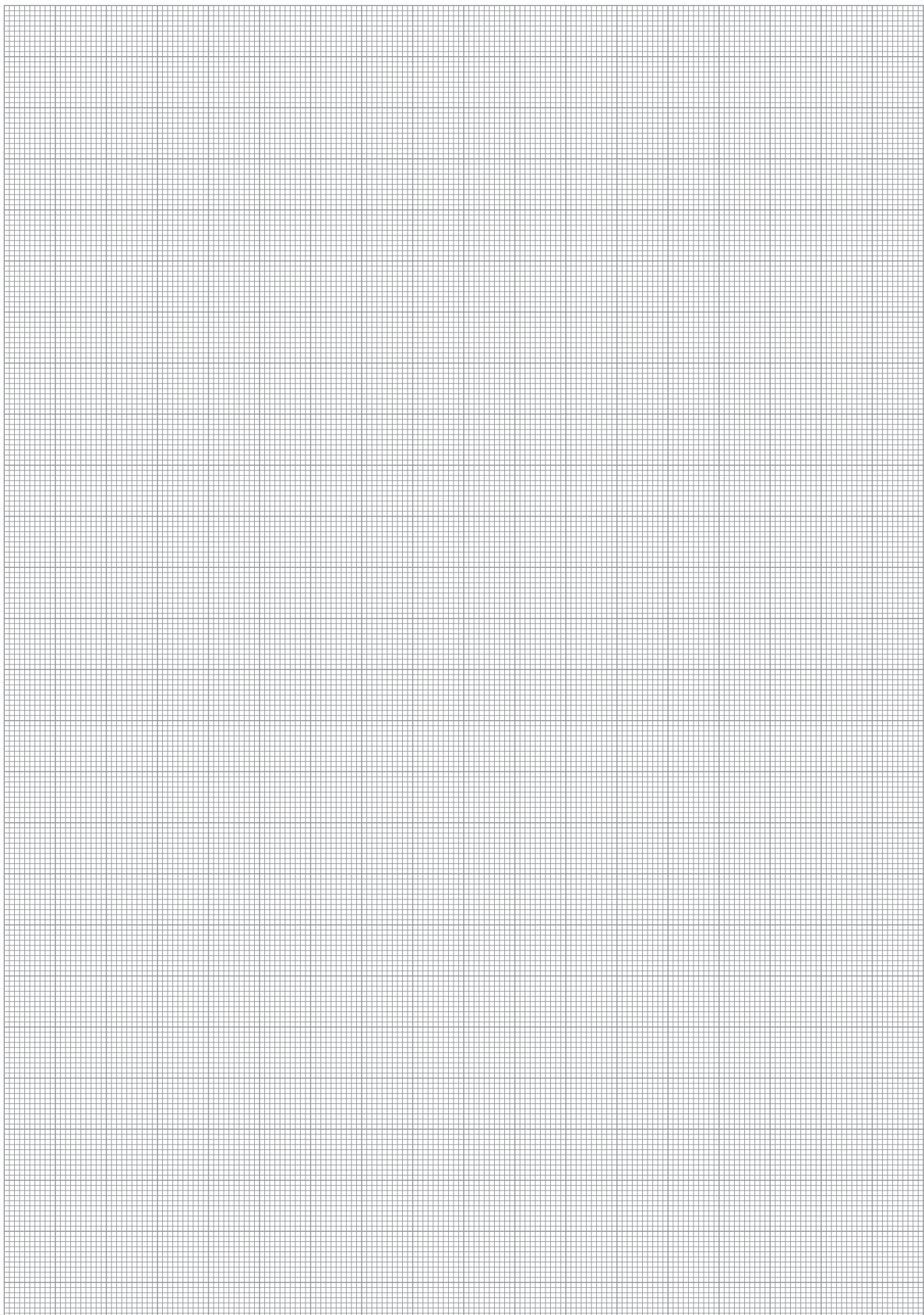


■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



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

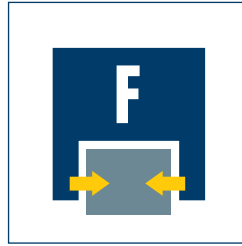




Sizes
30 .. 50



Weight
2.65 kg .. 9.7 kg
5.84 lbs .. 21.38 lbs



Gripping force
510 N .. 2650 N
115 lbf .. 596 lbf



Stroke per finger
30 mm .. 50 mm
1.181 in .. 1.969 in



Workpiece weight
2.55 kg .. 11.5 kg
5.62 lbs .. 25.35 lbs

Application example



Assembly unit for intermediate sleeves in various diameters. The unit has collision protection to prevent damages.

1 PFH 30 2-Finger Parallel Gripper with workpiece-specific gripper fingers

2 OPS 100 collision and overload protection

Long-stroke Gripper

2-Finger parallel gripper with long jaw stroke for large parts and/or a broad range of parts

Area of application

Clean to slightly dirty environments

Your advantages and benefits

Robust guidance

for the precise handling of all kinds of workpieces

High moment capabilities

suitable for the use of long gripper fingers

Rack and pinion principle

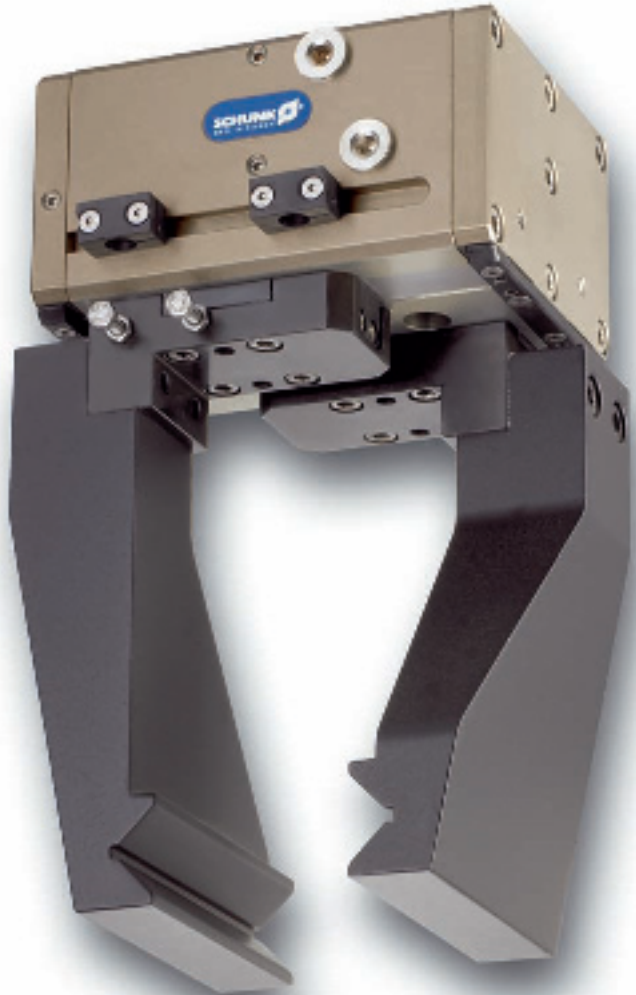
for centric gripping

Mounting from two sides in three screw-on directions

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General information on the series

Working principle

Pneumatic double piston system synchronized by rack and pinion principle

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

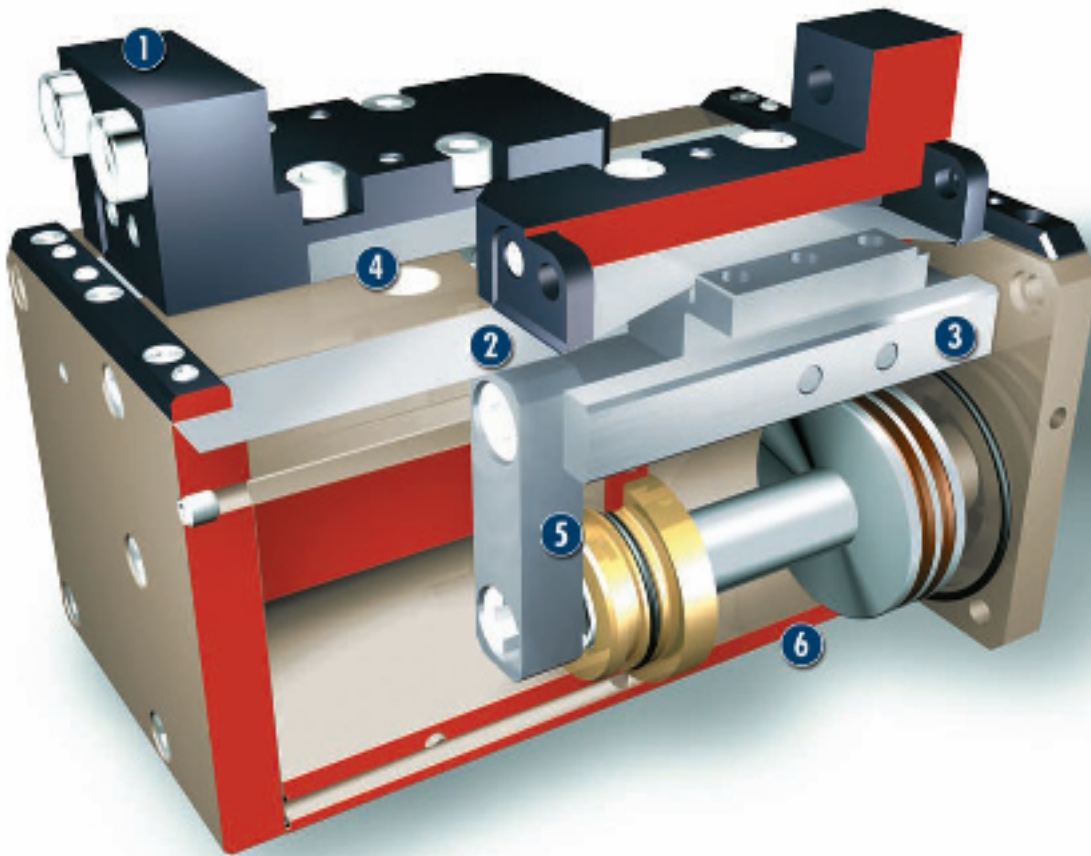
Scope of delivery

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

Maintenance of gripping force

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaws**
for the connection of workpiece-specific gripper fingers
- 2 Dirt cover**
protects against rough contamination along the entire length of the guide
- 3 Guidance**
for precise gripping with minimum play and high load capacity
- 4 Centering and mounting possibilities**
for universal gripper mounting
- 5 Kinematics**
rack and pinion principle for centric gripping
- 6 Housing**
weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

Function description

The application of pressure on the opposite piston sets the base jaws, each of which is guided by a carrier on the piston, in motion. The jaw stroke is synchronized by means of rack and pinion kinematics.

Options and special information

Gripper with guide cover

to protect against rough contamination. Gripper available on request as a special unit with double stroke but with the same gripping forces.

Accessories

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

Centering sleeves



Fittings



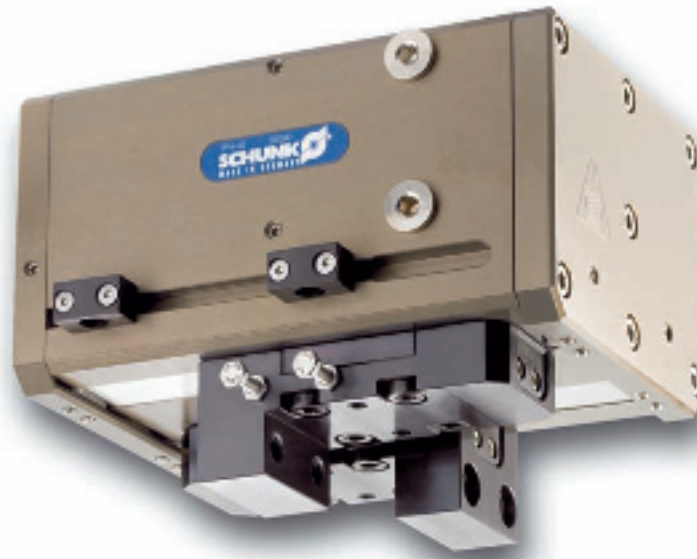
MMS magnetic switch



IN inductive proximity switches



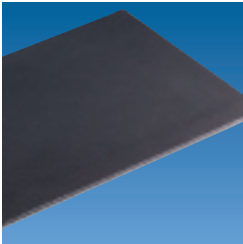
Quentes plastic inserts



W/WK/KV/GK sensor cables



HKI gripper pads



V sensor distributors



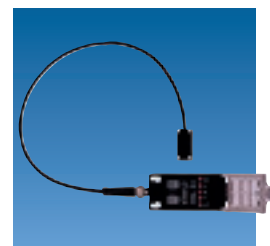
SDV-P pressure maintenance valves



Finger blanks



FPS flexible position sensor



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 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

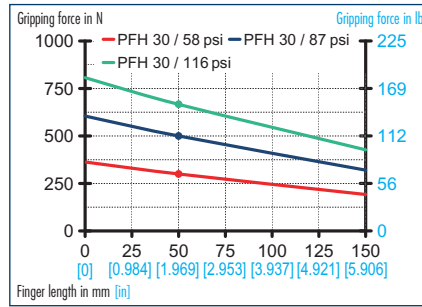
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

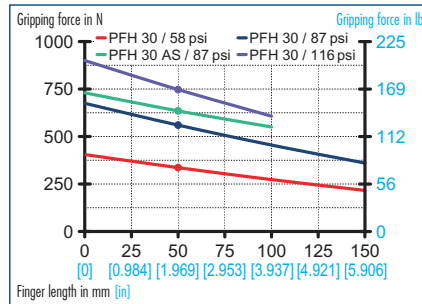
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



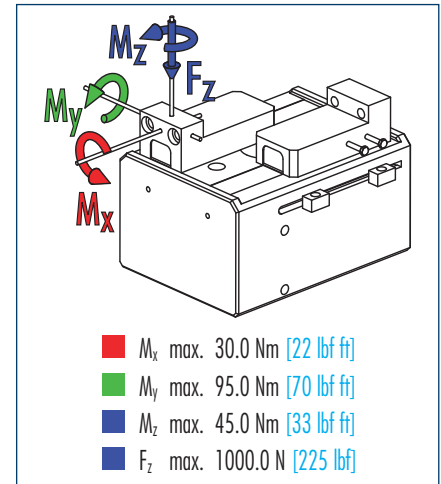
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

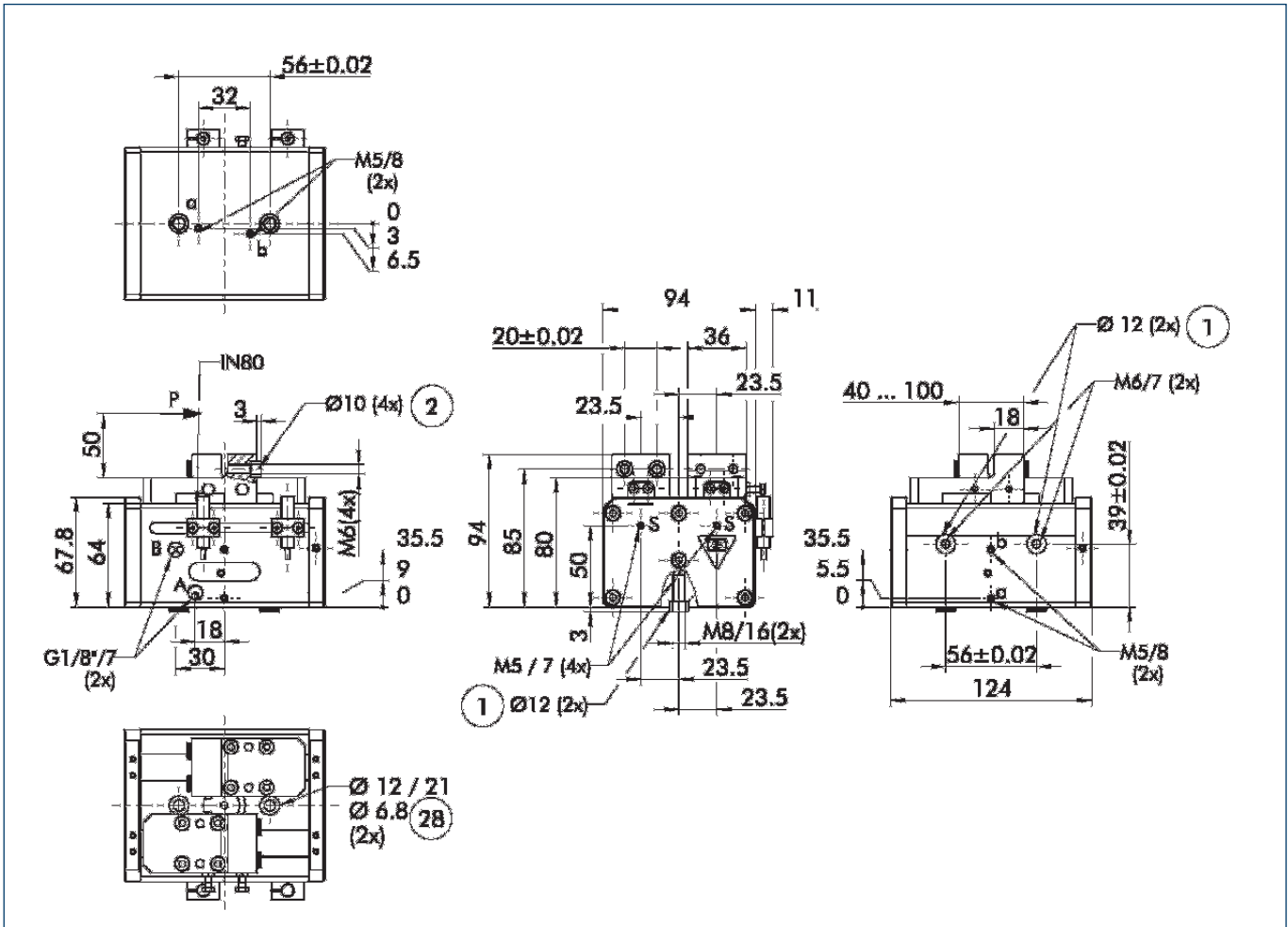


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PFH 30	PFH 30-60	PFH 30-AS
	ID	0302030	0302033	0302031
Stroke per finger	mm [in]	30.0 [1.181]	60.0 [2.362]	30.0 [1.181]
Closing force	N [lbf]	630.0 [142]	630.0 [142]	720.0 [162]
Opening force	N [lbf]	570.0 [128]	570.0 [128]	
Min. gripping force through spring	N [lbf]			40.0 [9.0]
Weight	kg [lbs]	2.65 [5.84]	3.5 [7.72]	2.7 [5.95]
Recommended workpiece weight	kg [lbs]	3.15 [6.94]	3.15 [6.94]	3.15 [6.94]
Air consumption per double stroke	cm ³ [in ³]	95.0 [5.80]	187.0 [11.41]	95.0 [5.80]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	5.0 [73]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]
Closing time	s	0.3	0.4	0.35
Opening time	s	0.3	0.5	0.35
Closing/opening time with spring only	s			0.4
Max. permitted finger length	mm [in]	150.0 [5.906]	150.0 [5.906]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	2.0 [4.41]	2.0 [4.41]	2.0 [4.41]
IP rating		41	41	41
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

Main views

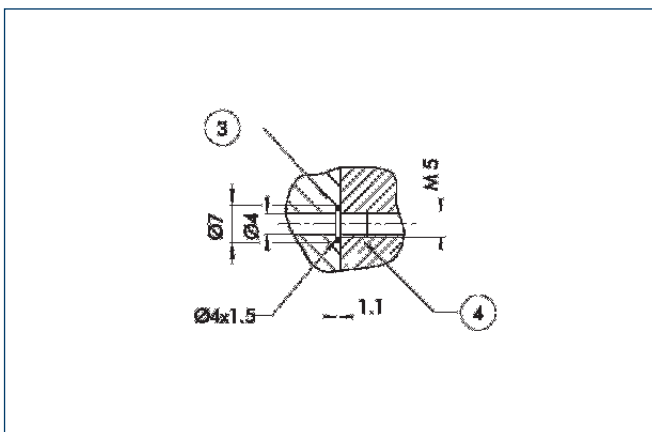


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②⑧ Through-bore

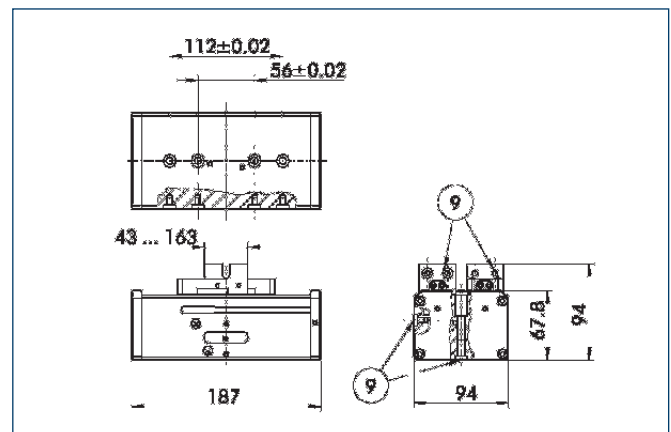
Hoseless direct connection



- 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.

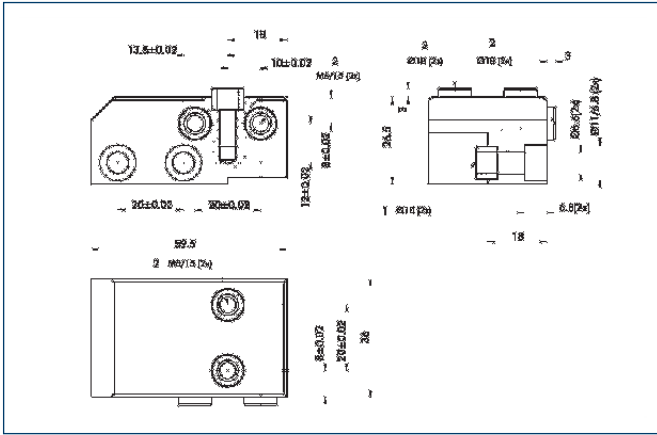
PFH 30-60 (double stroke)



- ⑨ For screw connection diagram, see basic version

The PFH 30-60 is a version with a stroke of double length.

Intermediate jaws

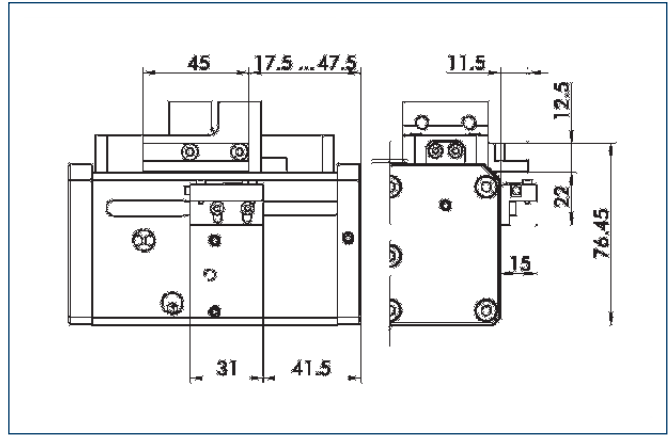


- ① Gripper connection
- ② Finger connection

The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

Description	Material	Scope of delivery	ID
ZBH 30	16 MnCr 5	2	0300220

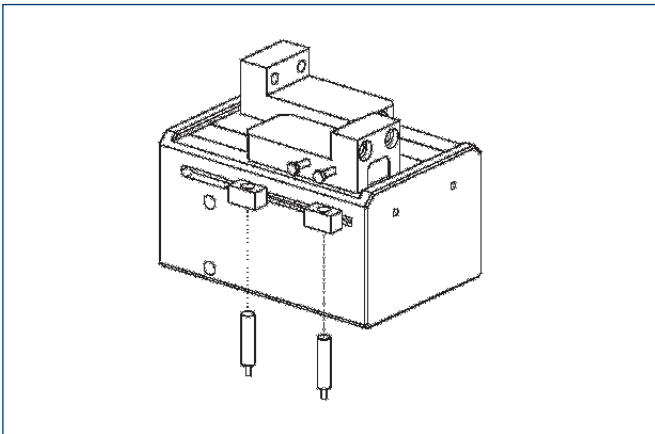
Mounting kit for FPS



The FPS mounting kit is used for mounting the FPS sensor on the gripper. The FPS system 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-PFH 30	0301733

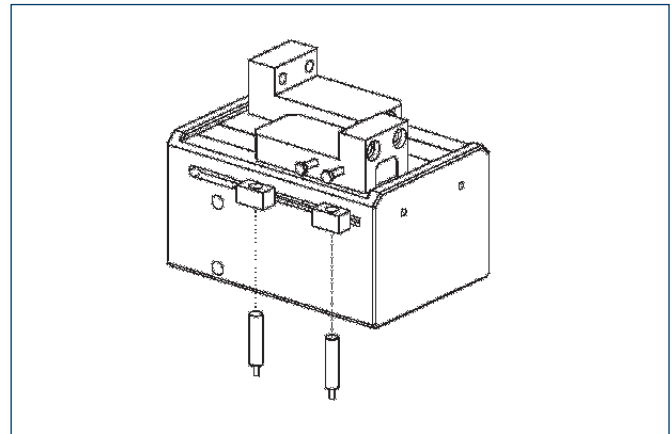
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

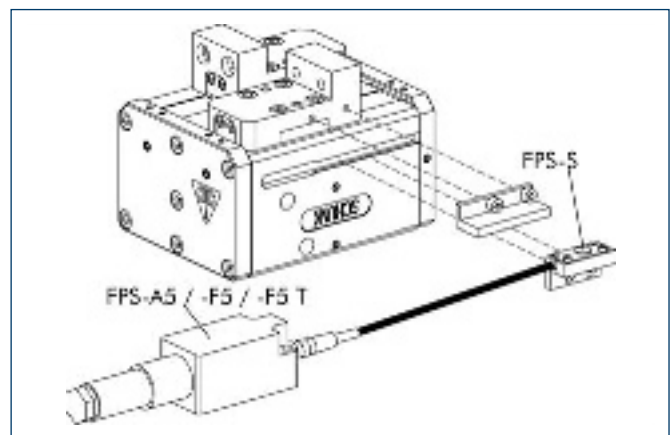
Description	ID	Recommended product
HG-PFH 30	0300743	
IN 120/S-M12	0301592	•
INK 120/S	0301562	

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



Measuring system:

FPS position monitor

Description	ID
AS-PFH 30	0301733
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

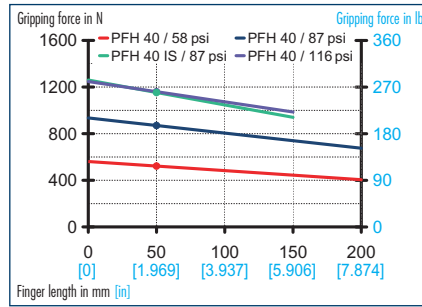
When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



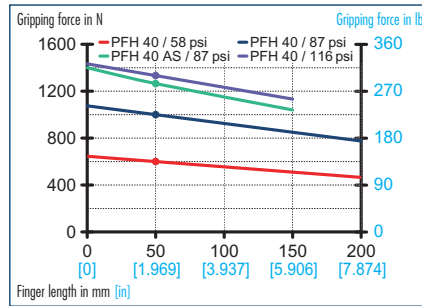
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



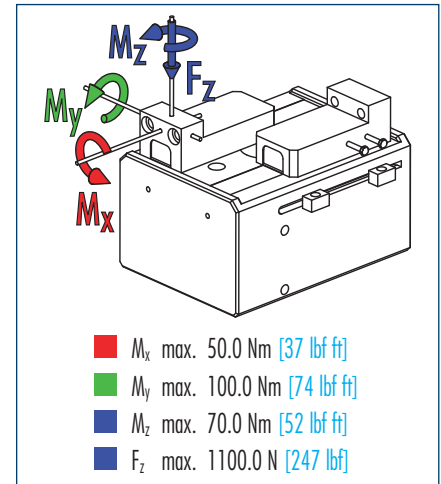
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

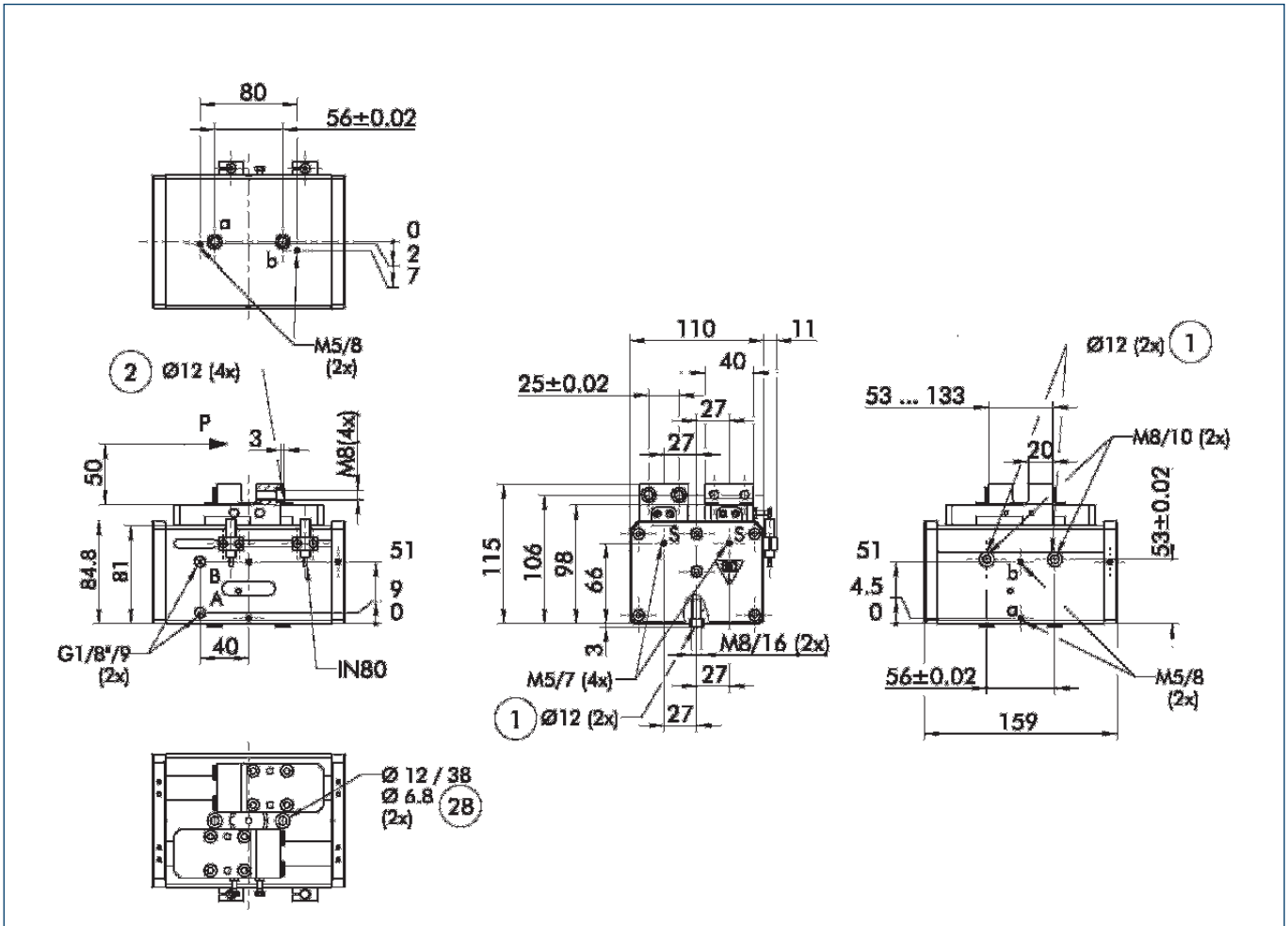


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	ID	PFH 40	PFH 40-80	PFH 40-AS	PFH 40-IS
		0302040	0302043	0302041	0302042
Stroke per finger	mm [in]	40.0 [1.575]	80.0 [3.150]	40.0 [1.575]	40.0 [1.575]
Closing force	N [lbf]	1260.0 [283]	1260.0 [283]	1540.0 [346]	
Opening force	N [lbf]	1100.0 [247]	1100.0 [247]		1380.0 [310]
Min. gripping force through spring	N [lbf]			100.0 [22.5]	100.0 [22.5]
Weight	kg [lbs]	4.6 [10.14]	6.2 [13.67]	4.7 [10.36]	4.7 [10.36]
Recommended workpiece weight	kg [lbs]	6.3 [13.89]	6.3 [13.89]	6.3 [13.89]	5.5 [12.13]
Air consumption per double stroke	cm ³ [in ³]	245.0 [14.95]	487.0 [29.72]	245.0 [14.95]	245.0 [14.95]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	5.0 [73]	5.0 [73]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]
Closing time	s	0.3	0.5	0.25	0.4
Opening time	s	0.3	0.6	0.4	0.25
Closing/opening time with spring only	s			0.7	0.7
Max. permitted finger length	mm [in]	200.0 [7.874]	200.0 [7.874]	150.0 [5.906]	150.0 [5.906]
Max. permitted weight per finger	kg [lbs]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]
IP rating		41	41	41	41
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

Main views

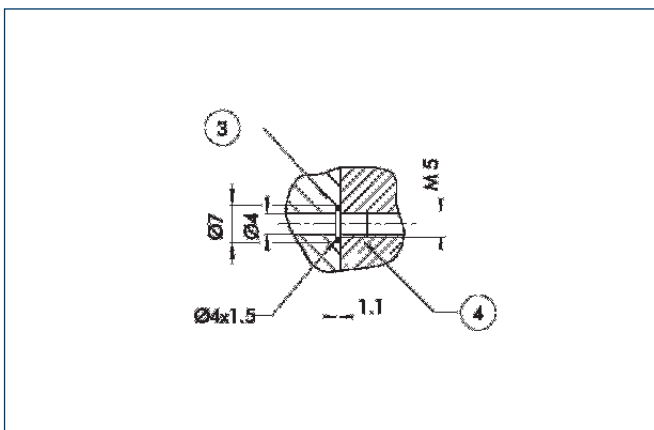


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- Ø28 Through-bore

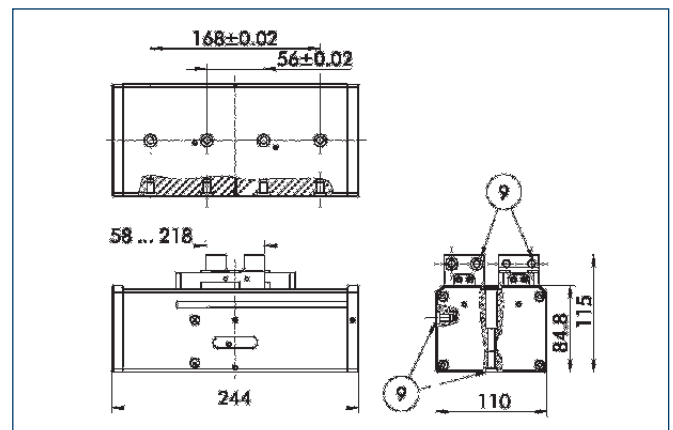
Hoseless direct connection



- 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.

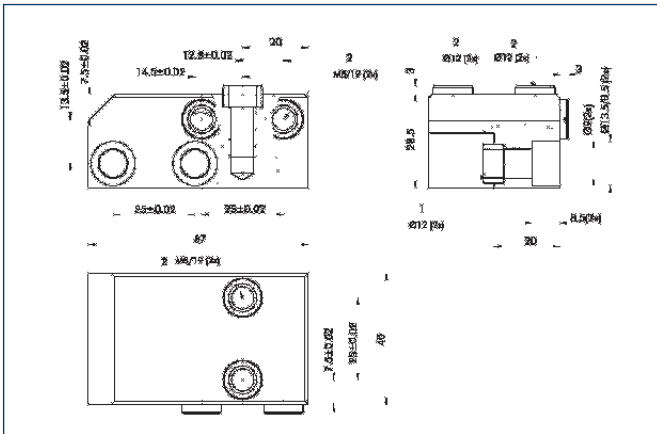
PFH 40-80 (double stroke)



- ⑨ For screw connection diagram, see basic version

The PFH 40-80 is a version with a stroke of double length.

Intermediate jaws



- ① Gripper connection
- ② Finger connection

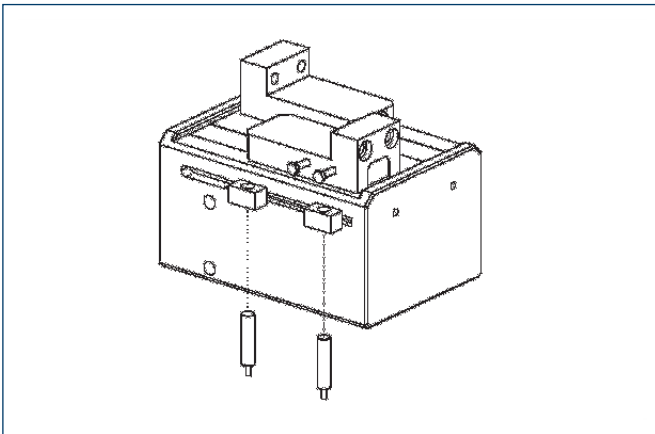
The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

Description	Material	Scope of delivery	ID
ZBH 40	1.6 MnCr 5	2	0300221



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

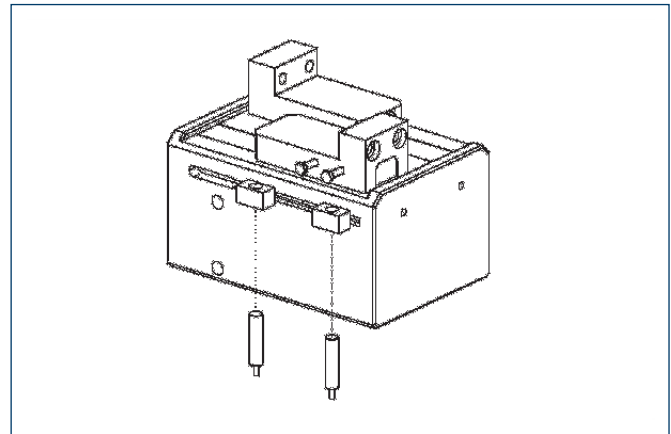
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

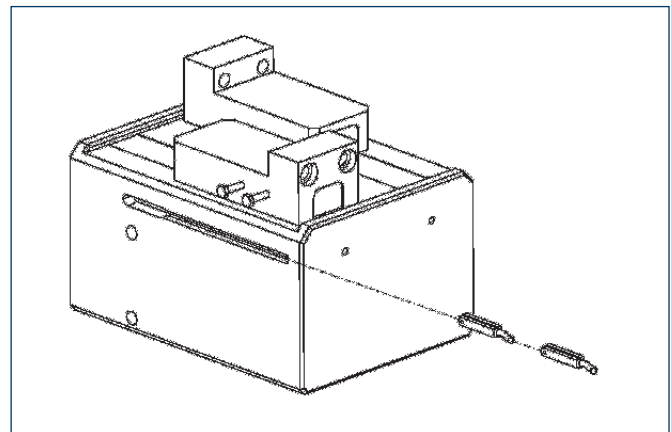
Description	ID	Recommended product
HG-PFH 40-50	0300744	
IN 120/S-M12	0301592	•
INK 120/S	0301562	

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

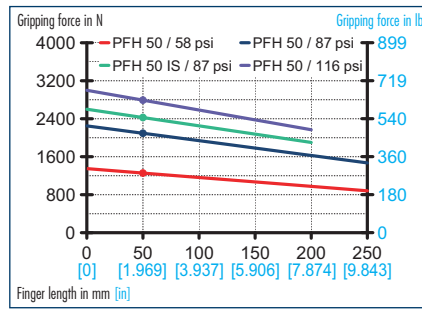
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.



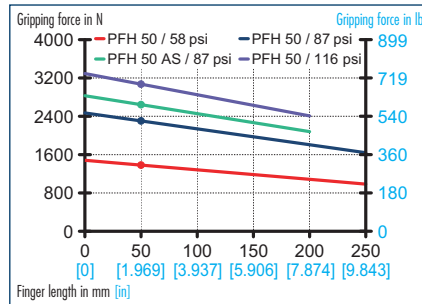
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



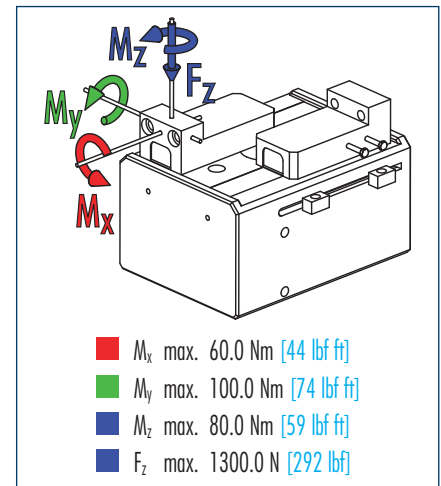
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

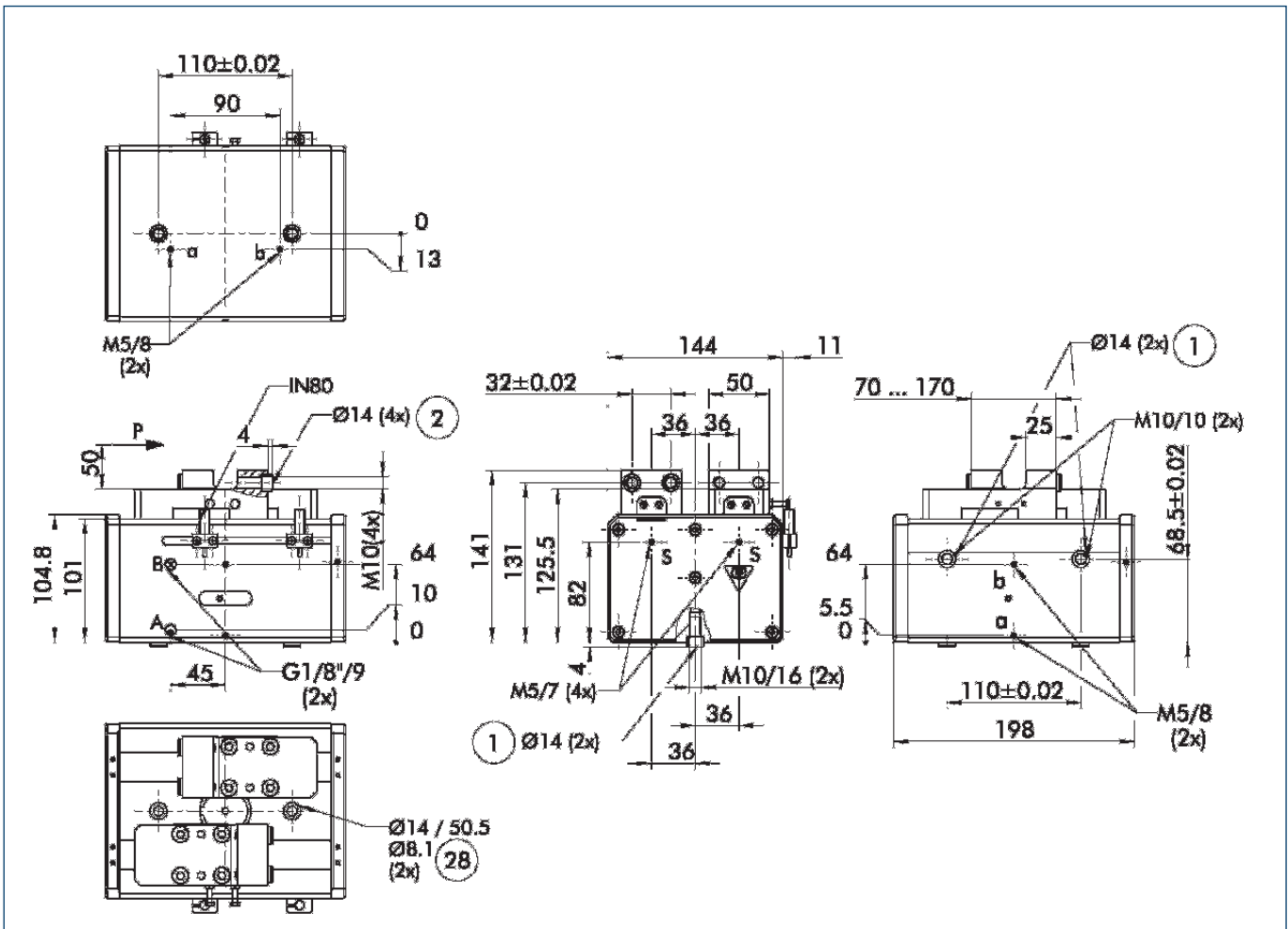


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	ID	PFH 50	PFH 50-100	PFH 50-AS	PFH 50-IS
		0302050	0302053	0302051	0302052
Stroke per finger	mm [in]	50.0 [1.969]	100.0 [3.937]	50.0 [1.969]	50.0 [1.969]
Closing force	N [lbf]	2600.0 [585]	2600.0 [585]	2950.0 [663]	
Opening force	N [lbf]	2330.0 [524]	2330.0 [524]		2680.0 [602]
Min. gripping force through spring	N [lbf]			170.0 [38]	170.0 [38]
Weight	kg [lbs]	9.6 [21.16]	12.6 [27.78]	9.7 [21.38]	9.7 [21.38]
Recommended workpiece weight	kg [lbs]	13.0 [28.66]	13.0 [28.66]	13.0 [28.66]	11.65 [25.68]
Air consumption per double stroke	cm ³ [in ³]	603.0 [36.80]	1205.0 [73.53]	603.0 [36.80]	603.0 [36.80]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	5.0 [73]	5.0 [73]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]
Closing time	s	0.6	1.0	0.5	0.7
Opening time	s	0.7	1.2	0.8	0.6
Closing/opening time with spring only	s			0.8	0.8
Max. permitted finger length	mm [in]	250.0 [9.843]	250.0 [9.843]	200.0 [7.874]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	4.0 [8.82]	4.0 [8.82]	4.0 [8.82]	4.0 [8.82]
IP rating		41	41	41	41
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

Main views

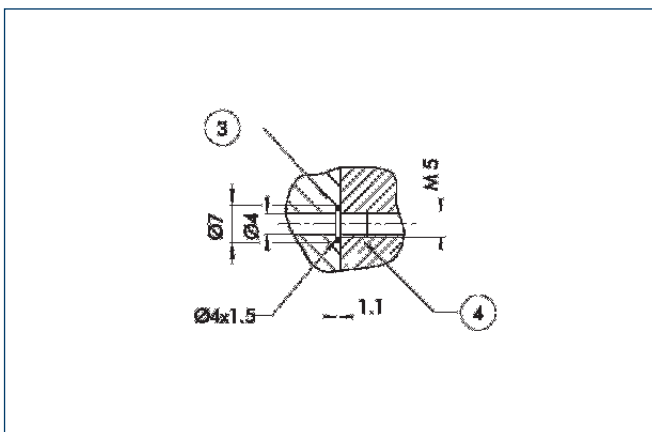


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②⑧ Through-bore

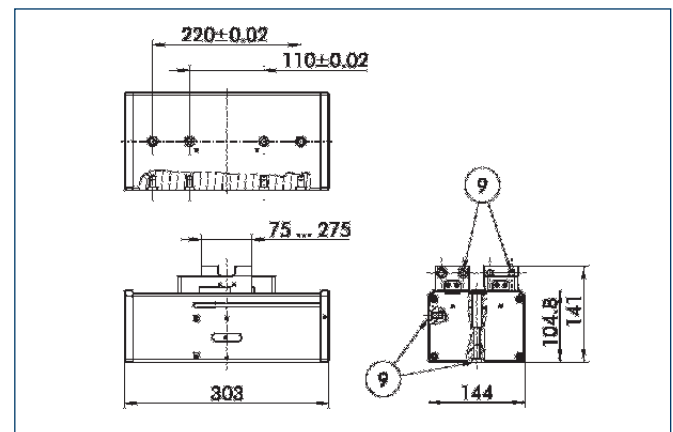
Hoseless direct connection



- 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.

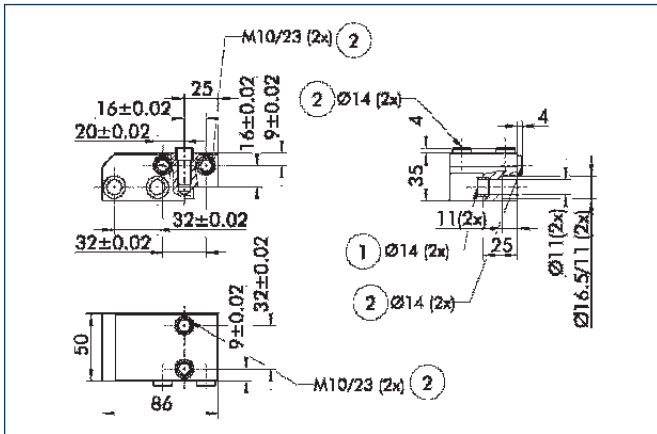
PFH 50-100 (double stroke)



- ⑨ For screw connection diagram, see basic version

The PFH 50-100 is a version with a stroke of double length.

Intermediate jaws



- ① Gripper connection
- ② Finger connection

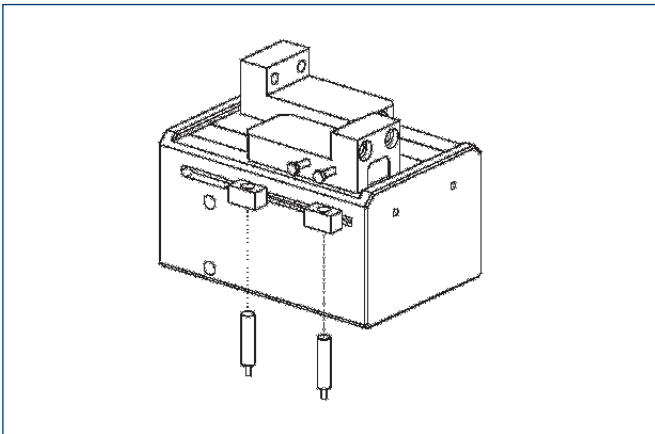
The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

Description	Material	Scope of delivery	ID
ZBH 50	16 MnCr 5	2	0300222



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

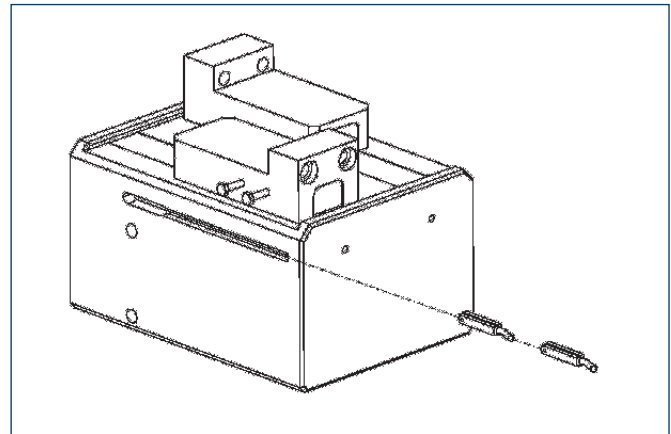
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

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
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 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.

PFH 200

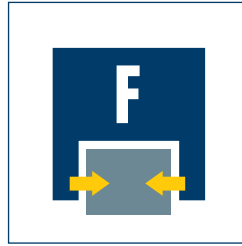
Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers



Sizes
200



Weight
23.5 kg
51.81 lbs



Gripping force
2200 N
495 lbf

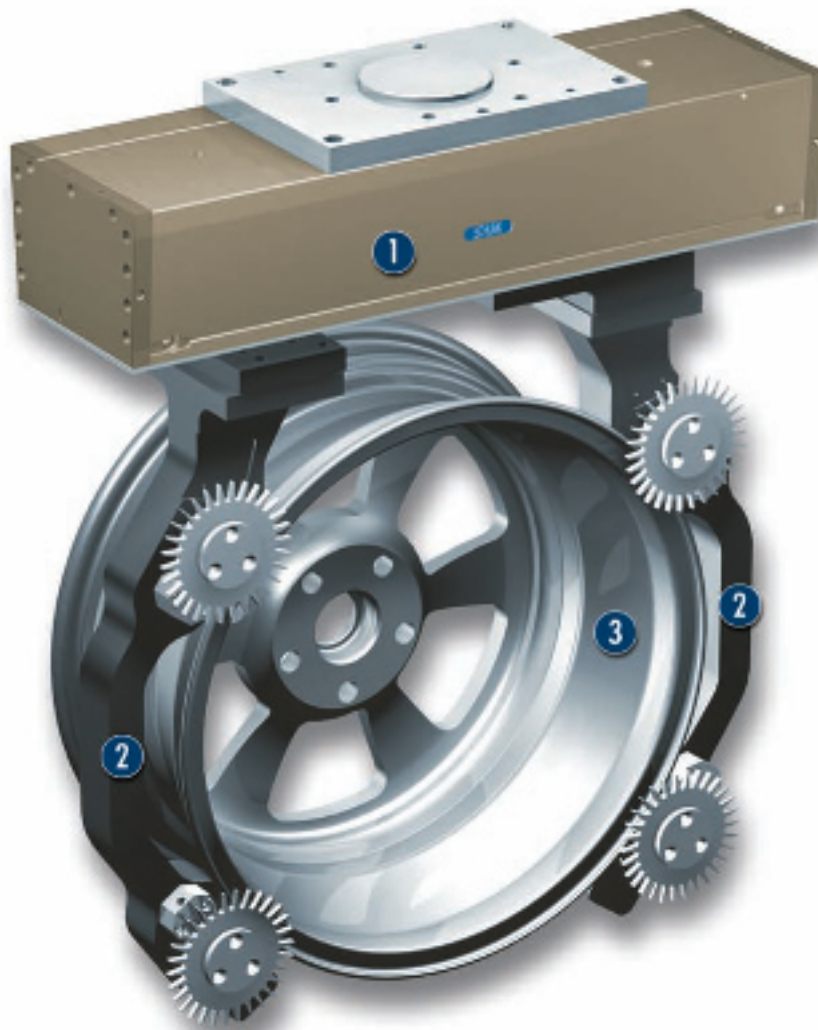


Stroke per finger
200 mm
7.874 in



Workpiece weight
14.7 kg
32.41 lbs

Application example



Gripper unit for handling car and truck rims. Special fingers enable the secure gripping of pre-machined and finished parts.

1 PFH 200 2-Finger Long-stroke Gripper

2 Special fingers for rim handling

3 19-inch rim with five holes for wheel bolts

Long-stroke Gripper

2-Finger parallel gripper with long jaw stroke for a very broad range of parts

Area of application

Clean to slightly dirty working environments, especially suitable for the handling of motor vehicle rims

Your advantages and benefits

Robust guidance

for the precise handling of all kinds of workpieces

High moment capabilities

suitable for the use of long gripper fingers

Rack and pinion principle

for centric gripping

Mounting from two sides in three screw directions

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General information on the series

Working principle

Pneumatic double piston system synchronized by rack and pinion principle

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

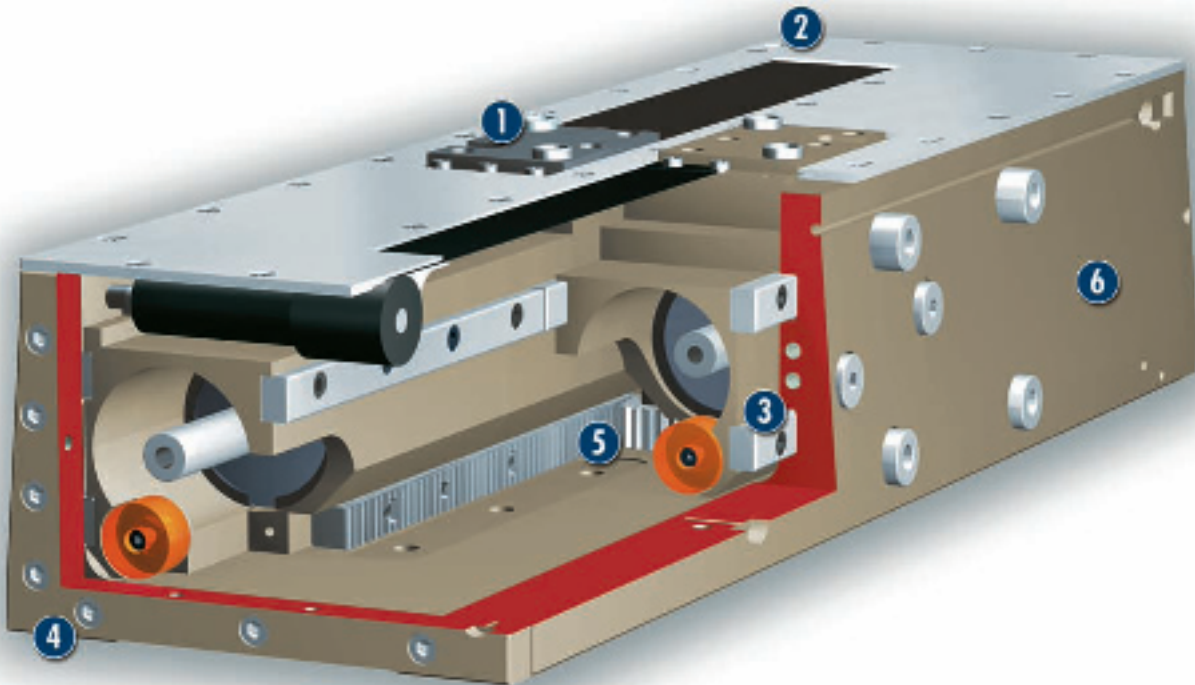
Scope of delivery

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

Maintenance of gripping force

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaws**
for the connection of workpiece-specific gripper fingers
- 2 Dirt cover**
protects against rough contamination along the entire length of the guide
- 3 Guidance**
for precise gripping with minimum play and high load-bearing capacity
- 4 Centering and mounting possibilities**
for universal gripper mounting
- 5 Kinematics**
rack and pinion principle for centric gripping
- 6 Housing**
Sturdy, one-piece U-section

Function description

The base jaws form the piston areas, while the pistons themselves are fixed. The application of pressure on the opposite piston area in each case sets the base jaws in motion. The end of the stroke is dampened by elastomer.

Options and special information

The gripper was specially developed for handling automotive wheel rims. It is capable of gripping rims from 13" to 21", but can also be used for handling other large workpieces. Units with manual stroke adjustment and versions with shorter and longer strokes 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



MMS magnetic switch



IN inductive proximity switches



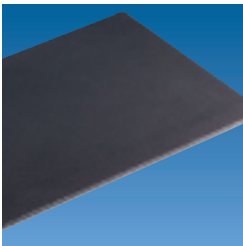
Quentes plastic inserts



W/WK/KV/GK sensor cables



HKI gripper pads



SDV-P pressure maintenance valves



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 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

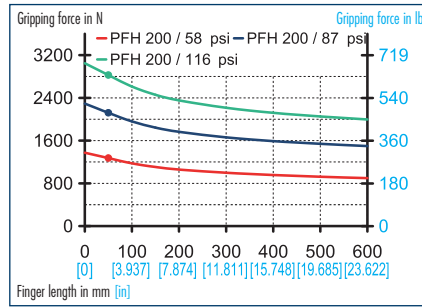
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

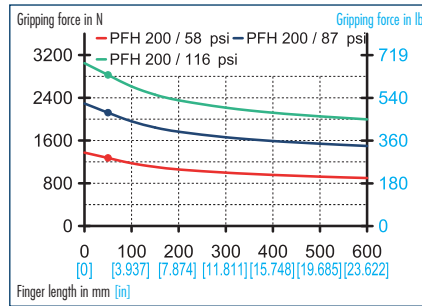
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



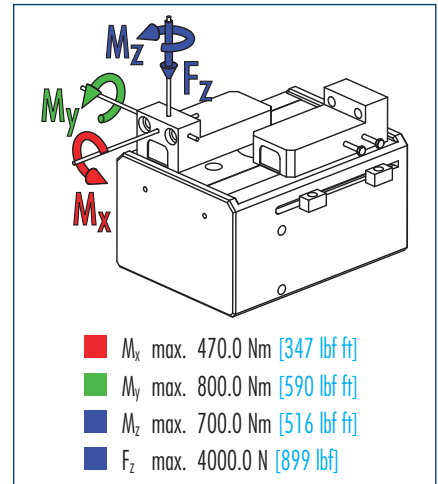
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

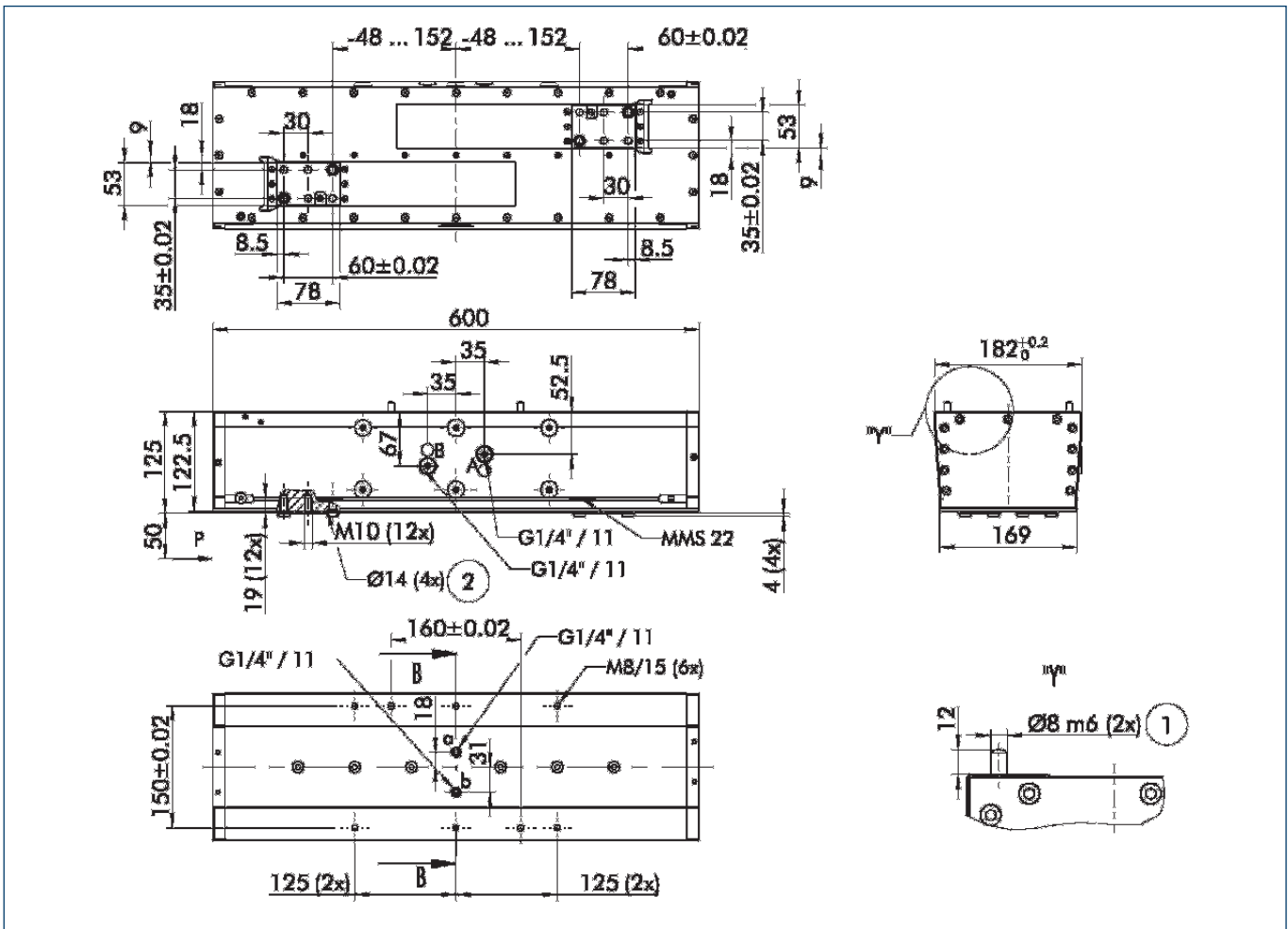


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PFH 200	
ID	0302020	
Stroke per finger	mm [in]	200.0 [7.874]
Closing force	N [lbf]	2200.0 [495]
Opening force	N [lbf]	2200.0 [495]
Weight	kg [lbs]	23.5 [51.81]
Recommended workpiece weight	kg [lbs]	14.7 [32.41]
Air consumption per double stroke	cm ³ [in ³]	1990.0 [121.44]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.9
Opening time	s	0.9
Max. permitted finger length	mm [in]	600.0 [23.622]
Max. permitted weight per finger	kg [lbs]	8.0 [17.64]
IP class		30
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]

Main views

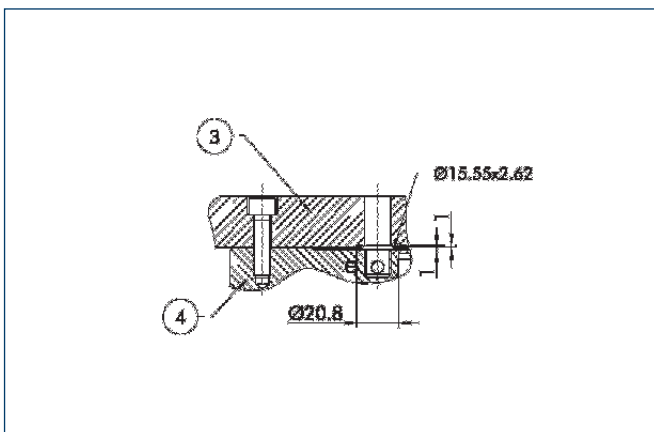


The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

- 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.

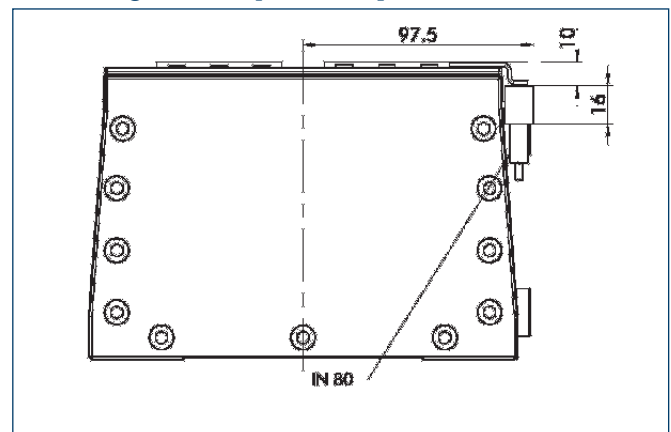
Hoseless direct connection



- 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.

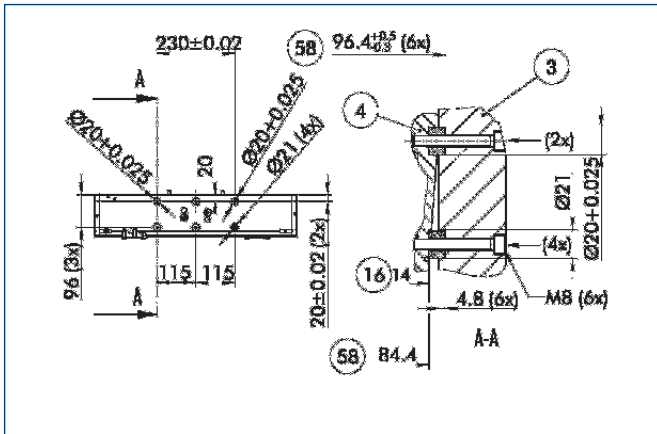
Mounting kit for proximity switch



The mounting kit enables 2 inductive proximity switches to be fitted. The kit is fitted in the sensor slot of the slotted switch.

Description	ID
HG-PFH 150-300	0300770

Mounting kit for side mount



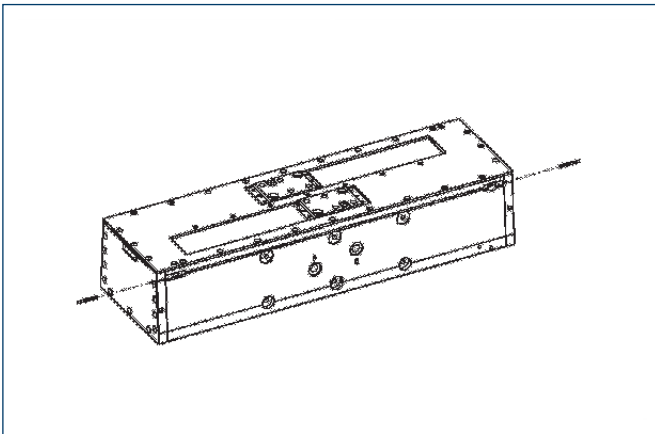
- ③ Adapter
- ④ Gripper
- 16 Max. depth of engagement
- 58 Distance from center of gripper

The mounting kit for side mount (ID: 0302024) enables proximity switches to be mounted to the side of the gripper so that they are parallel and centered.



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

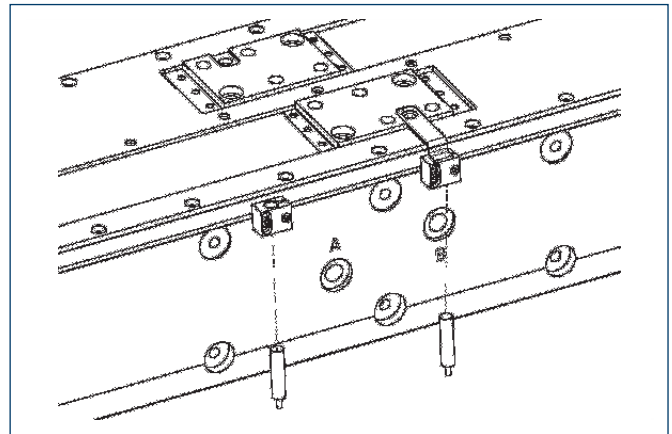
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP / NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP / NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:

Inductive proximity switches, mounted with mounting kit

Description	ID	Recommended product
HG-PFH 150-300	0300770	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
INK 80/S	0301550	
INK 80/SL	0301579	

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



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

PSH (metric version)

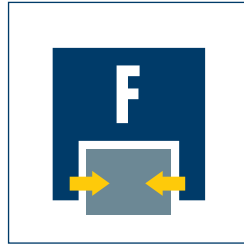
Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers



Sizes
22 .. 52



Weight
0.77 kg .. 8.05 kg
1.70 lbs .. 17.75 lbs



Gripping force
320 N .. 1760 N
72 lbf .. 396 lbf

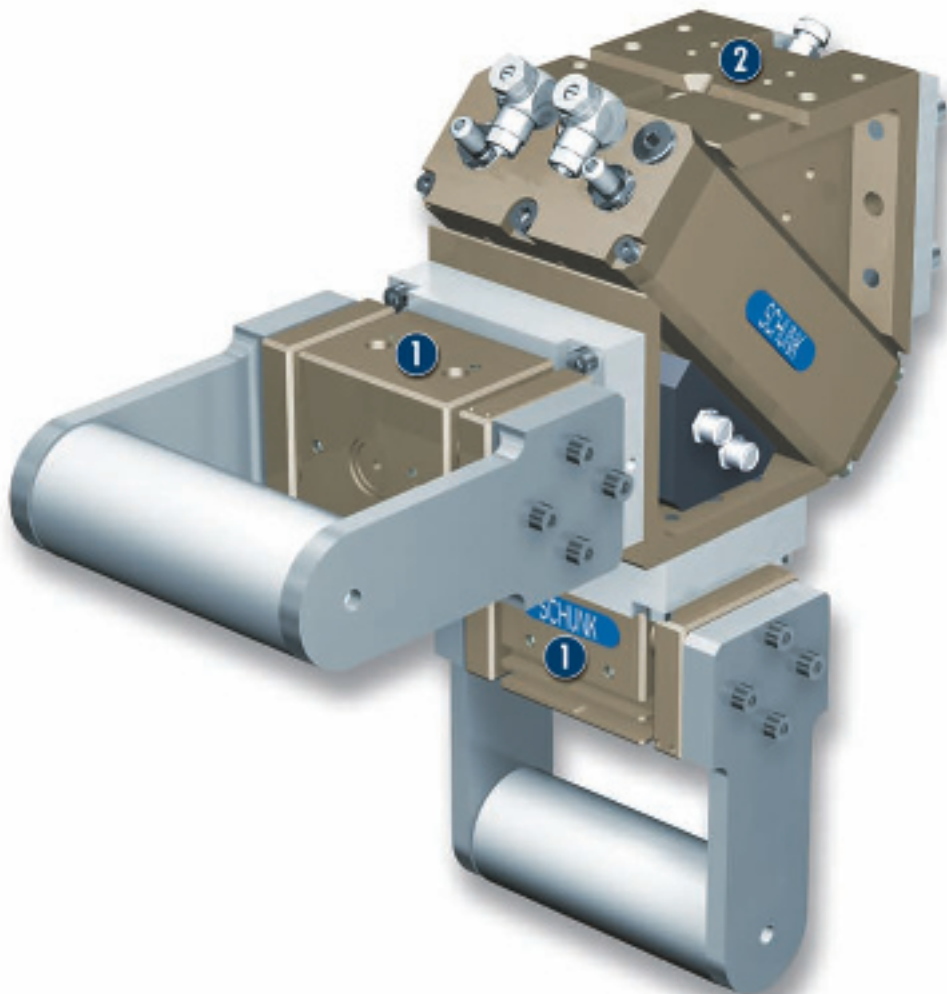


Stroke per finger
14 mm .. 64 mm
0.551 in .. 2.520 in



Workpiece weight
1.60 kg .. 8.80 kg
3.53 lbs .. 19.40 lbs

Application example



Rapid loading and unloading unit on a swivel head base. Due to the sturdiness of this unit, it is particularly suitable for use in machine tools.

❶ PSH 22-2 2-Finger Parallel Gripper

❷ PSK 34 Swivel Head

Long-stroke Gripper

2-Finger parallel gripper with long jaw stroke and dirt-resistant round guides

Area of application

for slightly dirty working environments and a broad range of parts

Your advantages and benefits

High maximum moments possible

suitable for the use of long gripper fingers

Dirt-protected round guides

sealed, for long strokes

Mounting to two gripper sides with centering

for universal and flexible gripper mounting

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessories

for diverse monitoring tasks and stroke position monitoring



General information on the series

Working principle

Pneumatic double piston system synchronized by rack and pinion principle

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

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

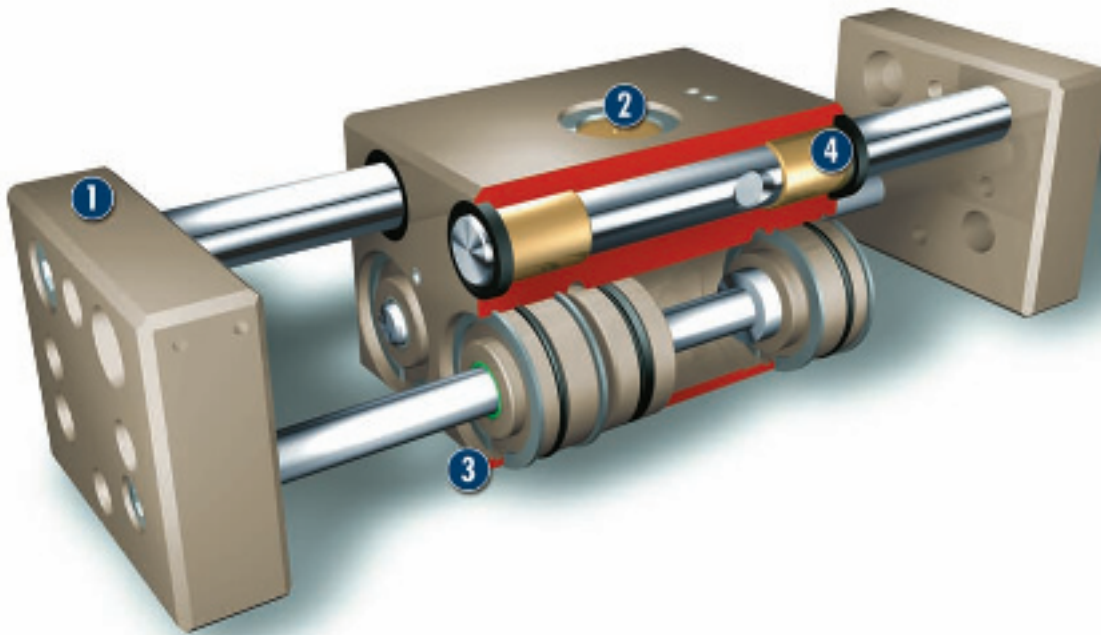
Scope of delivery

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

Maintenance of gripping force

Possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Kinematics**
Rack and pinion principle for centric clamping

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

- 4 Round guides**
sealed, for long strokes

Function description

The application of pressure on the pistons sets the base jaws, each of which is secured to the piston and the rack, in motion. The jaw stroke is synchronized by means of rack and pinion kinematics.

Options and special information

Finger position
can be monitored by magnetic and/or inductive proximity switches. Unsynchronized version available on request as a special design.

Accessories

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

Centering sleeves



Fittings



MMS magnetic switch



IN inductive proximity switches



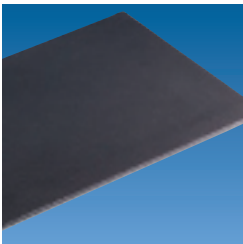
Quentes plastic inserts



W/WK/KV/GK sensor cables



HKI gripper pads



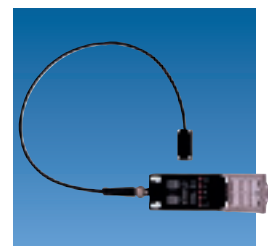
V sensor distributors



SDV-P pressure maintenance valves



FPS flexible position sensor



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 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

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

Repeat accuracy

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

Workpiece weight

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

Closing and opening times

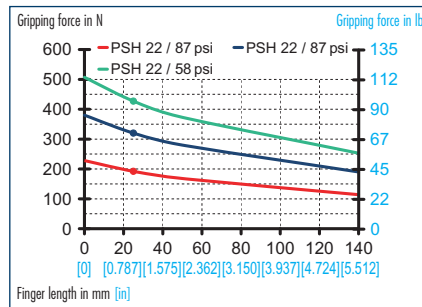
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PSH 22 (metric version)

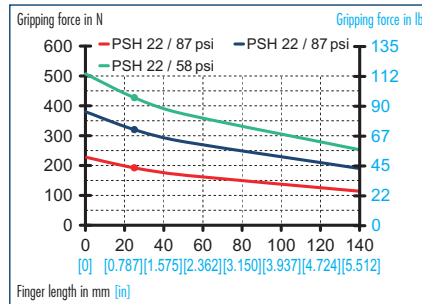
Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers



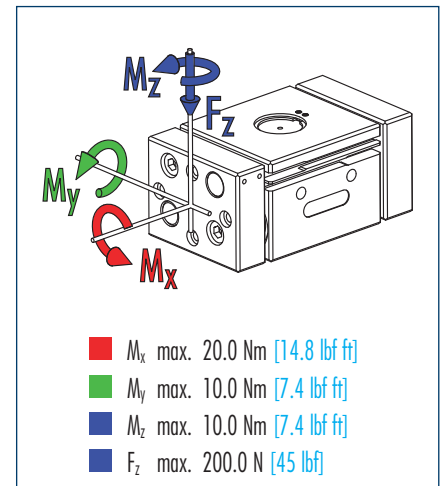
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

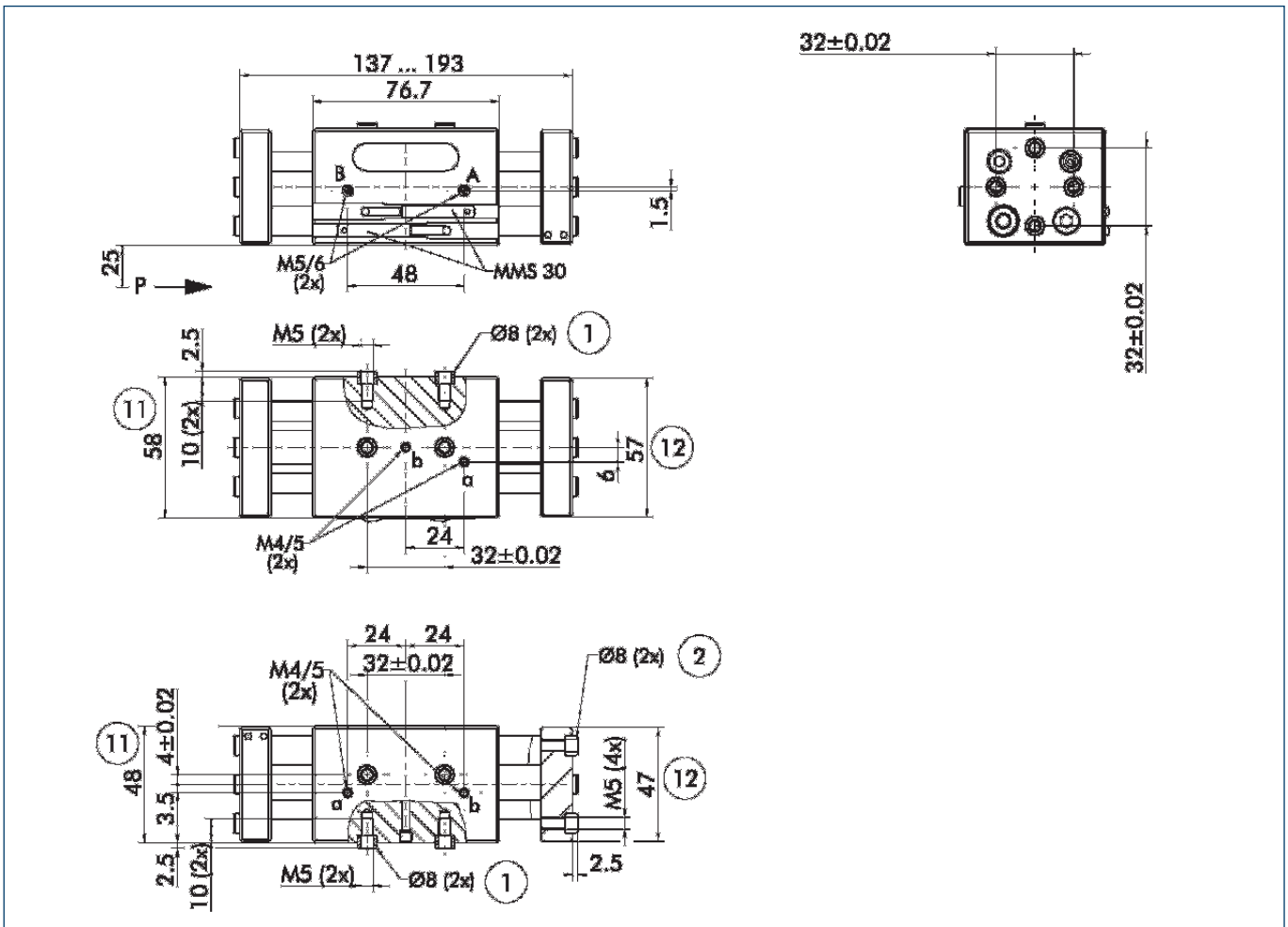


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PSH 22-1	PSH 22-2
	ID	0302122	0302123
Stroke per finger	mm [in]	28.0 [1.102]	14.0 [0.551]
Closing force	N [lbf]	320.0 [72]	320.0 [72]
Opening force	N [lbf]	320.0 [72]	320.0 [72]
Weight	kg [lbs]	0.95 [2.09]	0.77 [1.70]
Recommended workpiece weight	kg [lbs]	1.6 [3.53]	1.6 [3.53]
Air consumption per double stroke	cm ³ [in ³]	36.0 [2.20]	18.0 [1.10]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	3.0 [44]	3.0 [44]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.1	0.08
Opening time	s	0.1	0.08
Max. permitted finger length	mm [in]	140.0 [5.512]	140.0 [5.512]
Max. permitted weight per finger	kg [lbs]	0.8 [1.76]	0.8 [1.76]
IP class		54	54
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]	0.1 [0.0039]

Main views

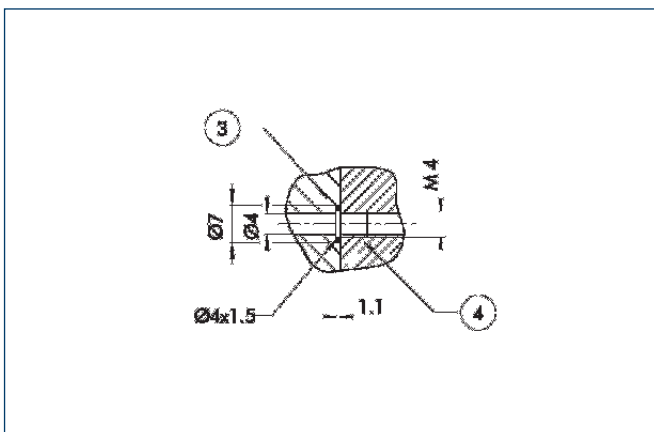


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- ⑪ Housing
- ⑫ Jaw

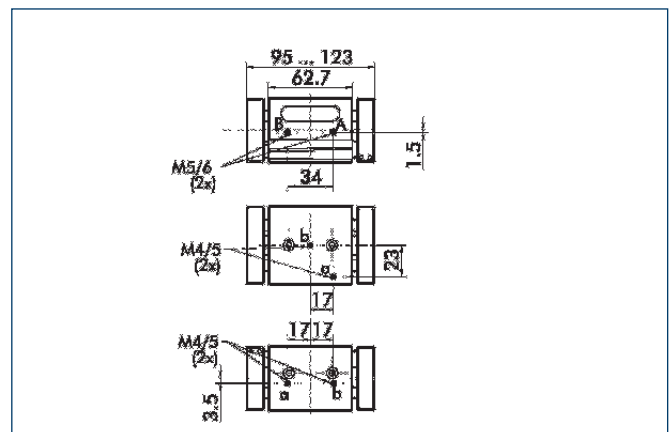
Hoseless direct connection



- 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.

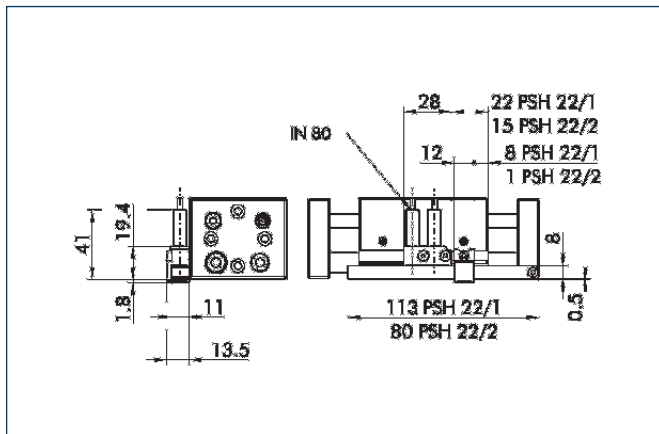
Metric version, stroke 2



PSH 22 (metric version)

Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers

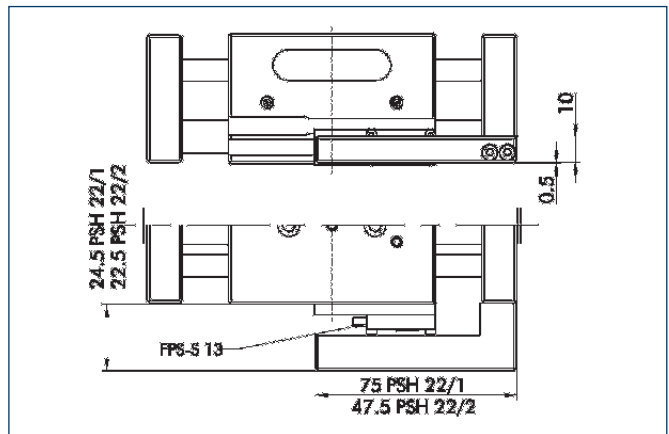
Mounting kit for proximity switch



The mounting kit consists of brackets, switch cams and the associated mounting materials. The proximity switches must be ordered separately.

Description	ID
HG-PSH 22-1	0300754
HG-PSH 22-2	0300755

Mounting kit for FPS



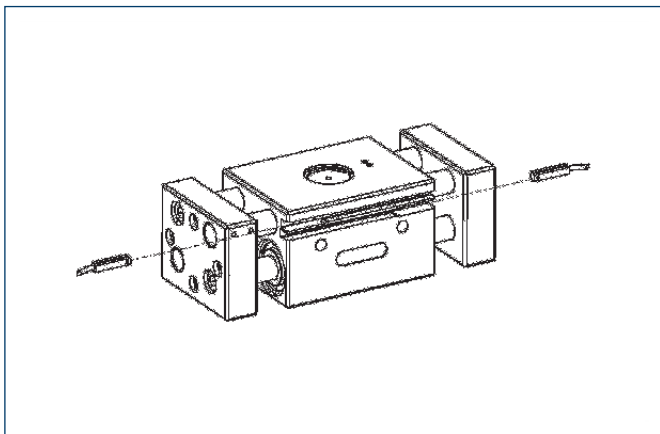
The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
AS-PSH 22-1	0301736
AS-PSH 22-2	0301737



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

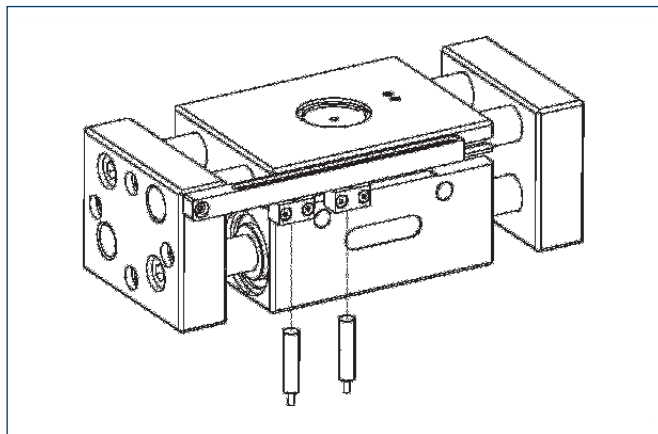
Sensor system



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

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



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

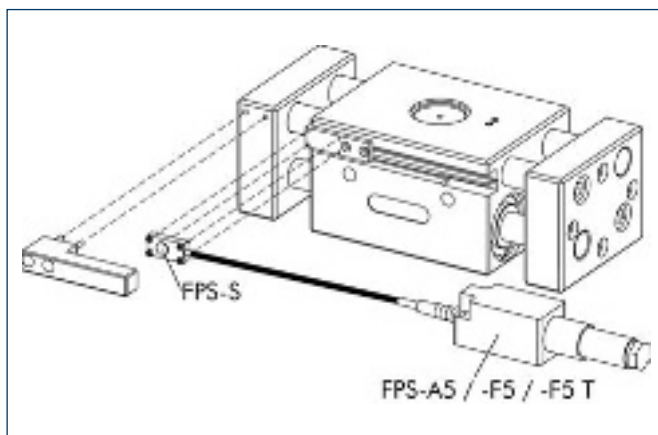
Description	ID	Recommended product
HG-PSH 22-1	0300754	
HG-PSH 22-2	0300755	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	
INK 80/SL	0301579	

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
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
WK 3-M8	0301594
WK 5-M8	0301502

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



Measuring system:
FPS position monitor

Description	ID
AS-PSH 22-1	0301736
AS-PSH 22-2	0301737
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.



