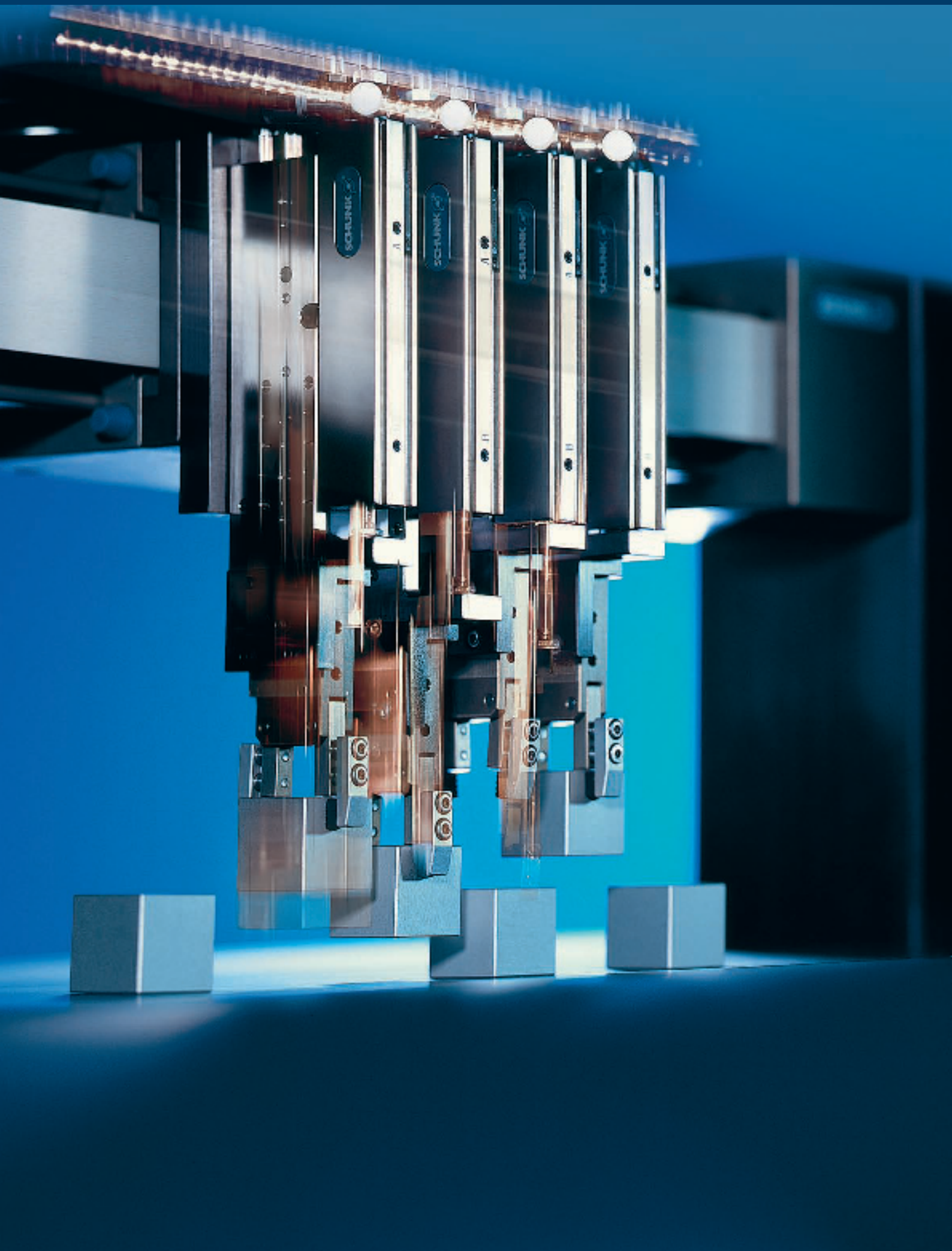
Pneumatic Gripping Modules

Pneumatic · 2-Finger Angular Grippers



2-FINGER ANGULAR GRIPPERS

Sizes
32 .. 50

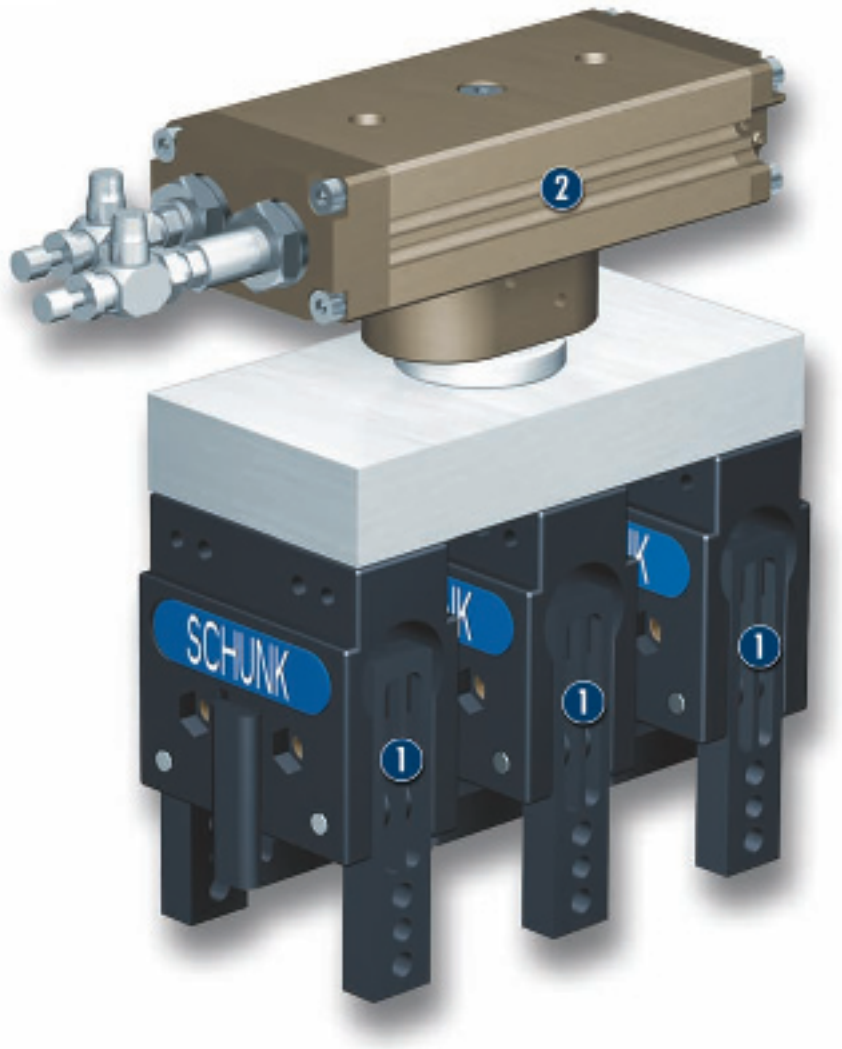
Weight
0.036 kg .. 0.06 kg
1.27 oz .. 2.12 oz

Gripping moment
0.90 Nm .. 4.95 Nm
0.664 lbf ft .. 3.7 lbf ft

Opening angle per finger
8°

Workpiece weight
0.2 kg .. 0.8 kg
7.05 oz .. 28.22 oz

Application example



Rotating unit for the simultaneous rotation of 3 small components by 90°

1 SGB 50 2-Finger Angular Gripper

2 MRU 12.1-E-4 Miniature Rotary Unit

Angular Gripper for small components

Small, plastic angular gripper with spring return and single-acting piston

Area of application

For universal use in clean and slightly dirty environments, with special requirements for the corrosion resistance and antistatic properties of the gripper unit

Your advantages and benefits

Housing of carbon-fiber-reinforced plastic
making the gripper extremely light and corrosion resistant

Wedge-hook design
for high power transmission and synchronized gripping

Basic version generally equipped with a pressure piece
for the spring-assisted pressing of workpieces

Low price
especially suitable for low-budget applications

General information on the series

Working principle
Single-acting cylinder piston with lever mechanism and spring return

Housing material
Carbon-fiber-reinforced plastic with metal functional parts

Base jaw material
Carbon-fiber-reinforced plastic

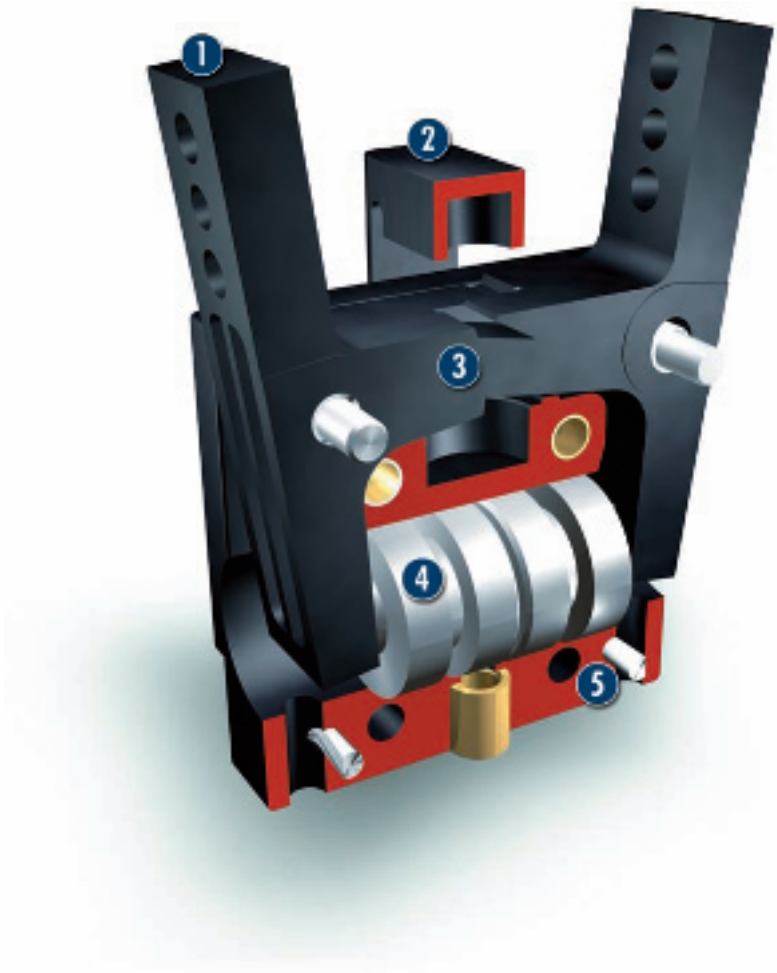
Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Integrated, spring-loaded locating plate, 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 **Pressure piece**
spring-loaded, for pressing workpieces into place

3 **Kinematics**
lever mechanism for precise, synchronized gripping

4 **Drive**
single-acting double piston system with spring return

5 **Housing**
weight-reduced through the use of the use of carbon-fiber-reinforced plastic

Function description

The two horizontally arranged pistons are pressed away from each other by compressed air. The base jaws are opened at an angle and in a synchronized fashion by the bearing-mounted lever mechanism. Return is effected by a compression spring.

Options and special information

The use of carbon-fiber-reinforced plastics endows the SGB with a very low weight and a disproportionately high gripping force.

Accessories

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

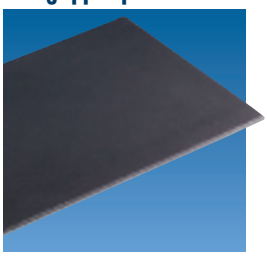
Fittings

IN inductive proximity switches

Quentes plastic inserts

W/WK/KV/GK sensor cables

HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

ⓘ 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 moment
is the arithmetic total of gripping moments for each base jaw.

Finger length
is measured from the upper edge of the gripper housing in the direction of the main axis. If the max. permitted finger length is exceeded, as with heavy fingers, the speed of movement of the jaws must be restricted and/or the opening angle reduced. The service life of the gripper may be reduced.

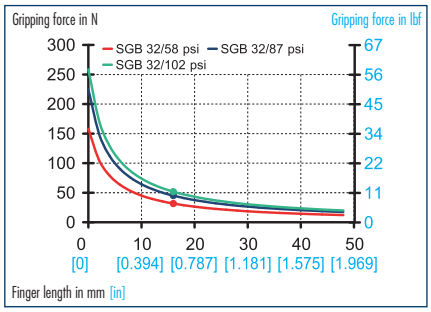
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

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.

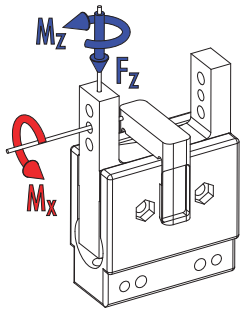
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or SPC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

SGB 32

Gripping force, O.D. gripping



Finger load



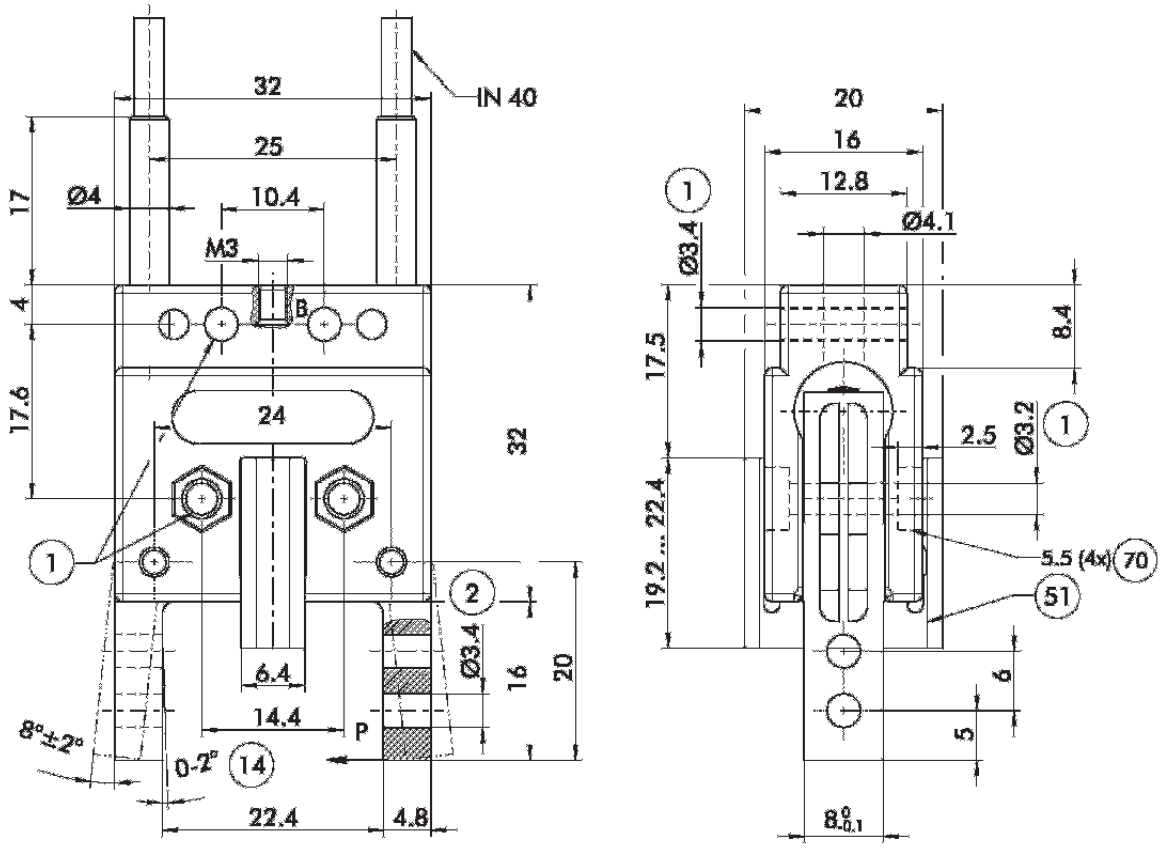
- M_x max. 0.1 Nm [0.074 lbf ft]
- M_z max. 0.1 Nm [0.074 lbf ft]
- F_z max. 3.0 N [0.7 lbf]

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

Technical data

Description		SGB 32
	ID	0305199
Opening angle per jaw	°	8.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	0.9 [0.664]
Weight	kg [oz]	0.036 [1.27]
Recommended workpiece weight	kg [oz]	0.2 [7.05]
Air consumption per double stroke	cm^3 [in^3]	0.5 [0.03]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	7.0 [102]
Closing time	s	0.06
Opening time	s	0.04
Max. permitted finger length	mm [in]	32.0 [1.260]
Max. permitted weight per finger	kg [oz]	0.03 [1.06]
IP class		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]
Min. pressure force	N [lbf]	2.0 [0.4]
Pressure stroke	mm [in]	3.2 [0.126]

Main views

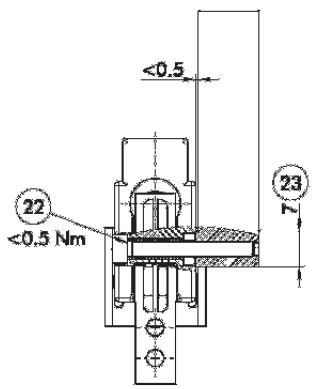


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can be used as a gripping force safety device (see "Accessories" catalog section).

B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊶ Pressure piece
㊿ Hex countersink

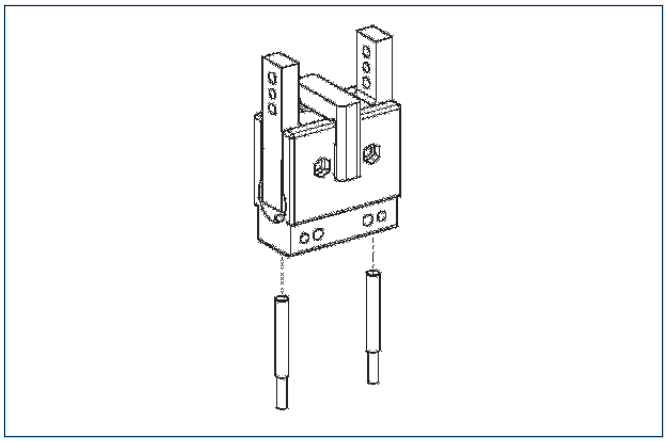
Mounting



㉒ Tightening torque
㉓ Width of path

Recommended for achieving distortion-free gripper mounting

Sensor system



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	•
INK 40/O	0301556	
INK 40/S	0301555	

ⓘ 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

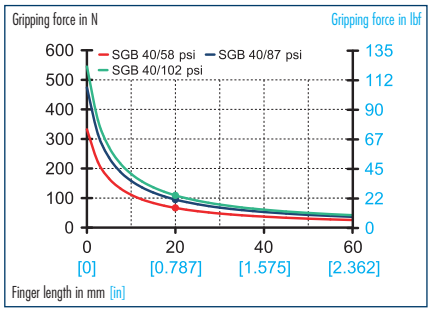
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

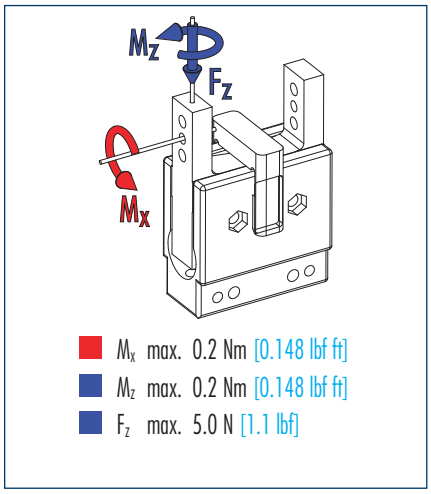
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

SGB 40

Gripping force, O.D. gripping



Finger load

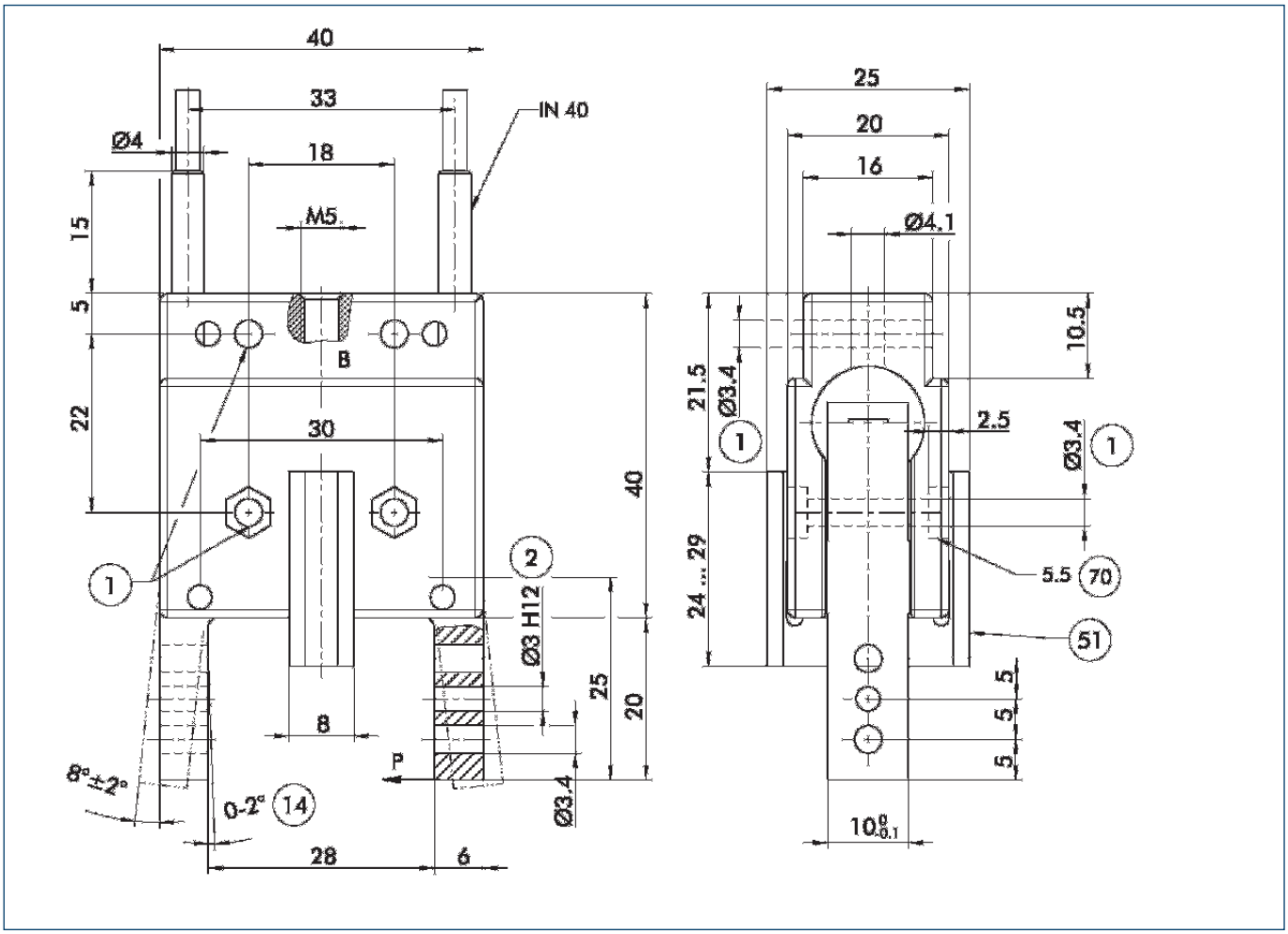


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SGB 40
	ID	0305200
Opening angle per jaw	°	8.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	2.37 [1.7]
Weight	kg [oz]	0.045 [1.59]
Recommended workpiece weight	kg [oz]	0.4 [14.11]
Air consumption per double stroke	cm^3 [in^3]	1.0 [0.06]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	7.0 [102]
Closing time	s	0.08
Opening time	s	0.05
Max. permitted finger length	mm [in]	40.0 [1.575]
Max. permitted weight per finger	kg [oz]	0.045 [1.59]
IP class		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]
Min. pressure force	N [lbf]	4.0 [0.9]
Pressure stroke	mm [in]	4.0 [0.157]

Main views

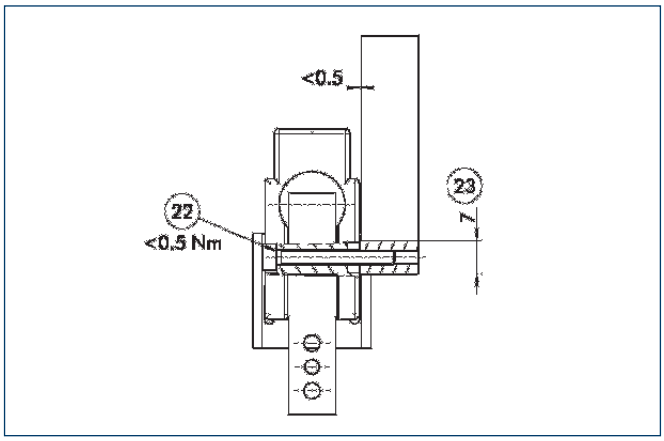


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can be used as a gripping force safety device (see "Accessories" catalog section).

B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊶ Pressure piece
㊿ Hex countersink

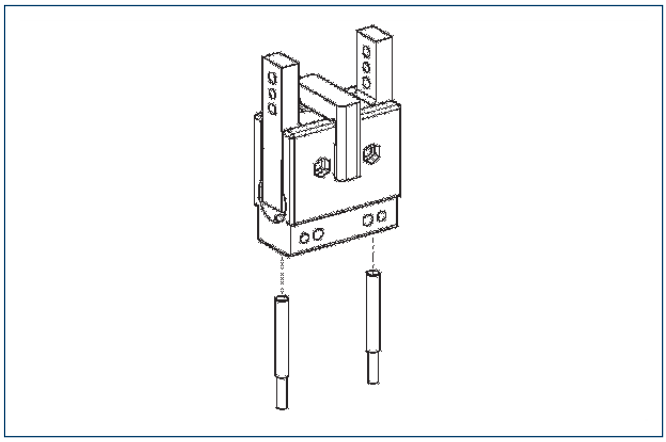
Mounting



㉒ Tightening torque
㉓ Width of path

Recommended for achieving distortion-free gripper mounting

Sensor system



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	•
INK 40/O	0301556	
INK 40/S	0301555	

ⓘ 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

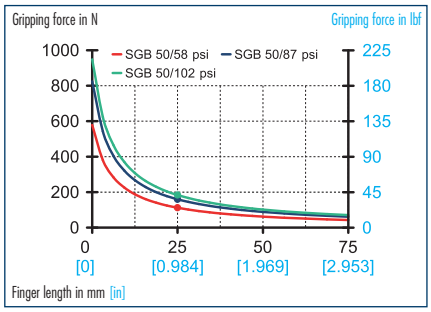
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

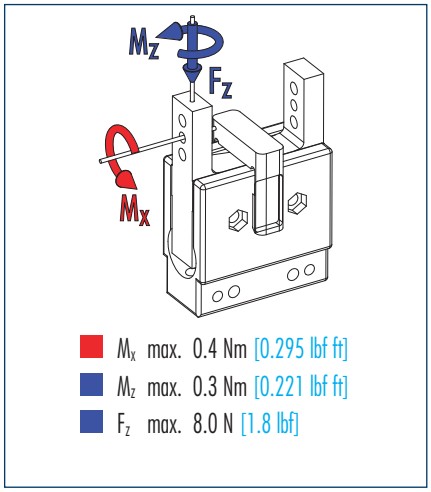
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

SGB 50

Gripping force, O.D. gripping



Finger load

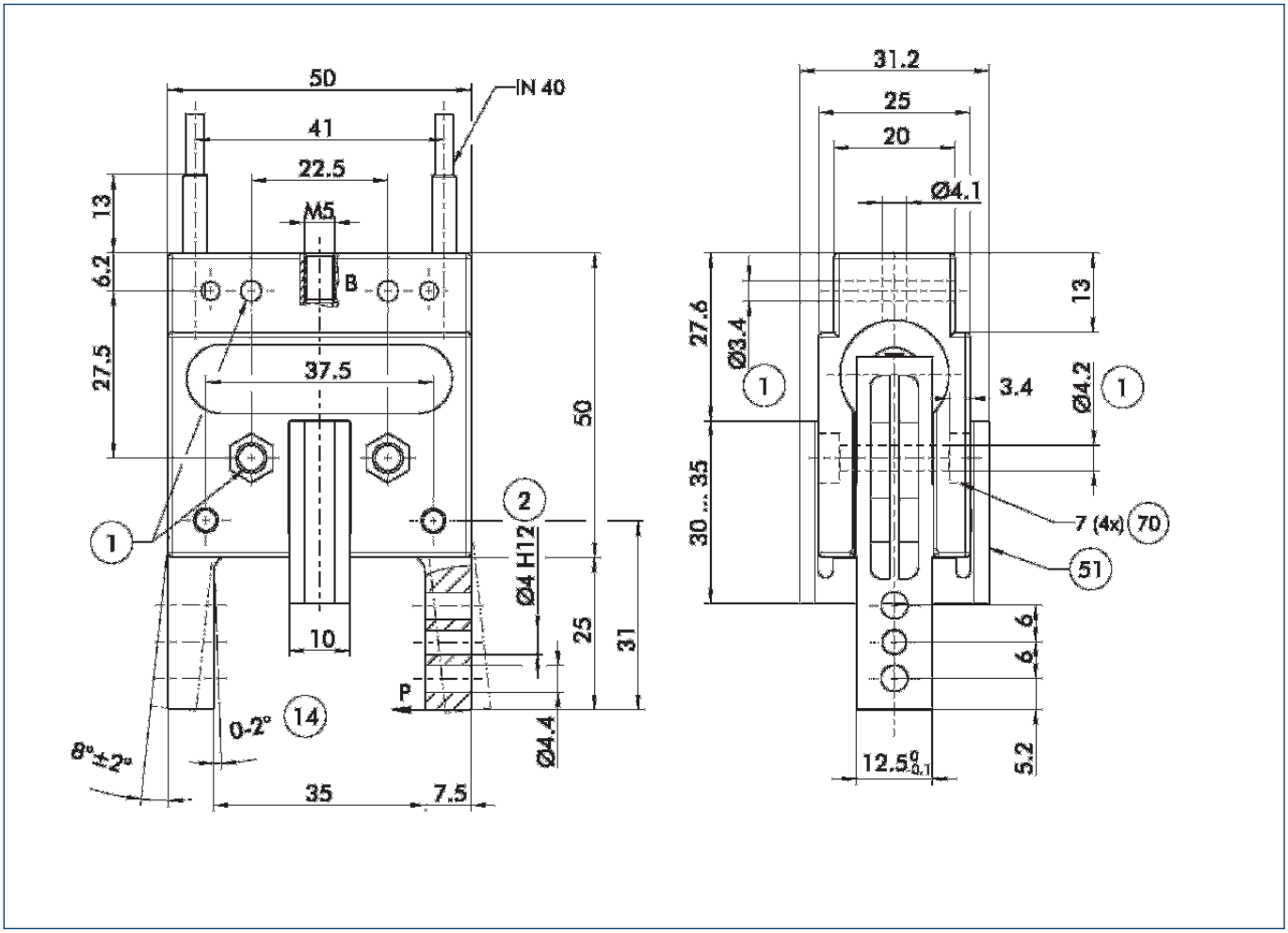


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SGB 50
	ID	0305201
Opening angle per jaw	°	8.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	4.95 [3.7]
Weight	kg [oz]	0.06 [2.12]
Recommended workpiece weight	kg [oz]	0.8 [28.22]
Air consumption per double stroke	cm^3 [in^3]	1.8 [0.11]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	7.0 [102]
Closing time	s	0.08
Opening time	s	0.05
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [oz]	0.07 [2.47]
IP class		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]
Min. pressure force	N [lbf]	4.0 [0.9]
Pressure stroke	mm [in]	5.0 [0.197]

Main views

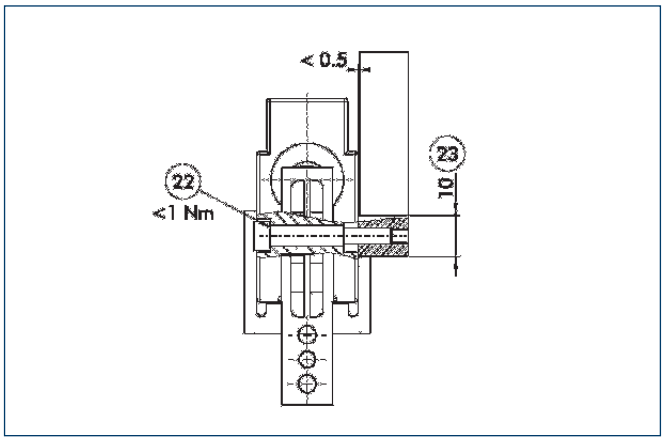


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can be used as a gripping force safety device (see “Accessories” catalog section).

B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊿① Pressure piece
㊿ Hex countersink

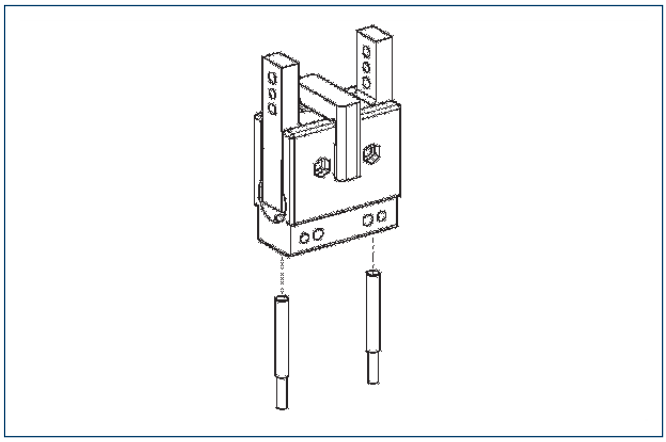
Mounting



㉒ Tightening torque
㉓ Width of path

Recommended for achieving distortion-free gripper mounting

Sensor system



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	•
INK 40/O	0301556	
INK 40/S	0301555	

ⓘ 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

ⓘ 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.

Sizes
10 .. 50

Weight
0.0025 kg .. 0.213 kg
0.09 oz .. 7.51 oz

Gripping moment
0.01 Nm .. 2.8 Nm
0.09 lbf in .. 24.78 lbf in

Opening angle per finger
15°

Workpiece weight
0.007 kg .. 0.45 kg
0.25 oz .. 15.87 oz

Application example

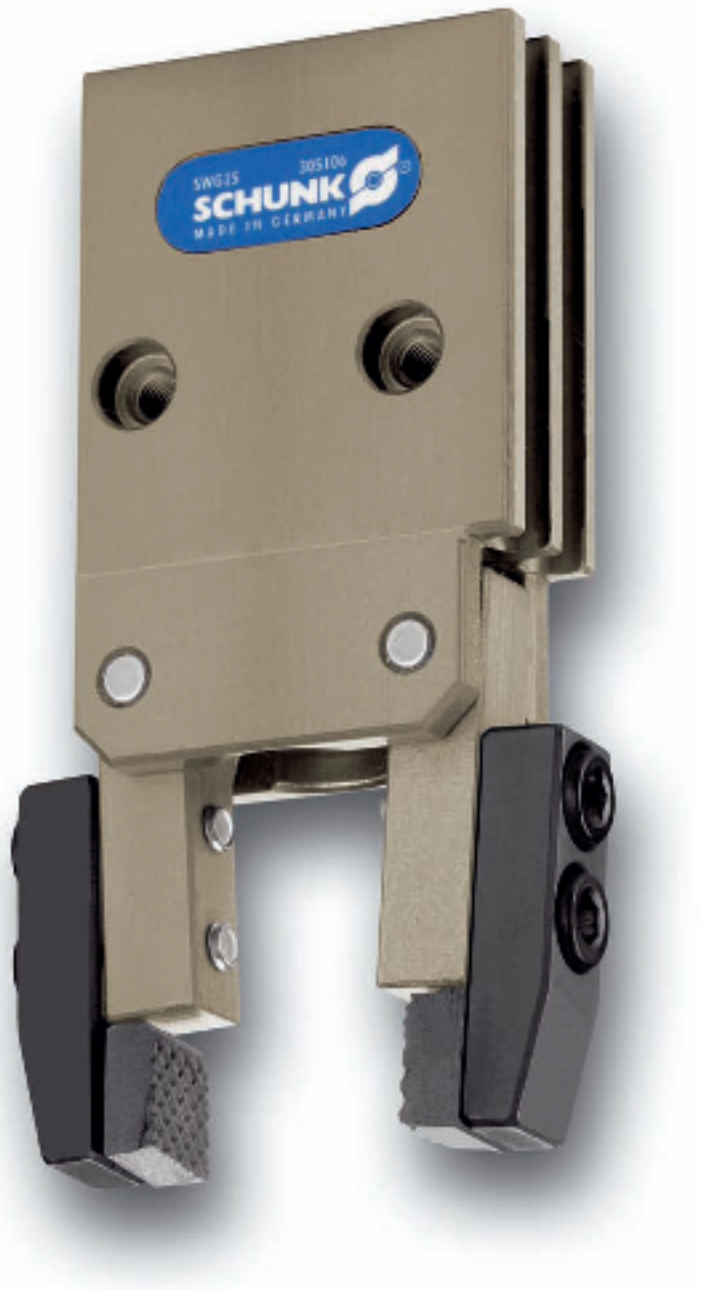
Triple transfer unit for packaging for small boards

1 SWG 50 2-Finger Angular Gripper

2 OPR 101 Collision and Overload Protection

Angular Gripper for small components

Thin 2-finger angular gripper with double actuation



Area of application

For universal use in clean and slightly dirty environments.
Suitable for applications requiring stacked, space-saving gripper assemblies.

Your advantages and benefits

Slim design
allowing the grippers to be stacked

Spring-assisted gripping force maintenance
holds the workpiece even in case of a loss of pressure

Kinematics
for high power transmission and synchronized gripping

Light, compact design
for space-saving handling without interfering contours

Monitoring via electronic magnetic switches
a space-saving feature in a slot in the housing

General information on the series

Working principle
Double compressed air actuated, guided kinematics

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Aluminum alloy, hard-anodized

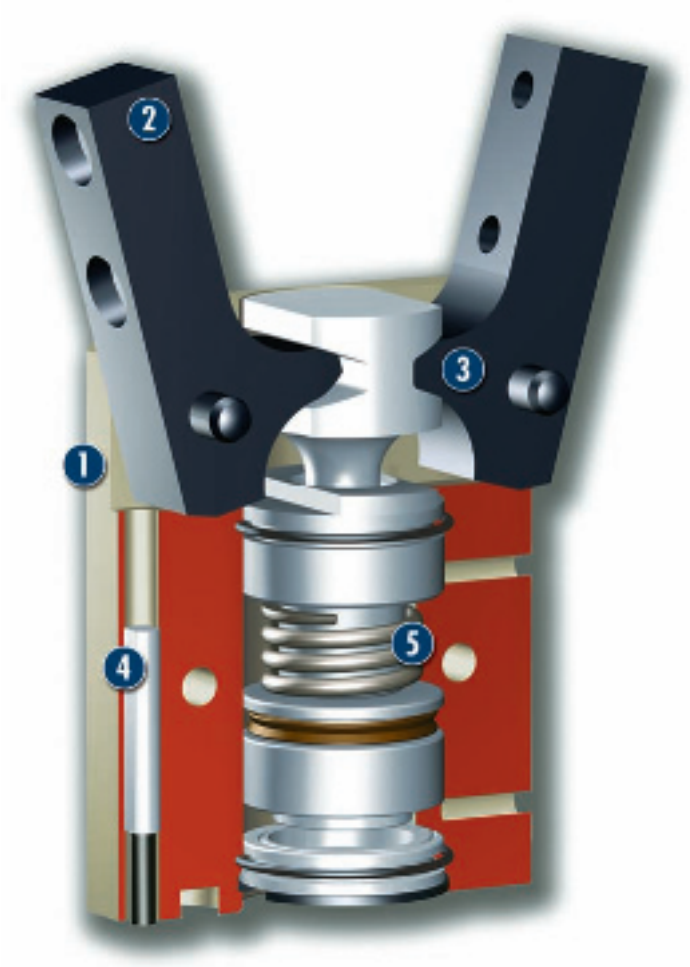
Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Pivot screw connections, centering sleeves, assembly and operating manual with manufacturer's declaration

Gripping force safety device
always integrated, also possible via SDV-P pressure maintenance valve

Sectional diagram



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

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

3 Kinematics
precise gear for centric gripping

4 Monitoring
electronic magnetic switch,
space-saving feature in the housing slot

5 Gripping force safety device
mechanical gripping force maintenance for O.D. gripping

Function description

The piston is moved up or down by means of compressed air. The kinematics use the lever system to convert the vertical motion into the synchronous, rotating movement of the base jaws.

Options and special information

The SWG angular gripper can be stacked directly together to reduce interfering contours.

Accessories

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

Centering sleeves

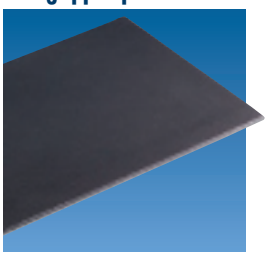
Fittings

MMS magnetic switch

Quentes plastic inserts

W/WK/KV/GK sensor cables

HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

ⓘ 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 moment

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

Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis. If the max. permitted finger length is exceeded, as with heavy fingers, the speed of movement of the jaws must be restricted and/or the opening angle reduced. The service life of the gripper may be reduced.

Repeat accuracy

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

Workpiece weight

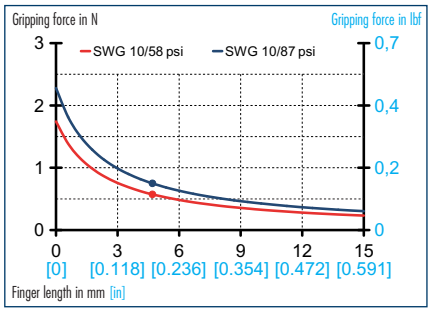
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

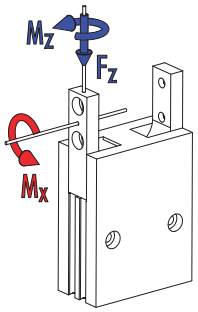
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

SWG 10

Gripping force, O.D. gripping



Finger load



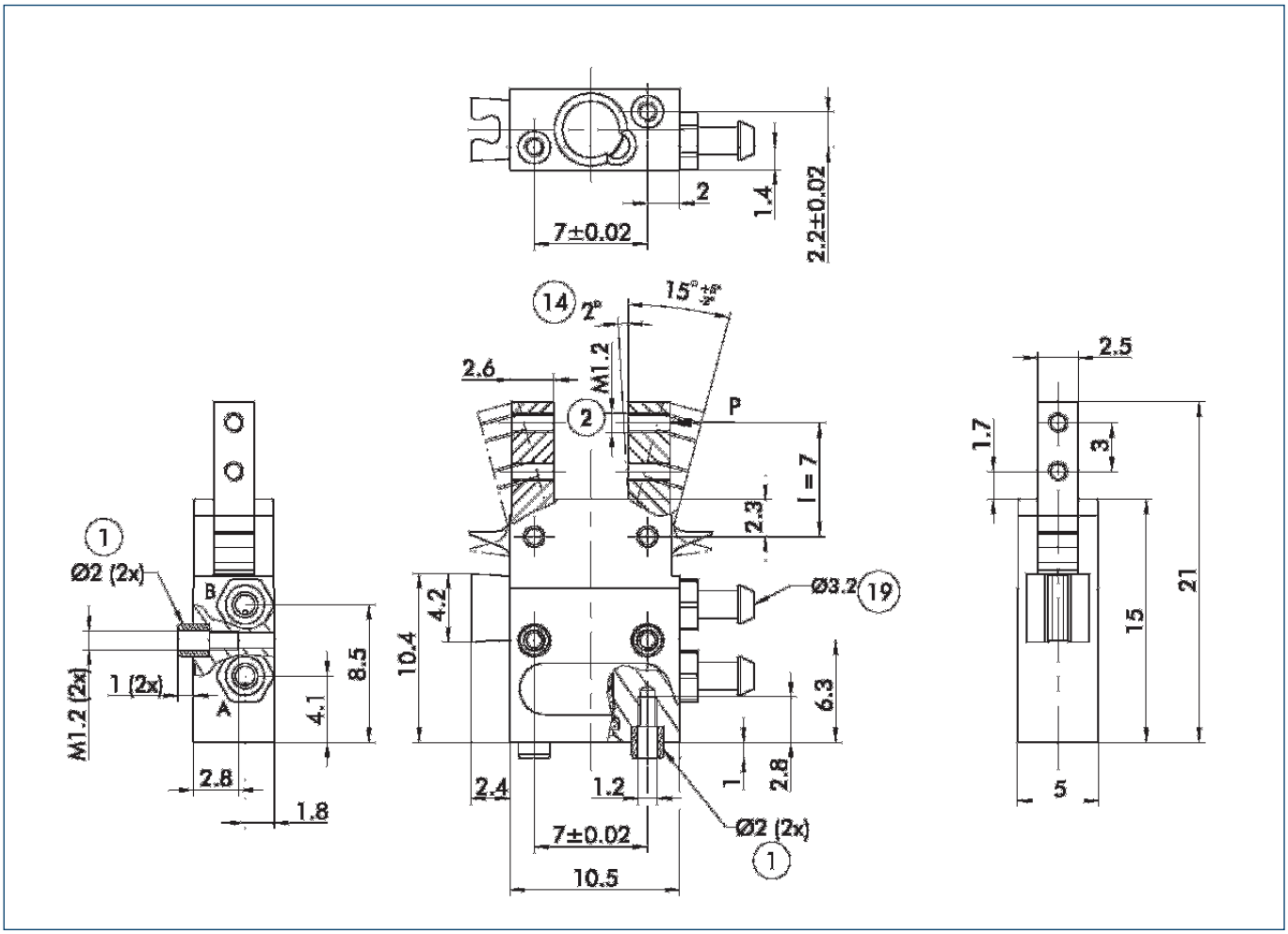
- M_x max. 0.04 Nm [0.35 lbf in]
- M_z max. 0.04 Nm [0.35 lbf in]
- F_z max. 6.0 N [1.3 lbf]

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

Technical data

Description		SWG 10
	ID	0305116
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	0.005 [0.04]
Closing moment ensured by spring	Nm [lbf in]	0.002 [0.02]
Weight	kg [oz]	0.003 [0.11]
Recommended workpiece weight	kg [oz]	0.007 [0.25]
Air consumption per double stroke	cm^3 [in^3]	0.06 [0.004]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.012
Opening time	s	0.02
Max. permitted finger length	mm [in]	10.0 [0.394]
Max. permitted weight per finger	kg [oz]	0.0003 [0.01]
IP class		30
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

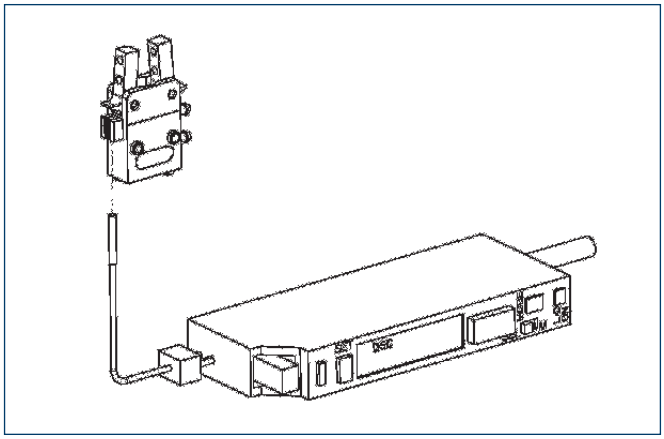


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
⑲ Air connection

Sensor system



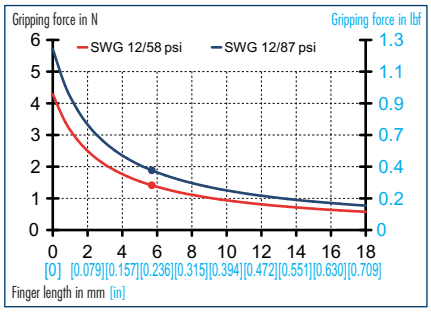
End position monitoring: Optical Proximity Switch

ⓘ One sensor is required per gripper (ONS 01), as well as an optic fiber (ONS 01-LWL). The optical sensor is mounted to the gripper with the plastic clip included in the delivery.

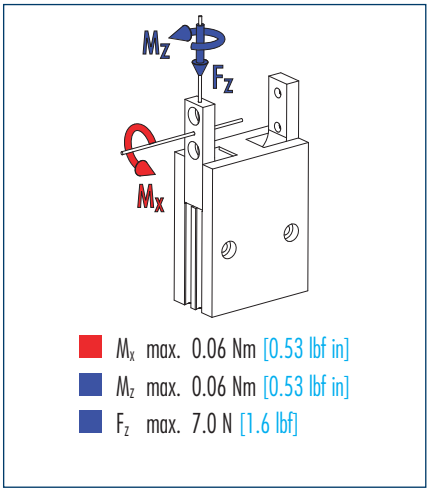
Description	ID
ONS 01	0301390
ONS 01-LWL	0301391

SWG 12

Gripping force, O.D. gripping



Finger load

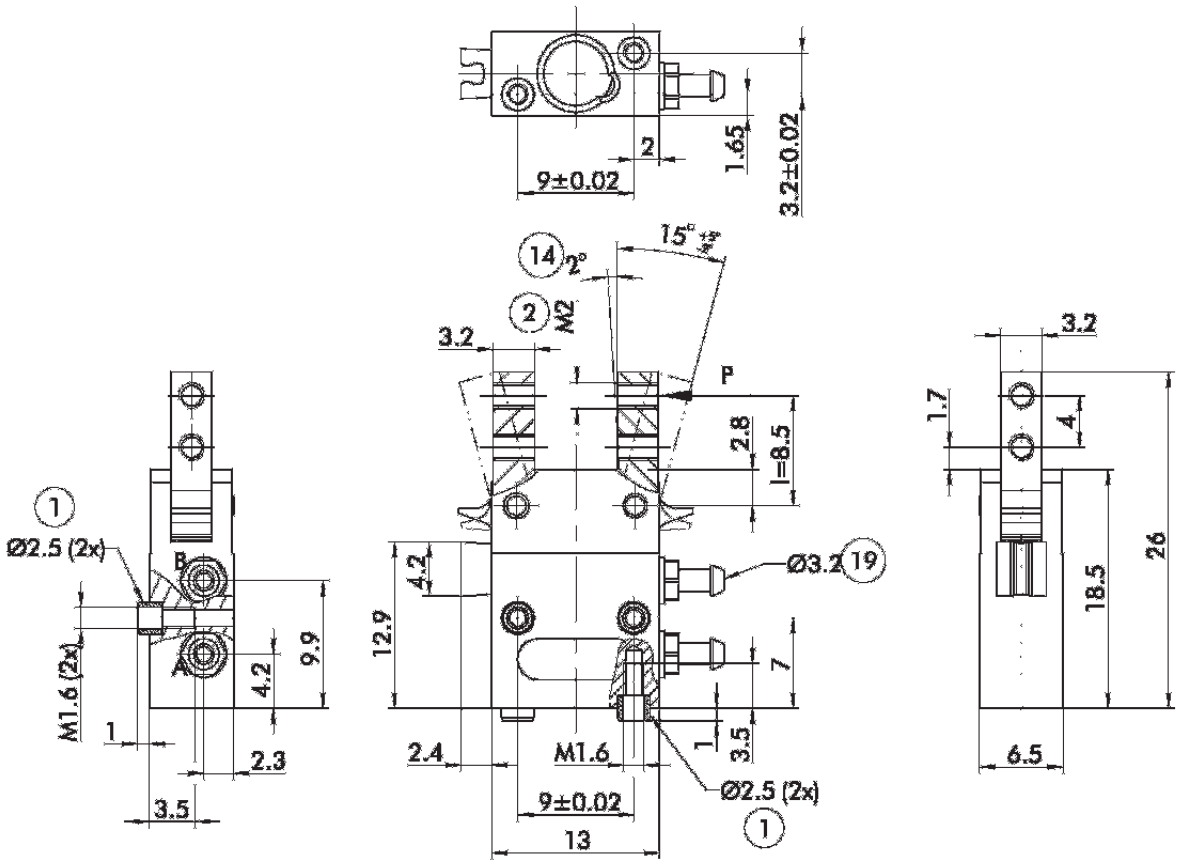


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SWG 12
	ID	0305115
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	0.015 [0.13]
Closing moment ensured by spring	Nm [lbf in]	0.006 [0.05]
Weight	kg [oz]	0.005 [0.18]
Recommended workpiece weight	kg [oz]	0.009 [0.32]
Air consumption per double stroke	cm^3 [in^3]	0.08 [0.005]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.012
Opening time	s	0.02
Max. permitted finger length	mm [in]	12.0 [0.472]
Max. permitted weight per finger	kg [oz]	0.0006 [0.02]
IP class		30
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

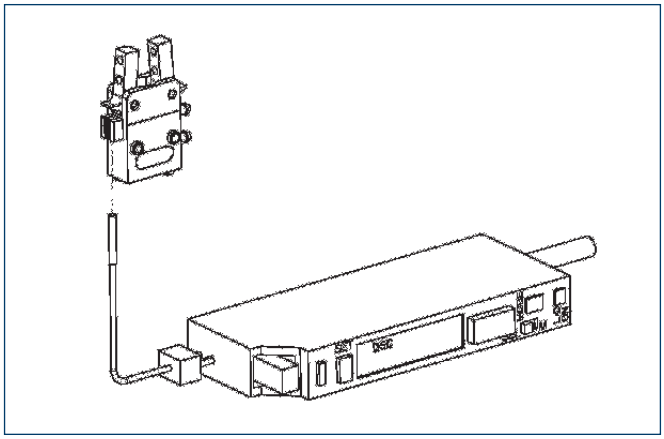


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
⑲ Air connection

Sensor system



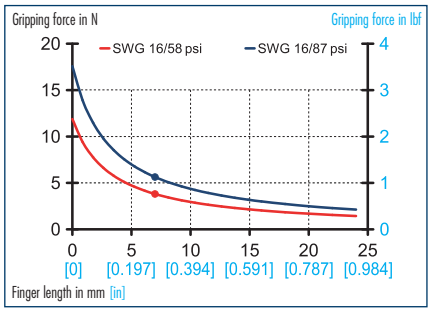
End position monitoring: Optical Proximity Switch

ⓘ One sensor is required per gripper (ONS 01), as well as an optic fiber (ONS 01-LWL). The optical sensor is mounted to the gripper with the plastic clip included in the delivery.

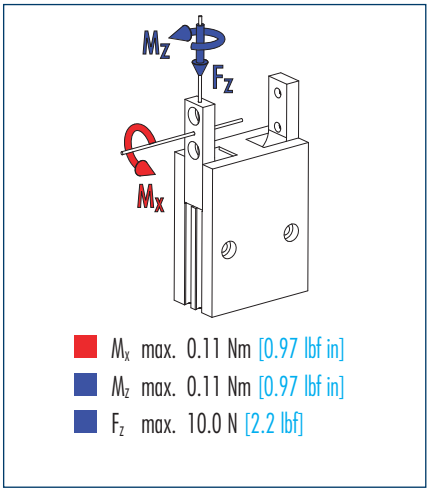
Description	ID
ONS 01	0301390
ONS 01-LWL	0301391

SWG 16

Gripping force, O.D. gripping



Finger load

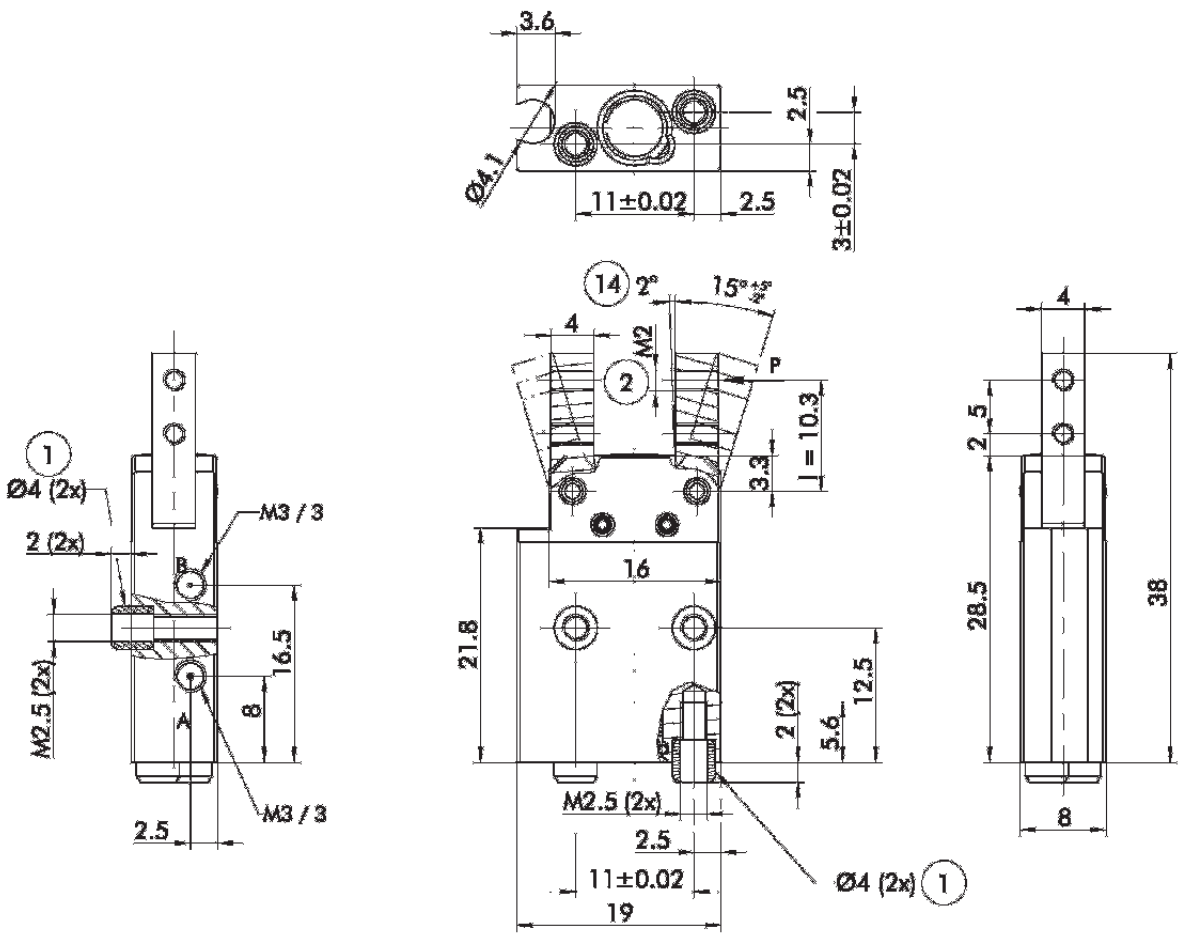


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SWG 16
	ID	0305104
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	0.058 [0.51]
Closing moment ensured by spring	Nm [lbf in]	0.017 [0.15]
Weight	kg [oz]	0.011 [0.39]
Recommended workpiece weight	kg [oz]	0.028 [0.99]
Air consumption per double stroke	cm^3 [in^3]	0.12 [0.01]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.015
Opening time	s	0.02
Max. permitted finger length	mm [in]	15.0 [0.591]
Max. permitted weight per finger	kg [oz]	0.012 [0.42]
IP class		30
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

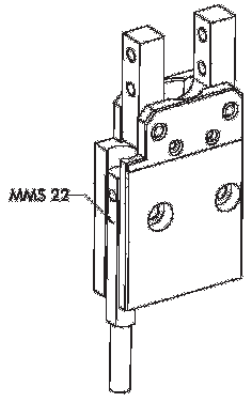


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

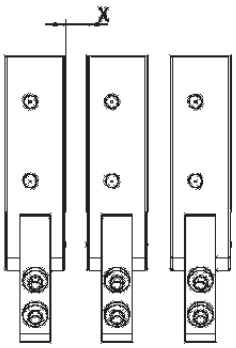
A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger

Sensor assembly



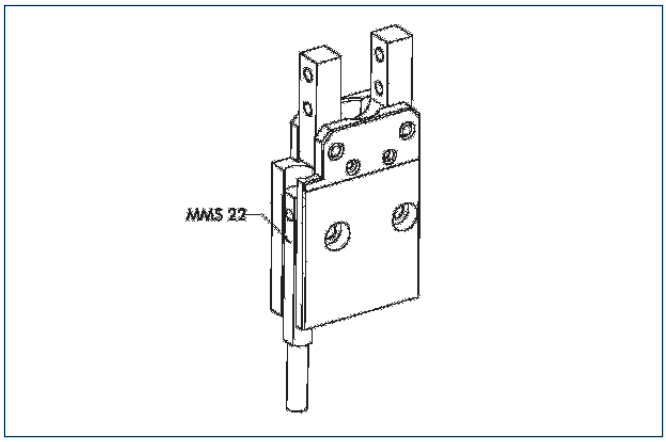
Suggestion for mounting the optical sensor on the gripper. Please note that the gripper must be mounted with non-magnetizable screws in order to ensure the correct functioning of the switches.

Stacked arrangement



If each SWG in a stacked arrangement is to be monitored by its own sensor, please bear in mind that a minimum distance of X = 2 mm must be left between the sensors. Otherwise, the magnets in the gripper piston will disturb the sensors of the neighboring grippers.

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 sensor (NO contact) is required for each gripper.

Extension cables for proximity switches/magnetic switches

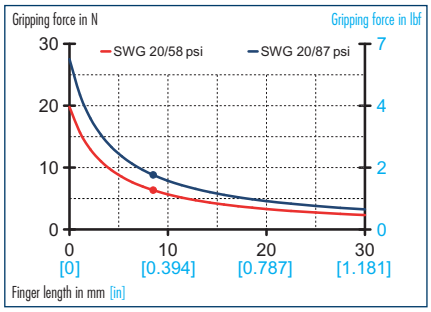
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

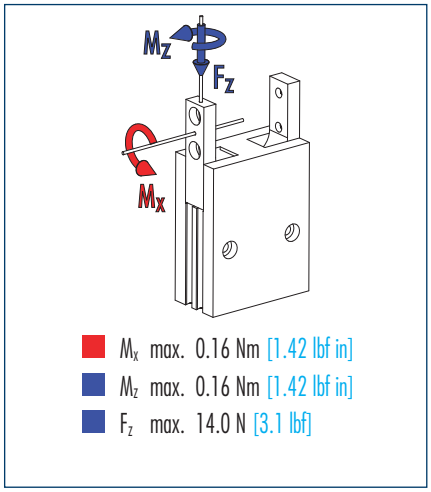
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

SWG 20

Gripping force, O.D. gripping



Finger load

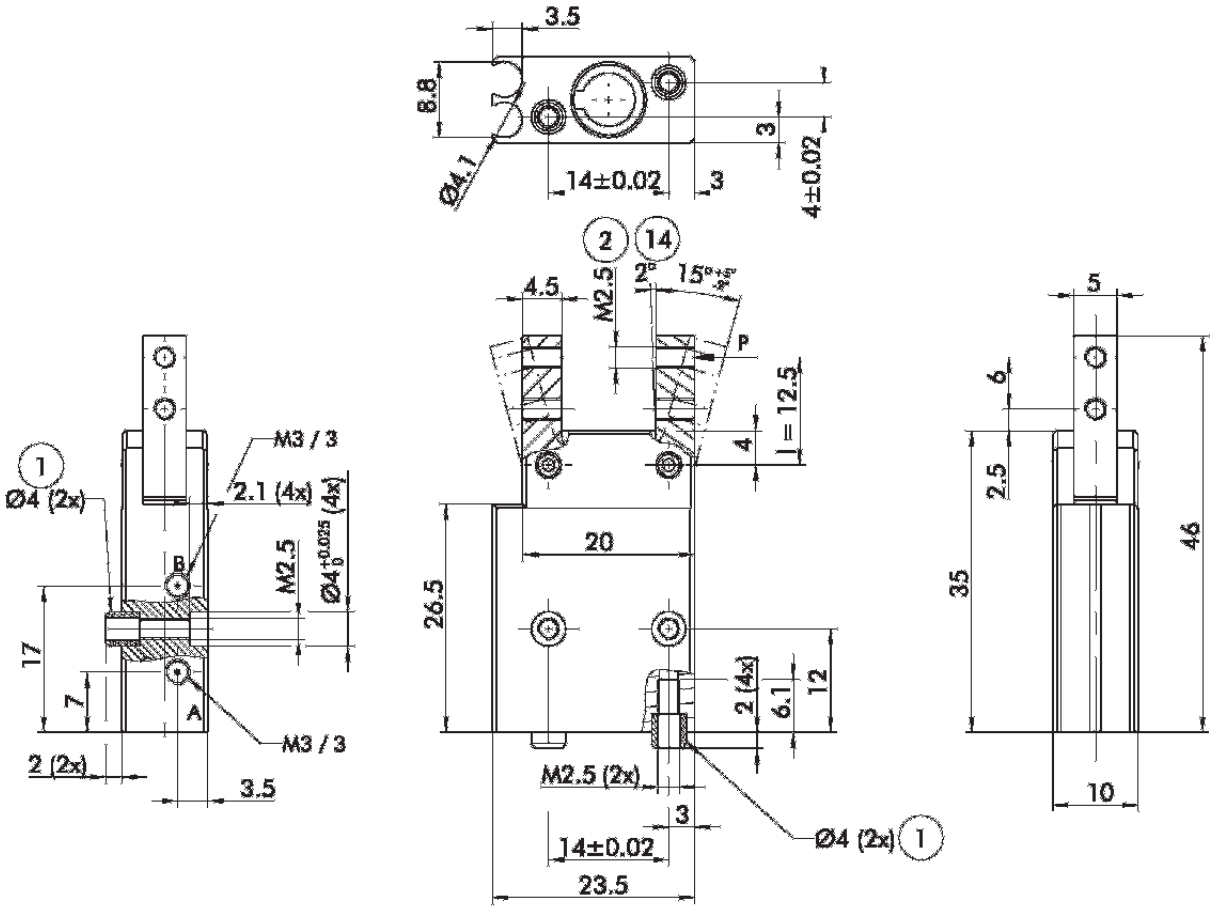


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SWG 20
	ID	0305105
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	0.11 [0.97]
Closing moment ensured by spring	Nm [lbf in]	0.033 [0.29]
Weight	kg [oz]	0.019 [0.67]
Recommended workpiece weight	kg [oz]	0.044 [1.55]
Air consumption per double stroke	cm^3 [in^3]	0.25 [0.02]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.015
Opening time	s	0.02
Max. permitted finger length	mm [in]	18.0 [0.709]
Max. permitted weight per finger	kg [oz]	0.02 [0.71]
IP class		30
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

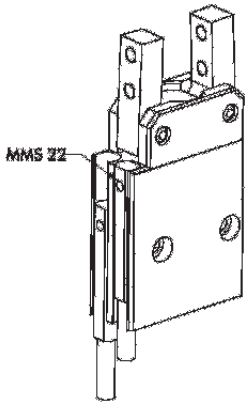


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

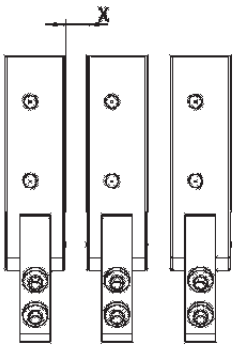
A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger

Sensor assembly



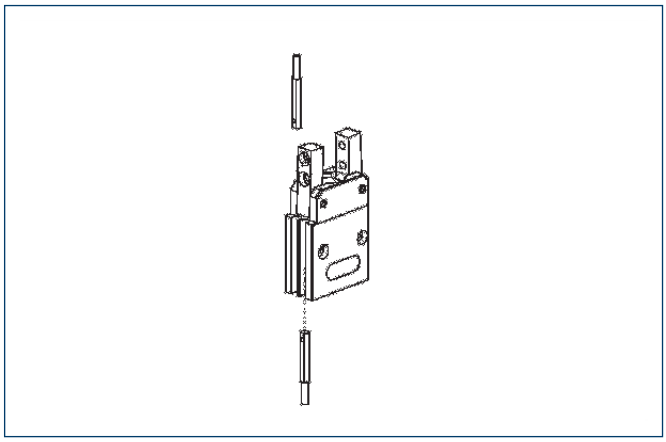
Suggestion for mounting the optical sensor on the gripper. Please note that the gripper must be mounted with non-magnetizable screws in order to ensure the correct functioning of the switches.

Stacked arrangement



If each SWG in a stacked arrangement is to be monitored by its own sensor, please bear in mind that a minimum distance of X = 2 mm must be left between the sensors. Otherwise, the magnets in the gripper piston will disturb the sensors of the neighboring grippers.

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	

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

Extension cables for proximity switches/magnetic switches

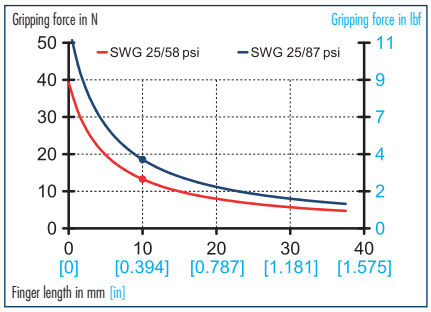
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

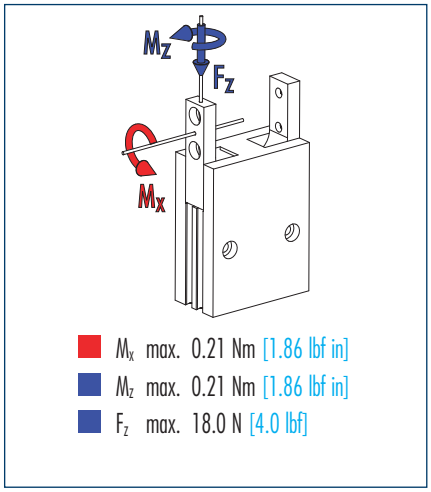
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

SWG 25

Gripping force, O.D. gripping



Finger load

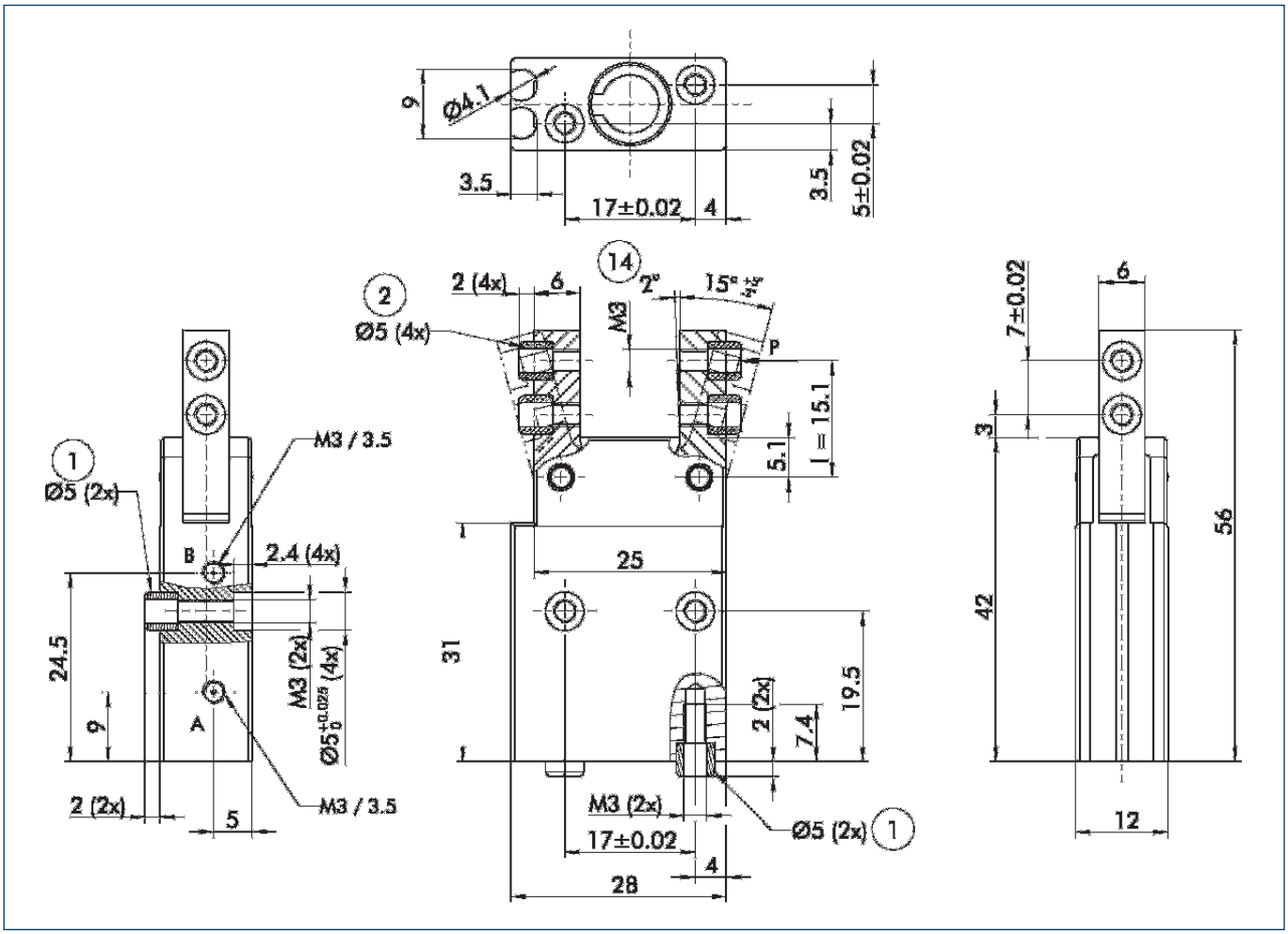


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SWG 25
	ID	0305106
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	0.28 [2.48]
Closing moment ensured by spring	Nm [lbf in]	0.08 [0.71]
Weight	kg [oz]	0.035 [1.23]
Recommended workpiece weight	kg [oz]	0.09 [3.17]
Air consumption per double stroke	cm^3 [in^3]	0.4 [0.02]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.015
Opening time	s	0.02
Max. permitted finger length	mm [in]	22.0 [0.866]
Max. permitted weight per finger	kg [oz]	0.028 [0.99]
IP class		30
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

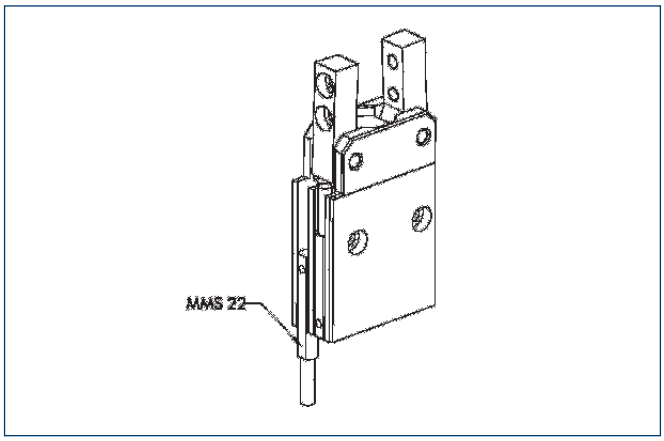


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

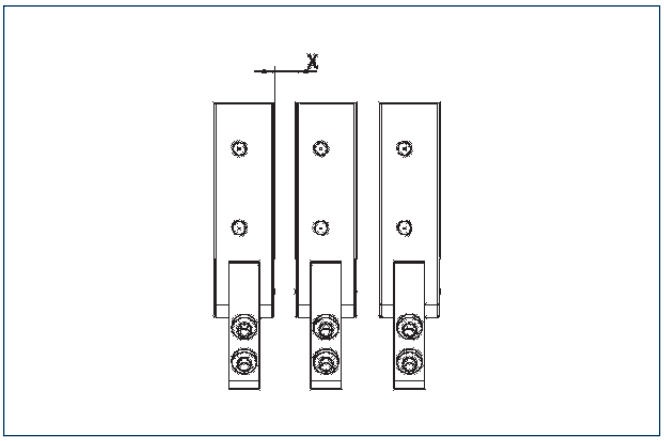
A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger

Sensor assembly



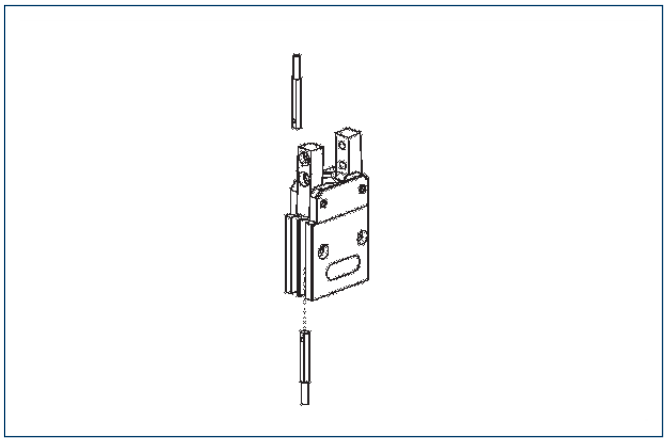
Suggestion for mounting the optical sensor on the gripper. Please note that the gripper must be mounted with non-magnetizable screws in order to ensure the correct functioning of the switches.

