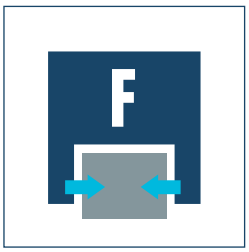
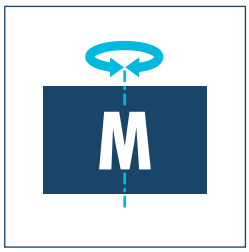
Pneumatic Modular Gripping System

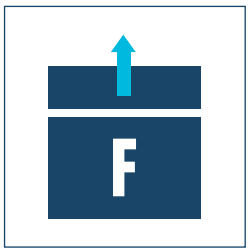
MODULAR GRIPPING SYSTEM



Gripping force
100 N

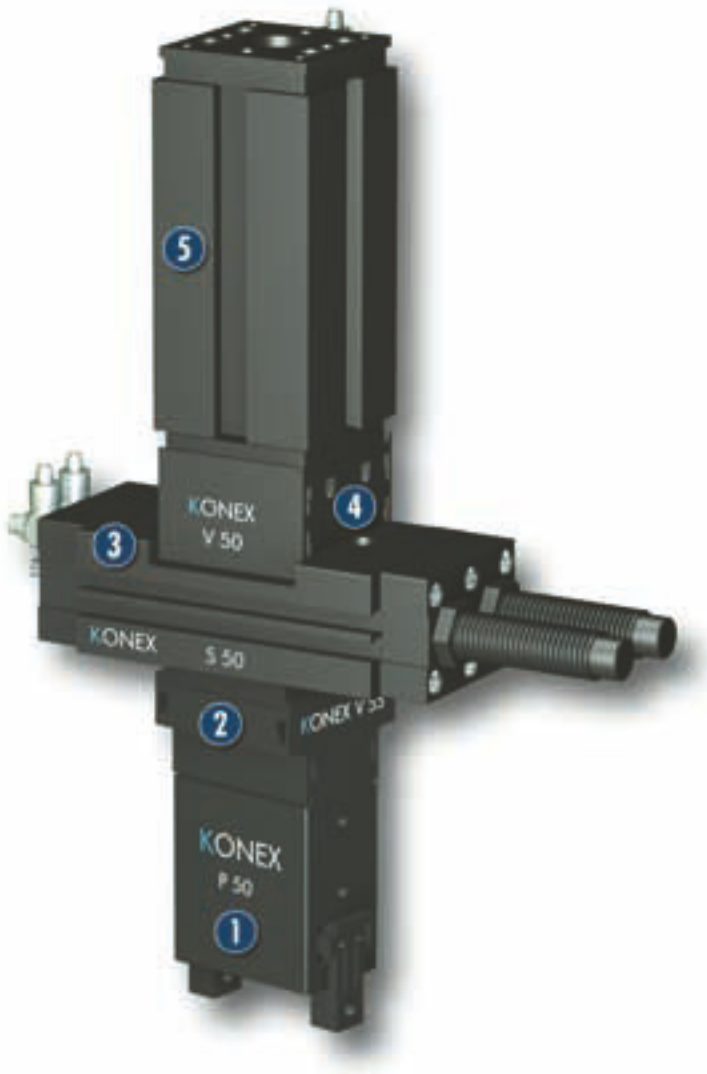


Torque
0.9 Nm



Piston force (extended)
250 N

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

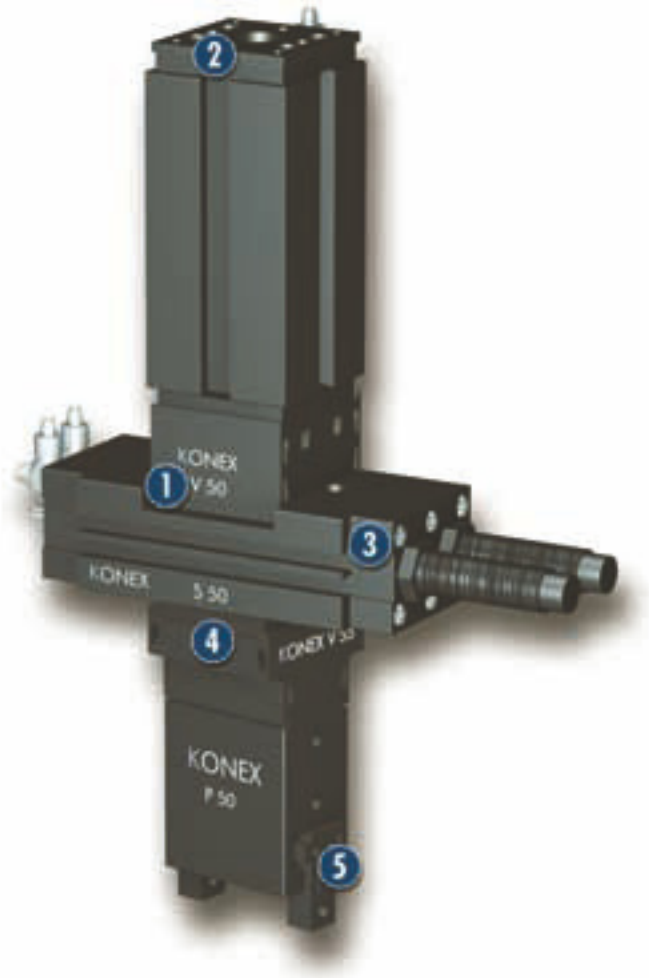
Working principle
Pneumatic piston drive, with transmission to a pinion in the case of the rotary unit

Housing material
High-performance polymer

Actuation
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Requirements on quality of the compressed air according to DIN ISO 8573-1: 6 4 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.

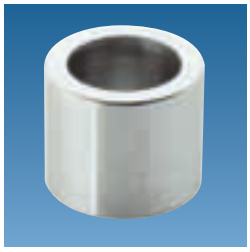
Options and special information

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

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves

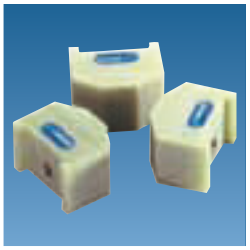


Fittings

MMS magnetic switches

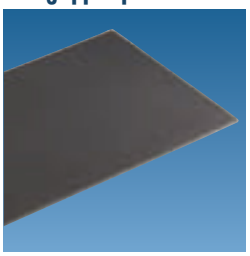
IN inductive proximity switches

Quentes plastic inserts

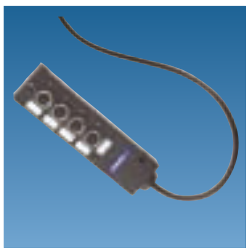


KV/KA sensor cables

HKI gripper pads

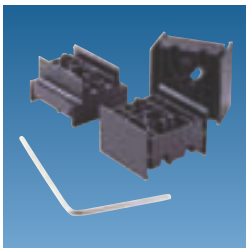


V sensor distributors



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 will 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

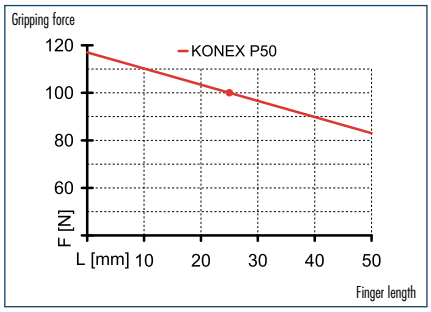
The linear unit is connected to the rotary unit via the V 50 connector. The gripper can be secured to the linear unit or rotary unit via the V 55 connector.

Closing and opening times

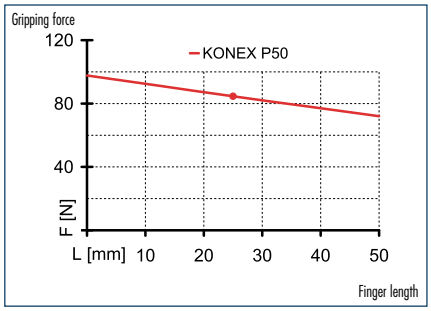
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

KONEX P 50

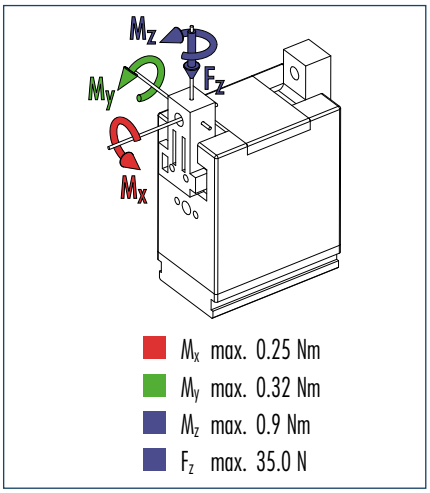
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

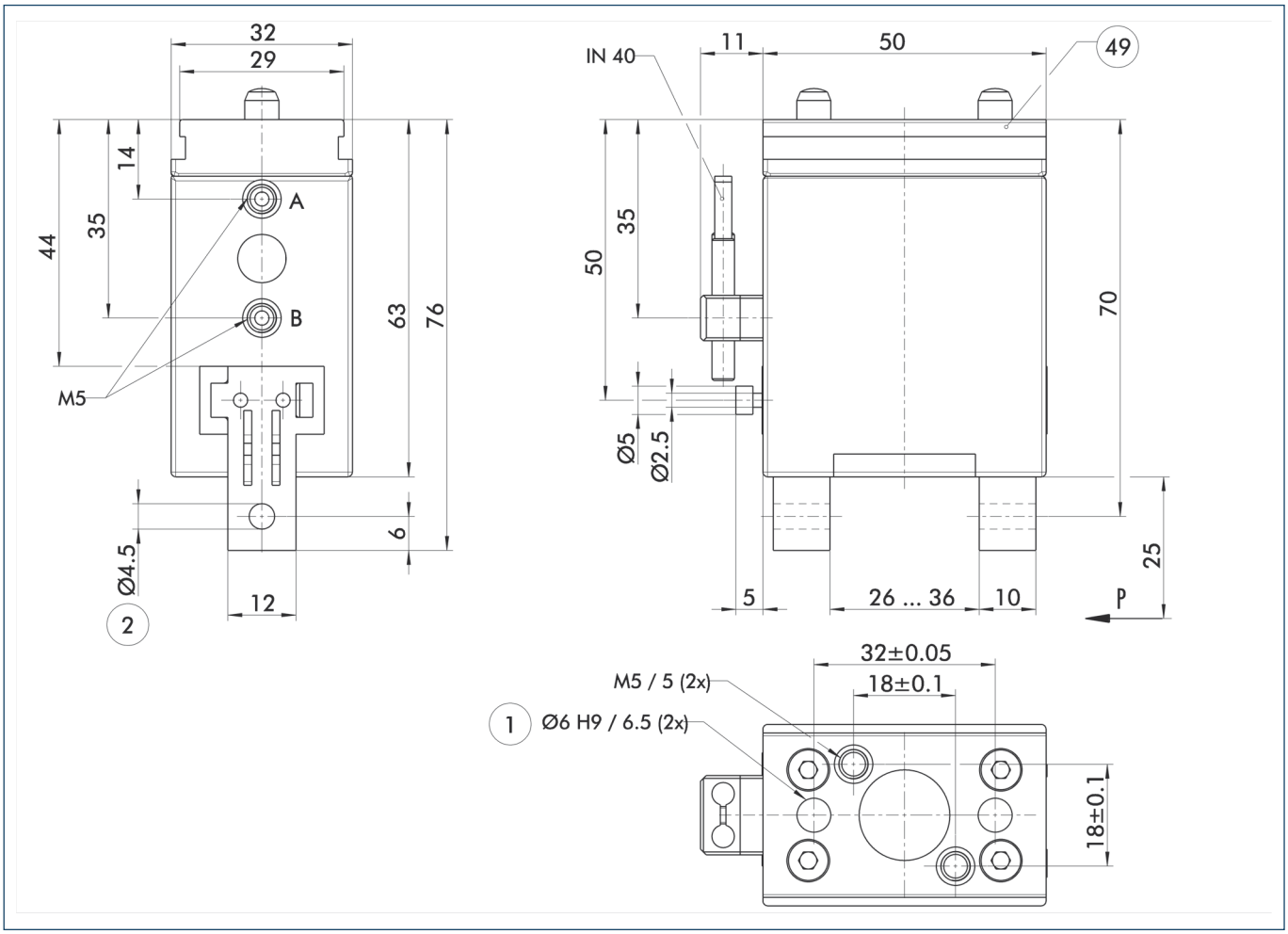


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		Konex P 50
ID		0305550
Stroke per finger	[mm]	5.0
Closing force	[N]	85.0
Opening force	[N]	100.0
Weight	[kg]	0.15
Recommended workpiece weight	[kg]	0.2
Air consumption per double stroke	[cm^3]	5.2
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	2.5
Maximum pressure	[bar]	6.5
Closing time	[s]	0.03
Opening time	[s]	0.025
Max. permitted finger length	[mm]	50.0
Max. permitted weight per finger	[kg]	0.05
IP class		30
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy	[mm]	0.05

Main view

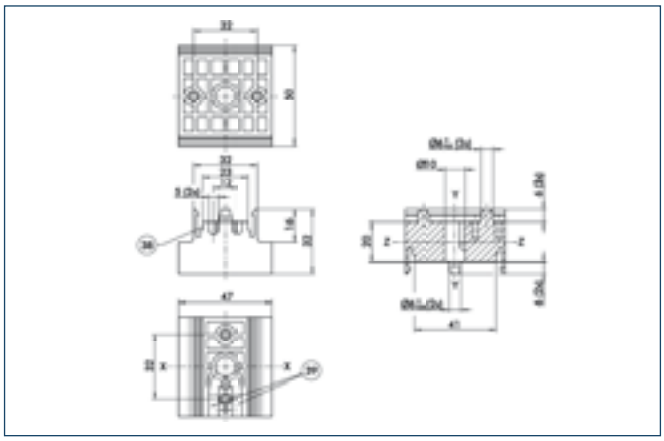


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

ⓘ 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

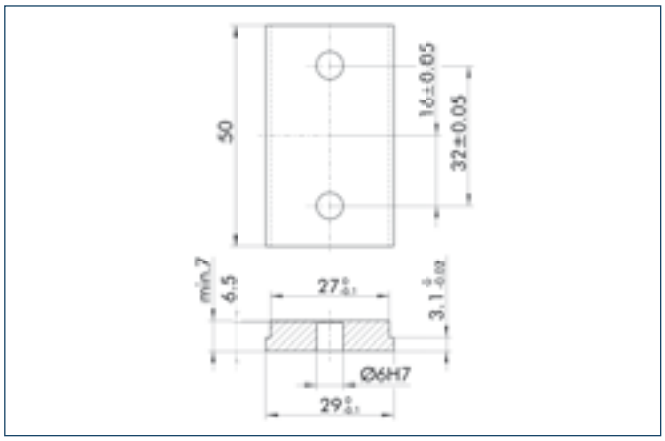
KONEX V 55 connecting element



㊳ Slot for disassembly tool
㊴ Slot for air hose Ø4

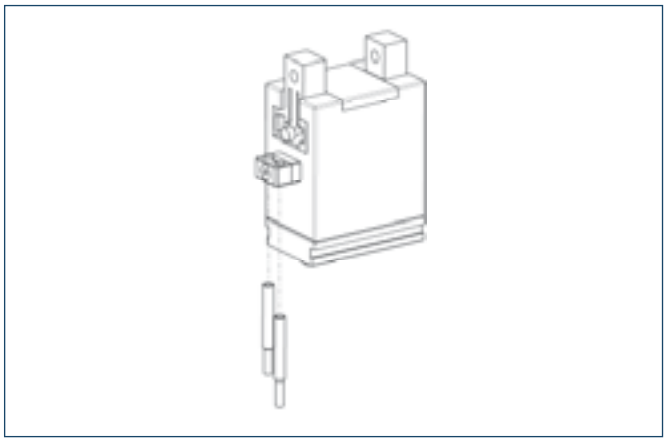
Connecting element between gripper and linear unit or rotary unit

Adapter plate



For fastening 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-M5-NPN	0301492	
IN 40-S-M5-PNP	0301491	
IN 40-S-M8	0301474	•
INK 40-S	0301555	

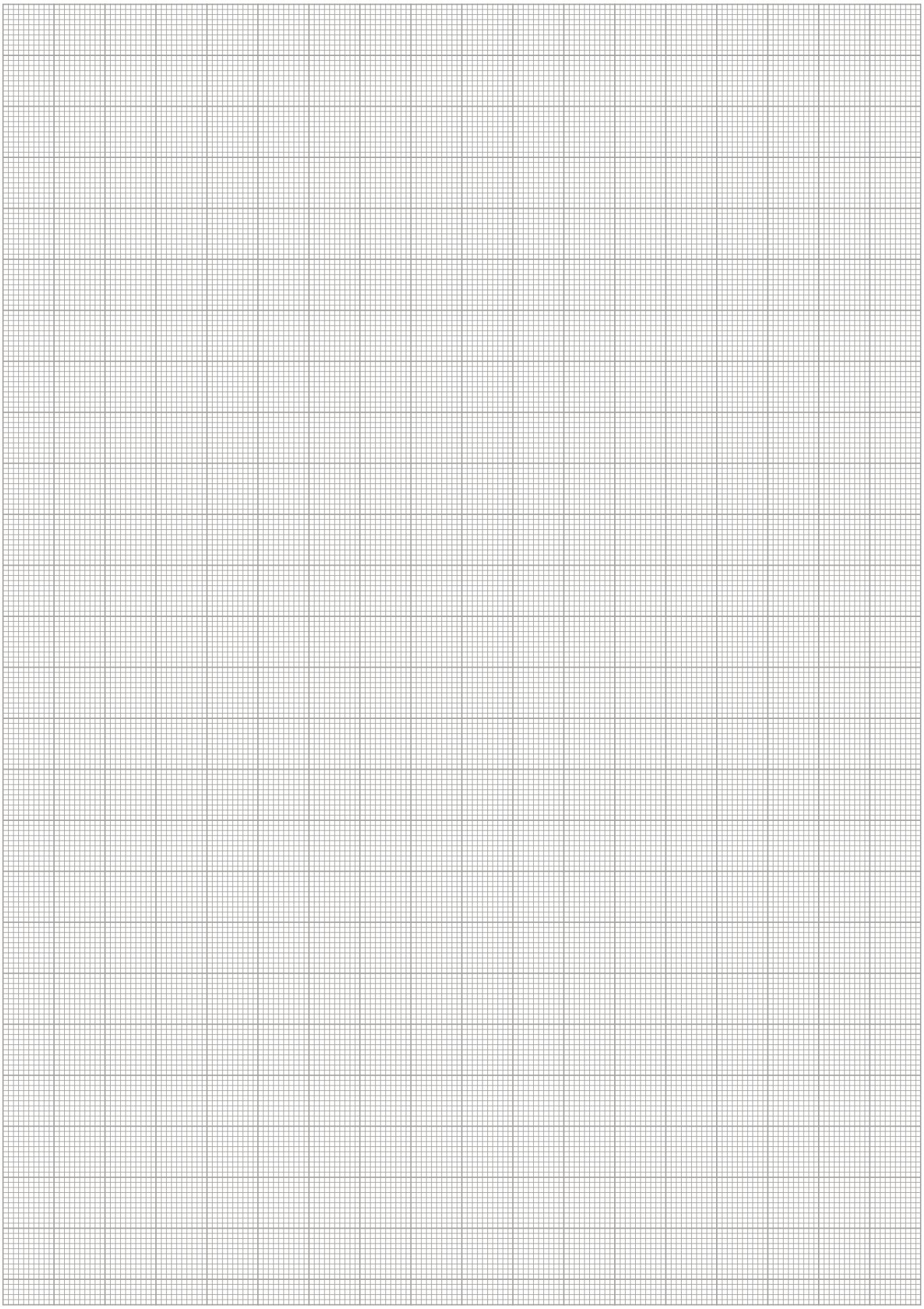
ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/magnetic switches

Description	ID
KA BG05-L 3P-0300	0301652
KA BG08-L 3P-0300-PNP	0301622
KA BW05-L 3P-0300	0301650
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KA BW12-L 3P-0300-PNP	0301503
KA BW12-L 3P-0500-PNP	0301507
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

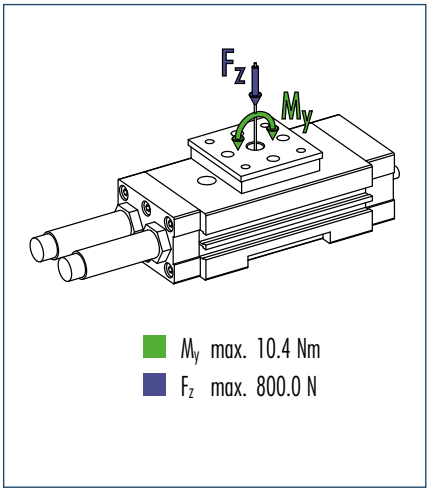
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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



KONEX S 50

Pinion load

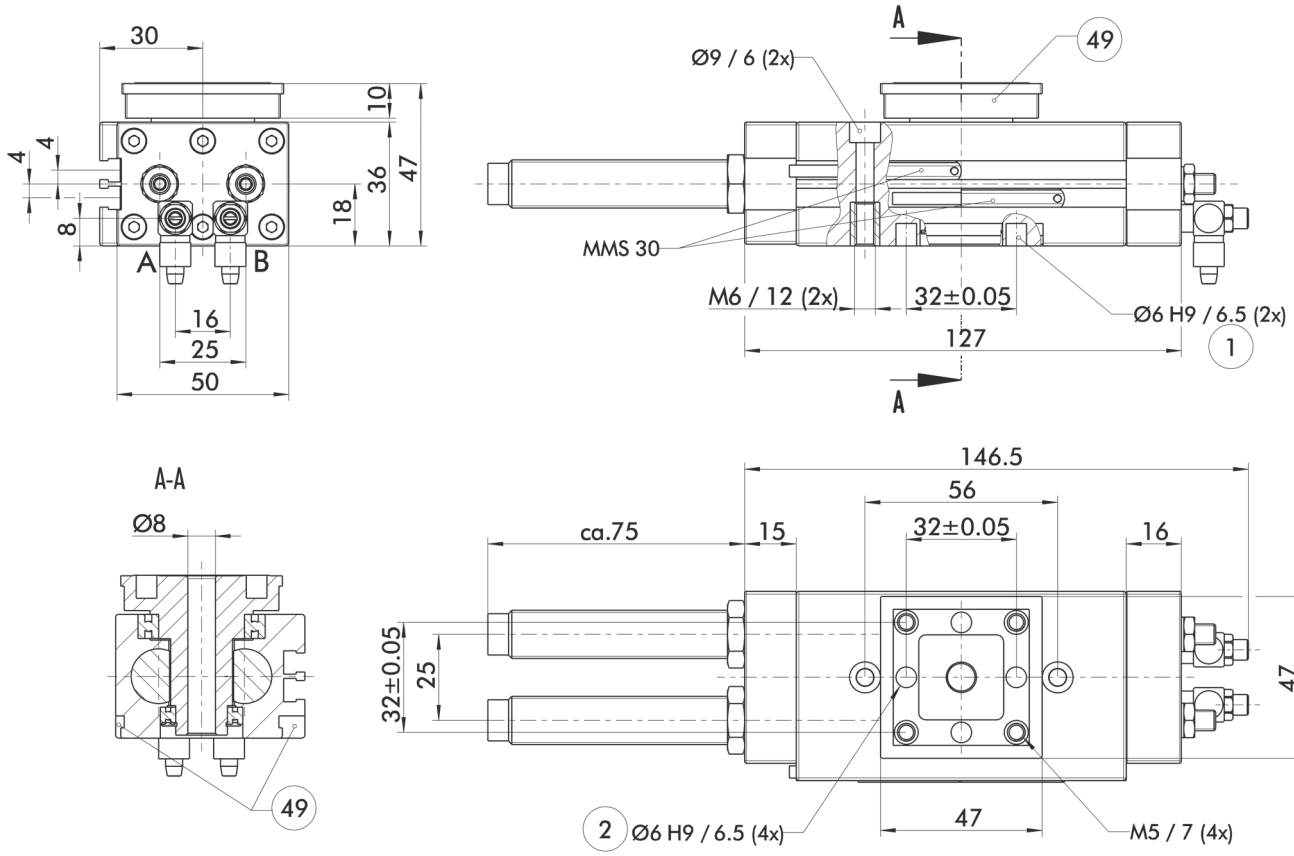


ⓘ The moment and force acting on the pinion may occur simultaneously.

Technical data

Description		Konex S 50
ID		0305450
Torque	[Nm]	0.9
Rotating angle	[°]	180.0
End Position Adjustability	[°]	2.0
Weight	[kg]	0.53
IP class		40
Max. permitted axial bearing load	[N]	800.0
Max. permitted radial bearing load	[Nm]	10.4
Cycle time (1x nominal angle of rotation) without attached load	[s]	0.35
Air consumption per cycle	[cm^3]	10.5
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	60.0
Nominal operating pressure	[bar]	6.0
Min. required operating pressure	[bar]	2.0
Max. permitted operating pressure	[bar]	6.5
Repeat accuracy	[°]	0.2

Main view

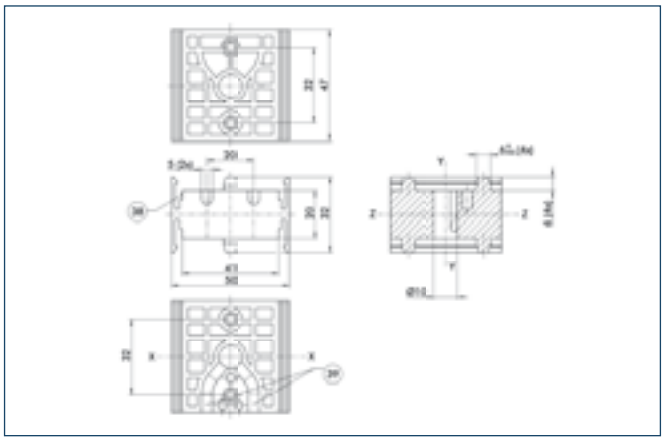


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

ⓘ 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 Attachment connection
㊾ Undercut for snap-on connection

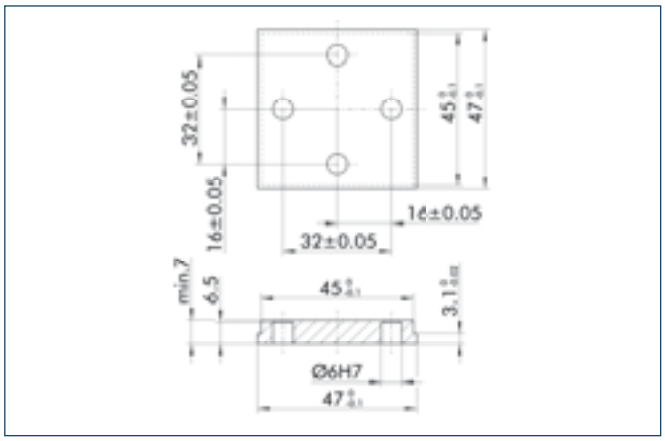
KONEX V 50 connecting element



㊳ Slot for disassembly tool
㊴ Slot for air hose Ø4

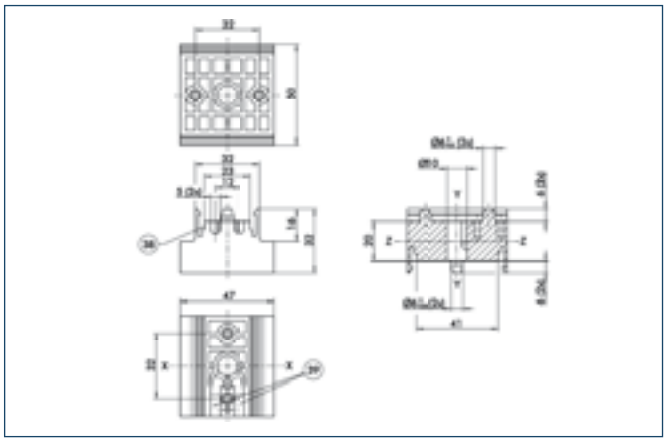
Connecting element between linear unit and rotary unit

Adapter plate



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

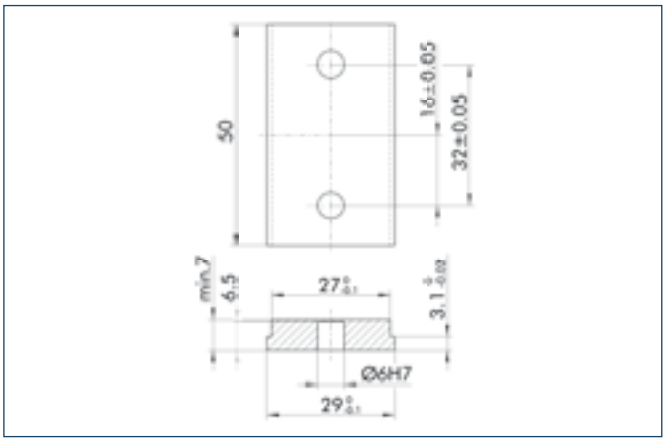
KONEX V 55 connecting element



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

Connecting element between gripper and linear unit or rotary unit

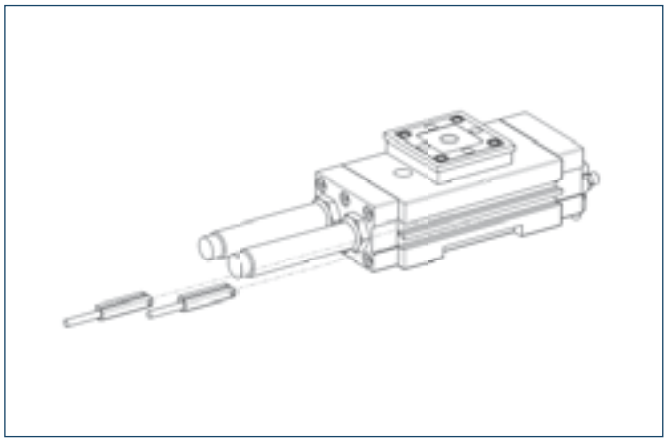
Adapter plate



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 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

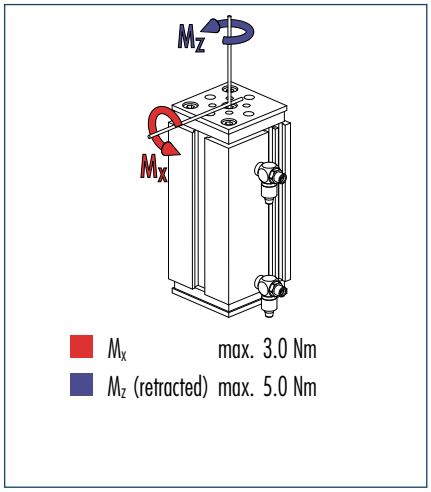
Description	ID
KA BG08-L 3P-0300-PNP	0301622
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

ⓘ 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

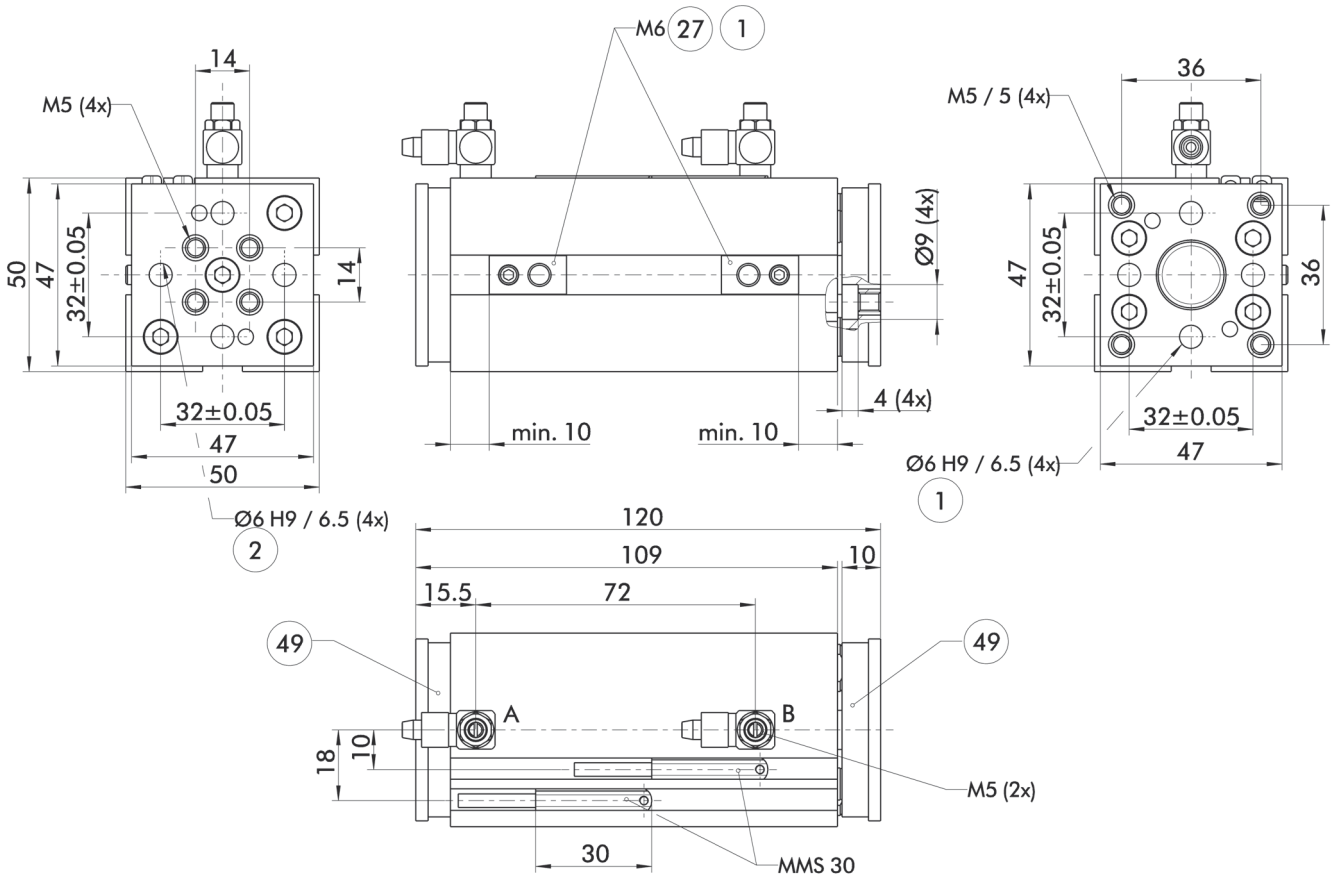


ⓘ The loading forces and moments may occur simultaneously.

Technical data

Description		Konex H 50
ID		**0305350**
Extension force	[N]	250.0
Retraction force	[N]	180.0
Stroke	[mm]	60.0
Weight	[kg]	0.45
Max. permitted torsional moment (extended)	[Nm]	2.0
Air consumption per double stroke	[cm³]	54.0
Nominal operating pressure	[bar]	6.0
Max. permitted operating pressure	[bar]	6.5
Stroke time (extended)	[s]	0.07
IP class		42
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy	[mm]	0.2

Main view

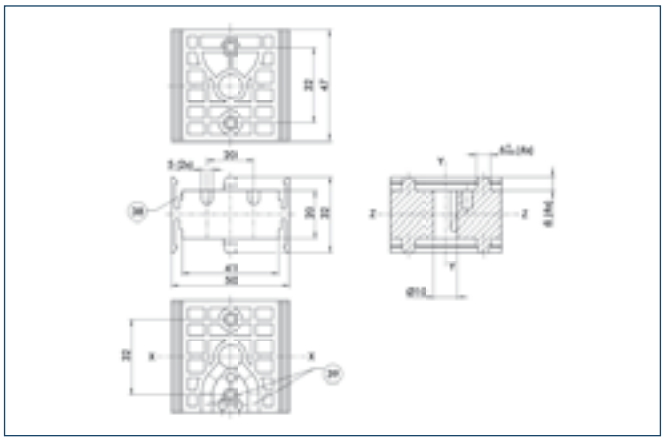


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

ⓘ 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 advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Attachment connection
㉗ Fastening groove for T-nuts
㊾ Undercut for snap-on connection

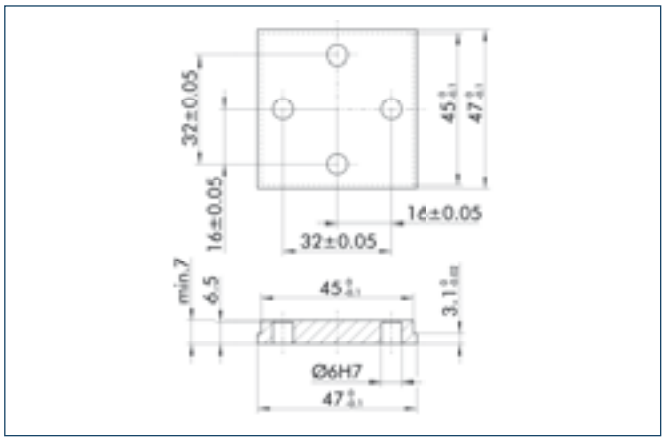
KONEX V 50 connecting element



㊳ Slot for disassembly tool
㊴ Slot for air hose Ø4

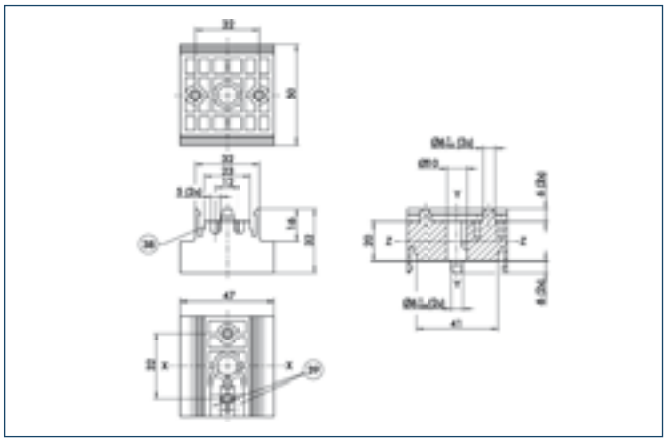
Connecting element between linear unit and rotary unit

Adapter plate



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

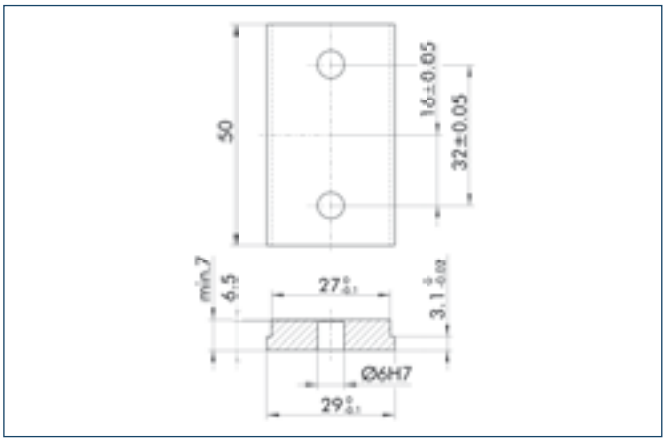
KONEX V 55 connecting element



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

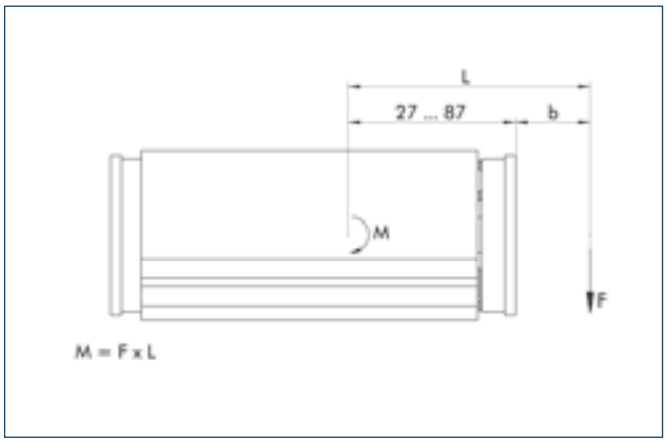
Connecting element between gripper and linear unit or rotary unit

Adapter plate



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

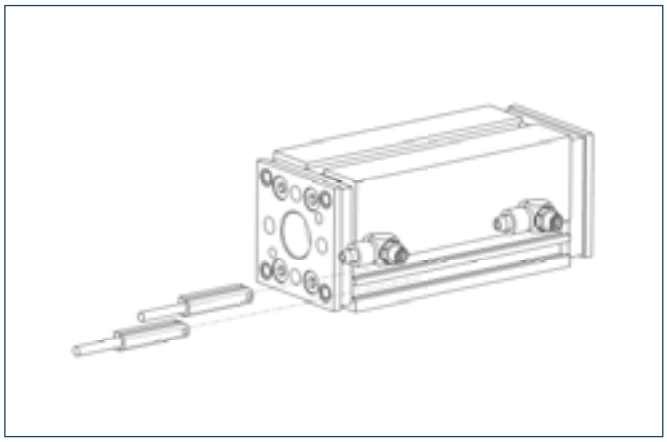
Bending moment



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
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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

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KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

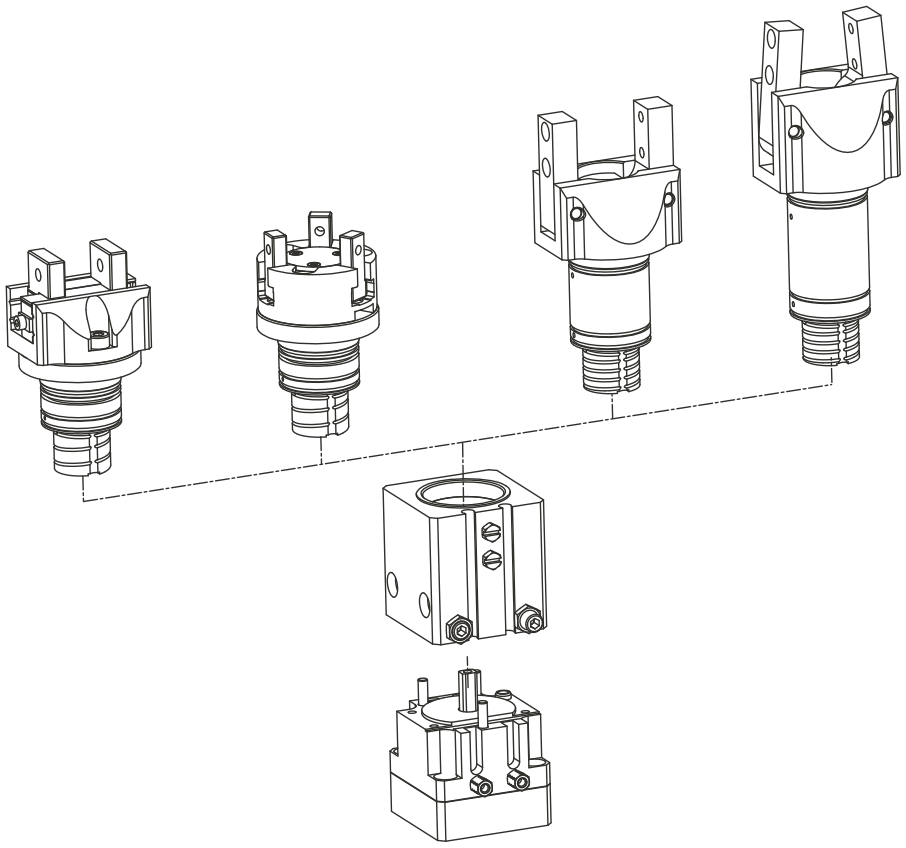
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

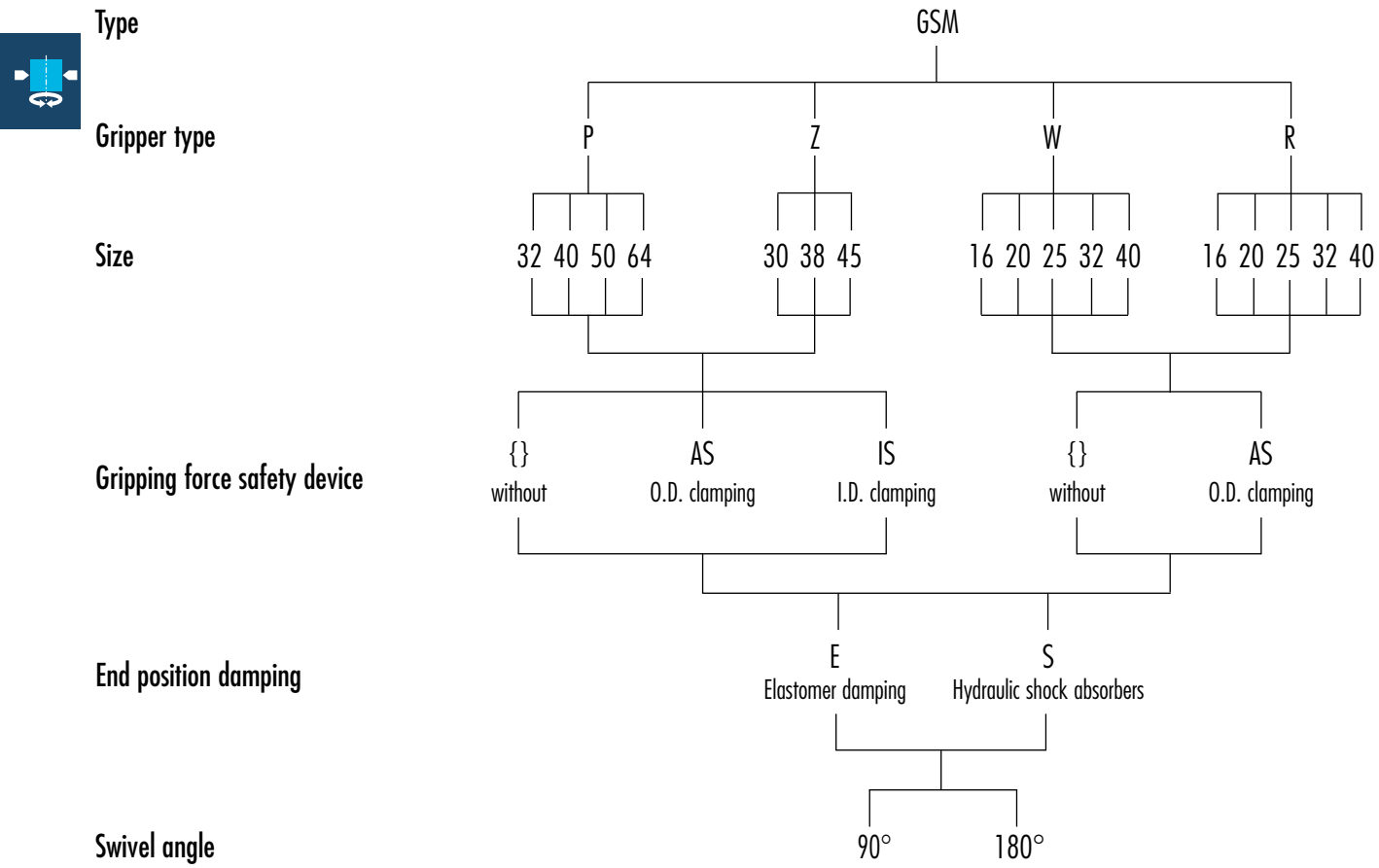
Pneumatic Gripper-Swivel System

GRIPPER-SWIVEL SYSTEM

Modular Design



Versions of the series



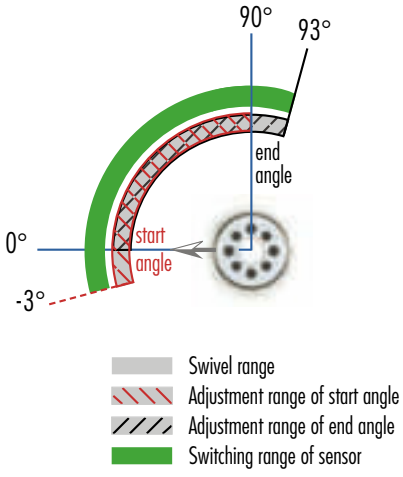
How to order

GSM – P | 20 – AS – E – 090

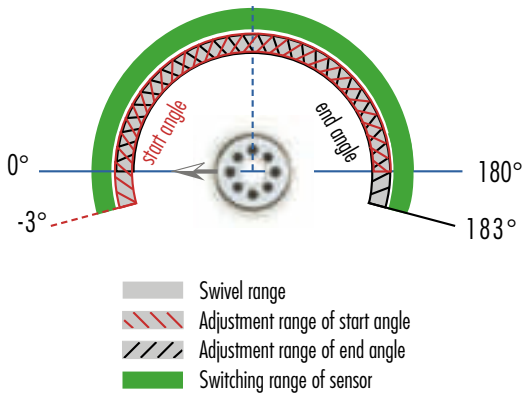
- 090: 90° / 180° — Swivel angle
- E: E = with Elastomer damping; S = with Hydraulic shock absorbers — End position damping
- AS: without / O.D. clamping / I.D. clamping — Gripping force safety device
- 20: 16 / 20 / 25 / 30 / 32 / 38 /40 / 45 / 50 / 64 — Size
- P: P = Parallel gripper; Z = Centric gripper; W = Angular gripper; R = Radial gripper — 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



GSM-P

Pneumatic • Gripper-Swivel System • Parallel Gripper Swivel Module

Sizes
32 ... 64

Weight
0.37 kg ... 1.51 kg

Gripping force
39 N ... 162 N

Stroke per finger
4 mm ... 10 mm

Torque
0.3 Nm ... 2.9 Nm

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 Gripper Swivel Module
2. MLD Linear Motor Drive
3. Support axis without drive
4. Short-stroke Axis with direct drive MLD Stroke with reference switch
5. Linear axis with direct drive MLD 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

Field 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

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

Economical
since adapter plates are not needed, there will be costs for project planning and engineering design

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 guidance with minimum play

Process reliability
as moving cables and hoses are replaced by integrated feed-throughs

Mounting from three sides in three screw directions possible
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

General note to the series

Principle of function
Combined rotor and piston drive

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

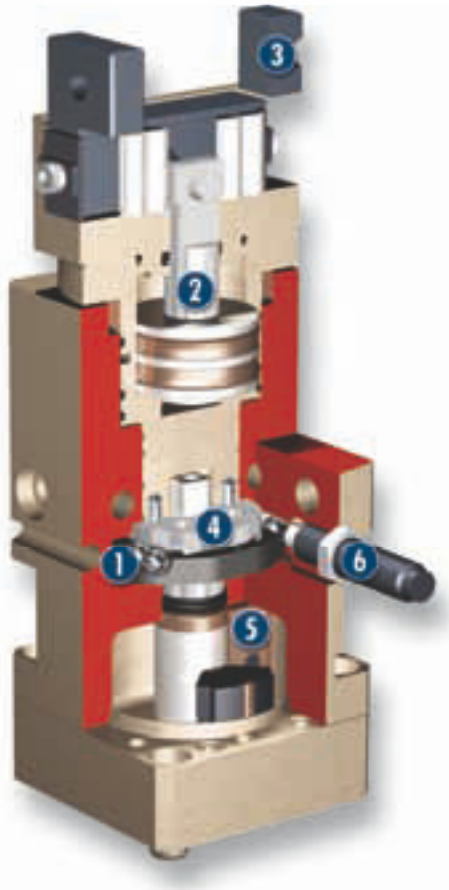
Actuation
pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

Gripping force maintenance device
possible with SDV-P pressure maintenance valve

Sectional diagram



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

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

3 **Base jaw**
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

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

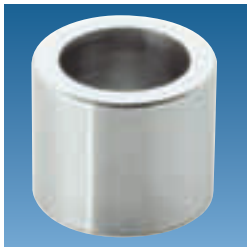
Options and special information

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

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves

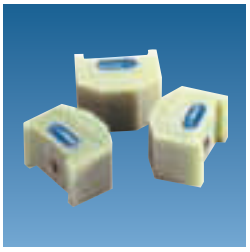


Fittings

Programmable magnetic switch

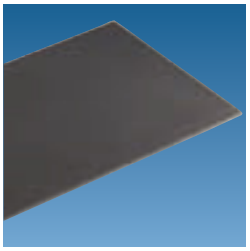
Inductive proximity switches

Plastic inserts



Sensor cables

Gripper pads



Sensor Distributor

Pressure maintenance valve

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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping force

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

Finger length

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

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.

Repeat accuracy

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

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.

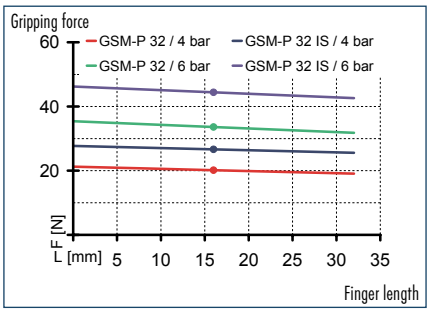
Middle attached load

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

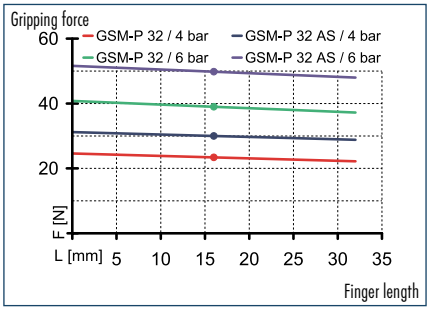
GSM-P 32

Pneumatic • Gripper-Swivel System • Parallel Gripper Swivel Module

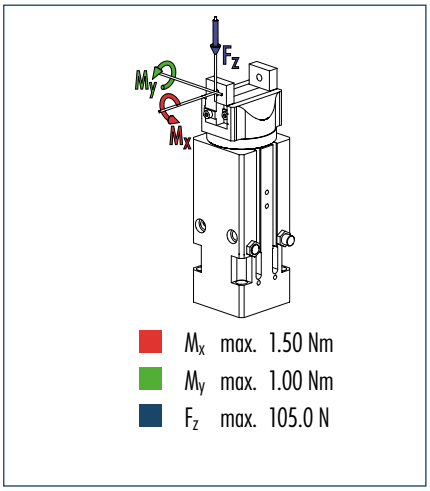
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are static values, 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.

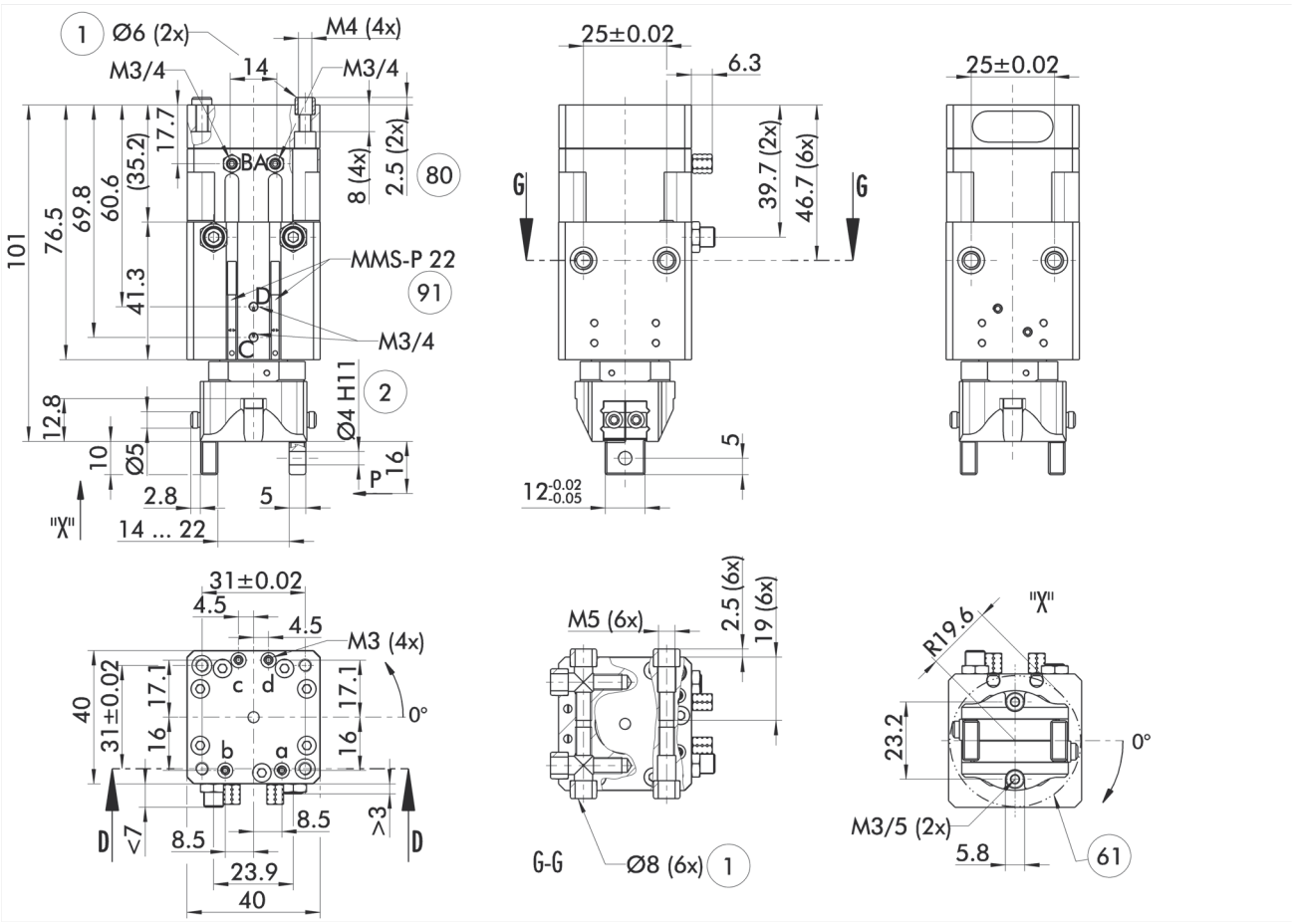
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	4	4	4	4	4	4
Closing/Opening force	[N]	39/33	39/33	51/-	51/-	-/48	-/48
Min. spring force	[N]			12	12	15	15
Torque	[Nm]	0.35	0.35	0.35	0.35	0.35	0.35
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.2	0.2	0.2	0.2	0.2	0.2
Air consumption for gripping	[cm³]	4	4	4	4	4	4
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.37	0.37	0.42	0.42	0.42	0.42
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.04	0.03/0.04	0.04/0.03	0.04/0.03
Swiveling time with middle attached load	[s]	0.06	0.12	0.12	0.12	0.12	0.12
Max. permitted finger length	[mm]	32	32	32	32	32	32
Max. permitted weight per finger	[kg]	0.04	0.04	0.04	0.04	0.04	0.04
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.18	0.18	0.18	0.18	0.18	0.18

Main view



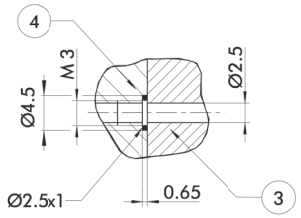
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

(1) Gripper connection
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

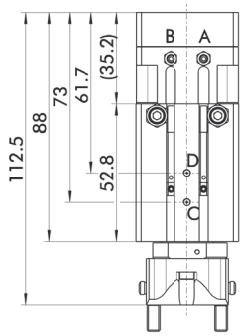
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

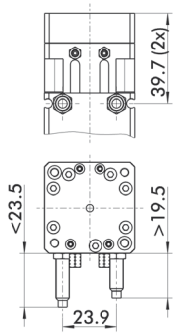
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



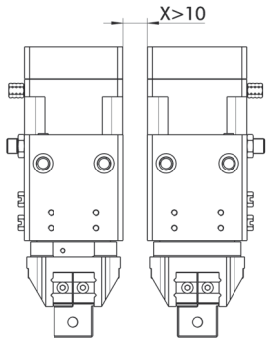
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



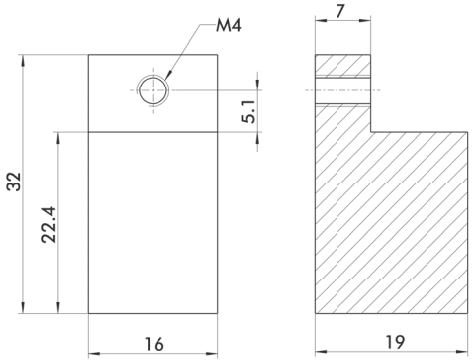
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

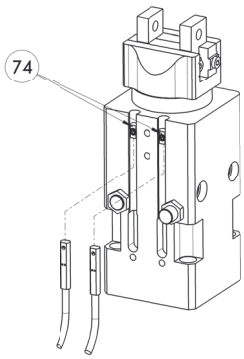
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 32	**0340212**	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

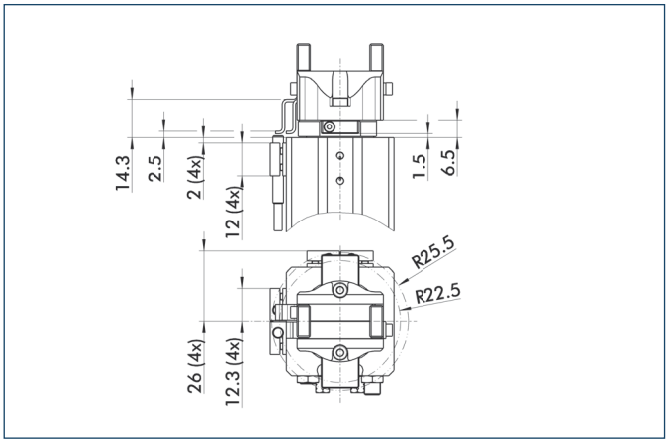
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°

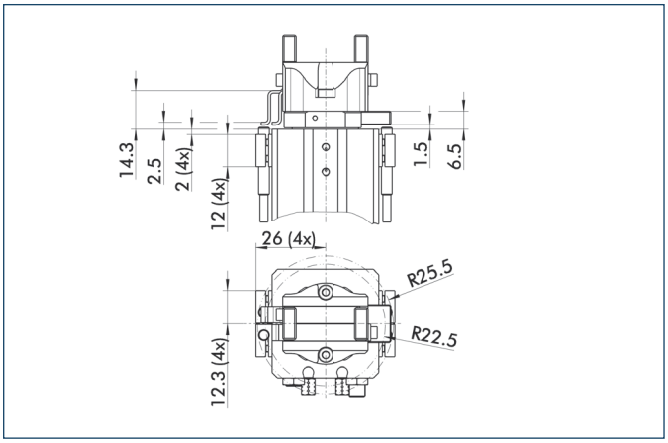


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 32	**0304934**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

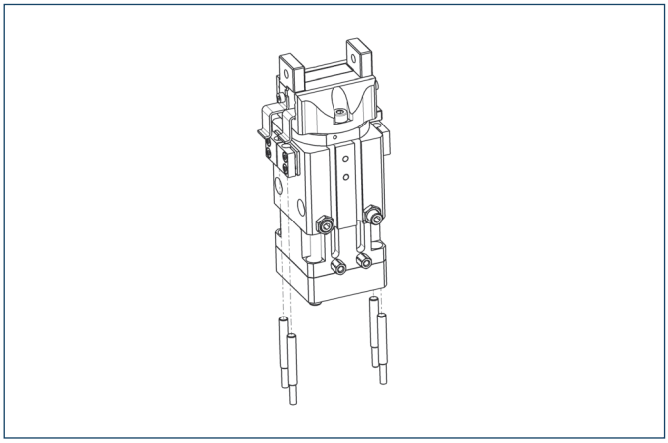


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 32	**0304934**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 32	**0304934**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

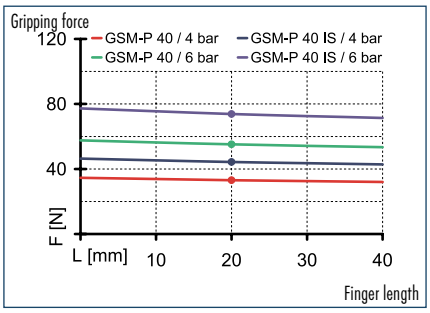
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

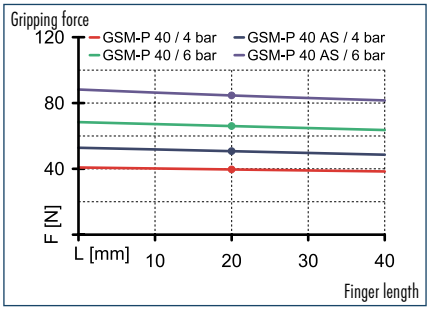
GSM-P 40

Pneumatic • Gripper-Swivel System • Parallel Gripper Swivel Module

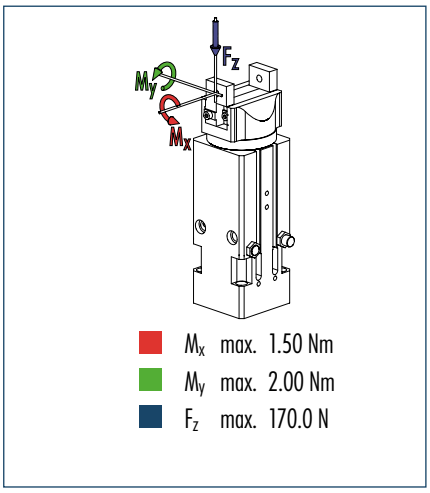
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are static values, 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.