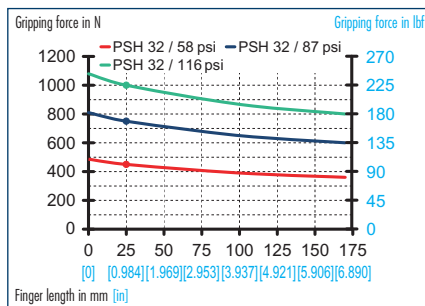
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PSH 32 (metric version)

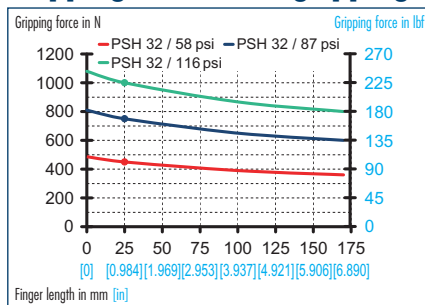
Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers



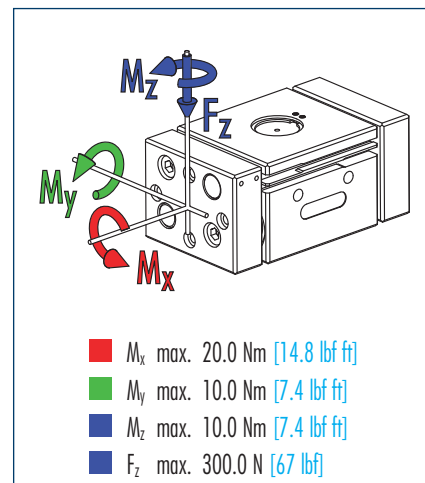
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

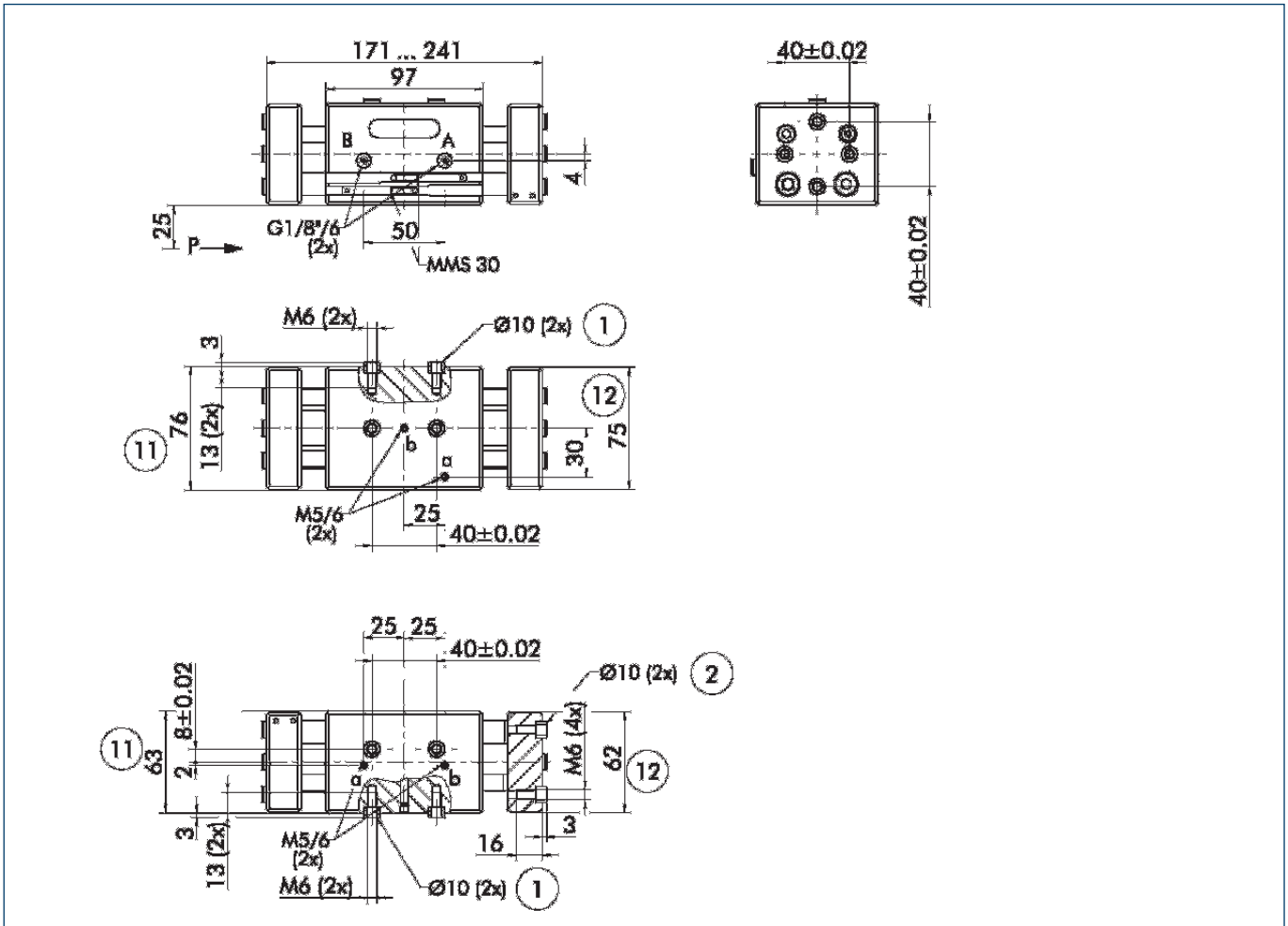


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PSH 32-1	PSH 32-2
	ID	0302132	0302133
Stroke per finger	mm [in]	35.0 [1.378]	22.5 [0.886]
Closing force	N [lbf]	750.0 [169]	750.0 [169]
Opening force	N [lbf]	750.0 [169]	750.0 [169]
Weight	kg [lbs]	2.05 [4.52]	1.8 [3.97]
Recommended workpiece weight	kg [lbs]	3.75 [8.27]	3.75 [8.27]
Air consumption per double stroke	cm ³ [in ³]	101.0 [6.16]	65.0 [3.97]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	3.0 [44]	3.0 [44]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.2	0.12
Opening time	s	0.2	0.12
Max. permitted finger length	mm [in]	170.0 [6.693]	170.0 [6.693]
Max. permitted weight per finger	kg [lbs]	1.5 [3.31]	1.5 [3.31]
IP class		54	54
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]	0.1 [0.0039]

Main views

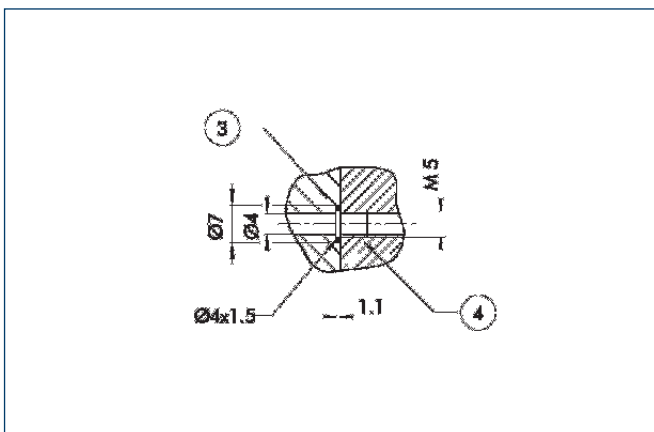


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- ⑪ Housing
- ⑫ Jaw

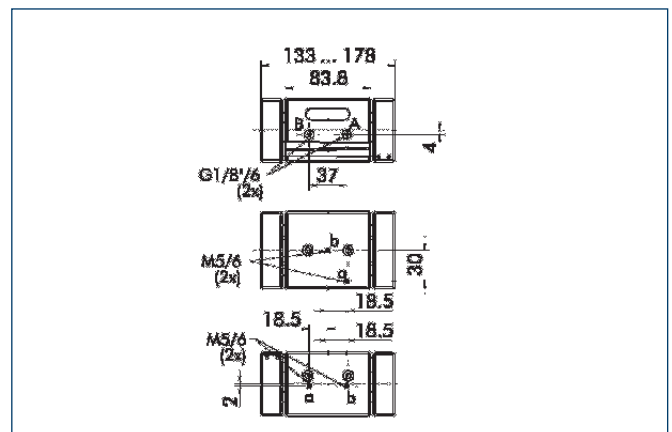
Hoseless direct connection



- 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.

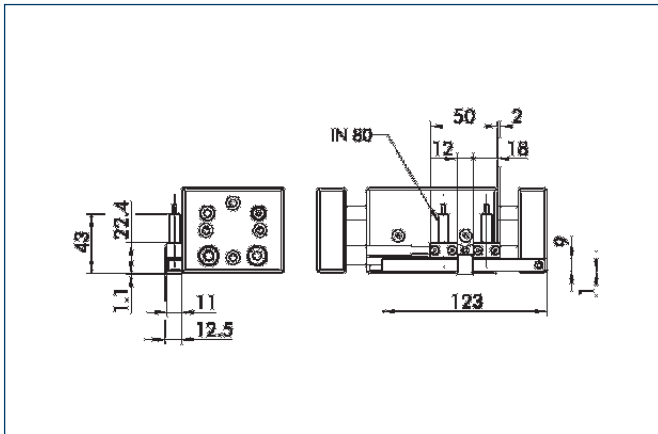
Metric version, stroke 2



PSH 32 (metric version)

Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers

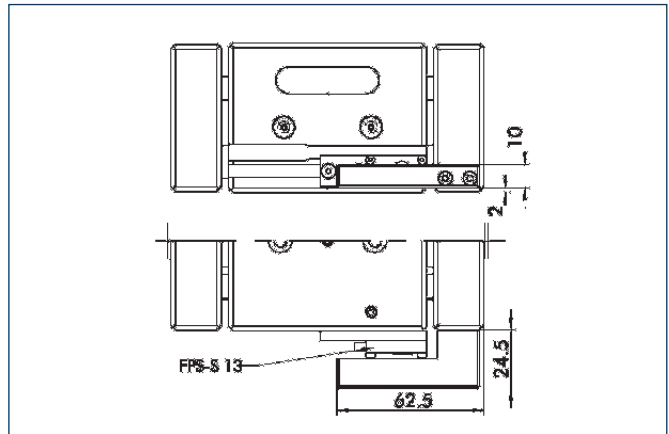
Mounting kit for proximity switch



The mounting kit consists of brackets, switch cams and the associated mounting materials. The proximity switches must be ordered separately.

Description	ID
HG-PSH 32	0300756

Mounting kit for FPS



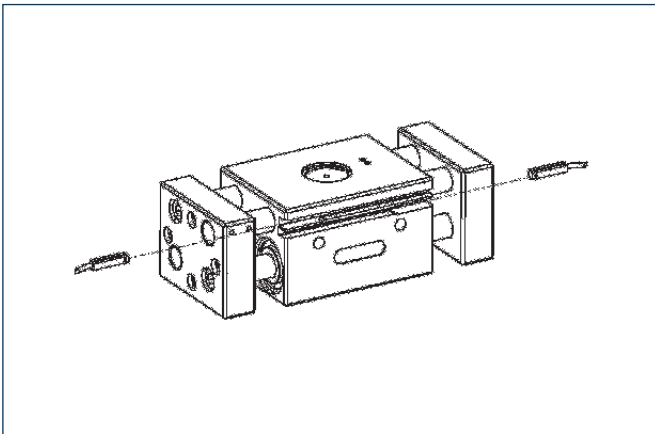
The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
AS-PSH 32-2	0301738



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

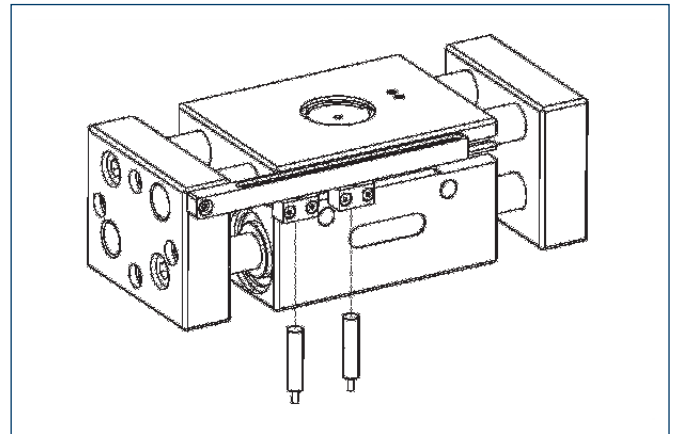
Sensor system



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

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



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

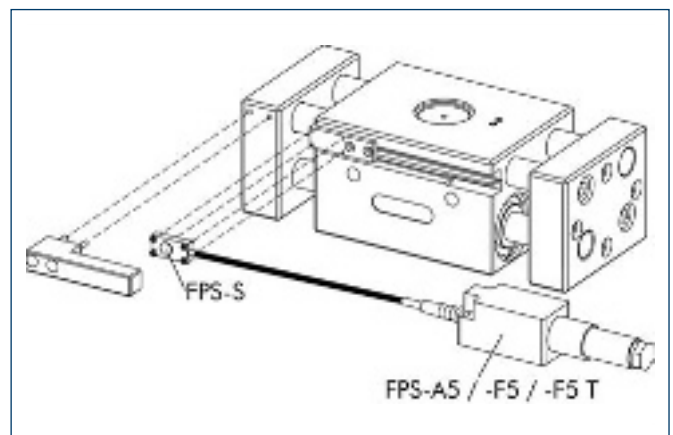
Description	ID	Recommended product
HG-PSH 32	0300756	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	
INK 80/SL	0301579	

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
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
WK 3-M8	0301594
WK 5-M8	0301502

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



Measuring system:

FPS position monitor

Description	ID
AS-PSH 32-2	0301738
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.

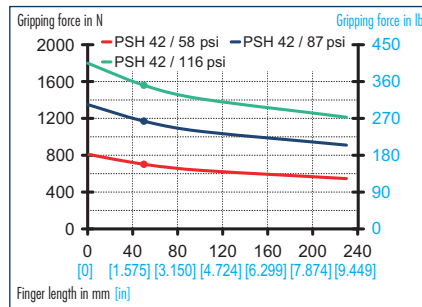
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PSH 42 (metric version)

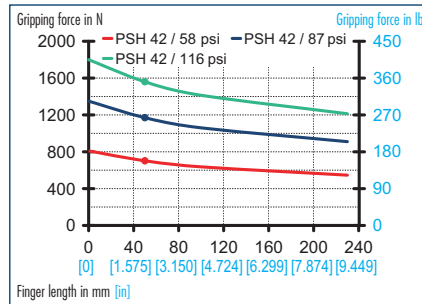
Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers



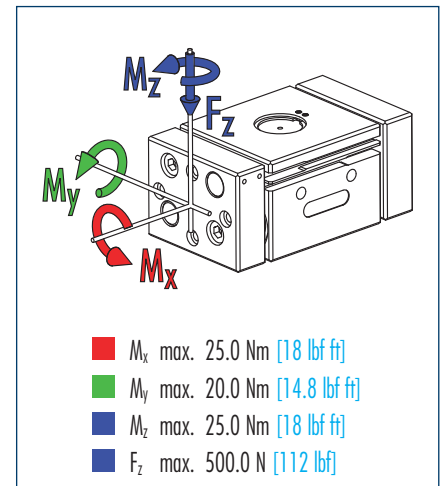
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

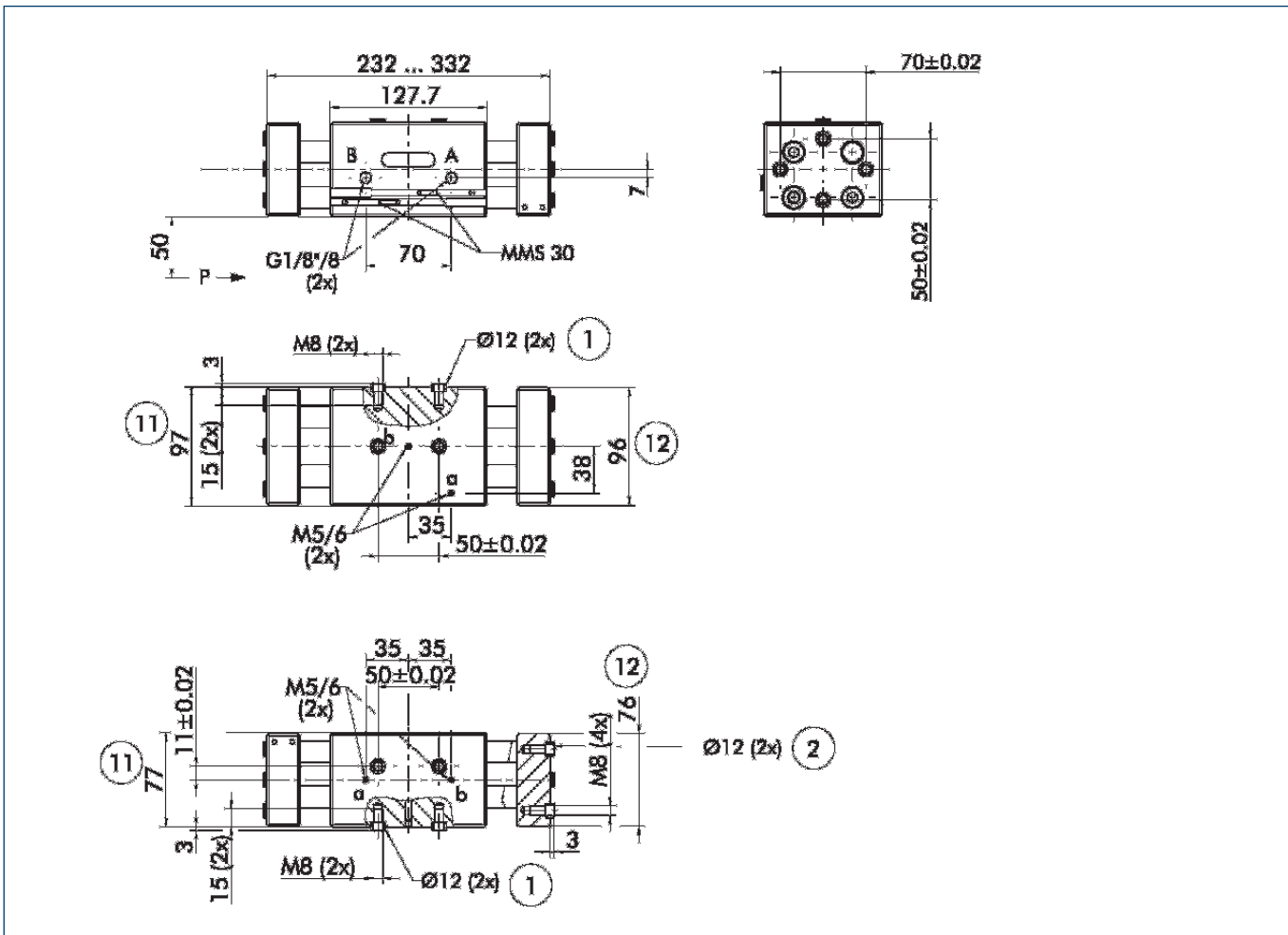


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PSH 42-1	PSH 42-2
	ID	0302142	0302143
Stroke per finger	mm [in]	50.0 [1.969]	29.0 [1.142]
Closing force	N [lbf]	1170.0 [263]	1170.0 [263]
Opening force	N [lbf]	1170.0 [263]	1170.0 [263]
Weight	kg [lbs]	4.65 [10.25]	3.9 [8.60]
Recommended workpiece weight	kg [lbs]	4.25 [9.37]	4.25 [9.37]
Air consumption per double stroke	cm ³ [in ³]	255.0 [15.56]	148.0 [9.03]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	3.0 [44]	3.0 [44]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.25	0.15
Opening time	s	0.25	0.15
Max. permitted finger length	mm [in]	230.0 [9.055]	230.0 [9.055]
Max. permitted weight per finger	kg [lbs]	2.5 [5.51]	2.5 [5.51]
IP class		54	54
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]

Main views

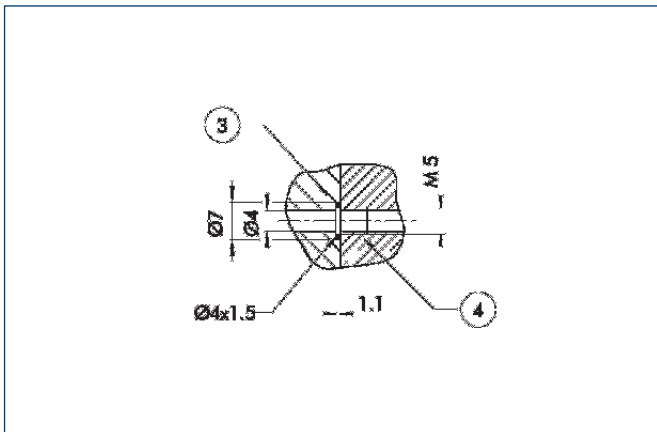


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- ⑪ Housing
- ⑫ Jaw

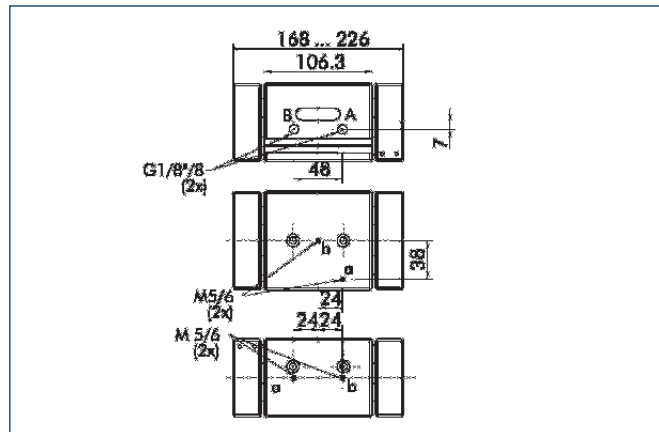
Hoseless direct connection



- 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.

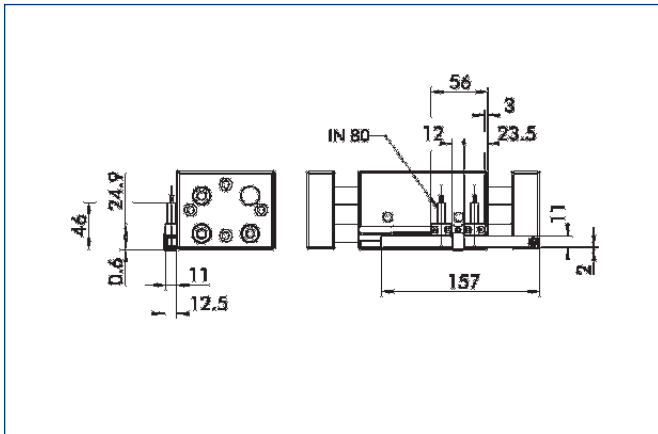
Metric version, stroke 2



PSH 42 (metric version)

Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers

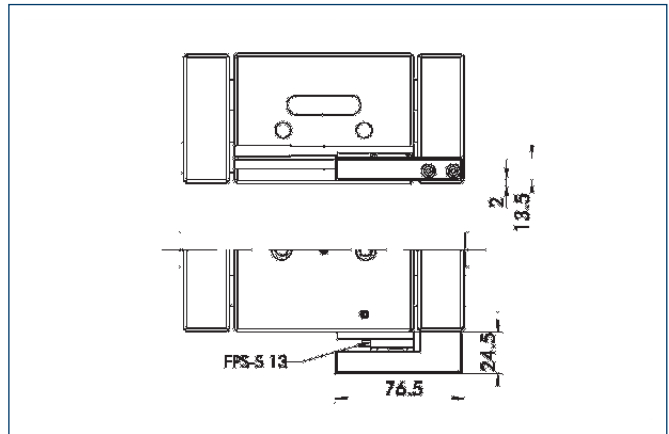
Mounting kit for proximity switch



The mounting kit consists of brackets, switch cams and the associated mounting materials. The proximity switches must be ordered separately.

Description	ID
HG-PSH 42	0300757

Mounting kit for FPS



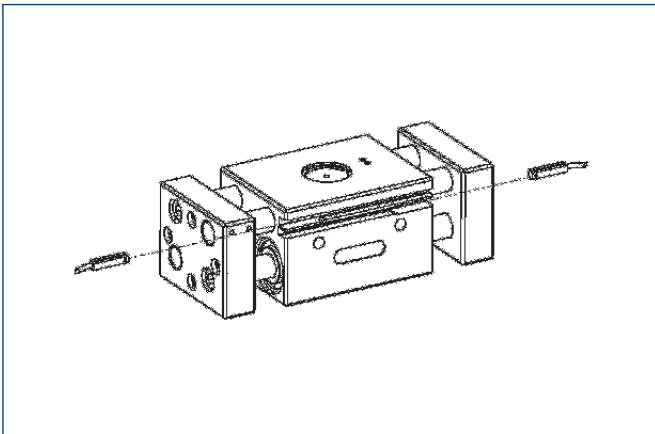
The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
AS-PSH 42-2	0301739



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

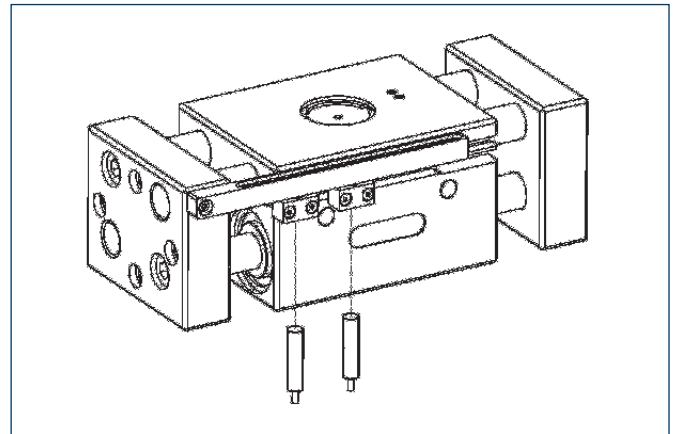
Sensor system



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

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



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

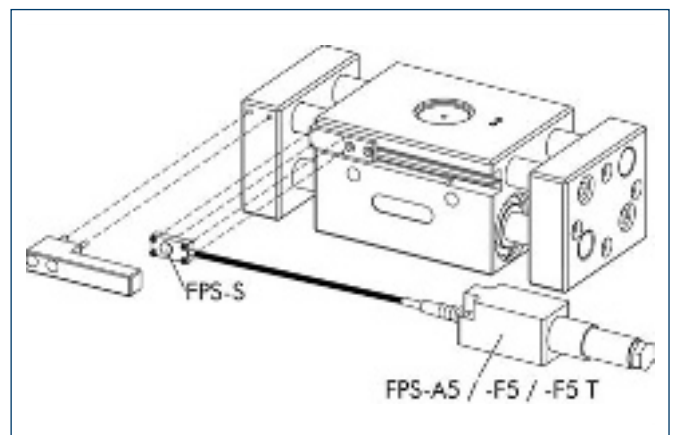
Description	ID	Recommended product
HG-PSH 42	0300757	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	
INK 80/SL	0301579	

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
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
WK 3-M8	0301594
WK 5-M8	0301502

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



Measuring system:

FPS position monitor

Description	ID
AS-PSH 42-2	0301739
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.

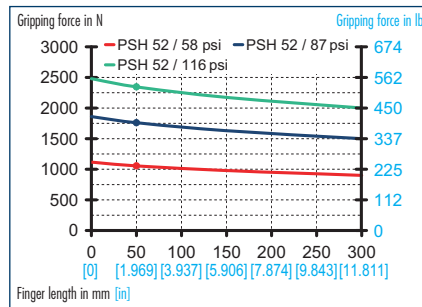
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PSH 52 (metric version)

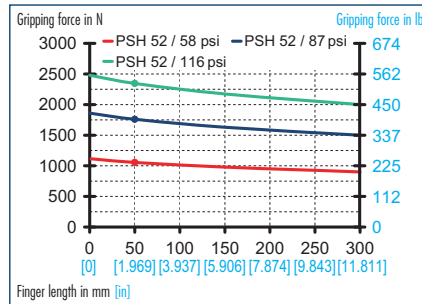
Pneumatic · 2-Finger Parallel Grippers · Long-stroke Grippers



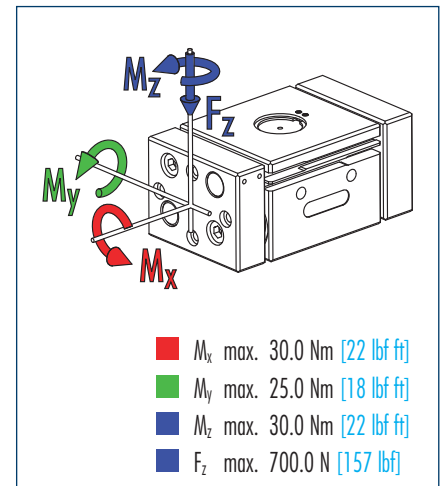
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

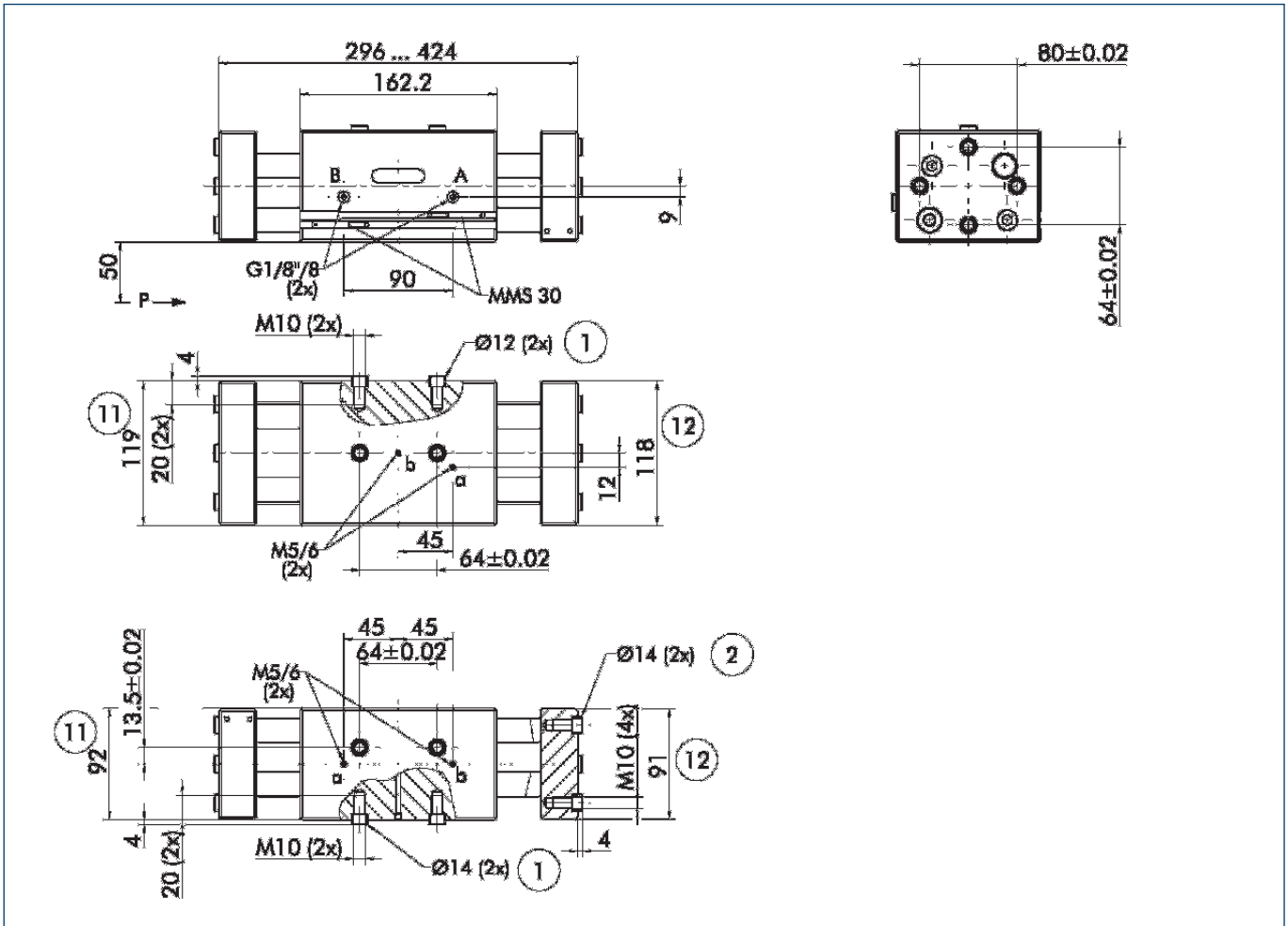


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PSH 52	
ID	0302152	
Stroke per finger	mm [in]	64.0 [2.520]
Closing force	N [lbf]	1760.0 [396]
Opening force	N [lbf]	1760.0 [396]
Weight	kg [lbs]	8.05 [17.75]
Recommended workpiece weight	kg [lbs]	8.8 [19.40]
Air consumption per double stroke	cm ³ [in ³]	504.0 [30.76]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	3.0 [44]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.4
Opening time	s	0.4
Max. permitted finger length	mm [in]	300.0 [11.811]
Max. permitted weight per finger	kg [lbs]	3.5 [7.72]
IP class	54	
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]

Main views

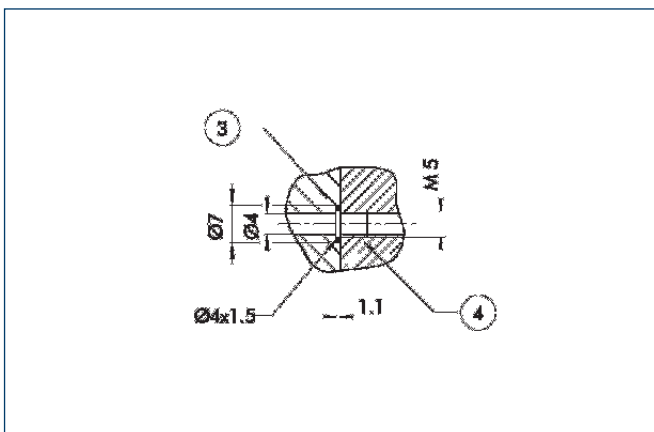


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- ⑪ Housing
- ⑫ Jaw

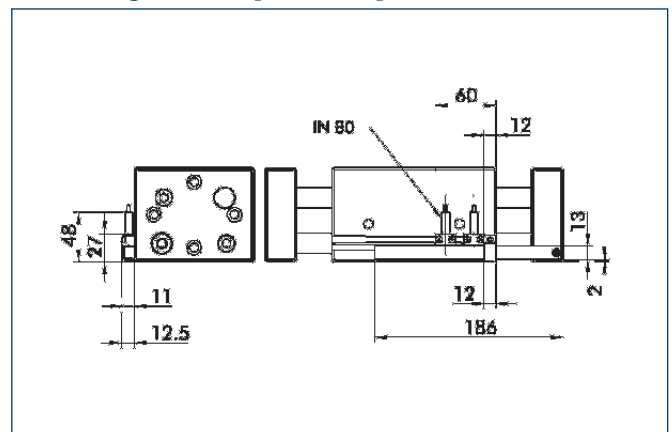
Hoseless direct connection



- 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.

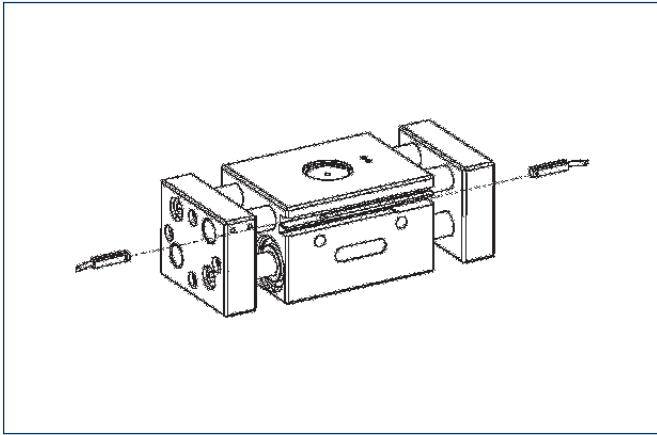
Mounting kit for proximity switch



The mounting kit consists of brackets, operating switch cams and the associated fastening materials. The proximity switches must be ordered separately.

Description	ID
HG-PSH 52	0300759

Sensor system

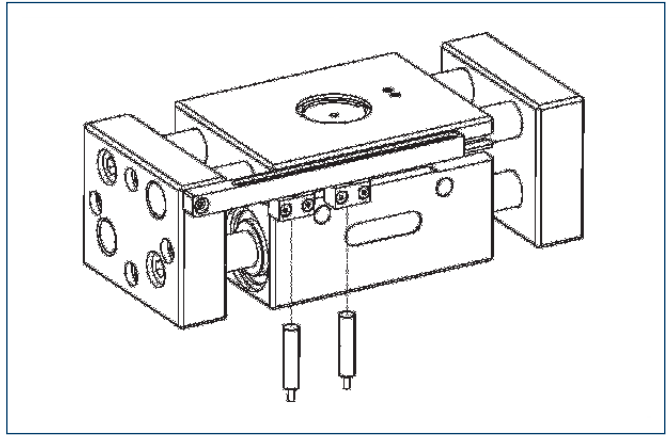


End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

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



End position monitoring:

Inductive proximity switches, mounted with mounting kit

Description	ID	Recommended product
HG-PSH 52	0300759	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	
INK 80/SL	0301579	

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

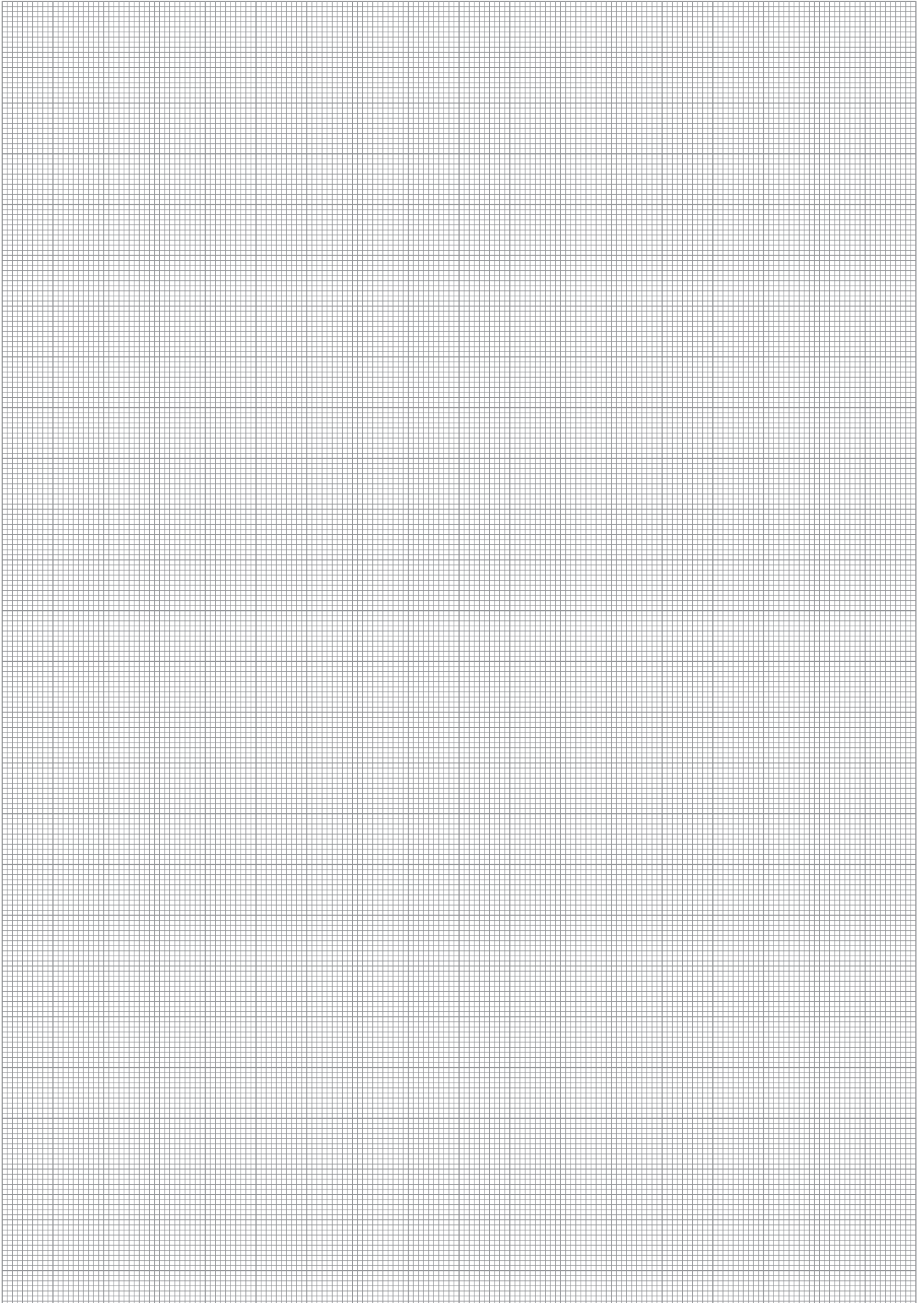
Extension cables for proximity switches/magnetic switches

Description	ID
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
WK 3-M8	0301594
WK 5-M8	0301502

- 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.

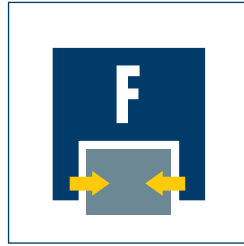




Size
100



Weight
35 kg
77.16 lbs



Gripping force
10,000 N
2248 lbf

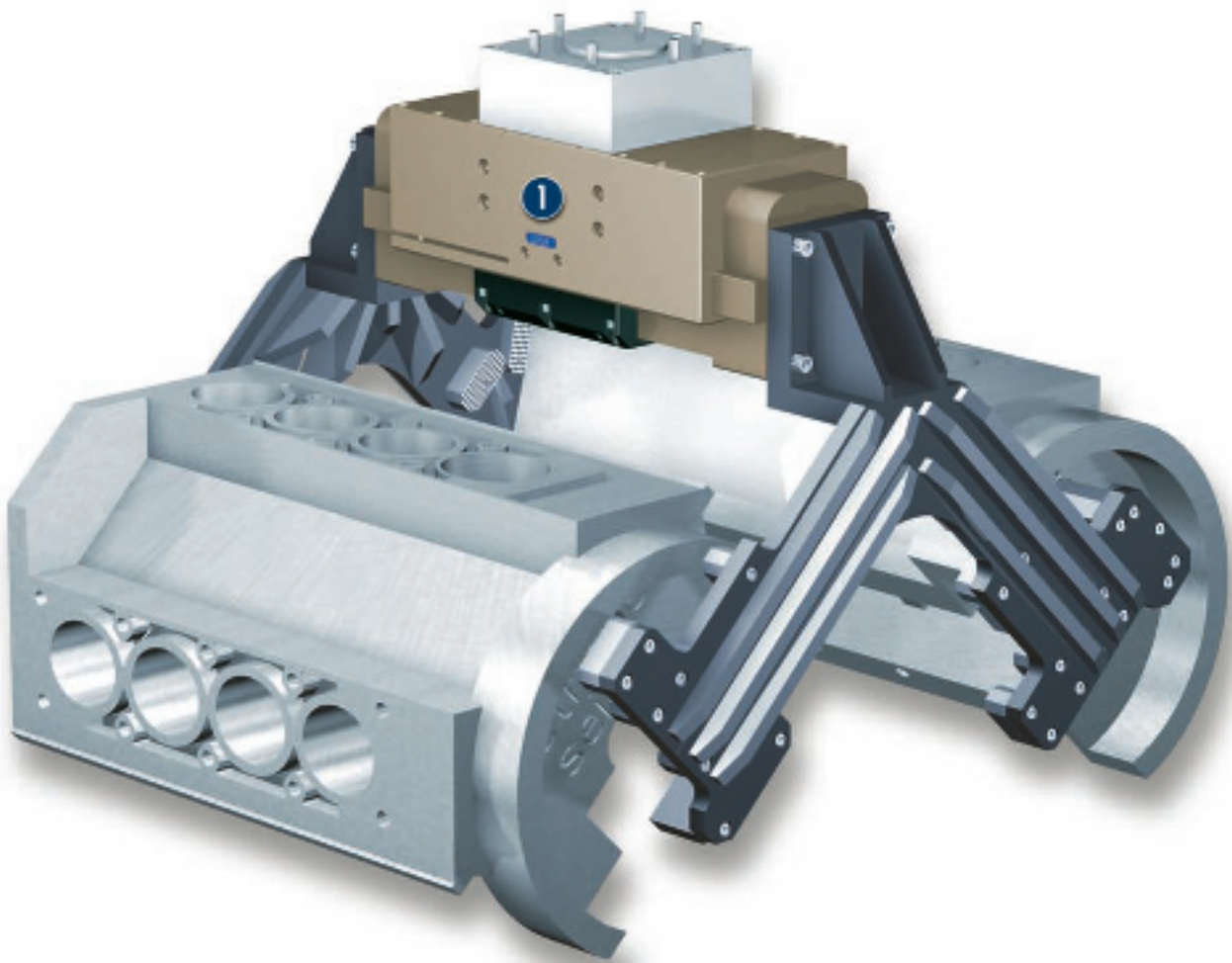


Stroke per finger
100 mm
3.937 in



Workpiece weight
50 kg
110.23 lbs

Application example



Gripper unit for heavy V8 engine blocks.

1 SPG 100
2-Finger Heavy-load Gripper

Heavy-load Gripper

Sturdy 2-finger parallel gripper for heavy components and a broad part range, equipped with robust guides and therefore suitable for high gripping forces and maximum moments.

Area of application

Suitable for clean working environments, covers a broad range of parts thanks to its long jaw stroke and high gripping forces for heavy workpieces

Your advantages and benefits

Robust guidance

for precise handling

High maximum moments

suitable for the use of long gripper fingers

High efficiency

through direct drive

Mounting on three sides in three mounting directions

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General information on the series

Working principle

Directly driven base jaws, synchronized by rack and pinion

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized, with steel strips

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

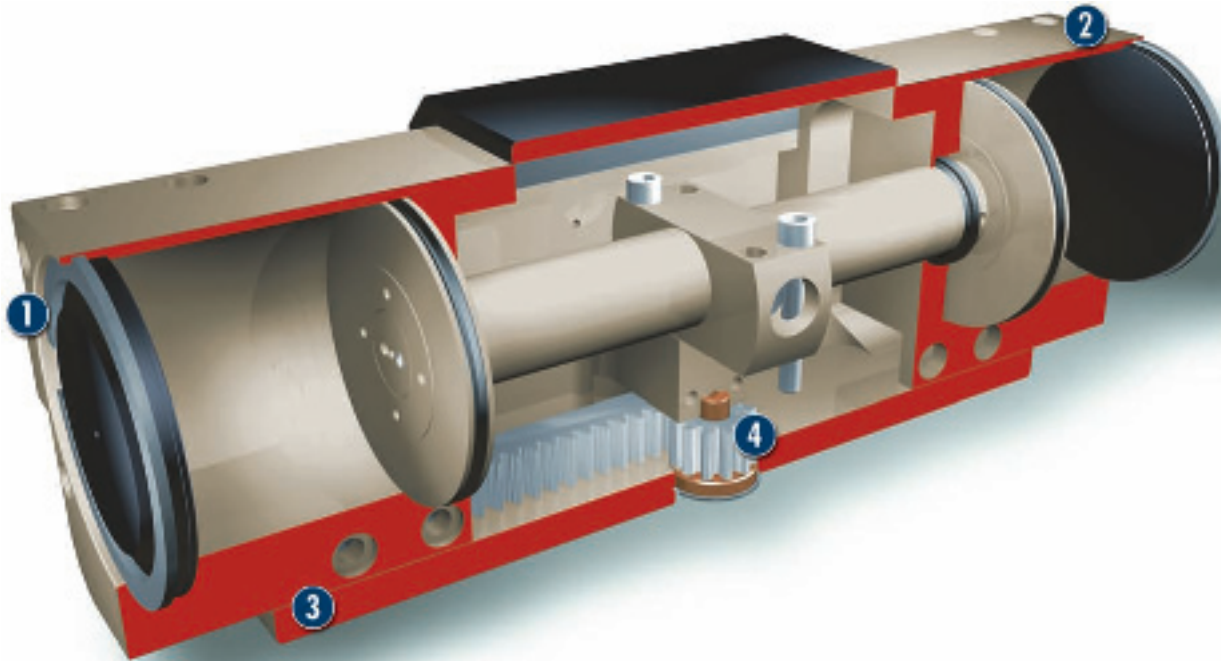
Scope of delivery

Centering sleeves, cupped-type lubricating nipples, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force safety device

with integrated pressure maintenance valve for version with ID 302120, external pressure maintenance valve can be retrofitted in the version with ID 302121.

Sectional diagram



1 Guidance
precise gripping through high load bearing guide with minimum play

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
rack and pinion principle for centric gripping, even with long strokes

Function description

The base jaws, arranged in a line, are introduced with compressed air directly by the fixed piston, which causes them to open and close. The base jaws are synchronized by the internal rack and pinion arrangement. The direct flow of force enables a high degree of efficiency and therefore very high gripping forces.

Options and special information

Four TM6 lubricating nipples on either side for relubricating the base jaws and two purge air connections are already provided. The SPG 100 (ID 302121) with reduced opening and closing times of 1.5 s does not feature an integrated pressure maintenance valve as a gripping force safety device.

Accessories

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

Centering sleeves



Fittings



MMS magnetic switch



IN inductive proximity switches



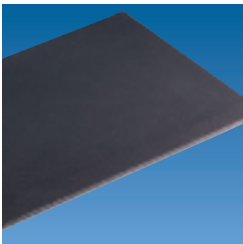
Quentes plastic inserts



W/WK/KV/GK sensor cables



HKI gripper pads



V sensor distributors



SDV-P pressure maintenance valves



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 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

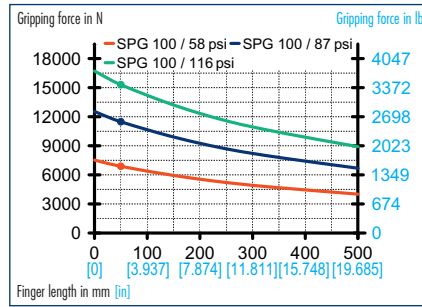
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

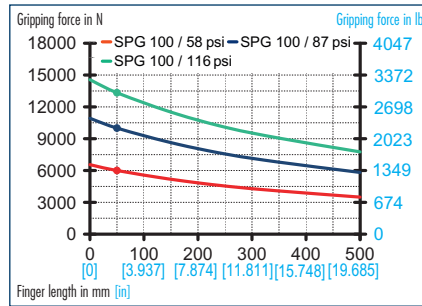
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



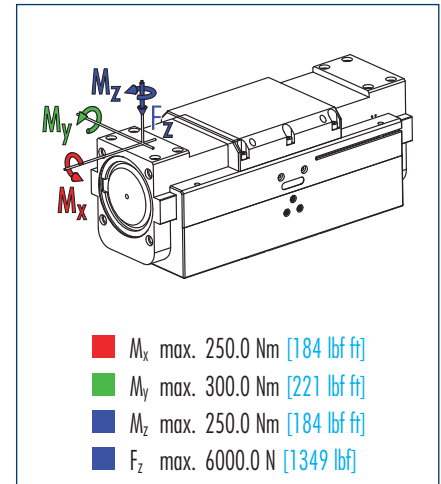
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



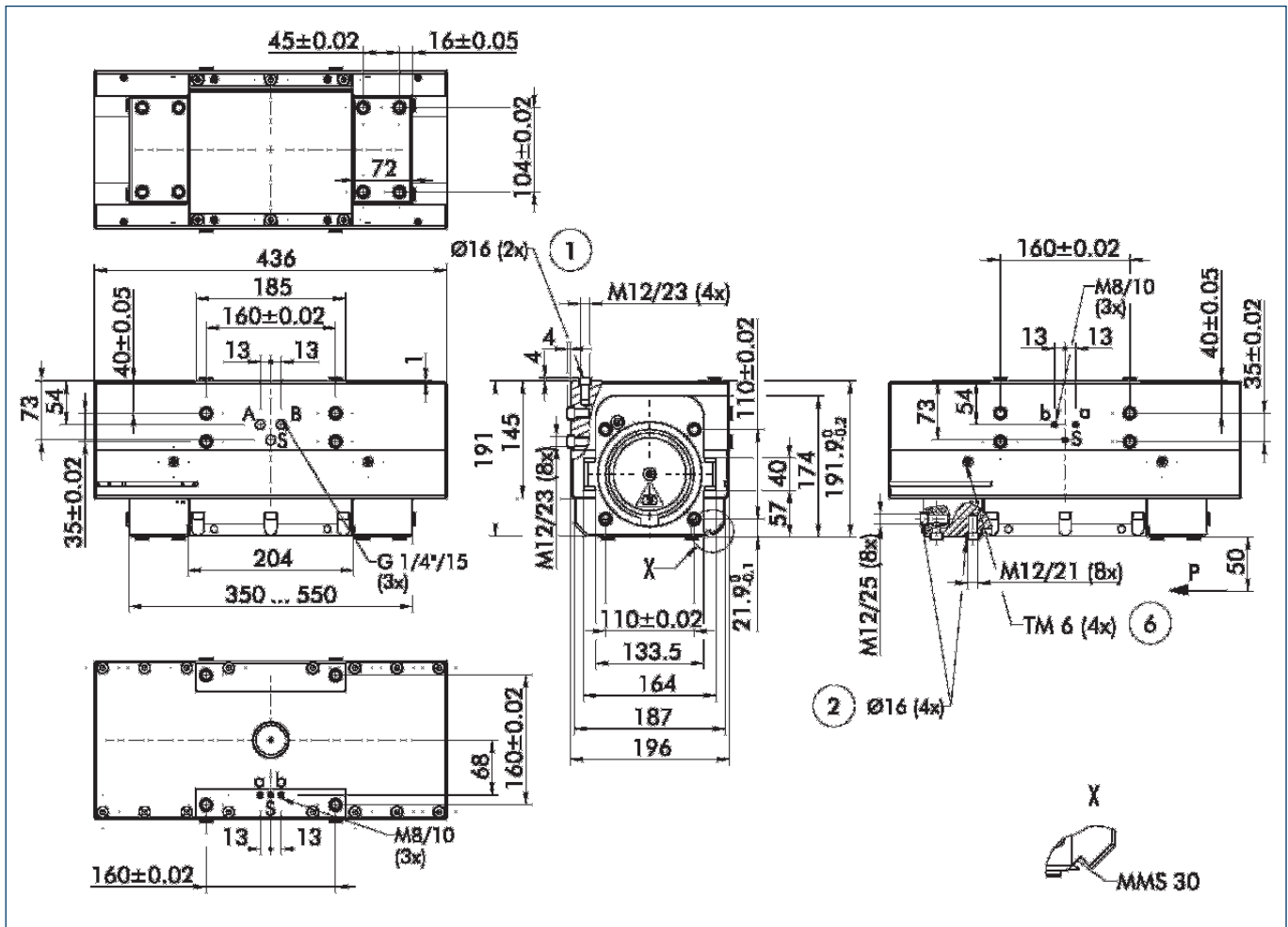
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		SPG 100	SPG 100
	ID	0302121	0302120
Stroke per finger	mm [in]	100.0 [3.937]	100.0 [3.937]
Closing force	N [lbf]	10000.0 [2248]	10000.0 [2248]
Opening force	N [lbf]	11480.0 [2581]	11480.0 [2581]
Weight	kg [lbs]	35.0 [77.16]	35.0 [77.16]
Recommended workpiece weight	kg [lbs]	50.0 [110.23]	50.0 [110.23]
Air consumption per double stroke	cm ³ [in ³]	4600.0 [280.71]	4600.0 [280.71]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	1.5	3.0
Opening time	s	1.5	3.0
Max. permitted finger length	mm [in]	500.0 [19.685]	500.0 [19.685]
Max. permitted weight per finger	kg [lbs]	15.0 [33.07]	15.0 [33.07]
IP rating		30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]	0.1 [0.0039]

ⓘ The closing and opening times of the SPG 100 (ID 0302121) can be further reduced by fitting rapid ventilation valves to the air connections. However, care must be taken to ensure that the jaw movement occurs without any hitting or bouncing.

Main views

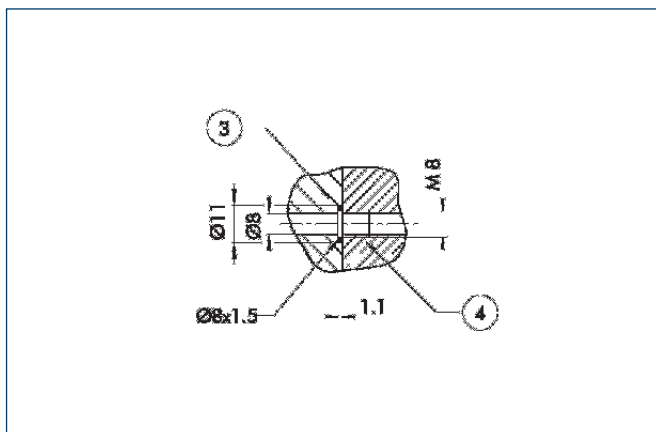


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① An external SDVP pressure maintenance valve can be used as a gripping force safety device for I.D. and O.D. gripping (see "Accessories" catalog section) for the SPG 100 (ID 0302121).

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ⑥ Lubricating nipple connection

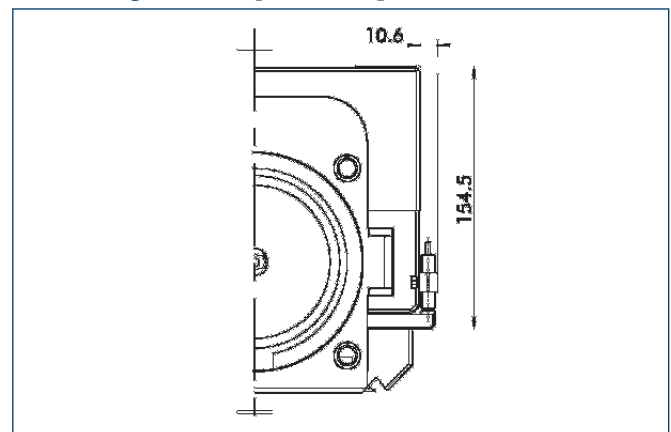
Hoseless direct connection



- 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.

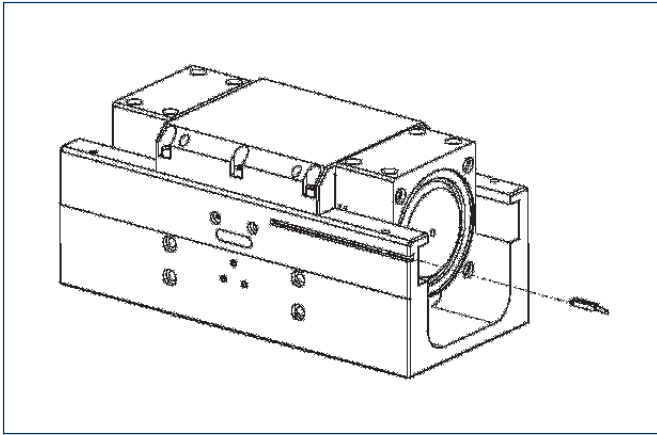
Mounting kit for proximity switch



The mounting kit consists of switch cams, brackets and the associated mounting screws. The proximity switches must be ordered separately.

Description	ID
HG-SPG 100	0300765

Sensor system

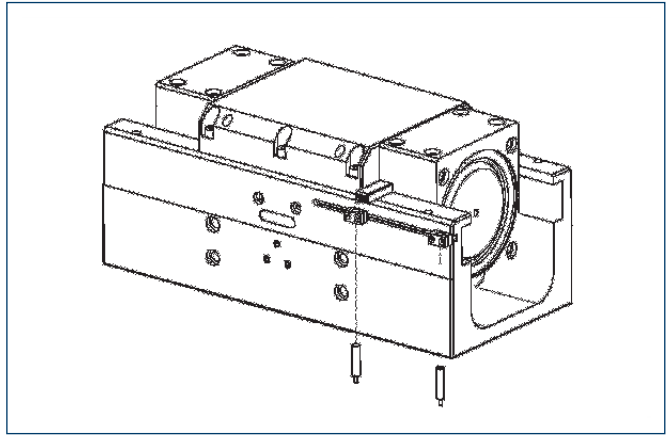


End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

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



End position monitoring:

Inductive proximity switches, mounted with mounting kit

Description	ID	Recommended product
HG-SPG 100	0300765	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	
INK 80/SL	0301579	

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

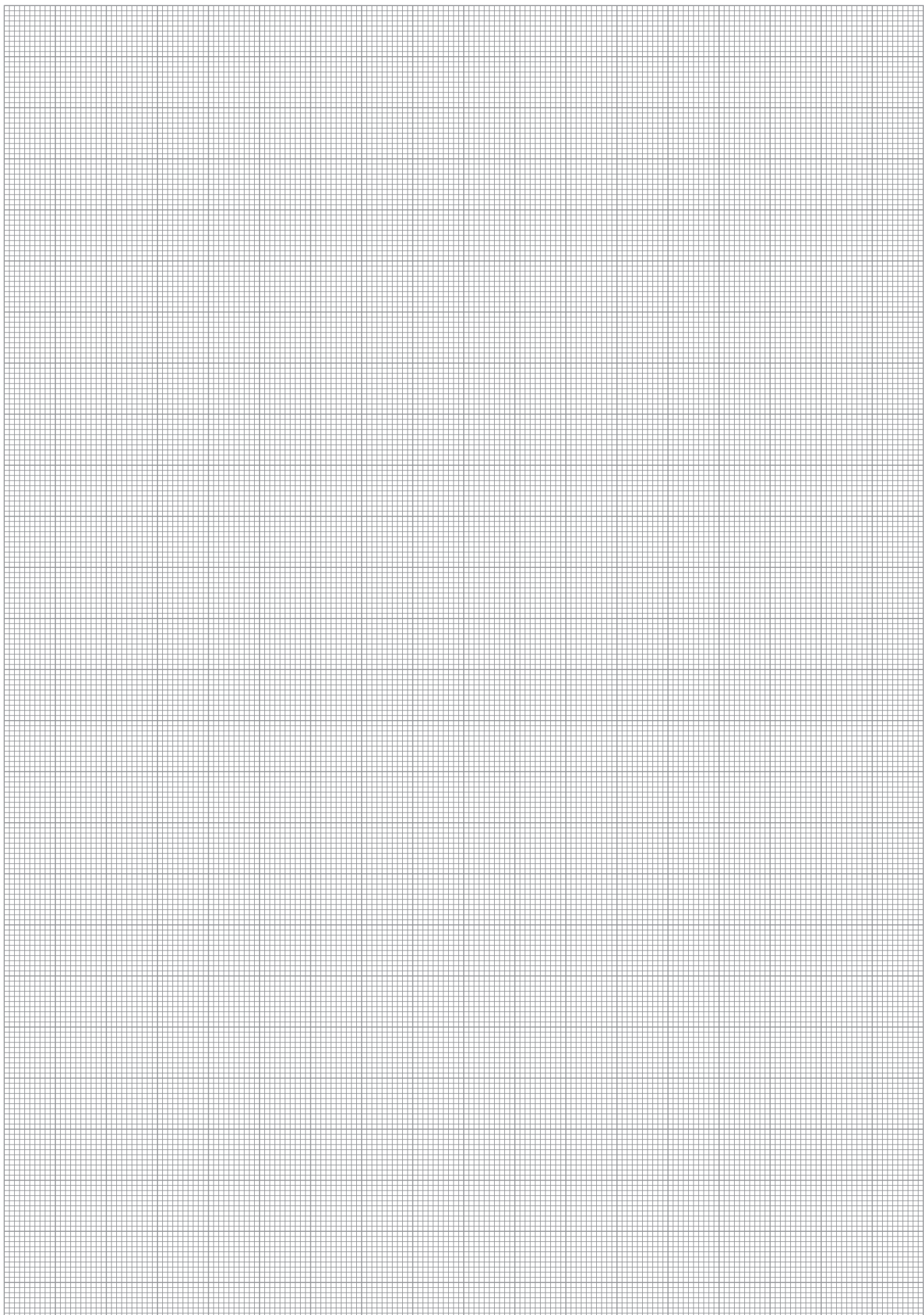
Extension cables for proximity switches/magnetic switches

Description	ID
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
WK 3-M8	0301594
WK 5-M8	0301502

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.



Pneumatic Gripping Modules

Pneumatic · 3-Finger Centric Grippers



3-FINGER CENTRIC GRIPPERS

Series	Size	Page
Grippers for Small Components		
MPZ		370
MPZ	30	374
MPZ	38	378
MPZ	45	382
Universal Grippers		
PZN-plus		386
PZN-plus	40	390
PZN-plus	50	394
PZN-plus	64	398
PZN-plus	80	404
PZN-plus	100	410
PZN-plus	125	416
PZN-plus	160	422
PZN-plus	200	428
PZN-plus	240	434
PZN-plus	300	440
PZN		446
PZN	50	450
PZN	64	454
PZN	80	458
PZN	100	462
PZN	125	468
PZN	160	474
PZN	200	480
PZB		484
PZB	64	488
PZB	80	492
PZB	100	496
PZB	125	500
PZB	160	504
Sealed Grippers		
DPZ-plus		508
DPZ-plus	64	512
DPZ-plus	80	516
DPZ-plus	100	520
DPZ-plus	125	524
DPZ-plus	160	528
DPZ-plus	200	532

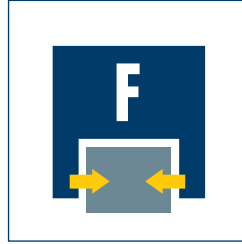




Sizes
30 .. 45



Weight
0.075 kg .. 0.29 kg
0.17 lbs .. 0.64 lbs



Gripping force
55 N .. 310 N
12.4 lbf .. 70 lbf



Stroke per finger
3 mm .. 5 mm
0.118 in .. 0.197 in



Workpiece weight
0.25 kg .. 1.1 kg
0.55 lbs .. 2.43 lbs

Application example



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

① MPZ 45 3-Finger Centric Gripper

② DDF 31 Rotary Feed-through

Grippers for small components

Small 3-finger centric gripper with base jaws guided on T-slots

Area of application

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

Your advantages and benefits

T-slot guidance

for precise gripping with high bearing-load capacity

Finger position monitoring

also possible via FPS

Air supply via hose-free direct connection or fitting connections

for the flexible supply of compressed air in all automation systems



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

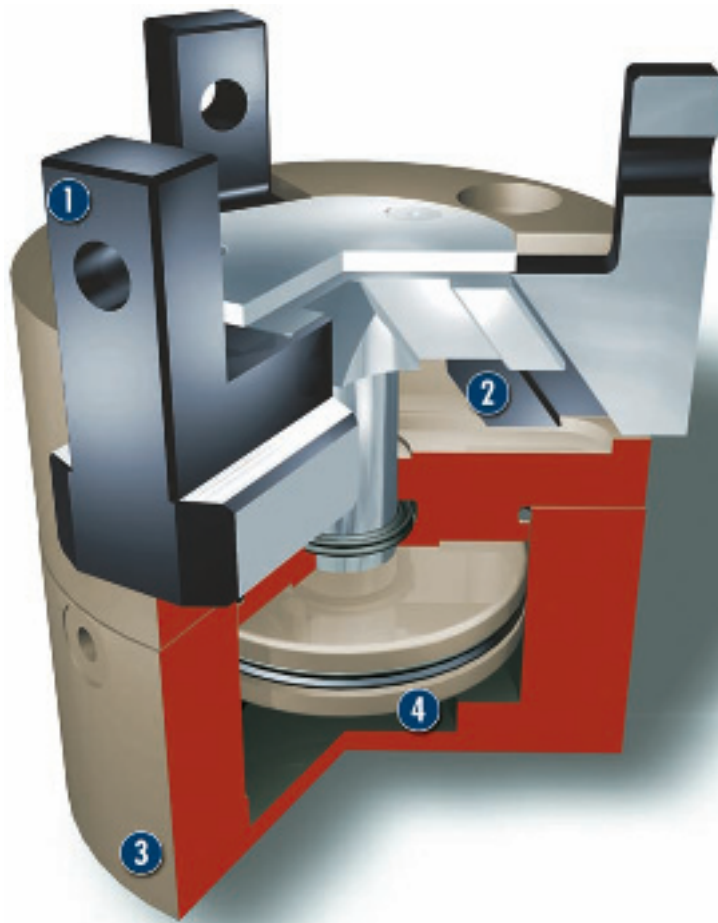
Scope of delivery

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

Gripping force safety device

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

Sectional diagram



1 T-slot guidance
precise gripping with high load-bearing capacity

2 Kinematics
wedge-hook principle for high power transmission and synchronized gripping

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

4 Drive
pneumatic, powerful and easy to handle

Function description

The 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 movement of the 3 base fingers.

Options and special information

Small, compact 3-finger centric gripper for fast gripping applications. Monitoring of the smallest differences in stroke possible via FPS system.

Accessories

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

Centering sleeves



Fittings



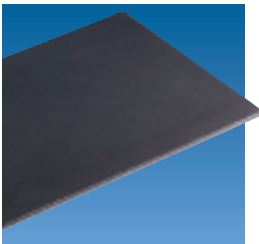
MMS magnetic switch



Quentes plastic inserts



HKI gripper pads



SDV-P pressure maintenance valves



Finger blanks



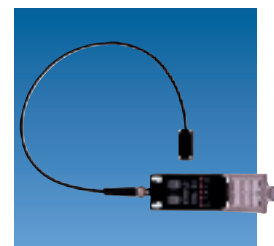
W/WK/KV/GK sensor cables



V sensor distributors



FPS flexible position sensor



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 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

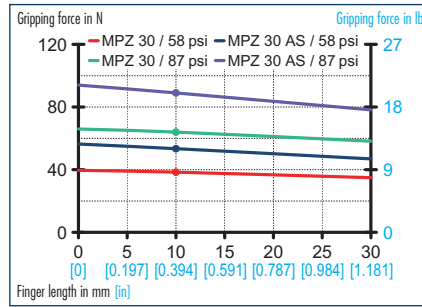
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

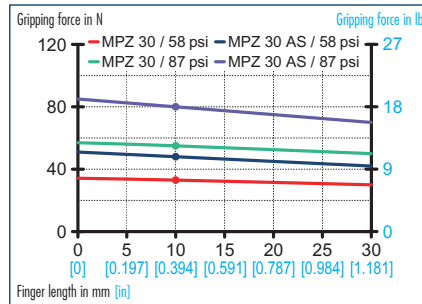
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



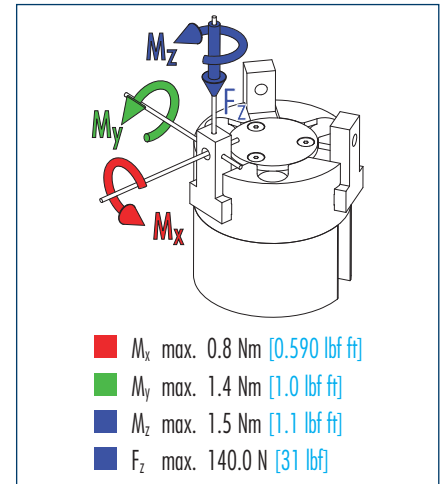
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

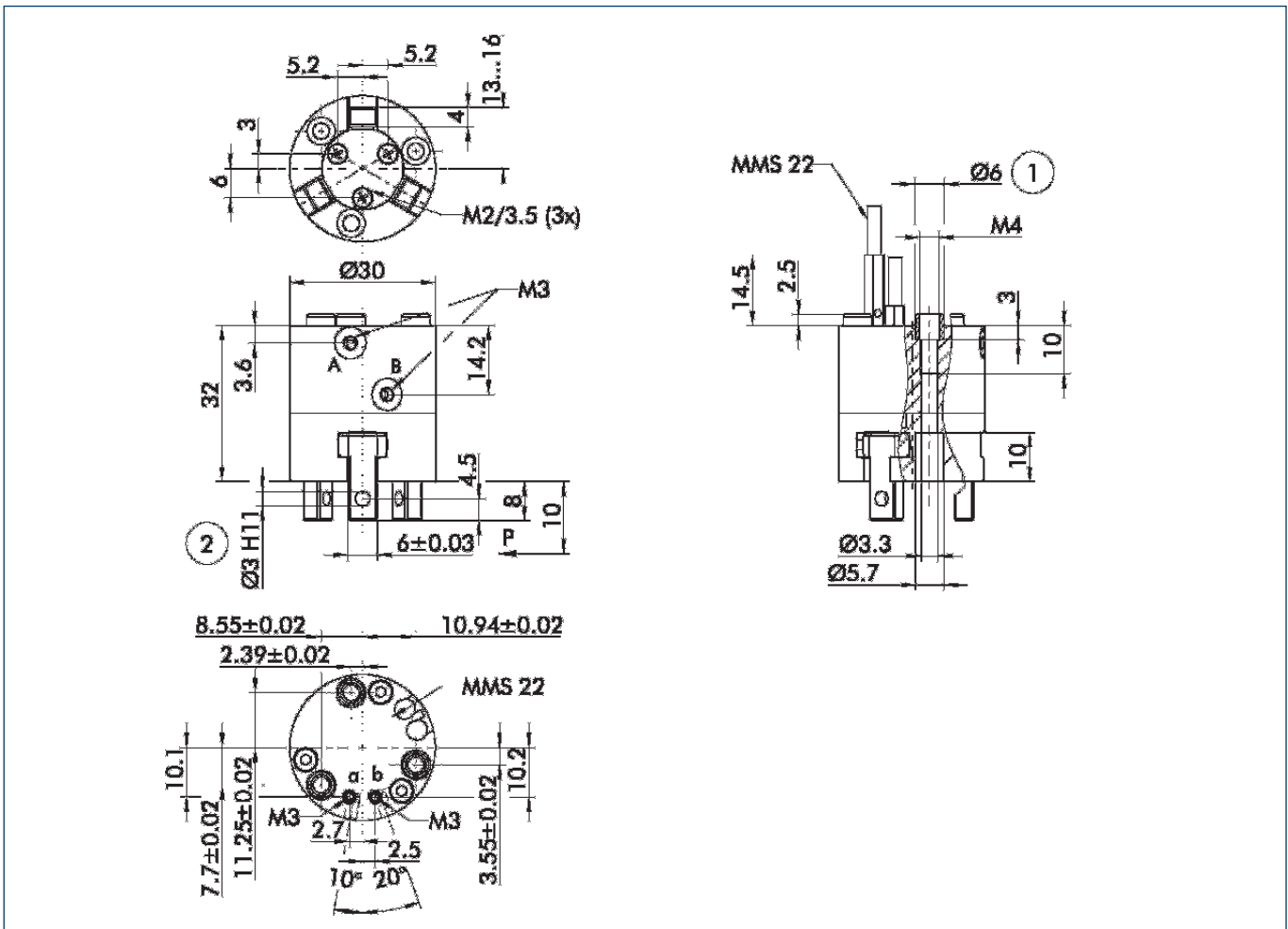


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		MPZ 30	MPZ 30 AS	MPZ 30 IS	MPZ 30 FPS
	ID	0340510	0340511	0340512	0340513
Stroke per finger	mm [in]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]
Closing force	N [lbf]	55.0 [12.4]	80.0 [18.0]		55.0 [12.4]
Opening force	N [lbf]	65.0 [14.6]		90.0 [20.2]	65.0 [14.6]
Min. gripping force through spring	N [lbf]		25.0 [5.6]	25.0 [5.6]	
Weight	kg [lbs]	0.075 [0.17]	0.09 [0.20]	0.09 [0.20]	0.096 [0.21]
Recommended workpiece weight	kg [lbs]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]
Air consumption per double stroke	cm ³ [in ³]	2.011 [0.12]	2.011 [0.12]	2.011 [0.12]	2.011 [0.12]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	4.0 [58]	4.0 [58]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]	6.5 [94]	6.5 [94]	8.0 [116]
Closing time	s	0.02	0.02	0.04	0.02
Opening time	s	0.02	0.04	0.02	0.02
Closing/opening time with spring only	s		0.3	0.3	
Max. permitted finger length	mm [in]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]
Max. permitted weight per finger	kg [lbs]	0.03 [0.07]	0.03 [0.07]	0.03 [0.07]	0.03 [0.07]
IP rating		40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

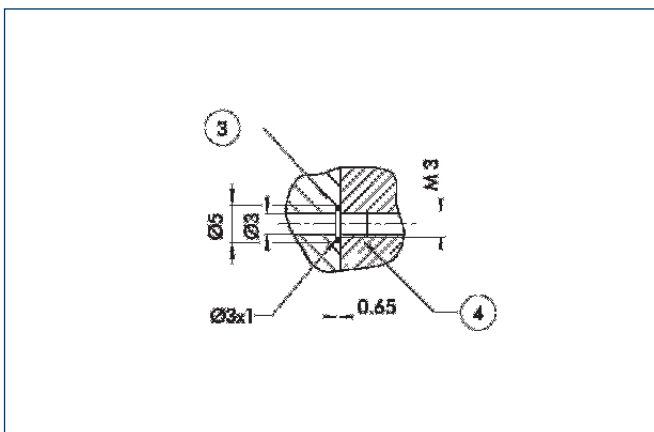


The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

- 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.

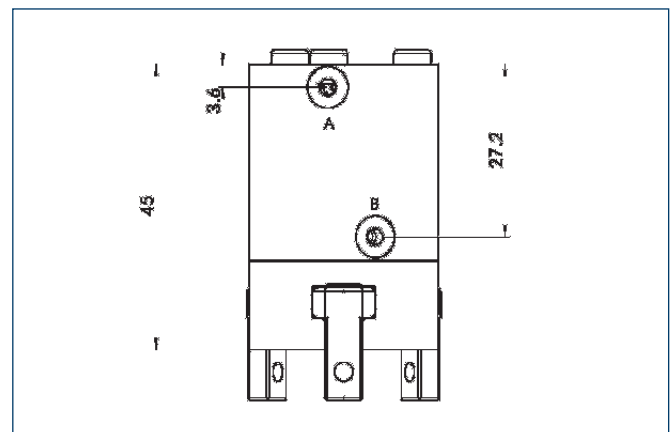
Hoseless direct connection



- ③ Adapter
- ④ Gripper

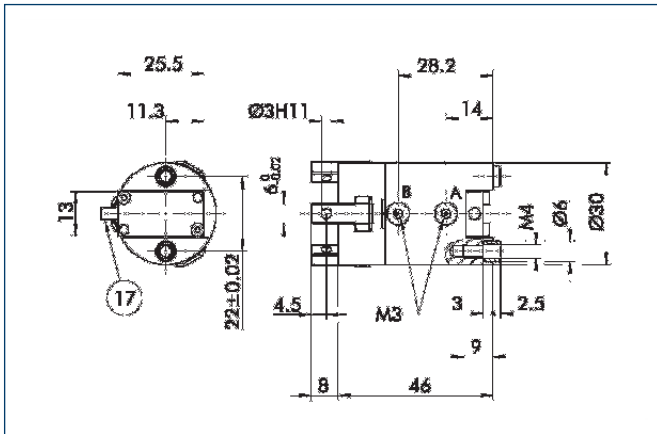
The direct connection is used for supplying compressed air to the gripper without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



Springs integrated in the gripper ensure a minimum gripping force even if there is a drop in pressure.

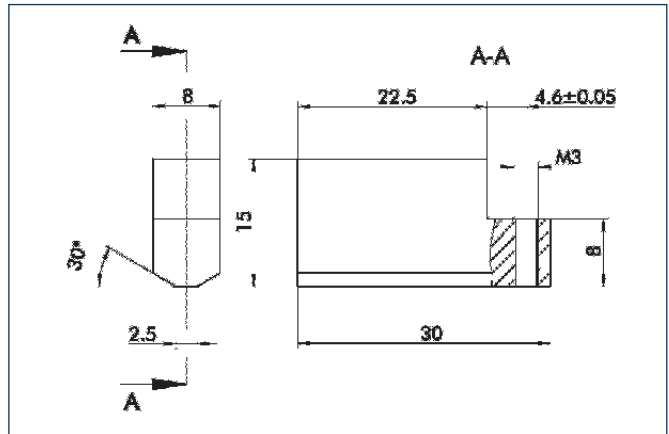
FPS measuring system



17 Cable outlet

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

Finger blanks



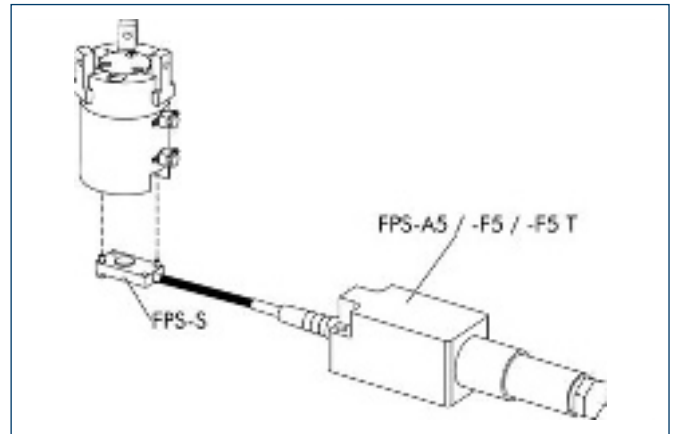
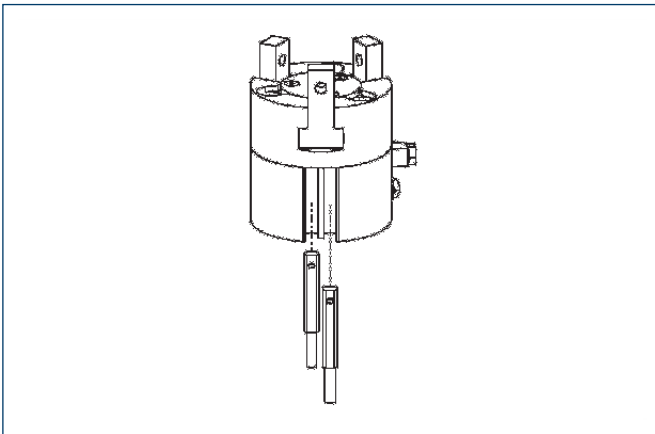
Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR 30	Aluminum	3	0340519



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

Measuring system:

FPS position monitor

Description	ID
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.

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

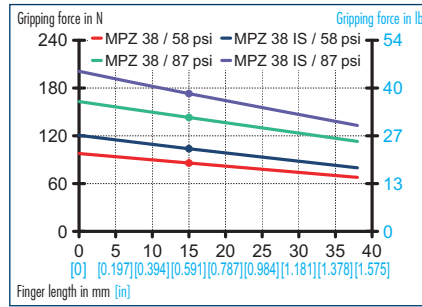
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



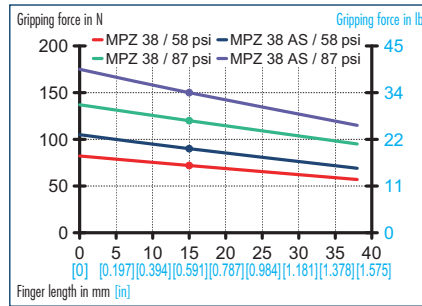
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



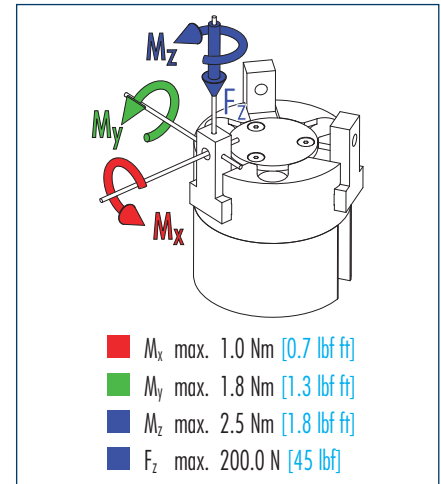
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

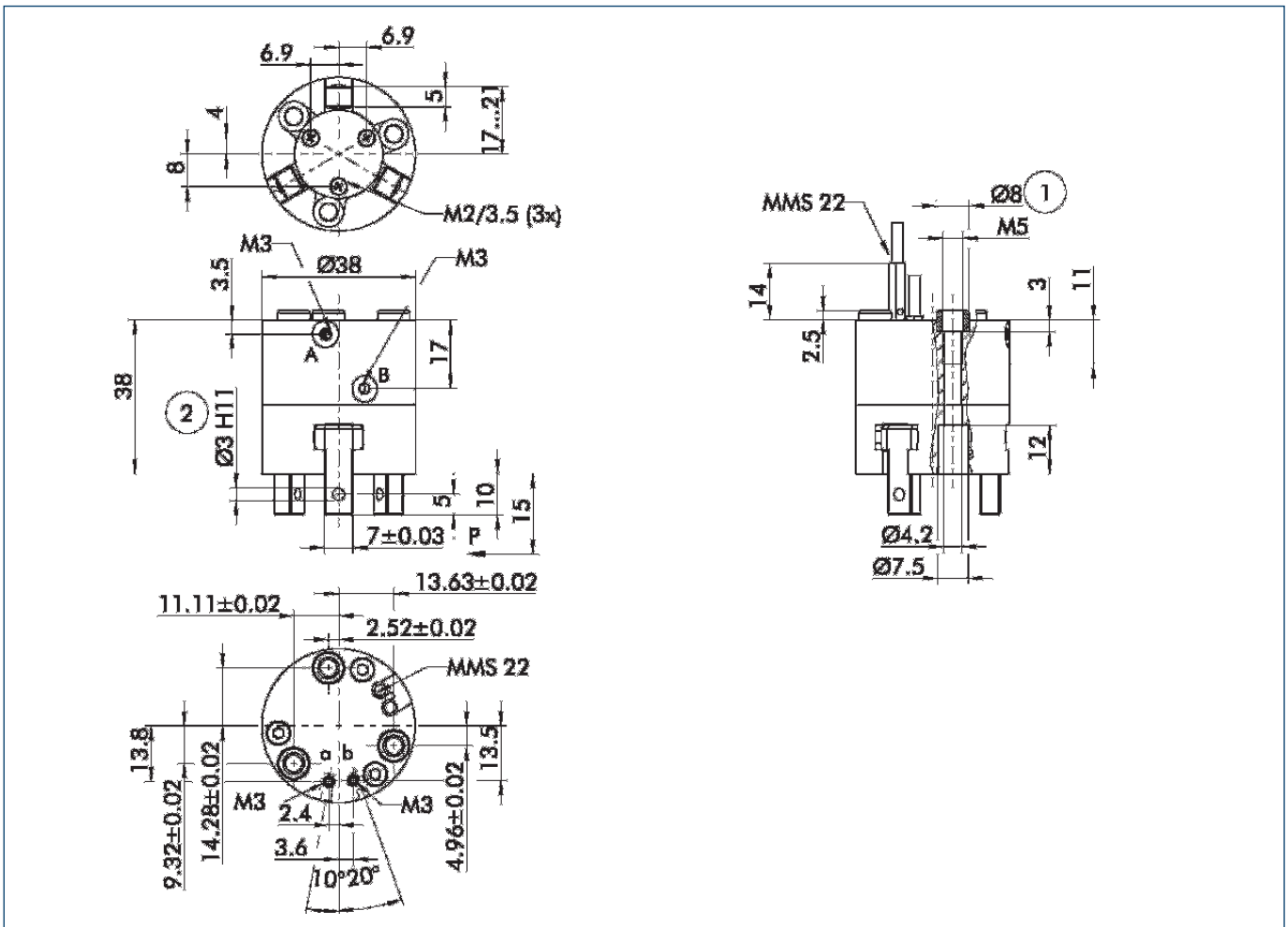


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		MPZ 38	MPZ 38 AS	MPZ 38 IS	MPZ 38 FPS
	ID	0340520	0340521	0340522	0340523
Stroke per finger	mm [in]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]
Closing force	N [lbf]	120.0 [27]	150.0 [34]		120.0 [27]
Opening force	N [lbf]	140.0 [31]		180.0 [40]	140.0 [31]
Min. gripping force through spring	N [lbf]		30.0 [6.7]	40.0 [9.0]	
Weight	kg [lbs]	0.14 [0.31]	0.19 [0.42]	0.19 [0.42]	0.19 [0.42]
Recommended workpiece weight	kg [lbs]	0.6 [1.32]	0.6 [1.32]	0.6 [1.32]	0.6 [1.32]
Air consumption per double stroke	cm ³ [in ³]	4.084 [0.25]	4.084 [0.25]	4.084 [0.25]	4.084 [0.25]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	4.0 [58]	4.0 [58]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]	6.5 [94]	6.5 [94]	8.0 [116]
Closing time	s	0.02	0.02	0.04	0.02
Opening time	s	0.02	0.04	0.02	0.02
Closing/opening time with spring only	s		0.2	0.2	
Max. permitted finger length	mm [in]	38.0 [1.496]	38.0 [1.496]	38.0 [1.496]	38.0 [1.496]
Max. permitted weight per finger	kg [lbs]	0.05 [0.11]	0.05 [0.11]	0.05 [0.11]	0.05 [0.11]
IP rating		40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

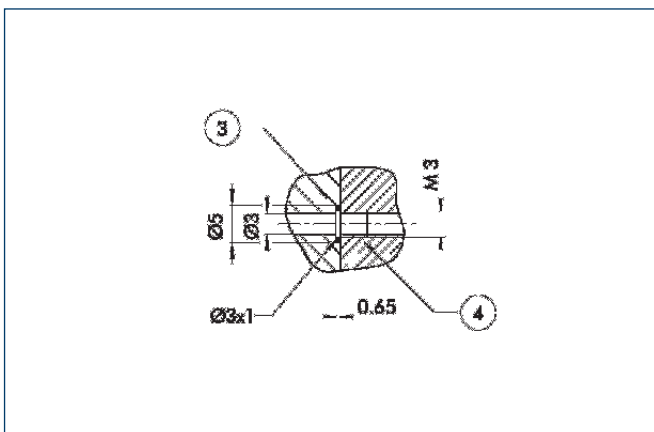


The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

- 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.