Stacked arrangement



If each SWG in a stacked arrangement is to be monitored by its own sensor, please bear in mind that a minimum distance of X = 2 mm must be left between the sensors. Otherwise, the magnets in the gripper piston will disturb the sensors of the neighboring grippers.

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	

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

Extension cables for proximity switches/magnetic switches

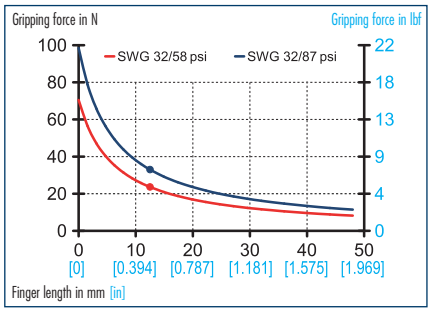
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

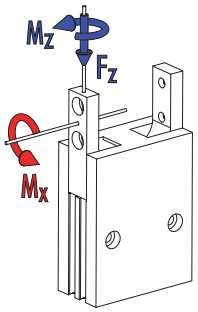
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

SWG 32

Gripping force, O.D. gripping



Finger load



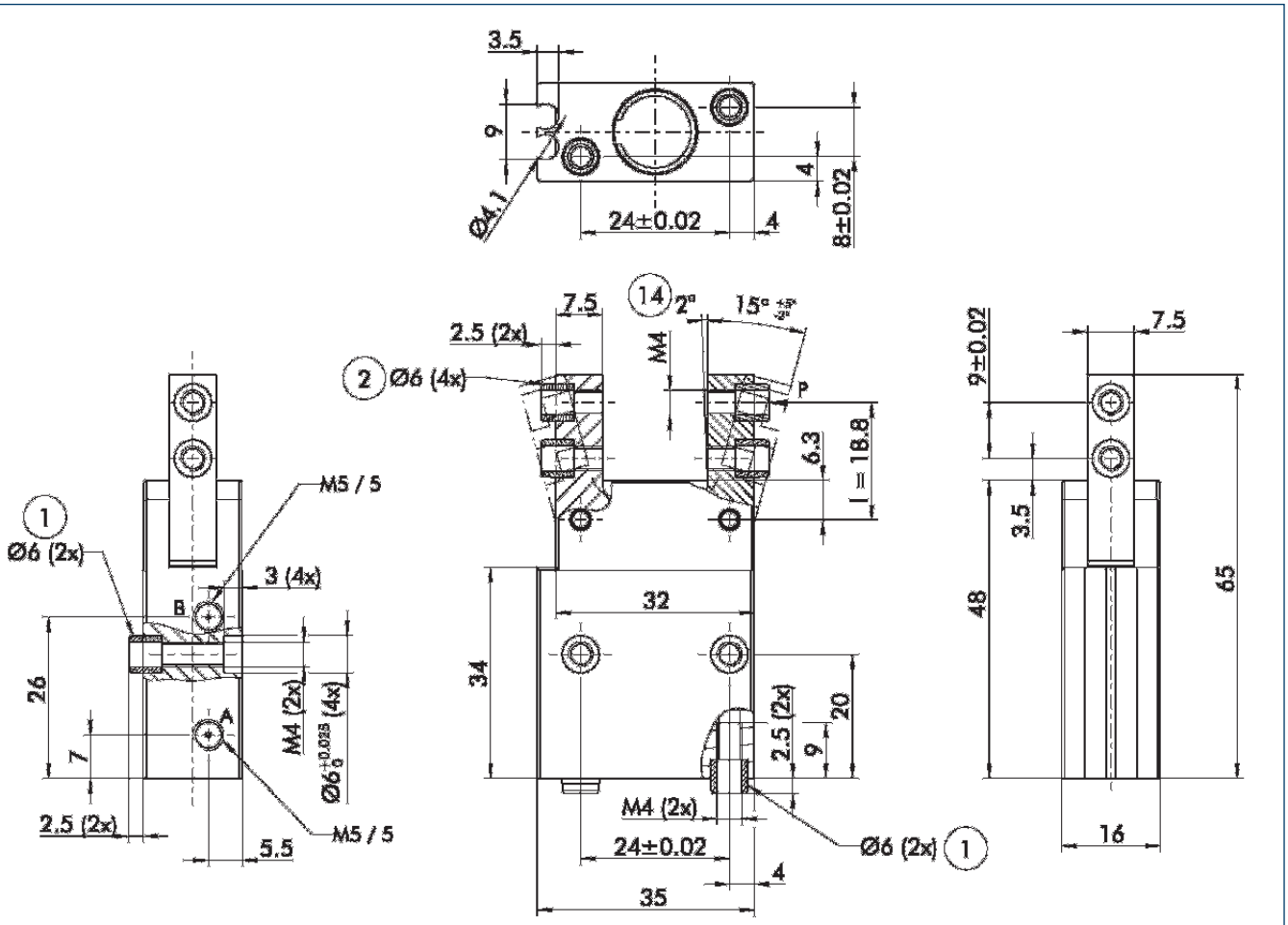
- M_x max. 0.28 Nm [2.48 lbf in]
- M_z max. 0.28 Nm [2.48 lbf in]
- F_z max. 24.0 N [5.4 lbf]

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

Technical data

Description		SWG 32
	ID	0305107
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	0.62 [5.49]
Closing moment ensured by spring	Nm [lbf in]	0.18 [1.59]
Weight	kg [oz]	0.069 [2.43]
Recommended workpiece weight	kg [oz]	0.165 [5.82]
Air consumption per double stroke	cm^3 [in^3]	0.85 [0.05]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.02
Opening time	s	0.025
Max. permitted finger length	mm [in]	28.0 [1.102]
Max. permitted weight per finger	kg [oz]	0.036 [1.27]
IP class		30
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

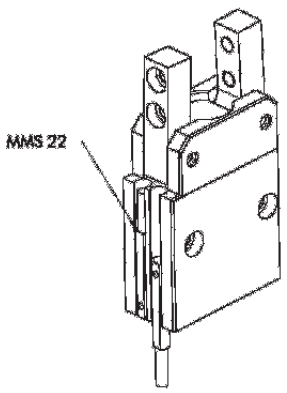


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

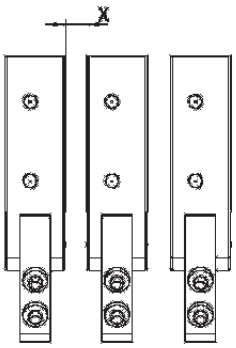
A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger

Sensor assembly



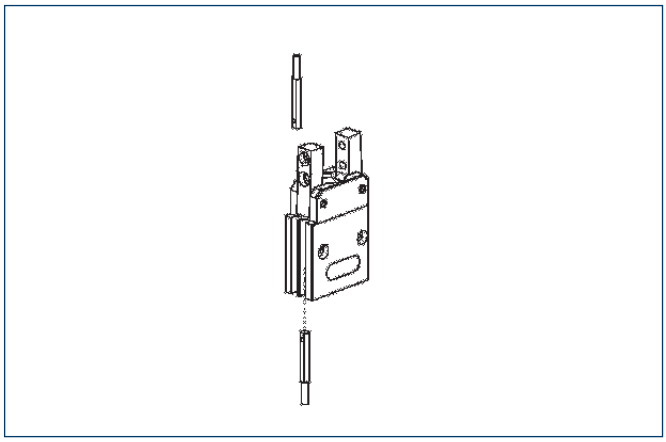
Suggestion for mounting the optical sensor on the gripper. Please note that the gripper must be mounted with non-magnetizable screws in order to ensure the correct functioning of the switches.

Stacked arrangement



If each SWG in a stacked arrangement is to be monitored by its own sensor, please bear in mind that a minimum distance of X = 2 mm must be left between the sensors. Otherwise, the magnets in the gripper piston will disturb the sensors of the neighboring grippers.

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	

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

Extension cables for proximity switches/magnetic switches

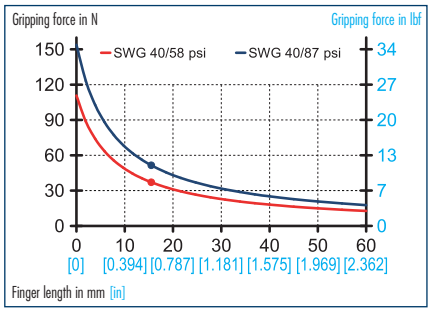
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

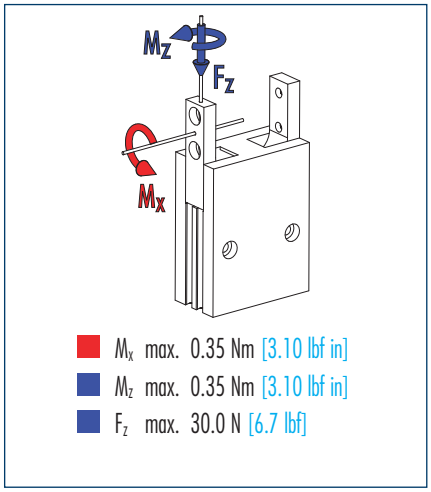
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

SWG 40

Gripping force, O.D. gripping



Finger load

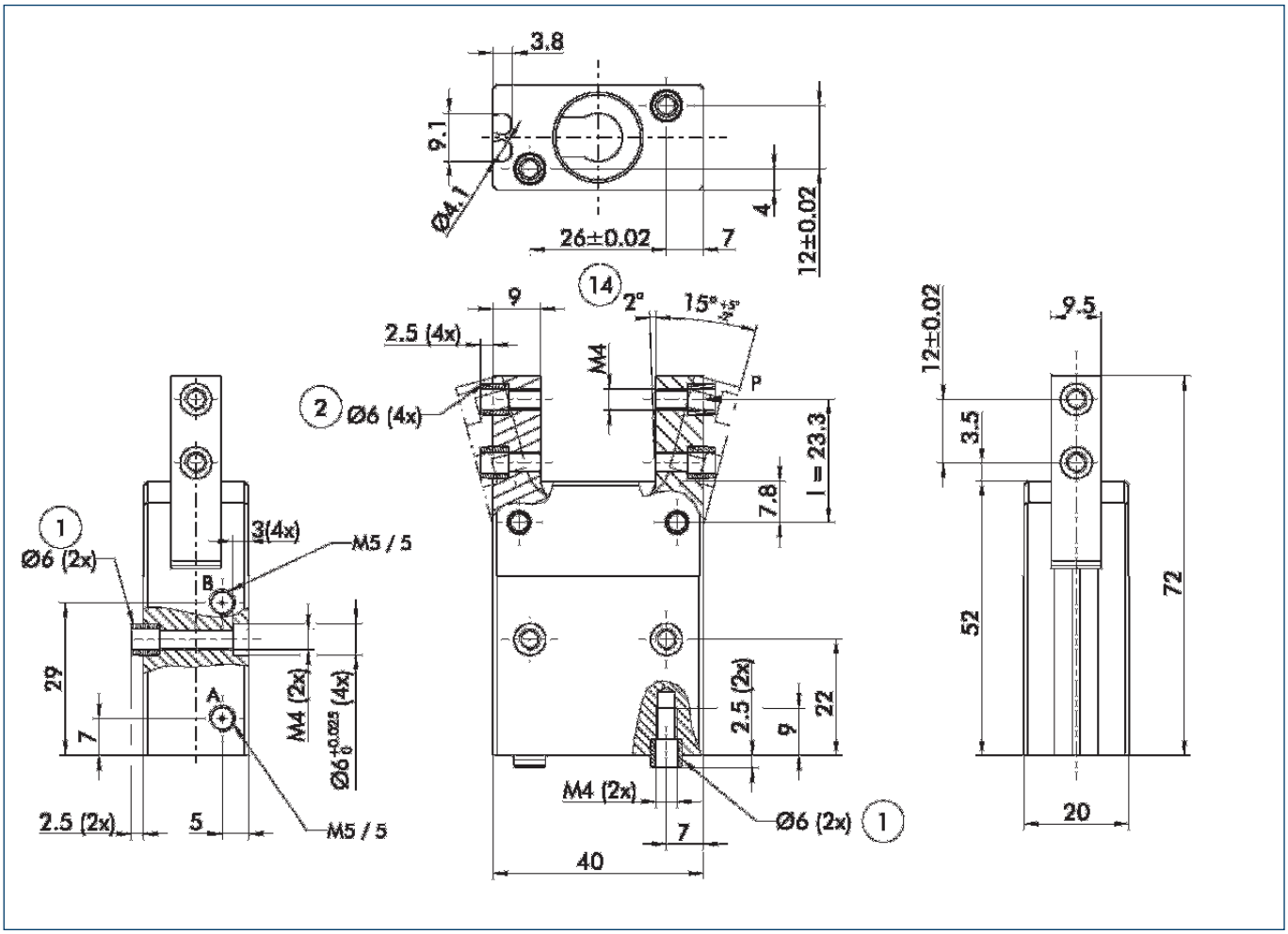


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SWG 40
	ID	0305108
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	1.2 [10.62]
Closing moment ensured by spring	Nm [lbf in]	0.36 [3.19]
Weight	kg [oz]	0.106 [3.74]
Recommended workpiece weight	kg [oz]	0.3 [10.58]
Air consumption per double stroke	cm^3 [in^3]	1.6 [0.10]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.025
Opening time	s	0.03
Max. permitted finger length	mm [in]	35.0 [1.378]
Max. permitted weight per finger	kg [oz]	0.05 [1.76]
IP class		30
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

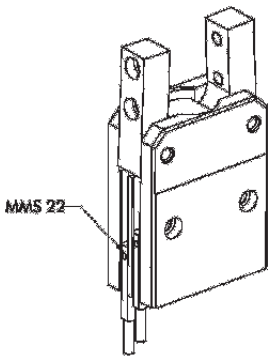


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

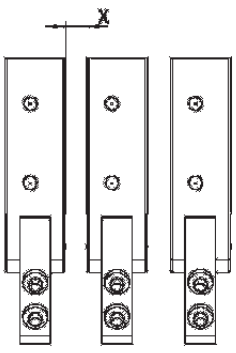
A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger

Sensor assembly



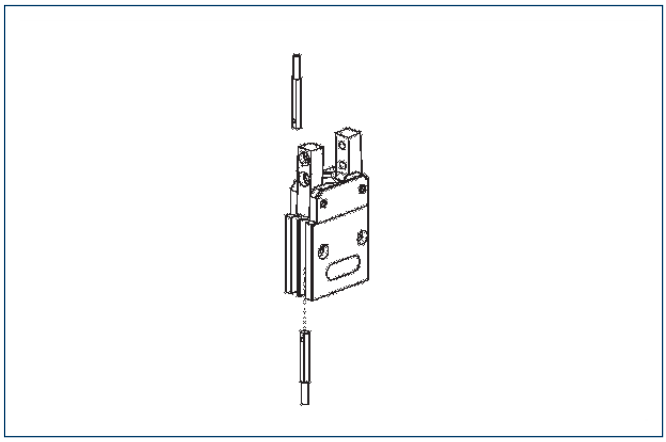
Suggestion for mounting the optical sensor on the gripper. Please note that the gripper must be mounted with non-magnetizable screws in order to ensure the correct functioning of the switches.

Stacked arrangement



If each SWG in a stacked arrangement is to be monitored by its own sensor, please bear in mind that a minimum distance of X = 2 mm must be left between the sensors. Otherwise, the magnets in the gripper piston will disturb the sensors of the neighboring grippers.

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	

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

Extension cables for proximity switches/magnetic switches

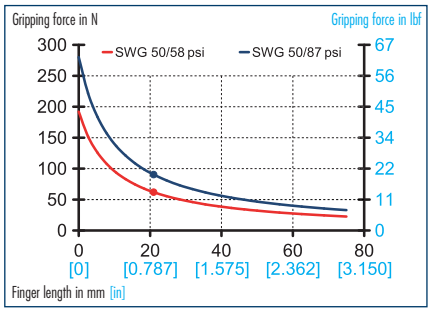
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

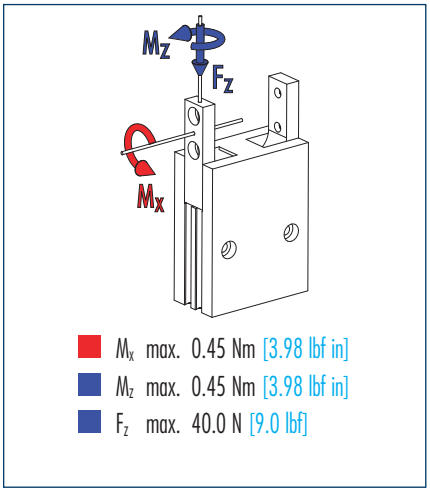
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

SWG 50

Gripping force, O.D. gripping



Finger load

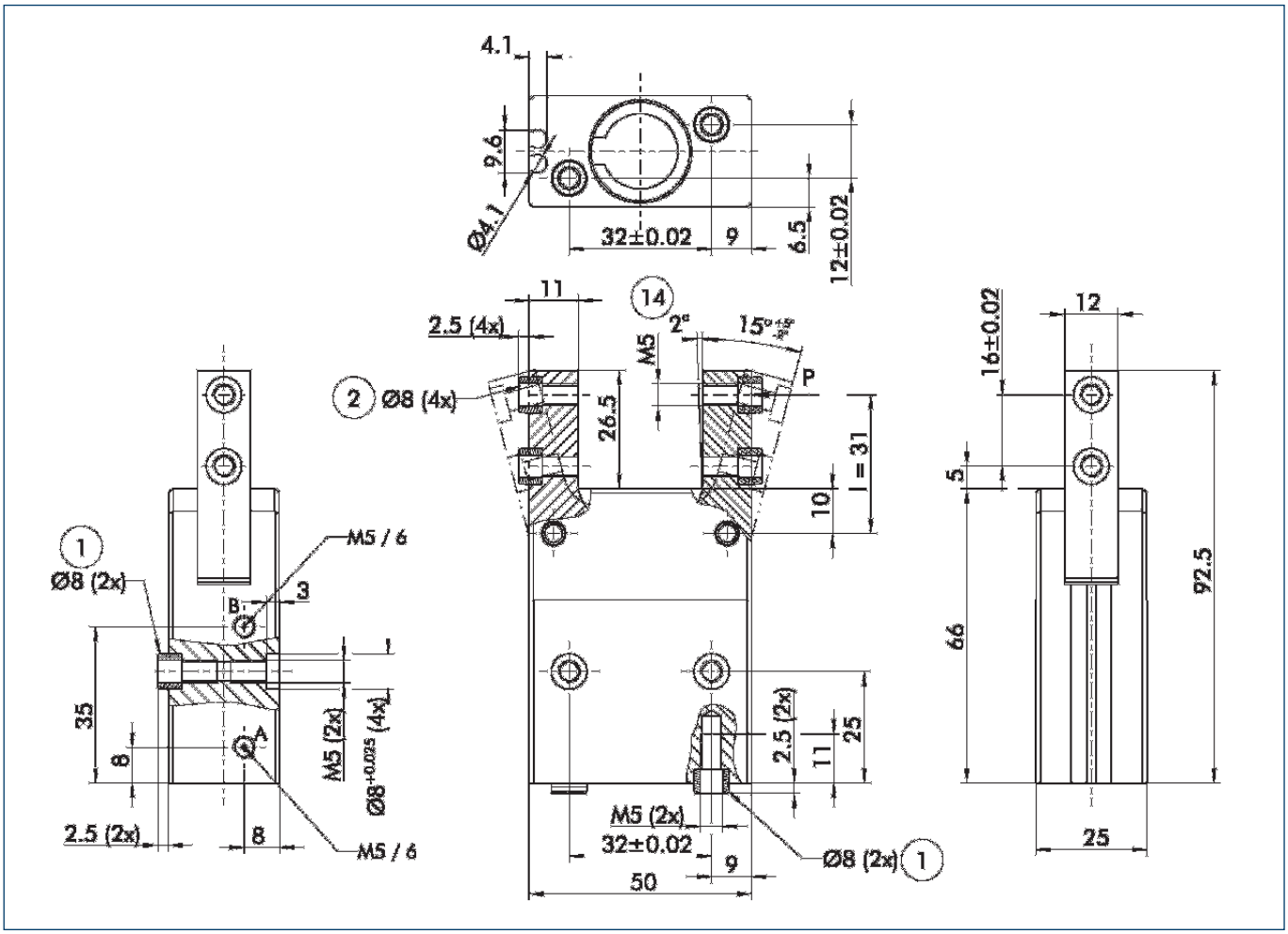


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SWG 50
	ID	0305109
Opening angle per jaw	°	15.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf in]	2.8 [24.78]
Closing moment ensured by spring	Nm [lbf in]	0.6 [5.31]
Weight	kg [oz]	0.213 [7.51]
Recommended workpiece weight	kg [oz]	0.45 [15.87]
Air consumption per double stroke	cm^3 [in^3]	3.8 [0.23]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.03
Opening time	s	0.06
Max. permitted finger length	mm [in]	42.0 [1.654]
Max. permitted weight per finger	kg [oz]	0.08 [2.82]
IP class		30
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

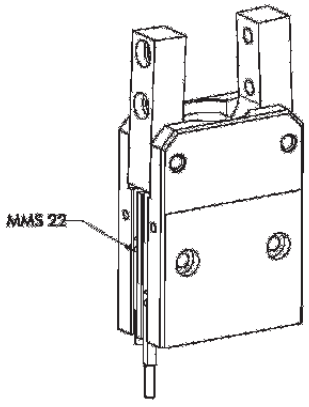


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

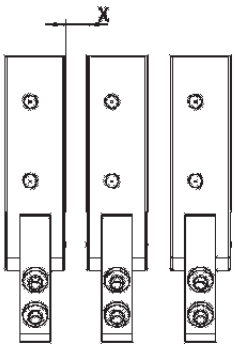
A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger

Sensor assembly



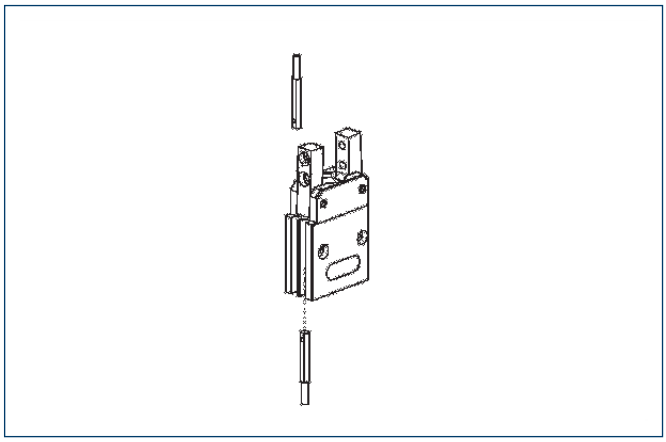
Suggestion for mounting the optical sensor on the gripper. Please note that the gripper must be mounted with non-magnetizable screws in order to ensure the correct functioning of the switches.

Stacked arrangement



If each SWG in a stacked arrangement is to be monitored by its own sensor, please bear in mind that a minimum distance of X = 2 mm must be left between the sensors. Otherwise, the magnets in the gripper piston will disturb the sensors of the neighboring grippers.

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	

ⓘ 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

ⓘ 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.

Sizes
RHL 0

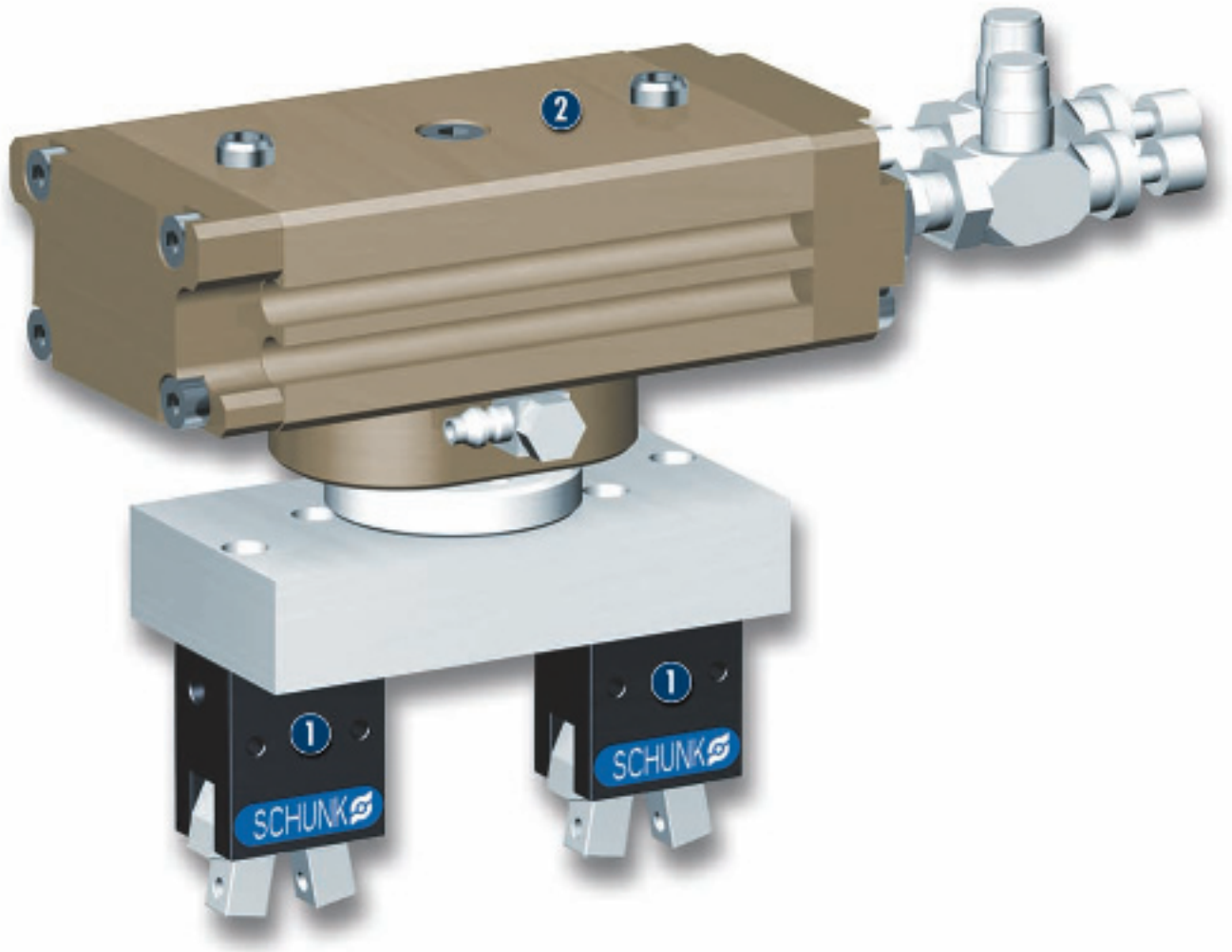
Weight
0.0085 kg
0.30 oz

Gripping moment
0.014 Nm
0.010 lbf ft

Opening angle per finger
10°

Workpiece weight
0.018 kg
0.63 oz

Application example



Transfer unit for small components in the production of circuit boards

1 RHL 0
2-Finger Angular Gripper

2 MRU 8.2-E-0
Miniature Rotary Unit

Angular Gripper for small components

The RHL 0 series is a low-price 2-finger angular gripper, which is particularly suitable for simple applications.

Area of application

For use in clean environmental conditions (e.g. assembly or packaging zones) with low process forces.

Your advantages and benefits

Low-price gripper series
for simple applications with low loads in clean environments

Maintenance-free
with low weight

Excellent price-performance ratio
making it an attractive option for low-budget applications

Information about the series

Working principle
Double-acting pneumatic drive

Housing material
Aluminum/steel

Base jaw material
Aluminum/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
Includes small parts for mounting, assembly and operating manual with manufacturer's declaration

Function description

The angular gripper for small components works pneumatically, the kinematics produce a rotating gripper movement.

Options and special information

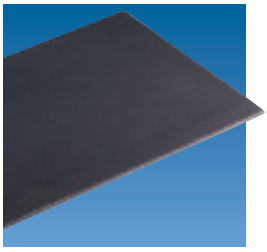
In order to keep the manufacturing costs and thus the sale prices low, the RH series offers a simple design. It is designed for low-cost production. Therefore, repairs are generally not economically feasible.

Accessories

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

Fittings

HKI gripper pads



SDV-P pressure maintenance valves

ⓘ 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.

Gripping moment
The gripping moment is the arithmetic total of gripping moments for each base jaw.

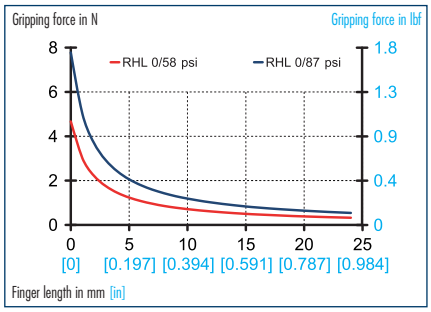
Finger length
The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

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

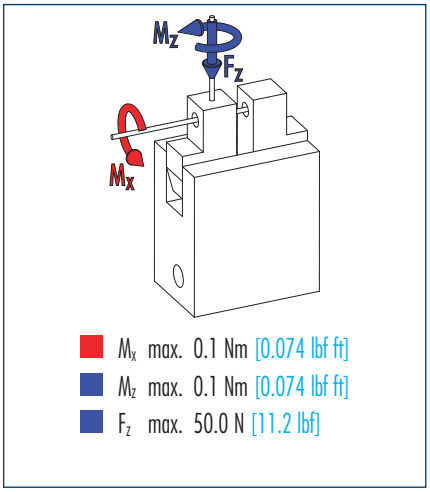
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

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, O.D. gripping



Finger load

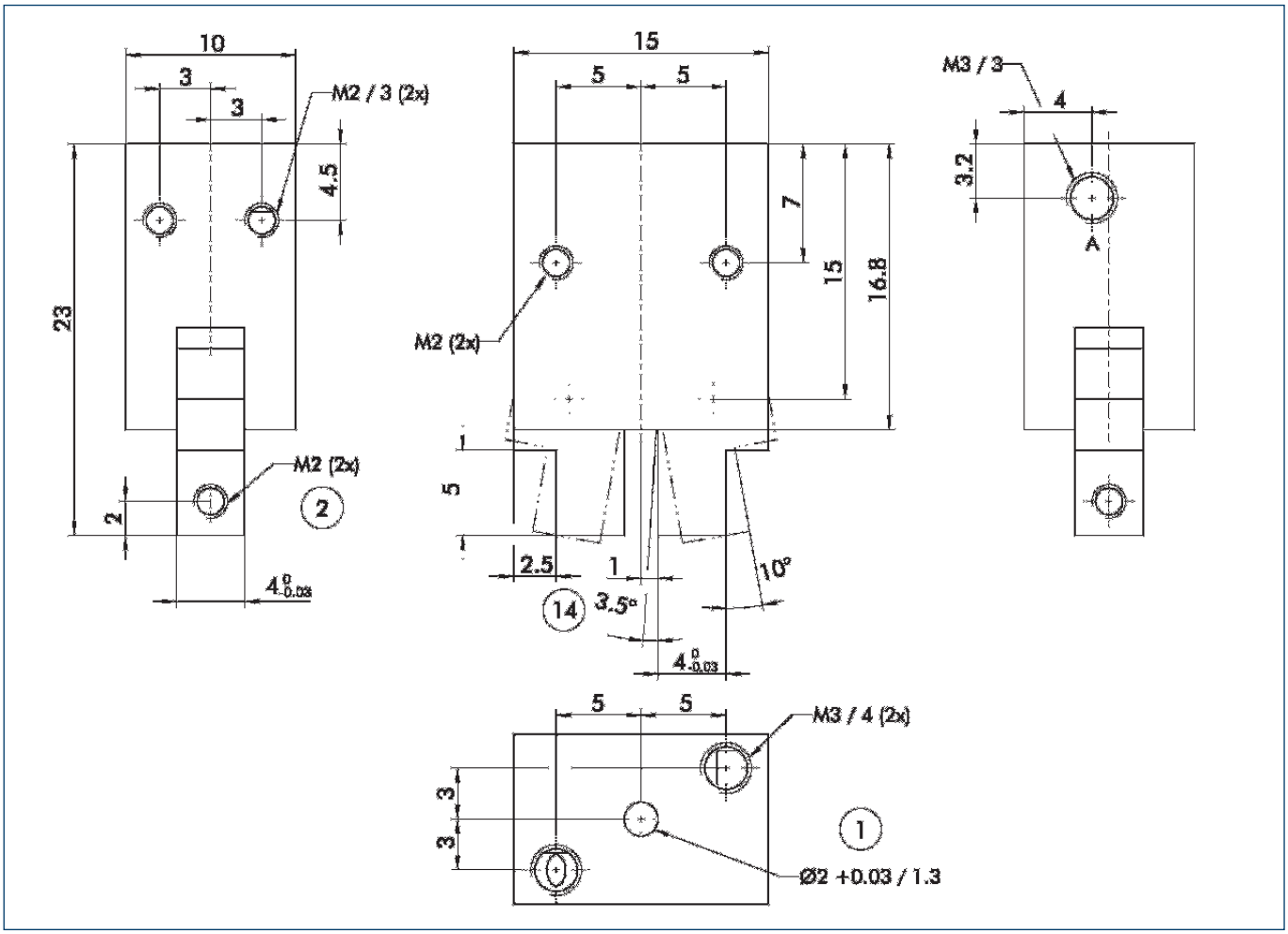


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RHL 0
	ID	0360170
Opening angle per jaw	°	10.0
Opening angle per jaw up to	°	3.5
Closing moment	Nm [lbf ft]	0.014 [0.010]
Weight	kg [oz]	0.0085 [0.30]
Recommended workpiece weight	kg [oz]	0.018 [0.63]
Air consumption per double stroke	cm^3 [in^3]	0.06 [0.004]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.1
Opening time	s	0.1
Max. permitted finger length	mm [in]	16.0 [0.630]
Max. permitted weight per finger	kg [oz]	0.01 [0.35]
IP class		30
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	60.0 [140]
Repeat accuracy	mm [in]	0.03 [0.0012]

Main views



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

ⓘ The SDV-P pressure maintenance valve can be used as a gripping force safety device (see “Accessories” catalog section).

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

PWG-S

Sizes
40 .. 80

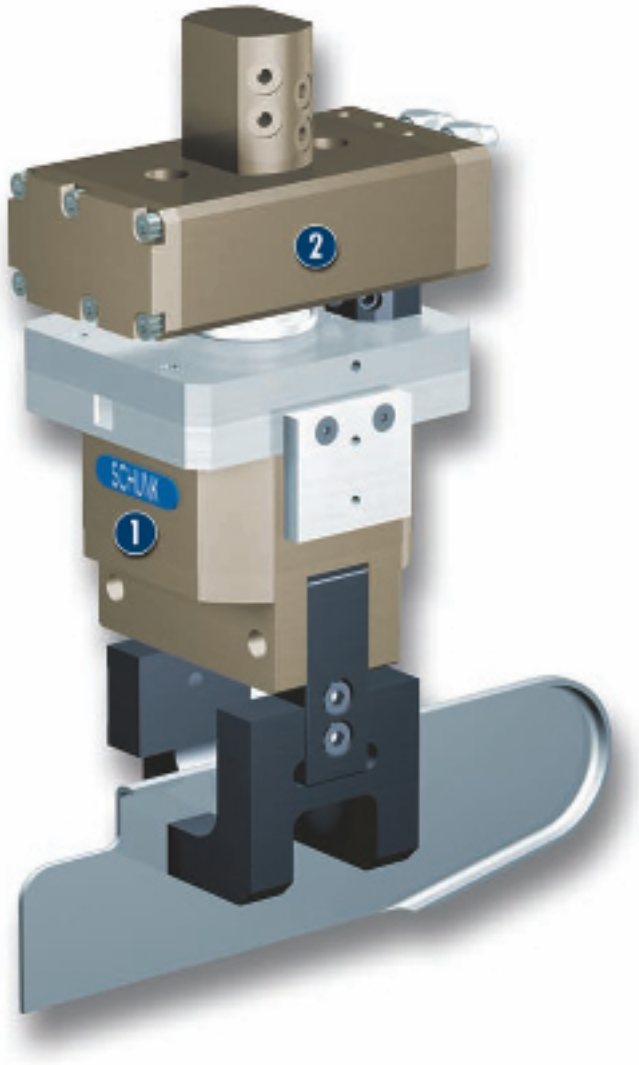
Weight
0.21 kg .. 1.2 kg
0.46 lbs .. 2.65 lbs

Gripping moment
6 Nm .. 51 Nm
4.4 lbf ft .. 38 lbf ft

Opening angle per finger
20°

Force-fit gripping
0.9 kg .. 4.8 kg
1.98 lbs .. 10.58 lbs

Application example



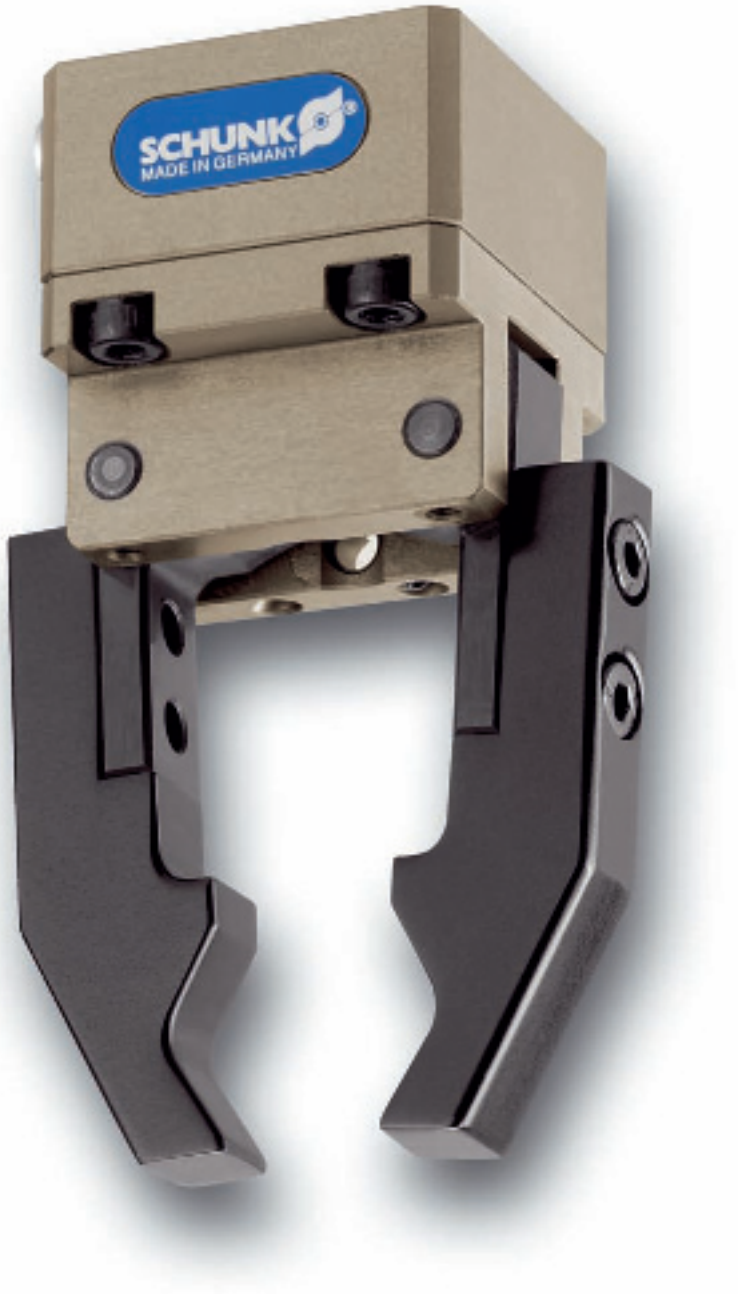
Rotating/gripping combination for flexible handling of sheet metal components.

1 2-Finger Angular Gripper PWG-S 80

2 Rotary Actuator OSE-A 22-4

Universal Angular Gripper

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



Area of application

For universal use in clean and slightly dirty environments

Your advantages and benefits

Spring-mounted maintenance of gripping force for O.D. gripping
Holds the workpiece on loss of pressure, always integrated

Proximity switch mounted directly without additional brackets
Eliminating unnecessary interfering contours

Minimum gripper dimensions with maximum gripping force
Therefore ensuring a high power to size ratio

Robust gripper design
Enabling a wide range of applications

Kinematics
For high power transmission and synchronized gripping

Information about the series

Working principle
Toggle drive system

Housing material
Aluminum alloy, hard-anodized

Base jaws material
Steel

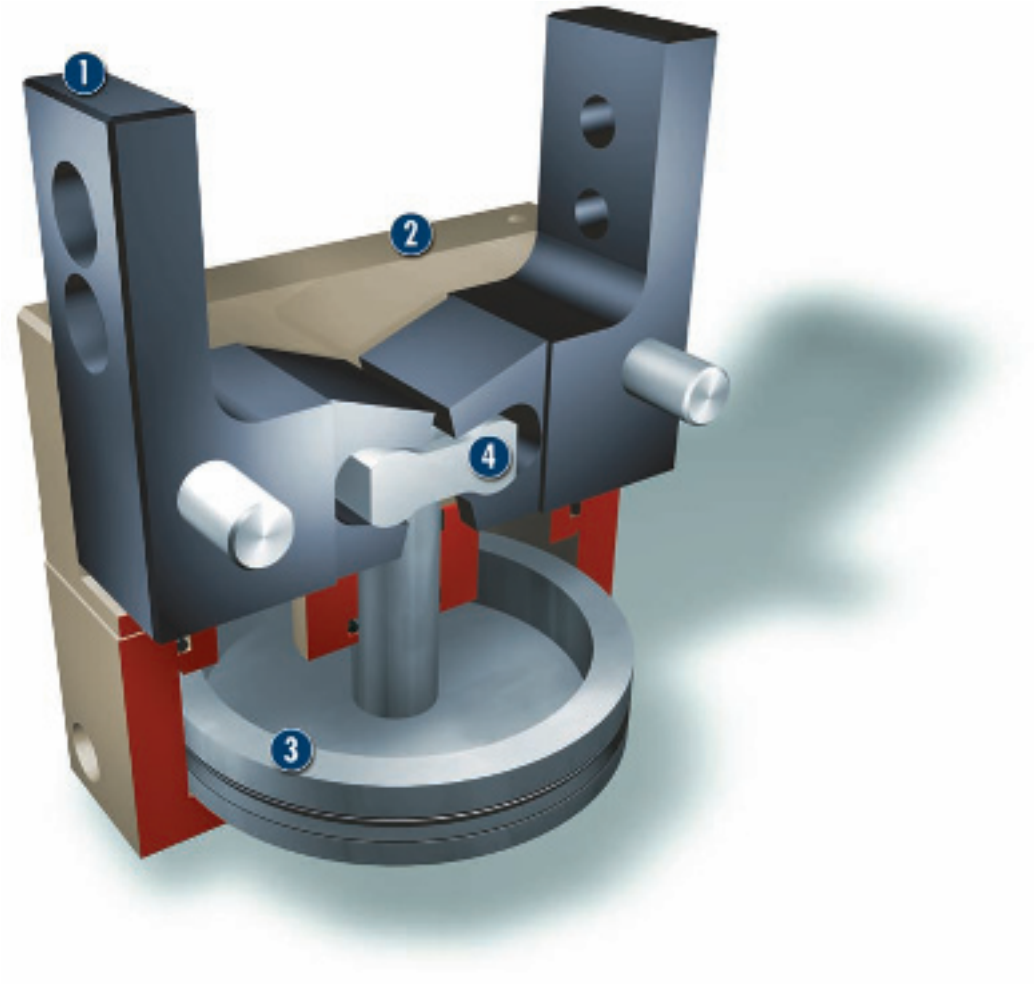
Actuation
Pneumatic, via filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Requirement on the quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

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

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

Sectional diagram



1 Gripper jaws
for the adaptation of workpiece-specific gripper fingers

2 Housing
weight-reduced thanks to the use of a hard-anodized, high-strength aluminum alloy

3 Drive
pneumatic piston for actuation

4 Kinematics
lever mechanism for synchronized gripping

Functional description

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

Options and special information

The opening angle can be reduced on request.

Accessories

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

Guide sleeves

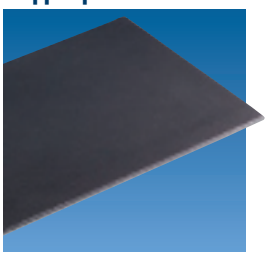
Fittings

Inductive proximity switches IN

Plastic inserts – Quentes

Sensor cables W/WK/KV/GK

Gripper pads HKI



Sensor distributor V

Pressure maintenance valves SDV-P

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

General information on the series

Gripping moment

The gripping moment describes the arithmetic total of the gripping moments for each jaw.

Finger length

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

Repeat accuracy

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

Workpiece weight

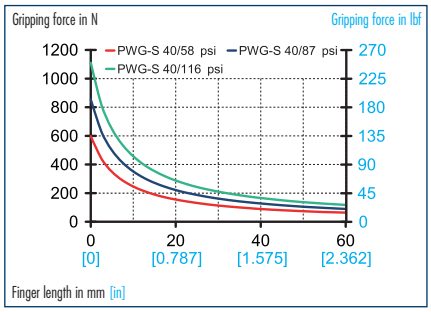
The recommended workpiece weight is calculated for force-fit gripping with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

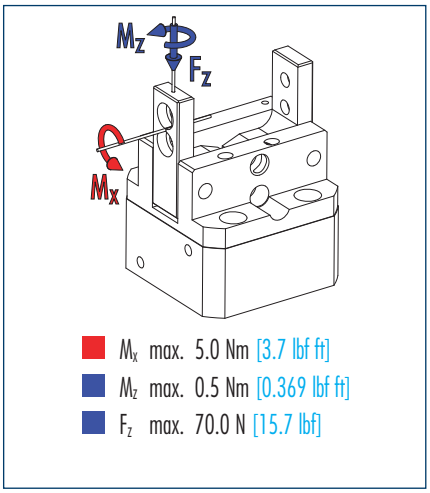
Closing and opening times are the pure movement times of the base jaws or fingers. Valve switching times, hose filling times or PLC reaction times are not included and must be taken into consideration when determining cycle times.

PWG-S 40

Gripping force, O.D. gripping



Finger load

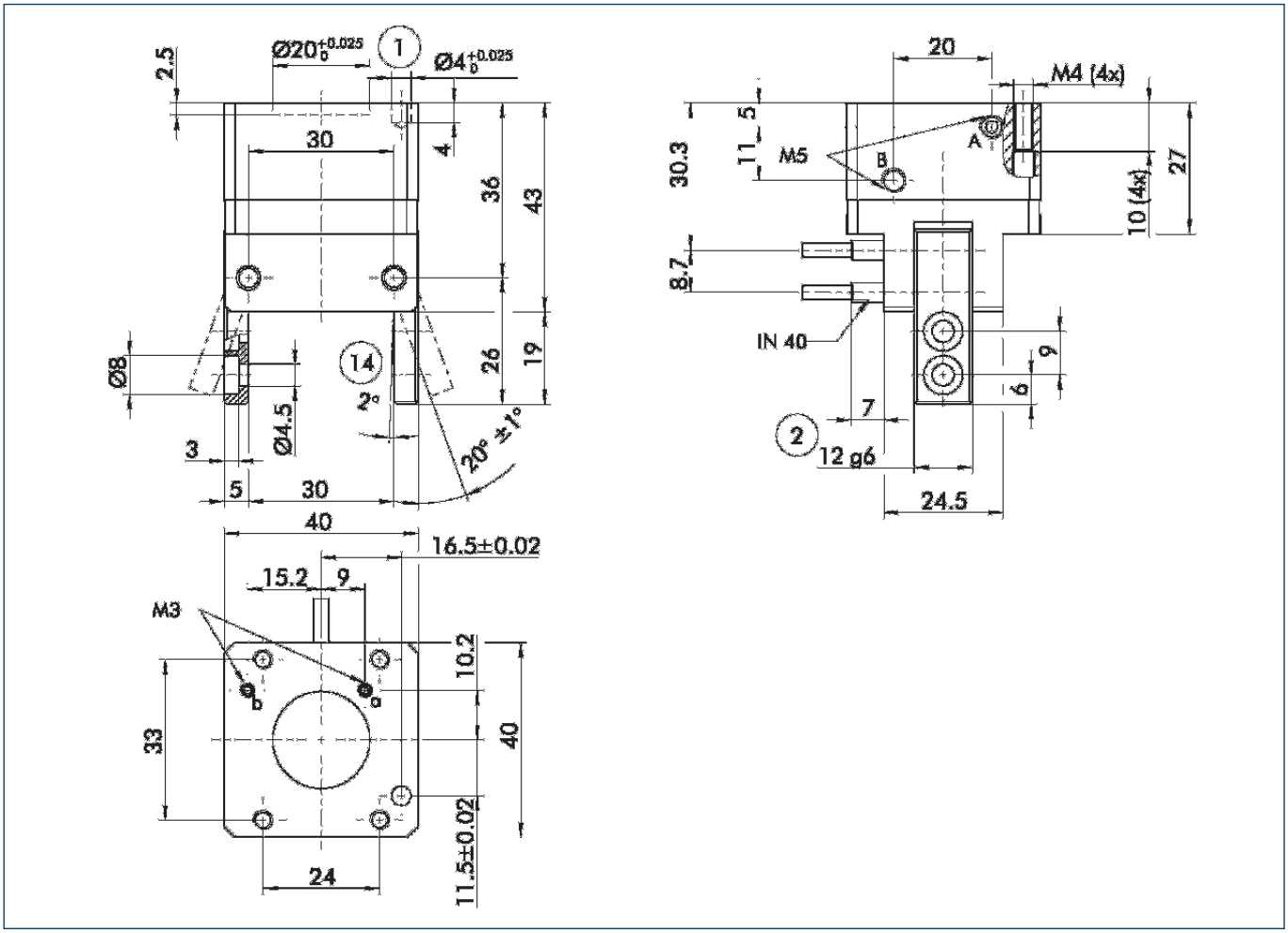


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		PWG-S 40
	ID	0302611
Opening angle per jaw	°	20.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	5.98 [4.4]
Closing moment secured by springs	Nm [lbf ft]	0.9 [0.664]
Weight	kg [lbs]	0.21 [0.46]
Recommended workpiece weight	kg [lbs]	0.9 [1.98]
Air consumption per double stroke	cm^3 [in^3]	7.5 [0.46]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.01
Opening time	s	0.01
Max. permitted finger length	mm [in]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.15 [0.33]
IP rating		20
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

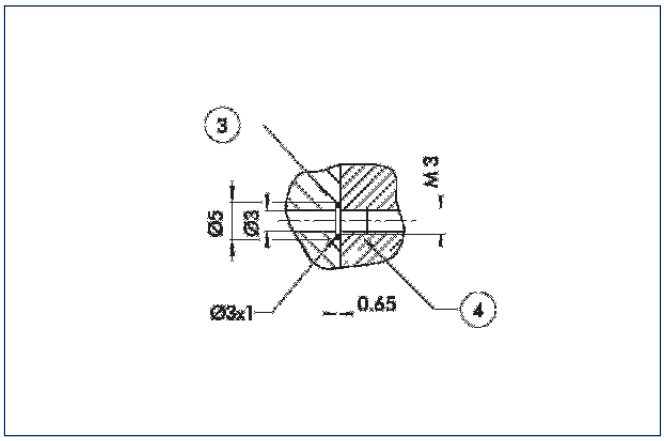


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

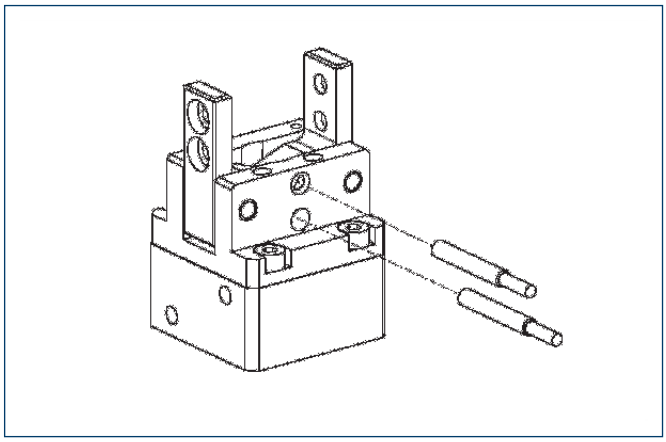
Hose-free direct connection



③ Adapter
④ Gripper

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

Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

Extension cables for proximity switches/magnetic switches

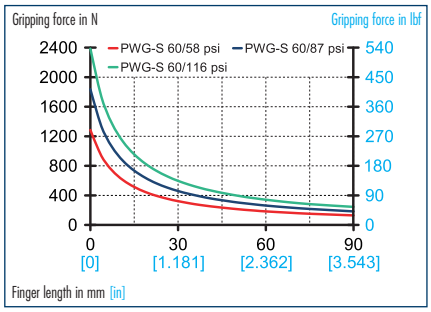
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

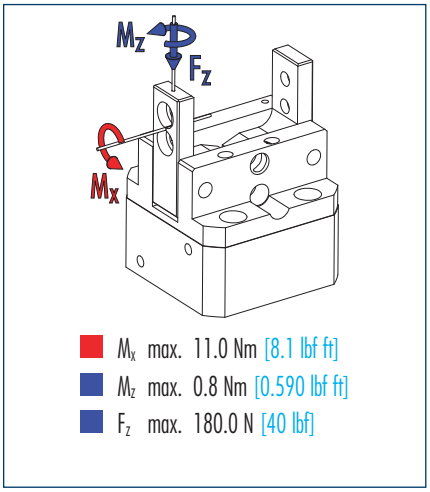
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

PWG-S 60

Gripping force, O.D. gripping



Finger load



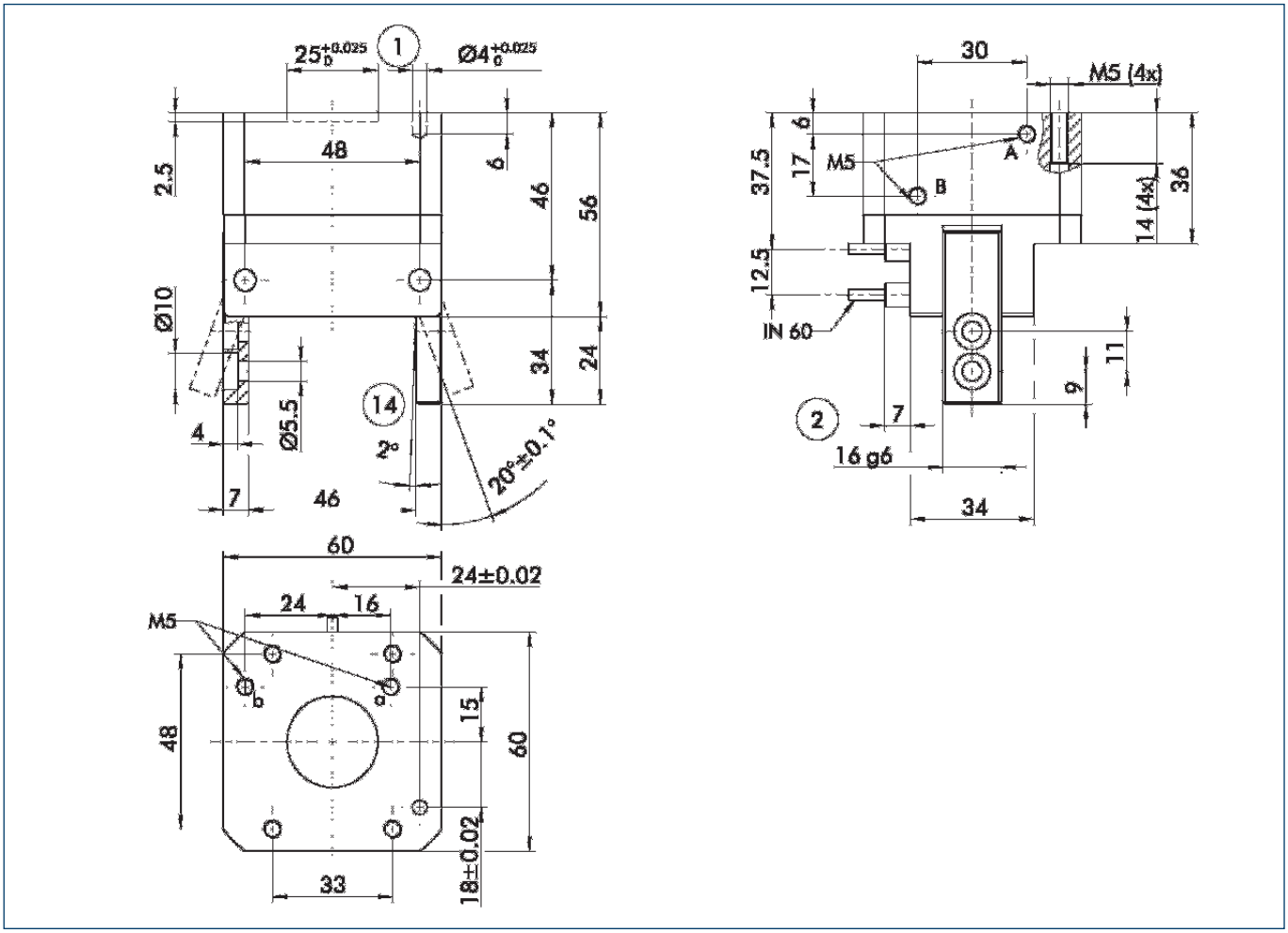
- M_x max. 11.0 Nm [8.1 lbf ft]
- M_z max. 0.8 Nm [0.590 lbf ft]
- F_z max. 180.0 N [40 lbf]

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

Technical data

Designation		PWG-S 60
	ID	0302612
Opening angle per jaw	°	20.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	18.36 [13.5]
Closing moment secured by springs	Nm [lbf ft]	2.4 [1.8]
Weight	kg [lbs]	0.62 [1.37]
Recommended workpiece weight	kg [lbs]	2.2 [4.85]
Air consumption per double stroke	cm^3 [in^3]	29.0 [1.77]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.03
Opening time	s	0.03
Max. permitted finger length	mm [in]	60.0 [2.362]
Max. permitted weight per finger	kg [lbs]	0.4 [0.88]
IP rating		20
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

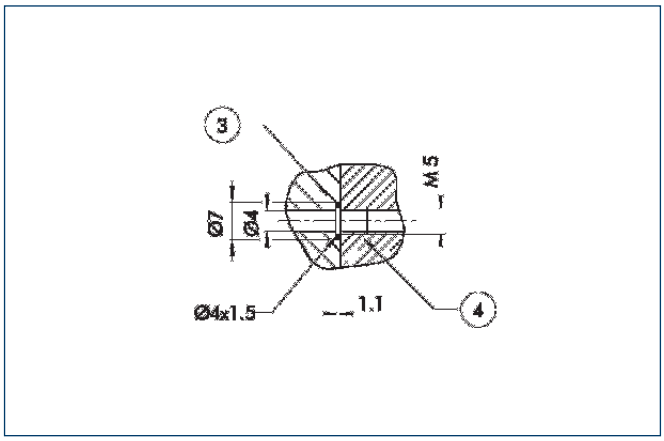


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

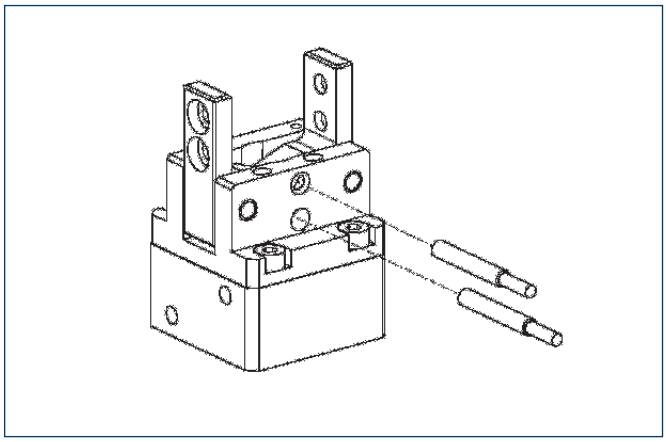
Hose-free direct connection



③ Adapter
④ Gripper

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

Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

Extension cables for proximity switches/magnetic switches

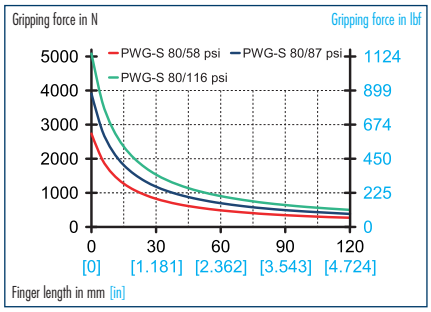
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

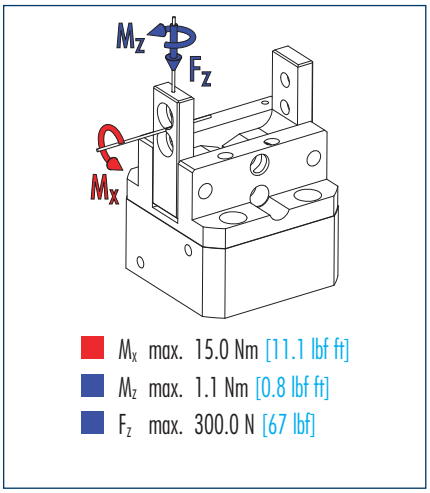
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

PWG-S 80

Gripping force, O.D. gripping



Finger load

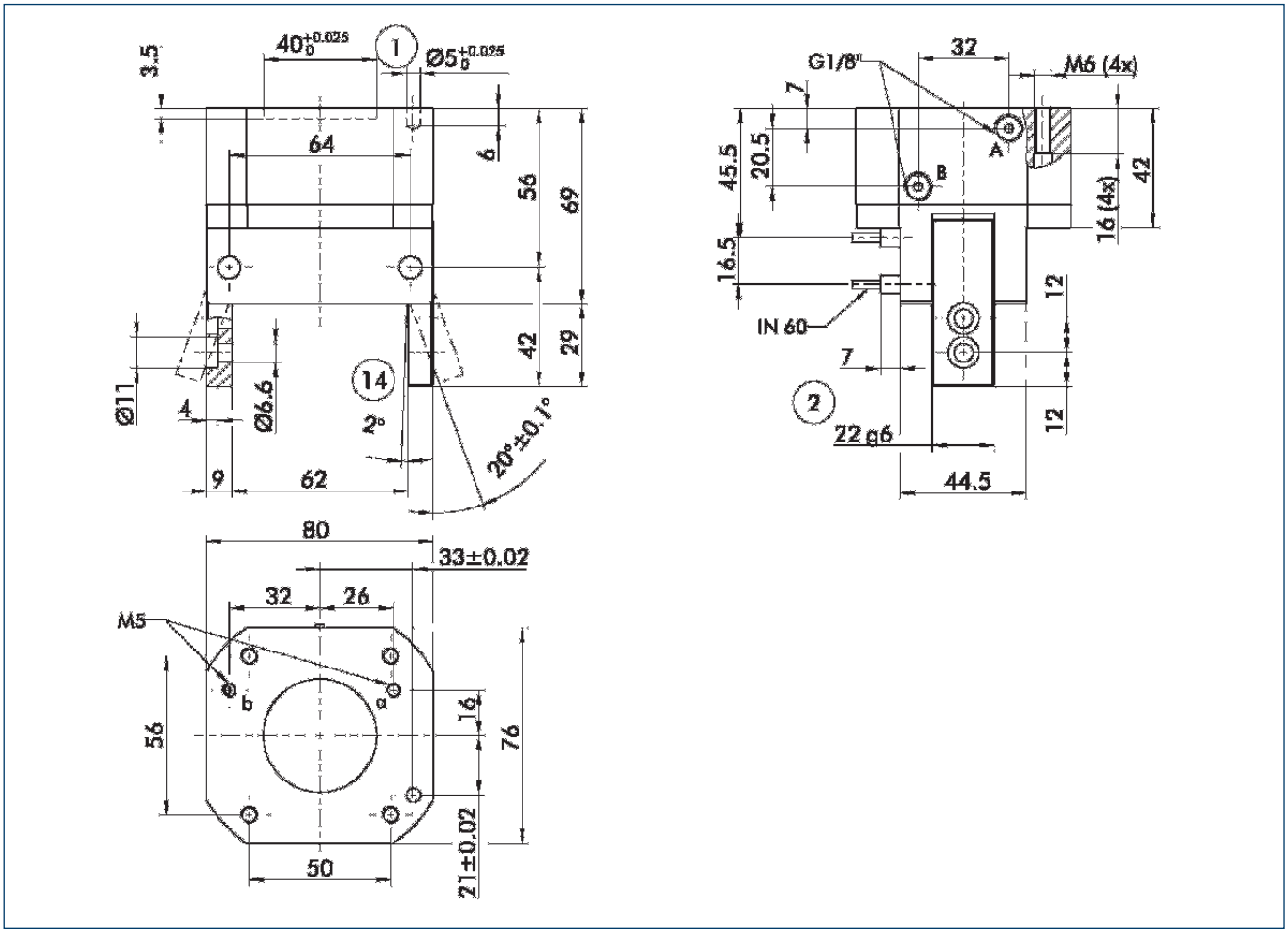


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		PWG-S 80
	ID	0302613
Opening angle per jaw	°	20.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	50.82 [37]
Closing moment secured by springs	Nm [lbf ft]	10.1 [7.4]
Weight	kg [lbs]	1.2 [2.65]
Recommended workpiece weight	kg [lbs]	4.8 [10.58]
Air consumption per double stroke	cm^3 [in^3]	60.0 [3.66]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]
Closing time	s	0.05
Opening time	s	0.05
Max. permitted finger length	mm [in]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.8 [1.76]
IP rating		20
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

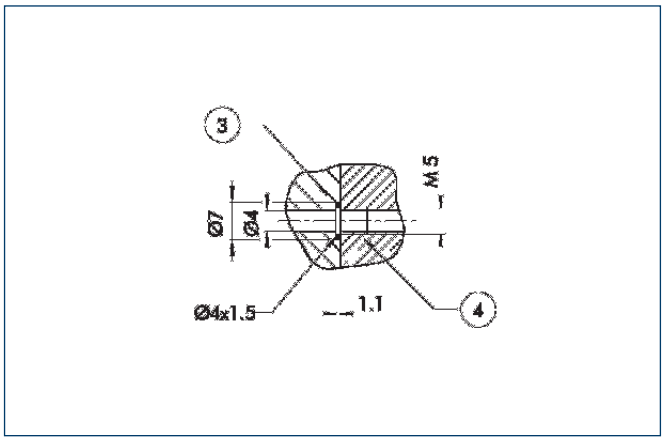


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

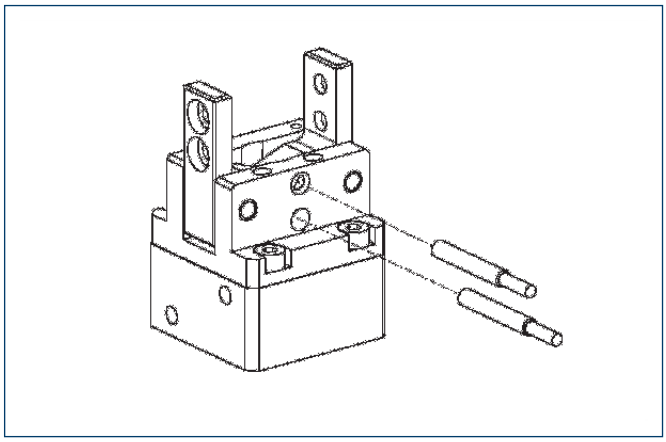
Hose-free direct connection



③ Adapter
④ Gripper

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

Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

Extension cables for proximity switches/magnetic switches

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

ⓘ 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.