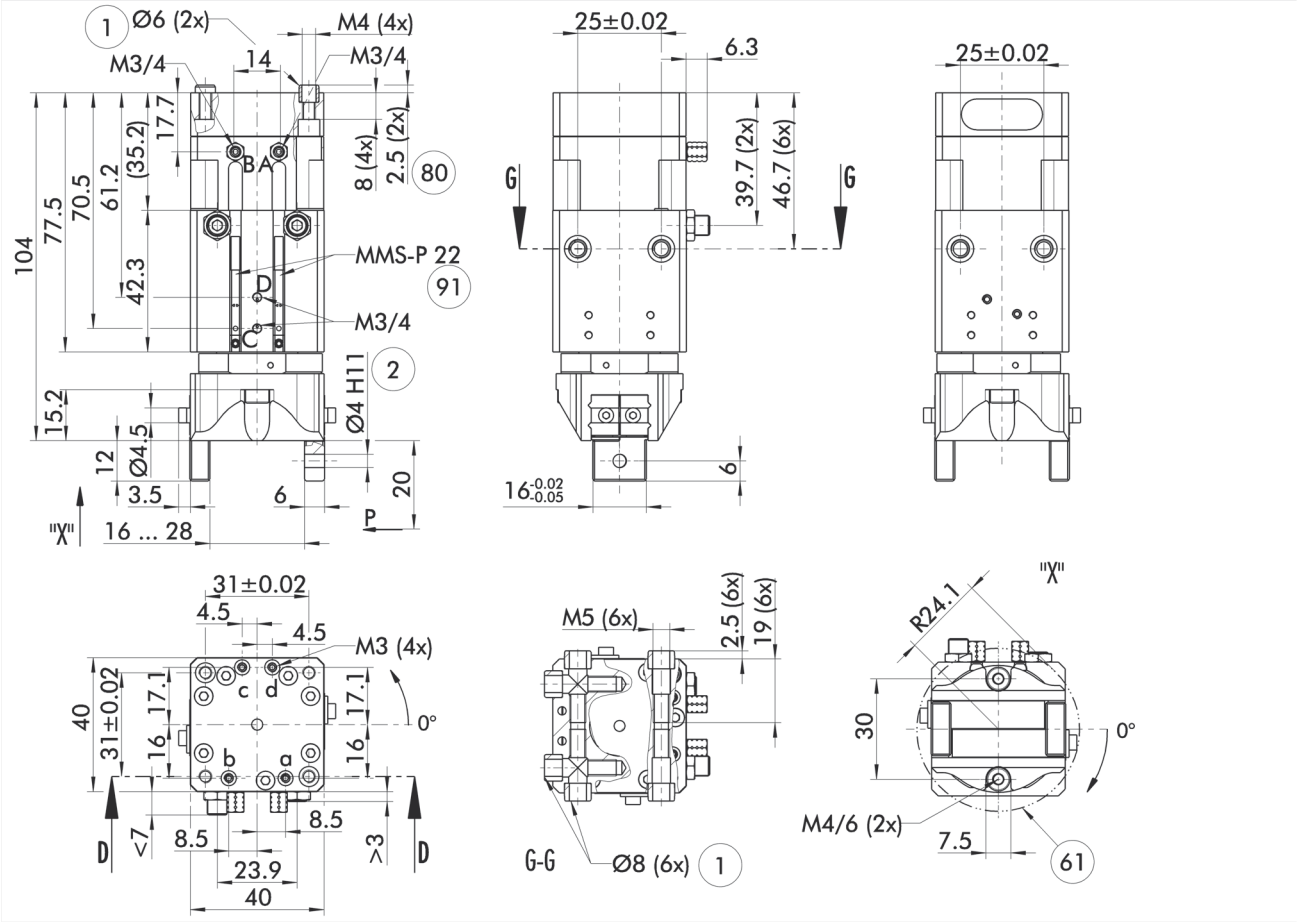
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	6	6	6	6	6	6
Closing/Opening force	[N]	66/54	66/54	87/-	87/-	-/69	-/69
Min. spring force	[N]			21	21	15	15
Torque	[Nm]	0.3	0.3	0.3	0.3	0.3	0.3
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.33	0.33	0.33	0.33	0.33	0.33
Air consumption for gripping	[cm³]	5.97	5.97	5.97	5.97	5.97	5.97
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.43	0.43	0.5	0.5	0.5	0.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	4	4	4	4	4	4
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	40	40	40	40	40	40
Max. permitted weight per finger	[kg]	0.08	0.08	0.08	0.08	0.08	0.08
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.22	0.22	0.22	0.22	0.22	0.22

Main view



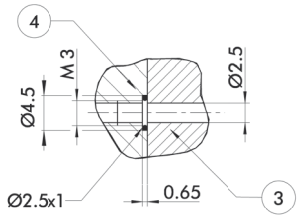
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

(1) Gripper connection
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

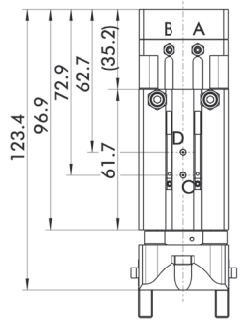
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

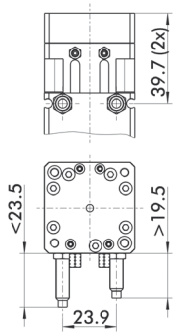
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



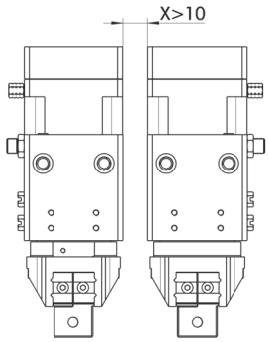
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



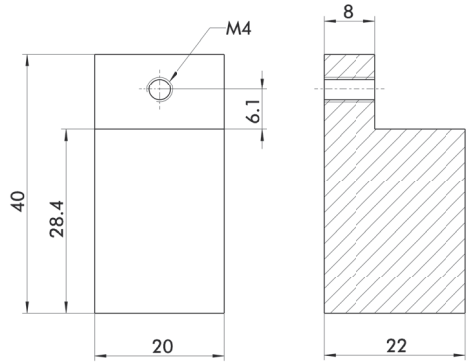
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

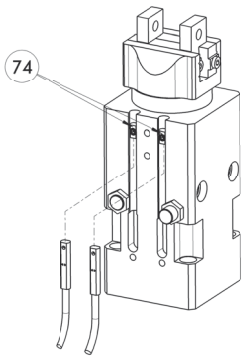
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 40	**0340213**	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

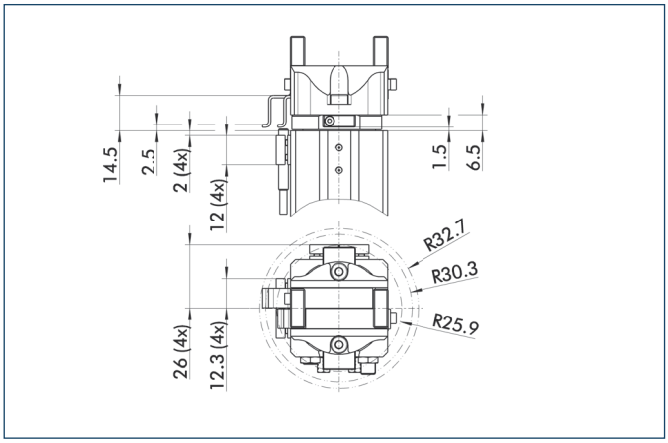
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°

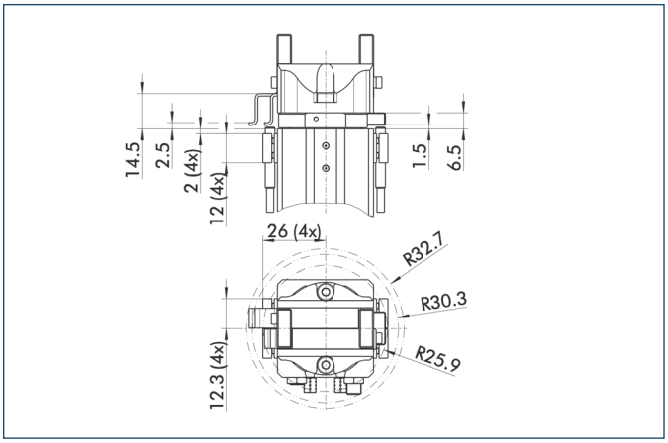


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 40	**0304935**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

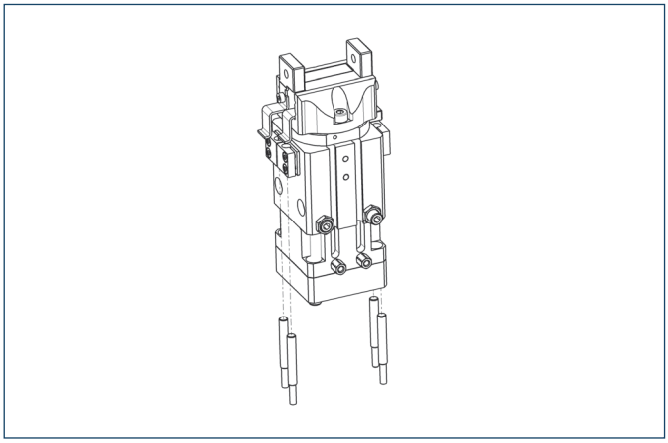


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 40	**0304935**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 40	**0304935**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

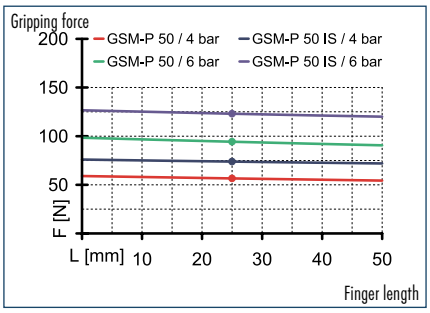
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

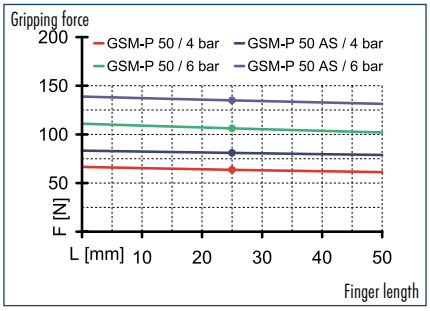
GSM-P 50

Pneumatic • Gripper-Swivel System • Parallel Gripper Swivel Module

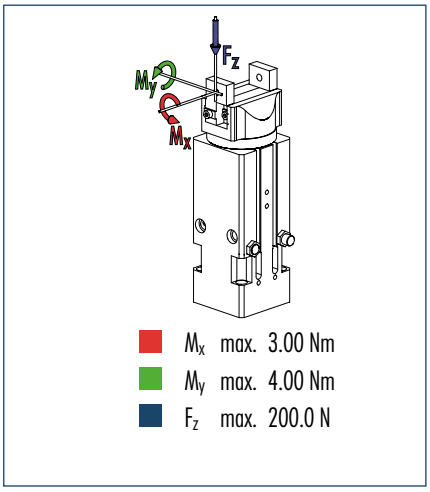
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are static values, 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.

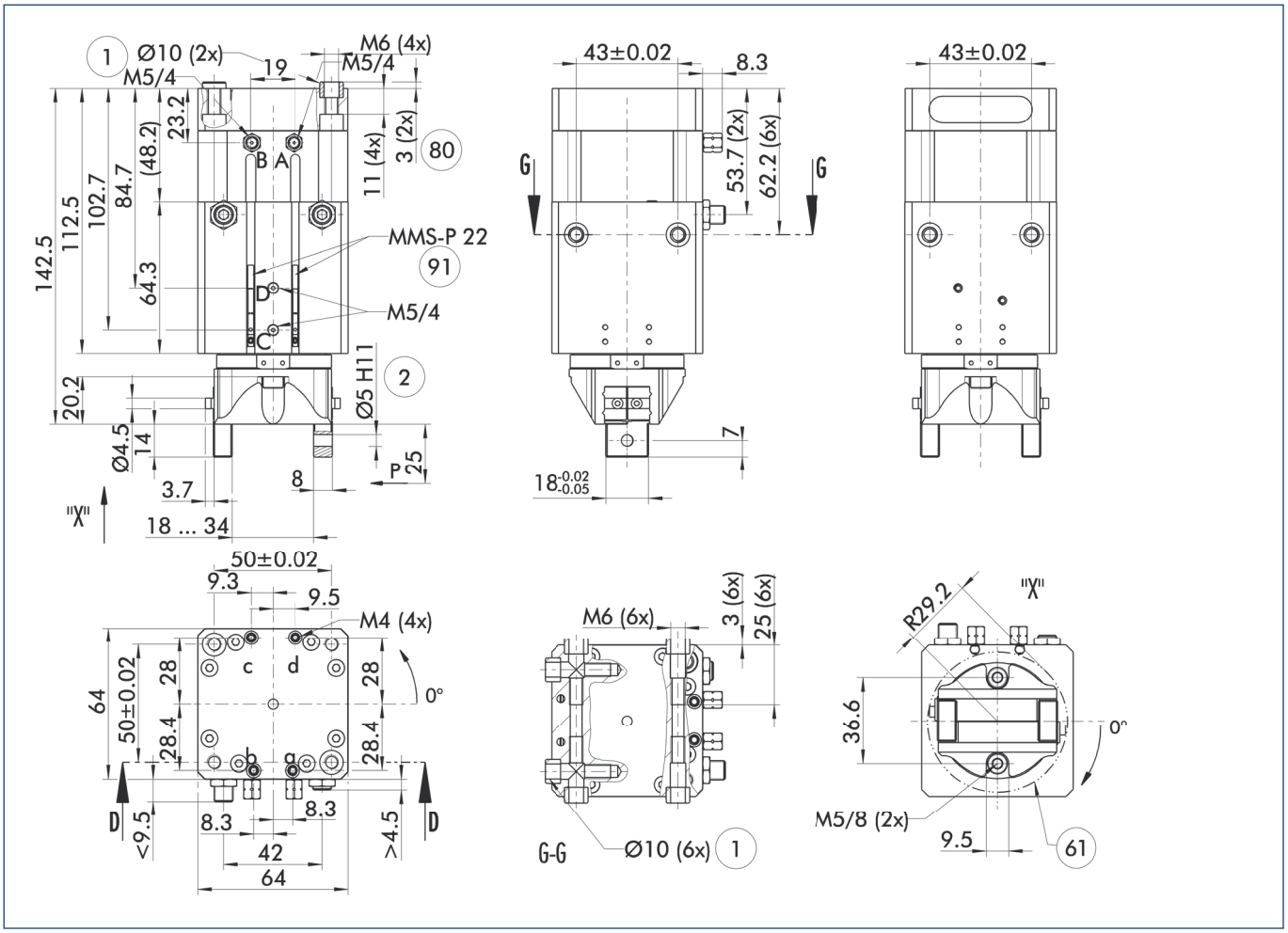
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	8	8	8	8	8	8
Closing/Opening force	[N]	105/93	105/93	135/-	135/-	-/114	-/114
Min. spring force	[N]			30	30	21	21
Torque	[Nm]	2.9	2.9	2.9	2.9	2.9	2.9
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.52	0.52	0.52	0.52	0.52	0.52
Air consumption for gripping	[cm³]	10.84	10.84	10.84	10.84	10.84	10.84
Air consumption for swiveling	[cm³]	51	51	51	51	51	51
Weight	[kg]	1.19	1.19	1.19	1.19	1.2	1.2
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	50	50	50	50	50	50
Max. permitted weight per finger	[kg]	0.14	0.14	0.14	0.14	0.14	0.14
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24	0.24	0.24

Main view



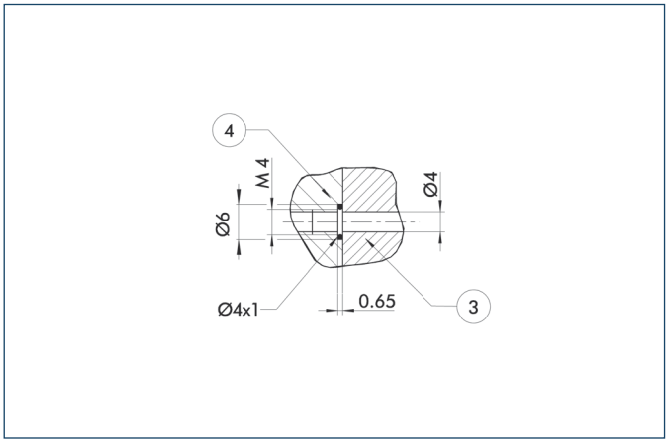
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

(1) Gripper connection
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

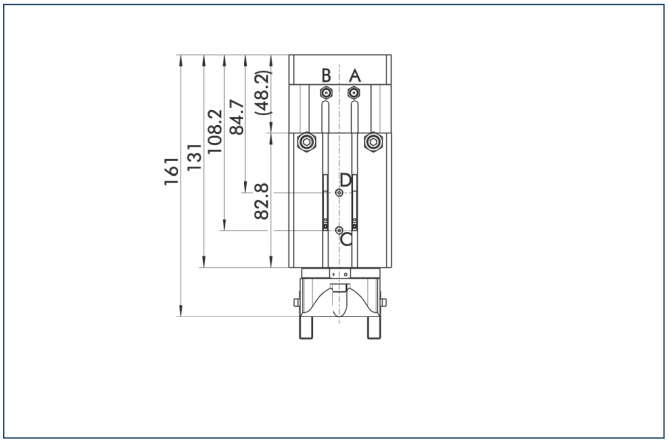
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

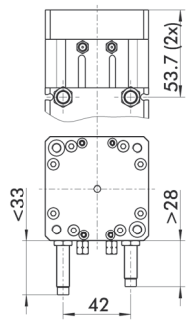
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



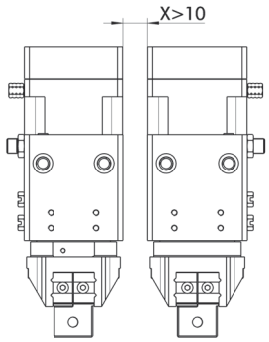
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



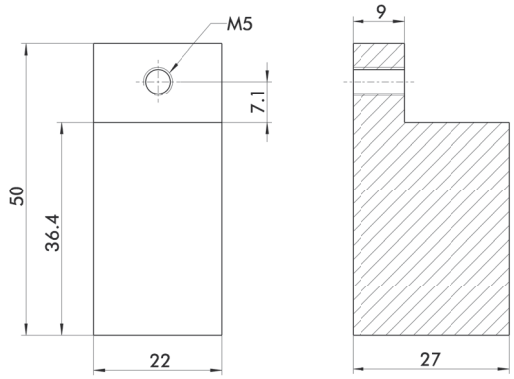
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

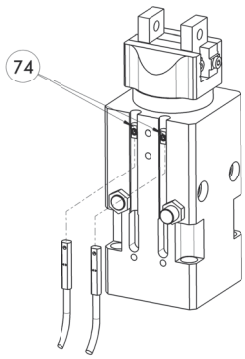
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 50	**0340214**	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

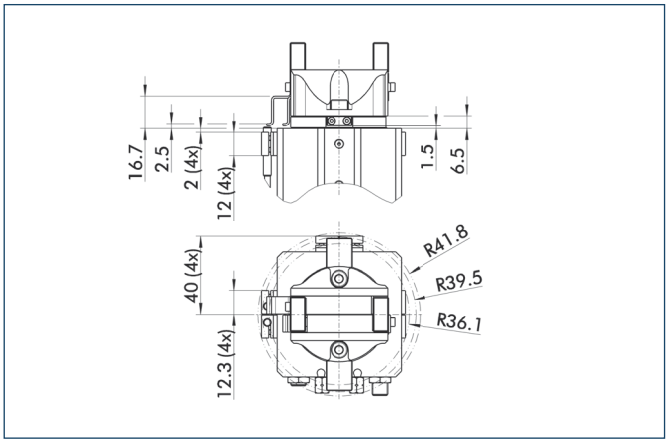
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°

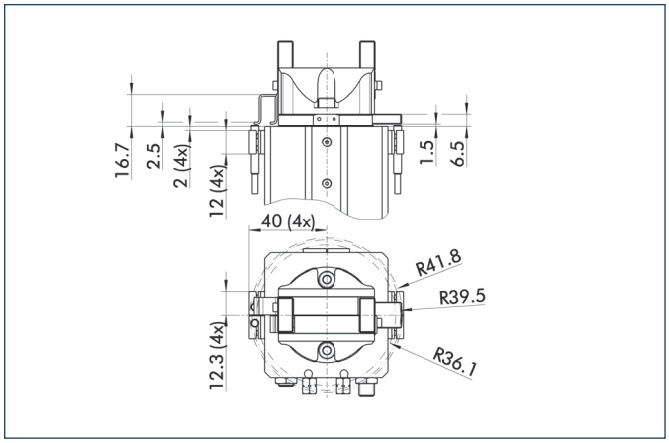


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 50	**0304936**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

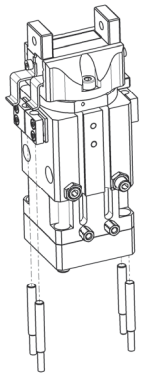


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 50	**0304936**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 50	**0304936**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

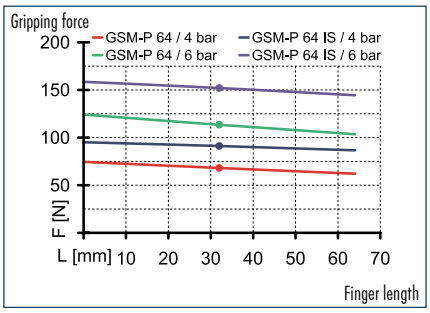
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

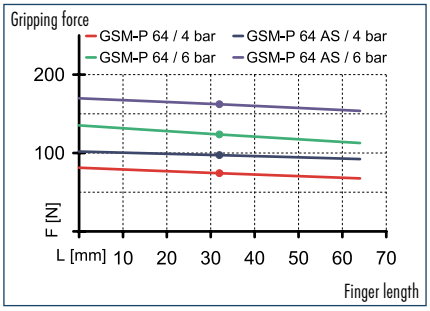
GSM-P 64

Pneumatic • Gripper-Swivel System • Parallel Gripper Swivel Module

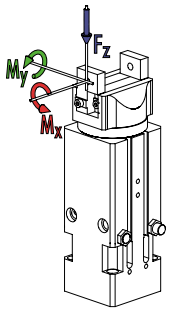
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



M_x max. 3.50 Nm
M_y max. 6.00 Nm
F_z max. 250.0 N

ⓘ The indicated moments and forces are static values, 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.

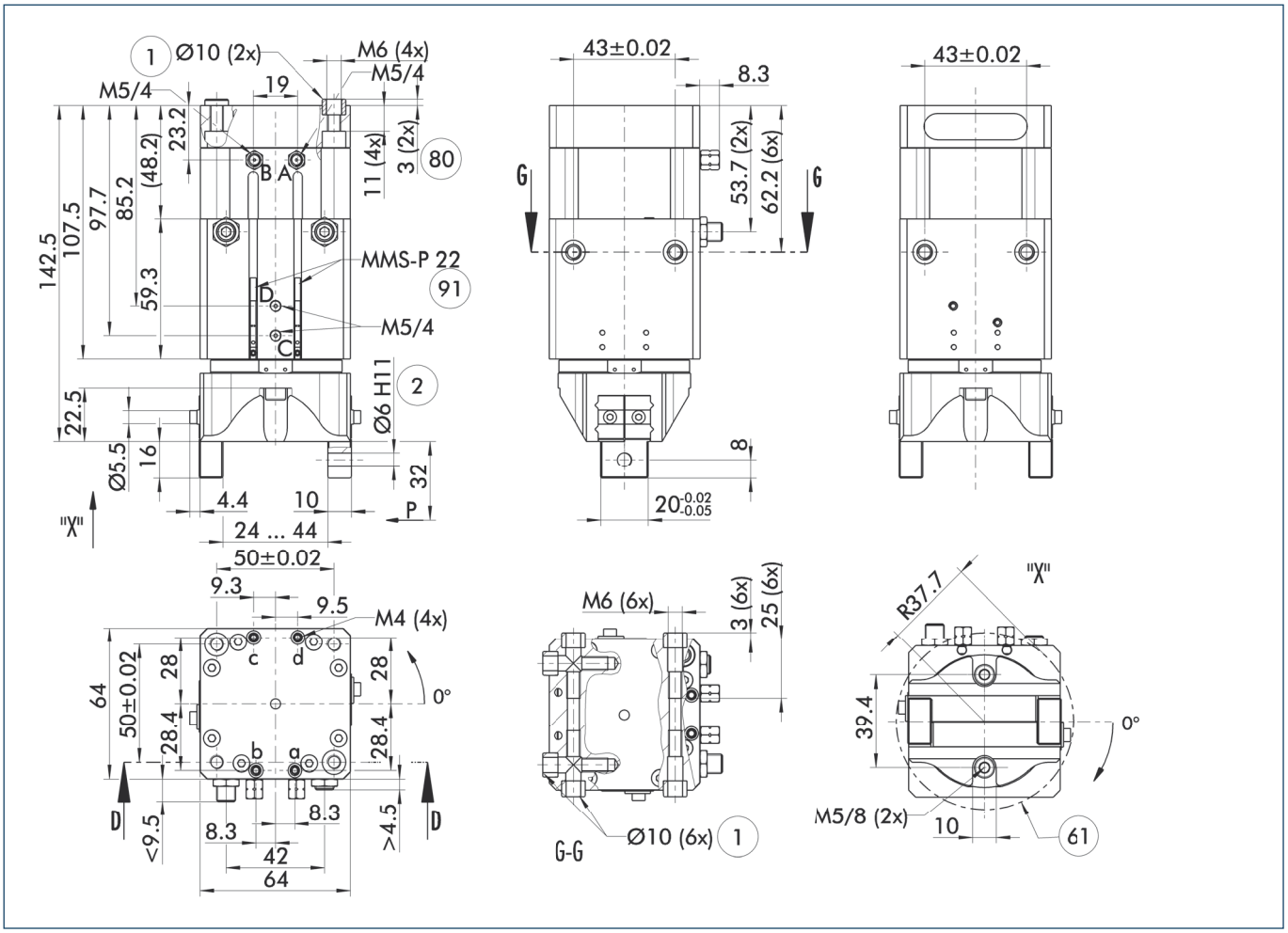
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	10	10	10	10	10	10
Closing/Opening force	[N]	120/114	120/114	162/-	162/-	-/147	-/147
Min. spring force	[N]			42	42	33	33
Torque	[Nm]	2.7	2.7	2.7	2.7	2.7	2.7
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.61	0.61	0.61	0.61	0.61	0.61
Air consumption for gripping	[cm³]	15.81	15.81	15.81	15.81	15.81	15.81
Air consumption for swiveling	[cm³]	51	51	51	51	51	51
Weight	[kg]	1.39	1.39	1.51	1.51	1.51	1.51
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	64	64	64	64	64	64
Max. permitted weight per finger	[kg]	0.24	0.24	0.24	0.24	0.24	0.24
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24	0.24	0.24

Main view



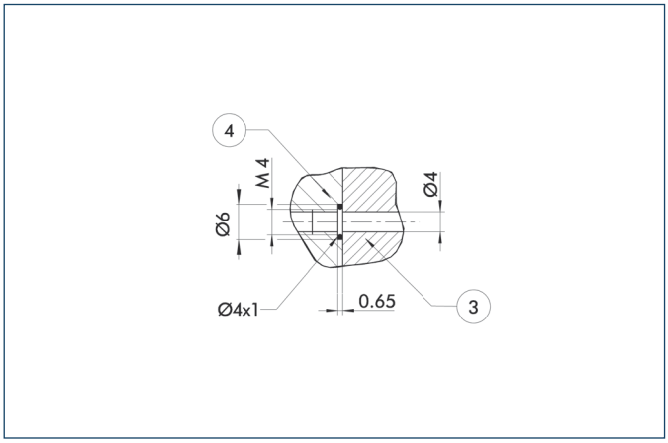
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

① Gripper connection
② Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

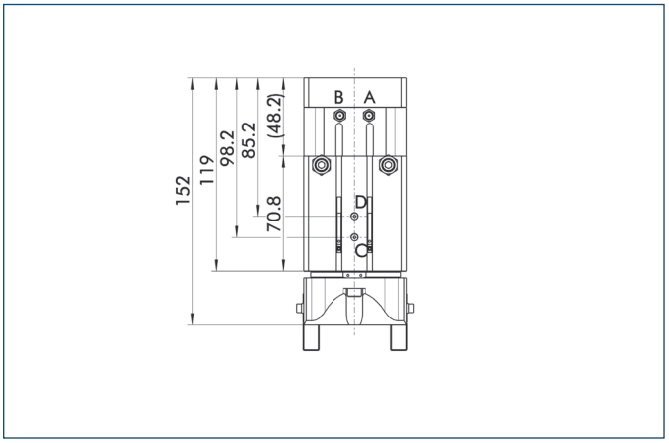
Hose-free direct connection



③ Adapter
④ Gripper swivel module

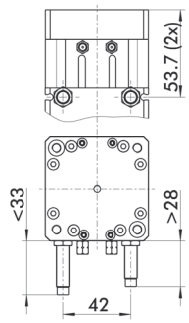
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



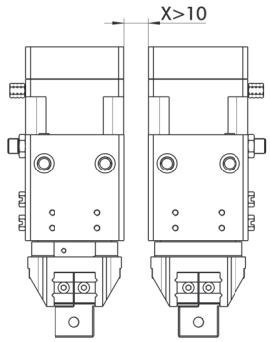
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



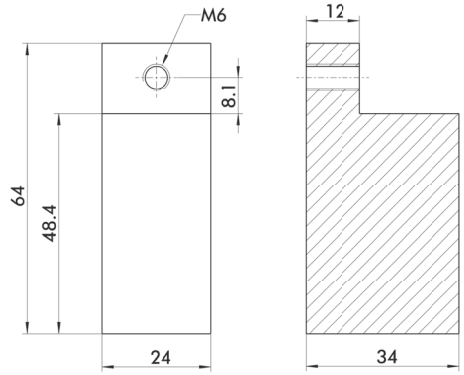
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

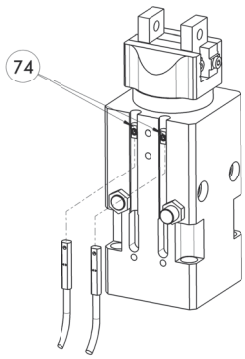
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 64	**0340215**	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

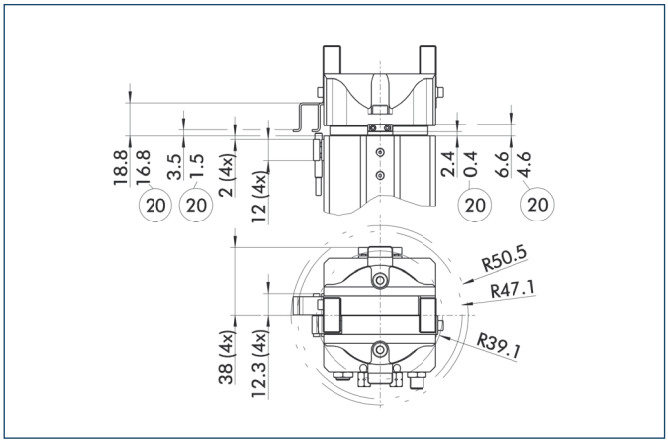
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°



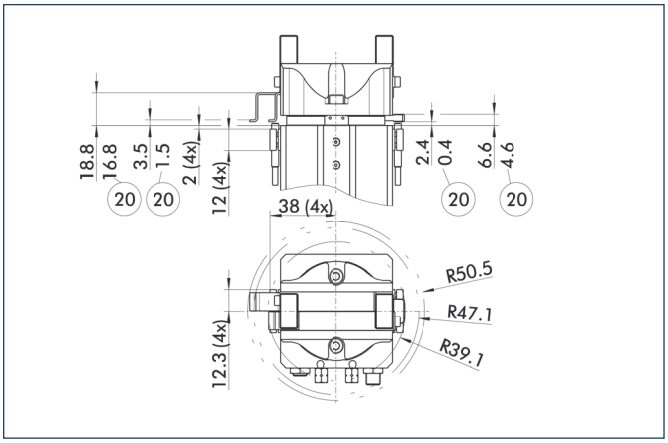
⑳ For AS / IS version

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

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 64	**0304937**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°



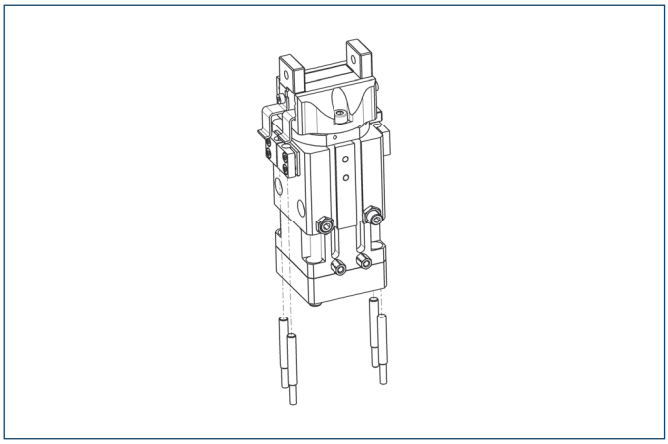
⑳ For AS / IS version

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

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 64	**0304937**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 64	**0304937**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

ⓘ 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

Gripping force
55 N ... 310 N

Stroke per finger
3 mm ... 5 mm

Torque
0.3 Nm ... 2.7 Nm

Application example

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

1. GSM-Z Gripper Swivel Module
2. Linear Module KLM
3. Linear Module KLM

Concentric Gripper Swivel Module

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

Field 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

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

Economical
since adapter plates are not needed, there will be costs for project planning and engineering design

T-slot guidance
for precise gripping at high moment loads

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

Process reliability
as moving cables and hoses are replaced by integrated feed-throughs

Mounting from three sides in three screw directions possible
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

General note to the series

Principle of function
Combined rotor and piston drive

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

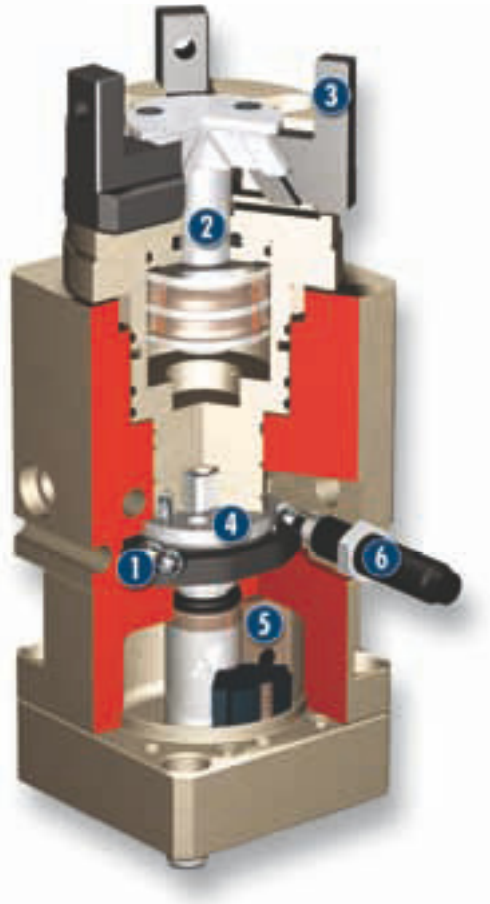
Actuation
pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

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

Sectional diagram



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

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

3 **Base jaw**
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

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

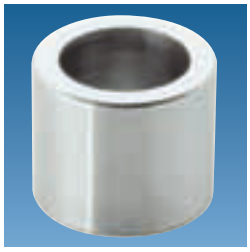
Options and special information

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

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves

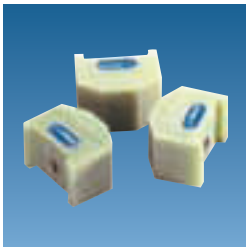


Fittings

Programmable magnetic switch

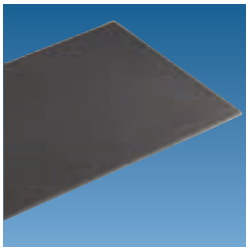
Inductive proximity switches

Plastic inserts



Sensor cables

Gripper pads



Sensor Distributor

Pressure maintenance valve

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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

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

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

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.

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

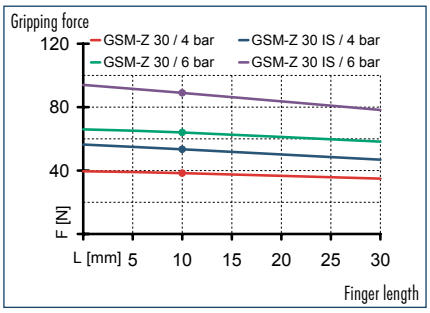
Closing and opening times, cycle times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included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

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

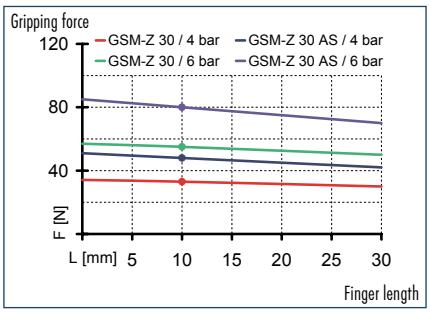
GSM-Z 30

Pneumatic • Gripper-Swivel System • Concentric Gripper Swivel Module

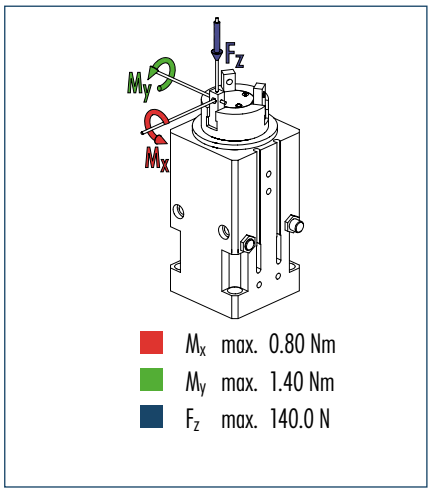
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are static values, 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.

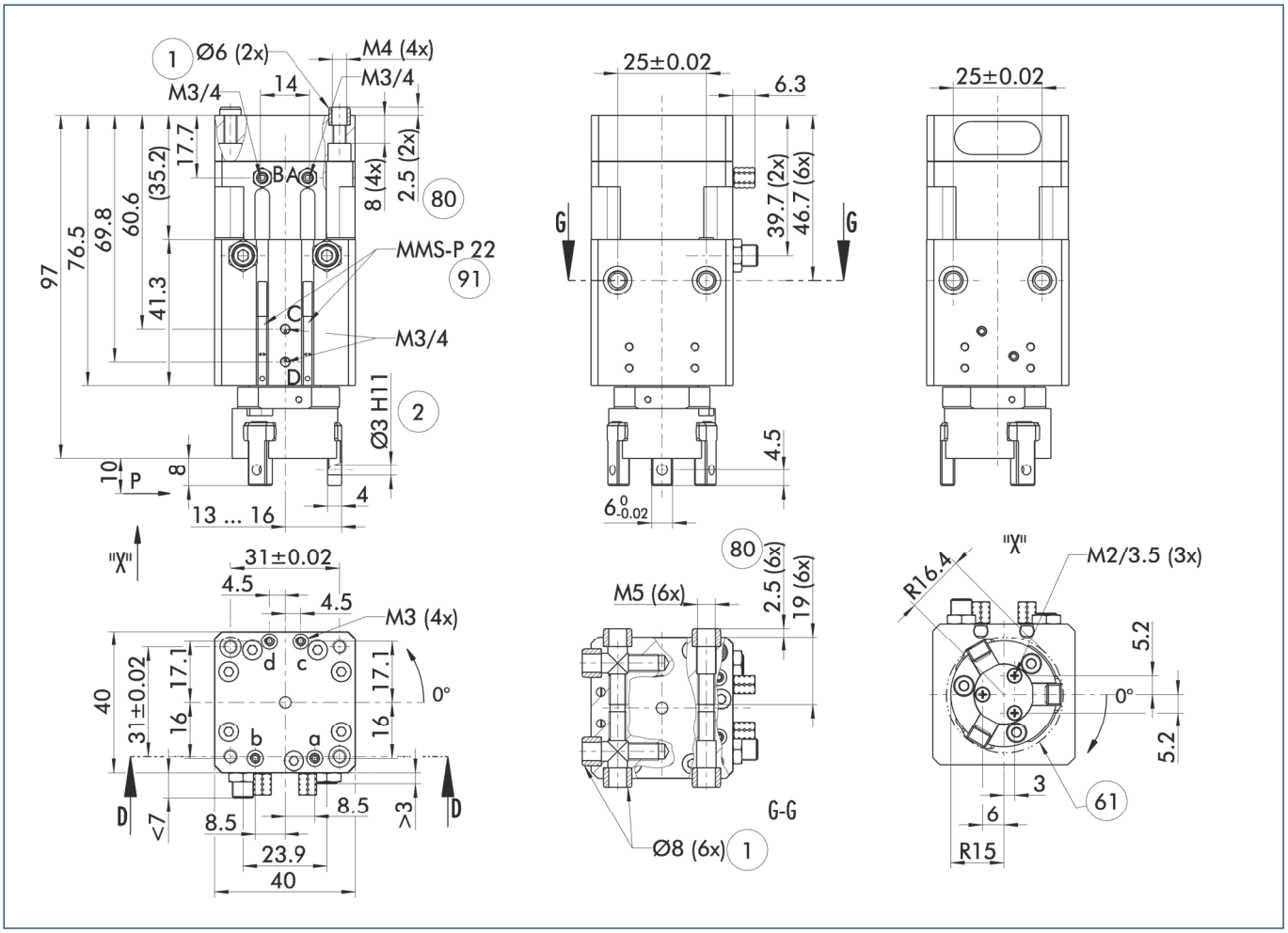
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	3	3	3	3	3	3
Closing/Opening force	[N]	55/65	55/65	80/-	80/-	-/90	-/90
Min. spring force	[N]			25	25	25	25
Torque	[Nm]	0.35	0.35	0.35	0.35	0.35	0.35
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.25	0.25	0.25	0.25	0.25	0.25
Air consumption for gripping	[cm³]	4.51	4.51	4.51	4.51	4.51	4.51
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.35	0.35	0.4	0.4	0.4	0.4
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Swiveling time with middle attached load	[s]	0.06	0.12	0.12	0.12	0.12	0.12
Max. permitted finger length	[mm]	30	30	30	30	30	30
Max. permitted weight per finger	[kg]	0.03	0.03	0.03	0.03	0.03	0.03
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.18	0.18	0.18	0.18	0.18	0.18

Main view



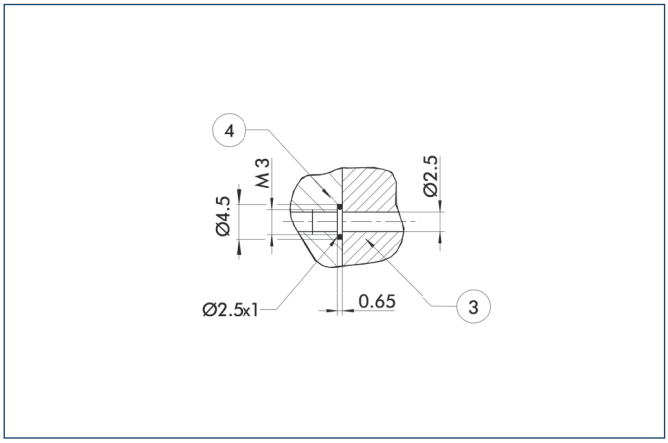
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

① Connection gripper-rotary actuator
② Finger connection
⑥① Interfering contour during swiveling
⑧⓪ Depth of the centering sleeve hole in the matching part
⑨① Monitoring of gripping and swiveling

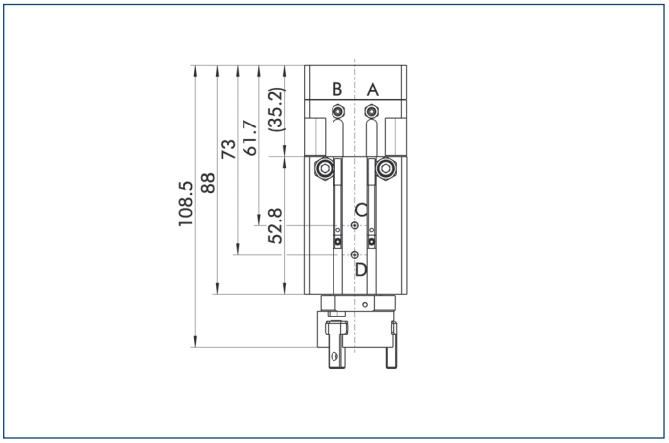
Hose-free direct connection



③ Adapter
④ Gripper swivel module

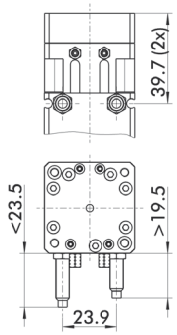
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



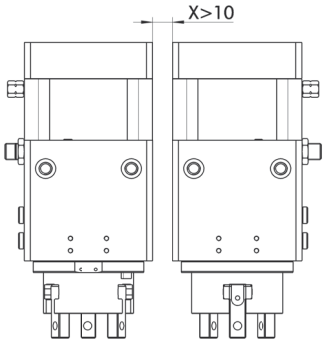
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



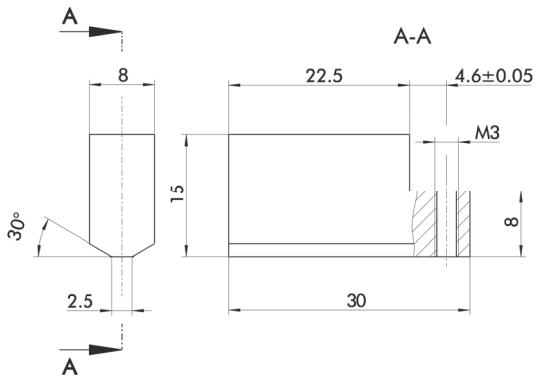
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

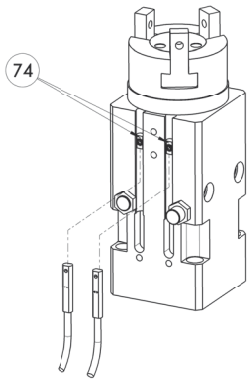
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 30	**0340519**	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

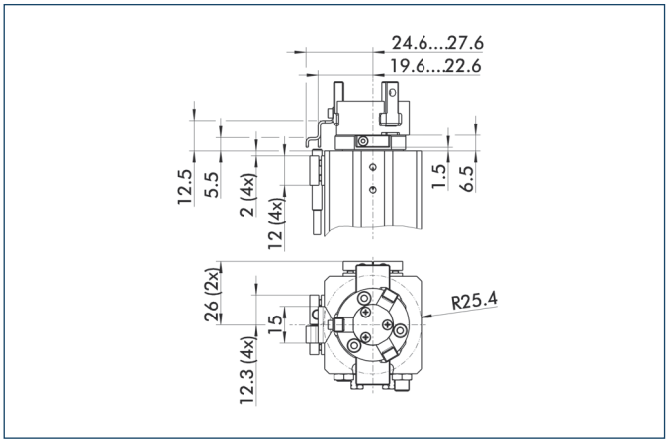
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°

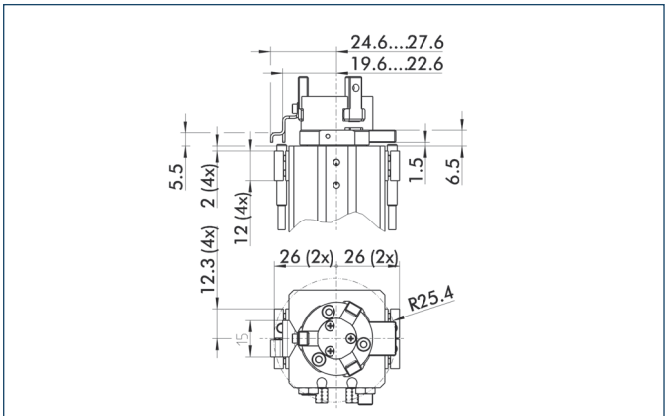


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 30	**0304944**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

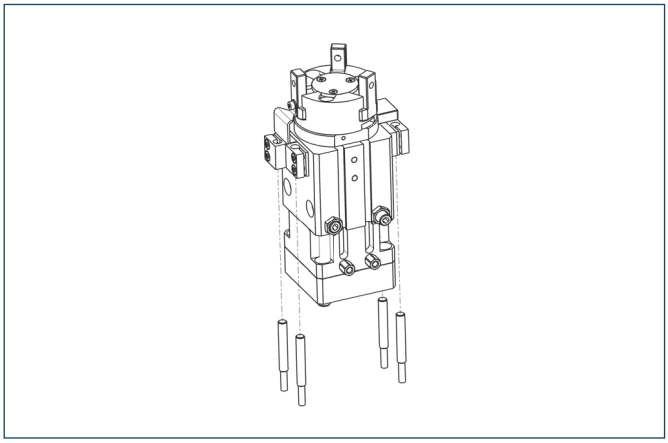


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 30	**0304944**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-Z 30	**0304944**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

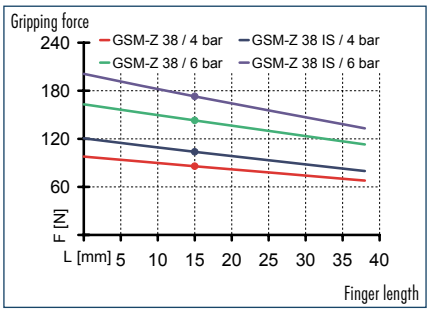
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

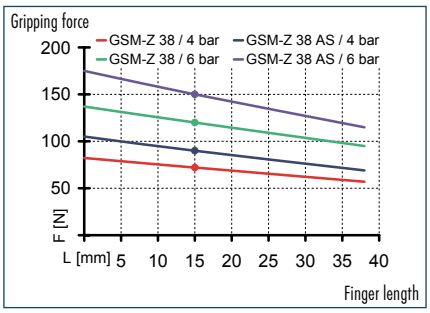
GSM-Z 38

Pneumatic • Gripper-Swivel System • Concentric Gripper Swivel Module

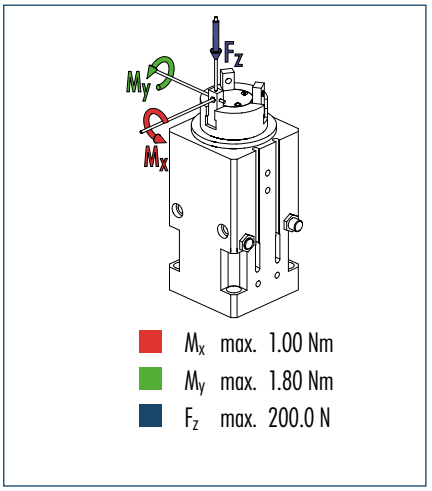
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are static values, 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.

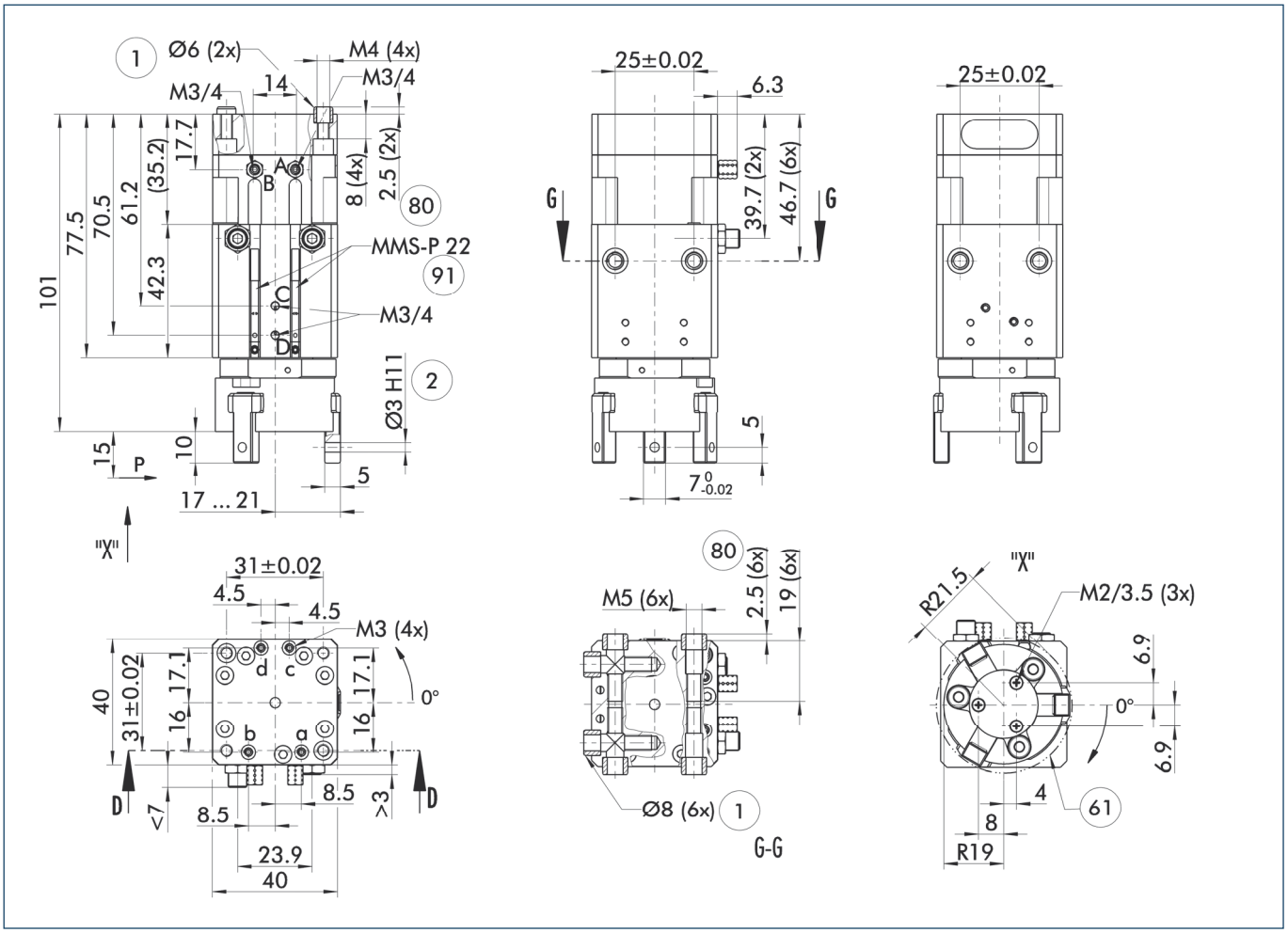
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	4	4	4	4	4	4
Closing/Opening force	[N]	120/140	120/140	150/-	150/-	-/160	-/160
Min. spring force	[N]			30	30	40	40
Torque	[Nm]	0.3	0.3	0.3	0.3	0.3	0.3
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
Air consumption for gripping	[cm³]	6.58	6.58	6.58	6.58	6.58	6.58
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.4	0.4	0.48	0.48	0.48	0.48
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	4	4	4	4	4	4
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	38	38	38	38	38	38
Max. permitted weight per finger	[kg]	0.05	0.05	0.05	0.05	0.05	0.05
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.22	0.22	0.22	0.22	0.22	0.22

Main view



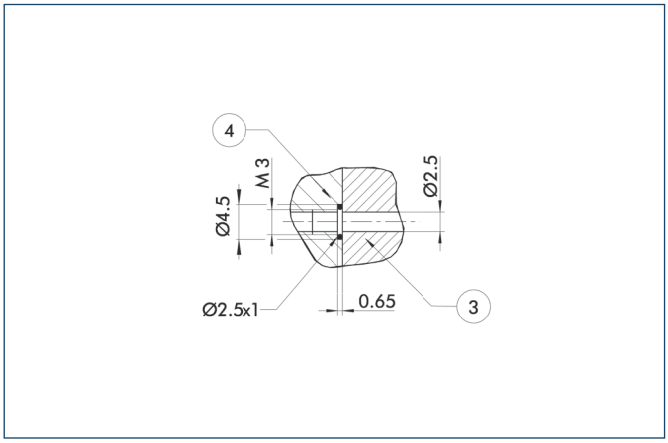
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

① Rotary actuator connection
② Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

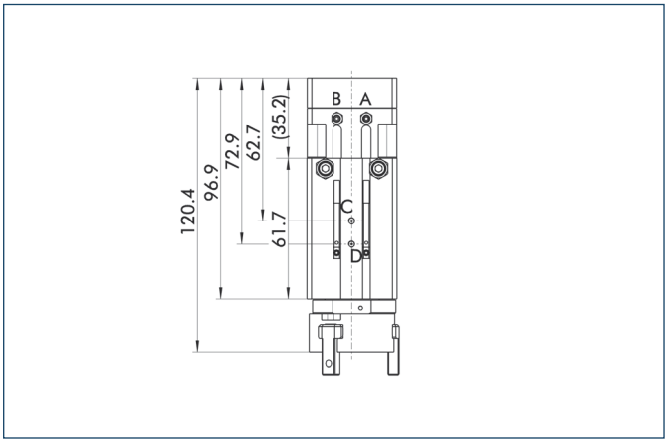
Hose-free direct connection



③ Adapter
④ Gripper swivel module

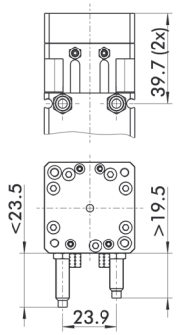
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



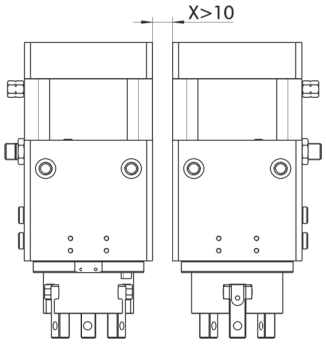
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



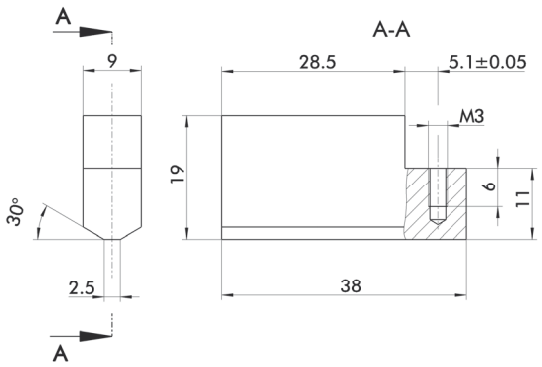
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

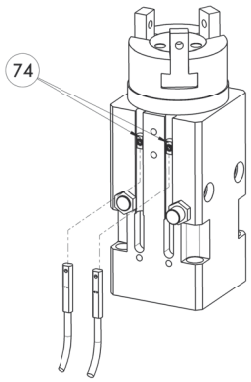
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 38	**0340529**	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

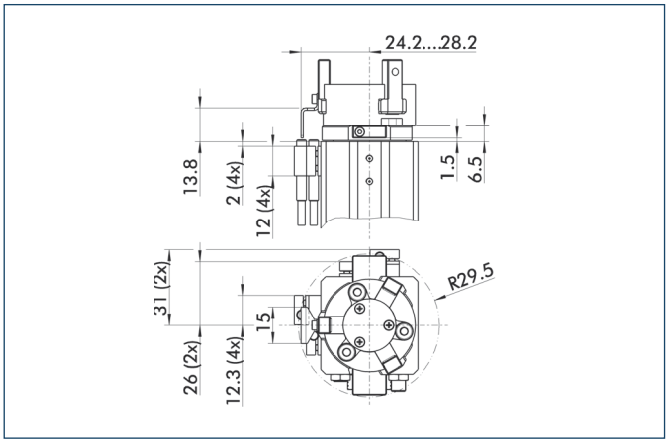
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°

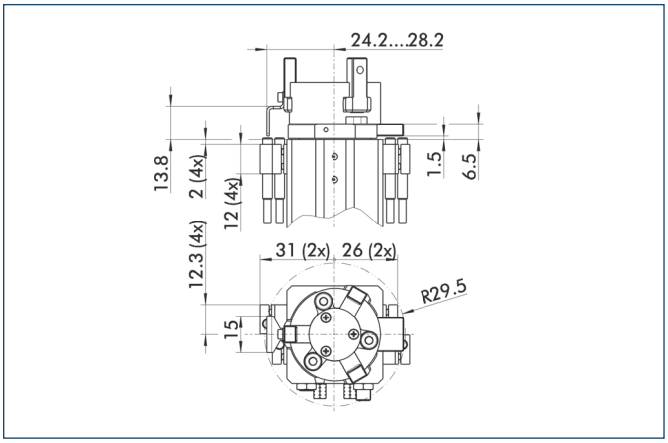


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 38	**0304945**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

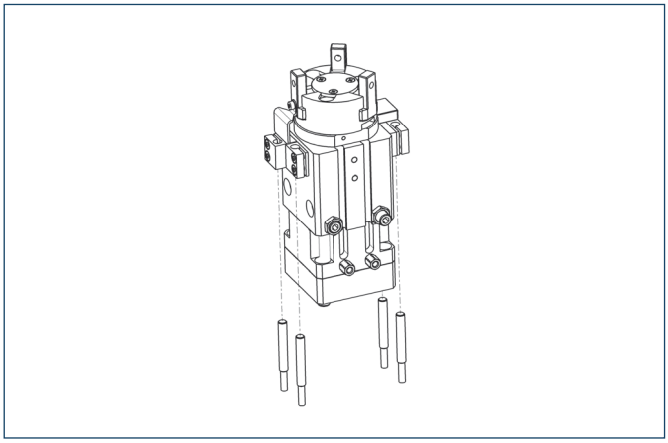


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 38	**0304945**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-Z 38	**0304945**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

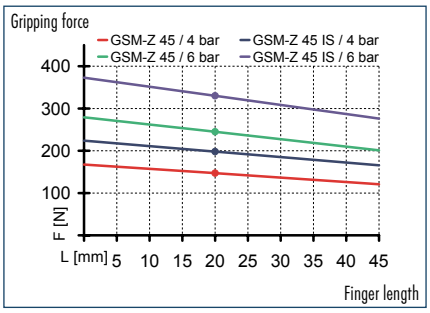
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

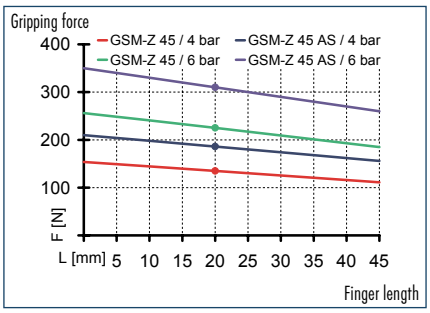
GSM-Z 45

Pneumatic • Gripper-Swivel System • Concentric Gripper Swivel Module

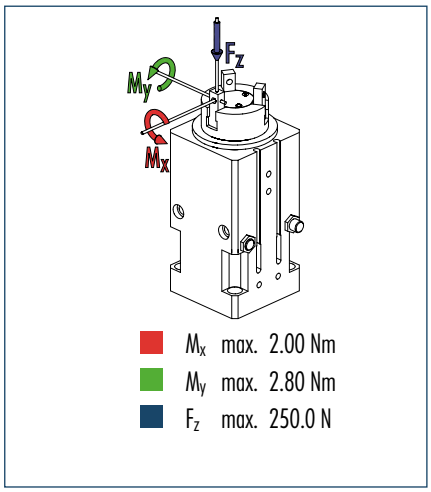
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are static values, 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.