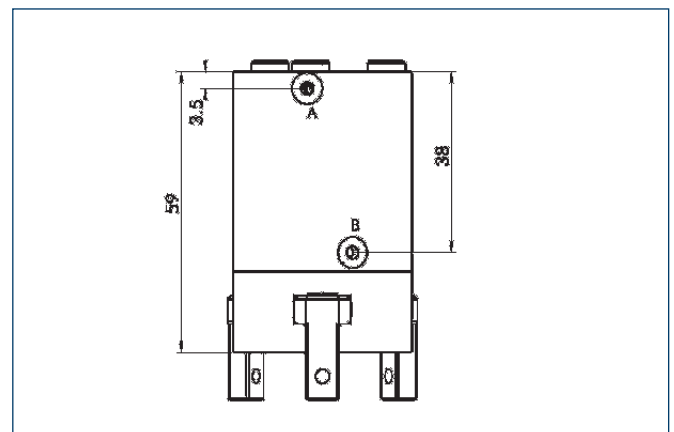
Hoseless direct connection



- ③ Adapter
- ④ Gripper

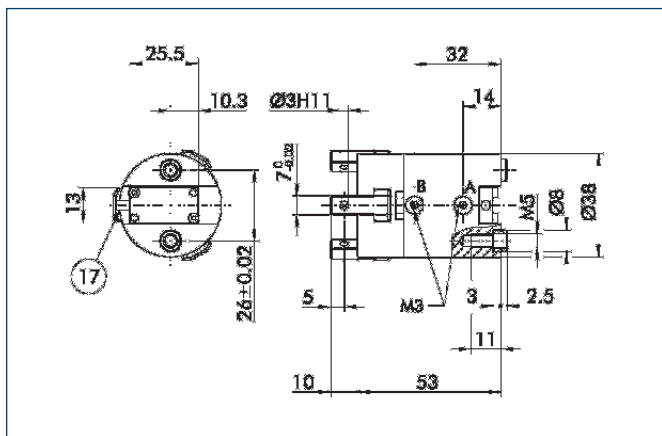
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

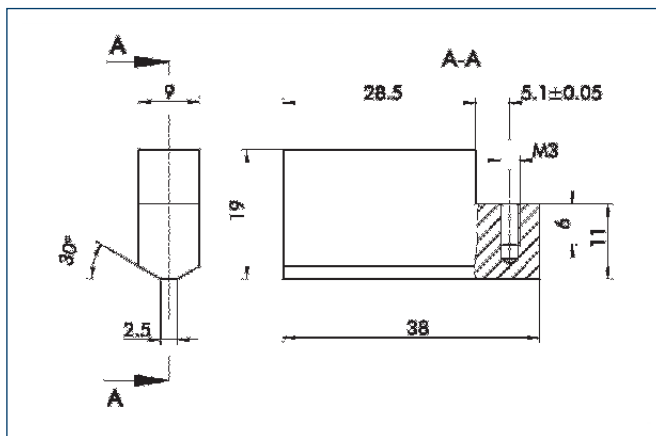
FPS measuring system



17 Cable outlet

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

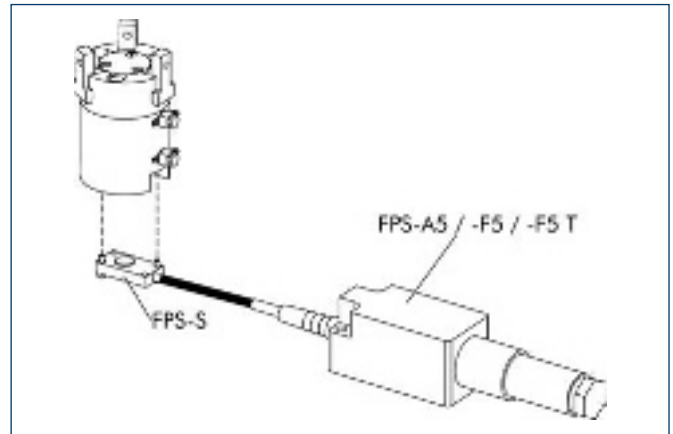
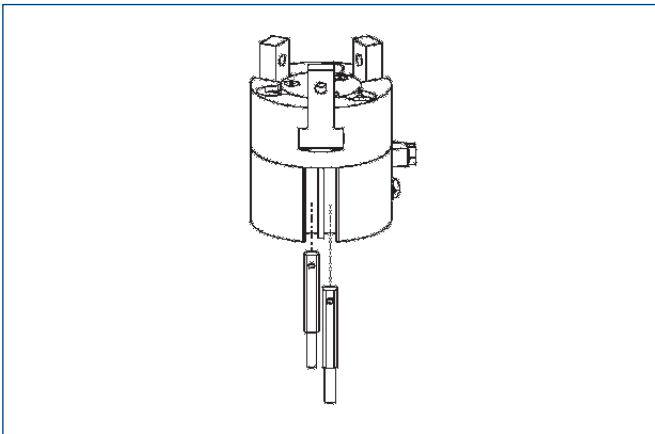
Finger blanks



Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR 38	Aluminum	3	0340529

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

Measuring system:

FPS position monitor

Description	ID
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.

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

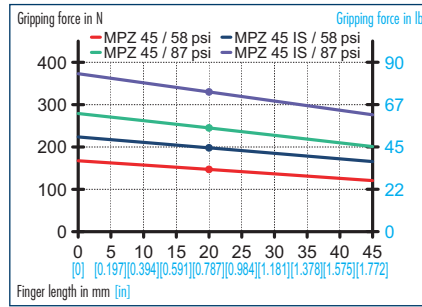
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



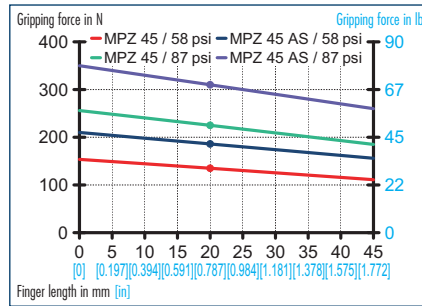
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



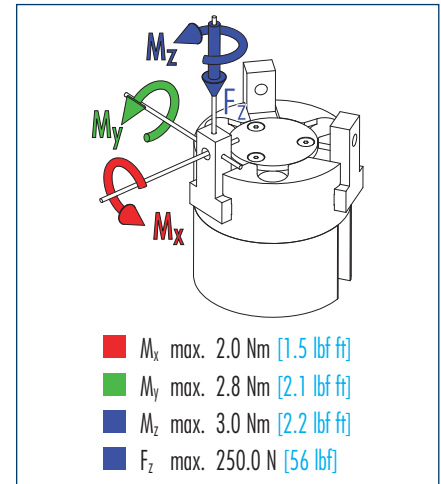
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

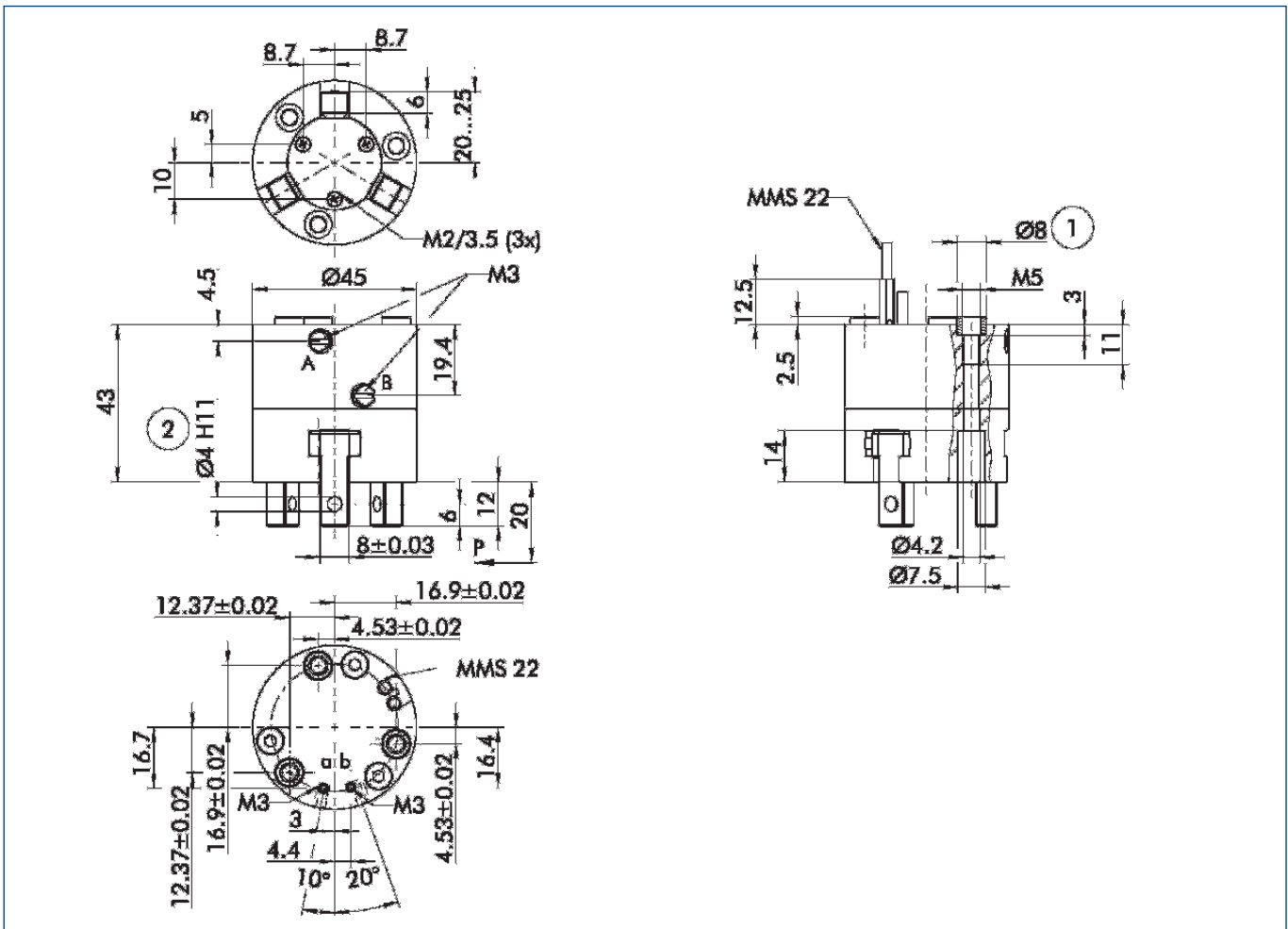


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		MPZ 45	MPZ 45 AS	MPZ 45 IS	MPZ 45 FPS
	ID	0340530	0340531	0340532	0340533
Stroke per finger	mm [in]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]
Closing force	N [lbf]	225.0 [51]	310.0 [70]		225.0 [51]
Opening force	N [lbf]	245.0 [55]		340.0 [76]	245.0 [55]
Min. gripping force through spring	N [lbf]		85.0 [19.1]	95.0 [21.4]	
Weight	kg [lbs]	0.22 [0.49]	0.28 [0.62]	0.28 [0.62]	0.29 [0.64]
Recommended workpiece weight	kg [lbs]	1.1 [2.43]	1.1 [2.43]	1.1 [2.43]	1.1 [2.43]
Air consumption per double stroke	cm ³ [in ³]	9.852 [0.60]	9.852 [0.60]	9.852 [0.60]	9.852 [0.60]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	4.0 [58]	4.0 [58]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]	6.5 [94]	6.5 [94]	8.0 [116]
Closing time	s	0.05	0.04	0.05	0.05
Opening time	s	0.05	0.05	0.04	0.05
Closing/opening time with spring only	s		0.3	0.3	
Max. permitted finger length	mm [in]	45.0 [1.772]	45.0 [1.772]	45.0 [1.772]	45.0 [1.772]
Max. permitted weight per finger	kg [lbs]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]
IP rating		40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

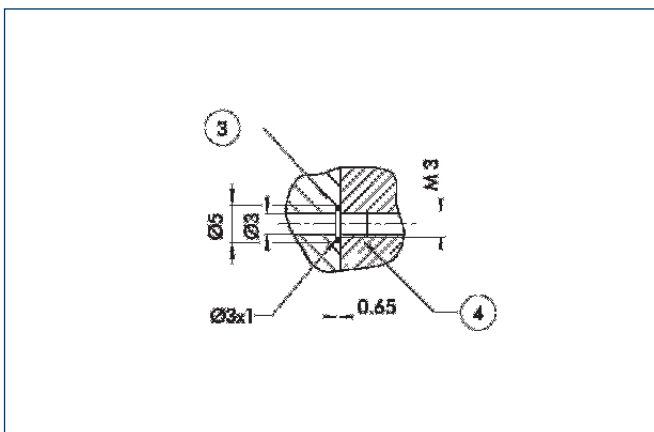


The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

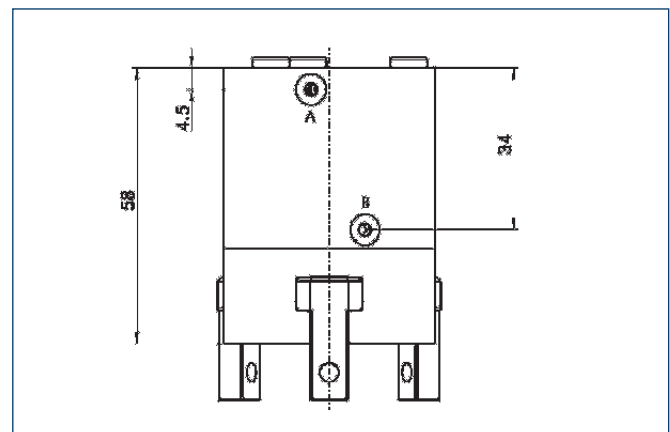
Hoseless direct connection



- ③ Adapter
- ④ Gripper

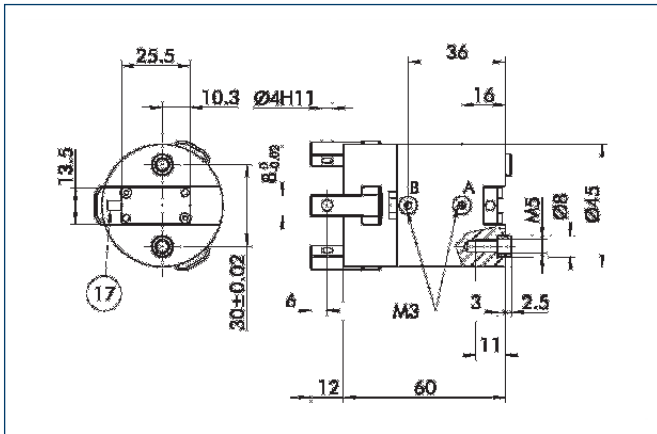
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

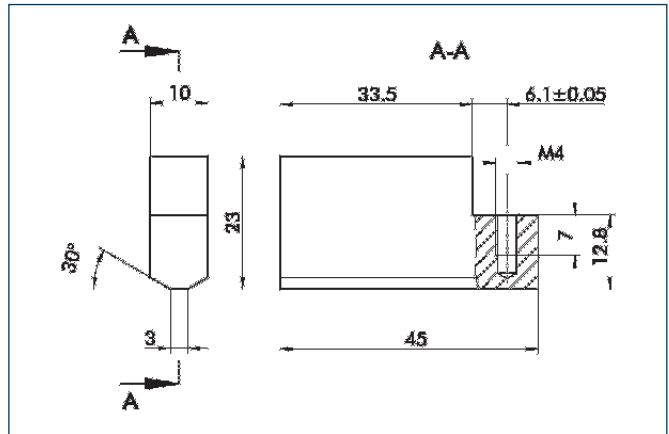
FPS measuring system



17 Cable outlet

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

Finger blanks



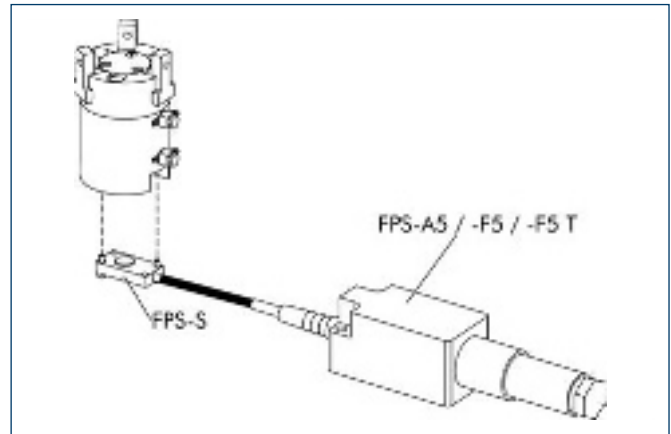
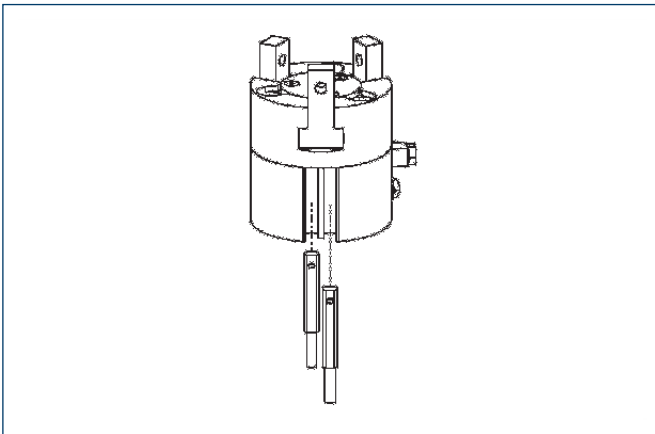
Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR 45	Aluminum	3	0340539



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

Measuring system:

FPS position monitor

Description	ID
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.

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

PZN-plus

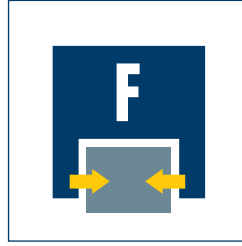
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Sizes
40 .. 300



Weight
0.43 kg .. 43.5 kg
0.95 lbs .. 95.90 lbs



Gripping force
580 N .. 38000 N
130 lbf .. 8543 lbf

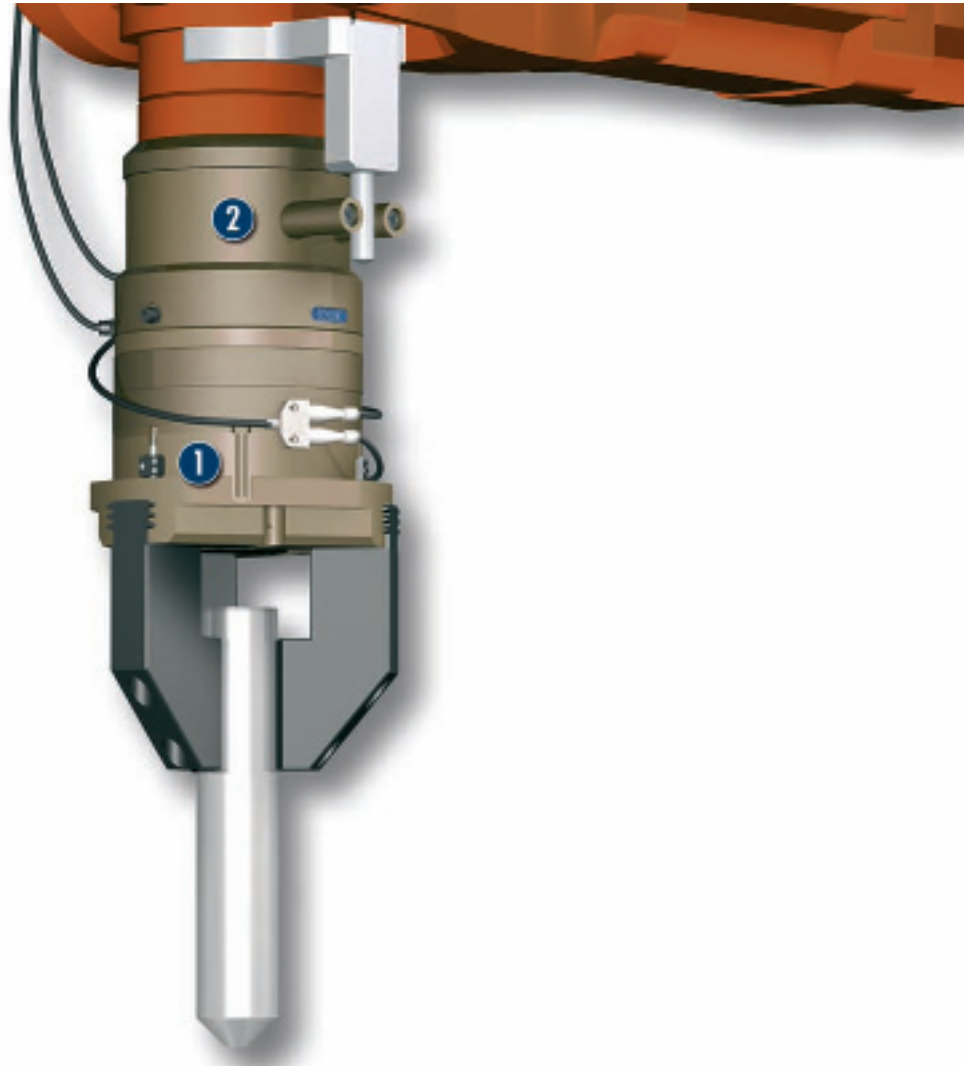


Stroke per finger
3 mm .. 35 mm
0.118 in .. 1.378 in



Workpiece weight
2.9 kg .. 190 kg
6.39 lbs .. 418.88 lbs

Application example



Insertion tool for assembling small to medium-sized axles.
Thanks to the rotary feed-through, the axles can be turned several times to an unlimited extent (> 360°).
Slip ring contacts integrated in the rotary feed-through reliably supply the gripper with power.

1 PZN-plus 200-1
3-Finger Centric Gripper

2 DDF 125 Rotary Feed-through

Universal Gripper

Universal centric gripper with large gripping force and high maximum moments thanks to multiple-tooth guidance

Area of application

For universal use, including in areas with special gripper requirements (temperature, chemical resistance, dirt, and many more) thanks to the diverse range of accessories available

Your advantages and benefits

Robust multiple-tooth guidance

for precise handling

High moment load capabilities

suitable for the use of long gripper fingers

Wedge-hook design

for high power transmission and synchronized gripping

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessories

for diverse monitoring tasks and stroke position monitoring

Diverse options

(dust protection, high temperature, anti-corrosion and many more) for optimization to suit precisely your requirements



General information on the series

Working principle

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Hardened 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

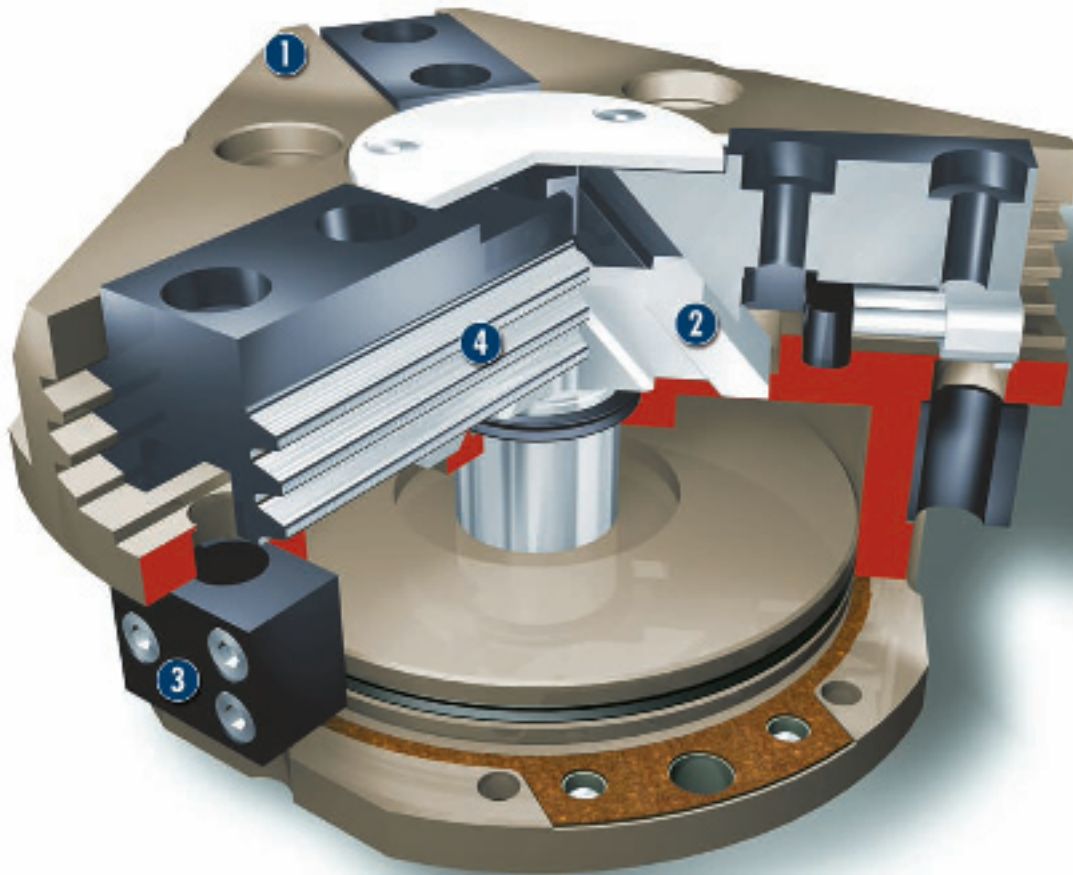
Scope of delivery

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

Gripping force safety device

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

Sectional diagram



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

2 Kinematics
wedge-hook principle for high power transmission and synchronized gripping

3 Sensor system
brackets for proximity switches and adjustable switch cams in the housing

4 Multiple-tooth guidance
precise gripping through high load-bearing base jaw guide with minimum play

Function description

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

Options and special information

Dust-protection version

Absolutely dust-proof, increased degree of protection against the ingress of materials, for use in dusty environments

Anti-corrosion version

For use in corrosion-inducing atmospheres

High-temperature version

For use in hot environments

Increased grip version

When higher gripping forces are required

Accessories

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

Centering sleeves



Fittings



MMS magnetic switch



IN inductive proximity switches



HUE protective cover



BSWS quick-change jaw system



W/WK/KV/GK sensor cables



V sensor distributors



SDV-P pressure maintenance valves



Finger blanks



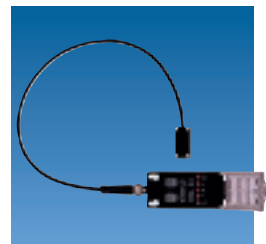
FMS force measuring system



APS analog position sensor



FPS flexible position sensor



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 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.

Pressure piece

The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

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 clamping.

Closing and opening times

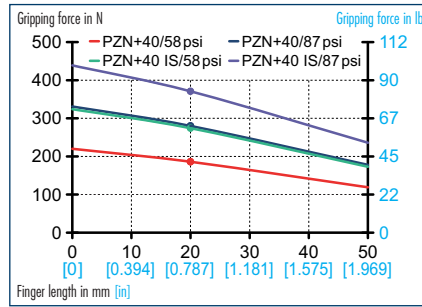
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PZN-plus 40

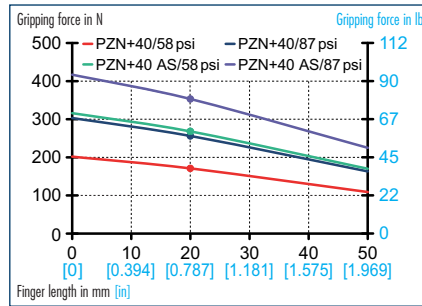
Pneumatic · 3-Finger Centric Grippers · Universal Grippers



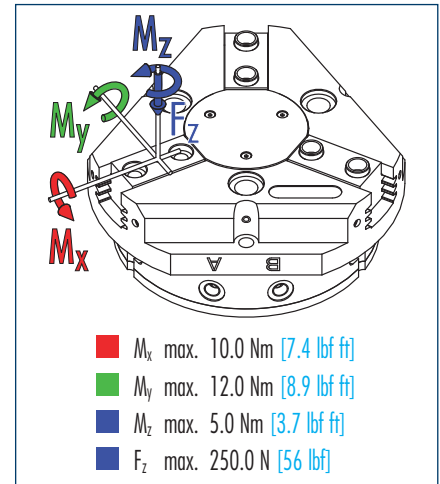
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

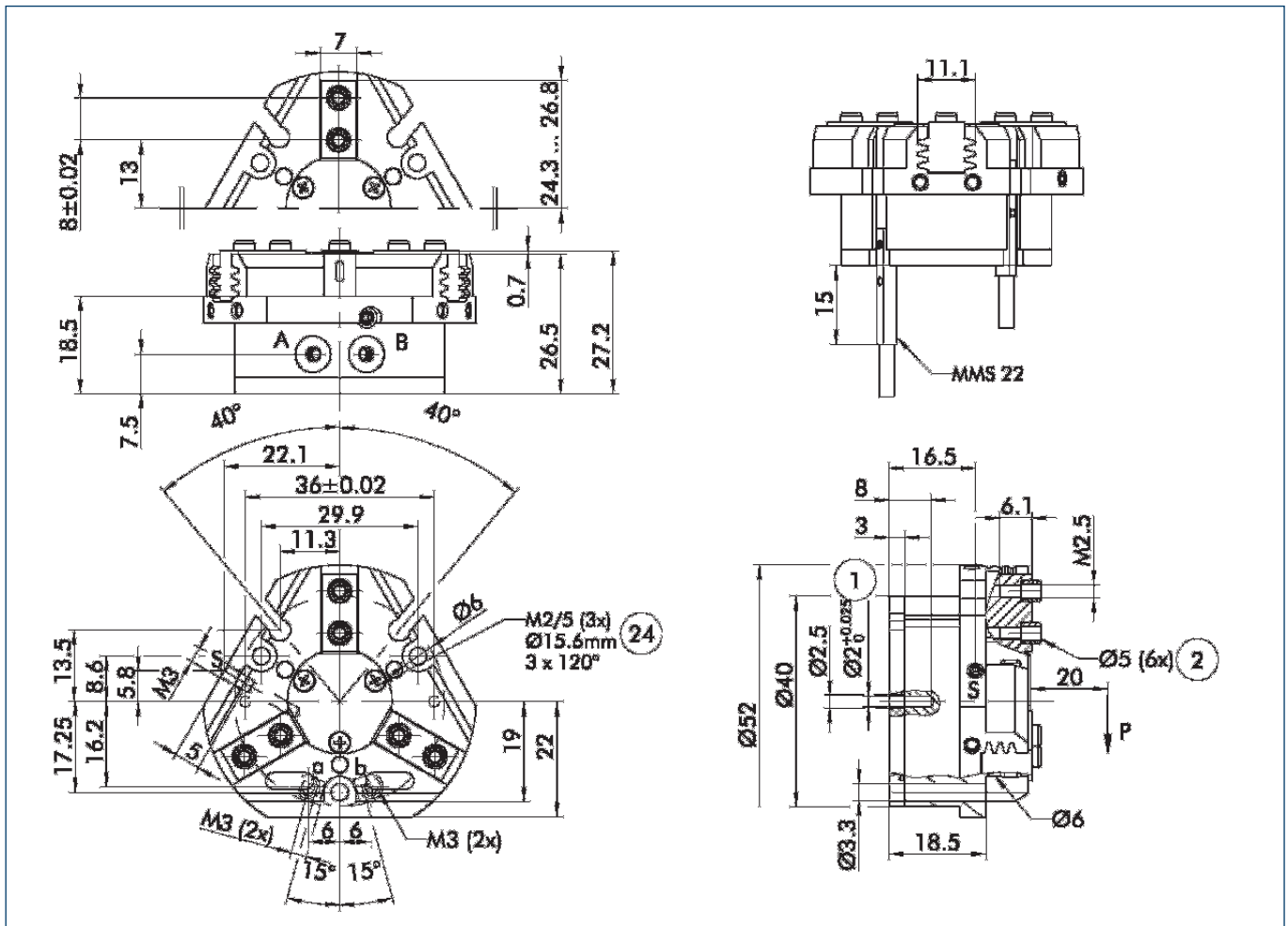


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		PZN-plus 40	PZN-plus 40 AS	PZN-plus 40 IS
ID		0303308	0303508	0303538
Stroke per jaw	mm [in]	2.5 [0.098]	2.5 [0.098]	2.5 [0.098]
Closing force	N [lbf]	255.0 [57]	355.0 [80]	
Opening force	N [lbf]	280.0 [63]		370.0 [83]
Min. spring force	N [lbf]		100.0 [22.5]	115.0 [26]
Weight	kg [lbs]	0.13 [0.29]	0.15 [0.33]	0.15 [0.33]
Recommended workpiece weight	kg [lbs]	1.25 [2.76]	1.25 [2.76]	1.25 [2.76]
Air consumption per double stroke	cm ³ [in ³]	5.0 [0.31]	9.0 [0.55]	9.0 [0.55]
Minimum pressure	bar [psi]	2.0 [29]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.03	0.02	0.04
Opening time	s	0.03	0.04	0.02
Max. permitted finger length	mm [in]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.1 [0.22]	0.1 [0.22]	0.1 [0.22]
IP class		40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]
OPTIONS and their characteristics				
Dust-protection version	ID	37303308	37303508	37303538
IP class		64	64	64
Weight	kg [lbs]	0.16 [0.35]	0.18 [0.40]	0.18 [0.40]
Anti-corrosion version	ID	38303308	38303508	38303538
High-temperature version	ID	39303308	39303508	39303538
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]

Main views

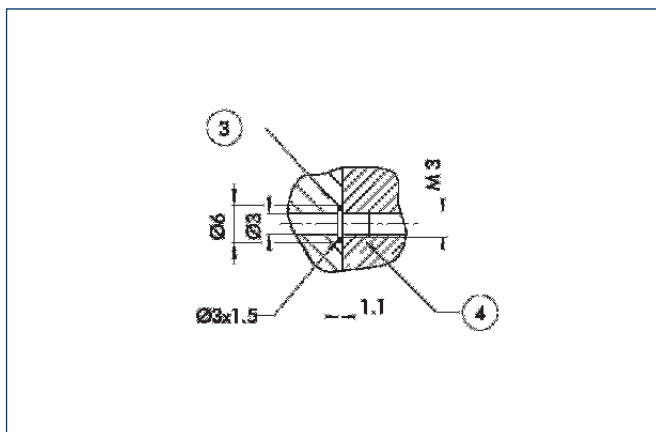


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②④ Bolt pitch circle

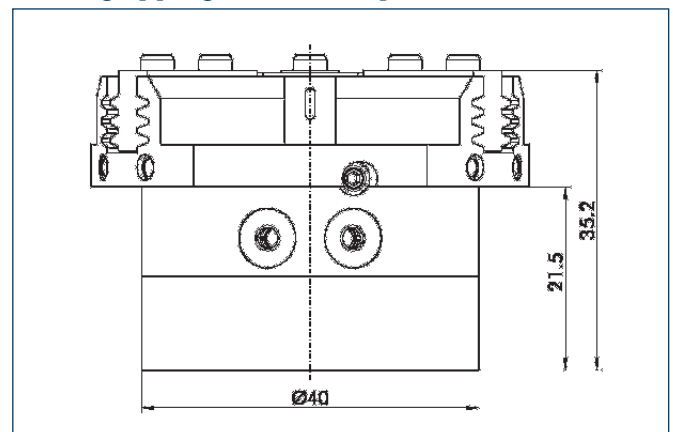
Hoseless direct connection



- 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.

AS/IS gripping force safety device

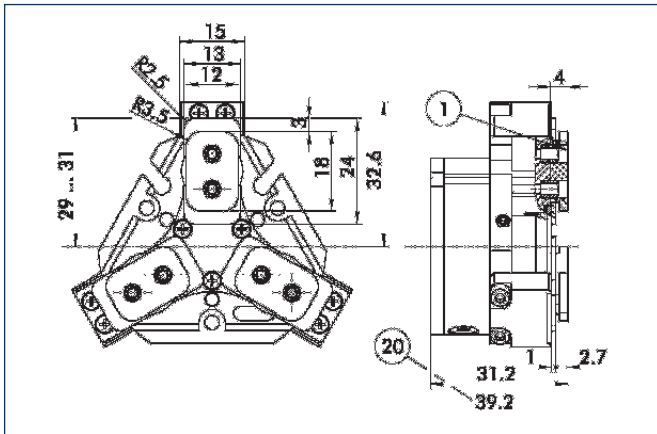


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 40

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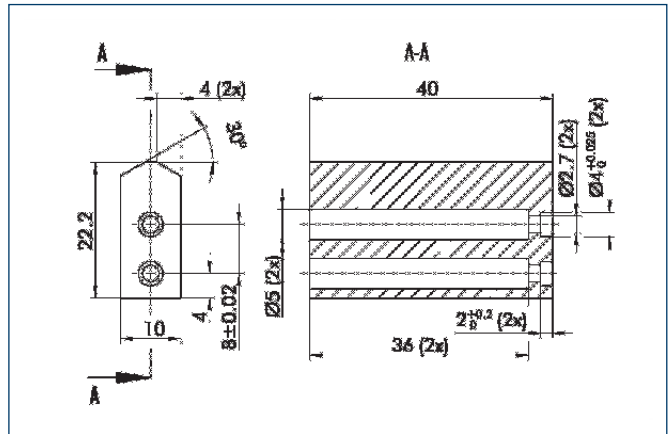
Dust protection



- ① Gripper connection
- ② With AS / IS version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

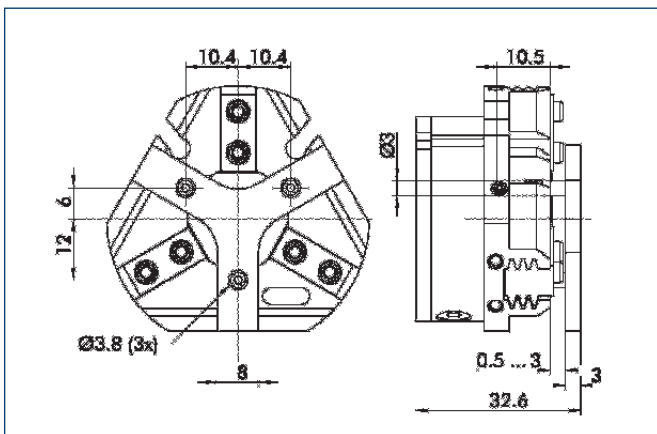
Finger blanks



Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 40	Aluminum	1	0300008
SBR-plus 40	16 MnCr 5	1	0300018

Spring-loaded pressure piece



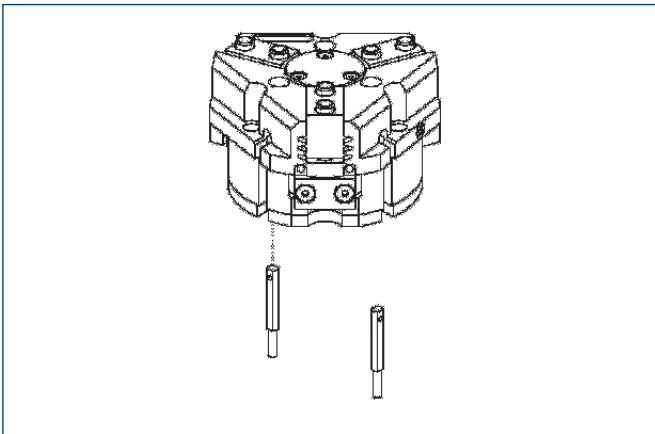
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus 40	2.5 mm	5 N	0303718



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



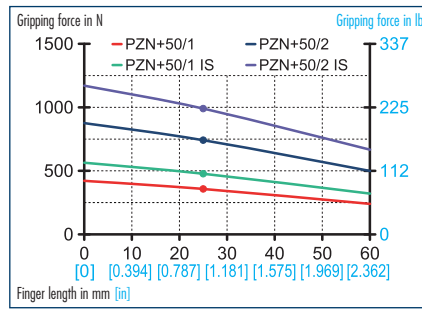
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PZN-plus 50

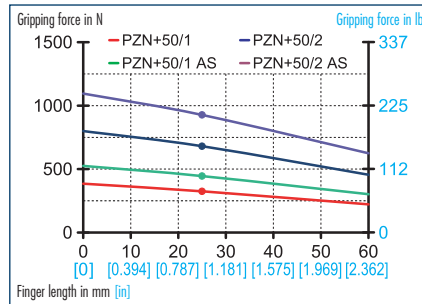
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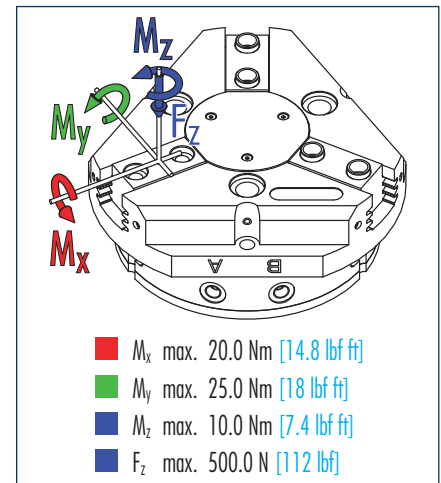
Gripping force, I.D. gripping



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.

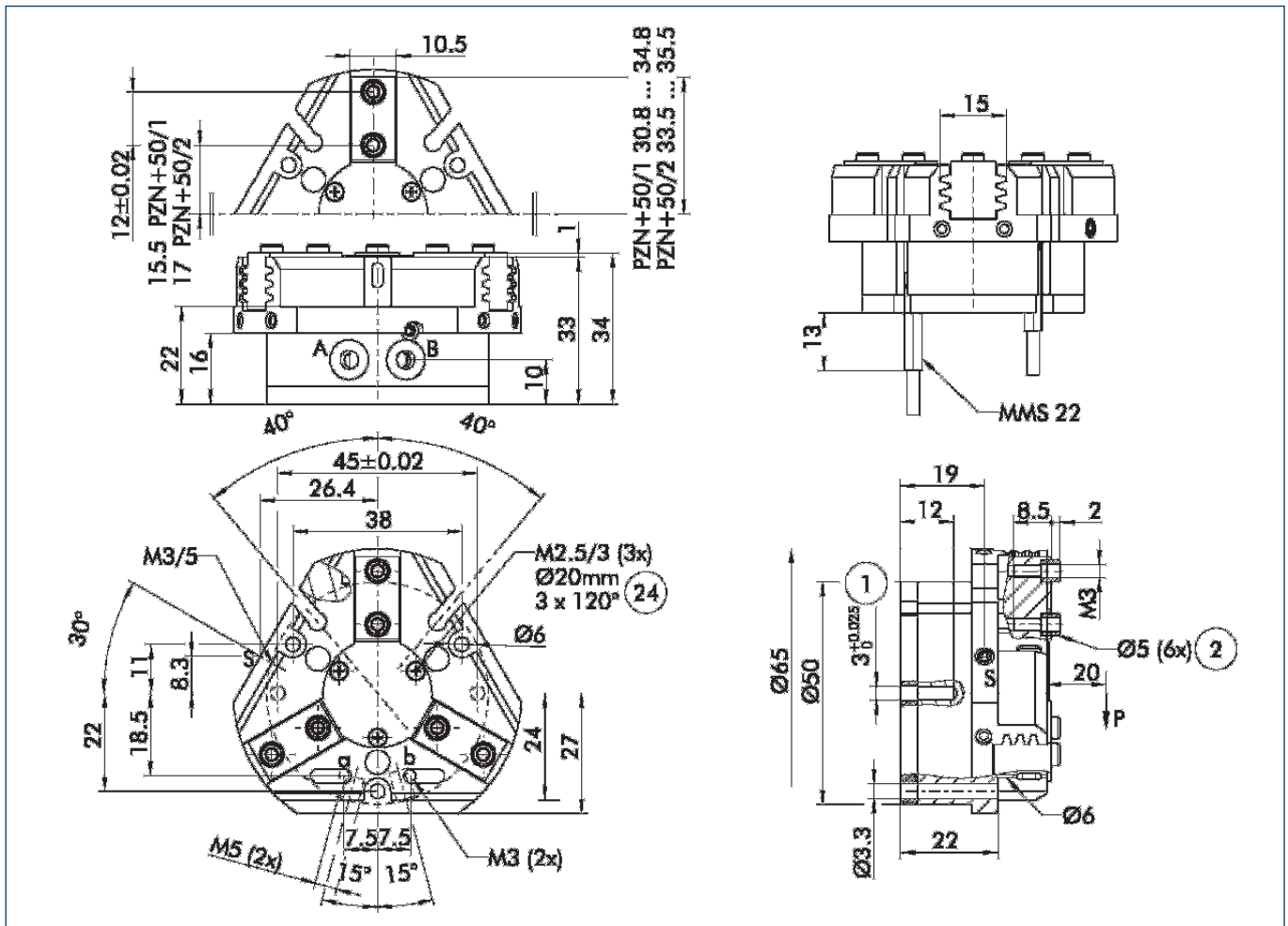
Technical data

Description		PZN-plus 50-1	PZN-plus 50-2	PZN-plus 50-1 AS	PZN-plus 50-2 AS	PZN-plus 50-1 IS	PZN-plus 50-2 IS
ID		0303309	0303409	0303509	0303609	0303539	0303639
Stroke per jaw	mm [in]	4.0 [0.157]	2.0 [0.079]	4.0 [0.157]	2.0 [0.079]	4.0 [0.157]	2.0 [0.079]
Closing force	N [lbf]	325.0 [73]	680.0 [153]	445.0 [100]	925.0 [208]		
Opening force	N [lbf]	355.0 [80]	740.0 [166]			475.0 [107]	990.0 [223]
Min. spring force	N [lbf]			120.0 [27]	245.0 [55]	150.0 [34]	310.0 [70]
Weight	kg [lbs]	0.27 [0.60]	0.27 [0.60]	0.32 [0.71]	0.32 [0.71]	0.32 [0.71]	0.32 [0.71]
Recommended workpiece weight	kg [lbs]	1.6 [3.53]	3.4 [7.50]	1.6 [3.53]	3.4 [7.50]	1.6 [3.53]	3.4 [7.50]
Air consumption per double stroke	cm ³ [in ³]	9.0 [0.55]	9.0 [0.55]	18.0 [1.10]	18.0 [1.10]	18.0 [1.10]	18.0 [1.10]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.03	0.03	0.02	0.02	0.04	0.04
Opening time	s	0.03	0.03	0.04	0.04	0.02	0.02
Max. permitted finger length	mm [in]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

Dust-protection version	ID	37303309	37303409	37303509	37303609	37303539	37303639
IP class		64	64	64	64	64	64
Weight	kg [lbs]	0.33 [0.73]	0.33 [0.73]	0.38 [0.84]	0.38 [0.84]	0.38 [0.84]	0.38 [0.84]
Anti-corrosion version	ID	38303309	38303409	38303509	38303609	38303539	38303639
High-temperature version	ID	39303309	39303409	39303509	39303609	39303539	39303639
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]

Main views

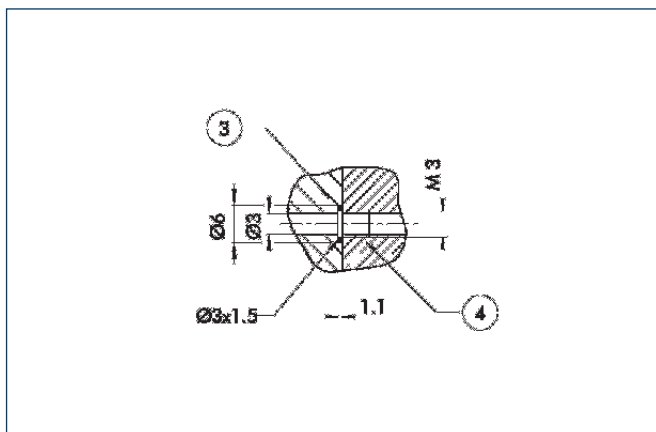


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ② Bolt pitch circle

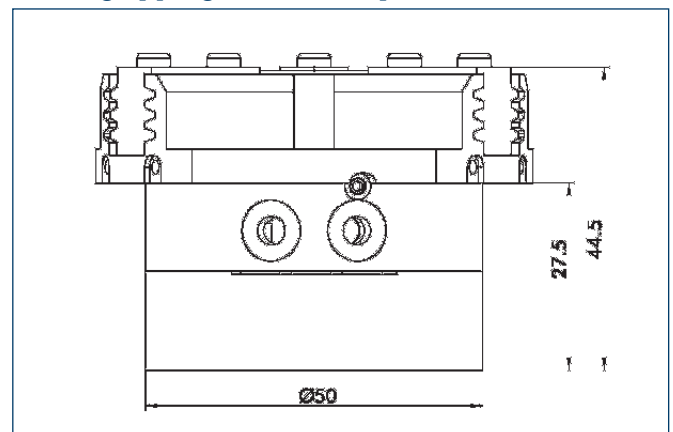
Hoseless direct connection



- 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.

AS/IS gripping force safety device

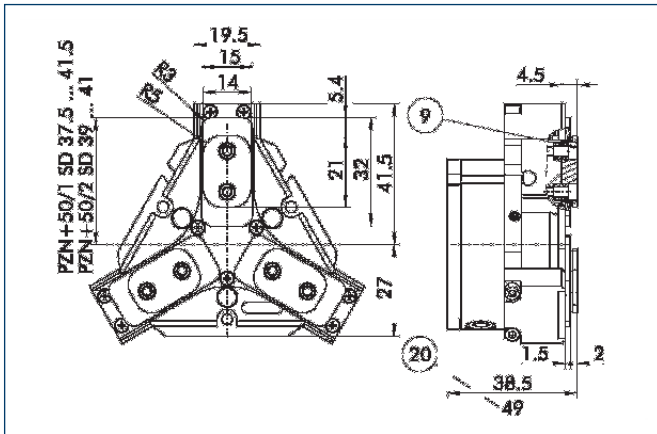


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 50

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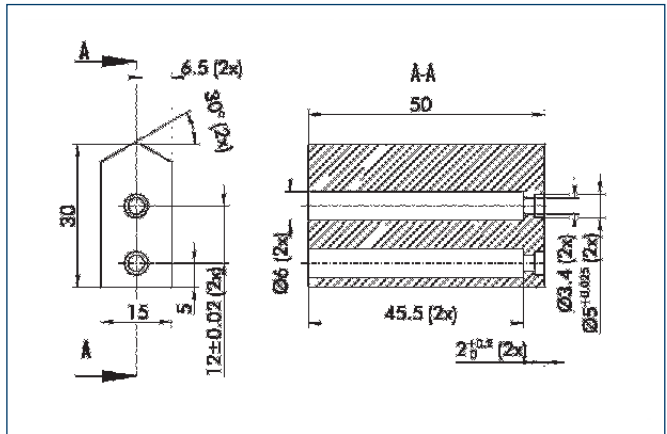
Dust protection



- ⑨ For screw connection diagram, see basic version
- ⑳ With AS / IS version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

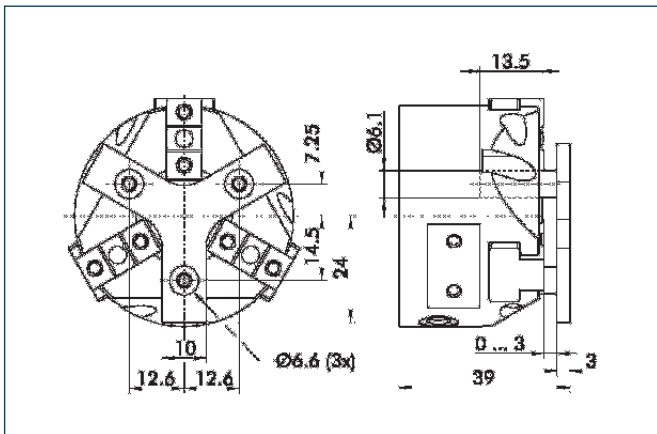
Finger blanks



Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 50	Aluminum	1	0300009
SBR-plus 50	16 MnCr 5	1	0300019

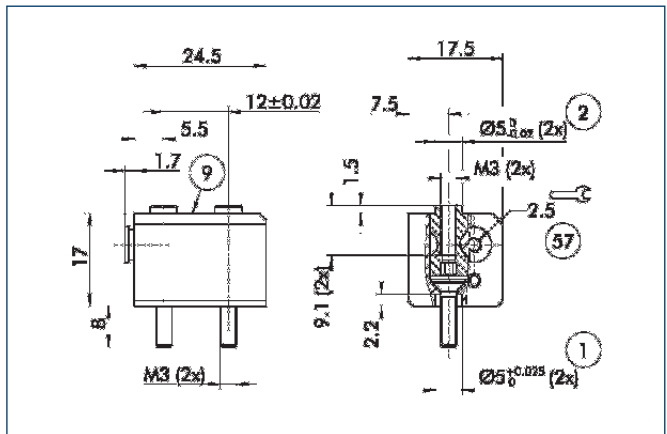
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus 50	3 mm	12 N	0303719

BSWS quick-change jaw system

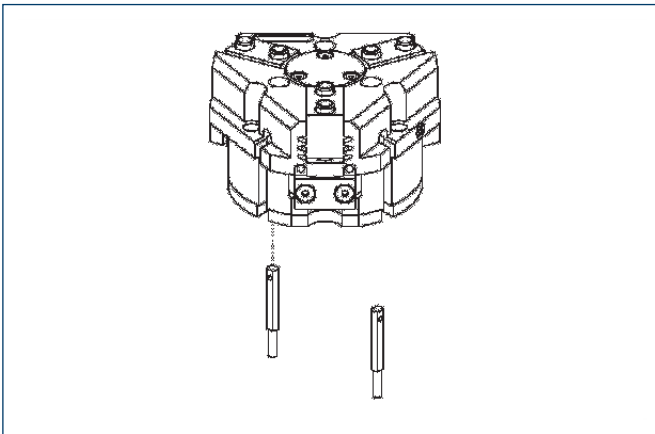


- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑤⑦ Locking mechanism

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



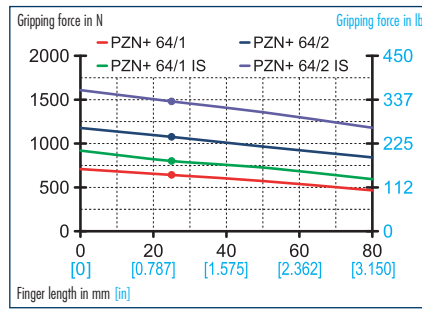
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PZN-plus 64

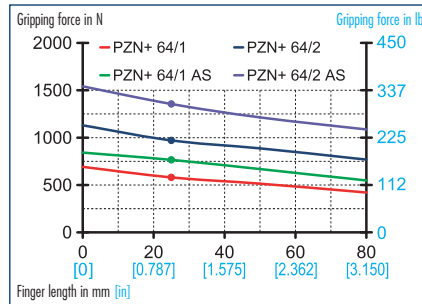
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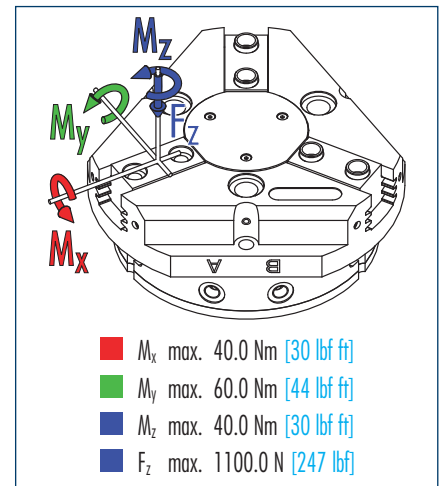
Gripping force, I.D. gripping



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.

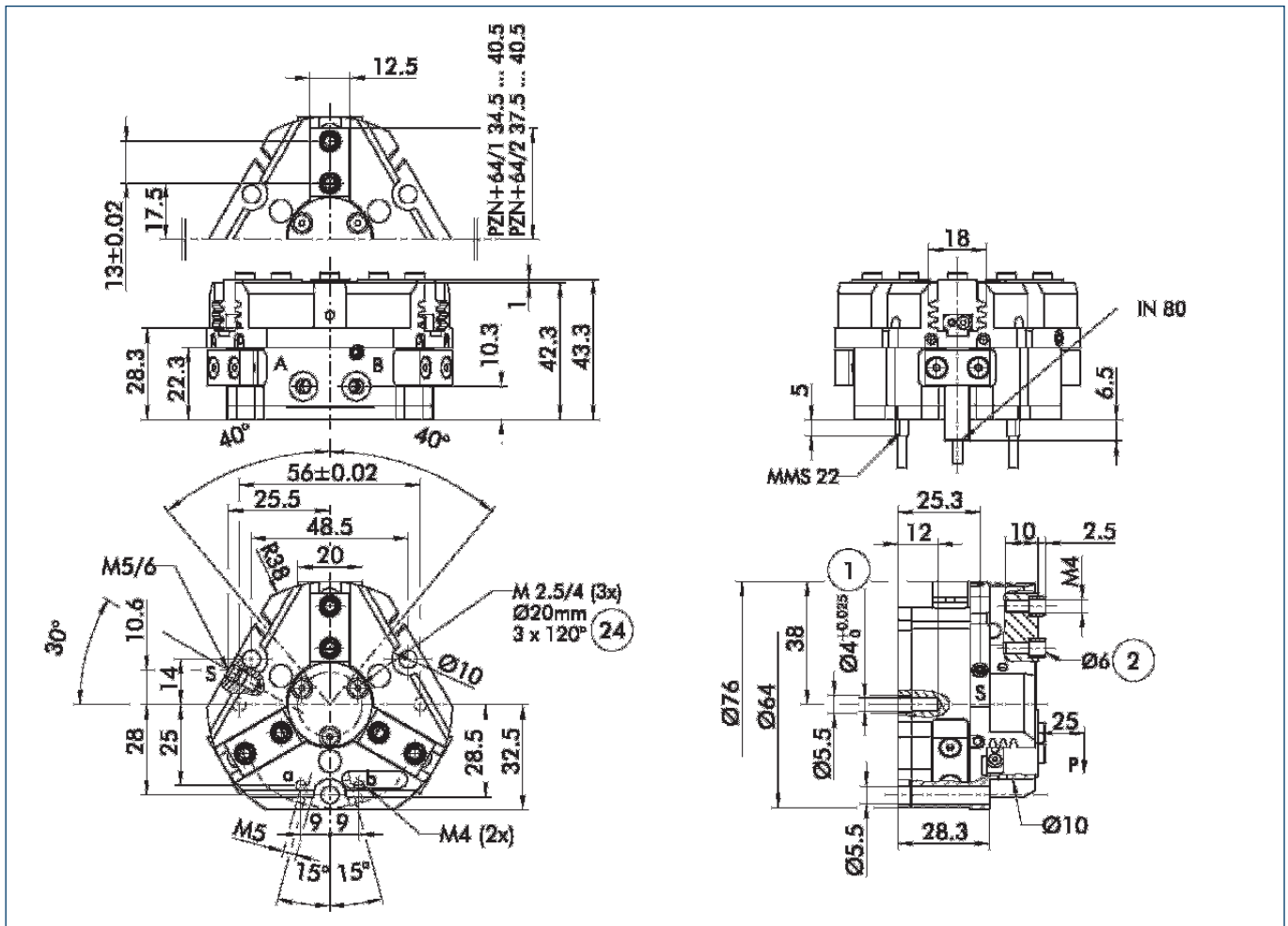
Technical data

Description		PZN-plus 64-1	PZN-plus 64-2	PZN-plus 64-1 AS	PZN-plus 64-2 AS	PZN-plus 64-1 IS	PZN-plus 64-2 IS
ID		0303310	0303410	0303510	0303610	0303540	0303640
Stroke per jaw	mm [in]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]
Closing force	N [lbf]	580.0 [130]	970.0 [218]	765.0 [172]	1355.0 [305]		
Opening force	N [lbf]	640.0 [144]	1075.0 [242]			800.0 [180]	1480.0 [333]
Min. spring force	N [lbf]			185.0 [42]	315.0 [71]	220.0 [49]	460.0 [103]
Weight	kg [lbs]	0.43 [0.95]	0.43 [0.95]	0.54 [1.19]	0.54 [1.19]	0.54 [1.19]	0.54 [1.19]
Recommended workpiece weight	kg [lbs]	2.9 [6.39]	4.85 [10.69]	2.9 [6.39]	4.85 [10.69]	2.9 [6.39]	4.85 [10.69]
Air consumption per double stroke	cm ³ [in ³]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.03	0.03	0.02	0.02	0.04	0.04
Opening time	s	0.03	0.03	0.04	0.04	0.02	0.02
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	0.35 [0.77]	0.35 [0.77]	0.35 [0.77]	0.35 [0.77]	0.35 [0.77]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

Dust-protection version	ID	37303310	37303410	37303510	37303610	37303540	37303640
IP class		64	64	64	64	64	64
Weight	kg [lbs]	0.6 [1.32]	0.6 [1.32]	0.71 [1.57]	0.71 [1.57]	0.71 [1.57]	0.71 [1.57]
Anti-corrosion version	ID	38303310	38303410	38303510	38303610	38303540	38303640
High-temperature version	ID	39303310	39303410	39303510	39303610	39303540	39303640
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]
KVZ for increased grip force	ID	0372201	0372211	0372221		0372241	
Description		PZN-plus 64/1-KVZ	PZN-plus 64/2-KVZ	PZN-plus 64/1 AS-KVZ		PZN-plus 64/1 IS-KVZ	
Closing force	N [lbf]	1045.0 [235]	1745.0 [392]	1230.0 [277]			
Opening force	N [lbf]	1150.0 [259]	1935.0 [435]			1265.0 [284]	
Weight	kg [lbs]	0.7 [1.54]	0.7 [1.54]	0.8 [1.76]		0.8 [1.76]	
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]		6.0 [87]	
Max. permitted finger length	mm [in]	80.0 [3.150]	64.0 [2.520]	64.0 [2.520]		64.0 [2.520]	

Main views

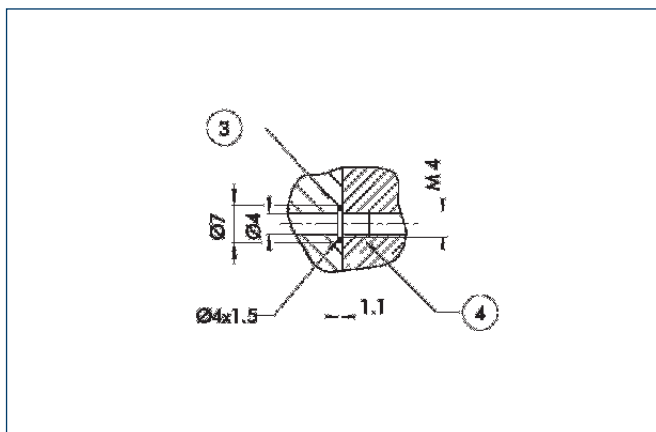


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②④ Bolt pitch circle

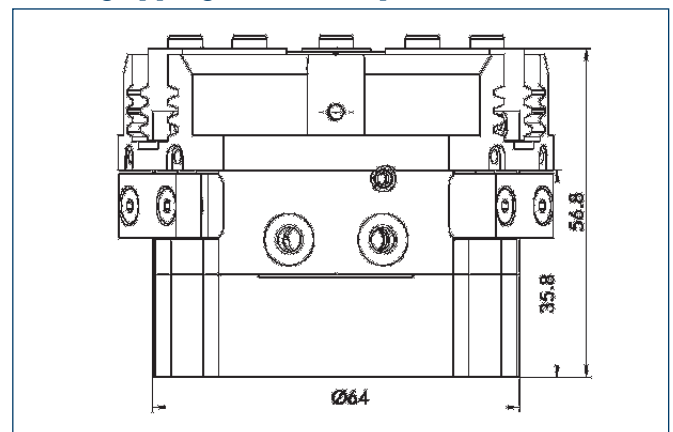
Hoseless direct connection



- 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.

AS/IS gripping force safety device

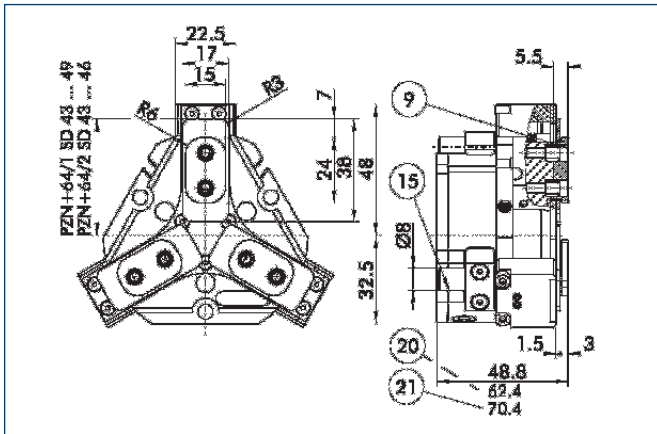


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 64

Pneumatic · 3-Finger Centric Grippers · **Universal Grippers**

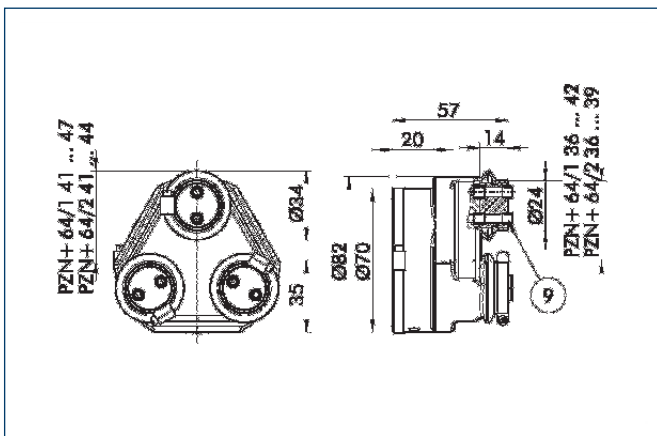
Dust protection



- ⑨ For screw connection diagram, see basic version
- 15 Sealing bolt
- 20 With AS / IS version
- 21 For KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

HUE protective cover



- ⑨ For screw connection diagram, see basic version

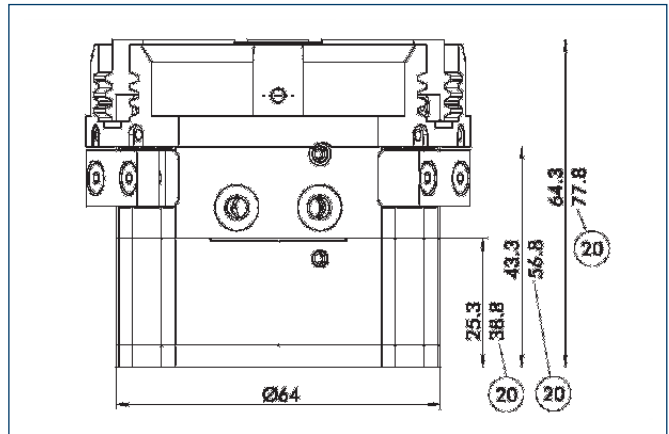
The HUE protective cover completely protects the gripper against external influences up to IP65. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID
HUE PZN-plus 64	0303480



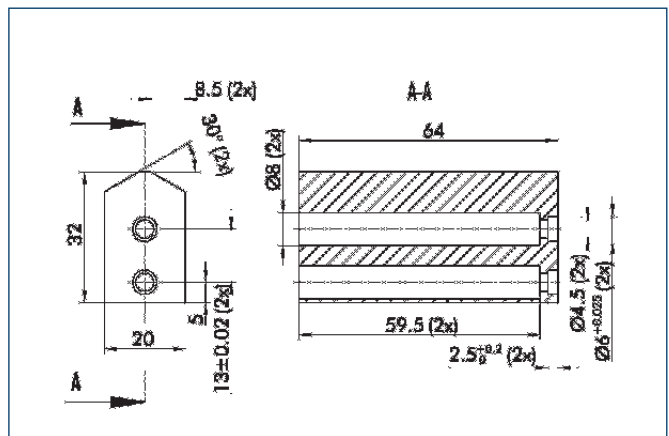
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

KVZ for increased grip force



The KVZ grip force cylinder increases the gripping forces on opening and closing. A second series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

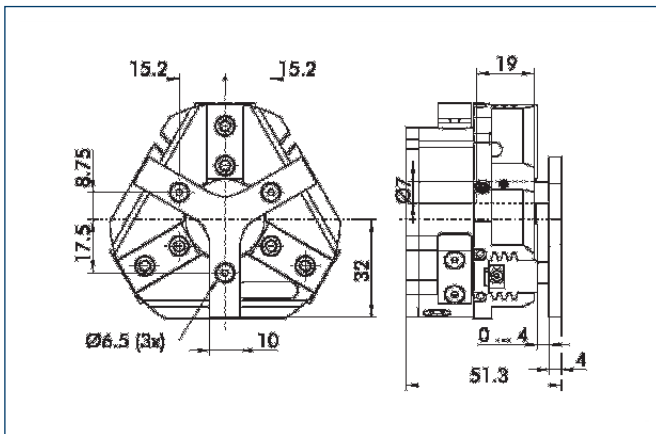
Finger blanks



Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 64	Aluminum	1	0300010
SBR-plus 64	16 MnCr 5	1	0300020

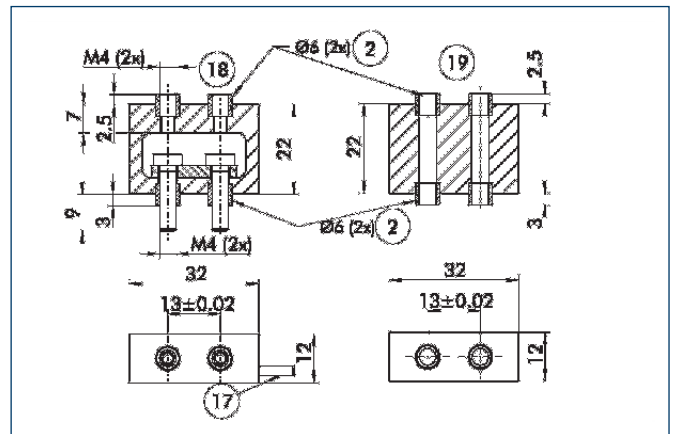
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines tools.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 64	4 mm	11 N	0303720

FMS force measuring jaws

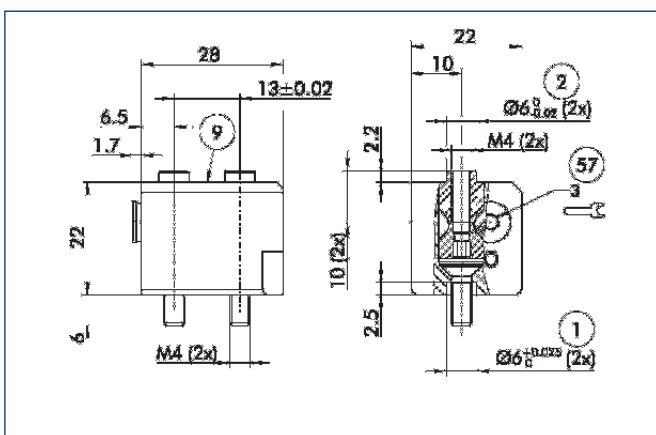


- ② Finger connection
- ⑰ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A1	0301810
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 64	0301832
FMS-ZBP 64	0301833

BSWS quick-change jaw system



- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑵ Locking mechanism

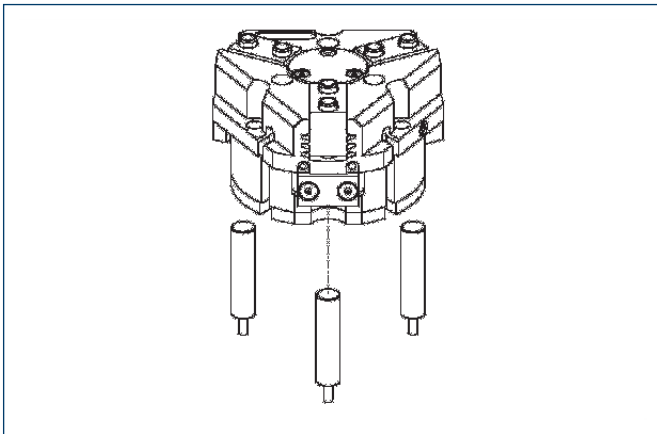
The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 64	0303022
BSWS-B 64	0303023



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

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

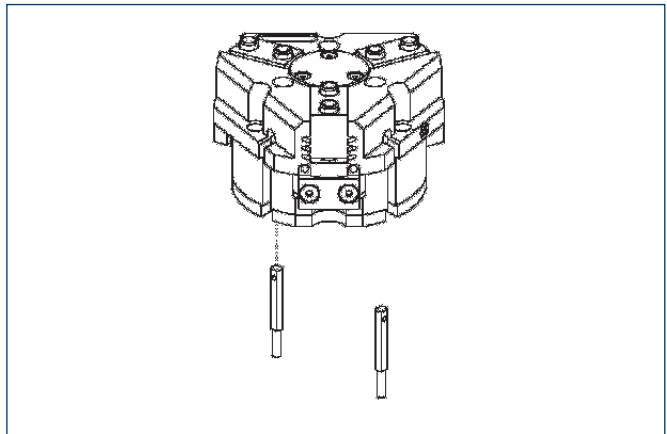
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

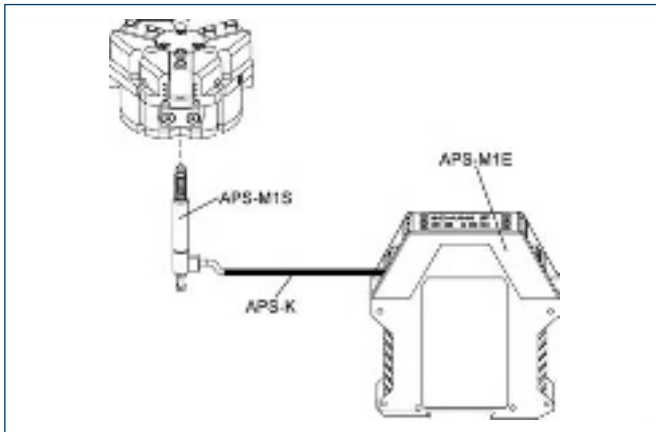
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

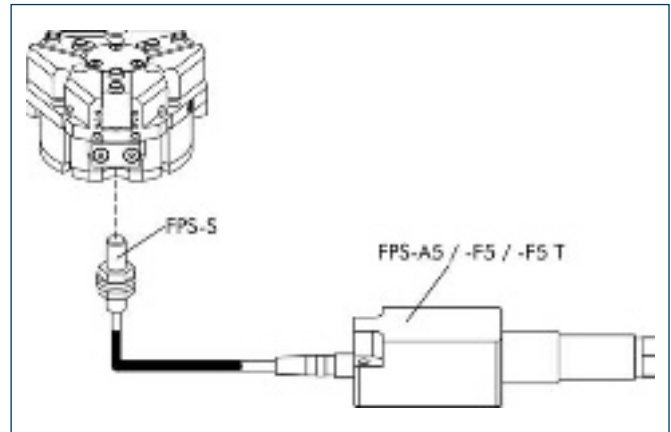
Sensor system



Measuring system: APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-64/1	0302075
AS-APS-M1-64/2	0302076

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



Measuring system: FPS position monitor

Description	ID
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.



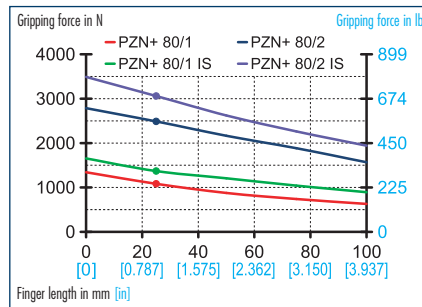
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZN-plus 80

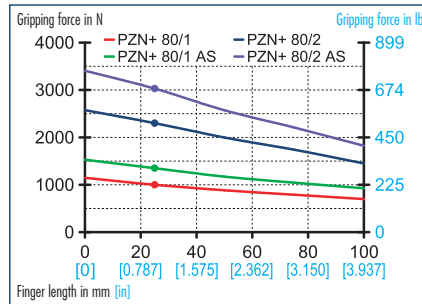
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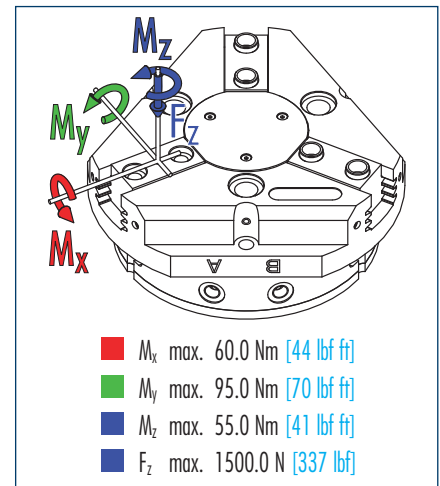
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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.

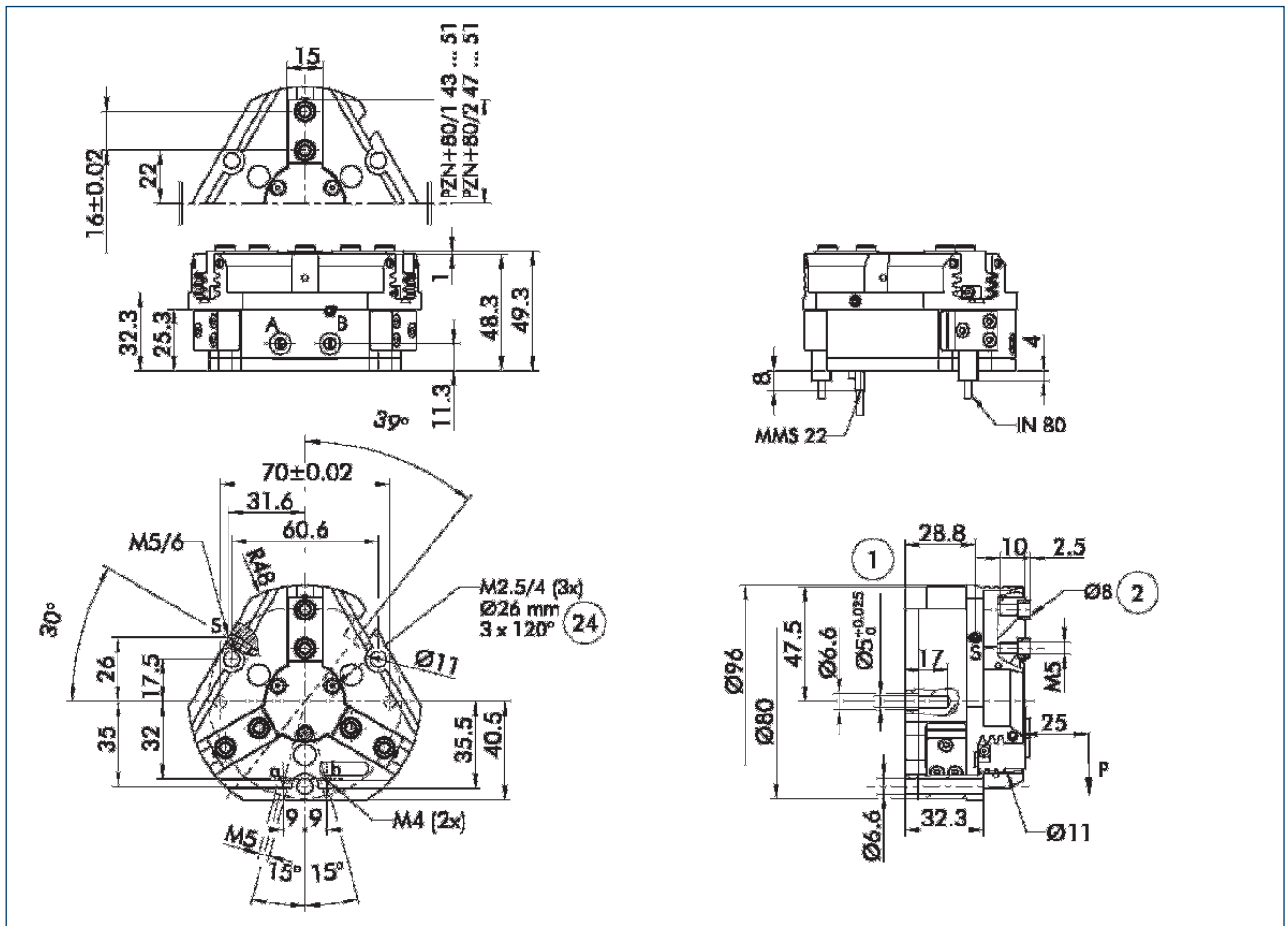
Technical data

Description		PZN-plus 80-1	PZN-plus 80-2	PZN-plus 80-1 AS	PZN-plus 80-2 AS	PZN-plus 80-1 IS	PZN-plus 80-2 IS
ID		0303311	0303411	0303511	0303611	0303541	0303641
Stroke per jaw	mm [in]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]
Closing force	N [lbf]	1000.0 [225]	2300.0 [517]	1350.0 [303]	3030.0 [681]		
Opening force	N [lbf]	1080.0 [243]	2490.0 [560]			1370.0 [308]	3060.0 [688]
Min. spring force	N [lbf]			350.0 [79]	730.0 [164]	370.0 [83]	760.0 [171]
Weight	kg [lbs]	0.79 [1.74]	0.79 [1.74]	0.96 [2.12]	0.96 [2.12]	0.96 [2.12]	0.96 [2.12]
Recommended workpiece weight	kg [lbs]	5.0 [11.02]	11.5 [25.35]	5.0 [11.02]	11.5 [25.35]	5.0 [11.02]	11.5 [25.35]
Air consumption per double stroke	cm ³ [in ³]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.05	0.05	0.03	0.03	0.06	0.06
Opening time	s	0.05	0.05	0.05	0.05	0.04	0.04
Max. permitted finger length	mm [in]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]	0.6 [1.32]	0.6 [1.32]	0.6 [1.32]	0.6 [1.32]	0.6 [1.32]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

Dust-protection version	ID	37303311	37303411	37303511	37303611	37303541	37303641
IP class		64	64	64	64	64	64
Weight	kg [lbs]	1.0 [2.20]	1.0 [2.20]	1.17 [2.58]	1.17 [2.58]	1.17 [2.58]	1.17 [2.58]
Anti-corrosion version	ID	38303311	38303411	38303511	38303611	38303541	38303641
High-temperature version	ID	39303311	39303411	39303511	39303611	39303541	39303641
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]
KVZ for increased grip force	ID	0372202	0372212	0372222		0372242	
Description		PZN-plus 80/1-KVZ	PZN-plus 80/2-KVZ	PZN-plus 80/1 AS-KVZ		PZN-plus 80/1 IS-KVZ	
Closing force	N [lbf]	1800.0 [405]	4140.0 [931]	2150.0 [483]			
Opening force	N [lbf]	1945.0 [437]	4480.0 [1007]			2170.0 [488]	
Weight	kg [lbs]	1.2 [2.65]	1.2 [2.65]	1.4 [3.09]		1.4 [3.09]	
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]		6.0 [87]	
Max. permitted finger length	mm [in]	100.0 [3.937]	80.0 [3.150]	80.0 [3.150]		80.0 [3.150]	

Main views

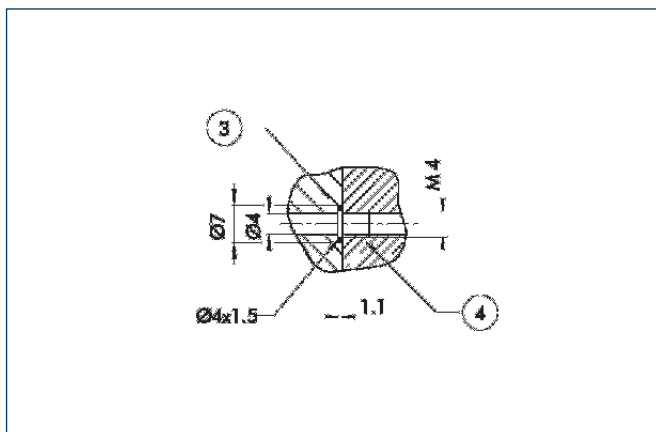


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②4 Bolt pitch circle

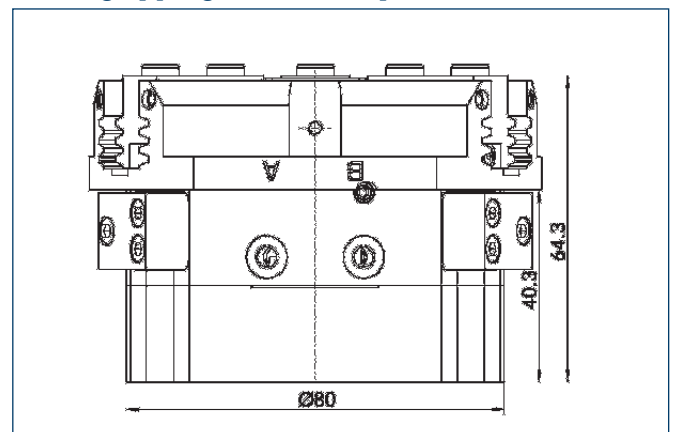
Hoseless direct connection



- 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.

AS/IS gripping force safety device

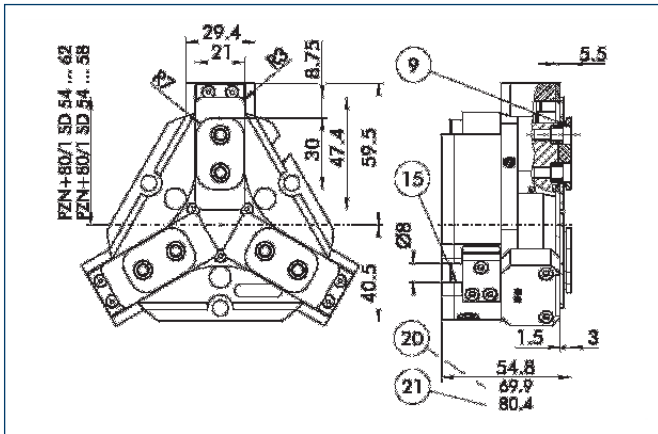


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 80

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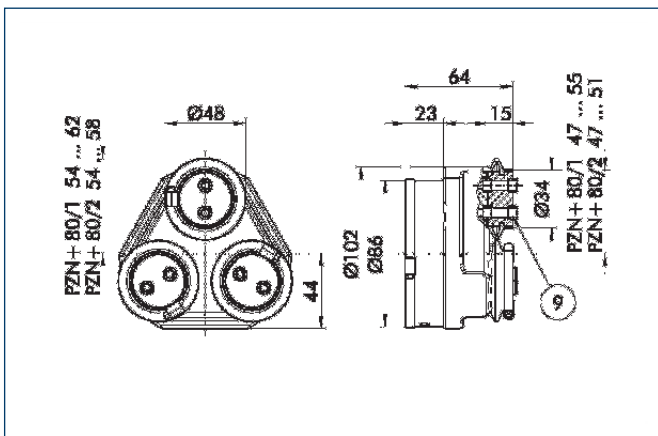
Dust protection



- ⑨ For screw connection diagram, see basic version
- 15 Sealing bolt
- 20 With AS / IS version
- 21 For KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

HUE protective cover

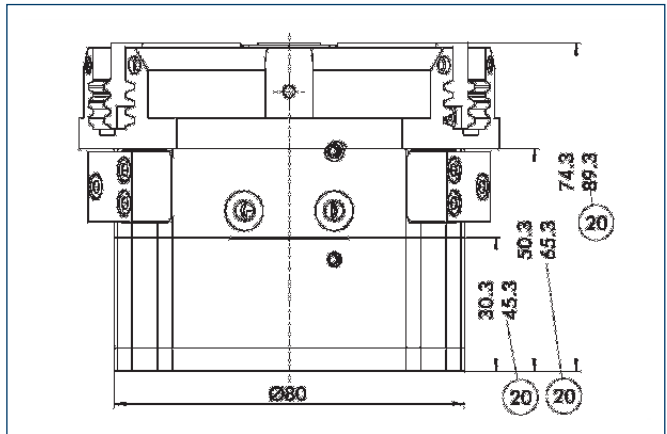


- ⑨ For screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65. The mounting diagram shifts by the height of the intermediate jaw.

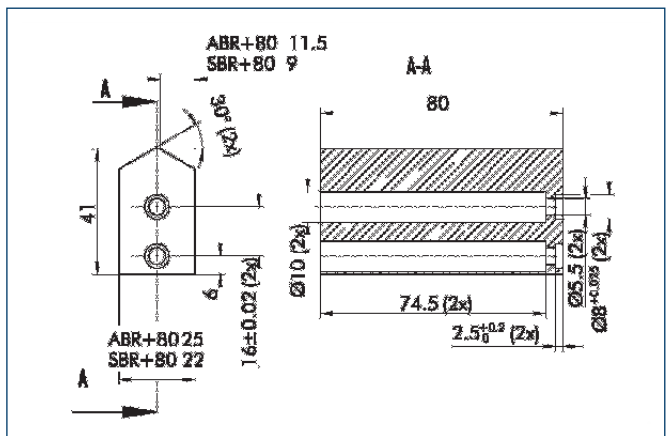
Description	ID
HUE PZN-plus 80	0303481

KVZ for increased grip force



The KVZ gripforce cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Finger blanks



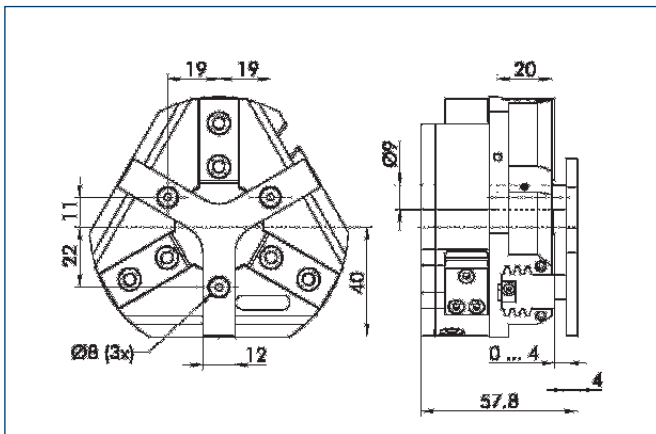
Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 80	Aluminum	1	0300011
SBR-plus 80	16 MnCr 5	1	0300021



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

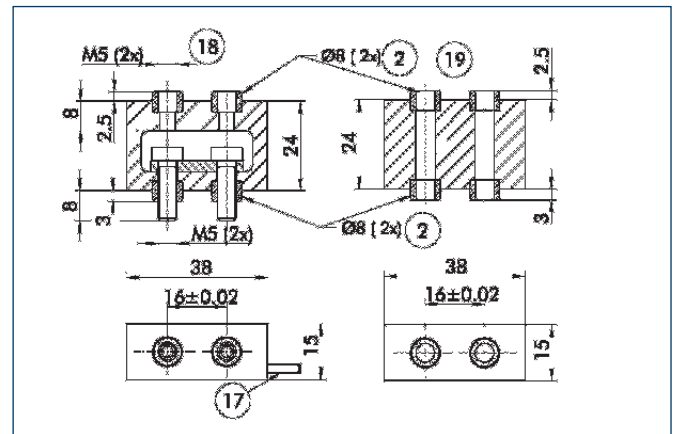
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 80	4.5 mm	18 N	0303721

FMS force measuring jaws

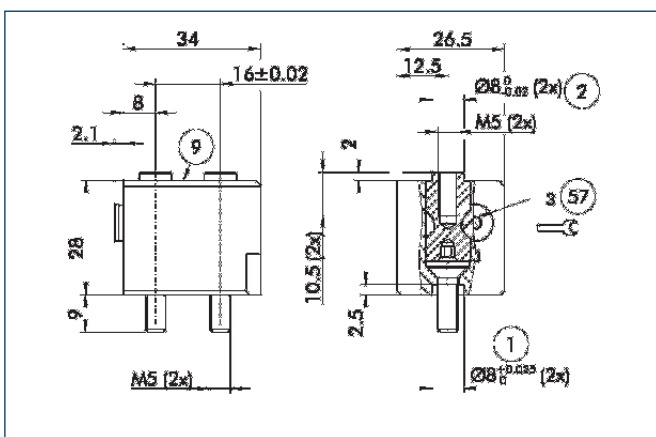


- ② Finger connection
- ①⑦ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A1	0301810
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 80	0301834
FMS-ZBP 80	0301835

BSWS quick-change jaw system



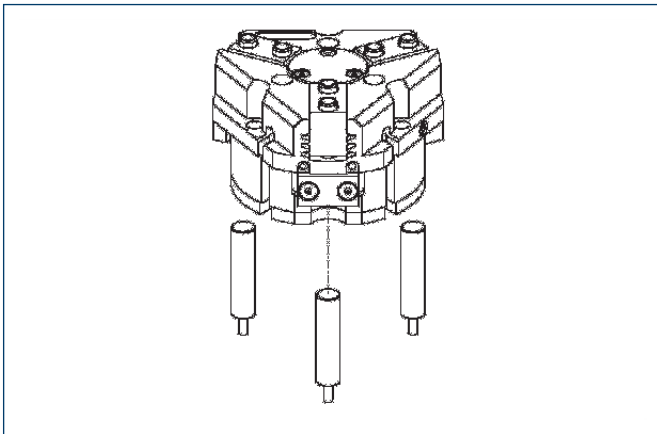
- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑤⑦ Locking mechanism

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 80	0303024
BSWS-B 80	0303025

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

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

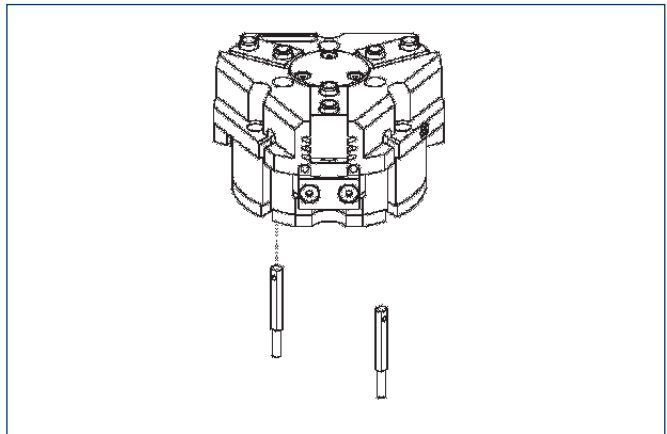
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

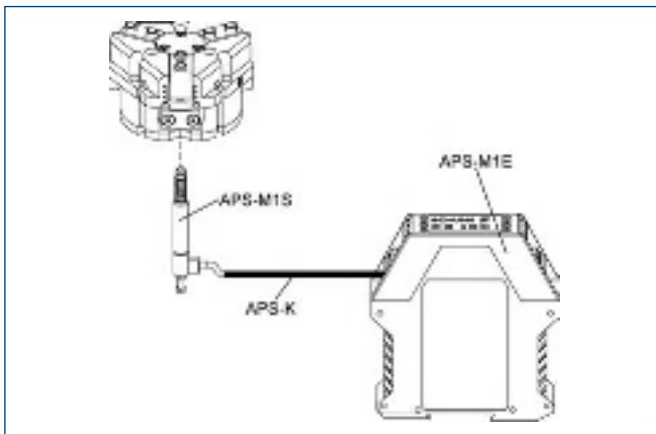
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

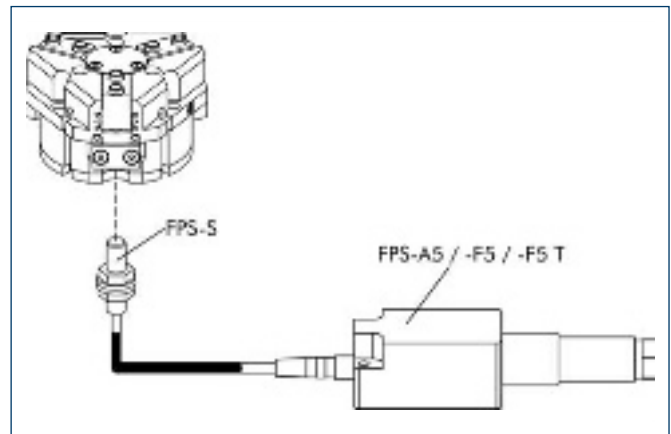
Sensor system



Measuring system: APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-80/1	0302077
AS-APS-M1-80/2	0302078

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



Measuring system: FPS position monitor

Description	ID
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.