PWG

Sizes
65 .. 230

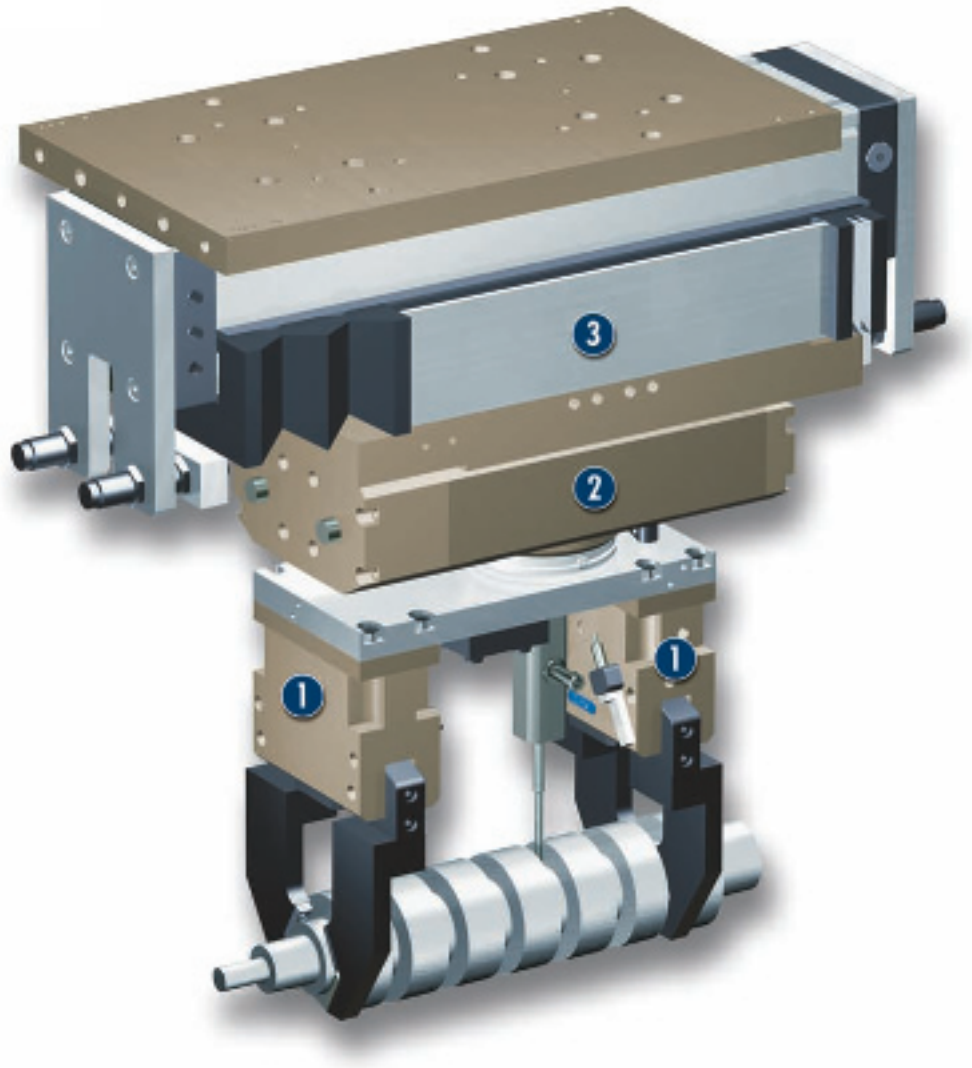
Weight
0.33 kg .. 16.3 kg
0.73 lbs .. 35.94 lbs

Gripping moment
6 Nm .. 934 Nm
4.4 lbf ft .. 689 lbf ft

Opening angle per finger
20°

Workpiece weight
1.1 kg .. 43 kg
2.43 lbs .. 94.80 lbs

Application example



Rotary feed unit for shafts

1. **PWG 130-B**
   2-Finger Angular Gripper
2. **OSE-C 57-8 Rotary Unit**
3. **LIRAX-P-SLF-02**
   Gantry Axis with bellows cover

Universal Angular Gripper

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

Area of application

For universal use in clean and slightly dirty environments

Your advantages and benefits

Variable top jaw design
as gripper is available both as a jaw version (-B) and a finger version (-F)

FPS measuring system
monitoring of jaw position or of 5 ranges by means of the add-on FPS sensor

Gripping force safety device
always integrated for reliable, controlled production

Can be used in tough environments
thanks to the gripper's sturdy construction

General information on the series

Working principle
Positively driven lever mechanism

Housing material
Aluminum alloy, hard-anodized

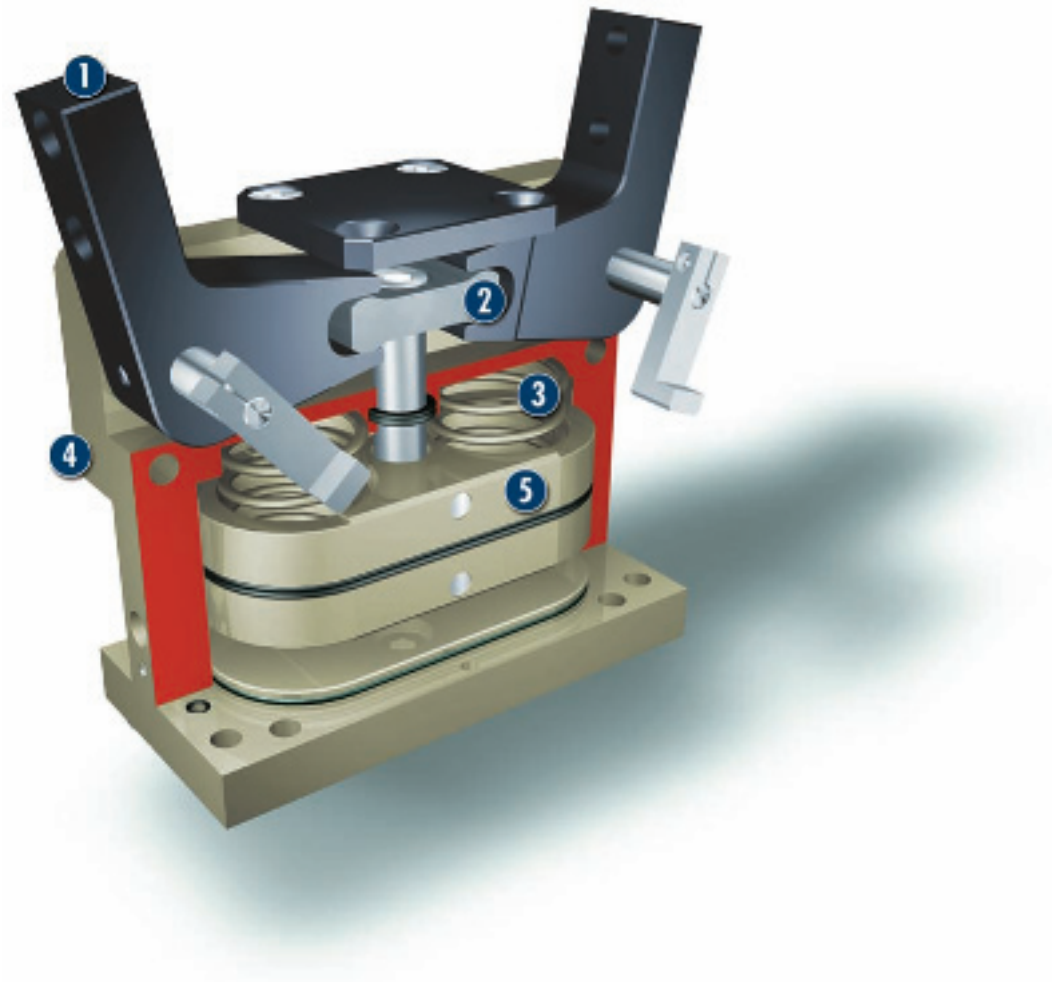
Base jaw material
Steel

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

Sectional diagram



1 **Base jaws**
for the connection of workpiece-specific gripper fingers

2 **Kinematics**
lever mechanism for synchronized gripping

3 **Gripping force safety device**
mechanical gripping force maintenance for O.D. gripping

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

5 **Drive**
pneumatic oval piston for maximum driving force

Function description

The piston is moved up or down by means of compressed air. The kinematics use the guided lever system to transform the vertical motion into the synchronous, angular movement of the base jaws.

Options and special information

This series is especially suitable for handling crankshafts and camshafts.

Accessories

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

Centering sleeves

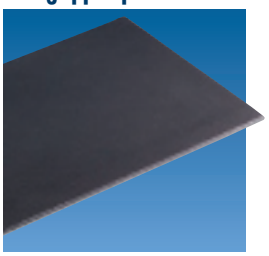
Fittings

IN inductive proximity switches

Quentes plastic inserts

W/WK/KV/GK sensor cables

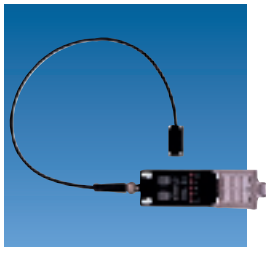
HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

FPS flexible position sensor



ⓘ For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You can find more detailed information on our accessory range in the "Accessories" catalog section.

General information on the series

Gripping moment
is the arithmetic total of gripping moments for each base jaw.

Finger length
is measured from the upper edge of the gripper housing in the direction of the main axis. If the max. permitted finger length is exceeded, as with heavy fingers, the speed of movement of the jaws must be restricted and/or the opening angle reduced. The service life of the gripper may be reduced.

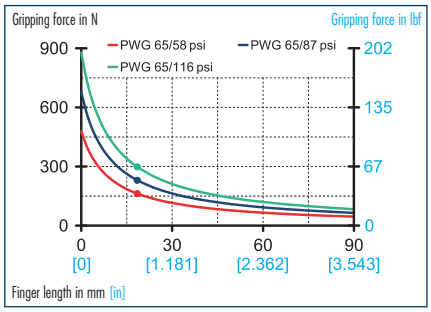
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a 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 gripping.

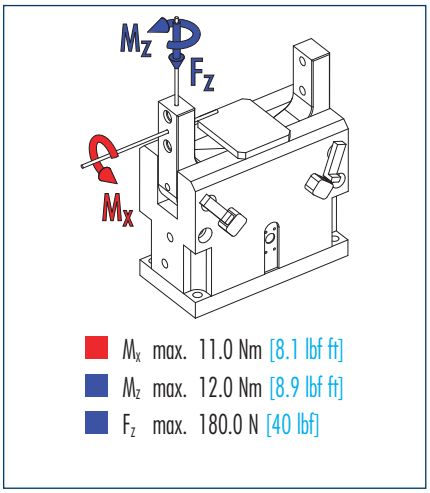
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PWG 65

Gripping force, O.D. gripping



Finger load

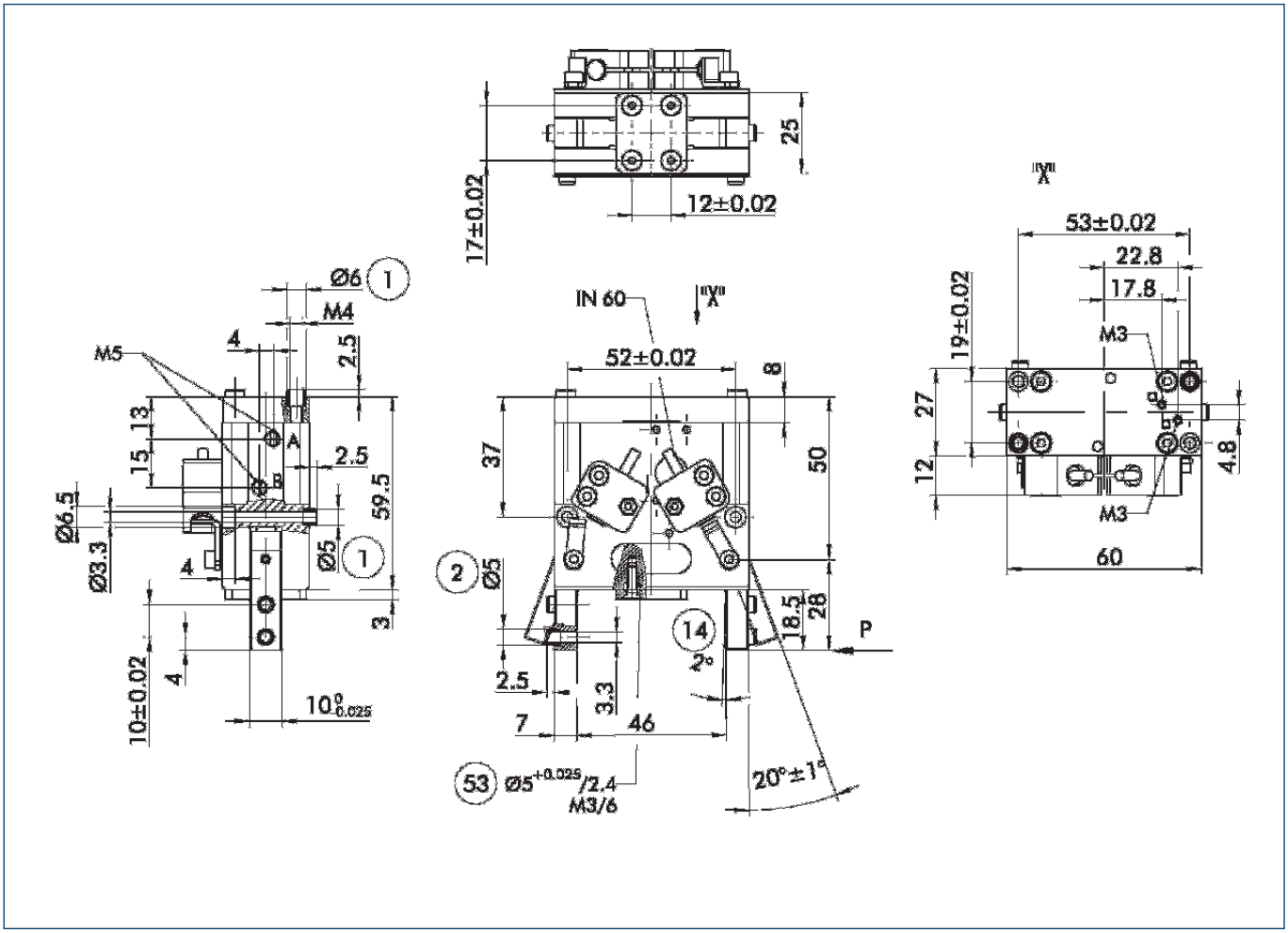


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PWG 65-F	PWG 65-B
	ID	0302630	0302631
Connection version			Base jaw
Opening angle per jaw	°	20.0	20.0
Opening angle per jaw up to	°	2.0	2.0
Closing moment	Nm [lbf ft]	6.44 [4.7]	6.44 [4.7]
Closing moment ensured by spring	Nm [lbf ft]	1.7 [1.3]	1.7 [1.3]
Weight	kg [lbs]	0.33 [0.73]	0.33 [0.73]
Recommended workpiece weight	kg [lbs]	1.1 [2.43]	1.1 [2.43]
Air consumption per double stroke	cm^3 [in^3]	8.0 [0.49]	8.0 [0.49]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.01	0.01
Opening time	s	0.02	0.02
Max. permitted finger length	mm [in]	60.0 [2.362]	60.0 [2.362]
Max. permitted weight per finger	kg [lbs]	0.15 [0.33]	0.15 [0.33]
IP class		20	20
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

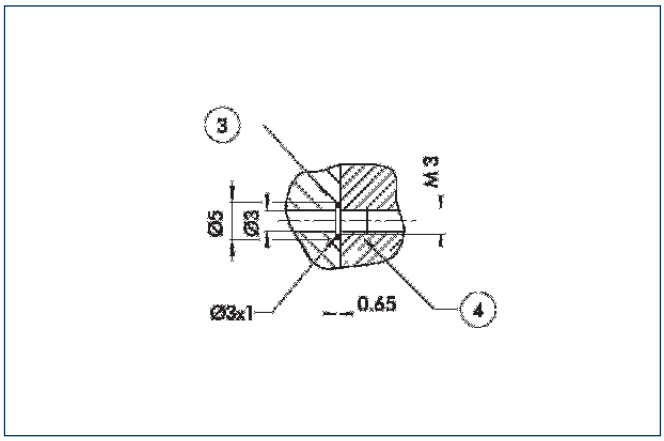


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊸ Connection for shaft support

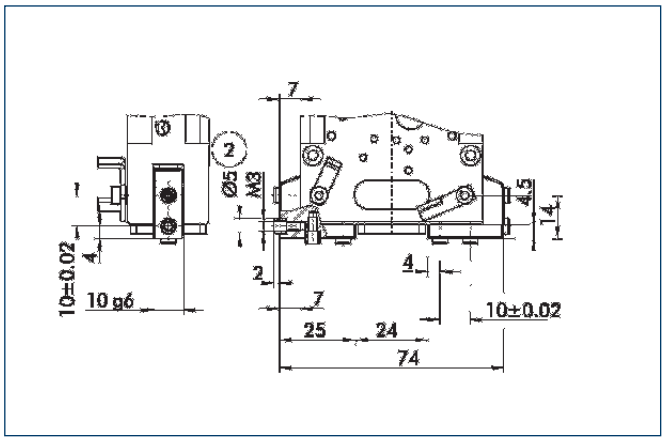
Hoseless direct connection



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.

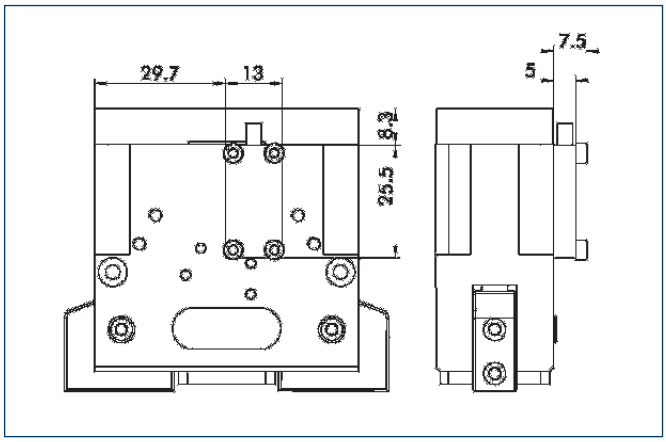
Jaw version



② Finger connection

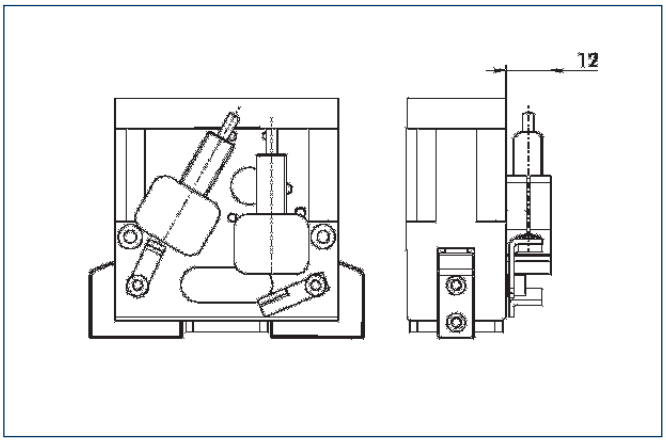
Different dimensions for version "B" (jaw version).

FPS measuring system



In the PWG, up to 3 intermediate positions can be monitored by the FPS flexible position sensor.

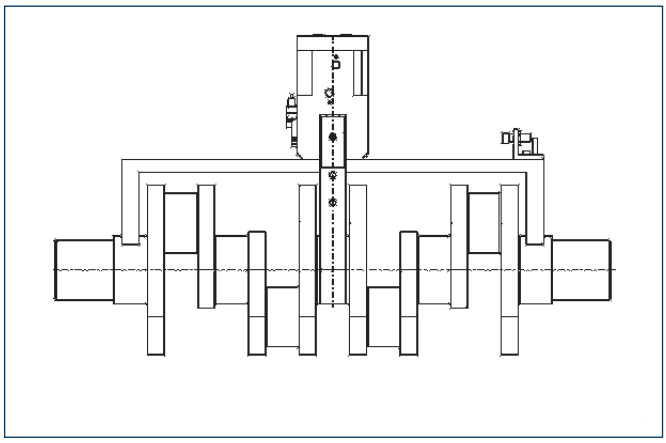
Mounting kit for proximity switch



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

Description	ID
HG-PWG 65	0300764

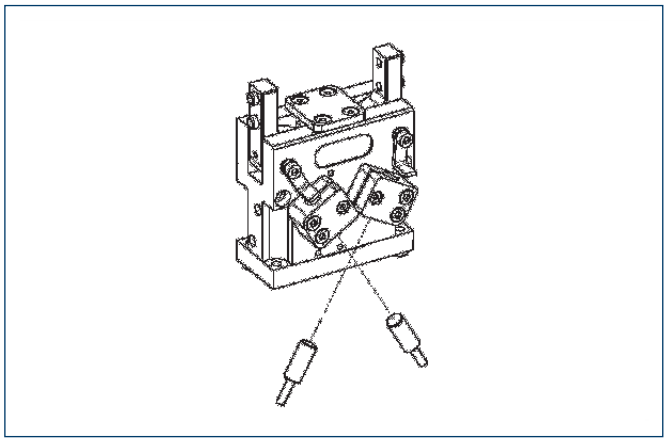
Shaft support



We will supply the complete module for handling crankshafts and camshafts on request.

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

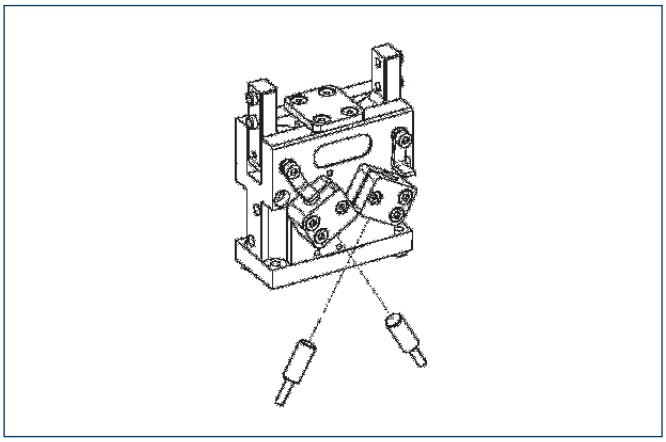
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

ⓘ 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

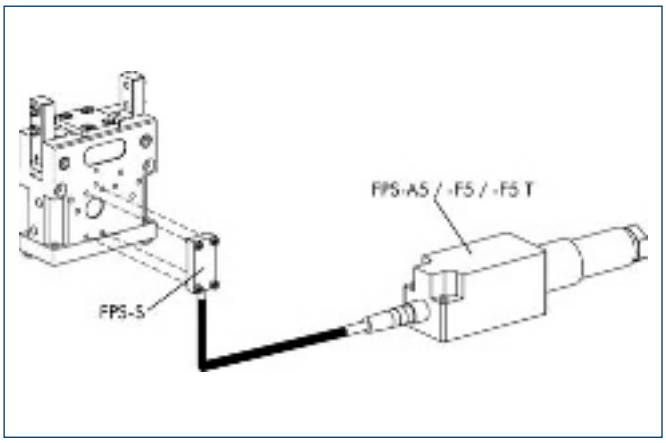
Description	ID	Recommended product
HG-PWG 65	0300764	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	
INK 80/SL	0301579	

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

Extension cables for proximity switches/magnetic switches

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

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



Measuring system:
FPS position monitor

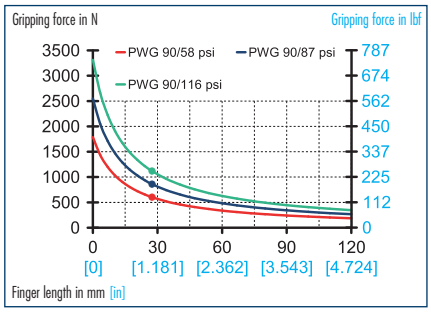
Description	ID
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

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.

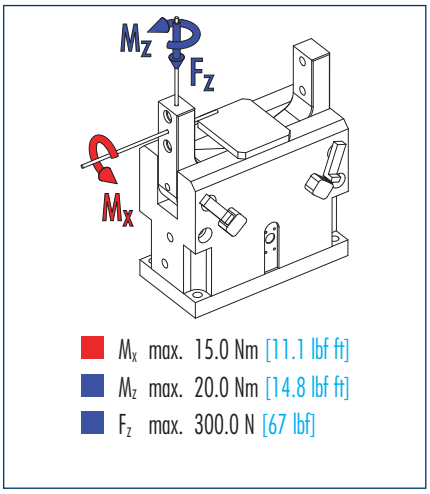
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PWG 90

Gripping force, O.D. gripping



Finger load

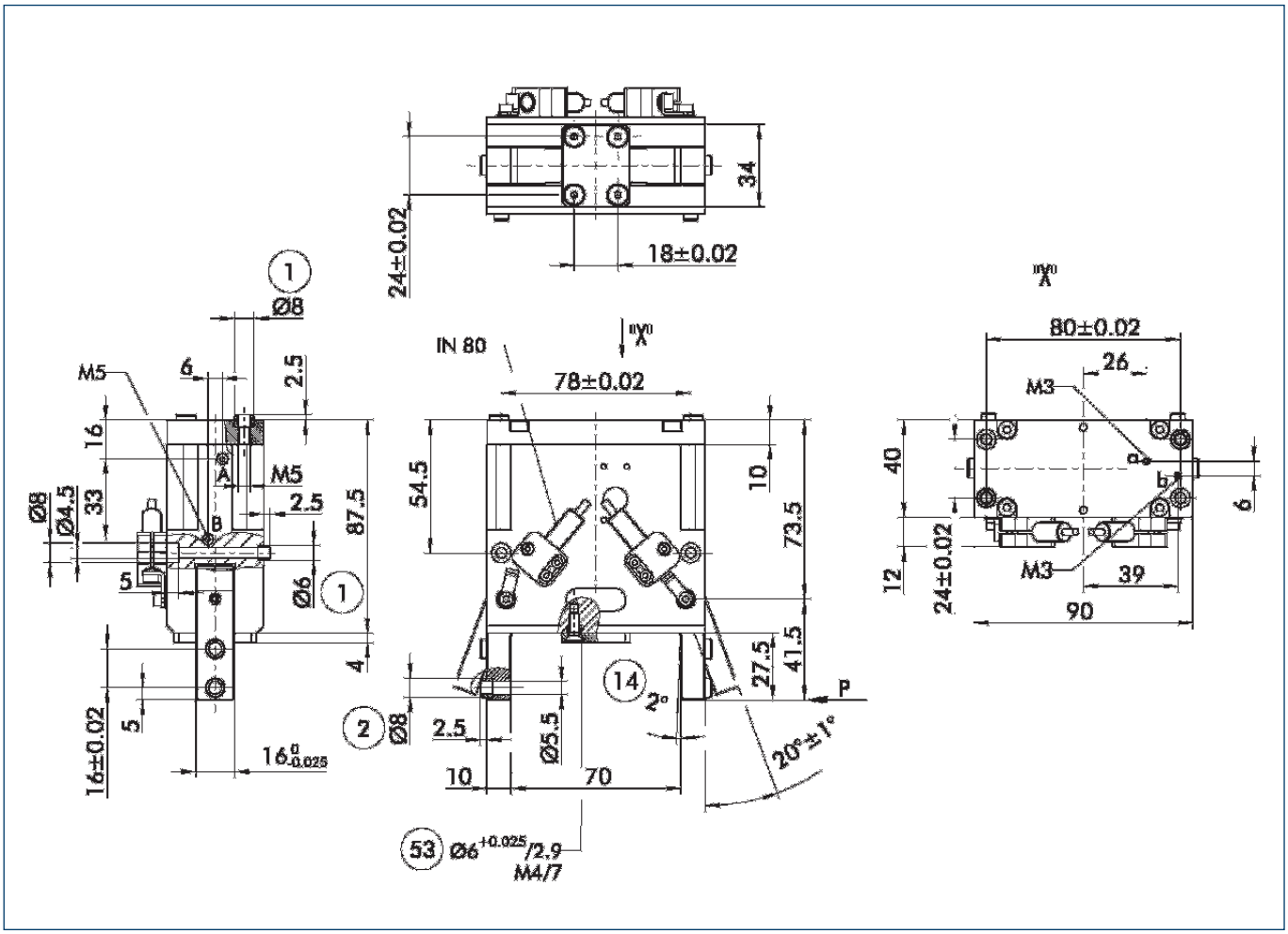


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PWG 90-F	PWG 90-B
	ID	0302632	0302633
Connection version			Base jaw
Opening angle per jaw	°	20.0	20.0
Opening angle per jaw up to	°	2.0	2.0
Closing moment	Nm [lbf ft]	35.69 [26]	35.69 [26]
Closing moment ensured by spring	Nm [lbf ft]	9.0 [6.6]	9.0 [6.6]
Weight	kg [lbs]	0.99 [2.18]	1.06 [2.34]
Recommended workpiece weight	kg [lbs]	4.3 [9.48]	4.3 [9.48]
Air consumption per double stroke	cm^3 [in^3]	35.0 [2.14]	35.0 [2.14]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.03	0.03
Opening time	s	0.06	0.06
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.5 [1.10]	0.5 [1.10]
IP class		20	20
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

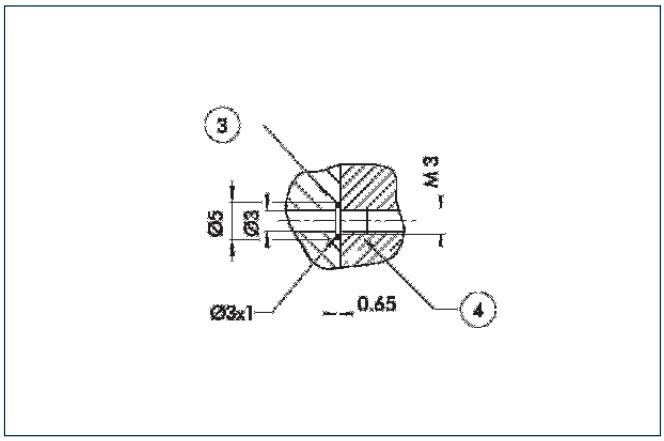


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊸ Connection for shaft support

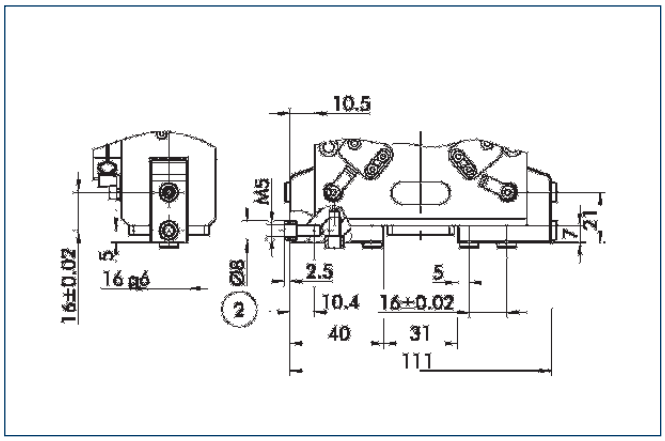
Hoseless direct connection



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.

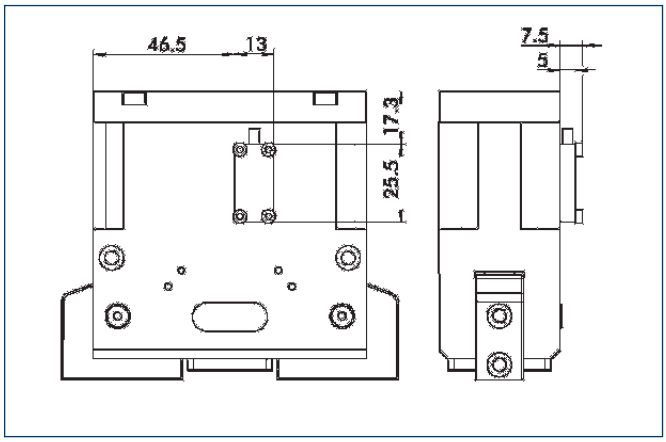
Jaw version



② Finger connection

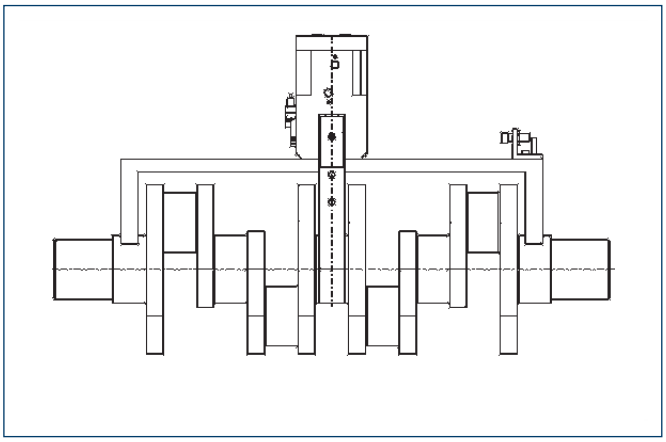
Different dimensions for version "B" (jaw version).

FPS measuring system



In the PWG, up to 3 intermediate positions can be monitored by the FPS flexible position sensor.

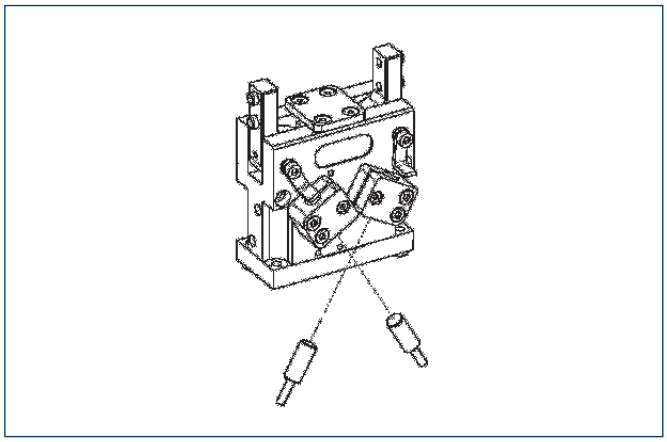
Shaft support

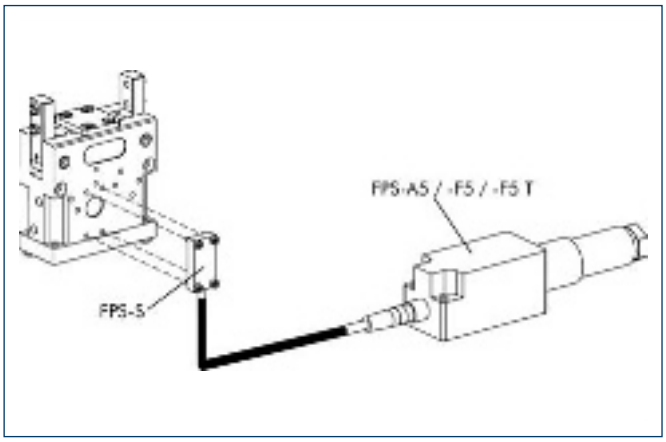


We will supply the complete module for handling crankshafts and camshafts on request.

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	

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

Measuring system:
FPS position monitor

Description	ID
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705
KV 05	0301598
KV 1	0301599
KV 10	0301801

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

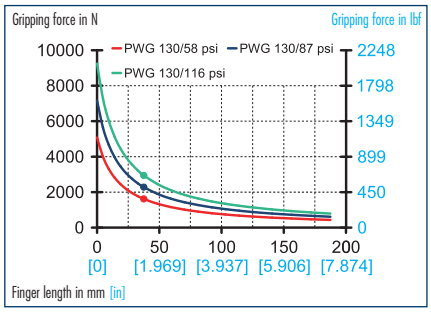
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

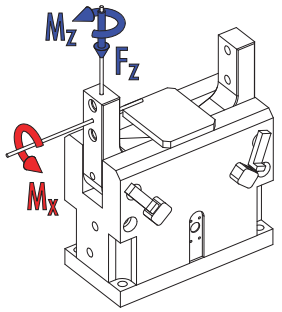
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PWG 130

Gripping force, O.D. gripping



Finger load



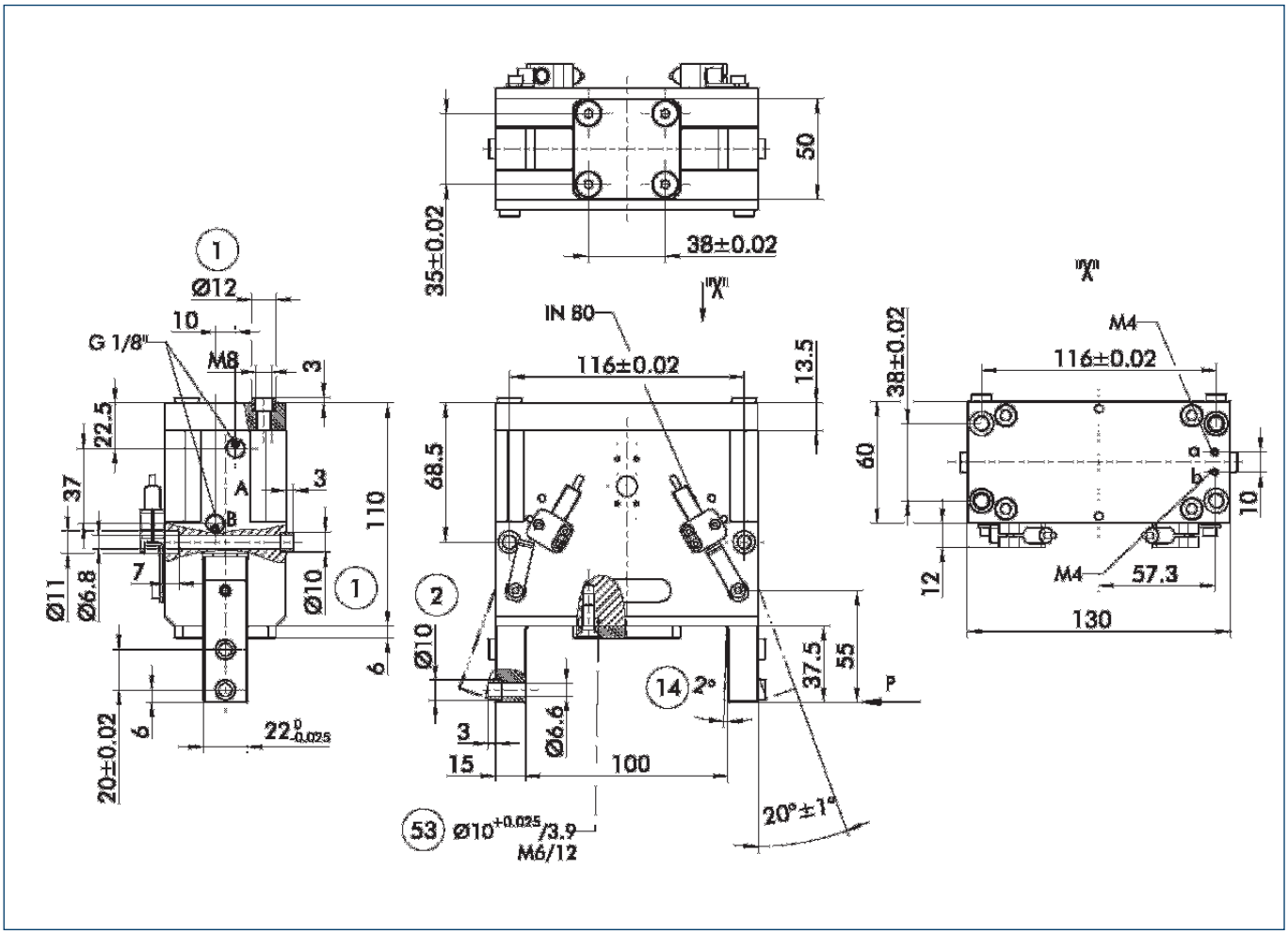
M_x max. 20.0 Nm [14.8 lbf ft]
M_z max. 35.0 Nm [26 lbf ft]
F_z max. 350.0 N [79 lbf]

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

Technical data

Description		PWG 130-F	PWG 130-B
	ID	0302634	0302635
Connection version			Base jaw
Opening angle per jaw	°	20.0	20.0
Opening angle per jaw up to	°	2.0	2.0
Closing moment	Nm [lbf ft]	125.4 [92]	125.4 [92]
Closing moment ensured by spring	Nm [lbf ft]	34.2 [25]	34.2 [25]
Weight	kg [lbs]	2.6 [5.73]	2.8 [6.17]
Recommended workpiece weight	kg [lbs]	11.0 [24.25]	11.0 [24.25]
Air consumption per double stroke	cm^3 [in^3]	120.0 [7.32]	120.0 [7.32]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.1	0.1
Opening time	s	0.19	0.19
Max. permitted finger length	mm [in]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.0 [2.20]	1.0 [2.20]
IP class		20	20
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

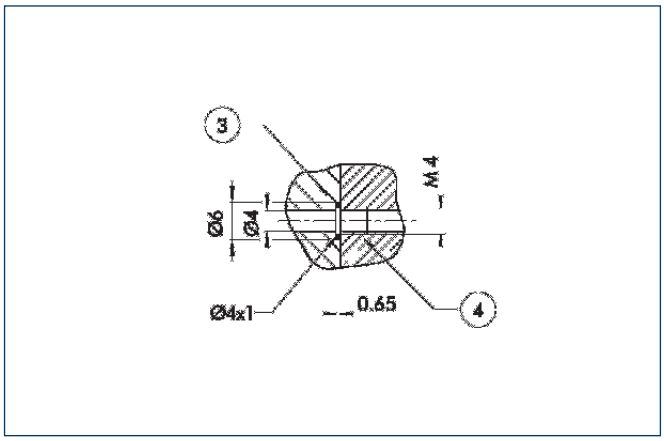


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊸ Connection for shaft support

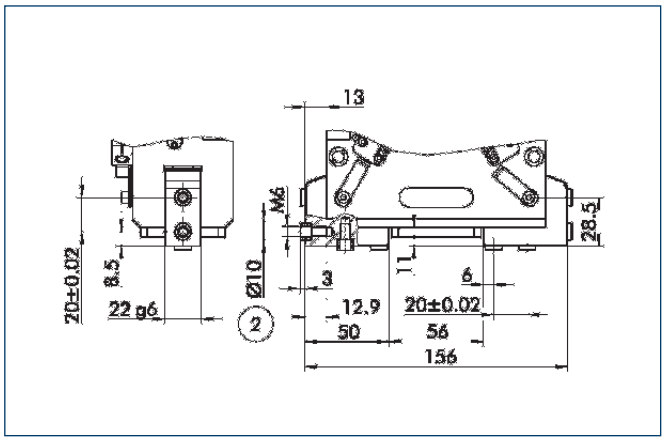
Hoseless direct connection



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.

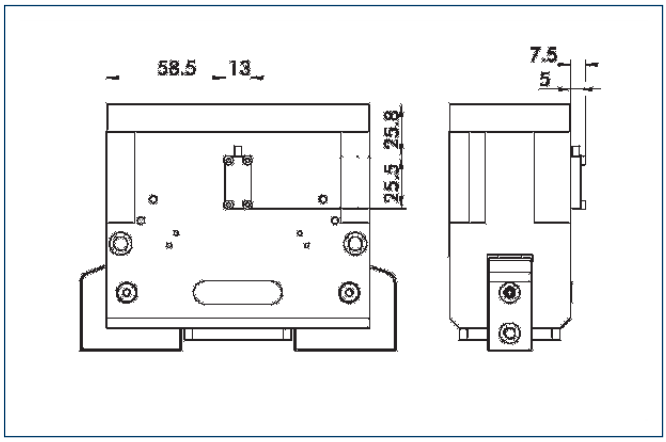
Jaw version



② Finger connection

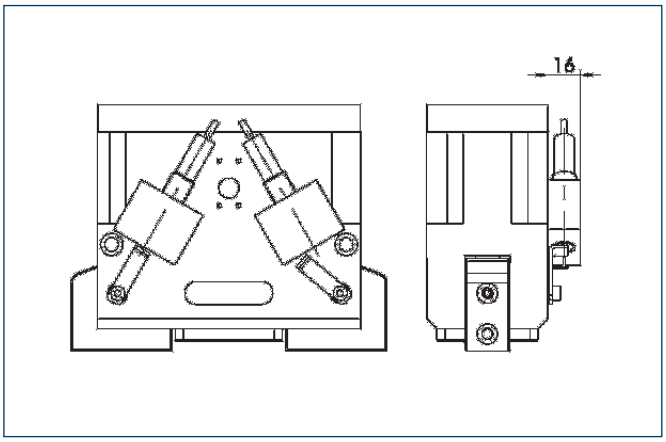
Different dimensions for version "B" (jaw version).

FPS measuring system



In the PWG, up to 3 intermediate positions can be monitored by the FPS flexible position sensor.

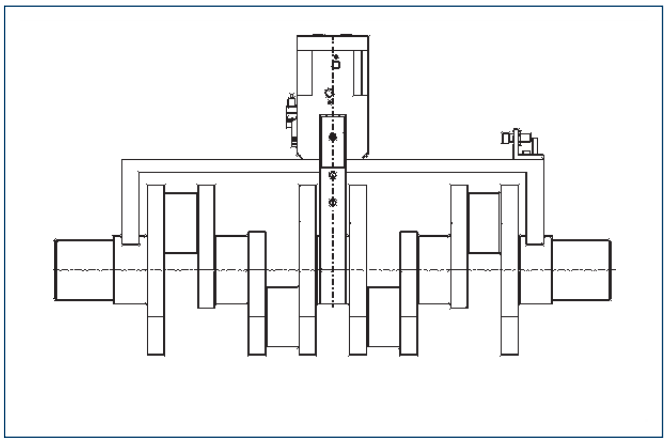
Mounting kit for proximity switch



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

Description	ID
HG-PWG 130-230	0300763

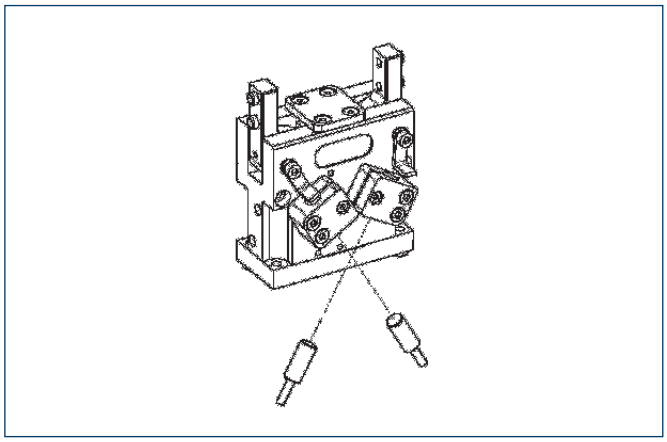
Shaft support



We will supply the complete module for handling crankshafts and camshafts on request.

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

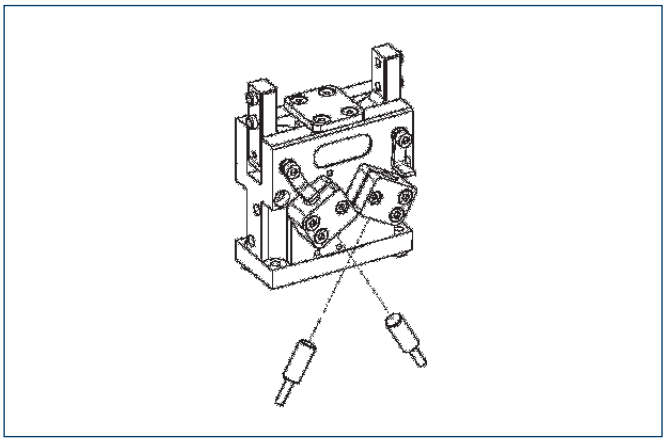
Sensor system



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	

ⓘ 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

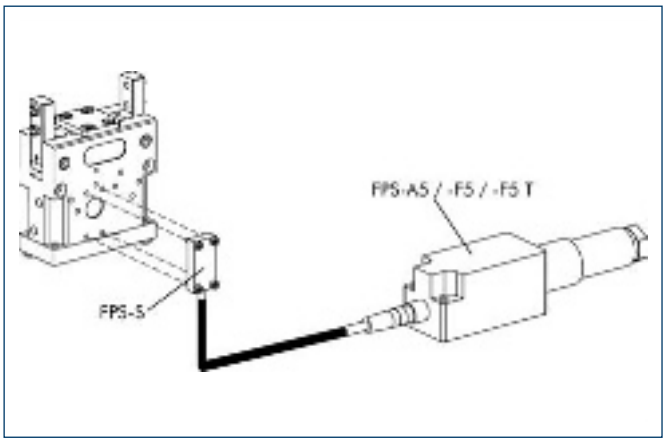
Description	ID	Recommended product
HG-PWG 130-230	0300763	
IN 120/S-M12	0301592	•
INK 120/S	0301562	

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

Extension cables for proximity switches/magnetic switches

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

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



Measuring system:
FPS position monitor

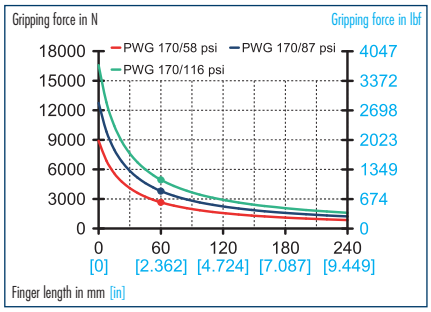
Description	ID
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

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.

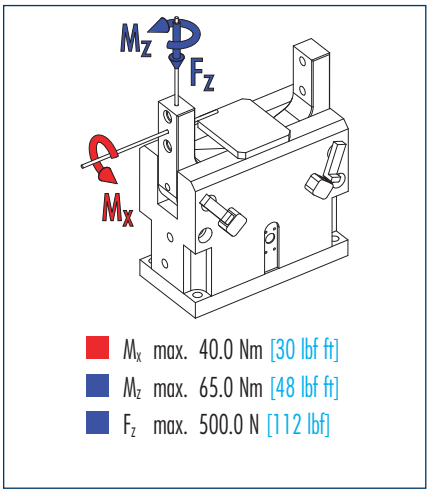
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PWG 170

Gripping force, O.D. gripping



Finger load



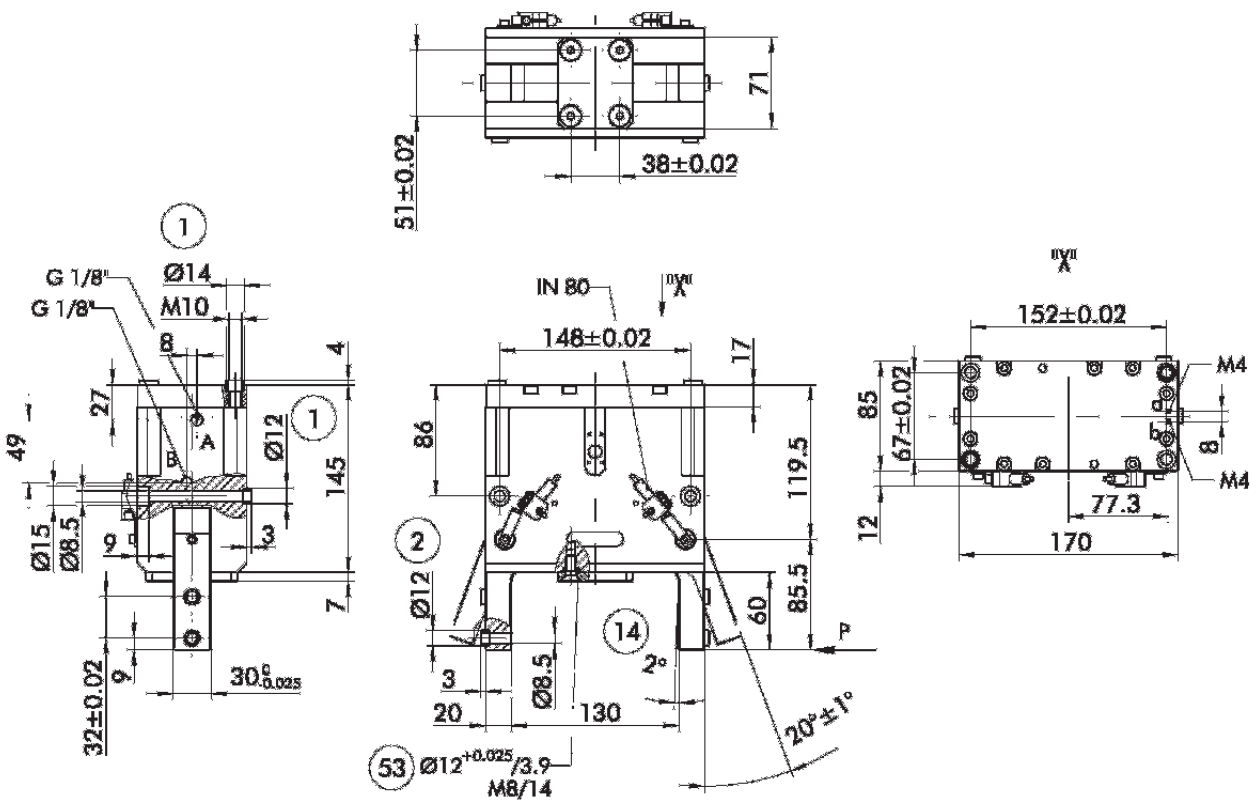
- M_x max. 40.0 Nm [30 lbf ft]
- M_z max. 65.0 Nm [48 lbf ft]
- F_z max. 500.0 N [112 lbf]

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

Technical data

Description		PWG 170-F	PWG 170-B
	ID	0302636	0302637
Connection version			Base jaw
Opening angle per jaw	°	20.0	20.0
Opening angle per jaw up to	°	2.0	2.0
Closing moment	Nm [lbf ft]	324.9 [240]	324.9 [240]
Closing moment ensured by spring	Nm [lbf ft]	80.4 [59]	80.4 [59]
Weight	kg [lbs]	6.6 [14.55]	7.0 [15.43]
Recommended workpiece weight	kg [lbs]	19.0 [41.89]	19.0 [41.89]
Air consumption per double stroke	cm^3 [in^3]	320.0 [19.53]	320.0 [19.53]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.27	0.27
Opening time	s	0.3	0.3
Max. permitted finger length	mm [in]	160.0 [6.299]	160.0 [6.299]
Max. permitted weight per finger	kg [lbs]	2.5 [5.51]	2.5 [5.51]
IP class		20	20
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

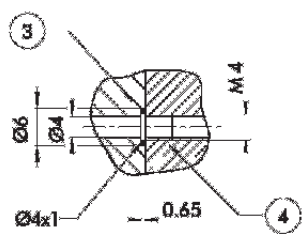


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊸ Connection for shaft support

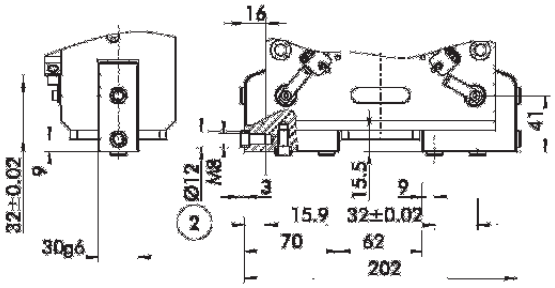
Hoseless direct connection



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.

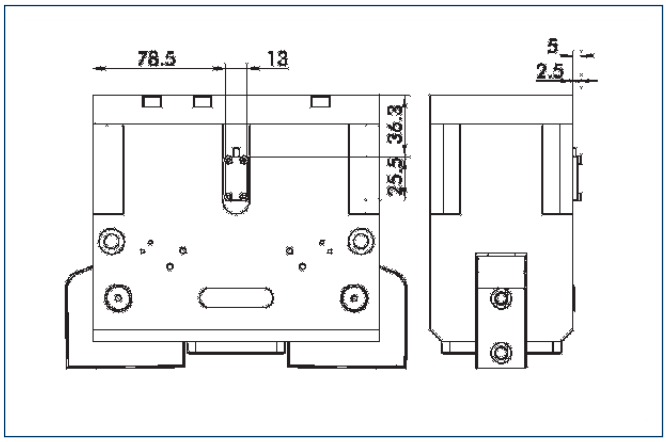
Jaw version



② Finger connection

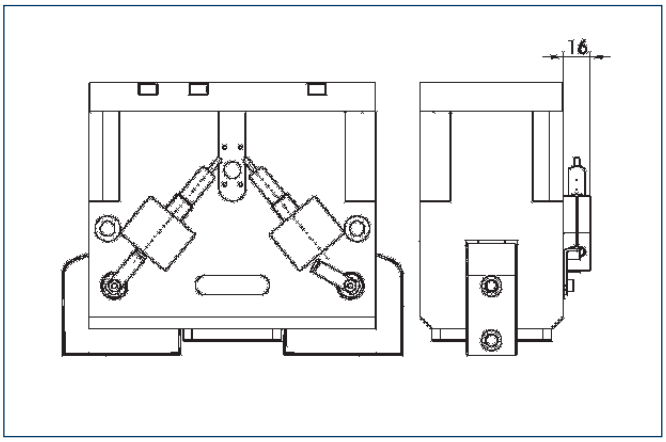
Different dimensions for version "B" (jaw version).

FPS measuring system



In the PWG, up to 3 intermediate positions can be monitored by the FPS flexible position sensor.

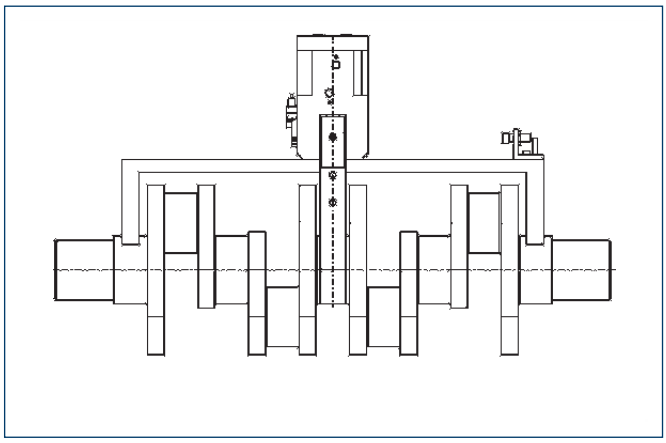
Mounting kit for proximity switch



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

Description	ID
HG-PWG 130-230	0300763

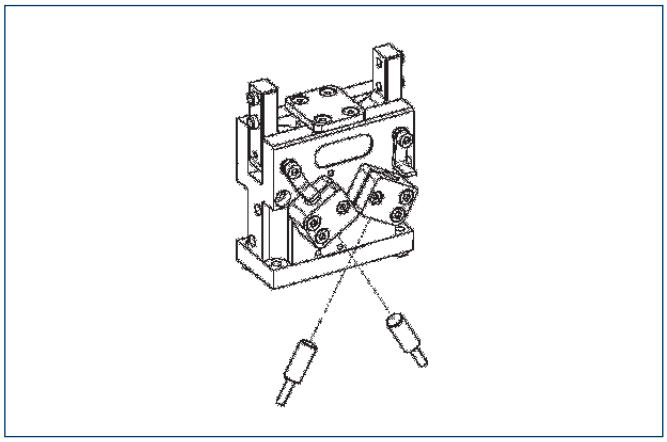
Shaft support



We will supply the complete module for handling crankshafts and camshafts on request.

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

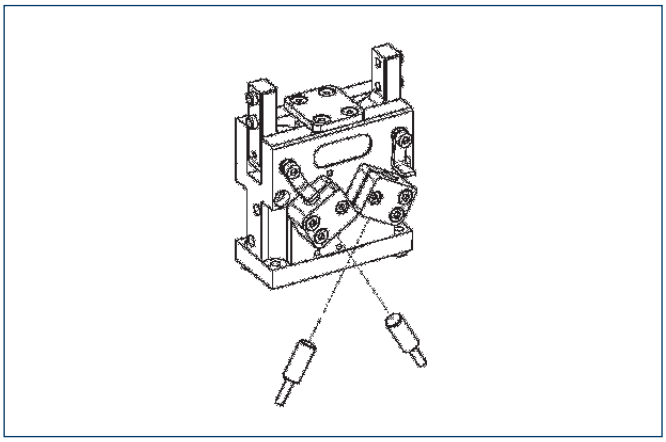
Sensor system



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	

ⓘ 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

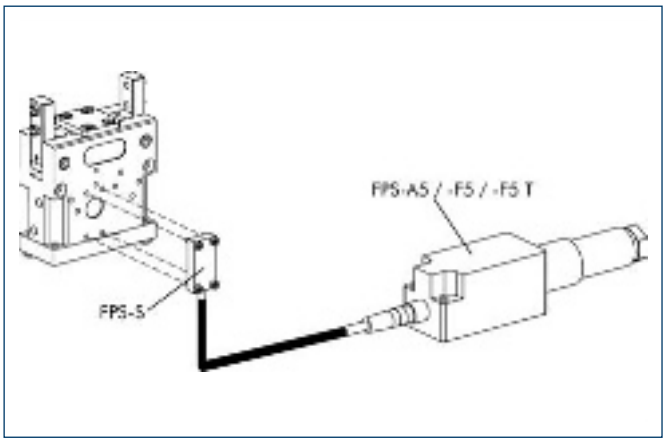
Description	ID	Recommended product
HG-PWG 130-230	0300763	
IN 120/S-M12	0301592	•
INK 120/S	0301562	

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

Extension cables for proximity switches/magnetic switches

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

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



Measuring system:
FPS position monitor

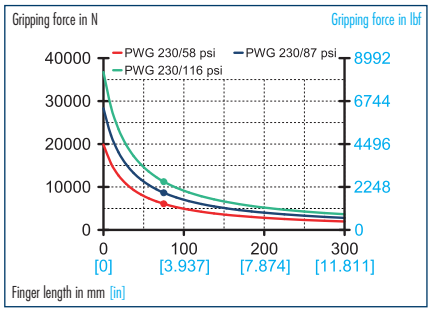
Description	ID
FPS-A5	0301802
FPS-F5	0301805
FPS-F5 T	0301807
FPS-S 13	0301705

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.

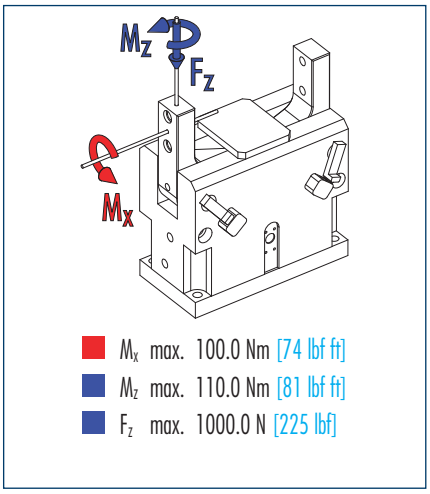
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PWG 230

Gripping force, O.D. gripping



Finger load

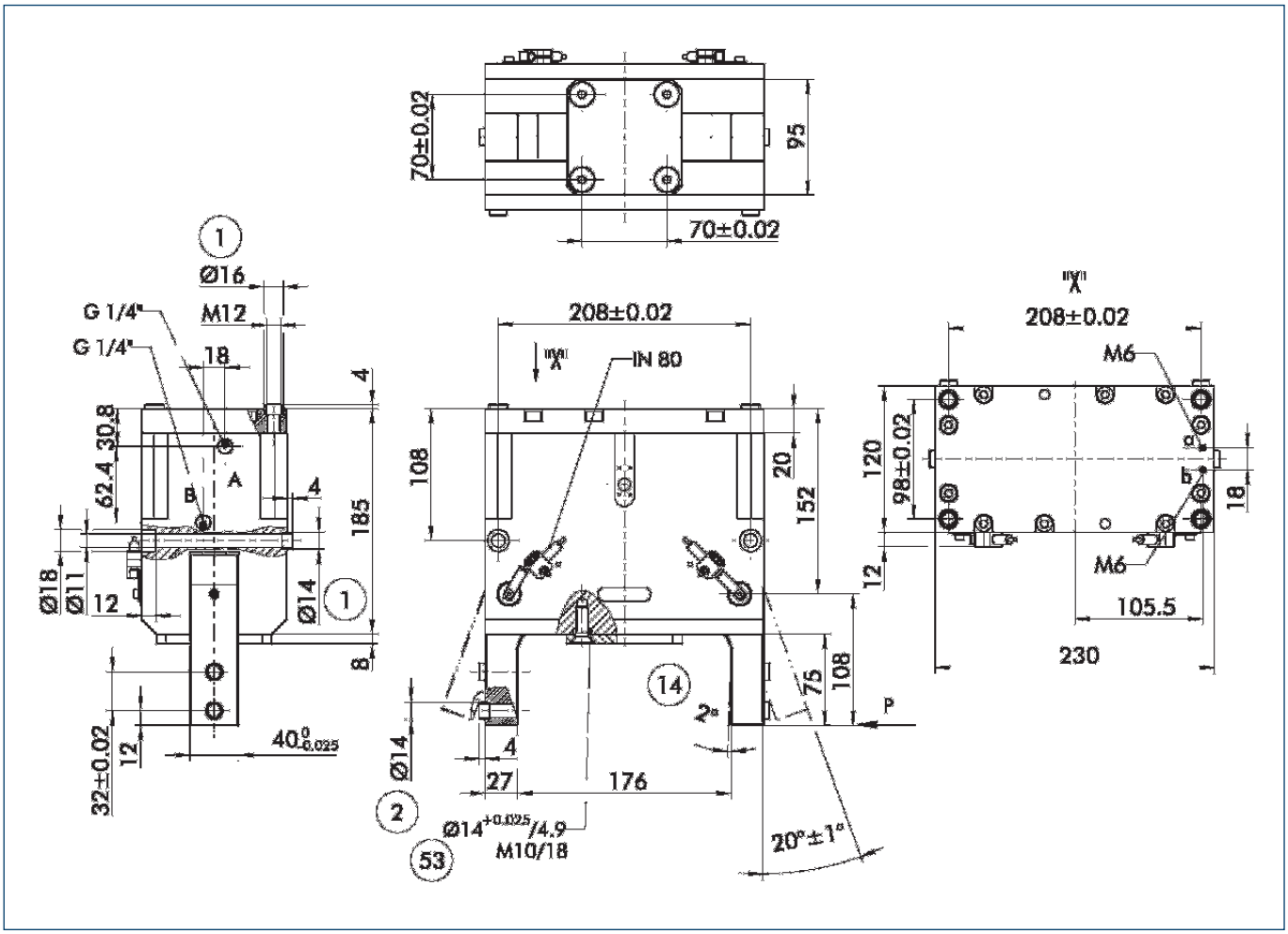


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PWG 230-F	PWG 230-B
	ID	0302638	0302639
Connection version			Base jaw
Opening angle per jaw	°	20.0	20.0
Opening angle per jaw up to	°	2.0	2.0
Closing moment	Nm [lbf ft]	934.2 [689]	934.2 [689]
Closing moment ensured by spring	Nm [lbf ft]	237.6 [175]	237.6 [175]
Weight	kg [lbs]	15.8 [34.83]	16.3 [35.94]
Recommended workpiece weight	kg [lbs]	43.0 [94.80]	43.0 [94.80]
Air consumption per double stroke	cm^3 [in^3]	860.0 [52.48]	860.0 [52.48]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	8.0 [116]	8.0 [116]
Closing time	s	0.35	0.35
Opening time	s	0.45	0.45
Max. permitted finger length	mm [in]	200.0 [7.874]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	4.0 [8.82]	4.0 [8.82]
IP class		20	20
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

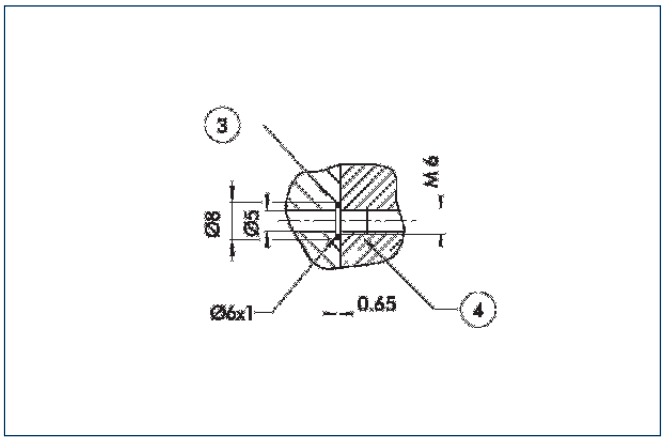


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊸ Connection for shaft support

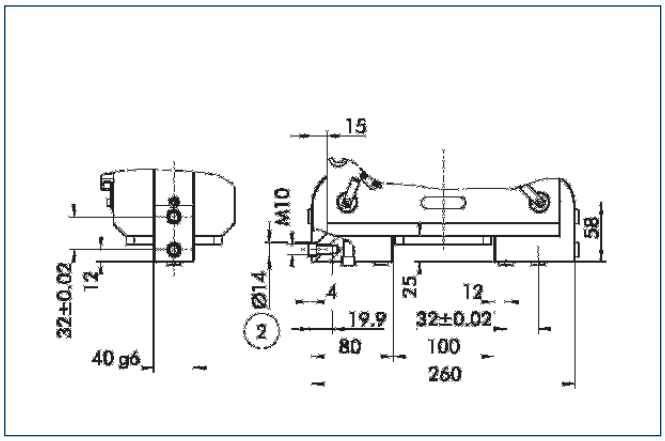
Hoseless direct connection



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.

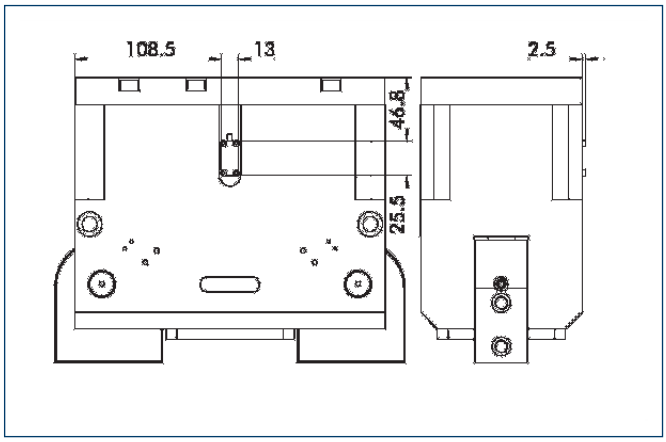
Jaw version



② Finger connection

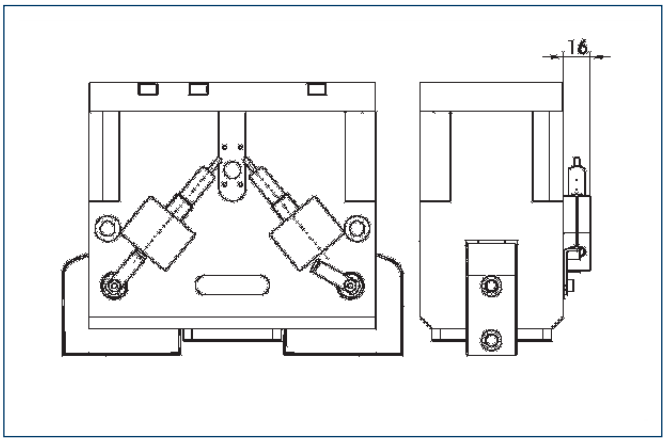
Different dimensions for version "B" (jaw version).

FPS measuring system



In the PWG, up to 3 intermediate positions can be monitored by the FPS flexible position sensor.

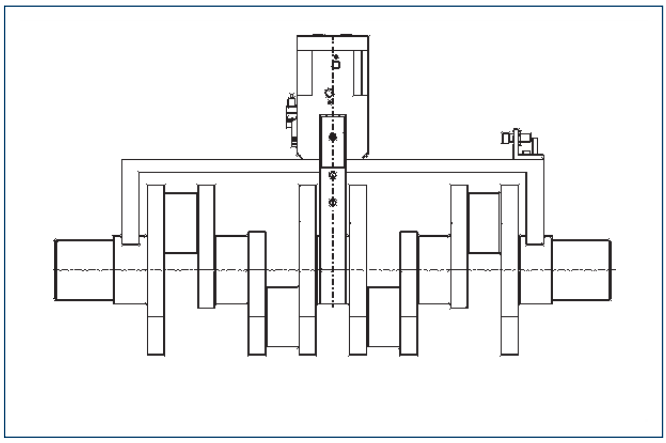
Mounting kit for proximity switch



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

Description	ID
HG-PWG 130-230	0300763

Shaft support



We will supply the complete module for handling crankshafts and camshafts on request.

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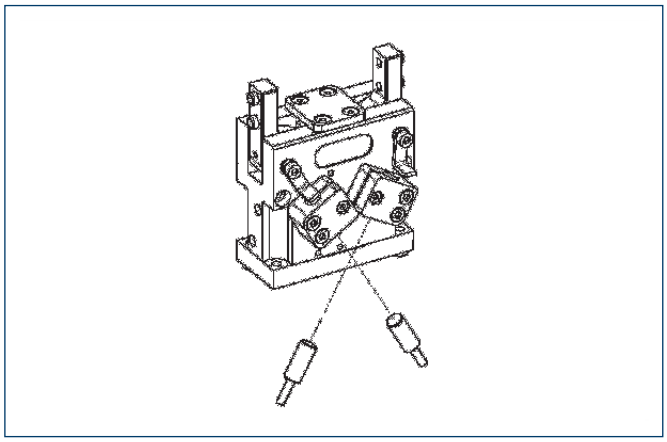
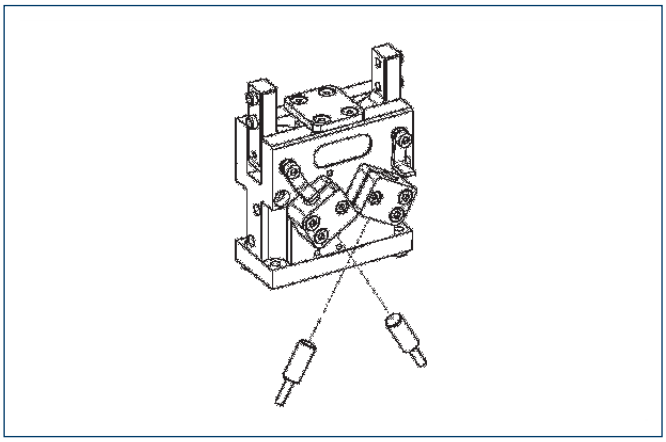
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

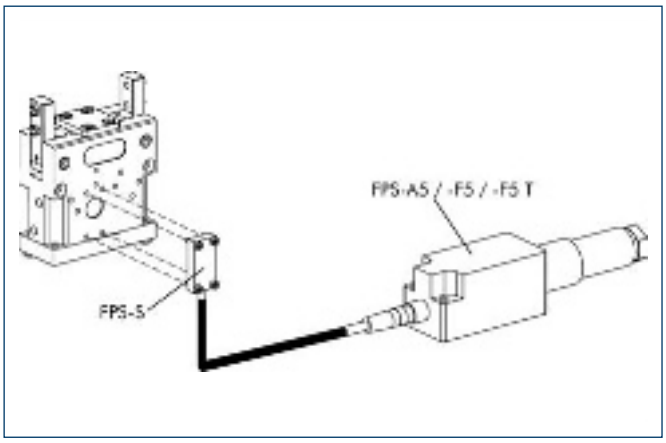
Description	ID	Recommended product
HG-PWG 130-230	0300763	
IN 120/S-M12	0301592	•
INK 120/S	0301562	

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

Extension cables for proximity switches/magnetic switches

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

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



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.

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

Pneumatic Gripping Modules

2-FINGER RADIAL GRIPPERS

Sizes
34 .. 100

Weight
0.14 kg .. 3.5 kg
0.31 lbs .. 7.72 lbs

Gripping moment
2.1 Nm .. 127 Nm
1.5 lbf ft .. 94 lbf ft

Opening angle per finger
10° .. 90°

Force-fit gripping
0.3 kg .. 6.0 kg
0.66 lbs .. 13.23 lbs

Application example

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

1 2-Finger Angular Gripper GWB 64

2 Rotary Actuator SRU 35.2-180-3-4

Universal Radial Gripper

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

Area of application

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

Your advantages and benefits

Opening angle adjustable from 20° to 180°
Enabling a wide range of applications

Equipped with mechanical gripping force safety device
To keep the gripper fingers closed with the indicated spring force.