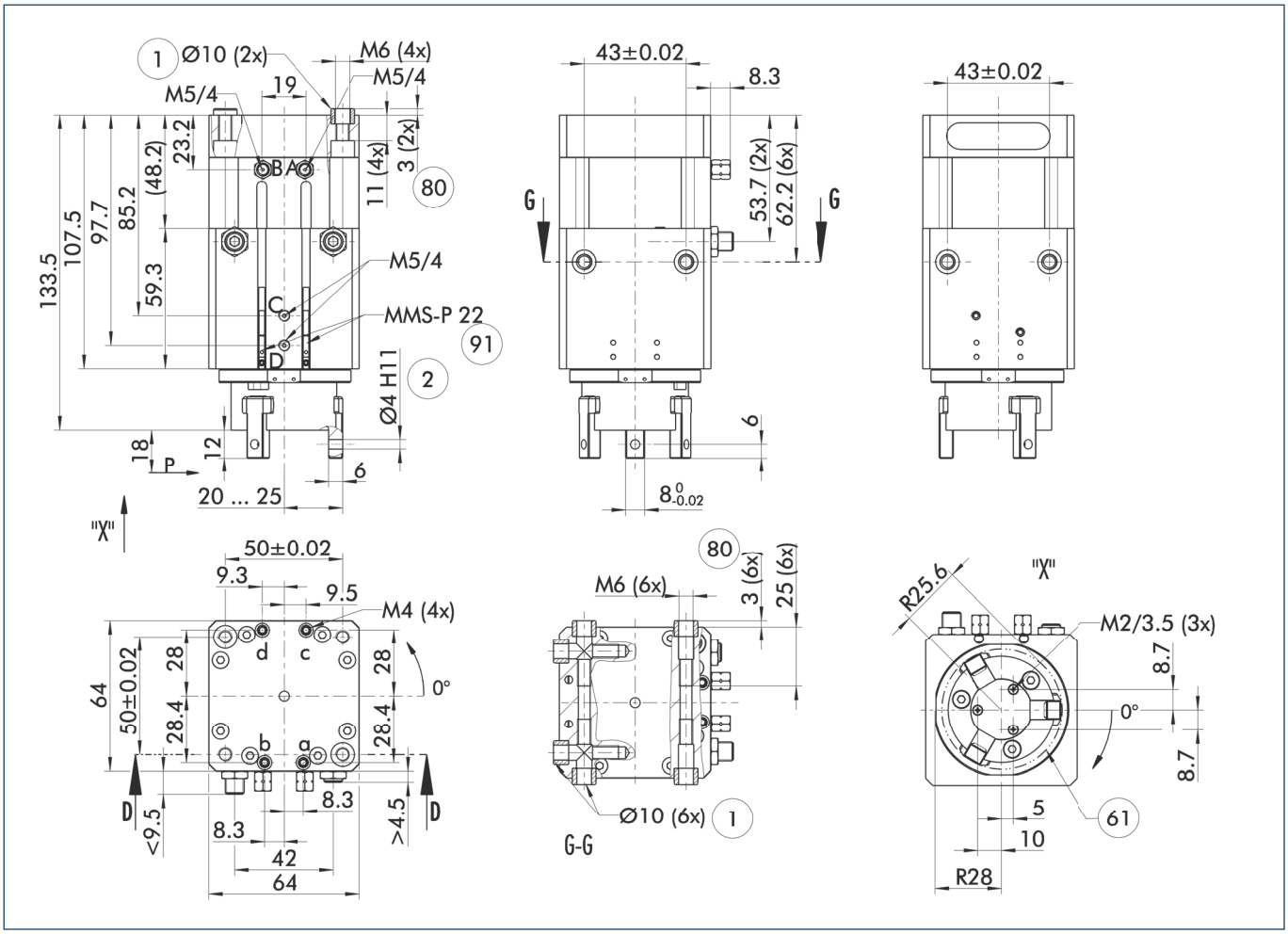
Technical data

Description		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**
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	5	5	5	5	5	5
Closing/Opening force	[N]	225/245	225/245	310/-	310/-	-/310	-/310
Min. spring force	[N]			85	85	95	95
Torque	[Nm]	2.7	2.7	2.7	2.7	2.7	2.7
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	1.1	1.1	1.1	1.1	1.1	1.1
Air consumption for gripping	[cm³]	13.85	13.85	13.85	13.85	13.85	13.85
Air consumption for swiveling	[cm³]	51	51	51	51	51	51
Weight	[kg]	1.2	1.2	1.32	1.32	1.32	1.32
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.04/0.05	0.04/0.05	0.05/0.04	0.05/0.04
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	45	45	45	45	45	45
Max. permitted weight per finger	[kg]	0.08	0.08	0.08	0.08	0.08	0.08
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

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**
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24	0.24	0.24

Main view



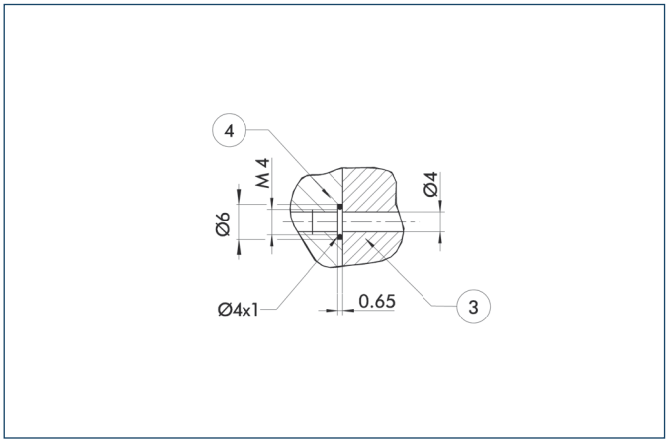
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

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

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

① Rotary actuator connection
② Finger connection
⑥① Interfering contour during swiveling
⑧⓪ Depth of the centering sleeve hole in the matching part
⑨① Monitoring of gripping and swiveling

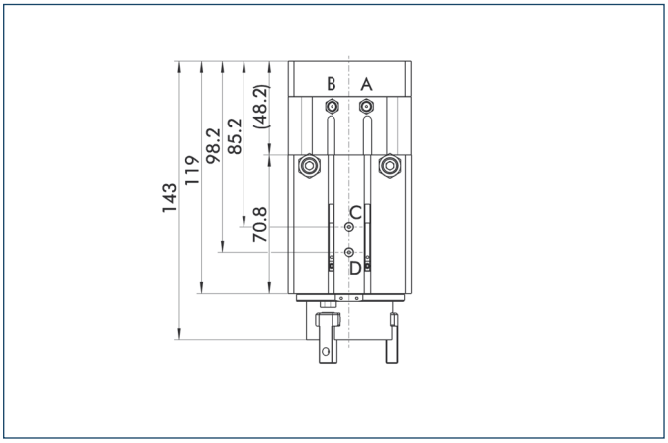
Hose-free direct connection



③ Adapter
④ Gripper swivel module

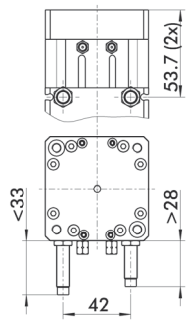
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



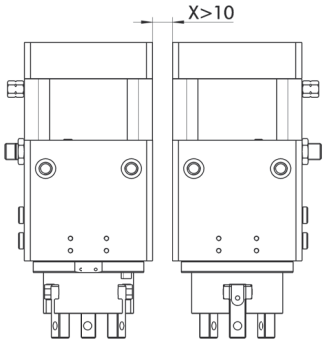
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



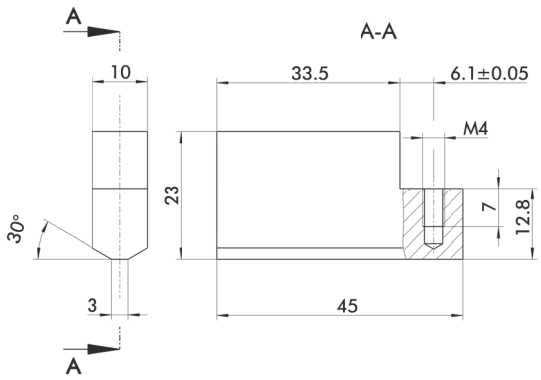
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

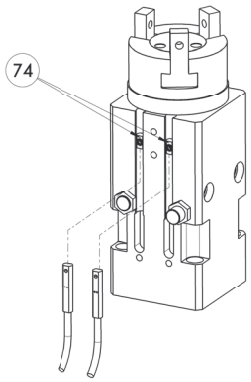
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 45	**0340539**	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

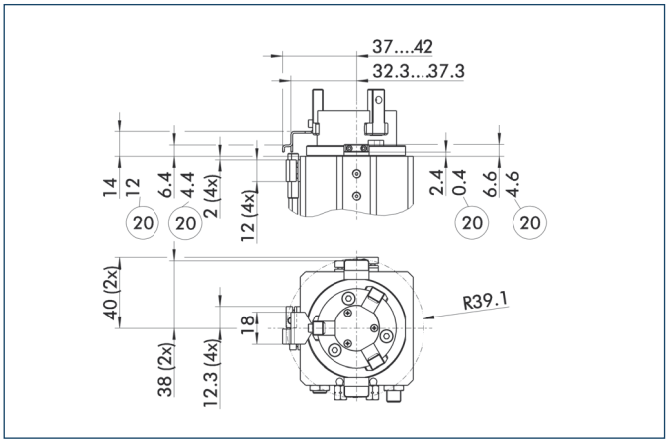
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

Mounting kit for proximity switches – angle of rotation 90°



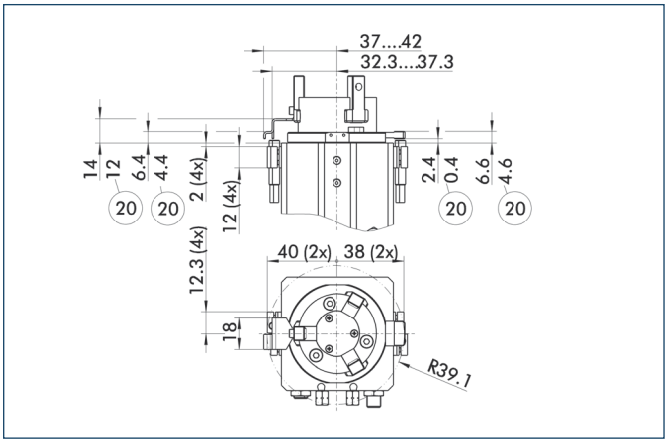
⑳ For AS / IS version

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

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 45	**0304946**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°



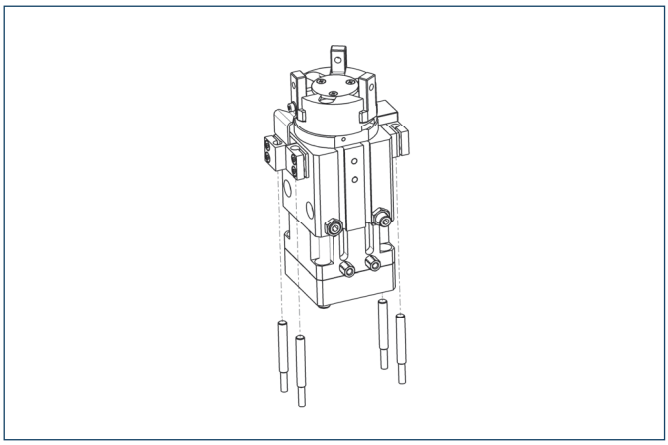
⑳ For AS / IS version

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

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 45	**0304946**

ⓘ This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-Z 45	**0304946**	
Inductive proximity switches		
IN 40-S-M8	**0301474**	•
IN 40-S-M12	**0301574**	
INK 40-S	**0301555**	

ⓘ Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

ⓘ This mounting kit needs to be ordered optionally as an accessory.

ⓘ 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-W

Sizes
16 ... 40

Weight
0.4 kg ... 1.73 kg

Gripping moment
1 Nm ... 11.2 Nm

Angle per jaw
20°

Torque
0.3 Nm ... 2.9 Nm

Application example

Unit for selecting defective components and for spot checks of the current process.

1. GSM-W Gripper Swivel Module
2. Linear module LM

Angular Gripper Swivel Module

compact rotary gripper combination, consisting of a powerful pneumatic rotary actuator, an end position and damping mechanism and an angular gripper

Field 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

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

Economical
since adapter plates are not needed, there will be costs for project planning and engineering design

Kinematics
for high power transmission and synchronized gripping

Process reliability
as moving cables and hoses are replaced by integrated feed-throughs

Comprehensive accessories
through the use of existing gripper components

General note to the series

Principle of function
Combined rotor and piston drive

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Aluminum alloy, hard-anodized

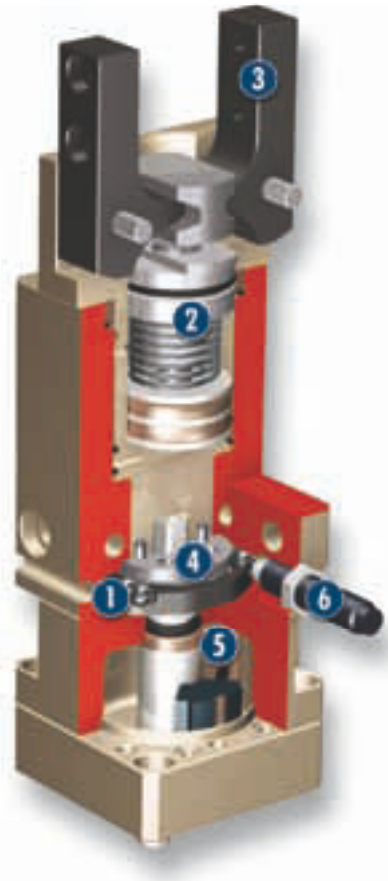
Actuation
pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

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

Sectional diagram



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

2 **Gripper drive**
via integrated pneumatic piston

3 **Base jaw**
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

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

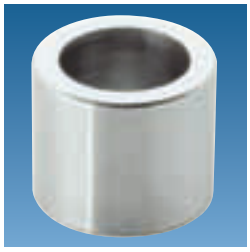
Options and special information

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

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves

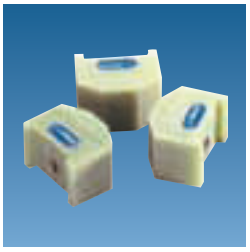


Fittings

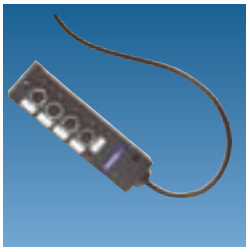
Programmable magnetic switch

Sensor cables

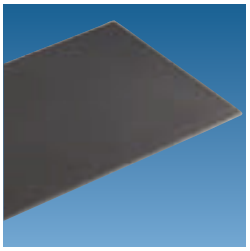
Plastic inserts



Sensor Distributor



Gripper pads



Pressure maintenance valve

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

General note to the series

Gripping moment

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

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

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, cycle times

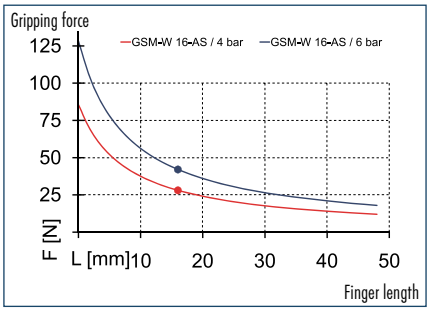
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into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

Middle attached load

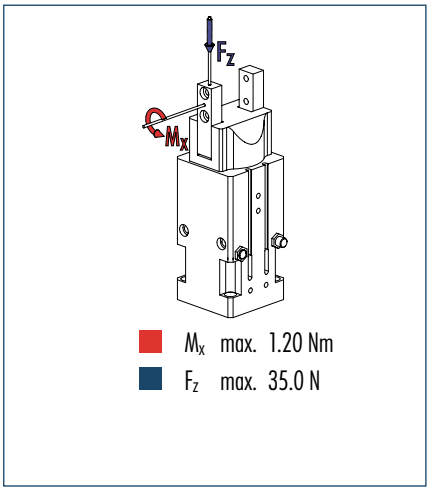
The middle attached load should constitute a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.

GSM-W 16

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

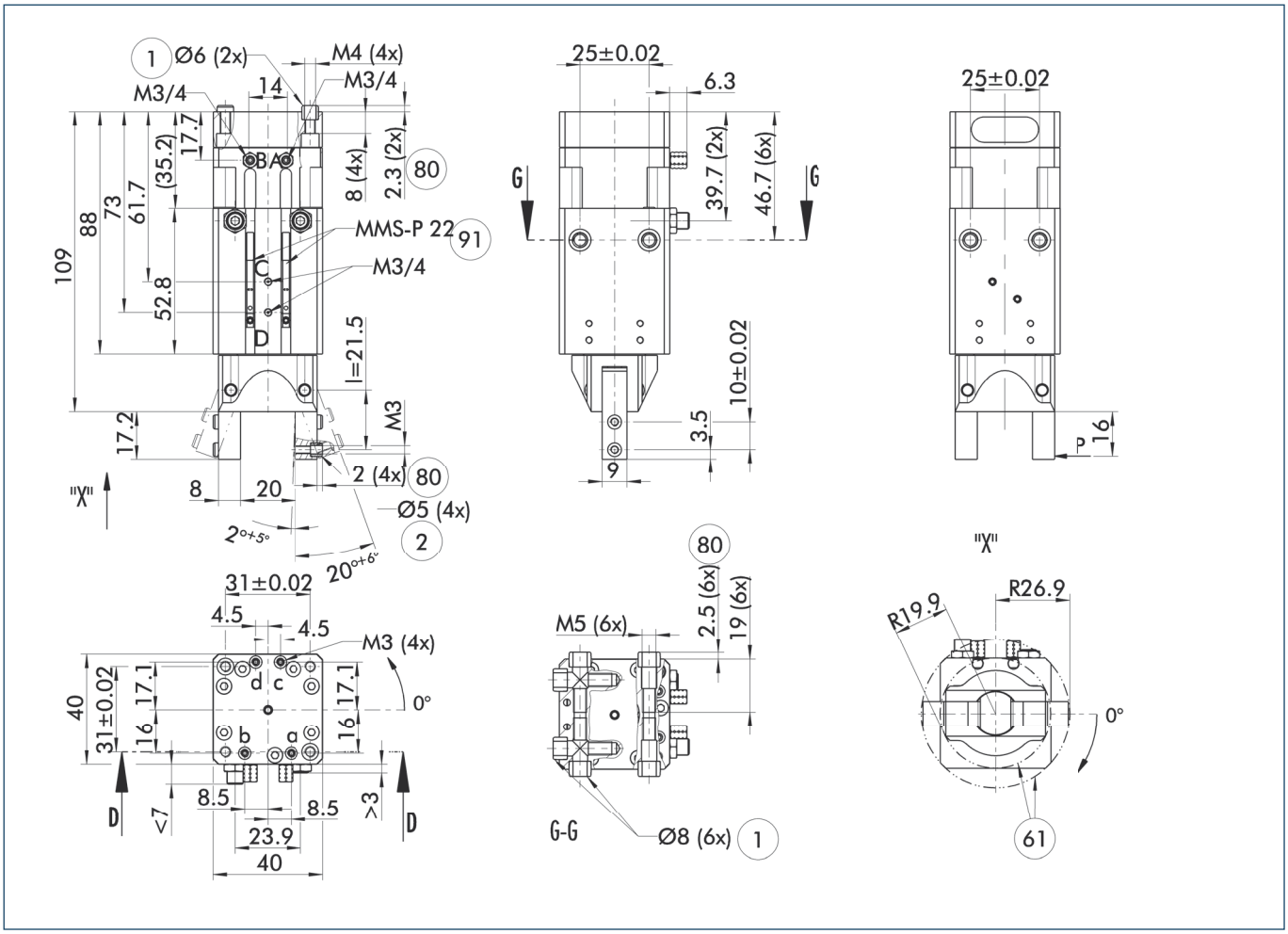
Technical data

Description		GSM-W 16-AS-E-090	GSM-W 16-AS-S-090
ID		**0304637**	**0304737**
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	1	1
Spring-actuated closing moment	[Nm]	0.22	0.22
Torque	[Nm]	0.35	0.35
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.21	0.21
Air consumption for gripping	[cm³]	5.5	5.5
Air consumption for swiveling	[cm³]	9	9
Weight	[kg]	0.4	0.4
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5
Closing/opening time	[s]	0.03/0.03	0.03/0.03
Swiveling time with middle attached load	[s]	0.12	0.12
Max. permitted finger length	[mm]	32	32
Max. permitted weight per finger	[kg]	0.04	0.04
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 16-AS-E-180	GSM-W 16-AS-S-180
ID		**0303837**	**0303937**
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	15	15
Swiveling time with middle attached load	[s]	0.18	0.18

Main view



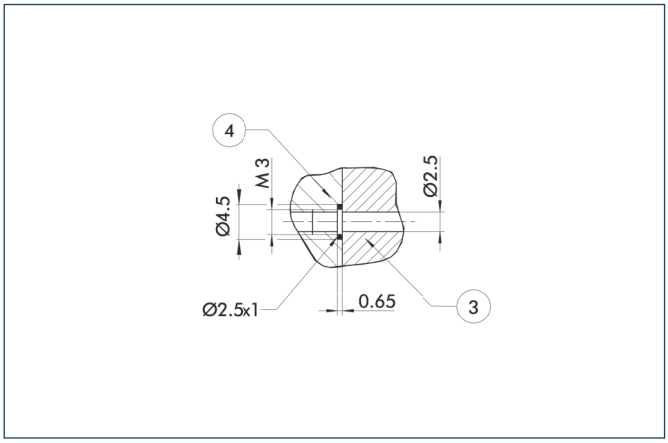
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

① Connection gripper-rotary actuator
② Finger connection
⑥① Interfering contour during swiveling
⑧⓪ Depth of the centering sleeve hole in the matching part
⑨① Monitoring of gripping and swiveling

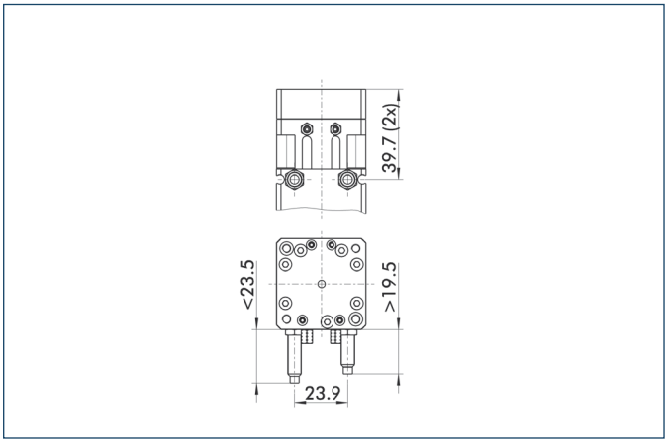
Hose-free direct connection



③ Adapter
④ Gripper swivel module

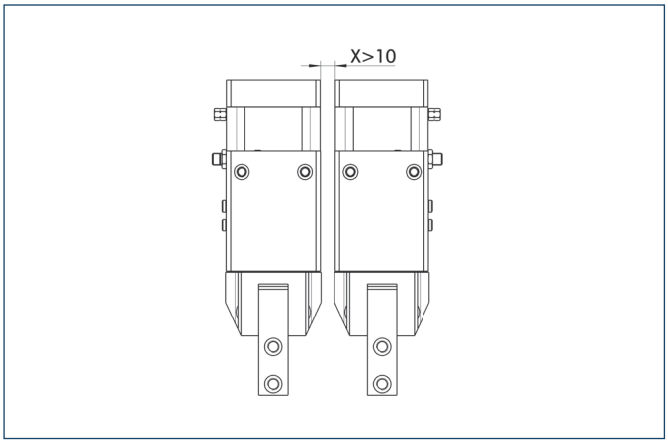
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



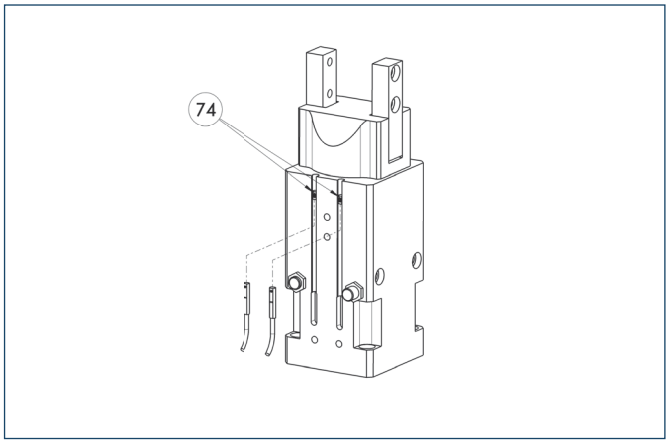
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



(74) Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

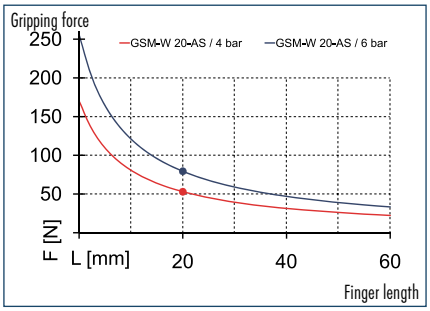
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

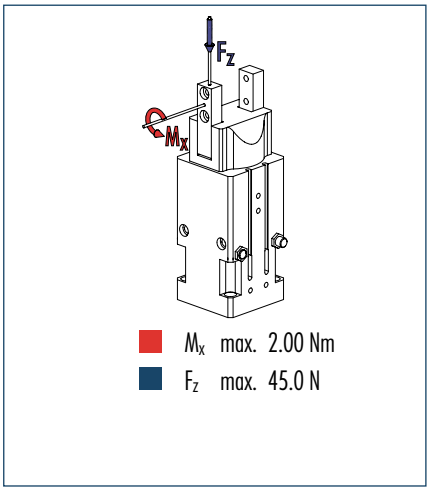
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSM-W 20

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

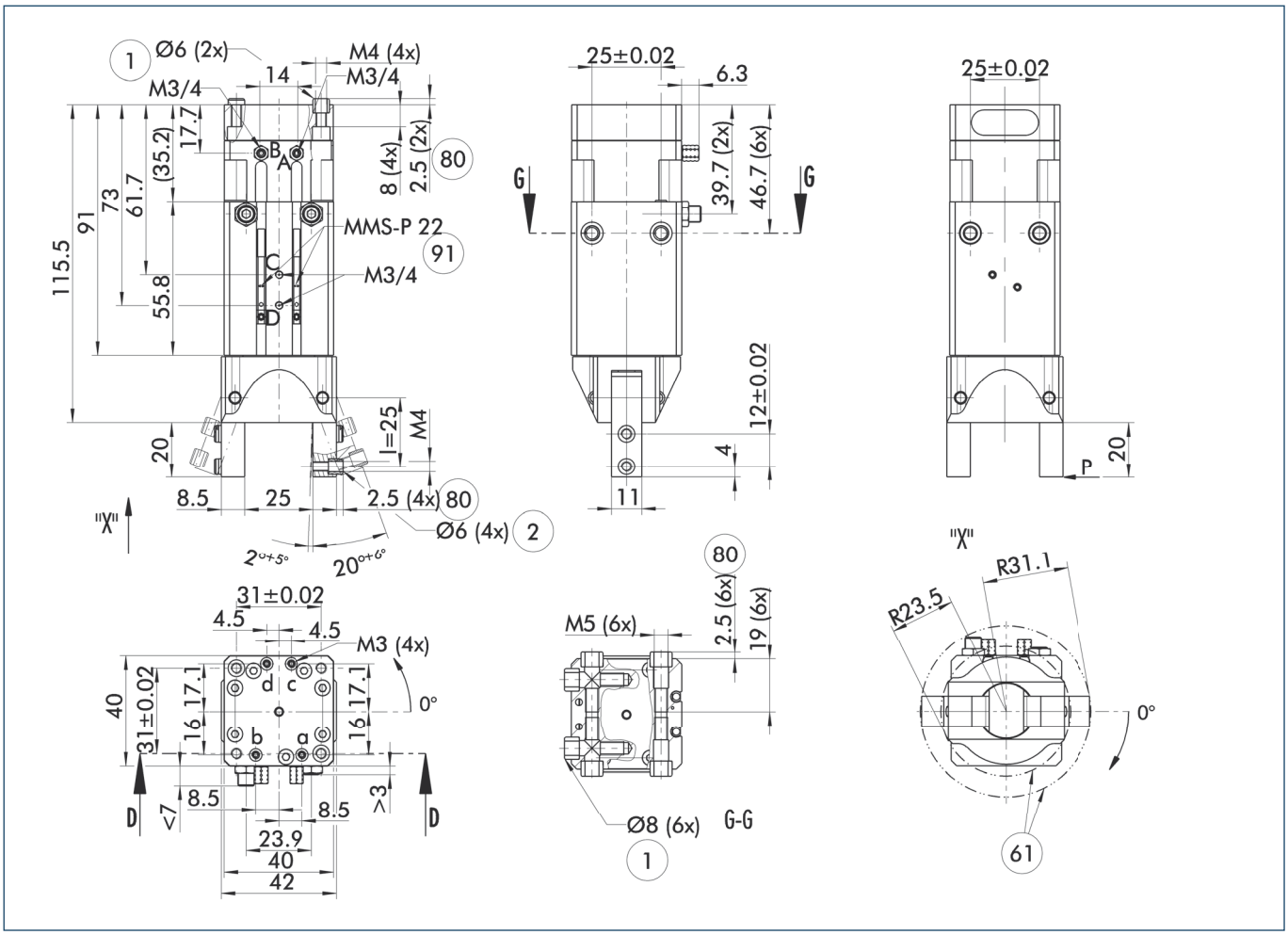
Technical data

Description		GSM-W 20-AS-E-090	GSM-W 20-AS-S-090
ID		**0304647**	**0304747**
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	2.3	2.3
Spring-actuated closing moment	[Nm]	0.7	0.7
Torque	[Nm]	0.3	0.3
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.4	0.4
Air consumption for gripping	[cm³]	8.22	8.22
Air consumption for swiveling	[cm³]	9	9
Weight	[kg]	0.44	0.44
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	4	4
Closing/opening time	[s]	0.04/0.06	0.04/0.06
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	40	40
Max. permitted weight per finger	[kg]	0.07	0.07
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 20-AS-E-180	GSM-W 20-AS-S-180
ID		**0303847**	**0303947**
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	15	15
Swiveling time with middle attached load	[s]	0.22	0.22

Main view



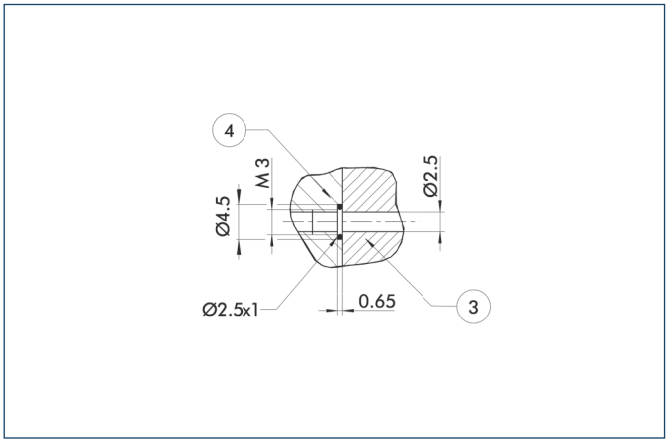
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

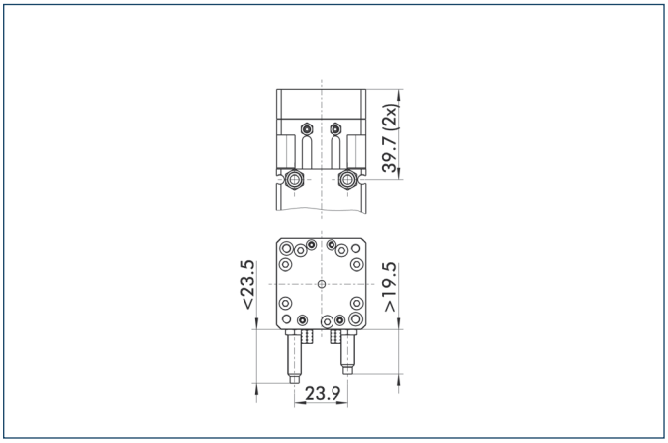
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

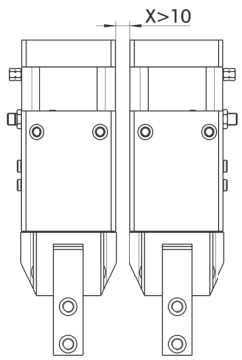
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



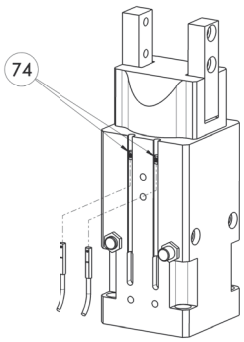
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

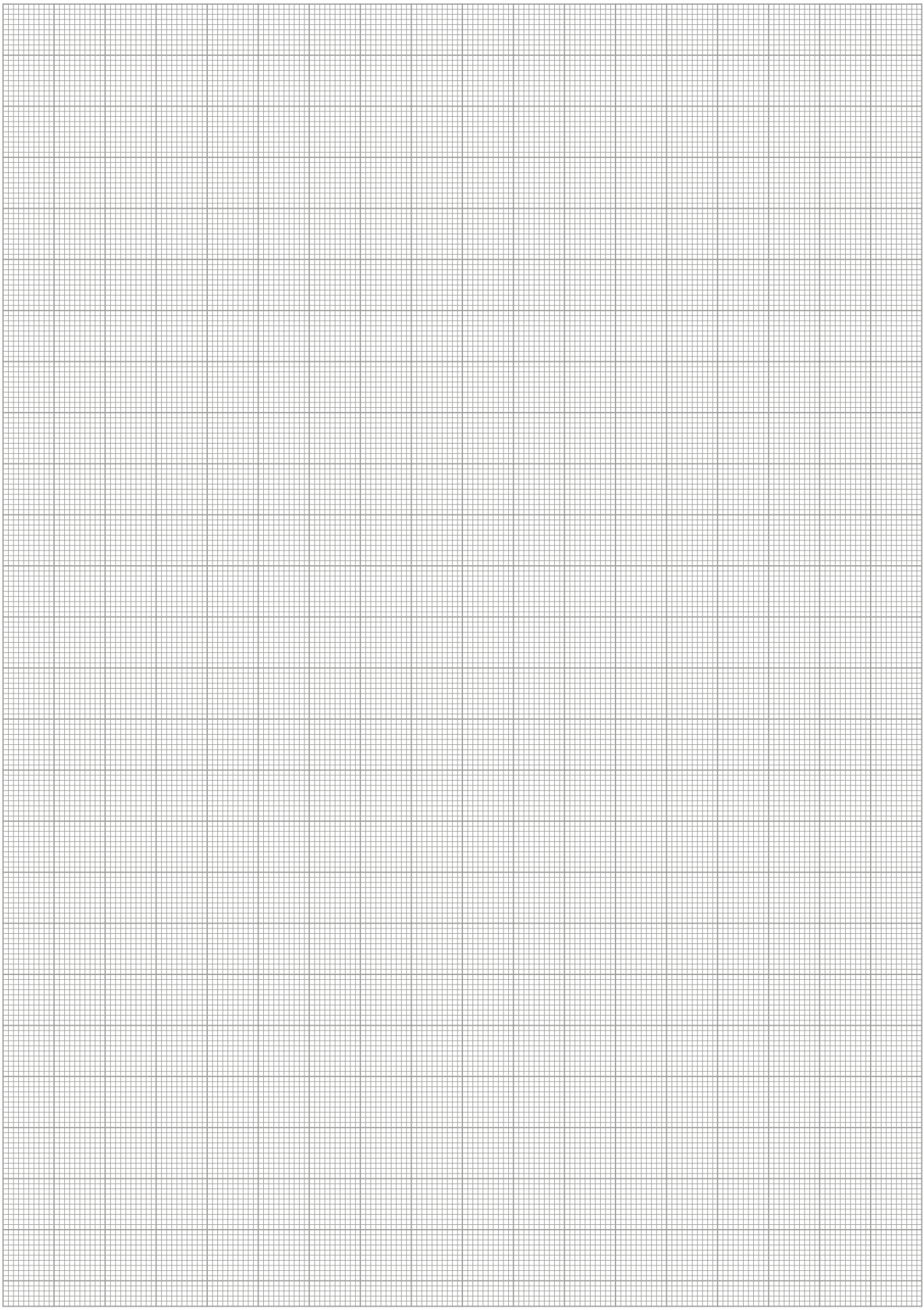
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

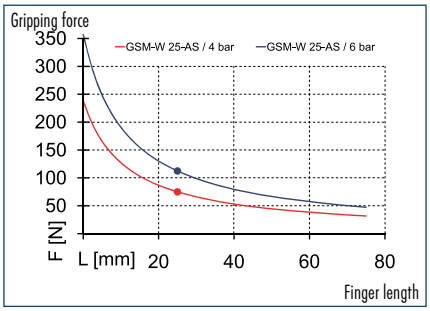
ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

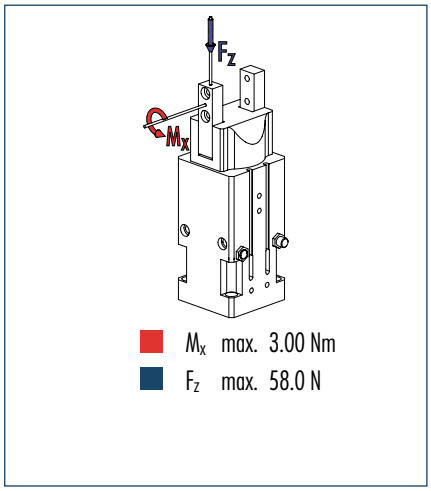


GSM-W 25

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

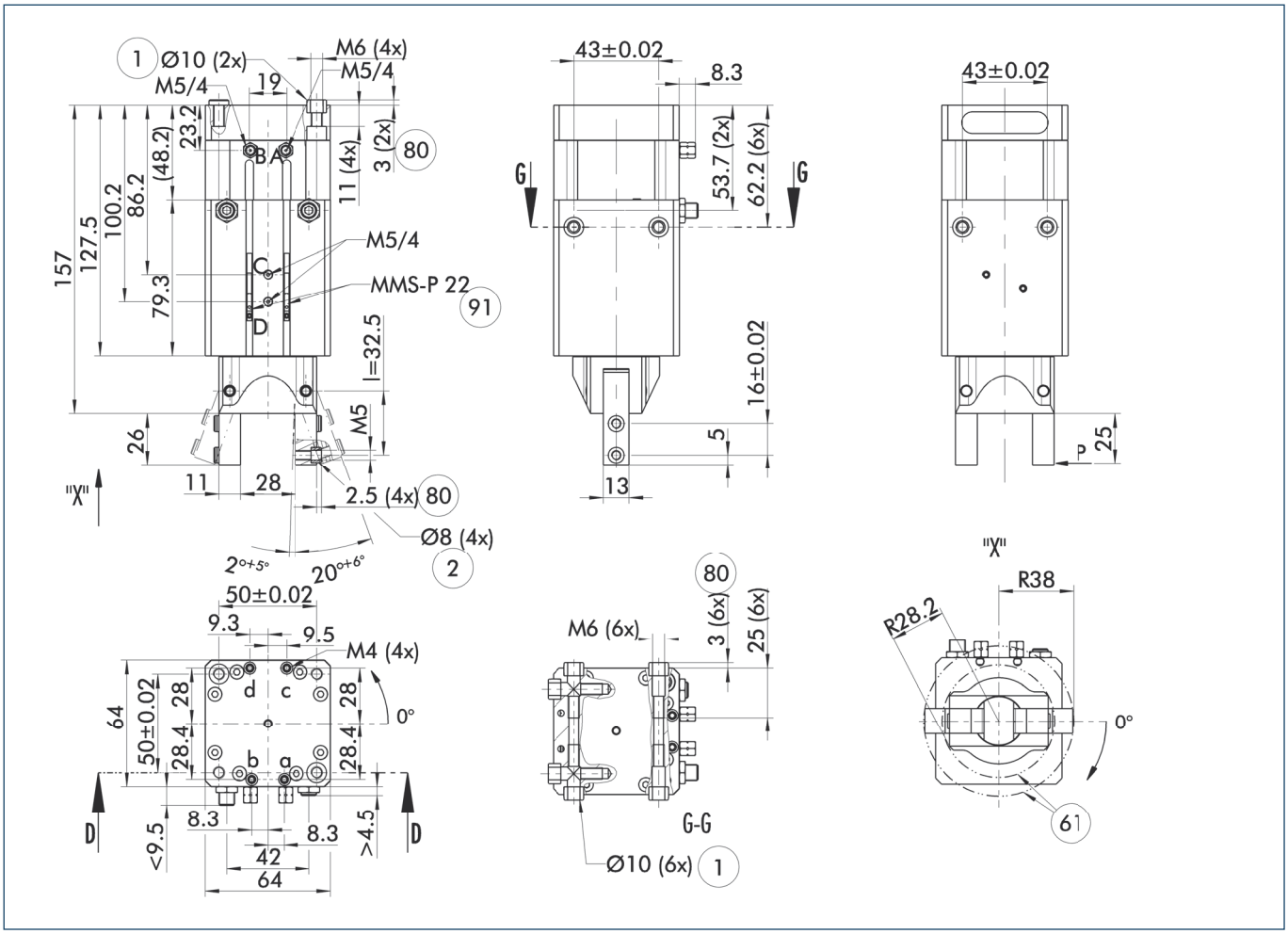
Technical data

Description		GSM-W 25-AS-E-090	GSM-W 25-AS-S-090
ID		**0304657**	**0304757**
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	4.1	4.1
Spring-actuated closing moment	[Nm]	0.9	0.9
Torque	[Nm]	2.9	2.9
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.55	0.55
Air consumption for gripping	[cm³]	16.53	16.53
Air consumption for swiveling	[cm³]	51	51
Weight	[kg]	1.32	1.32
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3	3
Closing/opening time	[s]	0.04/0.06	0.04/0.06
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	50	50
Max. permitted weight per finger	[kg]	0.1	0.1
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 25-AS-E-180	GSM-W 25-AS-S-180
ID		**0303857**	**0303957**
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	85	85
Swiveling time with middle attached load	[s]	0.24	0.24

Main view



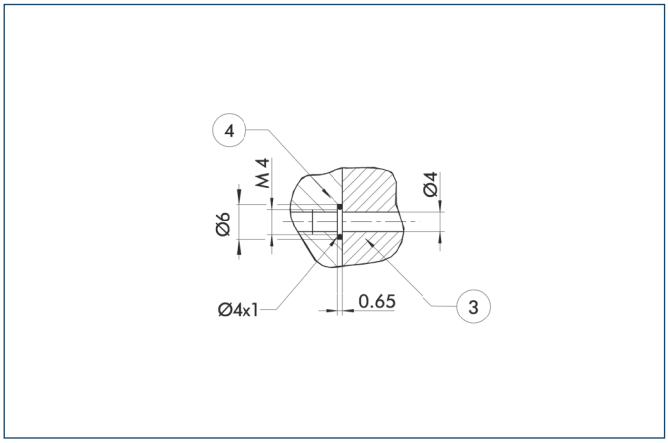
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

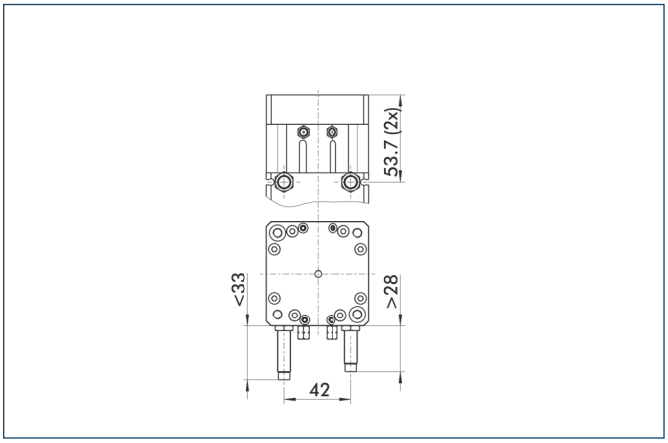
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

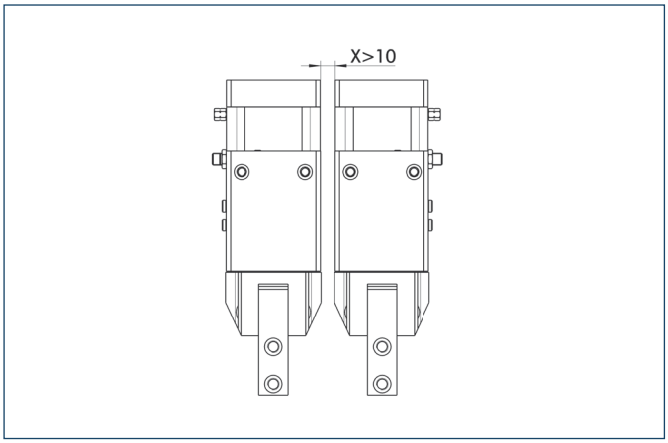
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



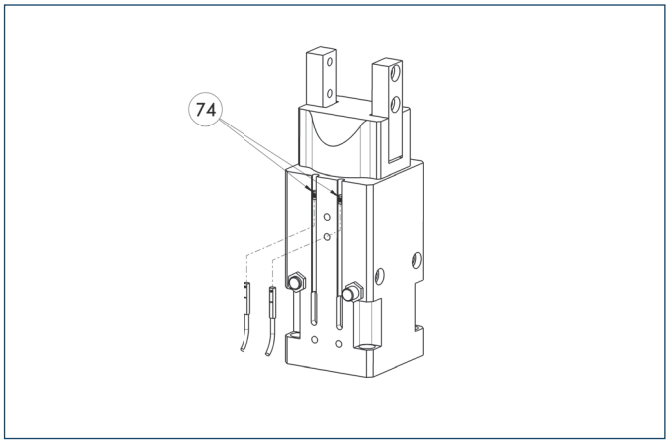
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

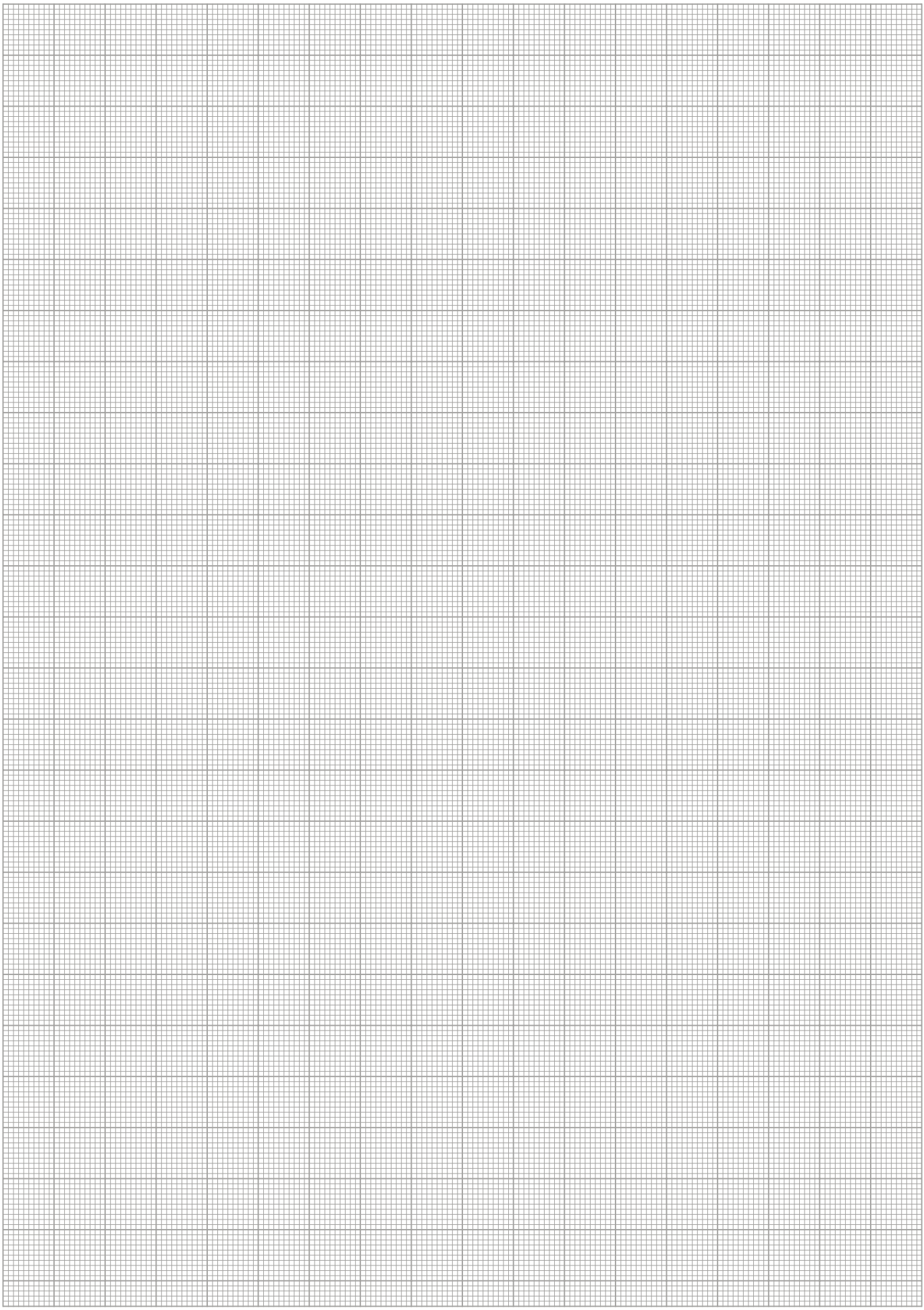
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

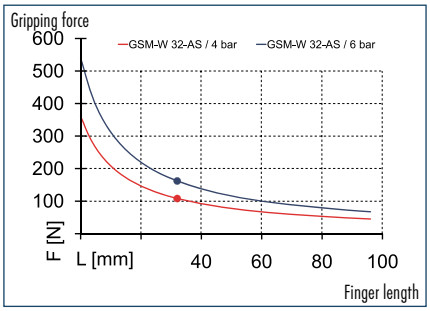
ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

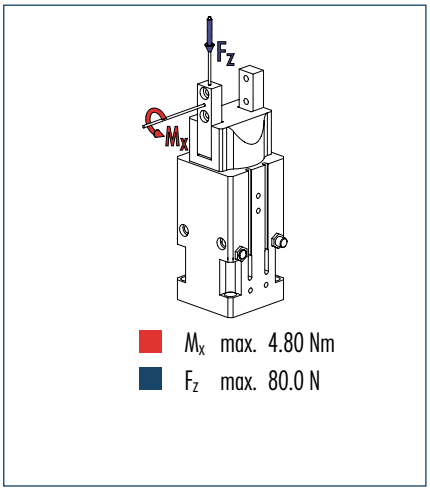


GSM-W 32

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

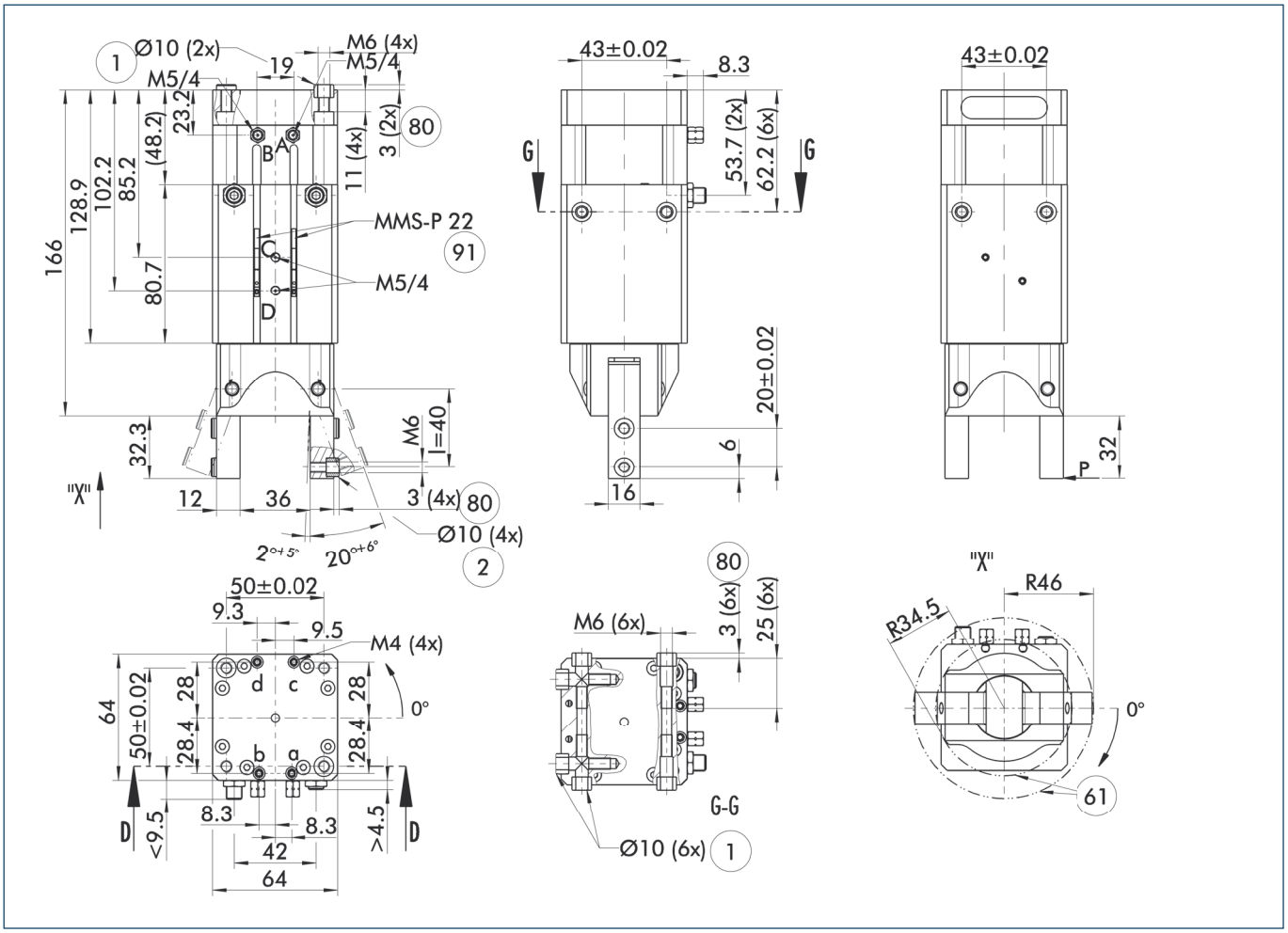
Technical data

Description		GSM-W 32-AS-E-090	GSM-W 32-AS-S-090
ID		**0304677**	**0304777**
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	7.4	7.4
Spring-actuated closing moment	[Nm]	1.8	1.8
Torque	[Nm]	2.7	2.7
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.84	0.84
Air consumption for gripping	[cm³]	25.56	25.56
Air consumption for swiveling	[cm³]	51	51
Weight	[kg]	1.44	1.44
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3	3
Closing/opening time	[s]	0.05/0.07	0.05/0.07
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	64	64
Max. permitted weight per finger	[kg]	0.15	0.15
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 32-AS-E-180	GSM-W 32-AS-S-180
ID		**0303877**	**0303977**
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	85	85
Swiveling time with middle attached load	[s]	0.24	0.24

Main view



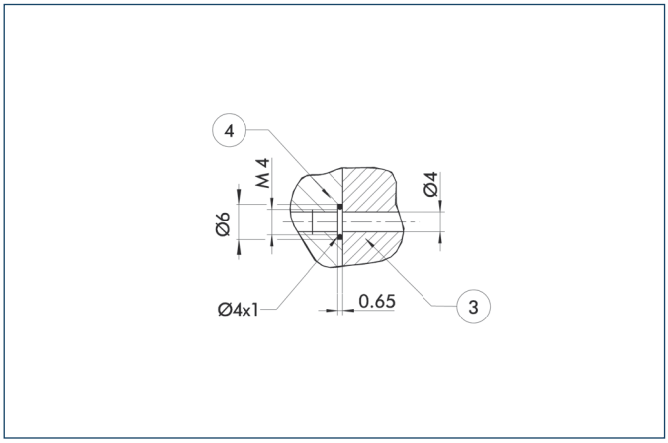
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

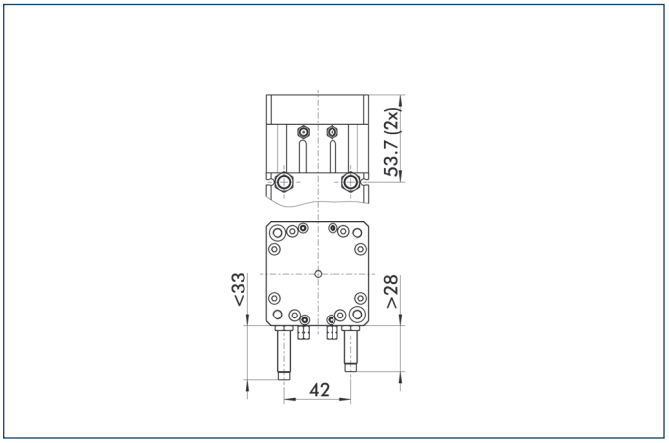
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

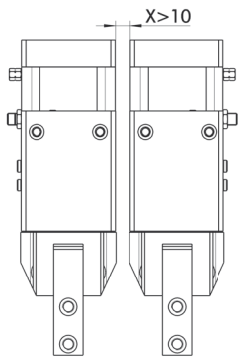
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



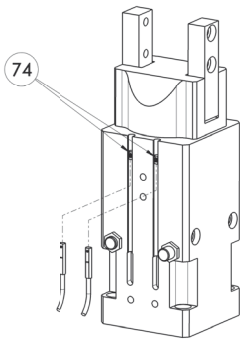
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

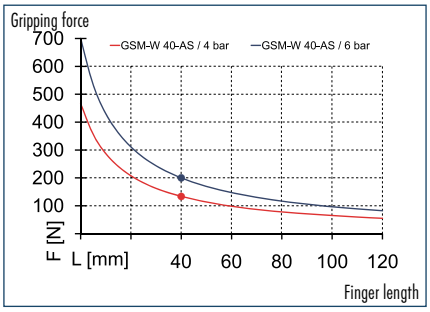
ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

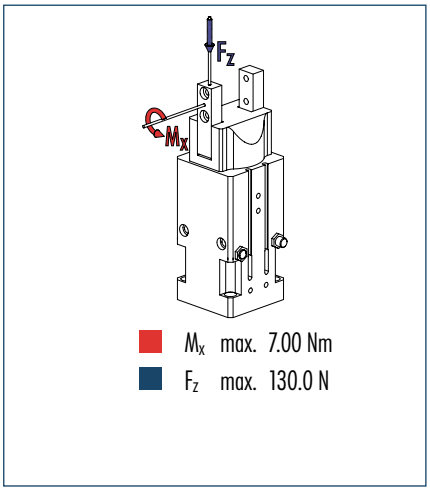
GSM-W 40

Pneumatic • Gripper-Swivel System • Angular Gripper Swivel Module

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

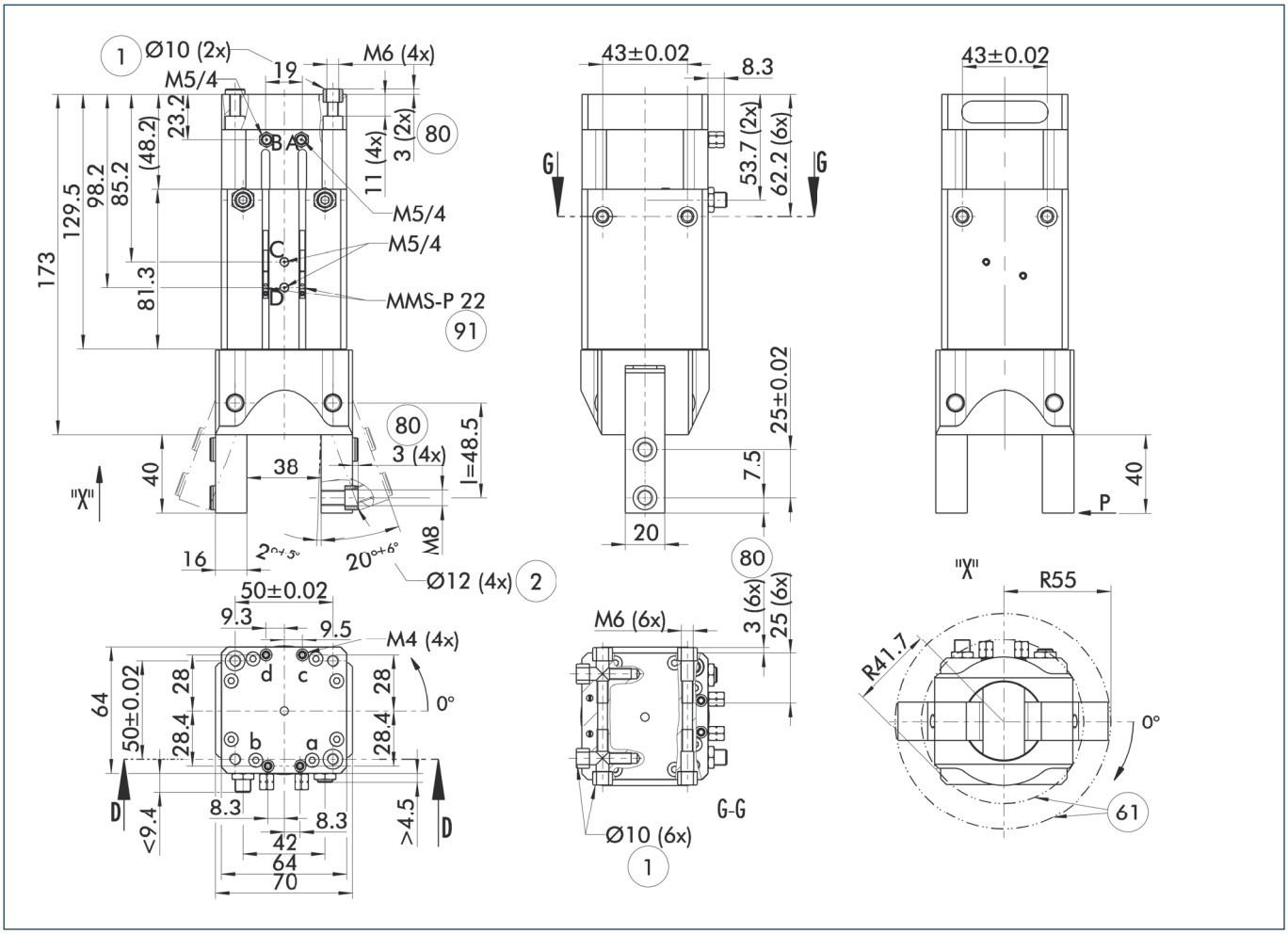
Technical data

Description		GSM-W 40-AS-E-090	GSM-W 40-AS-S-090
ID		**0304687**	**0304787**
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	11.2	11.2
Spring-actuated closing moment	[Nm]	2.6	2.6
Torque	[Nm]	2.6	2.6
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	1	1
Air consumption for gripping	[cm³]	48.04	48.04
Air consumption for swiveling	[cm³]	51	51
Weight	[kg]	1.73	1.73
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3	3
Closing/opening time	[s]	0.07/0.1	0.07/0.1
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	80	80
Max. permitted weight per finger	[kg]	0.25	0.25
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 40-AS-E-180	GSM-W 40-AS-S-180
ID		**0303887**	**0303987**
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	85	85
Swiveling time with middle attached load	[s]	0.24	0.24

Main view



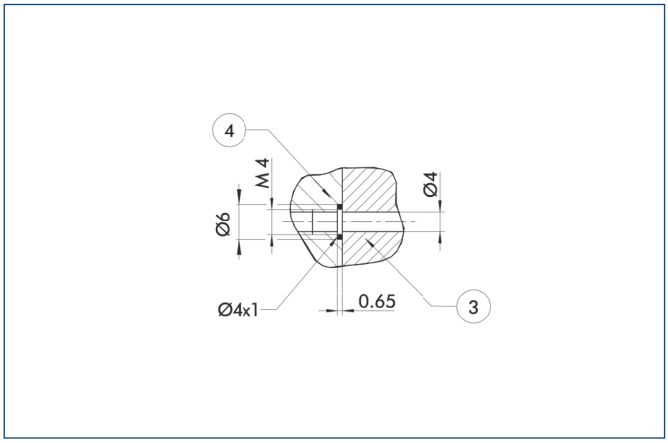
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

1 Connection gripper-rotary actuator
2 Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

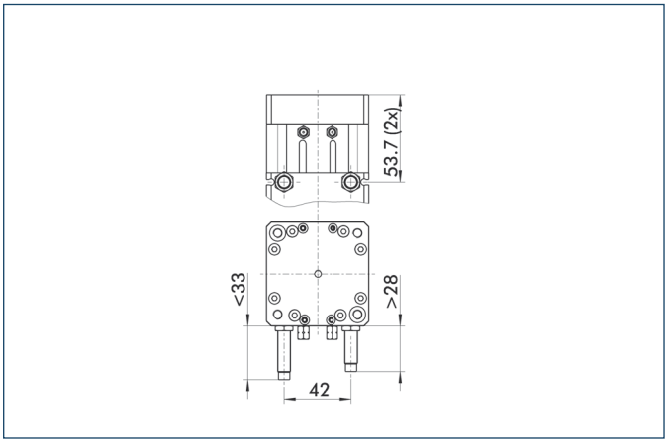
Hose-free direct connection



3 Adapter
4 Gripper swivel module

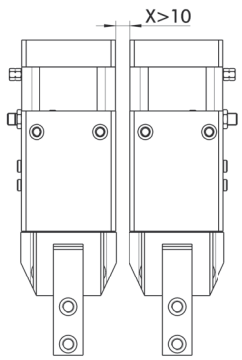
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



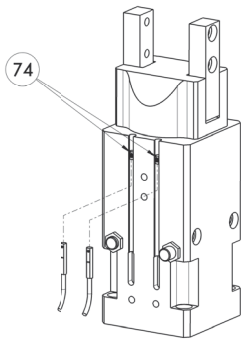
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

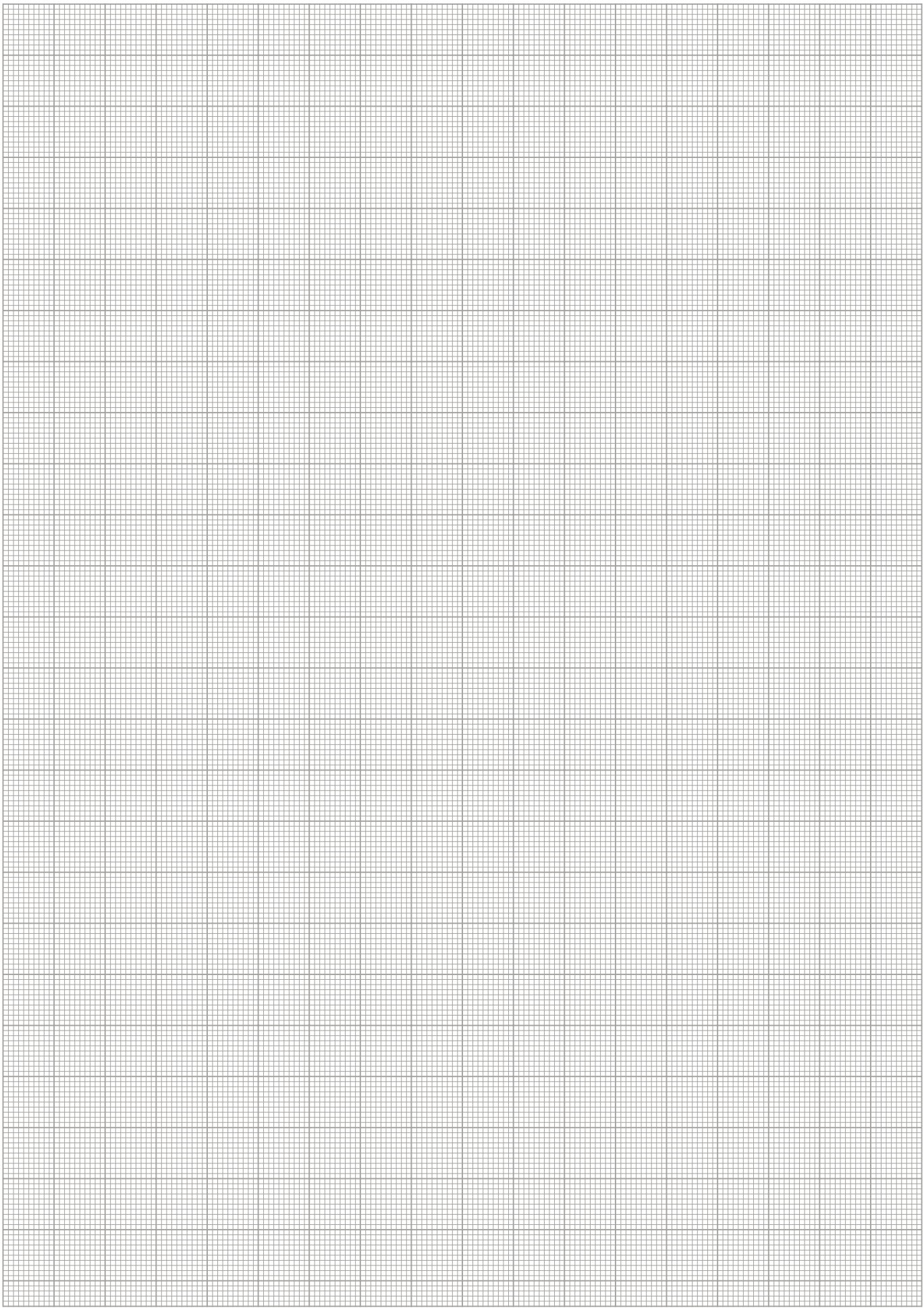
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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



Sizes
16 ... 40

Weight
0.49 kg ... 2.19 kg

Gripping moment
0.9 Nm ... 15 Nm

Angle per jaw
90°

Torque
0.3 Nm ... 2.9 Nm

Application example

Double converter for simultaneous conversion of two workpieces on a separate workpiece carrier.

1. GSM-R Gripper Swivel Module
2. Linear module LM

Radial Gripper Swivel Module

compact rotary gripper combination, consisting of a powerful pneumatic rotary actuator, an end position and damping mechanism and a radial gripper

Field 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

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

Economical
since adapter plates are not needed, there will be costs for project planning and engineering design

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

Process reliability
as moving cables and hoses are replaced by integrated feed-throughs

Comprehensive accessories
through the use of existing gripper components

General note to the series

Principle of function
double-acting, guided kinematics

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

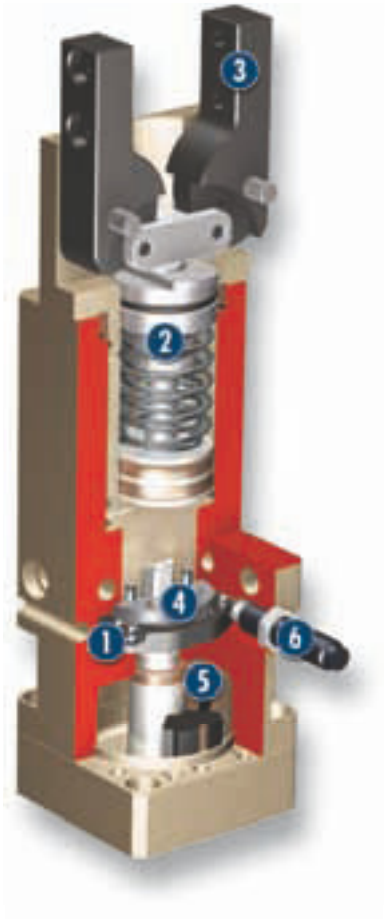
Actuation
pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

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

Sectional diagram



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

2 **Gripper drive**
via integrated pneumatic piston

3 **Base jaw**
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

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

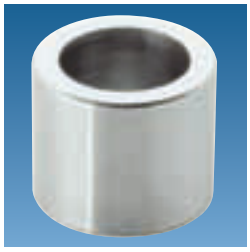
Options and special information

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

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves

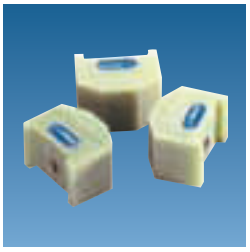


Fittings

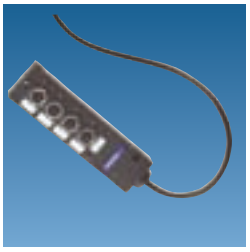
Programmable magnetic switch

Sensor cables

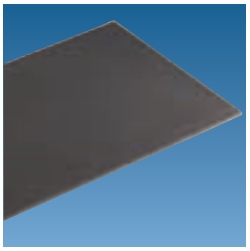
Plastic inserts



Sensor Distributor



Gripper pads



Pressure maintenance valve

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

General note to the series

Gripping moment

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

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

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, 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.