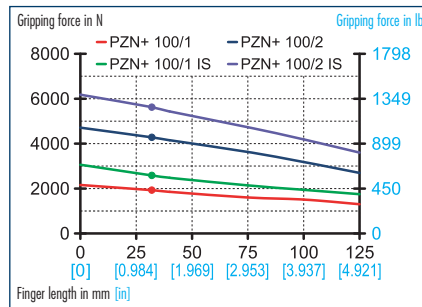
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZN-plus 100

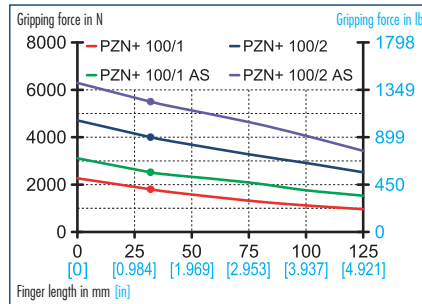
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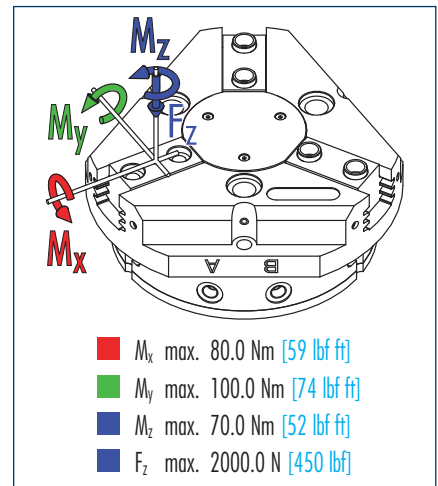
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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.

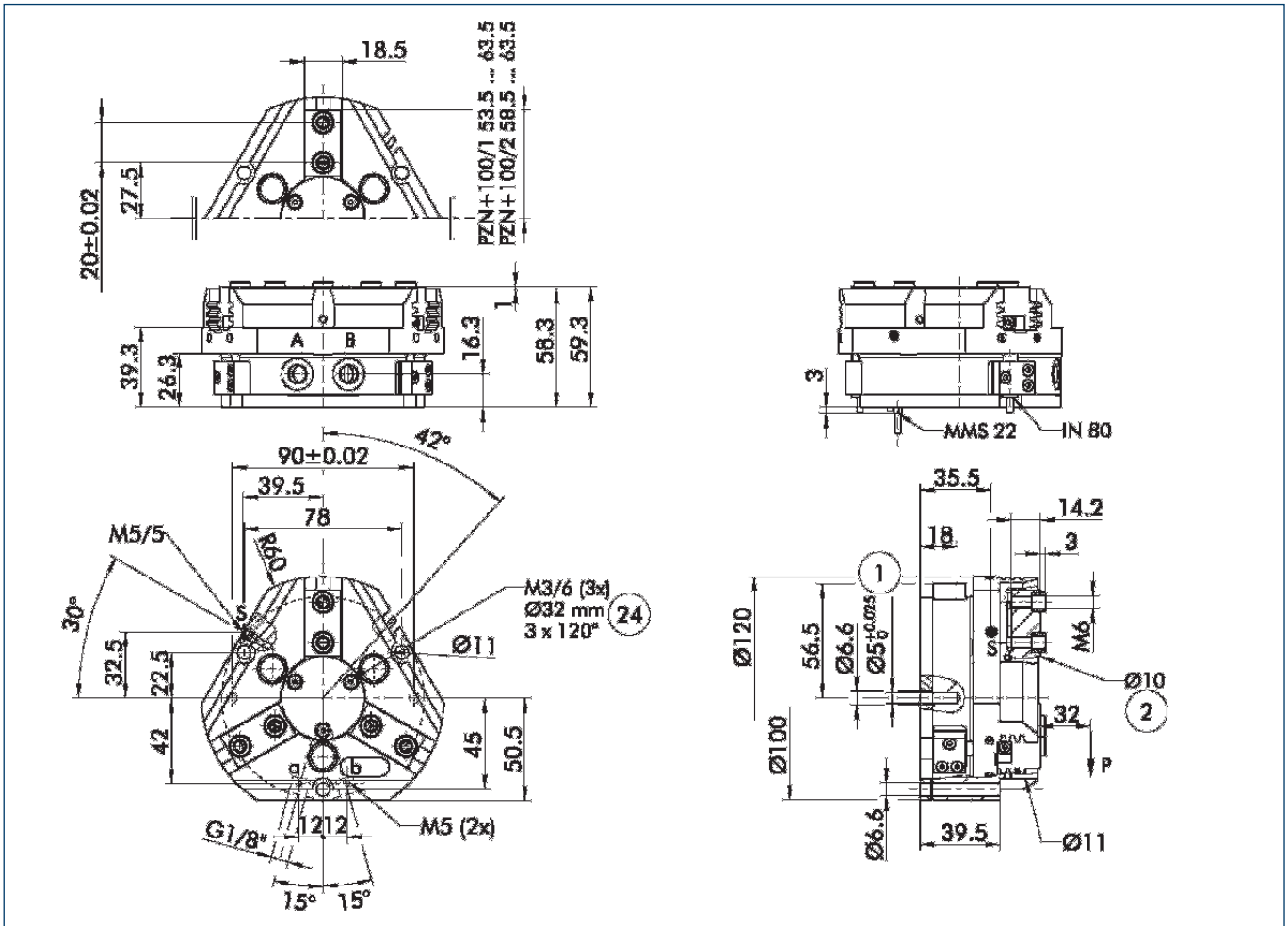
Technical data

Description		PZN-plus 100-1	PZN-plus 100-2	PZN-plus 100-1 AS	PZN-plus 100-2 AS	PZN-plus 100-1 IS	PZN-plus 100-2 IS
ID		0303312	0303412	0303512	0303612	0303542	0303642
Stroke per jaw	mm [in]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]
Closing force	N [lbf]	1800.0 [405]	4000.0 [899]	2520.0 [567]	5500.0 [1236]		
Opening force	N [lbf]	1920.0 [432]	4280.0 [962]			2580.0 [580]	5620.0 [1263]
Min. spring force	N [lbf]			720.0 [162]	1500.0 [337]	780.0 [175]	1620.0 [364]
Weight	kg [lbs]	1.41 [3.11]	1.41 [3.11]	1.95 [4.30]	1.95 [4.30]	1.95 [4.30]	1.95 [4.30]
Recommended workpiece weight	kg [lbs]	9.0 [19.84]	20.0 [44.09]	9.0 [19.84]	20.0 [44.09]	9.0 [19.84]	20.0 [44.09]
Air consumption per double stroke	cm ³ [in ³]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.1	0.1	0.1	0.1	0.2	0.2
Opening time	s	0.1	0.1	0.2	0.2	0.1	0.1
Max. permitted finger length	mm [in]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.1 [2.43]	1.1 [2.43]	1.1 [2.43]	1.1 [2.43]	1.1 [2.43]	1.1 [2.43]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

Description	ID	37303312	37303412	37303512	37303612	37303542	37303642
Dust-protection version	ID	37303312	37303412	37303512	37303612	37303542	37303642
IP class		64	64	64	64	64	64
Weight	kg [lbs]	1.9 [4.19]	1.9 [4.19]	2.44 [5.38]	2.44 [5.38]	2.44 [5.38]	2.44 [5.38]
Anti-corrosion version	ID	38303312	38303412	38303512	38303612	38303542	38303642
High-temperature version	ID	39303312	39303412	39303512	39303612	39303542	39303642
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]
KVZ for increased grip force	ID	0372203	0372213	0372223		0372243	
Description		PZN-plus 100/1-KVZ	PZN-plus 100/2-KVZ	PZN-plus 100/1 AS-KVZ		PZN-plus 100/1 IS-KVZ	
Closing force	N [lbf]	3240.0 [728]	7200.0 [1619]	3960.0 [890]			
Opening force	N [lbf]	3455.0 [777]	7705.0 [1732]			4020.0 [904]	
Weight	kg [lbs]	2.3 [5.07]	2.3 [5.07]	2.7 [5.95]		2.7 [5.95]	
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]		6.0 [87]	
Max. permitted finger length	mm [in]	100.0 [3.937]	80.0 [3.150]	80.0 [3.150]		80.0 [3.150]	

Main views

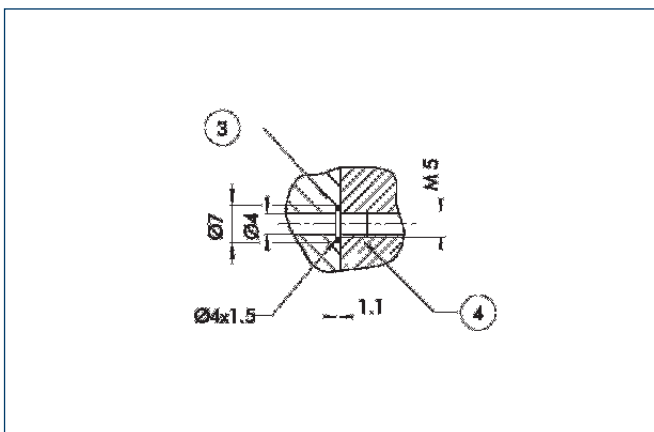


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②④ Bolt pitch circle

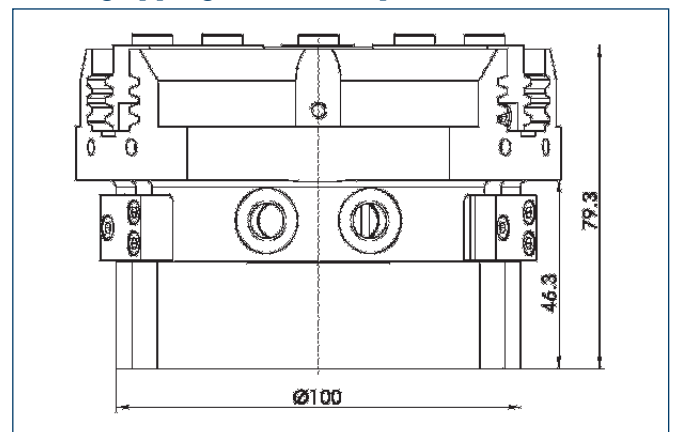
Hoseless direct connection



- ③ Adapter
- ④ Gripper

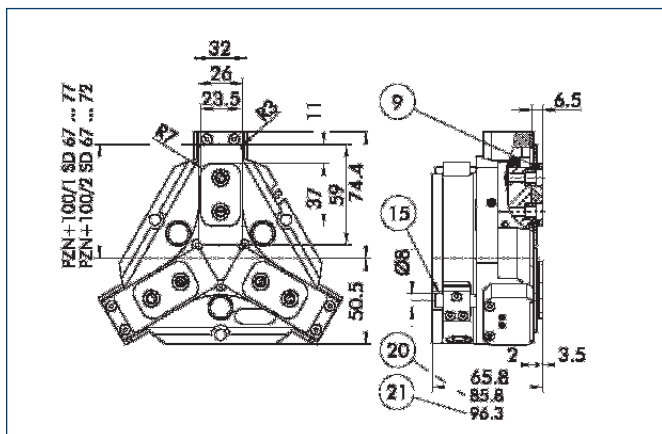
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

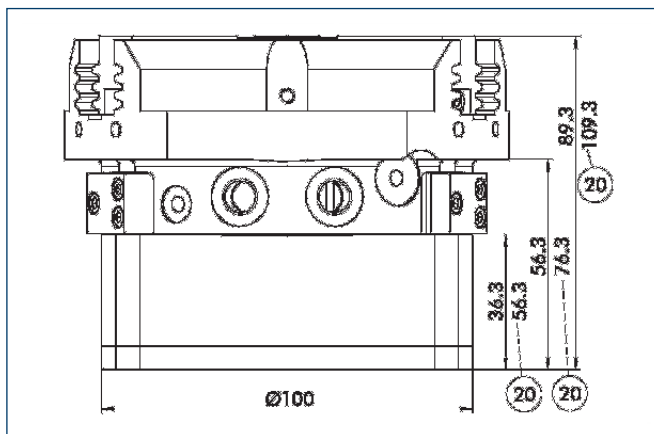
Dust protection



- ⑨ For screw connection diagram, see basic version
- 15 Sealing bolt
- 20 With AS / IS version
- 21 For KVZ version

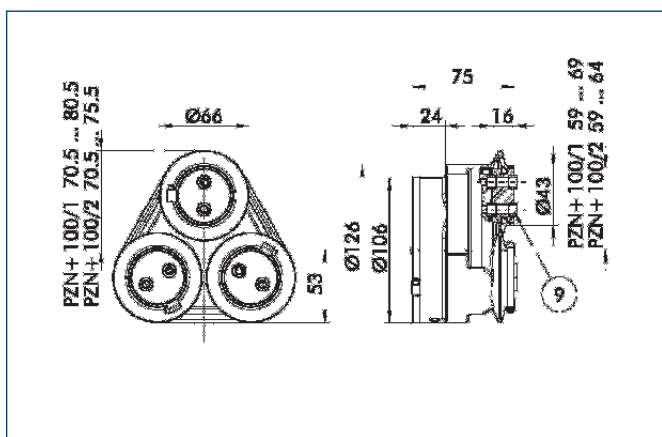
The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

KVZ for increased grip force



The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

HUE protective cover

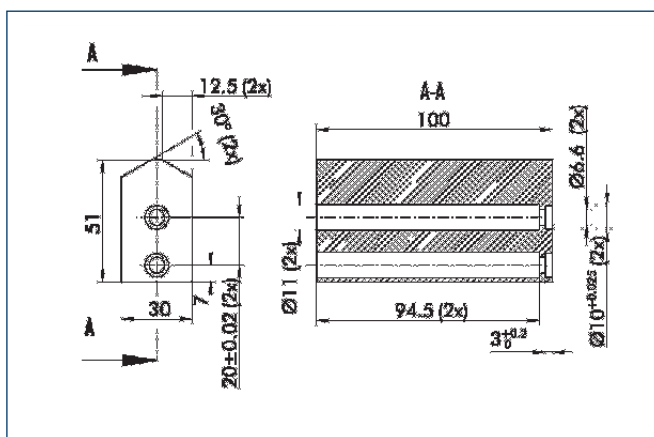


- ⑨ For screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID
HUE PZN-plus 100	0303482

Finger blanks

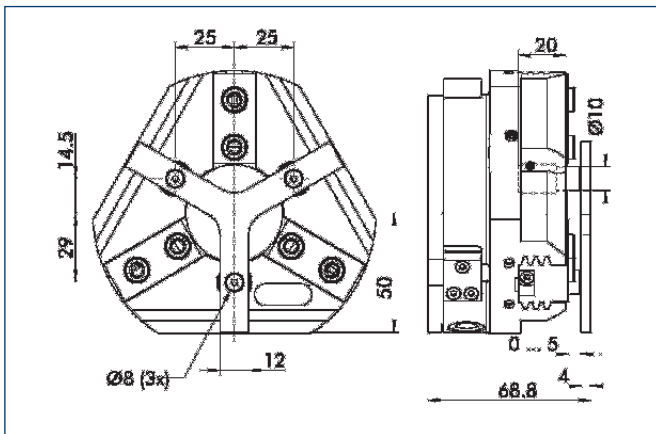


Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 100	Aluminum	1	0300012
SBR-plus 100	16 MnCr 5	1	0300022

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

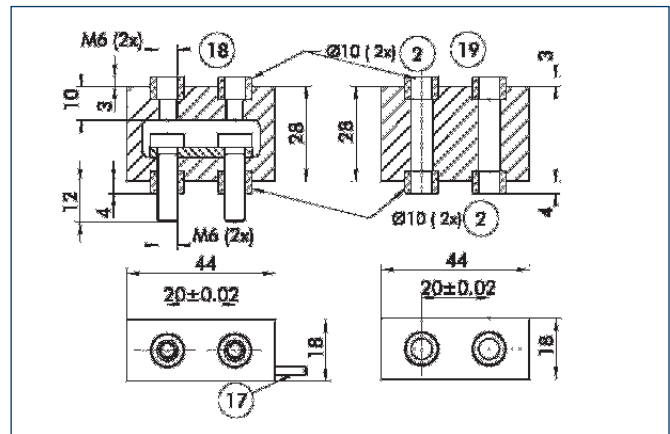
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 100	5 mm	35 N	0303722

FMS force measuring jaws

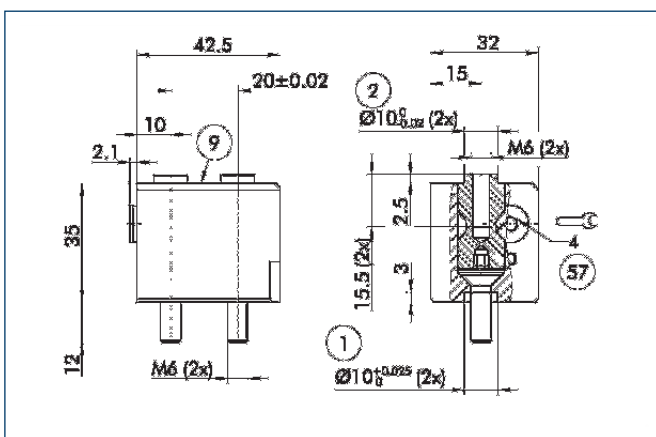


- ② Finger connection
- ⑱ Cable outlet
- ⑲ Fine serration
- ⑳ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A1	0301810
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 100	0301836
FMS-ZBP 100	0301837

BSWS quick-change jaw system



- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑤⑦ Locking mechanism

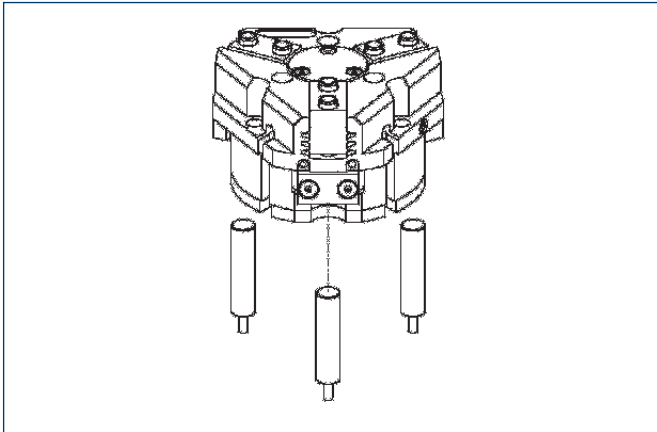
The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 100	0303026
BSWS-B 100	0303027



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

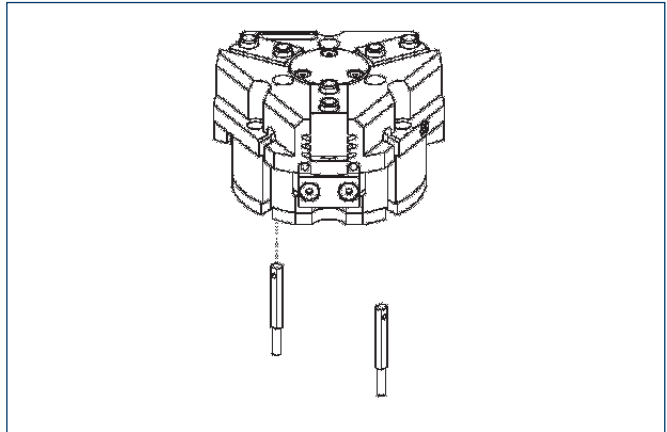
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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

Extension cables for proximity switches/magnetic switches

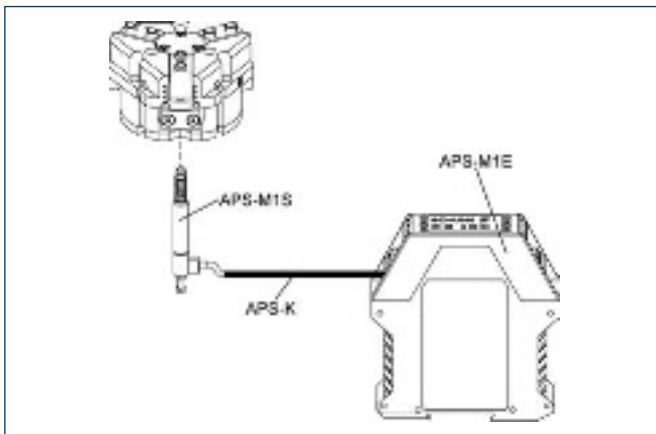
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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.

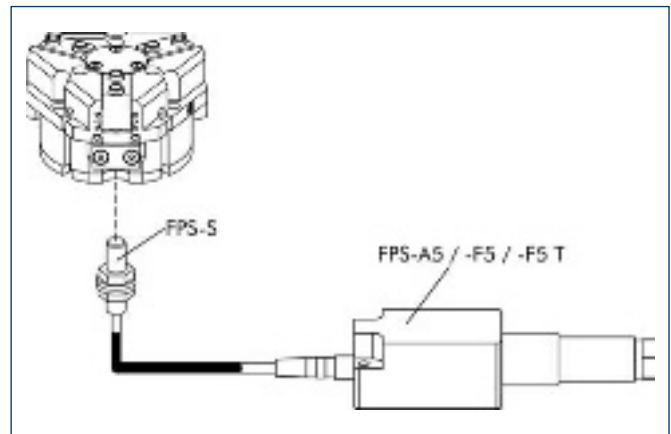
Sensor system



Measuring system: APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-100/1	0302079
AS-APS-M1-100/2	0302080

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



Measuring system: FPS position monitor

Description	ID
AS-PGN/PZN-plus 100/1	0301634
AS-PGN/PZN-plus 100/2, PZB 125	0301635
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.



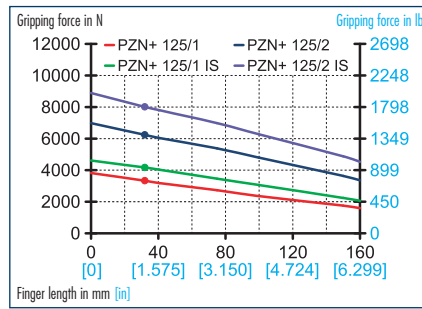
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZN-plus 125

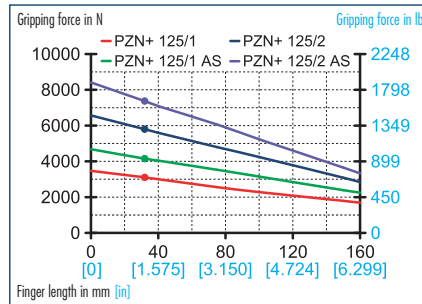
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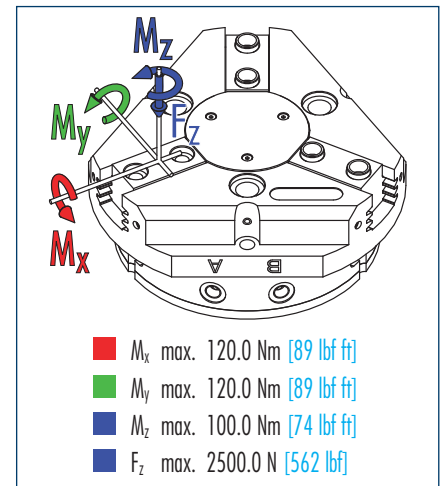
Gripping force, I.D. gripping



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.

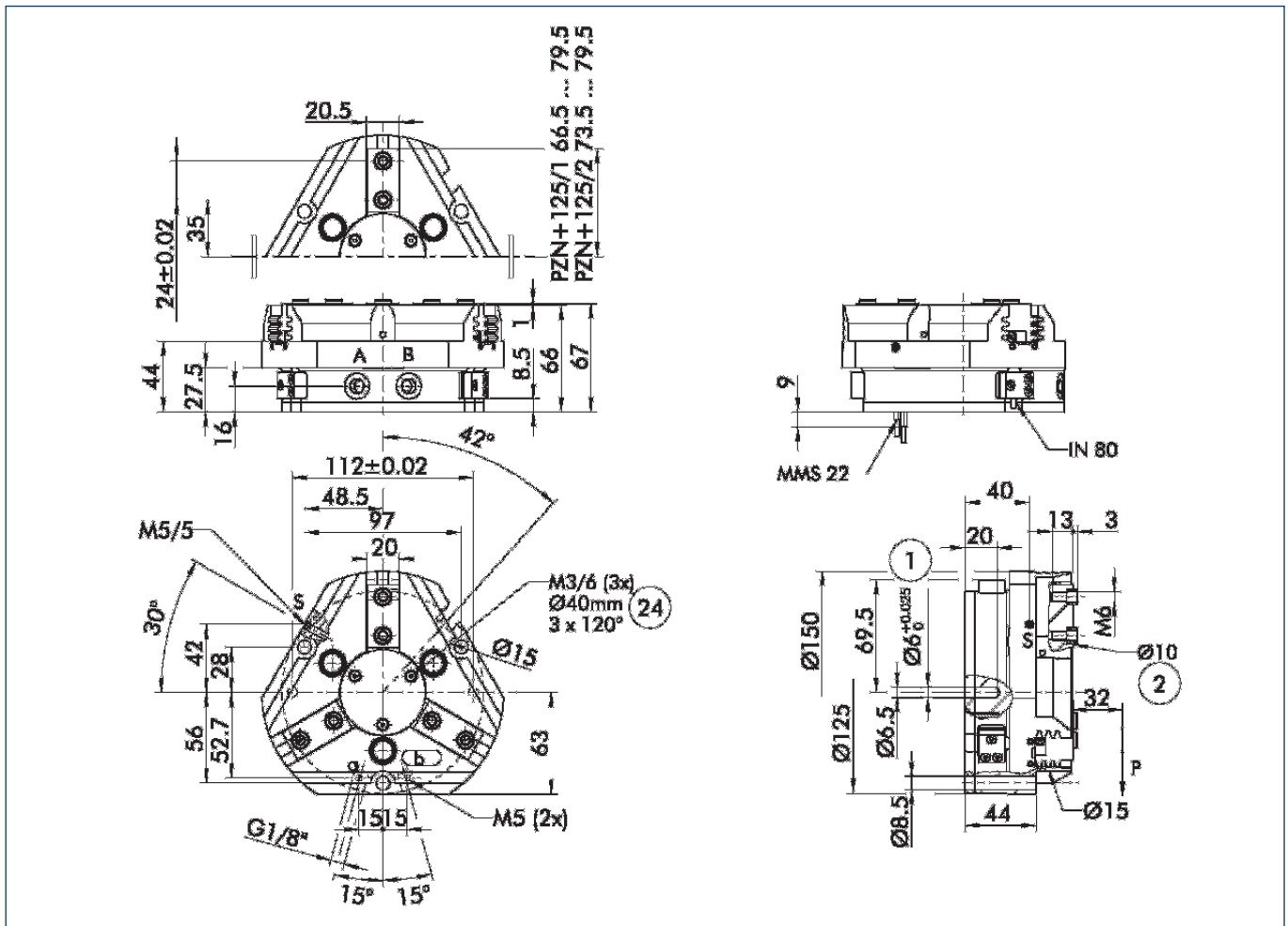
Technical data

Description		PZN-plus 125-1	PZN-plus 125-2	PZN-plus 125-1 AS	PZN-plus 125-2 AS	PZN-plus 125-1 IS	PZN-plus 125-2 IS
ID		0303313	0303413	0303513	0303613	0303543	0303643
Stroke per jaw	mm [in]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]
Closing force	N [lbf]	3100.0 [697]	5800.0 [1304]	4150.0 [933]	7370.0 [1657]		
Opening force	N [lbf]	3330.0 [749]	6240.0 [1403]			4170.0 [937]	8010.0 [1801]
Min. spring force	N [lbf]			1050.0 [236]	2170.0 [488]	1070.0 [241]	2210.0 [497]
Weight	kg [lbs]	2.8 [6.17]	2.85 [6.28]	3.6 [7.94]	3.6 [7.94]	3.6 [7.94]	3.6 [7.94]
Recommended workpiece weight	kg [lbs]	15.5 [34.17]	29.0 [63.93]	15.5 [34.17]	29.0 [63.93]	15.5 [34.17]	29.0 [63.93]
Air consumption per double stroke	cm ³ [in ³]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.2	0.2	0.17	0.17	0.35	0.35
Opening time	s	0.2	0.2	0.35	0.35	0.17	0.17
Max. permitted finger length	mm [in]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]
Max. permitted weight per finger	kg [lbs]	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]
Tightness		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

Description	ID	37303313	37303413	37303513	37303613	37303543	37303643
Dust-protection version	ID	37303313	37303413	37303513	37303613	37303543	37303643
Tightness		64	64	64	64	64	64
Weight	kg [lbs]	3.2 [7.05]	3.2 [7.05]	3.55 [7.83]	3.55 [7.83]	3.55 [7.83]	3.55 [7.83]
Anti-corrosion version	ID	38303313	38303413	38303513	38303613	38303543	38303643
High-temperature version	ID	39303313	39303413	39303513	39303613	39303543	39303643
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]
KVZ for increased grip force	ID	0372204	0372214	0372224		0372244	
Description		PZN-plus 125/1-KVZ	PZN-plus 125/2-KVZ	PZN-plus 125/1 AS-KVZ		PZN-plus 125/1 IS-KVZ	
Closing force	N [lbf]	5580.0 [1254]	10440.0 [2347]	6630.0 [1490]			
Opening force	N [lbf]	5935.0 [1334]	11230.0 [2525]			6650.0 [1495]	
Weight	kg [lbs]	4.0 [8.82]	4.0 [8.82]	4.6 [10.14]		4.6 [10.14]	
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]		6.0 [87]	
Max. permitted finger length	mm [in]	125.0 [4.921]	100.0 [3.937]	100.0 [3.937]		100.0 [3.937]	

Main views

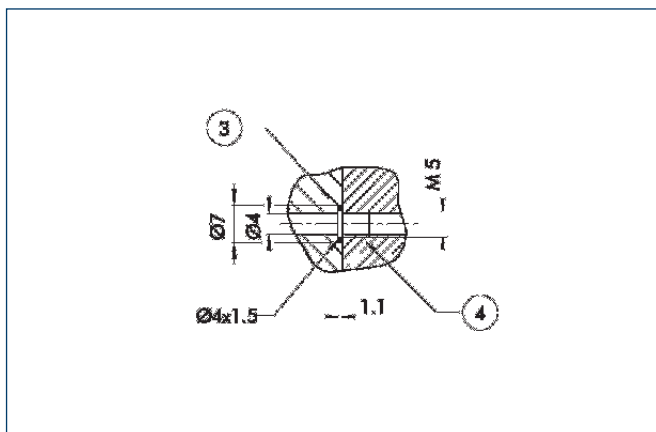


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②Ⓐ Bolt pitch circle

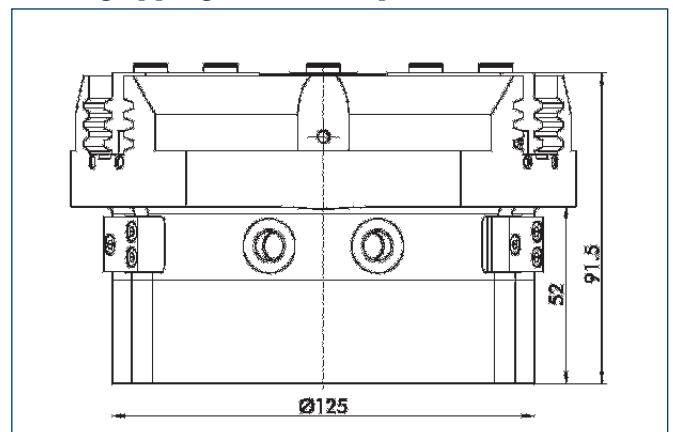
Hoseless direct connection



- 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.

AS/IS gripping force safety device

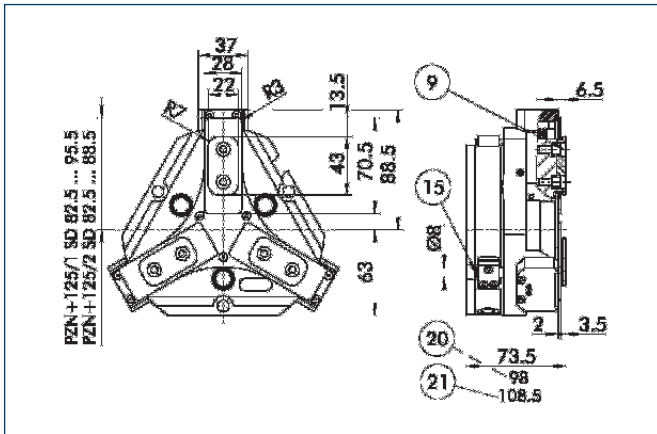


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 125

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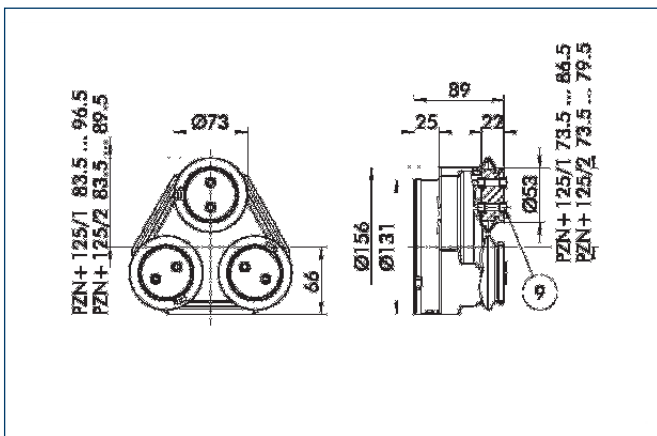
Dust protection



- ⑨ For screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ With AS / IS version
- ㉑ For KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

HUE protective cover

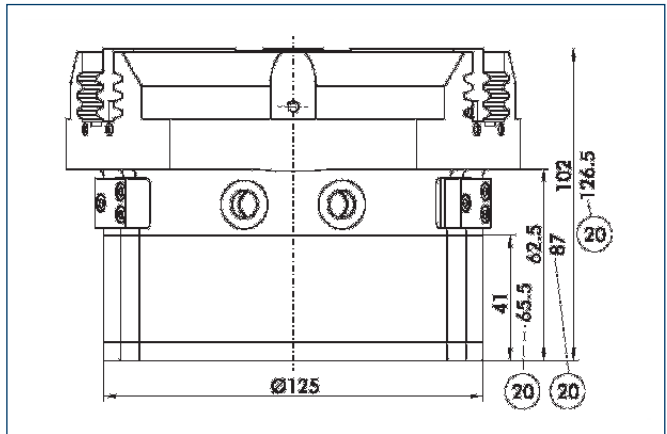


- ⑨ For screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65. The mounting diagram shifts by the height of the intermediate jaw.

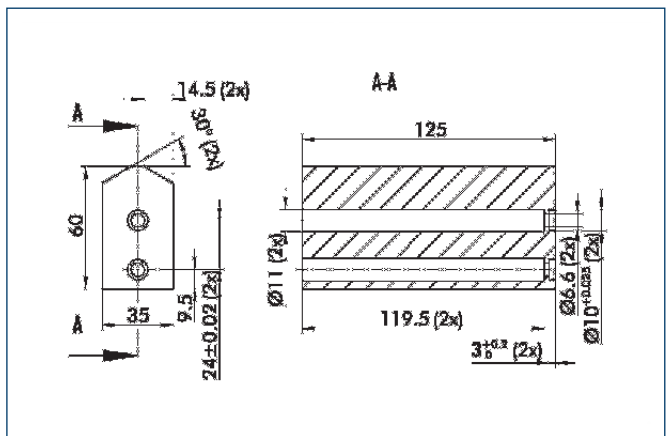
Description	ID
HUE PZN-plus 125	0303483

KVZ for increased grip force



The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Finger blanks

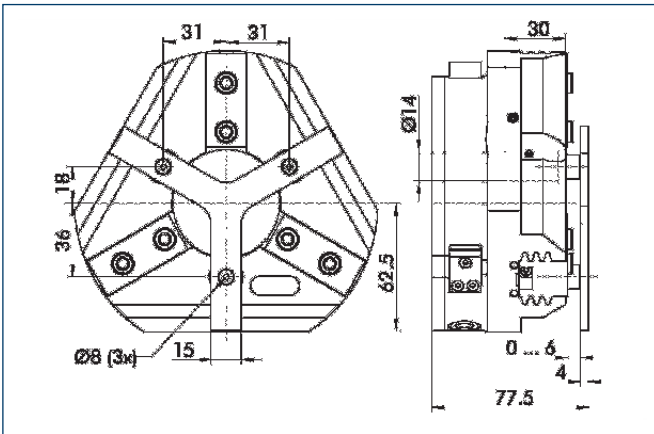


Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 125	Aluminum	1	0300013
SBR-plus 125	16 MnCr 5	1	0300023

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

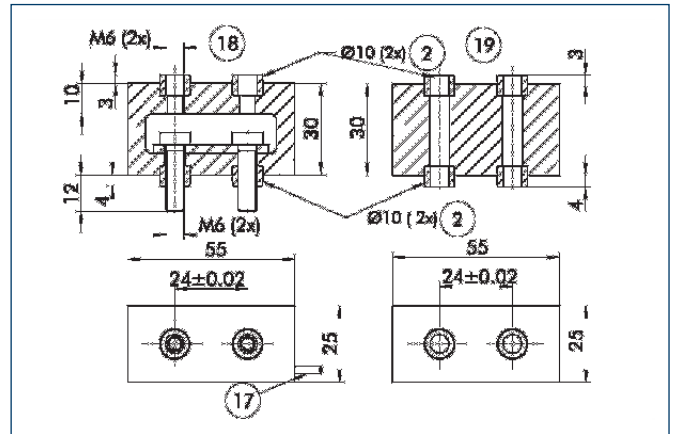
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 125	6 mm	105 N	0303723

FMS force measuring jaws

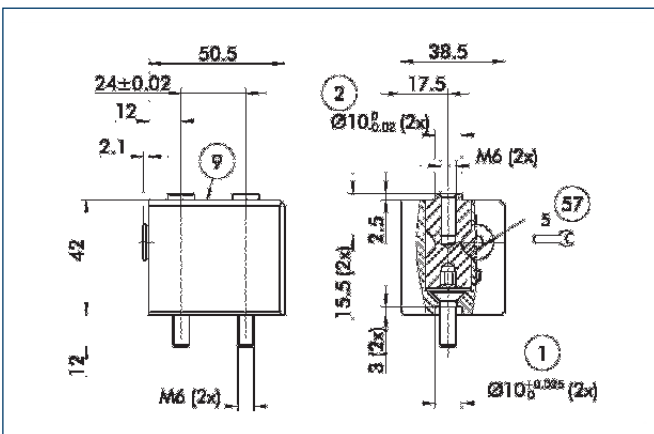


- ② Finger connection
- ⑰ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A1	0301810
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 125	0301838
FMS-ZBP 125	0301839

BSWS quick-change jaw system



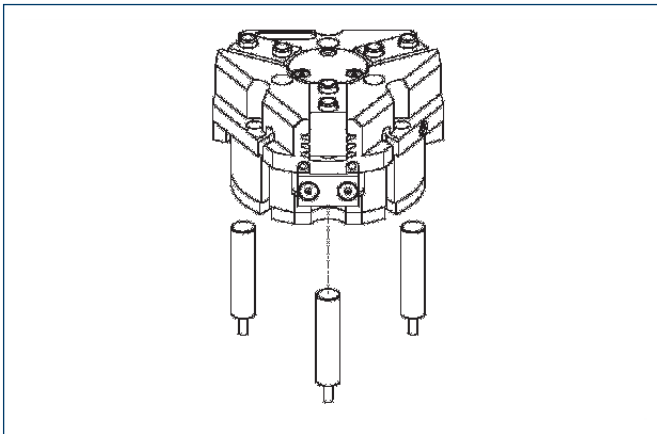
- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑤⑦ Locking mechanism

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 125	0303028
BSWS-B 125	0303029

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

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

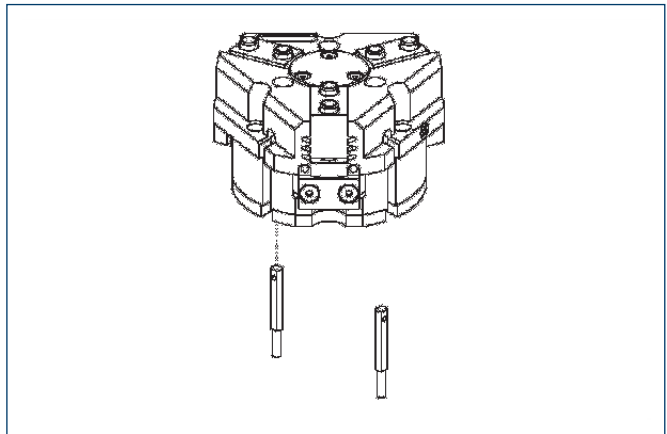
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

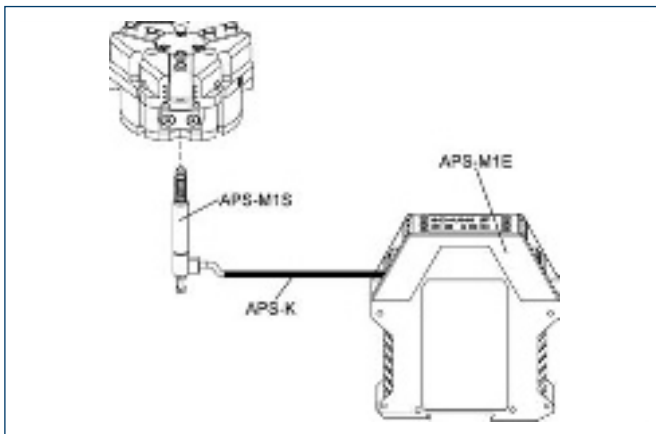
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

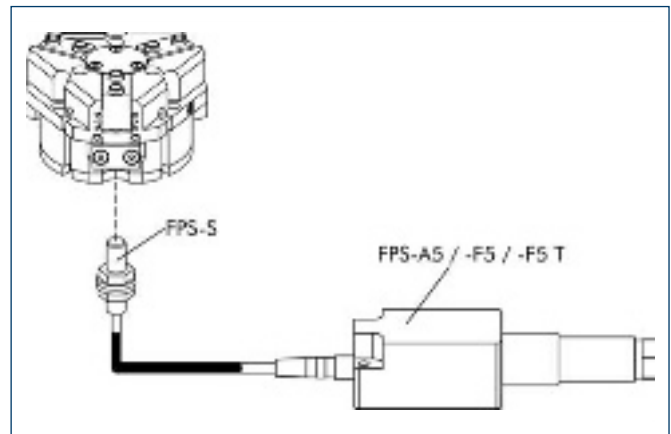
Sensor system



Measuring system: APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-125/1	0302081
AS-APS-M1-125/2	0302082

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



Measuring system: FPS position monitor

Description	ID
AS-PGN/PZN-plus 125/1, PZB 160	0301636
AS-PGN/PZN-plus 125/2	0301637
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.



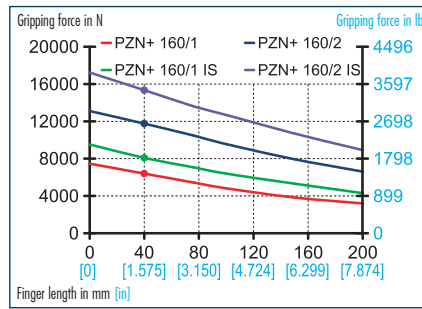
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZN-plus 160

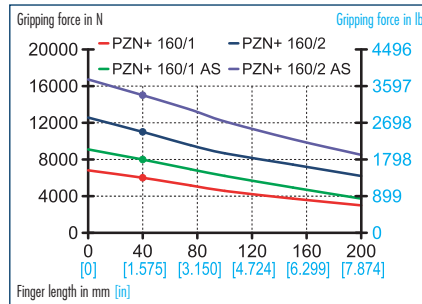
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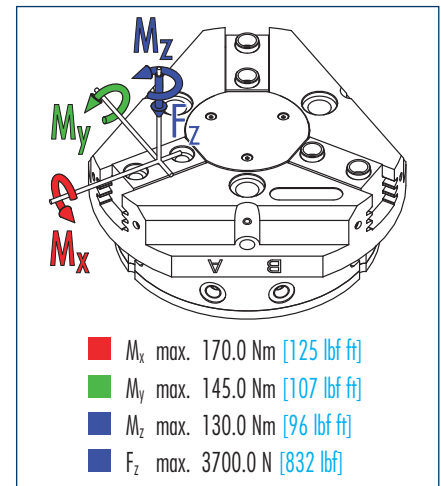
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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.

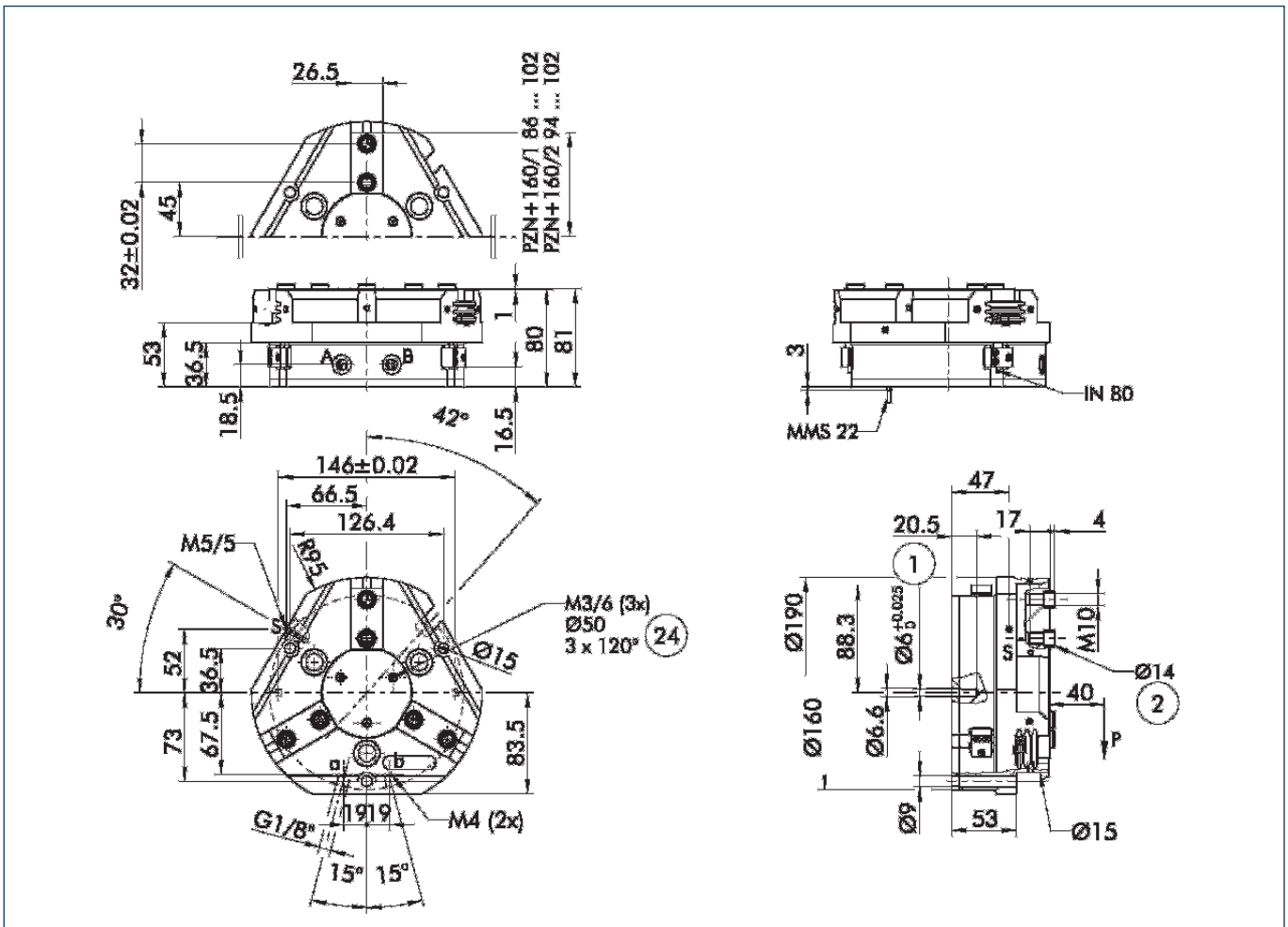
Technical data

Description		PZN-plus 160-1	PZN-plus 160-2	PZN-plus 160-1 AS	PZN-plus 160-2 AS	PZN-plus 160-1 IS	PZN-plus 160-2 IS
ID		0303314	0303414	0303514	0303614	0303544	0303644
Stroke per jaw	mm [in]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]
Closing force	N [lbf]	6000.0 [1349]	11000.0 [2473]	7990.0 [1796]	15010.0 [3374]		
Opening force	N [lbf]	6390.0 [1437]	11750.0 [2642]			8090.0 [1819]	15340.0 [3449]
Min. spring force	N [lbf]			1990.0 [447]	4010.0 [901]	2090.0 [470]	4340.0 [976]
Weight	kg [lbs]	5.6 [12.35]	5.6 [12.35]	8.0 [17.64]	8.0 [17.64]	8.0 [17.64]	8.0 [17.64]
Recommended workpiece weight	kg [lbs]	30.0 [66.14]	55.0 [121.25]	30.0 [66.14]	55.0 [121.25]	30.0 [66.14]	55.0 [121.25]
Air consumption per double stroke	cm ³ [in ³]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.5	0.5	0.4	0.4	0.8	0.8
Opening time	s	0.5	0.5	0.8	0.8	0.4	0.4
Max. permitted finger length	mm [in]	200.0 [7.874]	200.0 [7.874]	200.0 [7.874]	200.0 [7.874]	200.0 [7.874]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	3.5 [7.72]	3.5 [7.72]	3.5 [7.72]	3.5 [7.72]	3.5 [7.72]	3.5 [7.72]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]

OPTIONS and their characteristics

Description	ID	37303314	37303414	37303514	37303614	37303544	37303644
Dust-protection version	ID	37303314	37303414	37303514	37303614	37303544	37303644
IP class		64	64	64	64	64	64
Weight	kg [lbs]	6.5 [14.33]	6.5 [14.33]	8.9 [19.62]	8.9 [19.62]	8.9 [19.62]	8.9 [19.62]
Anti-corrosion version	ID	38303314	38303414	38303514	38303614	38303544	38303644
High-temperature version	ID	39303314	39303414	39303514	39303614	39303544	39303644
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]
KVZ for increased grip force	ID	0372205	0372215	0372225		0372245	
Description		PZN-plus 160/1-KVZ	PZN-plus 160/2-KVZ	PZN-plus 160/1 AS-KVZ		PZN-plus 160/1 IS-KVZ	
Closing force	N [lbf]	10800.0 [2428]	19800.0 [4451]	12730.0 [2862]			
Opening force	N [lbf]	11500.0 [2585]	21150.0 [4755]			12890.0 [2898]	
Weight	kg [lbs]	7.8 [17.20]	7.8 [17.20]	9.6 [21.16]		9.6 [21.16]	
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]		6.0 [87]	
Max. permitted finger length	mm [in]	125.0 [4.921]	100.0 [3.937]	100.0 [3.937]		100.0 [3.937]	

Main views

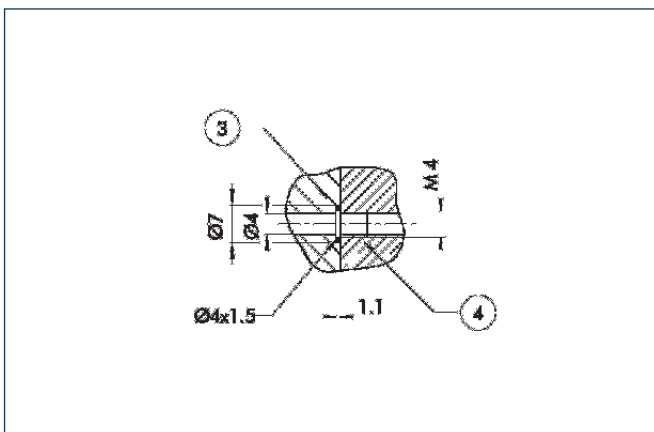


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②④ Bolt pitch circle

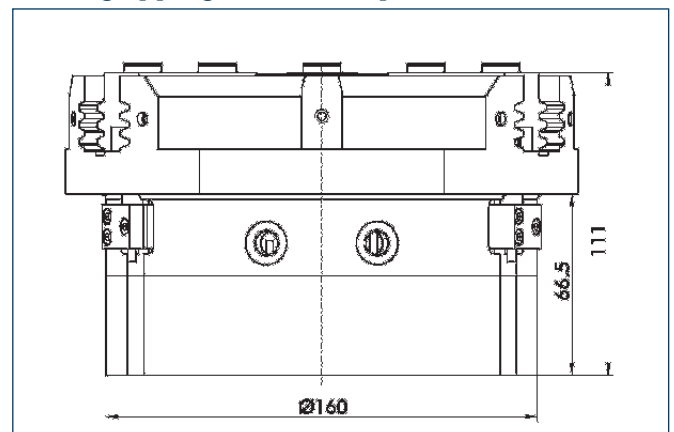
Hoseless direct connection



- 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.

AS/IS gripping force safety device

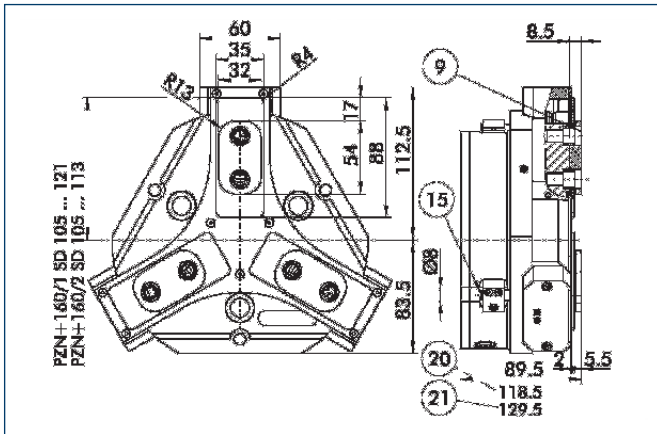


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 160

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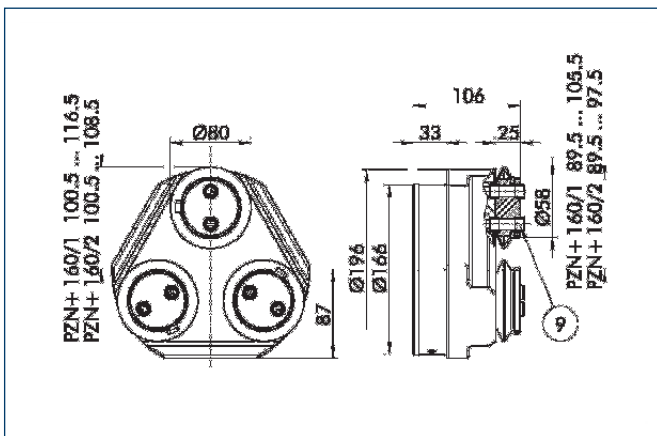
Dust protection



- ⑨ For screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ With AS / IS version
- ㉑ For KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

HUE protective cover

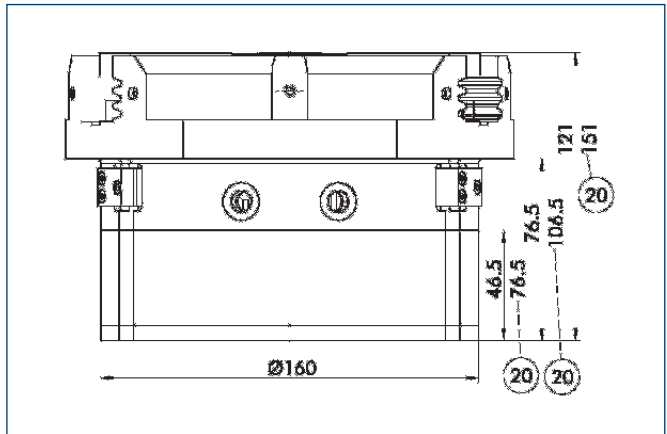


- ⑨ For screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65. The mounting diagram shifts by the height of the intermediate jaw.

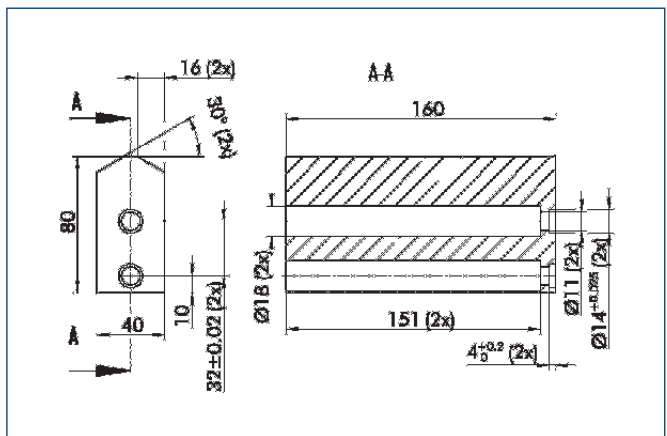
Description	ID
HUE PZN-plus 160	0303484

KVZ for increased grip force



The KVZ grip force cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Finger blanks



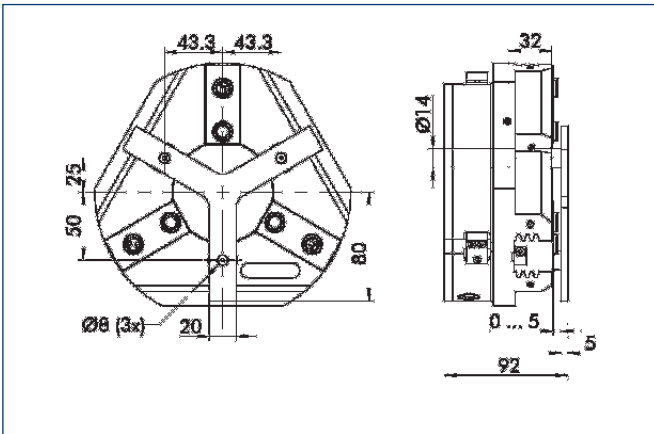
Finger blanks for customized subsequent machining

Description	Material	Scope of delivery	ID
ABR-plus 160	Aluminum	1	0300014
SBR-plus 160	16 MnCr 5	1	0300024



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

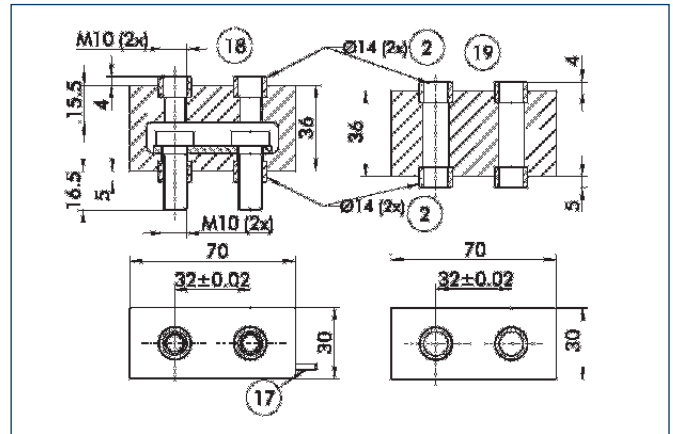
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 160	6 mm	205 N	0303724

FMS force measuring jaws

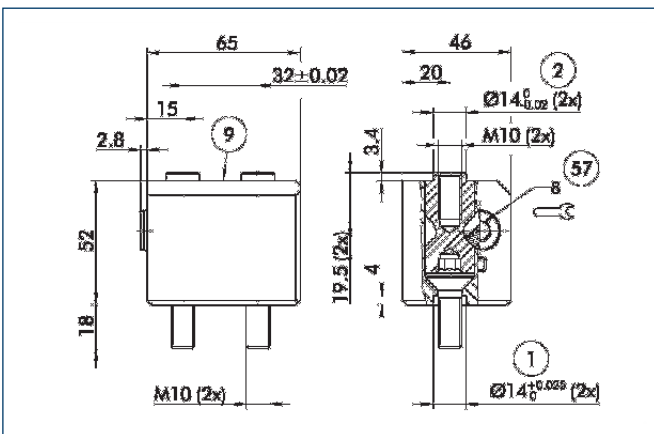


- ② Finger connection
- ⑱ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A2	0301811
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 160	0301840
FMS-ZBP 160	0301841

BSWS quick-change jaw system



- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑵ Locking mechanism

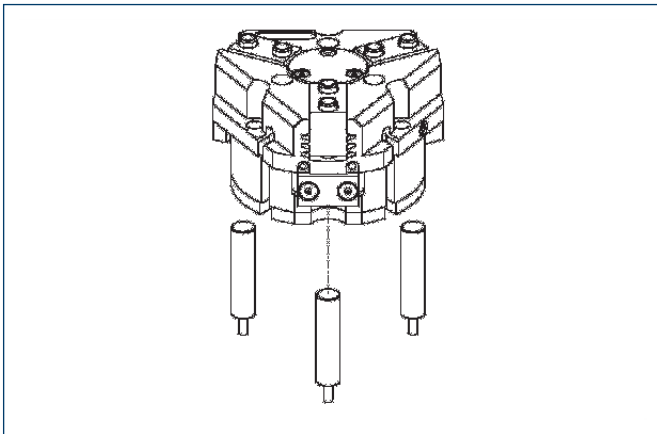
The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 160	0303030
BSWS-B 160	0303031



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

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

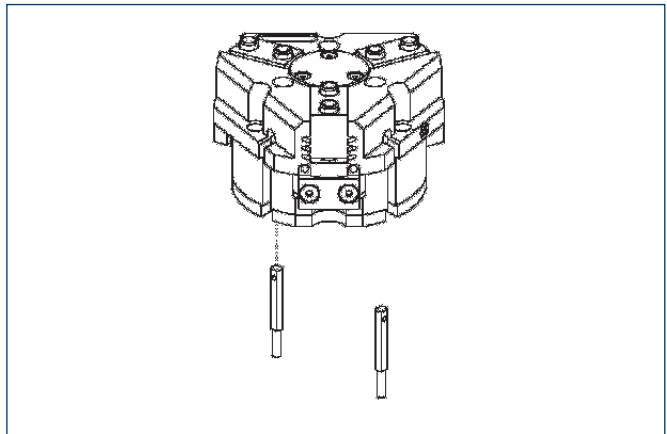
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

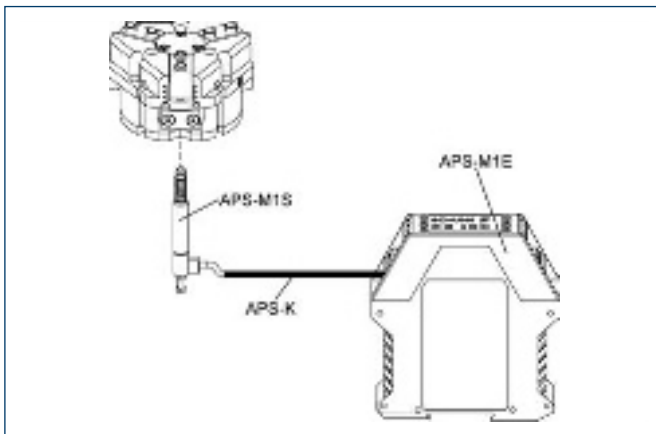
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

Sensor system

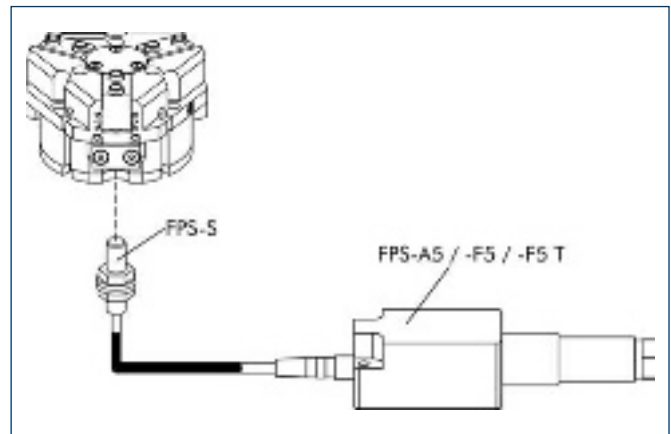


Measuring system:

APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-160/1 and 240/2	0302083
AS-APS-M1-160/2	0302084

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



Measuring system:

FPS position monitor

Description	ID
AS-PGN/PZN-plus 160/1	0301638
AS-PGN/PZN-plus 160/2	0301639
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.



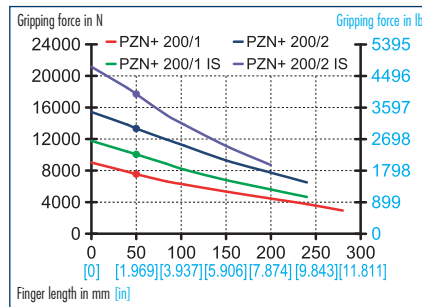
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZN-plus 200

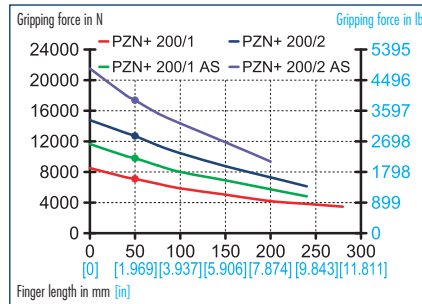
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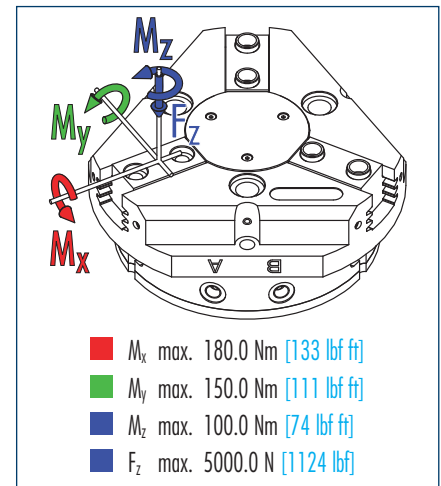
Gripping force, I.D. gripping



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.

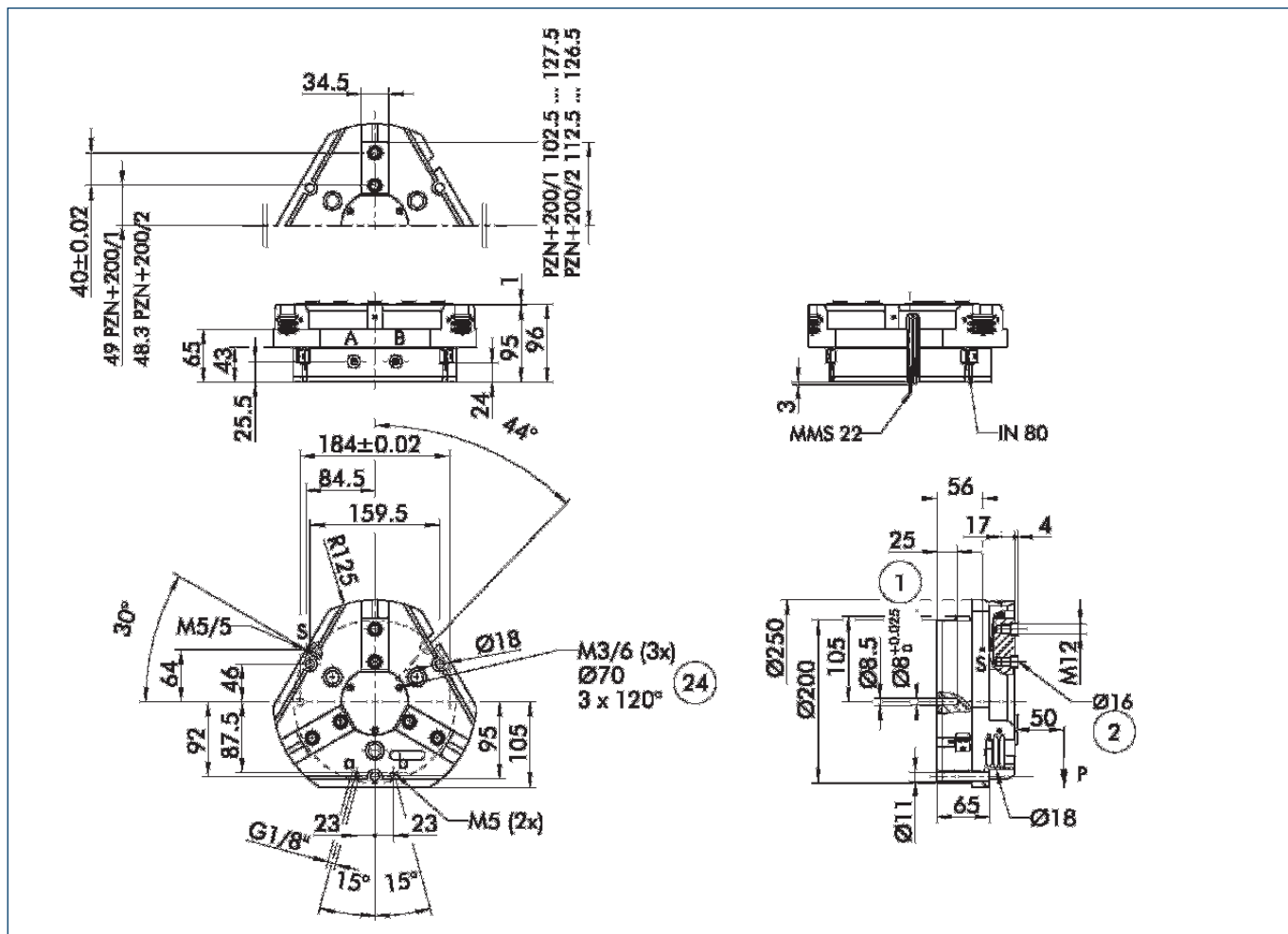
Technical data

Description		PZN-plus 200-1	PZN-plus 200-2	PZN-plus 200-1 AS	PZN-plus 200-2 AS	PZN-plus 200-1 IS	PZN-plus 200-2 IS
	ID	0303315	0303415	0303515	0303615	0303545	0303645
Stroke per jaw	mm [in]	25.0 [0.984]	14.0 [0.551]	25.0 [0.984]	14.0 [0.551]	25.0 [0.984]	14.0 [0.551]
Closing force	N [lbf]	7100.0 [1596]	12700.0 [2855]	9800.0 [2203]	17380.0 [3907]		
Opening force	N [lbf]	7540.0 [1695]	13330.0 [2997]			10060.0 [2262]	17700.0 [3979]
Min. spring force	N [lbf]			2700.0 [607]	4680.0 [1052]	2960.0 [665]	5000.0 [1124]
Weight	kg [lbs]	11.0 [24.25]	11.0 [24.25]	15.7 [34.61]	15.7 [34.61]	15.7 [34.61]	15.7 [34.61]
Recommended workpiece weight	kg [lbs]	35.5 [78.26]	63.5 [139.99]	35.5 [78.26]	63.5 [139.99]	35.5 [78.26]	63.5 [139.99]
Air consumption per double stroke	cm ³ [in ³]	1040.0 [63.46]	1040.0 [63.46]	1040.0 [63.46]	1040.0 [63.46]	1040.0 [63.46]	1040.0 [63.46]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	1.2	1.2	1.0	1.0	1.5	1.5
Opening time	s	1.2	1.2	1.5	1.5	1.0	1.0
Max. permitted finger length	mm [in]	280.0 [11.024]	240.0 [9.449]	240.0 [9.449]	200.0 [7.874]	240.0 [9.449]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	6.5 [14.33]	6.5 [14.33]	6.5 [14.33]	6.5 [14.33]	6.5 [14.33]	6.5 [14.33]
Tightness		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

OPTIONS and their characteristics

Dust-protection version	ID	37303315	37303415	37303515	37303615	37303545	37303645
Tightness		64	64	64	64	64	64
Weight	kg [lbs]	12.0 [26.46]	12.0 [26.46]	16.7 [36.82]	16.7 [36.82]	16.7 [36.82]	16.7 [36.82]
Anti-corrosion version	ID	38303315	38303415	38303515	38303615	38303545	38303645
High-temperature version	ID	39303315	39303415	39303515	39303615	39303545	39303645
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]

Main views

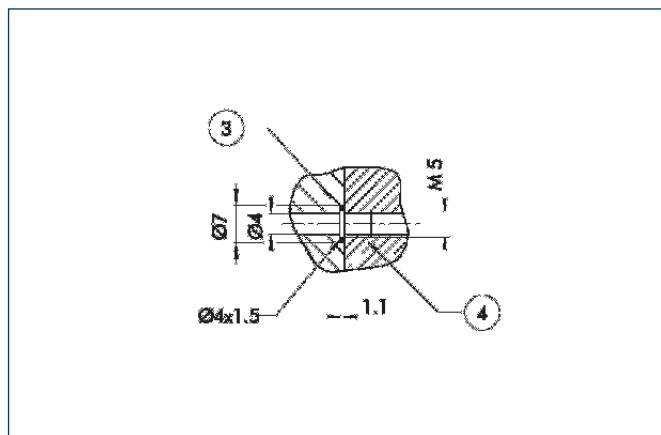


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②④ Bolt pitch circle

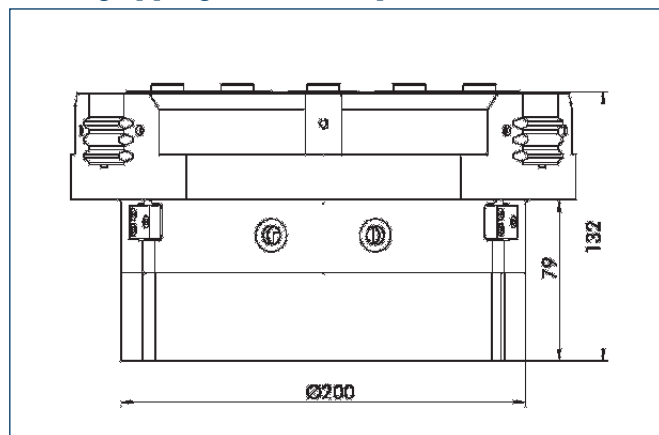
Hoseless direct connection



- 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.

AS/IS gripping force safety device

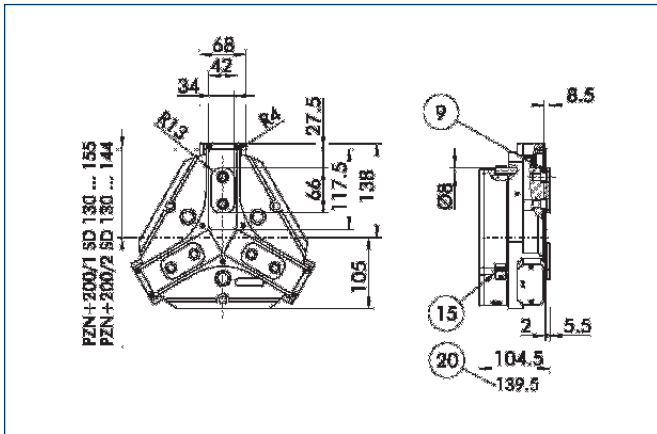


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 200

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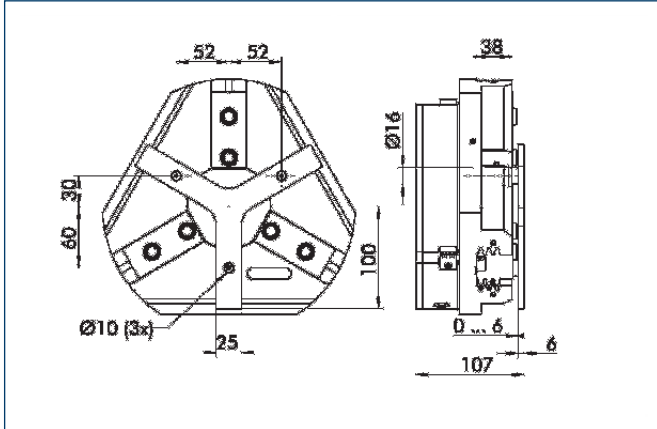
Dust protection



- ⑨ For screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ With AS / IS version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Spring-loaded pressure piece



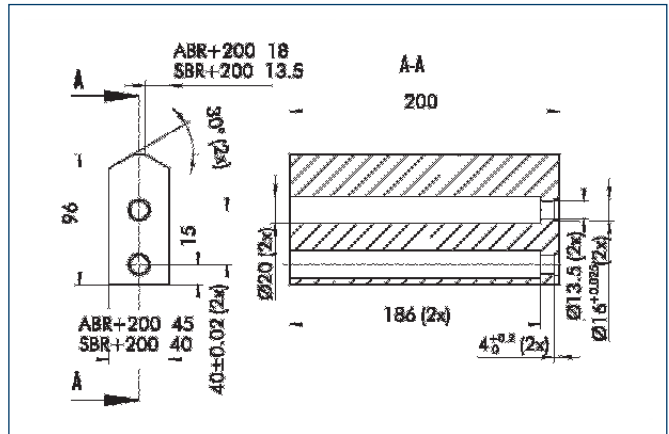
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 200	6 mm	247 N	0303725



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

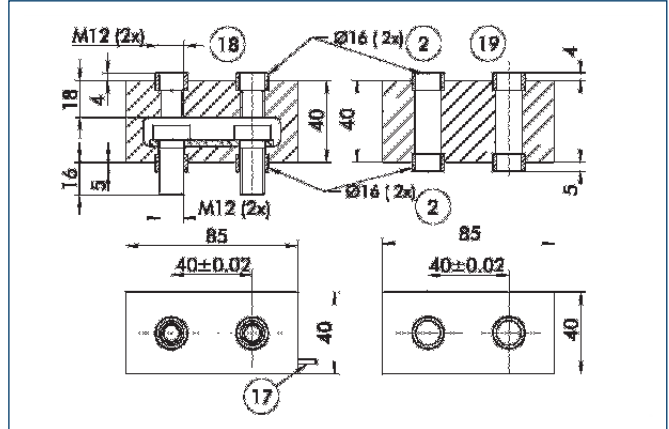
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 200	Aluminum	1	0300015
SBR-plus 200	16 MnCr 5	1	0300025

FMS force measuring jaws

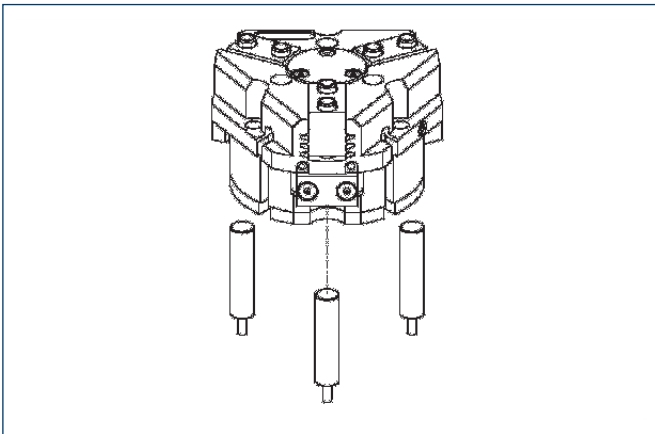


- ② Finger connection
- ⑮ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A2	0301811
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 200	0301842
FMS-ZBP 200	0301843

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

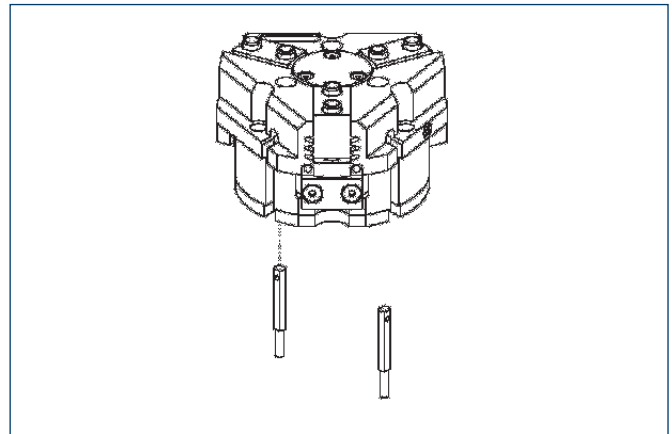
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

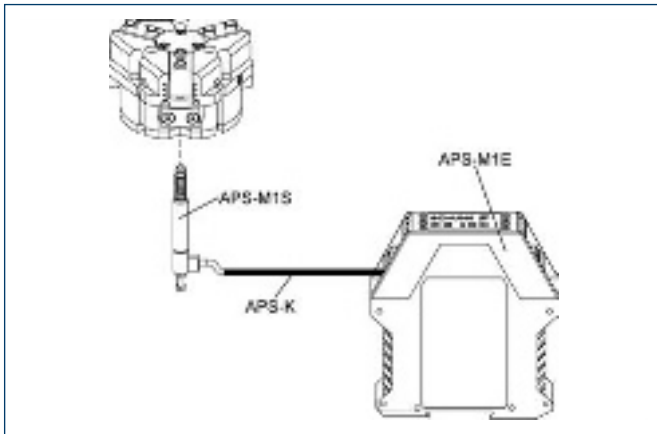
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

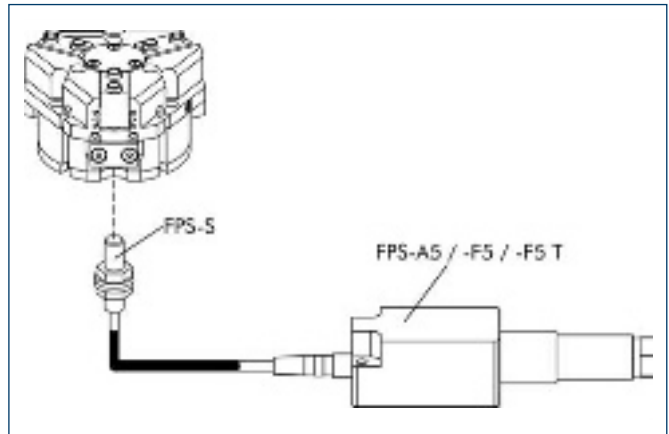
Sensor system



Measuring system:
APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-200/1 and 380/2	0302085
AS-APS-M1-200/2	0302086

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



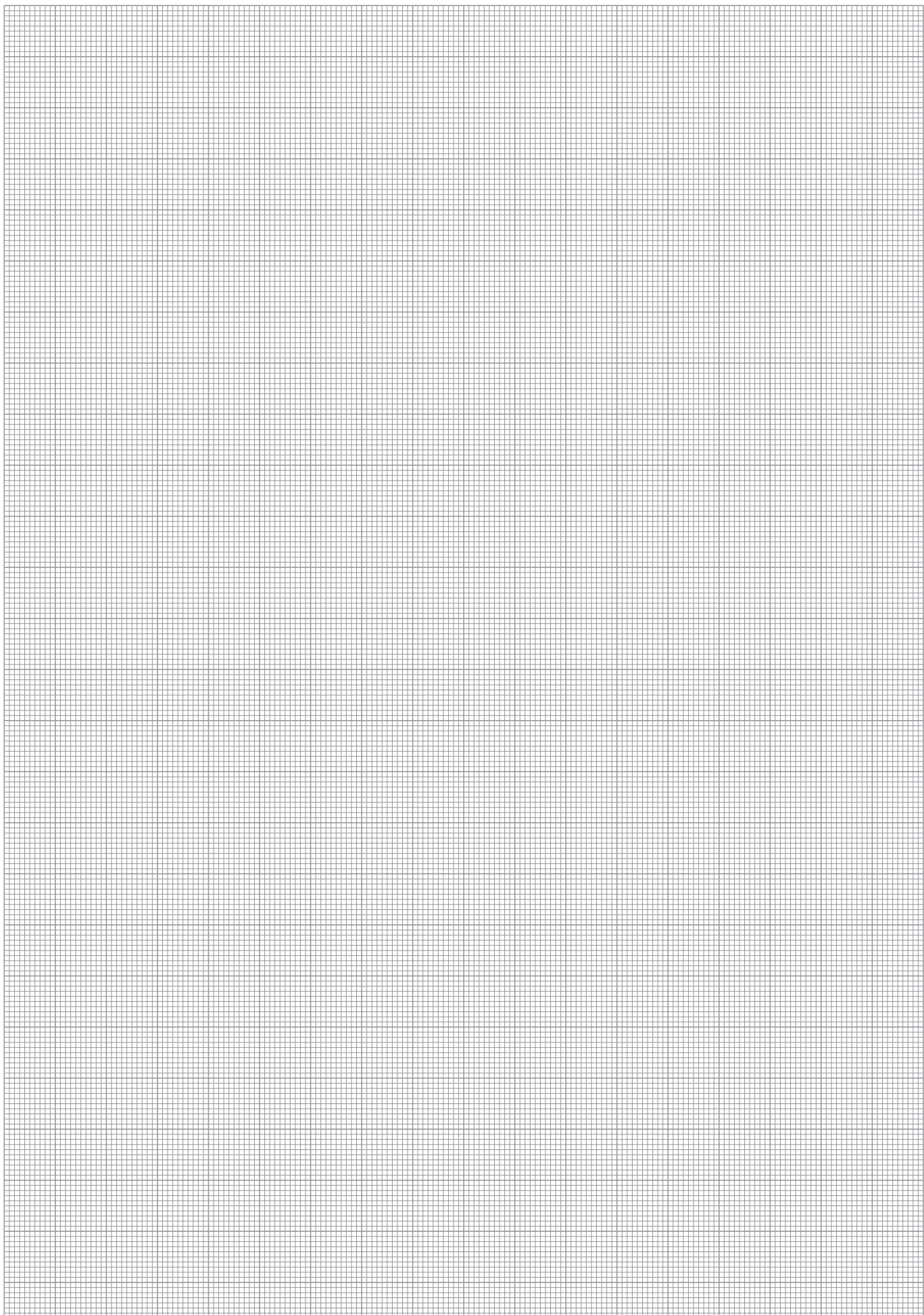
Measuring system:
FPS position monitor

Description	ID
AS-PGN/PZN-plus 200/1	0301640
AS-PGN/PZN-plus 200/2	0301641
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.

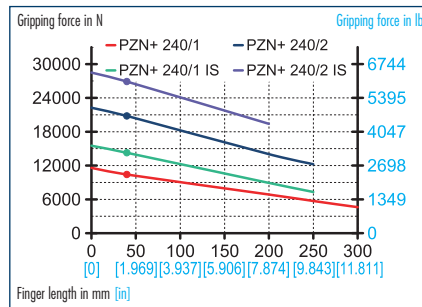


PZN-plus 240

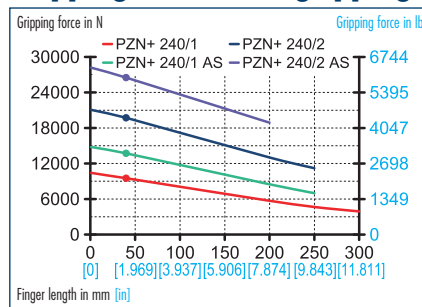
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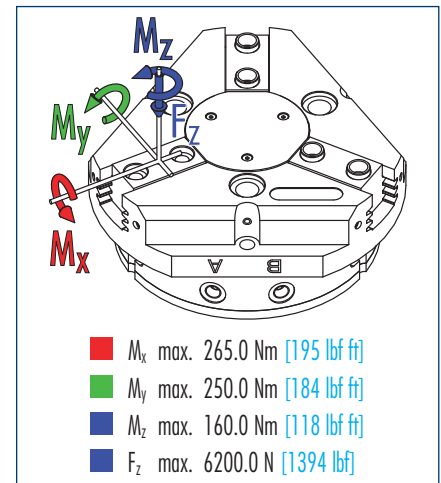
Gripping force, I.D. gripping



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.