Air supply via hose-free direct connection or via fittings
For flexible pressure supply in all automated systems

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

General information on the series

Working principle
Toggle drive system

Housing material
Aluminum alloy, hard-anodized

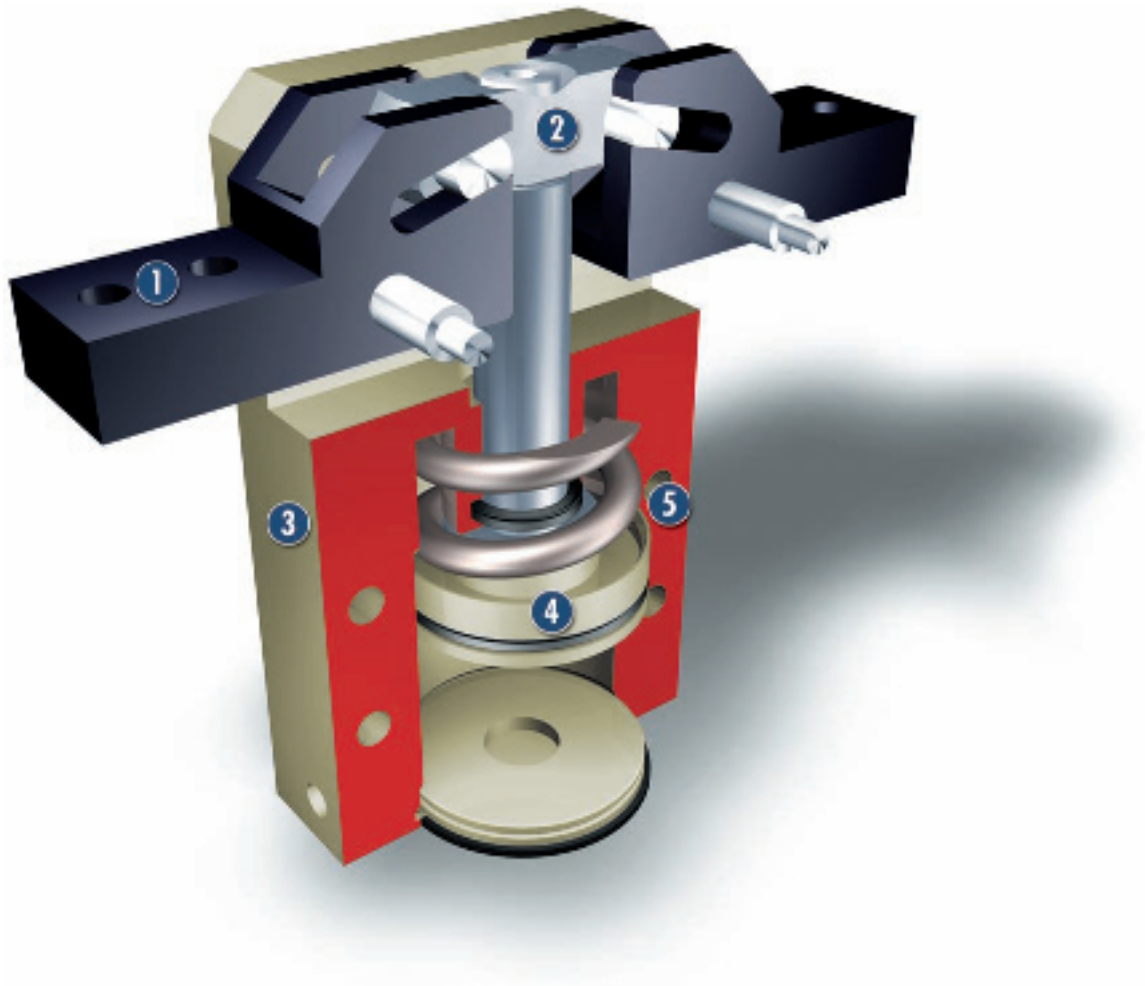
Base jaws material
Steel

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

Warranty
24 months

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

Sectional diagram



1 Base jaws
for mounting of workpiece-specific gripper fingers

2 Kinematics
toggle system for extremely high gripping force at the moment of workpiece contact.

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

4 Drive
pneumatic for high power density

5 Centering and mounting options
for universal gripper mounting

Functional description

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

Options and special information

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

Accessories

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

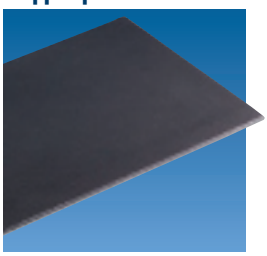
Fittings

Inductive proximity switches IN

Plastic inserts – Quentes

Sensor cables W/WK/KV/GK

Gripper pads HKI



Sensor distributor V

Pressure maintenance valves SDV-P

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

General information on the series

Gripping moment

describes the arithmetic total of the gripping moments for each jaw.

Finger length

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

Repeat accuracy

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

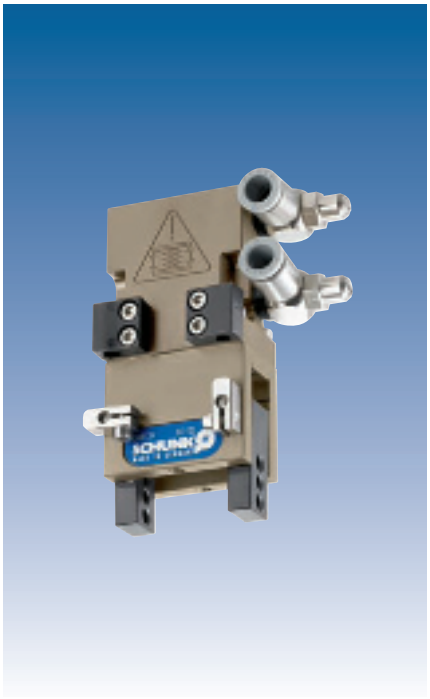
Workpiece weight

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

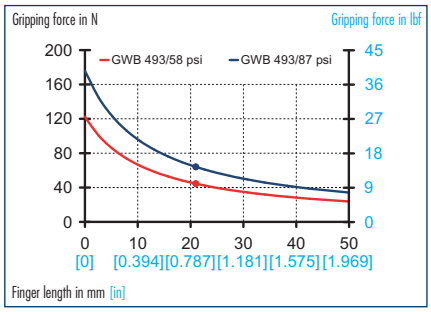
Closing and opening times

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

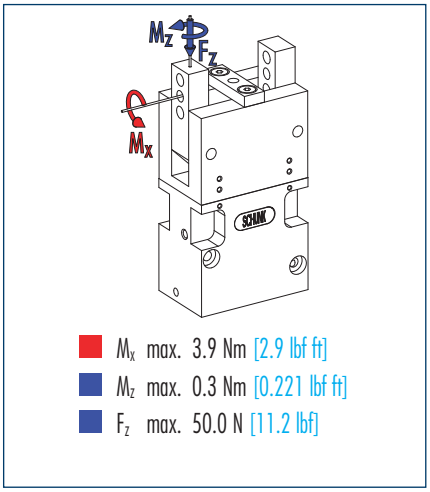
GWB 34



Gripping force, O.D. gripping



Finger load



- M_x max. 3.9 Nm [2.9 lbf ft]
- M_z max. 0.3 Nm [0.221 lbf ft]
- F_z max. 50.0 N [11.2 lbf]

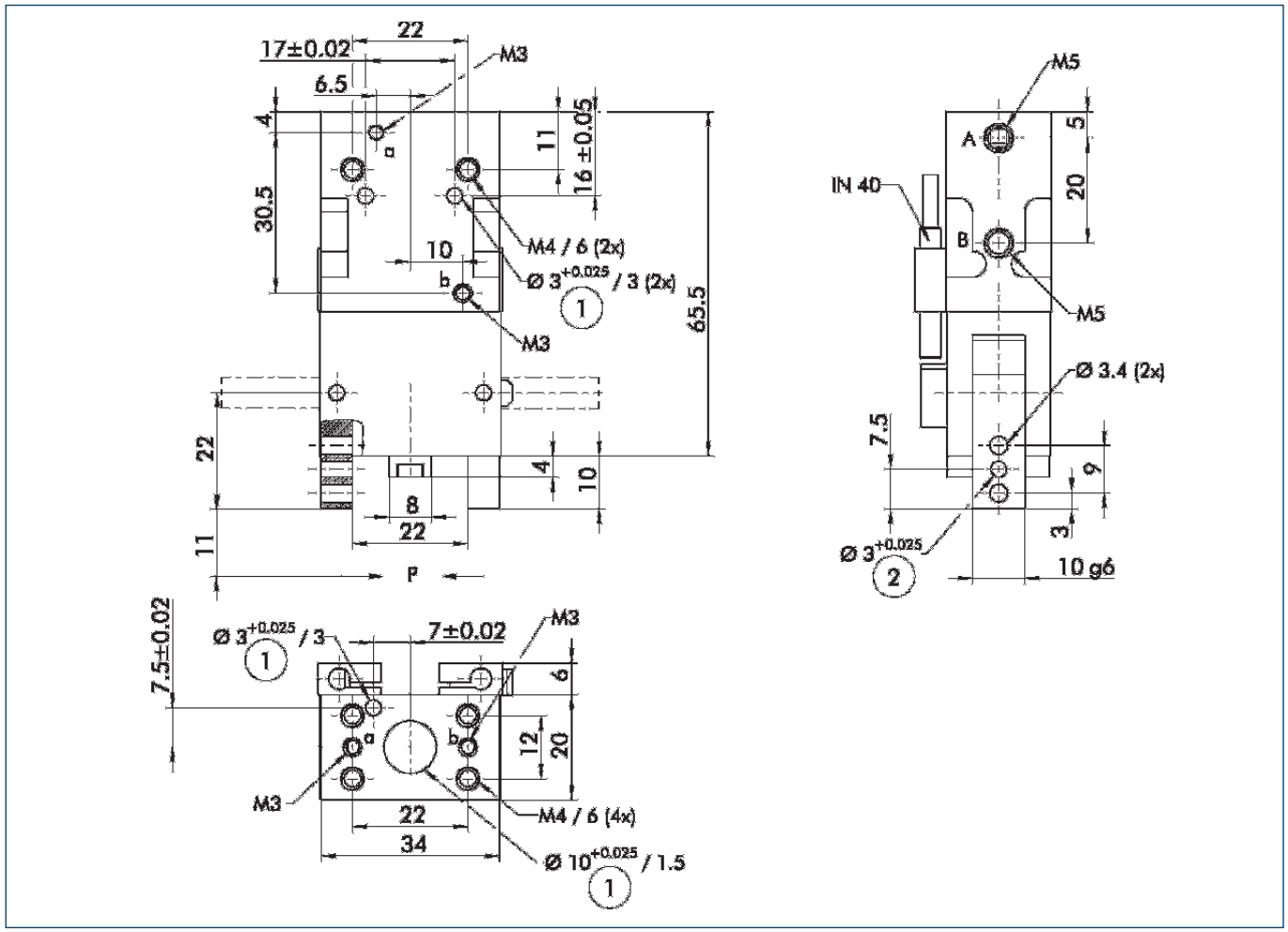
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		GWB 34
	ID	0307135
Opening angle per jaw	°	90.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	2.112 [1.6]
Closing moment secured by springs	Nm [lbf ft]	0.5 [0.369]
Weight	kg [lbs]	0.14 [0.31]
Recommended workpiece weight	kg [lbs]	0.3 [0.66]
Air consumption per double stroke	cm^3 [in^3]	4.5 [0.27]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.3
Opening time	s	0.4
Max. permitted finger length	mm [in]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.07 [0.15]
IP rating		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

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

Main views

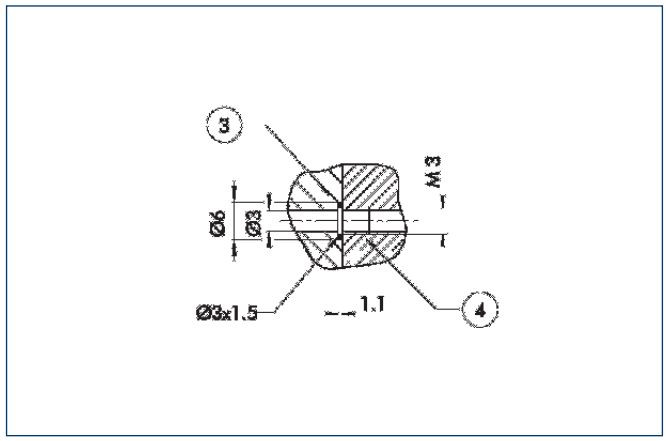


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

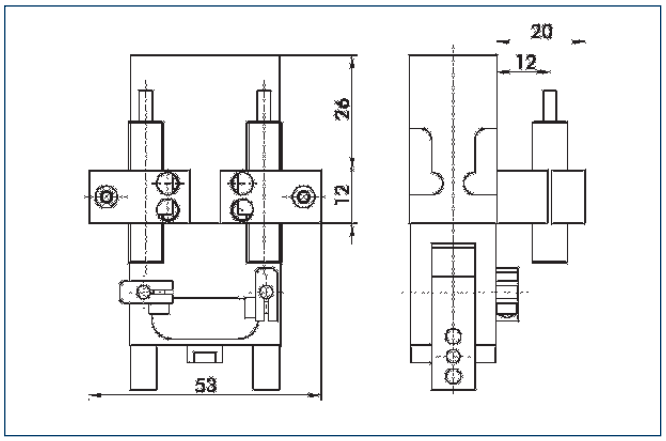
Hose-free direct connection



③ Adapter
④ Gripper

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

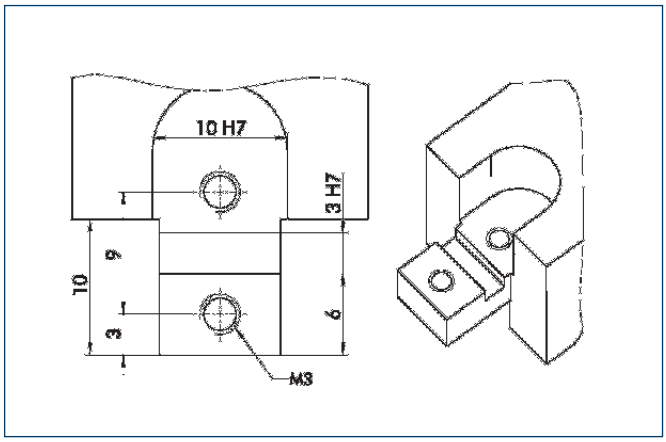
Mounting kit for proximity switch M8/M12



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

Designation	ID
HG-GWB 34	0300740

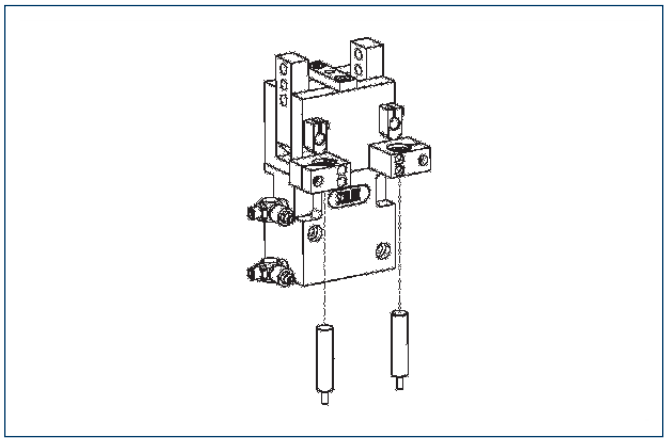
Finger design



Suggestion for connection dimensions – Gripper fingers

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

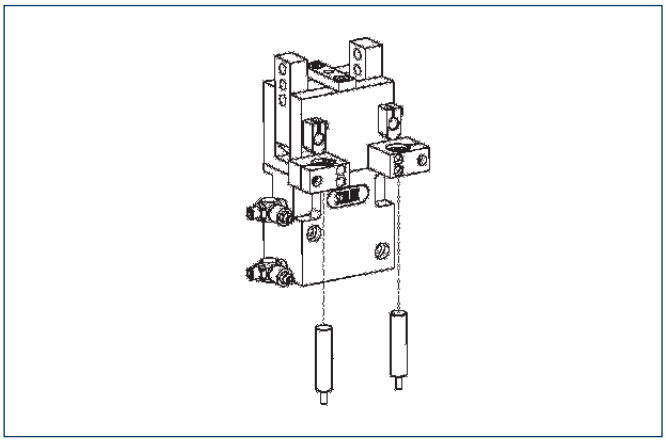
Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

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

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

Extension cables for proximity switches/magnetic switches

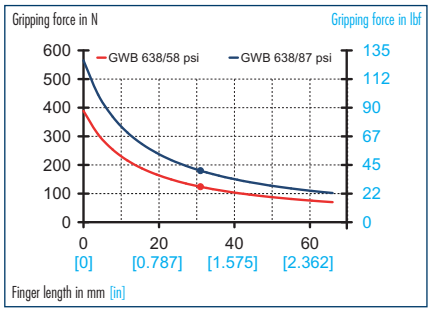
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

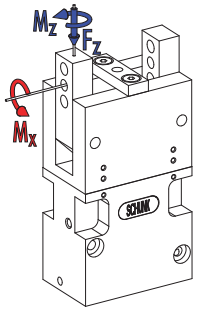
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

GWB 44

Gripping force, O.D. gripping



Finger load



- M_x max. 6.2 Nm [4.6 lbf ft]
- M_z max. 0.5 Nm [0.369 lbf ft]
- F_z max. 100.0 N [22.5 lbf]

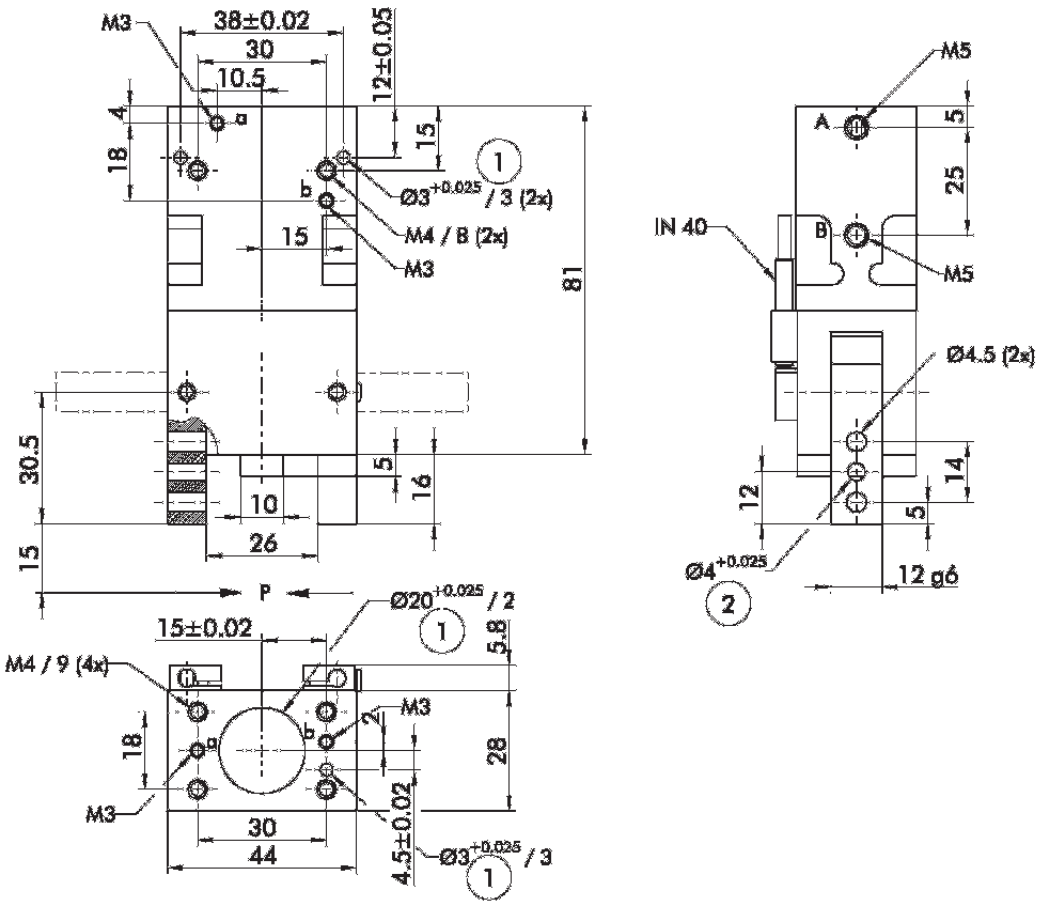
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		GWB 44
	ID	0307136
Opening angle per jaw	°	90.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	8.19 [6.0]
Closing moment secured by springs	Nm [lbf ft]	1.8 [1.3]
Weight	kg [lbs]	0.34 [0.75]
Recommended workpiece weight	kg [lbs]	0.9 [1.98]
Fluid consumption per double stroke	cm^3 [in^3]	16.0 [0.98]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.4
Opening time	s	0.5
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.12 [0.26]
IP rating		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

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

Main views

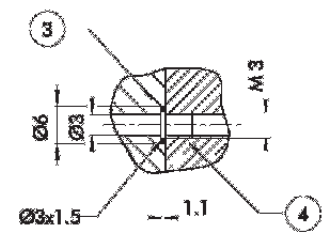


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

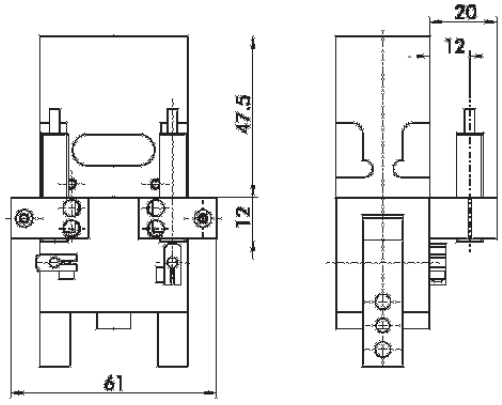
Hose-free direct connection



③ Adapter
④ Gripper

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

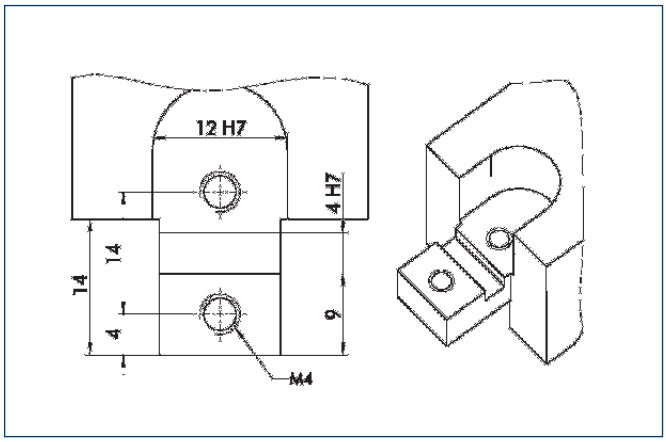
Mounting kit for proximity switch M8/M12



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

Designation	ID
HG-GWB 44	0300741

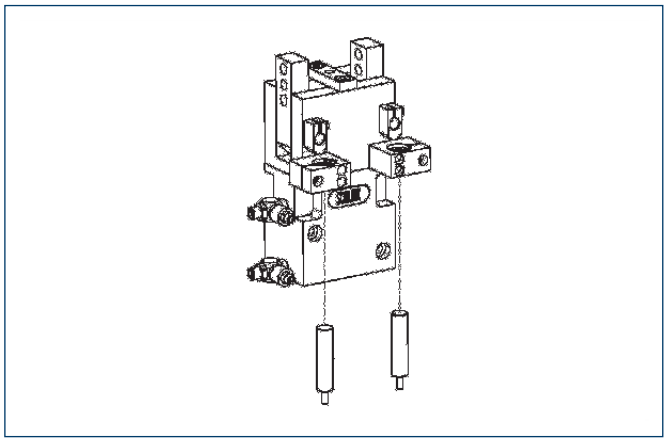
Finger design



Suggestion for connection dimensions – Gripper fingers

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

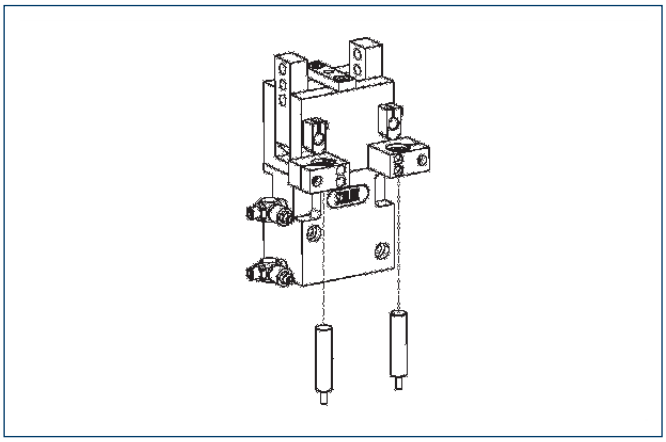
Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

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

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

Extension cables for proximity switches/magnetic switches

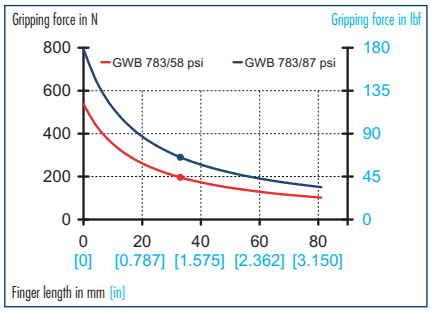
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

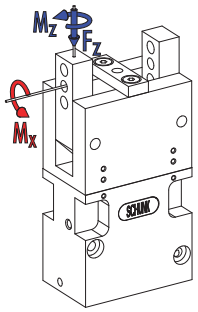
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

GWB 54

Gripping force, O.D. gripping



Finger load



- M_x max. 10.0 Nm [7.4 lbf ft]
- M_z max. 1.0 Nm [0.7 lbf ft]
- F_z max. 180.0 N [40 lbf]

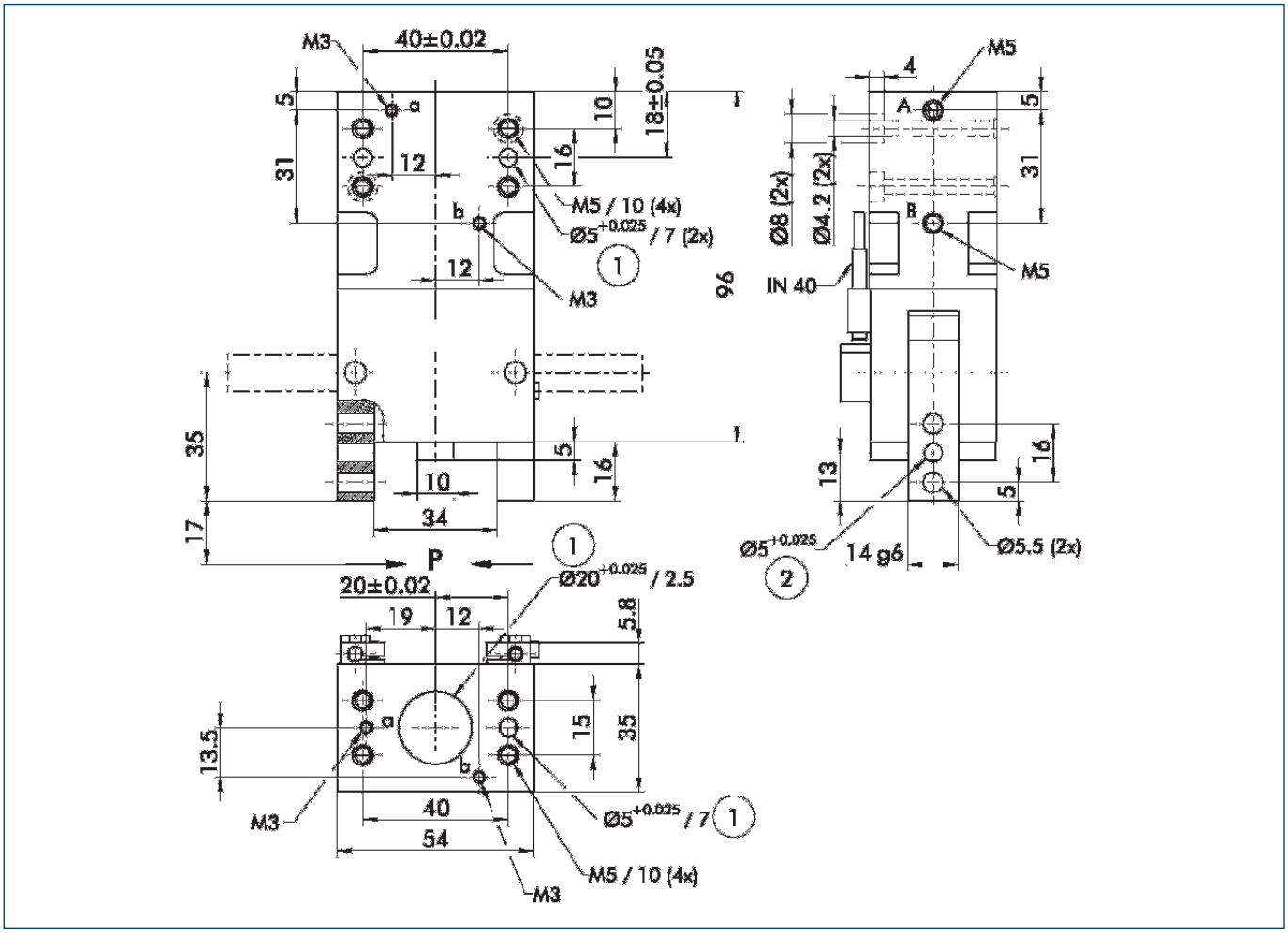
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		GWB 54
	ID	0307137
Opening angle per jaw	°	90.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	15.08 [11.1]
Closing moment secured by springs	Nm [lbf ft]	2.9 [2.1]
Weight	kg [lbs]	0.56 [1.23]
Recommended workpiece weight	kg [lbs]	1.4 [3.09]
Air consumption per double stroke	cm^3 [in^3]	36.0 [2.20]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.6
Opening time	s	0.7
Max. permitted finger length	mm [in]	60.0 [2.362]
Max. permitted weight per finger	kg [lbs]	0.2 [0.44]
IP rating		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

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

Main views

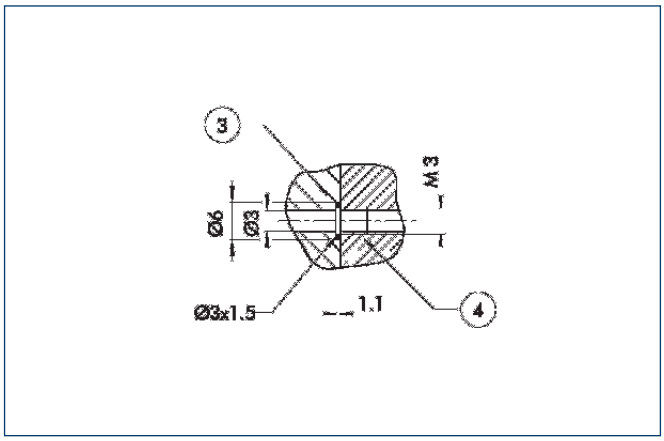


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

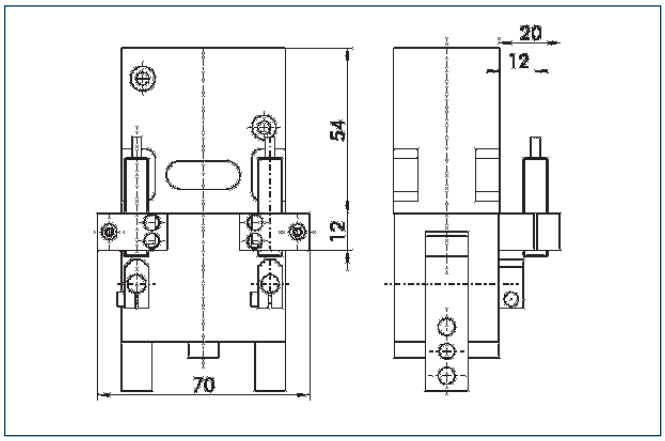
Hose-free direct connection



③ Adapter
④ Gripper

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

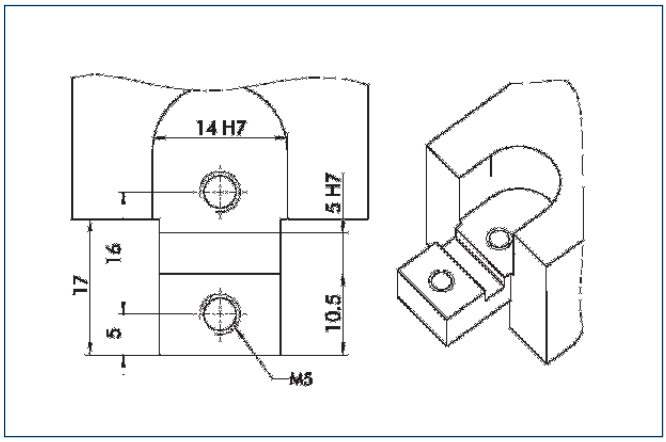
Mounting kit for proximity switch M8/M12



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

Designation	ID
HG-GWB 54-80	0300742

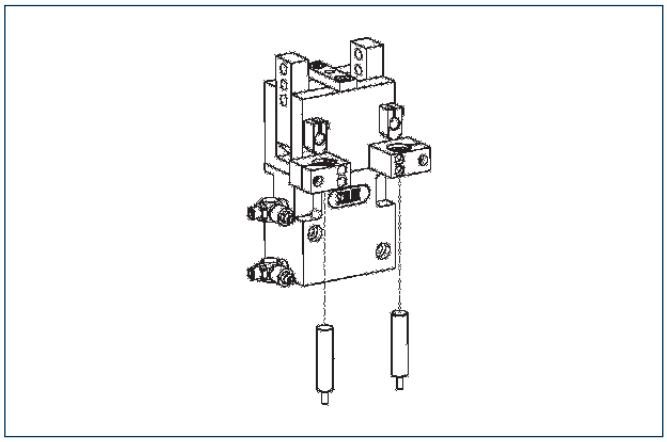
Finger design



Suggestion for connection dimensions – Gripper fingers

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

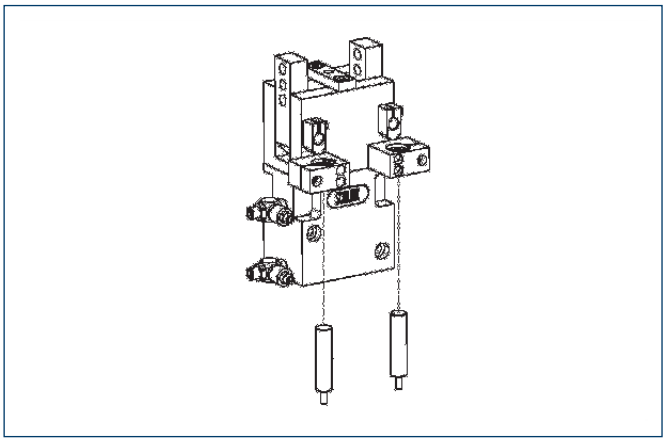
Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

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

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

Extension cables for proximity switches/magnetic switches

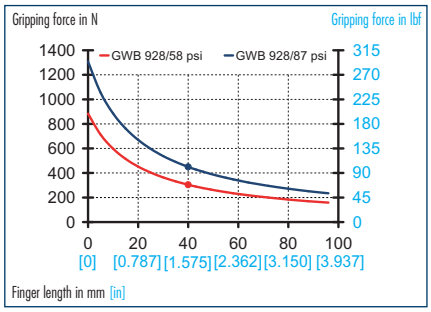
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

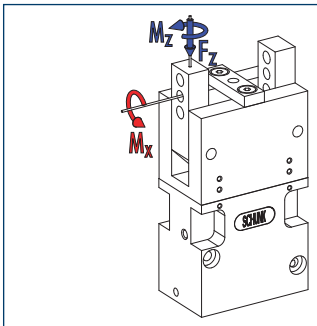
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

GWB 64

Gripping force, O.D. gripping



Finger load



- M_x max. 13.5 Nm [10.0 lbf ft]
- M_z max. 1.3 Nm [1.0 lbf ft]
- F_z max. 280.0 N [63 lbf]

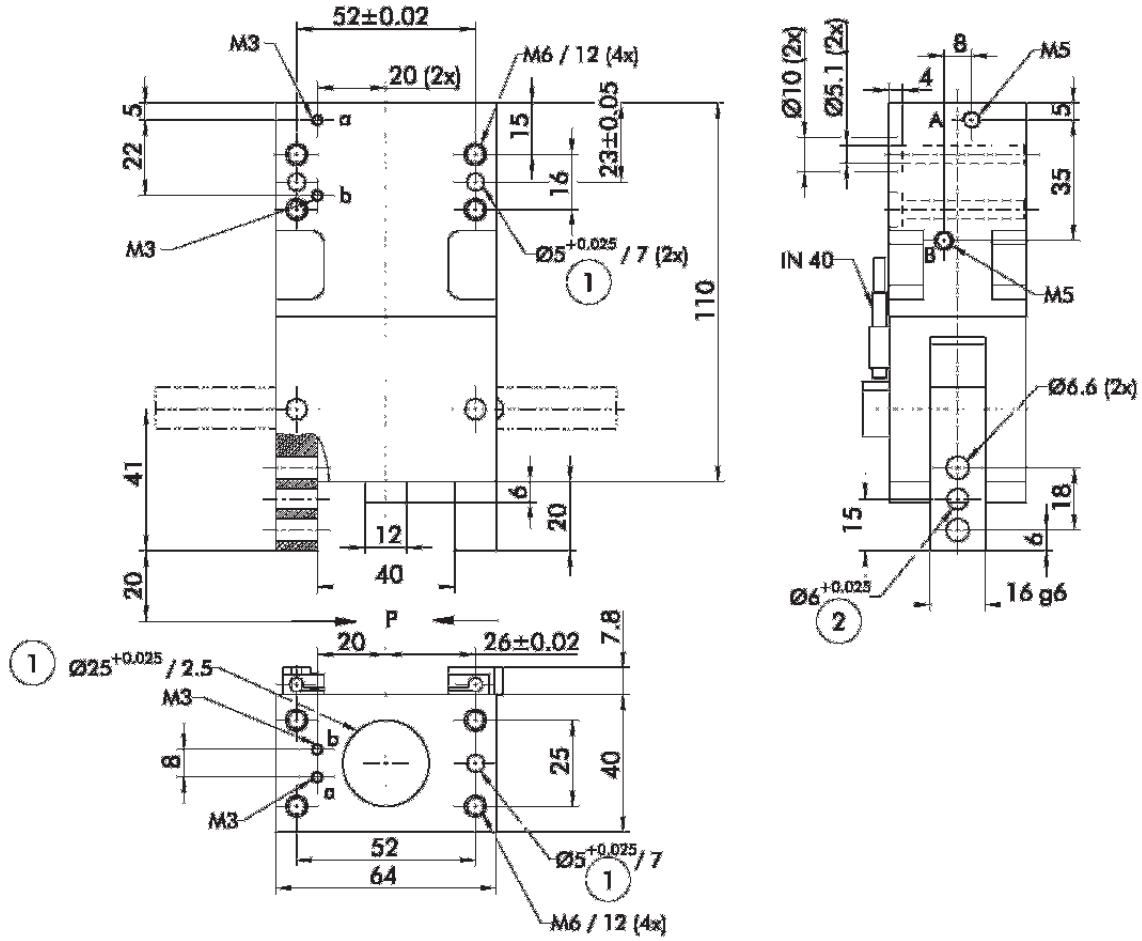
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		GWB 64
	ID	0307138
Opening angle per jaw	°	90.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	27.45 [20]
Closing moment secured by springs	Nm [lbf ft]	5.2 [3.8]
Weight	kg [lbs]	0.85 [1.87]
Recommended workpiece weight	kg [lbs]	2.2 [4.85]
Air consumption per double stroke	cm^3 [in^3]	57.0 [3.48]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.6
Opening time	s	0.7
Max. permitted finger length	mm [in]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.32 [0.71]
IP rating		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

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

Main views

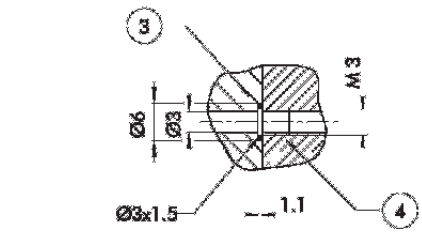


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

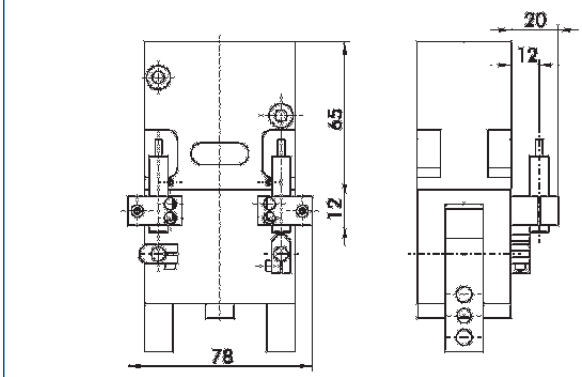
Hose-free direct connection



③ Adapter
④ Gripper

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

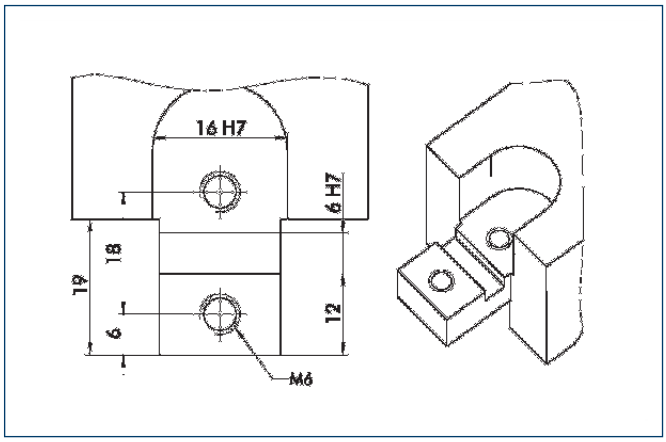
Mounting kit for proximity switch M8/M12



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

Designation	ID
HG-GWB 54-80	0300742

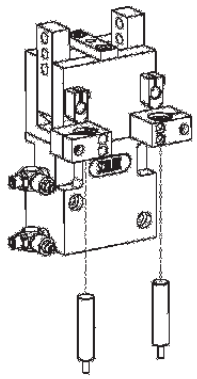
Finger design



Suggestion for connection dimensions – Gripper fingers

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

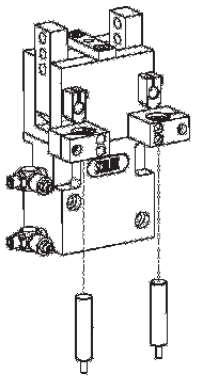
Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

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

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

Extension cables for proximity switches/magnetic switches

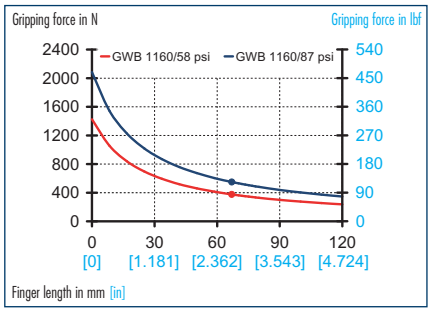
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

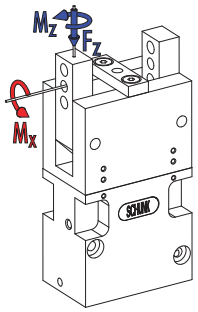
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

GWB 80

Gripping force, O.D. gripping



Finger load



- M_x max. 17.5 Nm [12.9 lbf ft]
- M_z max. 1.6 Nm [1.2 lbf ft]
- F_z max. 400.0 N [90 lbf]

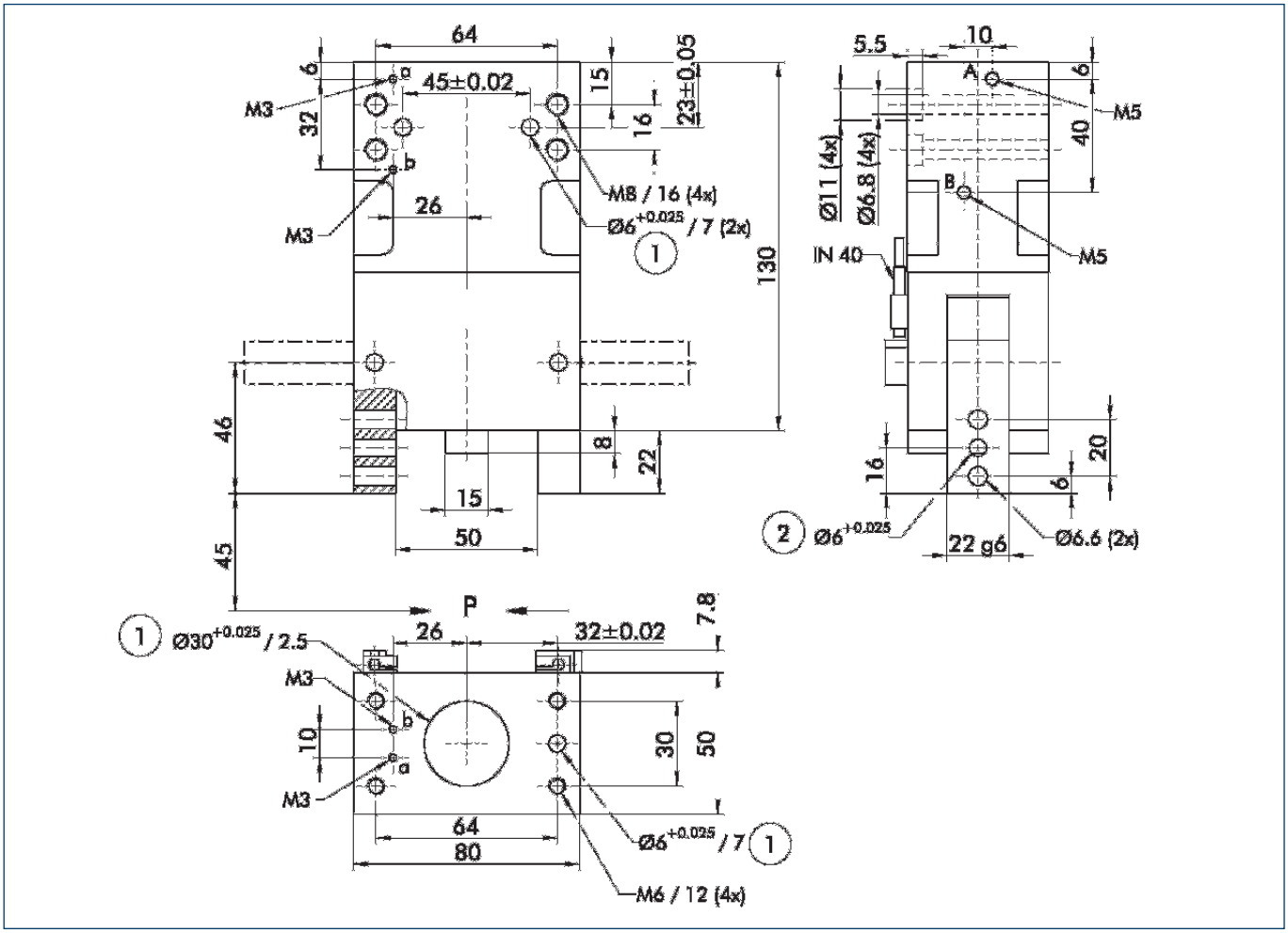
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		GWB 80
	ID	0307139
Opening angle per jaw	°	90.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	50.0 [37]
Closing moment secured by springs	Nm [lbf ft]	10.5 [7.7]
Weight	kg [lbs]	1.6 [3.53]
Recommended workpiece weight	kg [lbs]	2.7 [5.95]
Air consumption per double stroke	cm^3 [in^3]	110.0 [6.71]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.7
Opening time	s	0.8
Max. permitted finger length	mm [in]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]
IP rating		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

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

Main views

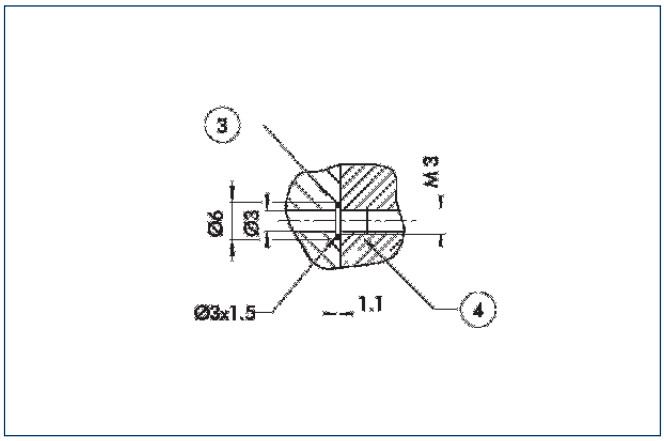


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

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

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

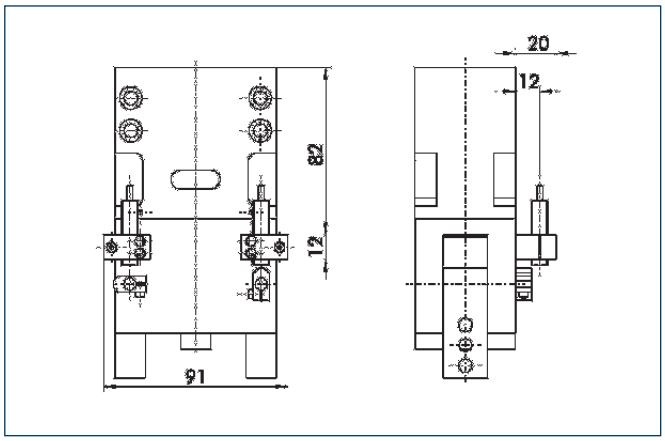
Hose-free direct connection



③ Adapter
④ Gripper

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

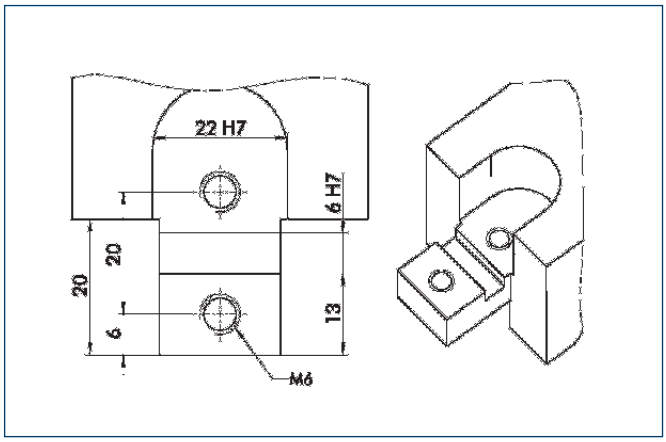
Mounting kit for proximity switch M8/M12



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

Designation	ID
HG-GWB 54-80	0300742

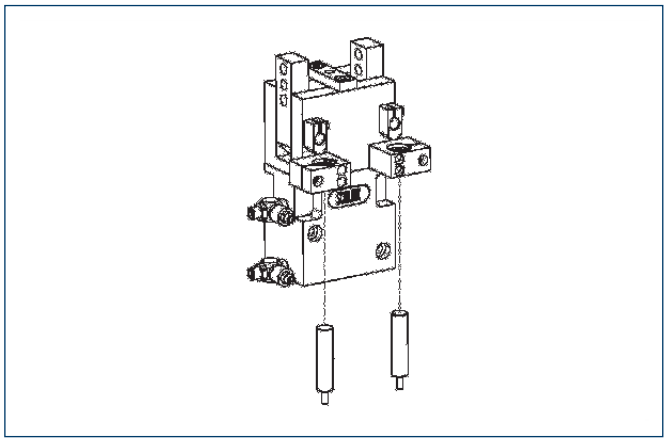
Finger design



Suggestion for connection dimensions – Gripper fingers

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

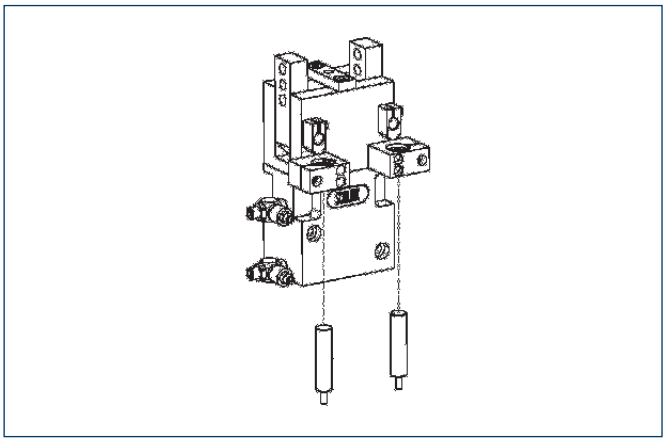
Sensor systems



End position monitoring:
Inductive proximity switches, for direct mounting

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

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



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

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

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

Extension cables for proximity switches/magnetic switches

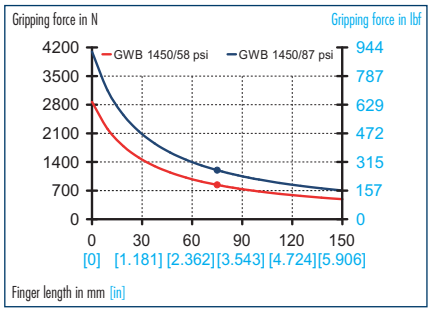
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

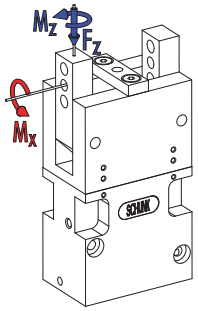
You can find detailed information and components of the specified accessory in the “Accessories” catalog section.

GWB 100

Gripping force, O.D. gripping



Finger load



M_x max. 35.0 Nm [26 lbf ft]
M_z max. 10.0 Nm [7.4 lbf ft]
F_z max. 1200.0 N [270 lbf]

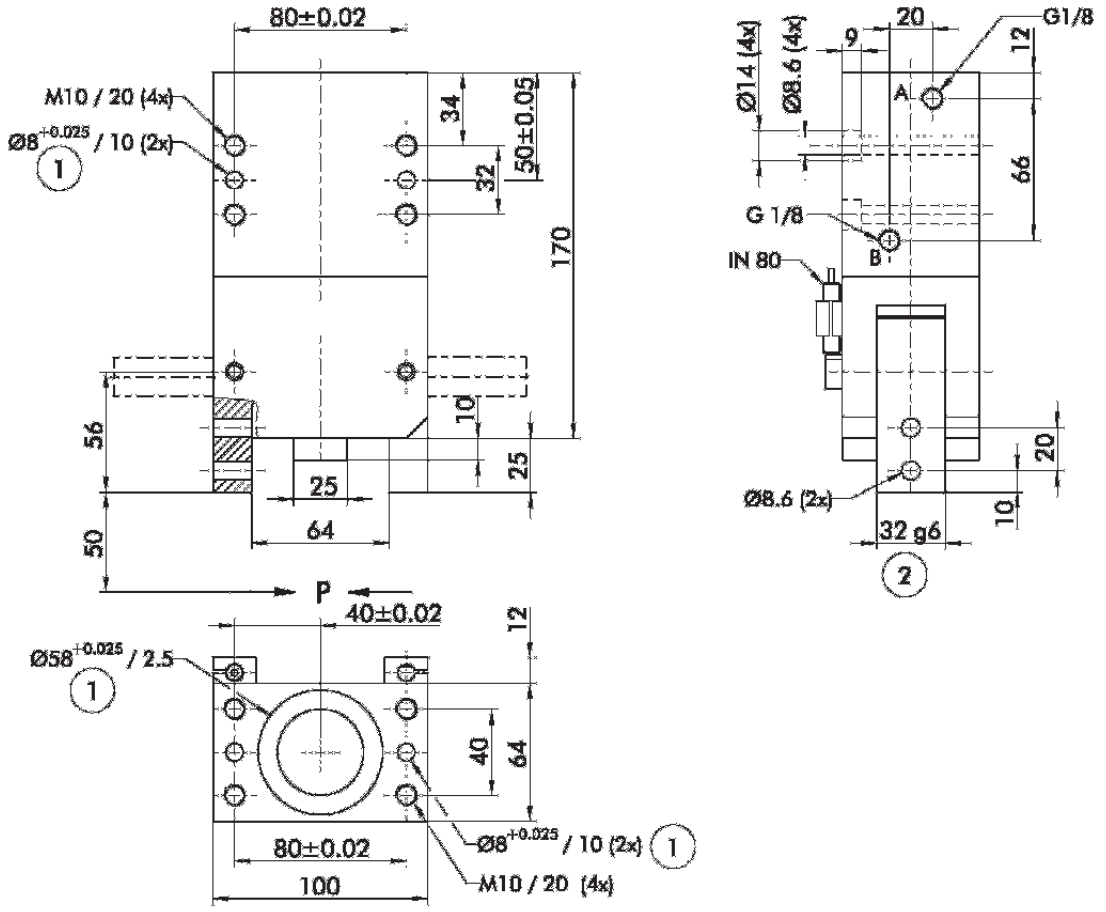
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the maximum permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. The tool life may be reduced.

Technical data

Designation		GWB 100
	ID	0307140
Opening angle per jaw	°	90.0
Fully closed included per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	127.0 [94]
Closing moment secured by springs	Nm [lbf ft]	31.8 [23]
Weight	kg [lbs]	3.5 [7.72]
Recommended workpiece weight	kg [lbs]	6.0 [13.23]
Air consumption per double stroke	cm^3 [in^3]	217.0 [13.24]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.55
Opening time	s	0.7
Max. permitted finger length	mm [in]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.2 [2.65]
IP rating		20
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

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

Main views

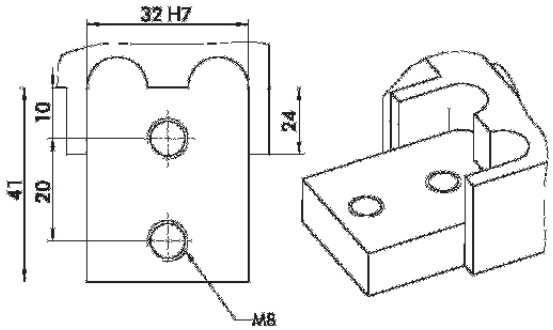


The illustration shows the gripper in the basic version with closed jaws, without taking into account the measurements of the optional extras described below.

ⓘ 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).

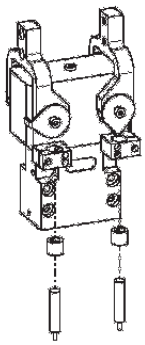
A,a Main connection, direct connection – Open gripper
B,b Main connection, direct connection – Close gripper
① Gripper connection
② Finger connection

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	•
IN-B 80/S-M8	0301477	
INK 80/S	0301550	

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

Extension cables for proximity switches/magnetic switches

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

ⓘ 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.

DWG

Sizes
44 .. 100

Weight
0.5 kg .. 4.46 kg
1.10 lbs .. 9.83 lbs

Gripping moment
8 Nm .. 143 Nm
5.9 lbf ft .. 105 lbf ft

Opening angle per finger
10° .. 90°

Workpiece weight
0.9 kg .. 6.0 kg
1.98 lbs .. 13.23 lbs

Application example

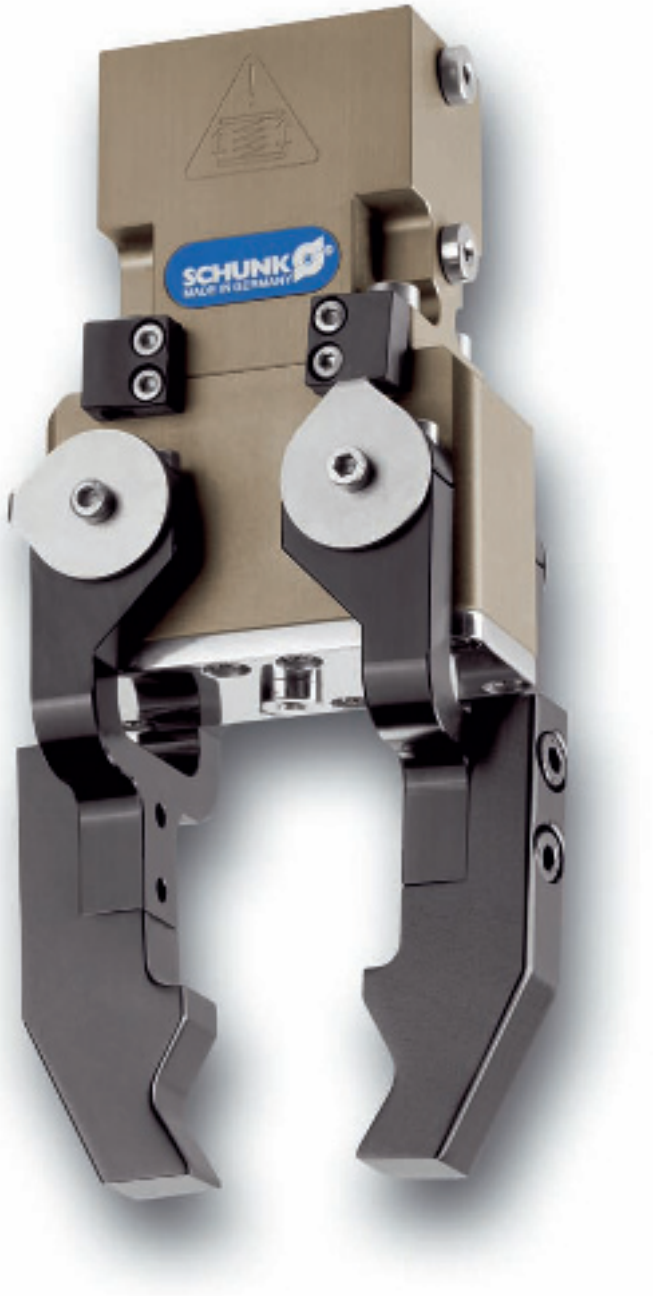
Linear gripping unit for removing workpieces from a pallet-loading station

1 DWG 100 2-Finger Angular Gripper

2 PHE 100-80 Linear Unit

Sealed Radial Grippers

Sealed 180° angular gripper for use in dirty environments



Area of application

For applications requiring a large opening range. Specially suitable for use in dirty environments.

Your advantages and benefits

Completely sealed gripper version
making it suitable for use in dirty environments

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

Equipped with gripping force safety device
ensuring that the workpiece stays gripped in case of pressure loss

Opening angle adjustable from 20° to 180°
for a varied range of applications

Kinematics
Toggle system for centric gripping with large opening and closing movements

General information on the series

Working principle
Toggle drive system

Housing material
Aluminum alloy, hard-anodized

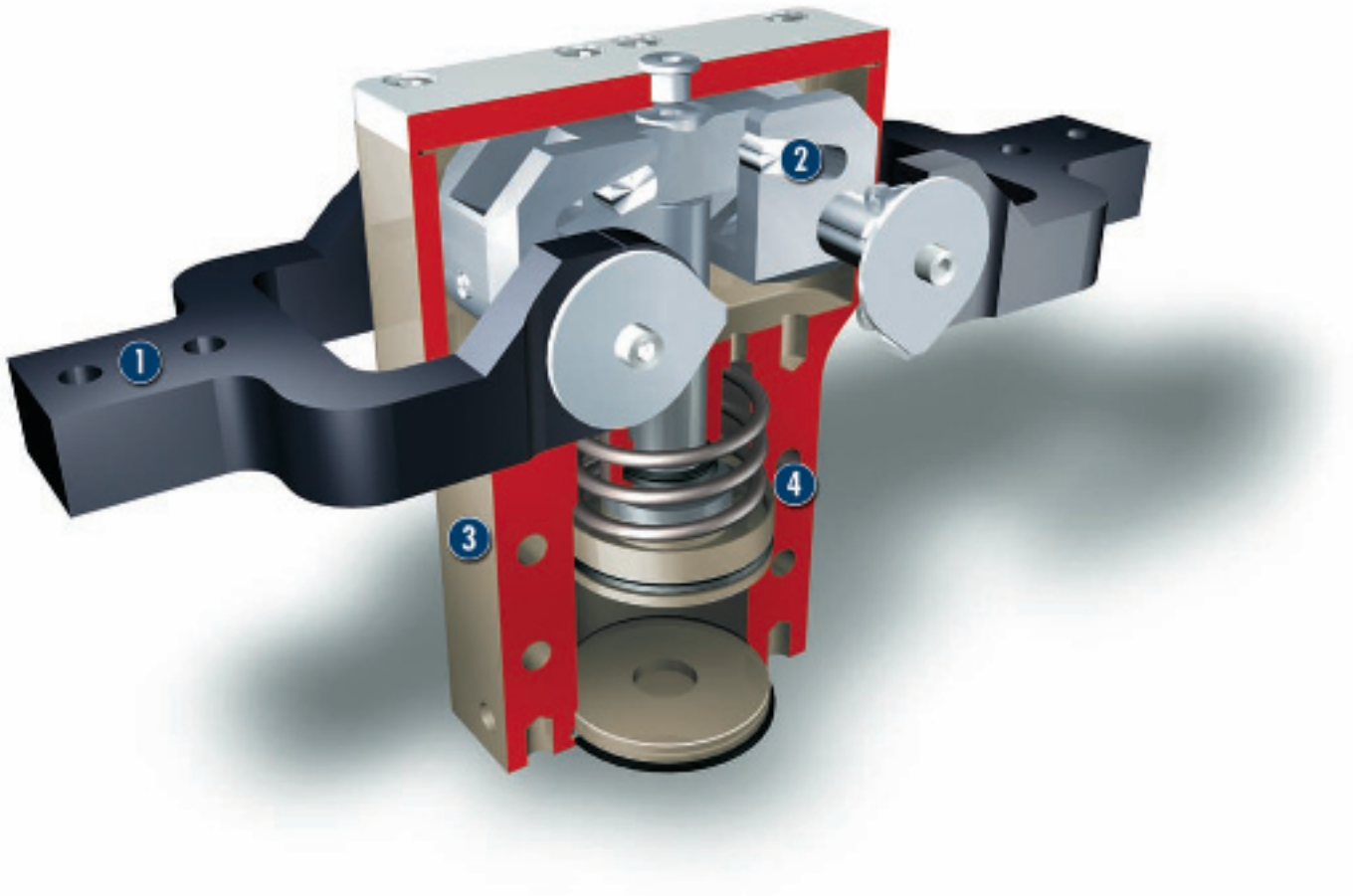
Base jaw material
Steel

Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: 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, ventilation controls, assembly and operating manual with manufacturer's declaration

Sectional diagram



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

2 Kinematics
toggle system for centric gripping with large opening and closing movements

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

4 Centering and mounting possibilities
for universal gripper mount

Function description

The round piston is moved up or down by means of compressed air. The two pins of the toggle system are moved at the same time relative to the groove in the top jaws. When gripping, both pins achieve the greatest leverage.

Options and special information

180° angular grippers (radial grippers) bring advantages by saving an additional stroke movement. As each jaw swivels away by 90°, it is mostly out of the work area, and one stroke movement to draw back the entire gripper can be eliminated.

Accessories

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

Centering sleeves

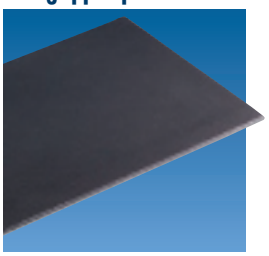
Fittings

IN inductive proximity switches

Quentes plastic inserts

W/WK/KV/GK sensor cables

HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

ⓘ 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 moment

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

Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis. If the max. permitted finger length is exceeded, as with heavy fingers, the speed of movement of the jaws must be restricted and/or the opening angle reduced. The service life of the gripper may be reduced.

Repeat accuracy

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

Workpiece weight

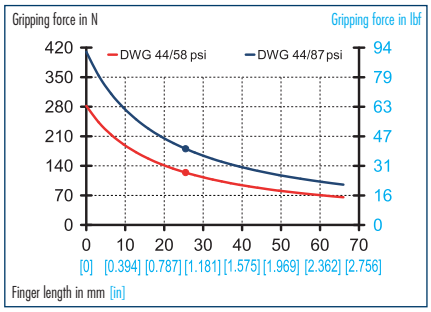
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

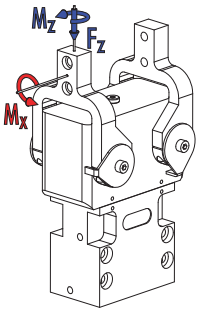
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

DWG 44

Gripping force, O.D. gripping



Finger load



- M_x max. 6.2 Nm [4.6 lbf ft]
- M_z max. 0.5 Nm [0.369 lbf ft]
- F_z max. 100.0 N [22.5 lbf]

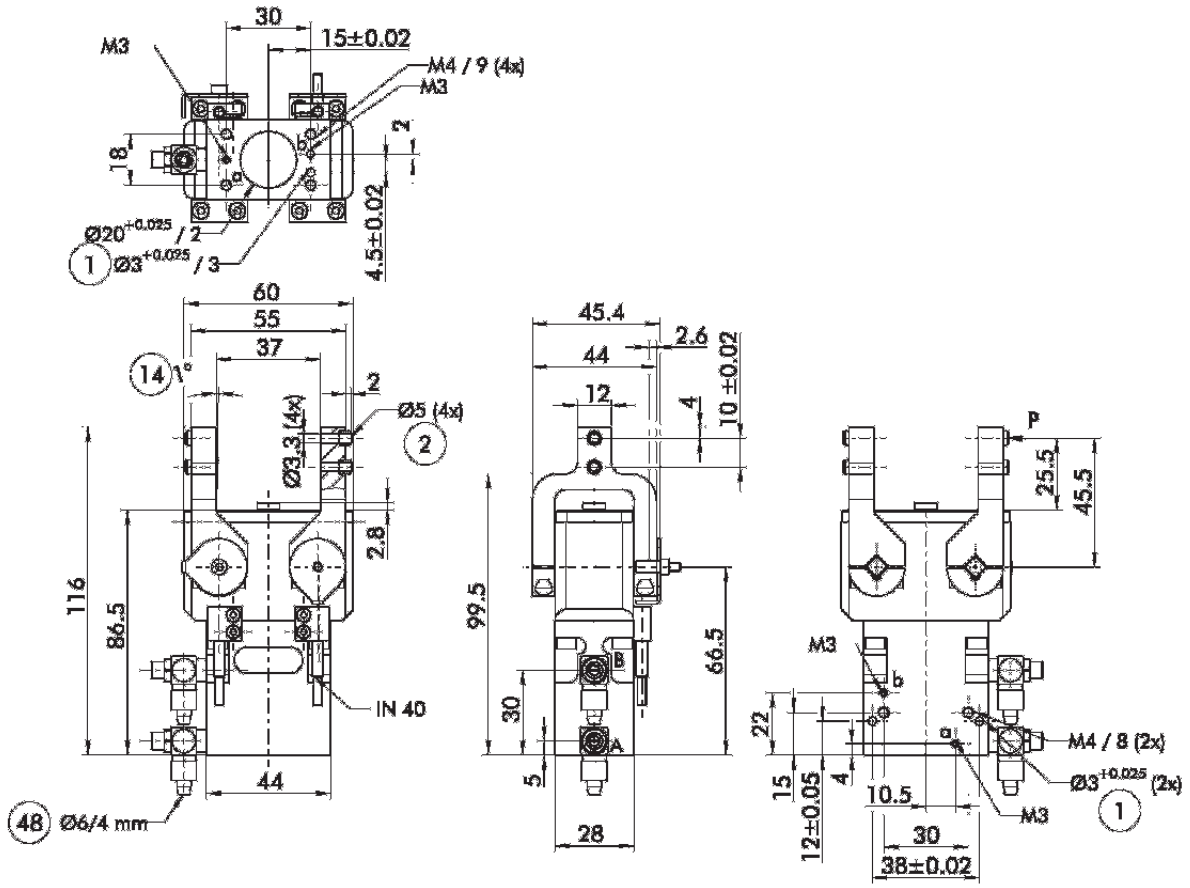
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DWG 44
	ID	0307146
Opening angle per jaw	°	90.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	8.2 [6.0]
Closing moment ensured by spring	Nm [lbf ft]	1.8 [1.3]
Weight	kg [lbs]	0.5 [1.10]
Recommended workpiece weight	kg [lbs]	0.9 [1.98]
Air consumption per double stroke	cm^3 [in^3]	16.0 [0.98]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.4
Opening time	s	0.5
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.09 [0.20]
IP class		67
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ The opening angle of the base jaws can be limited.

Main views

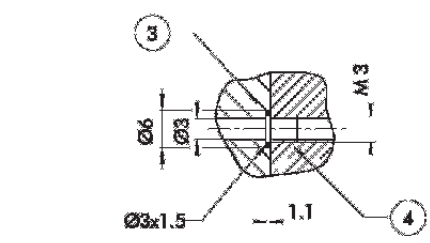


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㊽ Hose

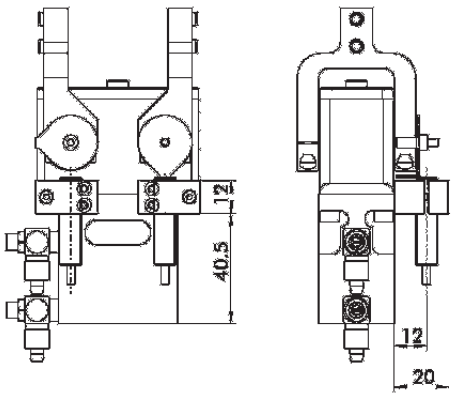
Hoseless direct connection



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.