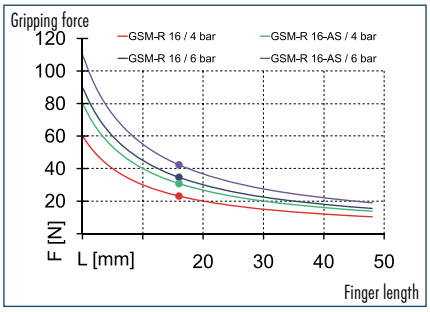
Middle attached load

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

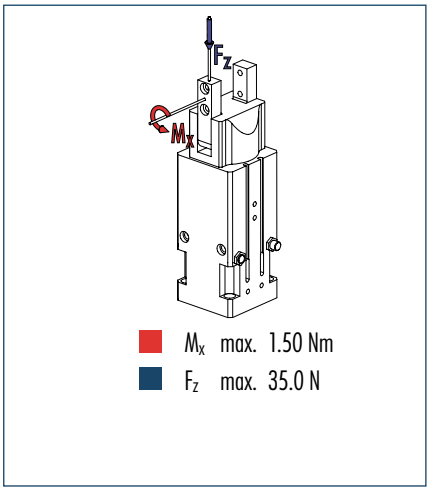
GSM-R 16

Pneumatic • Gripper-Swivel System • Radial Gripper Swivel Module

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

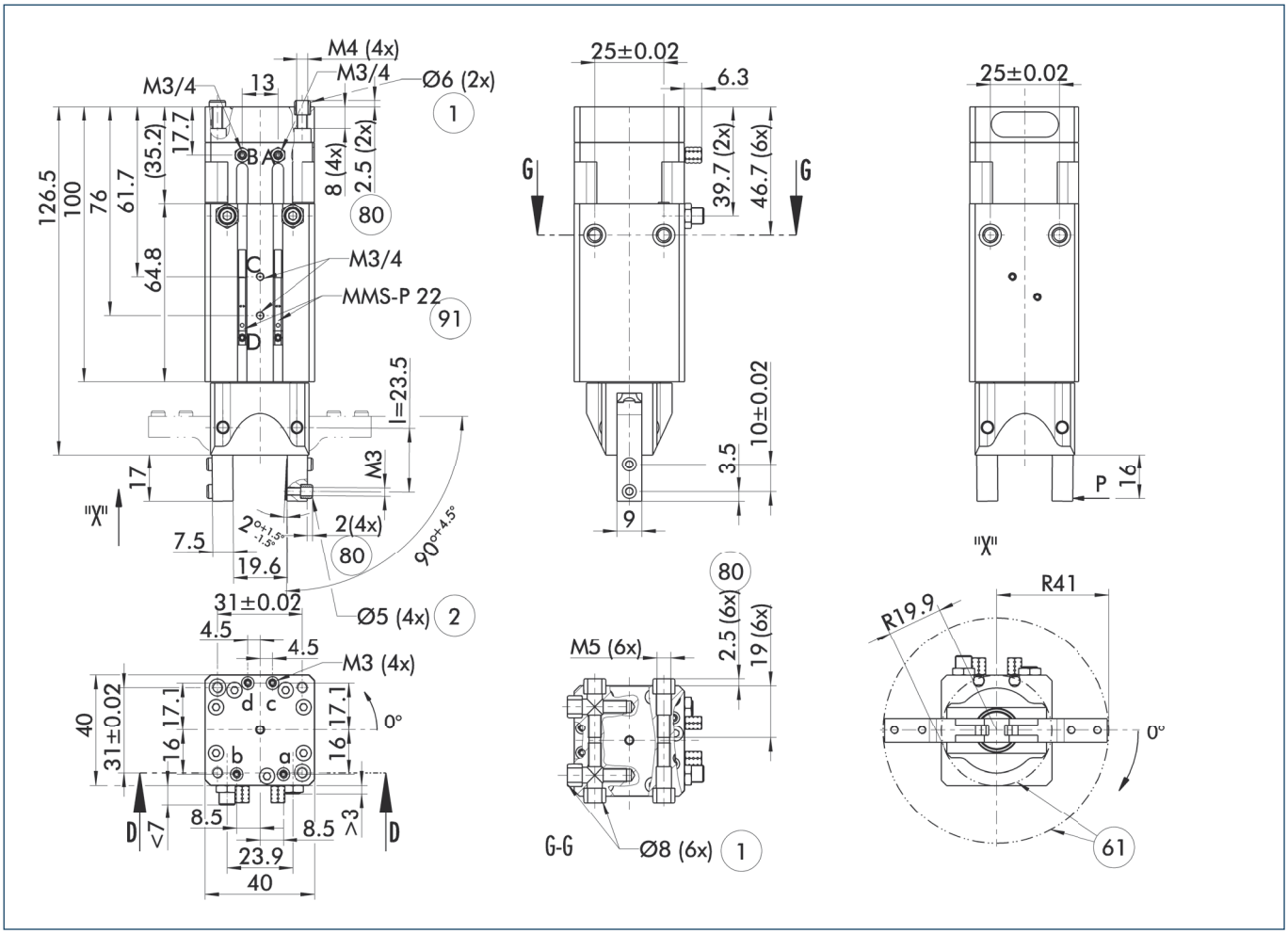
Technical data

Description		GSM-R 16-E-090	GSM-R 16-S-090	GSM-R 16-AS-E-090	GSM-R 16-AS-S-090
ID		**0304638**	**0304738**	**0304639**	**0304739**
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	0.9	0.9	1.1	1.1
Spring-actuated closing moment	[Nm]			0.2	0.2
Torque	[Nm]	0.35	0.35	0.35	0.35
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.17	0.17	0.17	0.17
Air consumption for gripping	[cm³]	8.95	8.95	8.95	8.95
Air consumption for swiveling	[cm³]	9	9	9	9
Weight	[kg]	0.49	0.49	0.49	0.49
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.09/0.07	0.09/0.07	0.1/0.09	0.1/0.09
Swiveling time with middle attached load	[s]	0.12	0.12	0.12	0.12
Max. permitted finger length	[mm]	32	32	32	32
Max. permitted weight per finger	[kg]	0.04	0.04	0.04	0.04
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 16-E-180	GSM-R 16-S-180	GSM-R 16-AS-E-180	GSM-R 16-AS-S-180
ID		**0303838**	**0303938**	**0303839**	**0303939**
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15
Swiveling time with middle attached load	[s]	0.18	0.18	0.18	0.18

Main view



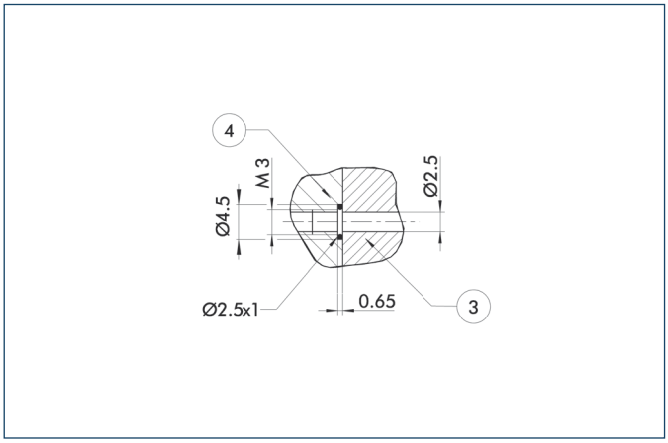
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

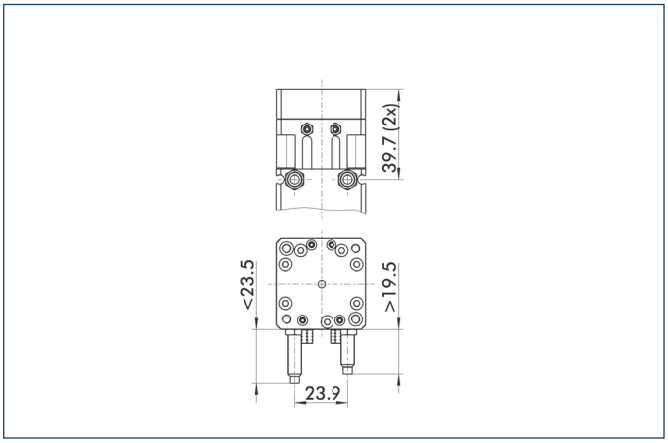
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

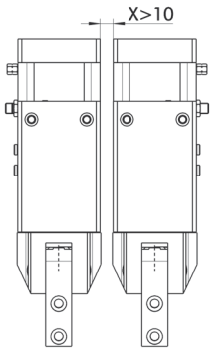
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



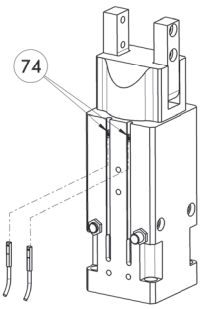
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

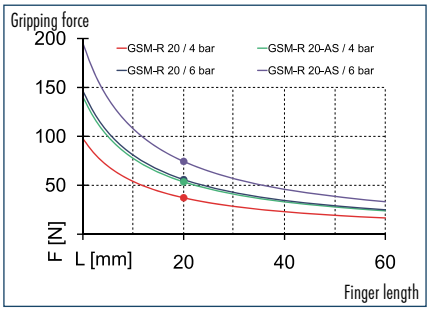
ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

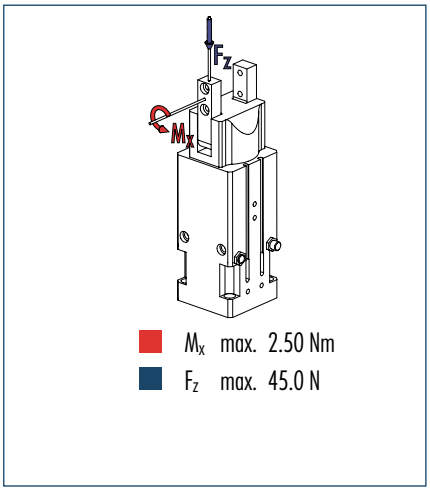
GSM-R 20

Pneumatic • Gripper-Swivel System • Radial Gripper Swivel Module

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

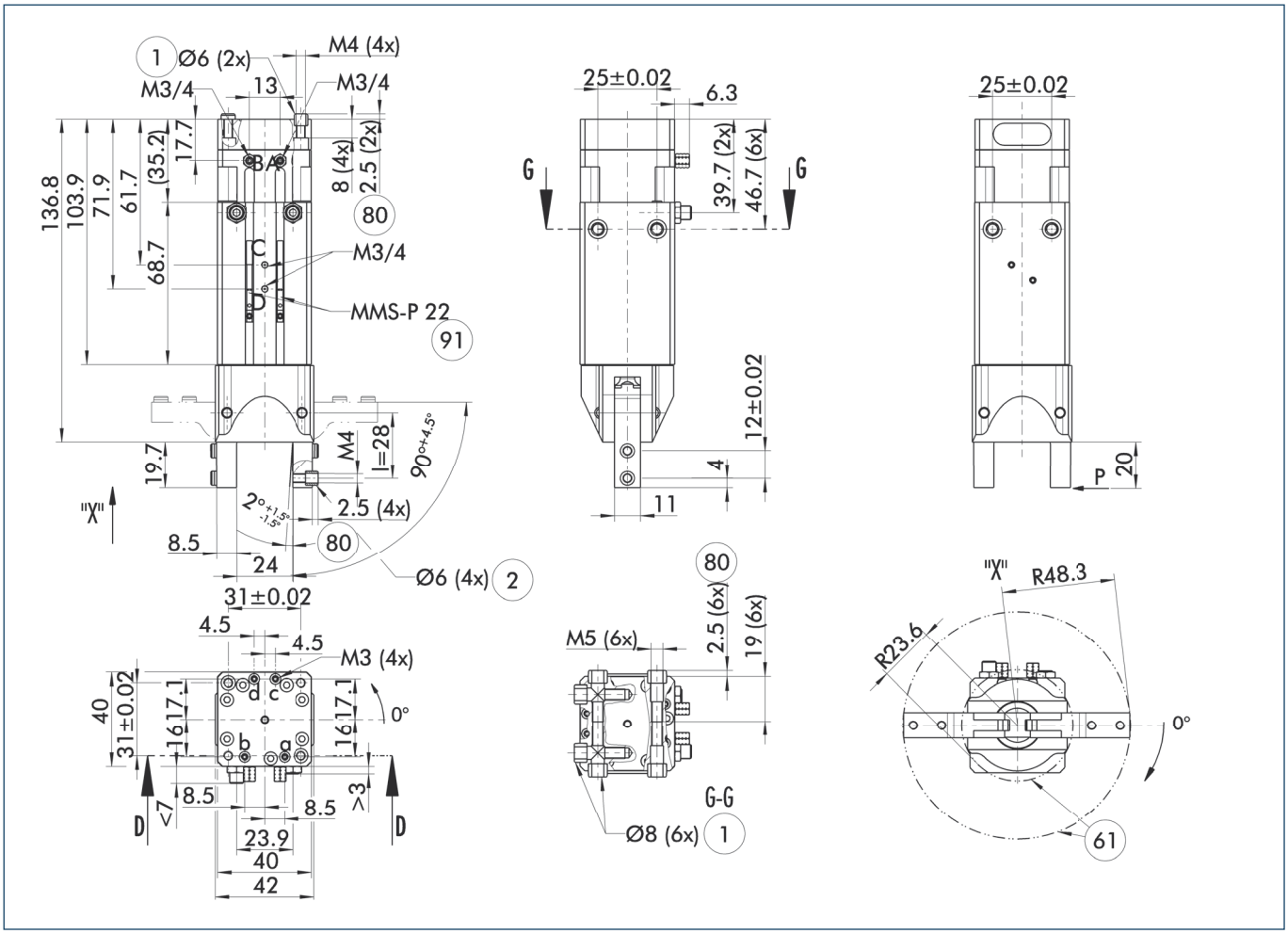
Technical data

Description		GSM-R 20-E-090	GSM-R 20-S-090	GSM-R 20-AS-E-090	GSM-R 20-AS-S-090
ID		**0304648**	**0304748**	**0304649**	**0304749**
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	1.8	1.8	2.4	2.4
Spring-actuated closing moment	[Nm]			0.6	0.6
Torque	[Nm]	0.3	0.3	0.3	0.3
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.28	0.28	0.28	0.28
Air consumption for gripping	[cm³]	15.49	15.49	15.49	15.49
Air consumption for swiveling	[cm³]	9	9	9	9
Weight	[kg]	0.49	0.49	0.57	0.57
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	4	4	4	4
Closing/opening time	[s]	0.1/0.09	0.1/0.09	0.1/0.12	0.1/0.12
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	40	40	40	40
Max. permitted weight per finger	[kg]	0.07	0.07	0.07	0.07
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 20-E-180	GSM-R 20-S-180	GSM-R 20-AS-E-180	GSM-R 20-AS-S-180
ID		**0303848**	**0303948**	**0303849**	**0303949**
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15
Swiveling time with middle attached load	[s]	0.22	0.22	0.22	0.22

Main view



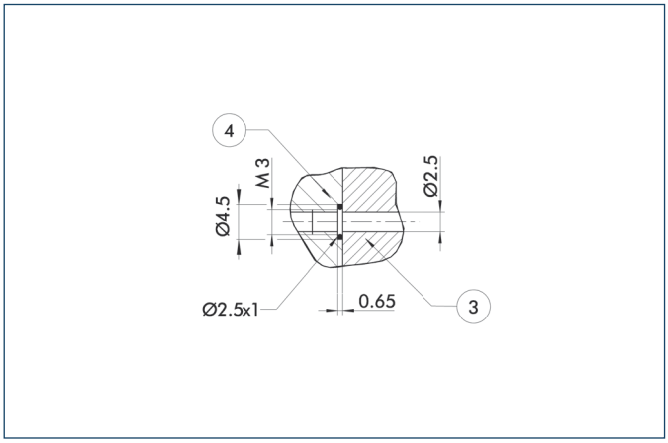
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

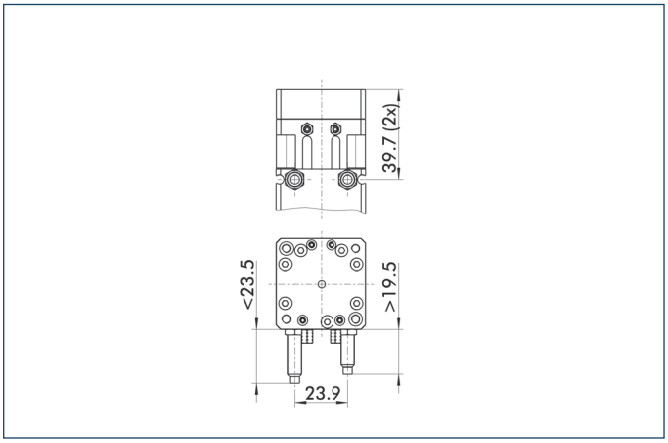
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

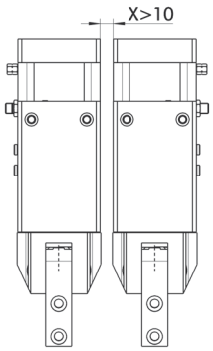
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



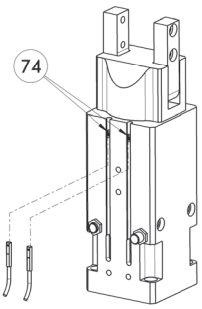
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

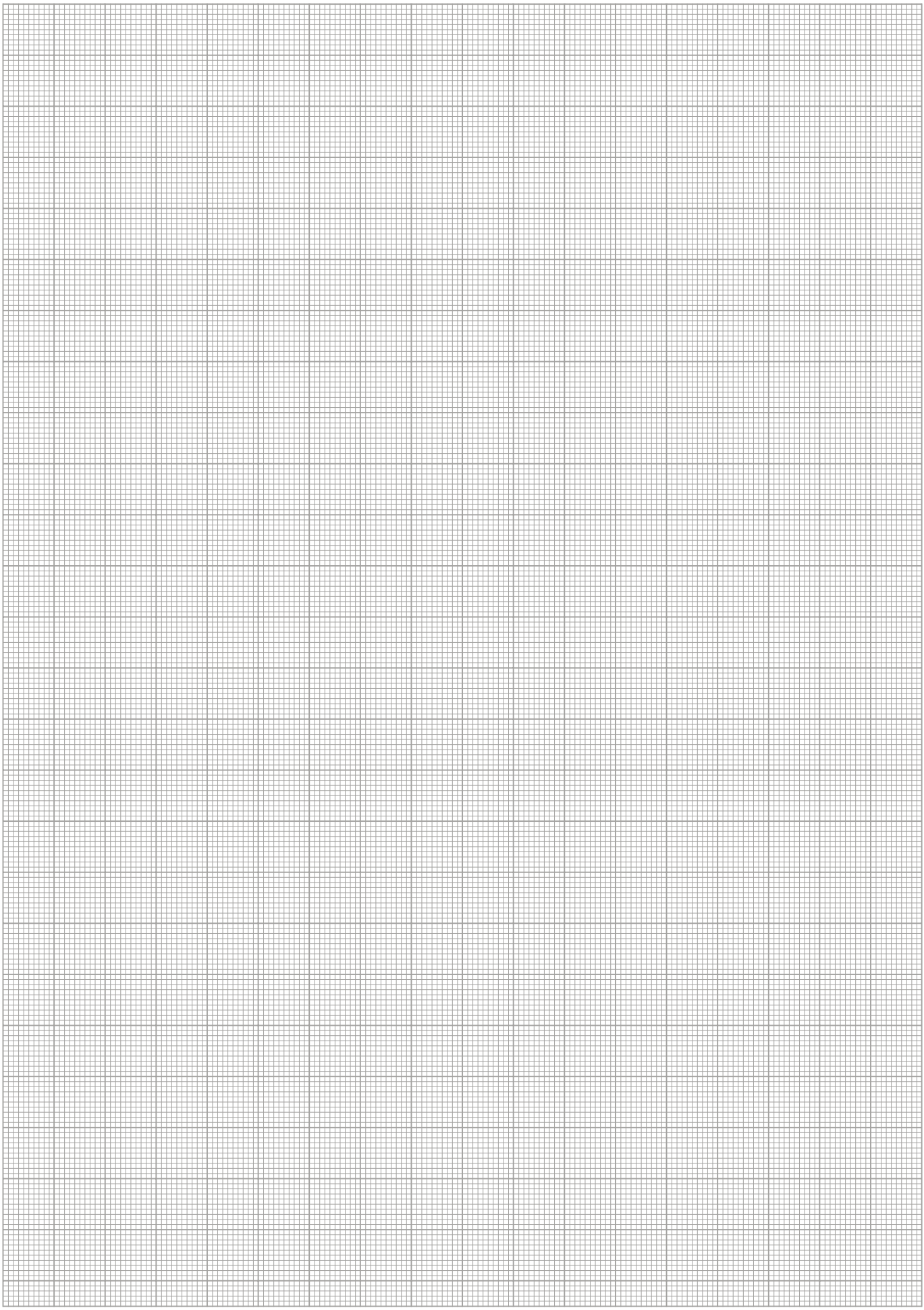
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

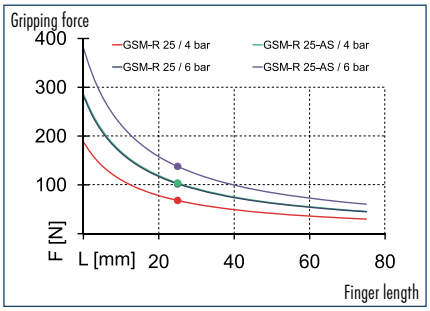
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



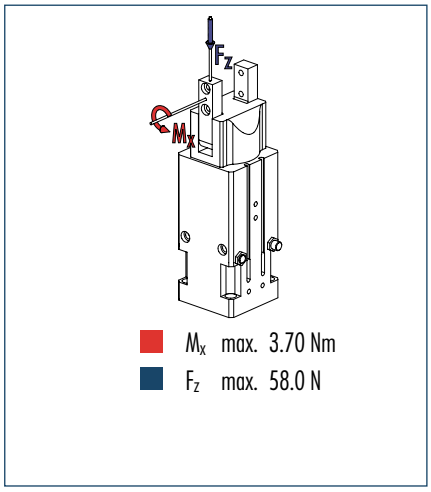
GSM-R 25

Pneumatic • Gripper-Swivel System • Radial Gripper Swivel Module

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

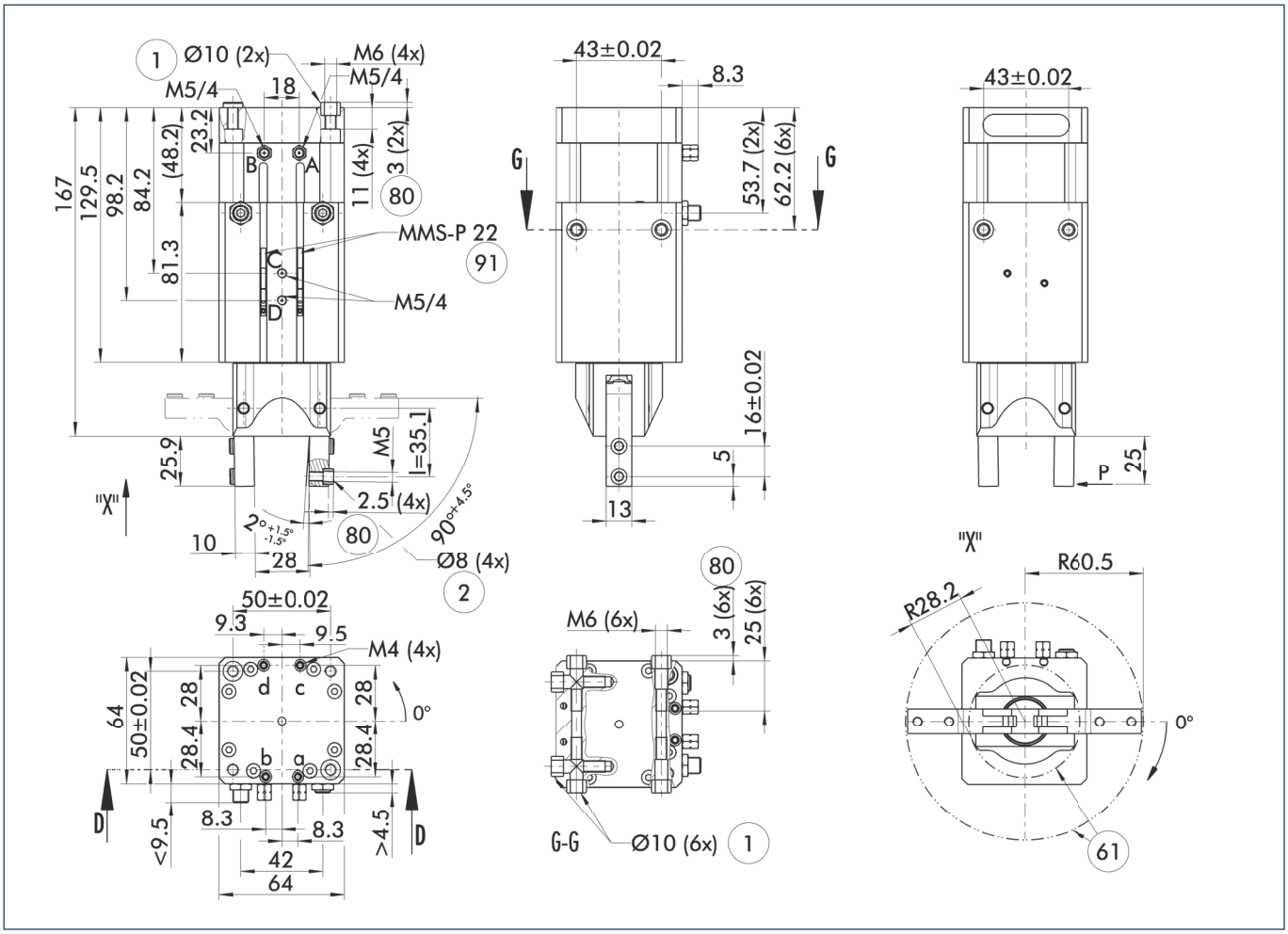
Technical data

Description		GSM-R 25-E-090	GSM-R 25-S-090	GSM-R 25-AS-E-090	GSM-R 25-AS-S-090
ID		**0304658**	**0304758**	**0304659**	**0304759**
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	4	4	5.4	5.4
Spring-actuated closing moment	[Nm]			1.4	1.4
Torque	[Nm]	2.9	2.9	2.9	2.9
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.52	0.52	0.52	0.52
Air consumption for gripping	[cm³]	27.37	27.37	27.37	27.37
Air consumption for swiveling	[cm³]	51	51	51	51
Weight	[kg]	1.52	1.52	1.53	1.53
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.1/0.09	0.1/0.09	0.1/0.12	0.1/0.12
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	50	50	50	50
Max. permitted weight per finger	[kg]	0.1	0.1	0.1	0.1
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 25-E-180	GSM-R 25-S-180	GSM-R 25-AS-E-180	GSM-R 25-AS-S-180
ID		**0303858**	**0303958**	**0303859**	**0303959**
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24

Main view



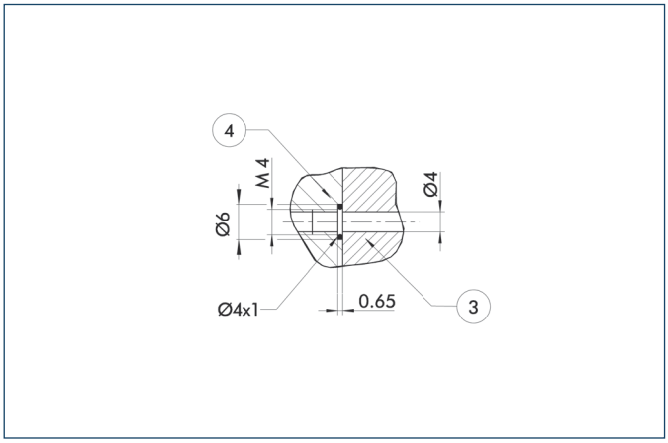
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

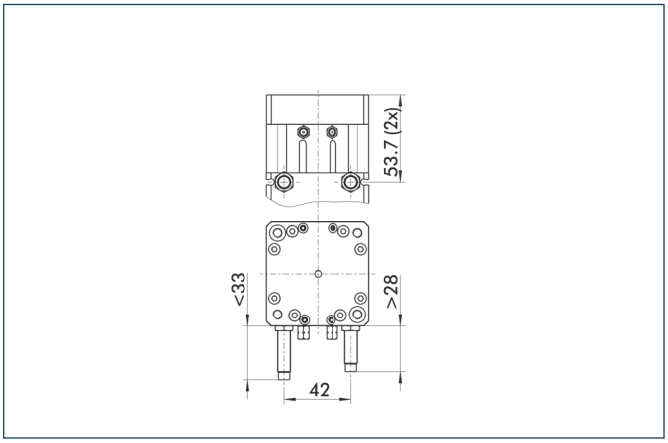
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

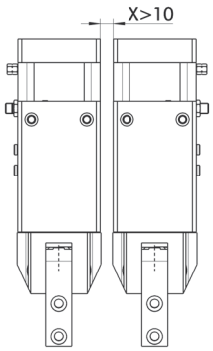
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



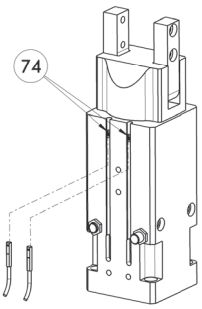
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

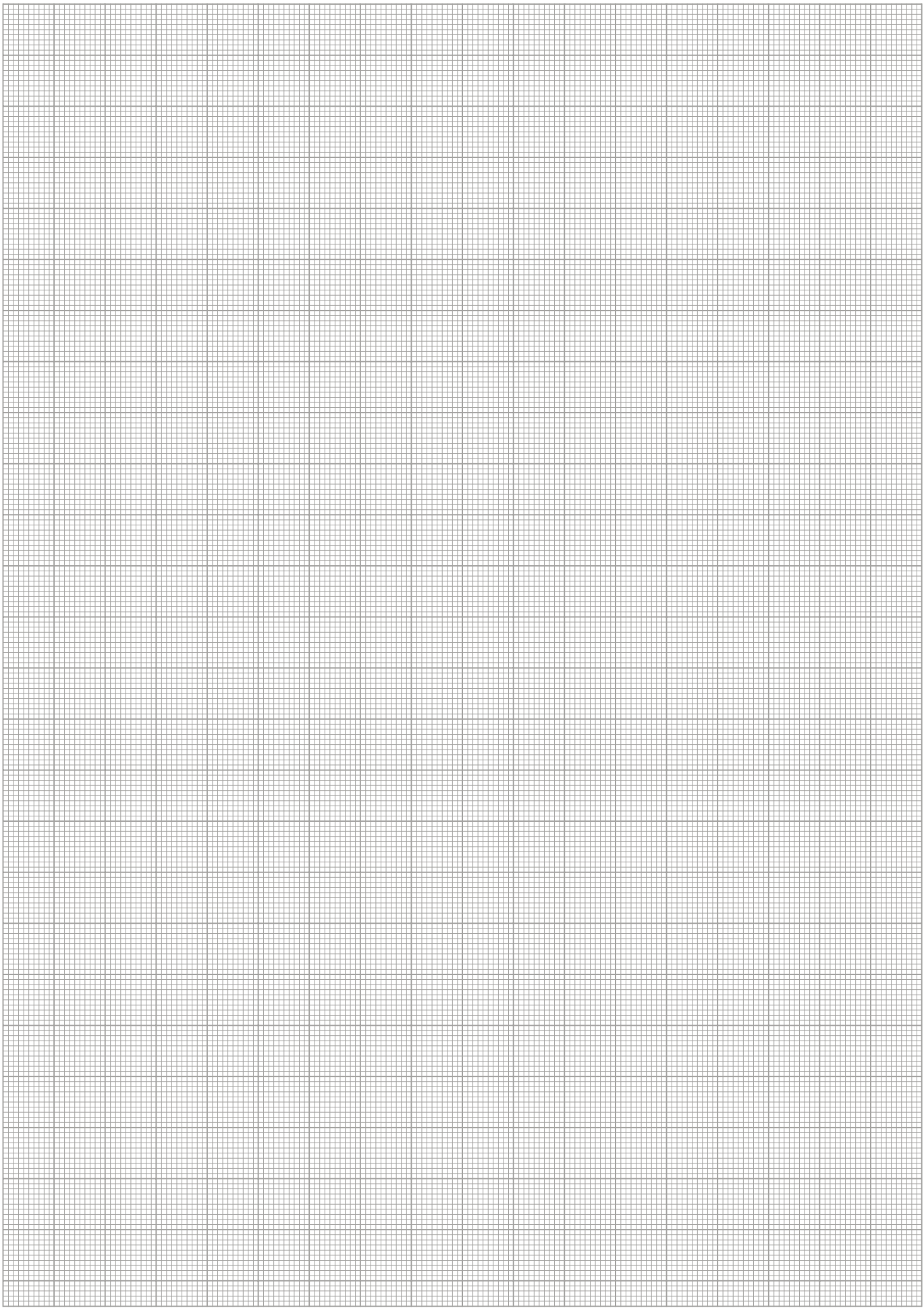
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

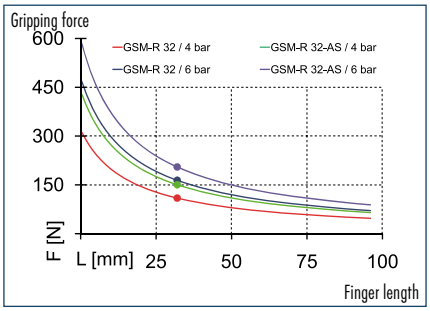
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



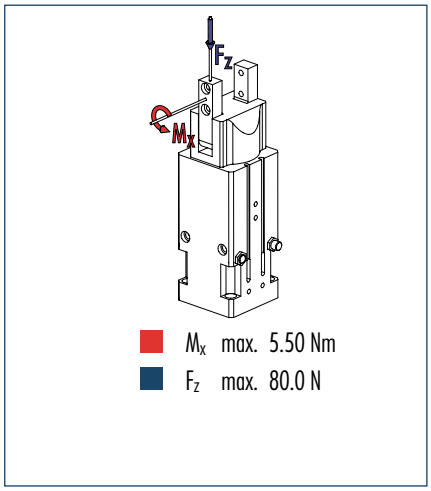
GSM-R 32

Pneumatic • Gripper-Swivel System • Radial Gripper Swivel Module

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

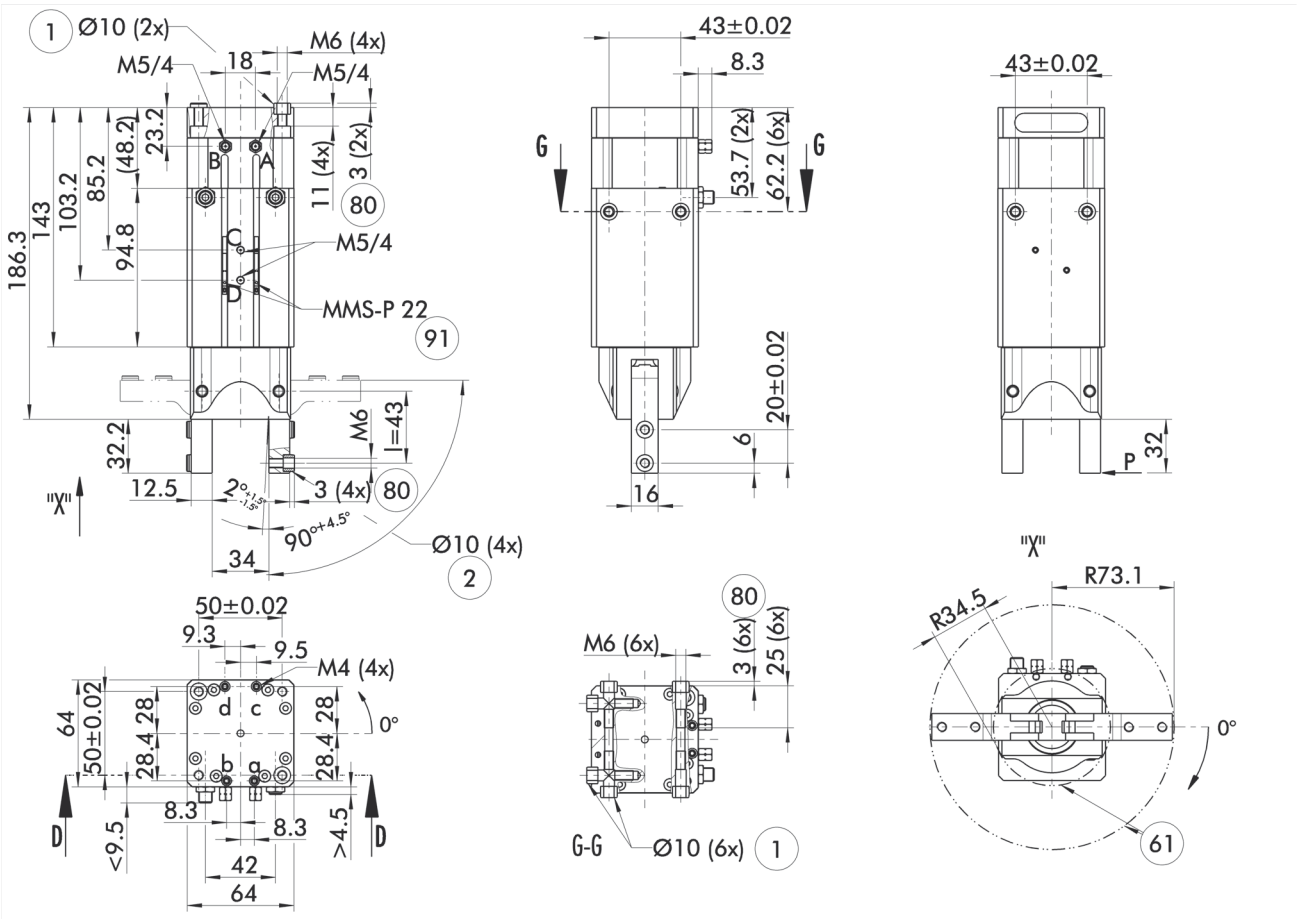
Technical data

Description		GSM-R 32-E-090	GSM-R 32-S-090	GSM-R 32-AS-E-090	GSM-R 32-AS-S-090
ID		**0304678**	**0304778**	**0304679**	**0304779**
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	8	8	10	10
Spring-actuated closing moment	[Nm]			2	2
Torque	[Nm]	2.6	2.6	2.6	2.6
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.85	0.85	0.85	0.85
Air consumption for gripping	[cm³]	48.77	48.77	48.77	48.77
Air consumption for swiveling	[cm³]	51	51	51	51
Weight	[kg]	1.83	1.83	1.86	1.86
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.11/0.12	0.11/0.12	0.12/0.17	0.12/0.17
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	64	64	64	64
Max. permitted weight per finger	[kg]	0.15	0.15	0.15	0.15
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 32-E-180	GSM-R 32-S-180	GSM-R 32-AS-E-180	GSM-R 32-AS-S-180
ID		**0303878**	**0303978**	**0303879**	**0303979**
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24

Main view



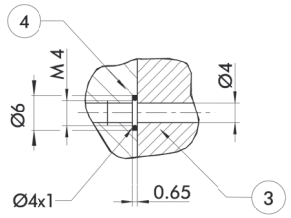
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

① Connection gripper-rotary actuator
② Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

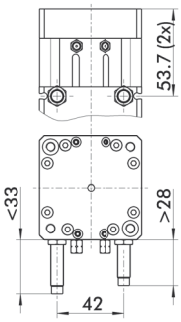
Hose-free direct connection



③ Adapter
④ Gripper swivel module

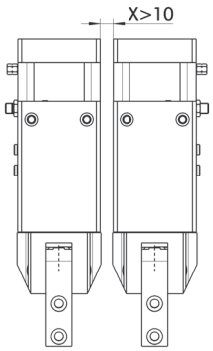
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



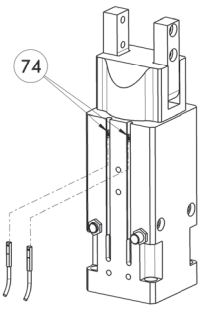
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

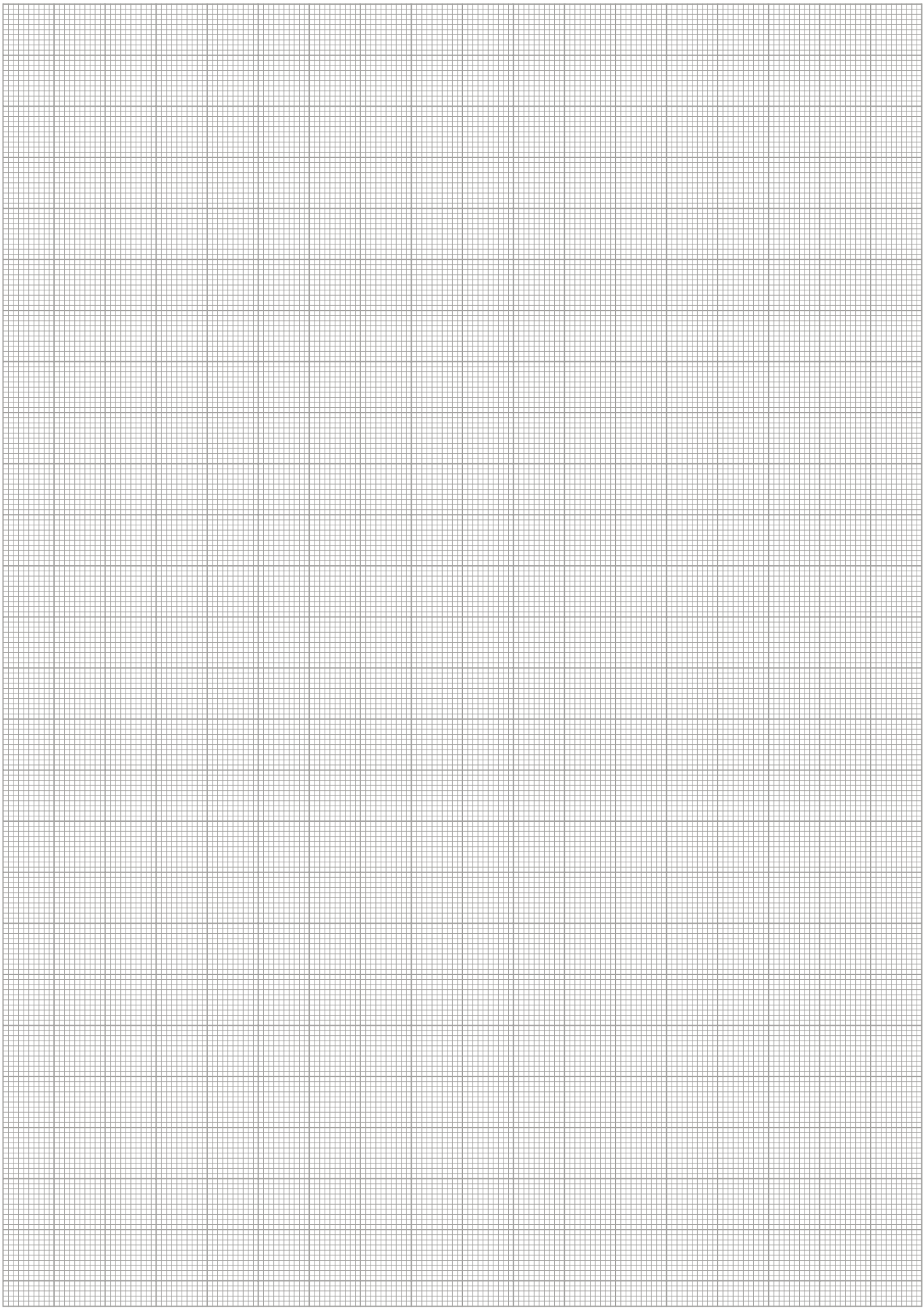
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

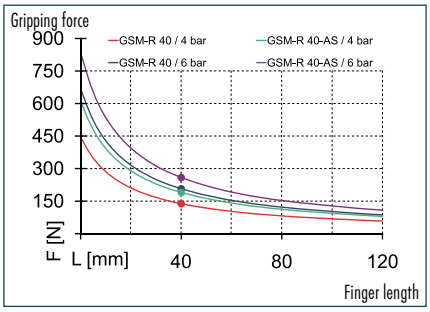
ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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

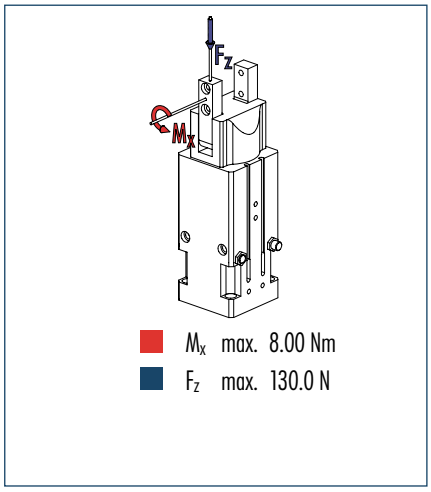


GSM-R 40

Gripping force, O.D. gripping



Finger load



ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

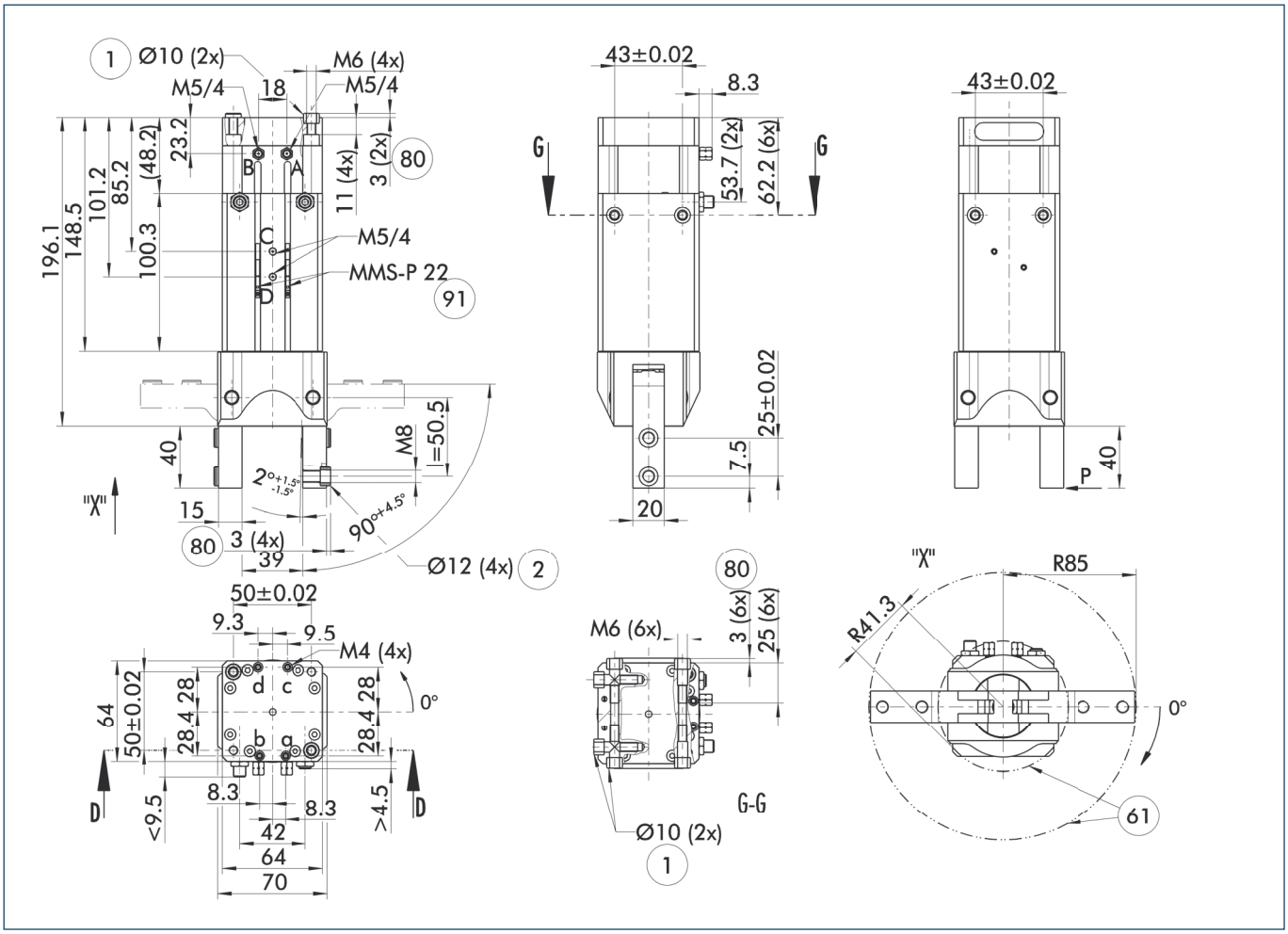
Technical data

Description		GSM-R 40-E-090	GSM-R 40-S-090	GSM-R 40-AS-E-090	GSM-R 40-AS-S-090
ID		**0304688**	**0304788**	**0304689**	**0304789**
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	12	12	15	15
Spring-actuated closing moment	[Nm]			3	3
Torque	[Nm]	2.3	2.3	2.3	2.3
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	1	1	1	1
Air consumption for gripping	[cm³]	80.52	80.52	80.52	80.52
Air consumption for swiveling	[cm³]	51	51	51	51
Weight	[kg]	2.15	2.15	2.19	2.19
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.23/0.18	0.23/0.18	0.21/0.3	0.21/0.3
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	80	80	80	80
Max. permitted weight per finger	[kg]	0.25	0.25	0.25	0.25
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 40-E-180	GSM-R 40-S-180	GSM-R 40-AS-E-180	GSM-R 40-AS-S-180
ID		**0303888**	**0303988**	**0303889**	**0303989**
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24

Main view

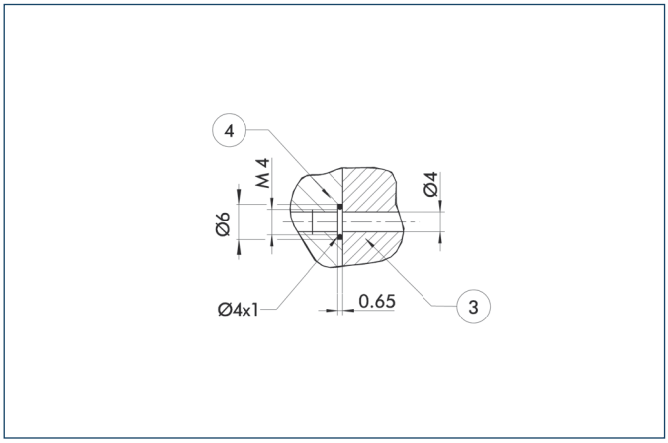


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing
(1) Connection gripper-rotary actuator
(2) Finger connection
(61) Interfering contour during swiveling
(80) Depth of the centering sleeve hole in the matching part
(91) Monitoring of gripping and swiveling

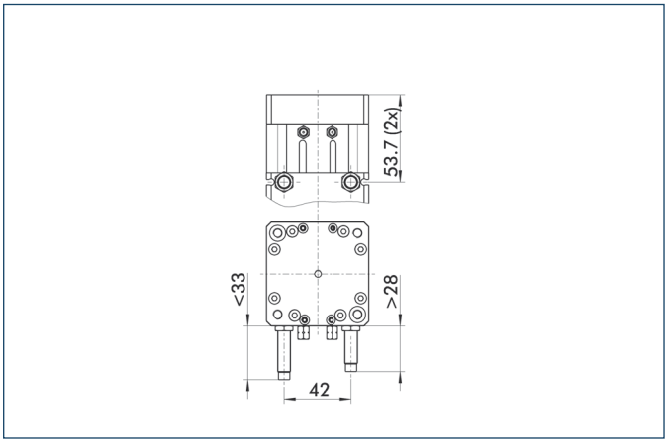
Hose-free direct connection



(3) Adapter
(4) Gripper swivel module

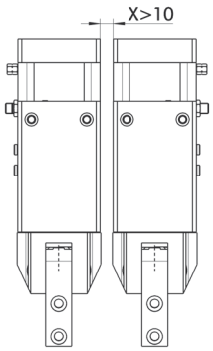
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



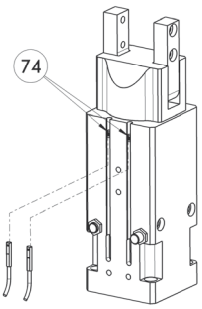
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

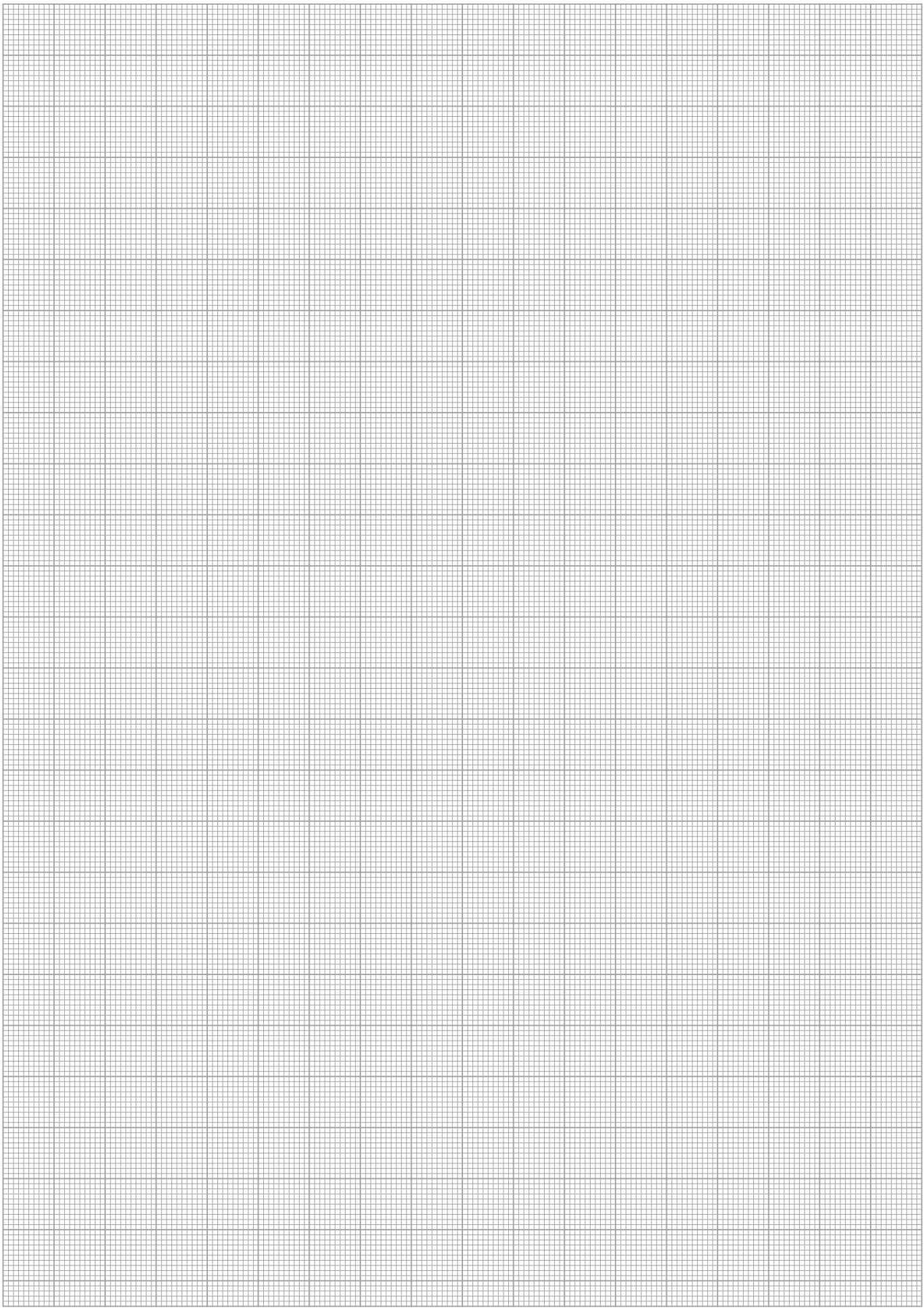
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	**0301370**	•
MMSK-P 22-S-PNP	**0301371**	
Connection cables		
KA BG08-L 4P-0500	**0307767**	
KA BG08-L 4P-1000	**0307768**	
KA BW08-L 4P-0500	**0307765**	
KA BW08-L 4P-1000	**0307766**	
Sensor Distributor		
V2-M8-4P-2XM8-3P	**0301380**	

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

ⓘ Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

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



Electric Gripping Modules

2-Finger Parallel Gripper

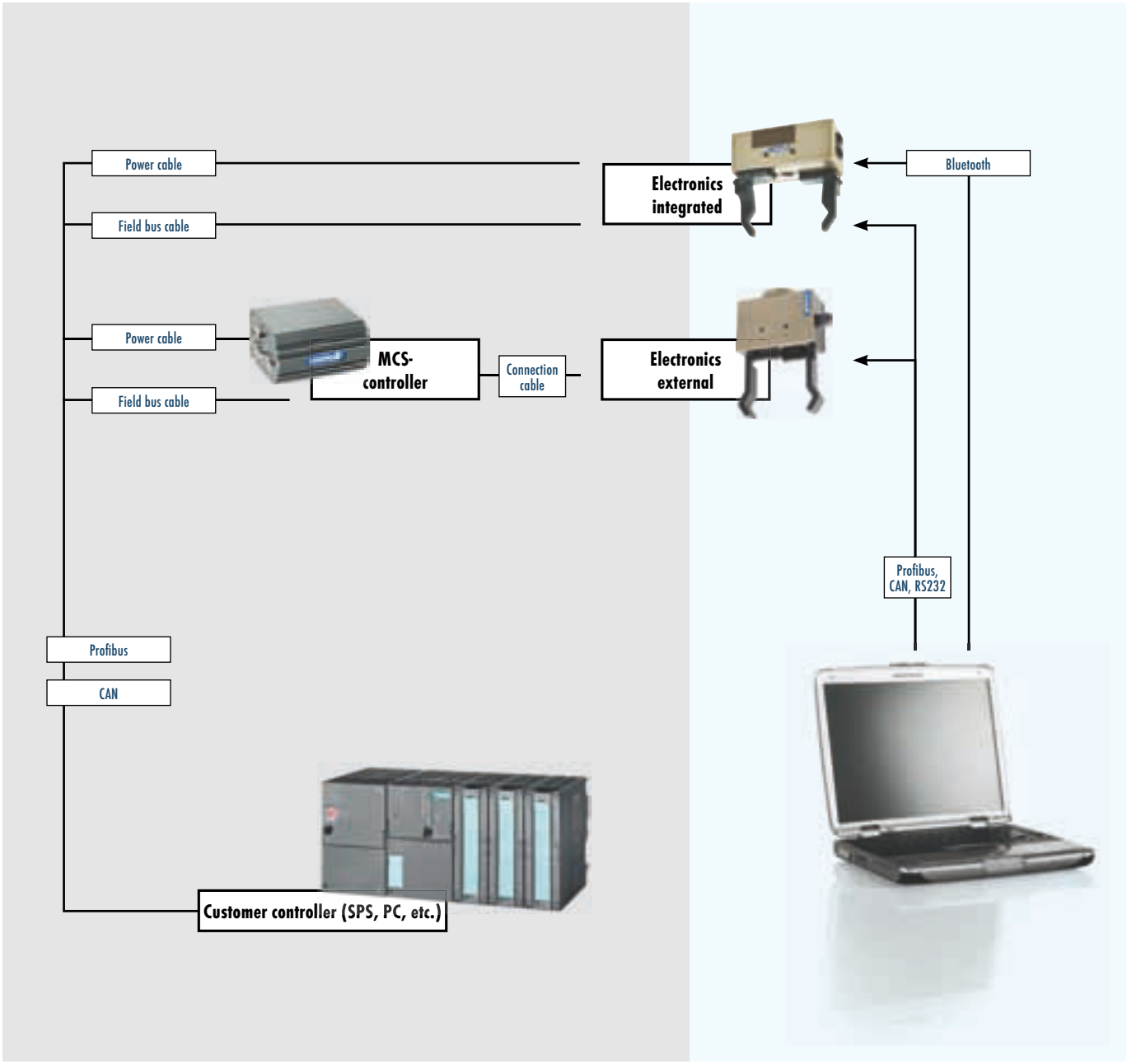
2-FINGER PARALLEL GRIPPER

Control

To control the electric gripping modules, the approved SCHUNK electronics with SMP is used.

Productive application

Parameterisation/diagnostics



Your advantages and benefits

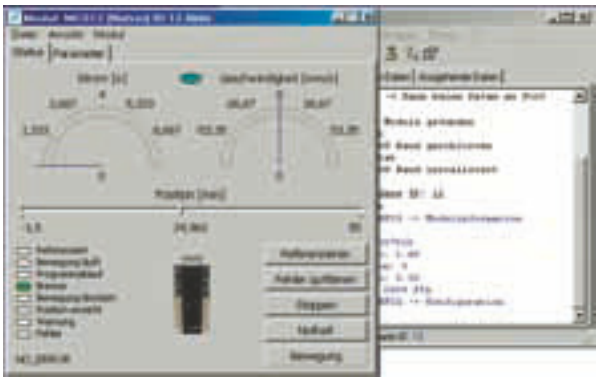
Control and feedback control electronics
integrated or external in one housing

Easy control
via Schunk Motion Protocol (SMP) or by software blocks for e.g. Siemens PLC SIMATIC S7

Fast and easy setup
supported by an integrated setup wizard

MCDemo setup software

The MCDemo programming software lets you setup the electric gripper fast and easy.
This is also supported by an integrated setup wizard. Instructions are supplied on data carriers.



MCDemo: simple parameterisation, setup and diagnostics

Setup wizard: fast and simple setup

Contol via FB10 function block for Siemens S7-300/400

The FB10 function block eases the communication between the S7 and the SMP protocol of the electric gripper.
Thereby, the electric gripper can be easily controlled and feedback signals can be evaluated.

```
CALL  "FB_MODULE_PB" , "DB_INSTANCE_MODULE_1"
 I_ADDR            :=W#16#100
 I_FL_CYCLE_BYTE   :=1
 I_POS_MODE        :="m_MW0"
 I_ENABLE          :=L60.0
 I_ACK             :=L60.1
 I_RESEND_CMD      :=L60.2
 I_CMD_REF_MODUL   :=L60.3
 I_CMD_JOG_PLUS    :=L60.4
 I_CMD_JOG_MINUS   :=L60.5
 I_CMD_START_POS   :=L60.6
 I_CMD_STOP_MOTION :=L60.7
 I_POS_ZERO        :="m_MD10"
 I_POS_ACCELERATION:="m_MD14"
 I_POS_VELOCITY    :="m_MD18"
 I_POS_SEQUENCE    :="m_MW22"
 I_POS_POSITION    :="m_MD24"
 I_POS_CURRENT     :="m_MD28"
 I_POS_TIME        :="m_MD32"
 I_RES_TIME        :=S5T#2S
 I_TIMER_MEAS      :="t_T10"
 M_REFERENCED      :="m_M3.0"
 M_IN_MOTION       :="m_M3.1"
 M_PROG_ACTIVE     :="m_M3.2"
 M_WARNING         :="m_M3.3"
 M_ALARM           :="m_M3.4"
 M_BRAKE_ACTIVE    :="m_M3.5"
 M_MOTION_BLOCKED  :="m_M3.6"
 M_POS_REACHED     :="m_M3.7"
 M_ACT_POS         :="m_MD36"
 M_ACT_VELO        :="m_MD40"
 M_ACT_CURR        :="m_MD44"
 M_ERROR           :="m_MW48"
BEF   0
```

FB10 (AWL): for simple control, evaluation and diagnostics

MEG

Electrical • 2-Finger Parallel Gripper • Gripper for small components

Sizes
40 ... 64

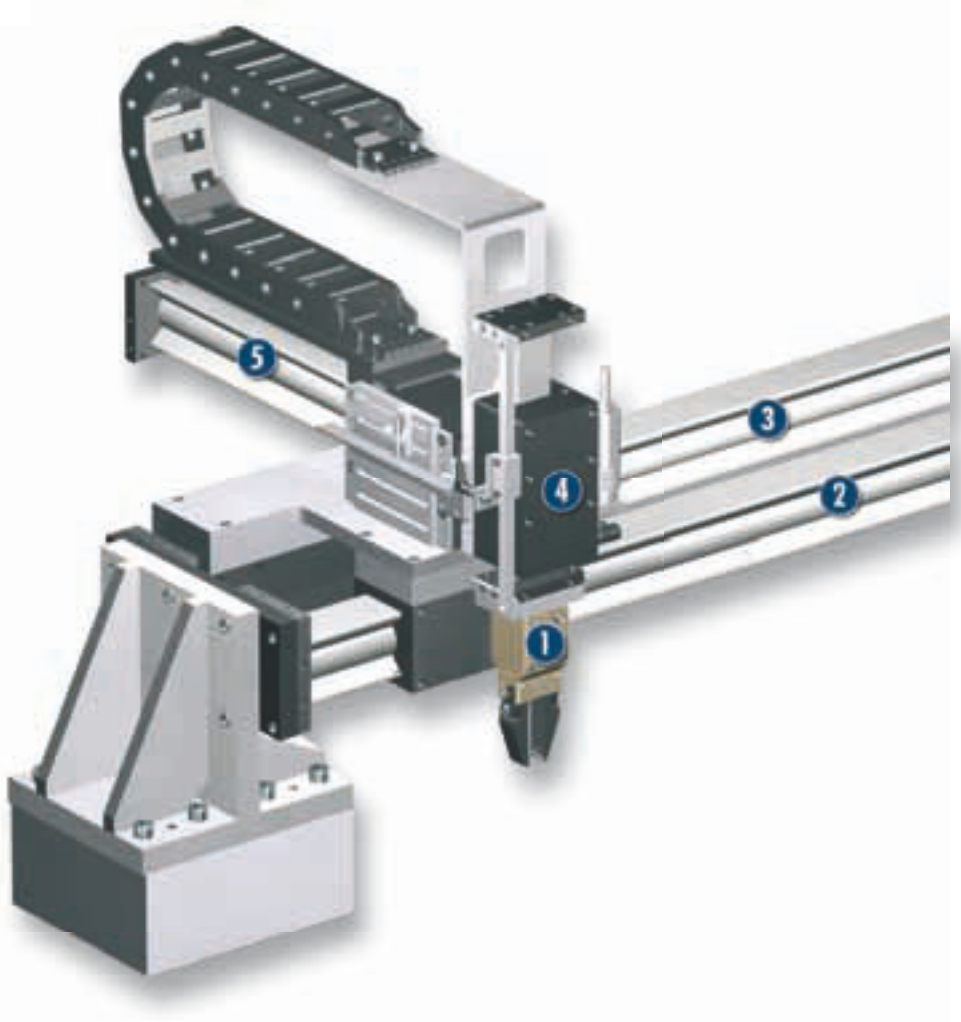
Weight
0.47 kg ... 1.42 kg

Gripping force
40 N ... 175 N

Stroke per finger
6 mm ... 10 mm

Workpiece weight
0.3 kg ... 0.85 kg

Application example



Fully electrically driven, triple-axis automatic insertion unit for small components

1. MEG servo-electric 2-Finger Parallel Gripper
2. MLD Linear Motor Drive
3. Support Axis
4. Short-stroke Axis with direct drive MLD Stroke with reference switch
5. Linear axis with direct drive MLD with measuring system

Gripper for small components

electric 2-finger parallel gripper with smooth-running base jaws guided on roller bearings

Field of application

gripping and motion of small to medium-sized workpieces with flexible force, stroke or speed

Your advantages and benefits

Drive design of step motor
for independent actuation without pneumatics or hydraulics

External electronic system
for control-intensive handling tasks with pre-positioning capability

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

Base jaws guided on double roller bearings
for low friction and smooth running

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

General note to the series

Principle of function
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

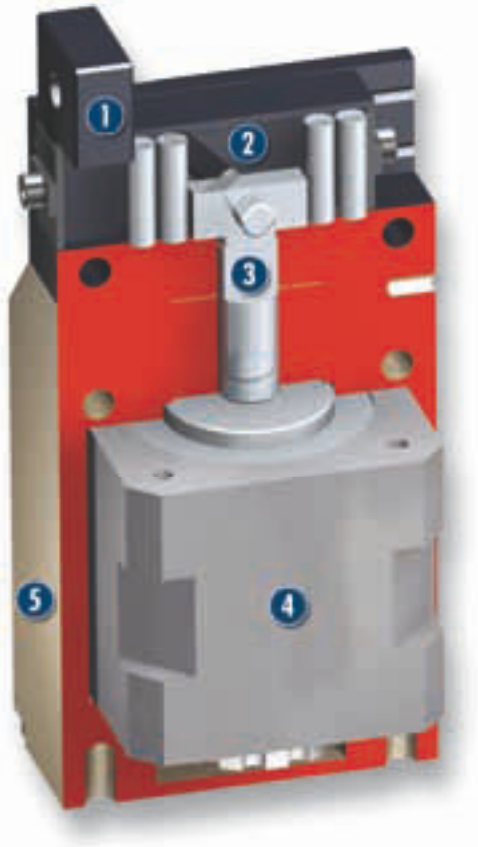
Base jaw material
Steel

Actuation
electrically, via step motor or spindle drive

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering elements, assembly and operating instruction with manufacturer's declaration.
Finger blanks are not included.
For actuating the gripper, an external control unit MEG-C is required.