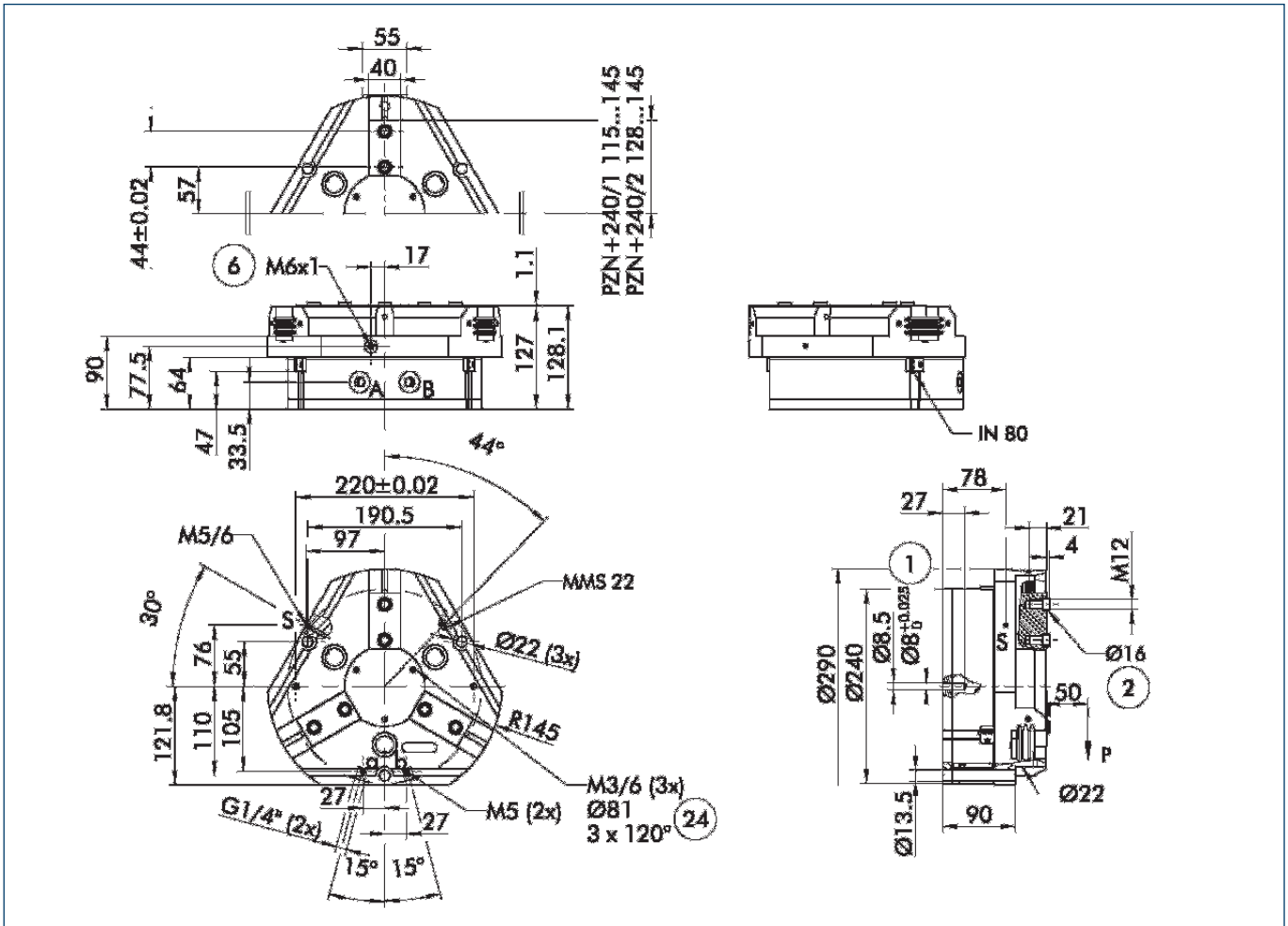
Technical data

Description		PZN-plus 240-1	PZN-plus 240-2	PZN-plus 240-1 AS	PZN-plus 240-2 AS	PZN-plus 240-1 IS	PZN-plus 240-2 IS
ID		0303316	0303416	0303516	0303616	0303546	0303646
Stroke per jaw	mm [in]	30.0 [1.181]	17.0 [0.669]	30.0 [1.181]	17.0 [0.669]	30.0 [1.181]	17.0 [0.669]
Closing force	N [lbf]	9500.0 [2136]	19700.0 [4429]	13720.0 [3084]	26500.0 [5957]		
Opening force	N [lbf]	10400.0 [2338]	20800.0 [4676]			14270.0 [3208]	26900.0 [6047]
Min. spring force	N [lbf]			4220.0 [949]	6800.0 [1529]	4770.0 [1072]	7200.0 [1619]
Weight	kg [lbs]	20.0 [44.09]	20.0 [44.09]	24.0 [52.91]	24.0 [52.91]	24.0 [52.91]	24.0 [52.91]
Recommended workpiece weight	kg [lbs]	50.0 [110.23]	93.0 [205.03]	50.0 [110.23]	93.0 [205.03]	50.0 [110.23]	93.0 [205.03]
Air consumption per double stroke	cm ³ [in ³]	1780.0 [108.62]	1780.0 [108.62]	1780.0 [108.62]	1780.0 [108.62]	1780.0 [108.62]	1780.0 [108.62]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	1.25	1.25	1.1	1.1	1.7	1.7
Opening time	s	1.25	1.25	2.1	2.1	1.1	1.1
Max. permitted finger length	mm [in]	300.0 [11.811]	250.0 [9.843]	250.0 [9.843]	200.0 [7.874]	250.0 [9.843]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	8.5 [18.74]	8.5 [18.74]	8.5 [18.74]	8.5 [18.74]	8.5 [18.74]	8.5 [18.74]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

OPTIONS and their characteristics

Dust-protection version	ID	37303316	37303416	37303516	37303616	37303546	37303646
IP class		64	64	64	64	64	64
Weight	kg [lbs]	21.5 [47.40]	21.5 [47.40]	25.5 [56.22]	25.5 [56.22]	25.5 [56.22]	25.5 [56.22]
Anti-corrosion version	ID	38303316	38303416	38303516	38303616	38303546	38303646
High-temperature version	ID	39303316	39303416	39303516	39303616	39303546	39303646
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]

Main views

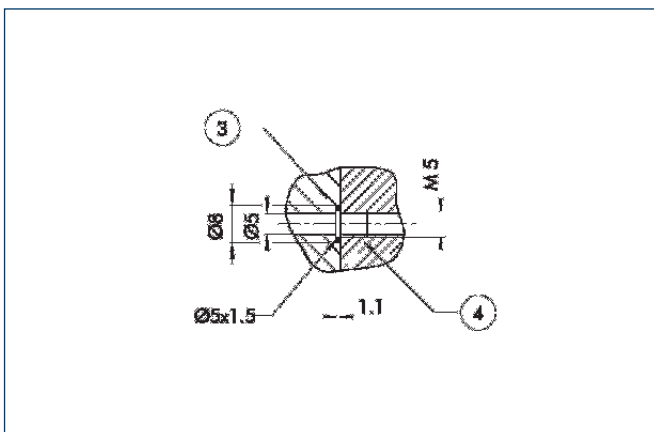


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ⑥ Lubricating nipple connection
- ②④ Bolt pitch circle

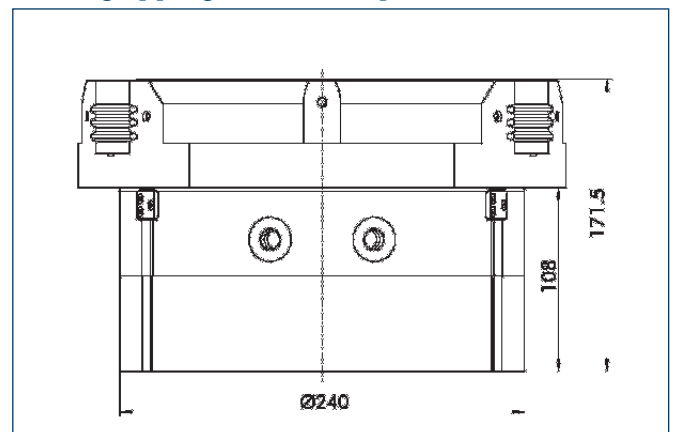
Hoseless direct connection



- 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.

AS/IS gripping force safety device

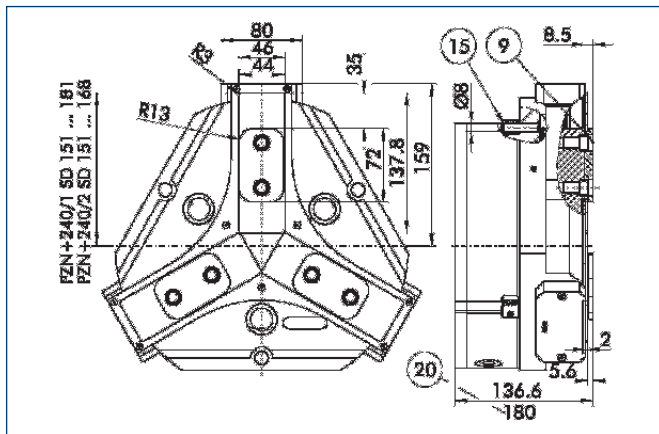


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 240

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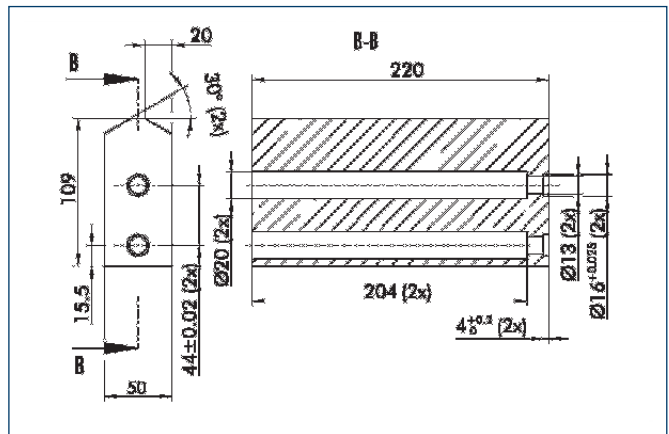
Dust protection



- ⑨ For screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ With AS / IS version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

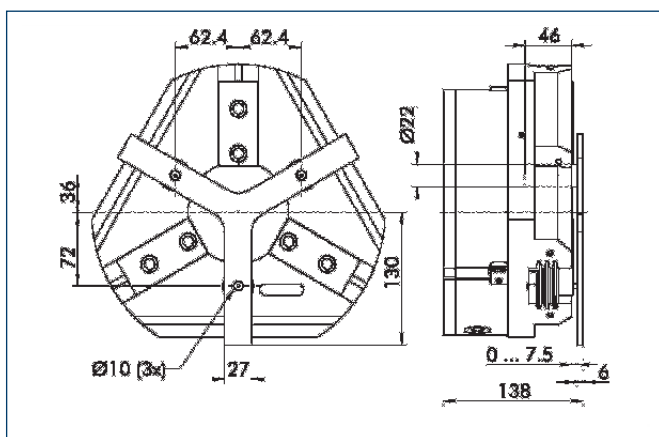
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 240	Aluminum	1	0300017
SBR-plus 240	16 MnCr 5	1	0300027

Spring-loaded pressure piece



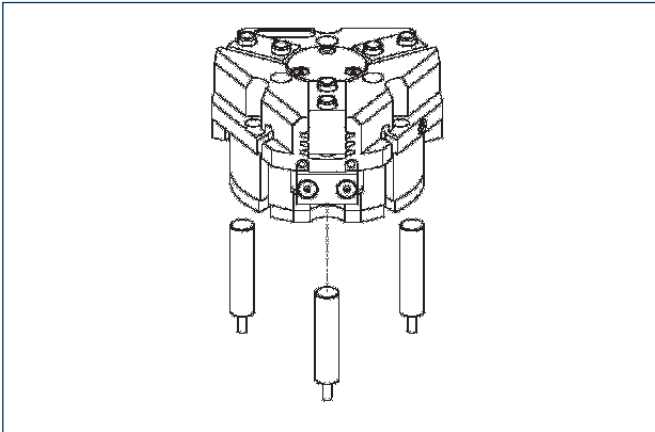
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 240	7.5 mm	240 N	0303726



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

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

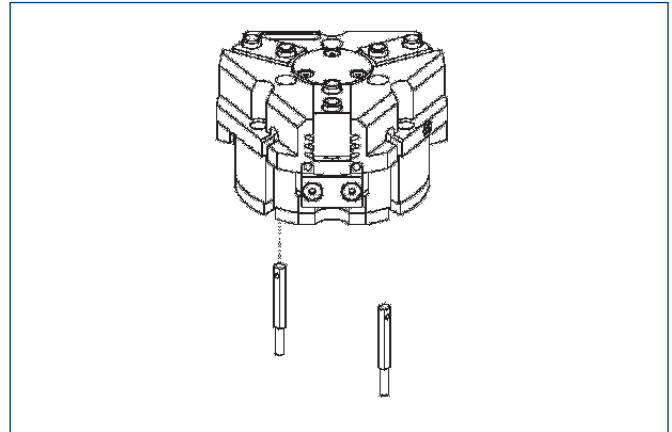
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

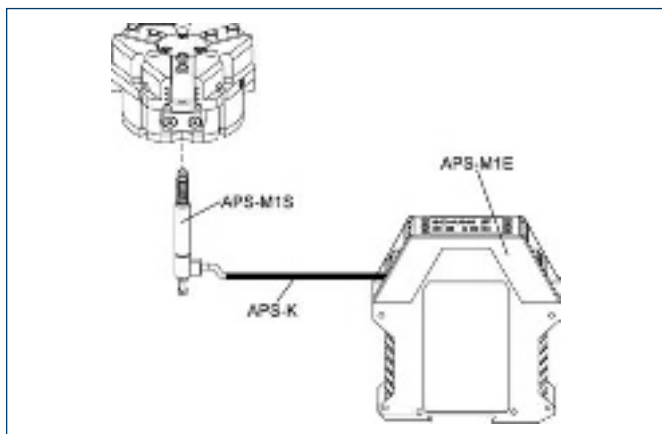
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

Sensor system



Measuring system:

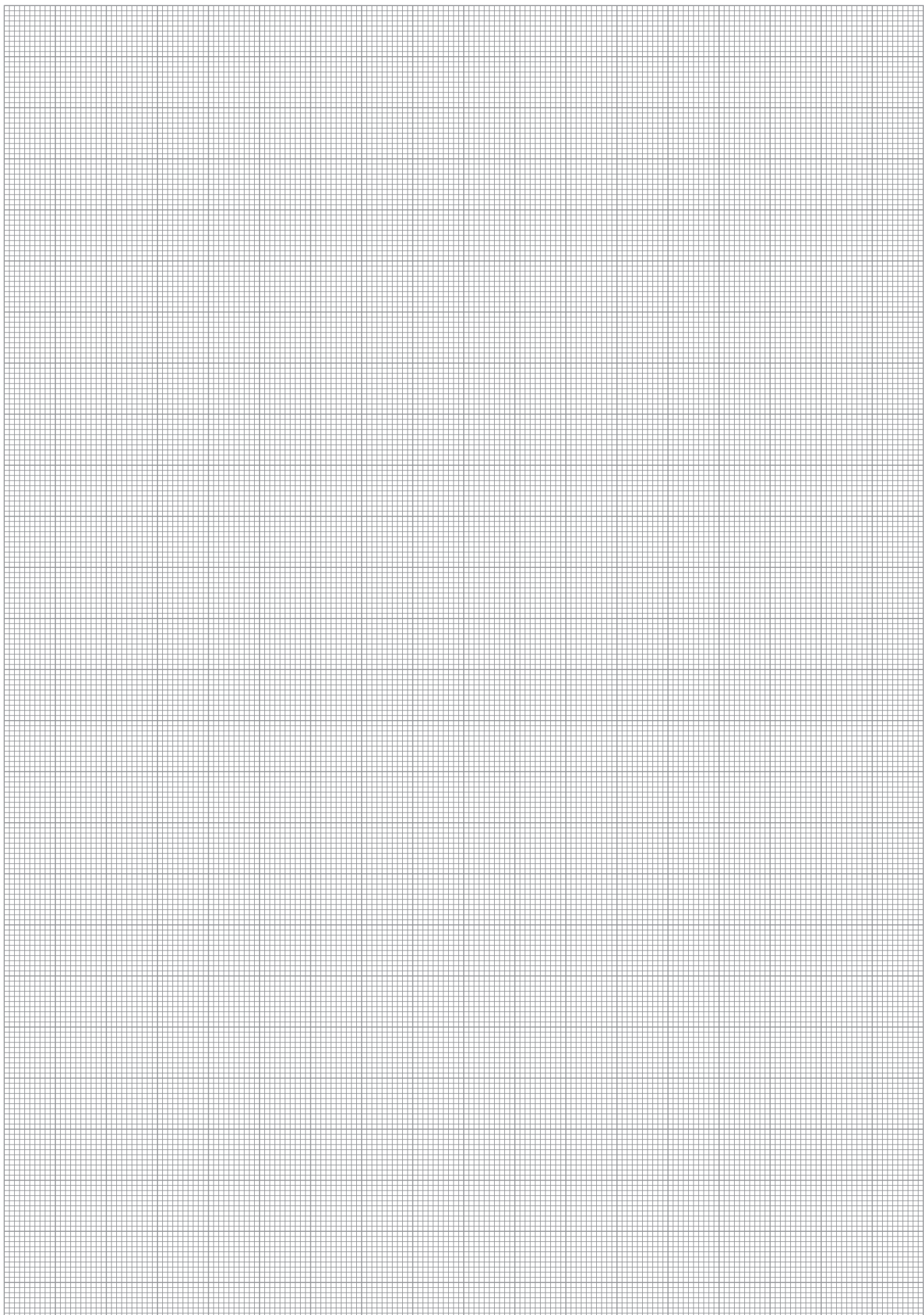
APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-160/1 and 240/2	0302083
AS-APS-M1-240/1	0302087

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



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

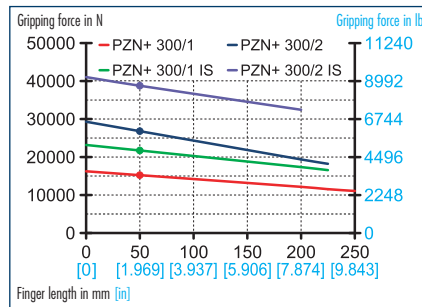


PZN-plus 300

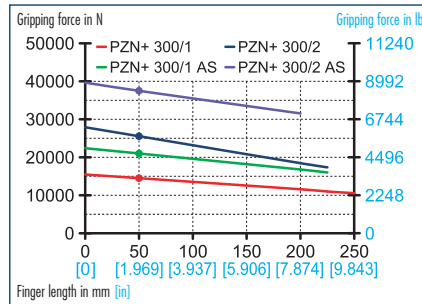
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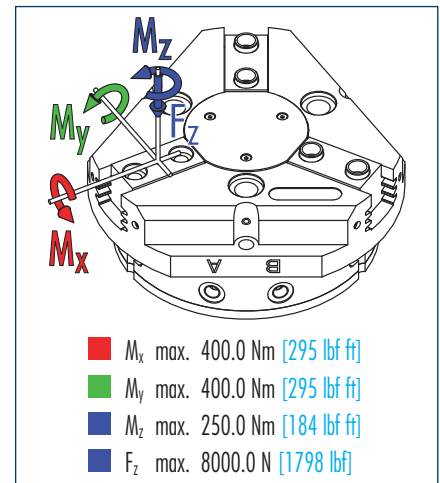
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① 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.

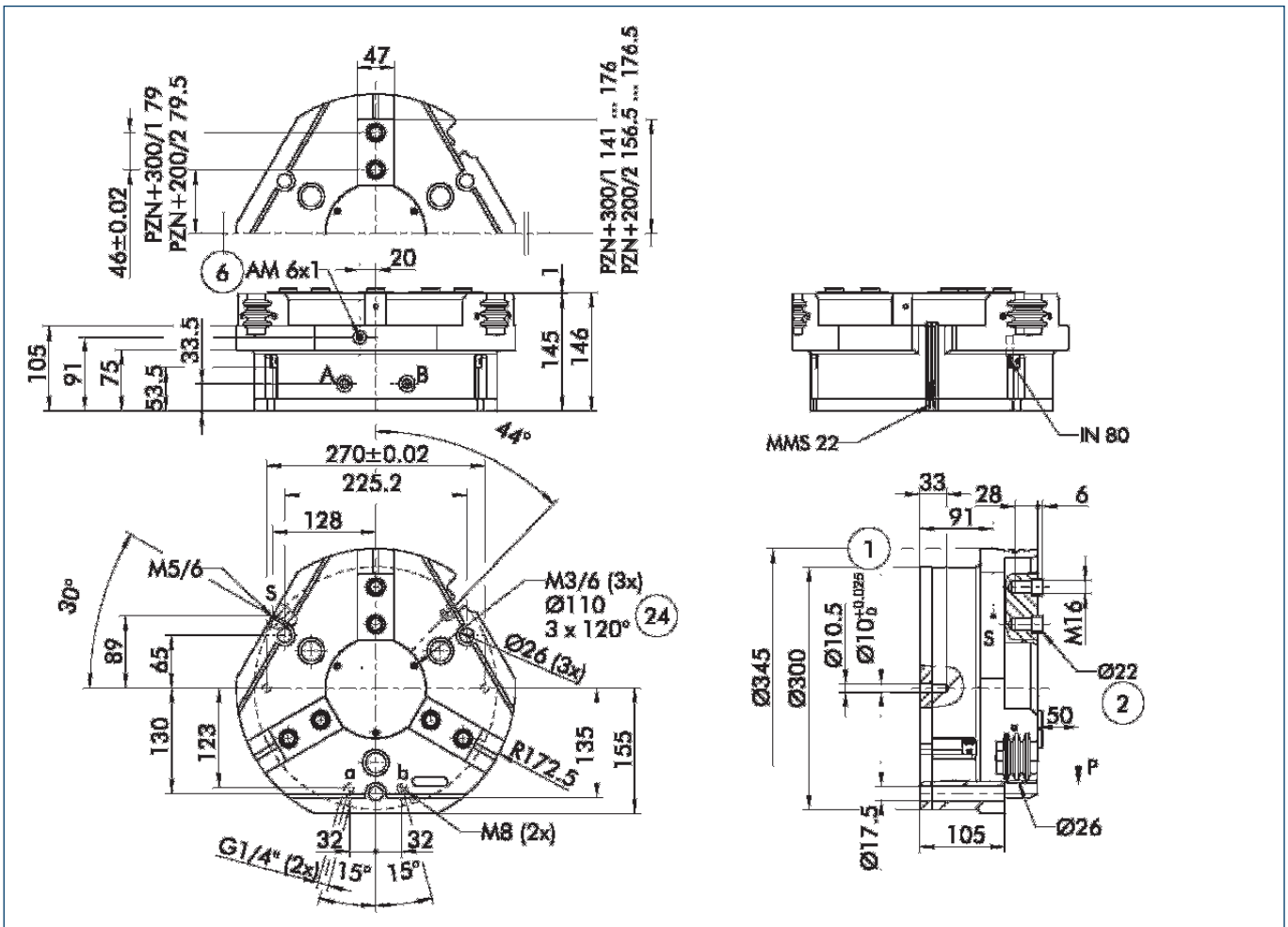
Technical data

Description		PZN-plus 300-1	PZN-plus 300-2	PZN-plus 300-1 AS	PZN-plus 300-2 AS	PZN-plus 300-1 IS	PZN-plus 300-2 IS
ID		0303317	0303417	0303517	0303617	0303547	0303647
Stroke per jaw	mm [in]	35.0 [1.378]	20.0 [0.787]	35.0 [1.378]	20.0 [0.787]	35.0 [1.378]	20.0 [0.787]
Closing force	N [lbf]	14500.0 [3260]	25500.0 [5733]	21000.0 [4721]	37500.0 [8430]		
Opening force	N [lbf]	15200.0 [3417]	26800.0 [6025]			22000.0 [4946]	38000.0 [8543]
Min. spring force	N [lbf]			6500.0 [1461]	10000.0 [2248]	7500.0 [1686]	10500.0 [2360]
Weight	kg [lbs]	33.0 [72.75]	33.0 [72.75]	43.5 [95.90]	43.5 [95.90]	43.5 [95.90]	43.5 [95.90]
Recommended workpiece weight	kg [lbs]	72.5 [159.84]	137.5 [303.14]	105.0 [231.49]	187.5 [413.37]	110.0 [242.51]	190.0 [418.88]
Air consumption per double stroke	cm ³ [in ³]	2850.0 [173.92]	2850.0 [173.92]	2850.0 [173.92]	2850.0 [173.92]	2850.0 [173.92]	2850.0 [173.92]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	1.3	1.3	1.2	1.2	2.0	2.0
Opening time	s	1.3	1.3	2.5	2.5	1.2	1.2
Max. permitted finger length	mm [in]	250.0 [9.843]	225.0 [8.858]	225.0 [8.858]	200.0 [7.874]	225.0 [8.858]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	11.5 [25.35]	11.5 [25.35]	11.5 [25.35]	11.5 [25.35]	11.5 [25.35]	11.5 [25.35]
Tightness		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

OPTIONS and their characteristics

Dust-protection version	ID	37303317	37303417	37303517	37303617	37303547	37303647
Tightness		64	64	64	64	64	64
Weight	kg [lbs]	35.5 [78.26]	35.5 [78.26]	46.0 [101.41]	46.0 [101.41]	46.0 [101.41]	46.0 [101.41]
Anti-corrosion version	ID	38303317	38303417	38303517	38303617	38303547	38303647
High-temperature version	ID	39303317	39303417	39303517	39303617	39303547	39303647
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]	130.0 [266]

Main views

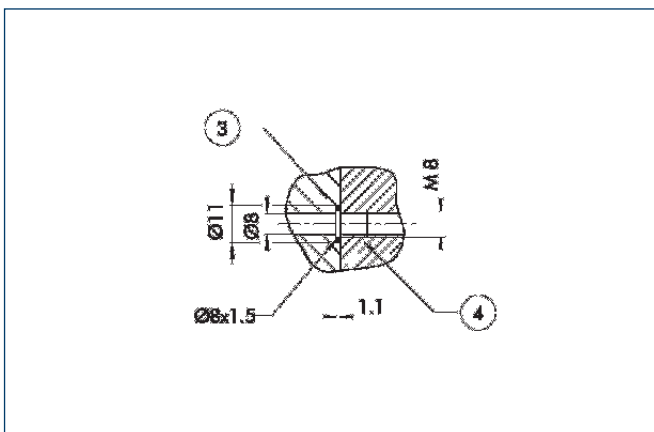


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ⑥ Lubricating nipple connection
- ⑳ Bolt pitch circle

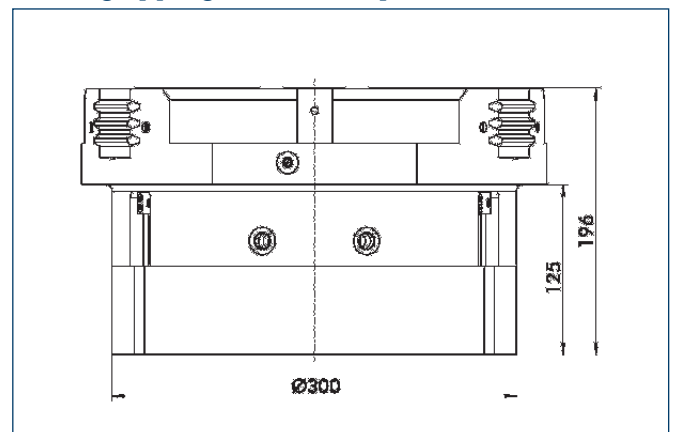
Hoseless direct connection



- 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.

AS/IS gripping force safety device

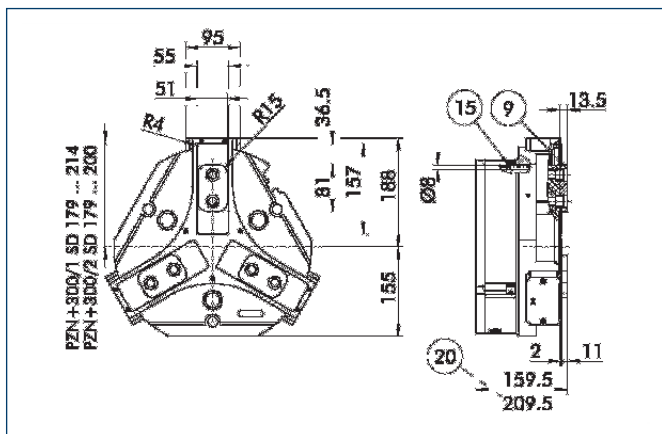


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

PZN-plus 300

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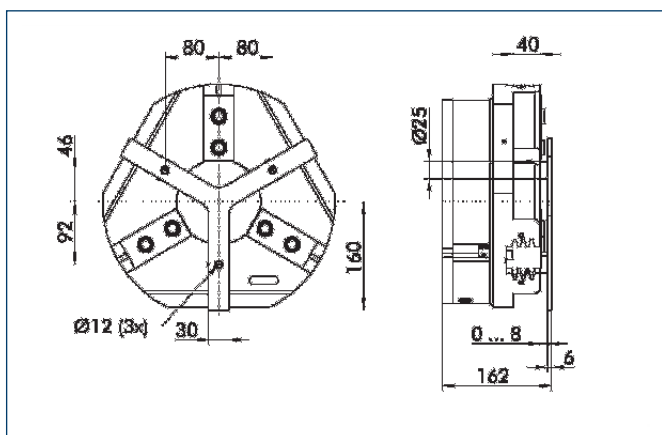
Dust protection



- ⑨ For screw connection diagram, see basic version
- 15 Sealing bolt
- 20 With AS / IS version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

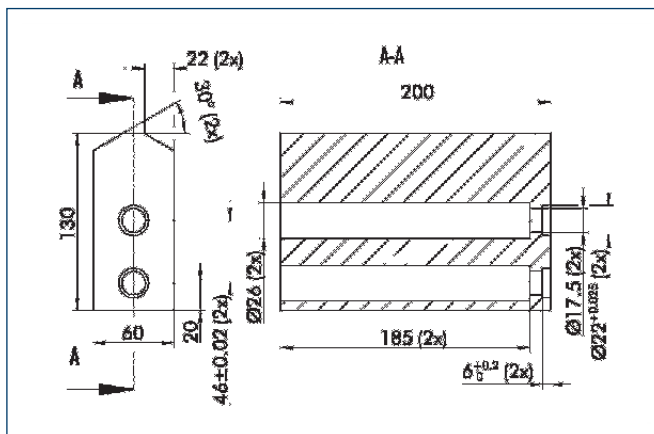
Spring-loaded pressure piece



For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 300	8 mm	160 N	0303727

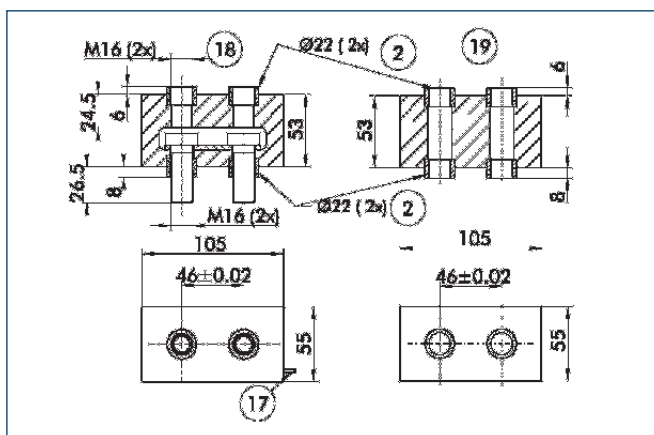
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 300	Aluminum	1	0300016
SBR-plus 300	16 MnCr 5	1	0300026

FMS force measuring jaws



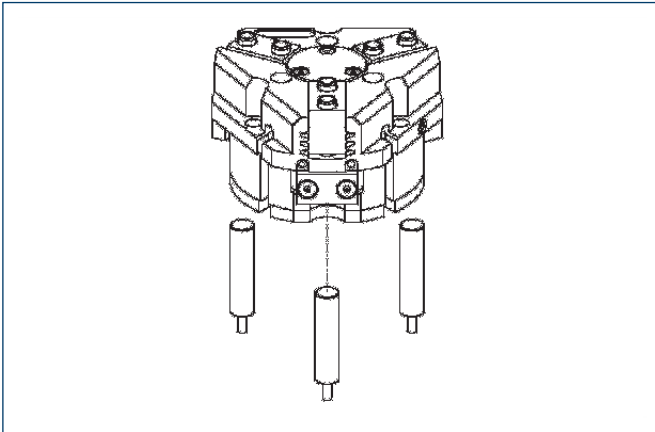
- ② Finger connection
- 17 Cable outlet
- 18 Fine serration
- 19 Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A2	0301811
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 300	0301846
FMS-ZBP 300	0301847

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

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

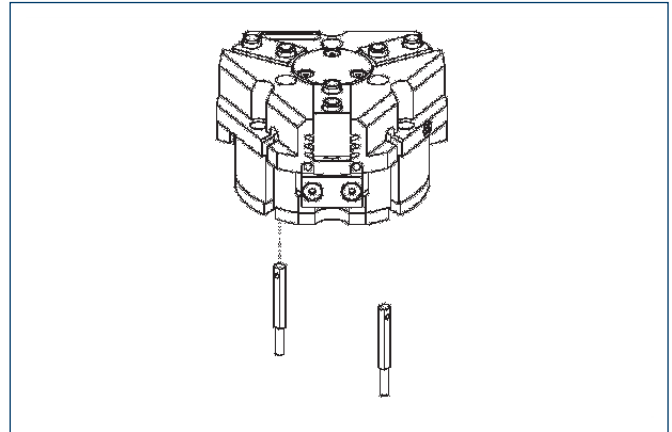
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

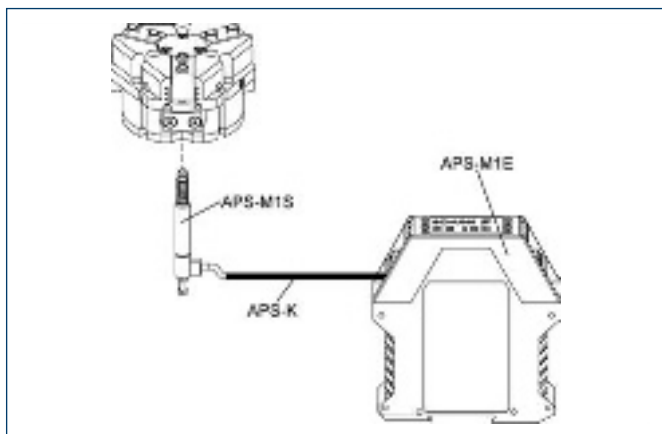
Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



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

Sensor system



Measuring system:

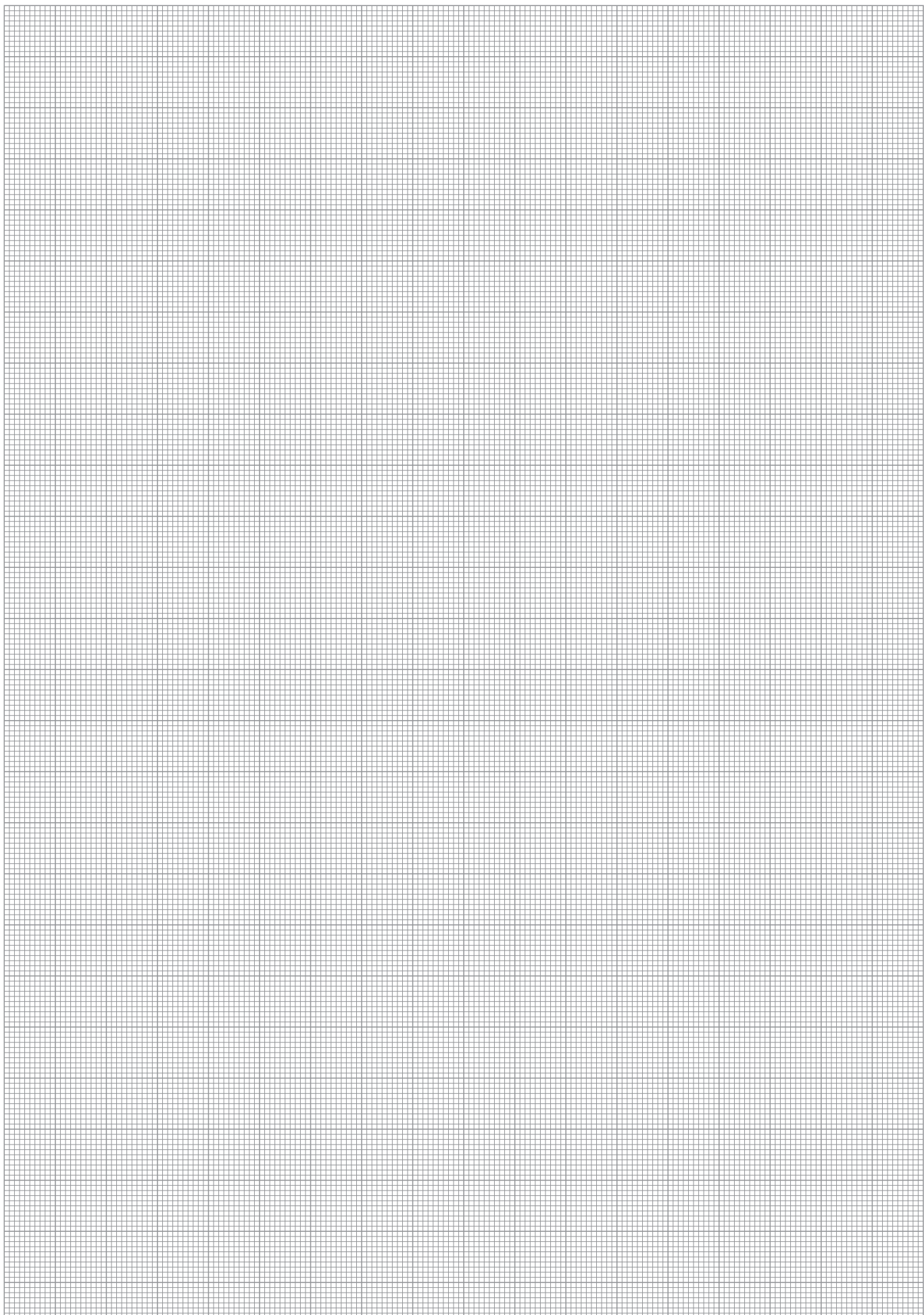
APS position monitor

Description	ID
APS-K2	0302066
APS-K7	0302068
APS-M1E	0302064
APS-M1S	0302062
AS-APS-M1-300/1	0302088
AS-APS-M1-300/2	0302089

When using an APS system, a mounting kit (AS-APS, incl. 3 m cable), an APS sensor (APS-M1S) and electronics (APS-M1E) are required for each gripper. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their electronic processor (SPC PLC) it is max. 1 m.



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

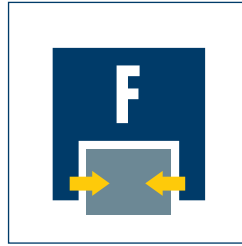




Sizes
50 .. 200



Weight
0.20 kg .. 11.0 kg
0.44 lbs .. 24.25 lbs



Gripping force
260 N .. 16000 N
58 lbf .. 3597 lbf

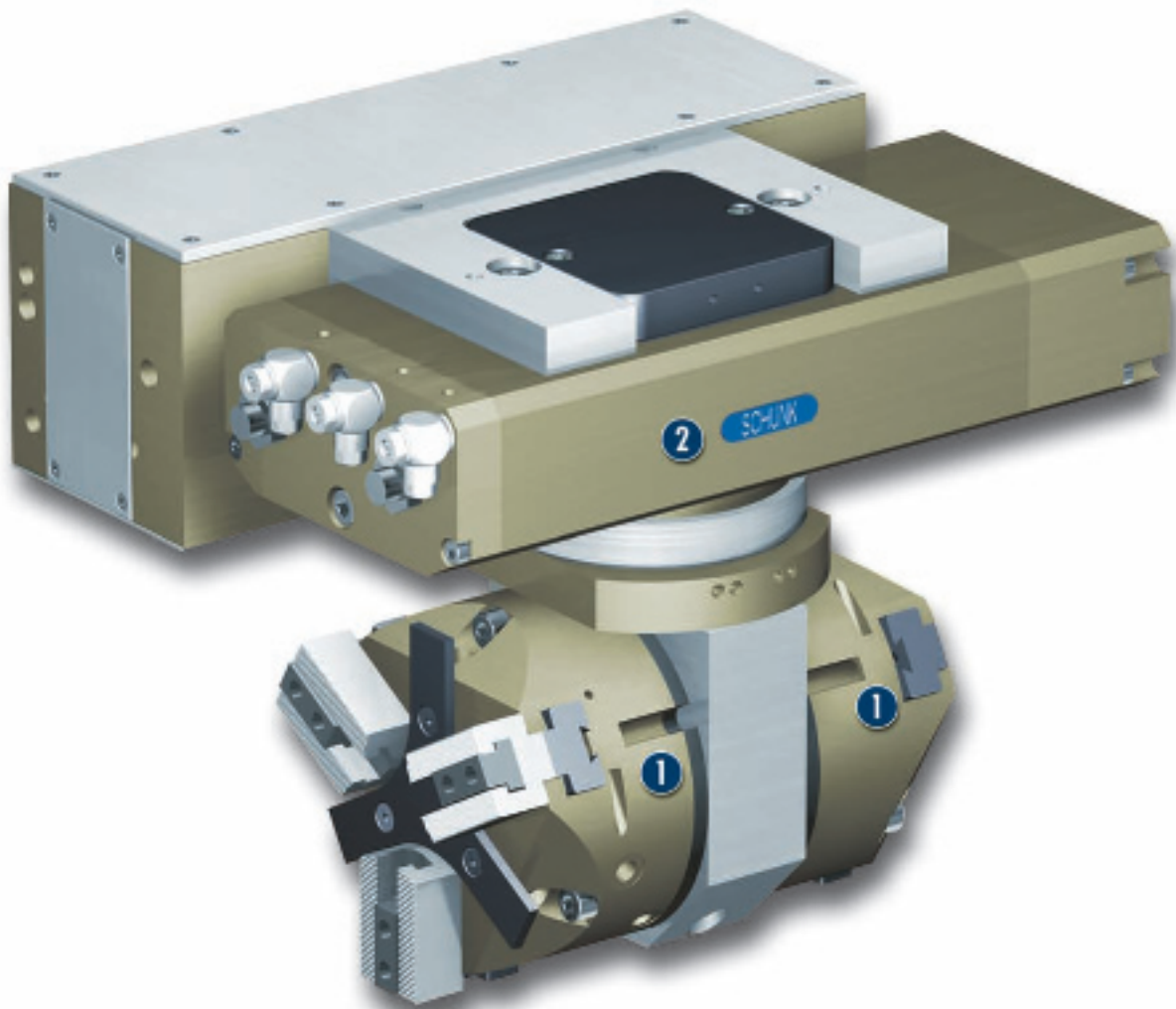


Stroke per finger
2 mm .. 25 mm
0.079 in .. 0.984 in



Force-fit gripping
1.3 kg .. 80 kg
2.87 lbs .. 176.37 lbs

Application example



Handling unit for loading and unloading cylindrical blanks and finished parts into a lathe. The pressure plate is used to press the blank securely up to the stop of the chuck.

1 3-Finger Centric Gripper PZN 125 with pressure plate

2 Rotary Actuator OSE-C 45

Universal Gripper

Universal 3-finger centric gripper with high gripping force and robust T-slot guidance

Area of application

For universal use in clean and slightly dirty environments

Your advantages and benefits

High precision T-slot guidance

guarantees enormous versatility

High maximum moments possible

This makes it suitable for the use of long gripper fingers

High gripping forces

for a wide range of applications

Air supply via hose-free direct connection or via threaded joints

for flexible pressure supply in all automated systems



General information on the series

Working principle

Wedge-hook kinematics

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

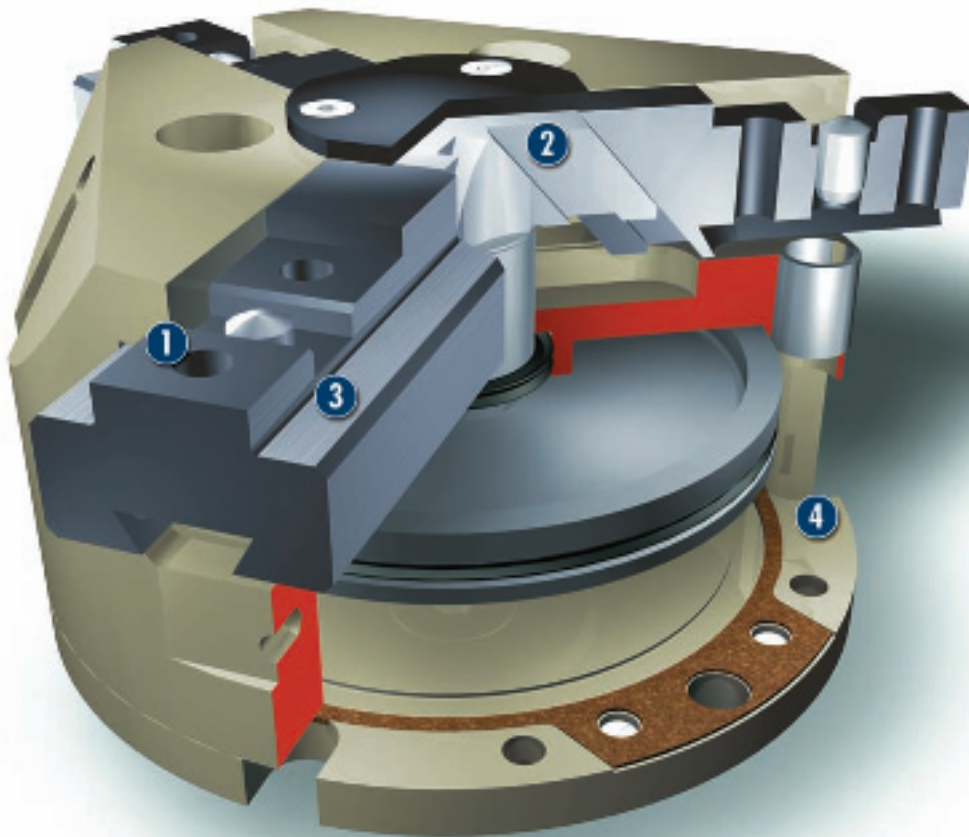
Scope of delivery

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

Gripping force safety device

Possible using versions with mechanical gripping force safety device or pressure maintenance valve SDV-P

Sectional diagram



1 Base jaws
for the mounting of workpiece-specific gripper fingers

2 Kinematics
wedge hook design for high power transmission and synchronized gripping

3 T-slot guidance
robust T-slot base jaw guide with minimum play

4 Housing
weight-reduced thanks to the use of a high-strength aluminum alloy

Functional description

The piston is pressed up or down by compressed air. Via its slanted working surfaces, the wedge hook redirects this vertical movement into a horizontal, synchronous gripping motion of the three base jaws.

Options and special information

Please use the PZN only for ordering replacements; for new designs, please use the successor model PZN-plus.

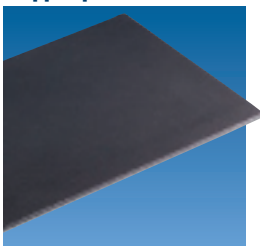
Accessories

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



Finger blanks



Fittings



Inductive proximity switches IN



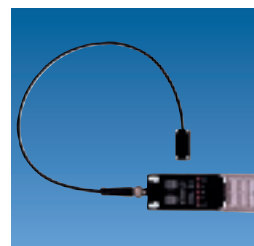
Sensor cables W/WK/KV/GK



V sensor distributor



Flexible position sensor FPS



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 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 variance of the end position after 100 consecutive strokes.

Workpiece weight

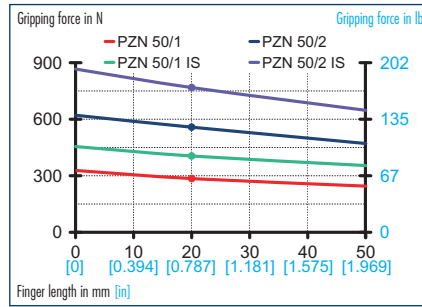
The recommended workpiece weight is calculated for force-fit gripping with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

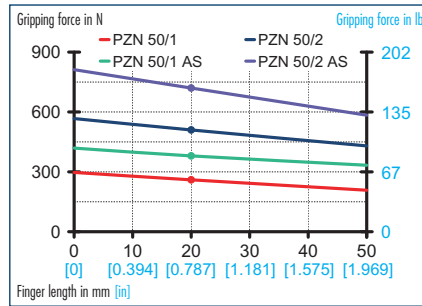
Closing and opening times are the pure movement times of the base jaws or fingers. Valve switching times, hose filling times or PLC reaction times are not included and must be taken into consideration when determining cycle times.



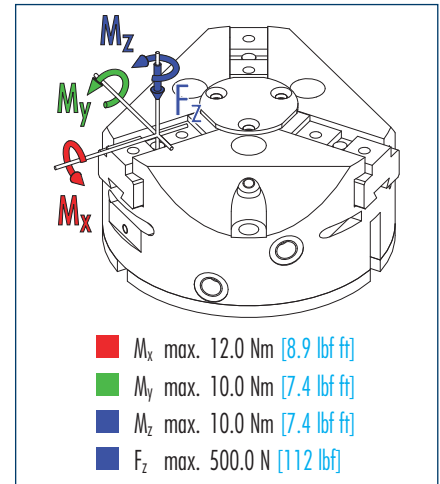
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

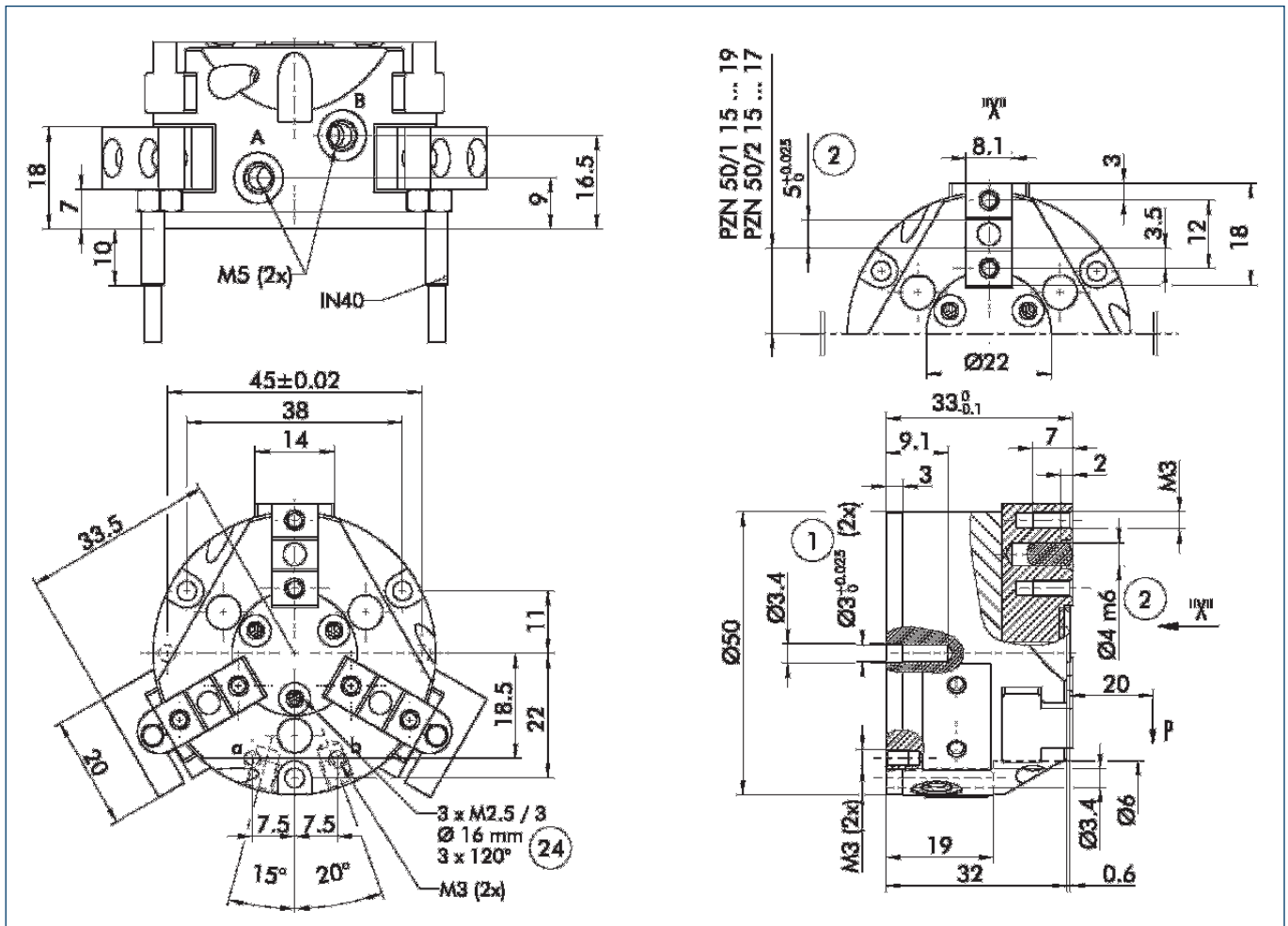


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 50-1	PZN 50-2	PZN 50-1 AS	PZN 50-2 AS	PZN 50-1 IS	PZN 50-2 IS
ID		0300309	0300409	0300509	0300609	0300539	0300639
Stroke per jaw	mm [in]	4.0 [0.157]	2.0 [0.079]	4.0 [0.157]	2.0 [0.079]	4.0 [0.157]	2.0 [0.079]
Closing force	N [lbf]	260.0 [58]	510.0 [115]	380.0 [85]	720.0 [162]		
Opening force	N [lbf]	285.0 [64]	550.0 [124]			380.0 [85]	720.0 [162]
Min. spring force	N [lbf]			90.0 [20.2]	170.0 [38]	90.0 [20.2]	170.0 [38]
Weight	kg [lbs]	0.2 [0.44]	0.2 [0.44]	0.23 [0.51]	0.23 [0.51]	0.23 [0.51]	0.23 [0.51]
Recommended workpiece weight	kg [lbs]	1.3 [2.87]	2.5 [5.51]	1.3 [2.87]	2.5 [5.51]	1.3 [2.87]	2.5 [5.51]
Air consumption per double stroke	cm ³ [in ³]	15.0 [0.92]	15.0 [0.92]	15.0 [0.92]	15.0 [0.92]	15.0 [0.92]	15.0 [0.92]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.03	0.03	0.02	0.02	0.04	0.04
Opening time	s	0.03	0.03	0.04	0.04	0.02	0.02
Max. permitted finger length	mm [in]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]	0.15 [0.33]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

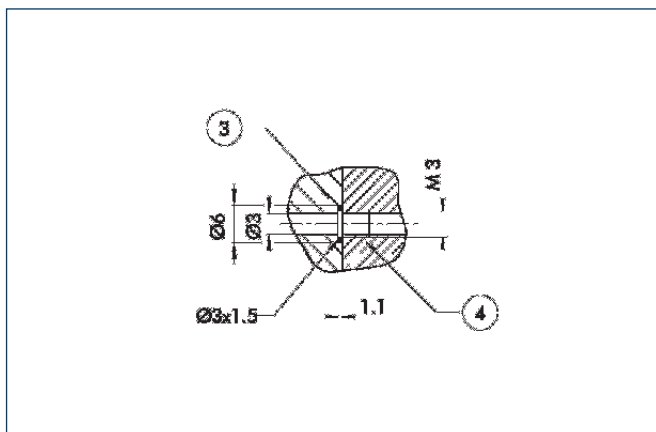


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ②④ Screw pitch circle

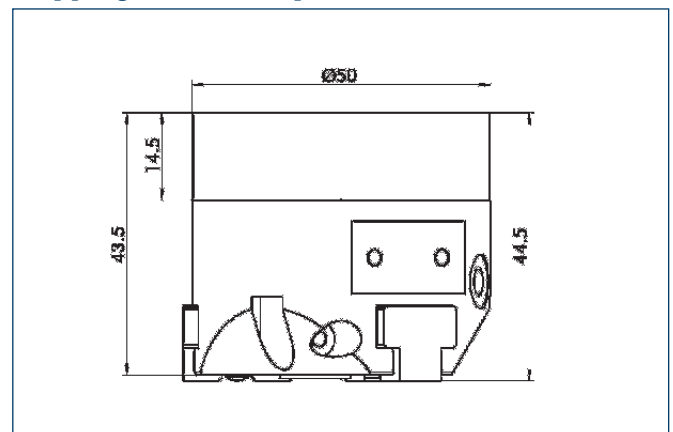
Hose-free direct connection



- ③ Adapter
- ④ Gripper

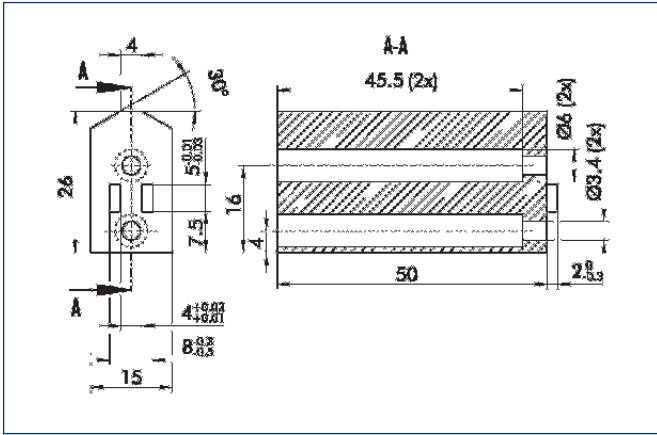
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Gripping force safety device AS/IS



The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.

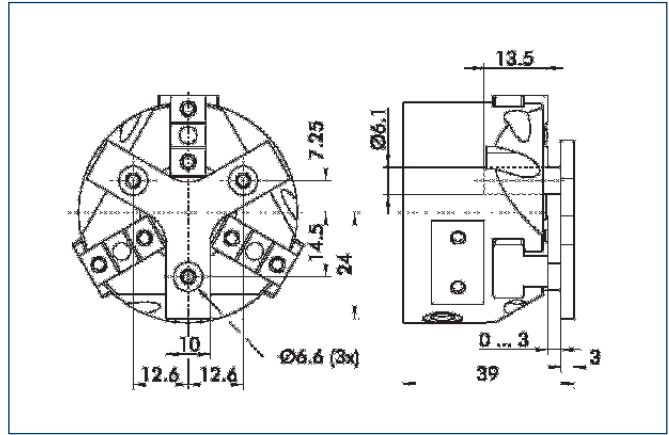
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 50	Aluminum	1	0300714
SBR 50	1.6 MnCr 5	1	0300715

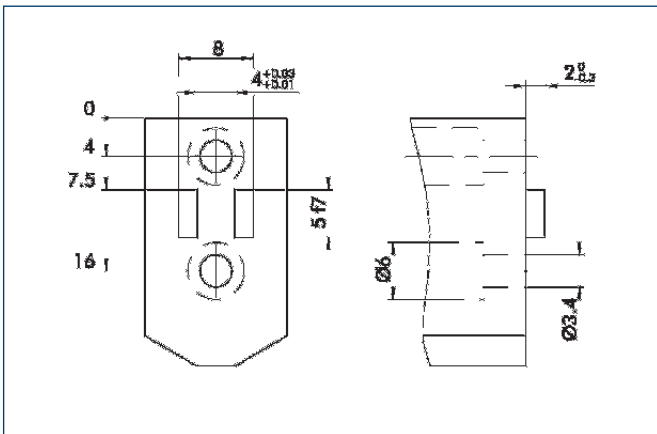
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

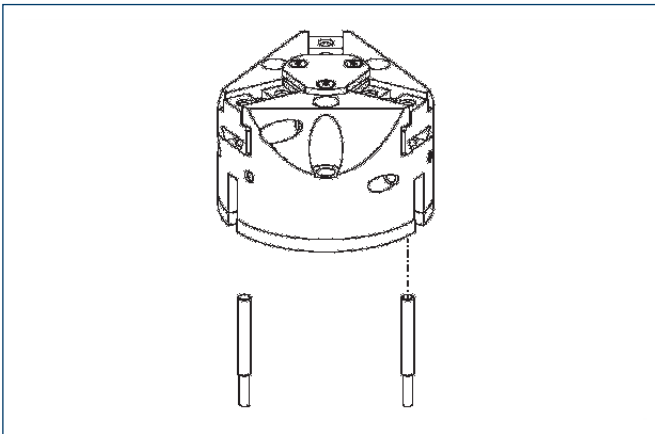
Designation	Stroke	Min. total force	ID
A-PZN 50	3 mm	9 N	0300719

Finger design



Suggestion for connection dimensions – Gripper fingers

Sensor systems



- ① To be considered when using proximity switch IN 80 instead of IN 40
The proximity switches can also be mounted using the brackets supplied but without using the eccentric sleeves. Please bear in mind that when using IN 80 instead of IN 40 sensors, the switch position is not adjustable.

End position monitoring:

Inductive proximity switches, for direct mounting

Designation	ID	Recommended product
IN 40/O-M12	0301584	
IN 40/O-M8	0301484	•
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
IN 80/O-M12	0301588	
IN 80/O-M8	0301488	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	
INK 40/O	0301556	
INK 40/S	0301555	
INK 80/O	0301551	
INK 80/S	0301550	

- ① Two sensors are required per gripper; an NO contact (/S) and an NC contact (/O), 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

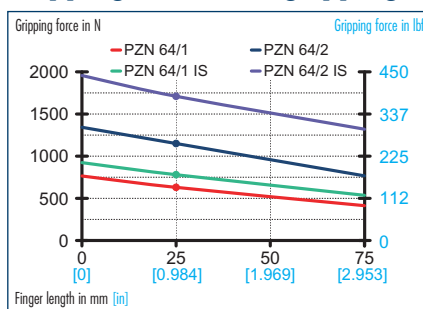
- ① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.

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

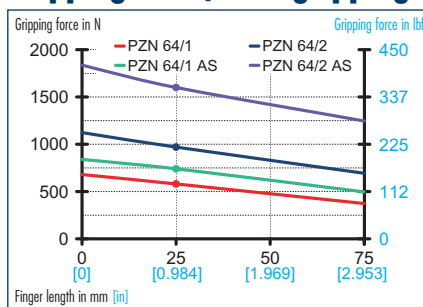




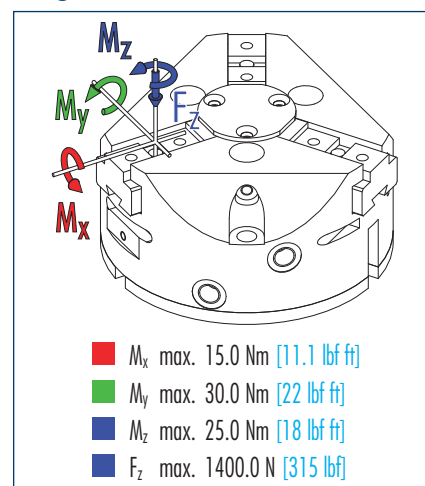
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

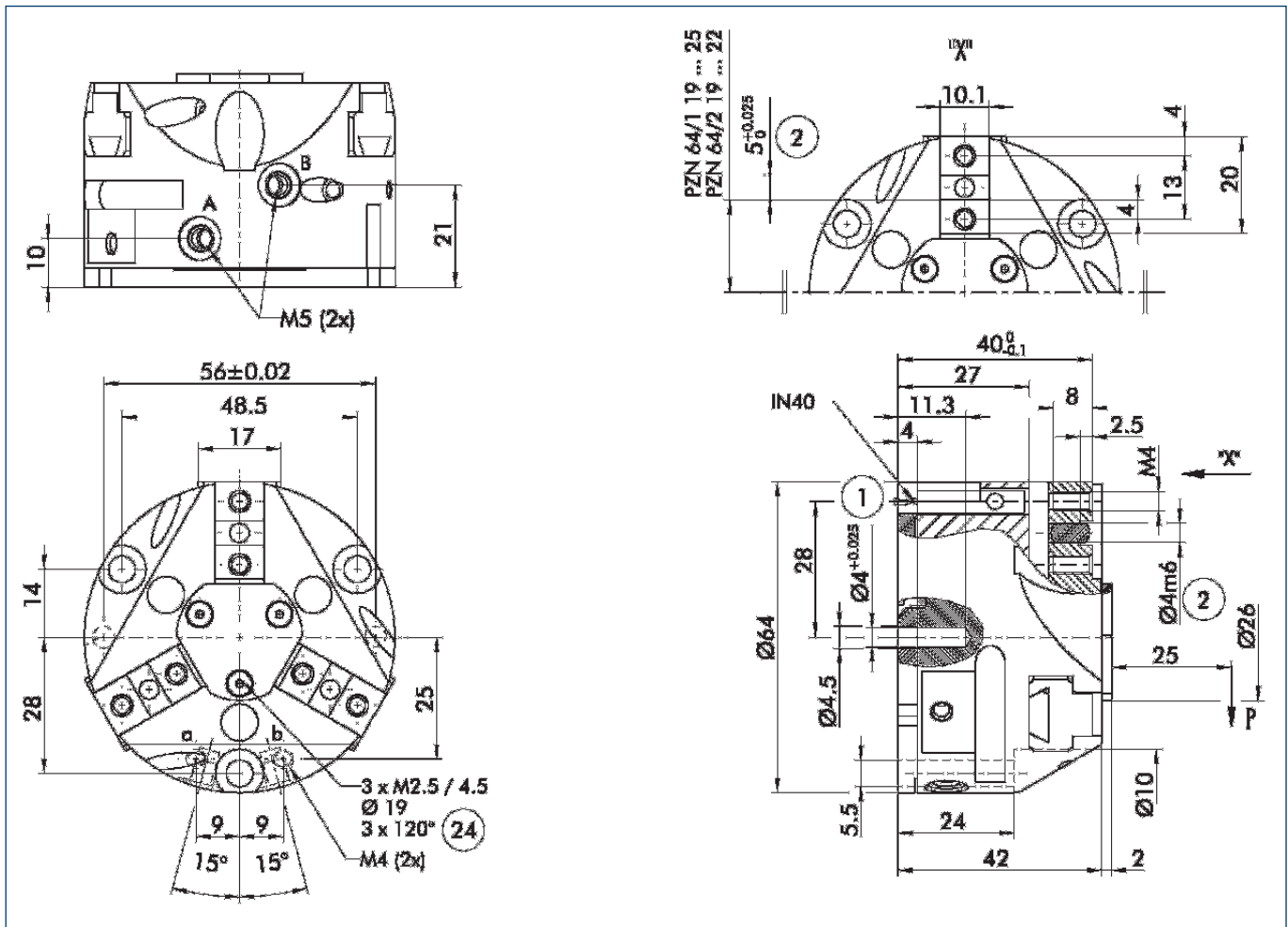


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 64-1	PZN 64-2	PZN 64-1 AS	PZN 64-2 AS	PZN 64-1 IS	PZN 64-2 IS
ID		0300310	0300410	0300510	0300610	0300540	0300640
Stroke per jaw	mm [in]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]
Closing force	N [lbf]	580.0 [130]	970.0 [218]	740.0 [166]	1600.0 [360]		
Opening force	N [lbf]	630.0 [142]	1150.0 [259]			720.0 [162]	1500.0 [337]
Min. spring force	N [lbf]			200.0 [45]	320.0 [72]	200.0 [45]	320.0 [72]
Weight	kg [lbs]	0.4 [0.88]	0.4 [0.88]	0.57 [1.26]	0.57 [1.26]	0.65 [1.43]	0.65 [1.43]
Recommended workpiece weight	kg [lbs]	3.0 [6.61]	5.0 [11.02]	3.0 [6.61]	5.0 [11.02]	3.0 [6.61]	5.0 [11.02]
Air consumption per double stroke	cm ³ [in ³]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]	25.0 [1.53]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.01	0.01	0.03	0.03	0.04	0.04
Opening time	s	0.01	0.01	0.04	0.04	0.03	0.03
Max. permitted finger length	mm [in]	64.0 [2.520]	64.0 [2.520]	64.0 [2.520]	64.0 [2.520]	64.0 [2.520]	64.0 [2.520]
Max. permitted weight per finger	kg [lbs]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

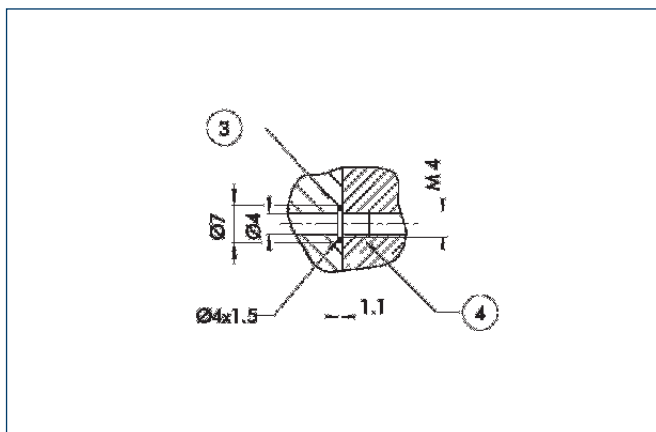


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ②④ Screw pitch circle

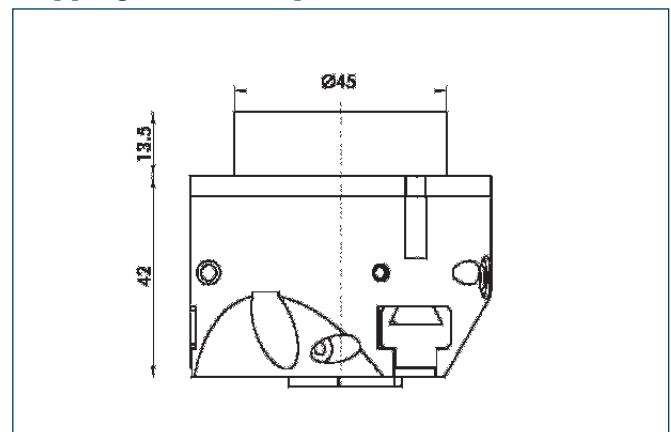
Hose-free direct connection



- ③ Adapter
- ④ Gripper

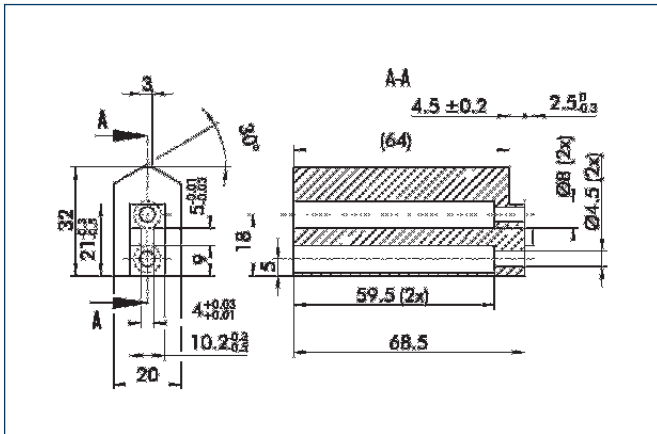
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Gripping force safety device AS/IS



The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.

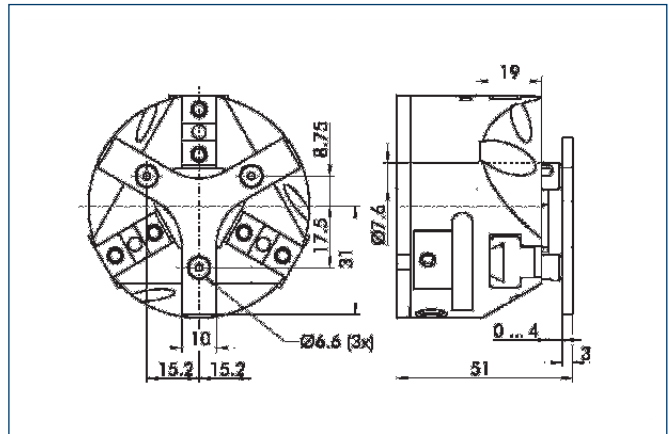
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 64	Aluminum	1	0300725
SBR 64	1.6 MnCr 5	1	0300734

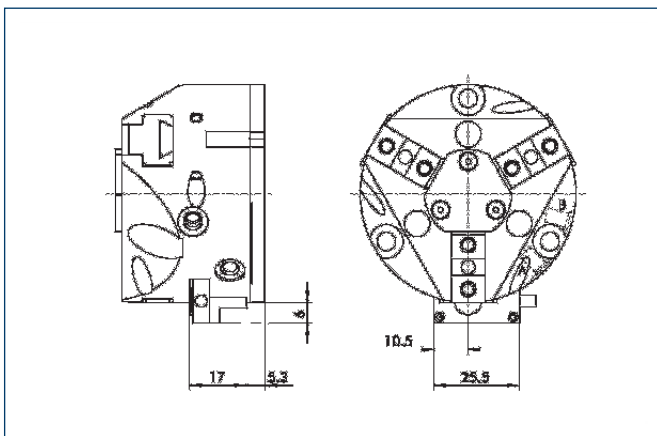
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

Designation	Stroke	Min. total force	ID
A-PZN 64	4 mm	18 N	0300720

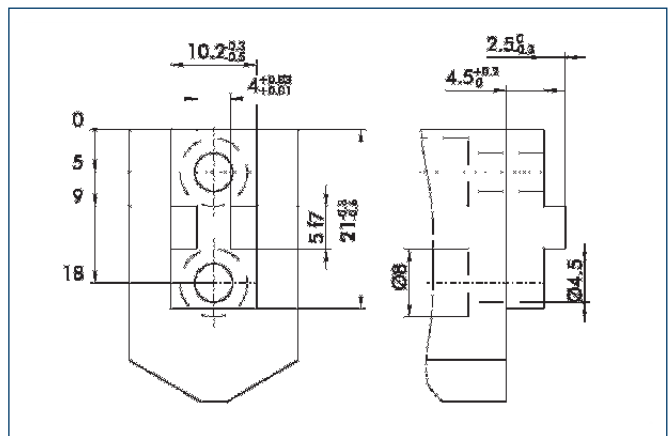
Mounting kit for FPS



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

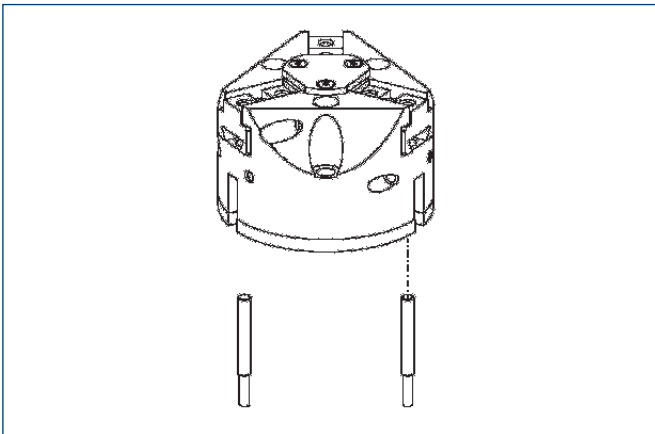
Designation	ID
AS-PZN 64	0301712

Finger design



Suggestion for connection dimensions – Gripper fingers

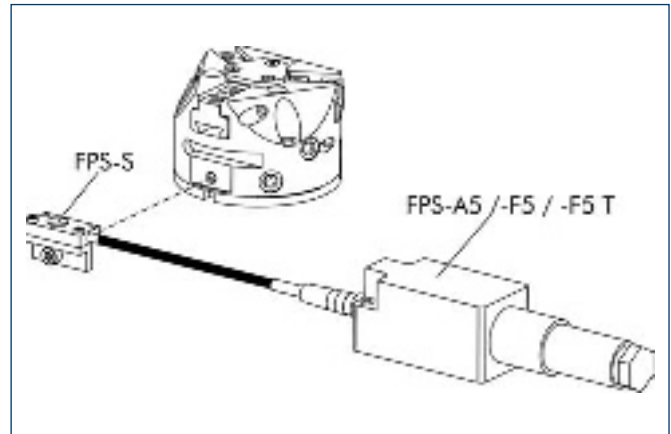
Sensor systems



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.



Measuring system:
Position monitoring FPS

Designation	ID
AS-PZN 64	0301712
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 optional extras in the "Accessories" catalog section.

Extension cables for proximity switches/magnetic switches

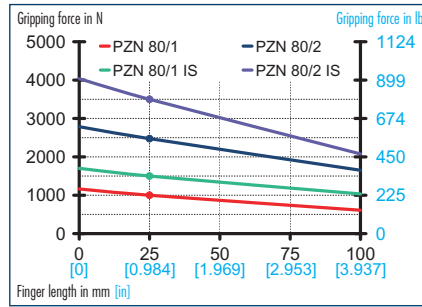
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

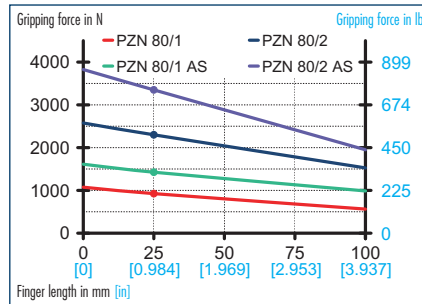
 You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



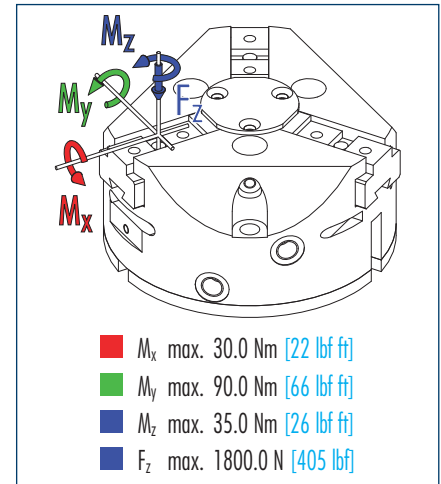
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

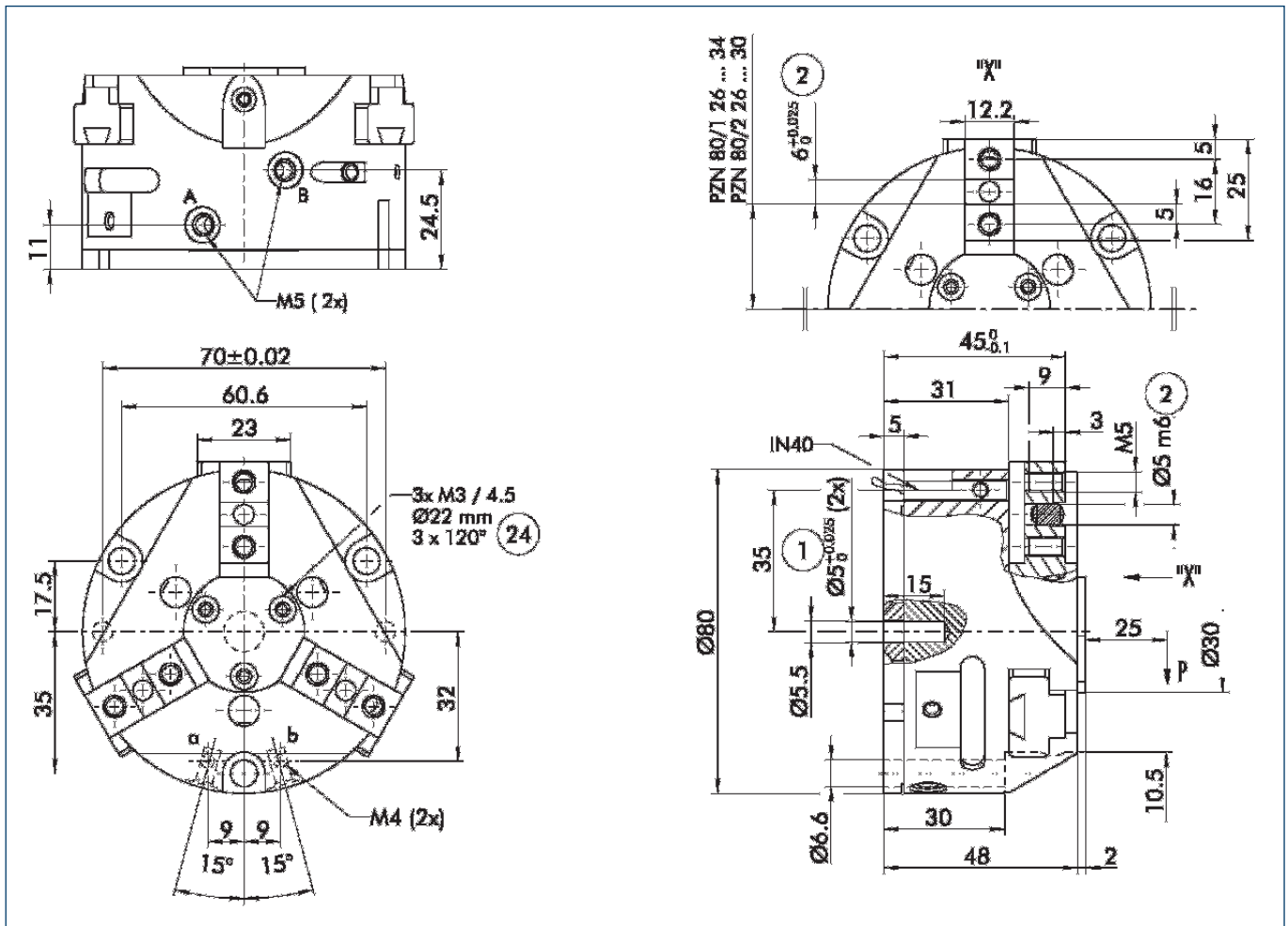


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 80-1	PZN 80-2	PZN 80-1 AS	PZN 80-2 AS	PZN 80-1 IS	PZN 80-2 IS
	ID	0300311	0300411	0300511	0300611	0300541	0300641
Stroke per jaw	mm [in]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]
Closing force	N [lbf]	925.0 [208]	2300.0 [517]	1600.0 [360]	3400.0 [764]		
Opening force	N [lbf]	1000.0 [225]	2470.0 [555]			1650.0 [371]	3500.0 [787]
Min. spring force	N [lbf]			330.0 [74]	770.0 [173]	330.0 [74]	770.0 [173]
Weight	kg [lbs]	0.75 [1.65]	0.75 [1.65]	0.95 [2.09]	0.95 [2.09]	1.05 [2.31]	1.05 [2.31]
Recommended workpiece weight	kg [lbs]	4.6 [10.14]	11.5 [25.35]	4.6 [10.14]	11.5 [25.35]	4.6 [10.14]	11.5 [25.35]
Air consumption per double stroke	cm ³ [in ³]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]	60.0 [3.66]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.06	0.06	0.05	0.05	0.08	0.08
Opening time	s	0.05	0.05	0.08	0.08	0.05	0.05
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

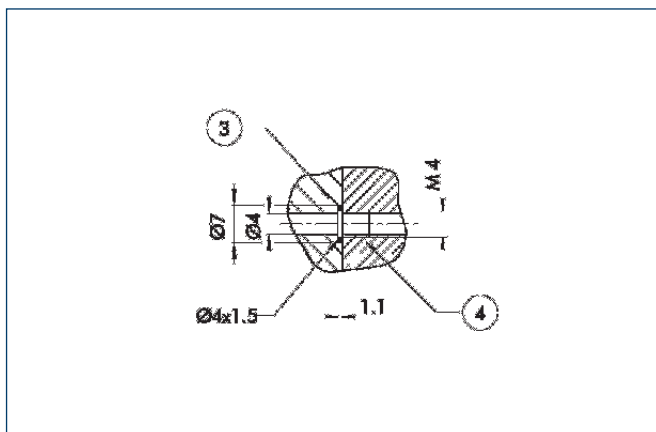


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ④ Screw pitch circle

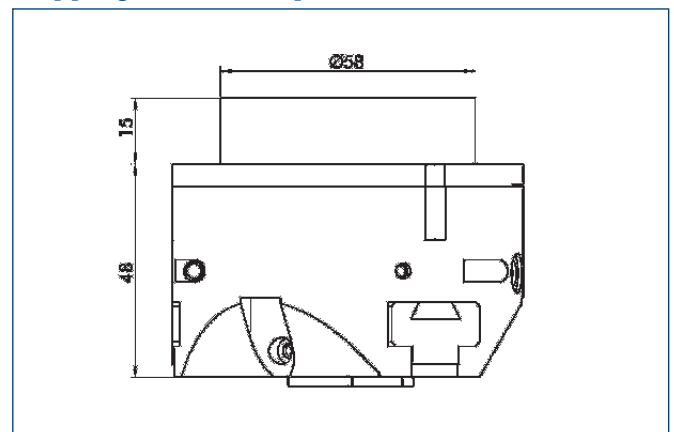
Hose-free direct connection



- ③ Adapter
- ④ Gripper

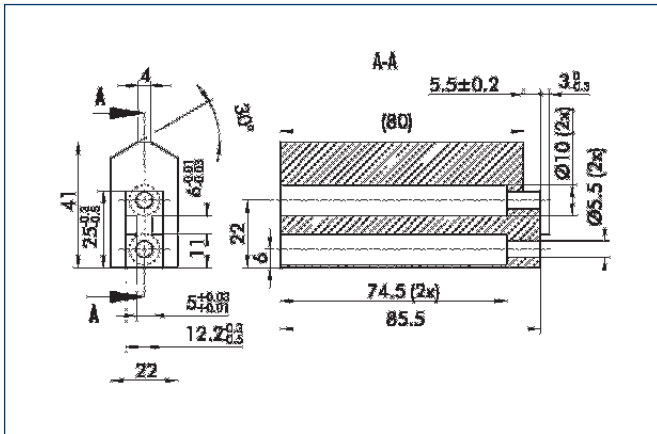
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Gripping force safety device AS/IS



The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.

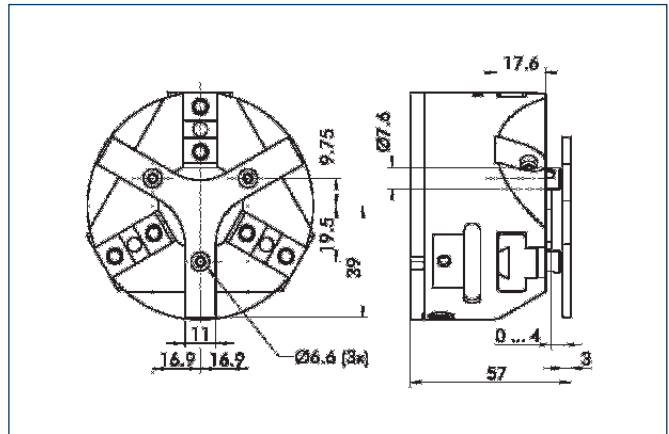
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 80	Aluminum	1	0300726
SBR 80	1.6 MnCr 5	1	0300735

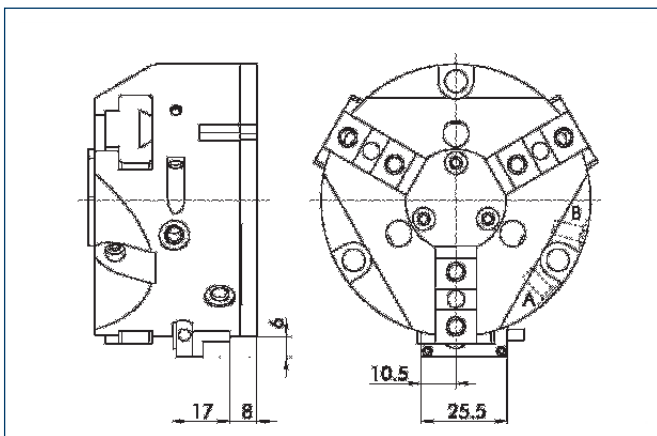
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

Designation	Stroke	Min. total force	ID
A-PZN 80	4 mm	17 N	0300721

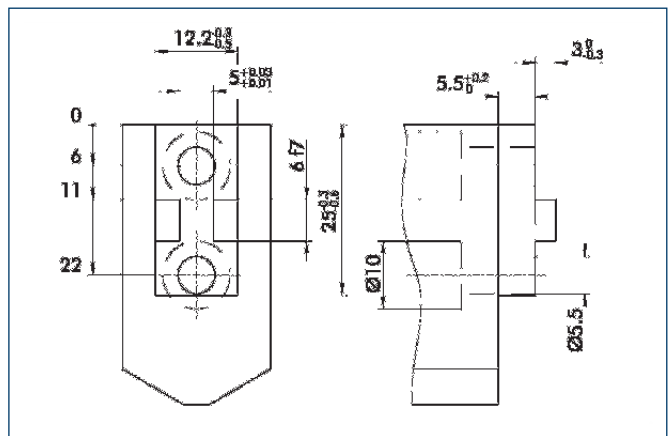
Mounting kit for FPS



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

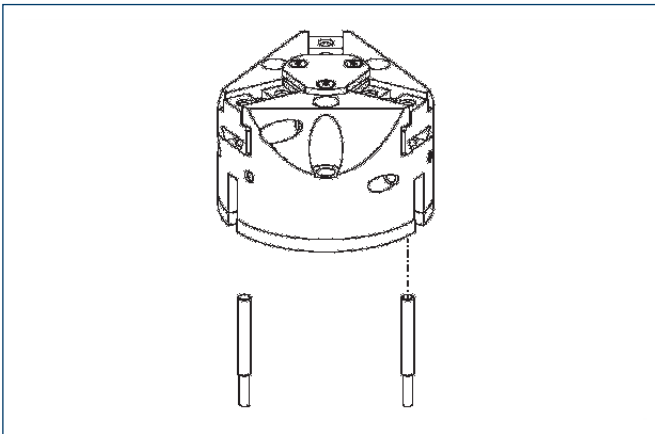
Designation	ID
AS-PZN 80-100	0301713

Finger design



Suggestion for connection dimensions – Gripper fingers

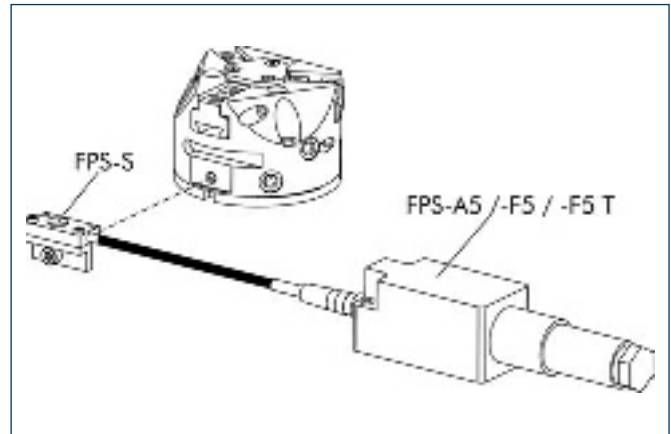
Sensor systems



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.



Measuring system:
Position monitoring FPS

Designation	ID
AS-PZN 80-100	0301713
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 optional extras in the "Accessories" catalog section.