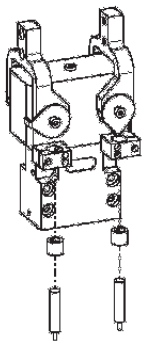
Mounting kit for M8/M12 proximity switches



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

Description	ID
HG-DWG 44-64	0300748

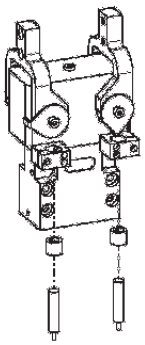
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

ⓘ 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-DWG 44-64	0300748	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

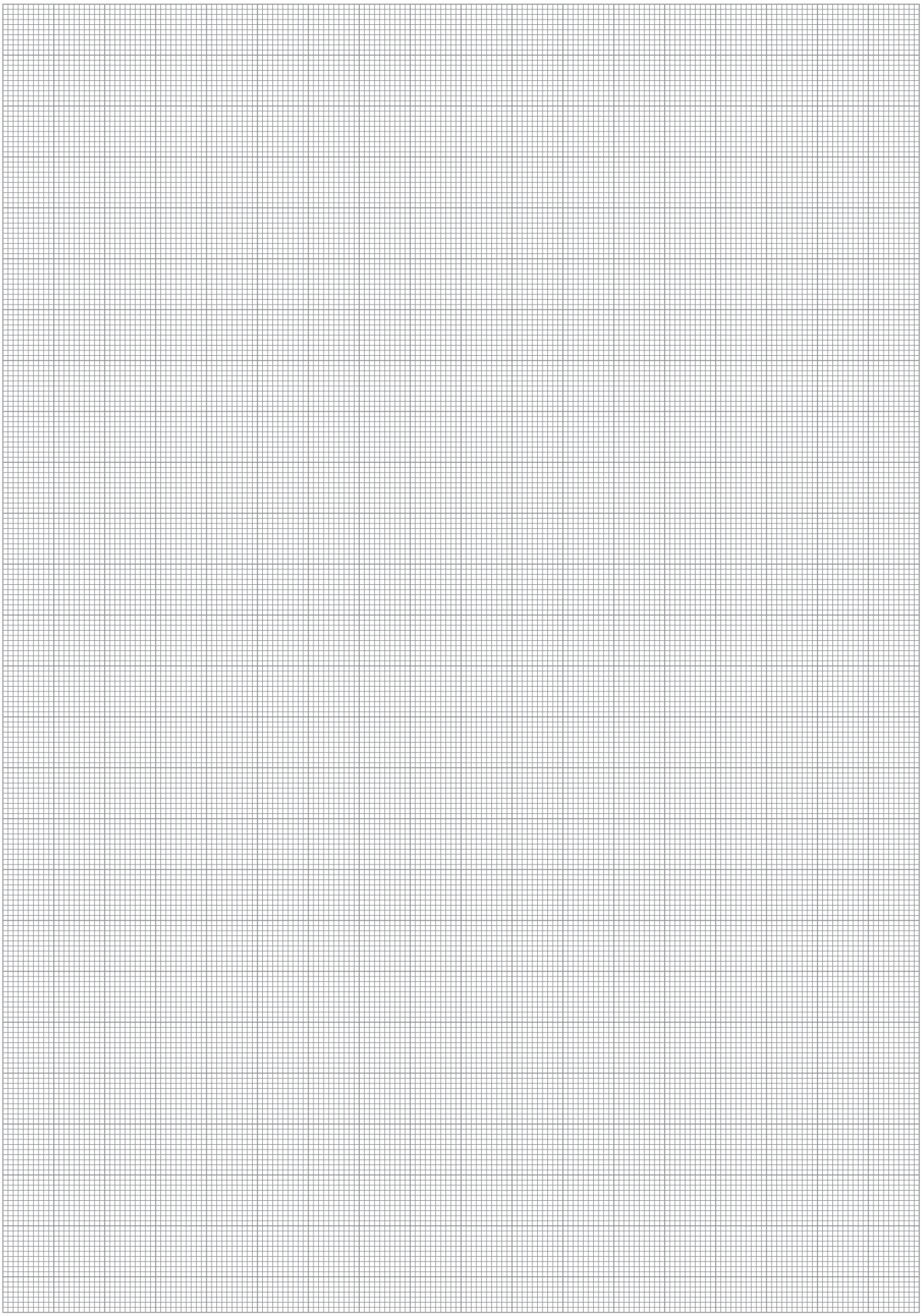
ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

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

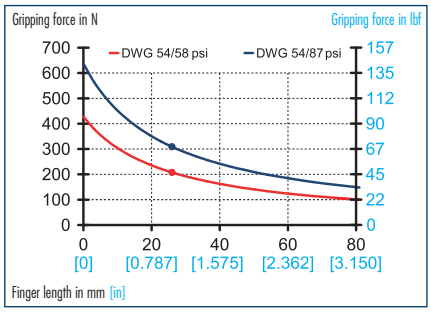
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

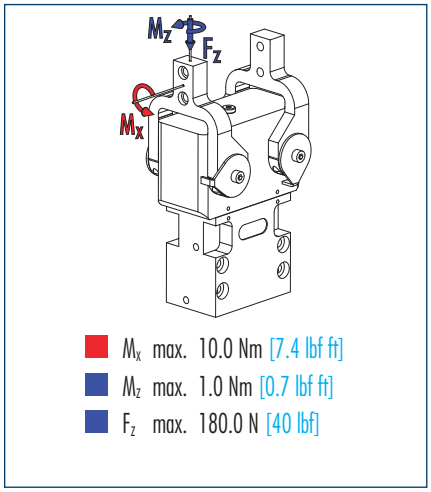


DWG 54

Gripping force, O.D. gripping



Finger load



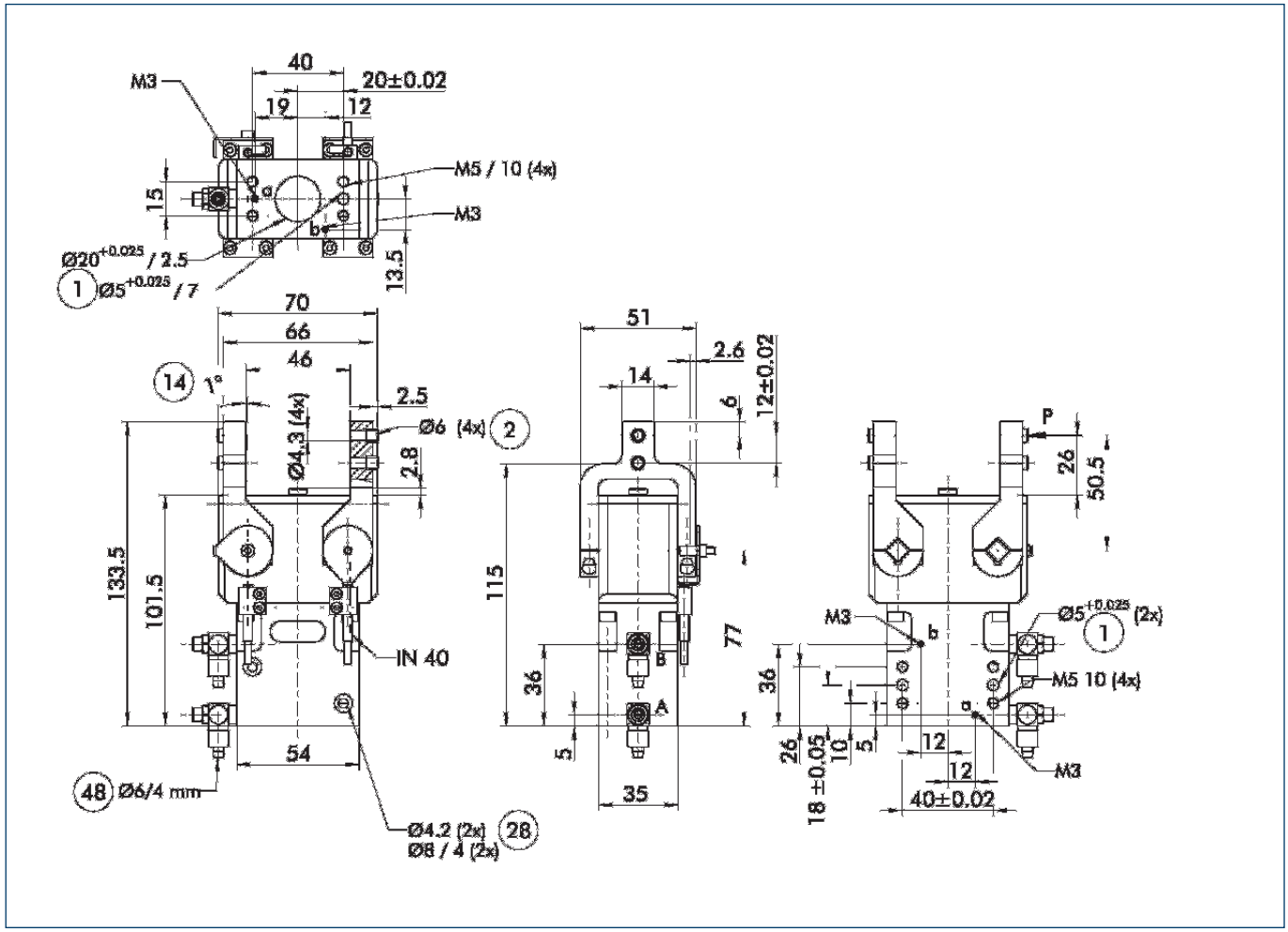
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DWG 54
	ID	0307147
Opening angle per jaw	°	90.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	15.6 [11.5]
Closing moment ensured by spring	Nm [lbf ft]	2.8 [2.1]
Weight	kg [lbs]	0.77 [1.70]
Recommended workpiece weight	kg [lbs]	1.4 [3.09]
Air consumption per double stroke	cm^3 [in^3]	36.0 [2.20]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.4
Opening time	s	0.5
Max. permitted finger length	mm [in]	60.0 [2.362]
Max. permitted weight per finger	kg [lbs]	0.15 [0.33]
IP class		67
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ The opening angle of the base jaws can be limited.

Main views

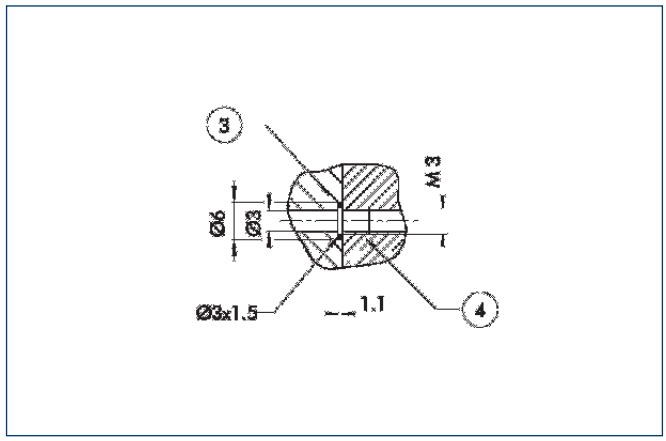


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㉘ Through-bore
㊽ Hose

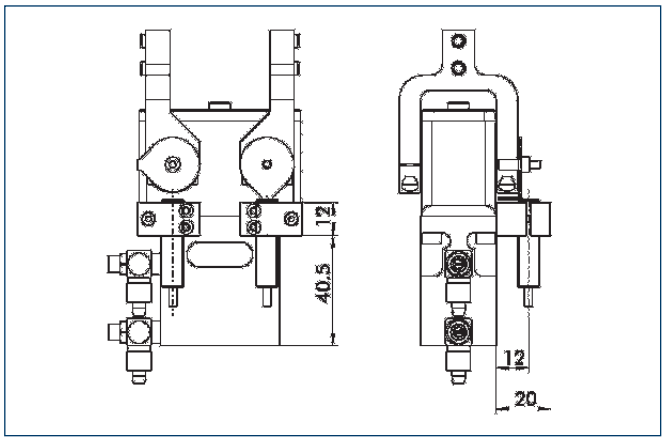
Hoseless direct connection



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.

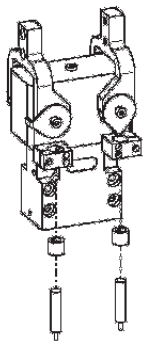
Mounting kit for M8/M12 proximity switches



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

Description	ID
HG-DWG 44-64	0300748

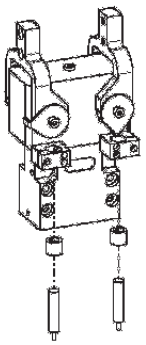
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

ⓘ 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-DWG 44-64	0300748	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

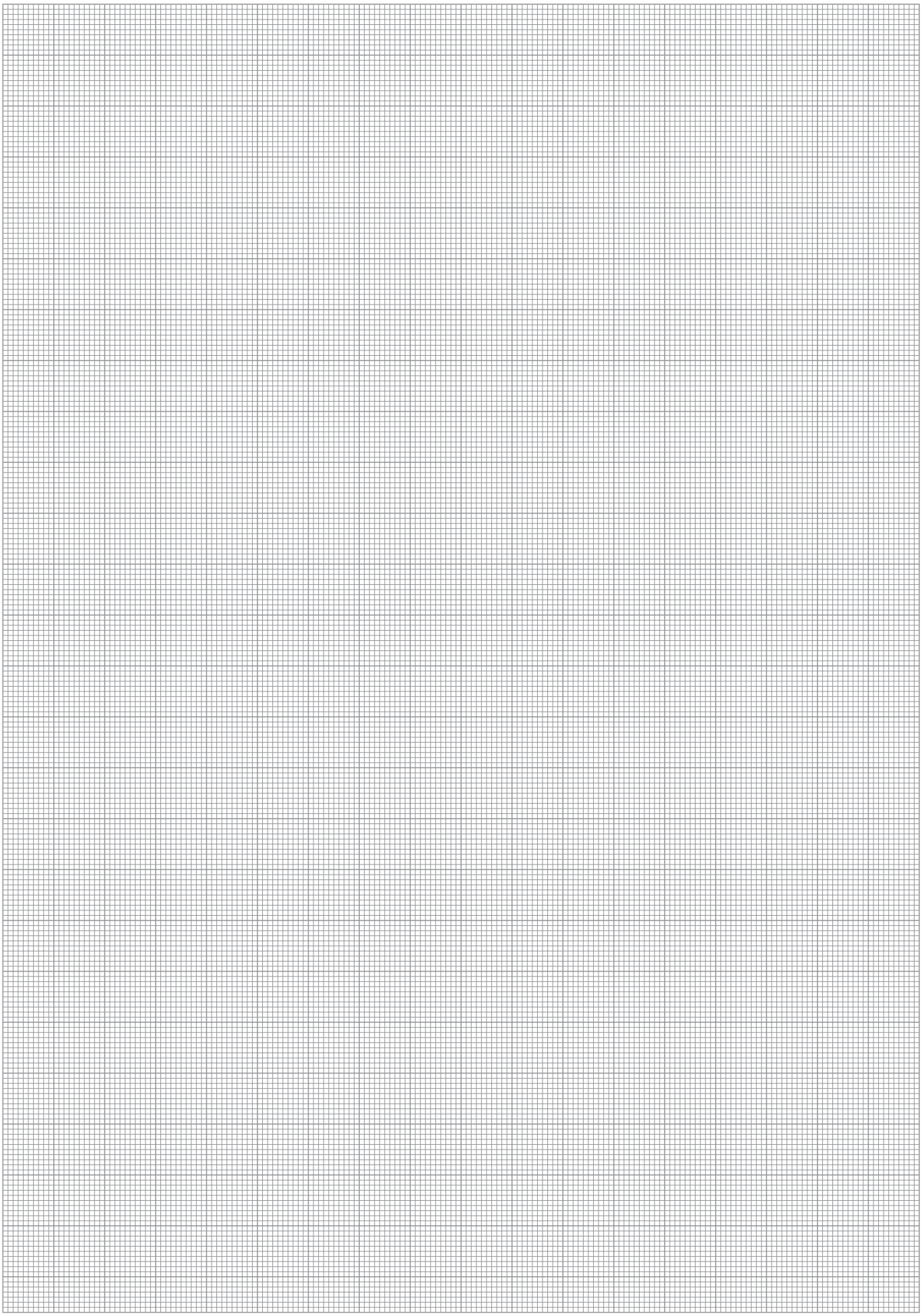
ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

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

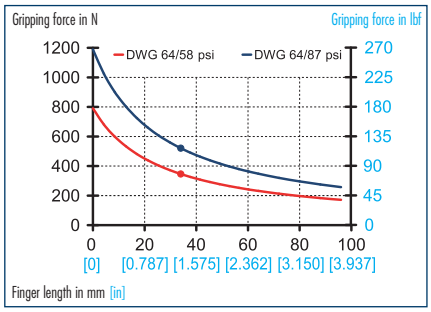
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

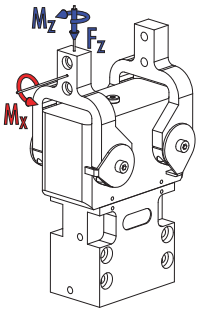


DWG 64

Gripping force, O.D. gripping



Finger load



- M_x max. 13.5 Nm [10.0 lbf ft]
- M_z max. 1.3 Nm [1.0 lbf ft]
- F_z max. 280.0 N [63 lbf]

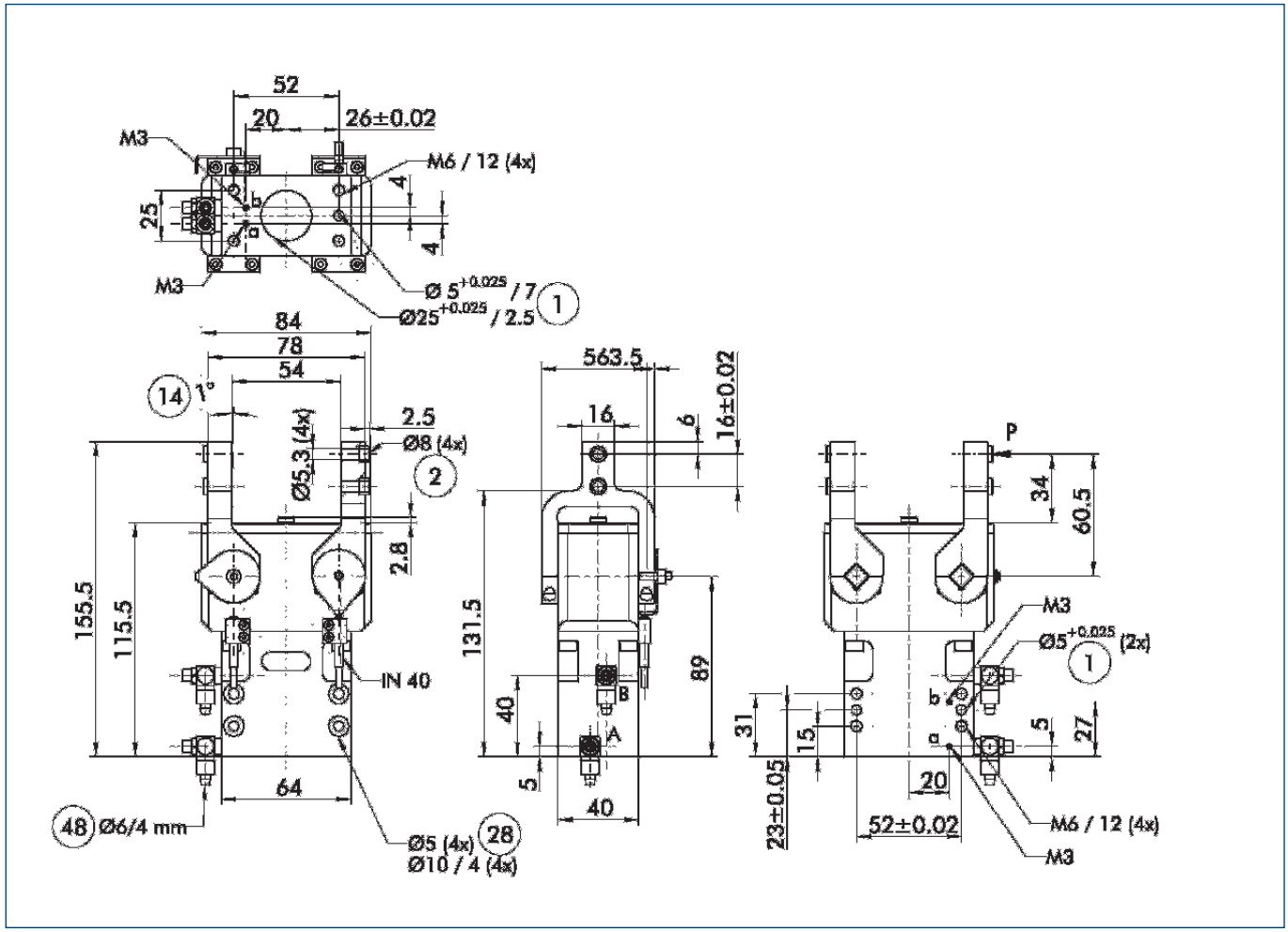
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DWG 64
	ID	0307148
Opening angle per jaw	°	90.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	31.5 [23]
Closing moment ensured by spring	Nm [lbf ft]	5.1 [3.8]
Weight	kg [lbs]	1.15 [2.54]
Recommended workpiece weight	kg [lbs]	2.2 [4.85]
Air consumption per double stroke	cm^3 [in^3]	57.0 [3.48]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.4
Opening time	s	0.5
Max. permitted finger length	mm [in]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.26 [0.57]
IP class		67
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ The opening angle of the base jaws can be limited.

Main views

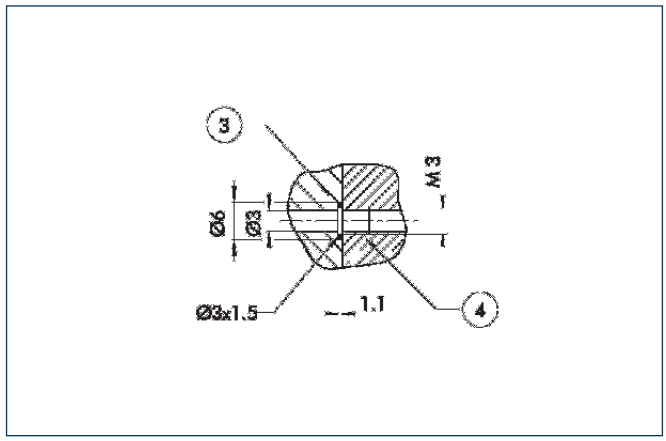


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㉘ Through-bore
㊽ Hose

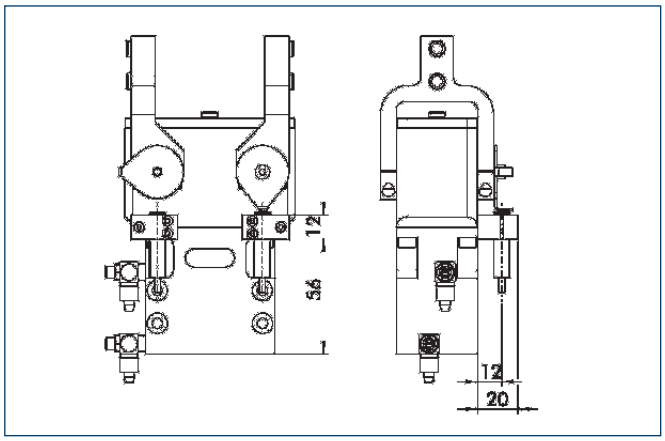
Hoseless direct connection



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.

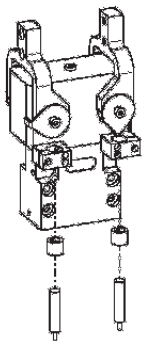
Mounting kit for proximity switch



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

Description	ID
HG-DWG 44-64	0300748

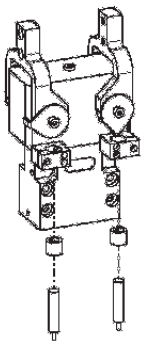
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

ⓘ 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-DWG 44-64	0300748	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

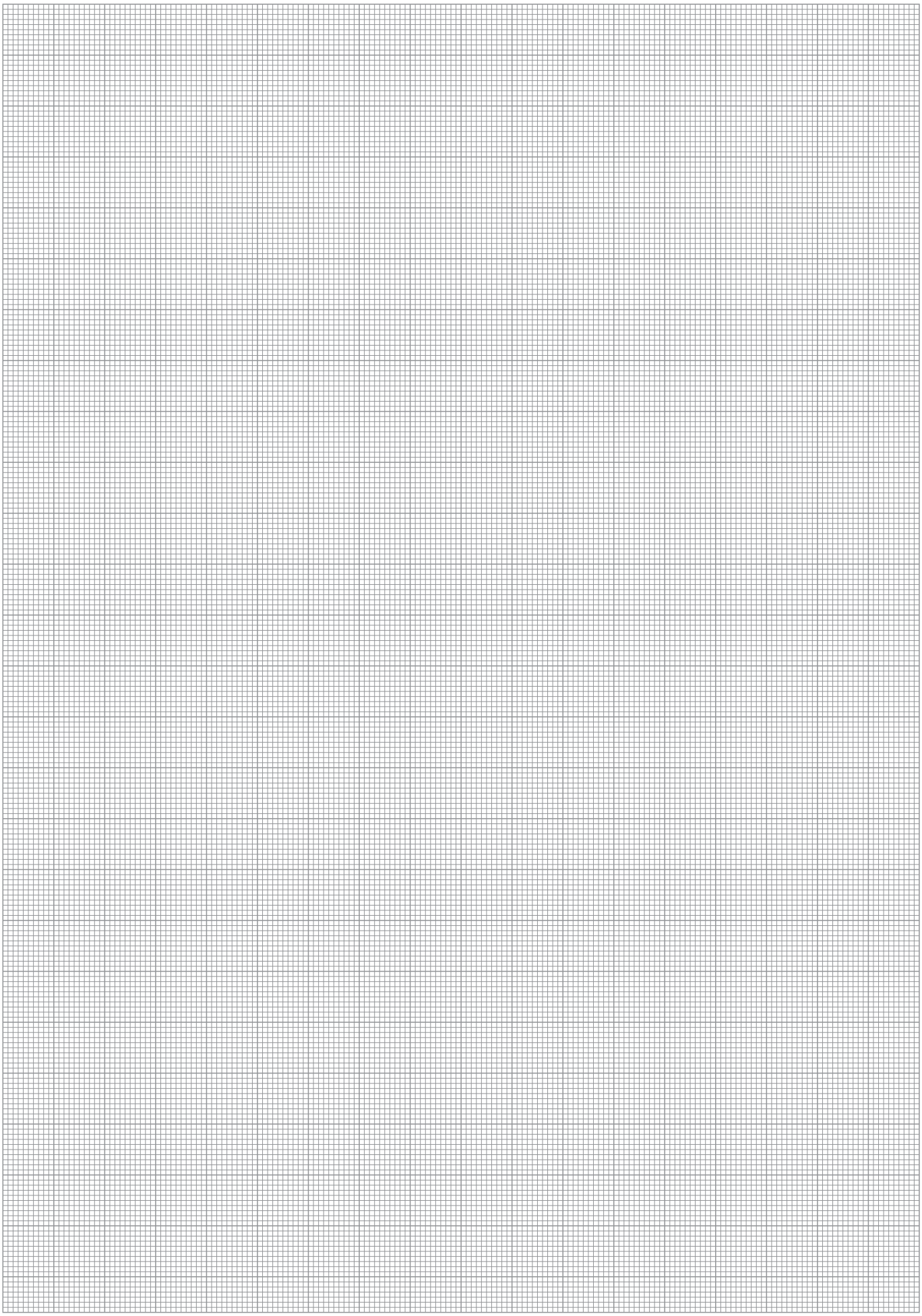
ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

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

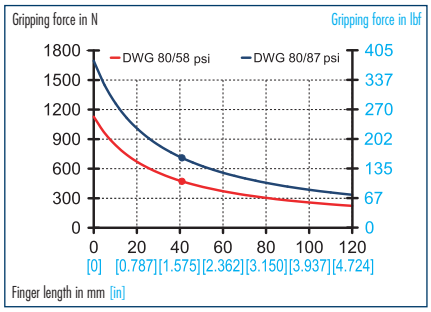
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

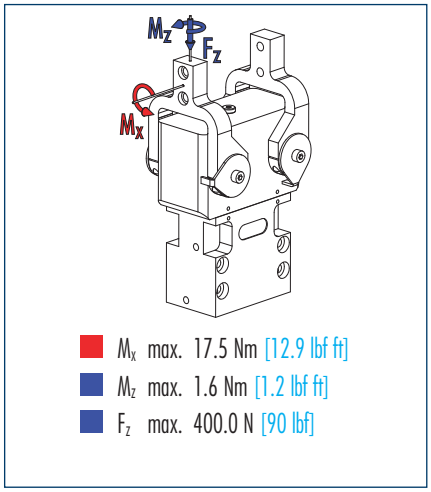


DWG 80

Gripping force, O.D. gripping



Finger load



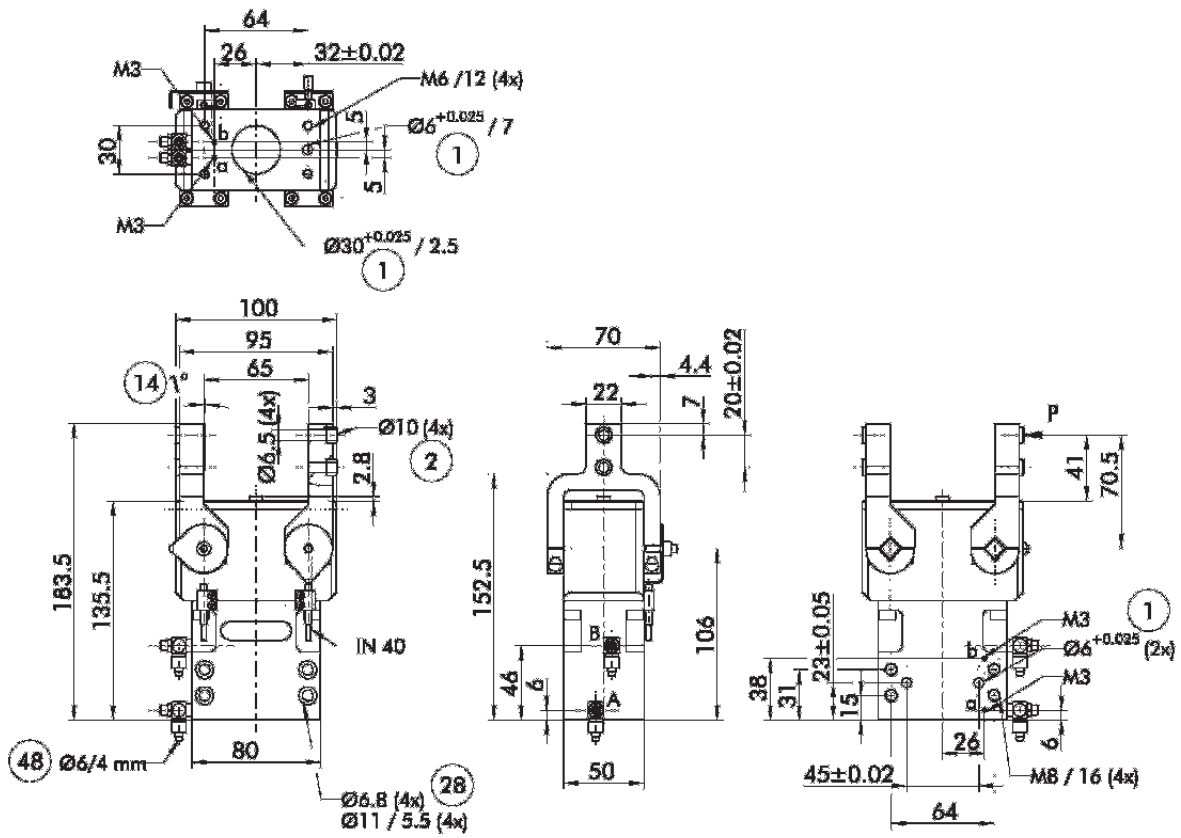
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DWG 80
	ID	0307149
Opening angle per jaw	°	90.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	50.0 [37]
Closing moment ensured by spring	Nm [lbf ft]	8.1 [6.0]
Weight	kg [lbs]	2.0 [4.41]
Recommended workpiece weight	kg [lbs]	2.7 [5.95]
Air consumption per double stroke	cm^3 [in^3]	110.0 [6.71]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.5
Opening time	s	0.6
Max. permitted finger length	mm [in]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.5 [1.10]
IP class		67
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ The opening angle of the base jaws can be limited.

Main views

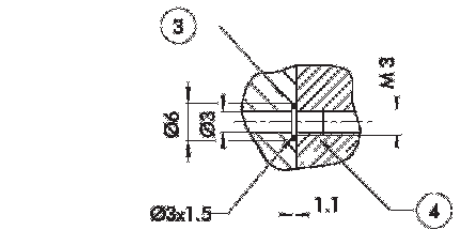


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㉘ Through-bore
㊽ Hose

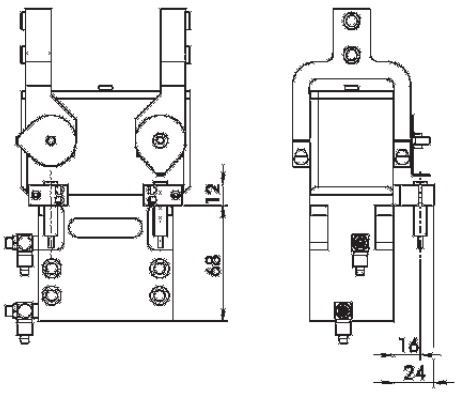
Hoseless direct connection



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.

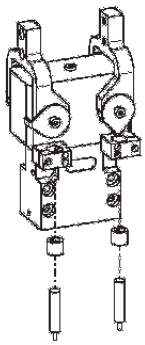
Mounting kit for M8/M12 proximity switches



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

Description	ID
HG-DWG 80	0300749

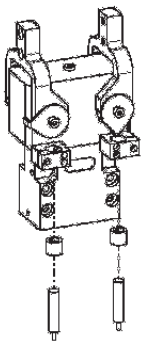
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

ⓘ 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-DWG 80	0300749	
IN 120/S-M12	0301592	
IN 80/S-M12	0301578	
IN 80/S-M8	0301478	•
IN-B 80/S-M8	0301477	
INK 120/S	0301562	
INK 80/S	0301550	
INK 80/SL	0301579	

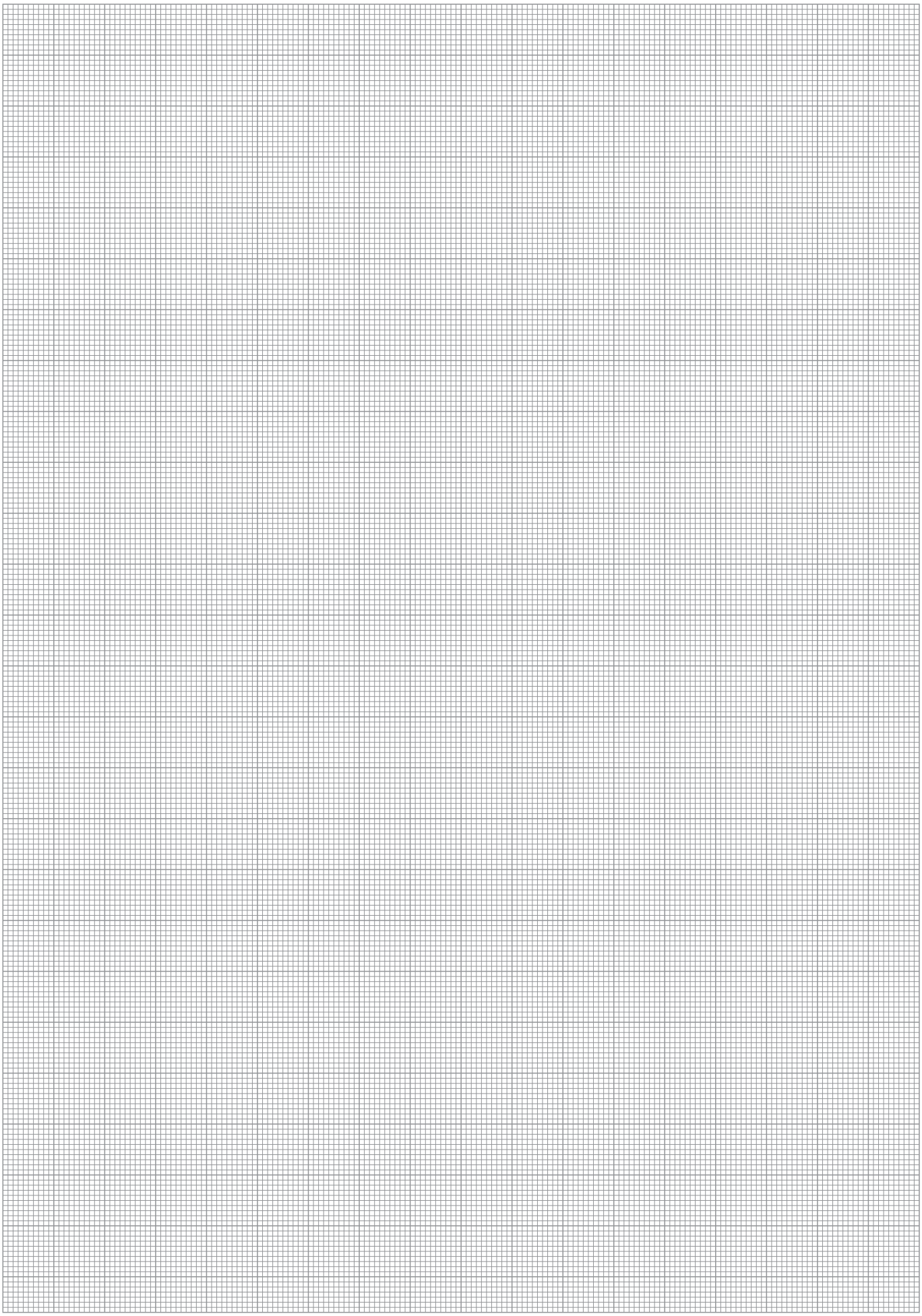
ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

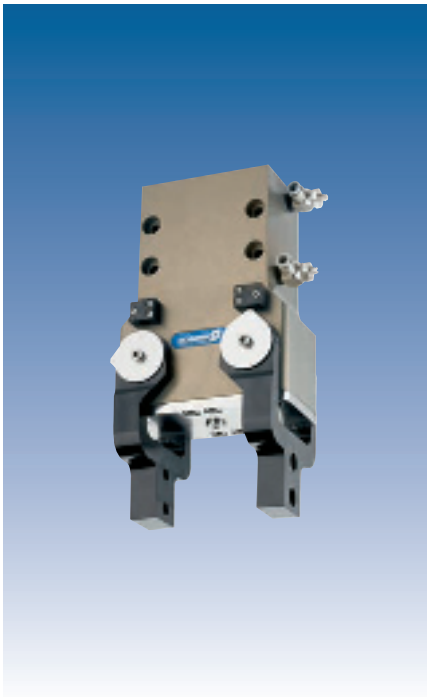
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

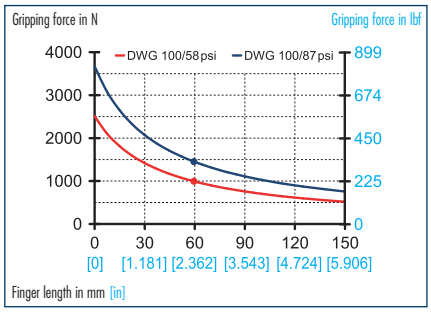
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



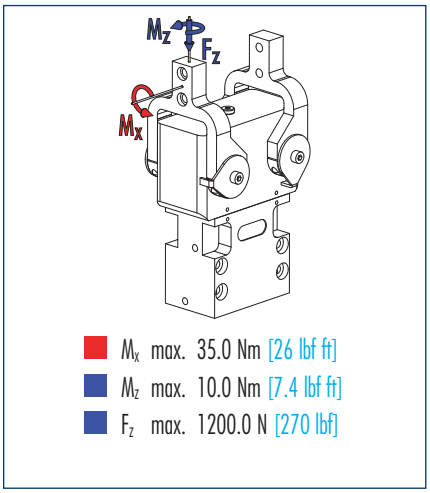
DWG 100



Gripping force, O.D. gripping



Finger load



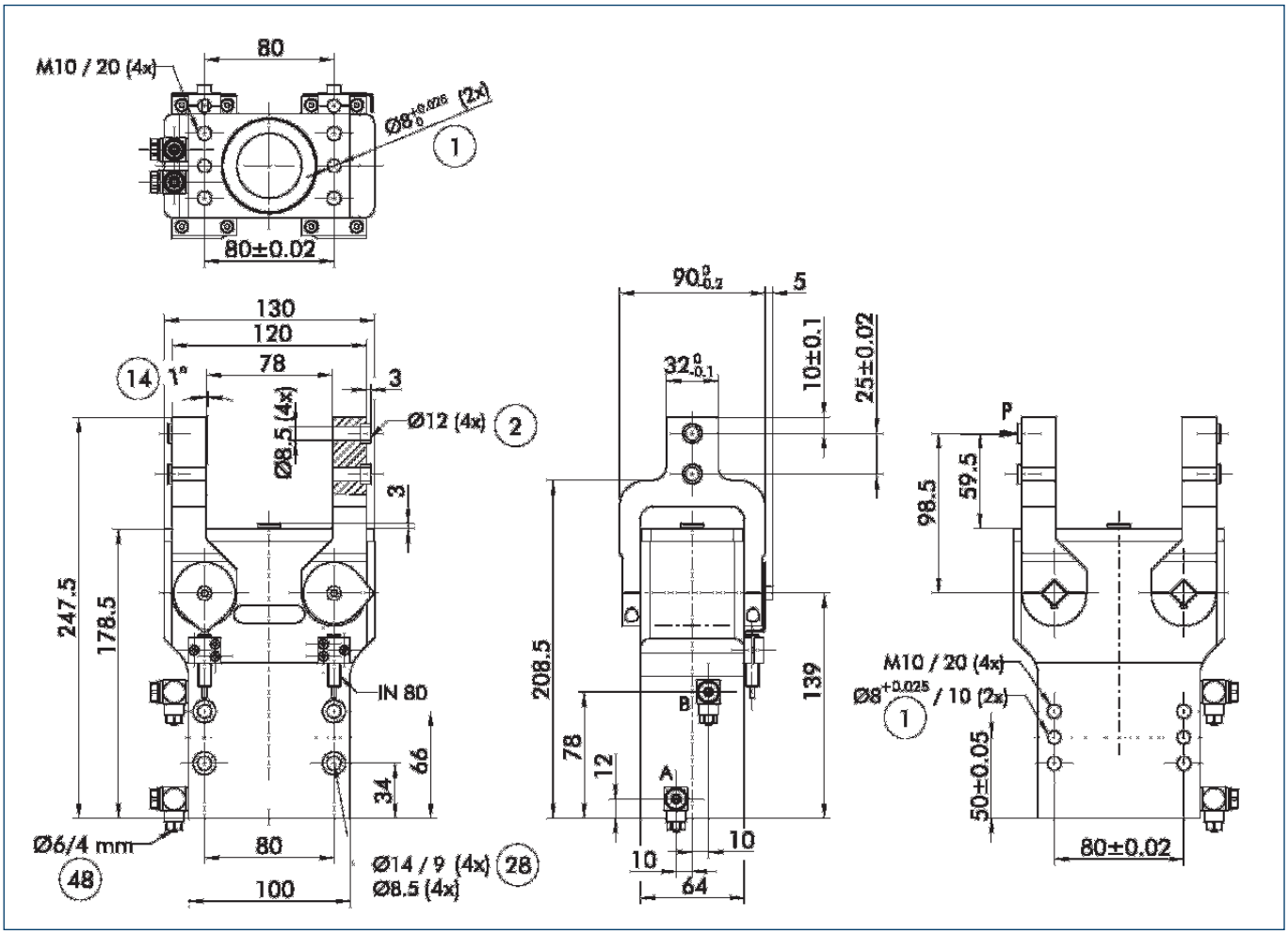
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DWG 100
	ID	0307150
Opening angle per jaw	°	90.0
Opening angle per jaw up to	°	2.0
Closing moment	Nm [lbf ft]	143.0 [105]
Closing moment ensured by spring	Nm [lbf ft]	30.0 [22]
Weight	kg [lbs]	4.46 [9.83]
Recommended workpiece weight	kg [lbs]	6.0 [13.23]
Air consumption per double stroke	cm^3 [in^3]	217.0 [13.24]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.3
Opening time	s	0.6
Max. permitted finger length	mm [in]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.0 [2.20]
IP class		67
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ The opening angle of the base jaws can be limited.

Main views

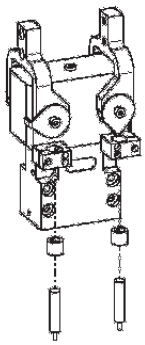


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑭ Clamping reserve per finger
㉘ Through-bore
㊽ Hose

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

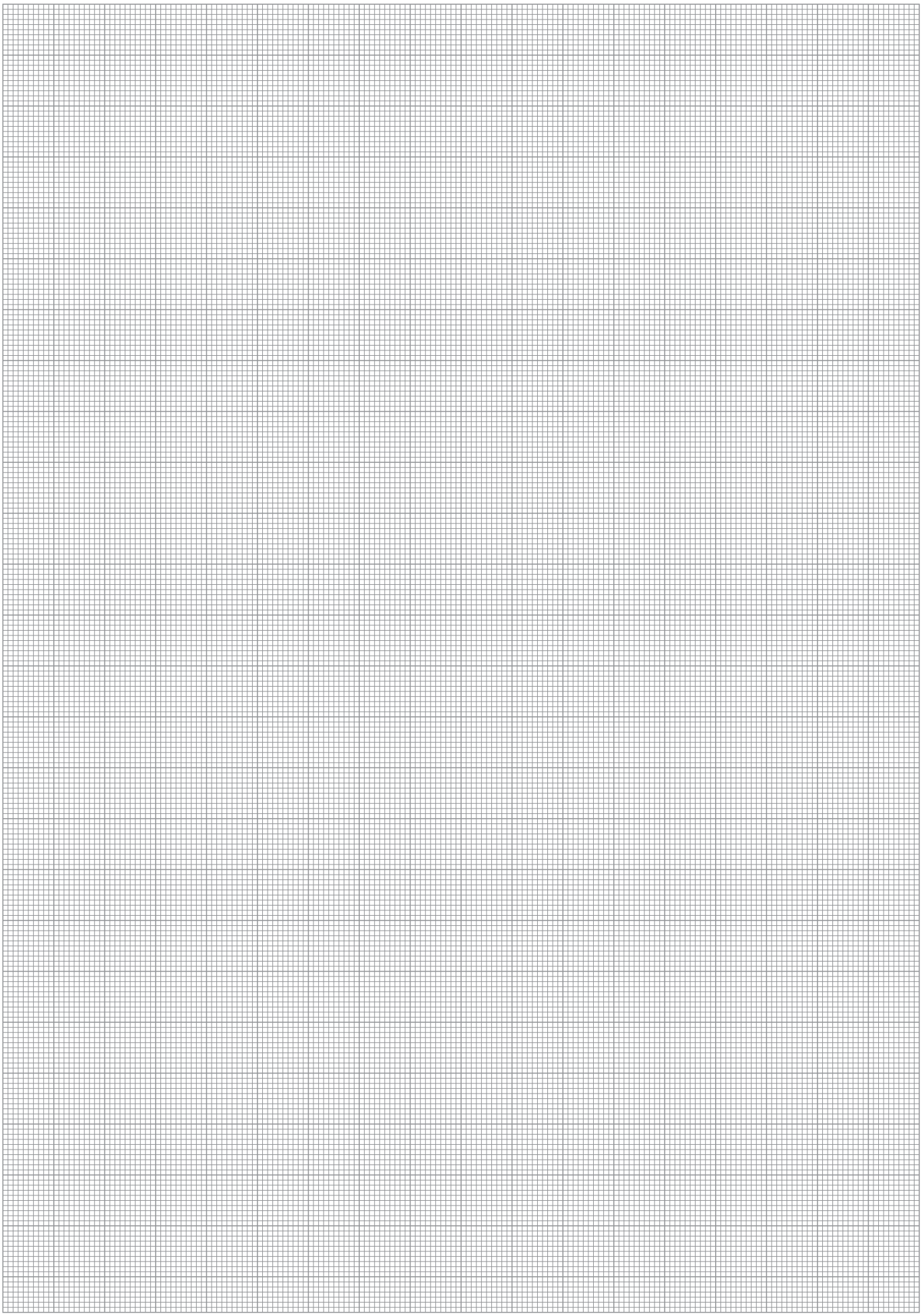
ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

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

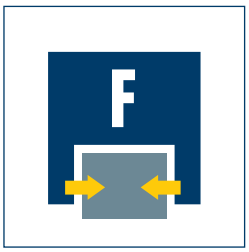
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

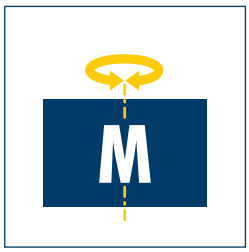


Pneumatic Modular Gripping System

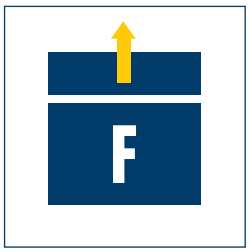
MODULAR GRIPPING SYSTEM



Gripping force
100 N
22.5 lbf



Torque
0.9 Nm
0.664 lbf ft



Piston force (extended)
250 N
56 lbf

Application example

KONEX weight-reduced, modular gripping system for economical automation in assembly and production

1. **KONEX P 50 2-Finger Parallel Gripper**
2. **KONEX V 55 Connector**
3. **KONEX S 50 Rotary Unit**
4. **KONEX V 50 Connector**
5. **KONEX H 50 Linear Unit**

Modular Gripping System

Weight-reduced, low-price gripping system consisting of a linear unit, a gripper and a rotary unit connected with snap-on connectors, so that the modules do not need to be screwed in place

Area of application

Suitable for clean environments and light loads

Your advantages and benefits

Low-price gripping system
comprising rotary unit, linear unit and parallel gripper

Complete series weight-reduced through the use of a high-performance polymer
making the modules extremely light and free from corrosion

Simple connection of the various components using snap-on connectors
enabling easy, fast assembly of modules

Information about the series

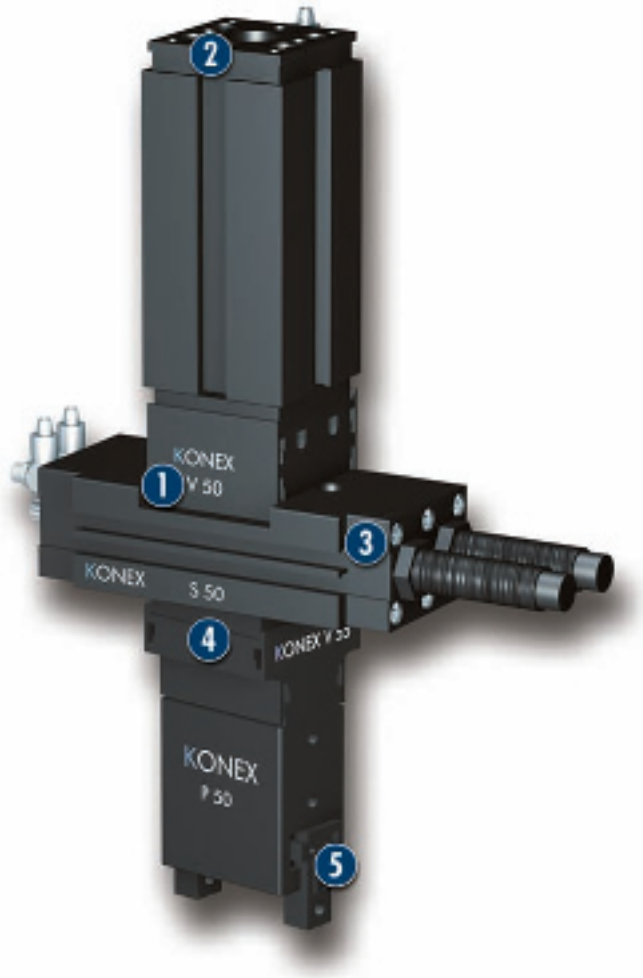
Working principle
Pneumatic piston drive, with transmission to a pinion in the case of the rotary unit

Housing material
High-performance polymer

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 (gripper only), assembly and operating manual with manufacturer's declaration



1 **V 50 Connector**
for connecting linear units and rotary units in any direction, attachable at 90° intervals

2 **KONEX H**
weight-reduced Linear Unit

3 **KONEX S**
weight-reduced Rotary Unit

4 **V 55 Connector**
for connecting a Rotary Unit, or a Linear Unit, to a gripper, attachable at 90° intervals

5 **KONEX P**
weight-reduced Parallel Gripper

Function description

The KONEX series works with pneumatics. The gripper functions by means of a pneumatic piston, the rotary unit on the basis of a double-piston rack and pinion principle and the linear unit through the direct connection of the lifting plate to the piston rod.

Options and special information

Thanks to the snap-on connectors, the individual modules are mounted within seconds.

Accessories

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

Centering sleeves

Fittings

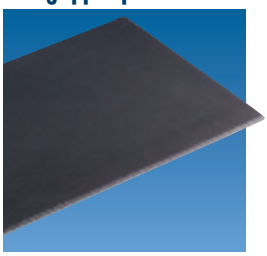
MMS magnetic switch

IN inductive proximity switches

Quentes plastic inserts

W/WK/KV/GK sensor cables

HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

Connector

ⓘ 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.

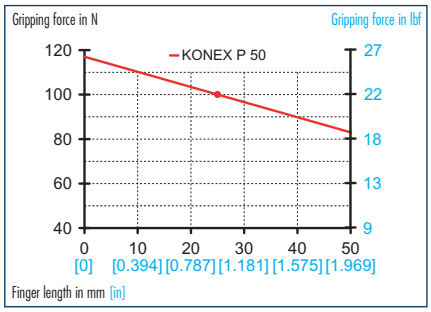
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

V 50 and V 55 connectors
The linear unit is connected to the rotary unit via the V 50 connector. The gripper can be secured to the linear unit or rotary unit via the V 55 connector.

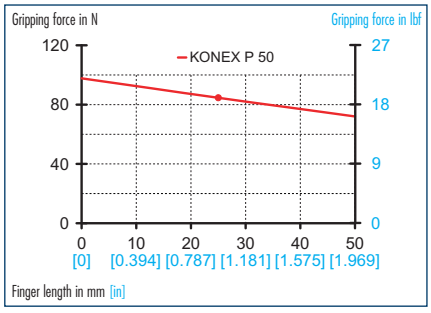
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

KONEX P 50

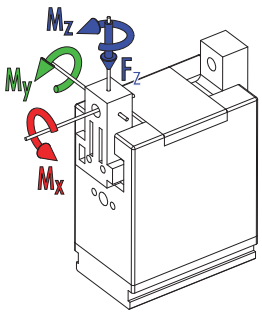
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



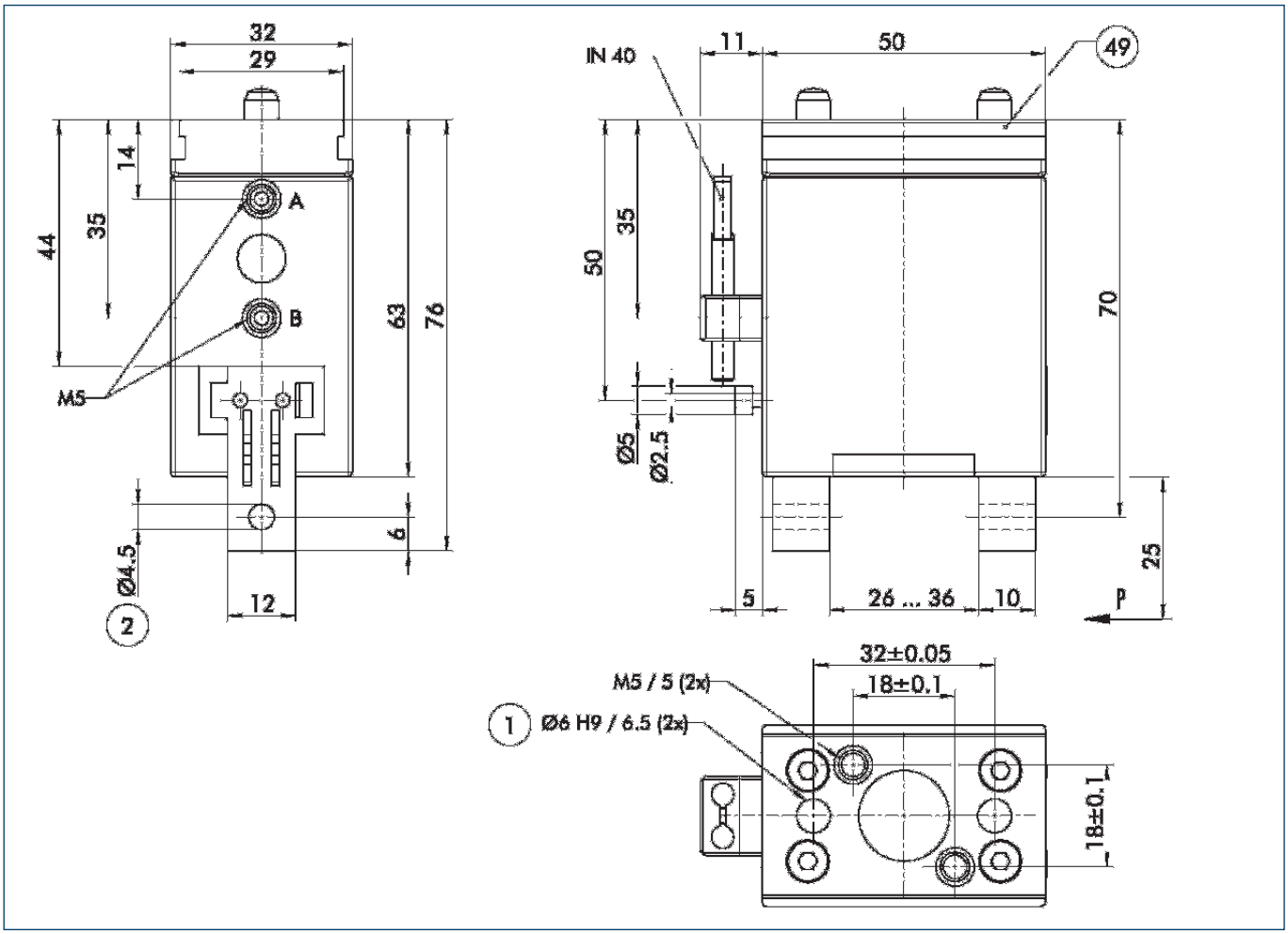
- M_x max. 0.25 Nm [0.184 lbf ft]
- M_y max. 0.32 Nm [0.236 lbf ft]
- M_z max. 0.9 Nm [0.664 lbf ft]
- F_z max. 35.0 N [7.9 lbf]

ⓘ 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		Konex P 50
	ID	0305550
Stroke per finger	mm [in]	5.0 [0.197]
Closing force	N [lbf]	85.0 [19.1]
Opening force	N [lbf]	100.0 [22.5]
Weight	kg [lbs]	0.15 [0.33]
Recommended workpiece weight	kg [lbs]	0.2 [0.44]
Air consumption per double stroke	cm^3 [in^3]	5.2 [0.32]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	2.5 [36]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.03
Opening time	s	0.025
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.05 [0.11]
IP class		30
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	60.0 [140]
Repeat accuracy	mm [in]	0.05 [0.0020]

Main views

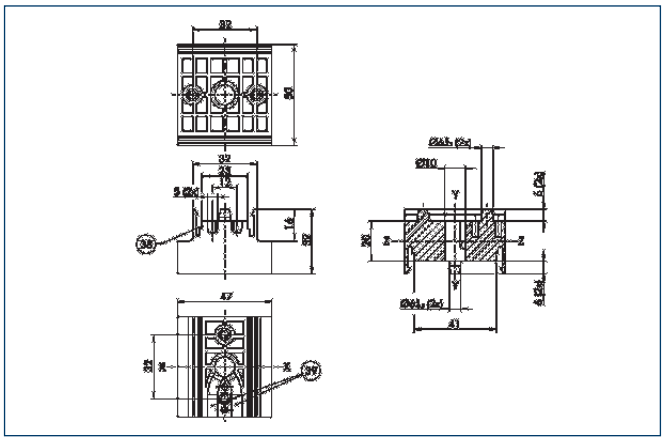


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

ⓘ The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
㊾ Undercut for snap-on connection

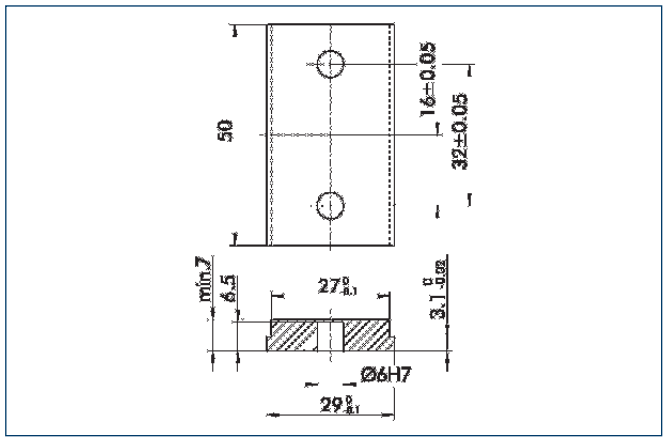
KONEX V 55 connecting element



㊳ Slot for disassembly tool
㊴ Slot for air hose Ø4

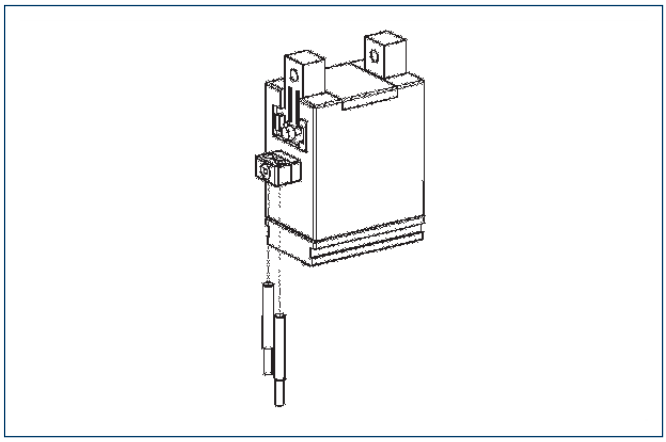
Connecting element between gripper and linear unit or rotary unit

Adapter plate



For mounting the KONEX P 50 gripper with the V 55 connecting element

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

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

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

Extension cables for proximity switches/magnetic switches

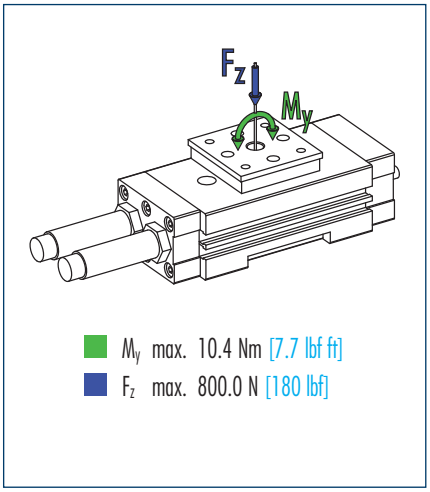
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

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

KONEX S 50

Pinion load

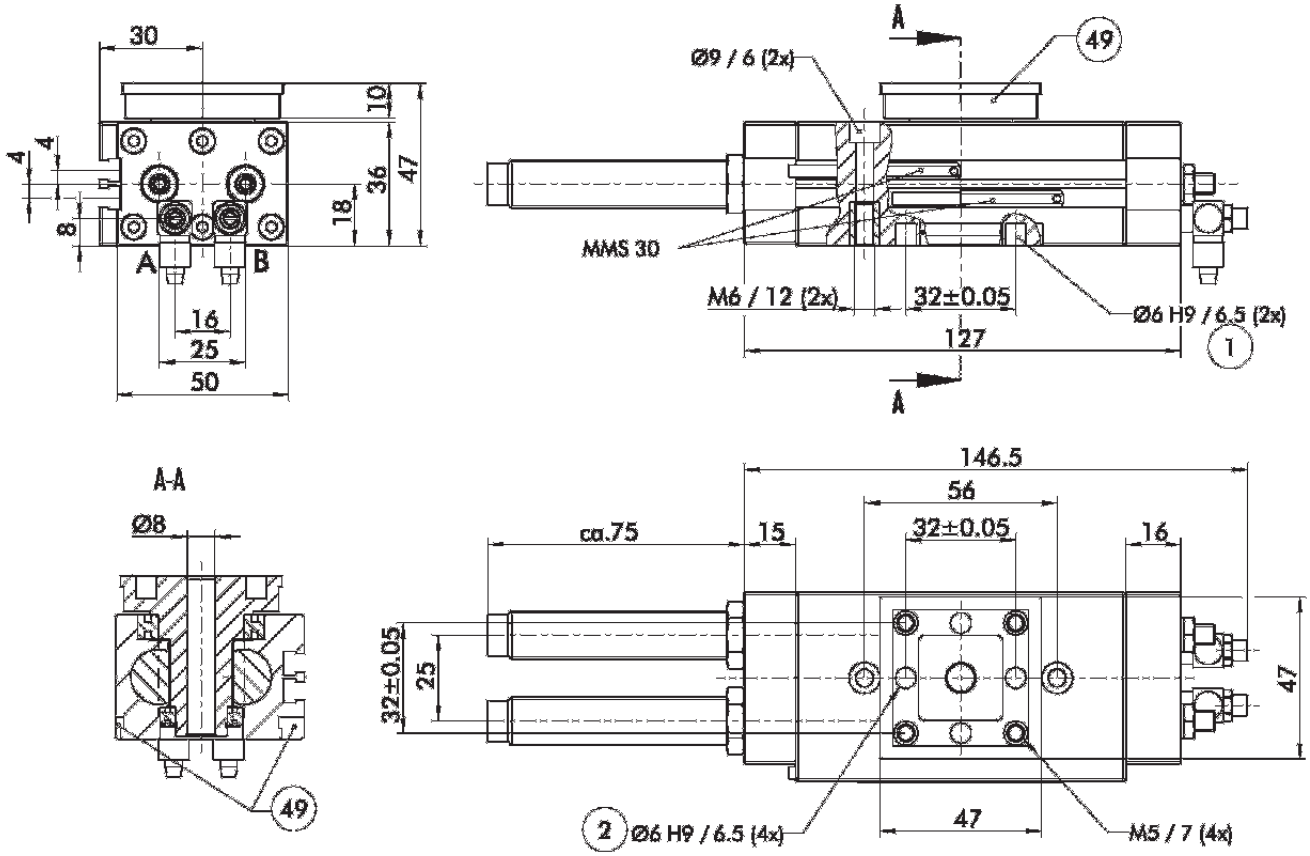


ⓘ The moment and force acting on the pinion may occur simultaneously.

Technical Data

Description		Konex S 50
	ID	0305450
Torque	Nm [lbf ft]	0.9 [0.664]
Rotating angle	°	180.0
Adjustability of end positions	°	2.0
Weight	kg [lbs]	0.53 [1.17]
IP class		40
Max. permitted axial bearing load	N [lbf]	800.0 [180]
Max. permitted radial bearing load	Nm [lbf ft]	10.4 [7.7]
Cycle time (1x nominal angle of rotation) without attached load	s	0.35
Air consumption per cycle	cm^3 [in^3]	10.5 [0.64]
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	60.0 [140]
Nominal operating pressure	bar [psi]	6.0 [87]
Min. required operating pressure	bar [psi]	2.0 [29]
Max. permitted operating pressure	bar [psi]	6.5 [94]
Repeat accuracy	°	0.2

Main views

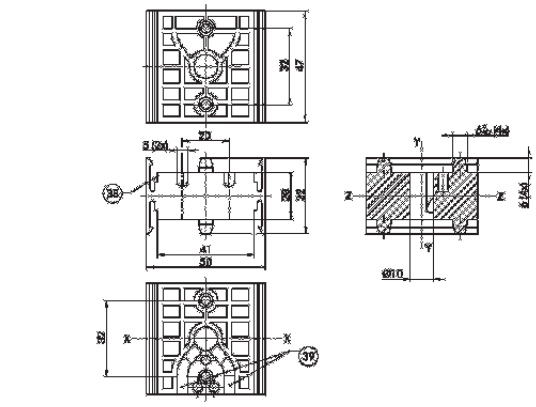


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

ⓘ The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
① Rotary unit connection
② Connection of the unit
㊾ Undercut for snap-on connection

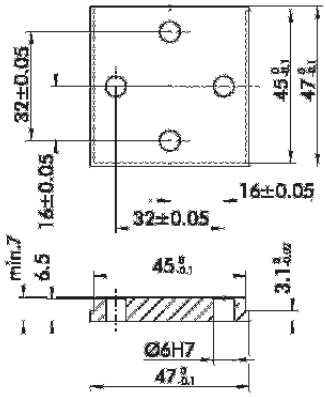
KONEX V 50 connecting element



㊳ Slot for disassembly tool
㊴ Slot for air hose Ø4

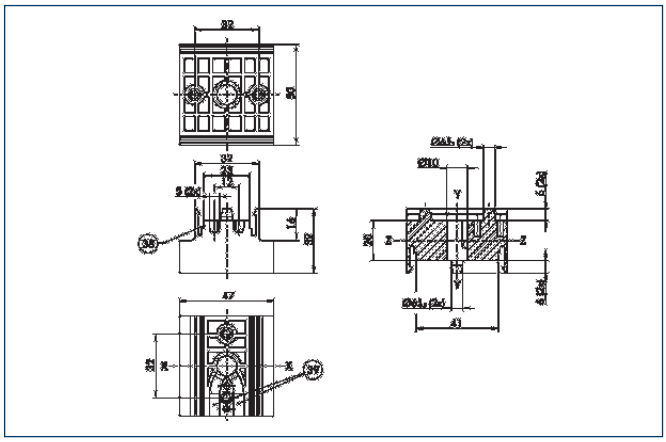
Connecting element between linear unit and rotary unit

Adapter plate



For connecting any modules you require to the linear unit or rotary unit with the V 50 connecting element.

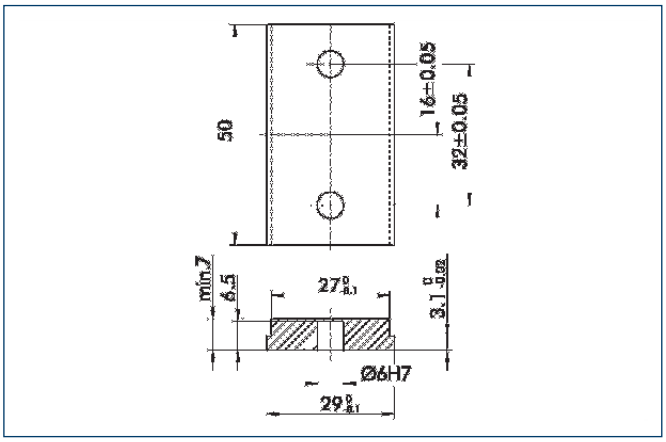
KONEX V 55 connecting element



(38) Slot for disassembly tool
(39) Slot for air hose Ø4

Connecting element between gripper and linear unit or rotary unit

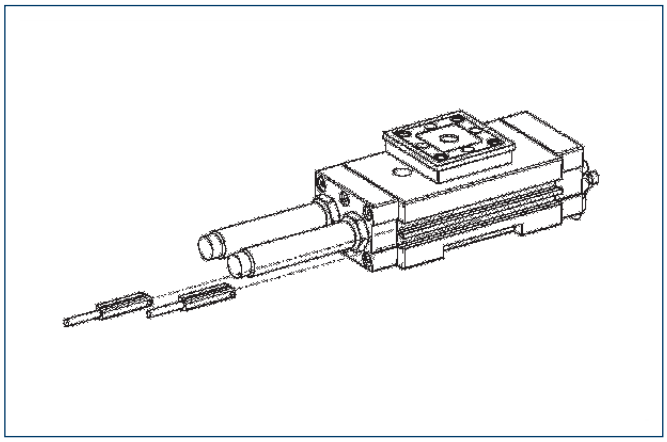
Adapter plate



For connecting any modules you require to the linear unit or rotary unit with the V 55 connecting element.

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 solenoid 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	

ⓘ Two sensors (NO contacts) are required for each unit.

Extension cables for proximity switches/magnetic switches

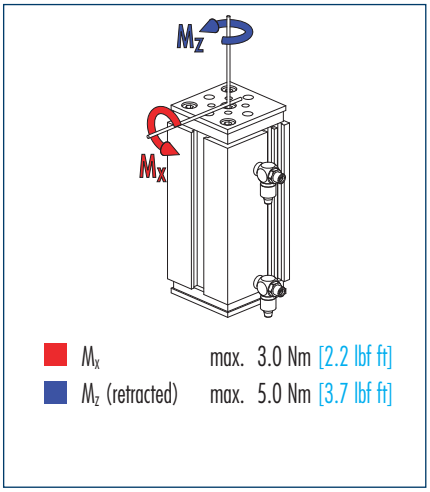
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
WK 3-M8	0301594
WK 5-M8	0301502

ⓘ 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.

KONEX H 50

Moment load

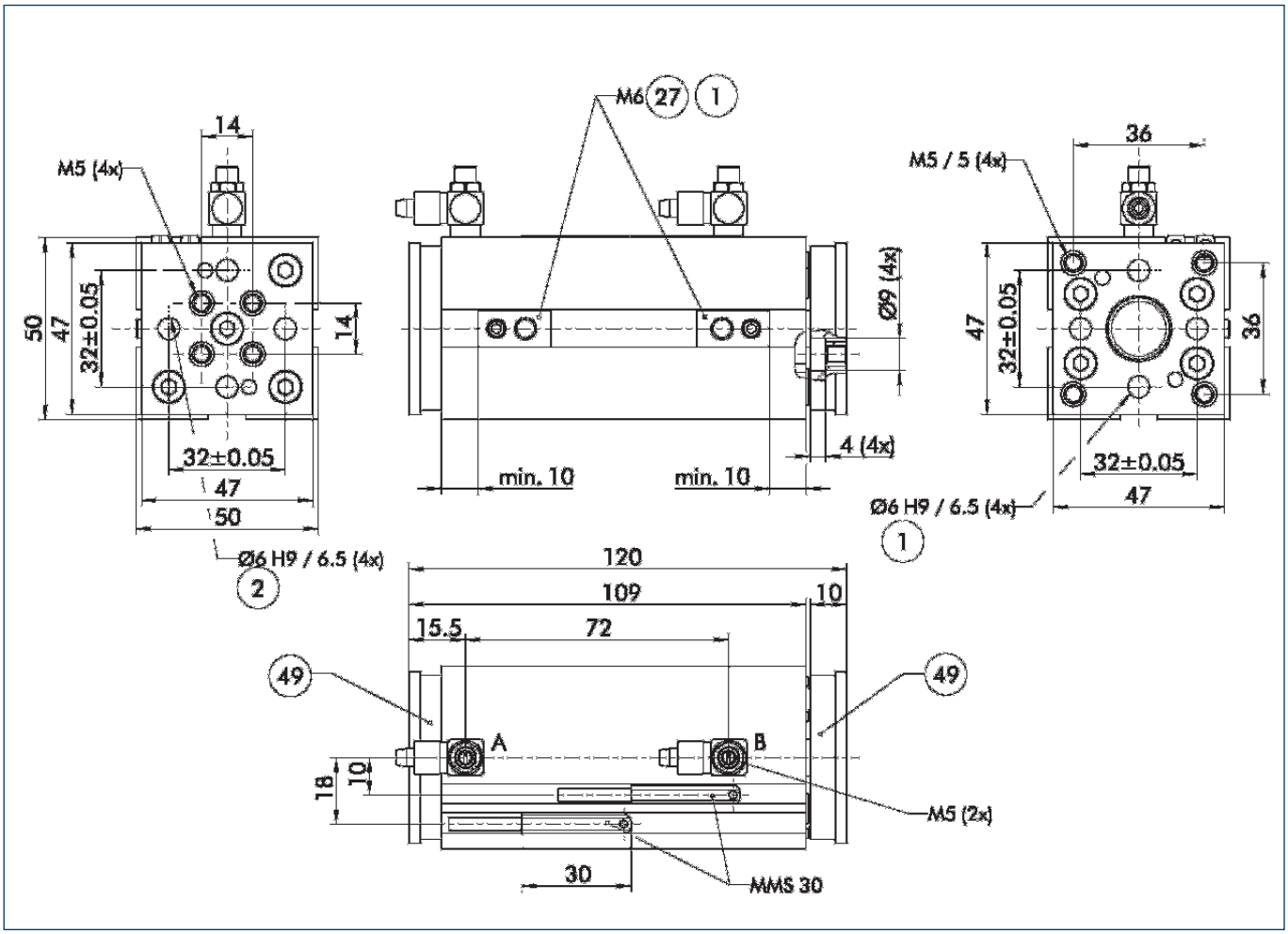


ⓘ The loading forces and moments may occur simultaneously.