Sectional diagram



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

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

3 Wedge-hook design
for high power transmission and centric gripping

4 Drive
Step motor with spindle

5 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The spindle is moved upwards or downwards via a step motor drive.
The lateral hooks on top of the spindle guide the angled groove of both base jaws, and this motion transfers into a synchronized opening or closing of the base jaws.

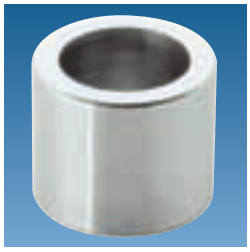
Options and special information

The electrical control of the MEG EC gripper is done via the appropriate MEG-C control unit.
Via digital and analog inputs the gripper parameters force, position and speed as well as the various operating modes are predefined. The status of the gripper can be monitored via digital and analog outputs.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Inductive proximity switches

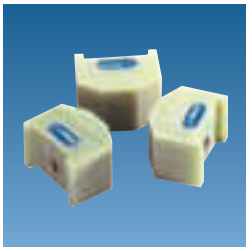
Sensor cables

Control unit

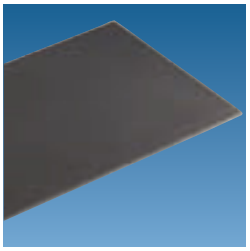
Carbide clamping inserts

Finger blanks

Plastic inserts



Gripper pads



ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping force

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

Finger length

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

Repeat accuracy

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

Workpiece weight

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

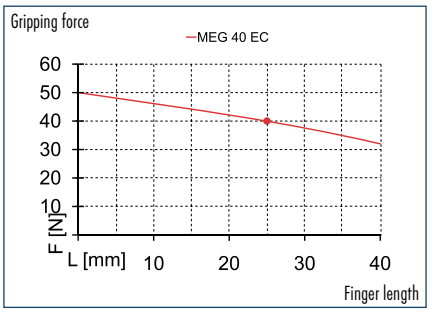
Currents

The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

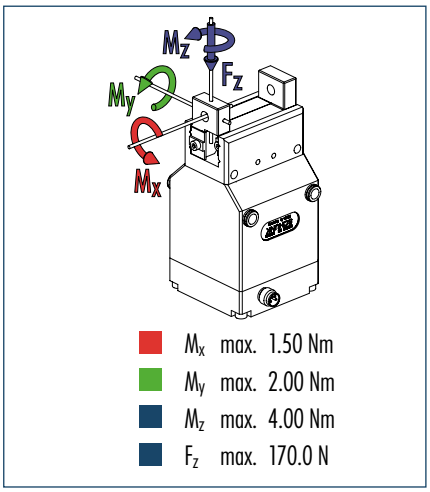
MEG 40

Electrical • 2-Finger Parallel Gripper • Gripper for small components

Gripping force



Finger load

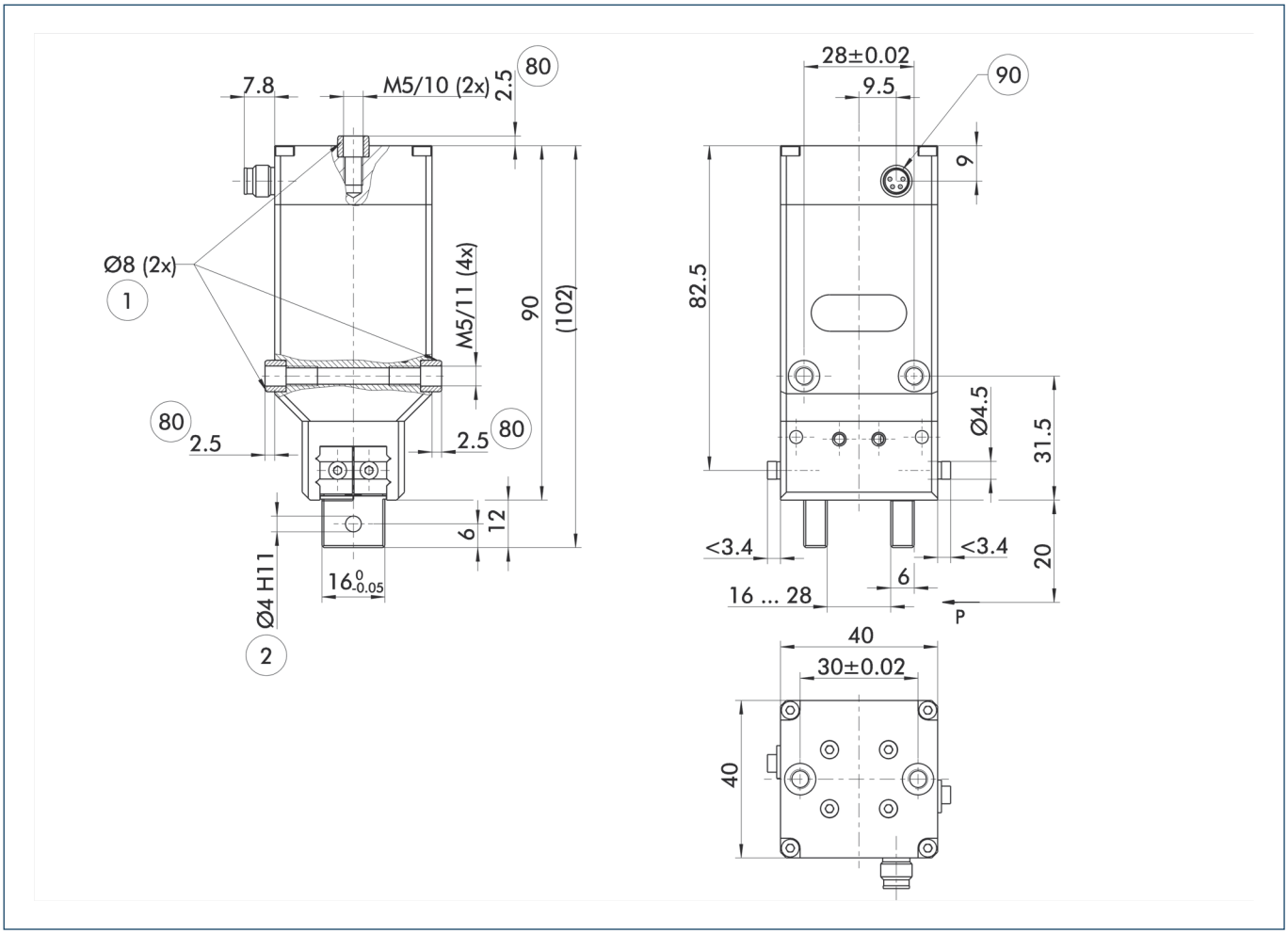


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		MEG 40 EC
ID		**0306008**
General technical data gripper		
Stroke per finger	[mm]	6
Minimum/maximum gripping force	[N]	35/40
Weight	[kg]	0.47
Recommended workpiece weight	[kg]	0.3
Max. permitted finger length	[mm]	40
Max. permitted weight per finger	[kg]	0.08
IP class		30
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.02
Maximum speed	[mm/s]	9.5
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	0.6
Max. total current	[A]	0.6
Controller operating data		
Description		**MEG-C-40**
ID		**0307004**
Implementation		external
Power supply	[V DC]	24
Field bus interface		I/O
Parametrized interface		

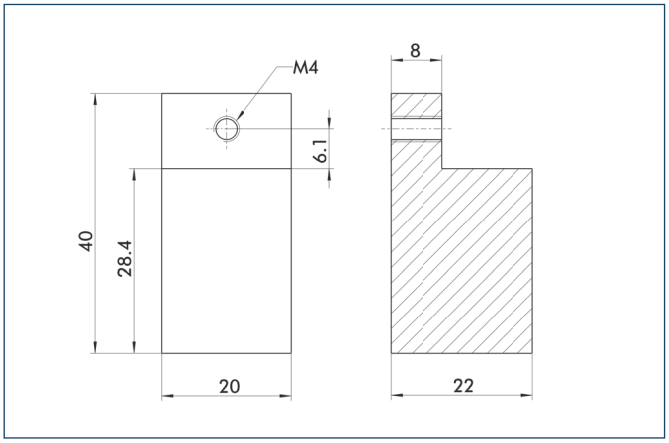
Main view



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

① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 40	**0340213**	Aluminum	2

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

Connection cables

Description	ID	Length
Connection cables		
KA BG08-L 4P-0500	**0307767**	5 m
KA BG08-L 4P-1000	**0307768**	10 m
KA BW08-L 4P-0500	**0307765**	5 m
KA BW08-L 4P-1000	**0307766**	10 m

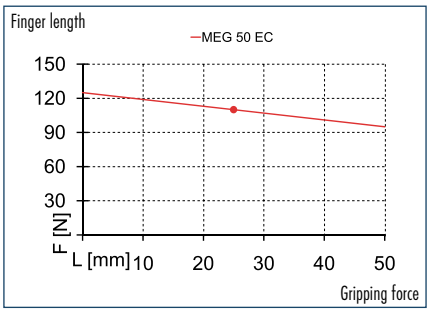
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

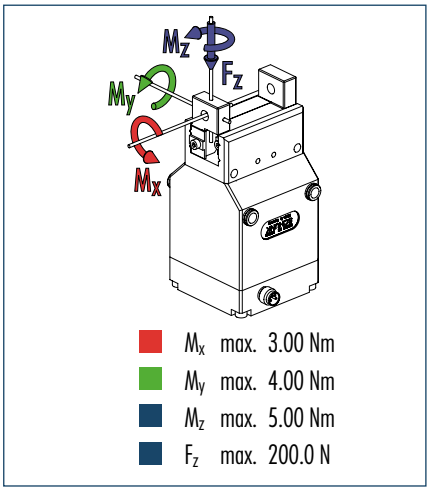
MEG 50

Electrical • 2-Finger Parallel Gripper • Gripper for small components

Gripping force



Finger load

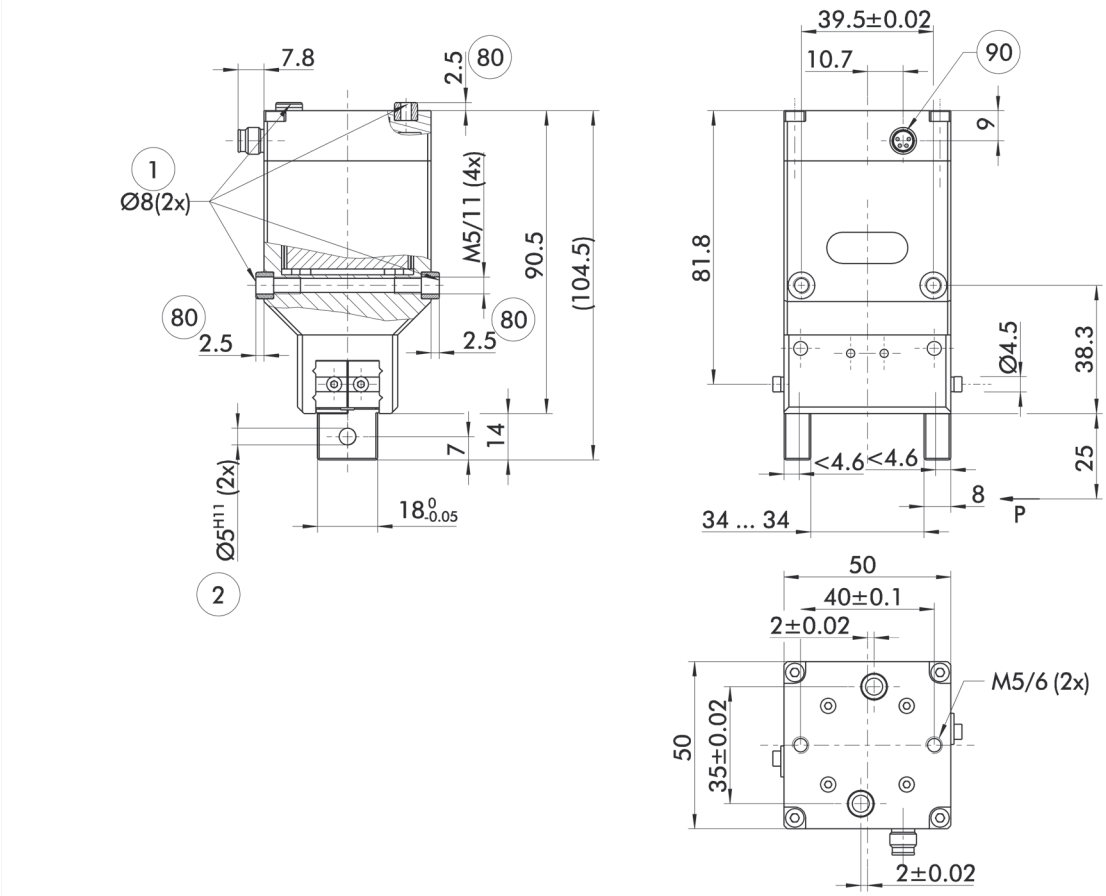


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		MEG 50 EC
ID		**0306010**
General technical data gripper		
Stroke per finger	[mm]	8
Minimum/maximum gripping force	[N]	60/110
Weight	[kg]	0.71
Recommended workpiece weight	[kg]	0.55
Max. permitted finger length	[mm]	50
Max. permitted weight per finger	[kg]	0.14
IP class		30
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.02
Maximum speed	[mm/s]	35
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	0.9
Max. total current	[A]	0.9
Controller operating data		
Description		**MEG-C-50**
ID		**0307005**
Implementation		external
Power supply	[V DC]	24
Field bus interface		I/O
Parametrized interface		

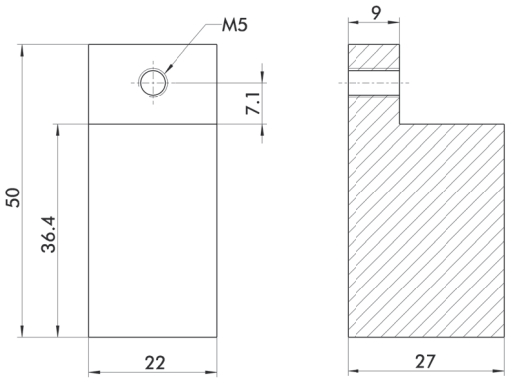
Main view



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

① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 50	**0340214**	Aluminum	2

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

Connection cables

Description	ID	Length
Connection cables		
KA BG08-L 4P-0500	**0307767**	5 m
KA BG08-L 4P-1000	**0307768**	10 m
KA BW08-L 4P-0500	**0307765**	5 m
KA BW08-L 4P-1000	**0307766**	10 m

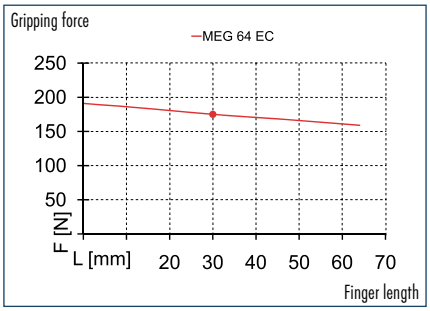
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

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

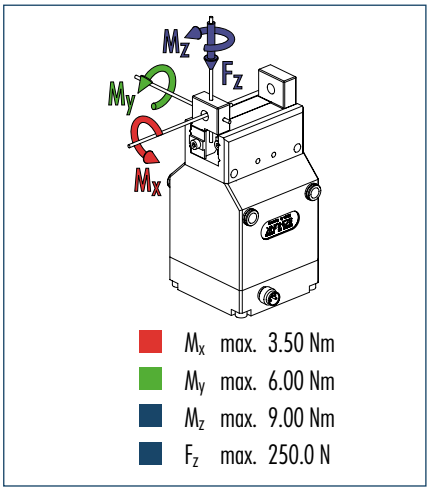
MEG 64

Electrical • 2-Finger Parallel Gripper • Gripper for small components

Gripping force



Finger load

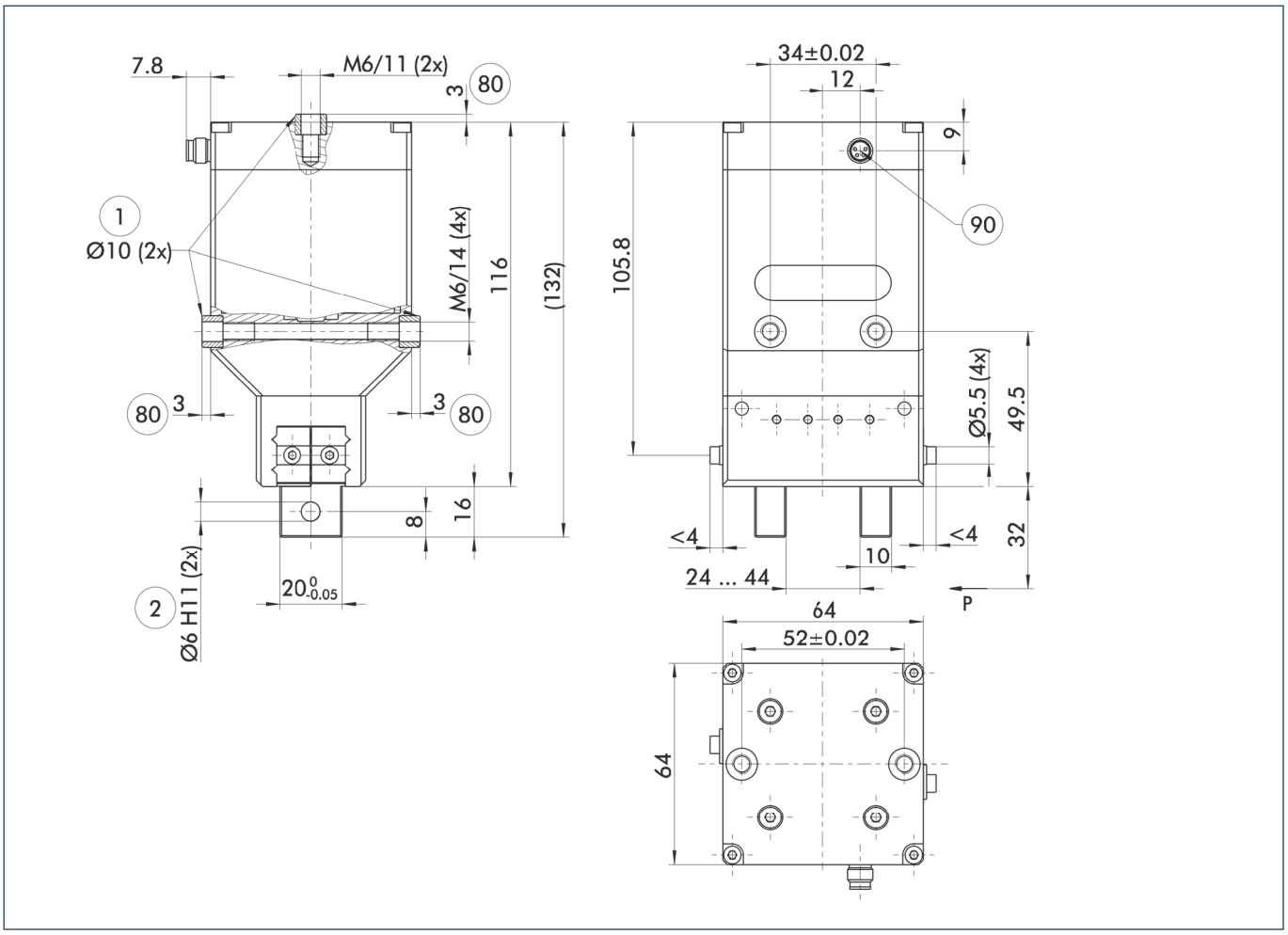


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		MEG 64 EC
ID		**0306012**
General technical data gripper		
Stroke per finger	[mm]	10
Minimum/maximum gripping force	[N]	40/175
Weight	[kg]	1.42
Recommended workpiece weight	[kg]	0.85
Max. permitted finger length	[mm]	64
Max. permitted weight per finger	[kg]	0.24
IP class		30
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.02
Maximum speed	[mm/s]	17
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	1.3
Max. total current	[A]	1.3
Controller operating data		
Description		**MEG-C-64**
ID		**0307006**
Implementation		external
Power supply	[V DC]	24
Field bus interface		I/O
Parametrized interface		

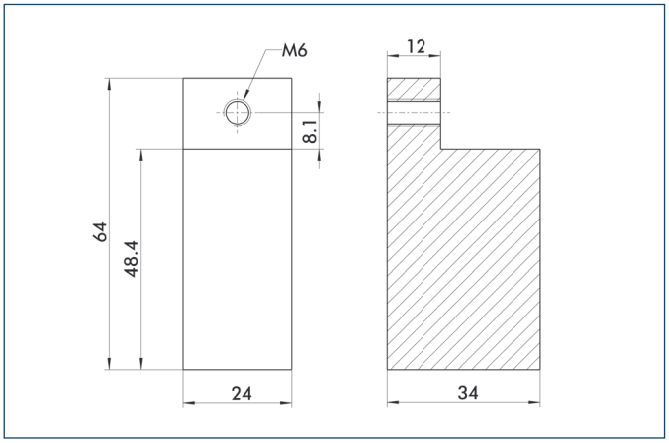
Main view



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

① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 64	0340215	Aluminum	2

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

Connection cables

Description	ID	Length
Connection cables		
KA BG08-L 4P-0500	**0307767**	5 m
KA BG08-L 4P-1000	**0307768**	10 m
KA BW08-L 4P-0500	**0307765**	5 m
KA BW08-L 4P-1000	**0307766**	10 m

ⓘ 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.

EGN

Electrical • 2-Finger Parallel Gripper • Universal Gripper

Sizes
80 ... 160

Weight
0.84 kg ... 3 kg

Gripping force
400 N ... 1000 N

Stroke per finger
8 mm ... 16 mm

Workpiece weight
2.1 kg ... 5.4 kg

Application example

Completely electrically actuated gantry axis for palletizing and depalletizing different components with an enormous variance.

1. EGN Servo-electric 2-Finger Parallel Gripper
2. Vertical axis with spindle drive HSB Beta
3. Belt-driven axes HSB Beta

Universal Gripper

servo-electric 2-finger parallel gripper with high gripping force and moment loads thanks to the multi-tooth guidance

Field of application

Ideal standard solution for numerous fields of application. Highly versatile thanks to controlled gripping force, position and speed.

Your advantages and benefits

Drive design of servo-motor
for flexible use

with external electronics
for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Pre-positioning capability
to reduce cycle times through a short working stroke

Robust multi-tooth guidance
for precise handling

High maximum moments possible
suitable for using long gripper fingers

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

General note to the series

Principle of function
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

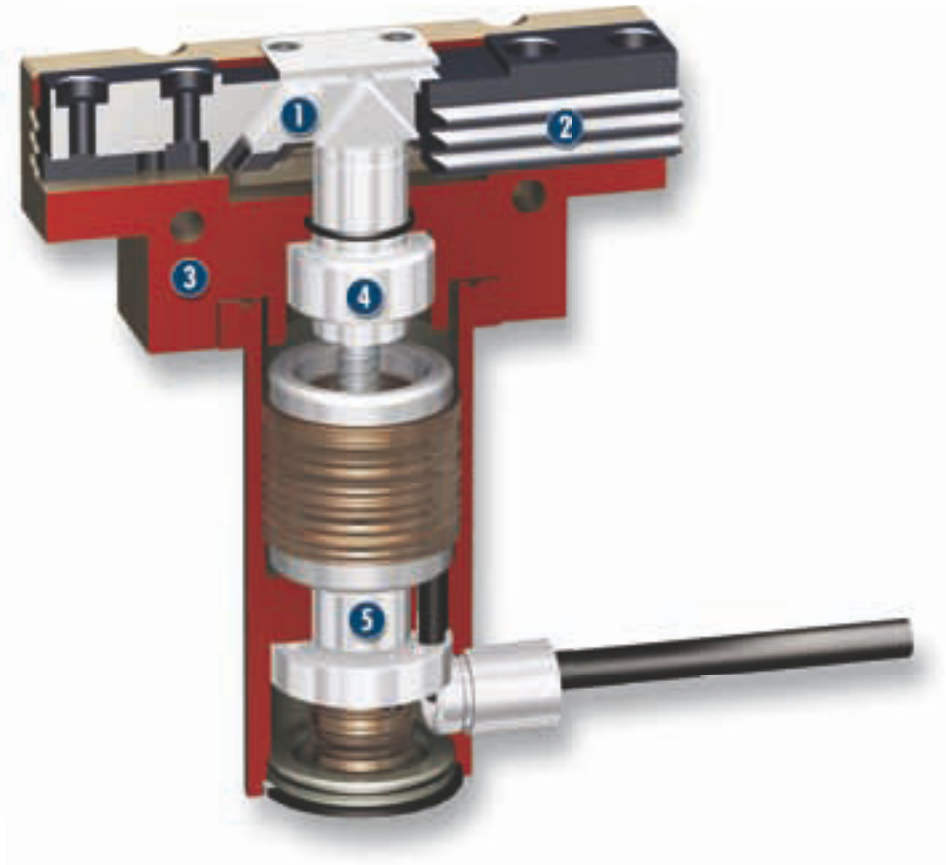
Base jaw material
Steel

Actuation
electrically, via step motor or spindle drive

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.
For actuating the gripper, an external control unit is required.

Sectional diagram



1 Wedge-hook design
for high power transmission and centric gripping

2 Multiple-tooth guidance
precise gripping even with longer gripper fingers due to high-amperage scope-free base jaw guidance

3 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy

4 Spindle nut
transforms the rotational movement into the axial movement of the wedge hook

5 Drive
CD servo-motor with resolver

Functional description

The spindle nut which is mounted on bearings, transfers the rotary motion of the servo-motor into an axial motion.
Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

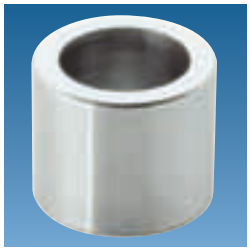
Options and special information

The electric control of the EGN gripper is carried out by the appropriate MSC-12 control electronics. Integration of it into a higher-ranking control program can be done via the communication interfaces Profibus, CAN-Bus or conventional inputs/outputs.
For Bus communication, the SCHUNK Motion Protocol (SMP) is used. It allows the set-up of industrial Bus topologies and simplifies integration into the control system.
If integration takes place simply by terminal signals, preprogrammed parameters can be called off via digital inputs. The gripper status can be monitored via digital outputs or via a Feldbus.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Finger blanks

Quick-change Jaw System

Force measuring jaws

Protection cover

Control unit

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

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

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

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

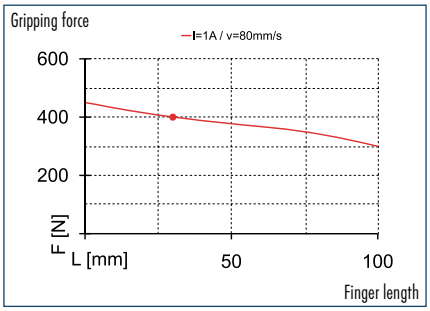
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

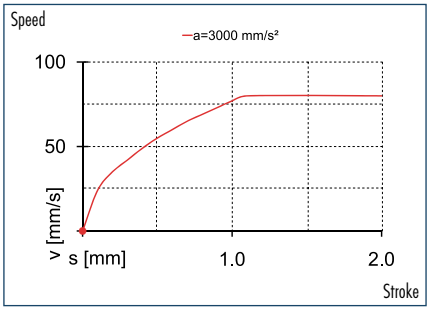
EGN 80

Electrical • 2-Finger Parallel Gripper • Universal Gripper

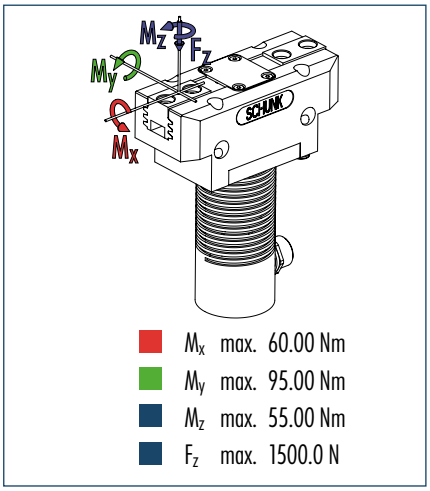
Gripping force



Speed



Finger load

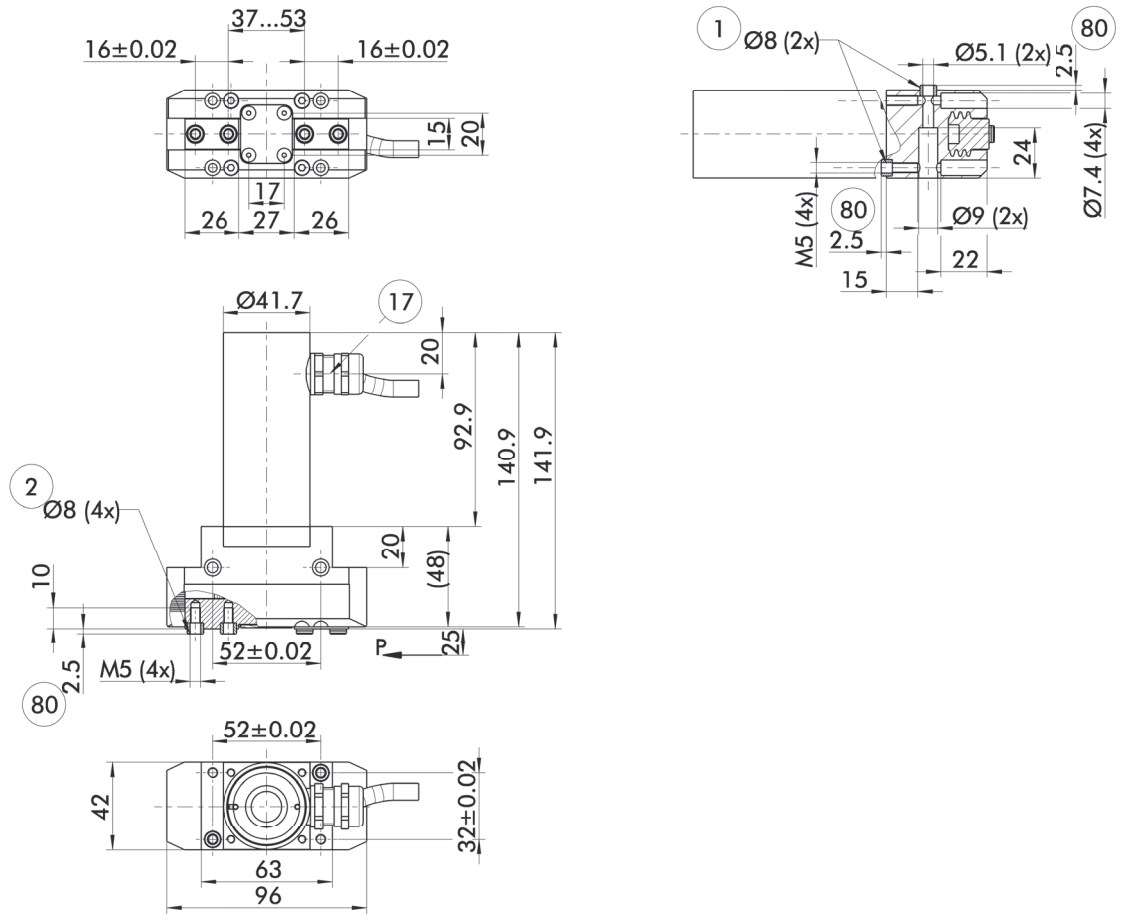


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EGN 80
ID		**0306100**
General technical data gripper		
Stroke per finger	[mm]	8
Minimum/maximum gripping force	[N]	170/400
Weight	[kg]	0.84
Recommended workpiece weight	[kg]	2.1
Max. permitted finger length	[mm]	100
Max. permitted weight per finger	[kg]	0.6
IP class		41
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.01
Maximum speed	[mm/s]	80
Maximum acceleration	[mm/s²]	3000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	1
Max. total current	[A]	4
Resolution	[Inc/U]	10
Controller operating data		
Description		**MCS-12 (EGN/EZN)**
ID		**0307010**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

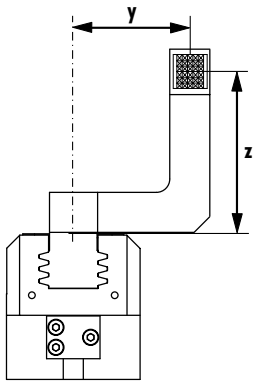
Main view

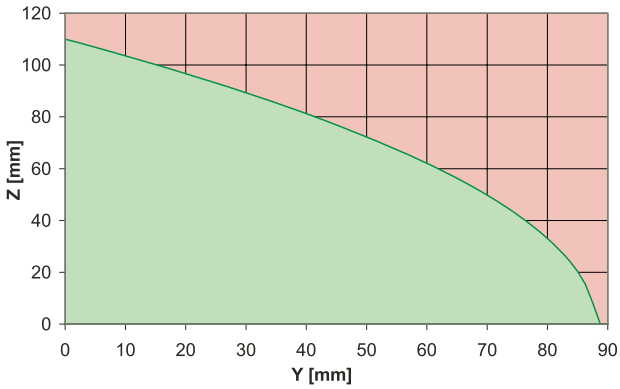


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
⑰ Cable outlet
⑧⓪ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection

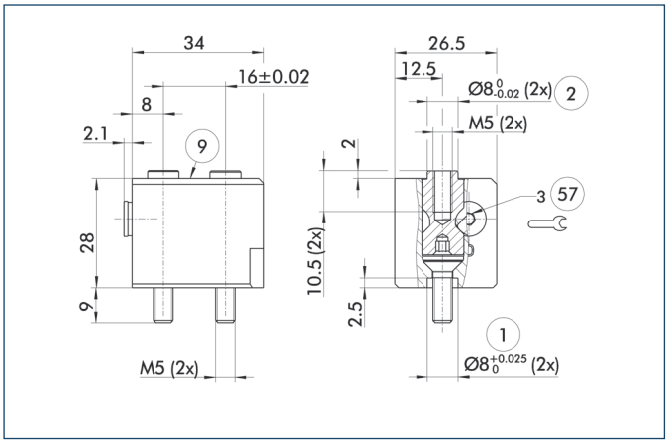




Permitted range
Inadmissible range

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

Quick-change Jaw System

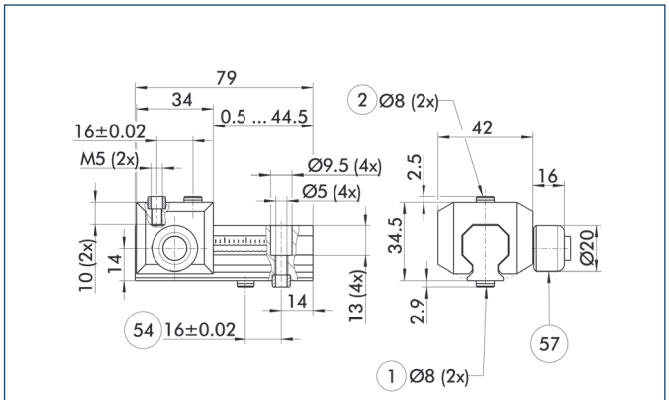


① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
57 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	**0303024**
Quick-change Jaw System base	
BSWS-B 80	**0303025**

Universal intermediate jaw



① Gripper connection
② Finger connection
54 Optional right or left connection
57 Locking

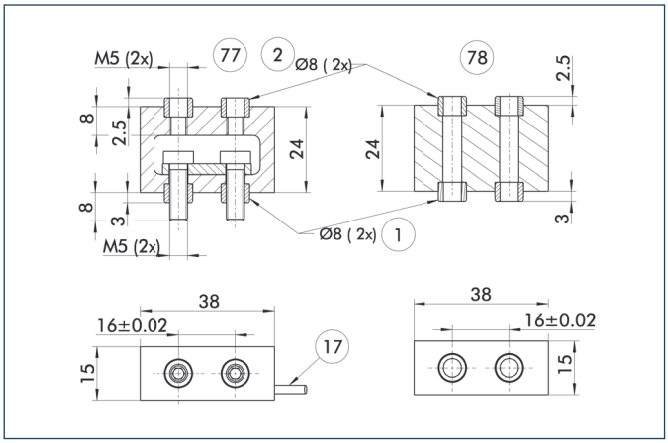
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 80	**0300043**	2 mm
UZB-S 80	**5518271**	2 mm

ⓘ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

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

Force measuring jaws

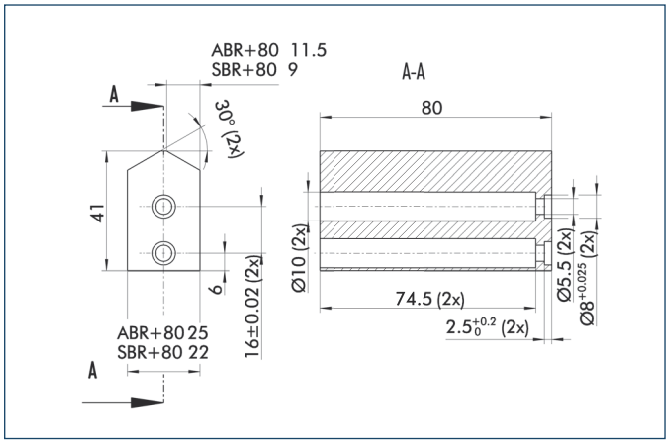


① Gripper connection
② Finger connection
⑰ Cable outlet
⑦⑦ Active intermediate jaws
⑦⑧ Passive intermediate jaws

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

Description	ID
Active intermediate jaws	
FMS-ZBA 80	**0301834**
Passive intermediate jaws	
FMS-ZBP 80	**0301835**
Electronic Processor	
FMS-A1	**0301810**
Connection cables	
FMS-AK0200	**0301820**
FMS-AK0500	**0301821**
FMS-AK1000	**0301822**
FMS-AK2000	**0301823**

Finger blanks



Finger blanks for customized subsequent machining

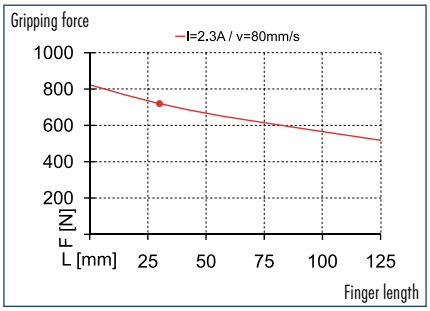
Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	**0300011**	Aluminum	1
SBR-plus 80	**0300021**	16 MnCr 5	1

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

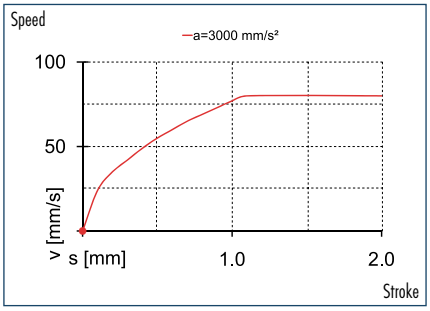
EGN 100

Electrical • 2-Finger Parallel Gripper • Universal Gripper

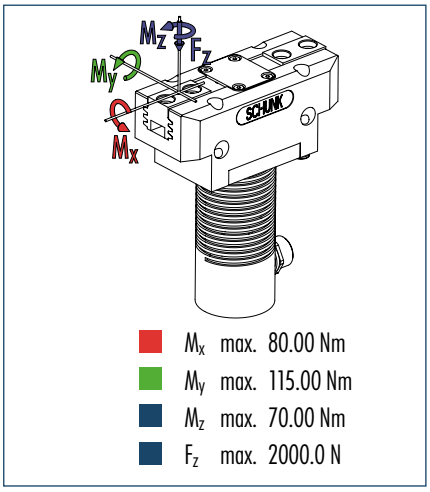
Gripping force



Speed



Finger load

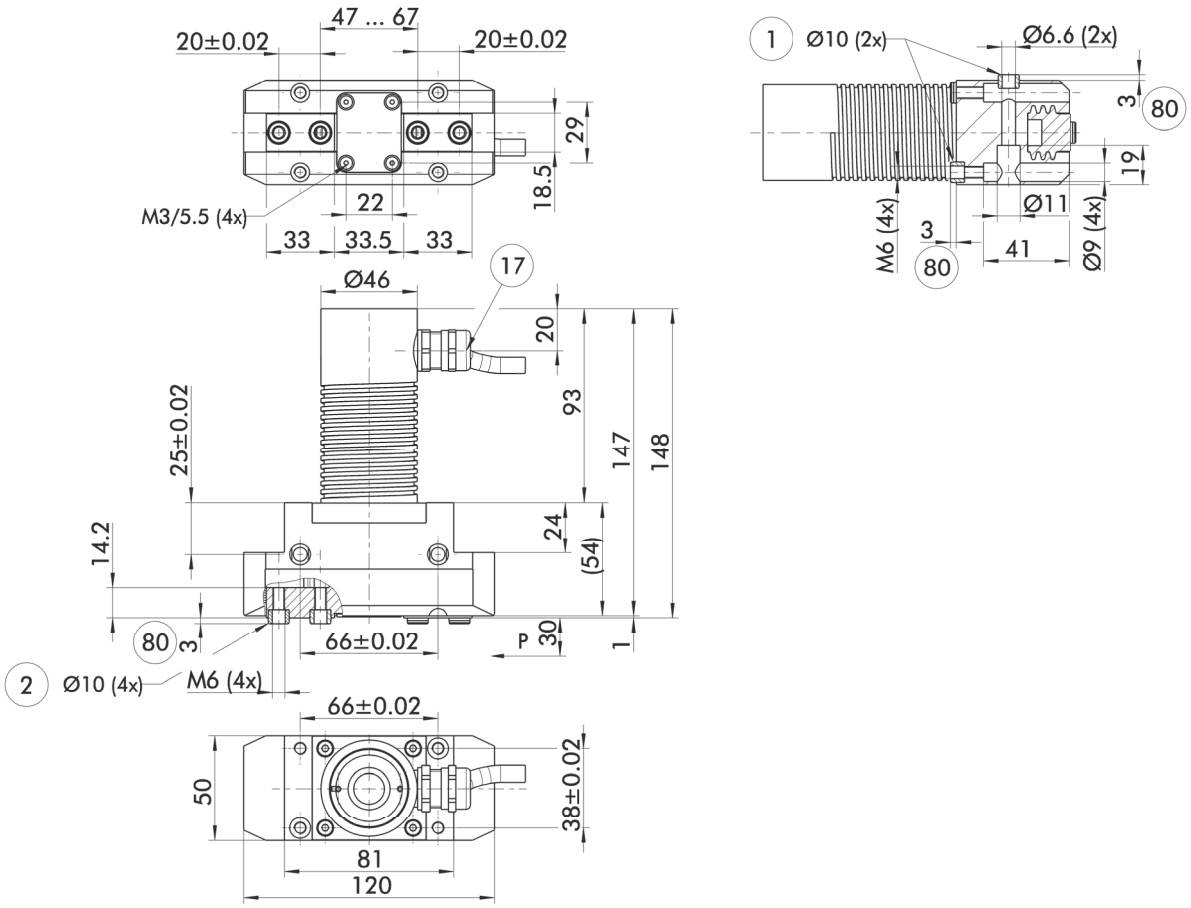


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EGN 100
ID		**0306101**
General technical data gripper		
Stroke per finger	[mm]	10
Minimum/maximum gripping force	[N]	170/720
Weight	[kg]	1.35
Recommended workpiece weight	[kg]	3.3
Max. permitted finger length	[mm]	125
Max. permitted weight per finger	[kg]	1.1
IP class		41
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.01
Maximum speed	[mm/s]	80
Maximum acceleration	[mm/s²]	3000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	2.3
Max. total current	[A]	4
Resolution	[Inc/U]	10
Controller operating data		
Description		**MCS-12 (EGN/EZN)**
ID		**0307010**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

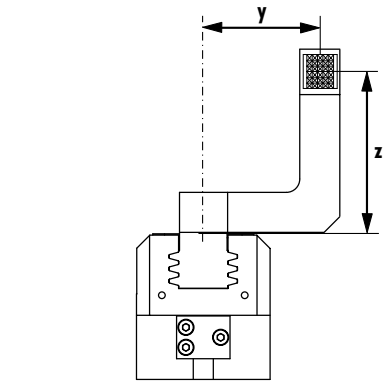
Main view

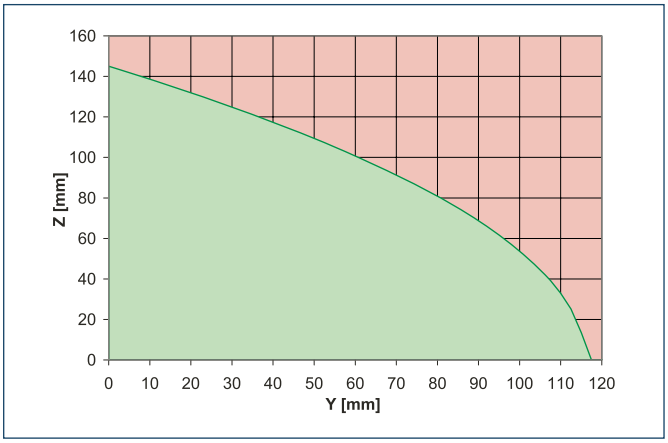


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
⑰ Cable outlet
⑧⓪ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection

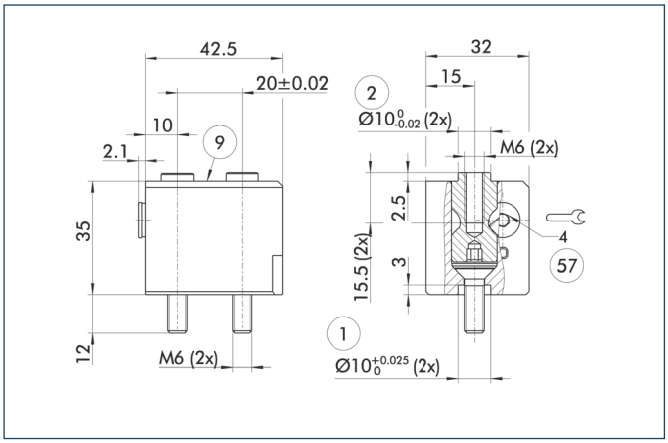




Permitted range
Inadmissible range

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

Quick-change Jaw System

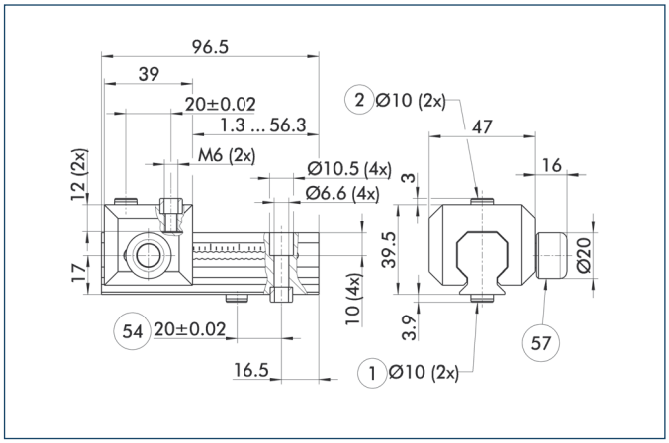


① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
㊼ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	**0303026**
Quick-change Jaw System base	
BSWS-B 100	**0303027**

Universal intermediate jaw



① Gripper connection
② Finger connection
㊹ Optional right or left connection
㊼ Locking

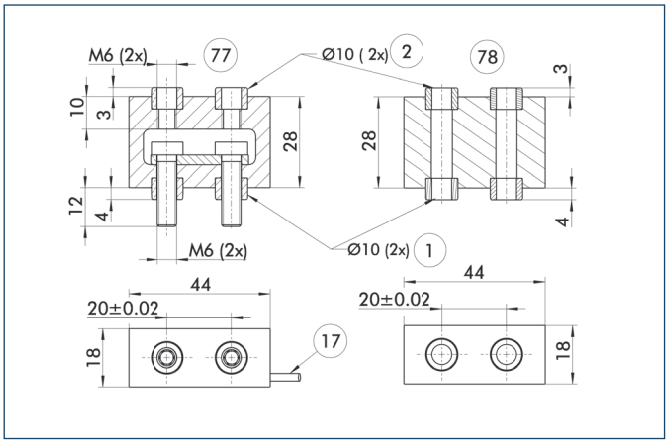
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	**0300044**	2.5 mm
UZB-S 100	**5518272**	2.5 mm

ⓘ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

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

Force measuring jaws

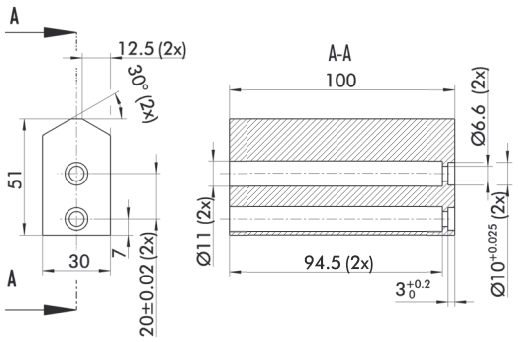


① Gripper connection
② Finger connection
⑰ Cable outlet
⑦⑦ Active intermediate jaws
⑦⑧ Passive intermediate jaws

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

Description	ID
Active intermediate jaws	
FMS-ZBA 100	**0301836**
Passive intermediate jaws	
FMS-ZBP 100	**0301837**
Electronic Processor	
FMS-A1	**0301810**
Connection cables	
FMS-AK0200	**0301820**
FMS-AK0500	**0301821**
FMS-AK1000	**0301822**
FMS-AK2000	**0301823**

Finger blanks



Finger blanks for customized subsequent machining

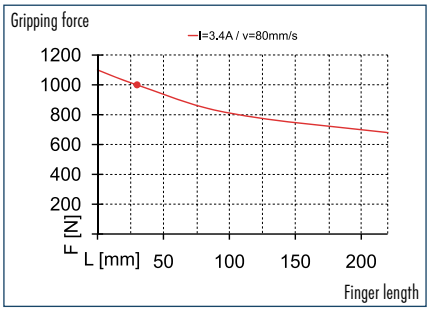
Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	**0300012**	Aluminum	1
SBR-plus 100	**0300022**	16 MnCr 5	1

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

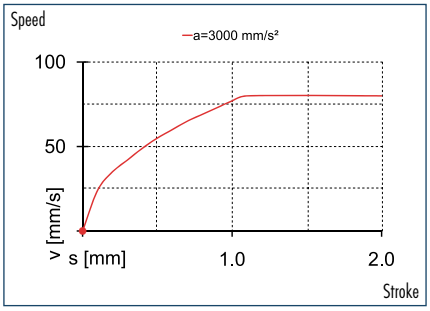
EGN 160

Electrical • 2-Finger Parallel Gripper • Universal Gripper

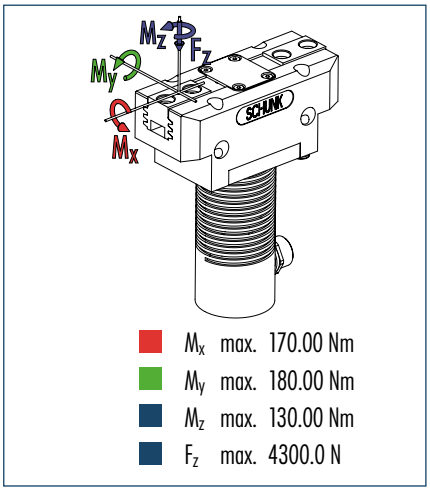
Gripping force



Speed



Finger load

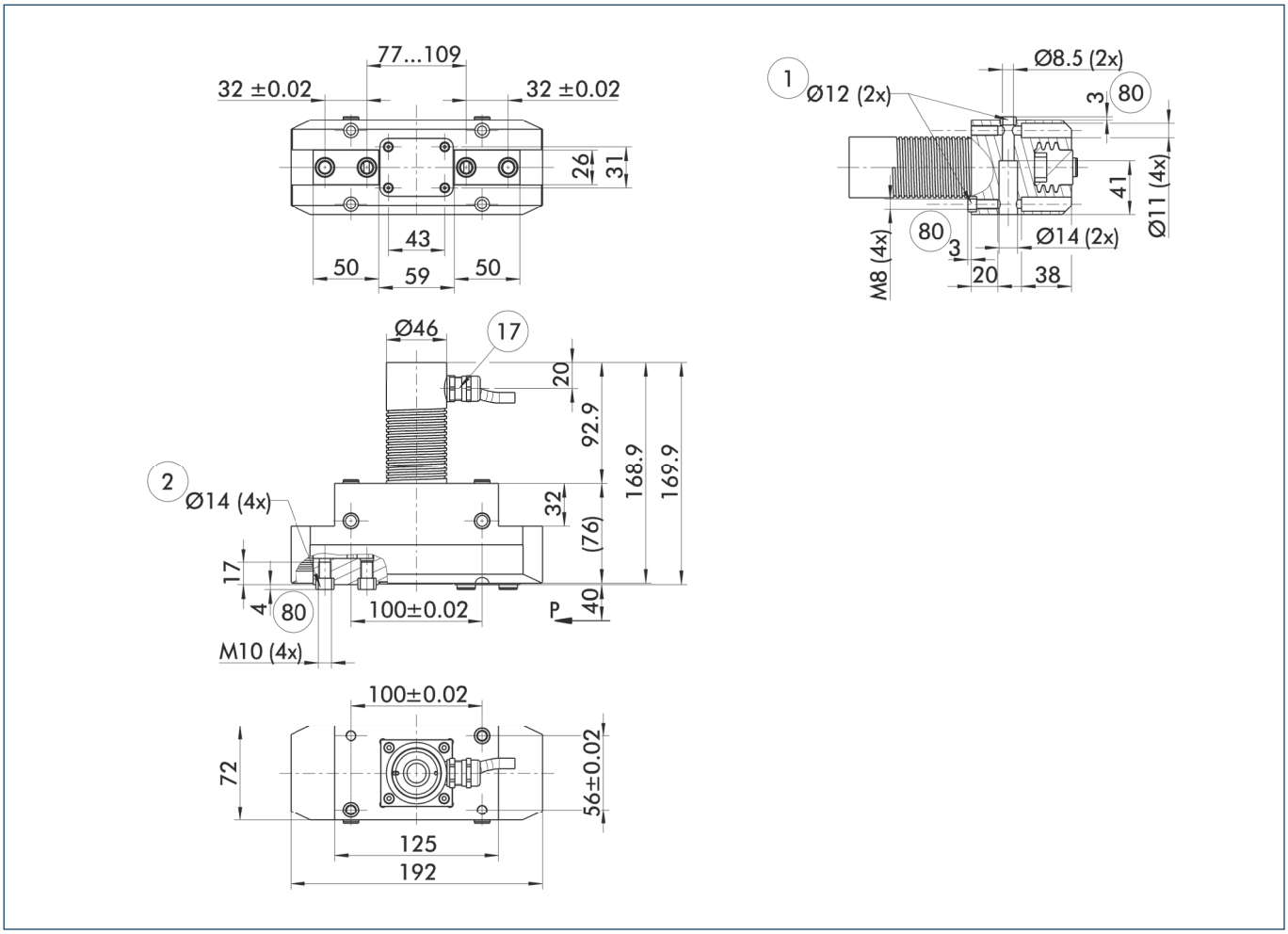


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EGN 160
ID		**0306102**
General technical data gripper		
Stroke per finger	[mm]	16
Minimum/maximum gripping force	[N]	250/1000
Weight	[kg]	3
Recommended workpiece weight	[kg]	5.4
Max. permitted finger length	[mm]	200
Max. permitted weight per finger	[kg]	3.5
IP class		41
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.01
Maximum speed	[mm/s]	80
Maximum acceleration	[mm/s²]	3000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	3.4
Max. total current	[A]	4
Resolution	[Inc/U]	10
Controller operating data		
Description		**MCS-12 (EGN/EZN)**
ID		**0307010**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

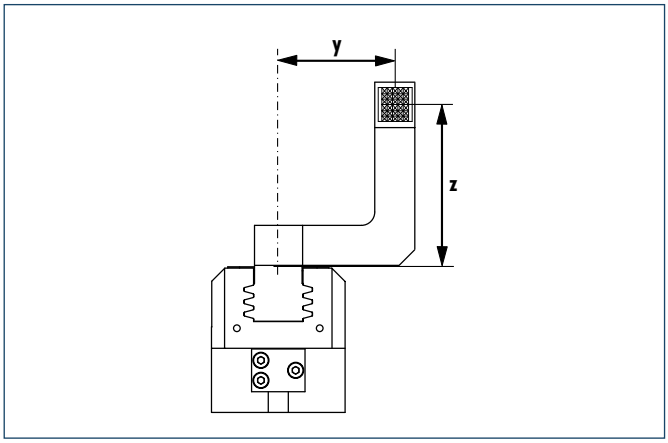
Main view

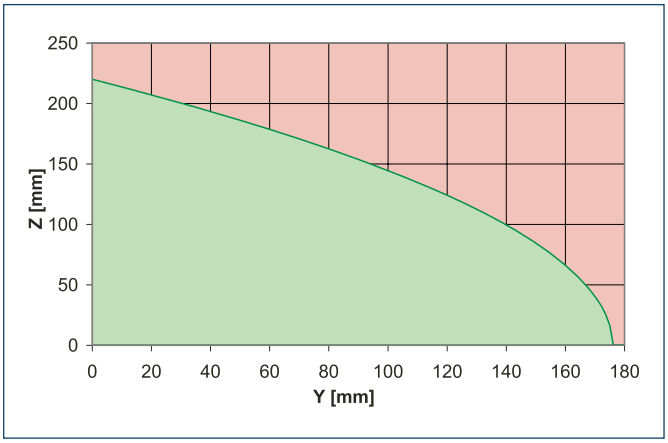


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
⑰ Cable outlet
⑧⓪ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection

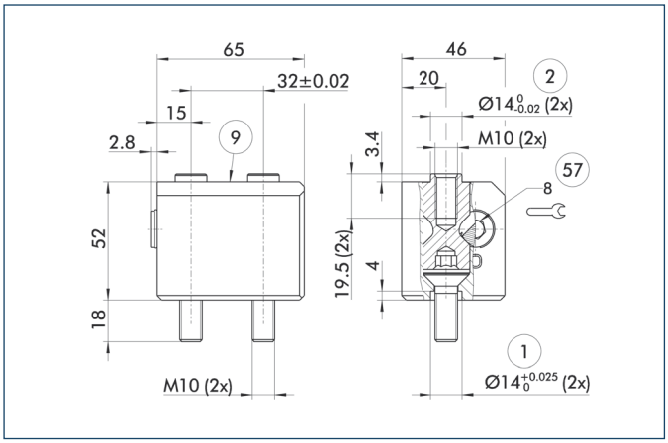




Permitted range
Inadmissible range

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

Quick-change Jaw System

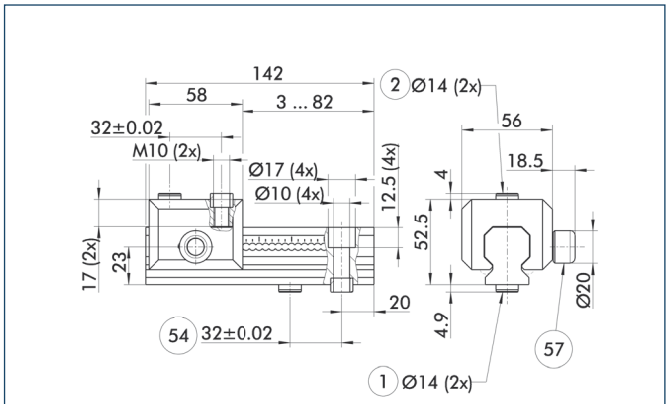


① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
㊼ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	**0303030**
Quick-change Jaw System base	
BSWS-B 160	**0303031**

Universal intermediate jaw



① Gripper connection
② Finger connection
㊹ Optional right or left connection
㊼ Locking

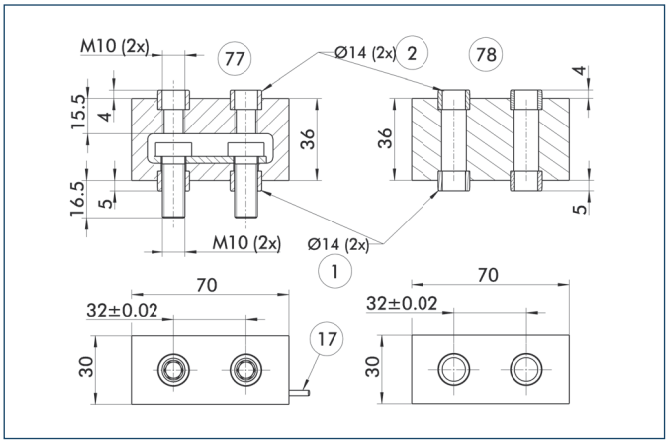
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 160	**0300046**	4 mm
UZB-S 160	**5518274**	4 mm

ⓘ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

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

Force measuring jaws

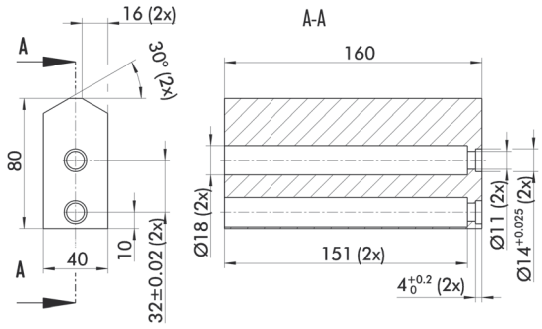


① Gripper connection
② Finger connection
⑰ Cable outlet
⑦⑦ Active intermediate jaws
⑦⑧ Passive intermediate jaws

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

Description	ID
Active intermediate jaws	
FMS-ZBA 160	**0301840**
Passive intermediate jaws	
FMS-ZBP 160	**0301841**
Electronic Processor	
FMS-A2	**0301811**
Connection cables	
FMS-AK0200	**0301820**
FMS-AK0500	**0301821**
FMS-AK1000	**0301822**
FMS-AK2000	**0301823**

Finger blanks



Finger blanks for customized subsequent machining

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

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

Size
70

Weight
1.4 kg

Gripping force
200 N

Stroke per finger
34 mm

Workpiece weight
1 kg

Application example

Gantry robot for flexible loading and unloading of sensitive workpieces

1. PG Servo-electric 2-Finger Parallel Gripper
2. PW Servo-electric Rotary Pan Tilt Actuator
3. Universal Rotary Unit PR
4. Linear axis with toothed-belt drive HSB Beta

Universal Gripper

servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke

Field of application

universal, ultra-flexible gripper for great part variety and sensitive components in clean working environments

Your advantages and benefits

Gripping force control in the range of 30 – 200 N
for the delicate gripping of sensitive workpieces

Large stroke of 70 mm
for flexible workpiece handling

Fully integrated control and power electronics
for creating a decentralized control system

Versatile actuation options
for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Standard connecting elements and uniform servo-controlled concept
for extensive combinatorics with other PowerCube modules (see explanation of the PowerCube system)

General note to the series

Principle of function
Spindle drive

Housing material
Aluminum alloy, hard-anodized

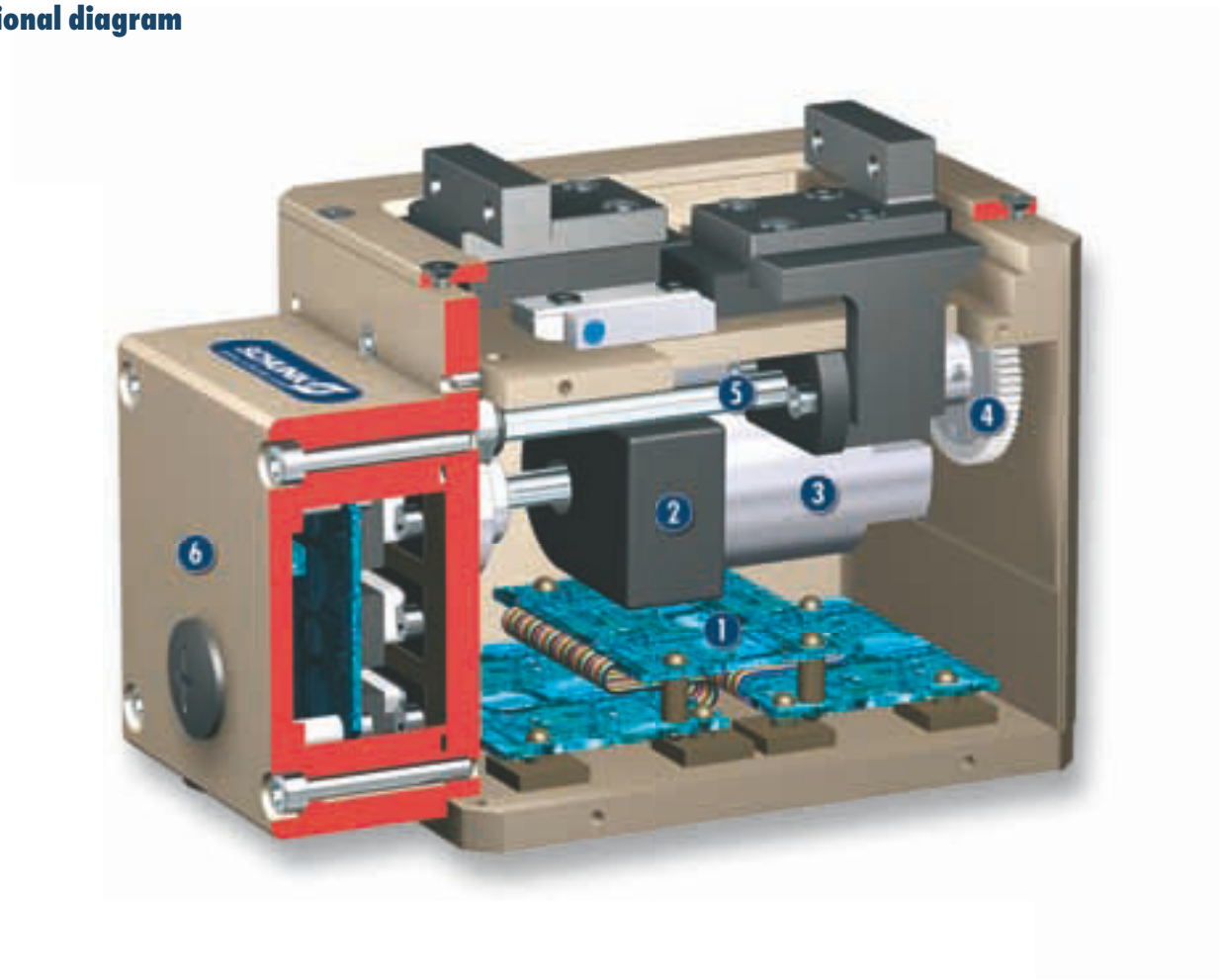
Base jaw material
Aluminum alloy, hard-anodized

Actuation
servo-electric, via brushless DC servo-motor

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.
For actuation of the gripper, an electric connection cap is necessary. This cap is not subject to the scope of delivery and has to be ordered separately.