Extension cables for proximity switches/magnetic switches

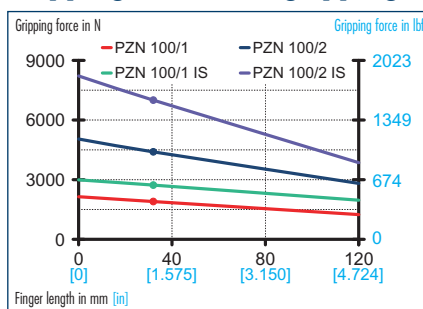
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

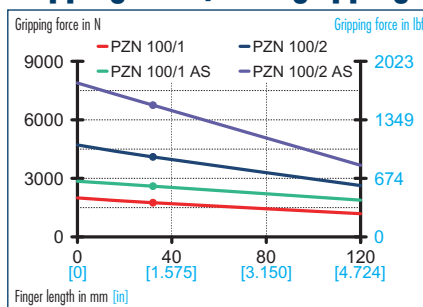
 You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



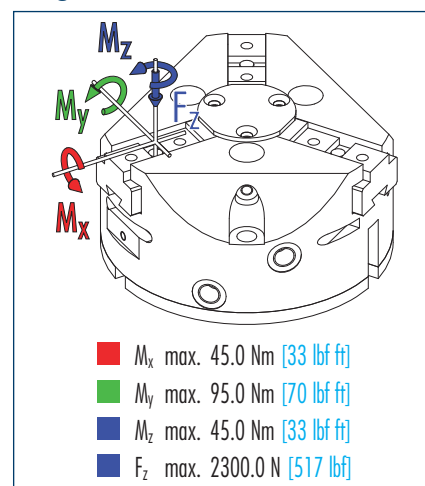
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

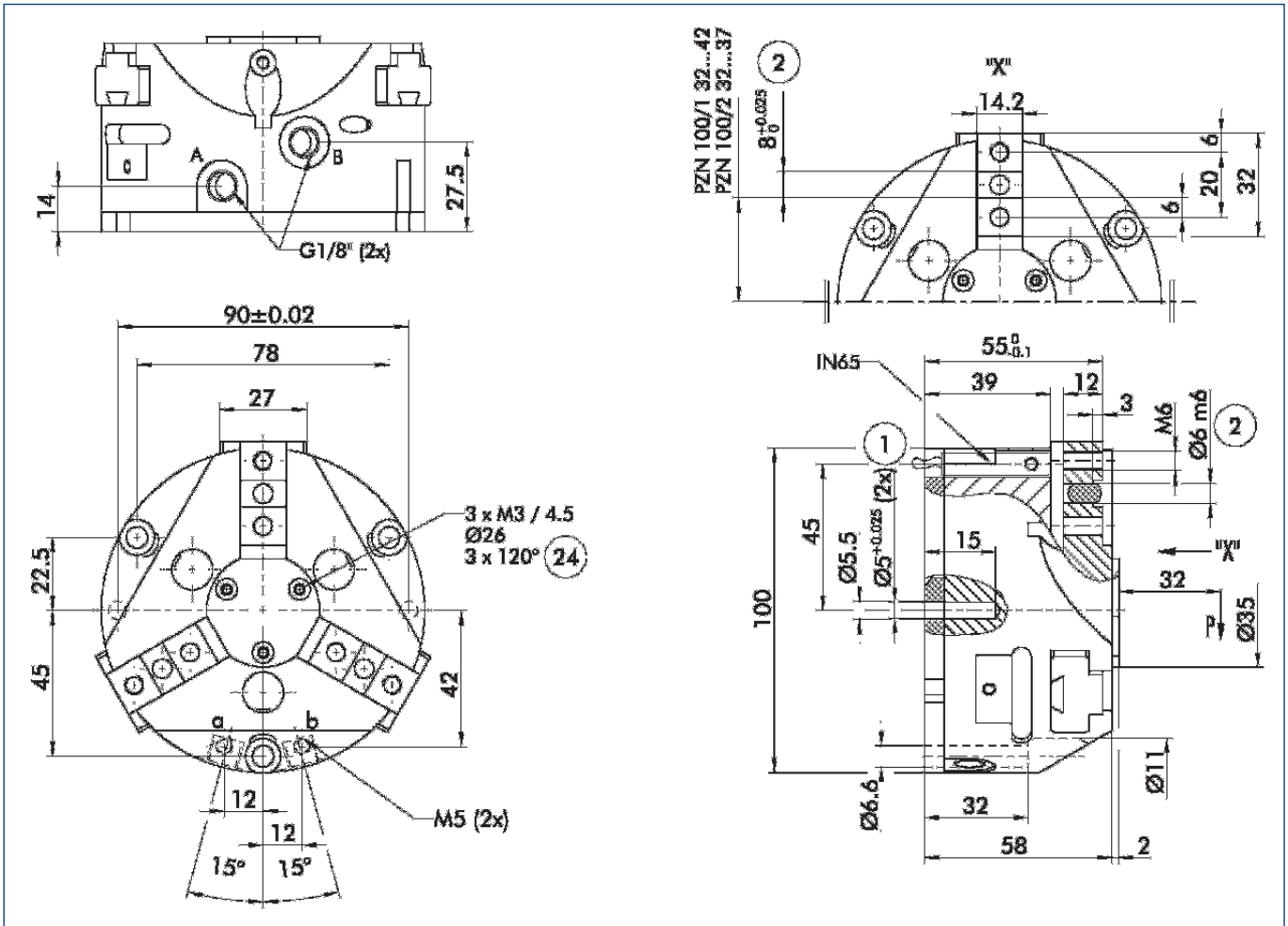


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 100-1	PZN 100-2	PZN 100-1 AS	PZN 100-2 AS	PZN 100-1 IS	PZN 100-2 IS
ID		0300312	0300412	0300512	0300612	0300542	0300642
Stroke per jaw	mm [in]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]
Closing force	N [lbf]	1800.0 [405]	4000.0 [899]	2650.0 [596]	6500.0 [1461]		
Opening force	N [lbf]	1900.0 [427]	4400.0 [989]			2500.0 [562]	6000.0 [1349]
Min. spring force	N [lbf]			600.0 [135]	1350.0 [303]	600.0 [135]	1350.0 [303]
Weight	kg [lbs]	1.35 [2.98]	1.35 [2.98]	1.9 [4.19]	1.9 [4.19]	2.1 [4.63]	2.1 [4.63]
Recommended workpiece weight	kg [lbs]	9.0 [19.84]	20.0 [44.09]	9.0 [19.84]	20.0 [44.09]	9.0 [19.84]	20.0 [44.09]
Air consumption per double stroke	cm ³ [in ³]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]	120.0 [7.32]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.08	0.08	0.1	0.1	0.18	0.18
Opening time	s	0.07	0.07	0.18	0.18	0.1	0.1
Max. permitted finger length	mm [in]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]	0.95 [2.09]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

Main views

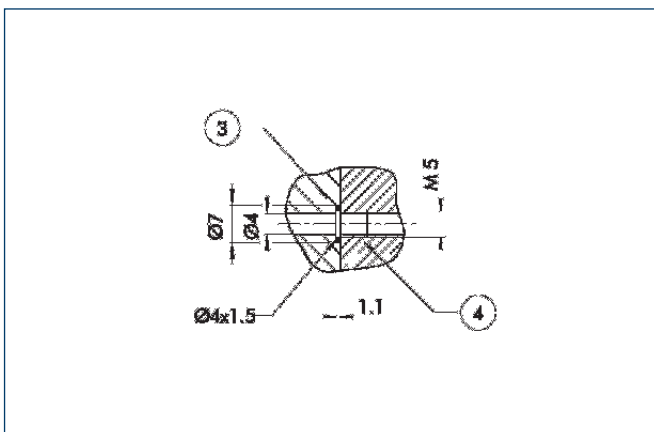


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ②④ Screw pitch circle

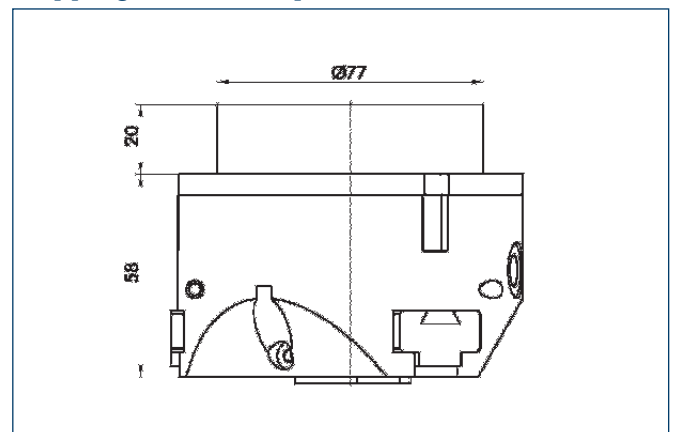
Hose-free direct connection



- ③ Adapter
- ④ Gripper

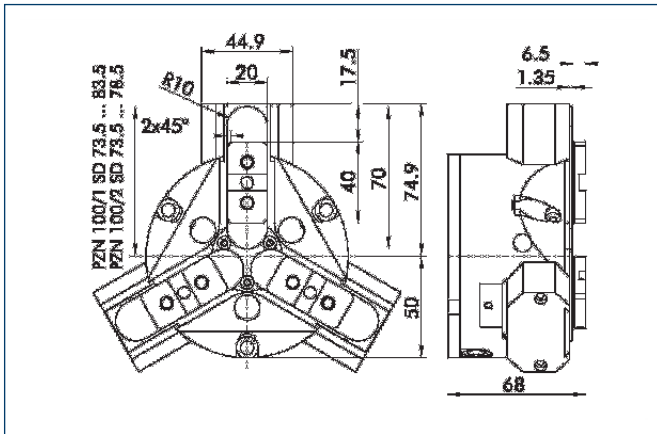
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Gripping force safety device AS/IS



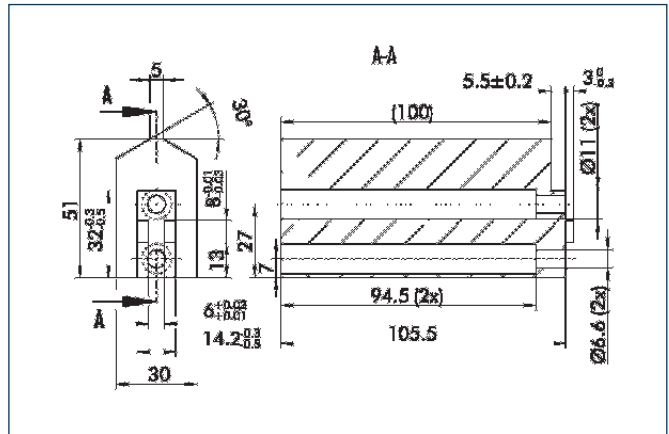
The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.

Dust protection



The "Dust-proof" option increases the degree of protection against penetrating substances. The screw connection diagram moves by the height of the intermediate jaw. The finger length must still be measured from the upper edge of the gripper housing.

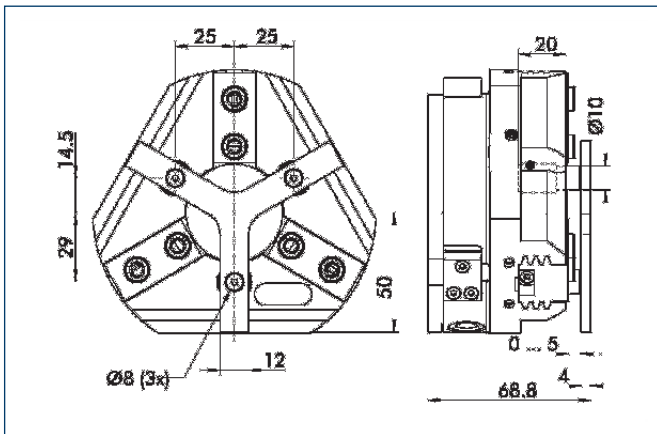
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 100	Aluminum	1	0300727
SBR 100	16 MnCr 5	1	0300736

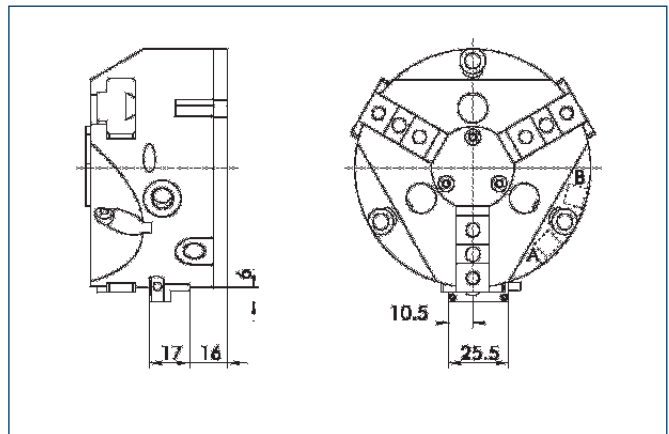
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

Designation	Stroke	Min. total force	ID
A-PZN 100	5 mm	35 N	0300722

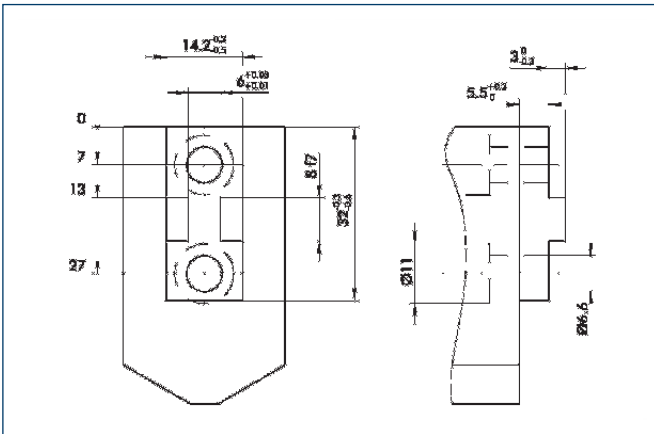
Mounting kit for FPS



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

Designation	ID
AS-PZN 80-100	0301713

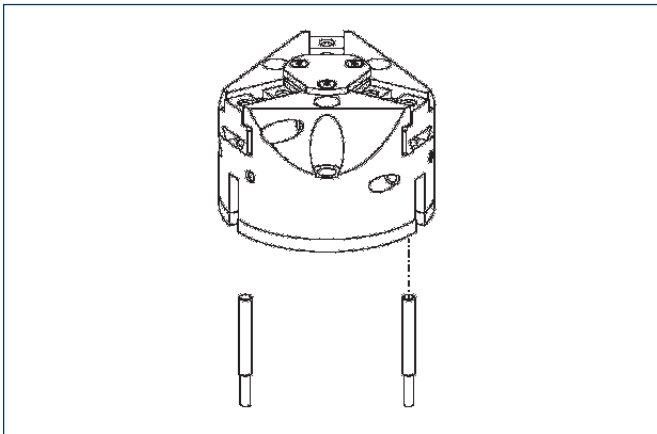
Finger design



Suggestion for connection dimensions – Gripper fingers



Sensor systems

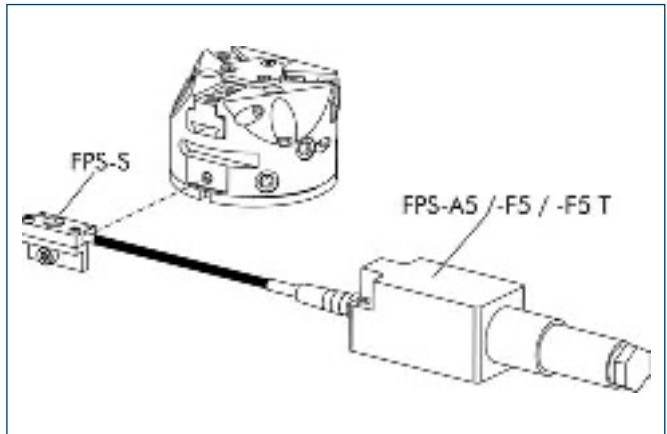


End position monitoring:

Inductive proximity switches, for direct mounting

Designation	ID	Recommended product
IN 65/S-M12	0301576	
IN 65/S-M8	0301476	•
INK 65/S	0301554	

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



Measuring system:

Position monitoring FPS

Designation	ID
AS-PZN 80-100	0301713
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

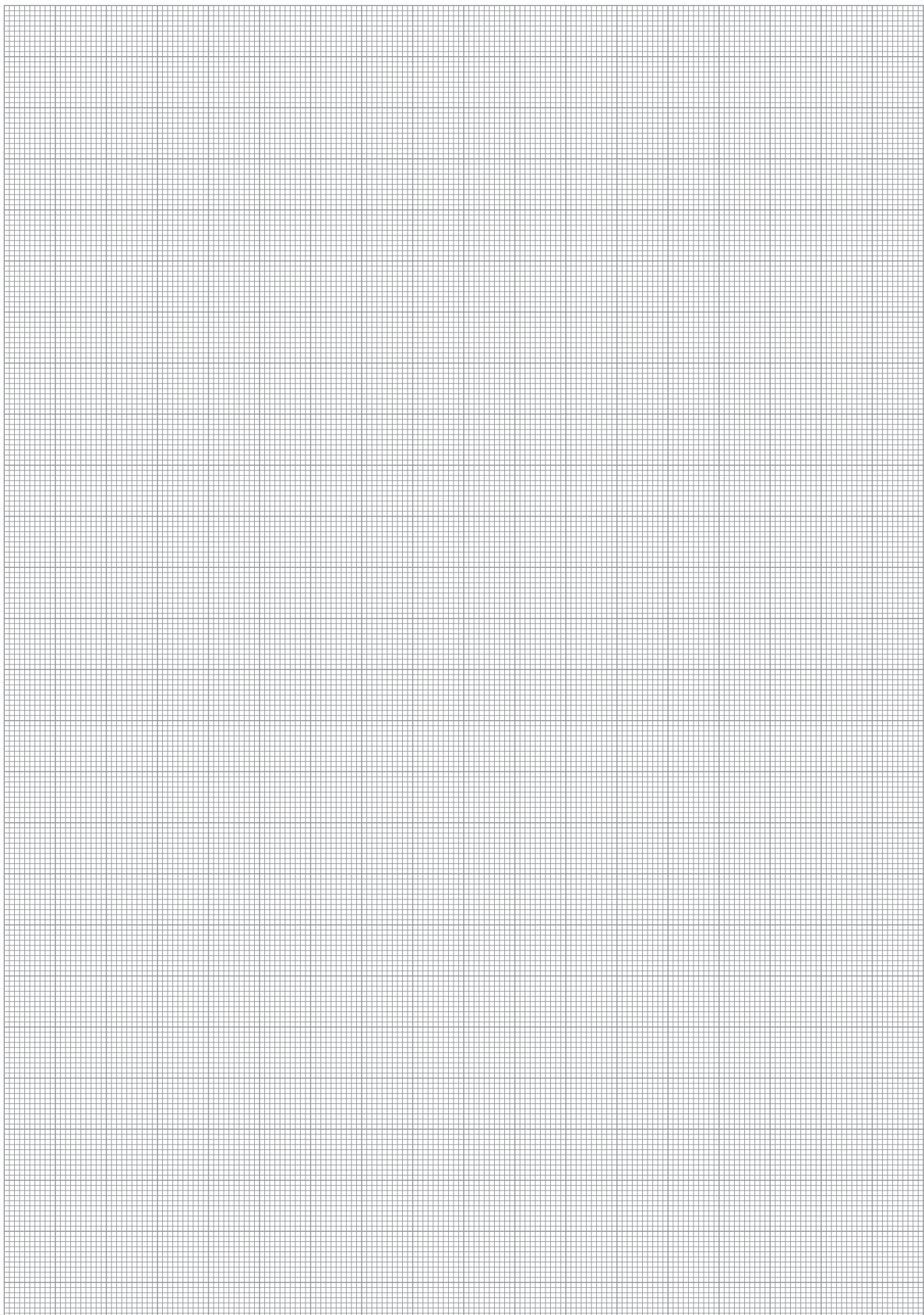
When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (FPS-F5/ F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as optional extras in the "Accessories" catalog section.

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

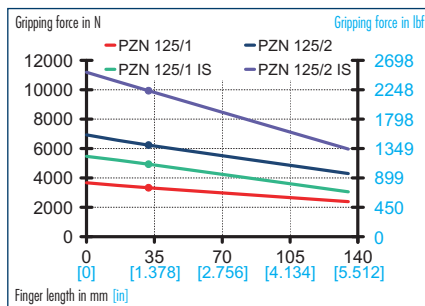
- ① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.

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

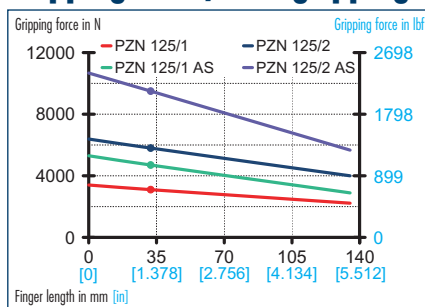




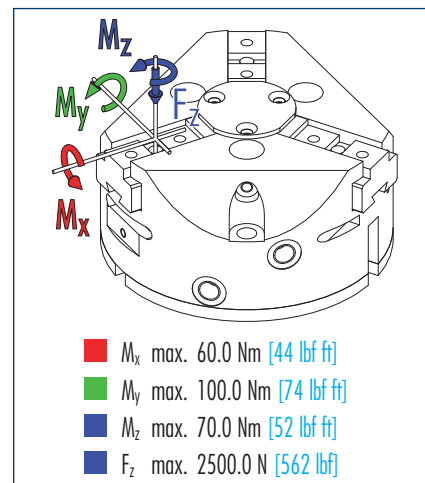
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

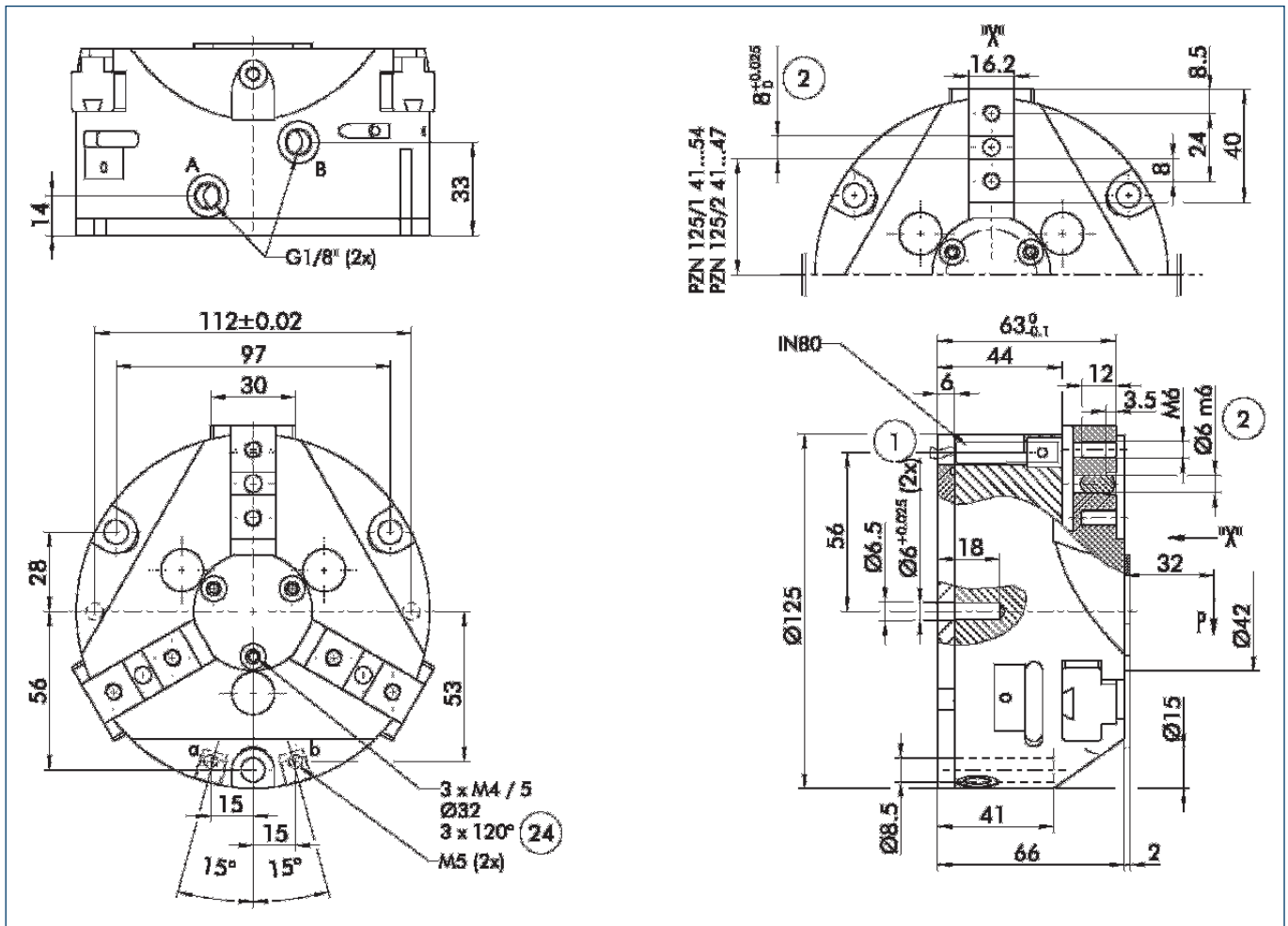


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 125-1	PZN 125-2	PZN 125-1 AS	PZN 125-2 AS	PZN 125-1 IS	PZN 125-2 IS
ID		0300313	0300413	0300513	0300613	0300543	0300643
Stroke per jaw	mm [in]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]
Closing force	N [lbf]	3100.0 [697]	5800.0 [1304]	4700.0 [1057]	9500.0 [2136]		
Opening force	N [lbf]	3330.0 [749]	6230.0 [1401]			4800.0 [1079]	9700.0 [2181]
Min. spring force	N [lbf]			1050.0 [236]	1950.0 [438]	1050.0 [236]	1950.0 [438]
Weight	kg [lbs]	2.35 [5.18]	2.35 [5.18]	3.4 [7.50]	3.4 [7.50]	3.7 [8.16]	3.7 [8.16]
Recommended workpiece weight	kg [lbs]	15.5 [34.17]	29.0 [63.93]	15.5 [34.17]	29.0 [63.93]	15.5 [34.17]	29.0 [63.93]
Air consumption per double stroke	cm ³ [in ³]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]	230.0 [14.04]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.17	0.17	0.15	0.15	0.32	0.32
Opening time	s	0.17	0.17	0.32	0.32	0.15	0.15
Max. permitted finger length	mm [in]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]

Main views

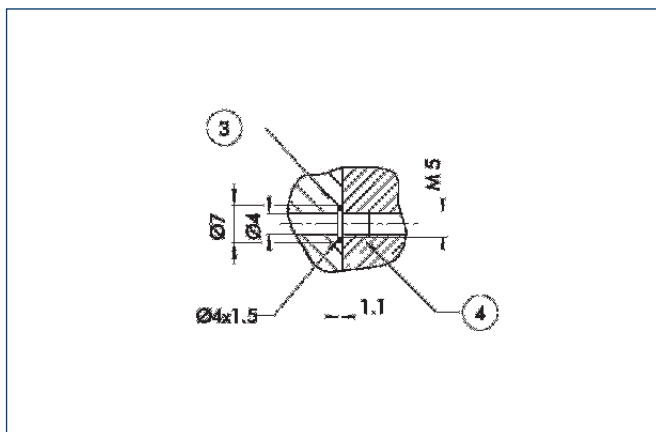


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ②④ Screw pitch circle

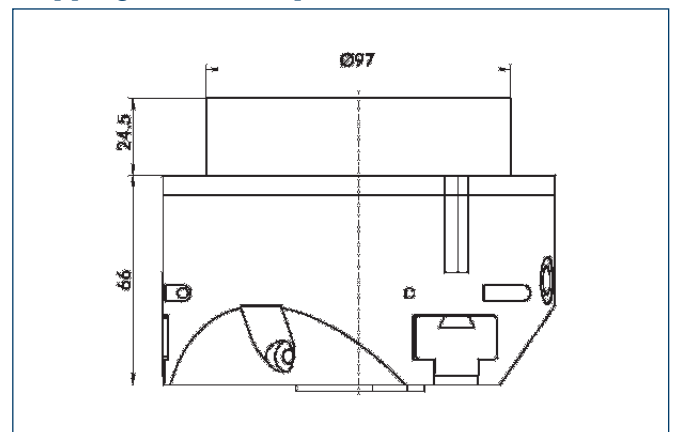
Hose-free direct connection



- ③ Adapter
- ④ Gripper

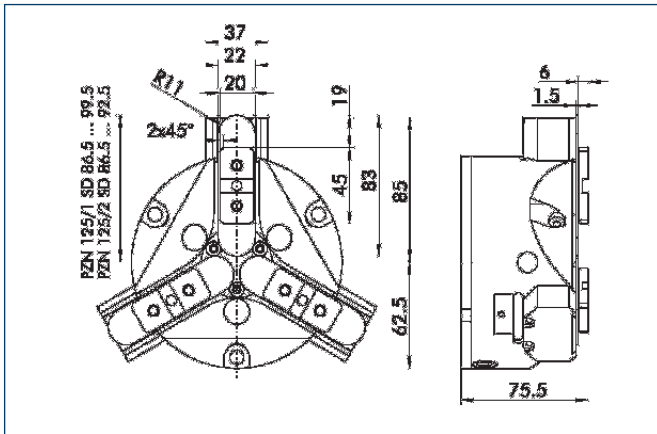
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Gripping force safety device AS/IS



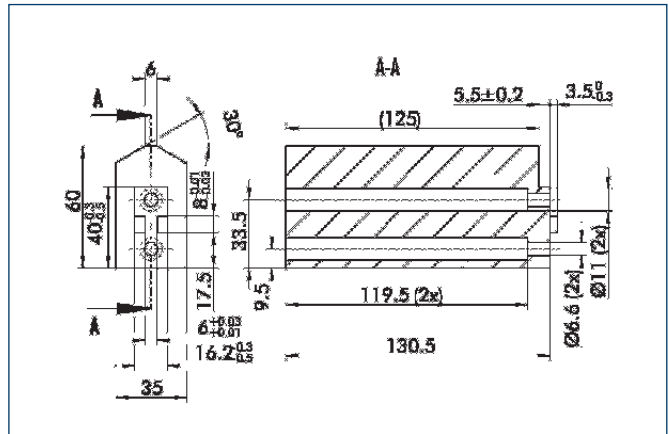
The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.

Dust protection



The "Dust-proof" option increases the degree of protection against penetrating substances. The screw connection diagram moves by the height of the intermediate jaw. The finger length must still be measured from the upper edge of the gripper housing.

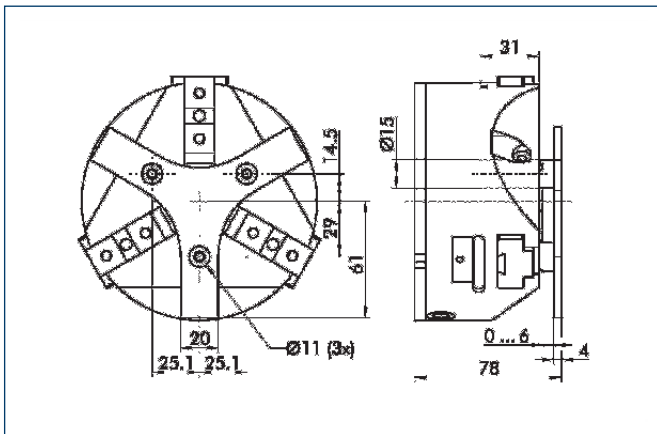
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 125	Aluminum	1	0300728
SBR 125	16 MnCr 5	1	0300737

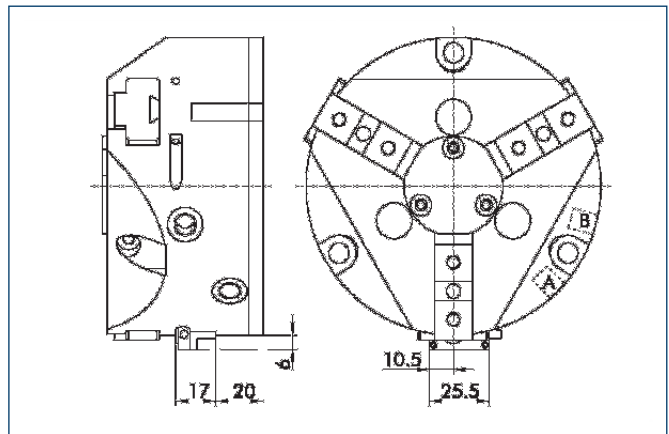
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

Designation	Stroke	Min. total force	ID
A-PZN 125	6 mm	130 N	0300723

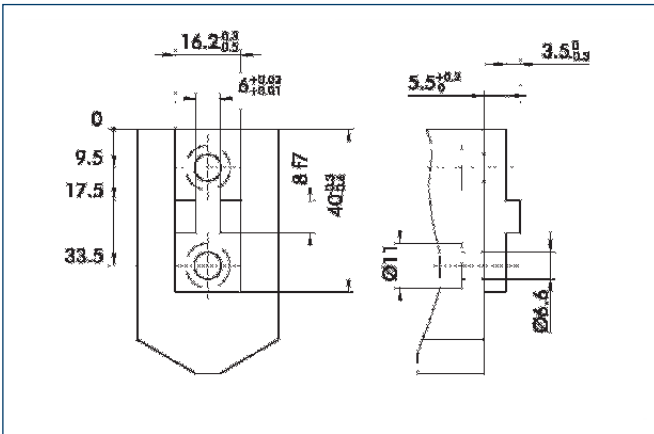
Mounting kit for FPS



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

Designation	ID
AS-PZN 125-160	0301714

Finger design

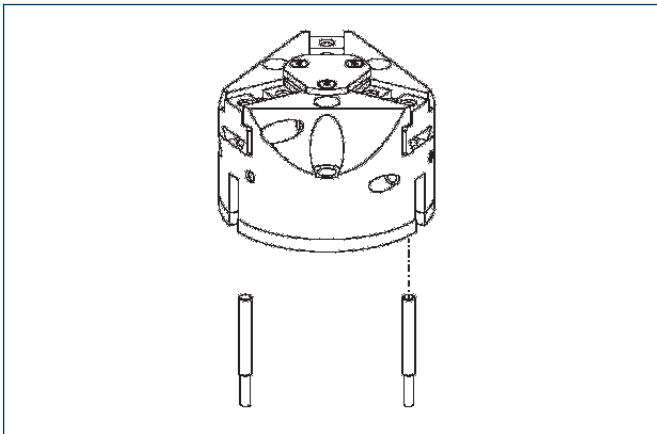


Suggestion for connection dimensions – Gripper fingers



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

Sensor systems

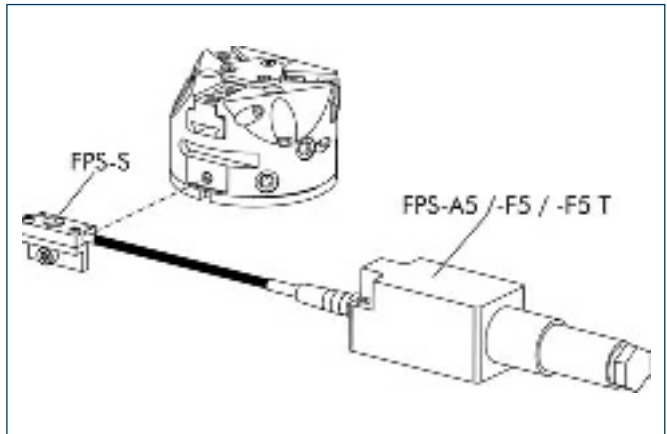


End position monitoring:

Inductive proximity switches, for direct mounting

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

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



Measuring system:

Position monitoring FPS

Designation	ID
AS-PZN 125-160	0301714
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

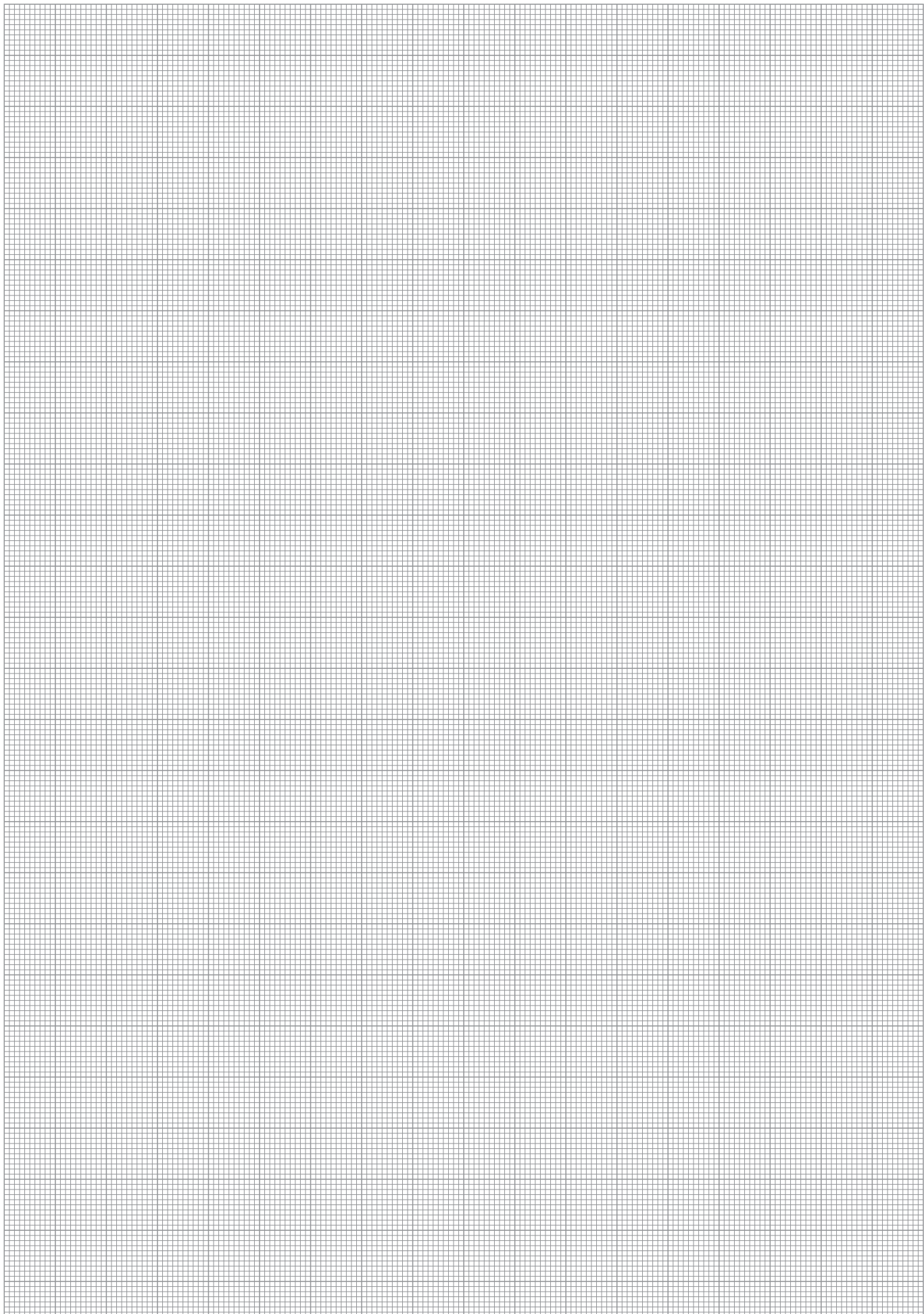
When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (FPS-F5/ F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as optional extras in the "Accessories" catalog section.

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.

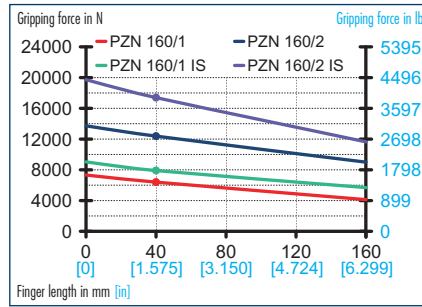


PZN 160

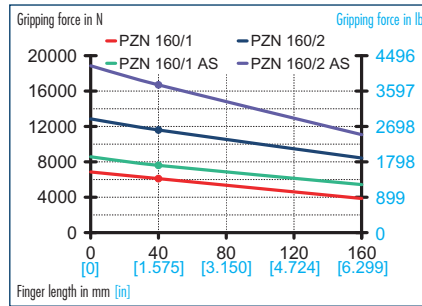
Pneumatic · 3-Finger Centric Grippers · Universal Grippers



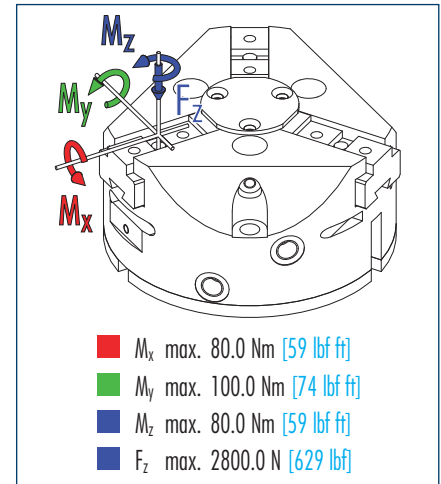
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

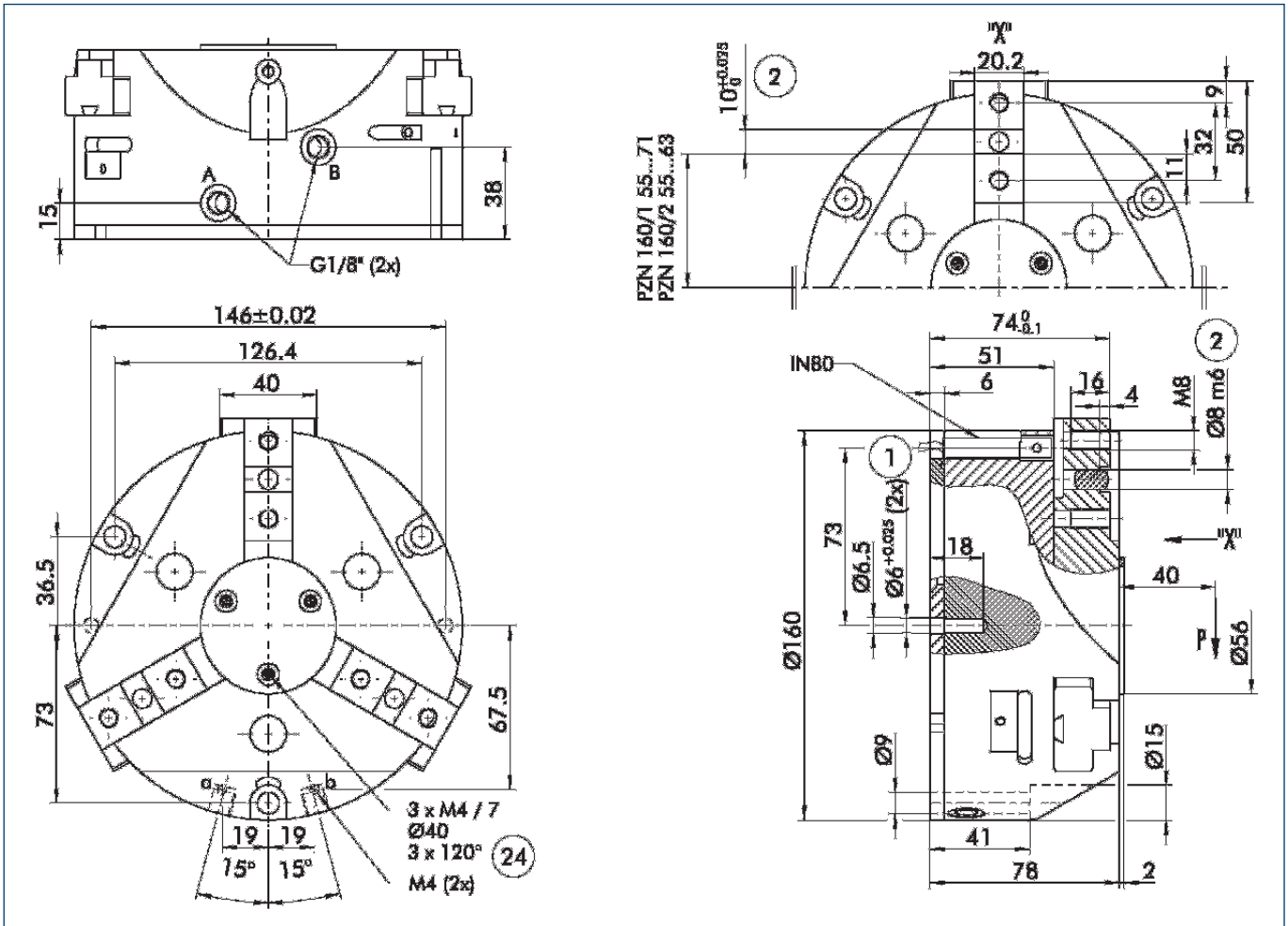


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 160-1	PZN 160-2	PZN 160-1 AS	PZN 160-2 AS	PZN 160-1 IS	PZN 160-2 IS
ID		0300314	0300414	0300514	0300614	0300544	0300644
Stroke per jaw	mm [in]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]
Closing force	N [lbf]	6000.0 [1349]	11000.0 [2473]	7500.0 [1686]	16000.0 [3597]		
Opening force	N [lbf]	6400.0 [1439]	12380.0 [2783]			7500.0 [1686]	16000.0 [3597]
Min. spring force	N [lbf]			2000.0 [450]	3700.0 [832]	2000.0 [450]	3700.0 [832]
Weight	kg [lbs]	4.5 [9.92]	4.5 [9.92]	6.6 [14.55]	6.6 [14.55]	7.2 [15.87]	7.2 [15.87]
Recommended workpiece weight	kg [lbs]	25.0 [55.12]	50.0 [110.23]	25.0 [55.12]	50.0 [110.23]	25.0 [55.12]	50.0 [110.23]
Air consumption per double stroke	cm ³ [in ³]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]	520.0 [31.73]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.4	0.4	0.35	0.35	0.75	0.75
Opening time	s	0.4	0.4	0.75	0.75	0.35	0.35
Max. permitted finger length	mm [in]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]	160.0 [6.299]
Max. permitted weight per finger	kg [lbs]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

Main views

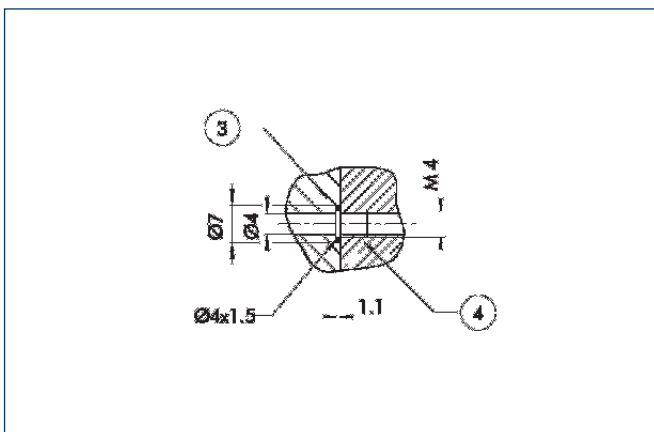


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ②④ Screw pitch circle

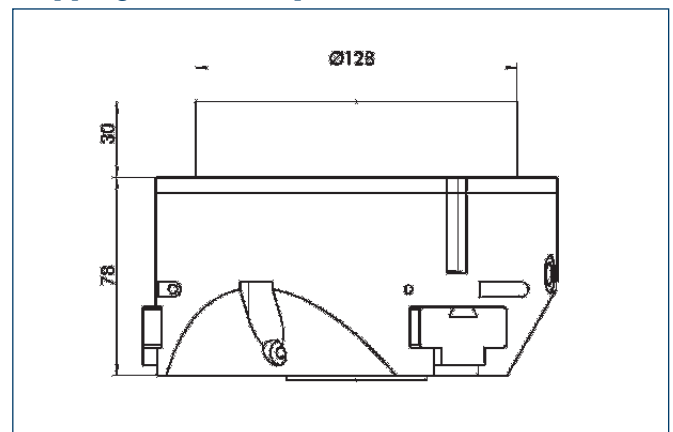
Hose-free direct connection



- ③ Adapter
- ④ Gripper

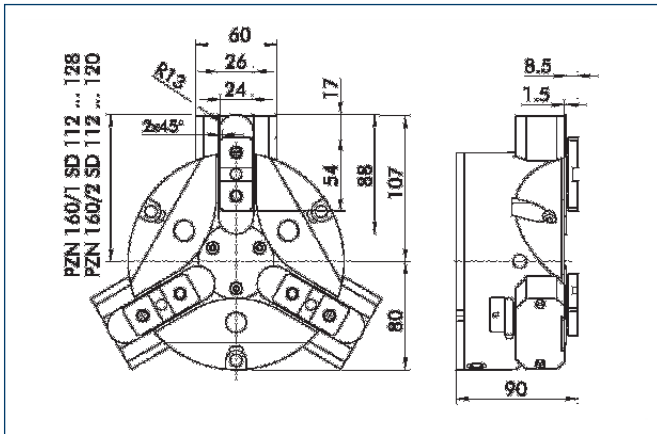
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Gripping force safety device AS/IS



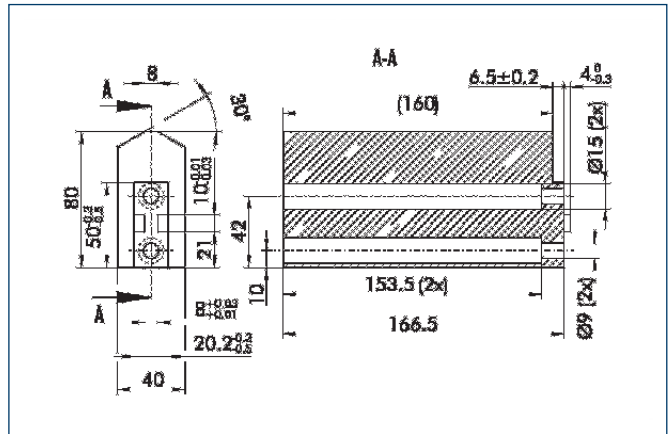
The mechanical gripping force safety device ensures a minimum gripping force, even with a drop in pressure. This works as a closing force for the AS version; for the IS version it works as an opening force. In addition, the gripping force safety device can also be used to increase the grip force or for single actuated gripping.

Dust protection



The "Dust-proof" option increases the degree of protection against penetrating substances. The screw connection diagram moves by the height of the intermediate jaw. The finger length must still be measured from the upper edge of the gripper housing.

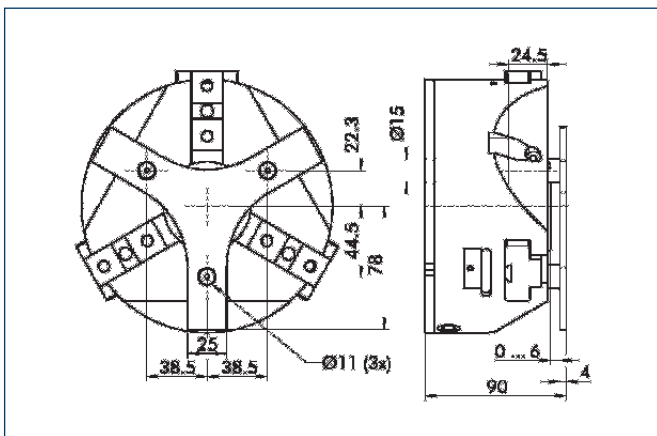
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 160	Aluminum	1	0300729
SBR 160	16 MnCr 5	1	0300738

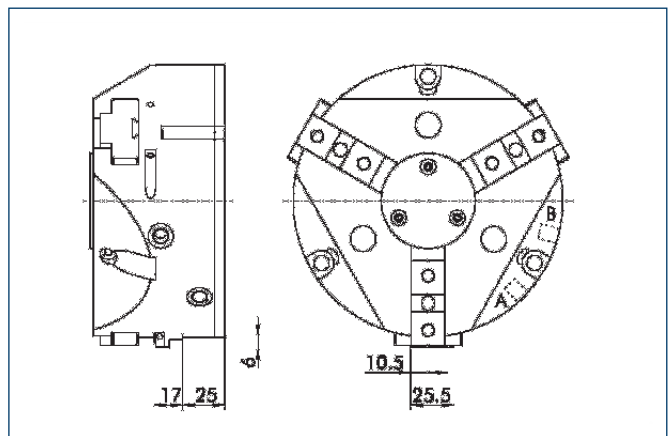
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

Designation	Stroke	Min. total force	ID
A-PZN 160	6 mm	180 N	0300724

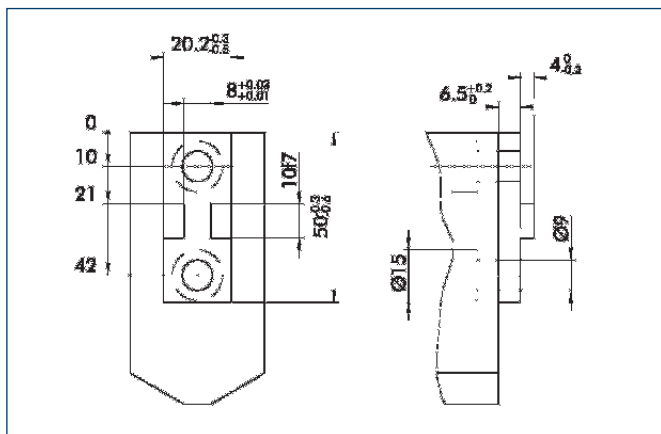
Mounting kit for FPS



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

Designation	ID
AS-PZN 125-160	0301714

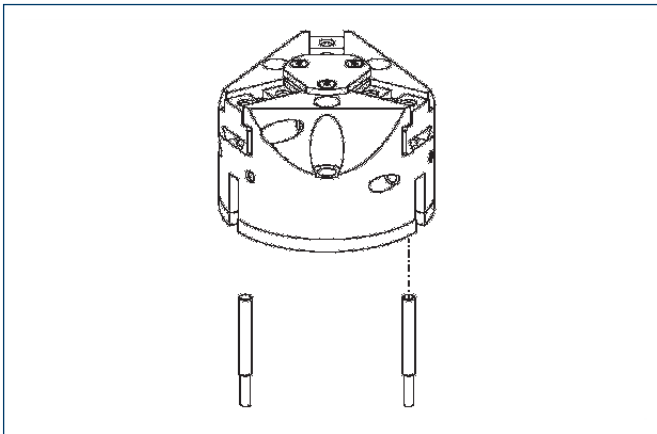
Finger design



Suggestion for connection dimensions – Gripper fingers



Sensor systems

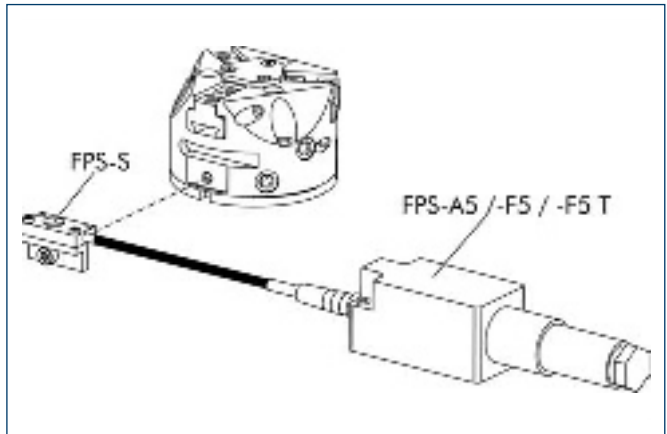


End position monitoring:

Inductive proximity switches, for direct mounting

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

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



Measuring system:

Position monitoring FPS

Designation	ID
AS-PZN 125-160	0301714
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

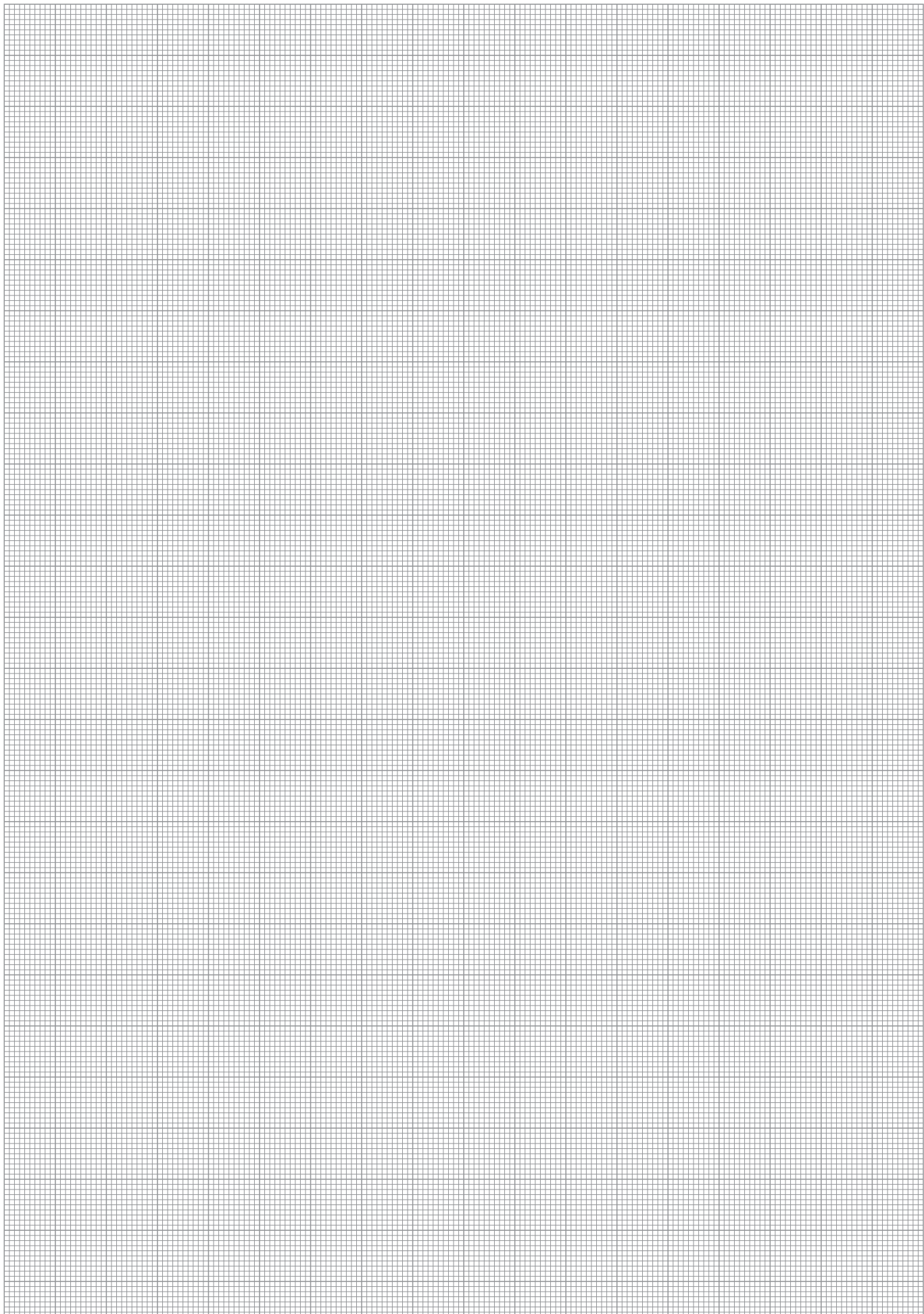
When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (FPS-F5/ F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as optional extras in the "Accessories" catalog section.

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

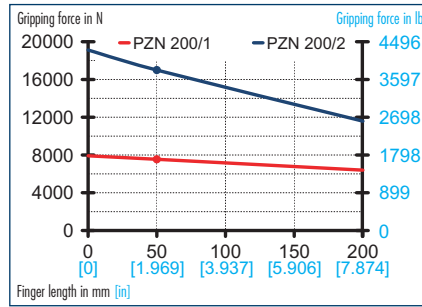
- ① For the sensor cables, observe the minimum permitted bending radii. Generally, these are 35 mm.

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

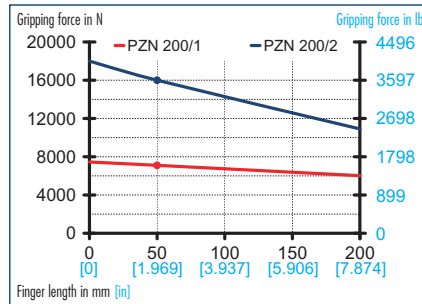




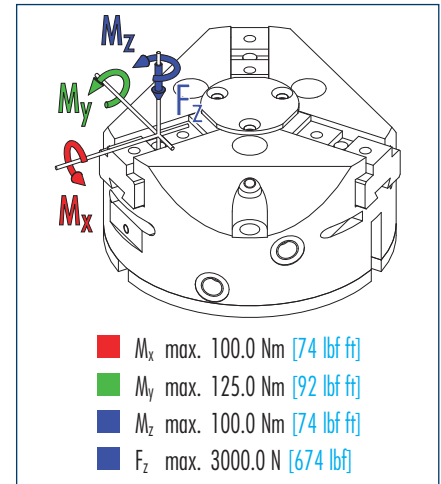
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

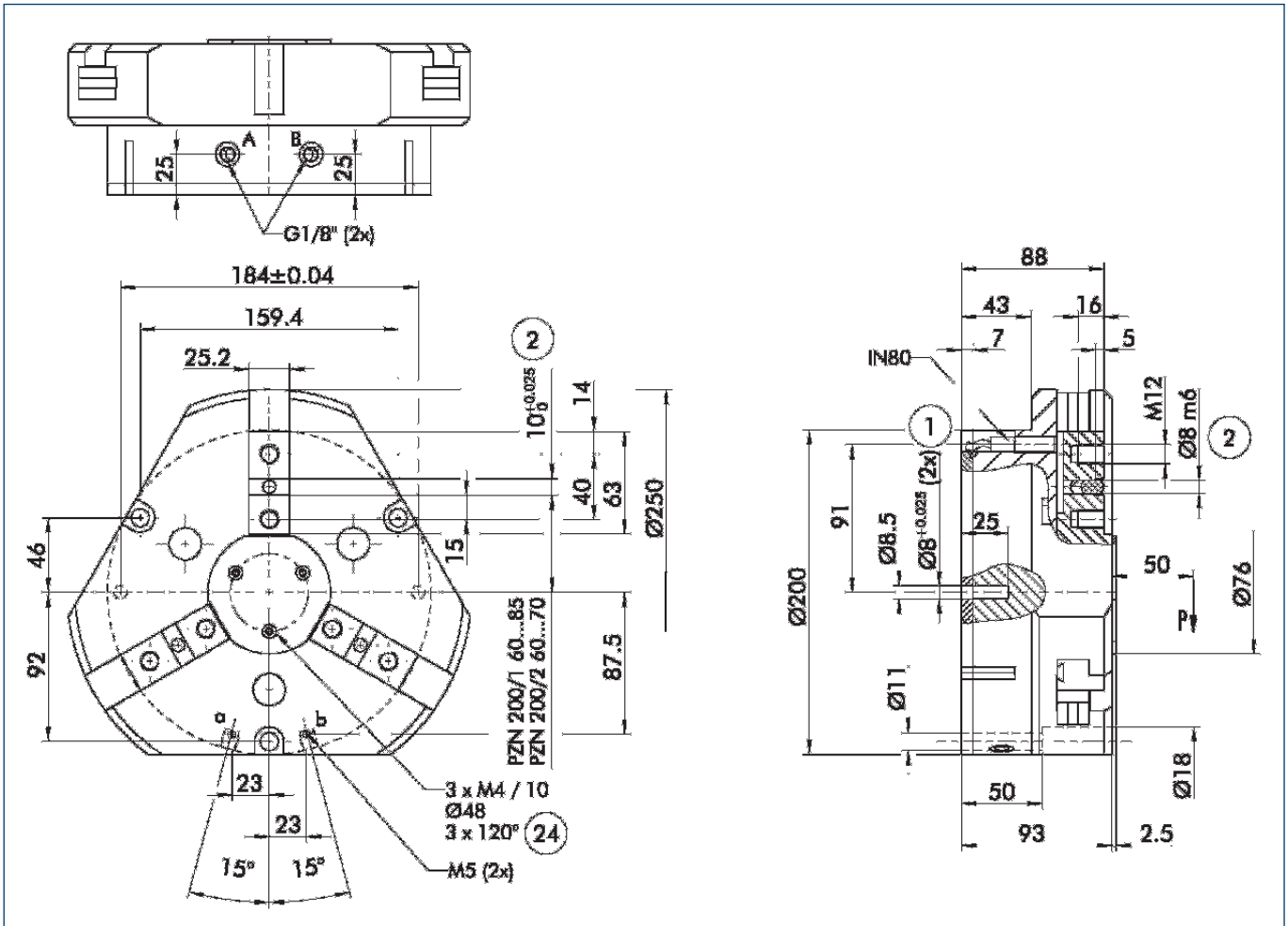


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		PZN 200-1	PZN 200-2
	ID	0300315	0300415
Stroke per jaw	mm [in]	25.0 [0.984]	10.0 [0.394]
Closing force	N [lbf]	7100.0 [1596]	16000.0 [3597]
Opening force	N [lbf]	7540.0 [1695]	17000.0 [3822]
Weight	kg [lbs]	11.0 [24.25]	11.0 [24.25]
Recommended workpiece weight	kg [lbs]	35.0 [77.16]	80.0 [176.37]
Air consumption per double stroke	cm ³ [in ³]	1040.0 [63.46]	1040.0 [63.46]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]
Closing time	s	1.1	1.0
Opening time	s	1.1	1.0
Max. permitted finger length	mm [in]	200.0 [7.874]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	5.5 [12.13]	5.5 [12.13]
IP class		40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]	0.1 [0.0039]

Main views

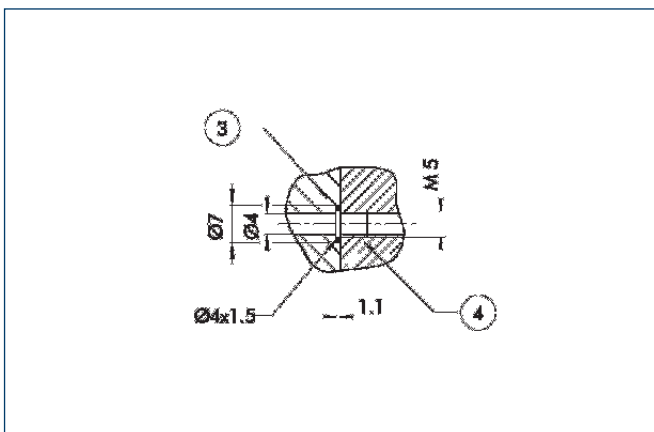


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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
- ②④ Screw pitch circle

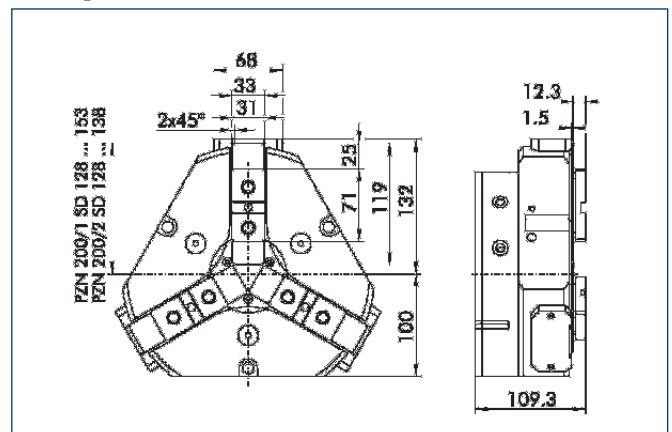
Hose-free direct connection



- ③ Adapter
- ④ Gripper

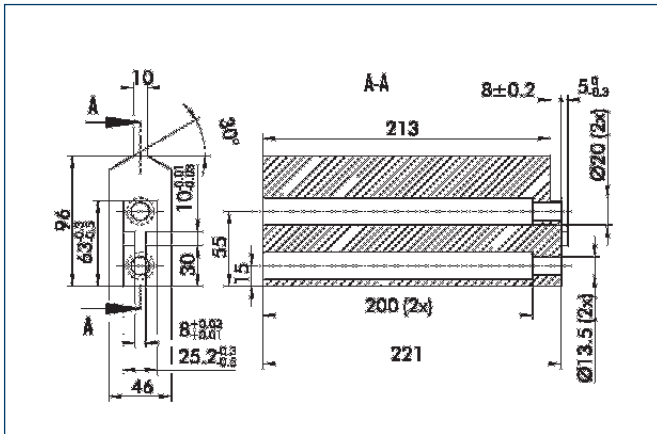
The direct connection supplies pressure to the gripper without a failure-prone hose system. Instead, the pressure medium is guided through holes in the mounting plate.

Dust protection



The "Dust-proof" option increases the degree of protection against penetrating substances. The screw connection diagram moves by the height of the intermediate jaw. The finger length must still be measured from the upper edge of the gripper housing.

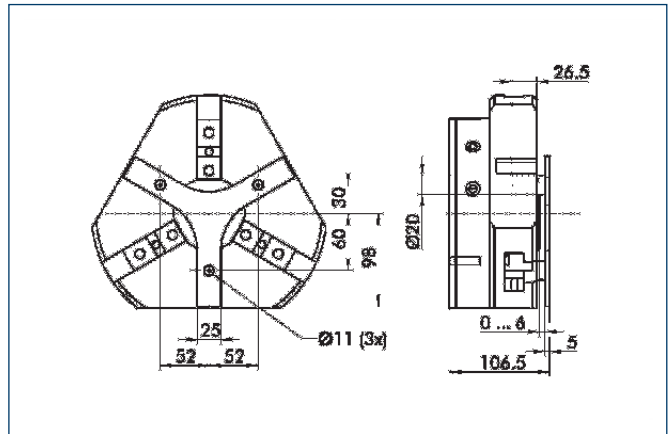
Finger blanks



Finger blanks for customer-specific reworking, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 200	Aluminum	1	0300751
SBR 200	1.6 MnCr 5	1	0300739

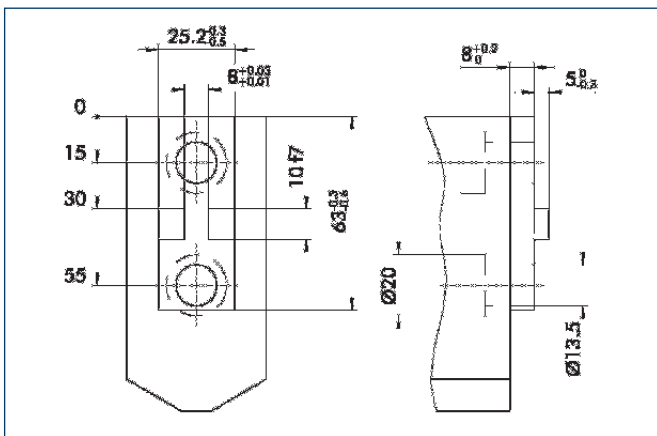
Spring-loaded pressure plate



For spring-mounted positioning of the workpiece against the stop after the gripper has opened. Developed especially for the loading of machining centers.

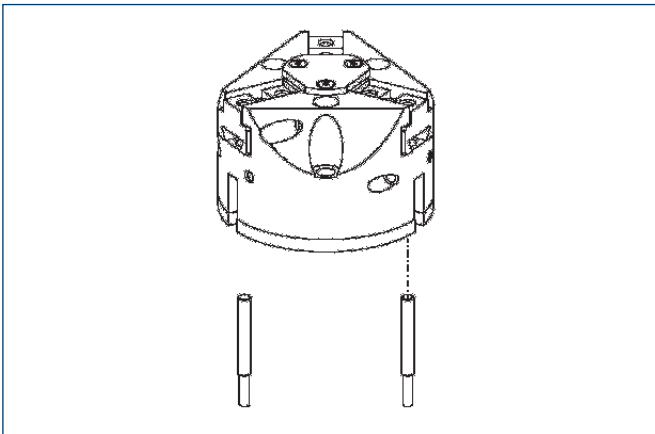
Designation	Stroke	Min. total force	ID
A-PZN 200	6 mm	280 N	0300718

Finger design



Suggestion for connection dimensions – Gripper fingers

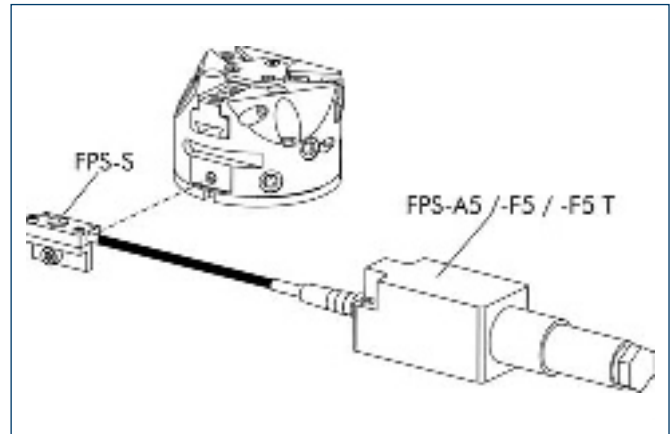
Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



Measuring system:
Position monitoring FPS

Designation	ID
AS-PZN 200	0301719
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 optional extras in the "Accessories" catalog section.

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.

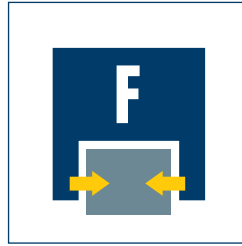
 You can find detailed information and components of the specified accessory in the "Accessories" catalog section.



Sizes
64 .. 160



Weight
0.32 kg .. 3.6 kg
0.71 lbs .. 7.94 lbs



Gripping force
400 N .. 4000 N
90 lbf .. 899 lbf

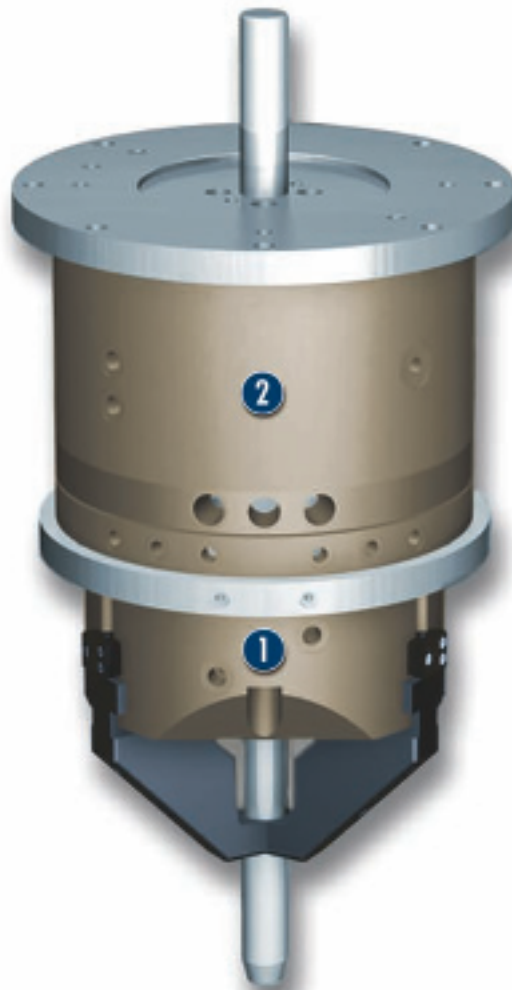


Stroke per finger
4 mm .. 13 mm
0.157 in .. 0.512 in



Workpiece weight
2.0 kg .. 20 kg
4.41 lbs .. 44.09 lbs

Application example



Assembly unit for long wheel spindles. Parts are fed in a space-saving way through the center bore of the gripper and the rotary feed-through.

1 PZB 160 3-Finger Centric Gripper

2 Modified DDF Rotary Feed-through unit with center bore

Universal Gripper

Universal 3-finger centric gripper with large gripping force and high maximum moments per finger, plus center bore

Area of application

for universal use in clean and slightly dirty environments. Suitable for applications that require a center bore, e.g. for workpiece feed, special sensor systems or optical recognition systems.

Your advantages and benefits

Sturdy T-slot guidance

guarantees enormous versatility

High maximum moments possible

suitable for the use of long gripper fingers

High gripping forces achievable

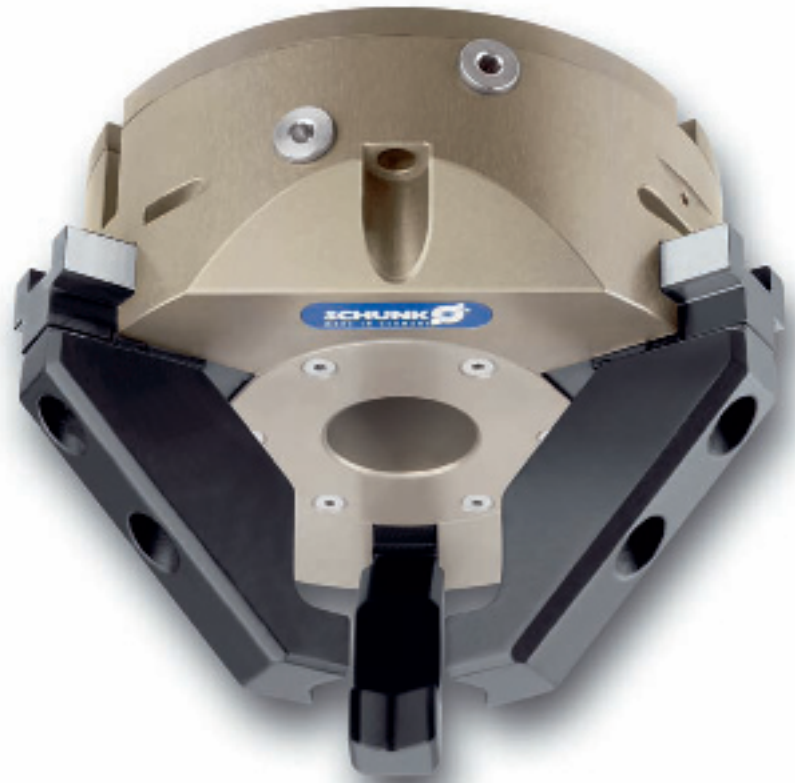
for a varied range of applications

End-to-end center bore provided

for feeding through supply hoses, etc.

Air supply via hose-free direct connection or screw connections

for flexible pressure supply in all automated systems



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

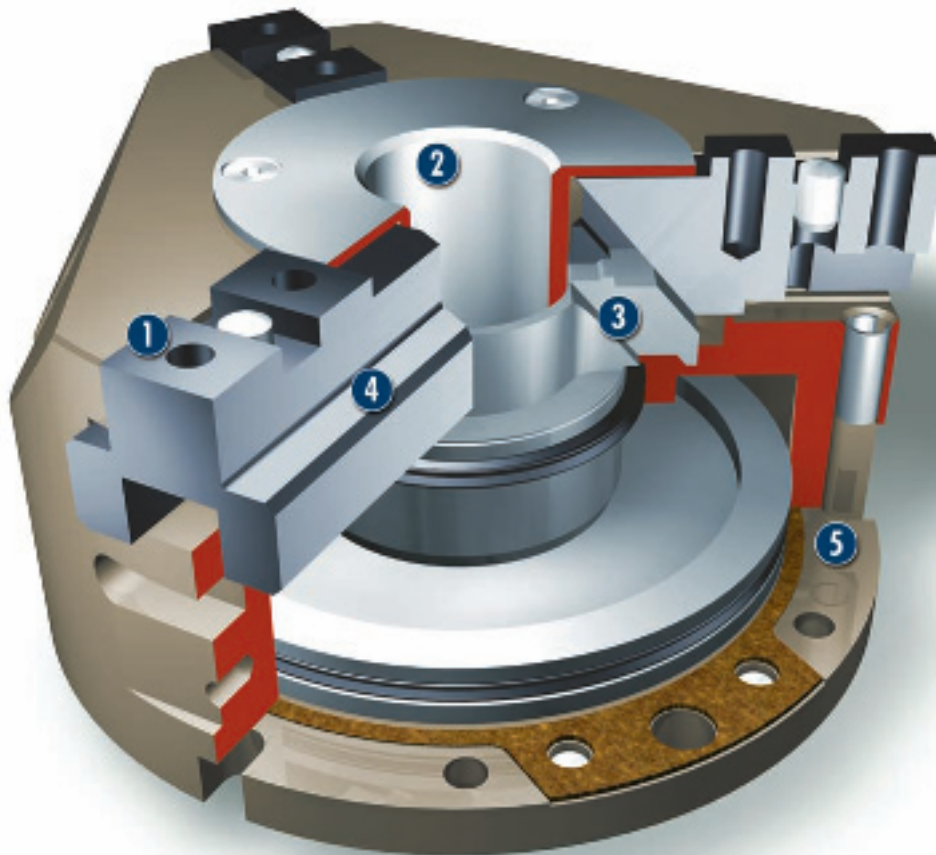
Scope of delivery

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

Gripping force safety device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaws**
for the connection of workpiece-specific gripper fingers
- 2 Center bore**
for the feed-through of workpieces, for sensor systems or optical workpiece recognition
- 3 Kinematics**
wedge-hook principle for high power transmission and synchronized gripping
- 4 T-slot guidance**
high load-bearing T-slot base jaw guide with minimum play
- 5 Housing**
weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

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 horizontal, synchronous movement of the base jaws.

Options and special information

With its center bore, the PZB series is the ideal standard solution for many areas of application.

Accessories

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

Fittings



IN inductive proximity switches



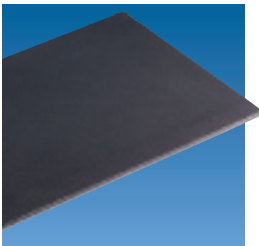
Quentes plastic inserts



W/WK/KV/GK sensor cables



HKI gripper pads



V sensor distributors



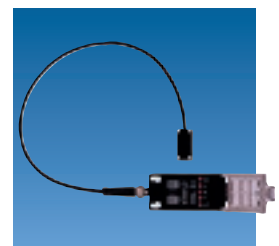
SDV-P pressure maintenance valves



Finger blanks



FPS flexible position sensor



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 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 gripping.

Closing and opening times

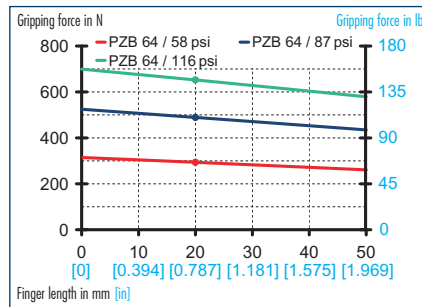
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PZB 64

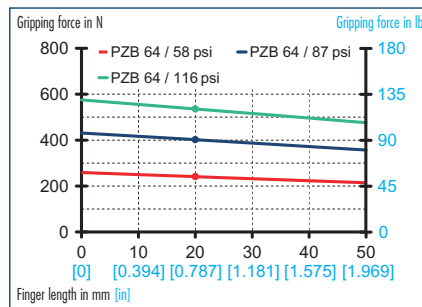
Pneumatic · 3-Finger Centric Grippers · Universal Grippers



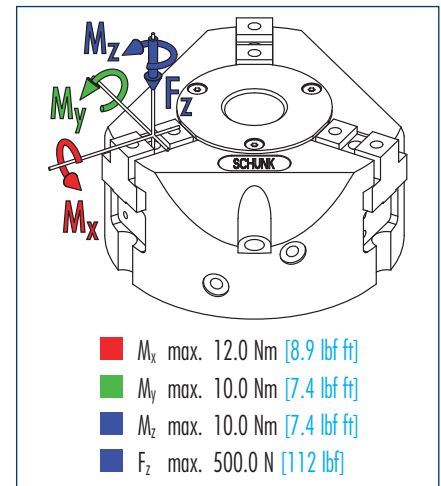
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

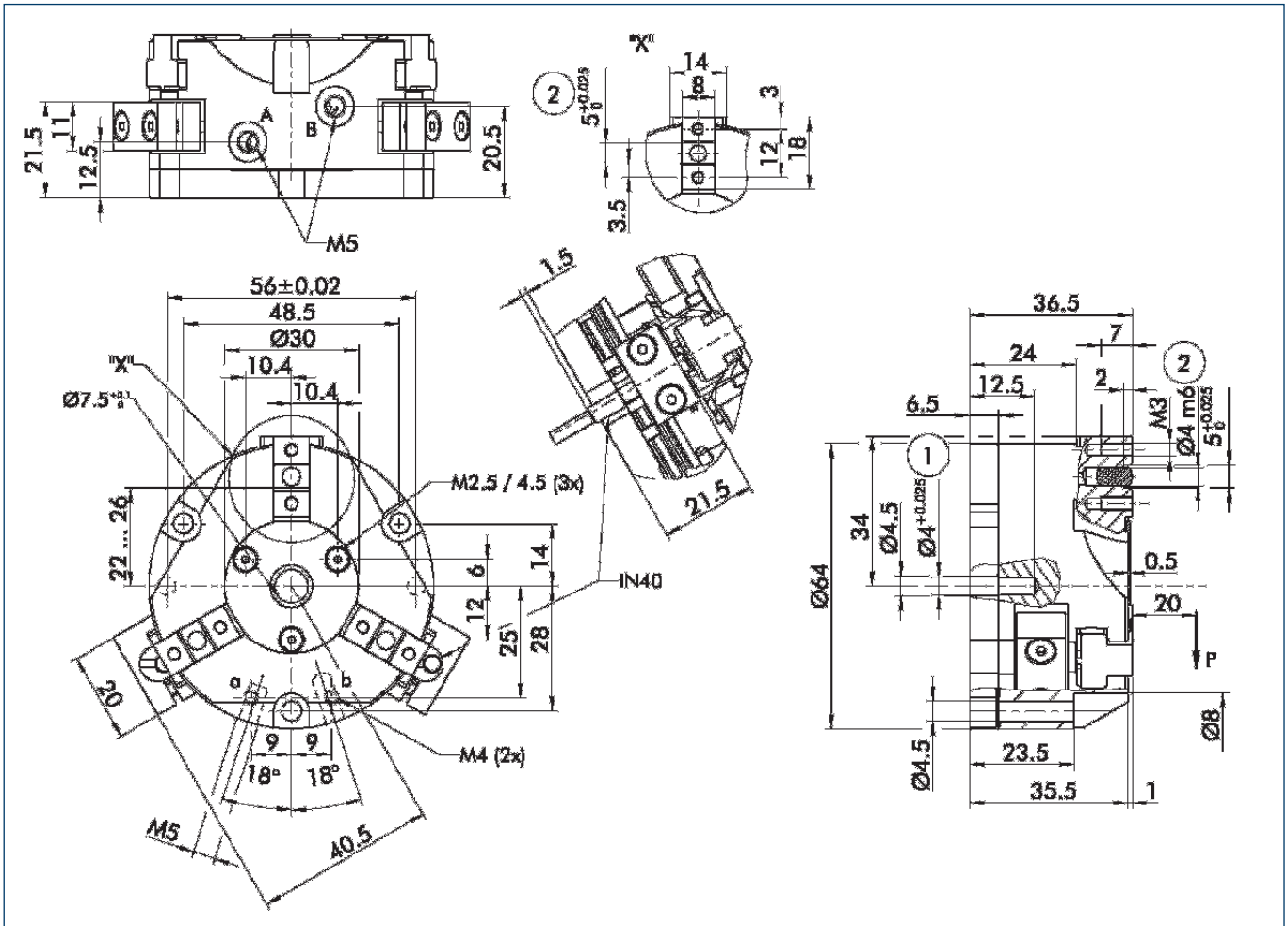


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	ID	PZB 64
Stroke per jaw	mm [in]	4.0 [0.157]
Closing force	N [lbf]	400.0 [90]
Opening force	N [lbf]	490.0 [110]
Weight	kg [lbs]	0.32 [0.71]
Recommended workpiece weight	kg [lbs]	2.0 [4.41]
Air consumption per double stroke	cm ³ [in ³]	16.0 [0.98]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.04
Opening time	s	0.04
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.15 [0.33]
IP class		40
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]
Diameter of center bore	mm [in]	7.5 [0.295]

Main views

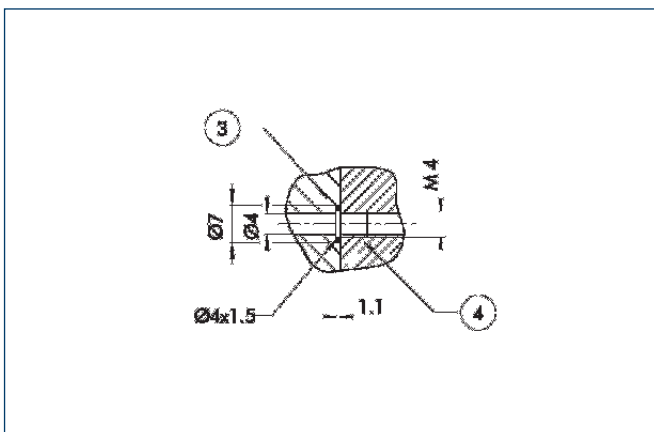


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- 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.

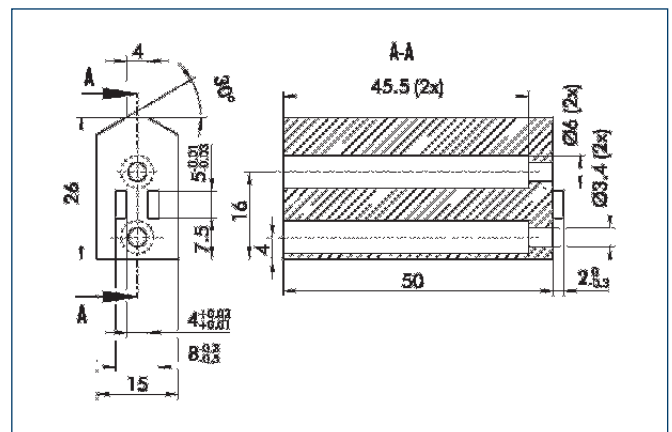
Hoseless direct connection



- 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.

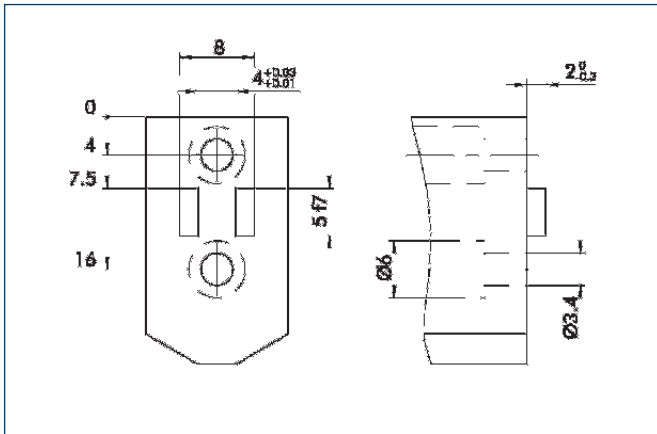
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR 50	Aluminum	1	0300714
SBR 50	16 MnCr 5	1	0300715

Finger design

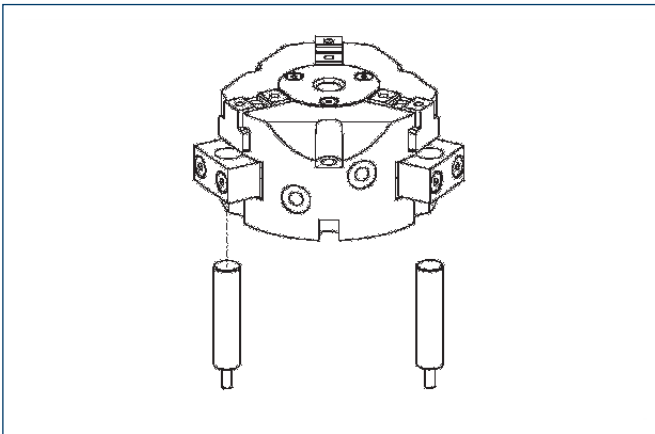


Suggested connection dimensions for gripper fingers



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

Sensor system



- ① Please note if using IN 80 instead of IN 40 proximity switches
The proximity switches are also mounted using the supplied brackets, but without using the eccentric sleeves. Please note that when using IN 80 instead of IN 40 sensors, the switching position cannot be adjusted.