Technical data

Description		Konex H 50
	ID	0305350
Extension force	N [lbf]	250.0 [56]
Retraction force	N [lbf]	180.0 [40]
Stroke	mm [in]	60.0 [2.362]
Weight	kg [lbs]	0.45 [0.99]
Max. permitted torsional moment (extended)	Nm [lbf ft]	2.0 [1.5]
Air consumption per double stroke	cm^3 [in^3]	54.0 [3.30]
Nominal operating pressure	bar [psi]	6.0 [87]
Max. permitted operating pressure	bar [psi]	6.5 [94]
Stroke time (extended)	s	0.07
IP class		42
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	60.0 [140]
Repeat accuracy	mm [in]	0.2 [0.0079]

Main views

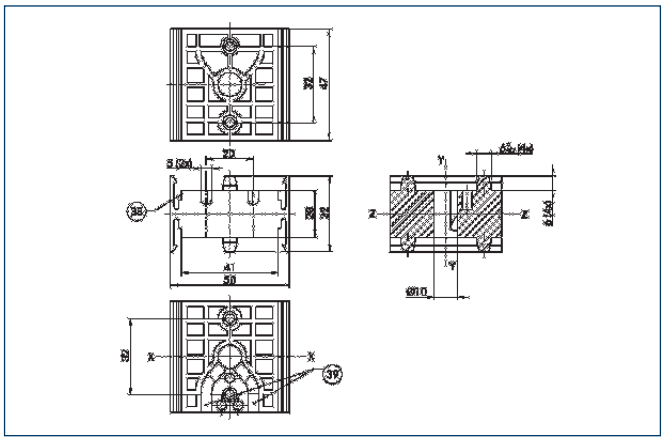


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

ⓘ The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

A,a Main/direct connection, extend linear unit
B,b Main/direct connection, retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts
㊾ Undercut for snap-on connection

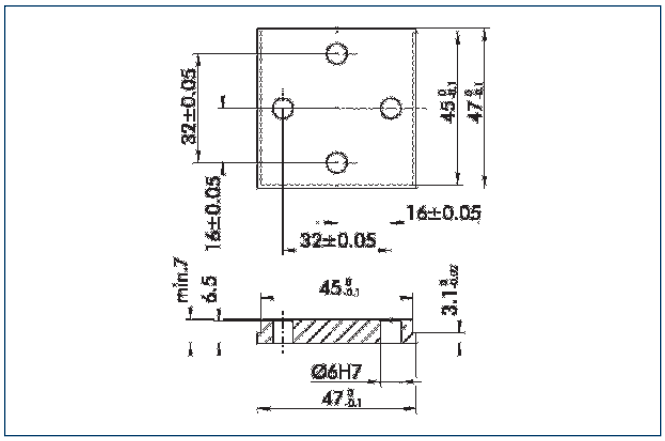
KONEX V 50 connecting element



㊳ Slot for disassembly tool
㊴ Slot for air hose Ø4

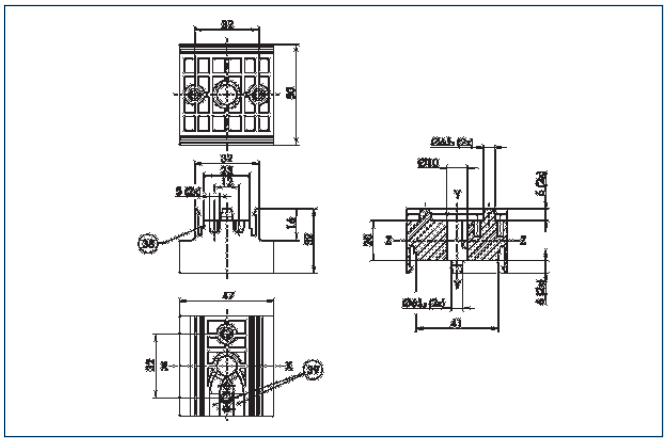
Connecting element between linear unit and rotary unit

Adapter plate



For connecting any modules you require to the linear unit or rotary unit with the V 50 connecting element.

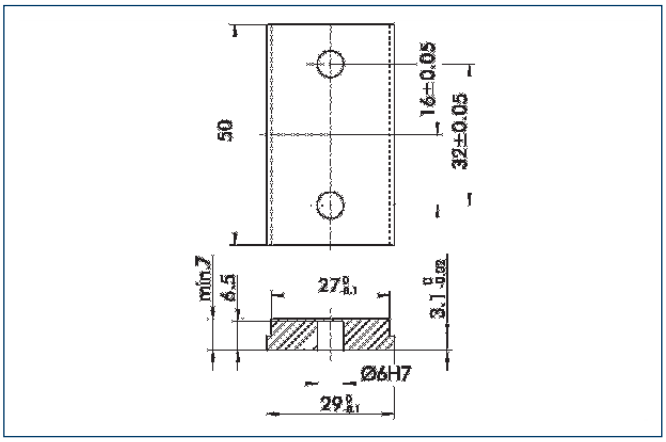
KONEX V 55 connecting element



(38) Slot for disassembly tool
(39) Slot for air hose Ø4

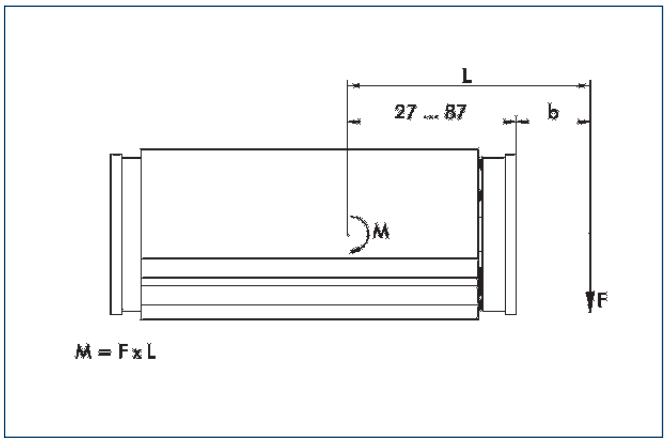
Connecting element between gripper and linear unit or rotary unit

Adapter plate



For connecting any modules you require to the linear unit or rotary unit with the V 55 connecting element.

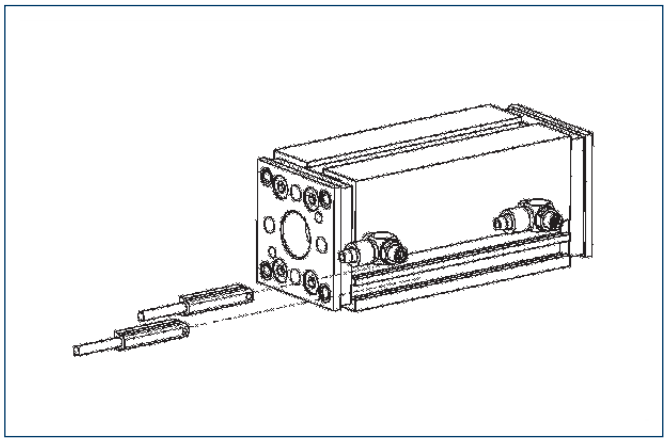
Bending moment



The drawing shows the center of rotation on which the leverage is based for the purpose of the bending moment calculation.

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 direct mounting

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

ⓘ Two sensors (NO contacts) are required for each unit.

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

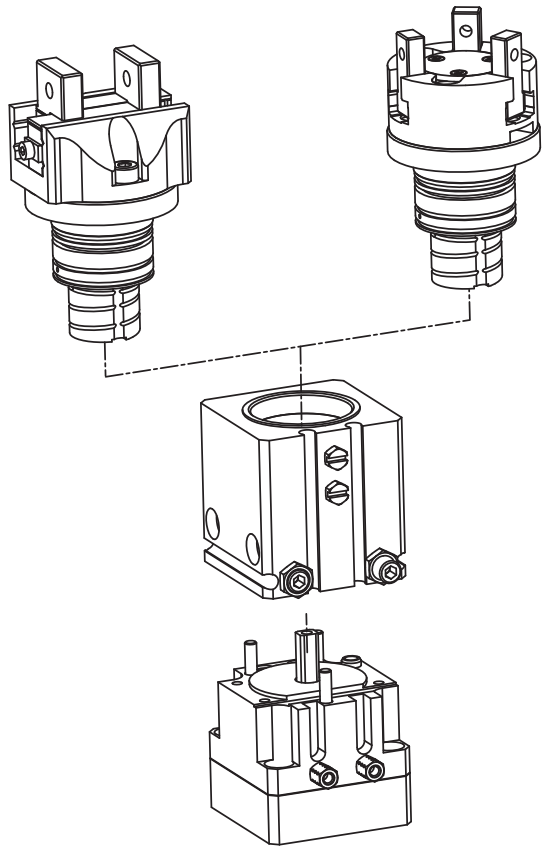
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

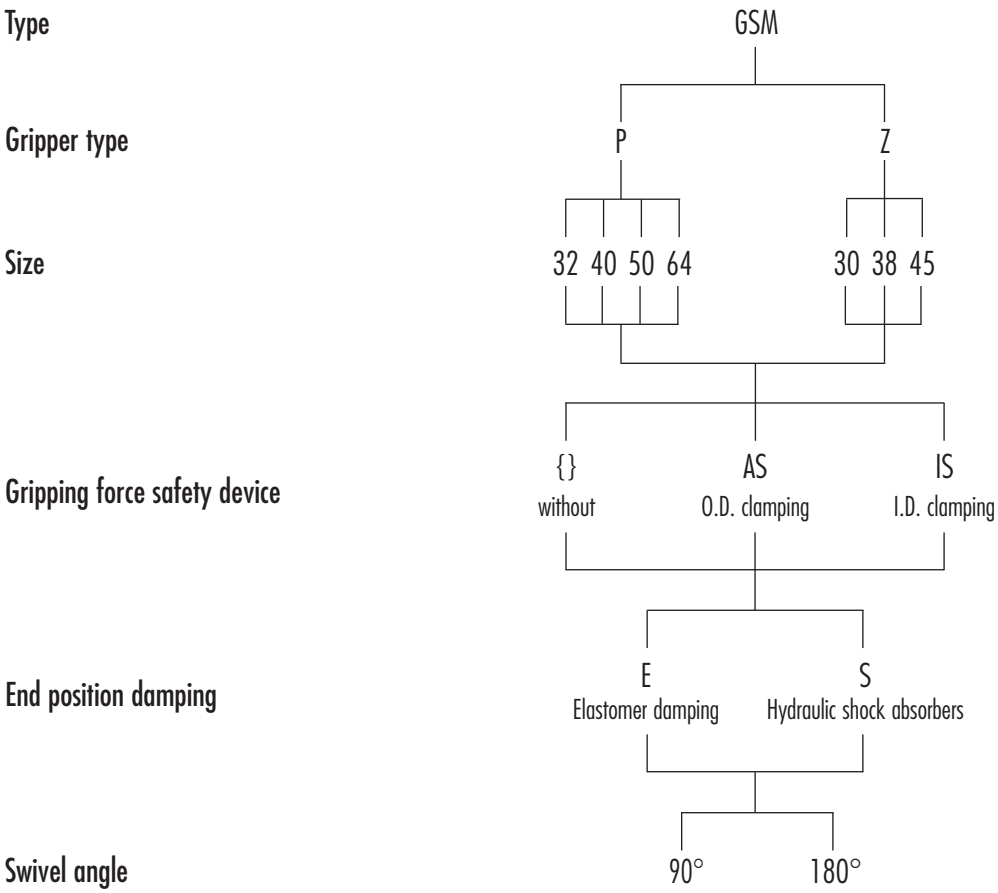
Pneumatic Grippers Swivel Modules

ROTARY GRIPPERS MODULES

Modular Design



Versions of the series



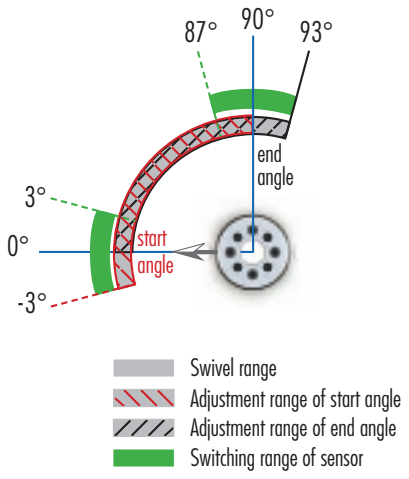
How to order

GSM – P – 32 – AS – E – 090

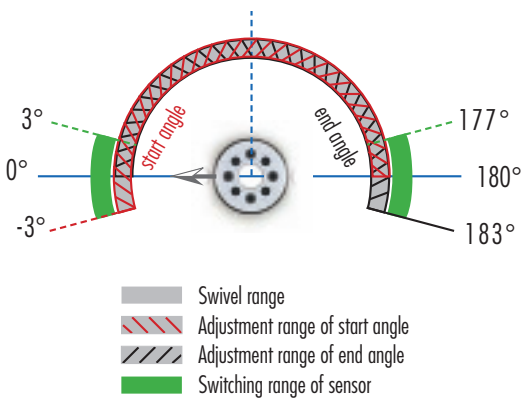
- 090: 90° / 180° — Swivel angle
- E: E = with Elastomer damping; S = with Hydraulic shock absorbers — End position damping
- AS: without / O.D. clamping / I.D. clamping — Gripping force safety device
- 32: 30 / 32 / 38 /40 / 45 / 50 / 64 — Size
- P: P = Parallel gripper; Z = Centric gipper — Gripper type
- GSM: Rotary Gripper Module — Type

End stop adjustability and switching angle of sensor

- in the case of 90° units



- in the case of 180° units



Sizes
20 .. 64

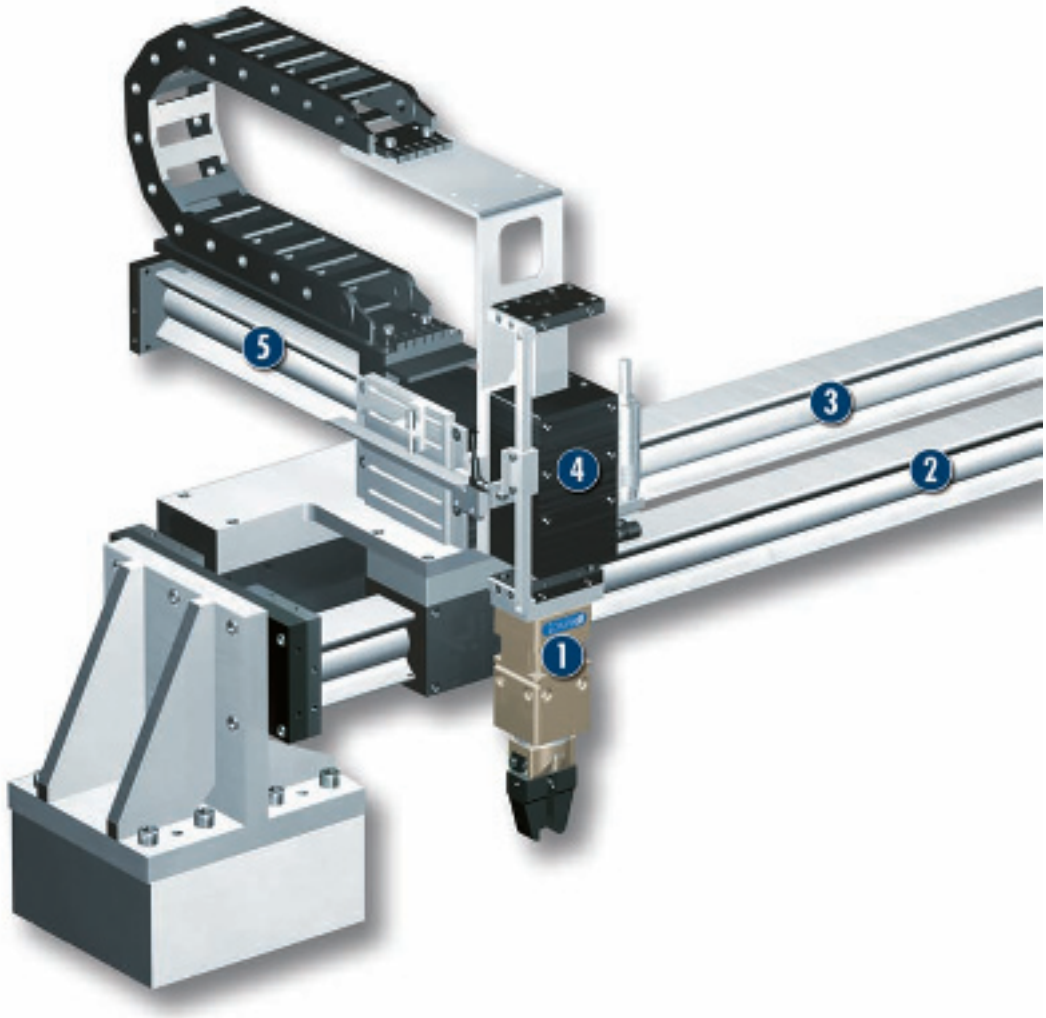
Weight
0.13 kg .. 1.51 kg
0.29 lbs .. 3.33 lbs

Gripping force
28 N .. 270 N
6.3 lbf .. 61 lbf

Stroke per finger
2.0 mm .. 10.0 mm
0.079 in .. 0.394 in

Torque
0.05 Nm .. 2.7 Nm
0.037 lbf ft .. 2.0 lbf ft

Application example



The three-axis boom (X-Y-Z) with rotary gripping combination is employed to insert various products individually in outer packaging whilst rotating them if necessary.

1. **GSM-P 32-E**
   Rotary Gripper Module
2. **MLD 100**
   Linear Motor Drive
3. **Support axis without drive**
4. **MLD 100K short-stroke module**
   Stroke 50 with reference switch
5. **LIRAX-MLD 100 Linear Motor Drive**
   Stroke 300 with measuring system

Parallel Gripper Swivel Module

Compact rotary gripping combination, consisting of a powerful rotor drive, an end-position and damping device and a 2-finger parallel gripper.

Area of application

Gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space.

Your advantages and benefits

Compact
as the rotary drive, end-position damping unit and gripper are merged in one compact module

Powerful
thanks to optional hydraulic damping

Flexible
through several mounting options, infinitely adjustable rotating angle and numerous product versions

Roller guide
for precise gripping through base jaw guide with minimum play

Controlled production
as moving cables and hoses are replaced by integrated feed-throughs

Mounting on three sides in three screw-on directions
for universal and flexible assembly of the rotary gripper module

Air supply via hose-free direct connection or screw connections
for the connection of exactly the right rotary gripper module in all automation solutions

Comprehensive accessories
through the use of existing gripper components

Information about the series

Working principle
Combined rotor and piston drive

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

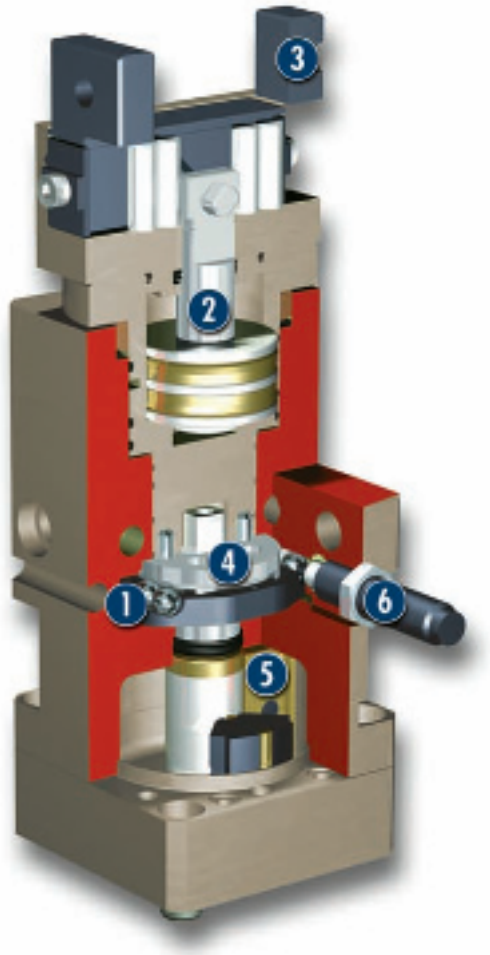
Warranty
24 months

Maintenance
Maintenance-free up to 2 million strokes and 2 million swiveling movements

Scope of delivery
Centering sleeves, O-rings for direct connection, screws for attachment to the side, steel balls for adjusting the angle of rotation, 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 **Preset angle of rotation**
using steel balls for any desired angle of rotation

2 **Drive**
double-acting piston drive system with wedge hook

3 **Base jaws**
for the connection of workpiece-specific gripper fingers

4 **End-position damping assembly**
for end-position adjustment and damping

5 **Rotor**
as a compact, powerful drive

6 **Hydraulic shock absorber**
to increase the damping performance

Function description

As its non-centric rotor is subjected to compressed air, the drive rotates the integrated gripper module. The module itself is driven by its own piston. The piston movement is subsequently transformed into a synchronized gripping motion.

Options and special information

Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.

Accessories

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

Centering sleeves

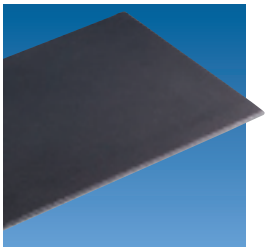
Fittings

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

ⓘ 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.

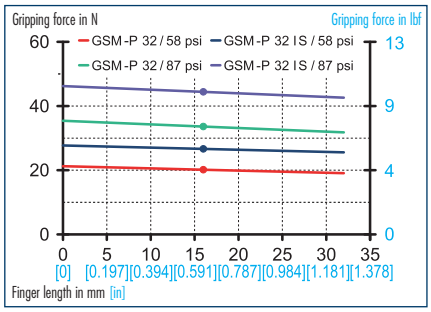
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes or rotary cycles.

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.

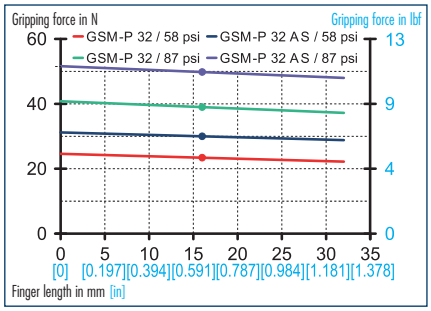
Closing and opening times, cycle times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included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

Mean attached load
The mean attached load should constitute a typical load. It is defined as the half of the max. possible moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.

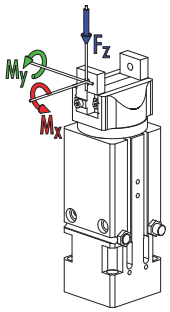
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



M_x max. 1.5 Nm [1.1 lbf ft]
M_y max. 1.0 Nm [0.7 lbf ft]
F_z max. 105.0 N [24 lbf]

ⓘ 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 90° rotating angle

Description		GSM-P 32-E-090	GSM-P 32-S-090	GSM-P 32-AS-E-090	GSM-P 32-AS-S-090	GSM-P 32-IS-E-090	GSM-P 32-IS-S-090
	ID	0304630	0304730	0304631	0304731	0304632	0304732
Stroke per finger	mm [in]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]
Closing force	N [lbf]	39.0 [8.8]	39.0 [8.8]	51.0 [11.5]	51.0 [11.5]		
Opening force	N [lbf]	33.0 [7.4]	33.0 [7.4]			54.0 [12.1]	54.0 [12.1]
Min. gripping force through spring	N [lbf]			12.0 [2.7]	12.0 [2.7]	15.0 [3.4]	15.0 [3.4]
Torque	Nm [lbf ft]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]
Air consumption for gripping	cm^3 [in^3]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]
Air consumption for swiveling	cm^3 [in^3]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]
Weight	kg [lbs]	0.37 [0.82]	0.37 [0.82]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.04	0.04	0.03	0.03	0.04	0.04
Opening time for gripping	s	0.04	0.04	0.04	0.04	0.03	0.03
Swiveling time with middle attached load	s	0.06	0.12	0.12	0.12	0.12	0.12
Max. permitted finger length	mm [in]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]
Max. permitted weight per finger	kg [lbs]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

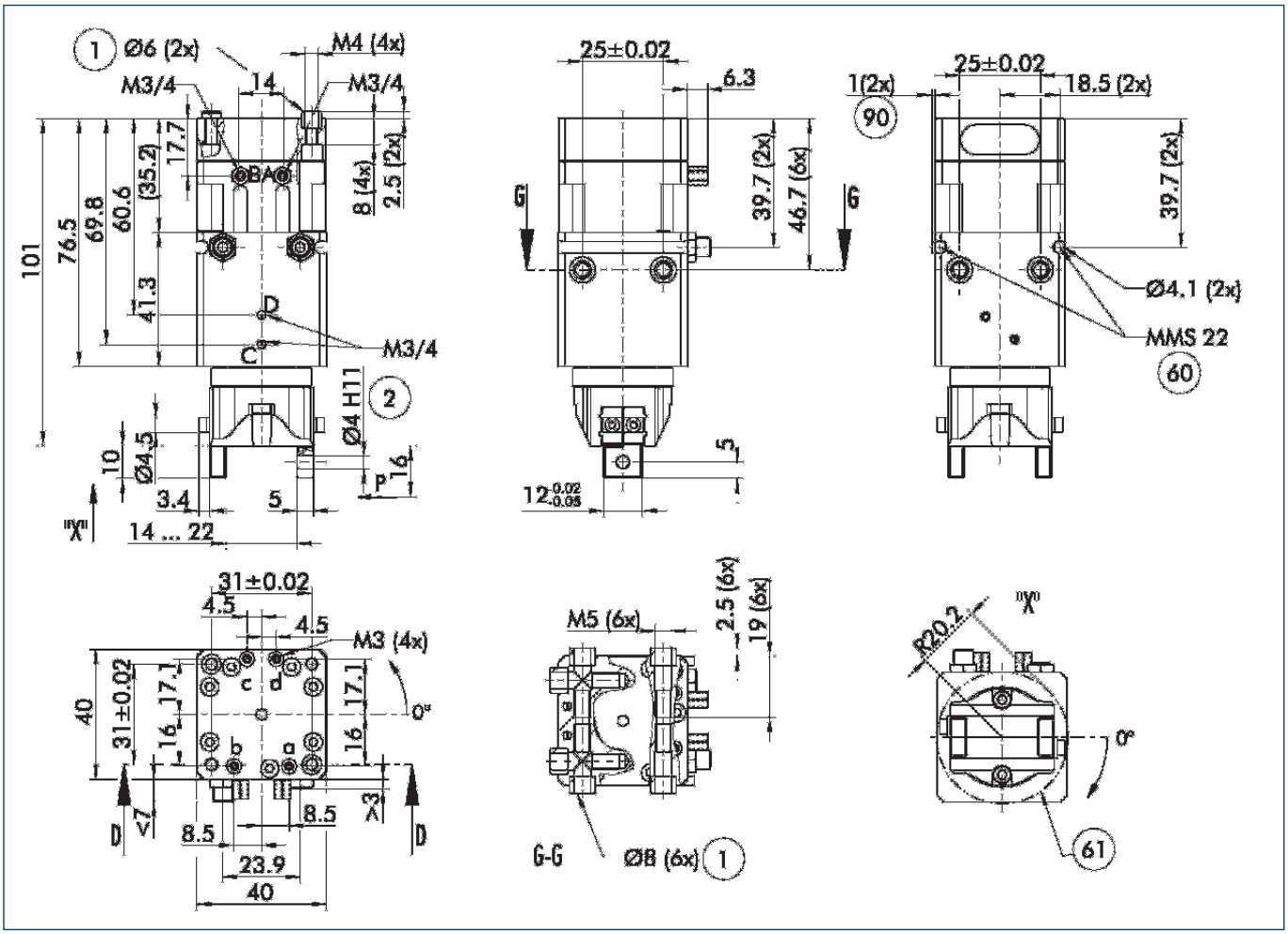
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical Data 180° rotating angle

Description		GSM-P 32-E-180	GSM-P 32-S-180	GSM-P 32-AS-E-180	GSM-P 32-AS-S-180	GSM-P 32-IS-E-180	GSM-P 32-IS-S-180
	ID	0303830	0303930	0303831	0303931	0303832	0303932
Stroke per finger	mm [in]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]
Closing force	N [lbf]	39.0 [8.8]	39.0 [8.8]	51.0 [11.5]	51.0 [11.5]		
Opening force	N [lbf]	33.0 [7.4]	33.0 [7.4]			54.0 [12.1]	54.0 [12.1]
Min. gripping force through spring	N [lbf]			12.0 [2.7]	12.0 [2.7]	15.0 [3.4]	15.0 [3.4]
Torque	Nm [lbf ft]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]	0.2 [0.44]
Air consumption for gripping	cm^3 [in^3]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]	4.0 [0.24]
Air consumption for swiveling	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]
Weight	kg [lbs]	0.37 [0.82]	0.37 [0.82]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.04	0.04	0.03	0.03	0.04	0.04
Opening time for gripping	s	0.04	0.04	0.04	0.04	0.03	0.03
Swiveling time with middle attached load	s	0.18	0.18	0.18	0.18	0.18	0.18
Max. permitted finger length	mm [in]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]	32.0 [1.260]
Max. permitted weight per finger	kg [lbs]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]	0.04 [0.09]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles of 0° and 180°, angles between these cannot be monitored.

Main views



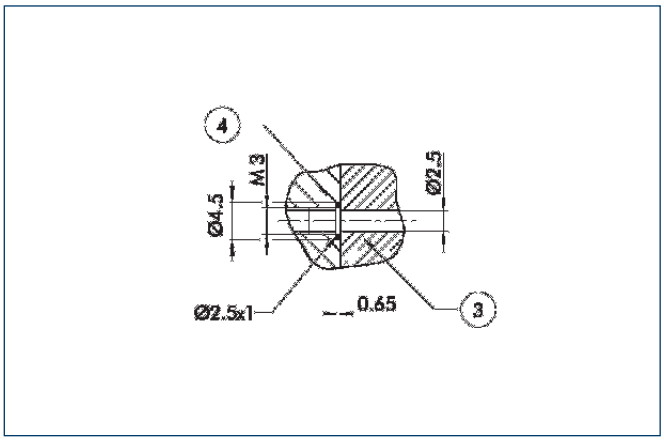
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
60 Monitoring of swiveling
61 Interfering contour during swiveling
90 Sensor projection beyond housing

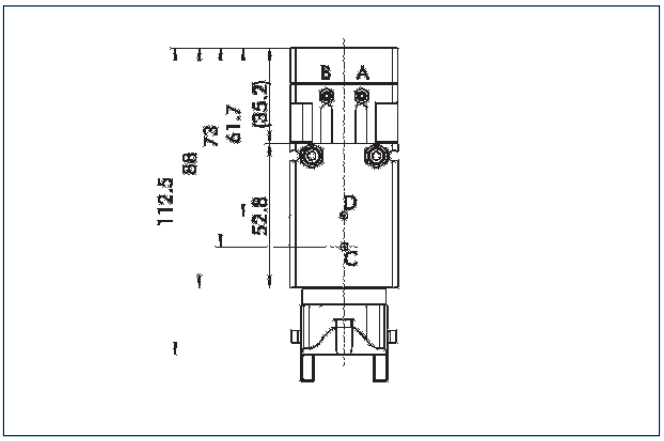
Hoseless direct connection



③ Adapter
④ Rotary gripper module

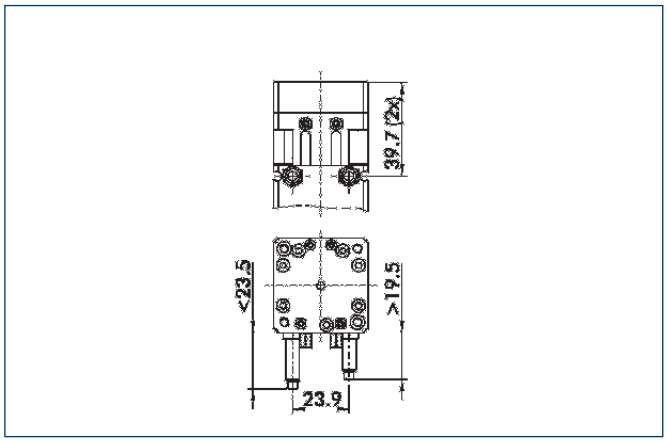
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



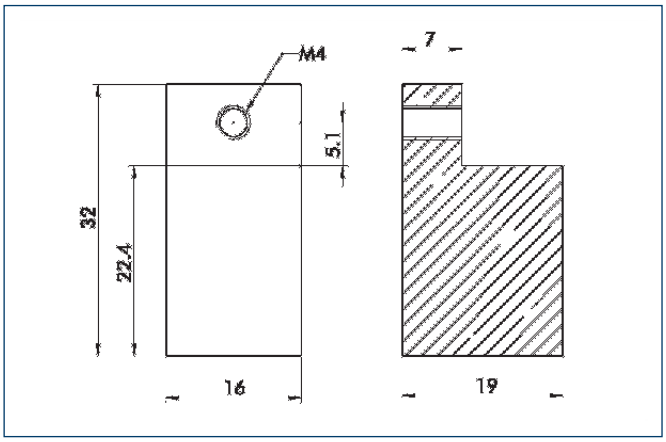
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

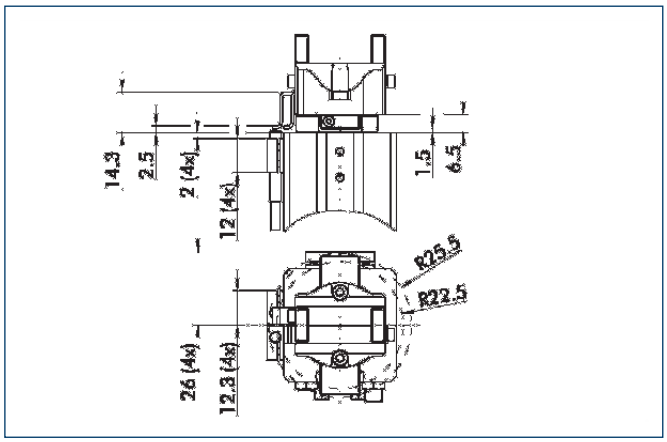
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 32	Aluminum	2	0340212

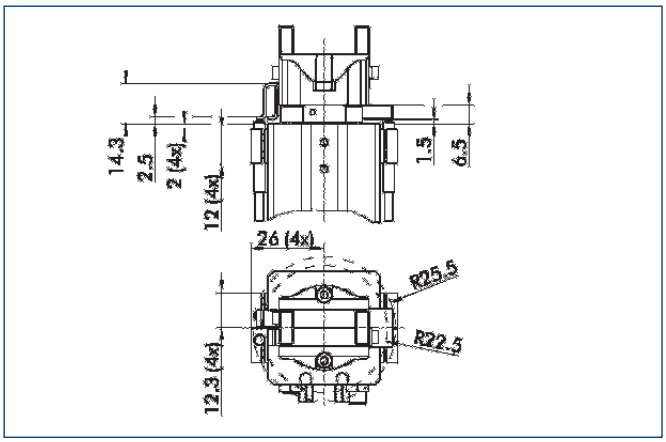
Mounting kit for proximity switches – angle of rotation 0°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 32	0304934

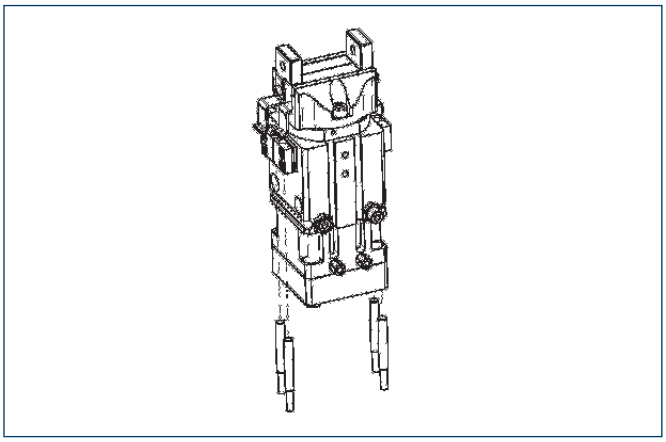
Mounting kit for proximity switches – angle of rotation 180°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 32	0304934

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



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

Description	ID	Recommended product
AS-GSM-P 32	0304934	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

Extension cables for proximity switches/magnetic switches

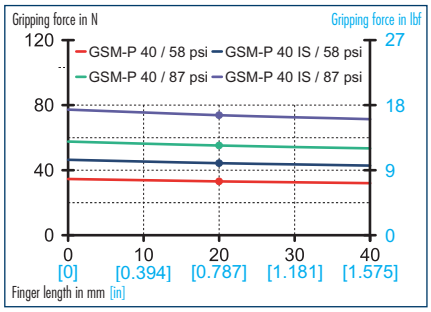
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

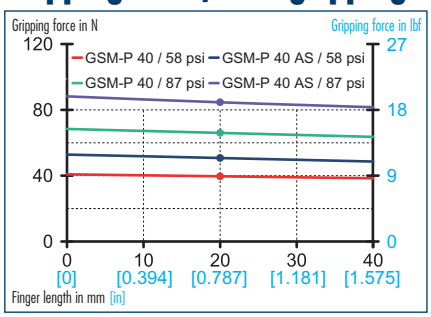
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSM-P 40

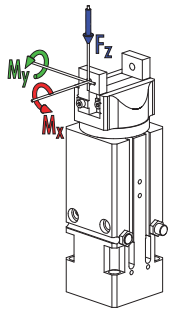
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



- M_x max. 1.5 Nm [1.1 lbf ft]
- M_y max. 2.0 Nm [1.5 lbf ft]
- F_z max. 170.0 N [38 lbf]

ⓘ 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 90° rotating angle

Description		GSM-P 40-E-090	GSM-P 40-S-090	GSM-P 40-AS-E-090	GSM-P 40-AS-S-090	GSM-P 40-IS-E-090	GSM-P 40-IS-S-090
	ID	0304640	0304740	0304641	0304741	0304642	0304742
Stroke per finger	mm [in]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]
Closing force	N [lbf]	66.0 [14.8]	66.0 [14.8]	87.0 [19.6]	87.0 [19.6]		
Opening force	N [lbf]	54.0 [12.1]	54.0 [12.1]			81.0 [18.2]	81.0 [18.2]
Min. gripping force through spring	N [lbf]			21.0 [4.7]	21.0 [4.7]	15.0 [3.4]	15.0 [3.4]
Torque	Nm [lbf ft]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]
Air consumption for gripping	cm^3 [in^3]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]
Air consumption for swiveling	cm^3 [in^3]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]
Weight	kg [lbs]	0.43 [0.95]	0.43 [0.95]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.05	0.05	0.03	0.03	0.05	0.05
Opening time for gripping	s	0.05	0.05	0.05	0.05	0.03	0.03
Swiveling time with middle attached load	s	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	mm [in]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

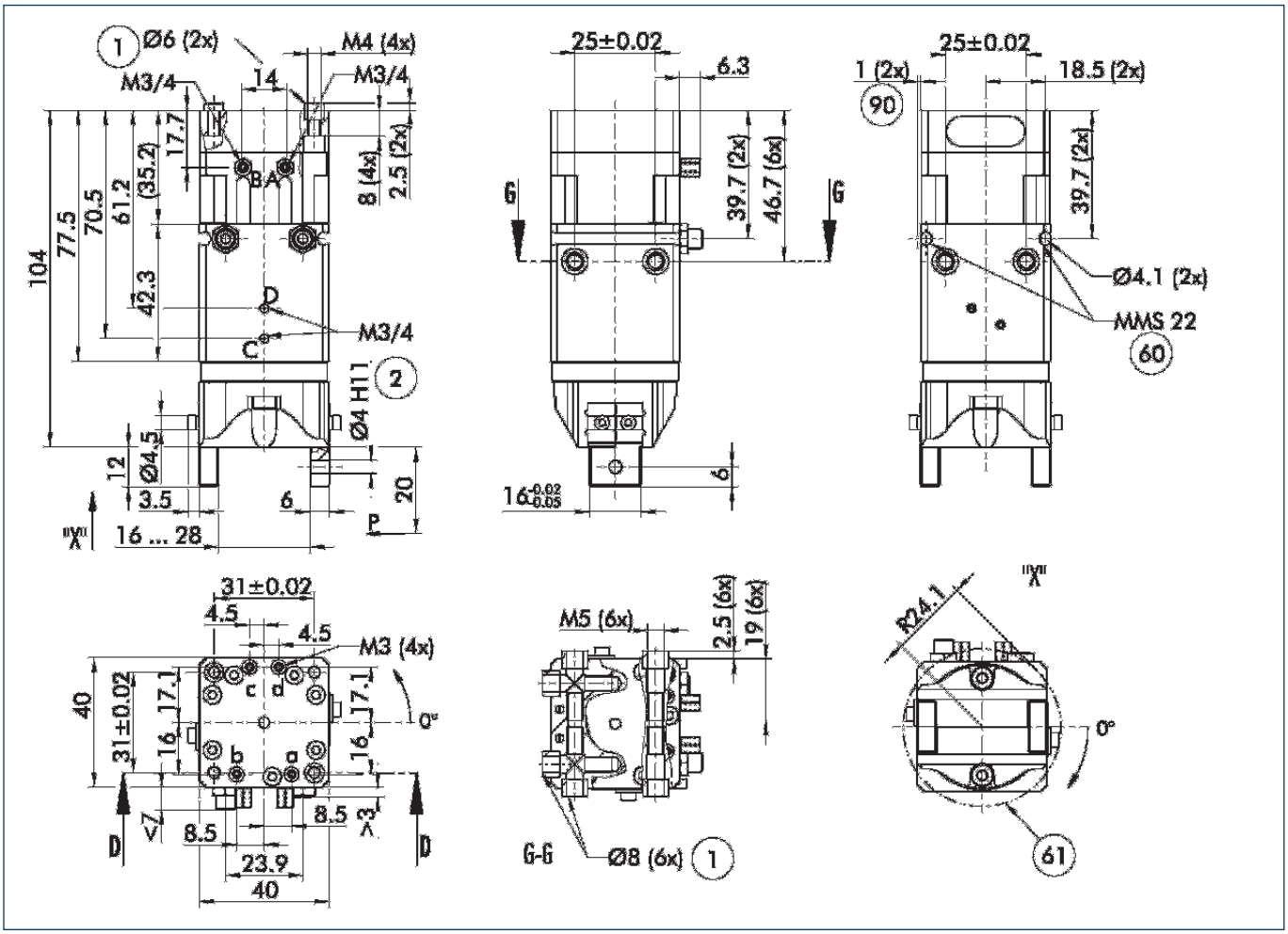
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical data 180° rotating angle

Description		GSM-P 40-E-180	GSM-P 40-S-180	GSM-P 40-AS-E-180	GSM-P 40-AS-S-180	GSM-P 40-IS-E-180	GSM-P 40-IS-S-180
	ID	0303840	0303940	0303841	0303941	0303842	0303942
Stroke per finger	mm [in]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]	6.0 [0.236]
Closing force	N [lbf]	66.0 [14.8]	66.0 [14.8]	87.0 [19.6]	87.0 [19.6]		
Opening force	N [lbf]	54.0 [12.1]	54.0 [12.1]			81.0 [18.2]	81.0 [18.2]
Min. gripping force through spring	N [lbf]			21.0 [4.7]	21.0 [4.7]	15.0 [3.4]	15.0 [3.4]
Torque	Nm [lbf ft]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]	0.33 [0.73]
Air consumption for gripping	cm^3 [in^3]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]	5.97 [0.36]
Air consumption for swiveling	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]
Weight	kg [lbs]	0.43 [0.95]	0.43 [0.95]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]	0.5 [1.10]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.05	0.05	0.03	0.03	0.05	0.05
Opening time for gripping	s	0.05	0.05	0.05	0.05	0.03	0.03
Swiveling time with middle attached load	s	0.22	0.22	0.22	0.22	0.22	0.22
Max. permitted finger length	mm [in]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]	0.08 [0.18]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles 0° and 180°, angles between these cannot be monitored.

Main views



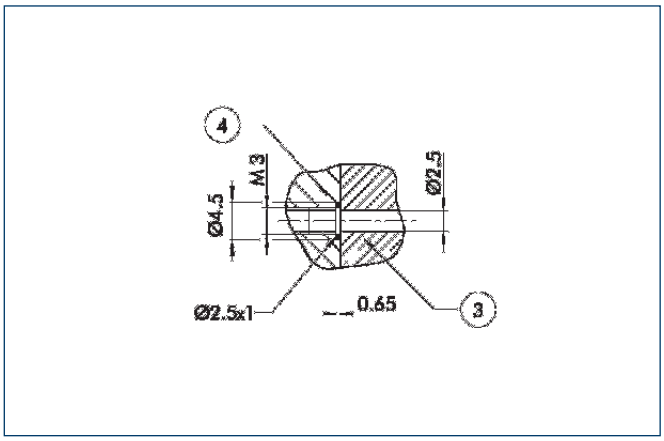
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
60 Monitoring of swiveling
61 Interfering contour during swiveling
90 Sensor projection beyond housing

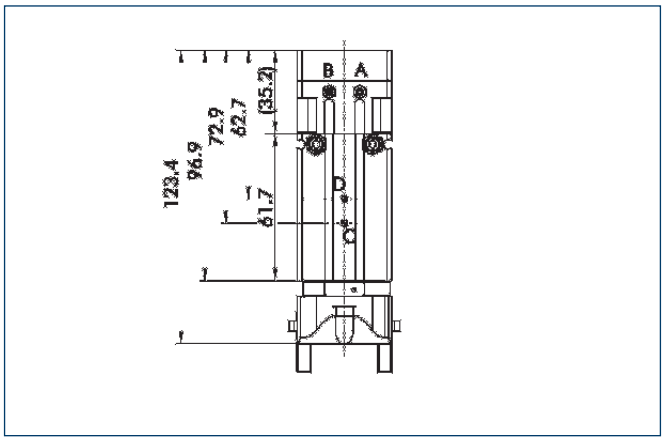
Hoseless direct connection



③ Adapter
④ Rotary gripper module

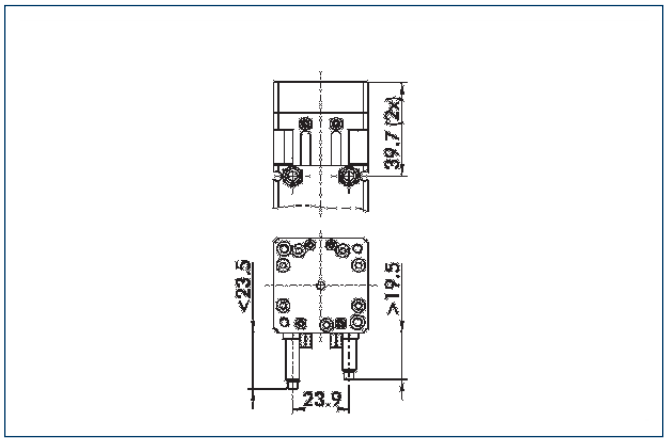
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



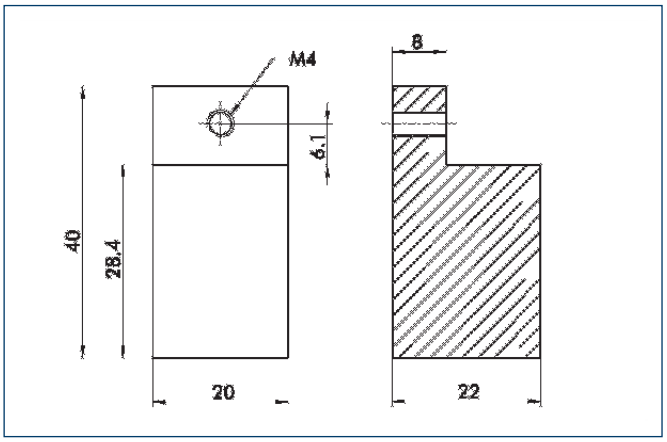
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

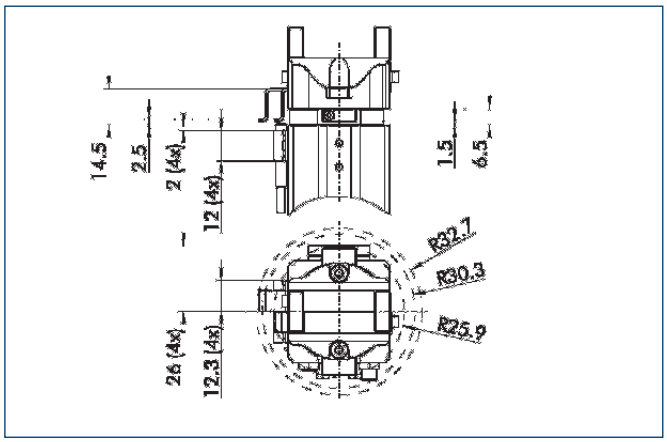
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 40	Aluminum	2	0340213

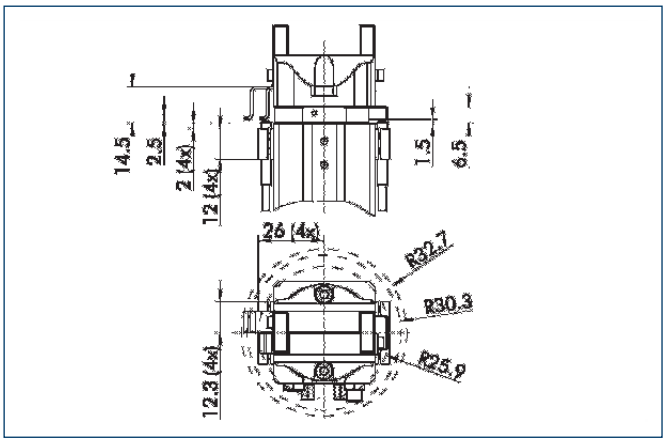
Mounting kit for proximity switches – angle of rotation 90°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 40	0304935

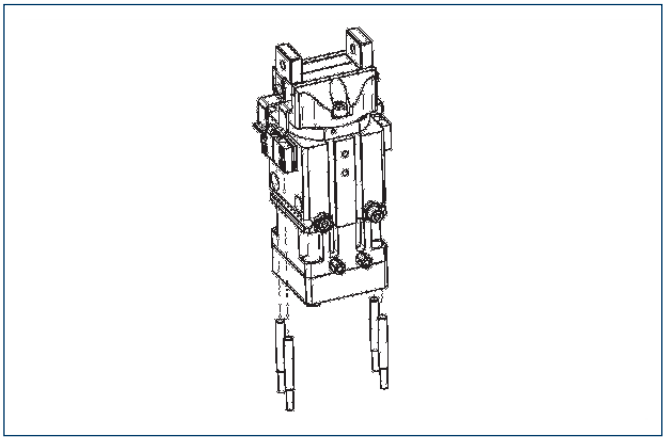
Mounting kit for proximity switches – angle of rotation 180°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 40	0304935

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



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

Description	ID	Recommended product
AS-GSM-P 40	0304935	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

Extension cables for proximity switches/magnetic switches

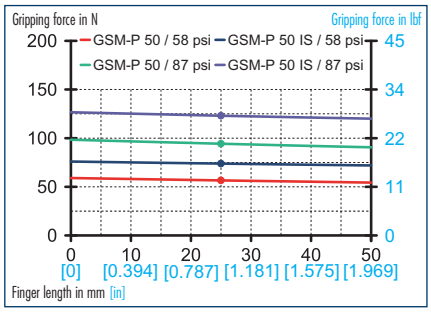
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

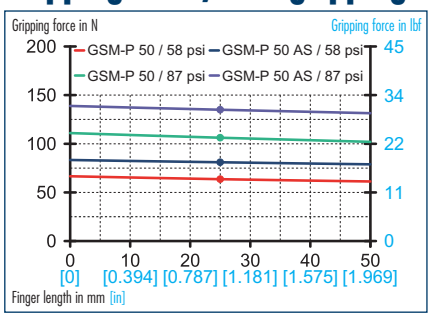
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSM-P 50

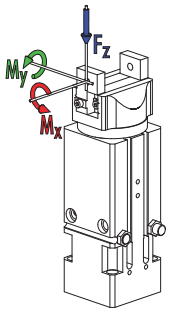
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



M_x max. 3.0 Nm [2.2 lbf ft]
M_y max. 4.0 Nm [3.0 lbf ft]
F_z max. 200.0 N [45 lbf]

ⓘ 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 90° rotating angle

Description		GSM-P 50-E-090	GSM-P 50-S-090	GSM-P 50-AS-E-090	GSM-P 50-AS-S-090	GSM-P 50-IS-E-090	GSM-P 50-IS-S-090
	ID	0304650	0304750	0304651	0304751	0304652	0304752
Stroke per finger	mm [in]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]
Closing force	N [lbf]	105.0 [24]	105.0 [24]	135.0 [30]	135.0 [30]		
Opening force	N [lbf]	93.0 [20.9]	93.0 [20.9]			126.0 [28]	126.0 [28]
Min. gripping force through spring	N [lbf]			30.0 [6.7]	30.0 [6.7]	21.0 [4.7]	21.0 [4.7]
Torque	Nm [lbf ft]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]
Air consumption for gripping	cm^3 [in^3]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]
Air consumption for swiveling	cm^3 [in^3]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]
Weight	kg [lbs]	1.19 [2.62]	1.19 [2.62]	1.19 [2.62]	1.2 [2.65]	1.2 [2.65]	1.2 [2.65]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.01	0.01	0.01	0.01	0.02	0.02
Opening time for gripping	s	0.01	0.01	0.02	0.02	0.01	0.01
Swiveling time with middle attached load	s	0.14	0.14	0.14	0.14	0.14	0.14
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]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

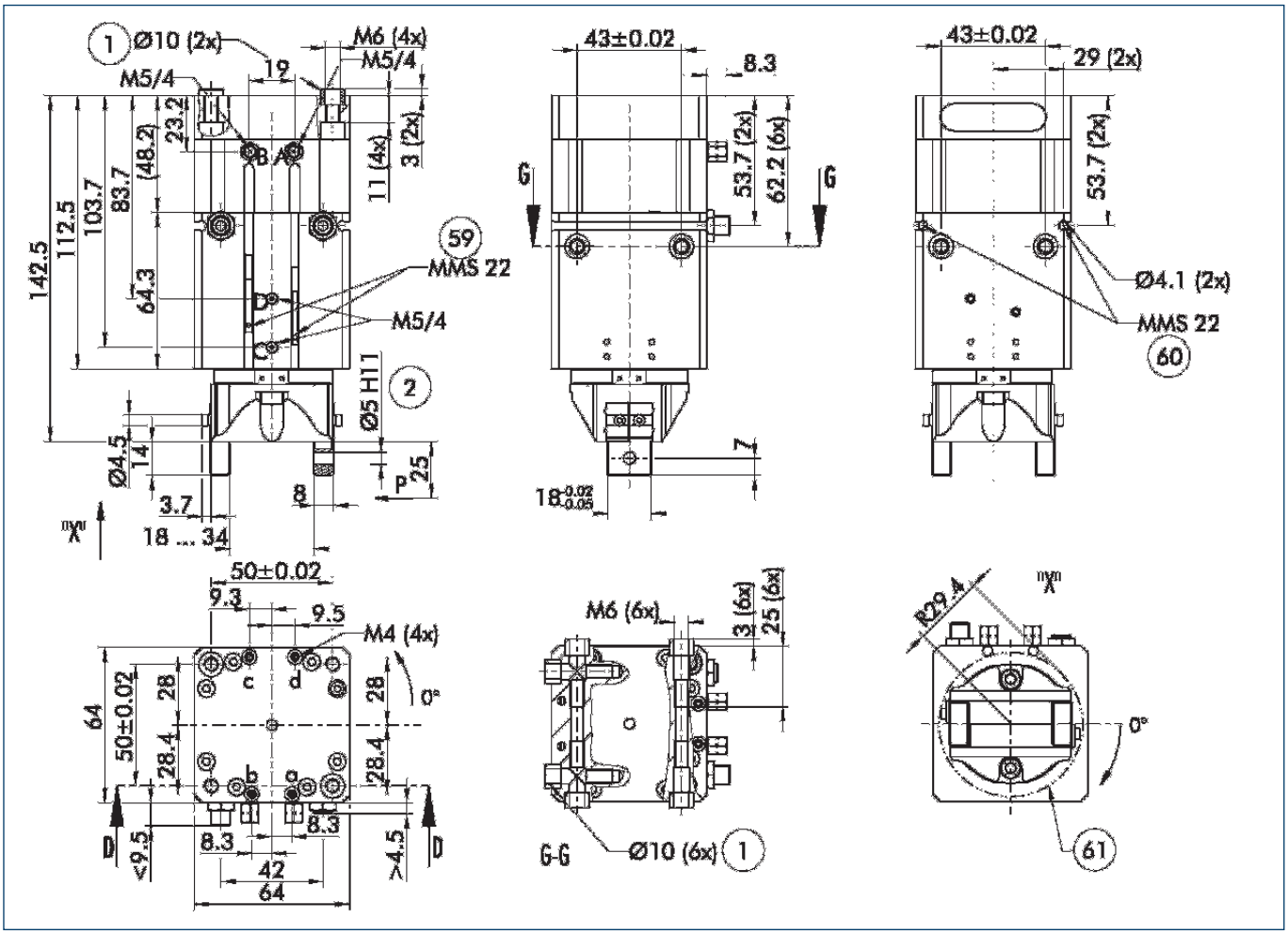
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical data 180° rotating angle

Description		GSM-P 50-E-180	GSM-P 50-S-180	GSM-P 50-AS-E-180	GSM-P 50-AS-S-180	GSM-P 50-IS-E-180	GSM-P 50-IS-S-180
	ID	0303850	0303950	0303851	0303951	0303852	0303952
Stroke per finger	mm [in]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]	8.0 [0.315]
Closing force	N [lbf]	105.0 [24]	105.0 [24]	135.0 [30]	135.0 [30]		
Opening force	N [lbf]	93.0 [20.9]	93.0 [20.9]			126.0 [28]	126.0 [28]
Min. gripping force through spring	N [lbf]			30.0 [6.7]	30.0 [6.7]	21.0 [4.7]	21.0 [4.7]
Torque	Nm [lbf ft]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]	2.9 [2.1]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]	0.52 [1.15]
Air consumption for gripping	cm^3 [in^3]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]	10.84 [0.66]
Air consumption for swiveling	cm^3 [in^3]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]
Weight	kg [lbs]	1.19 [2.62]	1.19 [2.62]	1.2 [2.65]	1.2 [2.65]	1.2 [2.65]	1.2 [2.65]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.01	0.01	0.01	0.01	0.02	0.02
Opening time for gripping	s	0.01	0.01	0.02	0.02	0.01	0.01
Swiveling time with middle attached load	s	0.24	0.24	0.24	0.24	0.24	0.24
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]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]	0.14 [0.31]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles of 0° and 180°, angles between these cannot be monitored.

Main views



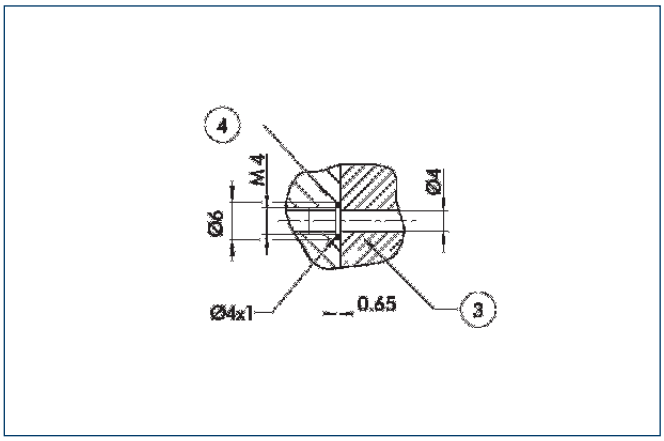
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
⑤⑨ Monitoring of gripping
⑥⓪ Monitoring of swiveling
⑥① Interfering contour during swiveling

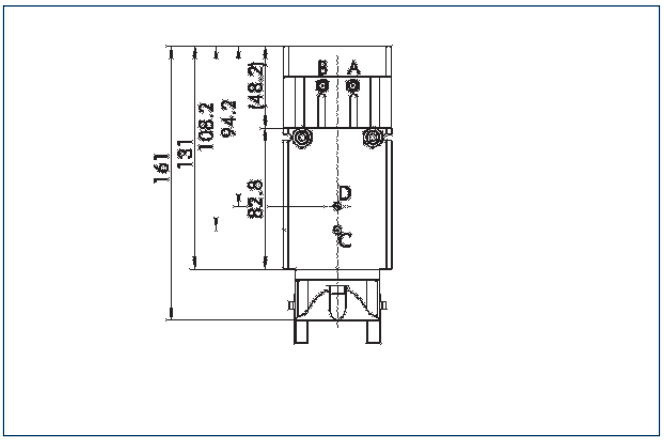
Hoseless direct connection



③ Adapter
④ Rotary gripper module

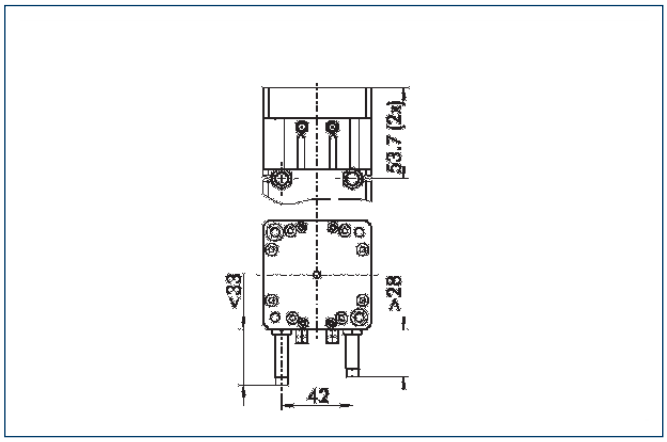
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



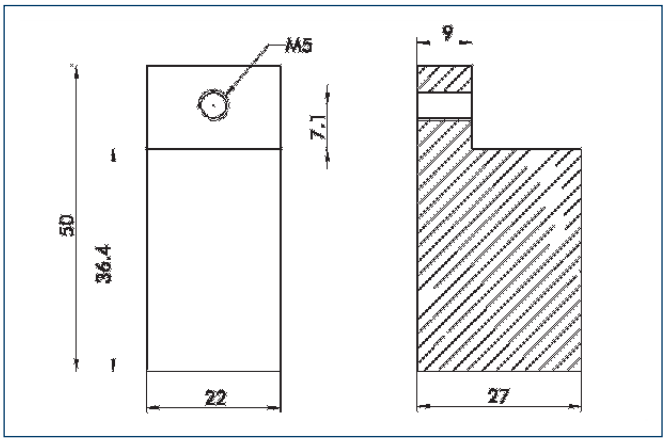
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

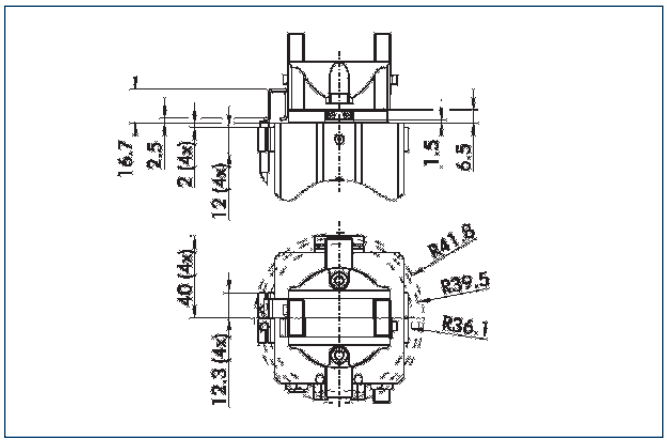
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 50	Aluminum	2	0340214

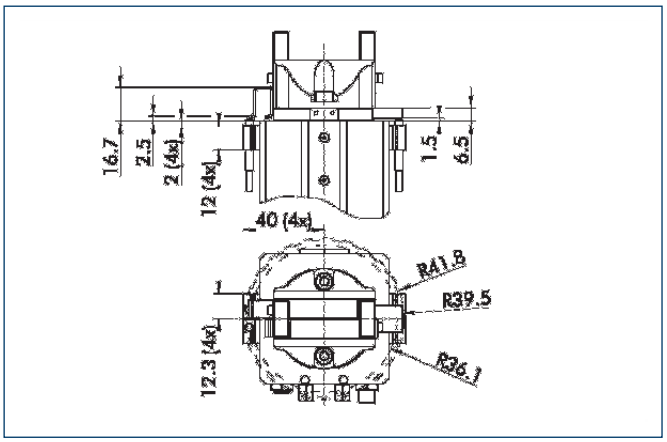
Mounting kit for proximity switches – angle of rotation 90°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 50	0304936

Mounting kit for proximity switches – angle of rotation 180°

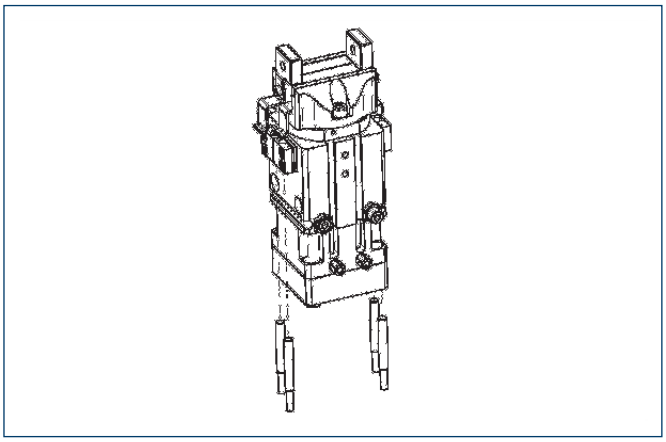


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 50	0304936

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, mounted with mounting kit

Description	ID	Recommended product
AS-GSM-P 50	0304936	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

Extension cables for proximity switches/magnetic switches

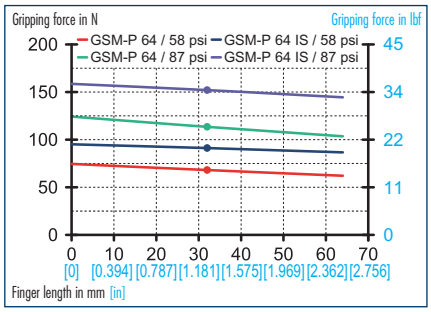
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

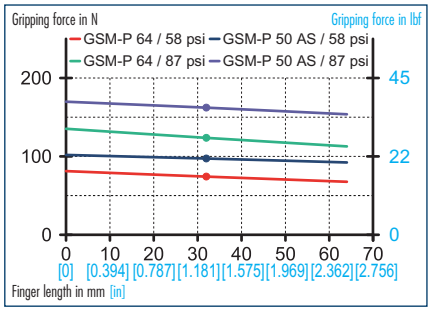
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSM-P 64

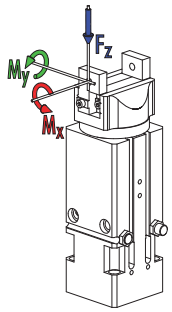
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



- M_x max. 3.5 Nm [2.6 lbf ft]
- M_y max. 6.0 Nm [4.4 lbf ft]
- F_z max. 250.0 N [56 lbf]

ⓘ 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 90° rotating angle

Description		GSM-P 64-E-090	GSM-P 64-S-090	GSM-P 64-AS-E-090	GSM-P 64-AS-S-090	GSM-P 64-IS-E-090	GSM-P 64-IS-S-090
	ID	0304660	0304760	0304661	0304761	0304662	0304762
Stroke per finger	mm [in]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]
Closing force	N [lbf]	120.0 [27]	120.0 [27]	162.0 [36]	162.0 [36]		
Opening force	N [lbf]	114.0 [26]	114.0 [26]			153.0 [34]	153.0 [34]
Min. gripping force through spring	N [lbf]			42.0 [9.4]	42.0 [9.4]	33.0 [7.4]	33.0 [7.4]
Torque	Nm [lbf ft]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]
Air consumption for gripping	cm^3 [in^3]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]
Air consumption for swiveling	cm^3 [in^3]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]
Weight	kg [lbs]	1.39 [3.06]	1.39 [3.06]	1.51 [3.33]	1.51 [3.33]	1.51 [3.33]	1.51 [3.33]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.01	0.01	0.01	0.01	0.02	0.02
Opening time for gripping	s	0.01	0.01	0.02	0.02	0.01	0.01
Swiveling time with middle attached load	s	0.14	0.14	0.14	0.14	0.14	0.14
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]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

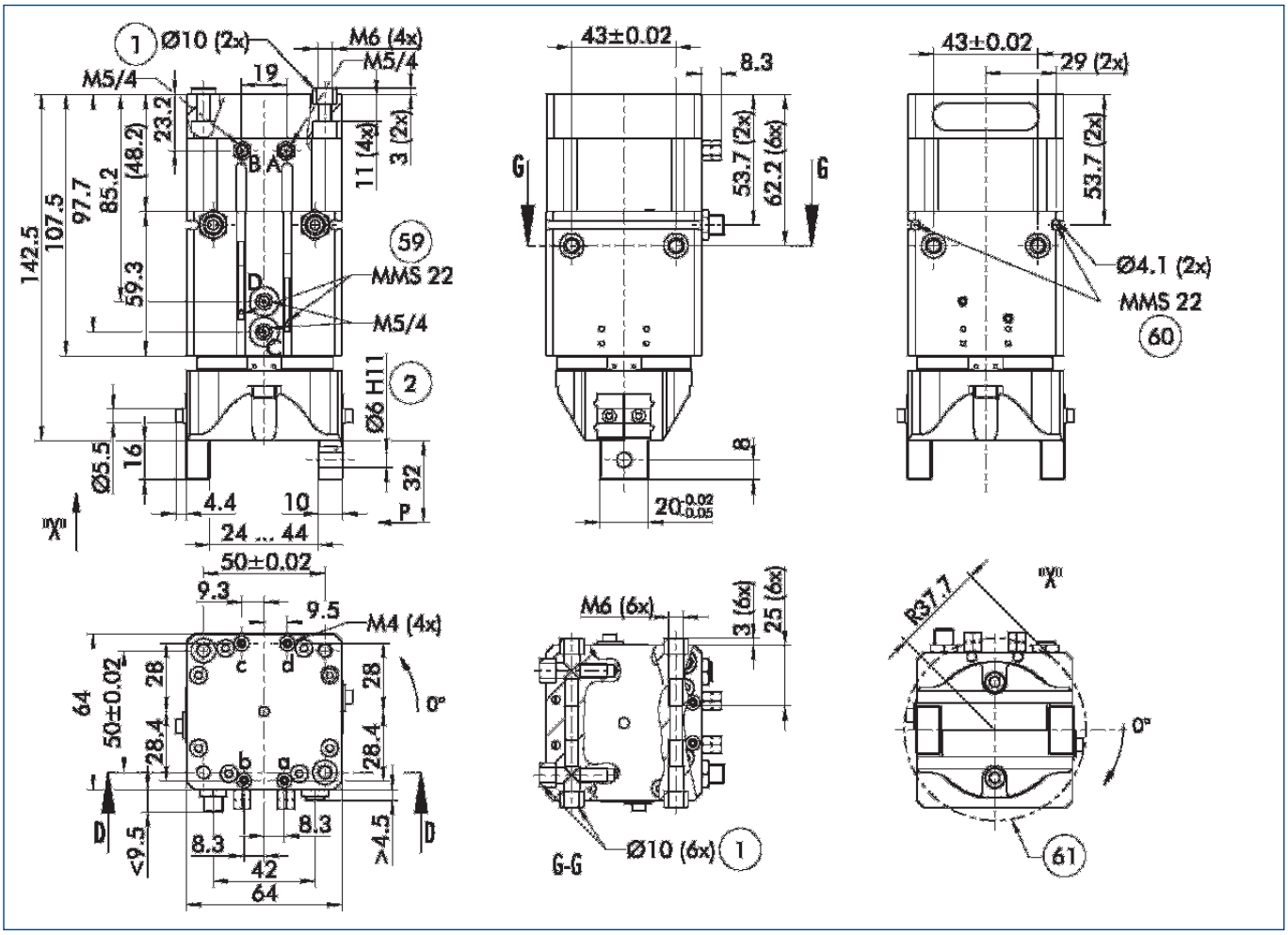
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical data 180° rotating angle

Description		GSM-P 64-E-180	GSM-P 64-S-180	GSM-P 64-AS-E-180	GSM-P 64-AS-S-180	GSM-P 64-IS-E-180	GSM-P 64-IS-S-180
	ID	0303860	0303960	0303861	0303961	0303862	0303962
Stroke per finger	mm [in]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]	10.0 [0.394]
Closing force	N [lbf]	120.0 [27]	120.0 [27]	162.0 [36]	162.0 [36]		
Opening force	N [lbf]	114.0 [26]	114.0 [26]			153.0 [34]	153.0 [34]
Min. gripping force through spring	N [lbf]			42.0 [9.4]	42.0 [9.4]	33.0 [7.4]	33.0 [7.4]
Torque	Nm [lbf ft]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]	0.61 [1.34]
Air consumption for gripping	cm^3 [in^3]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]	15.81 [0.96]
Air consumption for swiveling	cm^3 [in^3]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]
Weight	kg [lbs]	1.39 [3.06]	1.39 [3.06]	1.51 [3.33]	1.51 [3.33]	1.51 [3.33]	1.51 [3.33]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.01	0.01	0.01	0.01	0.02	0.02
Opening time for gripping	s	0.01	0.01	0.02	0.02	0.01	0.01
Swiveling time with middle attached load	s	0.24	0.24	0.24	0.24	0.24	0.24
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]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]	0.24 [0.53]
IP class		30	30	30	30	30	30
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles of 0° and 180°, angles between these cannot be monitored.