Sectional diagram



1 **Control electronics**
integrated control and power electronics for actuating the servo-motor

2 **Encoder**
for gripper positioning and position evaluation

3 **Drive**
brushless DC servo-motor

4 **Gear mechanism**
Force transmission from the servo-motor to the drive spindle

5 **Spindle**
transforms the rotational movement into the linear movement of the base jaw

6 **Connection cap**
Electrical connection for energy supply and communication

Functional description

The brushless servo-motor drives the ball bearing spindle via the gear mechanism. The rotational movement is transformed into the linear movement of the base jaw by base jaws mounted on the spindles.

Options and special information

The PG gripper is electrically actuated by the fully integrated control and power electronics. In this way, the module does not require any additional external control units.

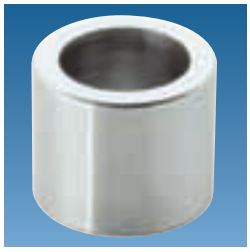
A varied range of interfaces, such as Profibus-DP or CAN-Bus are available as methods of communication.This enables you to create industrial bus networks and ensures easy integration in control systems. You can make use of our hybrid cables for conveying the supply voltage and for communication.

For creating combined systems (e.g. Gripping/Rotary Units), further modules from our PowerCube serie are available for you.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

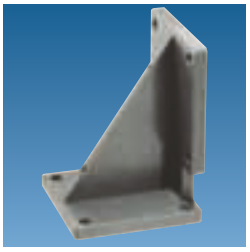
Centering sleeves



Connection cap

Power-/and data cable

Standard connecting elements



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

General note to the series

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

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

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

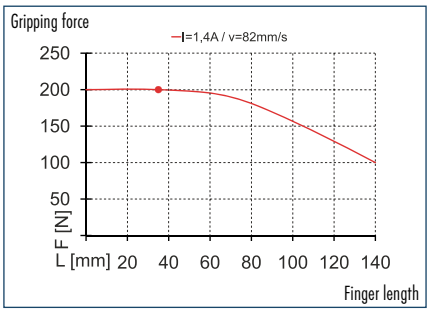
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

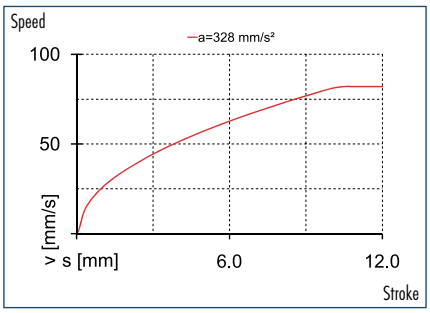
PG 70

Electrical • 2-Finger Parallel Gripper • Universal Gripper

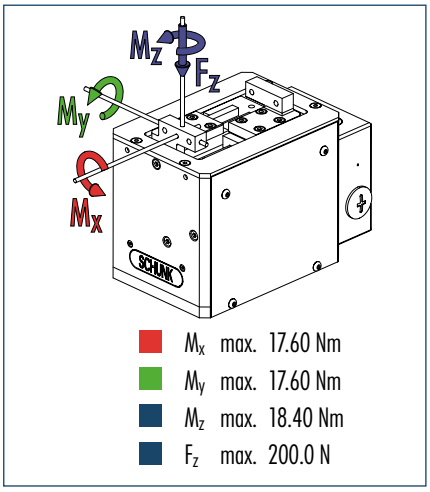
Gripping force



Speed



Finger load

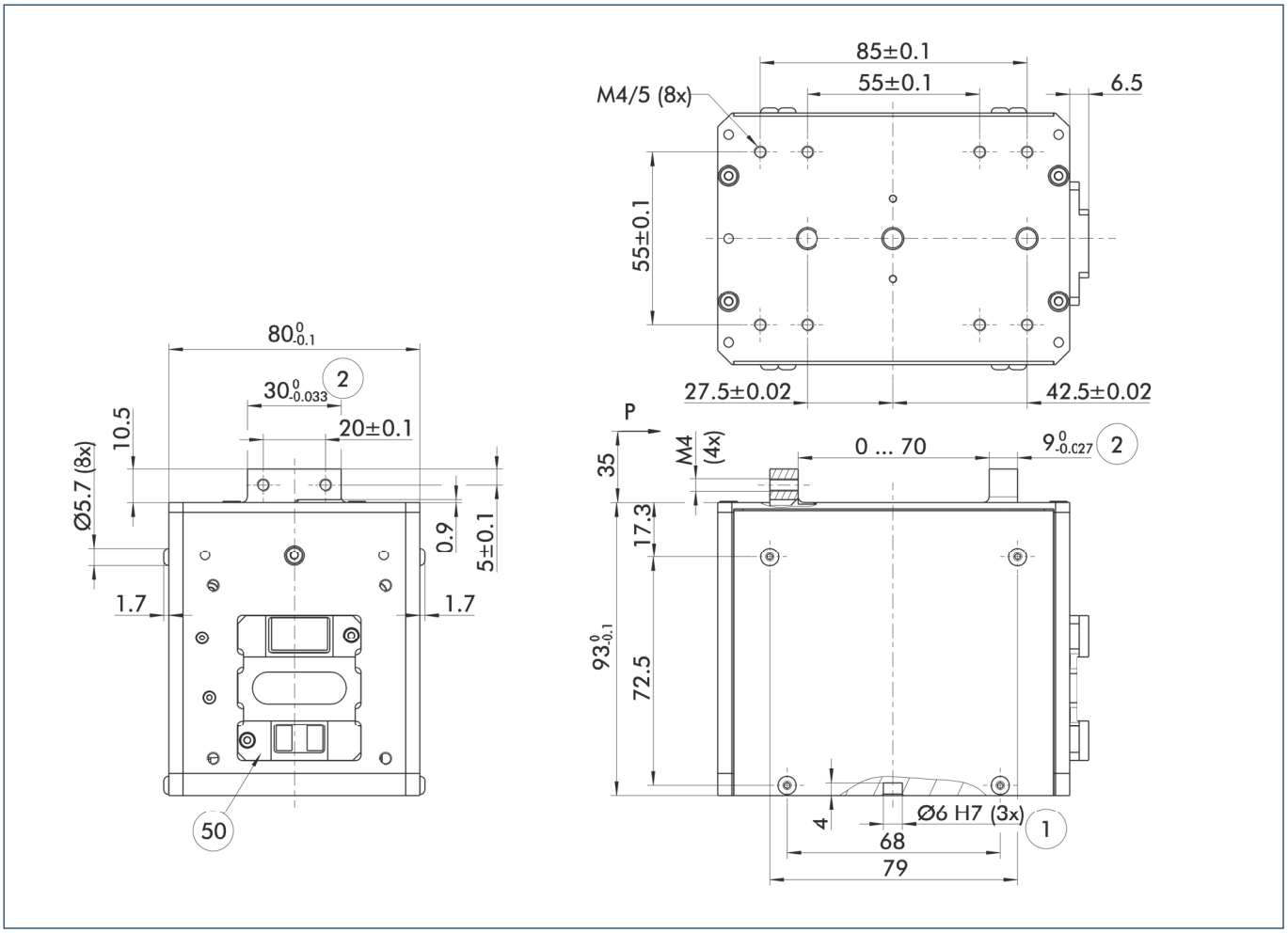


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		PG 70
ID		**0306095**
General technical data gripper		
Stroke per finger	[mm]	34
Minimum/maximum gripping force	[N]	30/200
Weight	[kg]	1.4
Recommended workpiece weight	[kg]	1
Max. permitted finger length	[mm]	140
IP class		20
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.05
Maximum speed	[mm/s]	82
Maximum acceleration	[mm/s²]	328
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	1.4
Max. total current	[A]	1.8
Controller operating data		
Description		**PTA-V5.3**
Implementation		integrated
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

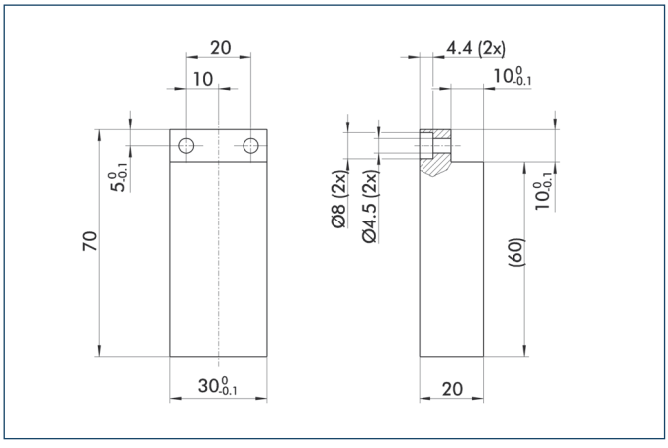
Main view



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

① Gripper connection
② Finger connection
50 Electronics connection

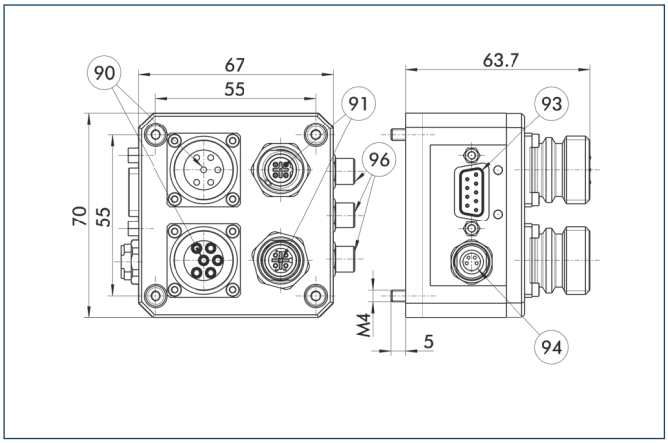
Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
ABR-PG 70	**0307850**	Aluminum	1

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

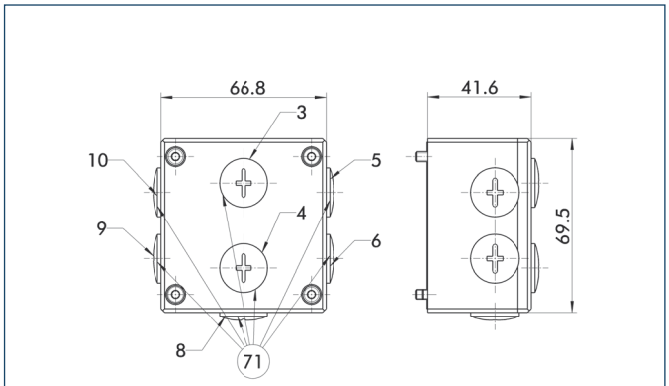
Connection cap MMI



90 Connection power supply (logic / load)
91 Connection Feldbus
93 Parametrized interface RS232
94 Connection power supply service box (SSB)
96 Connection external end switch

Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	**0307501**
MMI 070-V05-D-PB	**0307503**
MMI 070-V05-E-CN	**0307500**
MMI 070-V05-E-PB	**0307502**
Connection cables	
KA GGN1204-PB-00150-A	**0349750**
KA GGN1204-PB-00300-A	**0349751**
KA GGN1204-PB-00500-A	**0349752**
KA GGN1204-PB-01000-A	**0349753**
KA GGN1204-CN-00150-A	**0349770**
KA GGN1204-CN-00300-A	**0349771**
KA GGN1204-CN-00500-A	**0349772**
KA GGN1204-CN-01000-A	**0349773**
KA GLN2304-LK-00150-H	**0349870**
KA GLN2304-LK-00300-H	**0349871**
KA GLN2304-LK-00500-H	**0349872**
KA GLN2304-LK-01000-H	**0349873**
KA GGN2304-LK-00150-H	**0349874**
KA GGN2304-LK-00300-H	**0349875**
KA GGN2304-LK-00500-H	**0349876**
KA GGN2304-LK-01000-H	**0349877**

Connection cap DMI

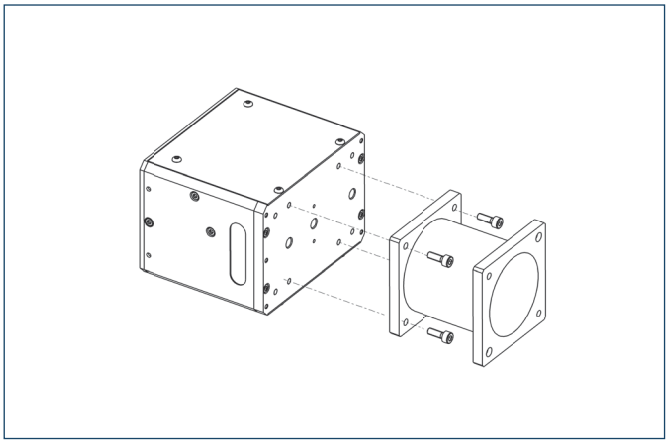


71 M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	**0307732**
Options	
DMI V5 BLUETOOTH	**0349050**

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

Connecting element – straight

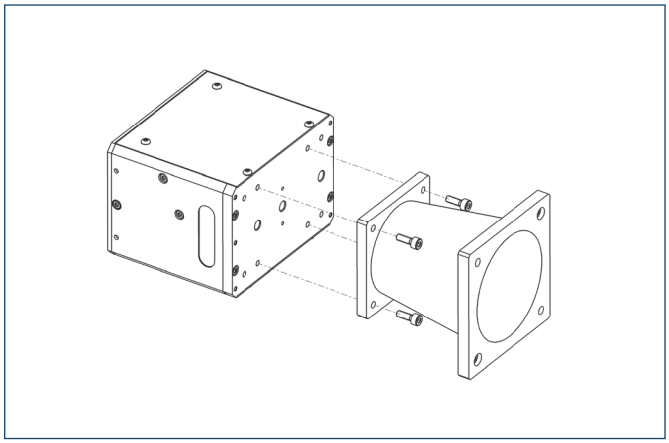


Straight standard element for connecting size 70 PowerCube modules

Description	ID
Connecting element	
PAM 100	**0307800**
PAM 101	**0307801**

ⓘ Special lengths on request

Connecting element – conical

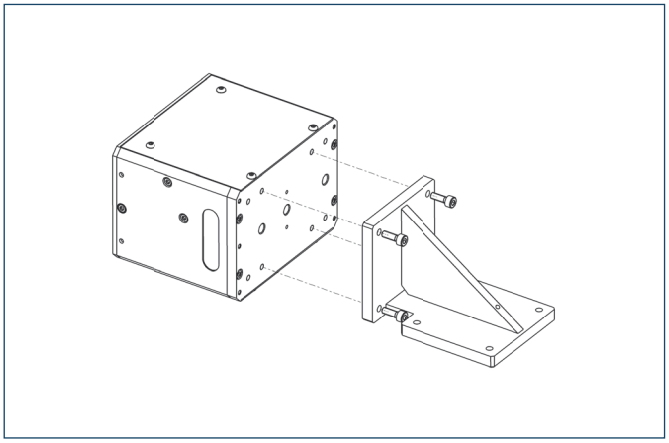


Conical standard element for connecting size 70 PowerCube modules

Description	ID
Connecting element	
PAM 110	**0307810**
PAM 111	**0307811**

ⓘ Special lengths on request

Connecting element – angle



Right-angle standard element for connecting size 70 PowerCube modules

Description	ID
Connecting element	
PAM 120	**0307820**

ⓘ Special lengths on request

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

EVG

Electrical • 2-Finger Parallel Gripper • Universal Gripper

Sizes
55-40 ... 55-100

Weight
0.79 kg ... 1.1 kg

Gripping force
24 N ... 57 N

Stroke per finger
20 mm ... 50 mm

Workpiece weight
0.12 kg ... 0.28 kg

Application example

Horizontal joint arm in scara design for pick-and-place applications

1. Servo-electric 2-Finger Parallel Gripper EVG
2. Miniature Rotary Unit PRM
3. Spindle linear module PLS with integrated PSM servo drive
4. Spindle linear module PLS with integrated PSM servo drive
5. PR Servo-electric Rotary Actuator

Universal Gripper

servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke

Field of application

universal, ultra-flexible gripper for great part variety and sensitive components in clean working environments

Your advantages and benefits

Gripping force control in the range of 24 N – 57 N
for the delicate gripping of sensitive workpieces

Large stroke of 50 mm
for flexible workpiece handling

Pre-positioning capability
to reduce cycle times through a short working stroke

with external electronics
for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Profiled rail guide
for the precise handling of all kinds of workpieces

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

General note to the series

Principle of function
Linear guidance with belt drive

Housing material
Aluminum alloy, hard-anodized

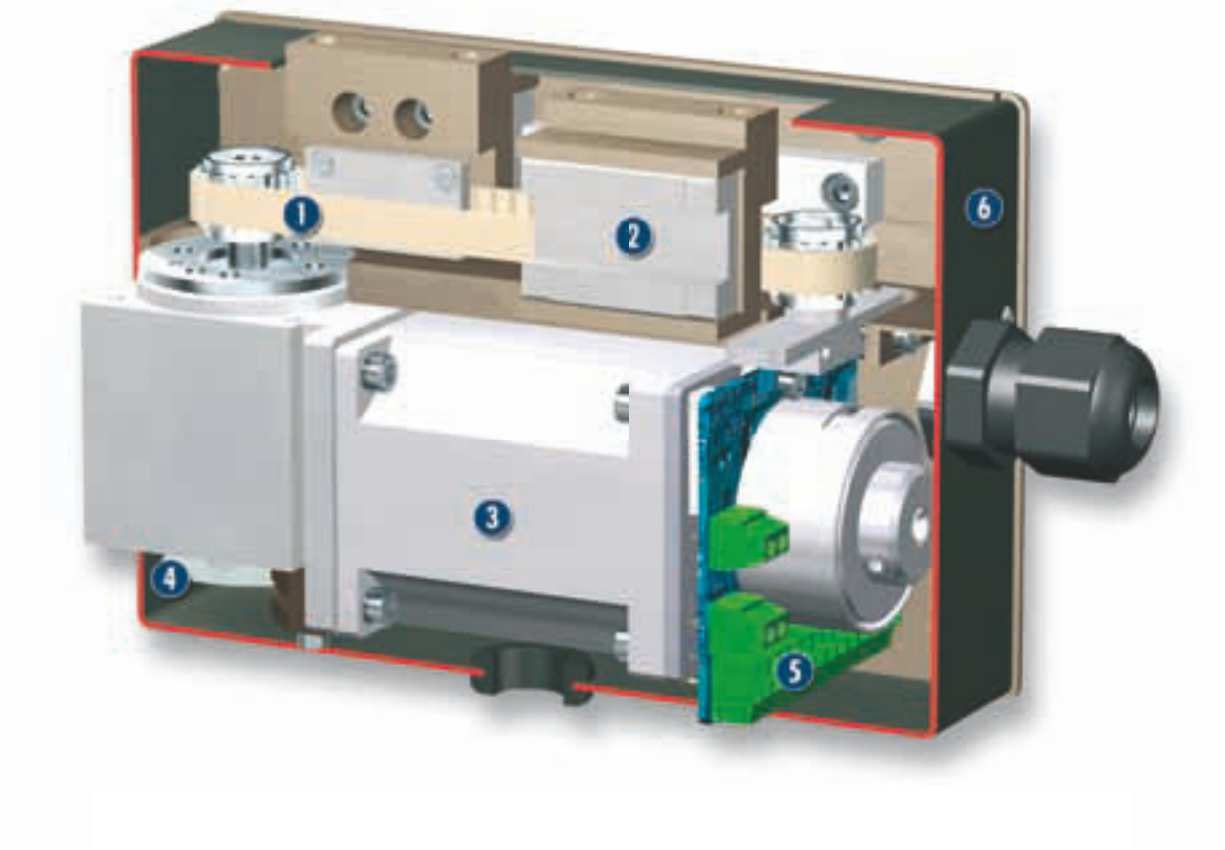
Base jaw material
Aluminum alloy, hard-anodized

Actuation
servo-electric, via brushless DC servo-motor and bevel gear

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.
For actuating the gripper, an external control unit is required.

Sectional diagram



1 Kinematics
scope-free, robust toothed belt drive with steel reinforcement

2 Profiled rail guide
for precise gripping with minimum play, smooth running gripping and low frictional loss

3 Drive
brushless DC servo-motor with hall-effect sensors and bevel gear, incl. holding break

4 Encoder
for gripper positioning and position evaluation

5 Connection circuit boards
Connection to the controller MCS-06

6 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The brushless servo-motor drives the ball screw by means of the gear mechanism. The rotational movement is transformed into the linear movement of the base jaw by base jaws mounted on the spindles.

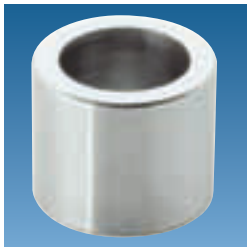
Options and special information

Electrical actuation of the EVG gripper is carried out via the external control unit MCS-6. A varied range of interfaces, such as Profibus-DP or CAN-Bus are available as methods of communication.
This enables you to create industrial bus networks, and ensures easy integration in control systems. If integration of combined systems (e.g. gripper/rotary units) takes place, several further modules of our range of products are available for you.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Control unit

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

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

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

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

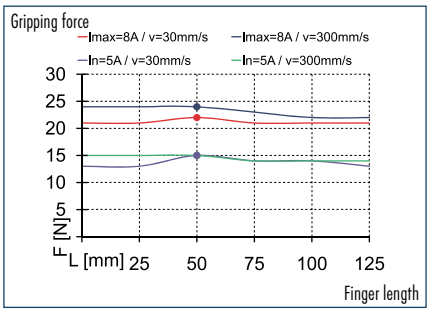
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

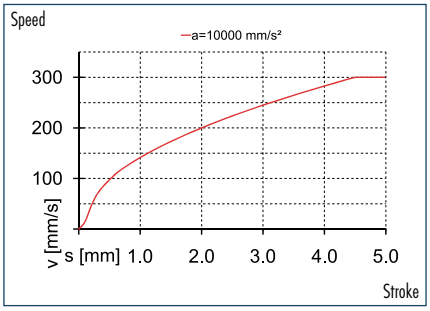
EVG 55-40

Electrical • 2-Finger Parallel Gripper • Universal Gripper

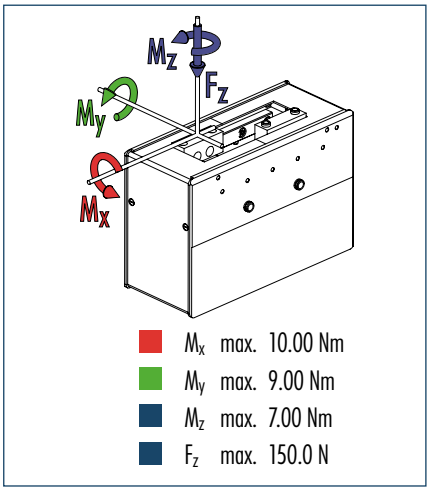
Gripping force



Speed



Finger load

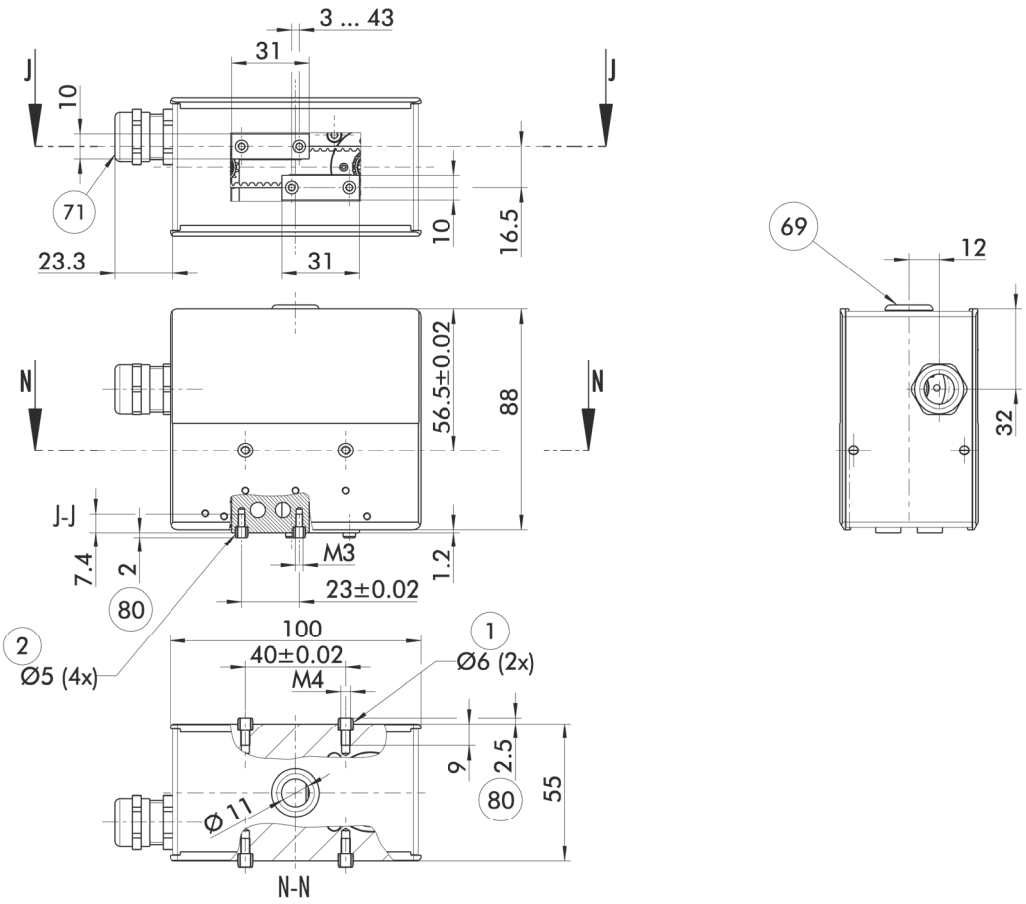


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EVG 55-40
ID		**0306020**
General technical data gripper		
Stroke per finger	[mm]	20
Minimum/maximum gripping force	[N]	5/24
Weight	[kg]	0.79
Recommended workpiece weight	[kg]	0.12
Max. permitted finger length	[mm]	125
Max. permitted weight per finger	[kg]	0.1
IP class		20
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.05
Maximum speed	[mm/s]	300
Maximum acceleration	[mm/s²]	10000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	5
Max. total current	[A]	8
Resolution	[Inc/U]	2000
Controller operating data		
Description		**MCS-06 (EVG55-040)**
ID		**0306030**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

Main view



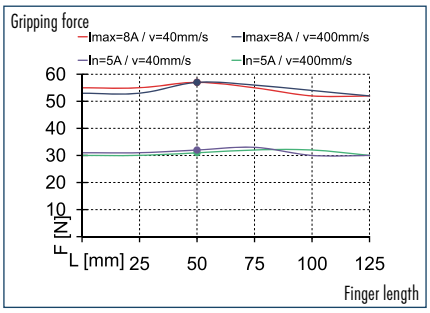
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① Gripper connection
② Finger connection
⑥⑨ Connection for electric feed-through
⑦① M 16 x 1.5 screw connection for cable guiding
⑧⓪ Depth of the centering sleeve hole in the matching part

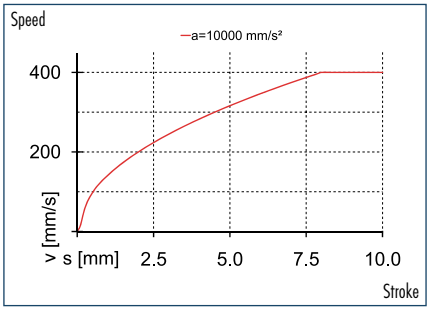
EVG 55-100

Electrical • 2-Finger Parallel Gripper • Universal Gripper

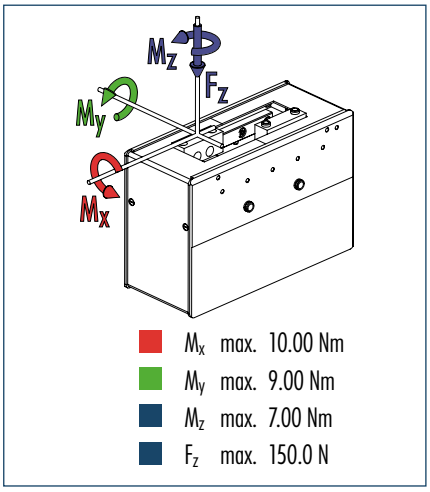
Gripping force



Speed



Finger load

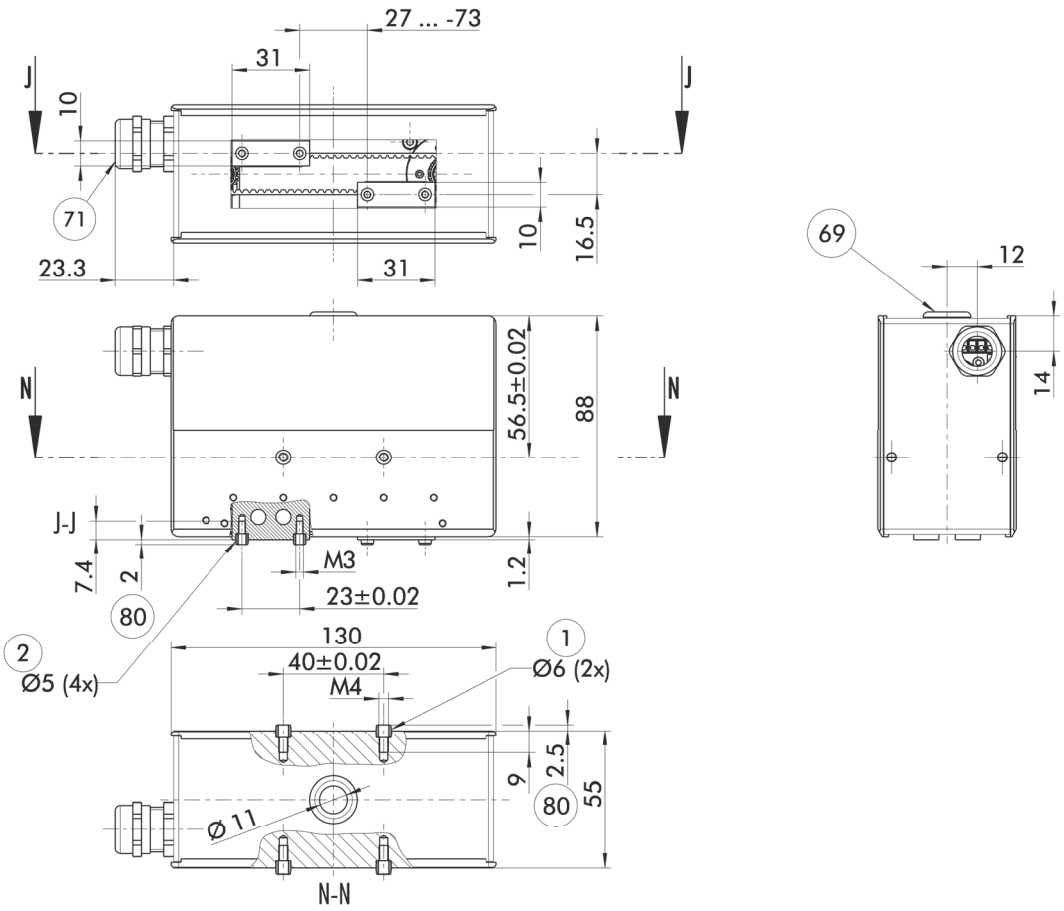


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EVG 55-100
ID		**0306025**
General technical data gripper		
Stroke per finger	[mm]	50
Minimum/maximum gripping force	[N]	3/57
Weight	[kg]	1.1
Recommended workpiece weight	[kg]	0.28
Max. permitted finger length	[mm]	125
Max. permitted weight per finger	[kg]	0.1
IP class		20
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.05
Maximum speed	[mm/s]	400
Maximum acceleration	[mm/s²]	10000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	5
Max. total current	[A]	8
Resolution	[Inc/U]	2000
Controller operating data		
Description		**MCS-06 (EVG55-100)**
ID		**0306031**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

Main view



The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① Gripper connection
② Finger connection
⑥⑨ Connection for electric feed-through
⑦① M 16 x 1.5 screw connection for cable guiding
⑧⓪ Depth of the centering sleeve hole in the matching part

PEH

Electrical • 2-Finger Parallel Gripper • Long-stroke Gripper

Sizes
30 ... 50

Weight
5.4 kg ... 14.8 kg

Gripping force
750 N ... 1800 N

Stroke per finger
60 mm ... 100 mm

Workpiece weight
3.75 kg ... 9 kg

Application example

Fully electrically driven gantry axis for loading and depalettizing of various components with a large variance

1. PEH servo-electric 2-Finger Parallel Gripper
2. Rotary module with STM torque motor
3. Linear axis with spindle drive HSB Delta
4. Linear axis with toothed-belt drive HSB Beta

Long-stroke Gripper

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

Field of application

universal, ultra-flexible gripper for great part variety in clean to slightly dirty working environments

Your advantages and benefits

Gripping force control in the range of 100 N – 1800 N
for the powerful gripping of various workpieces

Large stroke of 200 mm
for flexible workpiece handling

Fully integrated control and power electronics
for creating a decentralized control system

Versatile actuation options
for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Robust guidance
for the precise handling of all kinds of workpieces

High maximum moments possible
suitable for using long gripper fingers

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

General note to the series

Principle of function
Spindle drive synchronized by rack and pinion principle

Housing material
Aluminum alloy, hard-anodized

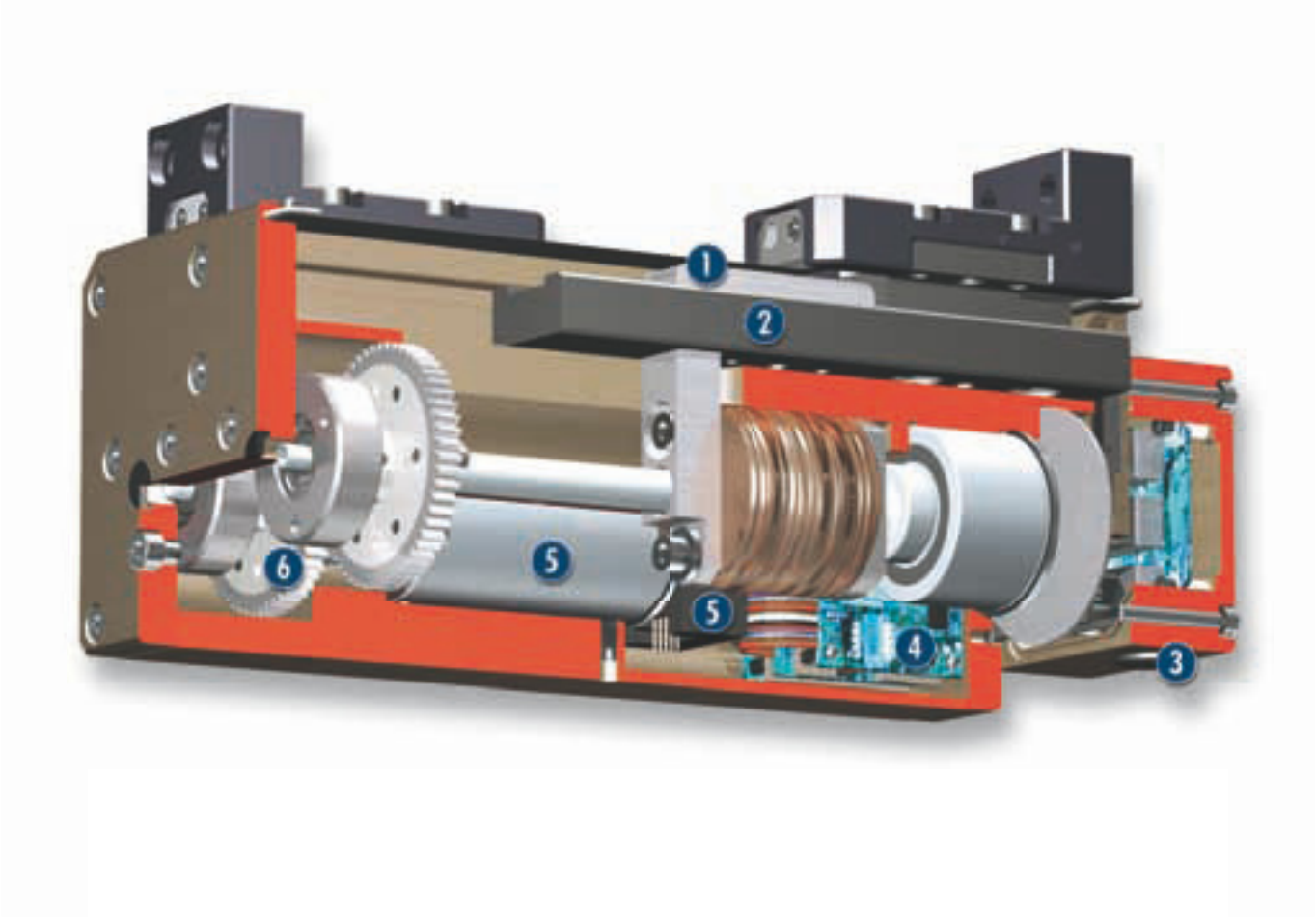
Base jaw material
Steel

Actuation
servo-electric, via brushless DC servo-motor

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.
For actuation of the gripper, an electric connection cap is necessary. This cap is not subject to the scope of delivery and has to be ordered separately.

Sectional diagram



1 **Kinematics**
Rack and pinion principle for centric gripping

2 **Guidance**
for precise gripping with minimal play at a high load capacity

3 **Connection cap**
Electrical connection for energy supply and communication

4 **Control electronics**
integrated control and power electronics for actuating the servo-motor

5 **Drive**
brushless DC servo-motor with hall-effect sensors and encoder

6 **Gear mechanism**
Force transmission from the servo-motor to the drive spindle

Functional description

The brushless servo-motor drives the ball bearing spindle via the gear mechanism.
A base jaw is moved by means of a carrier on the spindle.
The jaw stroke is synchronized by means of rack and pinion kinematics.

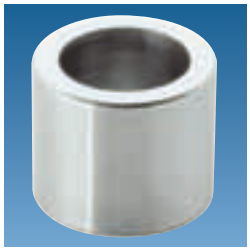
Options and special information

The PEH gripper is electrically actuated by the fully integrated control and power electronics. In this way, the module does not require any additional external control units.
A varied range of interfaces, such as Profibus-DP or CAN-Bus are available as methods of communication.This enables you to create industrial bus networks and ensures easy integration in control systems. You can make use of our hybrid cables for conveying the supply voltage and for communication.
For creating combined systems (e.g. Gripping/Rotary Units), further modules from our PowerCube series are available for you.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Connection cap

Power-/and data cable

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

General note to the series

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

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

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

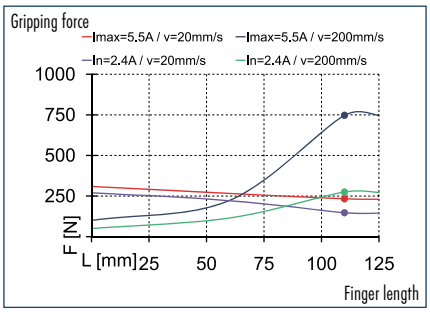
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

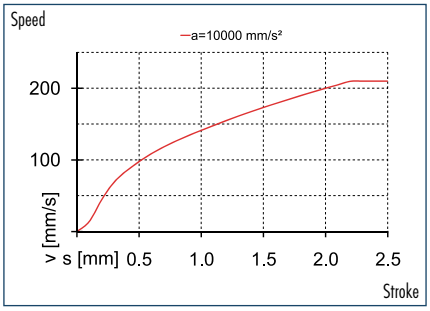
PEH 30

Electrical • 2-Finger Parallel Gripper • Long-stroke Gripper

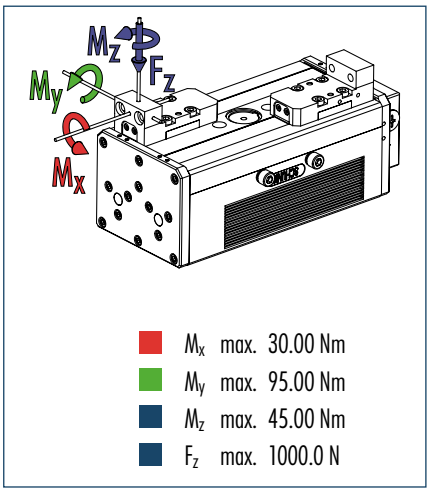
Gripping force



Speed



Finger load



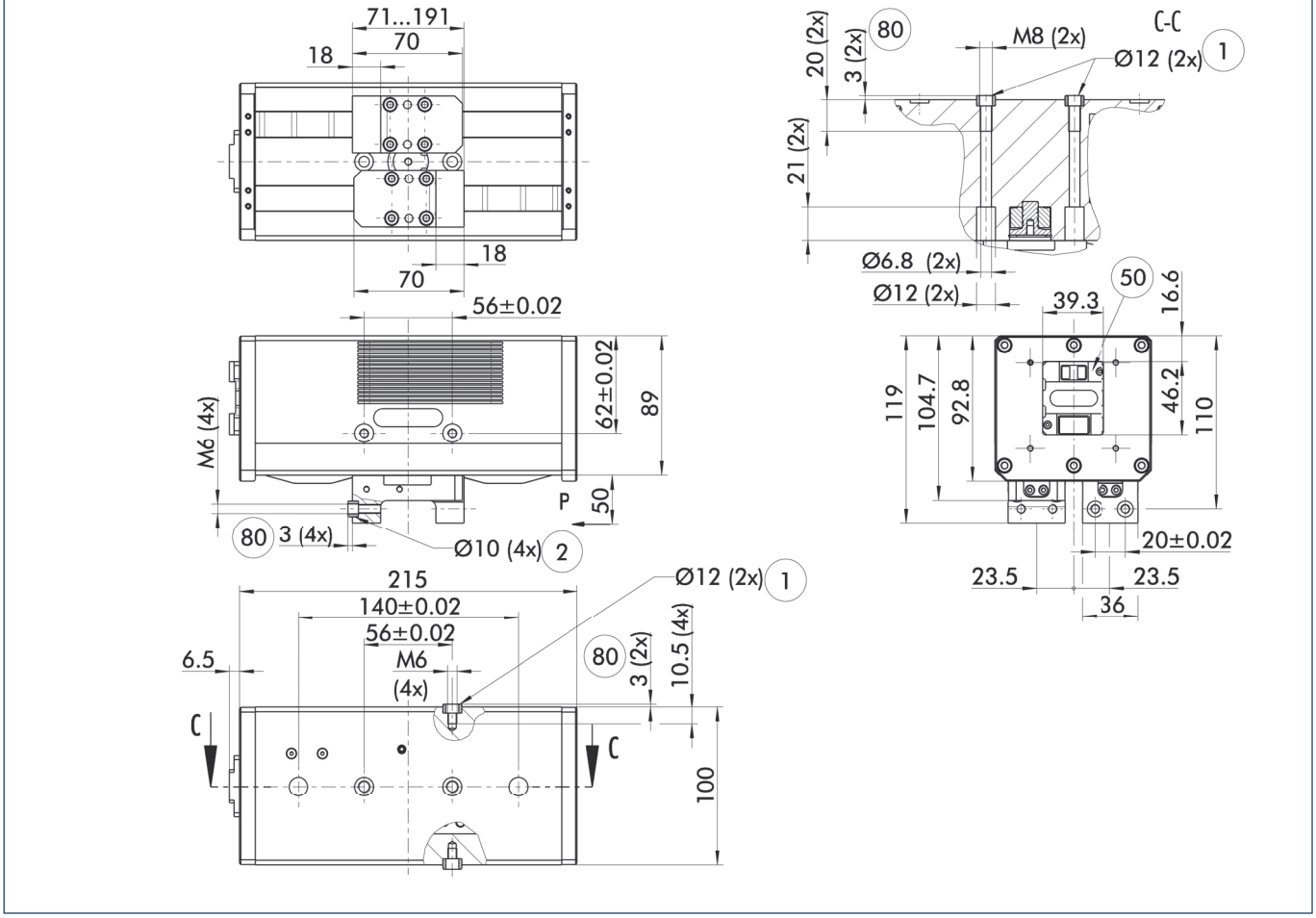
- M_x max. 30.00 Nm
- M_y max. 95.00 Nm
- M_z max. 45.00 Nm
- F_z max. 1000.0 N

ⓘ The indicated moments and forces are static values, 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		PEH 30
ID		**0306060**
General technical data gripper		
Stroke per finger	[mm]	60
Minimum/maximum gripping force	[N]	150/750
Weight	[kg]	5.4
Recommended workpiece weight	[kg]	3.75
Max. permitted finger length	[mm]	125
Max. permitted weight per finger	[kg]	2
IP class		41
Min./max. ambient temperature	[°C]	5/45
Repeat accuracy	[mm]	0.05
Maximum speed	[mm/s]	210
Maximum acceleration	[mm/s²]	10000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	2.4
Max. total current	[A]	5.5
Resolution	[Inc/U]	1
Controller operating data		
Description		**PTA-V5.3**
Implementation		integrated
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

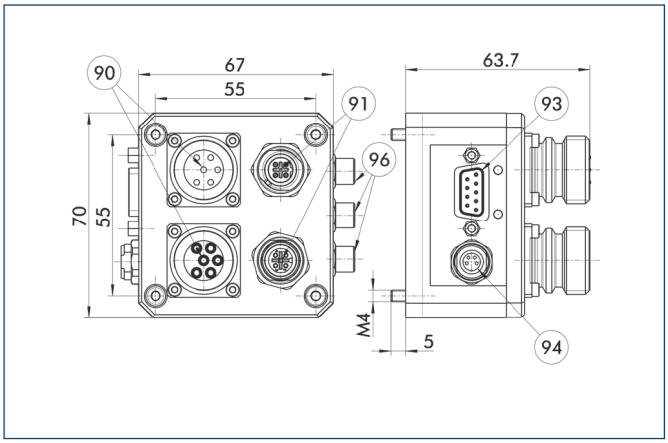
Main view



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

① Gripper connection
② Finger connection
50 Electronics connection
80 Depth of the centering sleeve hole in the matching part

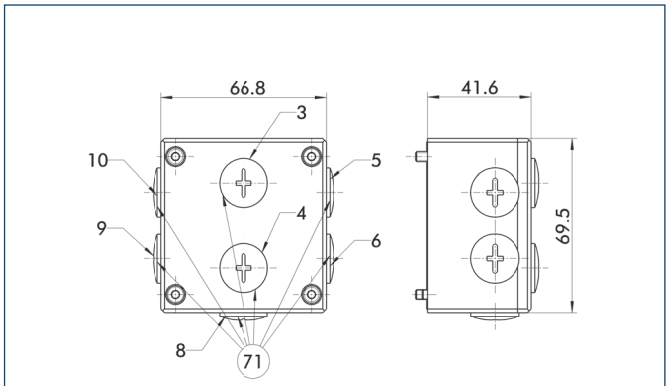
Connection cap MMI



(90) Connection power supply (logic / load)
(91) Connection Feldbus
(93) Parametrized interface RS232
(94) Connection power supply service box (SSB)
(96) Connection external end switch

Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	**0307501**
MMI 070-V05-D-PB	**0307503**
MMI 070-V05-E-CN	**0307500**
MMI 070-V05-E-PB	**0307502**
Connection cables	
KA GGN1204-PB-00150-A	**0349750**
KA GGN1204-PB-00300-A	**0349751**
KA GGN1204-PB-00500-A	**0349752**
KA GGN1204-PB-01000-A	**0349753**
KA GGN1204-CN-00150-A	**0349770**
KA GGN1204-CN-00300-A	**0349771**
KA GGN1204-CN-00500-A	**0349772**
KA GGN1204-CN-01000-A	**0349773**
KA GLN2304-LK-00150-H	**0349870**
KA GLN2304-LK-00300-H	**0349871**
KA GLN2304-LK-00500-H	**0349872**
KA GLN2304-LK-01000-H	**0349873**
KA GGN2304-LK-00150-H	**0349874**
KA GGN2304-LK-00300-H	**0349875**
KA GGN2304-LK-00500-H	**0349876**
KA GGN2304-LK-01000-H	**0349877**

Connection cap DMI



(71) M 16 x 1.5 screw connection for cable guiding

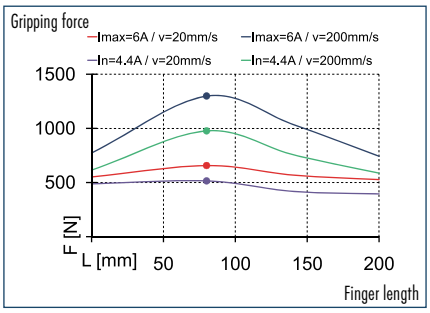
Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	**0307732**
Options	
DMI V5 BLUETOOTH	**0349050**

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

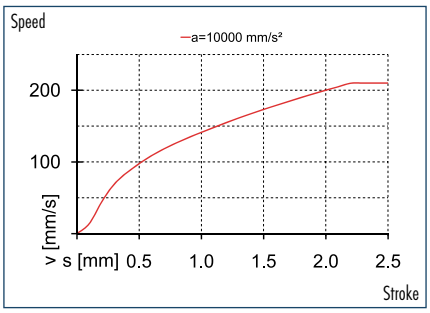
PEH 40

Electrical • 2-Finger Parallel Gripper • Long-stroke Gripper

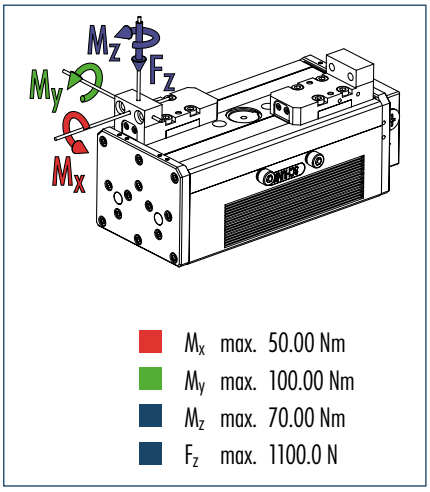
Gripping force, O.D. gripping



Speed



Finger load



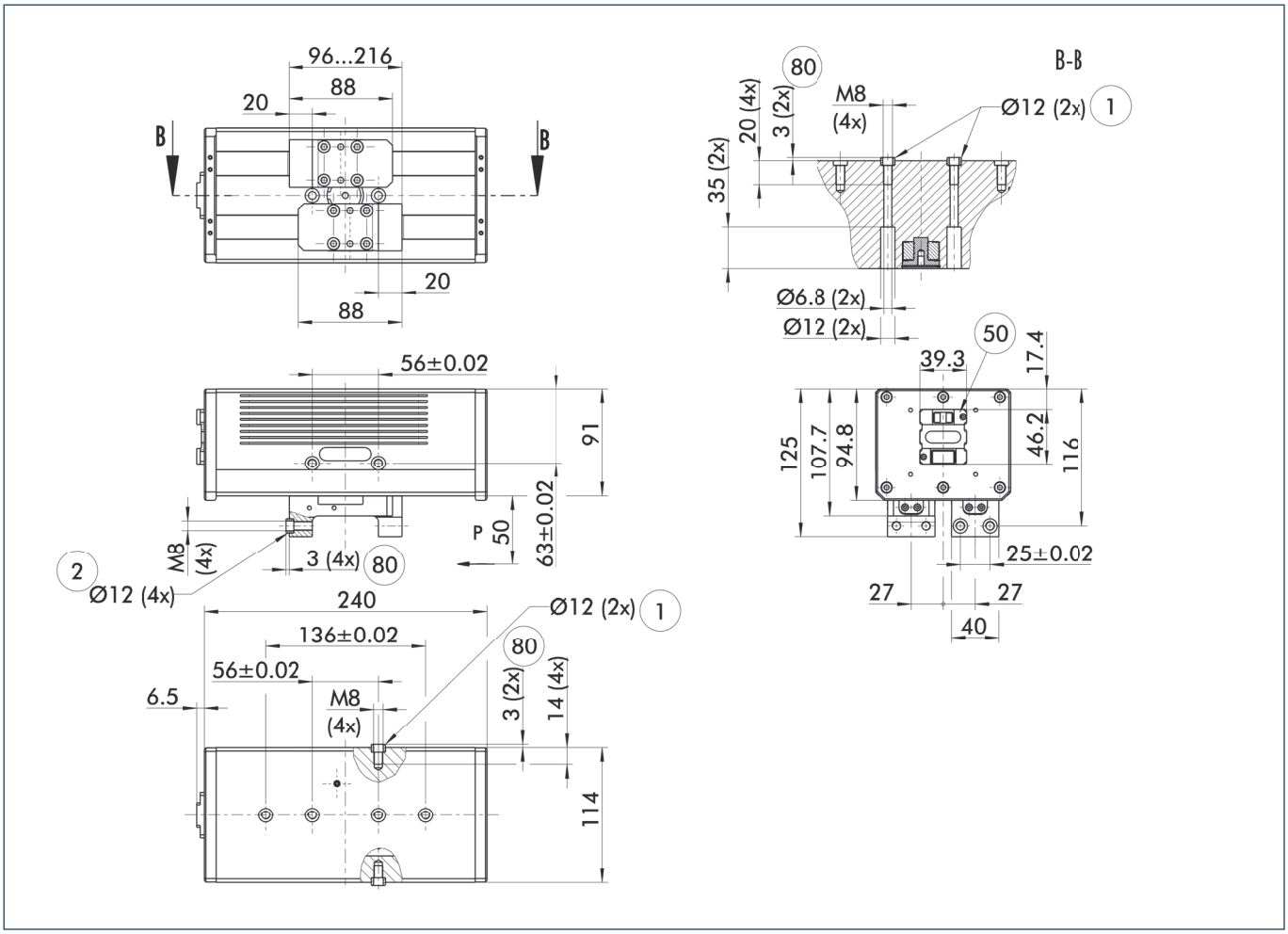
- M_x max. 50.00 Nm
- M_y max. 100.00 Nm
- M_z max. 70.00 Nm
- F_z max. 1100.0 N

ⓘ The indicated moments and forces are static values, 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		PEH 40
ID		**0306062**
General technical data gripper		
Stroke per finger	[mm]	60
Minimum/maximum gripping force	[N]	150/1300
Weight	[kg]	7.8
Recommended workpiece weight	[kg]	6.5
Max. permitted finger length	[mm]	200
Max. permitted weight per finger	[kg]	3
IP class		41
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.05
Maximum speed	[mm/s]	210
Maximum acceleration	[mm/s²]	10000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	4.4
Max. total current	[A]	6
Resolution	[Inc/U]	1
Controller operating data		
Description		**PTA-V5.3**
Implementation		integrated
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

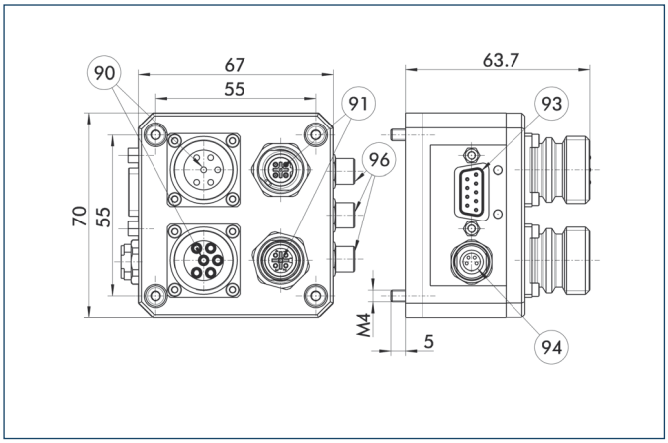
Main view



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

① Gripper connection
② Finger connection
50 Electronics connection
80 Depth of the centering sleeve hole in the matching part

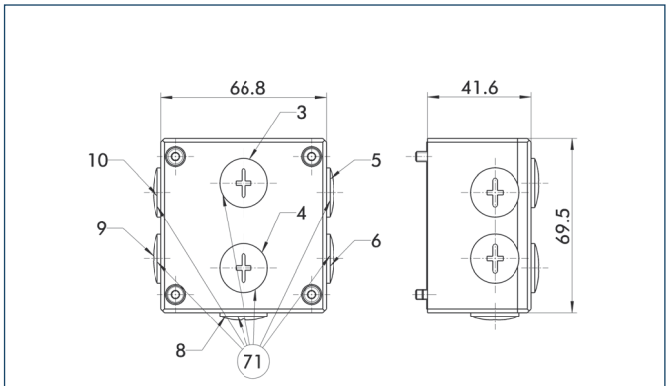
Connection cap MMI



(90) Connection power supply (logic / load)
(91) Connection Feldbus
(93) Parametrized interface RS232
(94) Connection power supply service box (SSB)
(96) Connection external end switch

Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	**0307501**
MMI 070-V05-D-PB	**0307503**
MMI 070-V05-E-CN	**0307500**
MMI 070-V05-E-PB	**0307502**
Connection cables	
KA GGN1204-PB-00150-A	**0349750**
KA GGN1204-PB-00300-A	**0349751**
KA GGN1204-PB-00500-A	**0349752**
KA GGN1204-PB-01000-A	**0349753**
KA GGN1204-CN-00150-A	**0349770**
KA GGN1204-CN-00300-A	**0349771**
KA GGN1204-CN-00500-A	**0349772**
KA GGN1204-CN-01000-A	**0349773**
KA GLN2304-LK-00150-H	**0349870**
KA GLN2304-LK-00300-H	**0349871**
KA GLN2304-LK-00500-H	**0349872**
KA GLN2304-LK-01000-H	**0349873**
KA GGN2304-LK-00150-H	**0349874**
KA GGN2304-LK-00300-H	**0349875**
KA GGN2304-LK-00500-H	**0349876**
KA GGN2304-LK-01000-H	**0349877**

Connection cap DMI



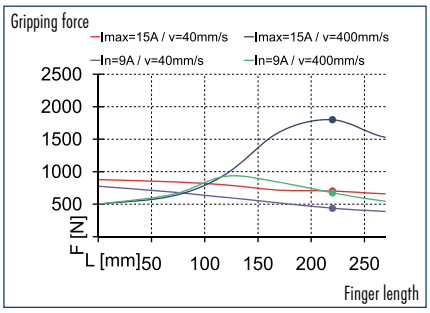
(71) M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	**0307732**
Options	
DMI V5 BLUETOOTH	**0349050**

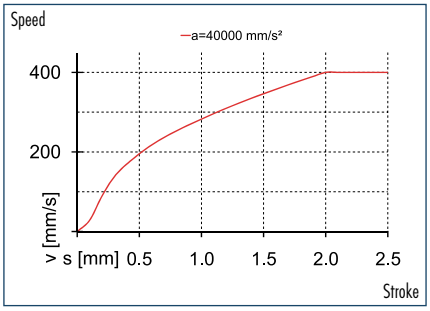
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PEH 50

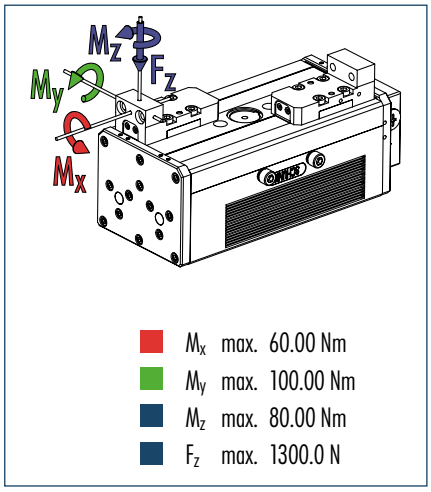
Gripping force, O.D. gripping



Speed



Finger load



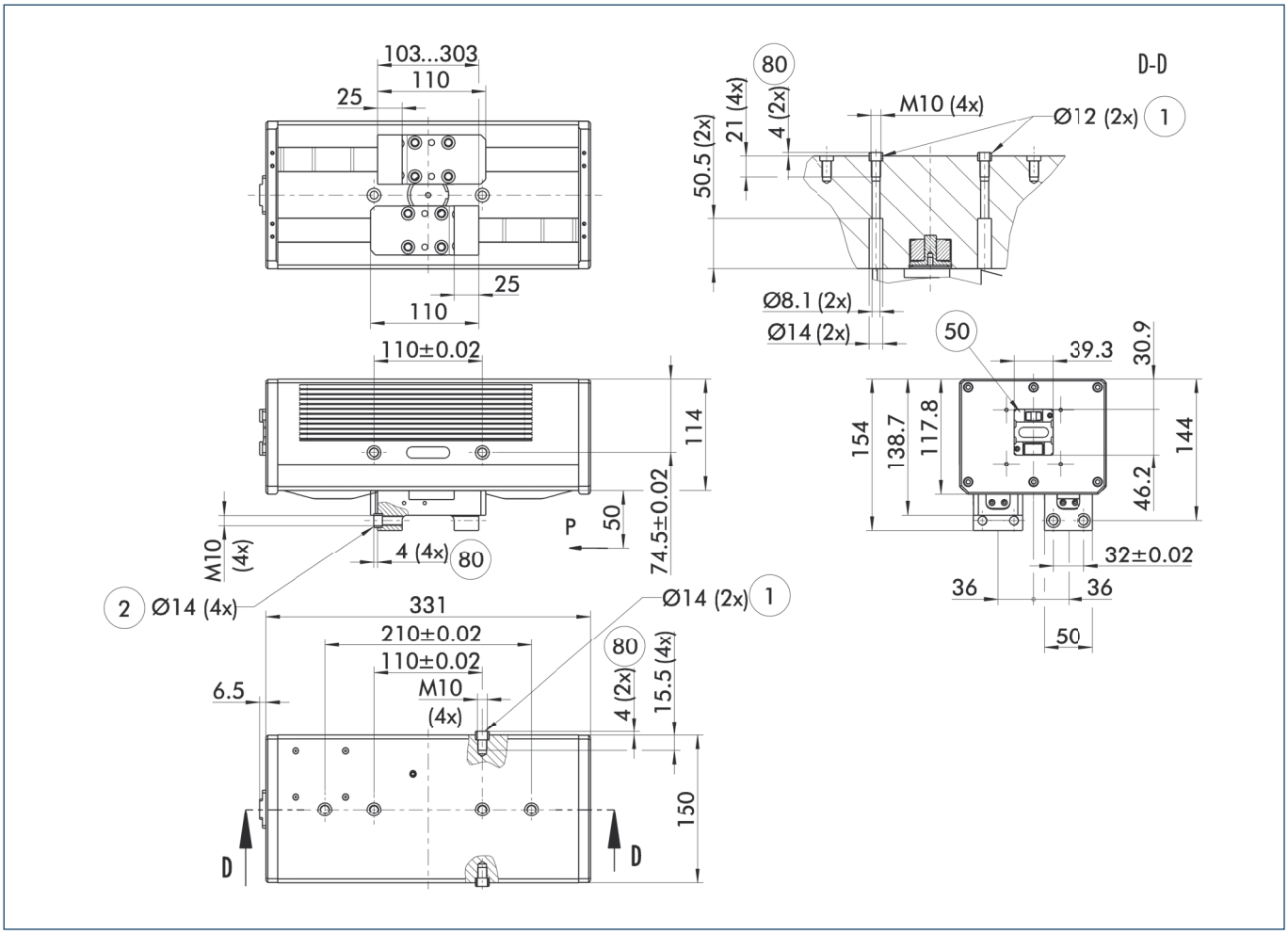
- M_x max. 60.00 Nm
- M_y max. 100.00 Nm
- M_z max. 80.00 Nm
- F_z max. 1300.0 N

ⓘ The indicated moments and forces are static values, 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		PEH 50
ID		**0306064**
General technical data gripper		
Stroke per finger	[mm]	100
Minimum/maximum gripping force	[N]	150/1800
Weight	[kg]	14.8
Recommended workpiece weight	[kg]	9
Max. permitted finger length	[mm]	270
Max. permitted weight per finger	[kg]	4
IP class		41
Min./max. ambient temperature	[°C]	5/45
Repeat accuracy	[mm]	0.05
Maximum speed	[mm/s]	400
Maximum acceleration	[mm/s²]	40000
Electrical operating data gripper		
Power supply	[V DC]	24
Nominal current	[A]	9
Max. total current	[A]	15
Resolution	[Inc/U]	1
Controller operating data		
Description		**PTA-V5.3**
Implementation		integrated
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

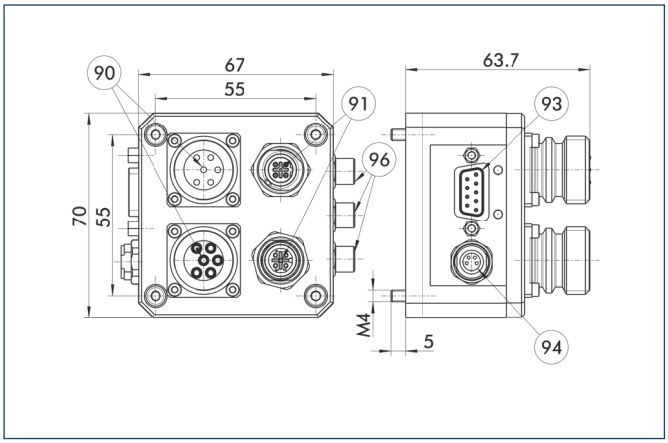
Main view



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

① Gripper connection
② Finger connection
50 Electronics connection
80 Depth of the centering sleeve hole in the matching part

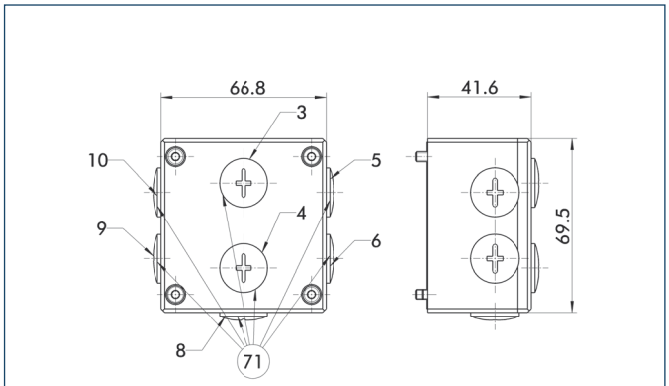
Connection cap MMI



(90) Connection power supply (logic / load)
(91) Connection Feldbus
(93) Parametrized interface RS232
(94) Connection power supply service box (SSB)
(96) Connection external end switch

Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	**0307501**
MMI 070-V05-D-PB	**0307503**
MMI 070-V05-E-CN	**0307500**
MMI 070-V05-E-PB	**0307502**
Connection cables	
KA GGN1204-PB-00150-A	**0349750**
KA GGN1204-PB-00300-A	**0349751**
KA GGN1204-PB-00500-A	**0349752**
KA GGN1204-PB-01000-A	**0349753**
KA GGN1204-CN-00150-A	**0349770**
KA GGN1204-CN-00300-A	**0349771**
KA GGN1204-CN-00500-A	**0349772**
KA GGN1204-CN-01000-A	**0349773**
KA GLN2304-LK-00150-H	**0349870**
KA GLN2304-LK-00300-H	**0349871**
KA GLN2304-LK-00500-H	**0349872**
KA GLN2304-LK-01000-H	**0349873**
KA GGN2304-LK-00150-H	**0349874**
KA GGN2304-LK-00300-H	**0349875**
KA GGN2304-LK-00500-H	**0349876**
KA GGN2304-LK-01000-H	**0349877**

Connection cap DMI



(71) M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	**0307732**
Options	
DMI V5 BLUETOOTH	**0349050**

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

LEG

Electrical • 2-Finger Parallel Gripper • Long-stroke Gripper

Size
760

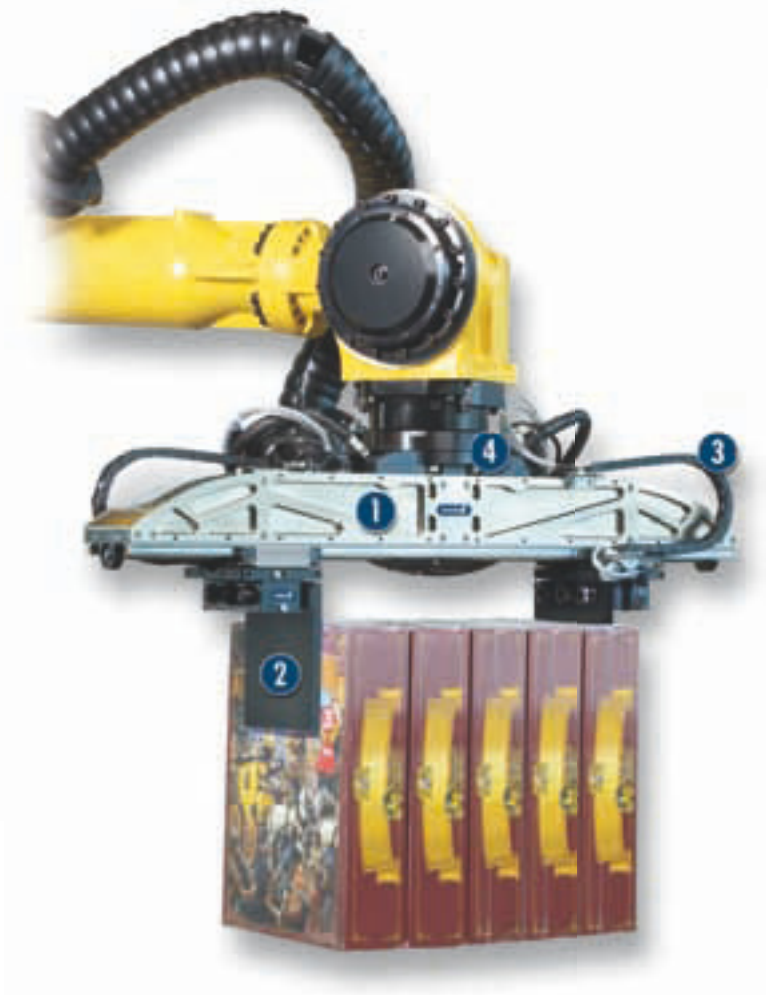
Weight
9 kg ... 11.6 kg

Gripping force
1050 N ... 1500 N

Stroke per finger
281 mm

Workpiece weight
15.75 kg ... 22.5 kg

Application example



Gripping unit for top loading and palettizing tasks

1. 2-Finger Long-stroke Gripper LEG
2. Finger change system
3. Drag chain
4. ISO flange

Long-stroke Gripper

light long-stroke gripper for flexible and highly dynamic handling of various components

Field of application

Suitable for clean environments, very flexible gripping of various geometries and types of components. Due to the servo electric drives, the gripping position and the gripping force can be exactly determined.