End position monitoring:

Inductive proximity switches, for direct mounting

Description	ID	Recommended product
IN 40/O-M12	0301584	
IN 40/O-M8	0301484	•
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
IN 80/O-M12	0301588	
IN 80/O-M8	0301488	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	
INK 40/O	0301556	
INK 40/S	0301555	
INK 80/O	0301551	
INK 80/S	0301550	

- ① Two sensors, one NO and one NC contact, 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

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

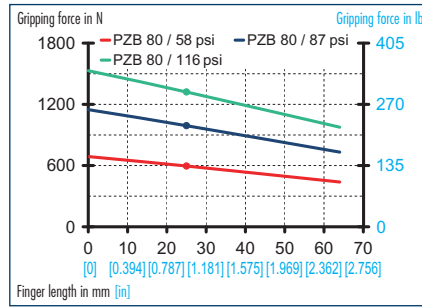


You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

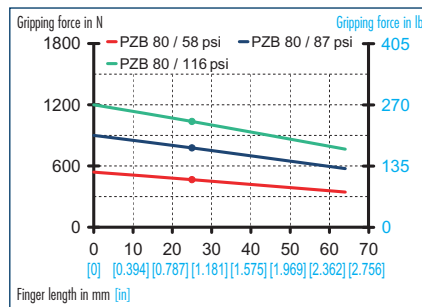




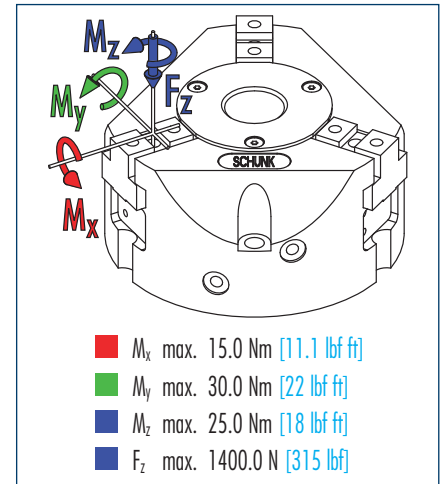
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

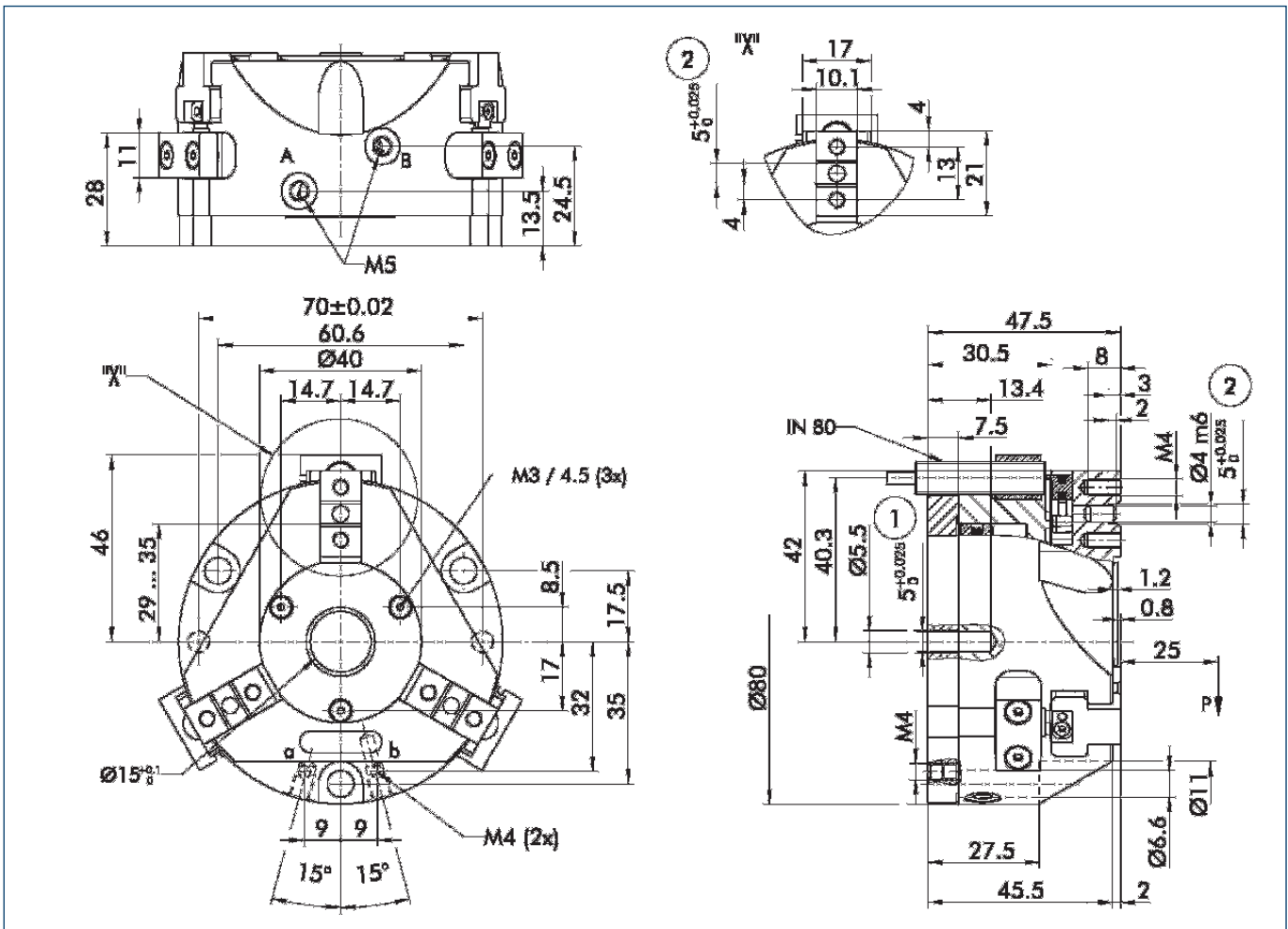


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PZB 80	
ID	0300346	
Stroke per jaw	mm [in]	6.0 [0.236]
Closing force	N [lbf]	800.0 [180]
Opening force	N [lbf]	990.0 [223]
Weight	kg [lbs]	0.62 [1.37]
Recommended workpiece weight	kg [lbs]	4.0 [8.82]
Air consumption per double stroke	cm ³ [in ³]	35.0 [2.14]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.04
Opening time	s	0.04
Max. permitted finger length	mm [in]	64.0 [2.520]
Max. permitted weight per finger	kg [lbs]	0.3 [0.66]
IP class	40	
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]
Diameter of center bore	mm [in]	15.0 [0.591]

Main views

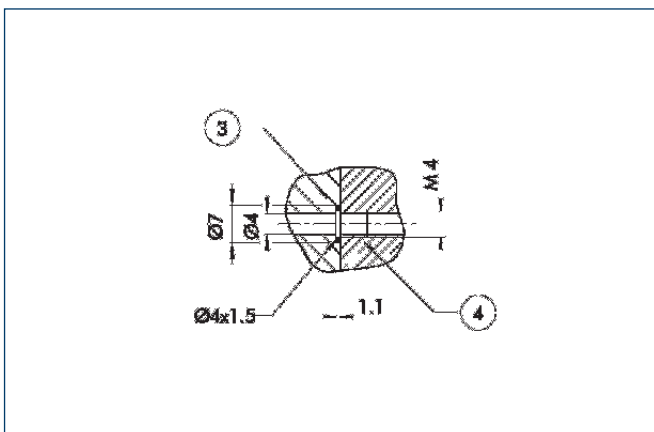


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- 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.

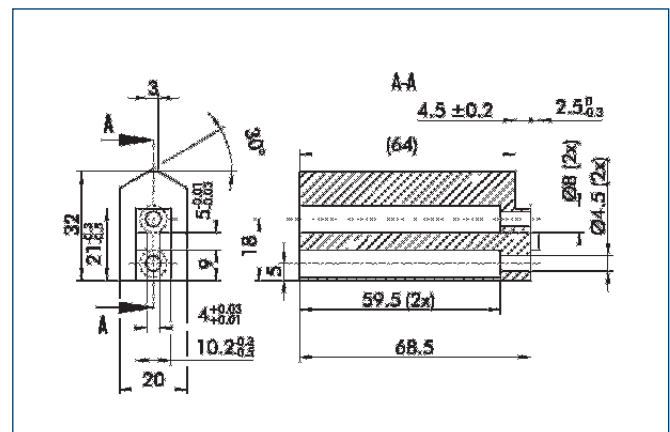
Hoseless direct connection



- 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.

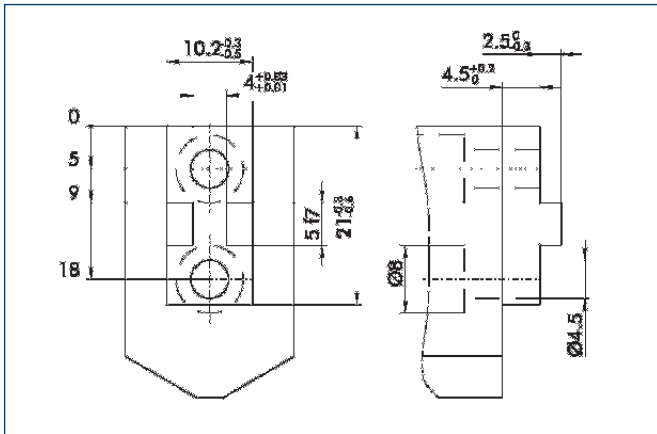
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

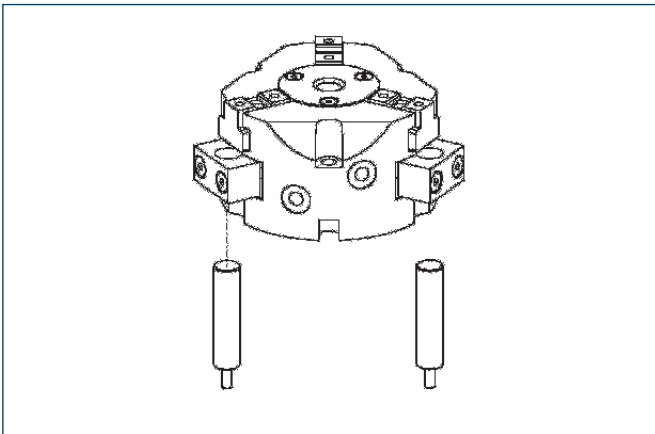
Description	Material	Scope of delivery	ID
ABR 64	Aluminum	1	0300725
SBR 64	16 MnCr 5	1	0300734

Finger design



Suggested connection dimensions for gripper fingers

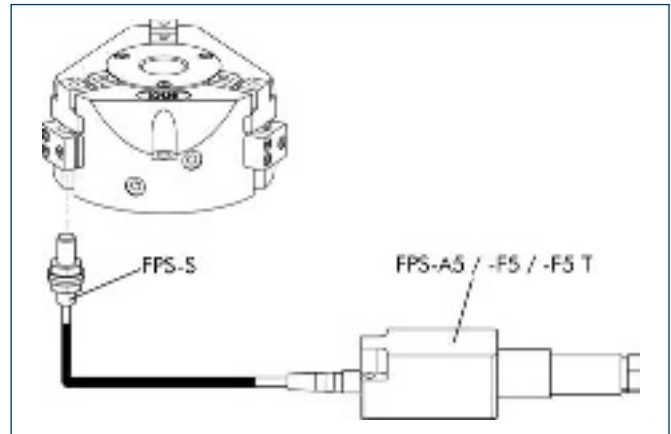
Sensor system



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	

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



Measuring system:
FPS position monitor

Description	ID
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.

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

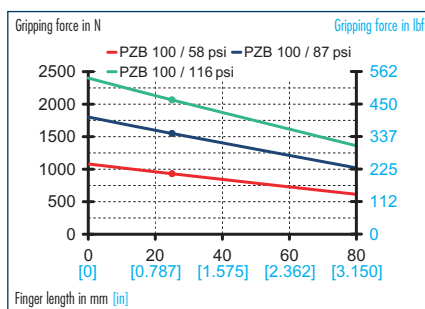
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



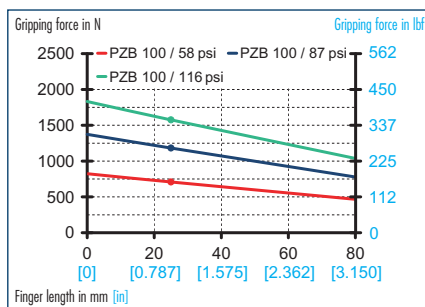
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



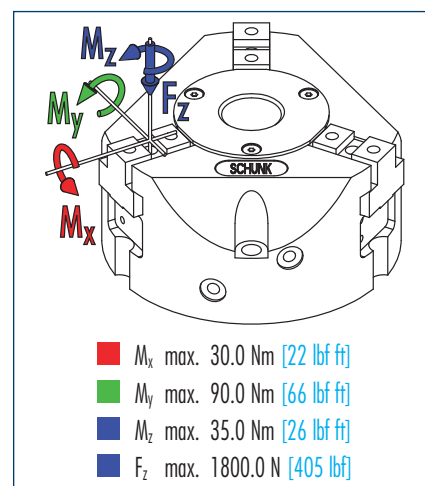
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

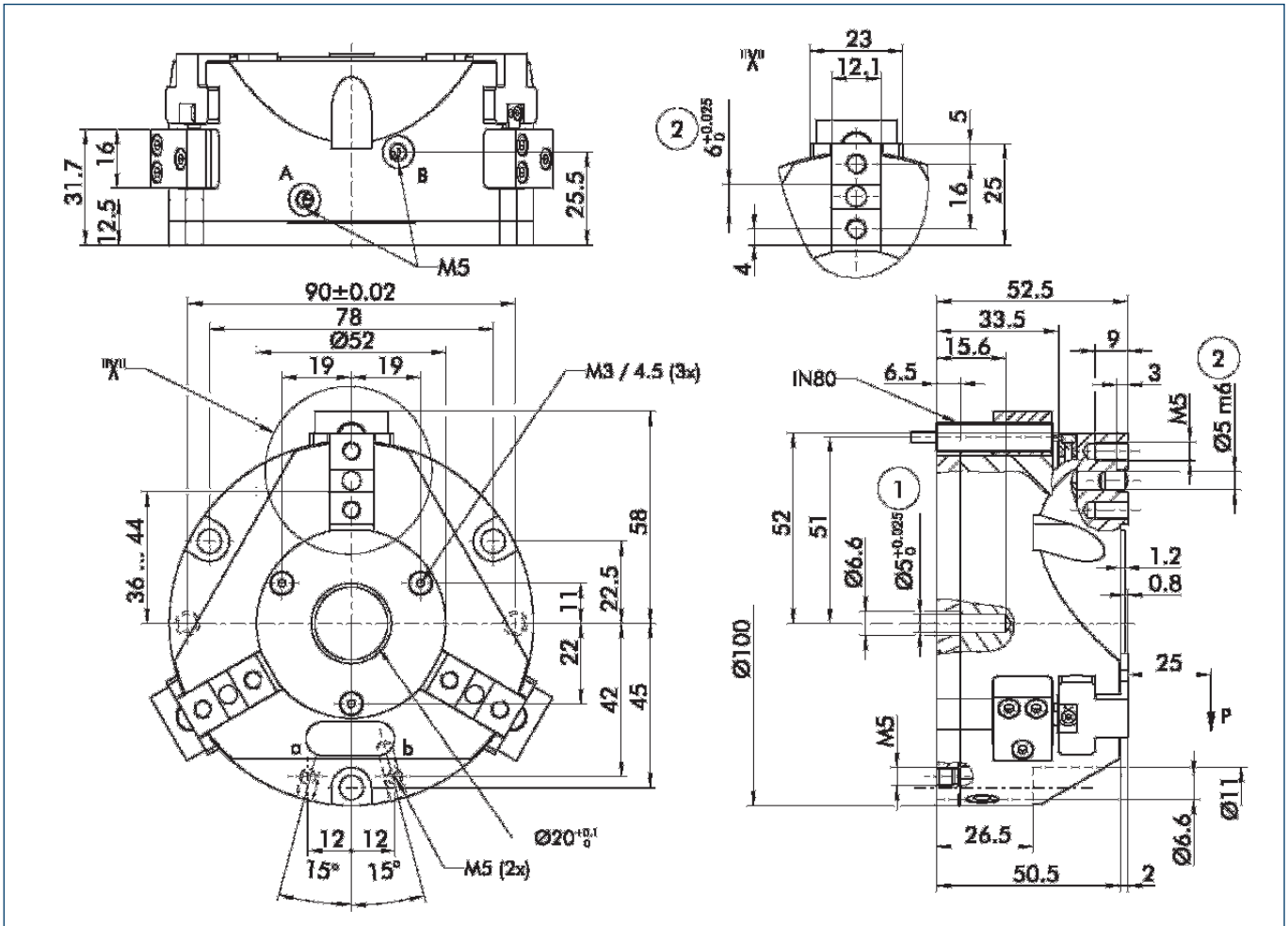


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	ID	PZB 100
		0300347
Stroke per jaw	mm [in]	8.0 [0.315]
Closing force	N [lbf]	1200.0 [270]
Opening force	N [lbf]	1550.0 [348]
Weight	kg [lbs]	1.1 [2.43]
Recommended workpiece weight	kg [lbs]	6.0 [13.23]
Air consumption per double stroke	cm ³ [in ³]	80.0 [4.88]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.1
Opening time	s	0.09
Max. permitted finger length	mm [in]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.5 [1.10]
IP class		40
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]
Diameter of center bore	mm [in]	20.0 [0.787]

Main views

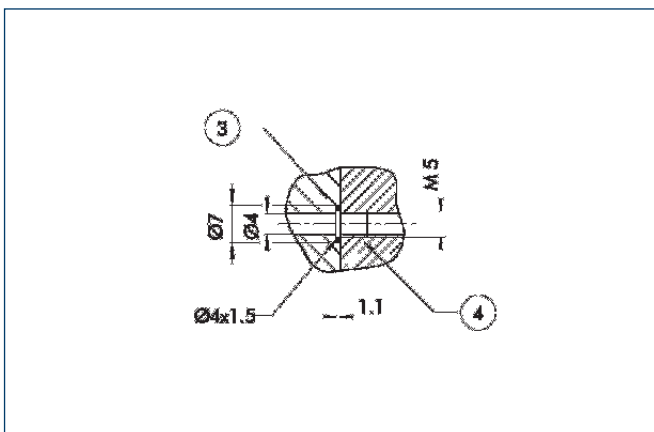


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- 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.

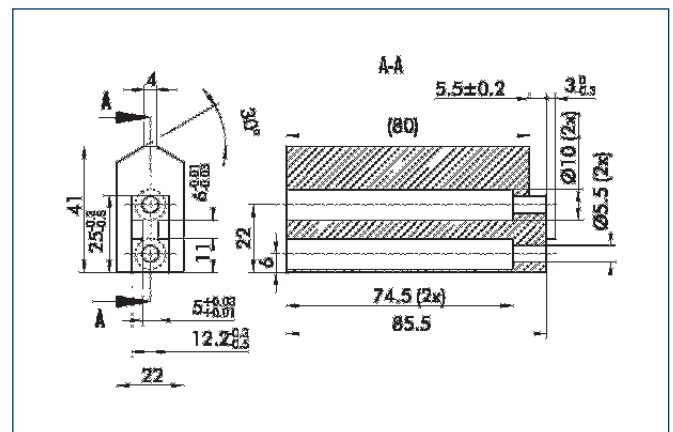
Hoseless direct connection



- 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.

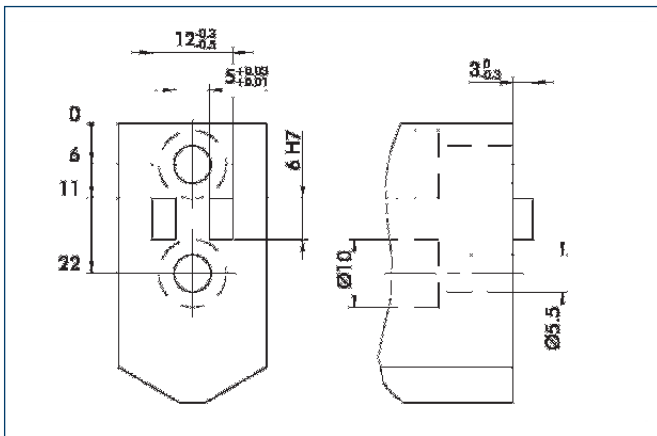
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

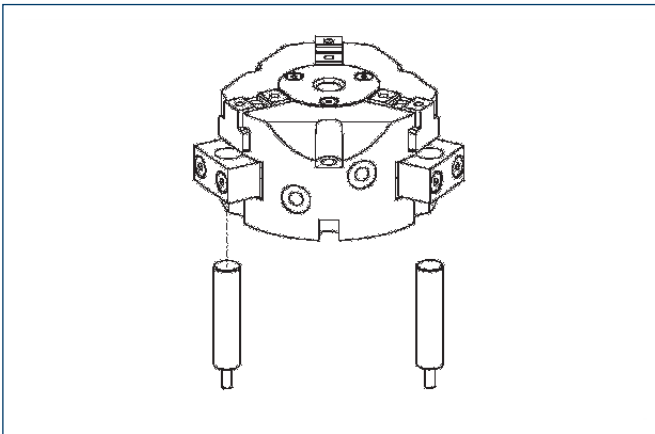
Description	Material	Scope of delivery	ID
ABR 80	Aluminum	1	0300726
SBR 80	16 MnCr 5	1	0300735

Finger design



Suggested connection dimensions for gripper fingers

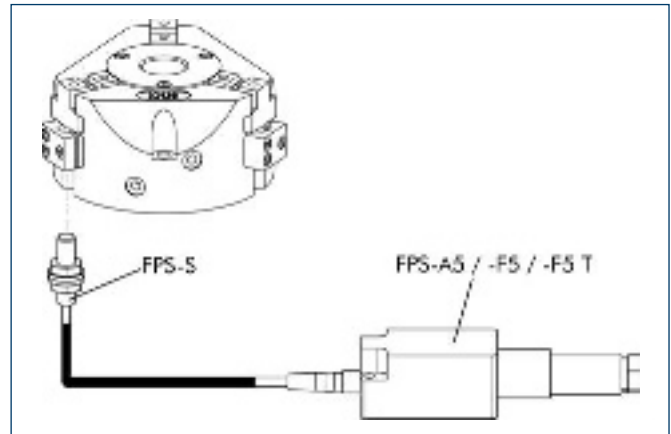
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



Measuring system:
FPS position monitor

Description	ID
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.

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

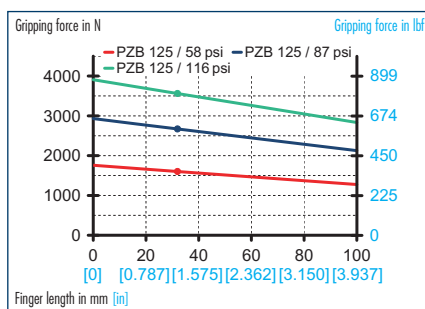
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



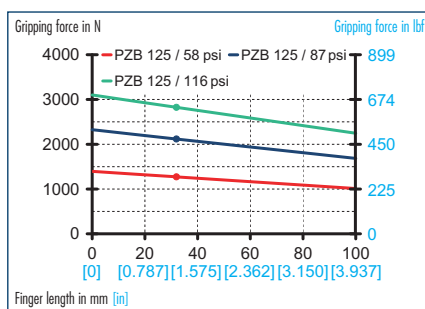
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



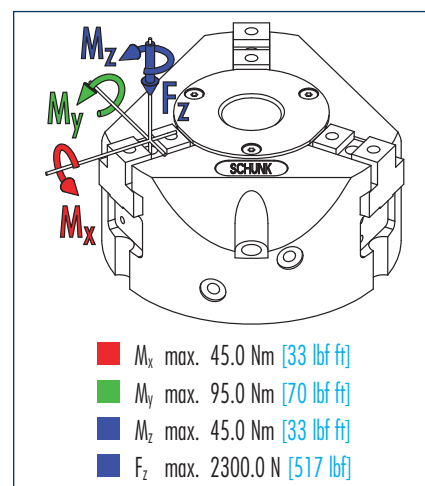
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

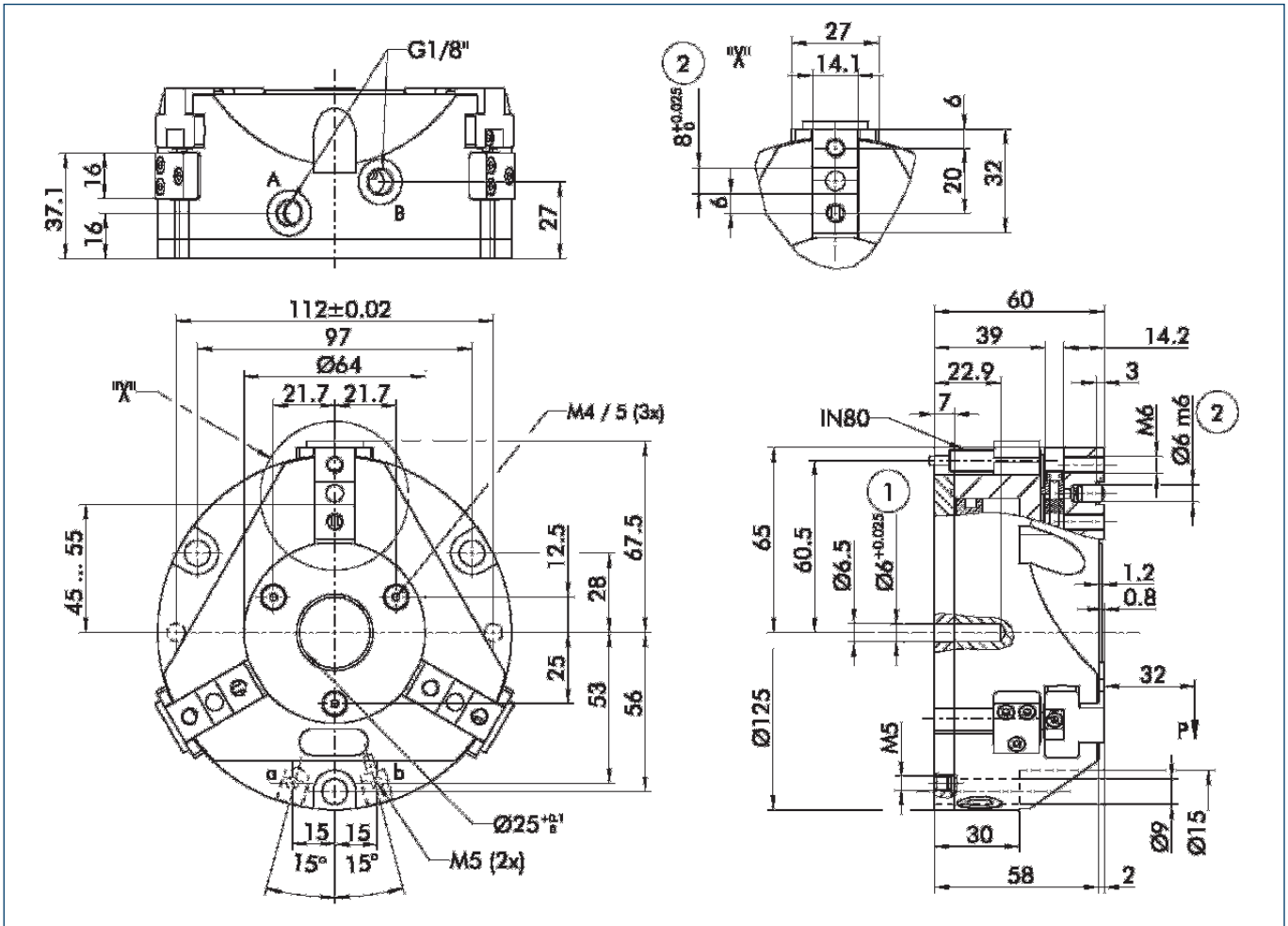


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	ID	PZB 125
		0300348
Stroke per jaw	mm [in]	10.0 [0.394]
Closing force	N [lbf]	2100.0 [472]
Opening force	N [lbf]	2670.0 [600]
Weight	kg [lbs]	1.9 [4.19]
Recommended workpiece weight	kg [lbs]	10.5 [23.15]
Air consumption per double stroke	cm ³ [in ³]	150.0 [9.15]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.16
Opening time	s	0.14
Max. permitted finger length	mm [in]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.95 [2.09]
IP class		40
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]
Diameter of center bore	mm [in]	25.0 [0.984]

Main views

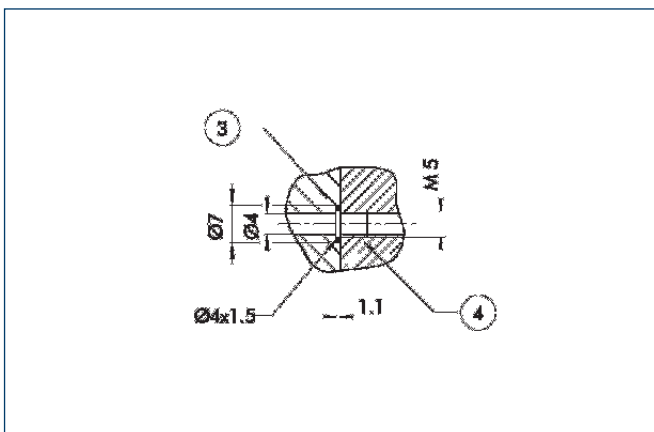


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- 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.

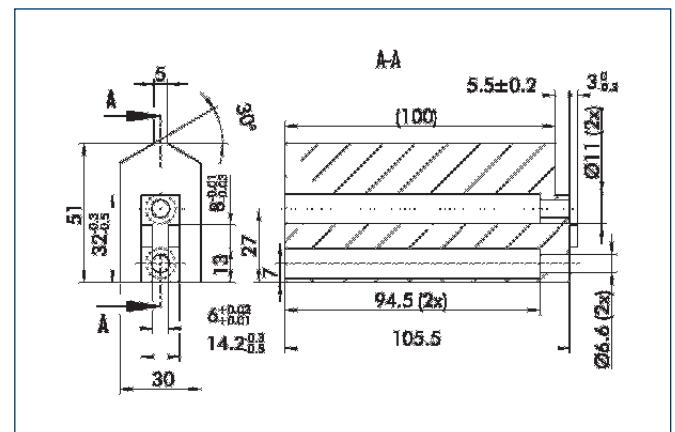
Hoseless direct connection



- 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.

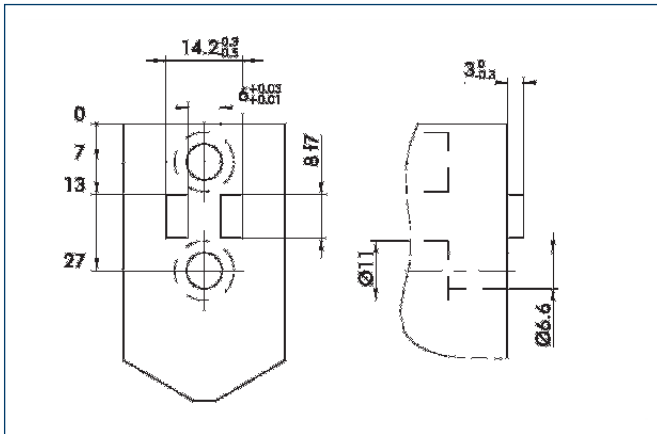
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR 100	Aluminum	1	0300727
SBR 100	16 MnCr 5	1	0300736

Finger design

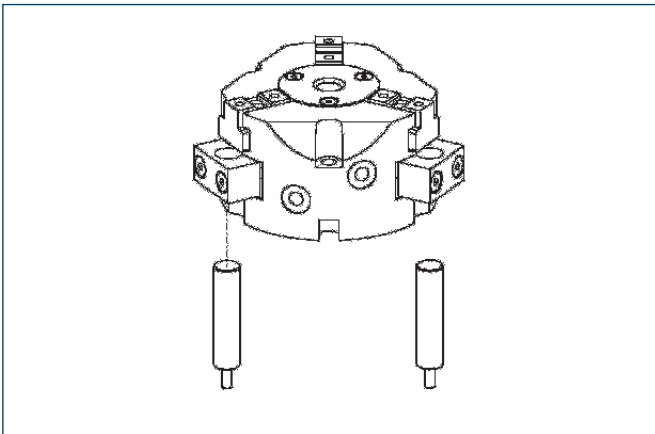


Suggested connection dimensions for gripper fingers



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

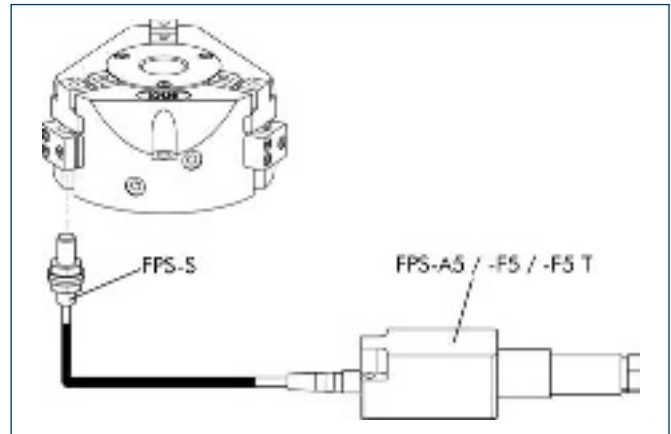
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



Measuring system:

FPS position monitor

Description	ID
AS-PGN/PZN-plus 100/2, PZB 125	0301635
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.

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

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

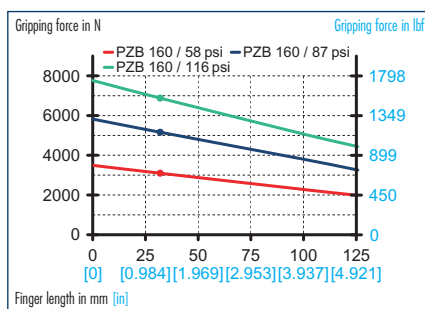
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZB 160

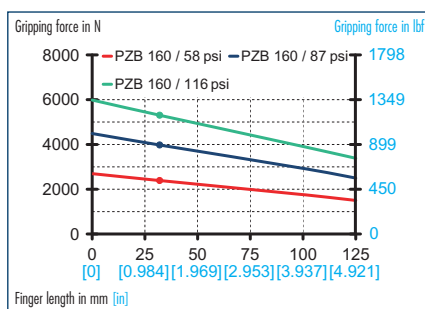
Pneumatic · 3-Finger Centric Grippers · Universal Grippers



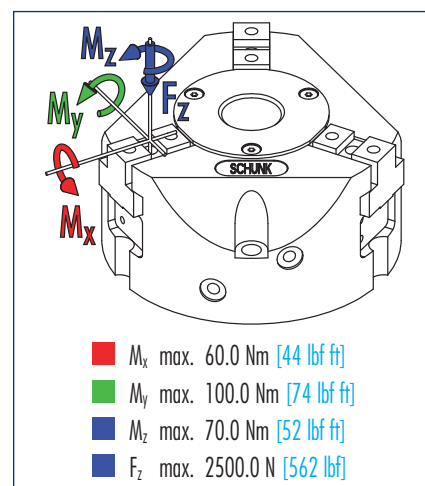
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

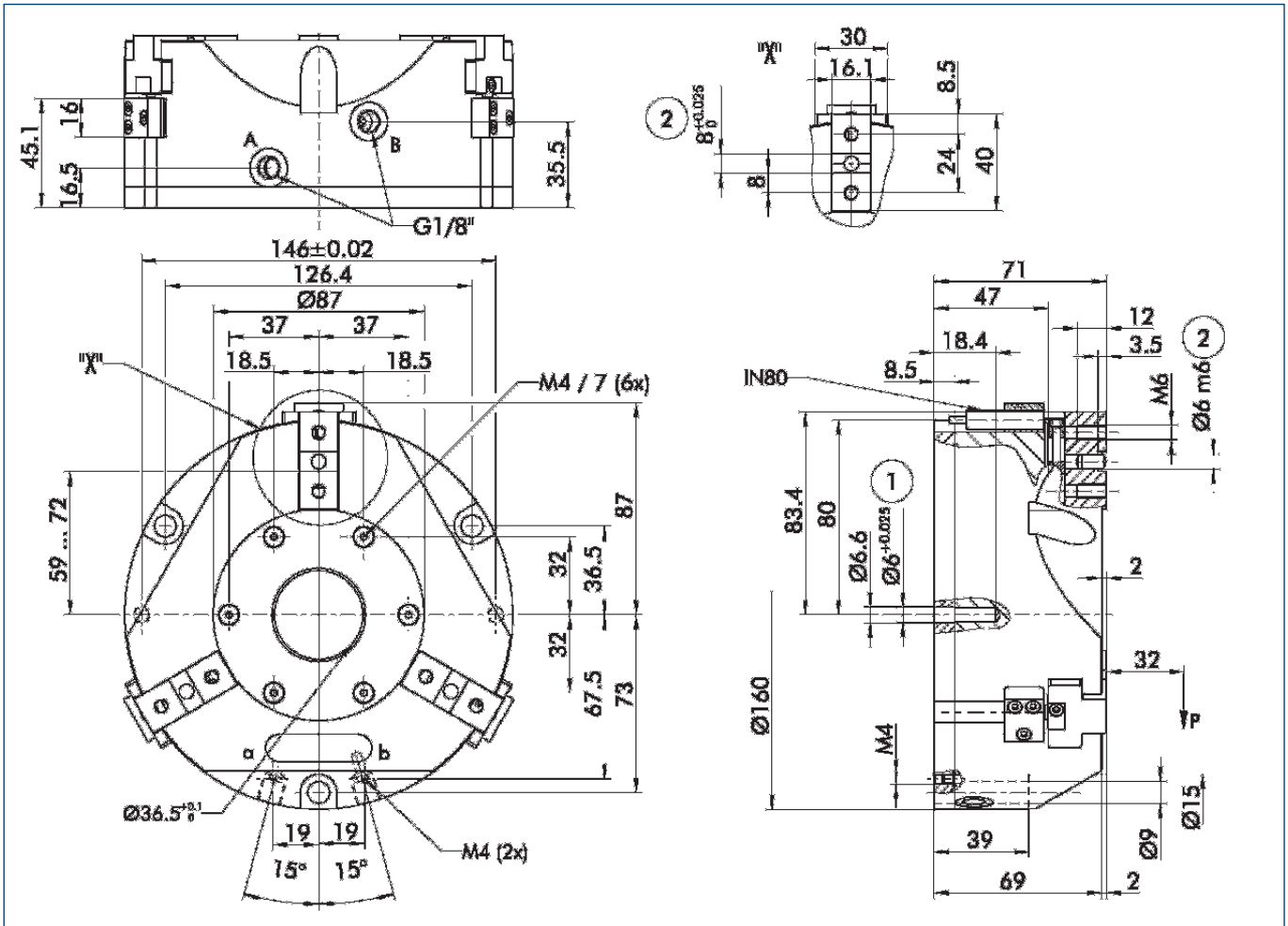


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	ID	PZB 160
Stroke per jaw	mm [in]	13.0 [0.512]
Closing force	N [lbf]	4000.0 [899]
Opening force	N [lbf]	5160.0 [1160]
Weight	kg [lbs]	3.6 [7.94]
Recommended workpiece weight	kg [lbs]	20.0 [44.09]
Air consumption per double stroke	cm ³ [in ³]	330.0 [20.14]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.3
Opening time	s	0.4
Max. permitted finger length	mm [in]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.75 [3.86]
IP class		40
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]
Diameter of center bore	mm [in]	36.5 [1.437]

Main views

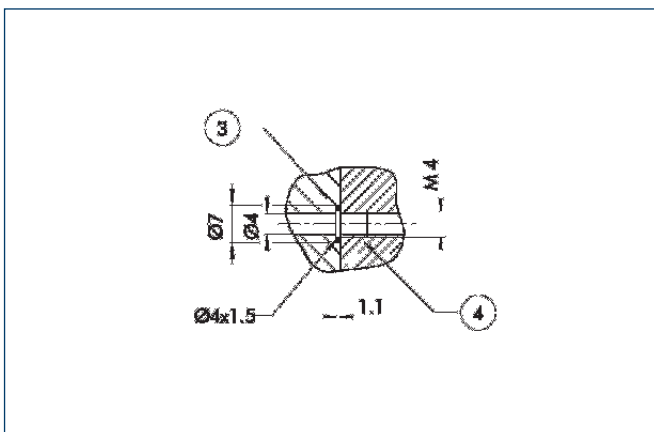


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- 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.

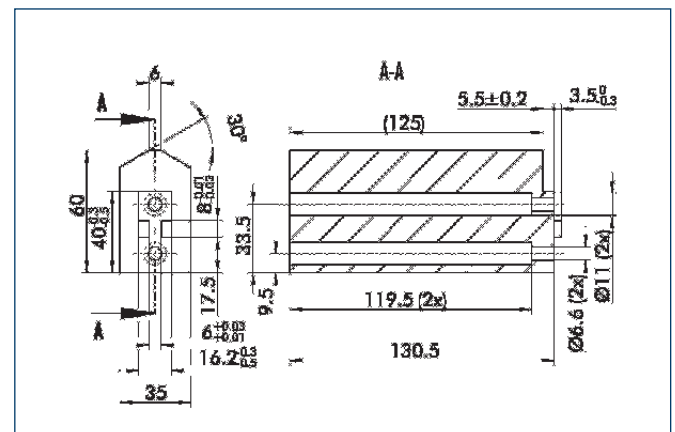
Hoseless direct connection



- 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.

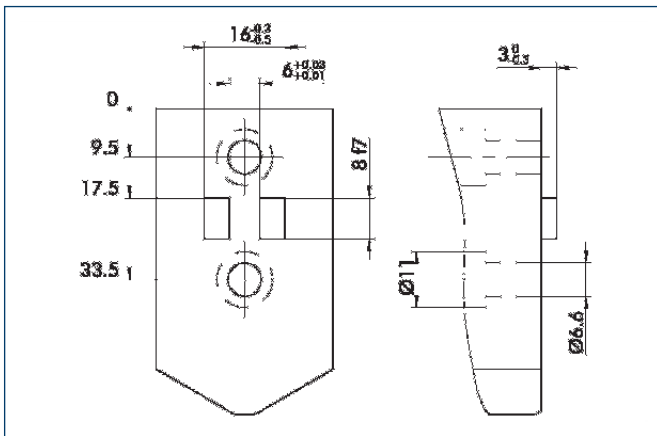
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR 125	Aluminum	1	0300728
SBR 125	16 MnCr 5	1	0300737

Finger design

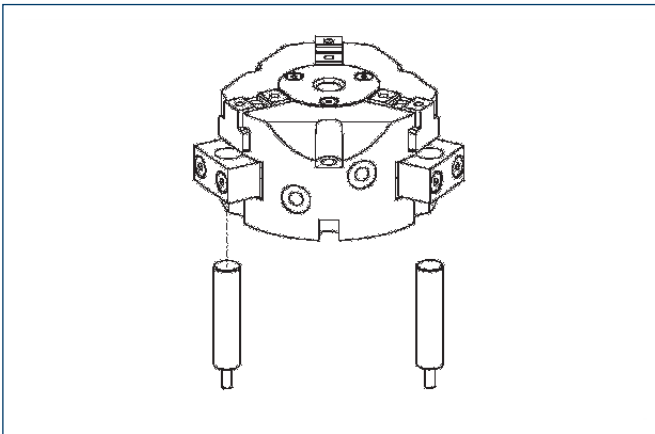


Suggested connection dimensions for gripper fingers



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

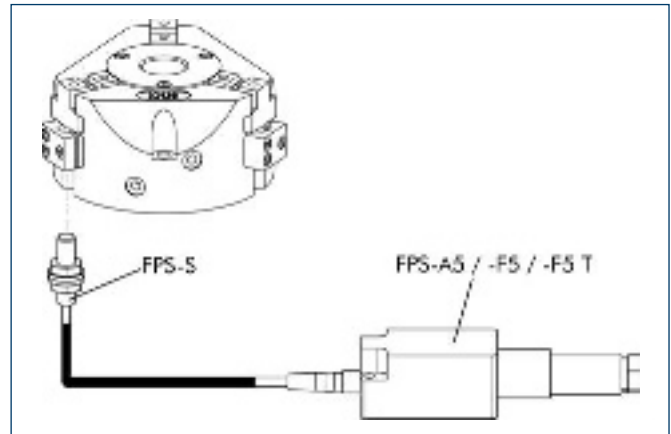
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



Measuring system:
FPS position monitor

Description	ID
AS-PGN/PZN-plus 125/1, PZB 160	0301636
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.

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

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.

DPZ-plus

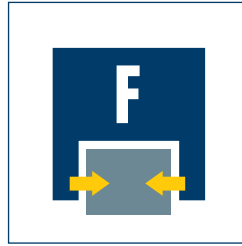
Pneumatic · 3-Finger Centric Grippers · Sealed Grippers



Sizes
64 .. 200



Weight
0.62 kg .. 20.1 kg
1.37 lbs .. 44.31 lbs



Gripping force
520 N .. 16800 N
117 lbf .. 3777 lbf

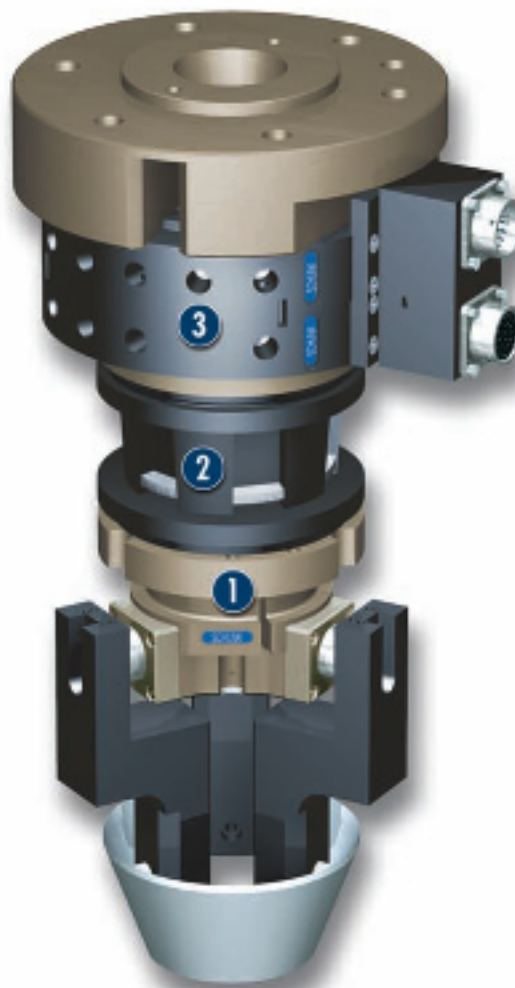


Stroke per finger
3 mm .. 25 mm
0.118 in .. 0.984 in



Workpiece weight
2.6 kg .. 60.0 kg
5.73 lbs .. 132.28 lbs

Application example



Insertion tool for assembling small to medium-sized workpieces. The tool can be used in both clean and dirty environments. Thanks to its quick-change system, other tools can alternately be fixed to the robot flange.

- 1 DPZ-plus 100
3-Finger Centric Gripper
- 2 FUS 213C Insertion Unit

- 3 SWS 041 Quick-change system

Sealed Grippers

Despite the high moment-bearing capacity of the base jaws, this sealed 3-finger centric gripper satisfies the requirements of IP67 and does not permit any substances from the working environment to penetrate the interior of the component.

Area of application

The DPZ-plus is ideally suited for the handling of rough or dirty workpieces. Its area of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing and underwater.

Your advantages and benefits

Robust interior multiple-tooth guidance

for the precise handling of all kinds of workpieces

Wiper seal on the outer circular guide

for permanent, secure gripper sealing

High moment capabilities

suitable for the use of long gripper fingers

Sealed 3-finger centric gripper

complies to IP67 requirements despite a high moment-bearing capacity

Mounted on two sides in three mounting directions

for universal and flexible gripper assembly

Maximum gripping forces despite a compact design

for a varied range of applications

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Compact dimensions

for minimal interfering contours in handling



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

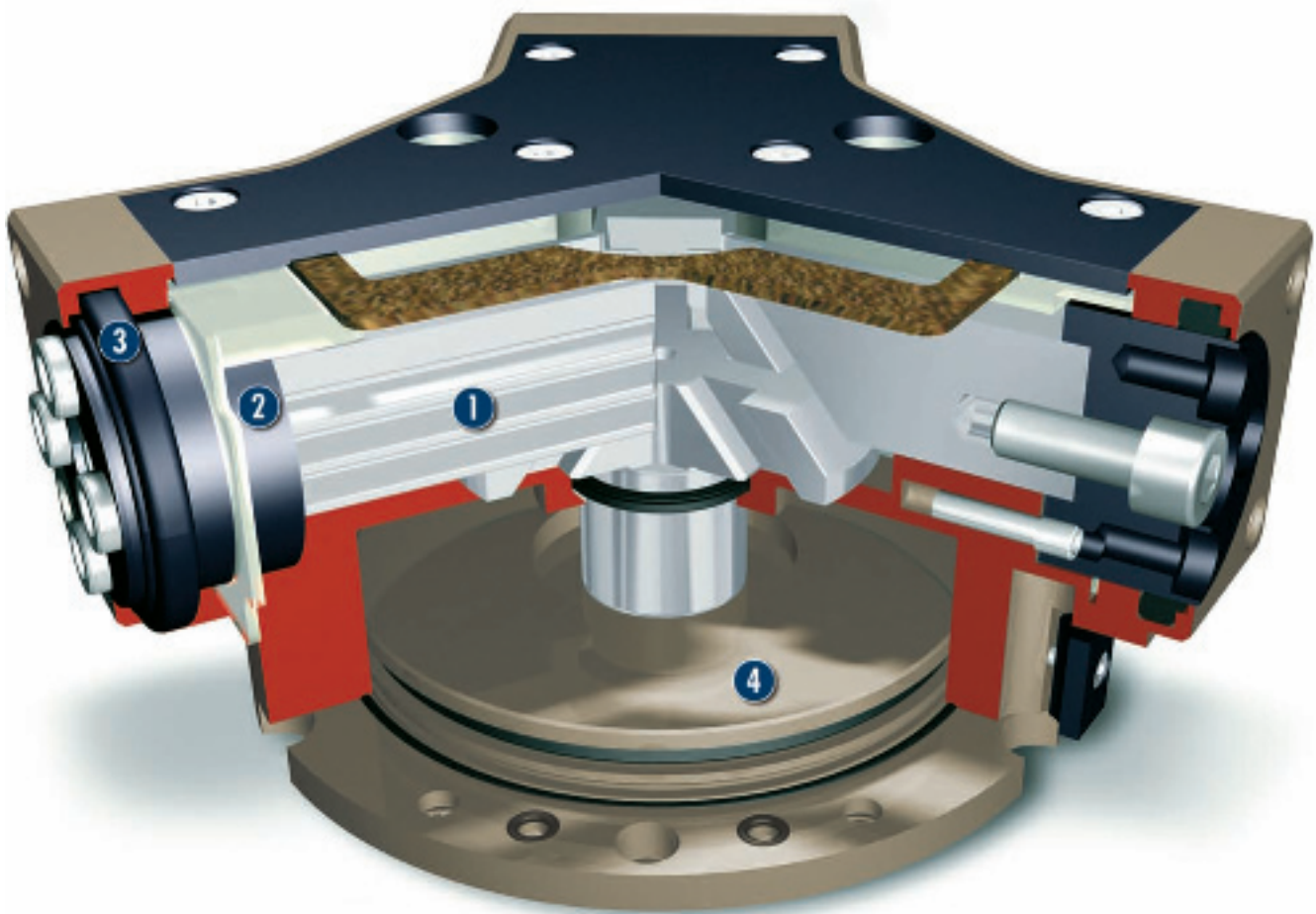
Scope of delivery

Centering pins, centering sleeves, O-rings for direct connection, Assembly and Operating Manual with manufacturer's declaration

Gripping force safety device

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

Sectional diagram



1 Inner base jaw (multiple-tooth guidance)
for high load capabilities

2 Outer base jaw (round)
providing a sealable, round surface

3 Wiper seal
for permanent, secure gripper sealing

4 Round piston with rod and wedge hook
for power generation

Function description

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

Options and special information

Please note that an additional hose for ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Increased grip force version

When higher gripping forces are required

Accessories

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

Centering sleeves



Fittings



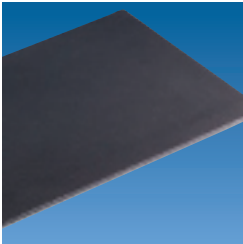
MMS magnetic switch



Quentes plastic inserts



HKI gripper pads



SDV-P pressure maintenance valves



W/WK/KV/GK sensor cables



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 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

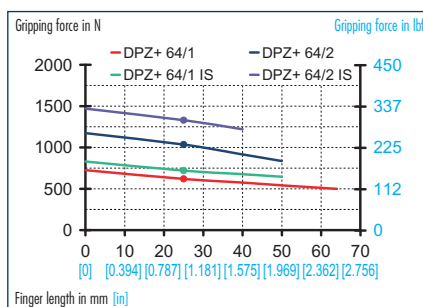
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

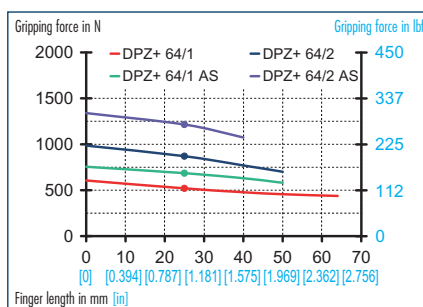
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



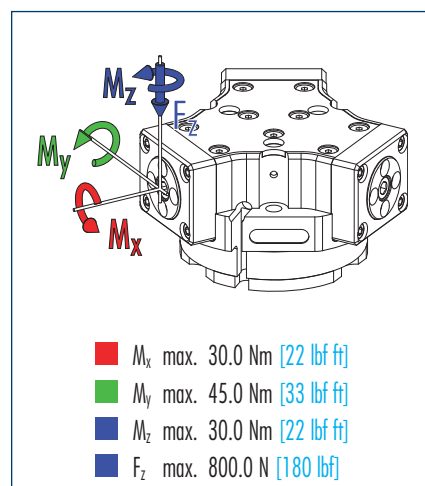
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ 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

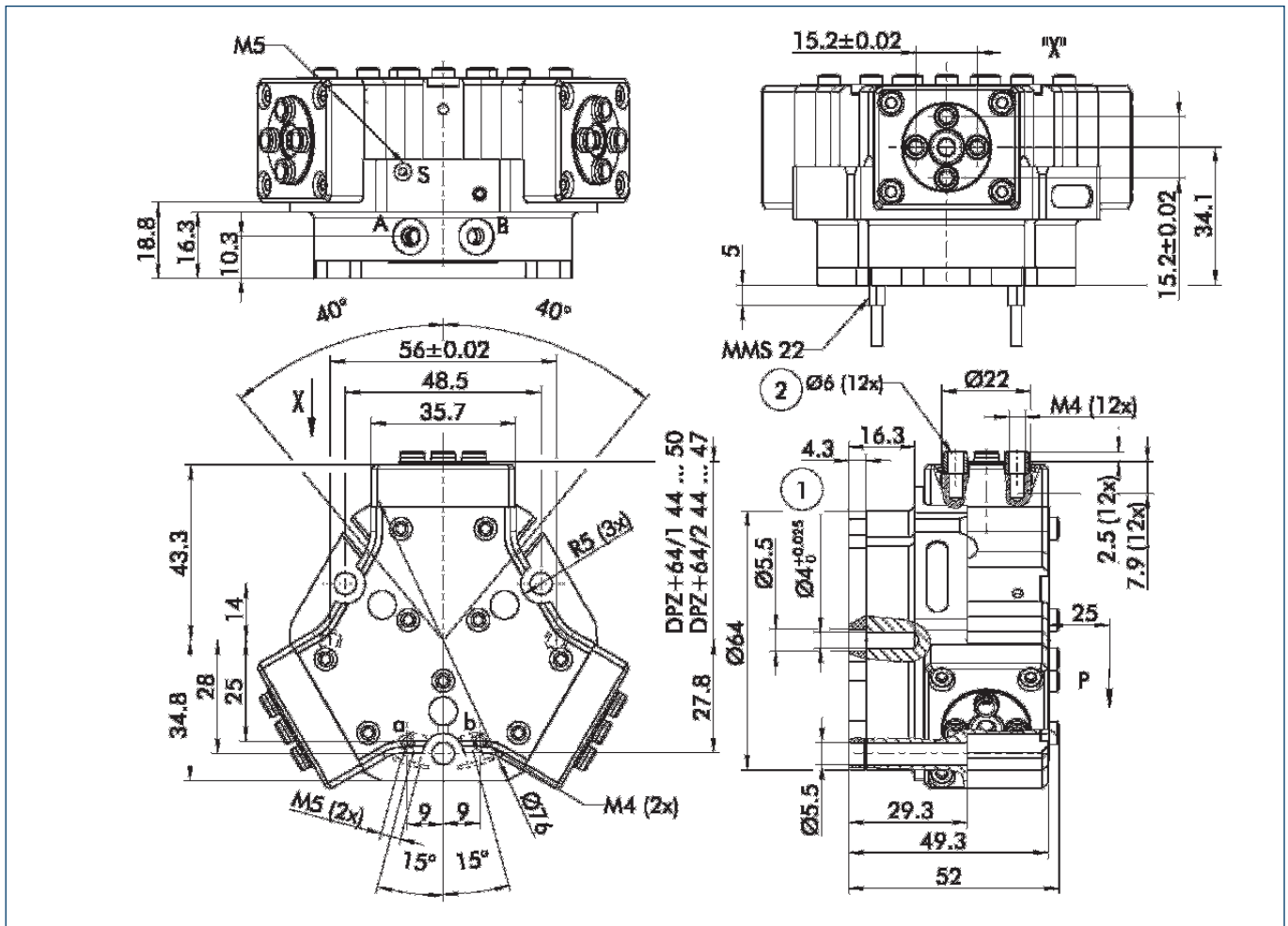
Description		DPZ-plus 64-1	DPZ-plus 64-2	DPZ-plus 64-1 AS	DPZ-plus 64-2 AS	DPZ-plus 64-1 IS	DPZ-plus 64-2 IS
ID		0304411	0304412	0304413	0304414	0304415	0304416
Stroke per jaw	mm [in]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]	6.0 [0.236]	3.0 [0.118]
Closing force	N [lbf]	520.0 [117]	870.0 [196]	685.0 [154]	1215.0 [273]		
Opening force	N [lbf]	620.0 [139]	1030.0 [232]			720.0 [162]	1215.0 [273]
Min. spring force	N [lbf]			165.0 [37]	345.0 [78]	200.0 [45]	460.0 [103]
Weight	kg [lbs]	0.62 [1.37]	0.62 [1.37]	0.75 [1.65]	0.75 [1.65]	0.75 [1.65]	0.75 [1.65]
Recommended workpiece weight	kg [lbs]	2.6 [5.73]	4.35 [9.59]	2.6 [5.73]	4.35 [9.59]	2.6 [5.73]	4.35 [9.59]
Air consumption per double stroke	cm ³ [in ³]	25.0 [1.53]	25.0 [1.53]	48.0 [2.93]	48.0 [2.93]	48.0 [2.93]	48.0 [2.93]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.04	0.04	0.03	0.03	0.05	0.05
Opening time	s	0.04	0.04	0.05	0.05	0.03	0.03
Max. permitted finger length	mm [in]	64.0 [2.520]	50.0 [1.969]	50.0 [1.969]	40.0 [1.575]	50.0 [1.969]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]	0.3 [0.66]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force	ID	0304417
Description		DPZ-plus 64-1-KVZ
Closing force	N [lbf]	935.0 [210]
Opening force	N [lbf]	1040.0 [234]
Weight	kg [lbs]	0.92 [2.03]
Maximum pressure	bar [psi]	6.0 [87]
Air consumption per double stroke	cm ³ [in ³]	50.0 [3.05]
Max. permitted finger length	mm [in]	40.0 [1.575]

ⓘ Please note that an additional hose for bleeding ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

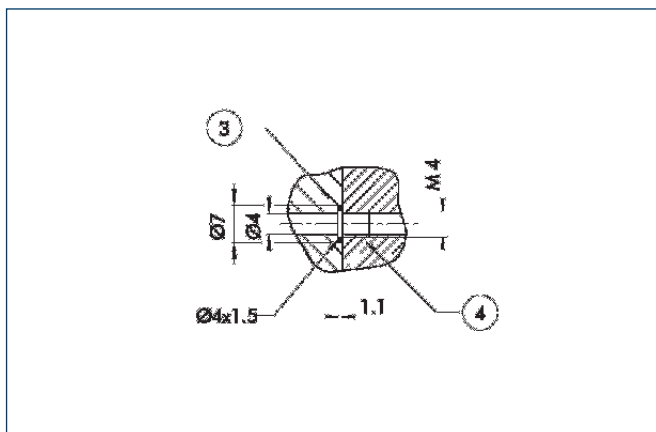


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

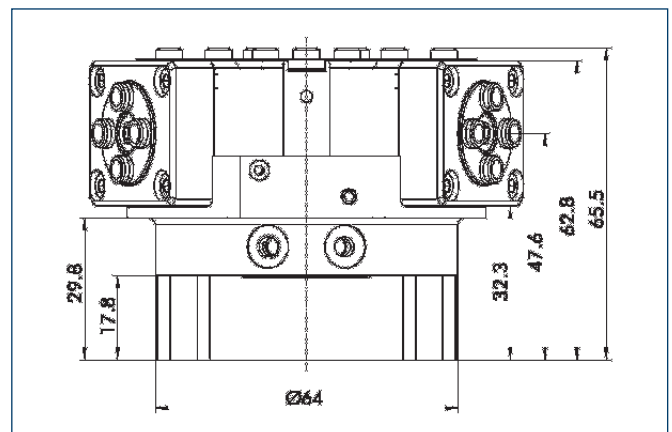
Hoseless direct connection



- 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.

AS/IS gripping force safety device

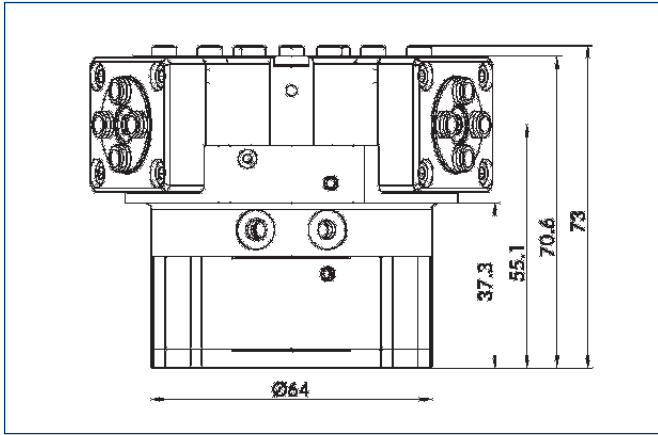


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPZ-plus 64

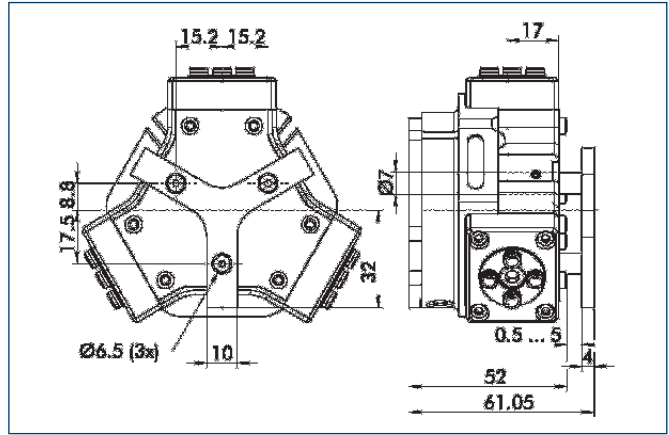
Pneumatic · 3-Finger Centric Grippers · Sealed Grippers

KVZ for increased grip force



The KVZ grip force cylinder increases the gripping forces on opening and closing. A second series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Spring-loaded pressure piece



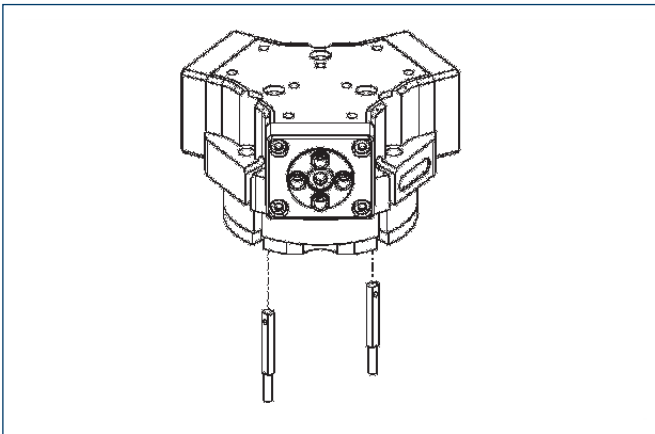
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 64	4 mm	11 N	0303720



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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.

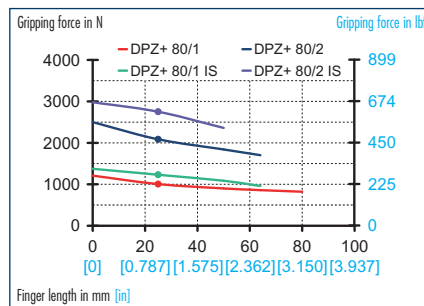


DPZ-plus 80

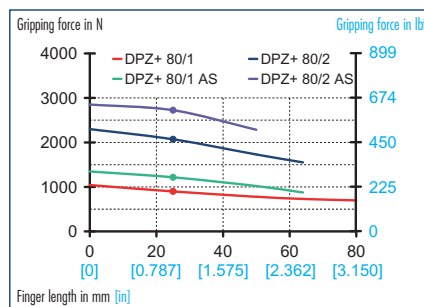
Pneumatic · 3-Finger Centric Grippers · Sealed Grippers



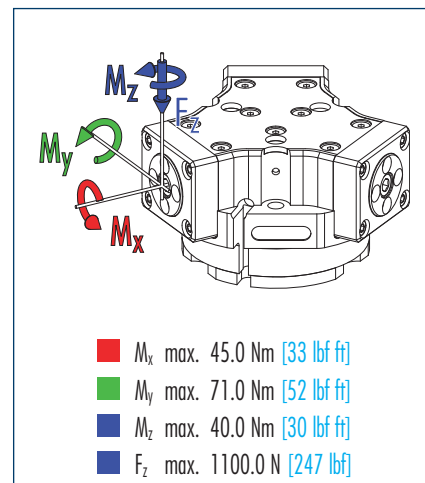
Gripping force, I.D. gripping



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

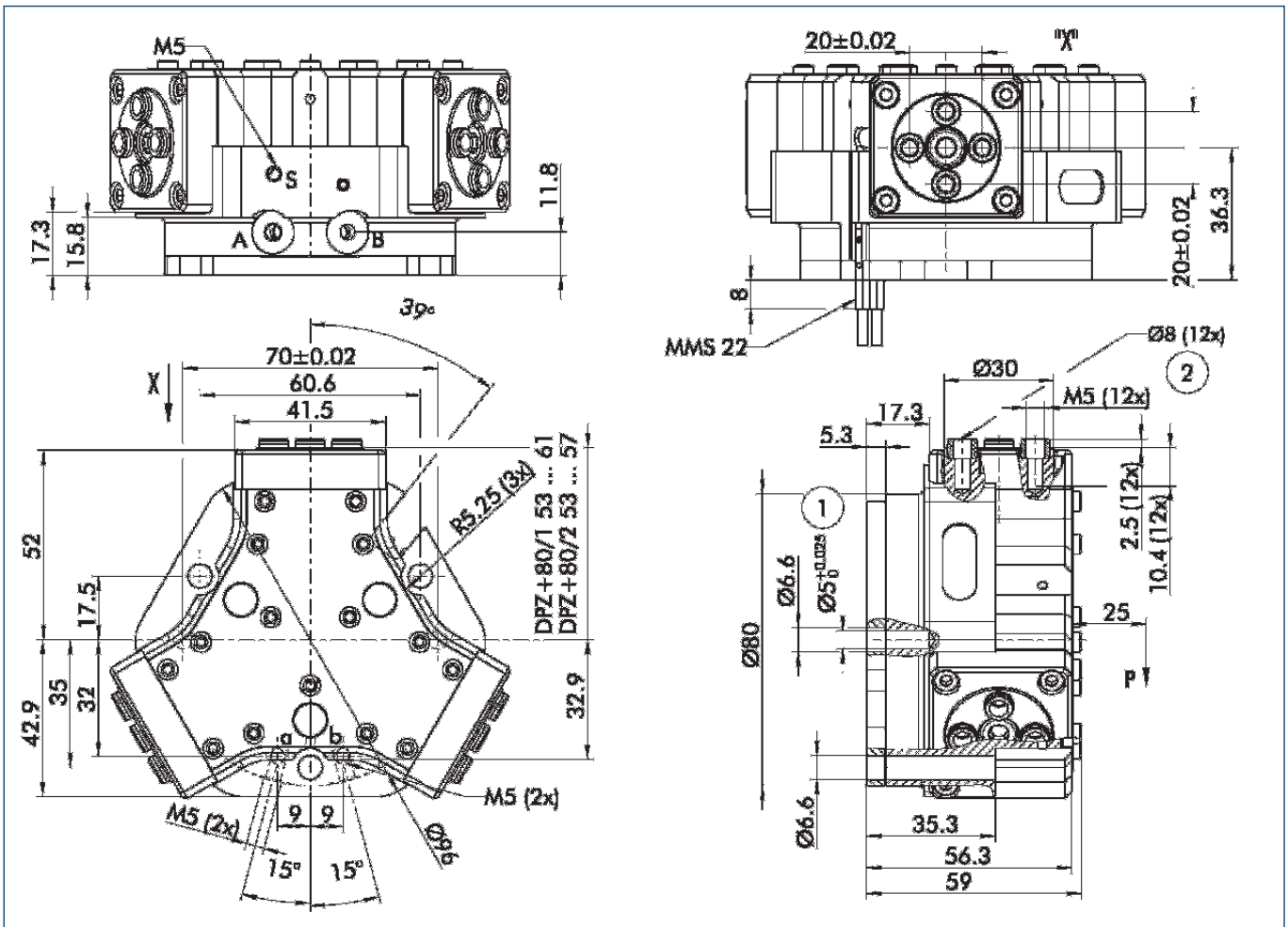
Description		DPZ-plus 80-1	DPZ-plus 80-2	DPZ-plus 80-1 AS	DPZ-plus 80-2 AS	DPZ-plus 80-1 IS	DPZ-plus 80-2 IS
ID		0304421	0304422	0304423	0304424	0304425	0304426
Stroke per jaw	mm [in]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]	8.0 [0.315]	4.0 [0.157]
Closing force	N [lbf]	900.0 [202]	2070.0 [465]	1215.0 [273]	2725.0 [613]		
Opening force	N [lbf]	1000.0 [225]	2085.0 [469]			1230.0 [277]	2750.0 [618]
Min. spring force	N [lbf]			315.0 [71]	655.0 [147]	330.0 [74]	680.0 [153]
Weight	kg [lbs]	1.3 [2.87]	1.3 [2.87]	1.45 [3.20]	1.45 [3.20]	1.45 [3.20]	1.45 [3.20]
Recommended workpiece weight	kg [lbs]	4.5 [9.92]	10.35 [22.82]	4.5 [9.92]	10.35 [22.82]	4.5 [9.92]	10.35 [22.82]
Air consumption per double stroke	cm ³ [in ³]	60.0 [3.66]	60.0 [3.66]	108.0 [6.59]	108.0 [6.59]	108.0 [6.59]	108.0 [6.59]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.07	0.07	0.05	0.05	0.08	0.08
Opening time	s	0.07	0.07	0.08	0.08	0.05	0.05
Max. permitted finger length	mm [in]	80.0 [3.150]	64.0 [2.520]	64.0 [2.520]	50.0 [1.969]	64.0 [2.520]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

OPTIONS and their characteristics

KVZ for increased grip force	ID	0304427
Description		DPZ-plus 80-1-KVZ
Closing force	N [lbf]	1620.0 [364]
Opening force	N [lbf]	1750.0 [393]
Weight	kg [lbs]	1.6 [3.53]
Maximum pressure	bar [psi]	6.0 [87]
Air consumption per double stroke	cm ³ [in ³]	120.0 [7.32]
Max. permitted finger length	mm [in]	50.0 [1.969]

ⓘ Please note that an additional hose for bleeding ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

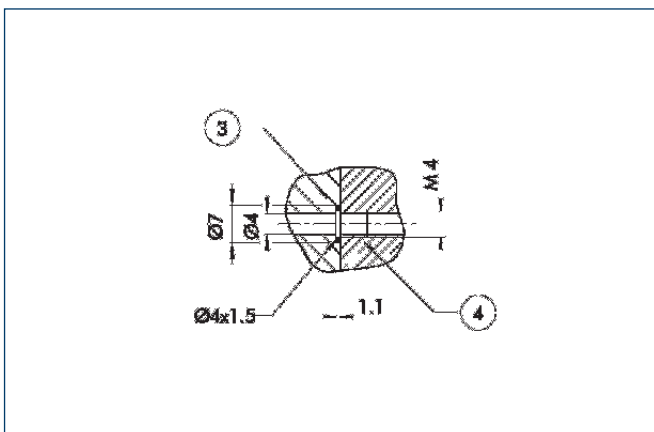


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

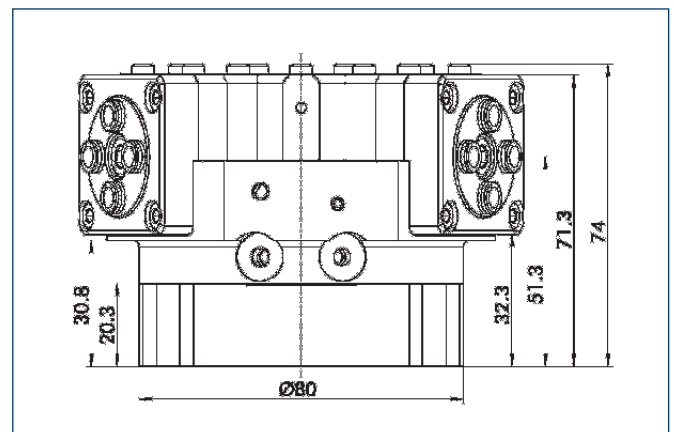
Hoseless direct connection



- 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.

AS/IS gripping force safety device

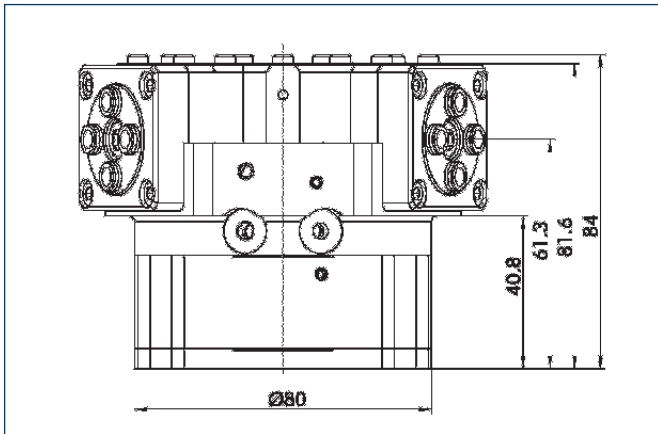


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPZ-plus 80

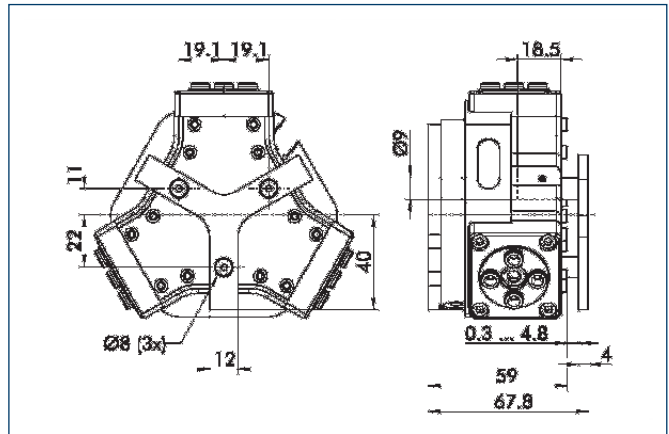
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KVZ for increased grip force



The KVZ grip force cylinder increases the gripping forces on opening and closing. A second series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles.

Spring-loaded pressure piece



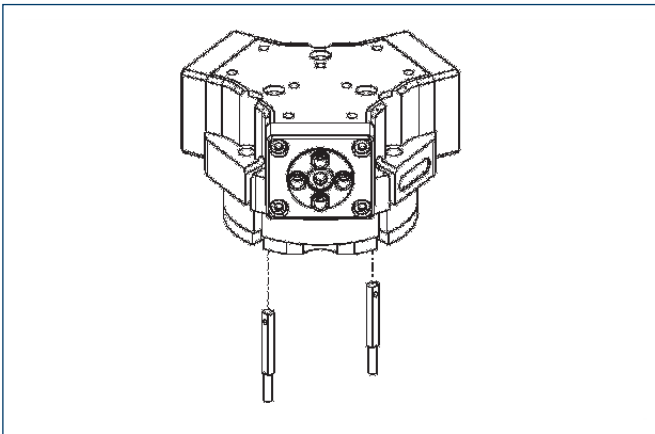
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 80	4.5 mm	18 N	0303721



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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.

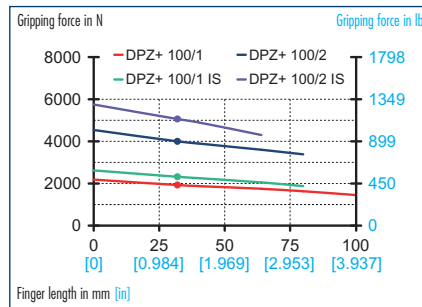


DPZ-plus 100

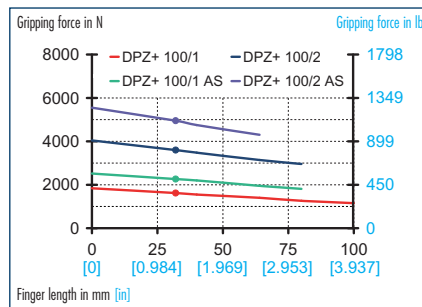
Pneumatic · 3-Finger Centric Grippers · Sealed Grippers



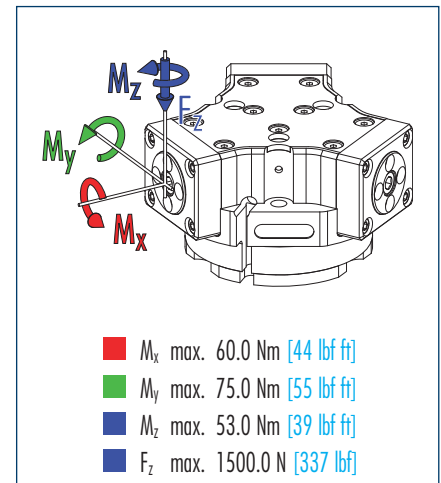
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



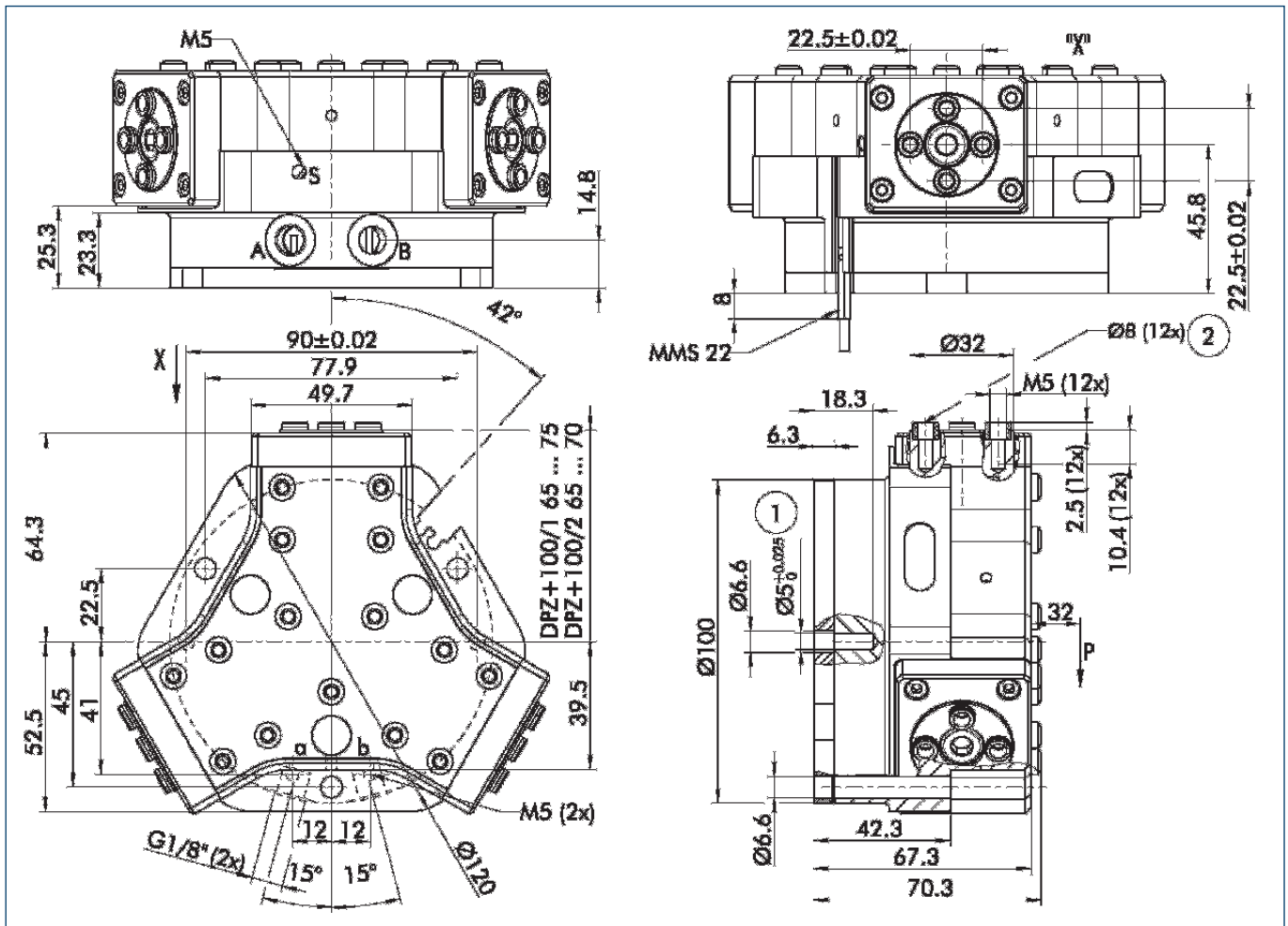
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		DPZ-plus 100-1	DPZ-plus 100-2	DPZ-plus 100-1 AS	DPZ-plus 100-2 AS	DPZ-plus 100-1 IS	DPZ-plus 100-2 IS
ID		0304431	0304432	0304433	0304434	0304435	0304436
Stroke per jaw	mm [in]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]	10.0 [0.394]	5.0 [0.197]
Closing force	N [lbf]	1620.0 [364]	3600.0 [809]	2265.0 [509]	4950.0 [1113]		
Opening force	N [lbf]	1920.0 [432]	4000.0 [899]			2320.0 [522]	5060.0 [1138]
Min. spring force	N [lbf]			645.0 [145]	1350.0 [303]	700.0 [157]	1460.0 [328]
Weight	kg [lbs]	1.9 [4.19]	1.9 [4.19]	2.3 [5.07]	2.3 [5.07]	2.3 [5.07]	2.3 [5.07]
Recommended workpiece weight	kg [lbs]	8.1 [17.86]	18.0 [39.68]	8.1 [17.86]	18.0 [39.68]	8.1 [17.86]	18.0 [39.68]
Air consumption per double stroke	cm ³ [in ³]	120.0 [7.32]	120.0 [7.32]	210.0 [12.81]	210.0 [12.81]	210.0 [12.81]	210.0 [12.81]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.13	0.13	0.13	0.13	0.25	0.25
Opening time	s	0.13	0.13	0.25	0.25	0.13	0.13
Max. permitted finger length	mm [in]	100.0 [3.937]	80.0 [3.150]	80.0 [3.150]	64.0 [2.520]	80.0 [3.150]	64.0 [2.520]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ Please note that an additional hose for bleeding ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

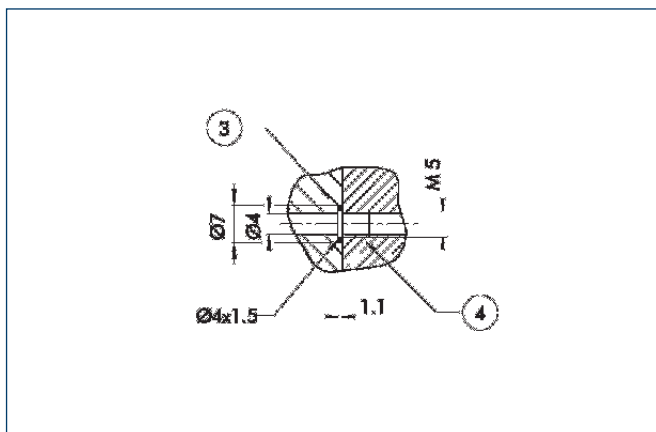


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Connection of the unit

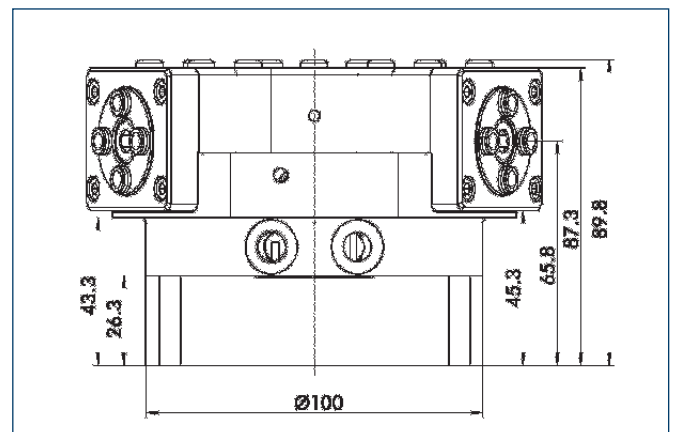
Hoseless direct connection



- ③ Adapter
- ④ Gripper

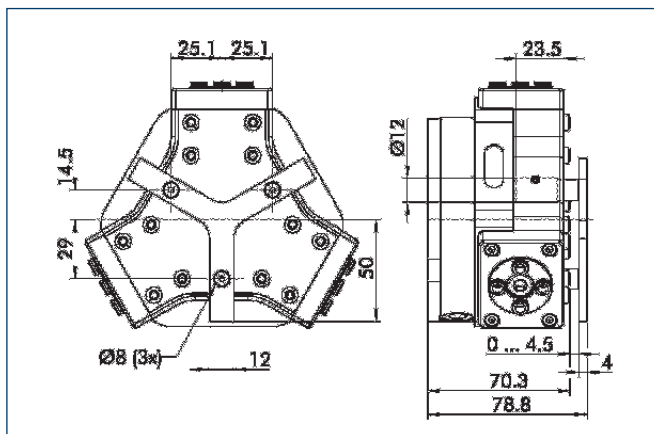
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

Spring-loaded pressure piece



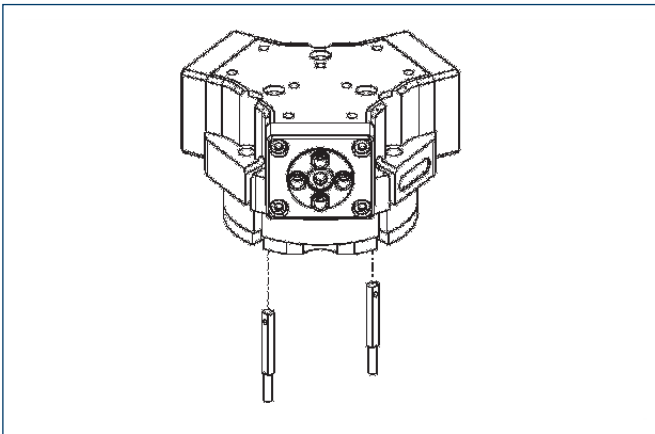
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 100	5 mm	35 N	0303722



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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.

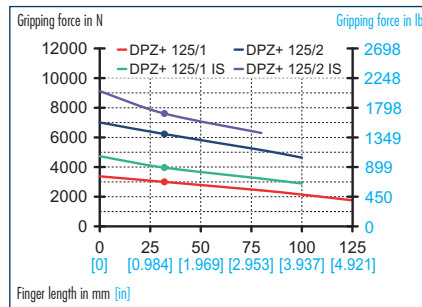


DPZ-plus 125

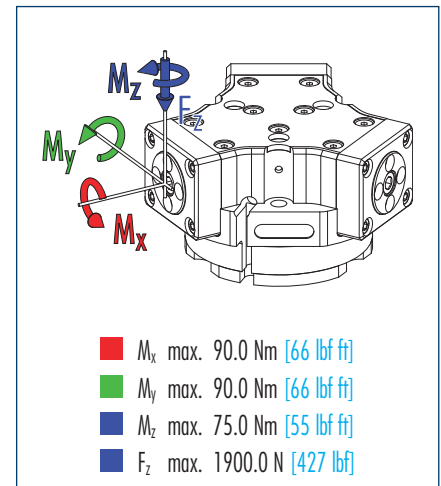
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Gripping force, I.D. gripping

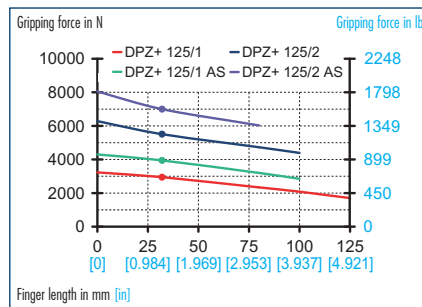


Finger load



ⓘ 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.