Main views



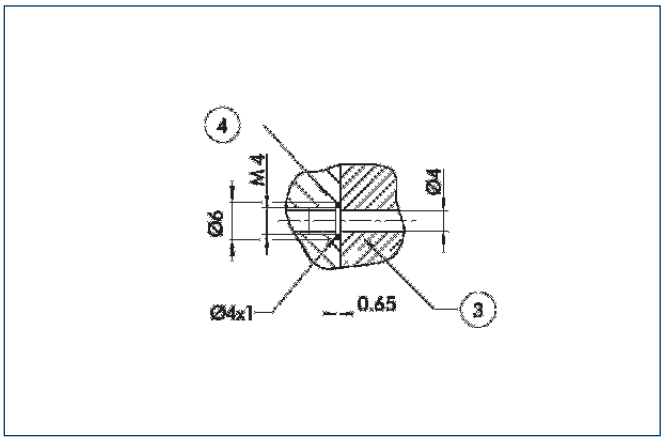
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
⑤⑨ Monitoring of gripping
⑥⓪ Monitoring of swiveling
⑥① Interfering contour during swiveling

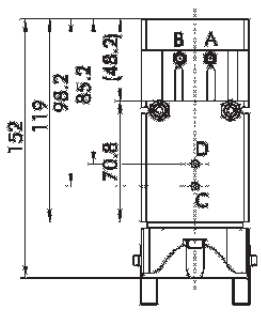
Hoseless direct connection



③ Adapter
④ Gripper Swivel module

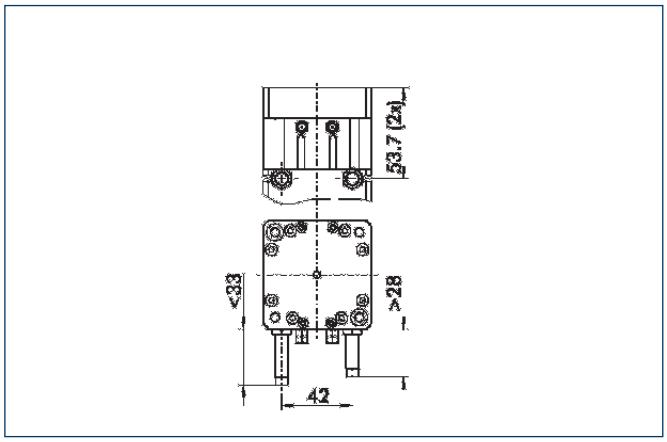
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



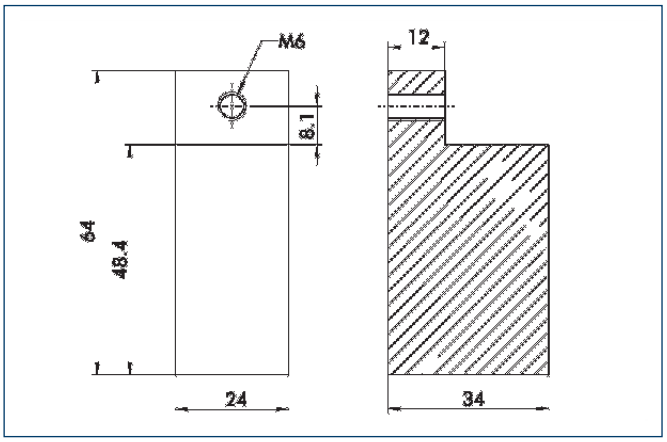
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

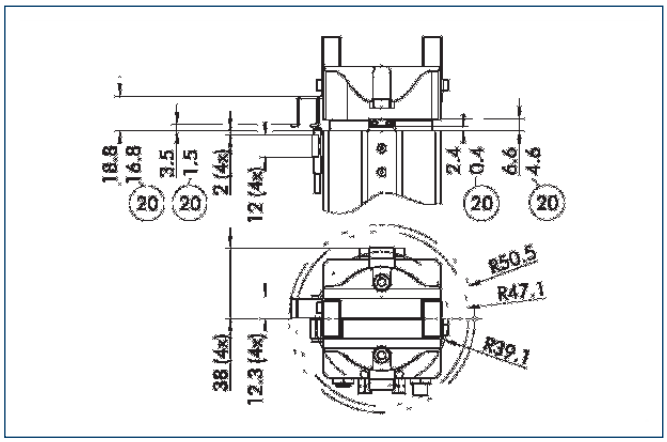
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 64	Aluminum	2	0340215

Mounting kit for proximity switches – angle of rotation 90°

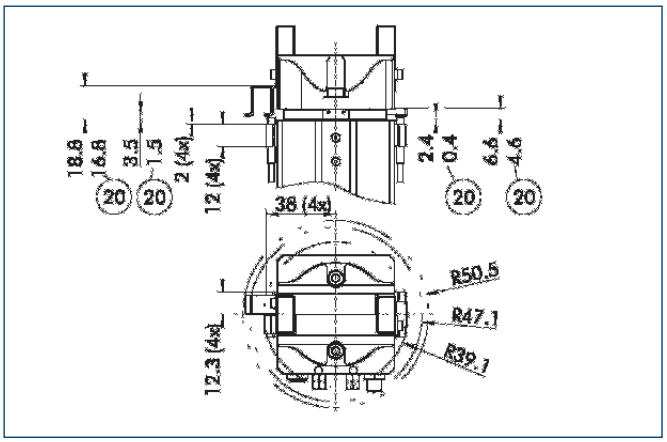


20 With AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the assembly is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 64	0304937

Mounting kit for proximity switches – angle of rotation 180°



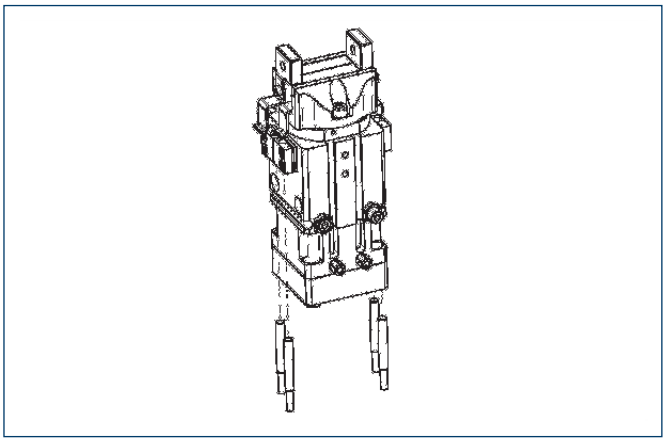
20 With AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-P 64	0304937

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, mounted with mounting kit

Description	ID	Recommended product
AS-GSM-P 64	0304937	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

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

ⓘ 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.

GSM-Z

Sizes
30 .. 45

Weight
0.35 kg .. 1.32 kg
0.77 lbs .. 2.91 lbs

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

Stroke per finger
3.0 mm .. 5.0 mm
0.118 in .. 0.197 in

Torque
0.35 Nm .. 2.7 Nm
0.258 lbf ft .. 2.0 lbf ft

Application example

Compact, economical linear rotary gripper unit for mounting a suspension device

1 **GSM-Z 45-IS-E Rotary Gripper Module**

2 **PHE 64-40 Linear Unit**

Centric Gripper Swivel Module

Compact rotary gripping combination, consisting of a powerful rotor drive, an end-position damping device, and a 3-finger centric gripper.

Area of application

Gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space.

Your advantages and benefits

Compact
as the rotary drive, end-position damping unit and gripper are combined to one compact module

Reduction of costs
as no adapter plates are necessary, planning and design time is saved

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

Flexible
through several mounting options, infinitely adjustable rotating angle and numerous product versions

Controlled production
as moving cables and hoses are replaced by integrated feed-throughs

Attached to three sides in three mounting directions
for universal and flexible assembly of the rotary gripper module

Air supply via hose-free direct connection or screw connections
for the connection of exactly the right rotary gripper module in all automation solutions

Comprehensive accessories
through the use of existing gripper components

Information about the series

Working principle
Combined rotor and piston drive

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

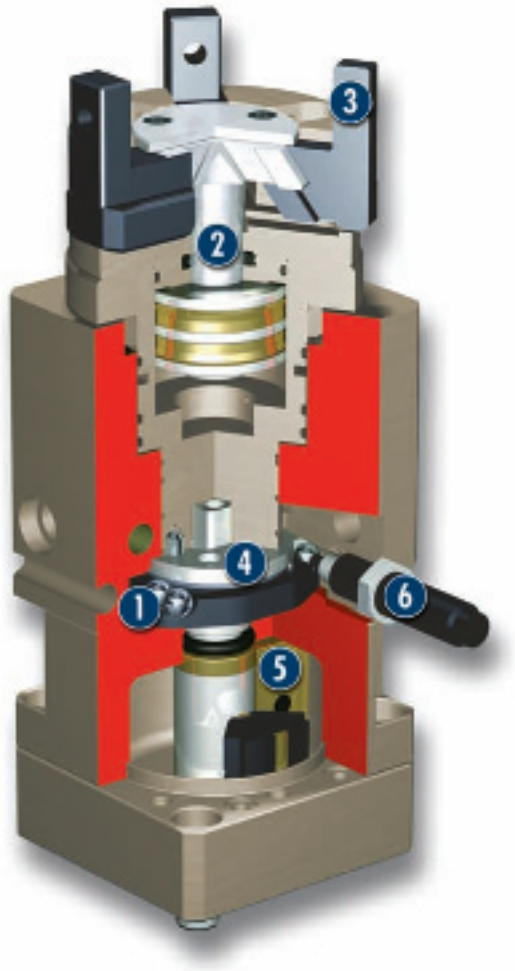
Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Centering sleeves, O-rings for direct connection, mounting screws for attachment to the side, steel balls for adjusting the angle of traverse, 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 of functions



1 **Preset of rotating angle**
using steel balls for any desired angle of rotation

2 **Gripper drive**
via integrated pneumatic piston

3 **Base jaws**
for mounting the top fingers

4 **End-position damping assembly**
for end-position adjustment and damping

5 **Rotor**
as a compact, powerful drive

6 **Hydraulic shock absorber**
to increase the damping performance

Function description

As its non-centric rotor is subjected to pressure, the drive rotates the integrated gripper module. The module itself is driven by its own piston. The piston movement is subsequently transformed into a synchronized gripping motion.

Options and special information

Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.

Accessories

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

Centering sleeves

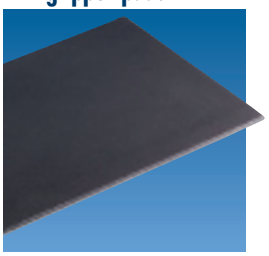
Fittings

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

ⓘ 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 or rotary cycles.

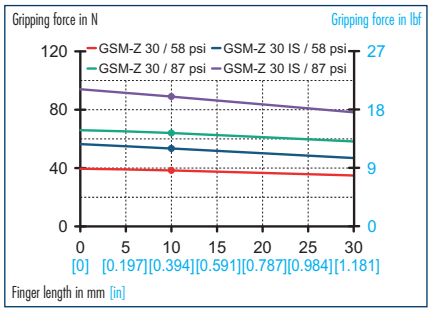
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times, cycle times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is 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.

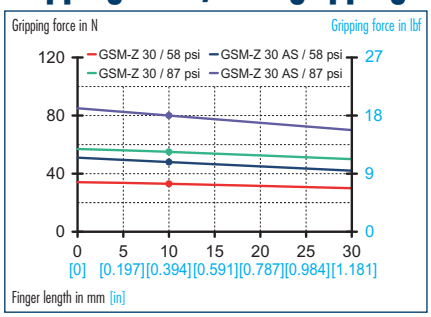
Middle attached load
The middle attached load should constitute a typical load. It is defined as the half of the max. possible moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.

GSM-Z 30

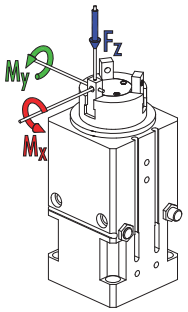
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



- M_x max. 0.8 Nm [0.590 lbf ft]
- M_y max. 1.4 Nm [1.0 lbf ft]
- F_z max. 140.0 N [31 lbf]

ⓘ 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 90° rotating angle

Description		GSM-Z 30-E-090	GSM-Z 30-S-090	GSM-Z 30-AS-E-090	GSM-Z 30-AS-S-090	GSM-Z 30-IS-E-090	GSM-Z 30-IS-S-090
	ID	0304633	0304733	0304634	0304734	0304635	0304735
Stroke per finger	mm [in]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]
Closing force	N [lbf]	55.0 [12.4]	55.0 [12.4]	80.0 [18.0]	80.0 [18.0]		
Opening force	N [lbf]	65.0 [14.6]	65.0 [14.6]			80.0 [18.0]	80.0 [18.0]
Min. gripping force through spring	N [lbf]			25.0 [5.6]	25.0 [5.6]	25.0 [5.6]	25.0 [5.6]
Torque	Nm [lbf ft]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]
Air consumption for gripping	cm^3 [in^3]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]
Air consumption for swiveling	cm^3 [in^3]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]
Weight	kg [lbs]	0.35 [0.77]	0.35 [0.77]	0.4 [0.88]	0.4 [0.88]	0.4 [0.88]	0.4 [0.88]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.02	0.02	0.02	0.02	0.04	0.04
Opening time for gripping	s	0.02	0.02	0.04	0.04	0.02	0.02
Swiveling time with middle attached load	s	0.06	0.12	0.12	0.12	0.12	0.12
Max. permitted finger length	mm [in]	30.0 [1.181]	30.0 [1.181]	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]	0.03 [0.07]	0.03 [0.07]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

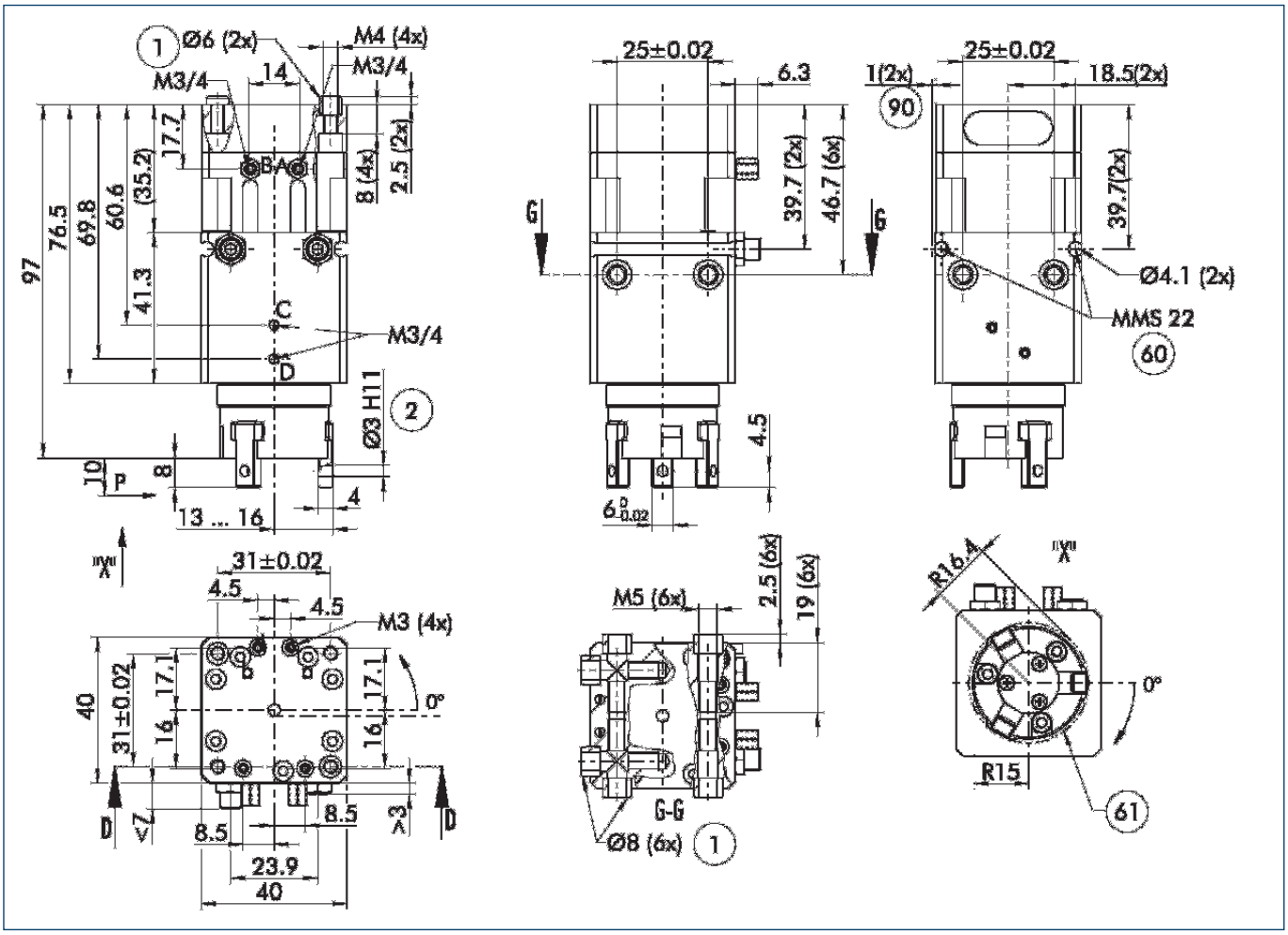
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical data 180° rotating angle

Description		GSM-Z 30-E-180	GSM-Z 30-S-180	GSM-Z 30-AS-E-180	GSM-Z 30-AS-S-180	GSM-Z 30-IS-E-180	GSM-Z 30-IS-S-180
	ID	0303833	0303933	0303834	0303934	0303835	0303935
Stroke per finger	mm [in]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]	3.0 [0.118]
Closing force	N [lbf]	55.0 [12.4]	55.0 [12.4]	80.0 [18.0]	80.0 [18.0]		
Opening force	N [lbf]	65.0 [14.6]	65.0 [14.6]			80.0 [18.0]	80.0 [18.0]
Min. gripping force through spring	N [lbf]			25.0 [5.6]	25.0 [5.6]	25.0 [5.6]	25.0 [5.6]
Torque	Nm [lbf ft]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]	0.35 [0.258]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	kg [lbs]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]	0.25 [0.55]
Air consumption for gripping	cm^3 [in^3]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]	4.51 [0.28]
Air consumption for swiveling	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]
Weight	kg [lbs]	0.35 [0.77]	0.35 [0.77]	0.4 [0.88]	0.4 [0.88]	0.4 [0.88]	0.4 [0.88]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]	3.5 [51]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.02	0.02	0.02	0.02	0.04	0.04
Opening time for gripping	s	0.02	0.02	0.04	0.04	0.02	0.02
Swiveling time with middle attached load	s	0.18	0.18	0.18	0.18	0.18	0.18
Max. permitted finger length	mm [in]	30.0 [1.181]	30.0 [1.181]	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]	0.03 [0.07]	0.03 [0.07]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles of 0° and 180°, angles between these cannot be monitored.

Main views



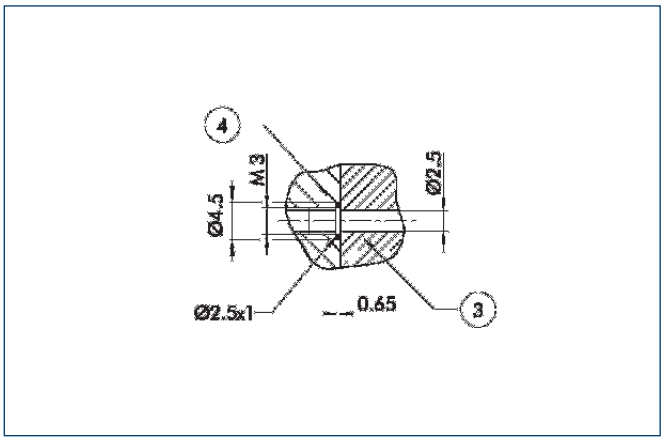
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
60 Monitoring of swiveling
61 Interfering contour during swiveling
90 Sensor projection beyond housing

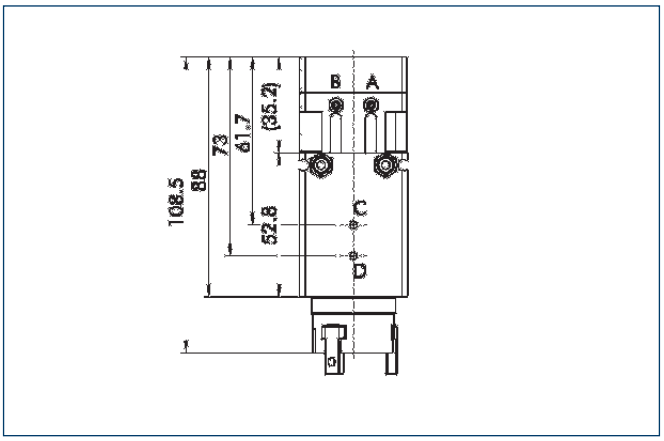
Hoseless direct connection



③ Adapter
④ Gripper-swivel module

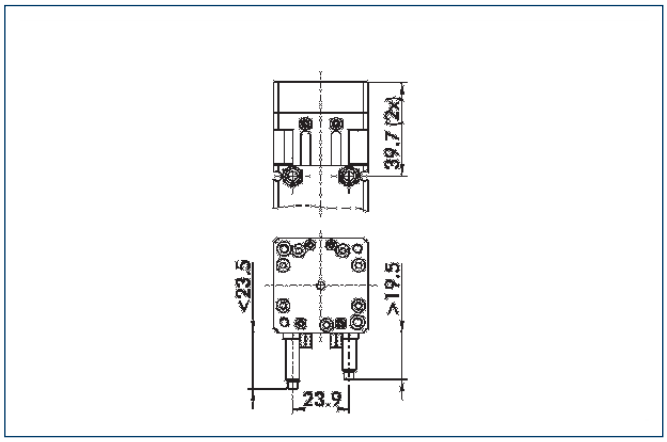
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



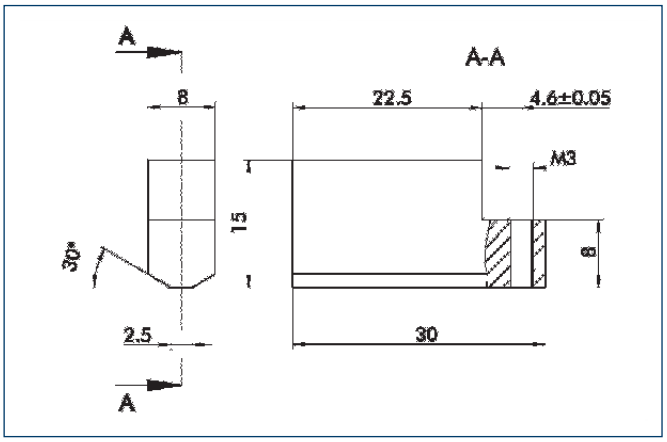
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

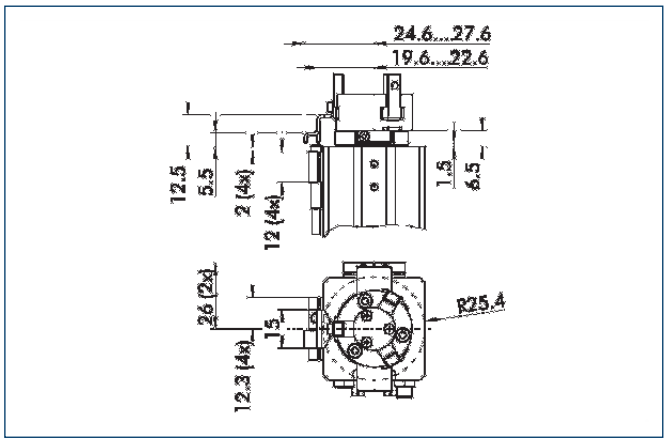
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 30	Aluminum	3	0340519

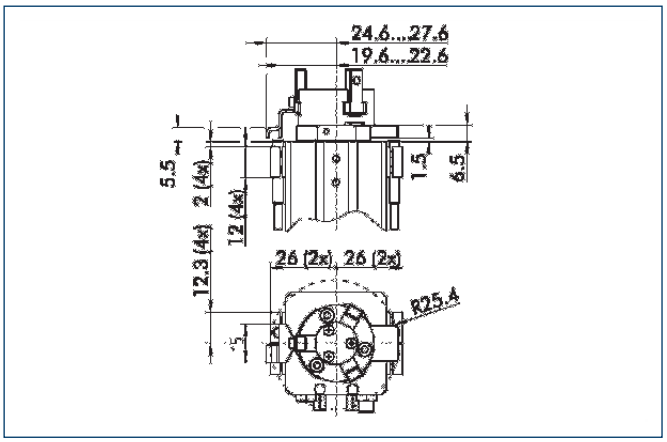
Mounting kit for proximity switches – angle of rotation 90°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-Z 30	0304944

Mounting kit for proximity switches – angle of rotation 180°

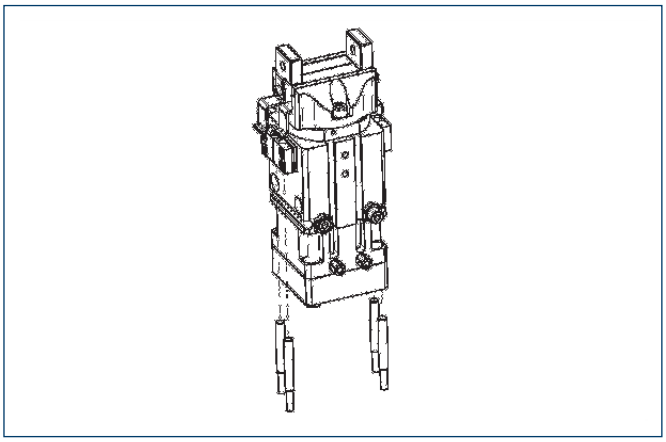


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-Z 30	0304944

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, mounted with mounting kit

Description	ID	Recommended product
AS-GSM-Z 30	0304944	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

Extension cables for proximity switches/magnetic switches

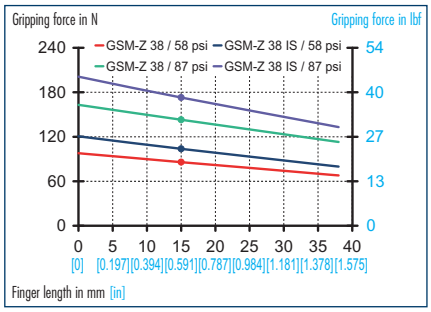
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

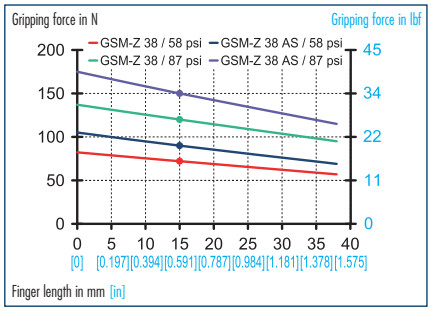
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSM-Z 38

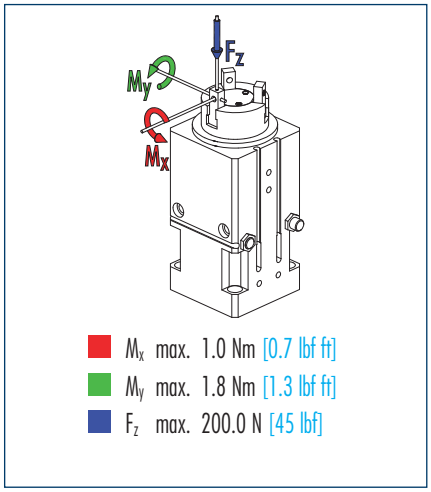
Gripping force, I.D. gripping



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 90° rotating angle

Description		GSM-Z 38-E-090	GSM-Z 38-S-090	GSM-Z 38-AS-E-090	GSM-Z 38-AS-S-090	GSM-Z 38-IS-E-090	GSM-Z 38-IS-S-090
	ID	0304643	0304743	0304644	0304744	0304645	0304745
Stroke per finger	mm [in]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]
Closing force	N [lbf]	120.0 [27]	120.0 [27]	150.0 [34]	150.0 [34]		
Opening force	N [lbf]	140.0 [31]	140.0 [31]			160.0 [36]	160.0 [36]
Min. gripping force through spring	N [lbf]			30.0 [6.7]	30.0 [6.7]	40.0 [9.0]	40.0 [9.0]
Torque	Nm [lbf ft]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	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]
Air consumption for gripping	cm^3 [in^3]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]
Air consumption for swiveling	cm^3 [in^3]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]	9.0 [0.55]
Weight	kg [lbs]	0.4 [0.88]	0.4 [0.88]	0.48 [1.06]	0.48 [1.06]	0.48 [1.06]	0.48 [1.06]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.02	0.02	0.02	0.02	0.04	0.04
Opening time for gripping	s	0.02	0.02	0.04	0.04	0.02	0.02
Swiveling time with middle attached load	s	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	mm [in]	38.0 [1.496]	38.0 [1.496]	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]	0.05 [0.11]	0.05 [0.11]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

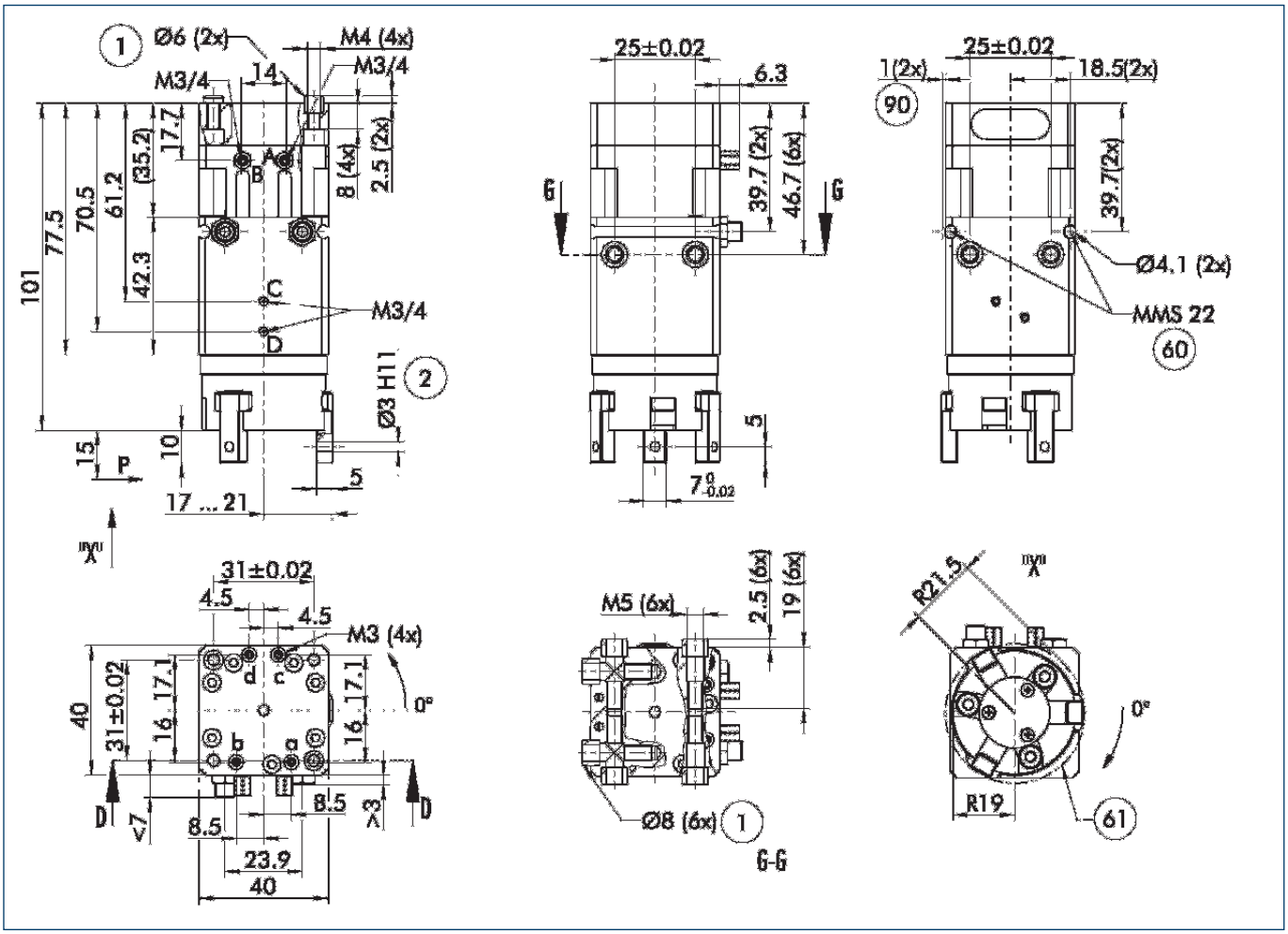
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical data 180° rotating angle

Description		GSM-Z 38-E-180	GSM-Z 38-S-180	GSM-Z 38-AS-E-180	GSM-Z 38-AS-S-180	GSM-Z 38-IS-E-180	GSM-Z 38-IS-S-180
	ID	0303843	0303943	0303844	0303944	0303845	0303945
Stroke per finger	mm [in]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]
Closing force	N [lbf]	120.0 [27]	120.0 [27]	150.0 [34]	150.0 [34]		
Opening force	N [lbf]	140.0 [31]	140.0 [31]			160.0 [36]	160.0 [36]
Min. gripping force through spring	N [lbf]			30.0 [6.7]	30.0 [6.7]	40.0 [9.0]	40.0 [9.0]
Torque	Nm [lbf ft]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]	0.3 [0.221]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	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]
Air consumption for gripping	cm^3 [in^3]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]	6.58 [0.40]
Air consumption for swiveling	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]
Weight	kg [lbs]	0.4 [0.88]	0.4 [0.88]	0.48 [1.06]	0.48 [1.06]	0.48 [1.06]	0.48 [1.06]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.02	0.02	0.02	0.02	0.04	0.04
Opening time for gripping	s	0.02	0.02	0.04	0.04	0.02	0.02
Swiveling time with middle attached load	s	0.22	0.22	0.22	0.22	0.22	0.22
Max. permitted finger length	mm [in]	38.0 [1.496]	38.0 [1.496]	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]	0.05 [0.11]	0.05 [0.11]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles of 0° and 180°, angles between these cannot be monitored.

Main views



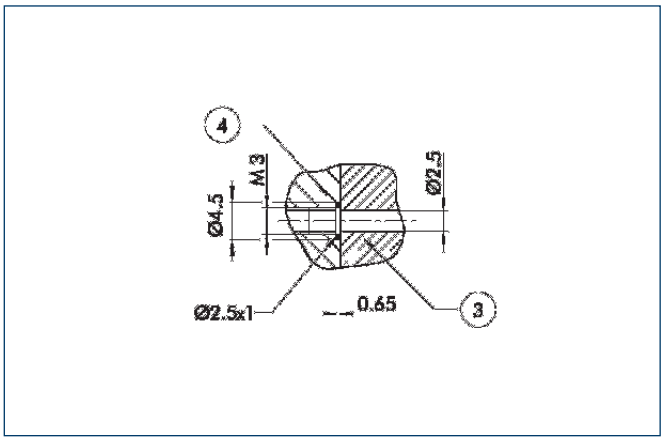
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
60 Monitoring of swiveling
61 Interfering contour during swiveling
90 Sensor projection beyond housing

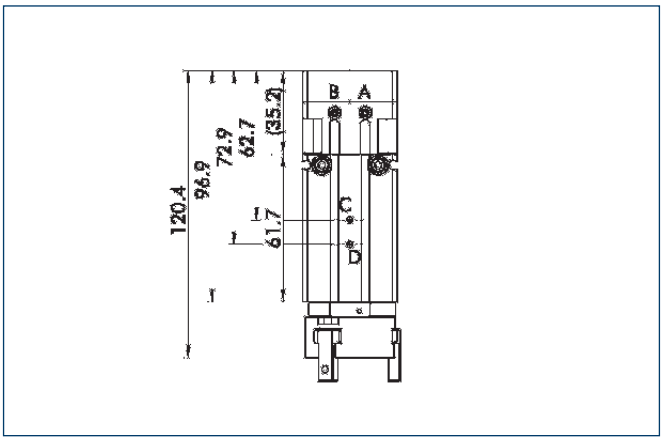
Hoseless direct connection



③ Adapter
④ Gripper-swivel module

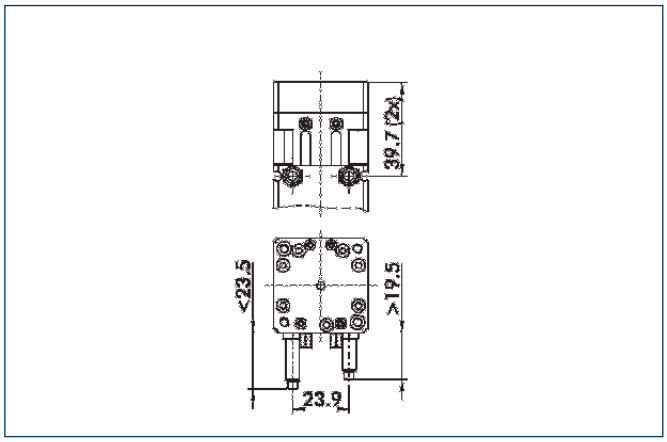
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



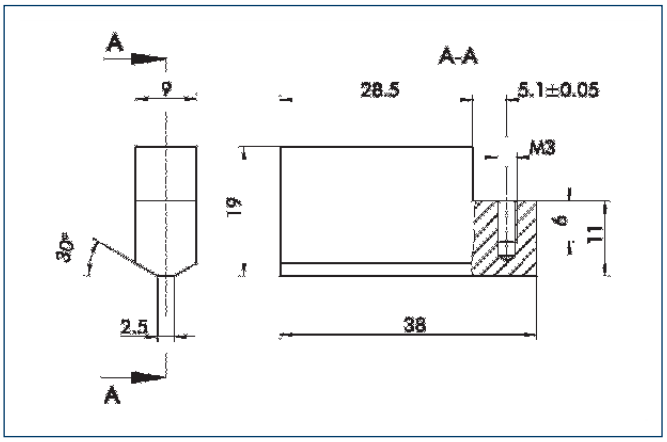
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

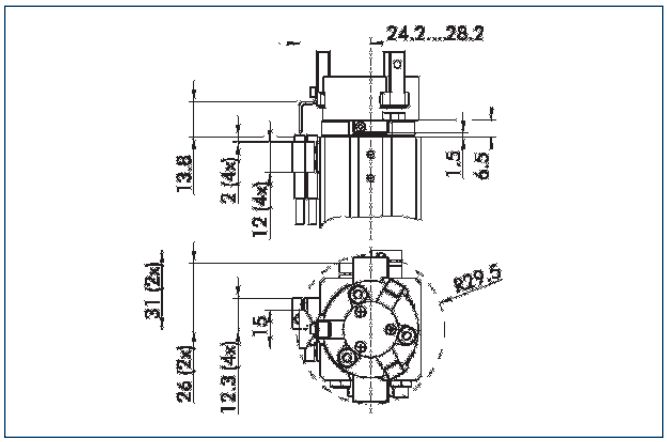
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 38	Aluminum	3	0340529

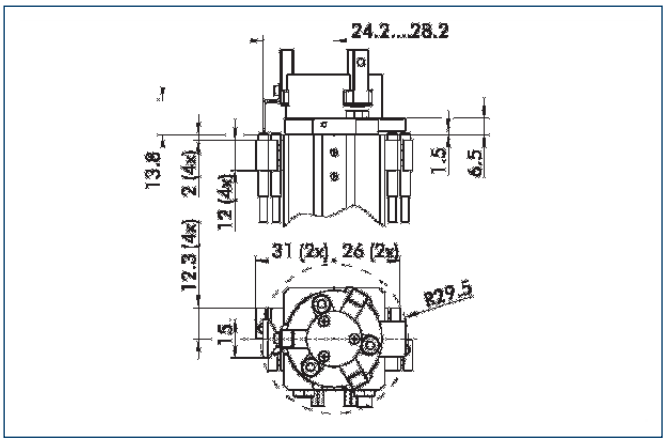
Mounting kit for proximity switches – angle of rotation 90°



The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-Z 38	0304945

Mounting kit for proximity switches – angle of rotation 180°

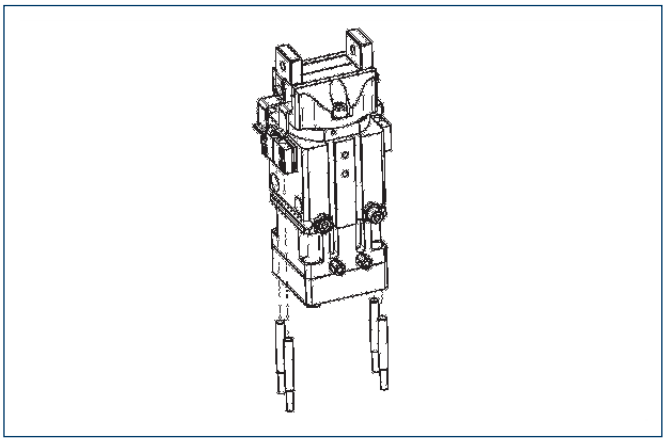


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-Z 38	0304945

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, mounted with mounting kit

Description	ID	Recommended product
AS-GSM-Z 38	0304945	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

Extension cables for proximity switches/magnetic switches

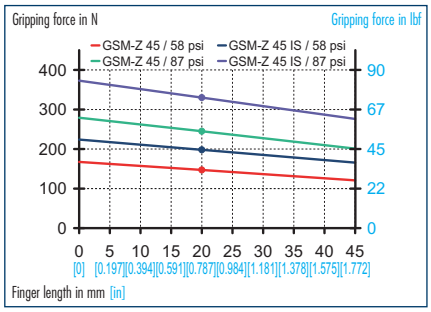
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 3-M5-PNP/NPN	0301650
W 5-M12	0301507
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

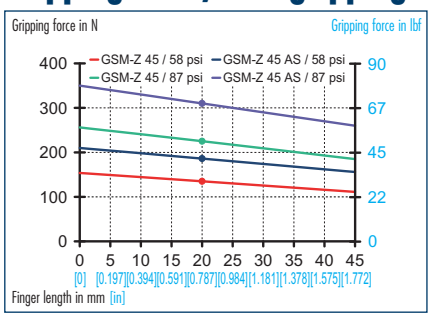
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSM-Z 45

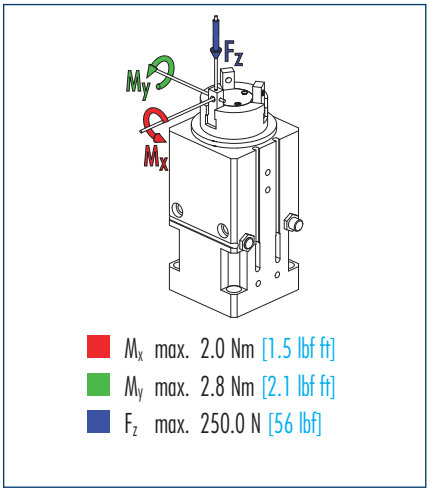
Gripping force, I.D. gripping



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 90° rotating angle

Description		GSM-Z 45-E-090	GSM-Z 45-S-090	GSM-Z 45-AS-E-090	GSM-Z 45-AS-S-090	GSM-Z 45-IS-E-090	GSM-Z 45-IS-S-090
	ID	0304663	0304763	0304664	0304764	0304665	0304765
Stroke per finger	mm [in]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]
Closing force	N [lbf]	225.0 [51]	225.0 [51]	310.0 [70]	310.0 [70]		
Opening force	N [lbf]	245.0 [55]	245.0 [55]			310.0 [70]	310.0 [70]
Min. gripping force through spring	N [lbf]			85.0 [19.1]	85.0 [19.1]	95.0 [21.4]	95.0 [21.4]
Torque	Nm [lbf ft]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]
Rotating angle	°	90.0	90.0	90.0	90.0	90.0	90.0
Adjustability of end positions	°	90.0	90.0	90.0	90.0	90.0	90.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	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]
Air consumption for gripping	cm^3 [in^3]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]
Air consumption for swiveling	cm^3 [in^3]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]	51.0 [3.11]
Weight	kg [lbs]	1.2 [2.65]	1.2 [2.65]	1.32 [2.91]	1.32 [2.91]	1.32 [2.91]	1.32 [2.91]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.05	0.05	0.04	0.04	0.05	0.05
Opening time for gripping	s	0.05	0.05	0.05	0.05	0.04	0.04
Swiveling time with middle attached load	s	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	mm [in]	45.0 [1.772]	45.0 [1.772]	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]	0.08 [0.18]	0.08 [0.18]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

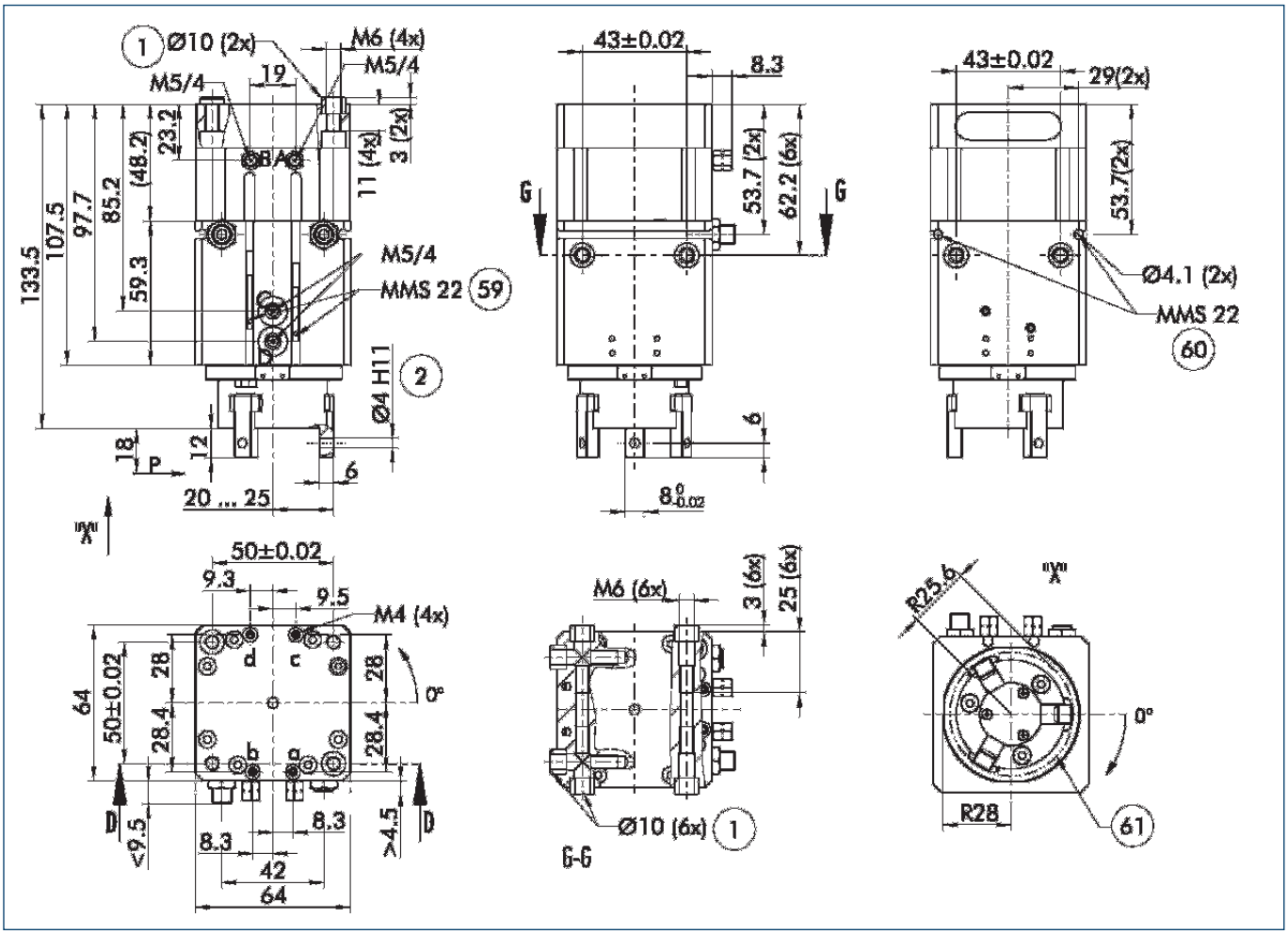
ⓘ The rotary movement can only be monitored at rotating angles of 0° and 90°, angles between these cannot be monitored.

Technical data 180° rotating angle

Description		GSM-Z 45-E-180	GSM-Z 45-S-180	GSM-Z 45-AS-E-180	GSM-Z 45-AS-S-180	GSM-Z 45-IS-E-180	GSM-Z 45-IS-S-180
	ID	0303863	0303963	0303864	0303964	0303865	0303965
Stroke per finger	mm [in]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]	5.0 [0.197]
Closing force	N [lbf]	225.0 [51]	225.0 [51]	310.0 [70]	310.0 [70]		
Opening force	N [lbf]	245.0 [55]	245.0 [55]			310.0 [70]	310.0 [70]
Min. gripping force through spring	N [lbf]			85.0 [19.1]	85.0 [19.1]	95.0 [21.4]	95.0 [21.4]
Torque	Nm [lbf ft]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]	2.7 [2.0]
Rotating angle	°	180.0	180.0	180.0	180.0	180.0	180.0
Adjustability of end positions	°	180.0	180.0	180.0	180.0	180.0	180.0
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	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]
Air consumption for gripping	cm^3 [in^3]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]	13.85 [0.85]
Air consumption for swiveling	cm^3 [in^3]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]	85.0 [5.19]
Weight	kg [lbs]	1.2 [2.65]	1.2 [2.65]	1.32 [2.91]	1.32 [2.91]	1.32 [2.91]	1.32 [2.91]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure for gripping	bar [psi]	2.0 [29]	2.0 [29]	4.0 [58]	4.0 [58]	4.0 [58]	4.0 [58]
Maximum pressure for gripping	bar [psi]	8.0 [116]	8.0 [116]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Minimum pressure for swiveling	bar [psi]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]	3.0 [44]
Maximum pressure for swiveling	bar [psi]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]	6.5 [94]
Closing time for gripping	s	0.05	0.05	0.04	0.04	0.05	0.05
Opening time for gripping	s	0.05	0.05	0.05	0.05	0.04	0.04
Swiveling time with middle attached load	s	0.24	0.24	0.24	0.24	0.24	0.24
Max. permitted finger length	mm [in]	45.0 [1.772]	45.0 [1.772]	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]	0.08 [0.18]	0.08 [0.18]
IP class		40	40	40	40	40	40
Min. ambient temperature	°C [°F]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]	-10.0 [14]	5.0 [41]
Max. ambient temperature	°C [°F]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]	90.0 [194]	60.0 [140]
Repeat accuracy for gripping	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]
Repeat accuracy for swiveling	°	0.1	0.1	0.1	0.1	0.1	0.1

ⓘ The rotary movement can only be monitored at rotating angles of 0° and 180°, angles between these cannot be monitored.

Main views



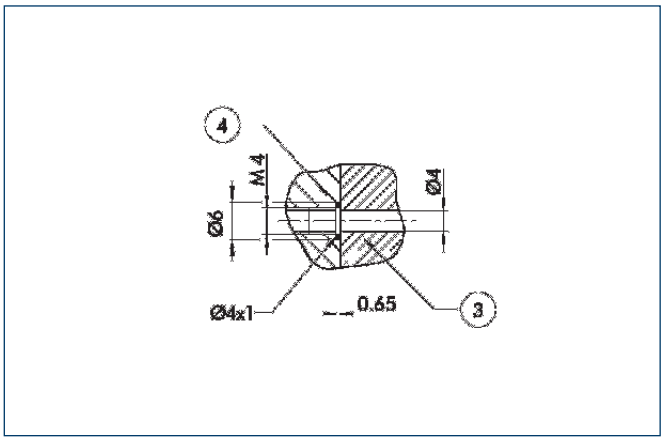
The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

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

A,a Main/direct connection, clockwise rotary unit
B,b Main/direct connection, anti-clockwise rotary unit
C,c Main/direct connection, gripper opening
D,d Main/direct connection, gripper closing

① Rotary unit connection
② Finger connection
59 Monitoring of gripping
60 Monitoring of swiveling
61 Interfering contour during swiveling

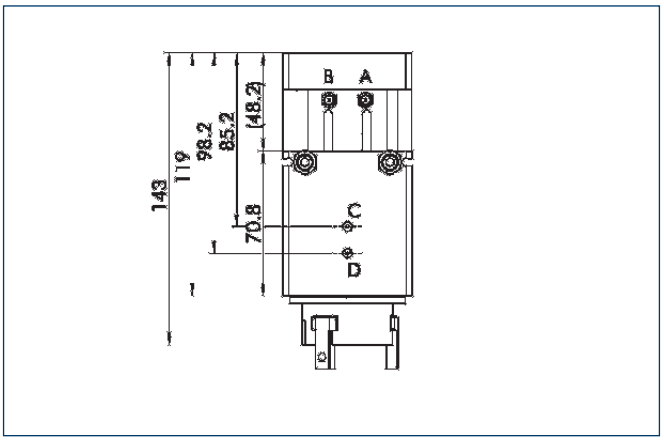
Hoseless direct connection



③ Adapter
④ Gripper-swivel module

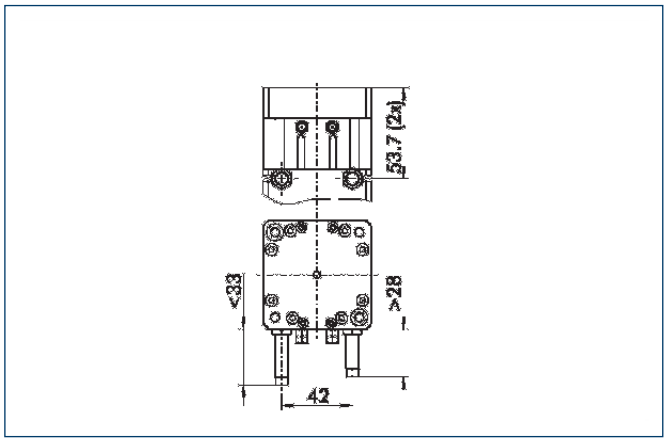
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force safety device



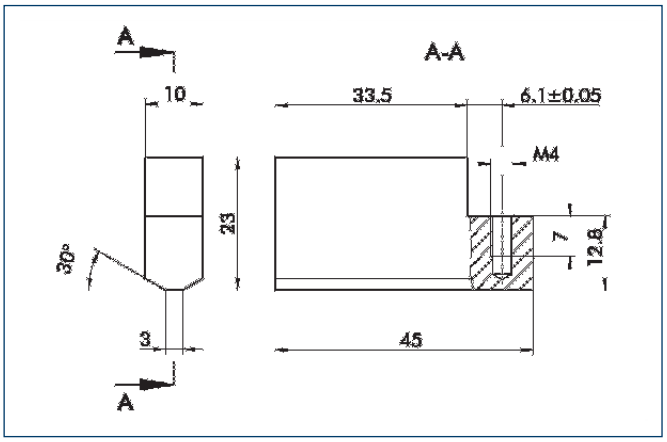
The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for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

Shock absorber version



Different dimensions in the shock absorber version

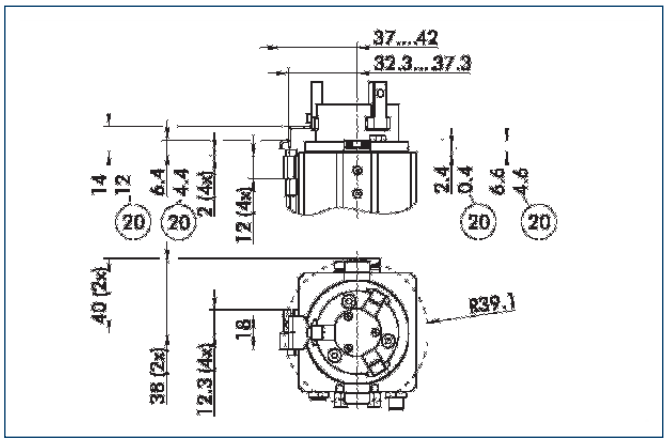
Finger blanks



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

Description	Material	Scope of delivery	ID
ABR 45	Aluminum	3	0340539

Mounting kit for proximity switches – angle of rotation 90°

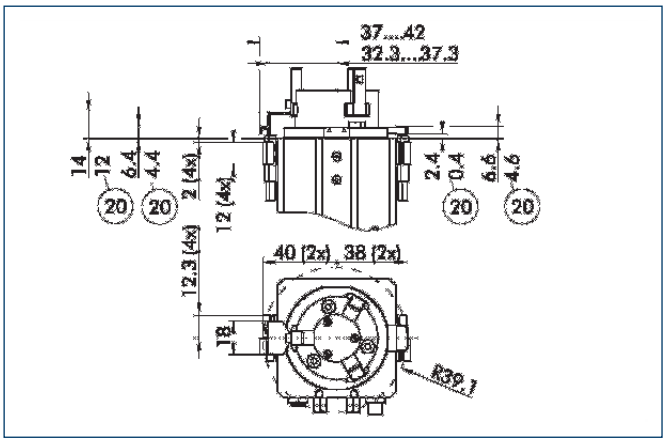


20 With AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-Z 45	0304946

Mounting kit for proximity switches – angle of rotation 180°



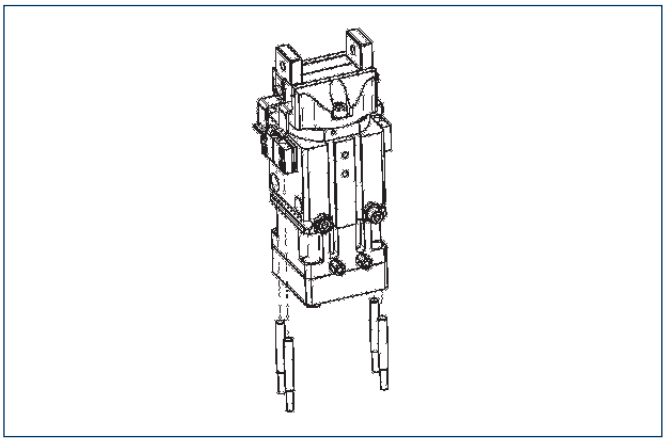
20 With AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of 2 switch cams, 2 operating cams (only one needs to be fitted, see operating manual), 4 sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
AS-GSM-Z 45	0304946

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, mounted with mounting kit

Description	ID	Recommended product
AS-GSM-Z 45	0304946	
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Four sensors (NO contacts) are required for each GSM, plus extension cables as an option. The control determines the states of the rotary or gripping process by the logical evaluation of the four sensor signals.
Please note that when inductive proximity switches are used, the switching positions are not adjustable.

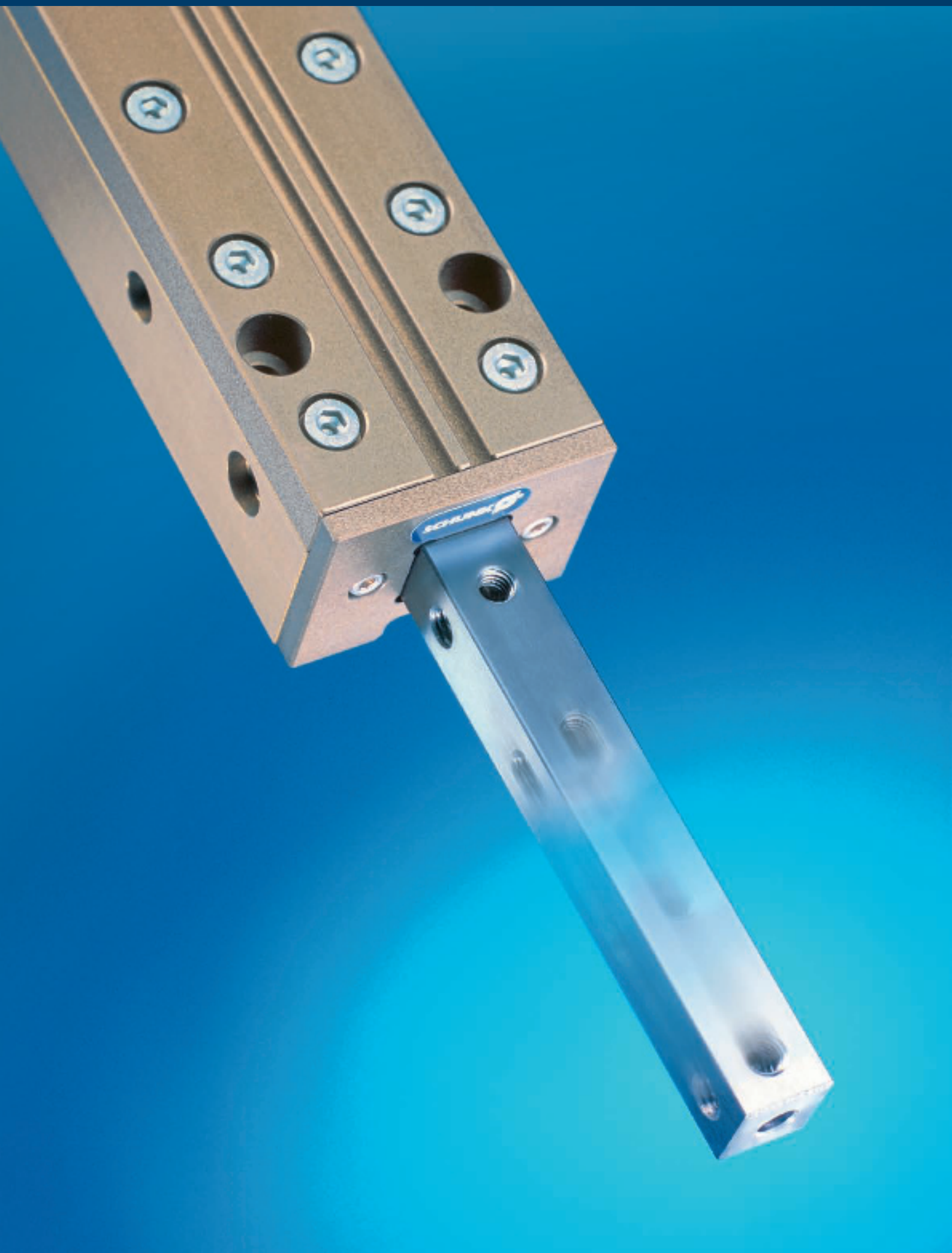
Extension cables for proximity switches/magnetic switches

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

ⓘ 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 Escapement Modules



ESCAPEMENT MODULES

PES

Sizes
30 .. 48

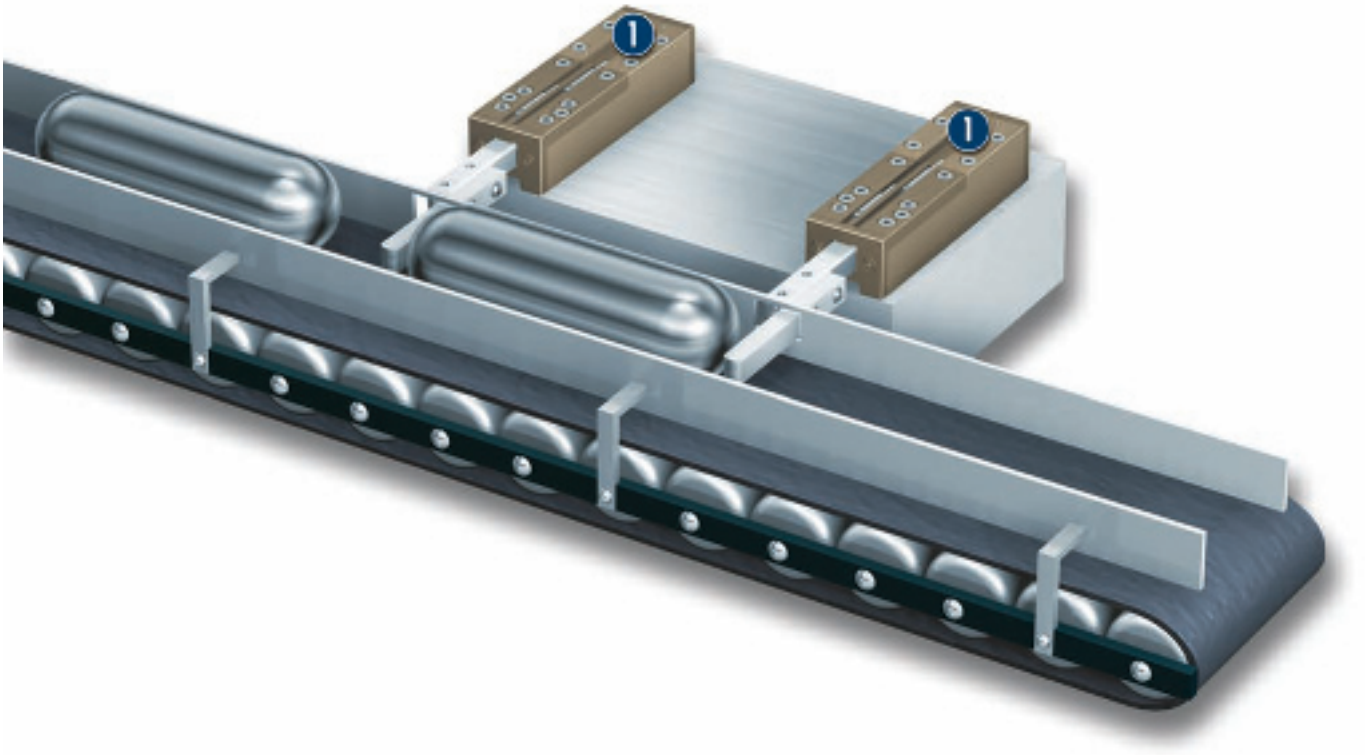
Weight
0.17 kg .. 1.56 kg
0.37 lbs .. 3.44 lbs

Advancing force
83 N .. 265 N
18.7 lbf .. 60 lbf

Stroke
15 mm .. 60 mm
0.591 in .. 2.362 in

Bending moment
5 Nm .. 20 Nm
3.7 lbf ft .. 14.8 lbf ft

Application example



Separation of cylindrical blanks for individual feed to the machining station

1 **PES 38 Single Escapement**

Single Escapement

Single escapement with integrated magnetic switch monitoring, can also be used as a stop cylinder

Area of application

For use for the individual feeding of bulk material or magazined workpieces, or for use as a stop cylinder for the temporary stoppage of pallets on conveyor systems.

Your advantages and benefits

Attached to the housing
allowing universal mounting of the escapement

Threads on four surfaces of the base finger
for the flexible attachment of the top fingers

Diverse options
(dust protection, spring lock, stopp cylinder) for optimization to suit precisely your requirements.

Information about the series

Working principle
Conventional, pneumatic round piston drive, directly connected to a square base finger

Housing material
Aluminum, hard-anodized

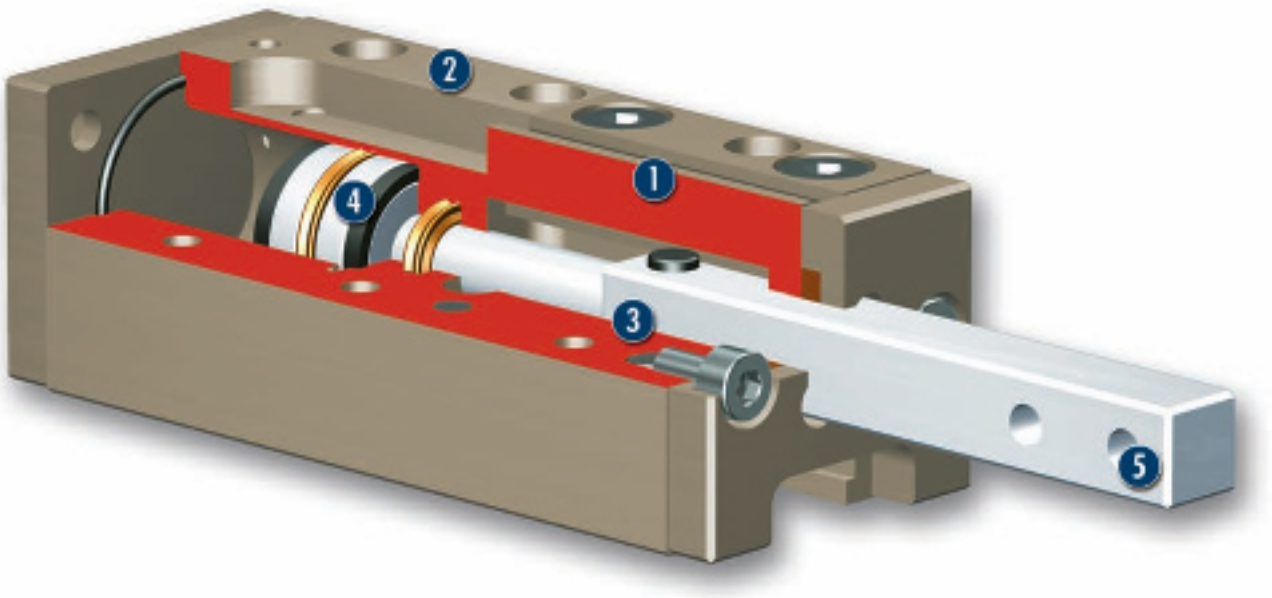
Base finger material
Polished stainless steel

Warranty
24 months

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

Scope of delivery
Centering sleeves, T-slots, assembly and operating manual with manufacturer's declaration

Sectional diagram



1 Monitoring
Integrated end position monitoring with magnetic switches

2 Housing
Weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

3 Guidance
Maximum precision and load-bearing capacity through guidance with minimum play

4 Drive
Pneumatic, powerful and easy to handle

5 Mounting options
for universal finger assembly

Function description

The pneumatic piston is moved by compressed air. This causes the square rod to extend and retract. The product-specific top finger mounted on the square rod separates the workpieces that are fed to it. When employed as a pallet stopper, the square rod itself acts as the stop.

Options and special information

Dust-protection version
Dust proof, increased degree of protection against the ingress of substances, for use in dusty environments

Stop cylinder version
For the temporary stoppage of pallets on conveyor systems

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

W/WK/KV/GK sensor cables

V sensor distributors

SDV-P pressure maintenance valves

ⓘ 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

Using the PES as an escapement

When the PES is used as an escapement, as a rule a workpiece-specific top finger is mounted.

Using the PES as a stopper

When the PES is used as a stopper, the PES piston rod itself has contact with the pallet that needs to be stopped. No top fingers may be mounted.

T-slot mounting

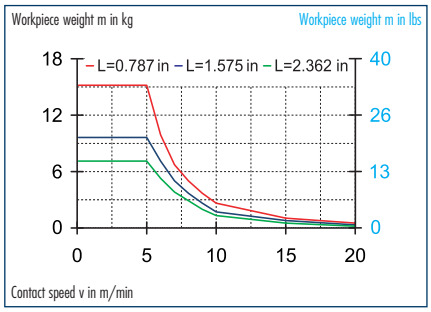
Alternatively, the PES can also be mounted using the groove on the rear and the supplied T-slots.

Finger length L

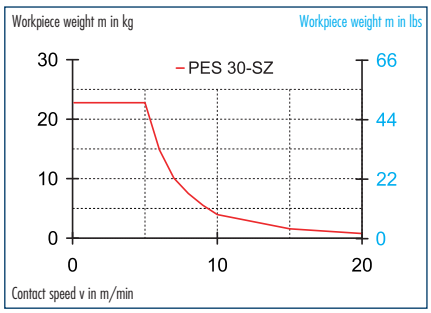
The finger length L is measured from the upper edge of the housing to the point of contact of the workpiece/pallet in the direction of motion of the piston rod.