Your advantages and benefits

Synchronized but also asynchronous moving of the fingers

Modular drive concept
compatible to each robot control and open for various motors

Position and moment controlled motion of the gripper
a great part variety can be covered by different sizes and dimensional stability

Extremely long stroke
2 x 0 ... 281 mm

Passive finger change system available (optional)
can be used manually or fully automatic, incl. energy feed-through

High moment payloads due to the guiding
suitable for using long gripper fingers

Current robot adaptions available
according to ISO 50, 63, 100, 125 and 160

General note to the series

Principle of function
Ball screw

Housing material
Aluminum alloy, hard-anodized

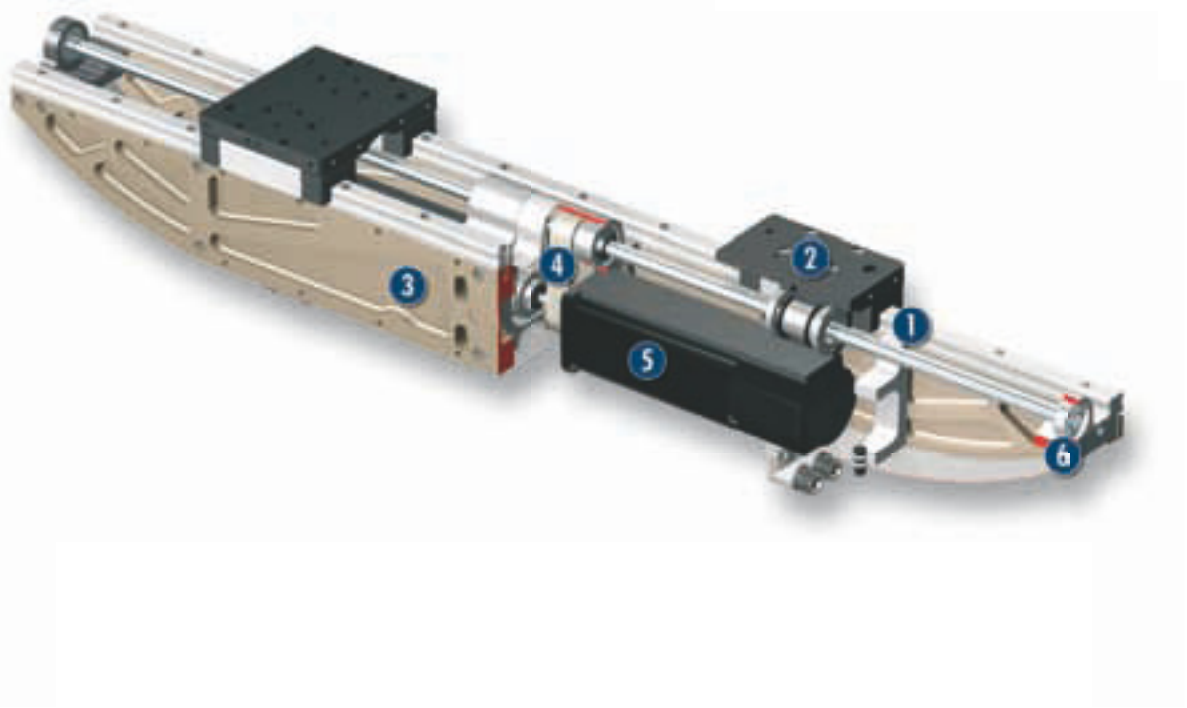
Base jaw material
Aluminum alloy, hard-anodized

Actuation
via various servo-motors

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering sleeves, centering pin, assembly and operating manual with declaration of incorporation.
Finger blanks are not included.

Sectional diagram



1 Guidance
precise gripping due to high-amperage smoothly running guidance

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

3 Housing
weight-optimized due to FEM and topology examination

4 Kinematics
high moment payloads due to the ball screw

5 Motor installation space
for various motors

6 Sensor system
Optional: Sensors for reference run

Functional description

One or two servo-motors actuated a bevel gear via a belt drive, and consequently move the base jaw.
With two drives every jaw can be moved individually from each other. During the actuation with a servo-motor, a coupling synchronizes the right-to-left and the left-to-right spindle with each other.

Options and special information

Lubrication nipple connection for re-lubrication of the spindle and the guidances are located in the base jaws.

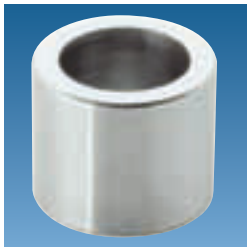
Electrical actuation

The gripper can be actuated by motors of the mostly required robot manufacturers, or with other motors. Therefore the gripper can be actuated as the seventh axis by various robot manufacturers and just one user interface for robot and gripper is necessary.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves

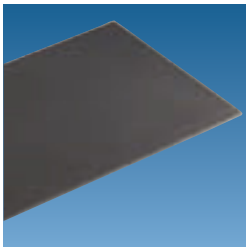


Inductive proximity switches

Sensor cables

Sensor Distributor

Gripper pads



Finger change system (on request)

Flange

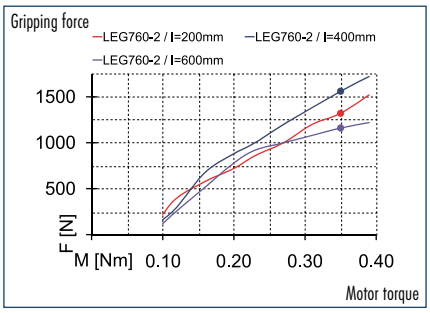
Drag chain

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

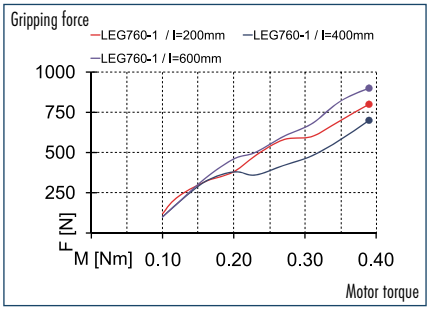
LEG 760

Electrical • 2-Finger Parallel Gripper • Long-stroke Gripper

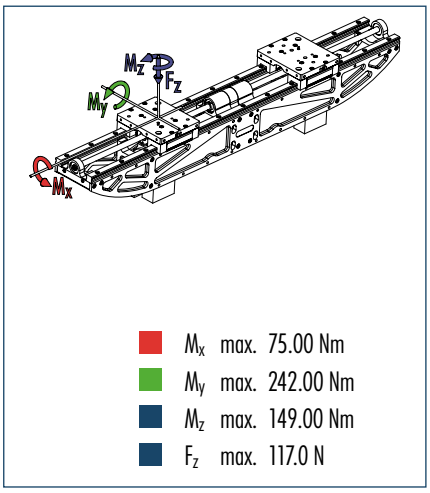
Gripping force asynchronous version



Gripping force synchronous version



Finger load



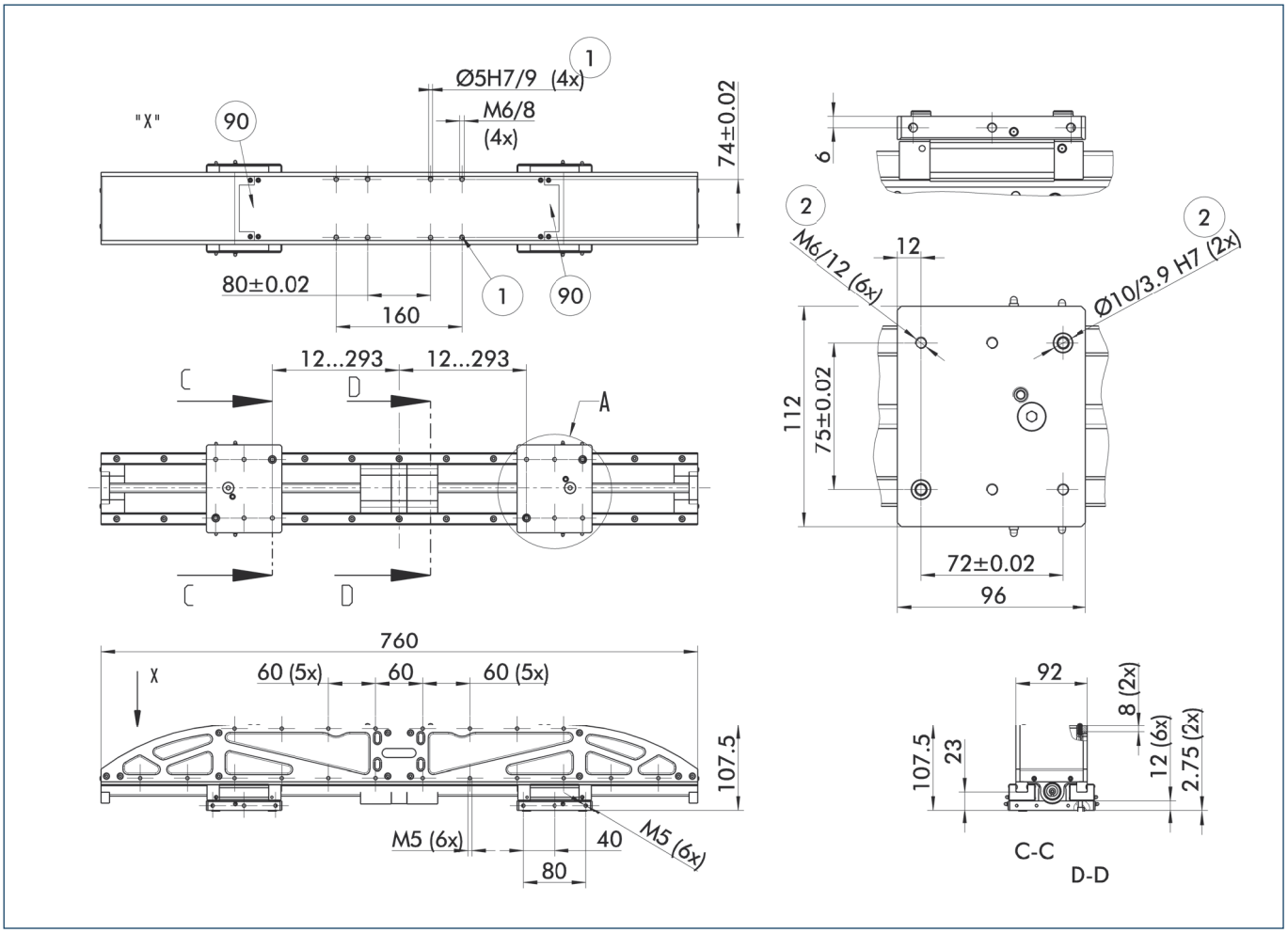
ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Asynchronous version for 2 motors		LEG 760-2-FanucB05	LEG 760-2-BOSCHMSK030B	LEG 760-2-KUKAMG8	LEG 760-2-ELAU
ID		**0308012**	**0308013**	**0308014**	**0308015**
Stroke per finger	[mm]	281	281	281	281
Minimum/maximum gripping force	[N]	300/1500	300/1500	300/1500	300/1500
Weight	[kg]	10.4	10.8	11.6	10.8
Recommended workpiece weight	[kg]	22.5	22.5	22.5	22.5
Max. permitted finger length	[mm]	600	600	600	600
Max. permitted weight per finger	[kg]	10	10	10	10
IP class		41	41	41	41
Min./max. ambient temperature	[°C]	5/65	5/65	5/65	5/65
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05
Maximum speed	[mm/s]	270	600	300	550
Maximum acceleration	[mm/s²]	1500	1500	1500	1500
Power supply	[V]	400	400	400	400
Nominal current	[A]	3.6	1.5	1.4	1.1
Max. total current	[A]	6	2.8	1.8	1.4
OPTIONS and their characteristics					
Synchronous version for 1 motor		LEG 760-1-FanucB05	LEG 760-1-BOSCHMSK030	LEG 760-1-KUKAMG8	LEG 760-1-ELAU
ID		**0308002**	**0308003**	**0308004**	**0308005**
Minimum/maximum gripping force	[N]	300/1050	300/1050	300/1050	300/1050
Weight	[kg]	9	9.2	9.6	9.2
Recommended workpiece weight	[kg]	15.75	15.75	15.75	15.75
Max. total current	[A]	8	3.8	2.4	1.9

ⓘ Motors are not included in the sales price. Integration of further motors on request.

Main view

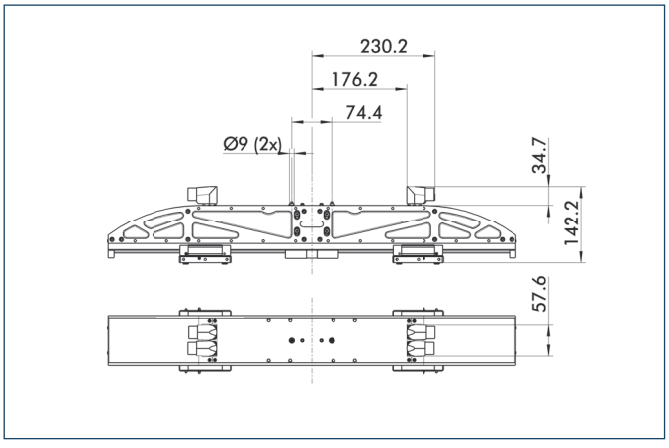


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

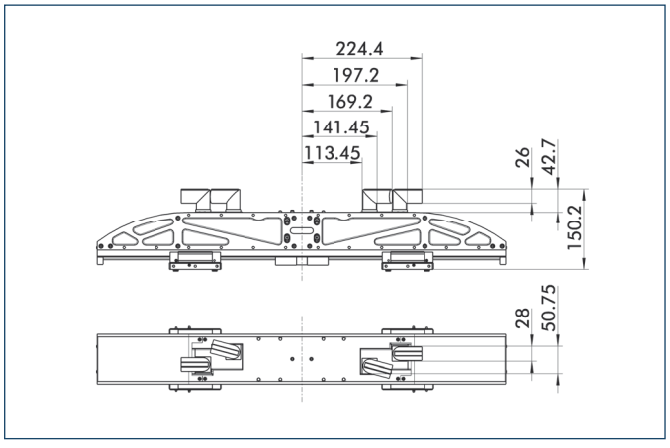
① Gripper connection
② Finger connection

⑨⓪ Plug connector of the individual motor

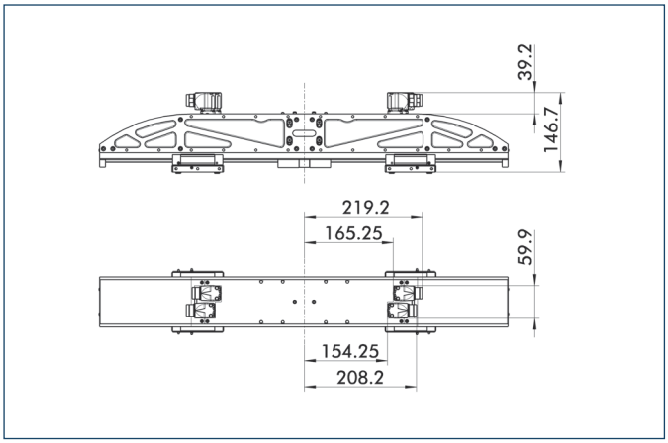
Interfering contours motor ELAU SH 055/8009



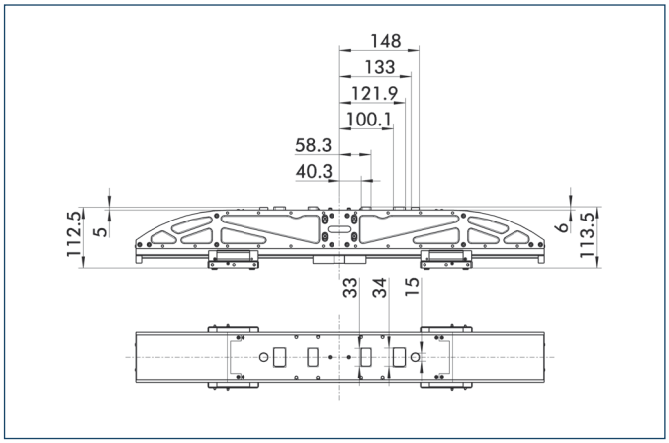
Interfering contours motor KUKA M6_8_44_45_50



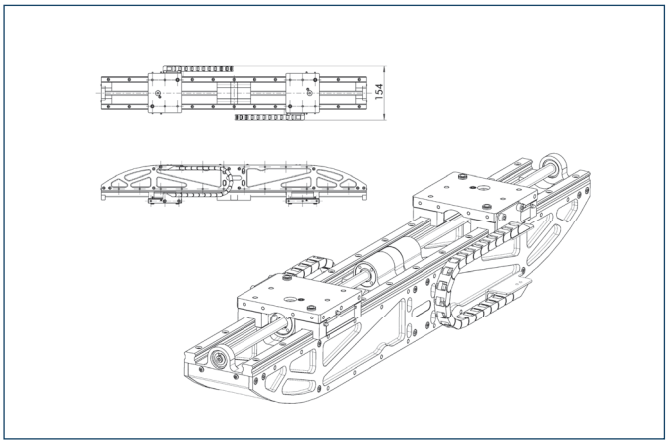
Interfering contours motor Bosch MSK 030 B



Interfering contours motor Fanuc B0.5/500iS



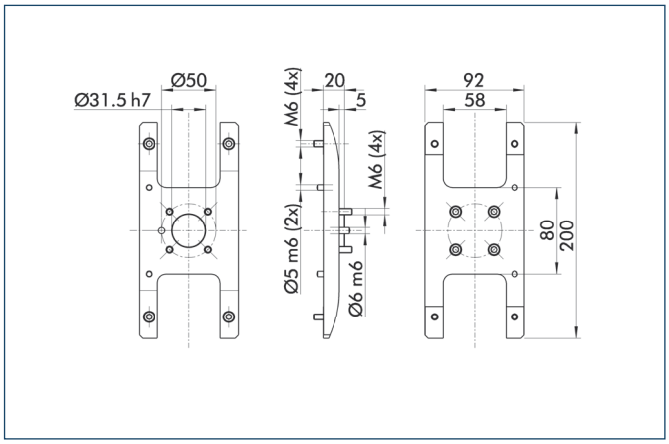
Cable chain



The mounting kit comprises two cable tracks, brackets for grippers and base jaws and fastening screws.

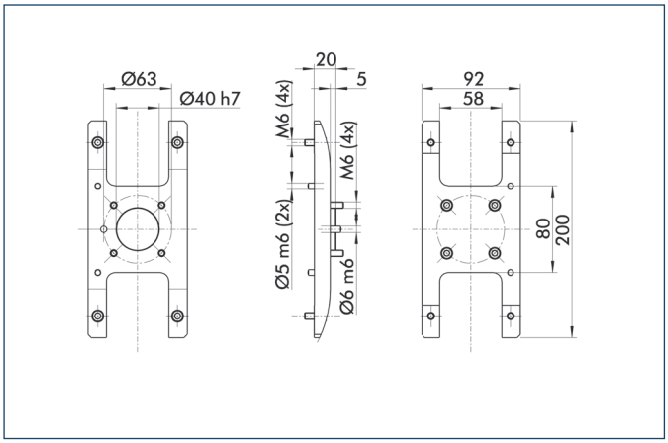
Description	ID
Cable chain	
Cable chain LEG 760	**0308098**

ISO flange in accordance with DIN ISO 50



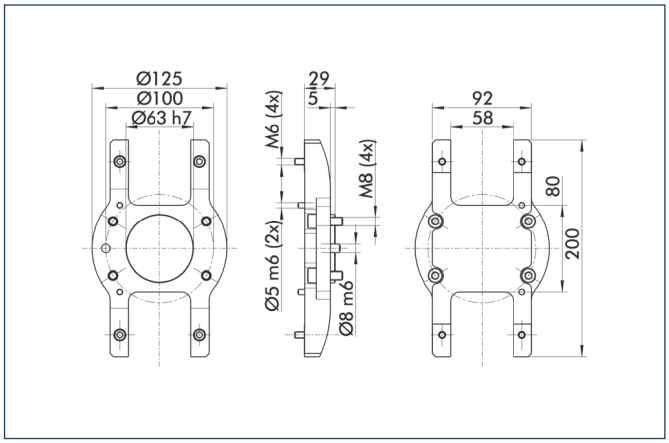
Description	ID
ISO flanges	
ADF 050	**0308090**

ISO flange in accordance with DIN ISO 63



Description	ID
ISO flanges	
ADF 063	**0308091**

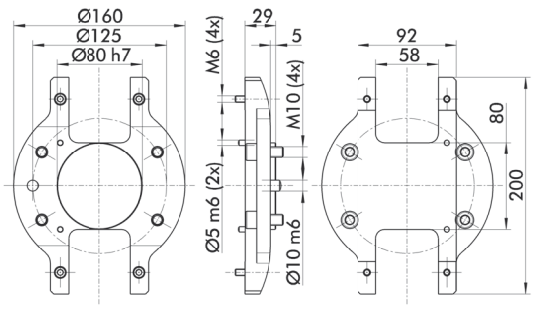
ISO flange in accordance with DIN ISO 100



Description	ID
ISO flanges	
ADF 100	**0308092**

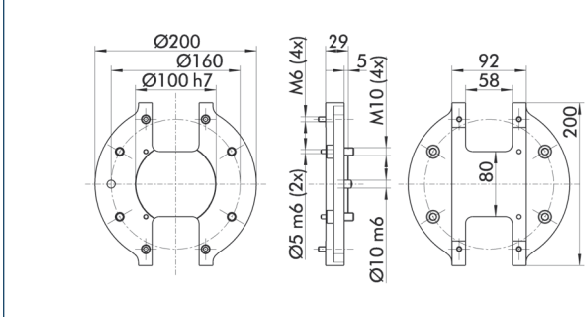
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

ISO flange in accordance with DIN ISO 125



Description	ID
ISO flanges	
ADF 125	**0308093**

ISO flange in accordance with DIN ISO 160



Description	ID
ISO flanges	
ADF 160	**0308094**

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

Electric Gripping Modules

3-Finger Centric Gripper

3-FINGER CENTRIC GRIPPER

EZN

Electrical • 3-Finger Centric Gripper • Universal Gripper

Sizes
64 ... 100

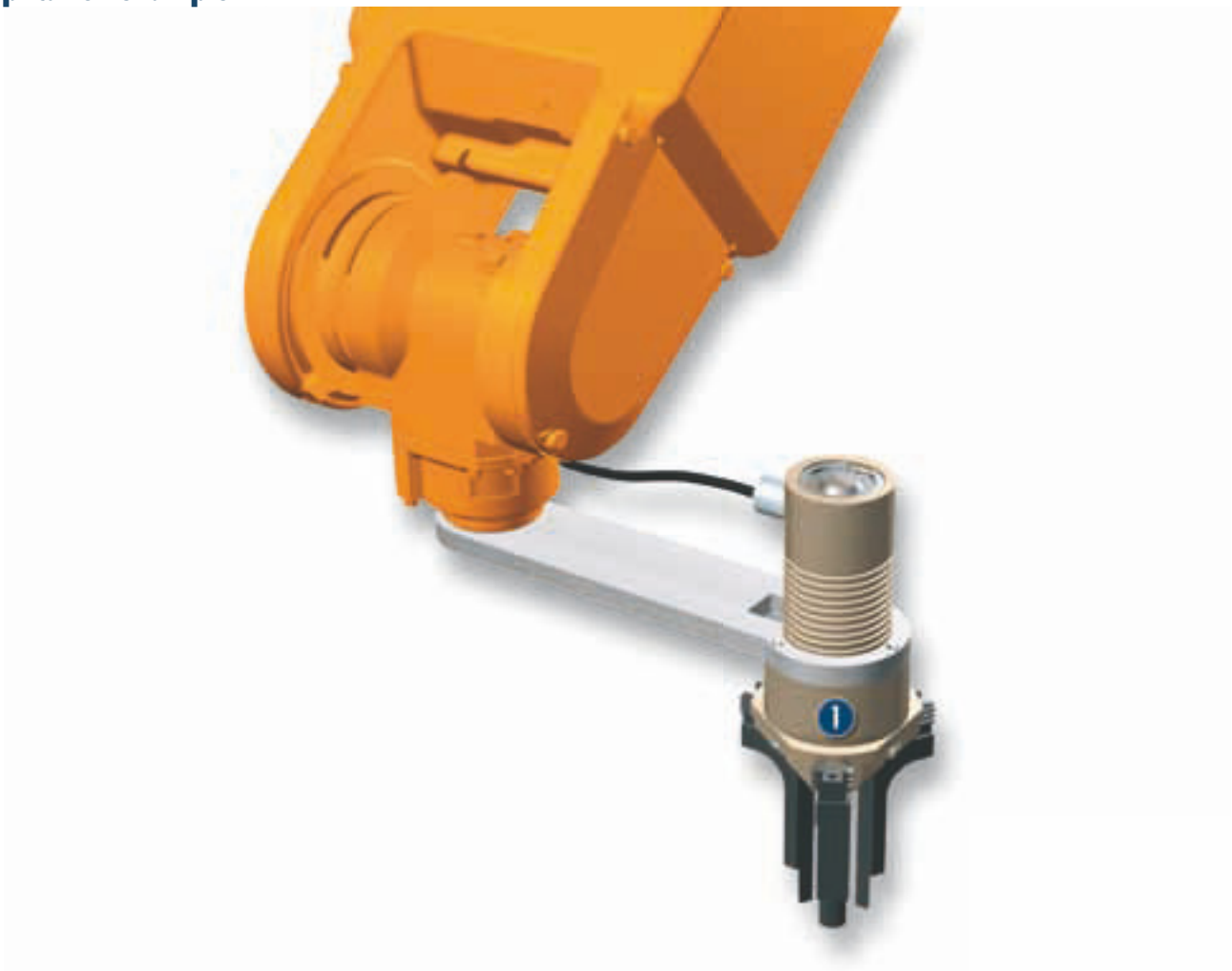
Weight
0.98 kg ... 2.3 kg

Gripping force
500 N ... 800 N

Stroke per finger
6 mm ... 10 mm

Workpiece weight
2.5 kg ... 4 kg

Application example



Connection via adapters to robots for handling all kinds of components – a complete application solution without pneumatics

1 **EZN servo-electric 3-Finger Centric Gripper**

Universal Gripper

servo-electric 3-finger centric gripper with large gripping force and high moment capabilities thanks to multiple-tooth guide

Field of application

Ideal standard solution for numerous fields of application. Highly versatile thanks to controlled gripping force, position and speed.

Your advantages and benefits

Drive design of servo-motor
for flexible use

with external electronics
for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Pre-positioning capability
to reduce cycle times through a short working stroke

Robust multi-tooth guidance
for precise handling

High maximum moments possible
suitable for using long gripper fingers

Fastening at one gripper side in two screw directions
for universal and flexible gripper assembly

General note to the series

Principle of function
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

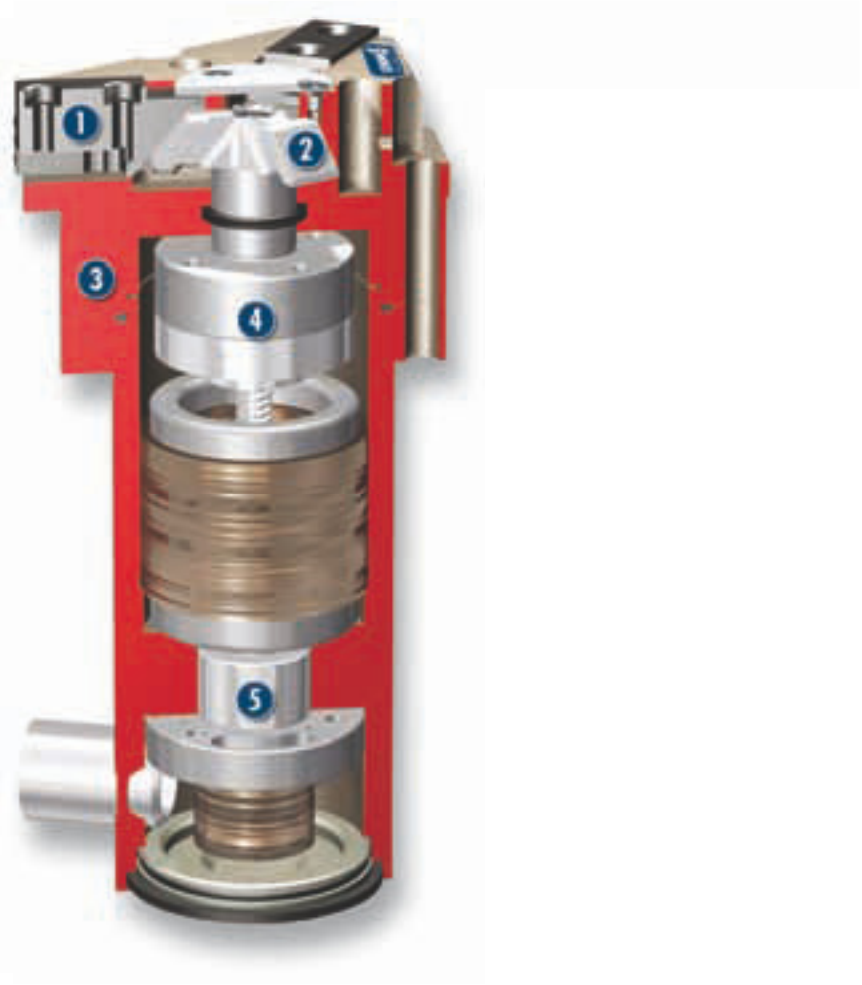
Base jaw material
Steel

Actuation
servo-electric, via brushless DC servo-motor. For actuation of the gripper a servo controller is required. We recommend the MCS-12.

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.

Sectional diagram



1 Base jaw
with multiple-tooth guidance for precise gripping even with long gripper fingers

2 Wedge-hook design
for high power transmission and centric gripping

3 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy

4 Kinematics
roller-bearing mounted spindle nut system for transferring the rotational movement of the servo-motor into the axial movement of the piston rod

5 Drive
CD servo-motor with resolver

Functional description

The spindle nut which is mounted on bearings, transfers the rotary motion of the servo-motor into an axial motion.

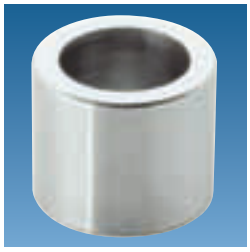
Options and special information

Electrical actuation of the EZN gripper is carried out via the appropriate MCS-12 control electronics. Integration of the control electronics into the higher-ranking control plan can be implemented via the communication interfaces Profibus, CAN-bus or conventional digital inputs/ outputs. For Bus communication, the SCHUNK Motion Protocol (SMP) is used.
This enables you to create industrial bus networks, and ensures easy integration in control systems. If integration takes place simply by terminal signals, gripping parameters such as force, position and speed are predefined, and the different operating modes are defined by digital and analog inputs. The gripper status can be monitored by means of digital outputs, or via the Feldbus.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Finger blanks

Quick-change Jaw System

Force measuring jaws

Protection cover

Control unit

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

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

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

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

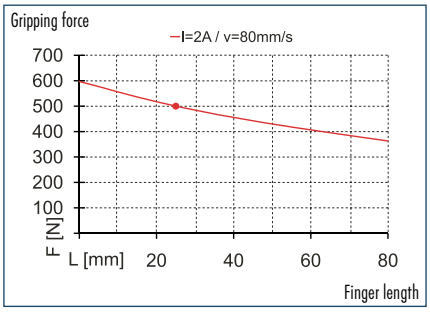
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

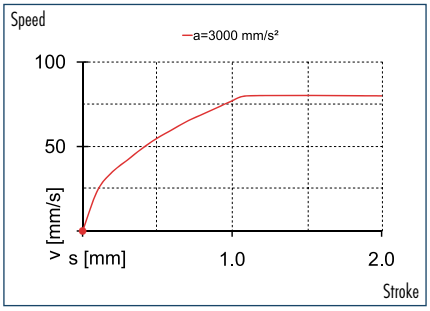
EZN 64

Electrical • 3-Finger Centric Gripper • Universal Gripper

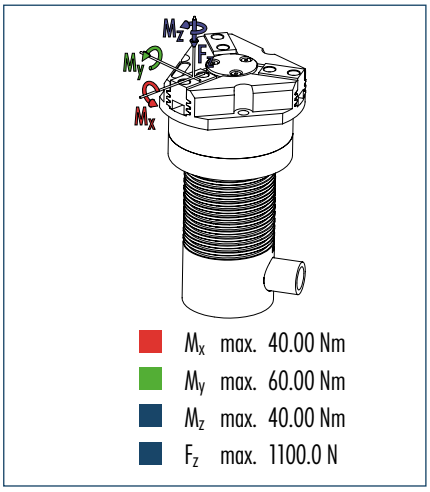
Gripping force



Speed



Finger load

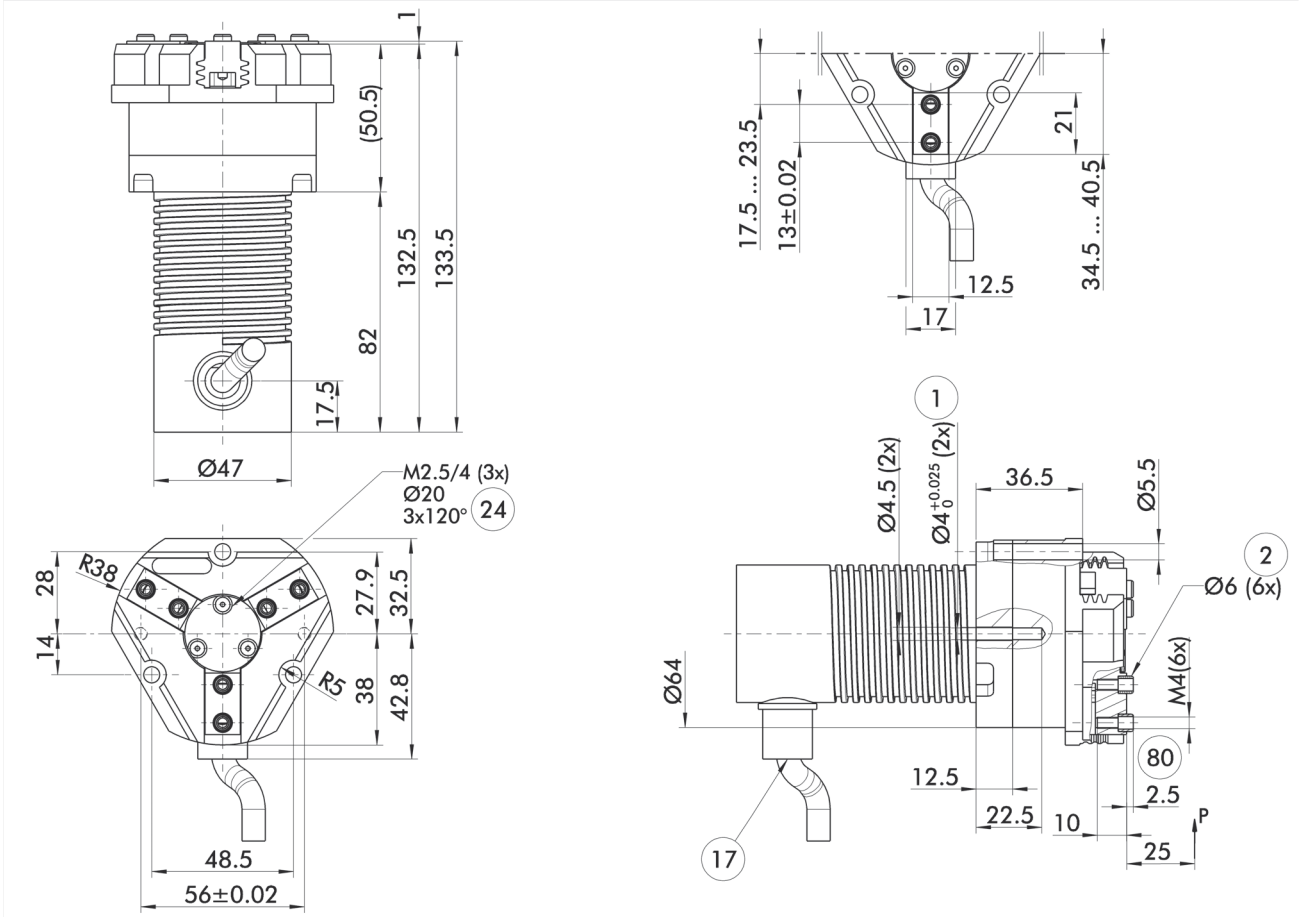


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EZN 64
ID		**0306110**
General technical data gripper		
Stroke per finger	[mm]	6
Minimum/maximum gripping force	[N]	140/500
Weight	[kg]	0.98
Recommended workpiece weight	[kg]	2.5
Max. permitted finger length	[mm]	80
Max. permitted weight per finger	[kg]	0.35
IP class		41
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.01
Maximum speed	[mm/s]	80
Maximum acceleration	[mm/s²]	3000
Electrical operating data gripper		
Power supply	[V]	24
Nominal current	[A]	2
Max. total current	[A]	4
Resolution	[Inc/U]	10
Controller operating data		
Description		**MCS-12 (EGN/EZN)**
ID		**0307010**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

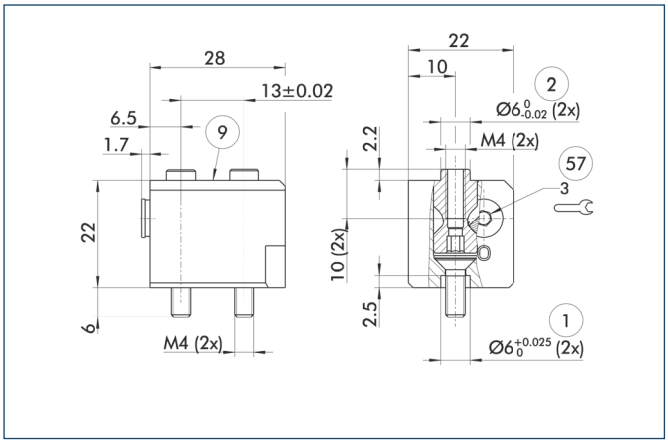
Main view



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

① Gripper connection
② Finger connection
⑰ Cable outlet
㉔ Bolt circle
㉚ Depth of the centering sleeve hole in the matching part

Quick-change Jaw System

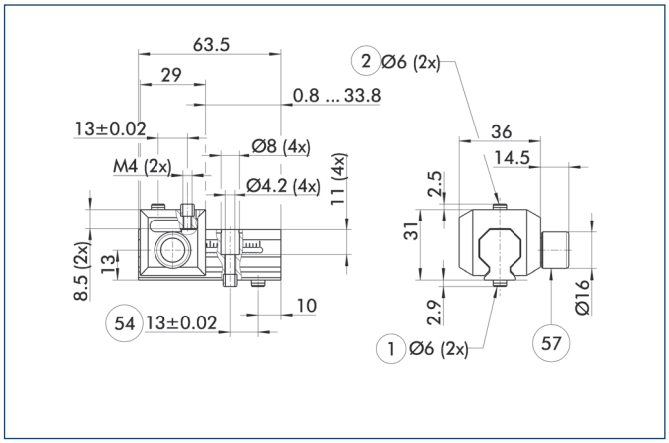


① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
⑰ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	**0303022**
Quick-change Jaw System base	
BSWS-B 64	**0303023**

Universal intermediate jaw



① Gripper connection
② Finger connection
⑭ Optional right or left connection
⑰ Locking

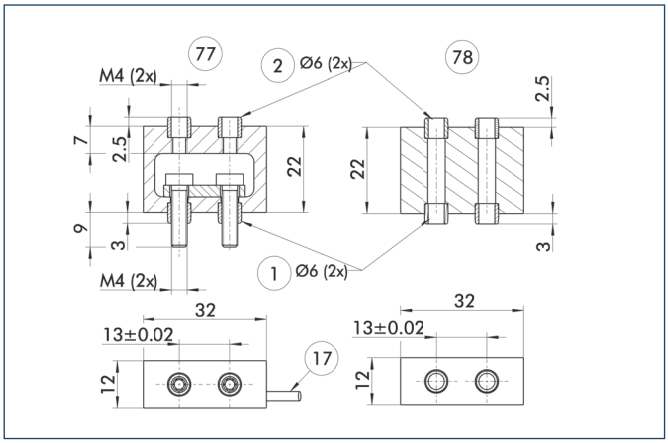
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 64	**0300042**	1.5 mm

ⓘ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

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

Force measuring jaws

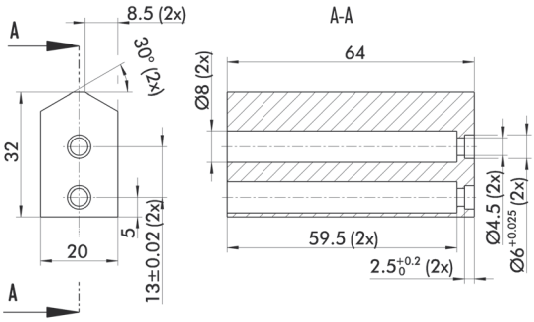


① Gripper connection
② Finger connection
⑰ Cable outlet
⑦⑦ Active intermediate jaws
⑦⑧ Passive intermediate jaws

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

Description	ID
Active intermediate jaws	
FMS-ZBA 64	**0301832**
Passive intermediate jaws	
FMS-ZBP 64	**0301833**
Electronic Processor	
FMS-A1	**0301810**
Connection cables	
FMS-AK0200	**0301820**
FMS-AK0500	**0301821**
FMS-AK1000	**0301822**
FMS-AK2000	**0301823**

Finger blanks



Finger blanks for customized subsequent machining

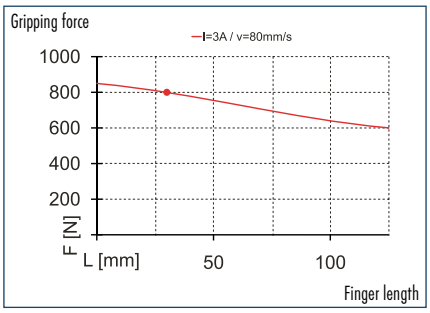
Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	**0300010**	Aluminum	1
SBR-plus 64	**0300020**	16 MnCr 5	1

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

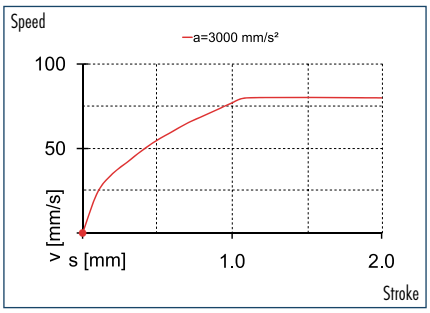
EZN 100

Electrical • 3-Finger Centric Gripper • Universal Gripper

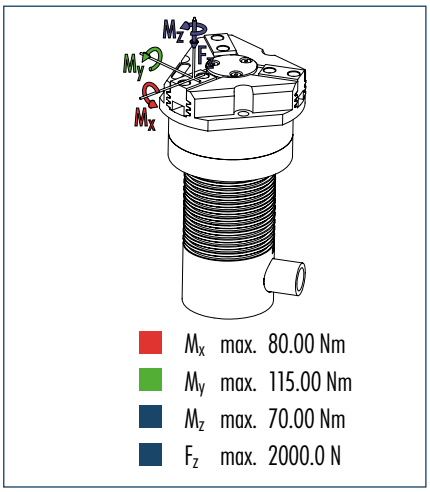
Gripping force



Speed



Finger load

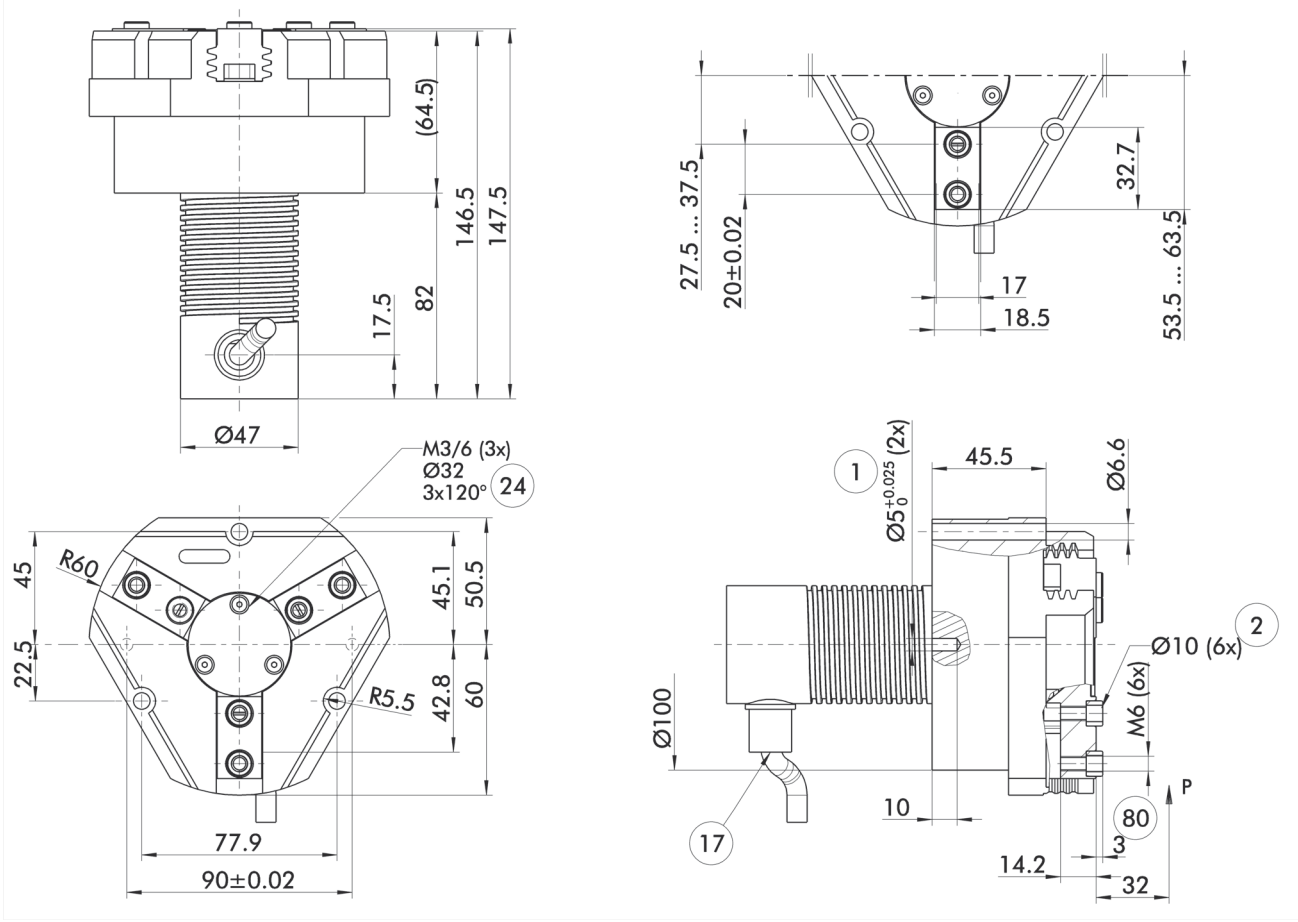


ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement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

Technical data

Description		EZN 100
ID		**0306112**
General technical data gripper		
Stroke per finger	[mm]	10
Minimum/maximum gripping force	[N]	300/800
Weight	[kg]	2.3
Recommended workpiece weight	[kg]	4
Max. permitted finger length	[mm]	125
Max. permitted weight per finger	[kg]	1.1
IP class		41
Min./max. ambient temperature	[°C]	5/55
Repeat accuracy	[mm]	0.01
Maximum speed	[mm/s]	80
Maximum acceleration	[mm/s²]	3000
Electrical operating data gripper		
Power supply	[V]	24
Nominal current	[A]	3
Max. total current	[A]	4
Resolution	[Inc/U]	10
Controller operating data		
Description		**MCS-12 (EGN/EZN)**
ID		**0307010**
Implementation		external
Power supply	[V DC]	24
Field bus interface		CAN / PROFIBUS / I/O
Parametrized interface		CAN / PROFIBUS / RS232

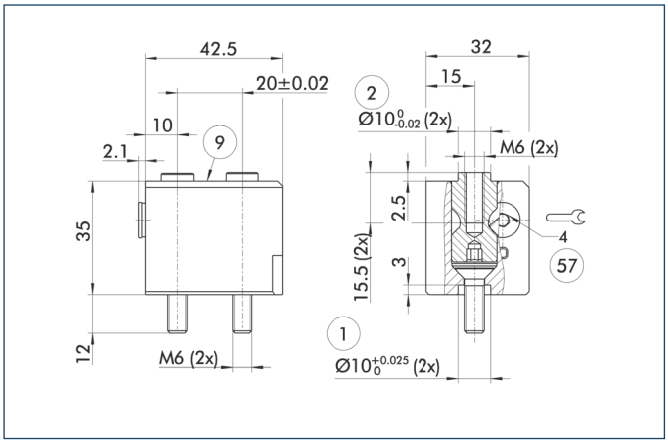
Main view



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

① Gripper connection
② Finger connection
⑰ Cable outlet
㉔ Bolt circle
㉚ Depth of the centering sleeve hole in the matching part

Quick-change Jaw System

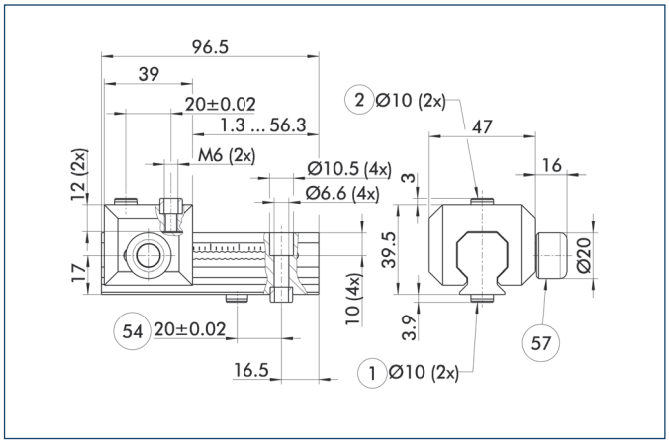


① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
㊼ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	**0303026**
Quick-change Jaw System base	
BSWS-B 100	**0303027**

Universal intermediate jaw



① Gripper connection
② Finger connection
㊹ Optional right or left connection
㊼ Locking

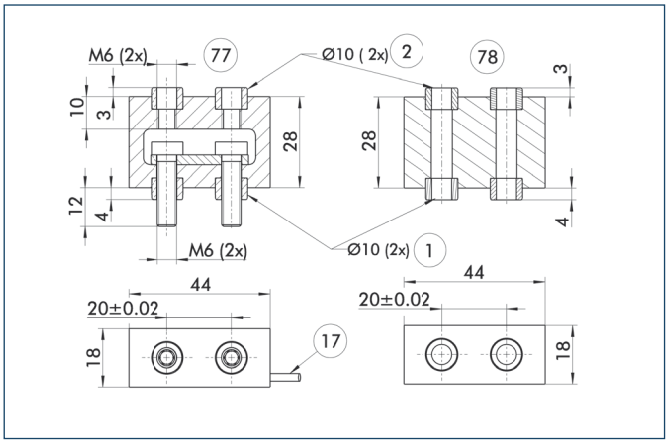
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	**0300044**	2.5 mm
UZB-S 100	**5518272**	2.5 mm

ⓘ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

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

Force measuring jaws

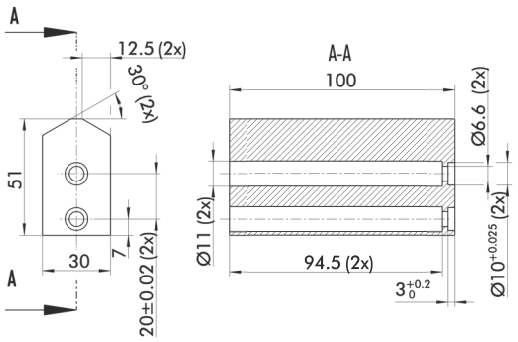


① Gripper connection
② Finger connection
⑰ Cable outlet
⑦⑦ Active intermediate jaws
⑦⑧ Passive intermediate jaws

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

Description	ID
Active intermediate jaws	
FMS-ZBA 100	**0301836**
Passive intermediate jaws	
FMS-ZBP 100	**0301837**
Electronic Processor	
FMS-A1	**0301810**
Connection cables	
FMS-AK0200	**0301820**
FMS-AK0500	**0301821**
FMS-AK1000	**0301822**
FMS-AK2000	**0301823**

Finger blanks



Finger blanks for customized subsequent machining

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

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

Special Gripper

SPECIAL GRIPPER

Only some more Special Gripper ...

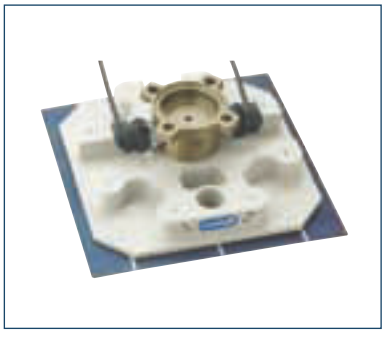
Heavy Duty Gripper SLG for 700 kg and more

Pneumatic Compact Clamping Vice PKS of the automotive industry

Double Gripper UFG for loading and unloading

Multi-purpose Gripping System LEG of packaging industry

Solar Cell Gripper SZG of the solar industry



Aseptic Gripper of the pharmaceutical industry

... much more ... Call us.

Sizes
44 ... 64

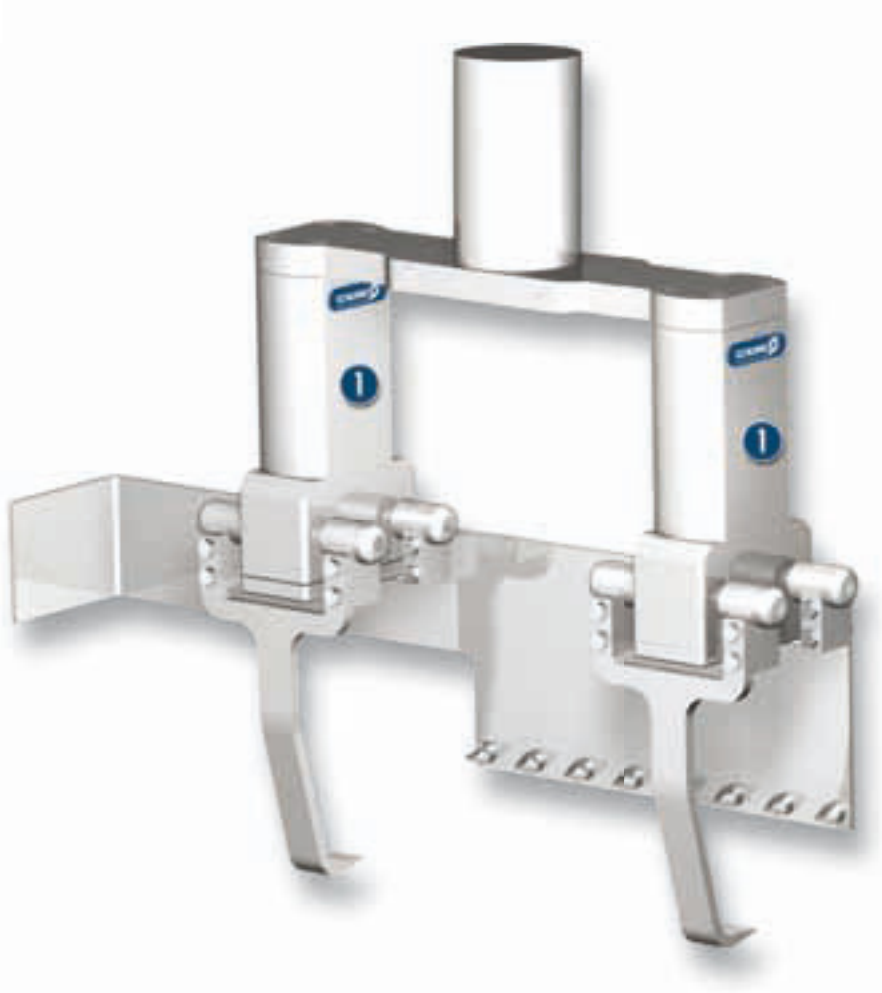
Weight
0.95 kg ... 3.3 kg

Gripping moment
8.2 Nm ... 31.5 Nm

Angle per jaw
90°

Workpiece weight
0.9 kg ... 2.2 kg

Application example



Double gripper unit for handling lines of cutlets and large pieces of meat

1 Food gripper LMG

Food Gripper
Gripper in easy-to-clean design for handling food

Field of application
For gripping food and other substances requiring extreme hygiene in conformity with DIN EN 1672-2 “Hygienic Design”

Your advantages and benefits

Polished stainless steel housing
for complete cleaning and corrosion resistance

Opening angle adjustable from 20° to 180°
for a versatile field of applications

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

Completely sealed mechanical parts (IP69K)
for use in extreme working conditions

Always with gripping force safety device
to prevent loss of food following a drop in air pressure

General note to the series

Principle of function
positively driven crank system

Housing material
Polished stainless steel

Base jaw material
Polished stainless steel

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
O-rings for direct connection, centering sleeves, flat seal for interface gripper/adaption, assembly and operating manual with declaration of incorporation

Gripping force maintenance device
via integrated spring

Sectional diagram

1 Sensor monitoring (optional)
Cable feed-through for sensor monitoring with magnetic sensors

2 Energy connection
Direct connection for hosefree supply of compressed air

3 Gripping force maintenance device
integrated spring for gripping force maintenance

4 Polished stainless steel housing

5 Kinematics
Slotted link gear for concentric gripping with large opening and closing movements

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

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

An extended temperature range up to 130 °C is available as a special version.

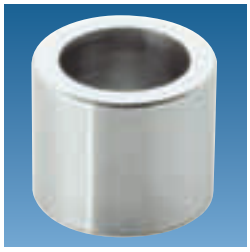
Version A (with monitoring)

Monitoring of the gripper status of version A is not an option, but an independent version. The sensors are integrated in the gripper. The sensors can be exchanged at SCHUNK only.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings

Sensor cables

Sensor Distributor

Pressure maintenance valve

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

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

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

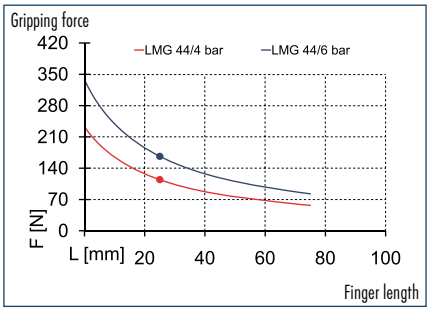
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

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.