Gripping force, O.D. gripping

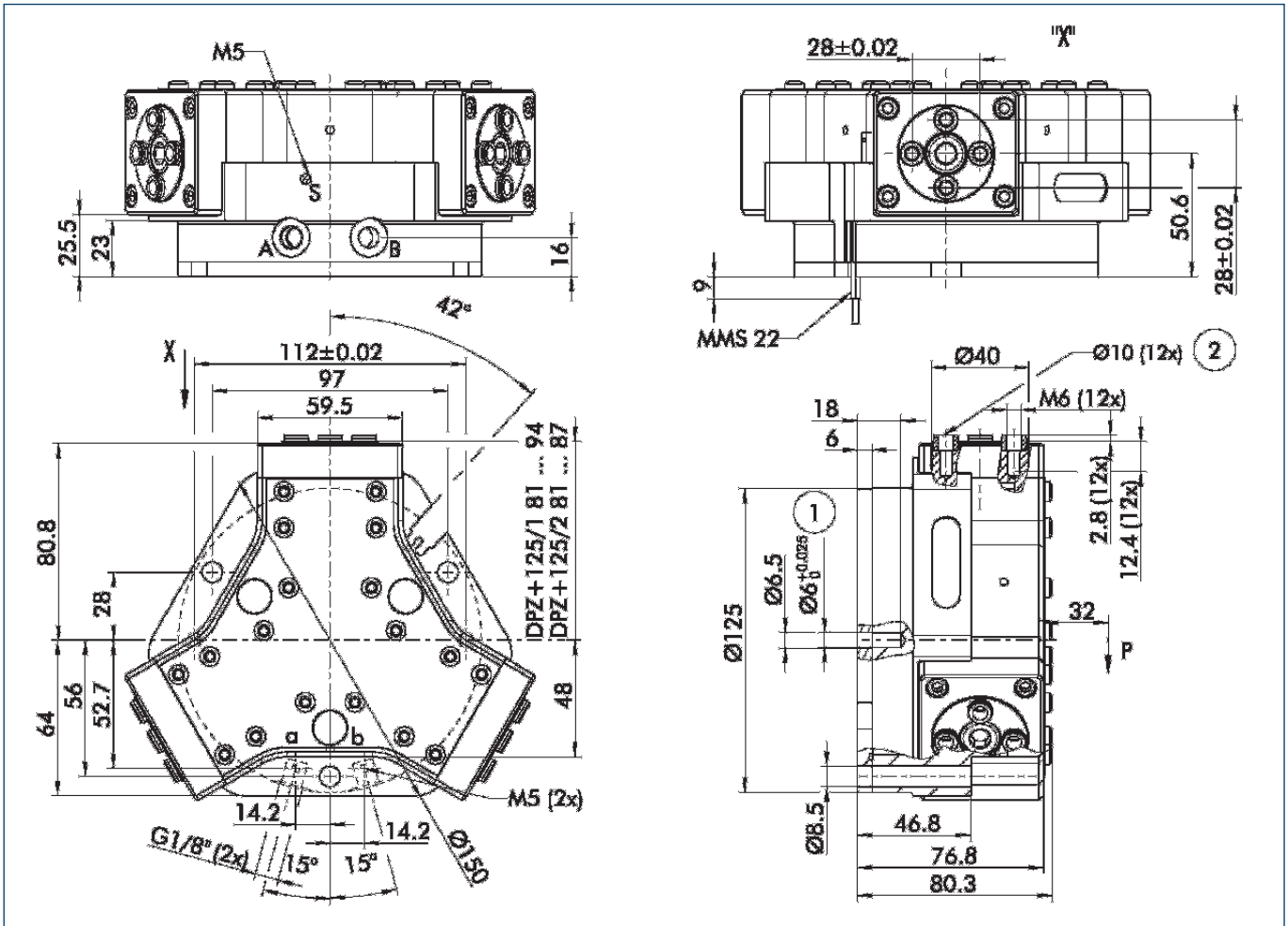


Technical data

Description		DPZ-plus 125-1	DPZ-plus 125-2	DPZ-plus 125-1 AS	DPZ-plus 125-2 AS	DPZ-plus 125-1 IS	DPZ-plus 125-2 IS
ID		0304441	3044342	0304443	0304444	0304445	0304446
Stroke per jaw	mm [in]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]	13.0 [0.512]	6.0 [0.236]
Closing force	N [lbf]	2945.0 [662]	5510.0 [1239]	3940.0 [886]	7000.0 [1574]		
Opening force	N [lbf]	3000.0 [674]	6200.0 [1394]			3960.0 [890]	7610.0 [1711]
Min. spring force	N [lbf]			995.0 [224]	1490.0 [335]	1015.0 [228]	2100.0 [472]
Weight	kg [lbs]	3.5 [7.72]	3.5 [7.72]	4.7 [10.36]	4.7 [10.36]	4.7 [10.36]	4.7 [10.36]
Recommended workpiece weight	kg [lbs]	14.7 [32.41]	27.5 [60.63]	14.7 [32.41]	27.5 [60.63]	14.7 [32.41]	27.5 [60.63]
Air consumption per double stroke	cm ³ [in ³]	230.0 [14.04]	230.0 [14.04]	383.0 [23.37]	383.0 [23.37]	383.0 [23.37]	383.0 [23.37]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.25	0.25	0.22	0.22	0.45	0.45
Opening time	s	0.25	0.25	0.45	0.45	0.22	0.22
Max. permitted finger length	mm [in]	125.0 [4.921]	100.0 [3.937]	100.0 [3.937]	80.0 [3.150]	100.0 [3.937]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]	1.75 [3.86]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ Please note that an additional hose for bleeding ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

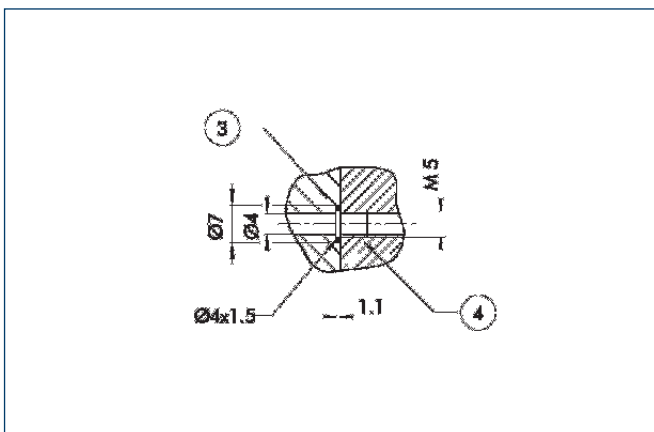


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

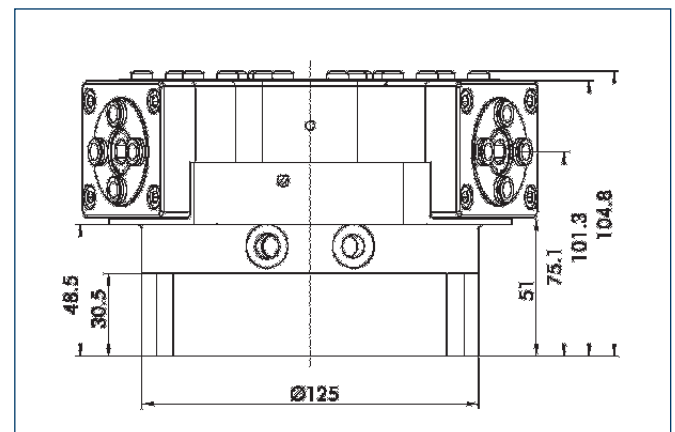
Hoseless direct connection



- 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.

AS/IS gripping force safety device

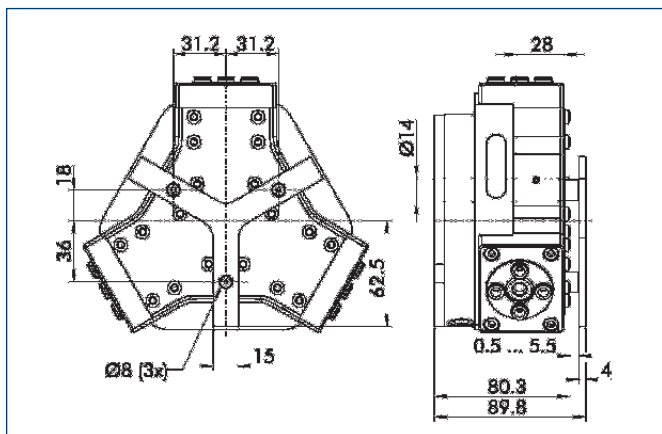


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPZ-plus 125

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Spring-loaded pressure piece



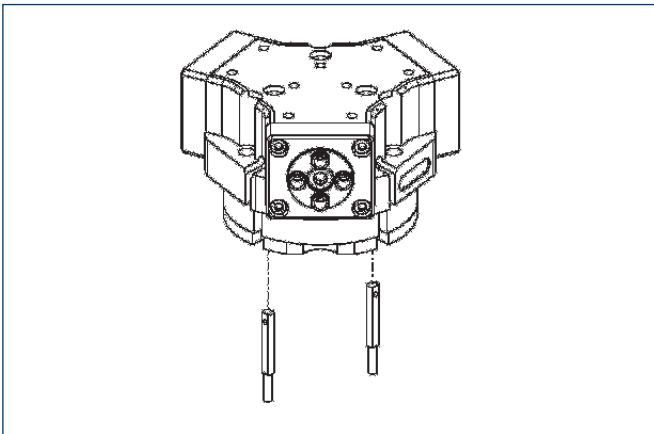
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 125	6 mm	105 N	0303723



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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



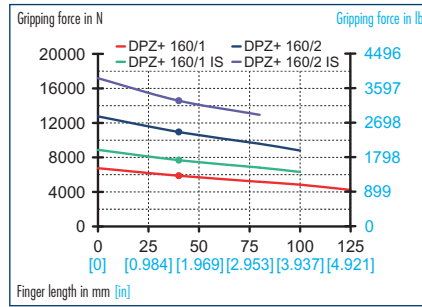
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

DPZ-plus 160

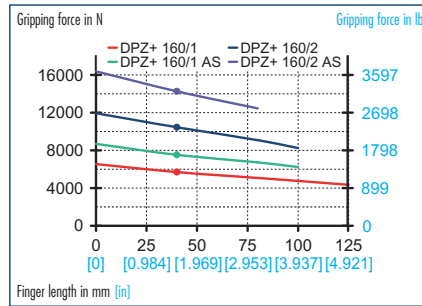
Pneumatic · 3-Finger Centric Grippers · Sealed Grippers



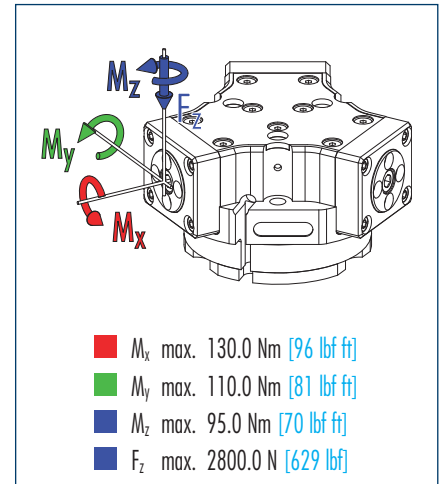
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



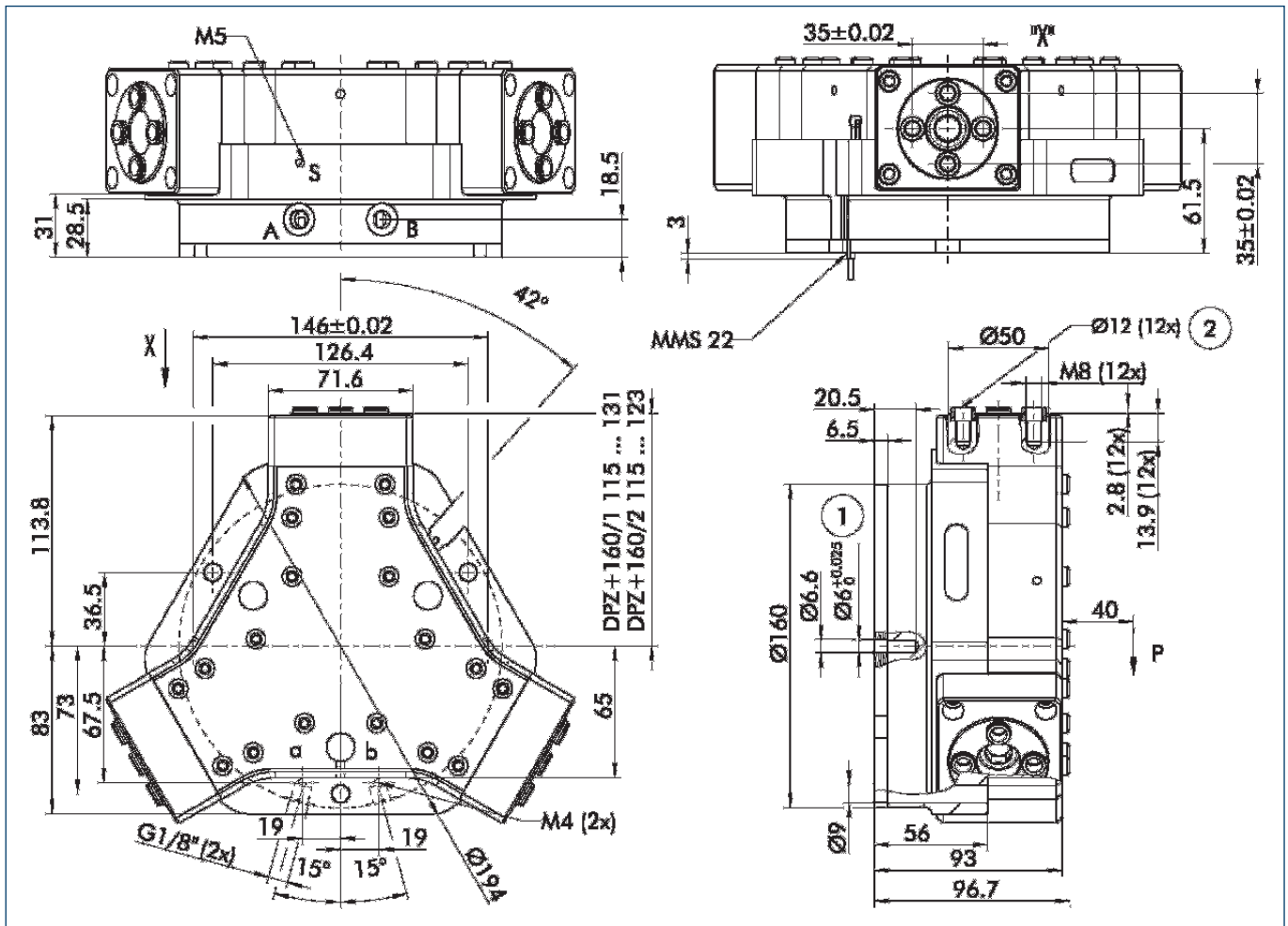
① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		DPZ-plus 160-1	DPZ-plus 160-2	DPZ-plus 160-1 AS	DPZ-plus 160-2 AS	DPZ-plus 160-1 IS	DPZ-plus 160-2 IS
ID		0304451	0304452	0304453	0304454	0304455	0304456
Stroke per jaw	mm [in]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]	16.0 [0.630]	8.0 [0.315]
Closing force	N [lbf]	5700.0 [1281]	10450.0 [2349]	7530.0 [1693]	14260.0 [3206]		
Opening force	N [lbf]	5880.0 [1322]	10950.0 [2462]			7685.0 [1728]	14570.0 [3275]
Min. spring force	N [lbf]			1830.0 [411]	3810.0 [857]	1985.0 [446]	4120.0 [926]
Weight	kg [lbs]	7.9 [17.42]	7.9 [17.42]	9.7 [21.38]	9.7 [21.38]	9.7 [21.38]	9.7 [21.38]
Recommended workpiece weight	kg [lbs]	28.5 [62.83]	52.0 [114.64]	28.5 [62.83]	52.0 [114.64]	28.5 [62.83]	52.0 [114.64]
Air consumption per double stroke	cm ³ [in ³]	520.0 [31.73]	520.0 [31.73]	875.0 [53.40]	875.0 [53.40]	875.0 [53.40]	875.0 [53.40]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	0.6	0.6	0.5	0.5	1.0	1.0
Opening time	s	0.6	0.6	1.0	1.0	0.5	0.5
Max. permitted finger length	mm [in]	125.0 [4.921]	100.0 [3.937]	100.0 [3.937]	80.0 [3.150]	100.0 [3.937]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]	3.0 [6.61]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]	0.02 [0.0008]

① Please note that an additional hose for bleeding ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

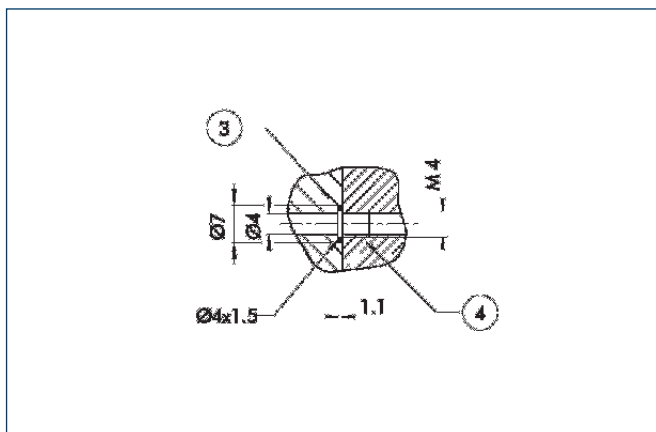


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

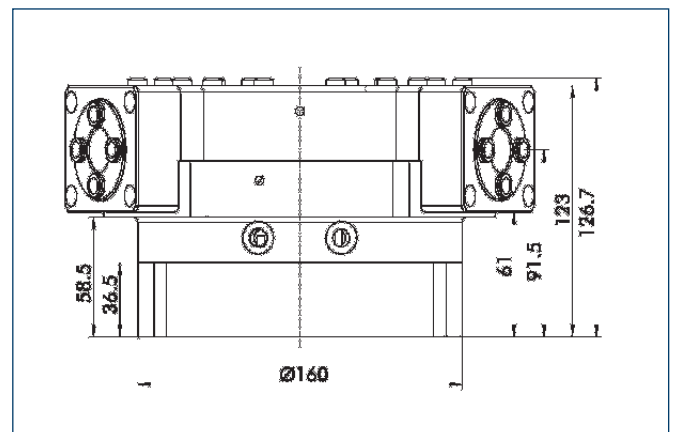
Hoseless direct connection



- 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.

AS/IS gripping force safety device

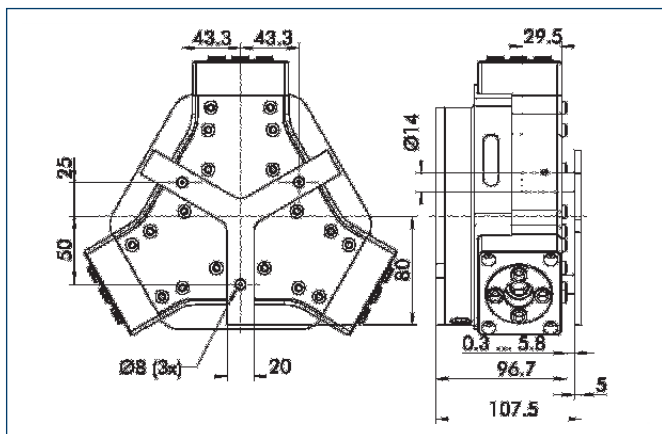


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPZ-plus 160

Pneumatic · 3-Finger Centric Grippers · Sealed Grippers

Spring-loaded pressure piece



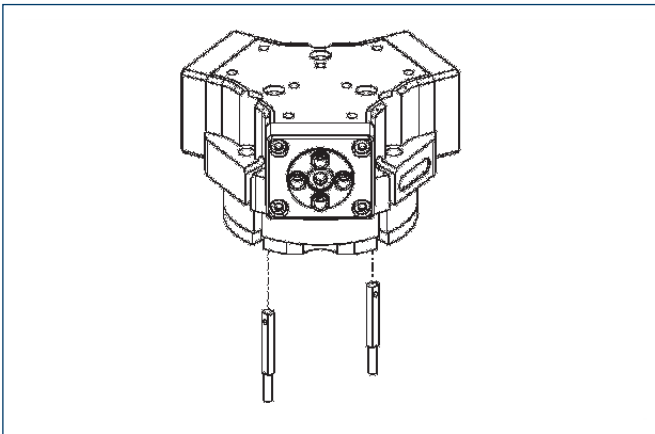
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 160	6 mm	205 N	0303724



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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.

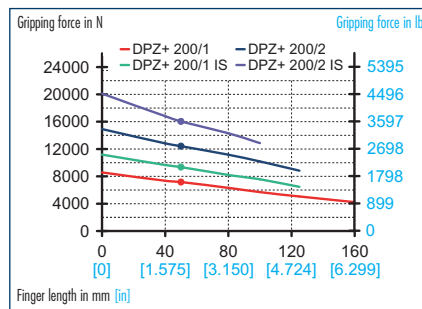


DPZ-plus 200

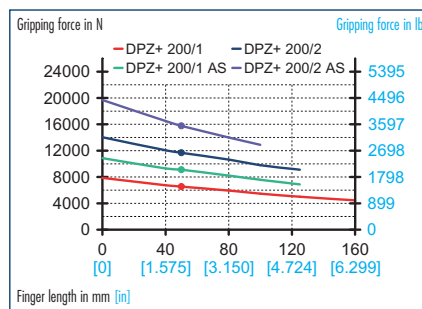
Pneumatic · 3-Finger Centric Grippers · Sealed Grippers



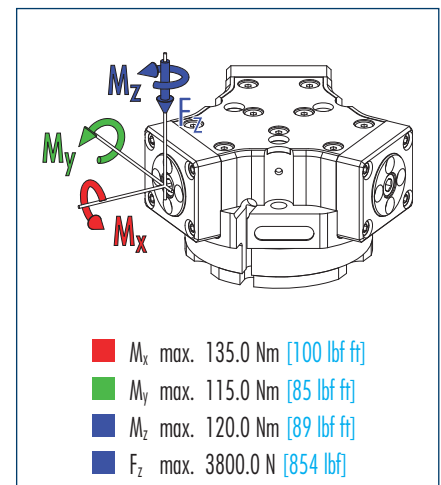
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



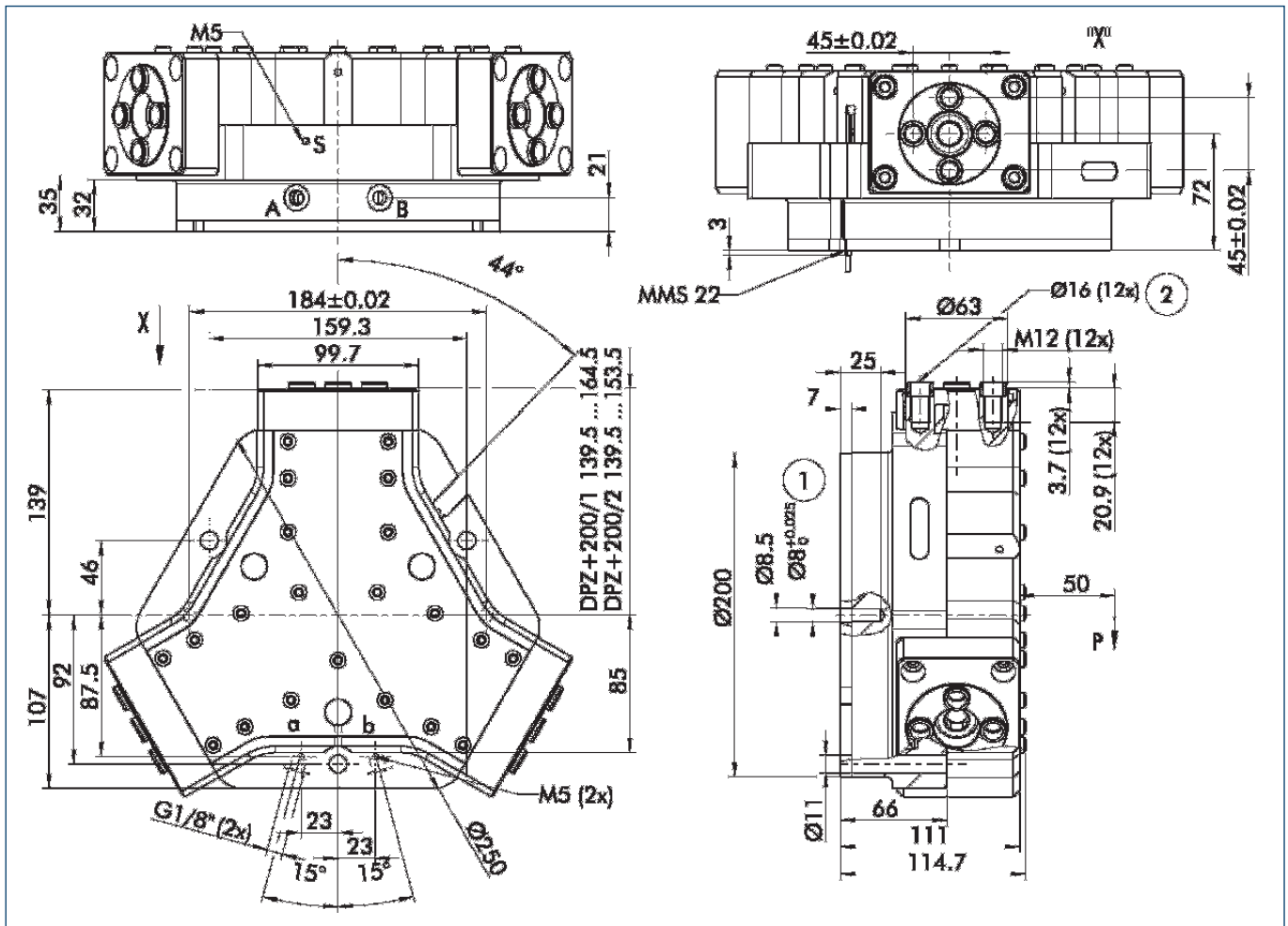
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		DPZ-plus 200-1	DPZ-plus 200-2	DPZ-plus 200-1 AS	DPZ-plus 200-2 AS	DPZ-plus 200-1 IS	DPZ-plus 200-2 IS
ID		0304461	0304462	0304463	0304464	0304465	0304466
Stroke per jaw	mm [in]	25.0 [0.984]	14.0 [0.551]	25.0 [0.984]	14.0 [0.551]	25.0 [0.984]	14.0 [0.551]
Closing force	N [lbf]	6750.0 [1517]	12060.0 [2711]	9300.0 [2091]	16500.0 [3709]		
Opening force	N [lbf]	7160.0 [1610]	12410.0 [2790]			9500.0 [2136]	16800.0 [3777]
Min. spring force	N [lbf]			2550.0 [573]	4440.0 [998]	2750.0 [618]	4740.0 [1066]
Weight	kg [lbs]	15.6 [34.39]	15.6 [34.39]	20.1 [44.31]	20.1 [44.31]	20.1 [44.31]	20.1 [44.31]
Recommended workpiece weight	kg [lbs]	33.5 [73.85]	60.0 [132.28]	33.5 [73.85]	60.0 [132.28]	33.5 [73.85]	60.0 [132.28]
Air consumption per double stroke	cm ³ [in ³]	1040.0 [63.46]	1040.0 [63.46]	1725.0 [105.27]	1725.0 [105.27]	1725.0 [105.27]	1725.0 [105.27]
Minimum pressure	bar [psi]	2.5 [36]	2.5 [36]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Nominal operating pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Closing time	s	1.5	1.5	1.2	1.2	1.8	1.8
Opening time	s	1.5	1.5	1.8	1.8	1.2	1.2
Max. permitted finger length	mm [in]	160.0 [6.299]	125.0 [4.921]	125.0 [4.921]	100.0 [3.937]	125.0 [4.921]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]	5.5 [12.13]
IP rating		67	67	67	67	67	67
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]	0.05 [0.0020]

ⓘ Please note that an additional hose for bleeding ventilation or purging the air is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for more detailed information.

Main views

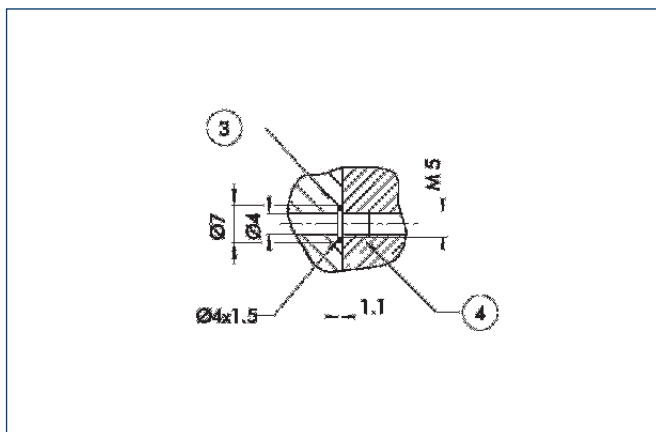


For finger connection, we recommend only using two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

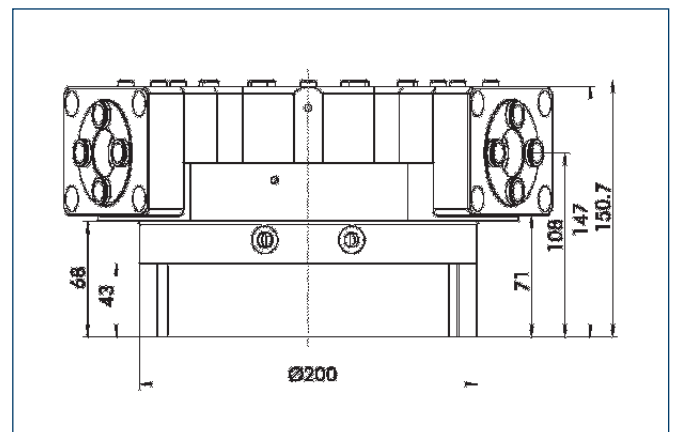
Hoseless direct connection



- 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.

AS/IS gripping force safety device

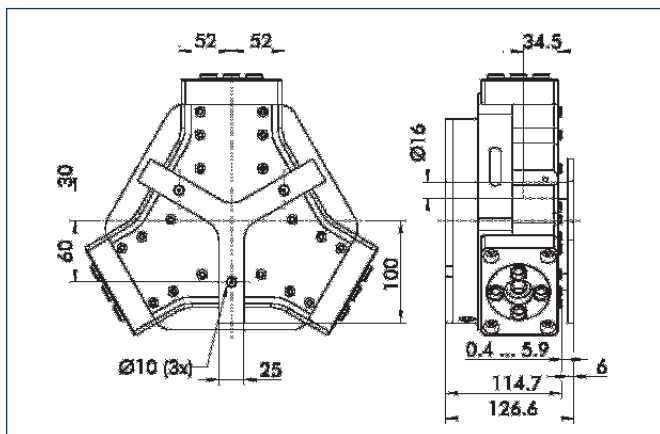


The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

DPZ-plus 200

Pneumatic · 3-Finger Centric Grippers · Sealed Grippers

Spring-loaded pressure piece

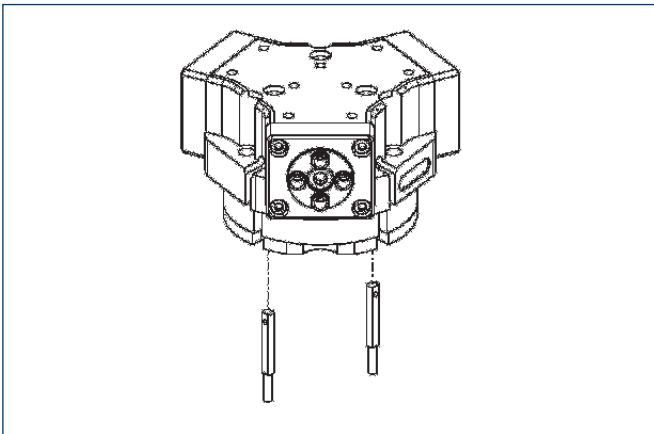


For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZN-plus/DPZ-plus 200	6 mm	247 N	0303725

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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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.



Pneumatic Gripping Modules

Pneumatic · Multiple-finger Centric Grippers



MULTIPLE-FINGER CENTRIC GRIPPERS

Series	Size	Page
Multiple-finger Centric Grippers		
PZV		538
PZV	64	542
PZV	100	546
PZV	160	550
PZV	200	554

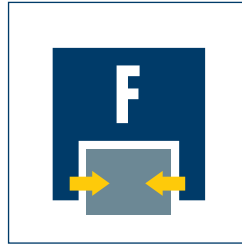




Sizes
64 .. 200



Weight
0.5 kg .. 10.0 kg
1.10 lbs .. 22.05 lbs



Gripping force
570 N .. 6900 N
128 lbf .. 1551 lbf



Stroke per finger
4 mm .. 16 mm
0.157 in .. 0.630 in



Workpiece weight
0.7 kg .. 34.5 kg
1.54 lbs .. 76.06 lbs

Application example



Centering and rotating unit for the precise picking up, orientation and subsequent joining of square materials

- 1 PZV 160 Multiple-finger Gripper
- 2 OPS 160 Collision and Overload Protection

- 3 SRU 50.1-90-3 Rotary Actuator

4-Finger Centric Gripper

The multiple-finger gripper for applications in which two or three fingers are insufficient.

Area of application

4-finger centric grippers have advantages over the usual centric grippers, for example when cylindrical workpieces are being magazined in tablets. The PZV handles the workpieces in a controlled, reliable manner despite the interfering contours.

Your advantages and benefits

Robust multiple-tooth guidance

for precise handling

Wedge-hook design

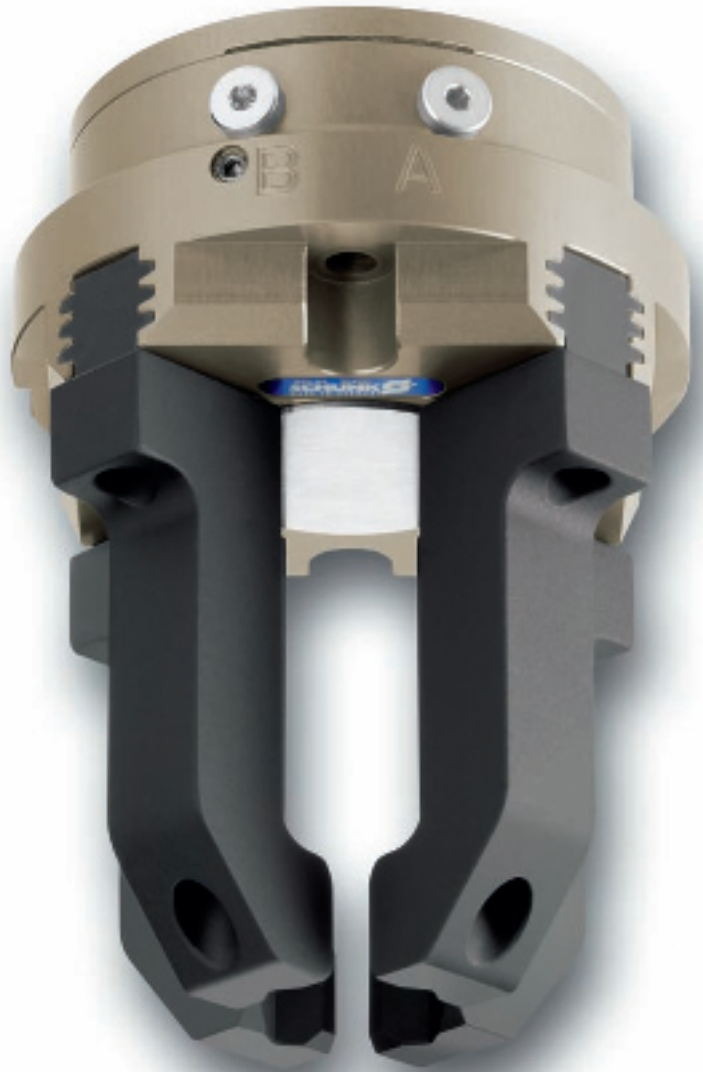
for high power transmission and synchronized gripping

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessories

for diverse monitoring tasks and stroke position monitoring.



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

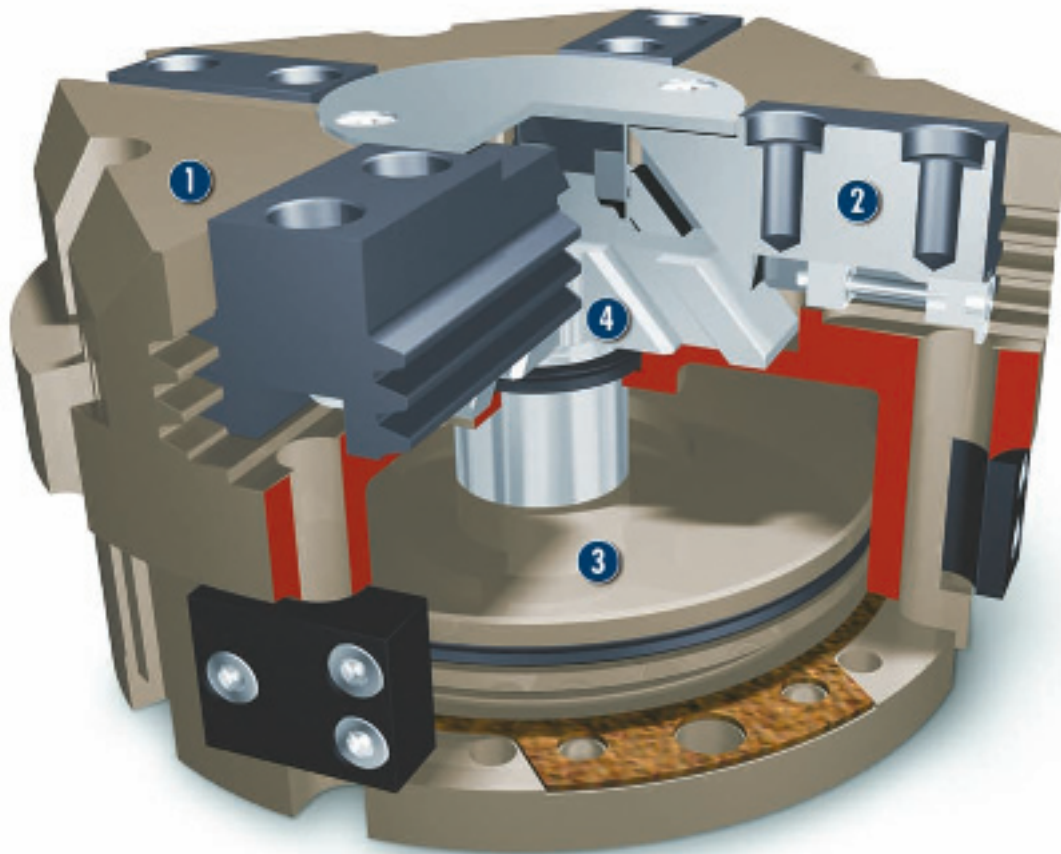
Warranty

24 months

Scope of delivery

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

Sectional diagram of functions



1 Housing
High-strength, hard-anodized aluminum alloy

2 Base jaws with multiple-tooth guidance
for precise gripping through high load-bearing base jaw guide with minimum play

3 Pneumatic piston
as a powerful drive

4 Wedge hook
for quadruple jaw drive and synchronized, forceful movements

Function description

The piston is moved up or down by means of compressed air. Through its angled active surfaces, the wedge hook transforms this motion into centric, synchronous movements of the four base jaws.

Options and special information

Intermediate sizes may be available on request. Please note that the four-finger grip is an umbrella term, and may constitute a two or three-finger grip in certain cases.

Accessories

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

Centering sleeves



Fittings



MMS magnetic switch



IN inductive proximity switches



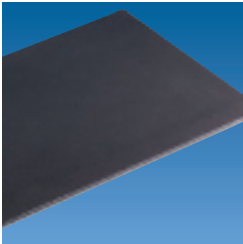
BSWS quick-change jaw system



W/WK/KV/GK sensor cables



HKI gripper pads



V sensor distributors



SDV-P pressure maintenance valves



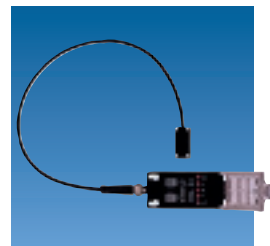
Finger blanks



FMS force measuring system



FPS flexible position sensor



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 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.

Pressure reduction with two-finger use

If the PZV is used as a double 2-finger parallel gripper (gripping with only 2 of the 4 fingers), in sizes PZV 160 and PZV 200 the pressure must be reduced to max. 5 bar.

Workpiece weight

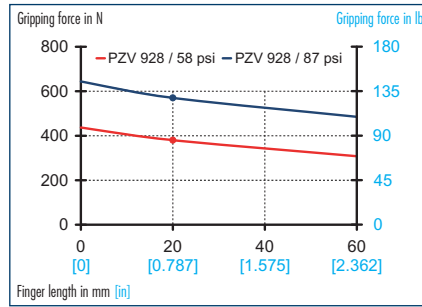
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

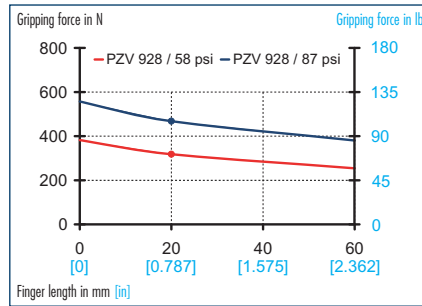
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or SPC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



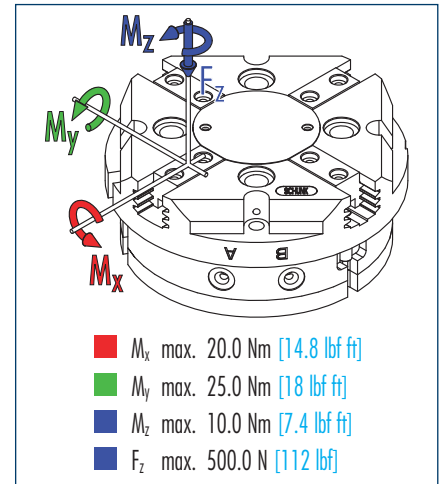
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

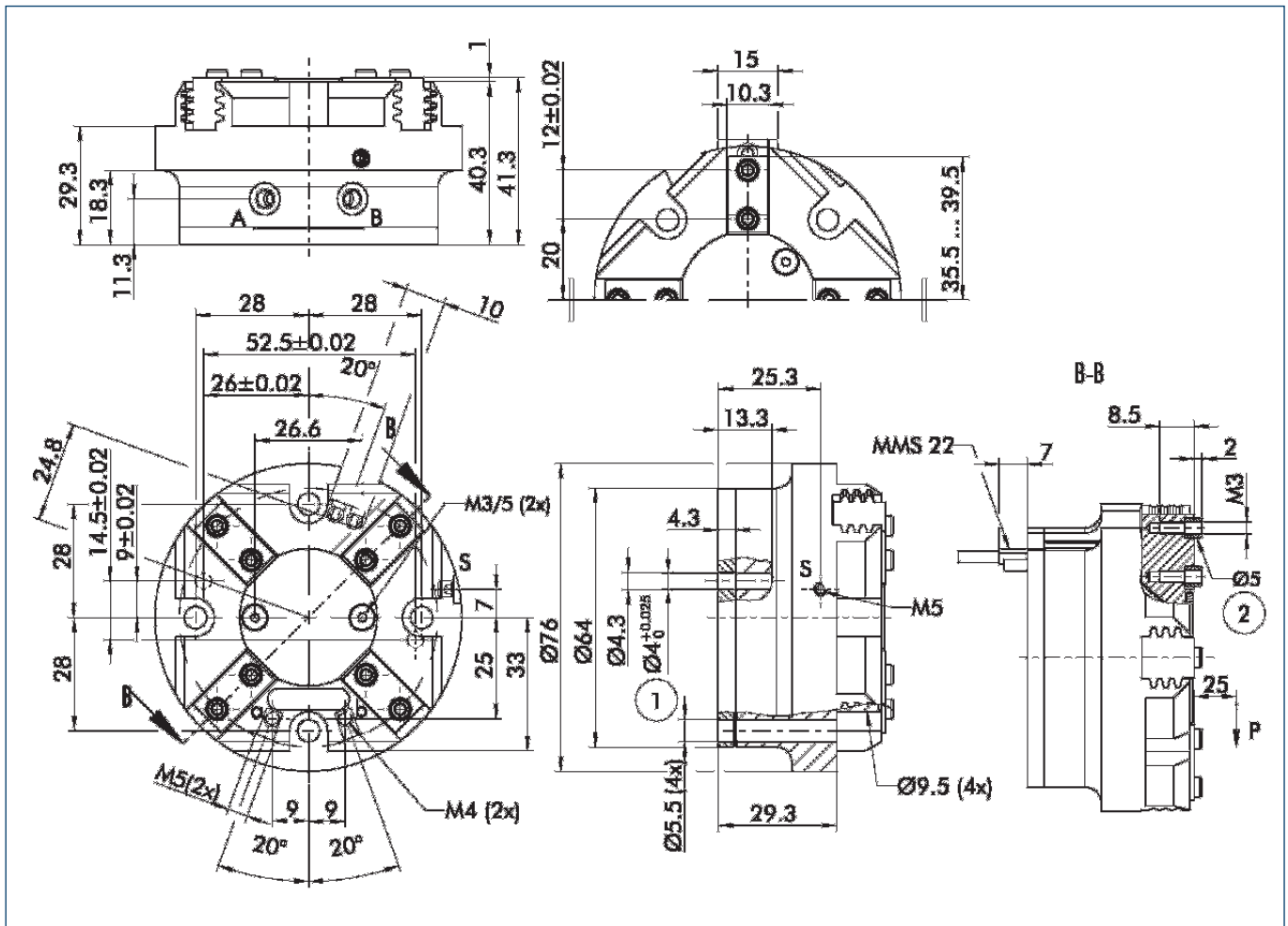


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PZV 64	
ID	0304000	
Stroke per finger	mm [in]	4.0 [0.157]
Closing force	N [lbf]	570.0 [128]
Opening force	N [lbf]	630.0 [142]
Weight	kg [lbs]	0.5 [1.10]
Recommended workpiece weight	kg [lbs]	2.8 [6.17]
Air consumption per double stroke	cm ³ [in ³]	25.0 [1.53]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.02
Opening time	s	0.02
Max. permitted finger length	mm [in]	64.0 [2.520]
Max. permitted weight per finger	kg [lbs]	0.18 [0.40]
IP class	40	
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]

Main views

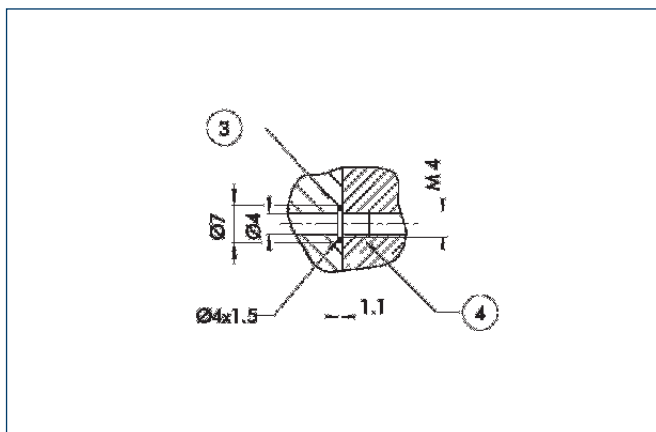


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force safety device (see "Accessories" catalog section).

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

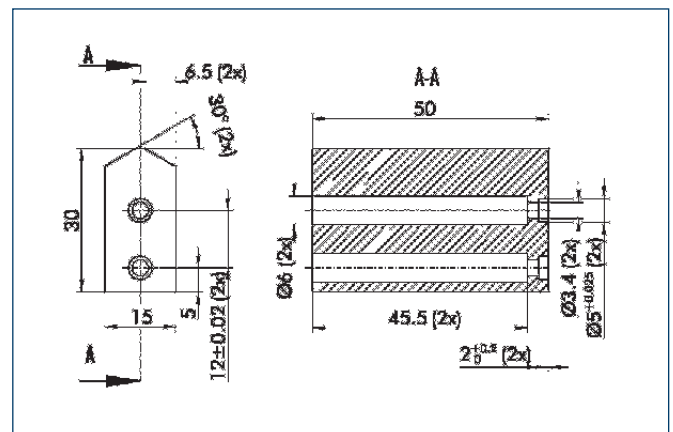
Hoseless direct connection



- 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.

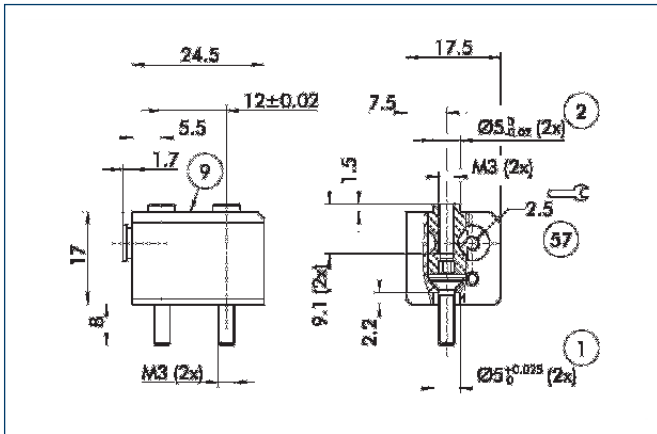
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 50	Aluminum	1	0300009
SBR-plus 50	16 MnCr 5	1	0300019

BSWS quick-change jaw system



- ① Gripper connection
- ② Finger connection
- ⑤ For screw connection diagram, see basic version
- ⑤7 Locking mechanism

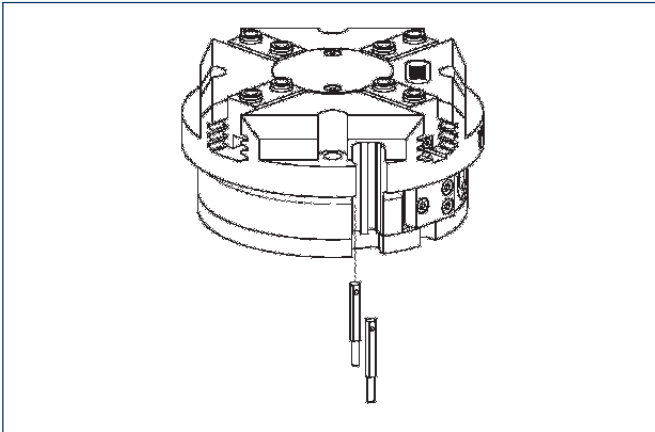
The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 50	0303020
BSWS-B 50	0303021



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

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

- 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
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

- 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.

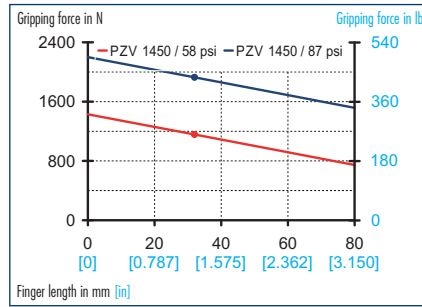


PZV 100

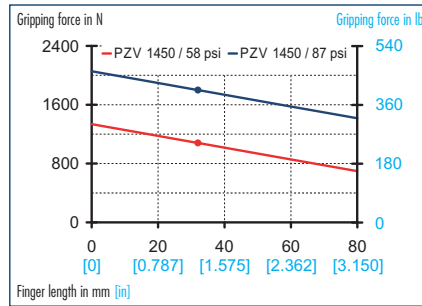
Pneumatic · Multiple-finger Centric Grippers · 4-Finger Centric Grippers



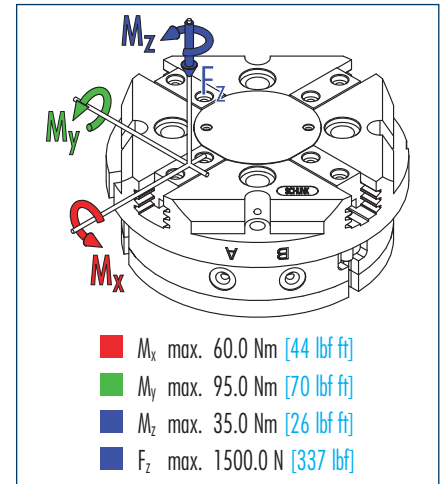
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

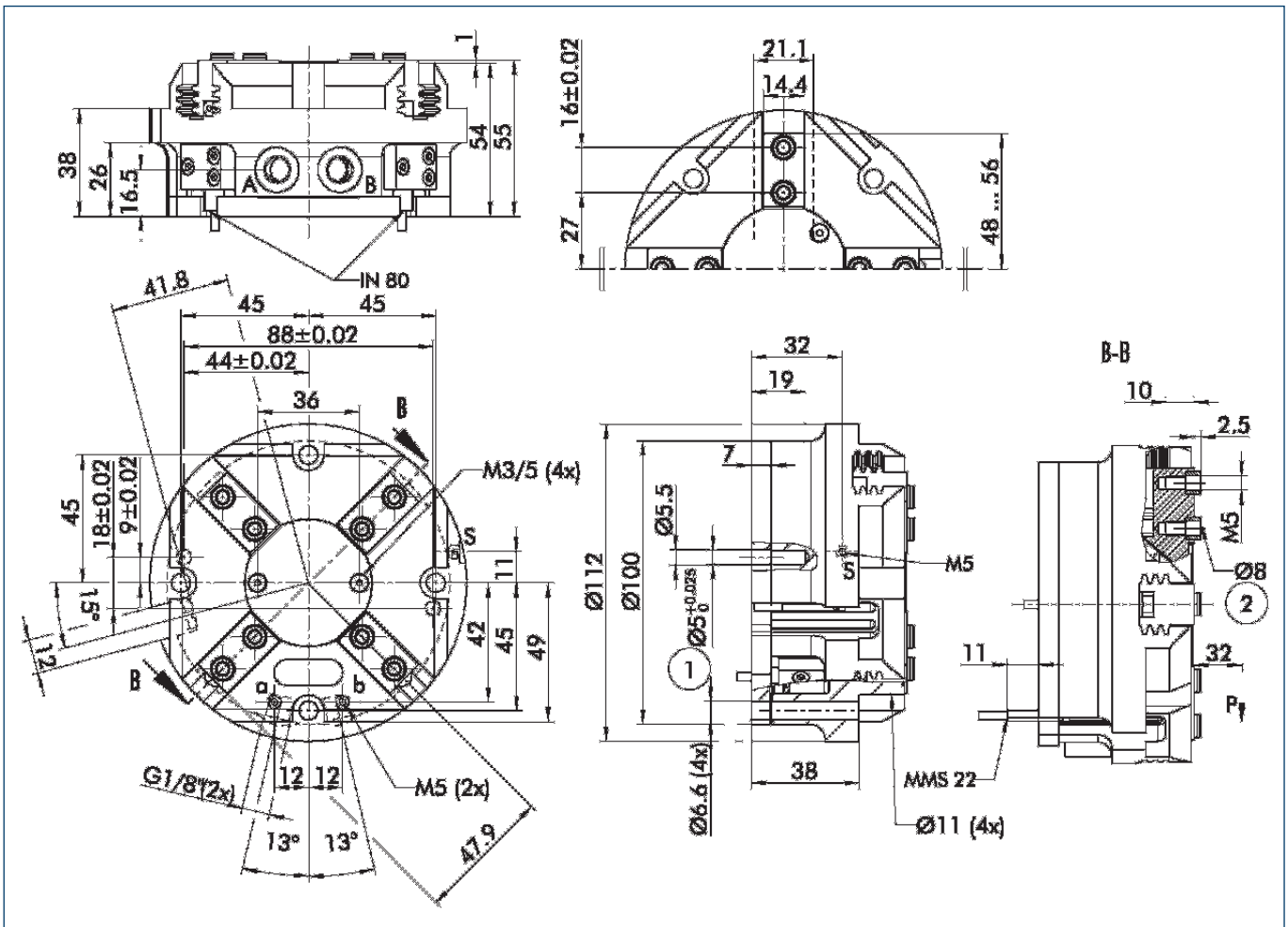


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PZV 100	
	ID	0304002
Stroke per finger	mm [in]	8.0 [0.315]
Closing force	N [lbf]	1800.0 [405]
Opening force	N [lbf]	1900.0 [427]
Weight	kg [lbs]	1.6 [3.53]
Recommended workpiece weight	kg [lbs]	9.0 [19.84]
Air consumption per double stroke	cm ³ [in ³]	120.0 [7.32]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.04
Opening time	s	0.04
Max. permitted finger length	mm [in]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]
IP class		40
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]

Main views

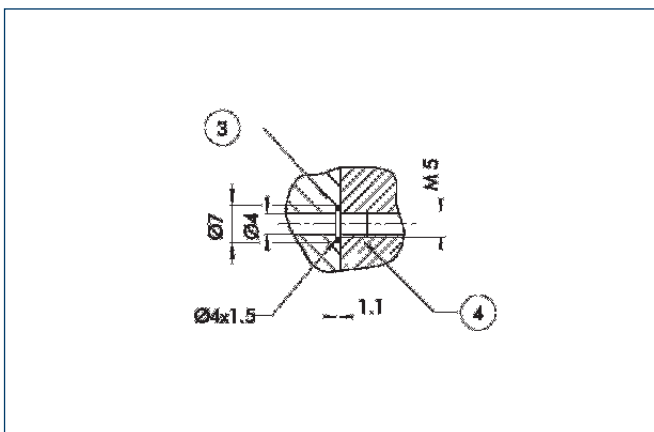


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force safety device (see "Accessories" catalog section).

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

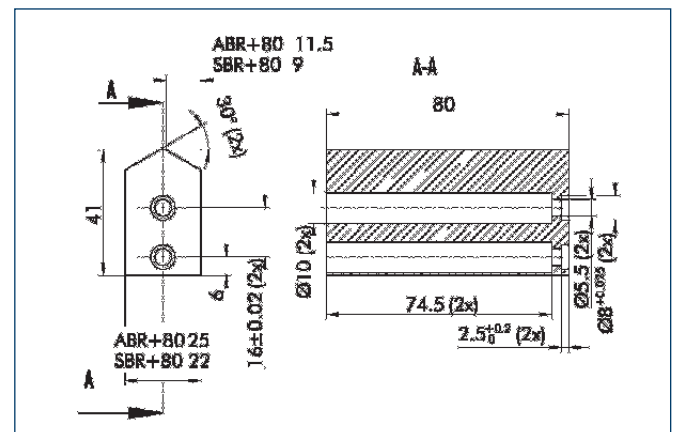
Hoseless direct connection



- 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.

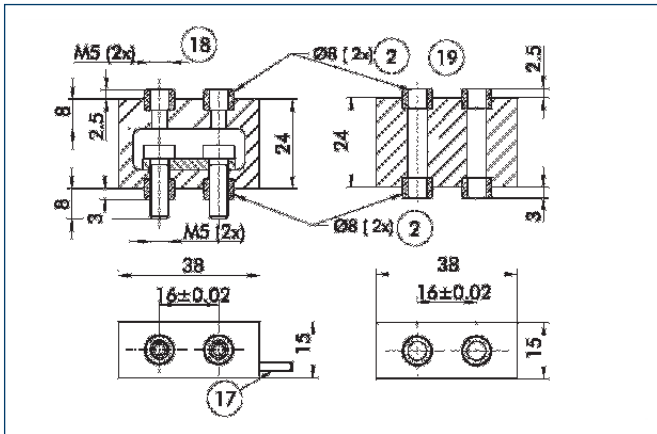
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 80	Aluminum	1	0300011
SBR-plus 80	16 MnCr 5	1	0300021

FMS force measuring jaws

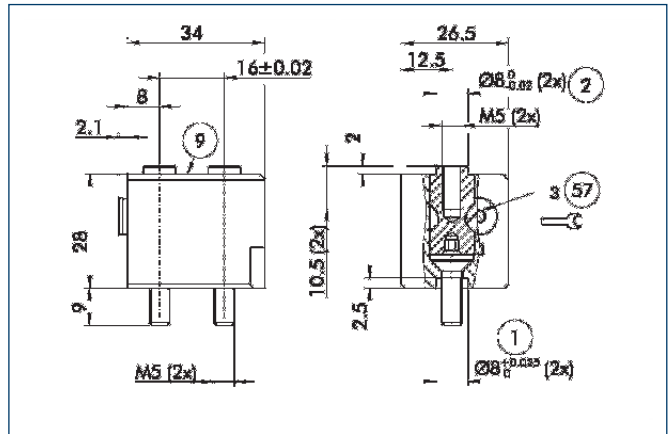


- ② Finger connection
- ①⑦ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A1	0301810
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 80	0301834
FMS-ZBP 80	0301835

BSWS quick-change jaw system



- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑵⑶ Locking mechanism

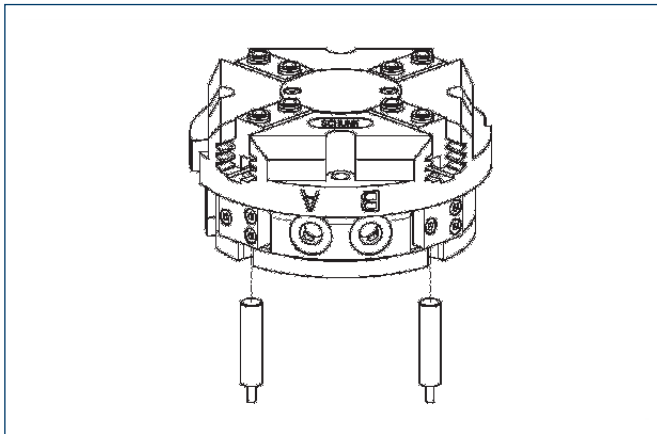
The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 80	0303024
BSWS-B 80	0303025



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

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

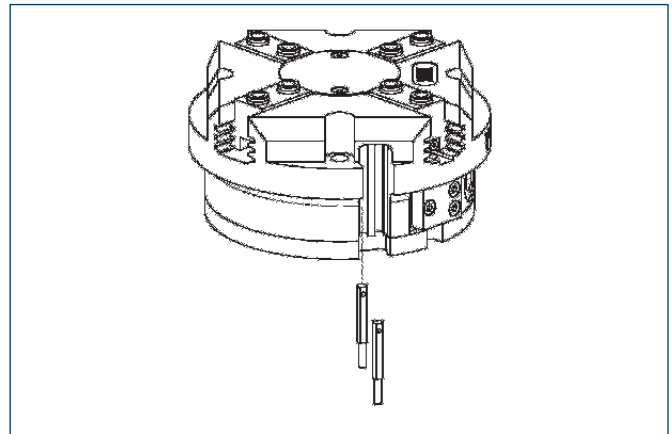
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

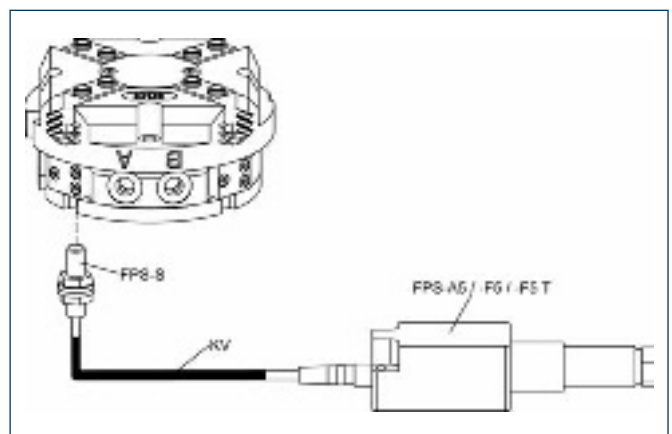
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



Measuring system:

FPS position monitor

Description	ID
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.



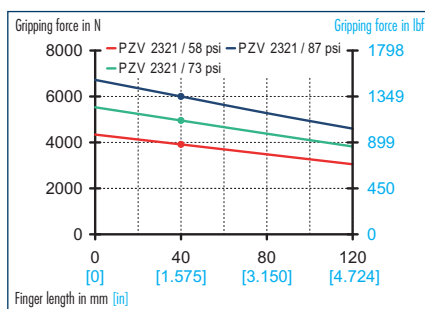
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZV 160

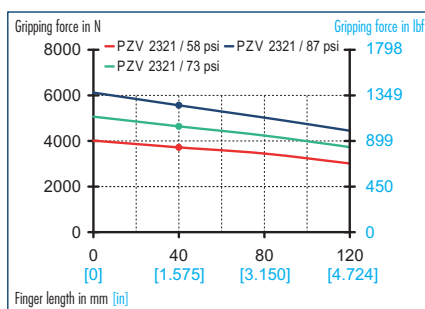
Pneumatic · Multiple-finger Centric Grippers · 4-Finger Centric Grippers



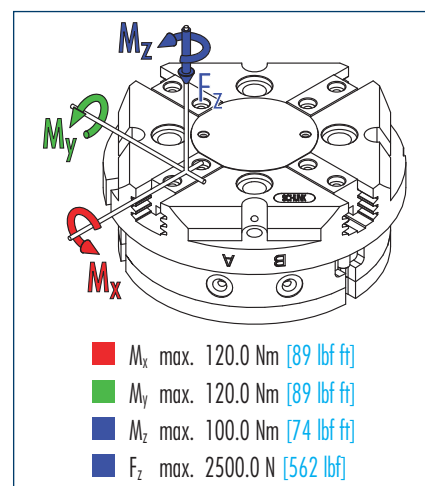
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

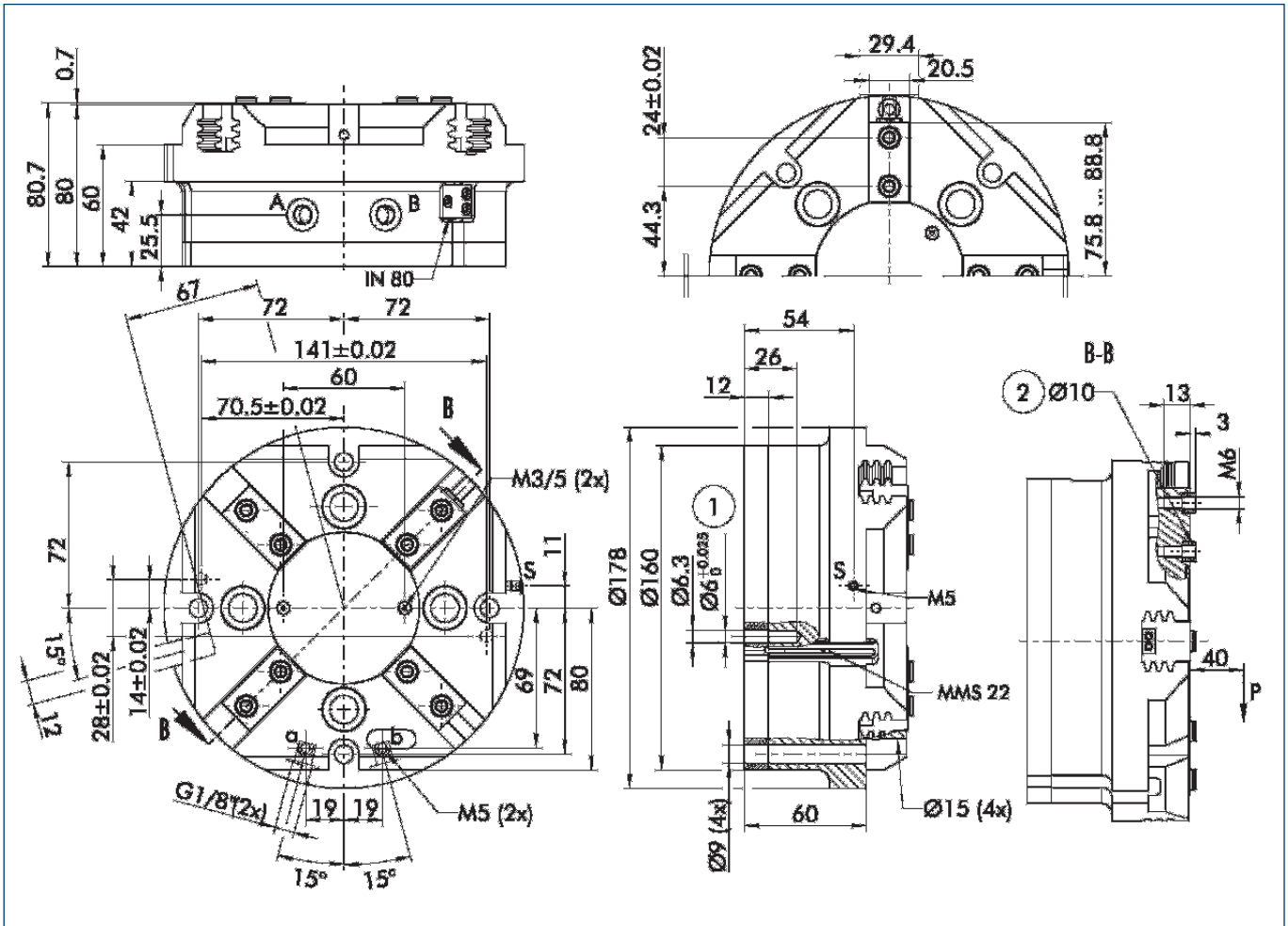


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PZV 160	
ID	0304004	
Stroke per finger	mm [in]	13.0 [0.512]
Closing force	N [lbf]	5200.0 [1169]
Opening force	N [lbf]	5600.0 [1259]
Weight	kg [lbs]	5.5 [12.13]
Recommended workpiece weight	kg [lbs]	26.0 [57.32]
Air consumption per double stroke	cm ³ [in ³]	520.0 [31.73]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]
Closing time	s	0.1
Opening time	s	0.1
Max. permitted finger length	mm [in]	120.0 [4.724]
Max. permitted weight per finger	kg [lbs]	2.1 [4.63]
IP class	40	
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]

Main views

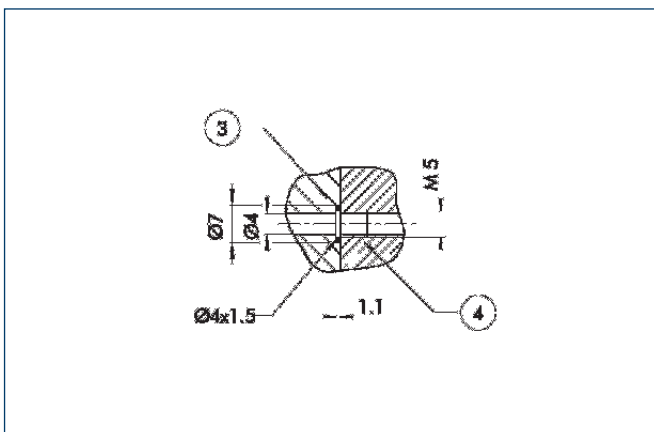


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force safety device (see "Accessories" catalog section).

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

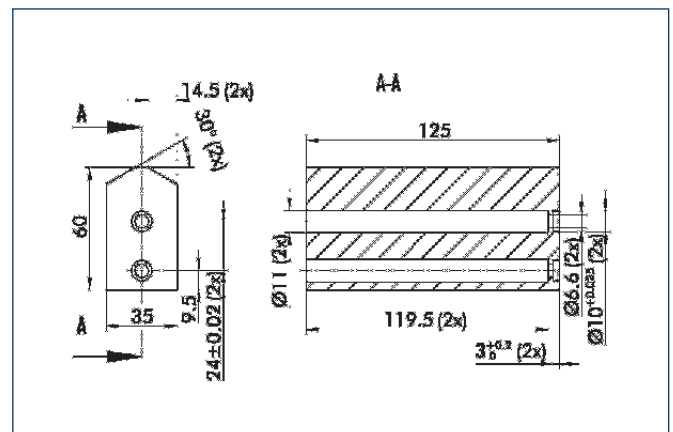
Hoseless direct connection



- 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.

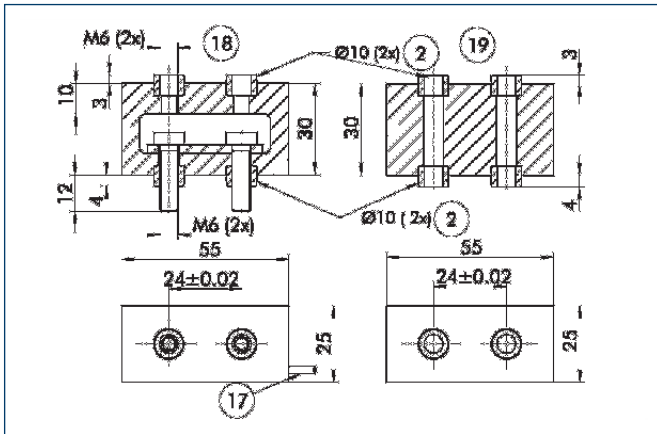
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 125	Aluminum	1	0300013
SBR-plus 125	16 MnCr 5	1	0300023

FMS force measuring jaws

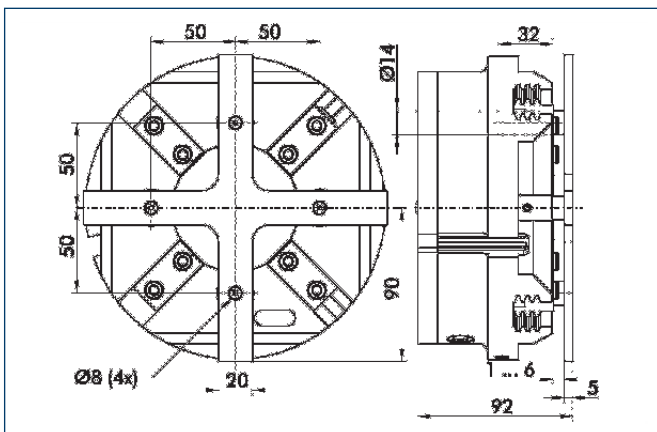


- ② Finger connection
- ①⑦ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A1	0301810
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 125	0301838
FMS-ZBP 125	0301839

Spring-loaded pressure piece



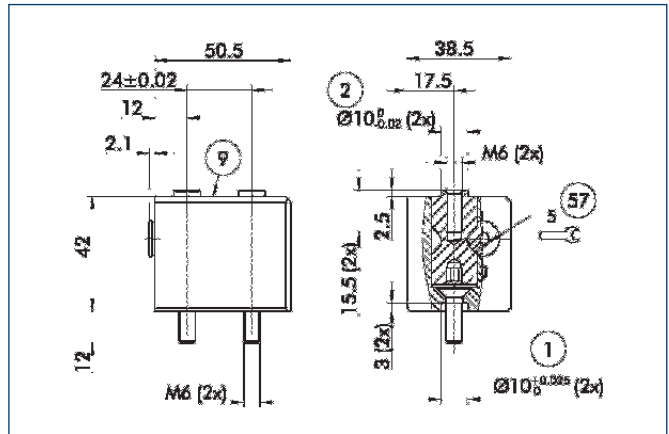
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZV 160	5 mm	272 N	0304014



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

BSWS quick-change jaw system

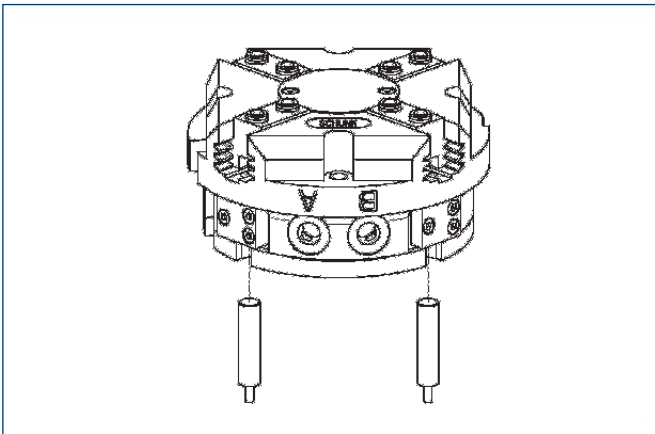


- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑤⑦ Locking mechanism

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 125	0303028
BSWS-B 125	0303029

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

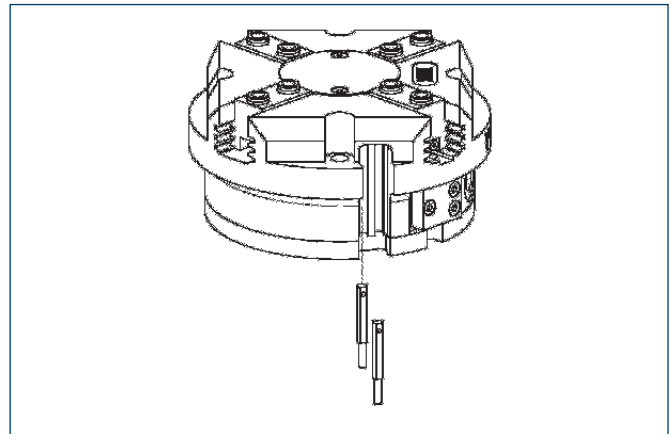
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

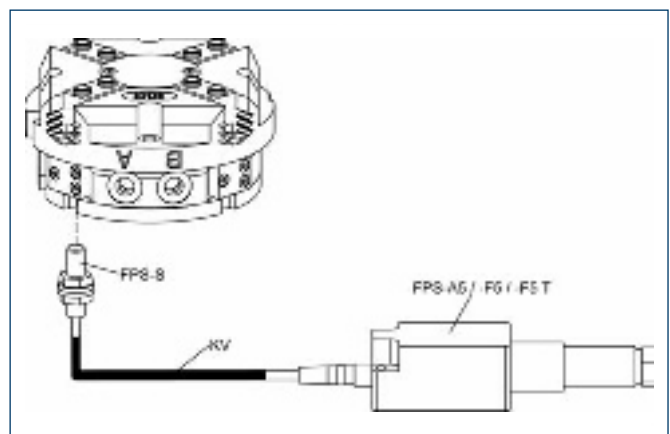
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



Measuring system:

FPS position monitor

Description	ID
AS-PGN/PZN-plus 125/1, PZB 160	0301636
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

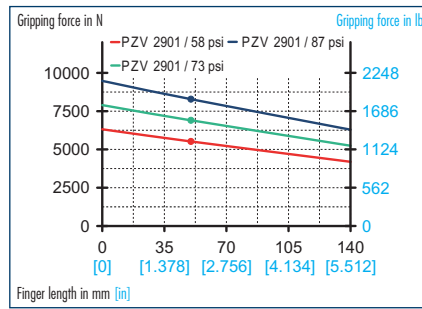
When using an FPS system, an FPS sensor (FPS-S) and an electronic processor (FPS-F5/ F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



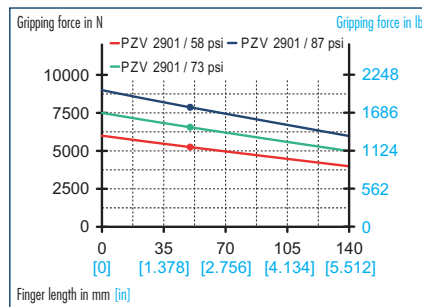
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



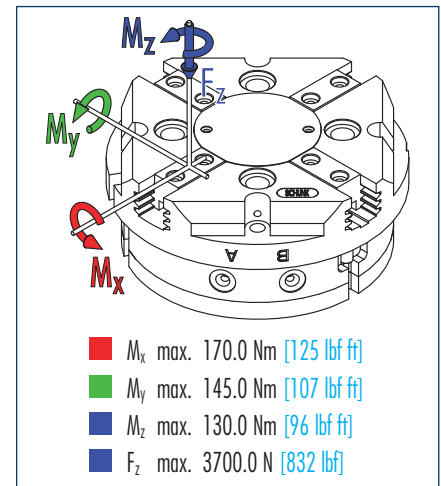
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

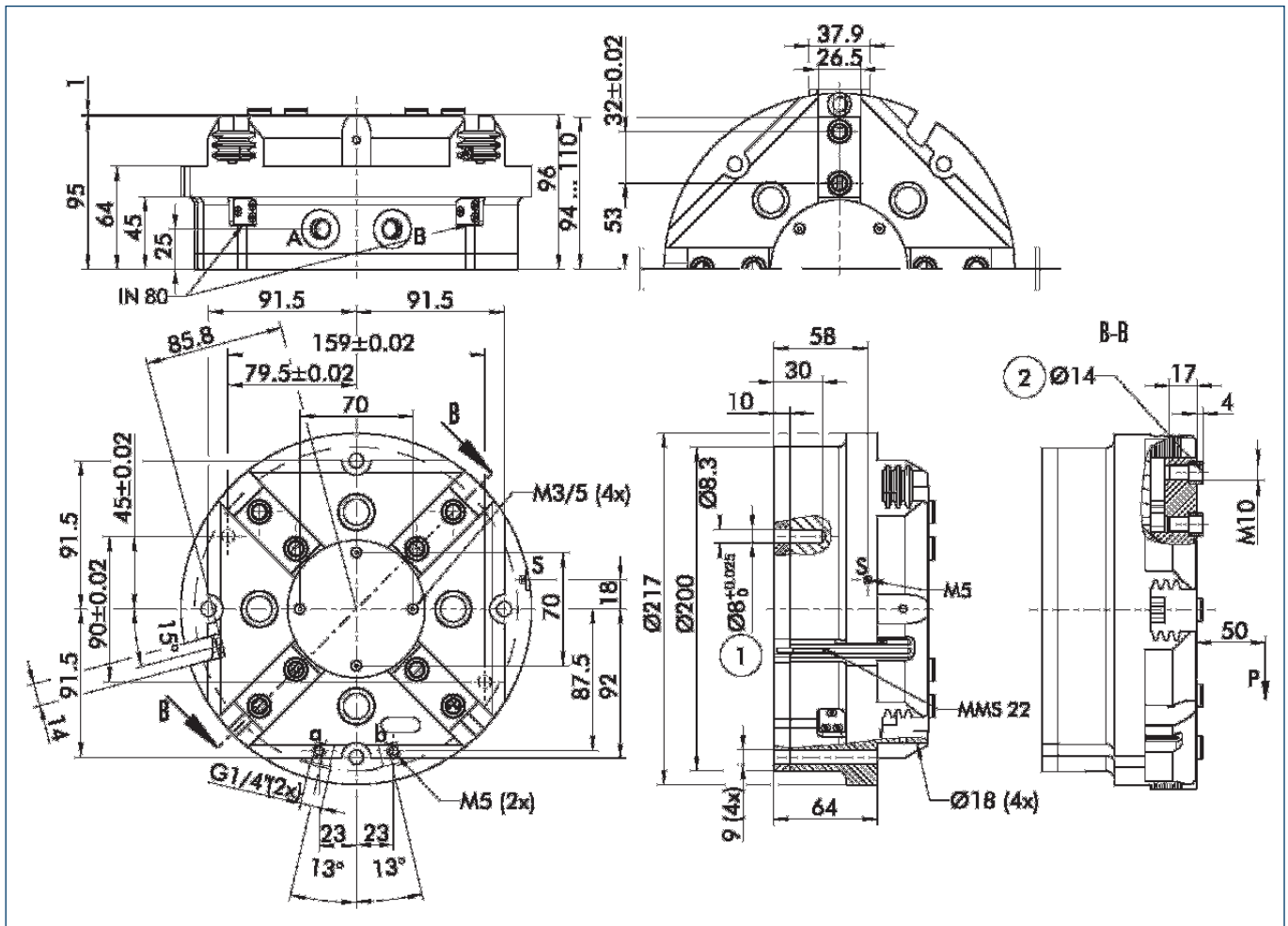


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description	PZV 200	
ID	0304005	
Stroke per finger	mm [in]	16.0 [0.630]
Closing force	N [lbf]	6900.0 [1551]
Opening force	N [lbf]	7300.0 [1641]
Weight	kg [lbs]	10.0 [22.05]
Recommended workpiece weight	kg [lbs]	34.5 [76.06]
Air consumption per double stroke	cm ³ [in ³]	1040.0 [63.46]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]
Closing time	s	0.15
Opening time	s	0.15
Max. permitted finger length	mm [in]	140.0 [5.512]
Max. permitted weight per finger	kg [lbs]	3.5 [7.72]
IP class	40	
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]

Main views

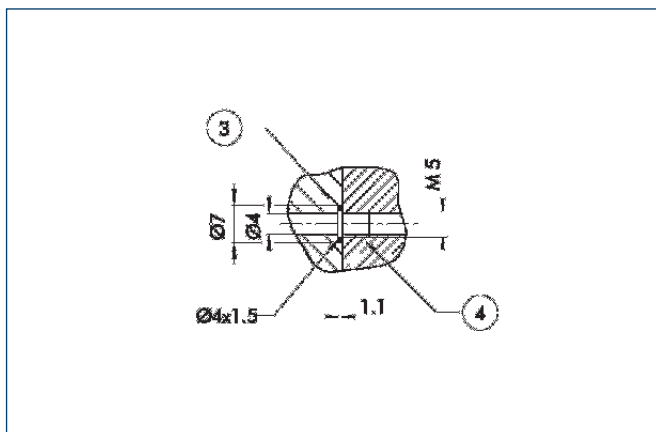


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force safety device (see "Accessories" catalog section).

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection

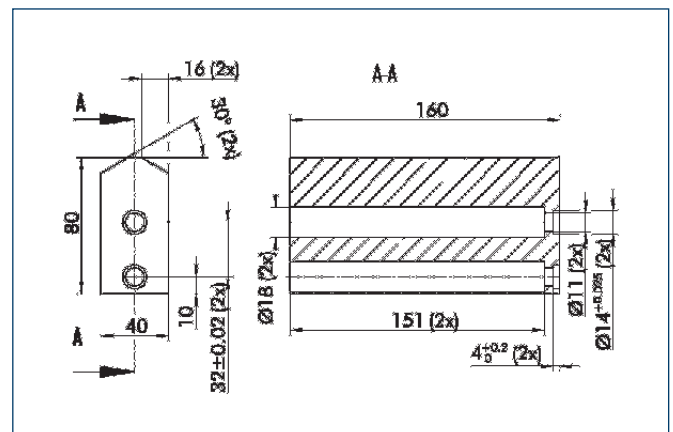
Hoseless direct connection



- 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.

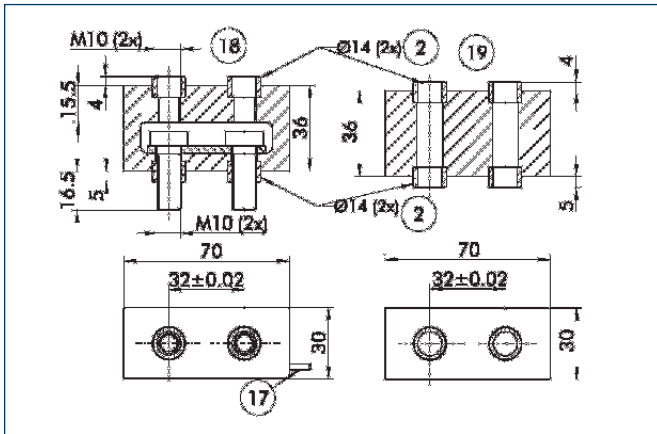
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
ABR-plus 160	Aluminum	1	0300014
SBR-plus 160	16 MnCr 5	1	0300024

FMS force measuring jaws

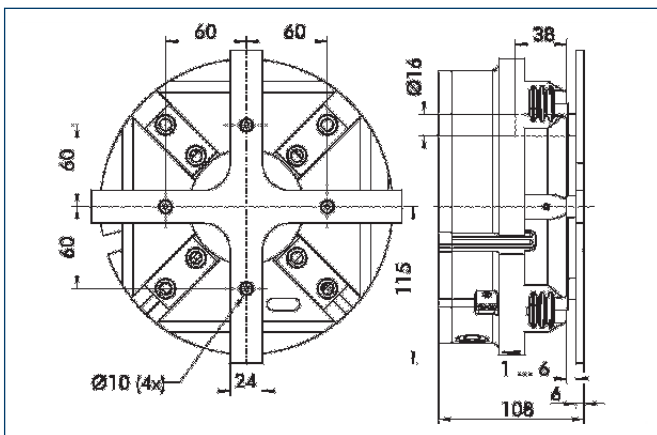


- ② Finger connection
- ①⑦ Cable outlet
- ⑱ Fine serration
- ⑲ Air connection

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1 electronic processor and an FMS-A connection cable are required.

Description	ID
FMS-A2	0301811
FMS-AK10	0301822
FMS-AK2	0301820
FMS-AK20	0301823
FMS-AK5	0301821
FMS-ZBA 160	0301840
FMS-ZBP 160	0301841

Spring-loaded pressure piece



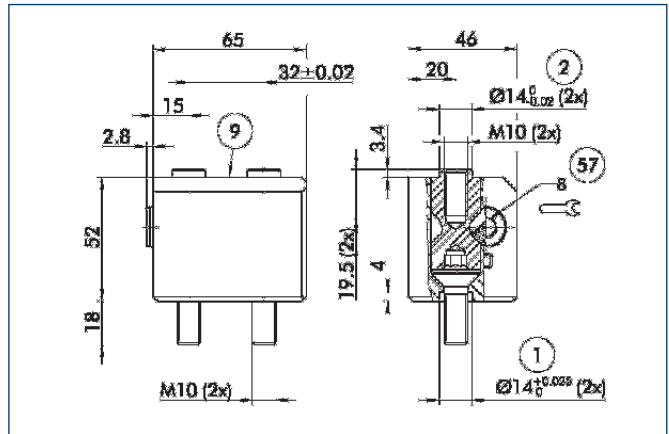
For spring-assisted positioning of the workpiece against a stop after the gripper has opened. Specially developed for loading machines.

Description	Stroke	Min. total force	ID
A-PZV 200	5 mm	328 N	0304015



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

BSWS quick-change jaw system

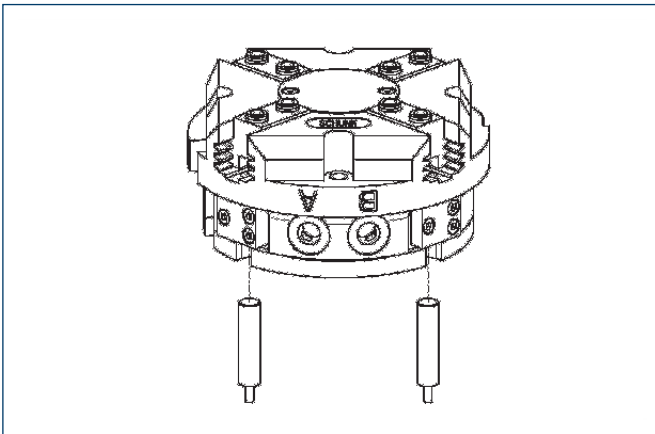


- ① Gripper connection
- ② Finger connection
- ⑨ For screw connection diagram, see basic version
- ⑤⑦ Locking mechanism

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

Description	ID
BSWS-A 160	0303030
BSWS-B 160	0303031

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

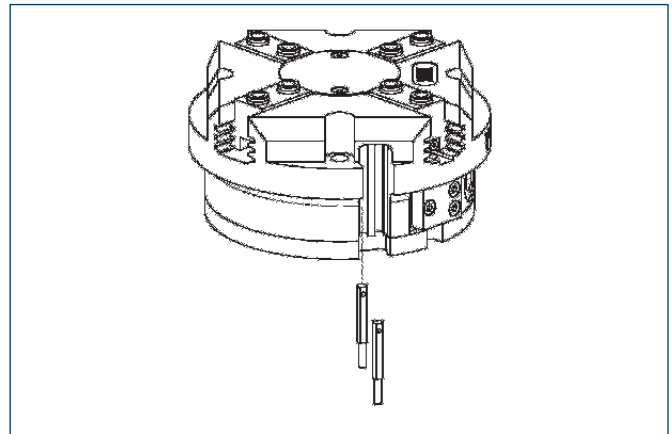
Description	ID	Recommended product
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

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
GK 3-M5-PNP/NPN	0301652
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 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

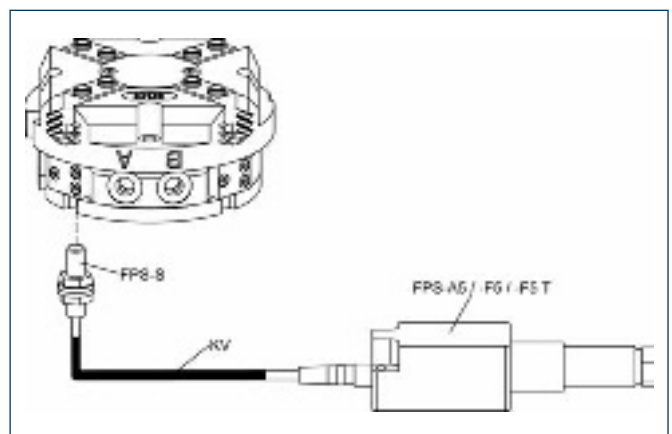
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 22-S-M5-NPN	0301455	
MMS 22-S-M5-NPN-SA	0301461	
MMS 22-S-M5-PNP	0301454	
MMS 22-S-M5-PNP-SA	0301460	
MMS 22-S-M8-NPN	0301451	
MMS 22-S-M8-NPN-SA	0301457	
MMS 22-S-M8-PNP	0301450	•
MMS 22-S-M8-PNP-SA	0301456	
MMSK 22-S-NPN	0301453	
MMSK 22-S-NPN-SA	0301459	
MMSK 22-S-PNP	0301452	
MMSK 22-S-PNP-SA	0301458	

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



Measuring system:
FPS position monitor

Description	ID
AS-PGN/PZN-plus 160/1	0301638
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S M8	0301704

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.