PES 30

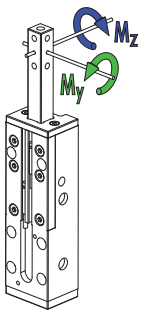
Permitted weight/speed



Permitted weight/speed



Finger load



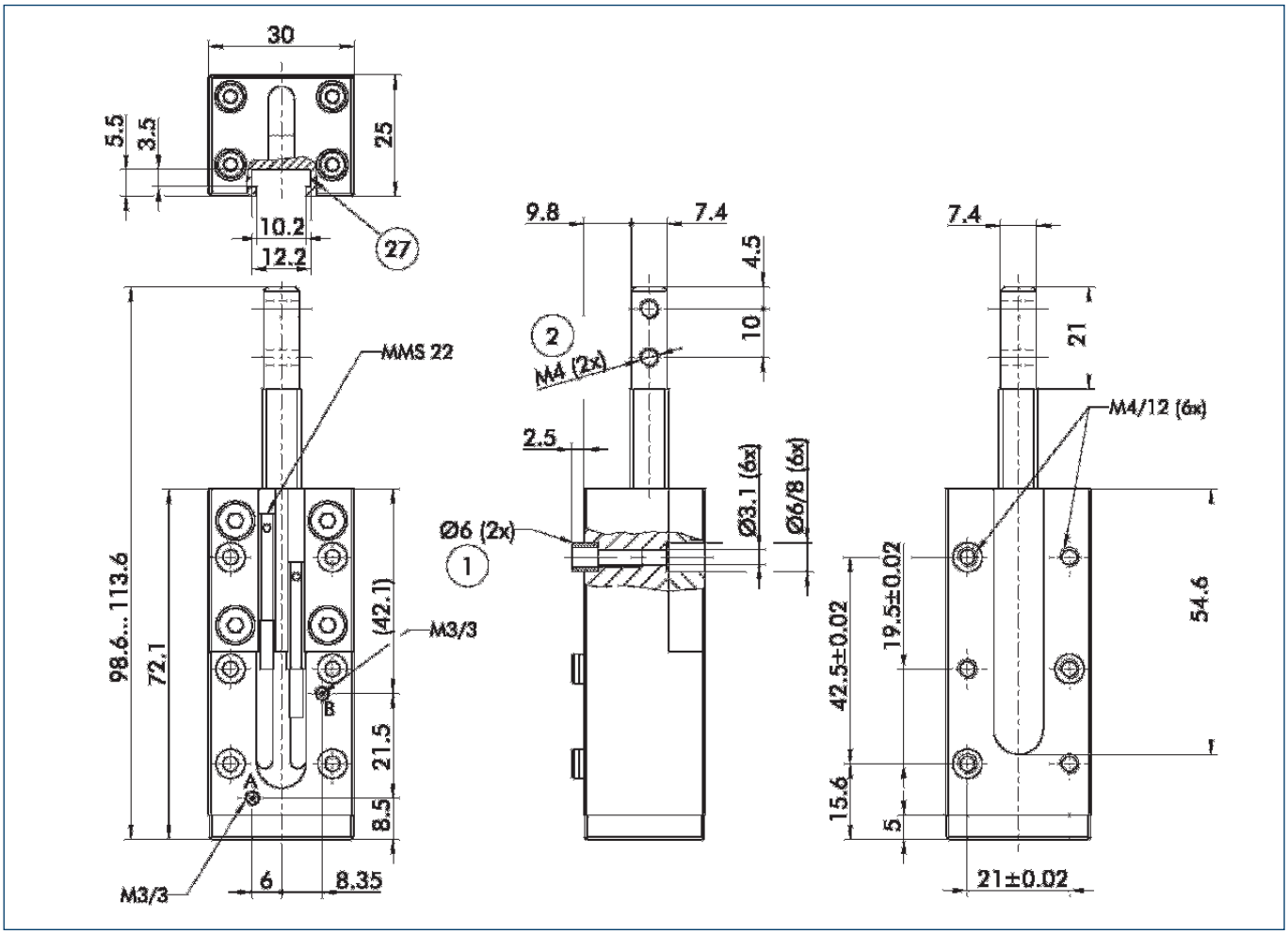
	General	Stoppers
M_y	max. 5.0 Nm [3.7 lbf ft]	10.0 Nm [7.4 lbf ft]
M_z	max. 5.0 Nm [3.7 lbf ft]	10.0 Nm [7.4 lbf ft]

ⓘ Moments apply from the upper edge of the housing and may occur simultaneously. Leverages of forces are measured from the upper edge of the housing.

Technical data

Description		PES 30	PES 30-FS	PES 30-SD	PES 30-FS-SD	PES 30-SZ
	ID	0302650	0302651	0302300	0302301	0302652
Max. bending moment	Nm [lbf ft]	5.0 [3.7]	5.0 [3.7]	5.0 [3.7]	5.0 [3.7]	10.0 [7.4]
Weight	kg [lbs]	0.17 [0.37]	0.19 [0.42]	0.17 [0.37]	0.19 [0.42]	0.25 [0.55]
Stroke	mm [in]	15.0 [0.591]	15.0 [0.591]	15.0 [0.591]	15.0 [0.591]	15.0 [0.591]
Advancing force	N [lbf]	83.0 [18.7]	93.0 [20.9]	83.0 [18.7]	93.0 [20.9]	83.0 [18.7]
Spring lock		No	Yes	No	Yes	No
Min. spring force	N [lbf]		7.0 [1.6]		7.0 [1.6]	
Stopper version		No	No	No	No	Yes
Max. permitted finger weight	kg [lbs]	0.12 [0.26]	0.12 [0.26]	0.12 [0.26]	0.12 [0.26]	0.0 [0.00]
Dust protection		No	No	Yes	Yes	No
IP class		40	40	64	64	40
Air consumption per double stroke of a finger	cm^3 [in^3]	4.17 [0.25]	4.17 [0.25]	4.17 [0.25]	4.17 [0.25]	4.17 [0.25]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	2.0 [29]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Min. ambient temperature	°C [°F]	-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]

Main views

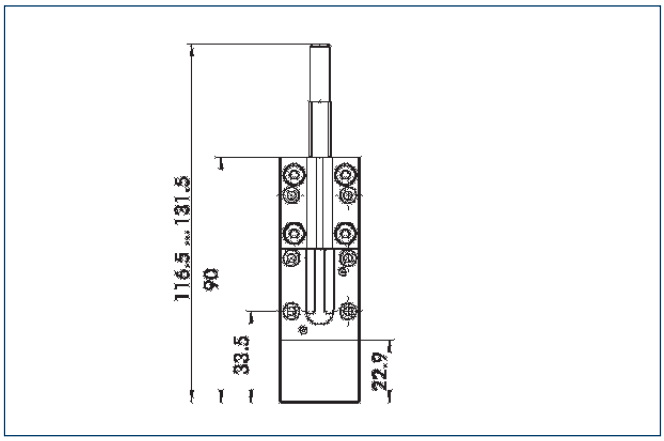


The drawing shows the escapement in the basic version, the dimensions do not include the options described below.

ⓘ As an alternative to the spring-loaded positioning lock, the SDV-P pressure maintenance valve can be used (see "Accessories" catalog section).

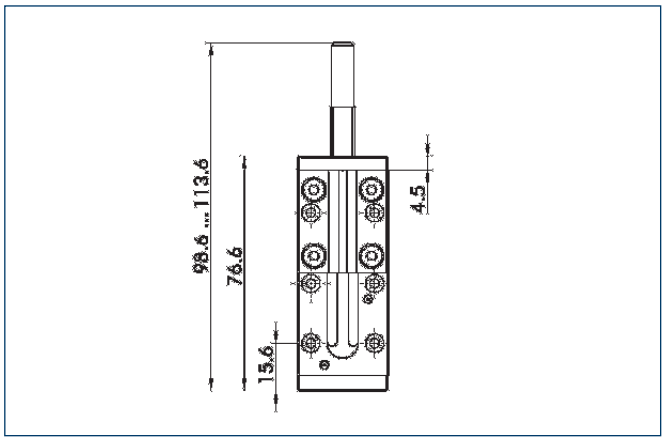
A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts

FS spring lock



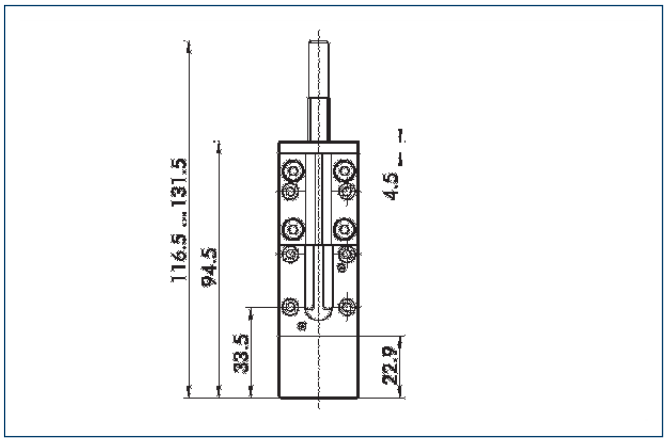
The spring lock ensures that the escapement does not return, thereby releasing the parts, if there is a drop in pressure.

Dust-protection version

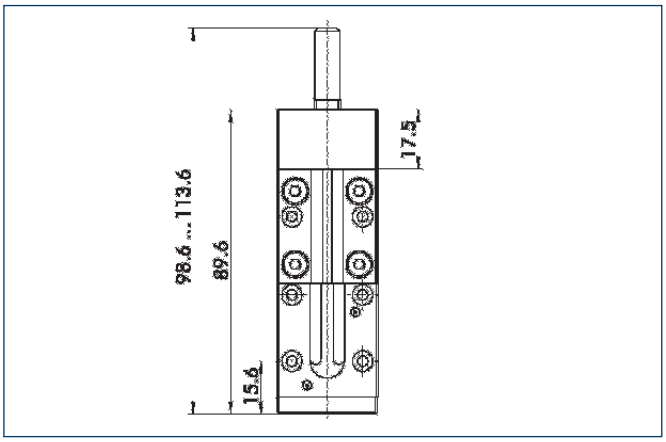


With its additional cover panel, the dust-protection version increases tightness from IP40 to IP64.

Spring lock and dust protection



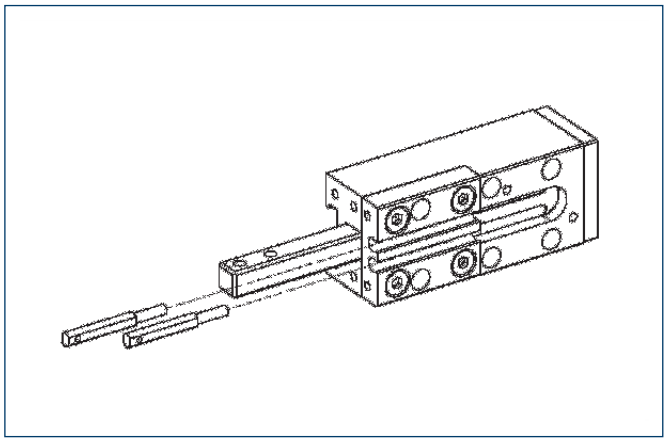
SZ stop cylinder version



Stopper version for use as a stop cylinder in pallet conveyor systems.
The pallets are stopped directly by the base fingers, no top fingers are mounted.

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	

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

Extension cables for proximity switches/magnetic switches

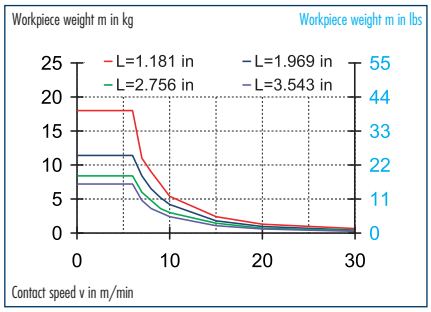
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

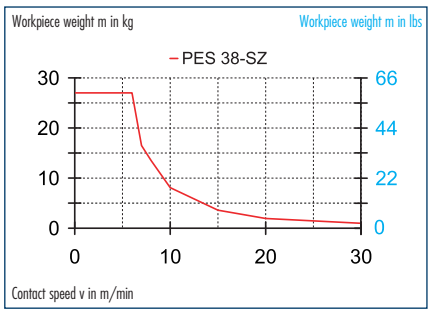
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PES 38

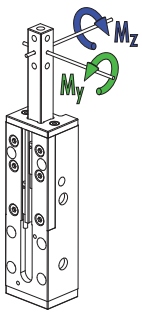
Permitted weight/speed



Permitted weight/speed



Finger load



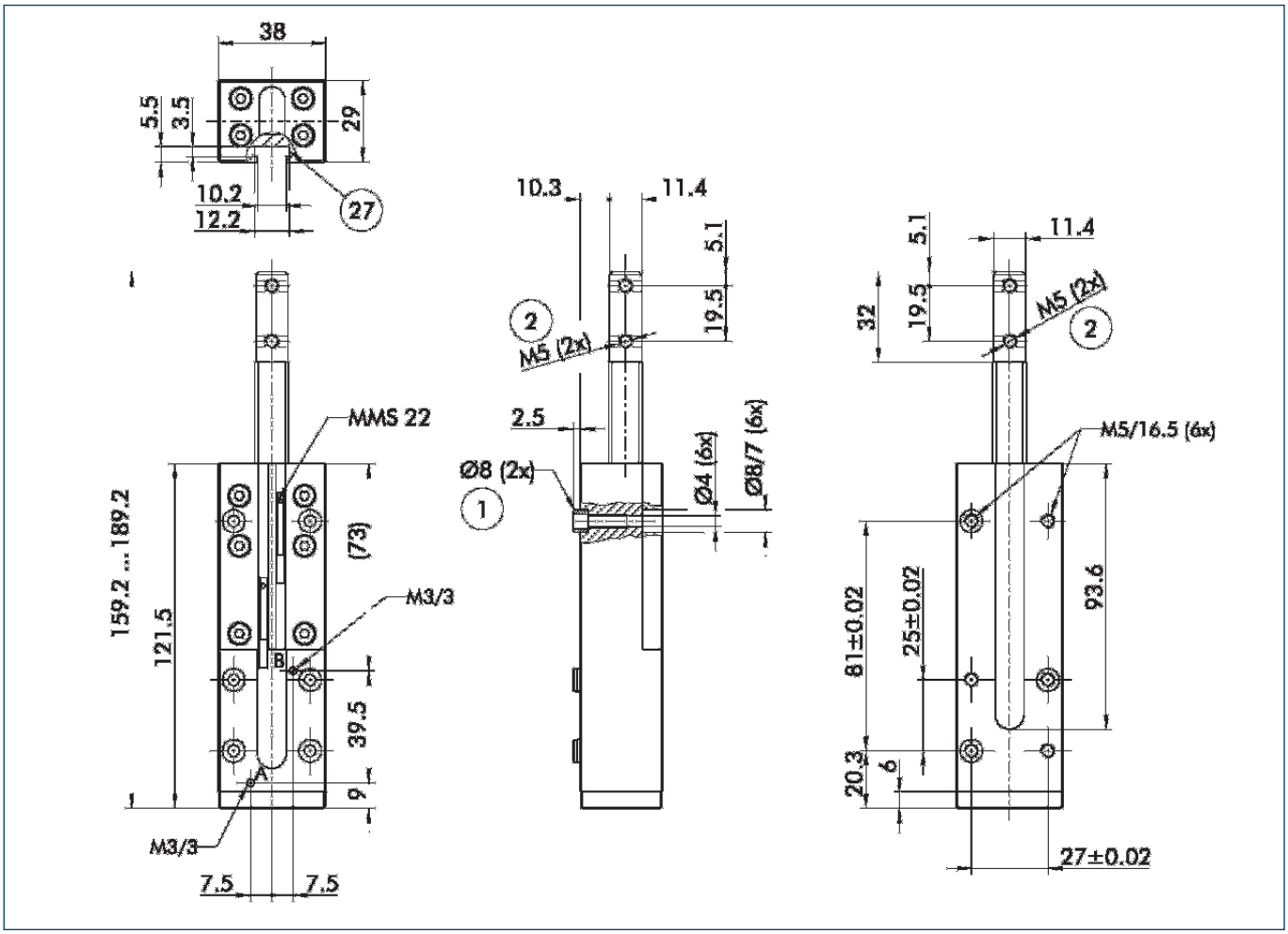
	General	Stoppers
M_y	max. 7.0 Nm [5.2 lbf ft]	14.0 Nm [10.3 lbf ft]
M_z	max. 7.0 Nm [5.2 lbf ft]	14.0 Nm [10.3 lbf ft]

ⓘ Moments apply from the upper edge of the housing and may occur simultaneously. Leverages of forces are measured from the upper edge of the housing.

Technical data

Description		PES 38	PES 38-FS	PES 38-SD	PES 38-FS-SD	PES 38-SZ
	ID	0302658	0302659	0302380	0302381	0302660
Max. bending moment	Nm [lbf ft]	7.0 [5.2]	7.0 [5.2]	7.0 [5.2]	7.0 [5.2]	14.0 [10.3]
Weight	kg [lbs]	0.43 [0.95]	0.48 [1.06]	0.43 [0.95]	0.48 [1.06]	0.62 [1.37]
Stroke	mm [in]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]
Advancing force	N [lbf]	108.0 [24]	120.0 [27]	108.0 [24]	120.0 [27]	108.0 [24]
Spring lock		No	Yes	No	Yes	No
Min. spring force	N [lbf]		9.0 [2.0]		9.0 [2.0]	
Stopper version		No	No	No	No	Yes
Max. permitted finger weight	kg [lbs]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]	0.0 [0.00]
Dust protection		No	No	Yes	Yes	No
IP class		40	40	64	64	40
Air consumption per double stroke of a finger	cm^3 [in^3]	10.5 [0.64]	10.5 [0.64]	10.5 [0.64]	10.5 [0.64]	10.5 [0.64]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	2.0 [29]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Min. ambient temperature	°C [°F]	-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]

Main views

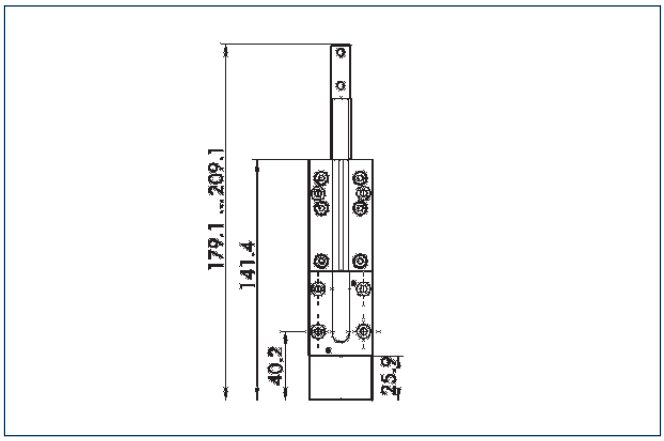


The drawing shows the escapement in the basic version, the dimensions do not include the options described below.

ⓘ As an alternative to the spring-loaded positioning lock, the SDV-P pressure maintenance valve can be used (see "Accessories" catalog section).

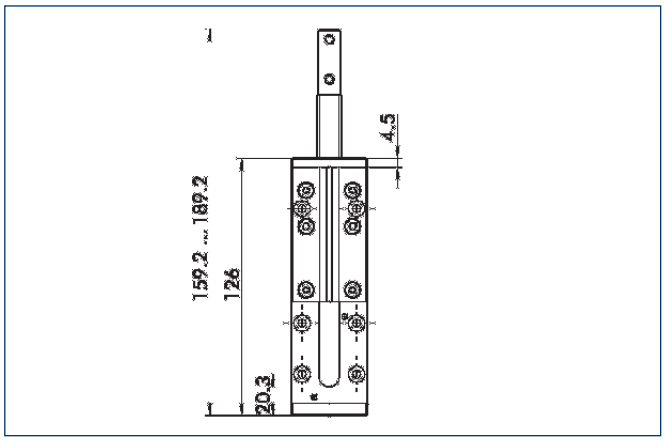
A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts

FS spring lock



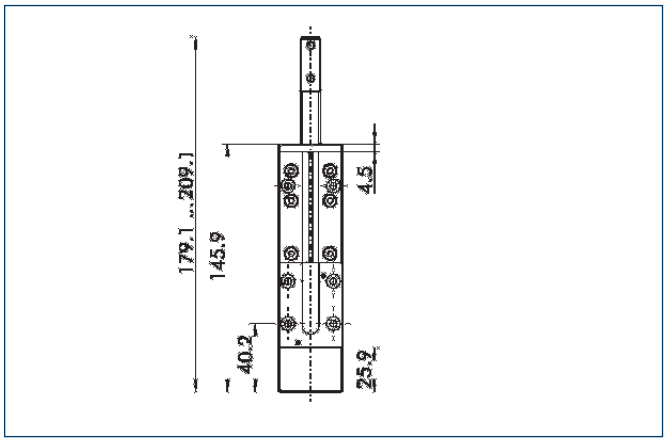
The spring lock ensures that the escapement does not return, thereby releasing the parts, if there is a drop in pressure.

Dust-protection version

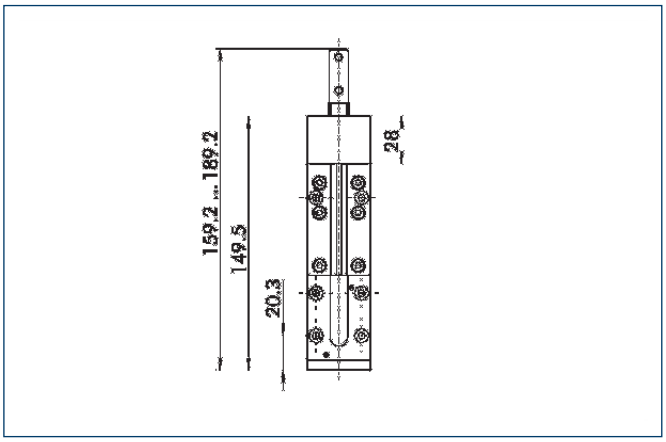


With its additional cover panel, the dust-protection version increases tightness from IP40 to IP64.

Spring lock and dust protection



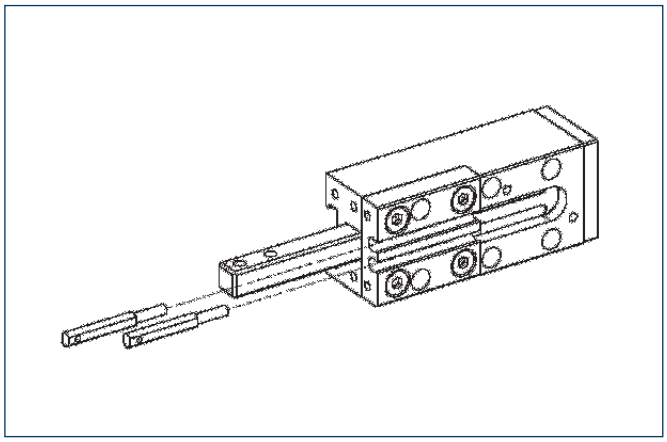
SZ stop cylinder version



Stopper version for use as a stop cylinder in pallet conveyor systems.
The pallets are stopped directly by the base fingers, no top fingers are mounted.

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	

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

Extension cables for proximity switches/magnetic switches

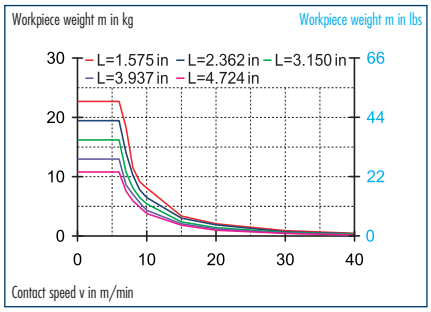
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

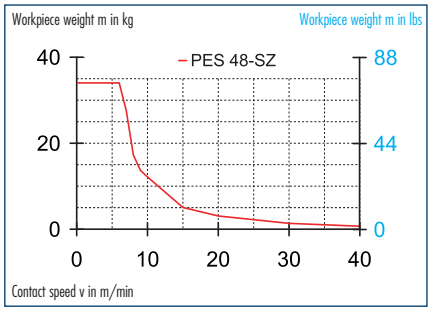
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PES 48

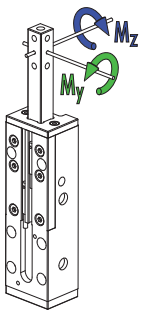
Permitted weight/speed



Permitted weight/speed



Finger load



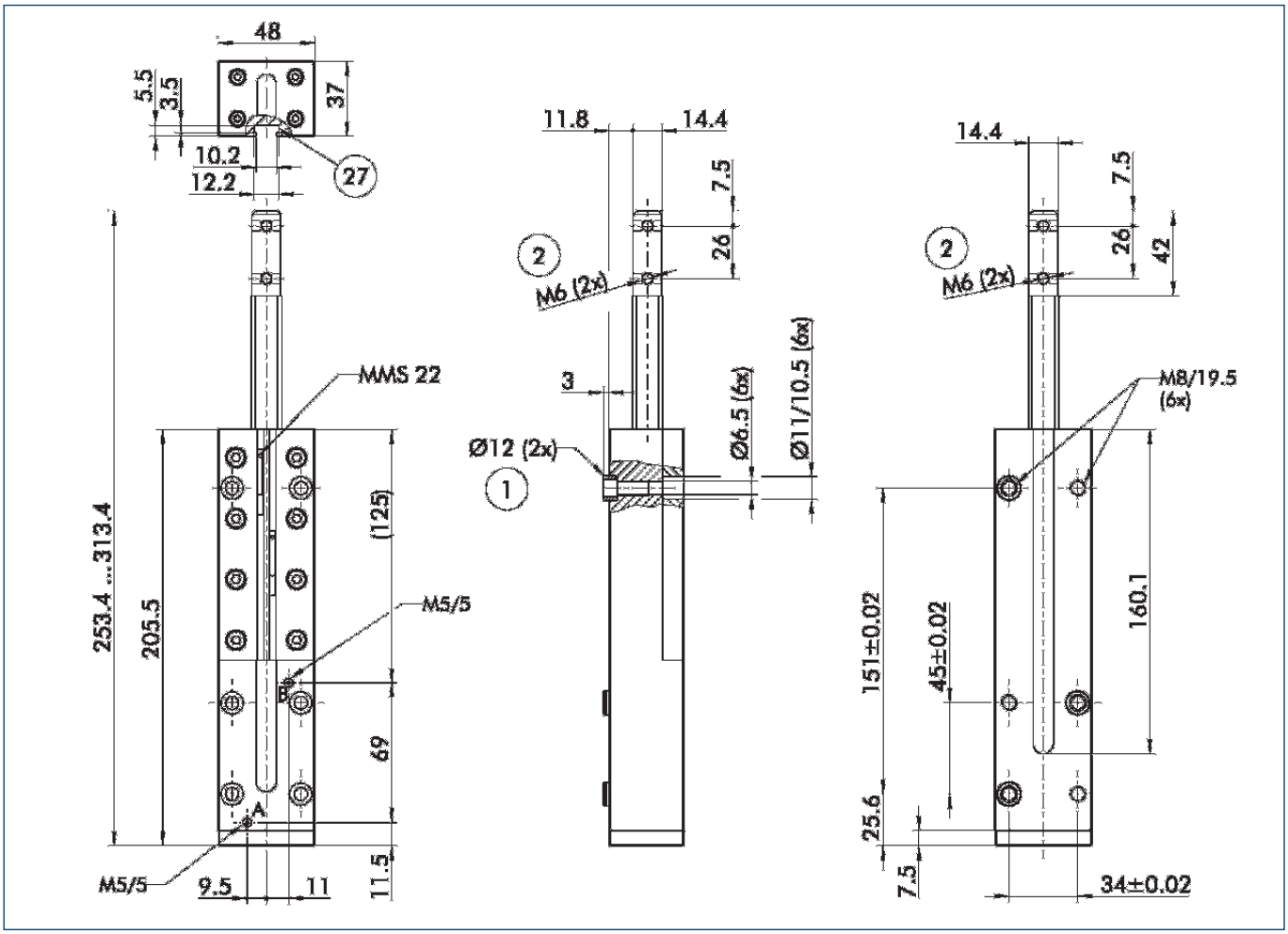
	General	Stoppers
M_y	max. 10.0 Nm [7.4 lbf ft]	20.0 Nm [14.8 lbf ft]
M_z	max. 10.0 Nm [7.4 lbf ft]	20.0 Nm [14.8 lbf ft]

ⓘ Moments apply from the upper edge of the housing and may occur simultaneously. Leverages of forces are measured from the upper edge of the housing.

Technical data

Description		PES 48	PES 48-FS	PES 48-SD	PES 48-FS-SD	PES 48-SZ
	ID	0302666	0302667	0302480	0302481	0302668
Max. bending moment	Nm [lbf ft]	10.0 [7.4]	10.0 [7.4]	10.0 [7.4]	10.0 [7.4]	20.0 [14.8]
Weight	kg [lbs]	1.14 [2.51]	1.26 [2.78]	1.14 [2.51]	1.26 [2.78]	1.56 [3.44]
Stroke	mm [in]	60.0 [2.362]	60.0 [2.362]	60.0 [2.362]	60.0 [2.362]	60.0 [2.362]
Advancing force	N [lbf]	244.0 [55]	265.0 [60]	244.0 [55]	265.0 [60]	244.0 [55]
Spring lock		No	Yes	No	Yes	No
Min. spring force	N [lbf]		17.0 [3.8]		17.0 [3.8]	
Stopper version		No	No	No	No	Yes
Max. permitted finger weight	kg [lbs]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]	0.0 [0.00]
Dust protection		No	No	Yes	Yes	No
IP class		40	40	64	64	40
Air consumption per double stroke of a finger	cm^3 [in^3]	49.5 [3.02]	49.5 [3.02]	49.5 [3.02]	49.5 [3.02]	49.5 [3.02]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	2.0 [29]	2.0 [29]	2.0 [29]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Min. ambient temperature	°C [°F]	-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]

Main views

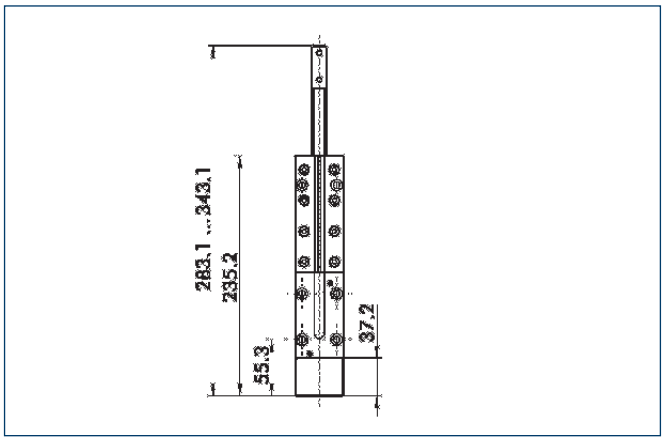


The drawing shows the escapement in the basic version, the dimensions do not include the options described below.

ⓘ As an alternative to the spring-loaded positioning lock, the SDV-P pressure maintenance valve can be used (see "Accessories" catalog section).

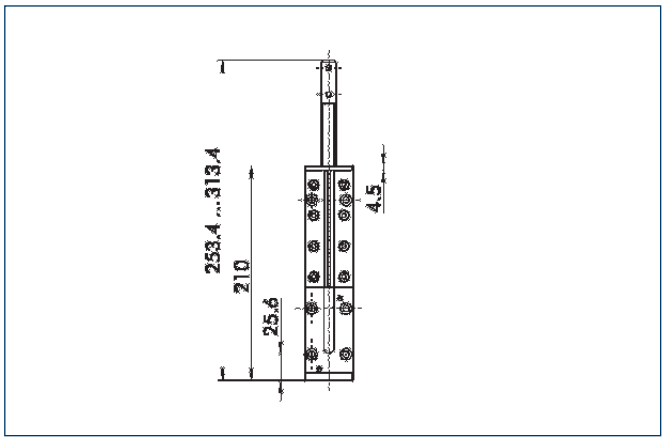
A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts

FS spring lock



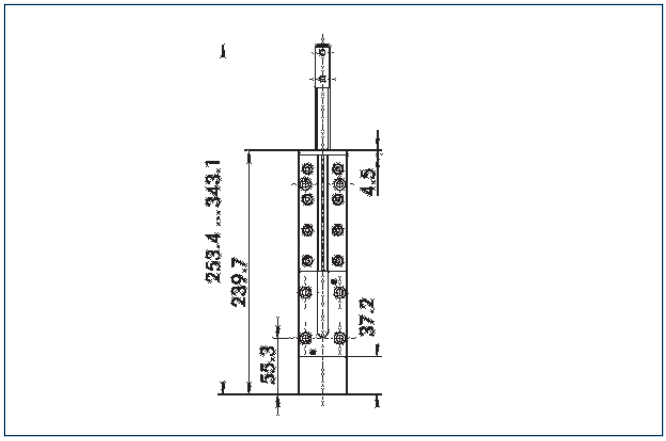
The spring lock ensures that the escapement does not return, thereby releasing the parts, if there is a drop in pressure.

Dust-protection version

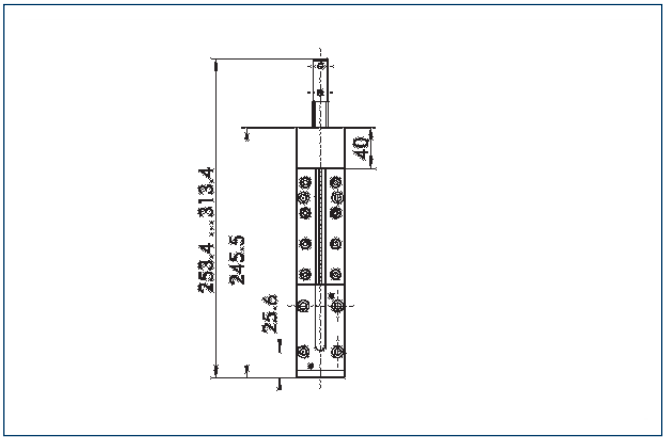


With its additional cover panel, the dust-protection version increases tightness from IP40 to IP64.

Spring lock and dust protection



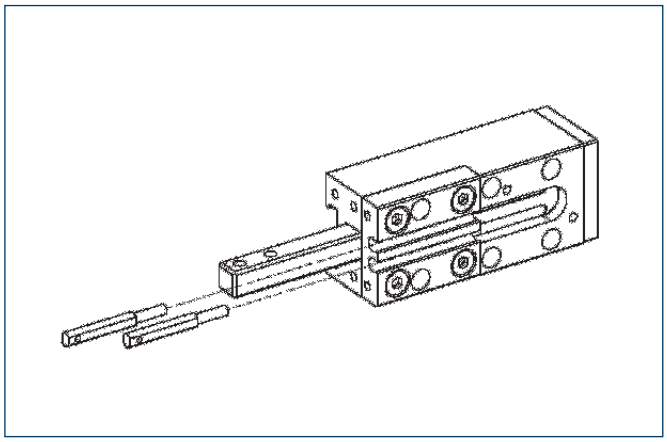
SZ stopp cylinder version



Stopper version for use as a stopp cylinder in pallet conveyor systems.
The pallets are stopped directly by the base fingers, no top fingers are mounted.

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	

ⓘ Two sensors (NO contacts) are required for each escapement, 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

ⓘ 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.

PED

Sizes
60 .. 96

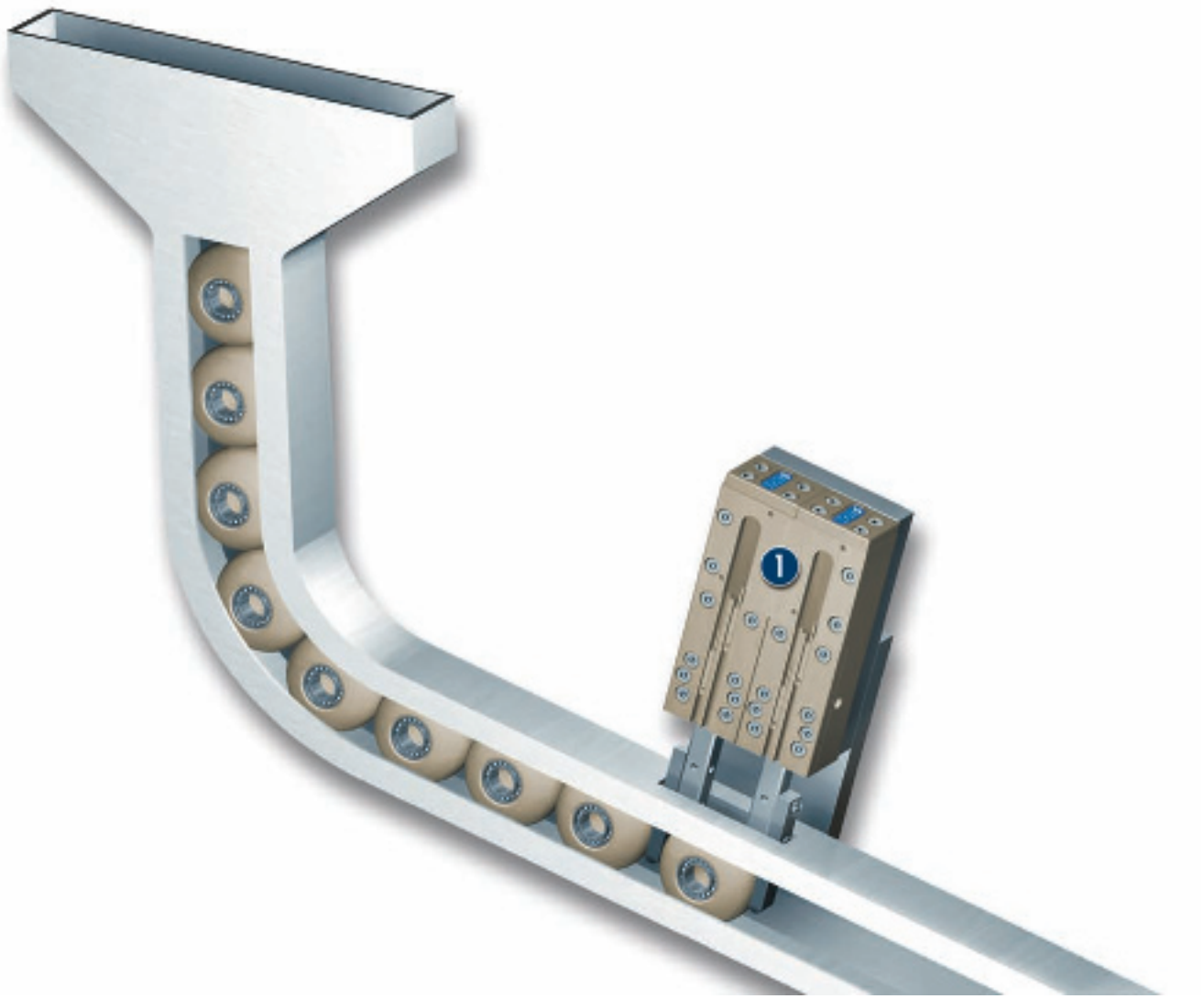
Weight
0.34 kg .. 2.52 kg
0.75 lbs .. 5.56 lbs

Advancing force
83 N .. 265 N
18.7 lbf .. 60 lbf

Stroke
15 mm .. 60 mm
0.591 in .. 2.362 in

Bending moment
5 Nm .. 10 Nm
3.7 lbf ft .. 7.4 lbf ft

Application example



Combined magazining/separating/feed application for the rolling of inline skates

1 PED 76 Double Escapement with workpiece-specific fingers

Double Escapement

Double escapement with mutual forced locking

Area of application

For use in the separate feed of bulk material or magazined workpieces. Its use is particularly recommended when two linked single escapements are employed in close proximity.

Your advantages and benefits

Mechanical mutual forced locking
so that two fingers can never return at the same time. The magazine can never run empty and uncontrolled.

Attachment to the housing
allowing universal mounting of the escapement

Threads on four surfaces of the base finger
for the flexible attachment of the top fingers

Diverse options
(dust protection, spring lock) for optimization to suit precisely your requirements

Information about the series

Working principle
Conventional, pneumatic round piston drive, directly connected to a square base finger

Housing material
Aluminum, hard-anodized

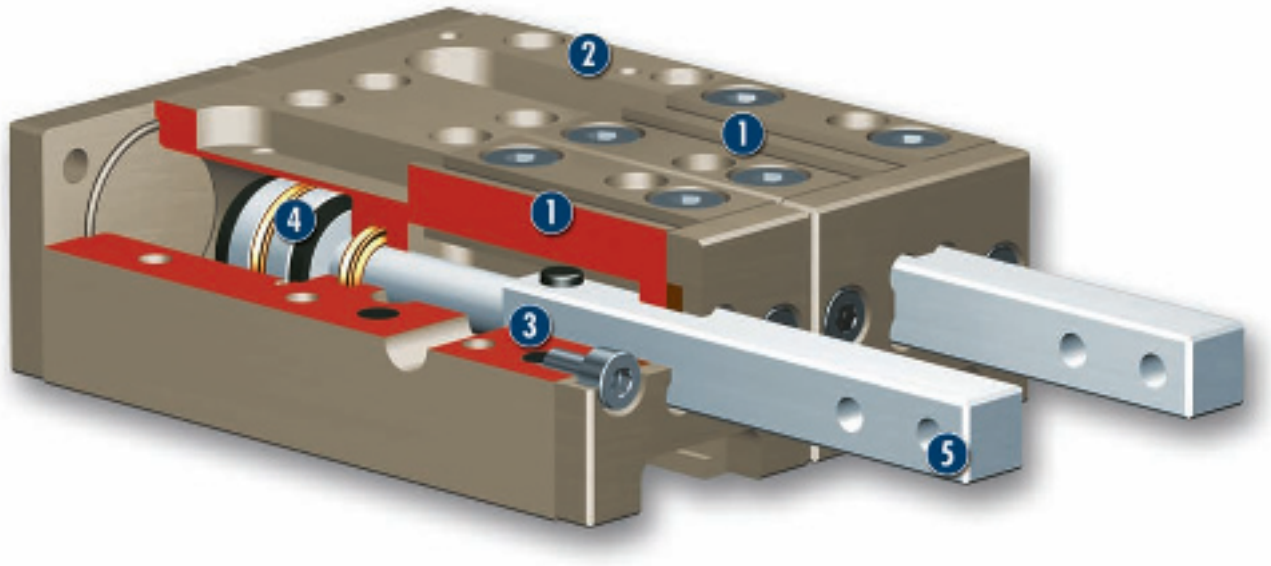
Base finger material
Polished stainless steel

Warranty
24 months

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

Scope of delivery
Centering sleeves, T-slots, assembly and operating manual with manufacturer's declaration

Sectional diagram



1 Monitoring
Integrated end position monitoring with magnetic switches

2 Housing
Weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

3 Guidance
Maximum precision and load-bearing capacity through guidance with minimum play

4 Drive
Pneumatic, powerful and easy to handle

5 Mounting options
for universal finger assembly

Function description

The pneumatic piston is moved by compressed air. This causes the square rod to extend and retract. The product-specific top finger mounted on the square rod separates the workpieces that are fed to it. The integrated forced locking device only permits the return of one square rod at a time.

Options and special information

The PED's mechanical mutual forced locking device increases the reliability of the process.

Dust-protection version

Dust proof, increased degree of protection against the ingress of substances, for use in dusty environments.

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

W/WK/KV/GK sensor cables

V sensor distributors

SDV-P pressure maintenance valves

ⓘ 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

Using the PED as an escapement

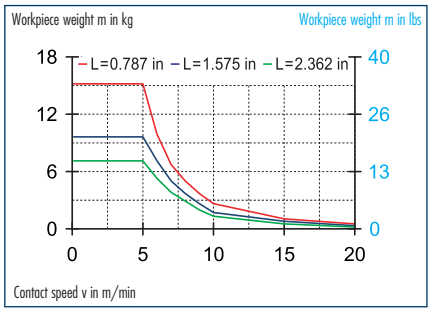
When the PED is used as an escapement, as a rule, a workpiece-specific top finger is mounted.

T-slot mounting

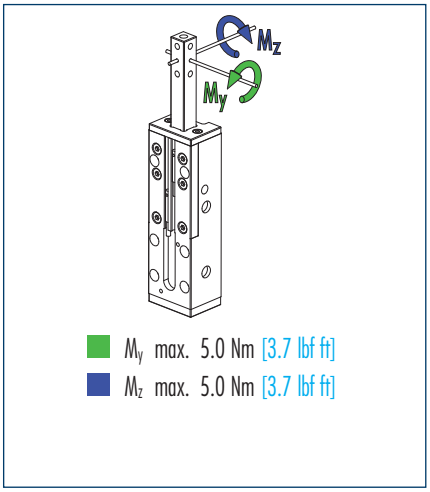
Alternatively, the PED can also be mounted using the groove on the rear and the supplied T-slots.

PED 60

Permitted weight/speed



Finger load

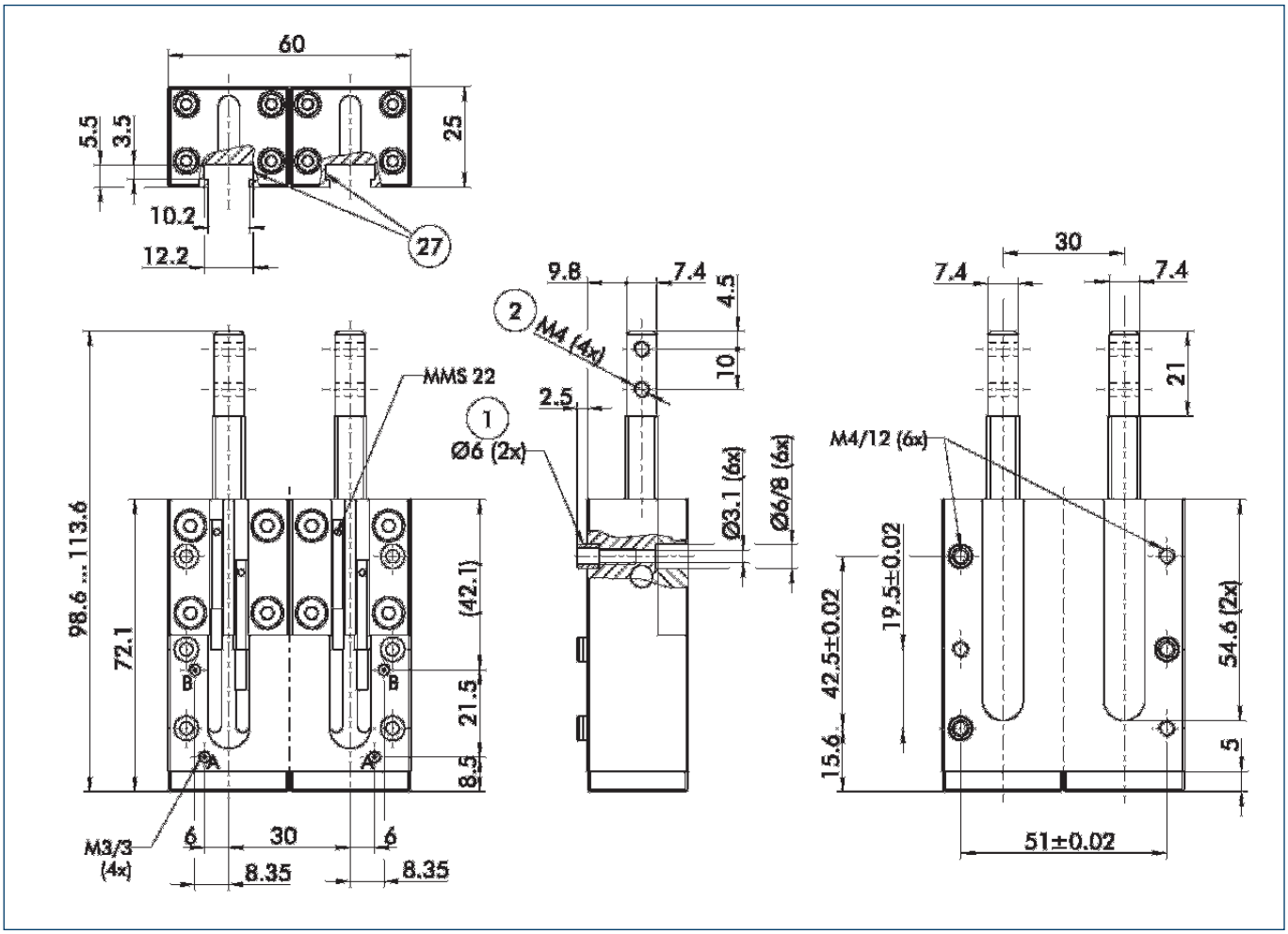


ⓘ Moments apply from the upper edge of the housing and may occur simultaneously. Leverages of forces are measured from the upper edge of the housing.

Technical data

Description		PED 60	PED 60-FS	PED 60-SD	PED 60-FS-SD
	ID	0302654	0302655	0302303	0302304
Max. bending moment	Nm [lbf ft]	5.0 [3.7]	5.0 [3.7]	5.0 [3.7]	5.0 [3.7]
Weight	kg [lbs]	0.34 [0.75]	0.38 [0.84]	0.34 [0.75]	0.38 [0.84]
Stroke	mm [in]	15.0 [0.591]	15.0 [0.591]	15.0 [0.591]	15.0 [0.591]
Advancing force	N [lbf]	83.0 [18.7]	93.0 [20.9]	83.0 [18.7]	93.0 [20.9]
Spring lock		No	Yes	No	Yes
Min. spring force	N [lbf]		7.0 [1.6]		7.0 [1.6]
Max. permitted finger weight	kg [lbs]	0.12 [0.26]	0.12 [0.26]	0.12 [0.26]	0.12 [0.26]
Dust protection		No	No	Yes	Yes
IP class		40	40	64	64
Air consumption per double stroke of a finger	cm^3 [in^3]	8.34 [0.51]	8.34 [0.51]	8.34 [0.51]	8.34 [0.51]
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]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
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]

Main views

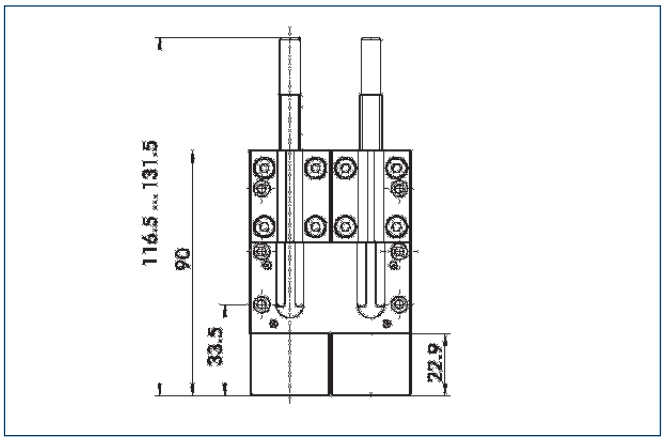


The drawing shows the escapement in the basic version, the dimensions do not include the options described below.

ⓘ As an alternative to the spring-loaded positioning lock, the SDV-P pressure maintenance valve can be used (see "Accessories" catalog section).

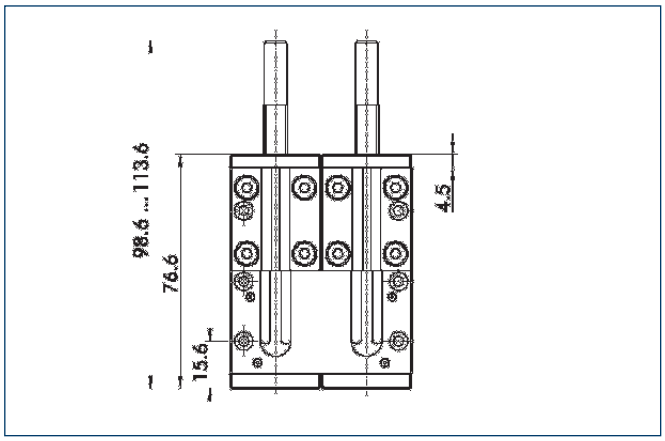
A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts

FS spring lock



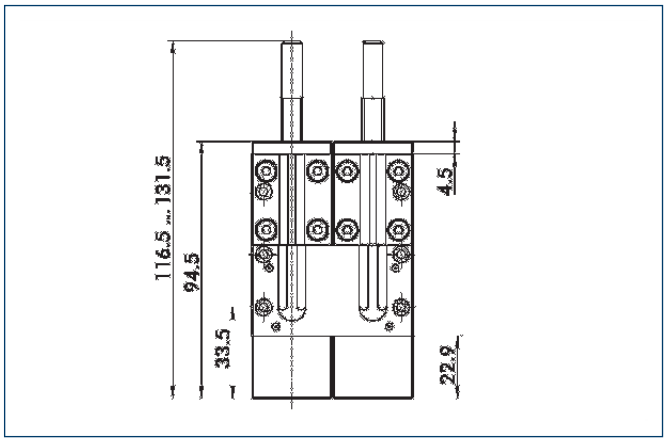
The spring lock ensures that the escapement does not return, thereby releasing the parts, if there is a drop in pressure.

Dust-protection version



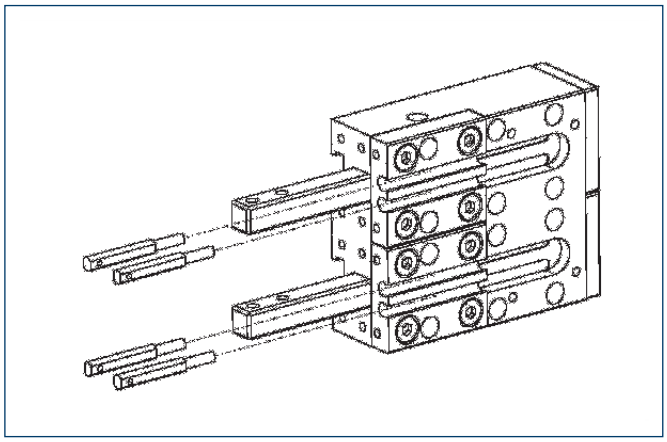
With its additional cover panel, the dust-protection version increases tightness from IP40 to IP64.

Spring lock and dust protection



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	

ⓘ Four sensors (NO contacts) are required for each double escapement, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

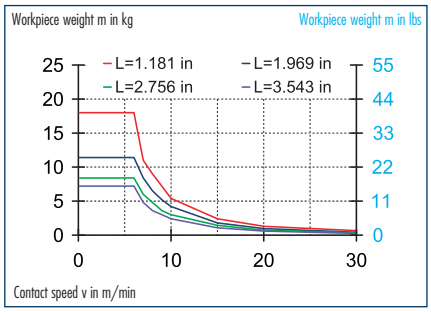
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

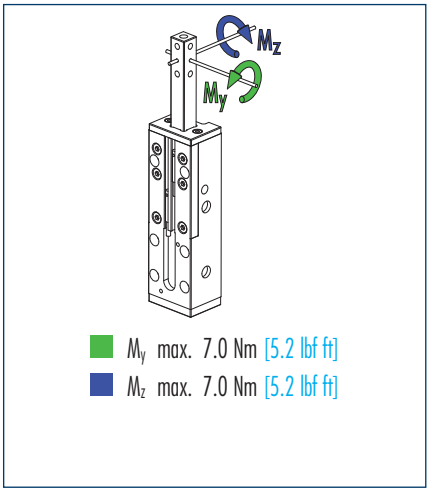
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PED 76

Permitted weight/speed



Finger load

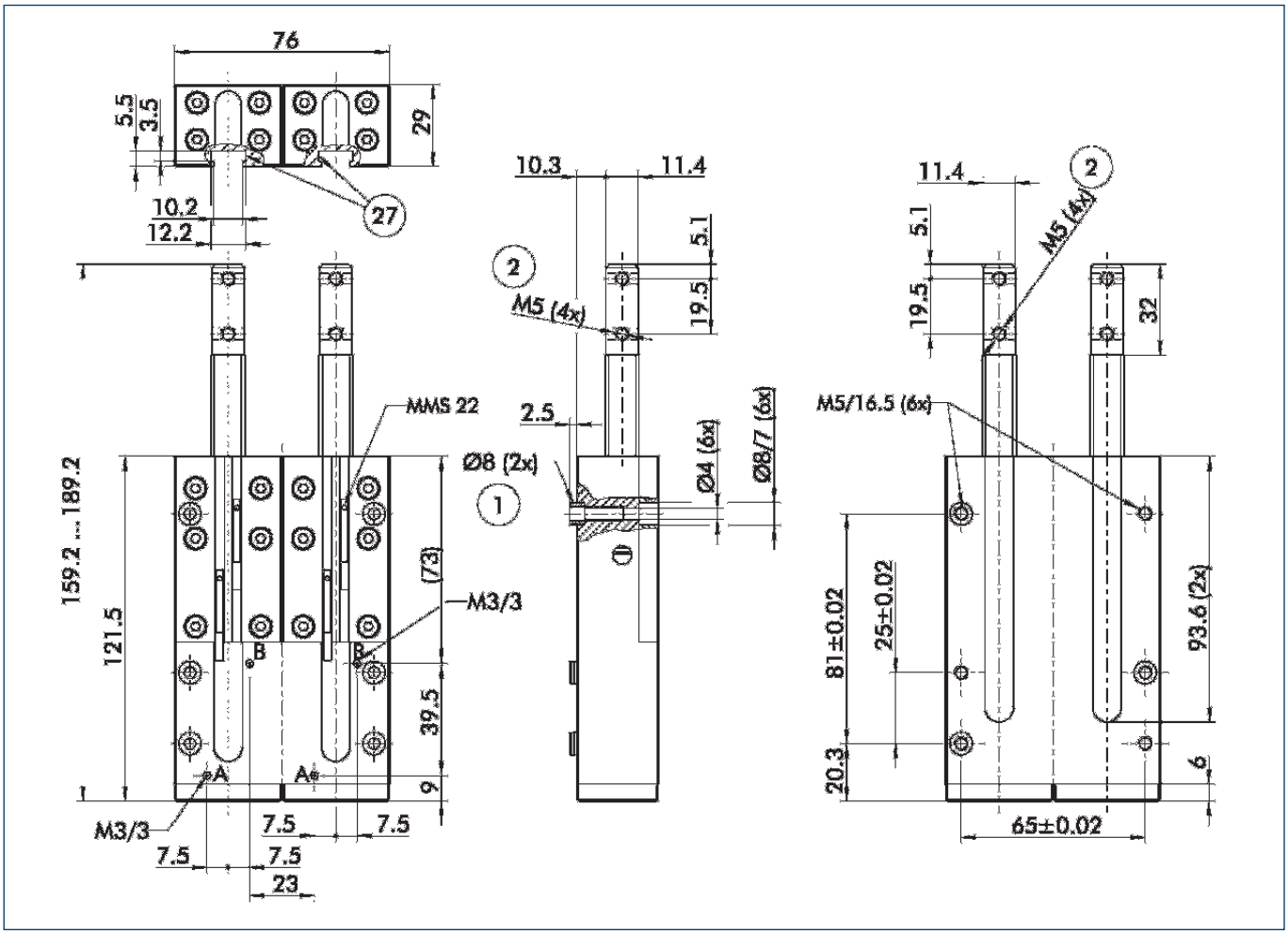


ⓘ Moments apply from the upper edge of the housing and may occur simultaneously. Leverages of forces are measured from the upper edge of the housing.

Technical data

Description		PED 76	PED 76-FS	PED 76-SD	PED 76-FS-SD
	ID	0302662	0302663	0302383	0302384
Max. bending moment	Nm [lbf ft]	7.0 [5.2]	7.0 [5.2]	7.0 [5.2]	7.0 [5.2]
Weight	kg [lbs]	0.86 [1.90]	1.24 [2.73]	0.86 [1.90]	1.24 [2.73]
Stroke	mm [in]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]	30.0 [1.181]
Advancing force	N [lbf]	108.0 [24]	120.0 [27]	108.0 [24]	120.0 [27]
Spring lock		No	Yes	No	Yes
Min. spring force	N [lbf]		9.0 [2.0]		9.0 [2.0]
Max. permitted finger weight	kg [lbs]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]	0.18 [0.40]
Dust protection		No	No	Yes	Yes
IP class		40	40	64	64
Air consumption per double stroke of a finger	cm^3 [in^3]	21.0 [1.28]	21.0 [1.28]	21.0 [1.28]	21.0 [1.28]
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]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
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]

Main views

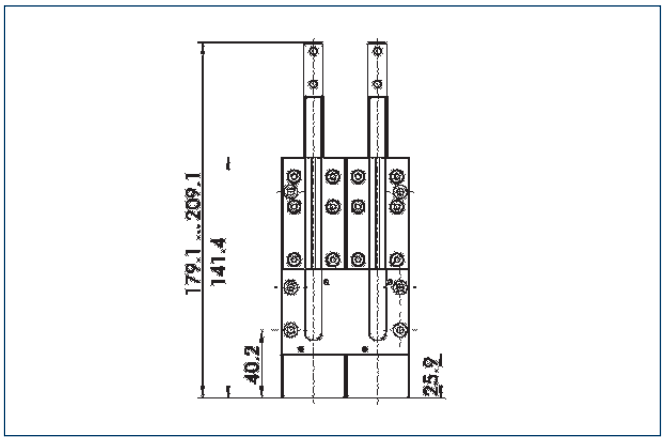


The drawing shows the escapement in the basic version, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

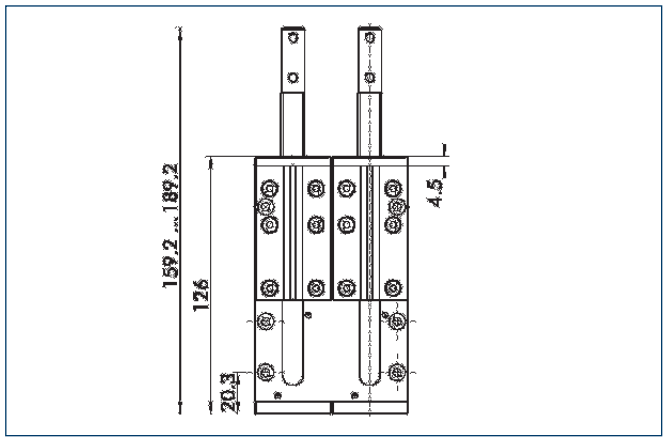
A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts

FS spring lock



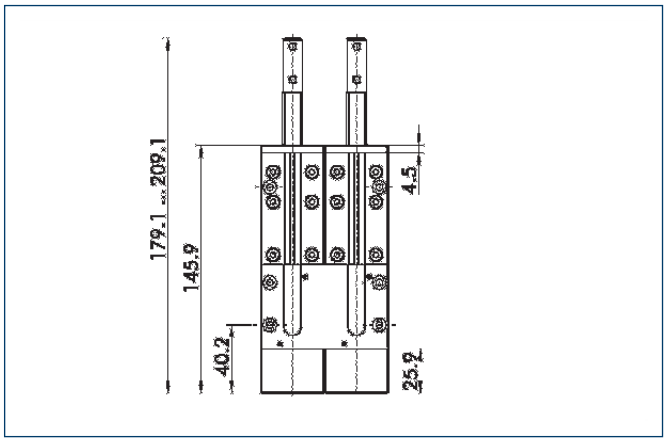
The spring lock ensures that the escapement does not return, thereby releasing the parts, if there is a drop in pressure.

Dust-protection version



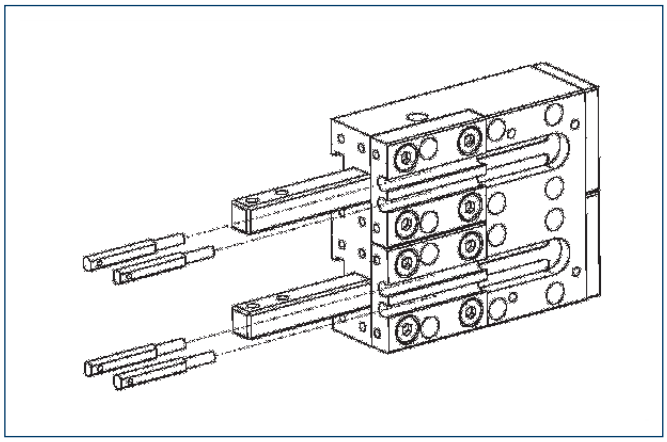
With its additional cover panel, the dust-protection version increases tightness from IP40 to IP64.

Spring lock and dust protection



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	

ⓘ Four sensors (NO contacts) are required for each double escapement, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

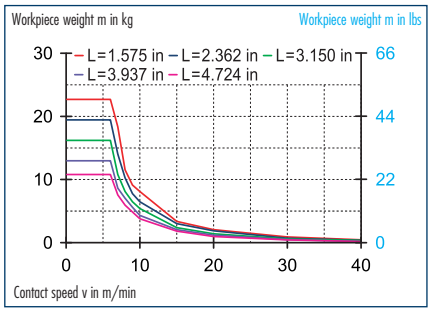
Description	ID
GK 3-M5-PNP/NPN	0301652
GK 3-M8	0301622
KV 10-M8	0301496
KV 20-M8	0301497
W 3-M5-PNP/NPN	0301650
WK 3-M8	0301594
WK 3-M8 NPN	0301602
WK 5-M8	0301502
WK 5-M8 NPN	9641116

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

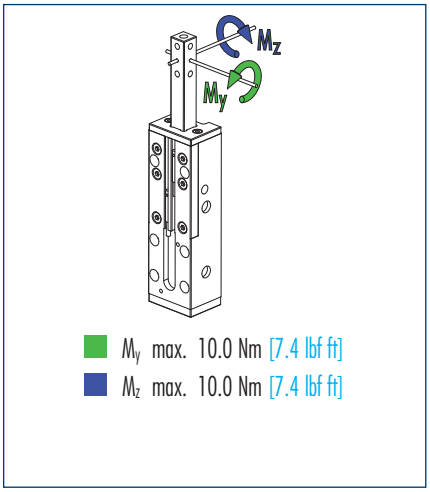
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PED 96

Permitted weight/speed



Finger load

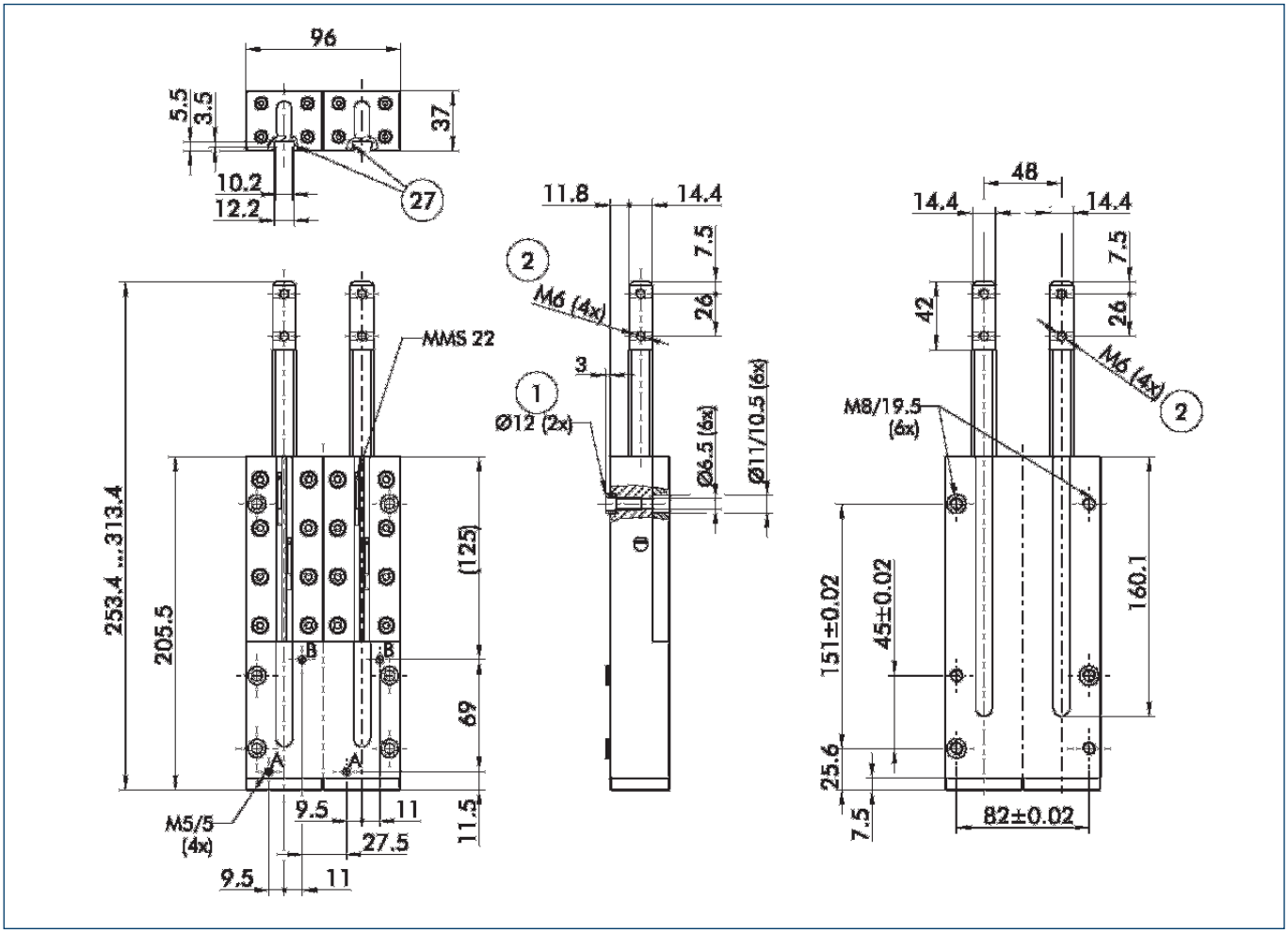


ⓘ Moments apply from the upper edge of the housing and may occur simultaneously. Leverages of forces are measured from the upper edge of the housing.

Technical data

Description		PED 96	PED 96-FS	PED 96-SD	PED 96-FS-SD
	ID	0302670	0302671	0302483	0302484
Max. bending moment	Nm [lbf ft]	10.0 [7.4]	10.0 [7.4]	10.0 [7.4]	10.0 [7.4]
Weight	kg [lbs]	2.28 [5.03]	2.52 [5.56]	2.28 [5.03]	2.52 [5.56]
Stroke	mm [in]	60.0 [2.362]	60.0 [2.362]	60.0 [2.362]	60.0 [2.362]
Advancing force	N [lbf]	244.0 [55]	265.0 [60]	244.0 [55]	265.0 [60]
Spring lock		No	Yes	No	Yes
Min. spring force	N [lbf]		17.0 [3.8]		17.0 [3.8]
Max. permitted finger weight	kg [lbs]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]
Dust protection		No	No	Yes	Yes
IP class		40	40	64	64
Air consumption per double stroke of a finger	cm^3 [in^3]	99.0 [6.04]	99.0 [6.04]	99.0 [6.04]	99.0 [6.04]
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]	2.0 [29]	2.0 [29]
Maximum pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
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]

Main views

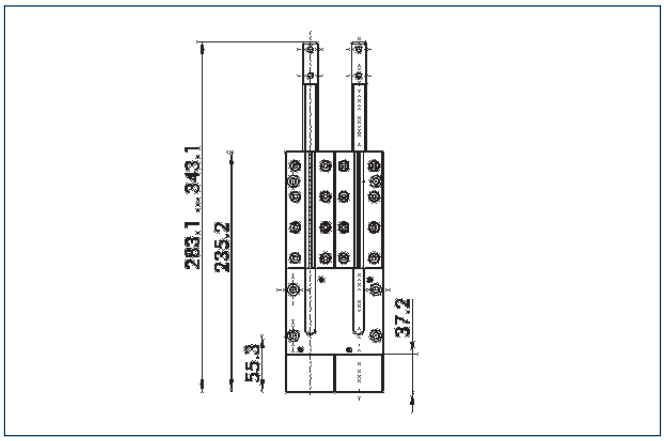


The drawing shows the escapement in the basic version, the dimensions do not include the options described below.

ⓘ As an alternative to the spring-loaded positioning lock, the SDV-P pressure maintenance valve can be used (see "Accessories" catalog section).

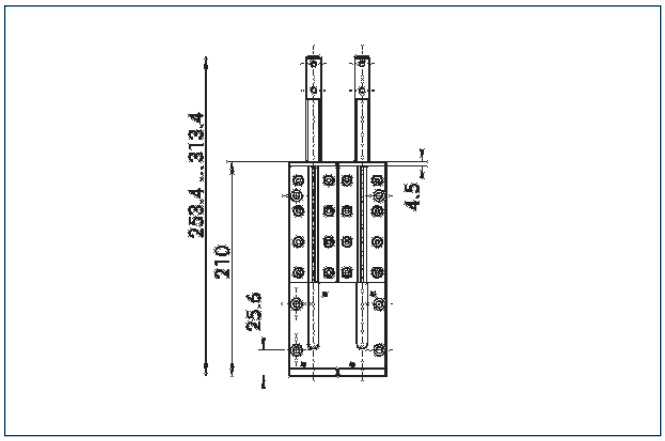
A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Connection of the unit
㉗ Fastening groove for T-nuts

FS spring lock



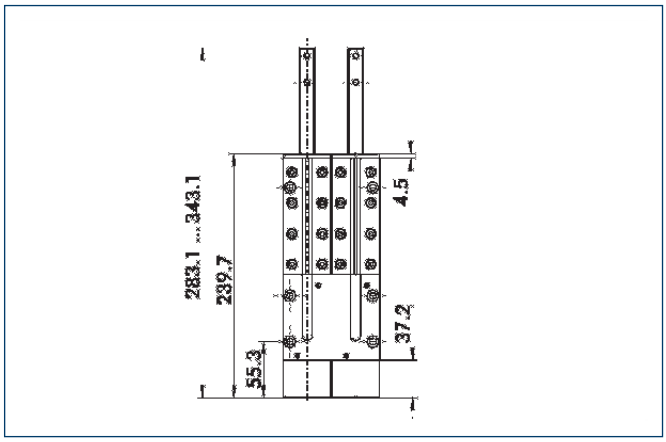
The spring lock ensures that the escapement does not return, thereby releasing the parts, if there is a drop in pressure.

Dust-protection version



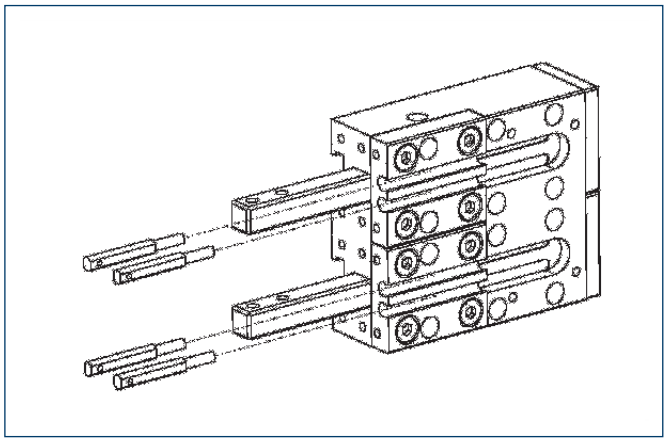
With its additional cover panel, the dust-protection version increases tightness from IP40 to IP64.

Spring lock and dust protection



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	

ⓘ Four sensors (NO contacts) are required for each double escapement, 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
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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.