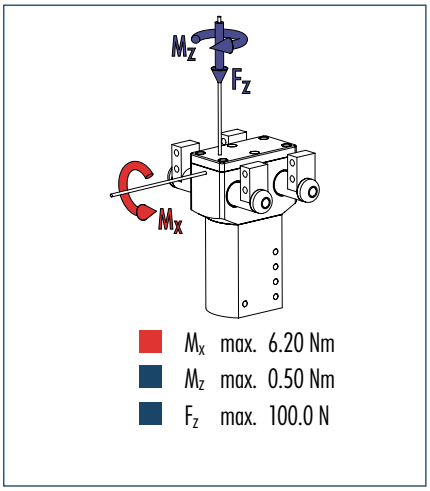
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

LMG 44

Gripping force, O.D. gripping



Finger load

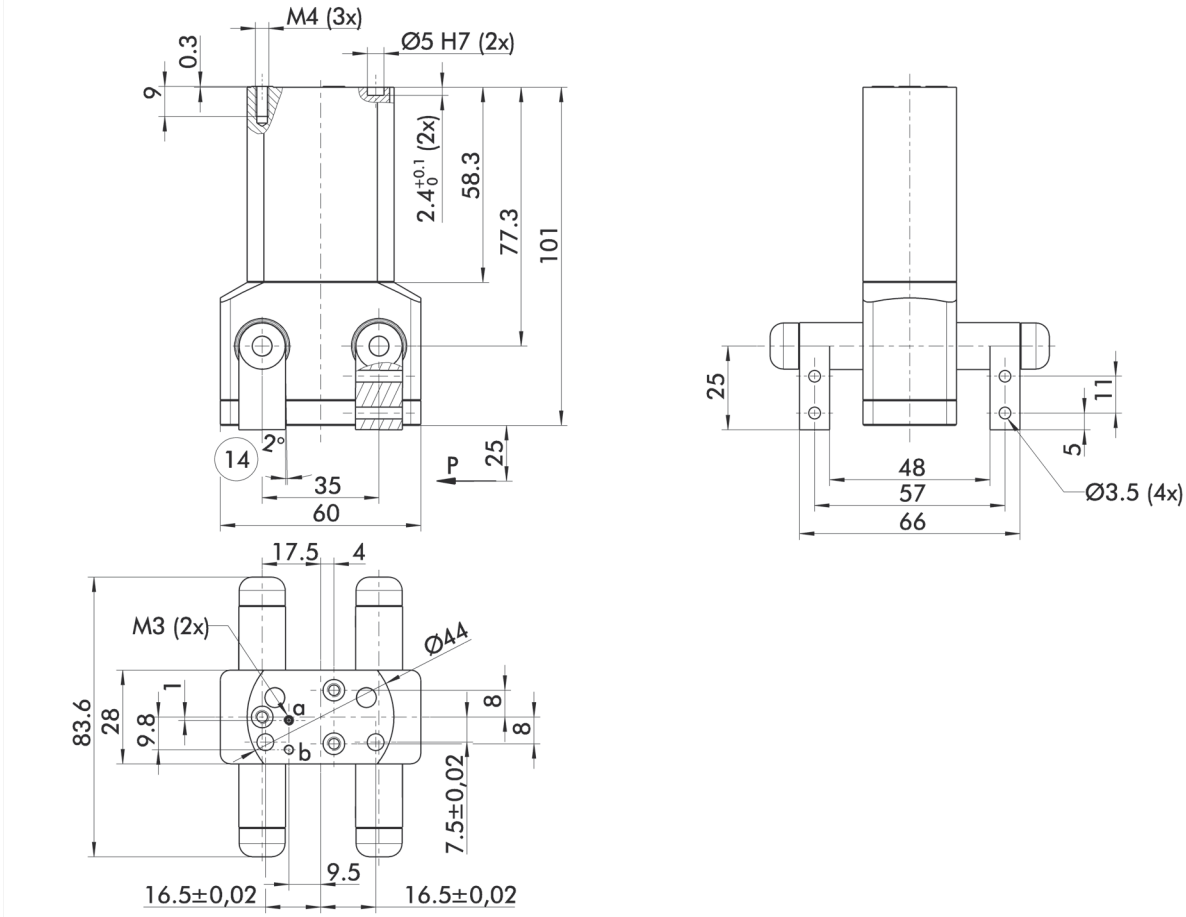


ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description		LMG 44	LMG 44-A
ID		0372002	0372003
Integrated monitoring		No	Yes
Opening angle per jaw	[°]	90	90
Closed angle per jaw up to	[°]	2	2
Closing moment	[Nm]	8.2	8.2
Spring-actuated closing moment	[Nm]	1.8	1.8
Weight	[kg]	0.95	1.2
Recommended workpiece weight	[kg]	0.9	0.9
Air consumption per double stroke	[cm³]	16	16
Min./max. operating pressure	[bar]	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.4/0.5	0.4/0.5
Max. permitted finger length	[mm]	50	50
Max. permitted weight per finger	[kg]	0.09	0.09
IP class		69K	69K
Min./max. ambient temperature	[°C]	-25/90	-25/90
Repeat accuracy	[mm]	0.1	0.1

Main view



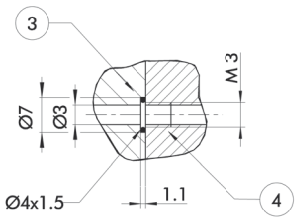
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

⑭ Clamping reserve per finger

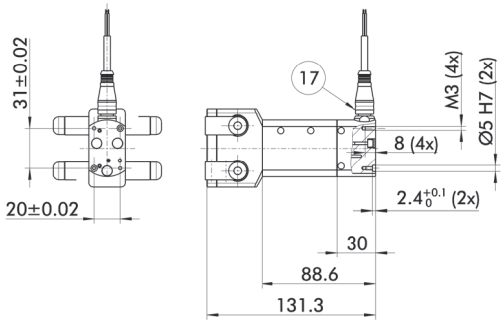
Hose-free direct connection



③ Adapter
④ Gripper

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

Gripper with position monitoring

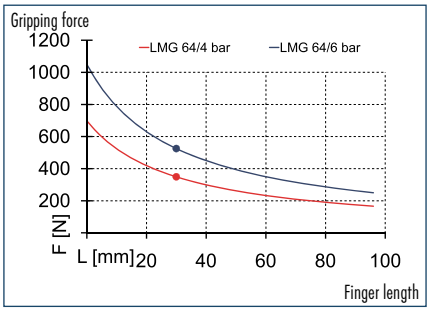


⑰ Cable outlet

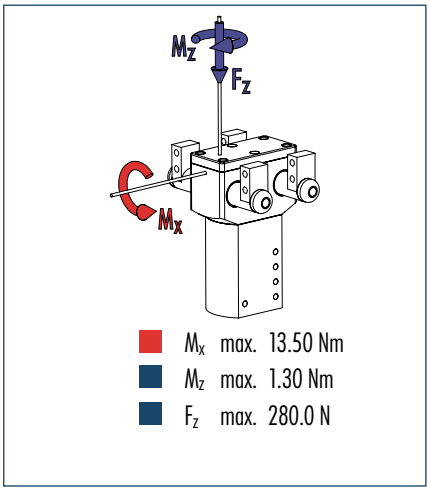
Gripper with position monitoring via magnetic sensors

LMG 64

Gripping force, O.D. gripping



Finger load

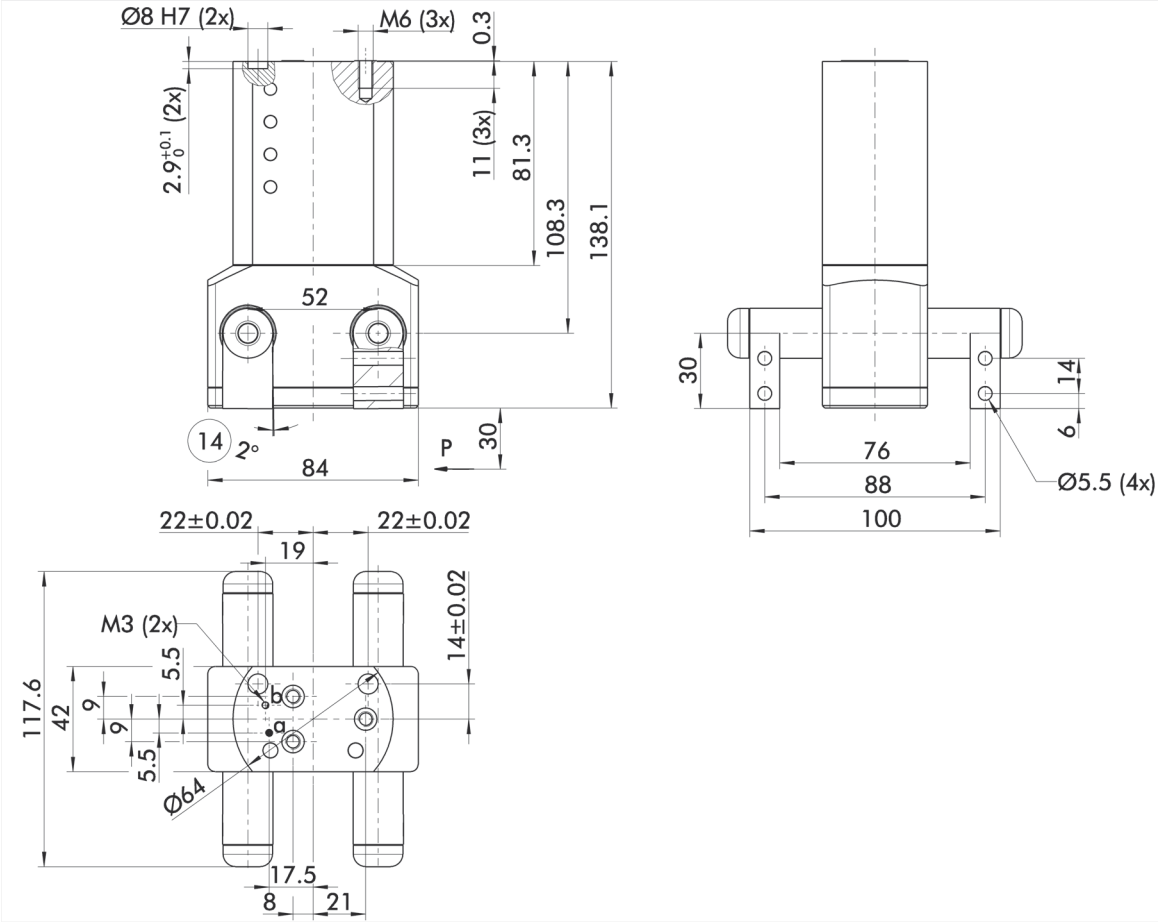


ⓘ The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description		LMG 64	LMG 64-A
ID		0372006	0372007
Integrated monitoring		No	Yes
Opening angle per jaw	[°]	90	90
Closed angle per jaw up to	[°]	2	2
Closing moment	[Nm]	31.5	31.5
Spring-actuated closing moment	[Nm]	5.1	5.1
Weight	[kg]	3	3.3
Recommended workpiece weight	[kg]	2.2	2.2
Air consumption per double stroke	[cm³]	57	57
Min./max. operating pressure	[bar]	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.4/0.5	0.4/0.5
Max. permitted finger length	[mm]	80	80
Max. permitted weight per finger	[kg]	0.26	0.26
IP class		69K	69K
Min./max. ambient temperature	[°C]	-25/90	-25/90
Repeat accuracy	[mm]	0.1	0.1

Main view



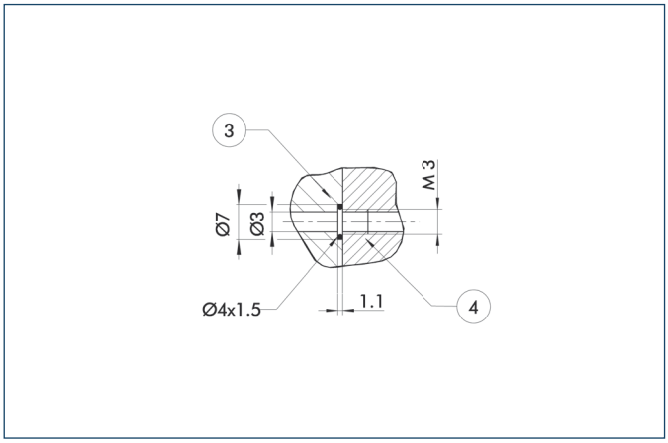
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

⑭ Clamping reserve per finger

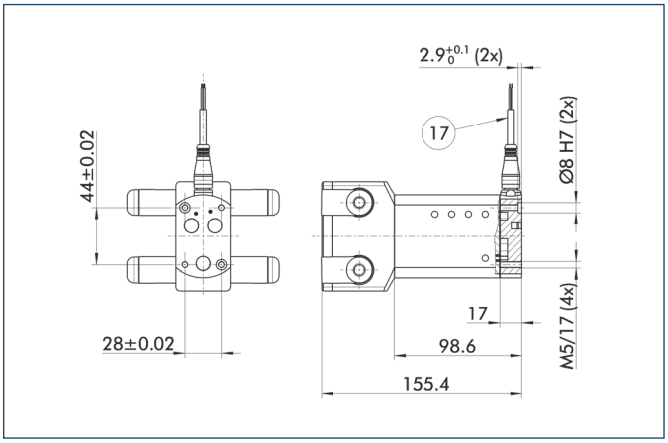
Hose-free direct connection



③ Adapter
④ Gripper

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

Gripper with position monitoring



⑰ Cable outlet

Gripper with position monitoring via magnetic sensors

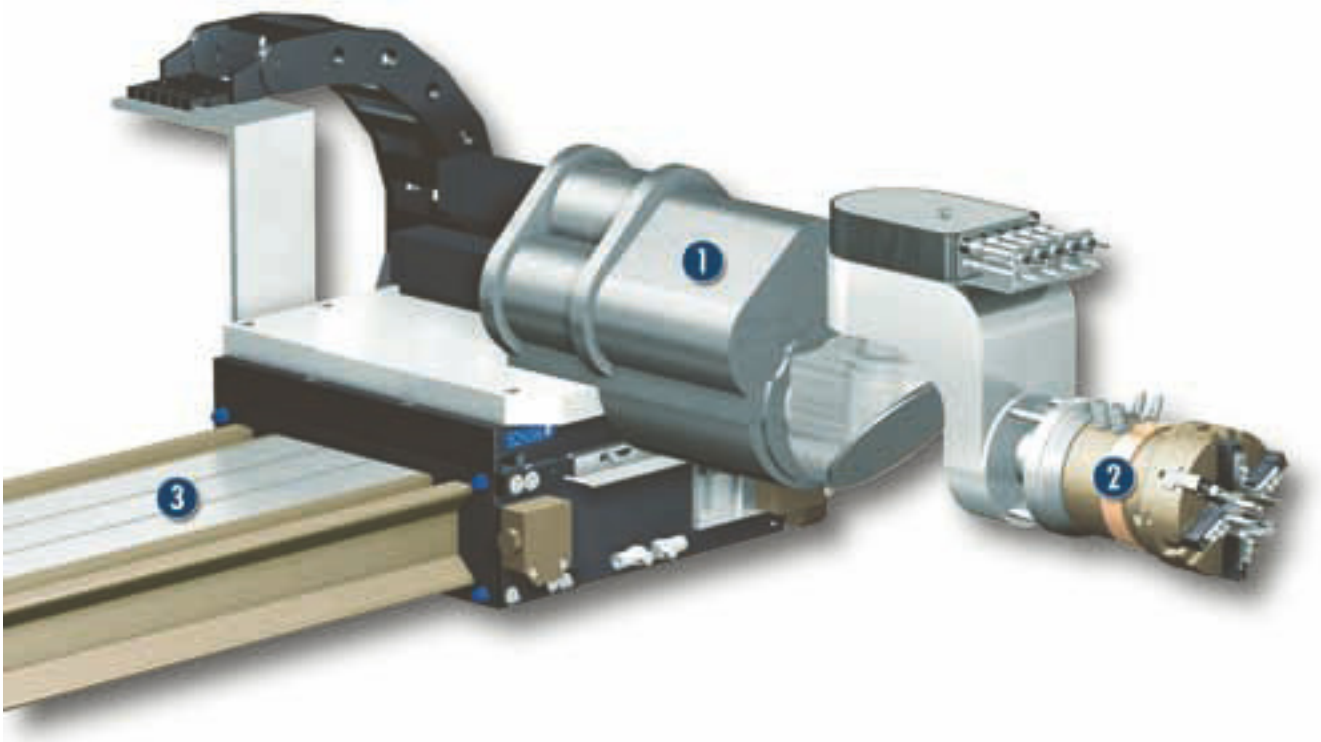
Size
85

Weight
1.35 kg

Ring diameter O.D. Assembly
appr.ø 5 mm ... ø 160 mm

Ring diameter I.D. Assembly
appr. ø 10 mm ... ø 120 mm

Application example



S

Automatic machine for the internal or external assembly of O-rings with a wide range of diameters

1. CAY 15 Handling Axis
2. ORG 85 O-ring Gripper
3. Linear Axis with Direct Drive MLD 200T

O-ring Assembly Gripper

Grippers equipped with the corresponding top jaw fingers, can assemble o-rings and mostly square rings or other rings, too, but also shafts (O.D. assembly) as well as bores (I.D. assembly).

Area of application

The gripper should be used in a clean environment, particularly in automated assembly.

Your advantages and benefits

O.D. and I.D. assembly with one gripper
for flexibility and cost-saving

“Controlled production” due to a new assembly principle
for high availability

Standard assembly finger for O.D. Assembly
for conventional ring sizes for fast commissioning

General information on the series

Working principle
Two independent finger triples shape the o-ring which will be then assembled.

Base jaw material
Steel

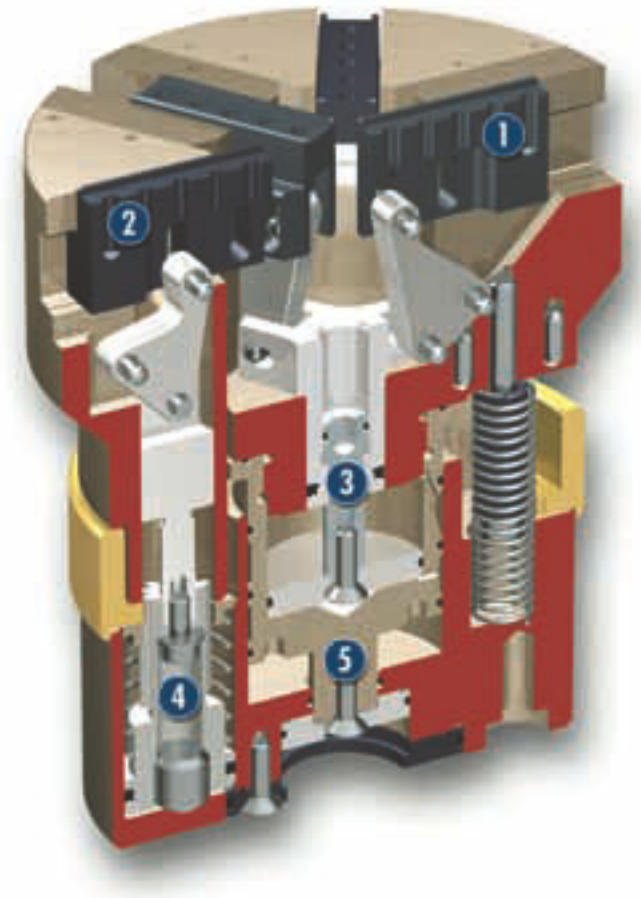
Housing material
Aluminum

Actuation
pneumatic, via filtered compressed air (10 µm): dry, oiled, or not lubrified pressure medium: Requirements on quality of the compressed air according to DIN ISO 8573-1: 6 4 4.

Warranty
24 months

Scope of delivery
Gripper with assembly- and operating manual, and manufacturer’s declaration

Sectional diagram



1 **Triple jaw A**
double-acting

2 **Triple jaw B**
single-acting

3 **Drive**
for triple jaw A

4 **Drive**
for triple jaw B

5 **Drive**
for linear stroke

Function description

O.D. assembly
The o-ring is expanded by six fingers, the gripper is moved onto the assembly groove of the shaft. The three fingers of the triple jaw A will be retracted with a linear stroke first. The o-ring is already partially inserted in the groove, due to the triangle shape, which occurs since the three jaws of the triple jaw B are holding the o-ring now. The complete gripper is retracted now. The o-ring retracts into its assembly groove automatically now.

I.D. assembly
The segment jaws of triple B and the bar fingers of triple A are positioning the o-ring into the shape of a cloverleaf. The gripper is moved with its fingers into the assembly bore. The segment jaws push the o-ring in a large part of the groove's circumference into the groove. The bar fingers are retracted, the o-ring continous to be inserted in the groove. The bar fingers are inside the o-ring now and the segment jaws push the o-ring imperatively into its groove.

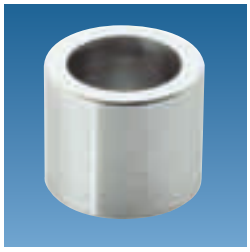
Options and special information

For conventional o-ring sizes SCHUNK offers standard assembly fingers for O.D. assembly. Assembly fingers for I.D. assembly differentiate according to the o-rings. On request, SCHUNK is offering customized products or which can be manufactured by the customer himself. You will find detailled drawings and engineering instructions in our operating manual.
The pdf files are ready for download under: www.schunk.com.

Accessories

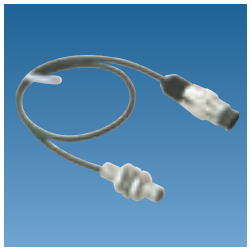
Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves



Fittings

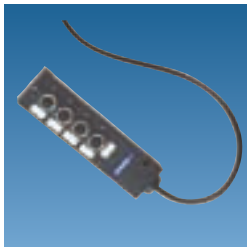
IN inductive proximity switches



KV/KA sensor cables

Assembly finger

V sensor distributors



General information on the series

Drawings and engineering instructions

For more information on drawings and engineering instructions of assembly fingers, please consult our operating manual for ORG. The pdf-file can be downloaded under www.schunk.com

Gripping force

is the arithmetic sum of the individual forces occuring at the base jaws at a distance P (see drawing), measured from the upper edge of the gripper.

Finger length

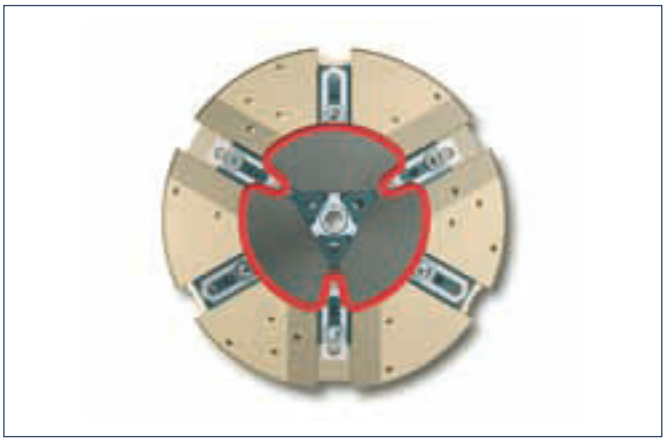
is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

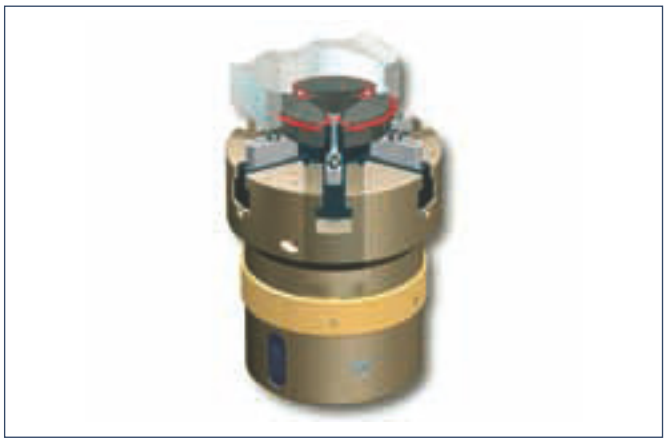
is defined as diffusion of the end position after 100 consecutive strokes

Assembly process I.D. assembly

1. Mounting of the o-ring.



2. Shaping the o-ring into the shape of a cloverleaf.



3. Travel into the bore (assembly position) and pressing by triple jaw B.

4. Pressing by triple jaw A and retaction of the gripper

Assembly process O.D. assembly

1. Mounting of the o-ring and expansion to a hexagon.

2. Travel to the shaft (assembly position).

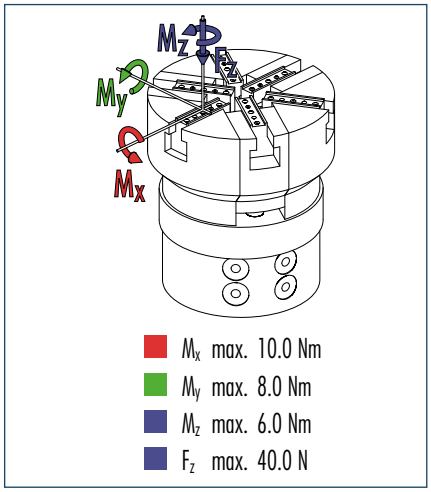
3. Retraction of triple jaw A. The o-ring inserts into the groove.

4. Retraction of the whole gripper. The o-ring is completely inserted in the groove now.

ORG 85

Special Gripper • O-ring Assembly Gripper

Finger load



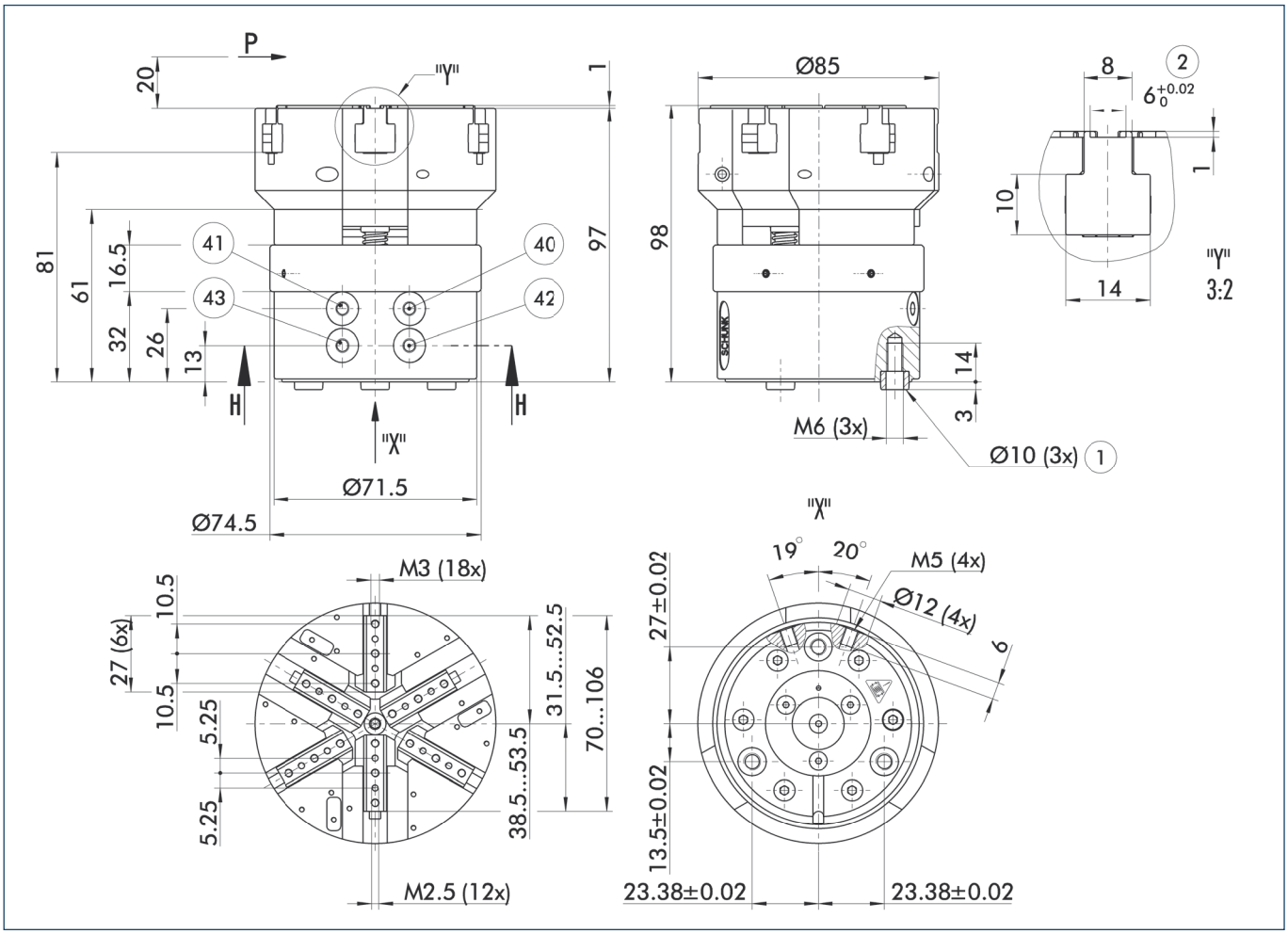
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Description		ORG 85
ID		0304120
No. of fingers		6
Triple jaw A: Principle of function		double-acting
Triple jaw A: Stroke per finger	[mm]	21.0
Triple jaw A: Closing force	[N]	45.0
Triple jaw A: Opening force	[N]	55.0
Triple jaw A: Drawback stroke	[mm]	5.0
Triple jaw A: Drawback force	[N]	20.0
Triple jaw B: Principle of function		single-acting
Triple jaw B: Stroke per finger	[mm]	15.0
Triple jaw B: Opening force	[N]	125.0
Weight	[kg]	1.35
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	4.0
Maximum pressure	[bar]	8.0
Max. permitted finger length	[mm]	60.0
IP class		40
Min. ambient temperature	[°C]	-10.0
Max. ambient temperature	[°C]	90.0
Repeat accuracy	[mm]	0.02

ⓘ Principally o-rings can be assembled, depending on the shape (o-ring, square ring, ...), shore hardness, I.D. and string thickness as well as assembly depth. Basically for O.D. assembly o-rings from ø 5 mm to ø 160 mm can be assembled, in case of I.D. assembly o-rings from ø 10 mm to ø 120 mm.
For last control if they are mountable, please contact SCHUNK

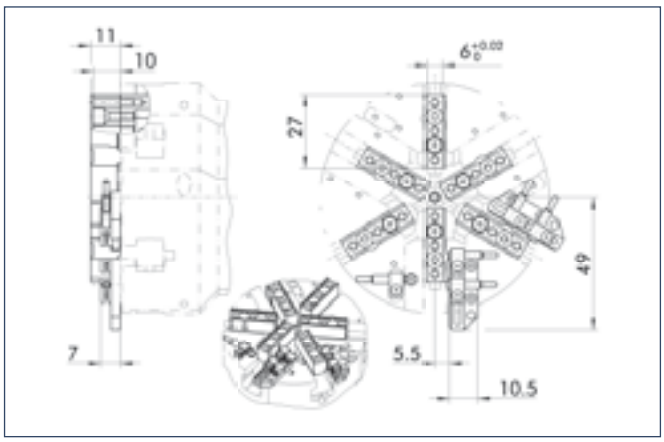
Main views



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

(1) Gripper connection
(2) Finger connection
(40) Connection gripper triple jaw A opens
(41) Connection gripper triple jaw A closes
(42) Connection gripper triple jaw B opens
(43) Connection Z-stroke unit run-in

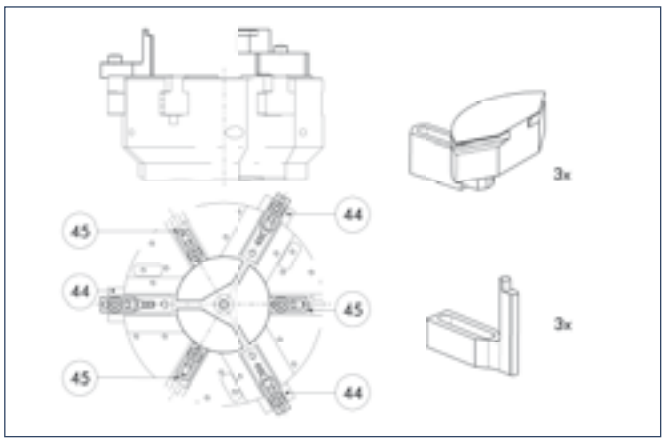
Mounting kit for proximity switch



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

Description	ID
AS-ORG 85	0304129

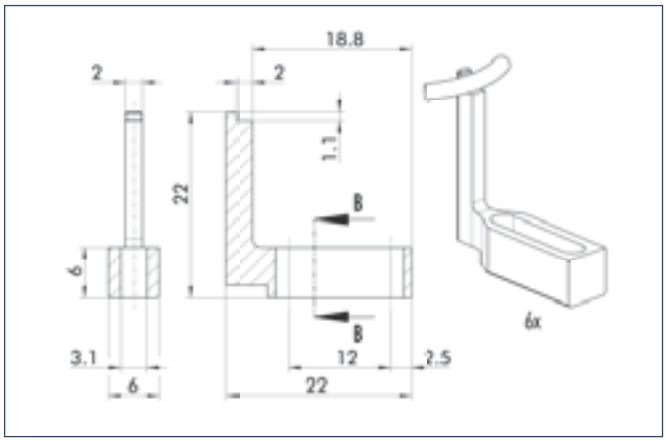
Concept for I.D. assembly



(44) Triple jaw A
(45) Triple jaw B

For I.D. assembly three finger shapes and three bar fingers are required. Its geometry depends on the dimensions of the rings to be assembled. Engineering instructions are shown in the operating manual which can be downloaded under ORG. SCHUNK offers engineering works and manufacturing on request.

O.D. assembly: Assembly finger 0.5 ... 1.0

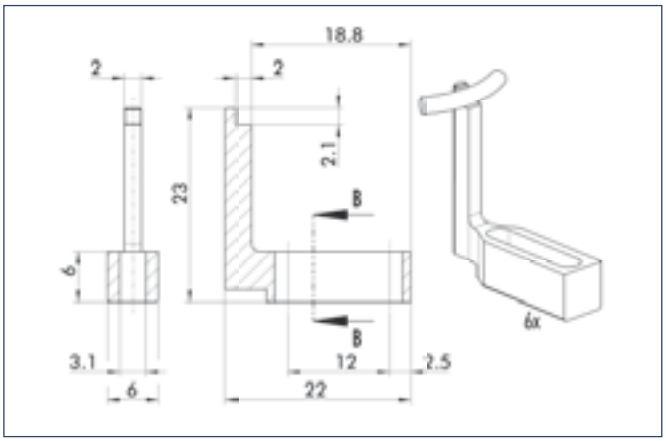


Standard finger for O.D. assembly of rings with a string thickness from 0.5 mm to 1 mm.

Description	Material	Scope of delivery	ID
MFA-D2-0.5-1.0-ORG 85	Aluminum	1	**0304113**

ⓘ Six fingers are required.

O.D. assembly: Assembly finger 1.0 ... 2.0

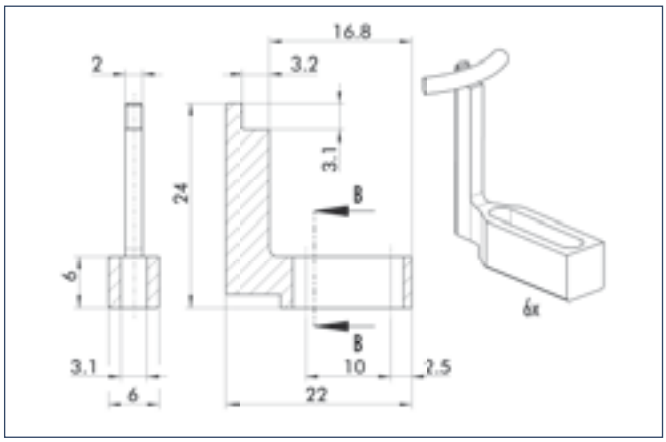


Standard finger for O.D. assembly of rings with a string thickness from 1.0 mm to 2.0 mm.

Description	Material	Scope of delivery	ID
MFA-D2-1.0-2.0-ORG 85	Aluminum	1	**0304114**

ⓘ Six fingers are required.

O.D. assembly: Assembly finger 2.0 ... 3.0

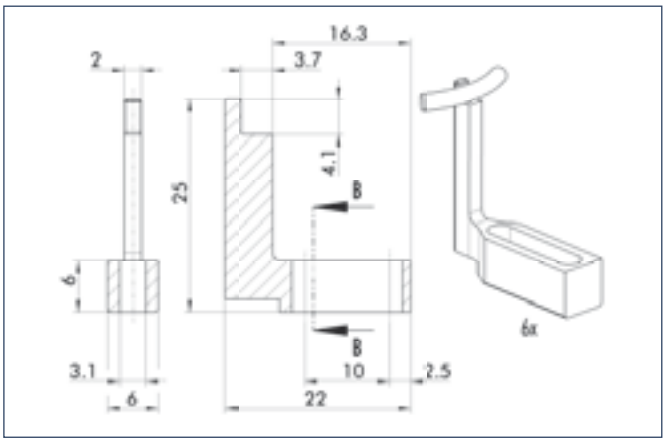


Standard finger for O.D. assembly of rings with a string thickness from 2.0 to 3.0 mm.

Description	Material	Scope of delivery	ID
MFA-D2-2.0-3.0-ORG 85	Aluminum	1	**0304115**

ⓘ Six fingers are required.

O.D. assembly: Assembly finger 3.0 ... 4.0



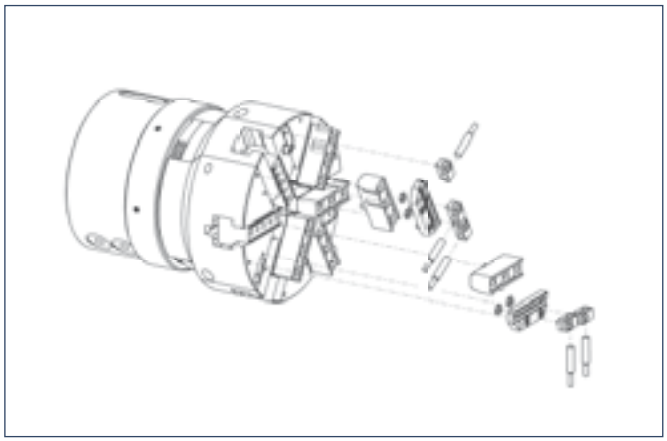
Standard finger for O.D. assembly of rings with a string thickness from 3.0 mm to 4.0 mm.

Description	Material	Scope of delivery	ID
MFA-D2-3.0-4.0-ORG 85	Aluminum	1	**0304116**

ⓘ Six fingers are required.

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
IN 3-S-M8-PNP	0301466

ⓘ Per gripper five sensors (closers/S) are required as well as optonally an extention cable.

Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M8-PNP	0301622
KV 10-M8-PNP	0301496
KV 20-M8-PNP	0301497
KV 3-M8-PNP	0301495
WK 3-M8-PNP	0301594
WK 5-M8-PNP	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.

GSW-B

Special Gripper • Gripper with shaft interface

Sizes
50 ... 100

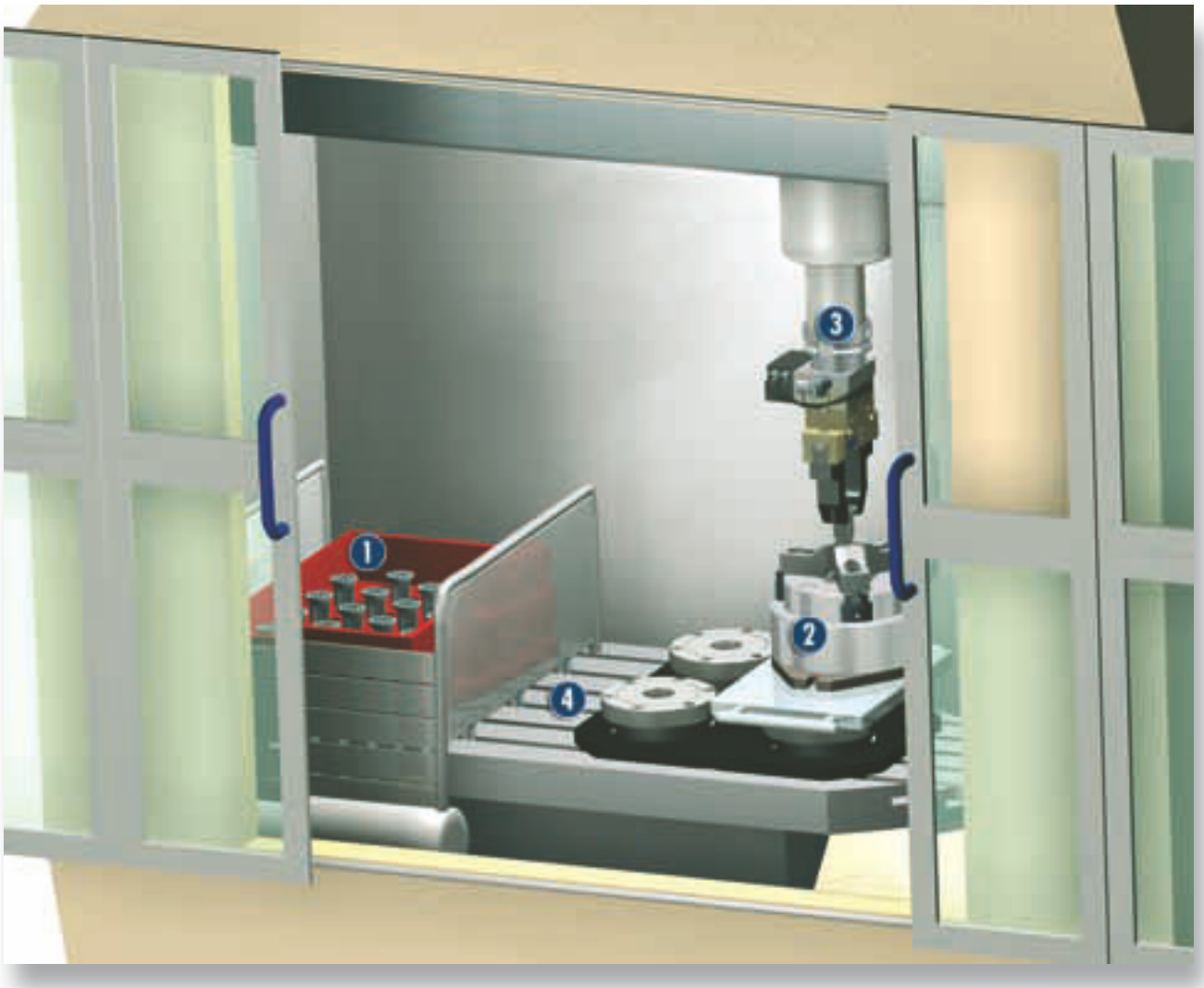
Weight
0.17 kg ... 1.4 kg

Gripping force
140 N ... 5900 N

Stroke per finger
2 mm ... 10 mm

Workpiece weight
0.7 kg ... 20 kg

Application example



Exemplary application flow and machining:

1. The raw part is taken out of the rack with a gripper, and is delivered to a clamping station - the part will be clamped then
2. Exchange of tools and machining
3. Exchange of the gripper
4. Depositing the ready-machined part into the rack, the cycle is restarted from the beginning

1 **Workpiece rack**

2 **Clamping device**

3 **Gripper with spindle interface PGN-plus at GSW-B**

4 **Machine table**

Gripper with shaft interface

universal gripper PGN-plus/PZN-plus with shaft interface GSW-B

Field of application

unit for automatic loading and unloading of machining centers by their own axis

Your advantages and benefits

Low-price module
from a universal gripper PGN-/PZN-plus and a shank interface

Fast, automated gripper changeover
from the gripper to the storage rack

Fully automated workpiece changeover
without robot- or gantry system

General note to the series

Principle of function
Pressure distributor and wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

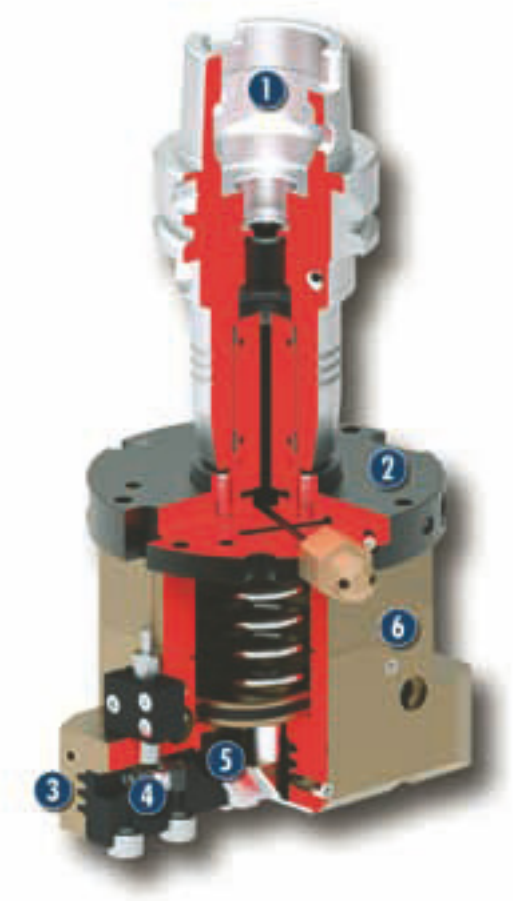
Base jaw material
Blackened steel

Actuation
hydraulically by internal coolant supply (filtered, maximum particle size 30 microns) or pneumatically, via filtered compressed air (10 microns): dry, lubrified or non-lubrified pressure medium: Requirement to the compressed air quality as per DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Centering elements, assembly and operating instruction

Sectional diagram



1 **Mount**
for automatic tool/gripper changeover in the spindle

2 **Adapter plate with integrated pressure distributor**
for a large pressure range

3 **Multiple-tooth guidance**
high-loadable base jaw guidance with minimum play for long fingers

4 **Base jaw**
for the connection of workpiece-specific gripper fingers

5 **Wedge-hook design**
for high power transmission and centric gripping

6 **Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The pressure produced by the central internal supply of coolant is reduced by the pressure distributor, which is integrated in the adapter plates. The gripper can then be subjected to pressure, and can allow the base jaws to grip via the piston and wedge hook.
During the gripping operation the gripper continuously supplies coolant or compressed air by the lateral pressure control valve.

Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service lifetime of this product considerably.
Further shaft diameters on request.
Please note that connection A of grippers in IS-version should not be sealed air-tight. The same applies for connection B of grippers in AS-version.

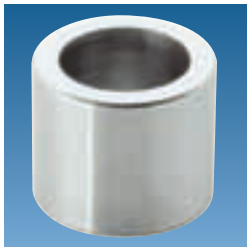
Precondition

If the spindles do not rotate, then machines have to provide compressed air or coolant.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Protection cover

Quick-change Jaw System

Finger blanks

Reed Switches for C-Nut

Radio sensor system RSS

Cylindrical Reed Switches

Universal intermediate jaw

Cleaning Unit

Vacuum Gripper

Toolholder

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

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

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

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

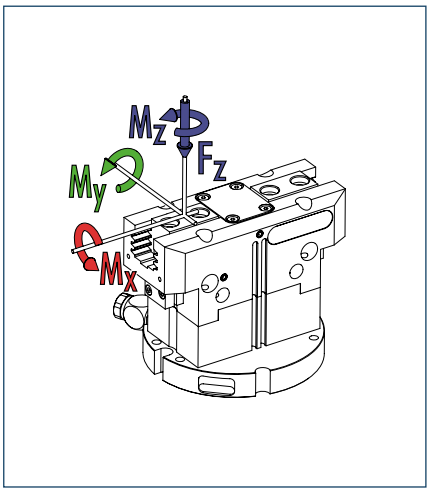
Closing and opening times
The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Closing and opening forces
The indicated forces are mentioned for each nominal operating pressure of the drive medium. Details are indicated as force areas, since the forces depend on the gripper stroke.

GSW-B with 2-Finger Parallel Gripper

Special Gripper • **Gripper with shaft interface**

Finger load



ⓘ The indicated moments and forces are static values, 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.

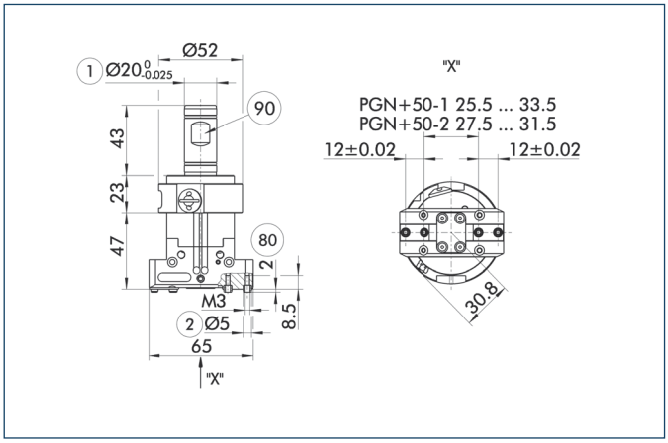
Technical data

Despriction		GSW-B 50-P	GSW-B 64-PZ	GSW-B 80-PZ	GSW-B 100-PZ
ID		**0308420**	**0308422**	**0308423**	**0308424**
Weight	[kg]	0.2	0.23	0.31	0.42
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. permitted speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Nominal operating pressure coolant	[bar]	40	40	40	40
Min./max. operating pressure coolant	[bar]	20/50	20/50	20/50	20/50
Max. moments $M_x/M_y/M_z$	[Nm]	20/25/10	40/60/40	60/95/55	80/115/70
Max. force F_z	[N]	500	1100	1500	2000
Grippers and their characteristics					
Gripping pinciple		**O.D. gripping**	**O.D. gripping**	**O.D. gripping**	**O.D. gripping**
Description		**PGN-plus 50-1-IS**	**PGN-plus 64-1-IS**	**PGN-plus 80-1-IS**	**PGN-plus 100-1-IS**
ID		**0371459**	**0371094**	**0371461**	**0371462**
Stroke per finger	[mm]	4	6	8	10
Closing force/opening force	[N]	120 - 145/45 - 70	225 - 270/90 - 135	385 - 465/155 - 235	585 - 725/240 - 380
Max. permitted finger length	[mm]	64	85	105	135
Description		**PGN-plus 50-2-IS**	**PGN-plus 64-2-IS**	**PGN-plus 80-2-IS**	**PGN-plus 100-2-IS**
ID		**0371469**	**0371095**	**0371471**	**0371472**
Stroke per finger	[mm]	2	3	4	5
Closing force/opening force	[N]	255 - 310/95 - 150	475 - 565/190 - 280	790 - 960/320 - 490	1360 - 1500/240 - 380
Max. permitted finger length	[mm]	64	80	100	125
Gripping pinciple		**I.D. gripping**	**I.D. gripping**	**I.D. gripping**	**I.D. gripping**
Description		**PGN-plus 50-1-AS**	**PGN-plus 64-1-AS**	**PGN-plus 80-1-AS**	**PGN-plus 100-1-AS**
ID		**0371399**	**0371092**	**0371401**	**0371402**
Stroke per finger	[mm]	4	6	8	10
Closing force/opening force	[N]	45 - 70/115 - 140	90 - 135/205 - 250	155 - 235/335 - 415	240 - 380/520 - 660
Max. permitted finger length	[mm]	68	85	105	135
Description		**PGN-plus 50-2-AS**	**PGN-plus 64-2-AS**	**PGN-plus 80-2-AS**	**PGN-plus 100-2-AS**
ID		**0371449**	**0371093**	**0371451**	**0371452**
Stroke per finger	[mm]	2	3	4	5
Closing force/opening force	[N]	95 - 150/235 - 290	190 - 280/430 - 520	320 - 490/690 - 860	500 - 790/1080 - 1370
Max. permitted finger length	[mm]	68	80	100	125

ⓘ The grippers have to be ordered separately.

ⓘ The grippers named "IS" are used for O.D. gripping; grippers named "AS" are used for I.D. gripping. By media pressure the gripper of the IS-version is closed; the one of the AS-version is opened via the media pressure. Alternatively it can be gripped with spring force and the media pressure can be loosened.

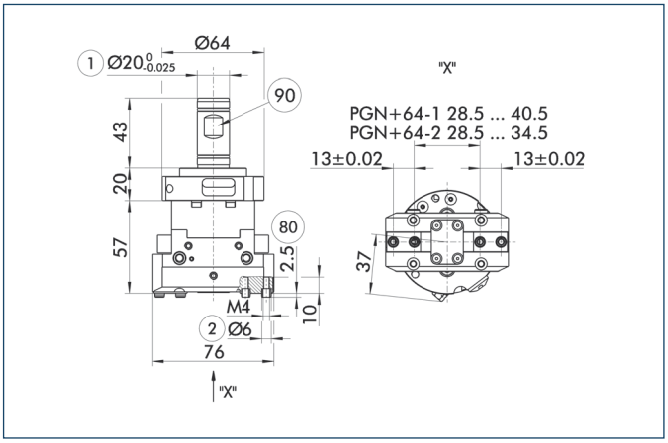
GSW-B with PGN-plus 50



① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

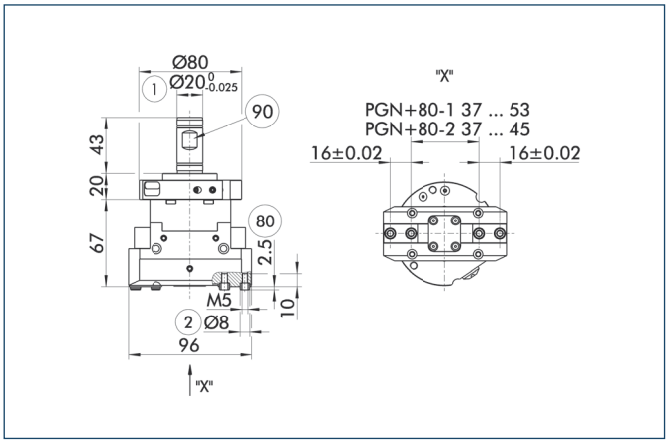
GSW-B with PGN-plus 64



① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

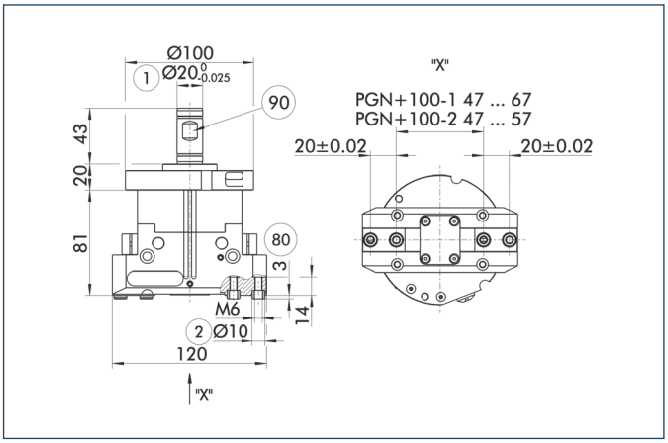
GSW-B with PGN-plus 80



① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with PGN-plus 100



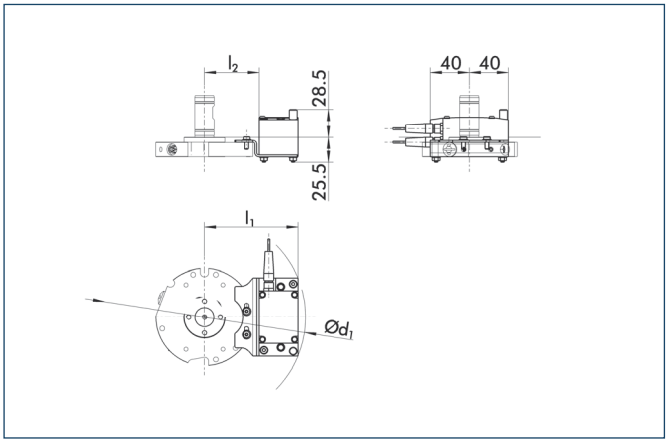
① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with 2-Finger Parallel Gripper

Special Gripper • **Gripper with shaft interface**

Mounting kit for RSS

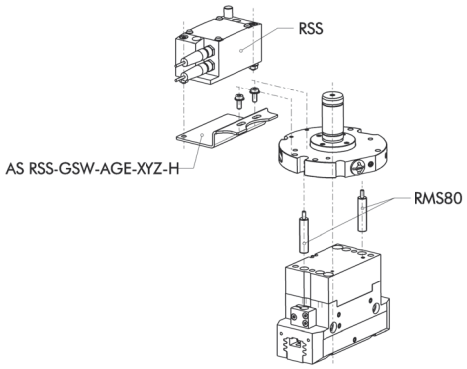


RSS mounted with mounting kit

Description	ID	l_1	l_2	d_1
Mounting kit for RSS				
AS-RSS-GSW-H	**0308440**			
GSW-B 64-PZ		79 mm	38 mm	Ø 177 mm
GSW-B 80-PZ		87 mm	46 mm	Ø 191 mm
GSW-B 100-PZ		97 mm	56 mm	Ø 210 mm

The transmitter RSS-T2 can be assembled with the mentioned attachment kit.

Reed Switches – RSS – Mounting kits



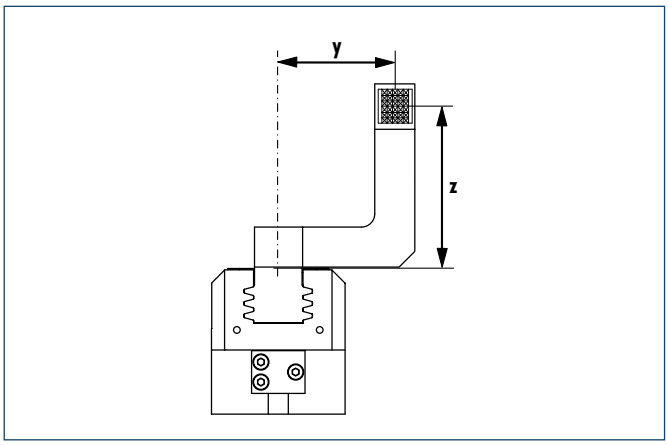
End position monitoring mounted with mounting kit

Description	ID
Mounting kit for RSS	
AS-RSS-GSW-H	**0308440**
Radio system RSS	
RSS-T2	**0377710**
RSS-R1	**0377700**
RSS-R-A	**0377730**
Mounting kit for Reed Switches	
AS-RMS 80 PGN/PZN-plus 64/80	**0377725**
AS-RMS 80 PGN/PZN-plus 100/125	**0377726**
Reed Switches	
RMS 22-S-M8	**0377720**
RMS 80-S-M8	**0377721**

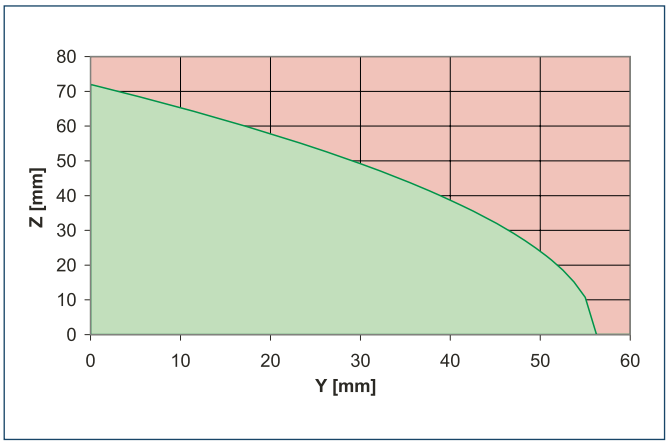
The radio system consists of a transmitter RSS-T2, the receiver RSS-R1 and the antenna RSS-R-A.
For cylindrical reed switches RMS 80 the mentioned attachment kits are required, and can be directly assembled into the sensor's C-slot of the grippers. In case of gripper size 50 standard monitoring is not possible. For size 64 just via reed switch RMS 80 is necessary.

- ⓘ Two sensors (Closer/S) are required for each gripper, plus extension cables as an option.
- ⓘ The mounting kit needs to be ordered optionally as an accessory.
- ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Maximum permitted finger offset



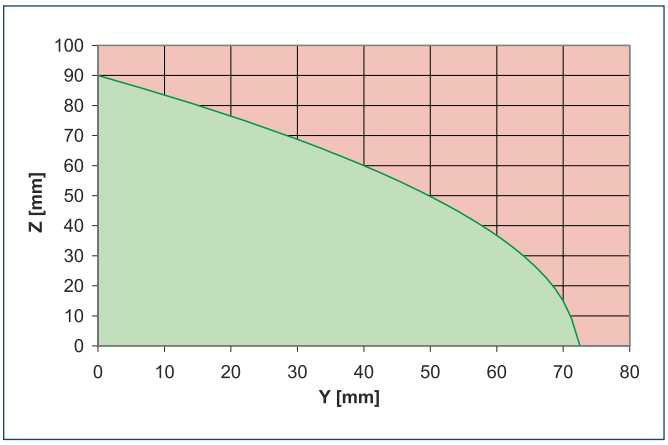
PGN-plus 50



Permitted range
Non-permissible range

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

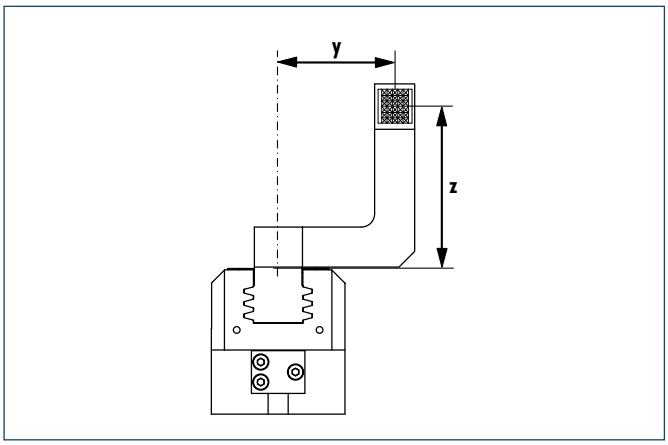
PGN-plus 64



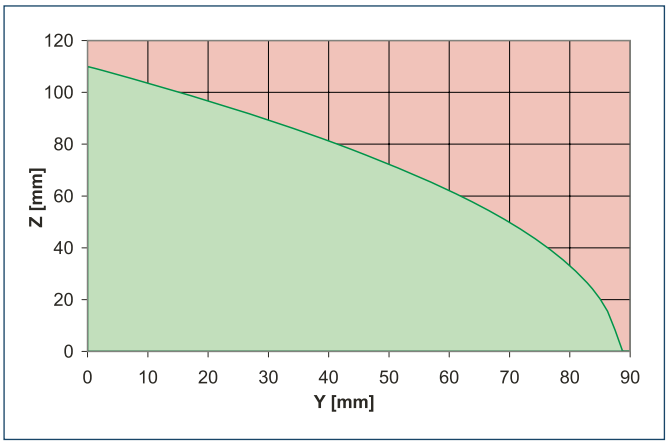
Permitted range
Non-permissible range

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

Maximum permitted finger offset



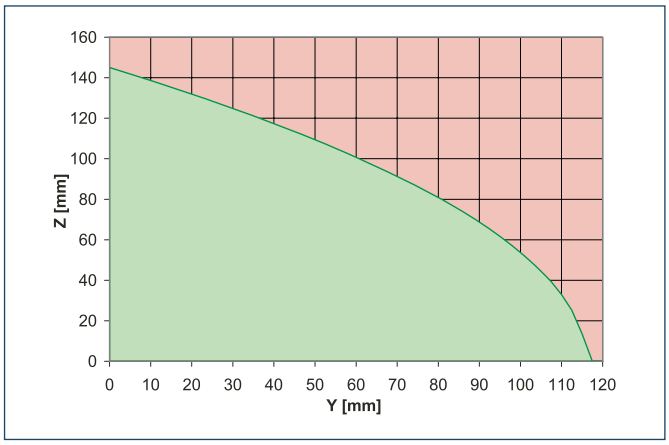
PGN-plus 80



Permitted range
Non-permissible range

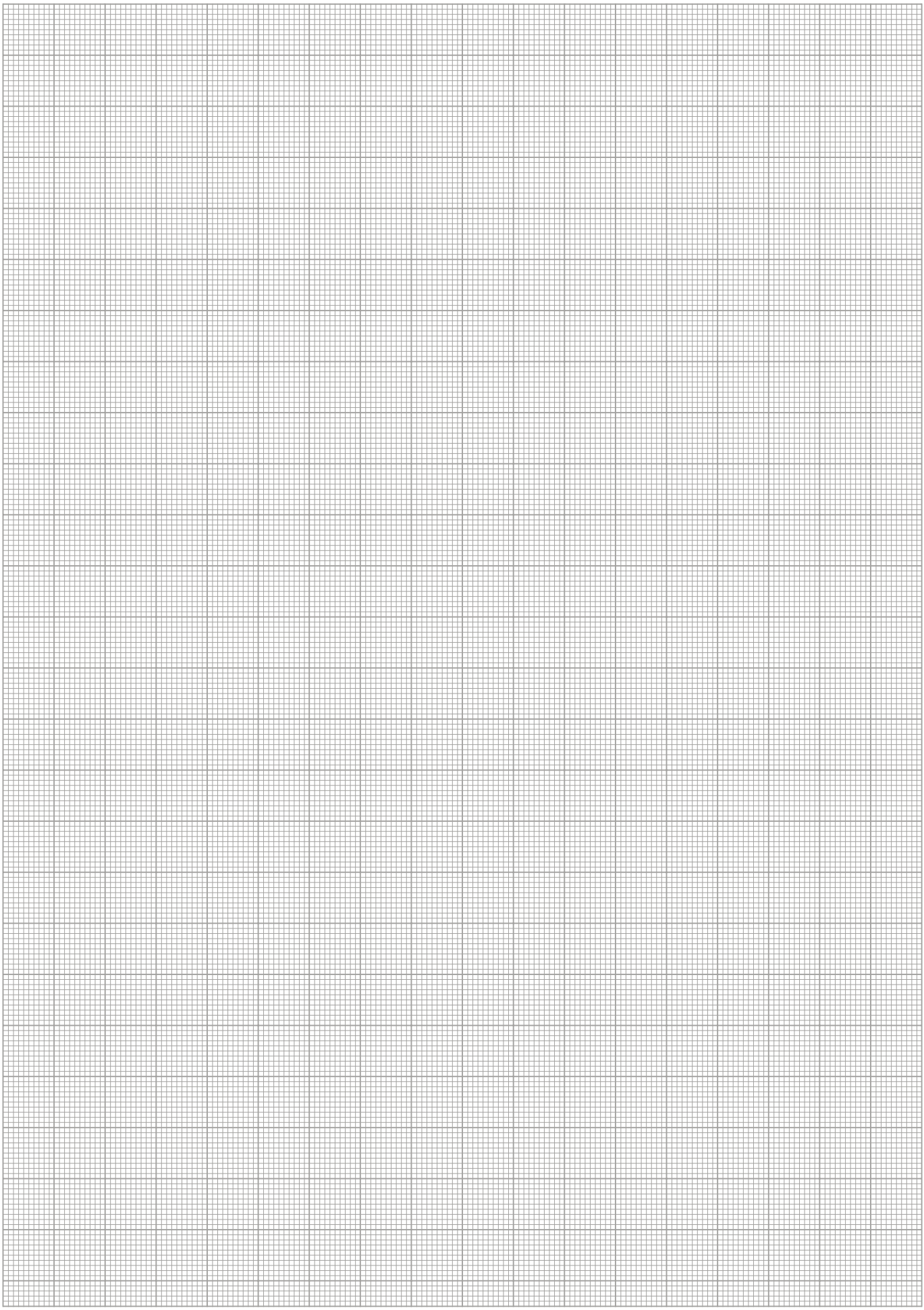
The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

PGN-plus 100



Permitted range
Non-permissible range

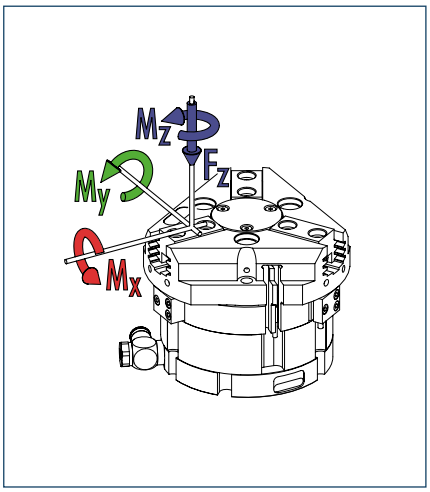
The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.



GSW-B with 3-Finger Centric Gripper

Special Gripper • **Gripper with shaft interface**

Finger load



ⓘ The indicated moments and forces are static values, 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.

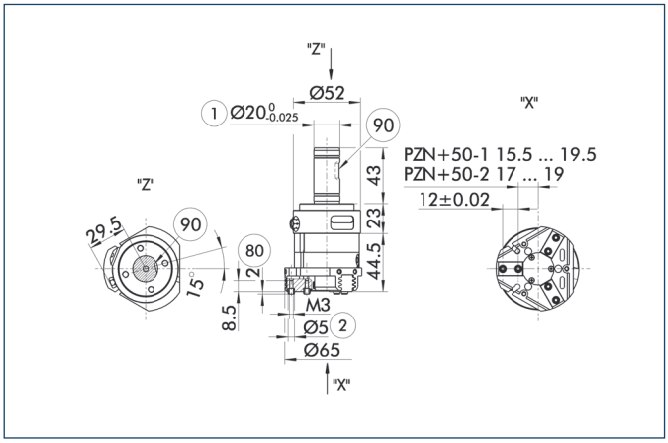
Technical data

Description		GSW-B 50-Z	GSW-B 64-PZ	GSW-B 80-PZ	GSW-B 100-PZ
ID		**0308421**	**0308422**	**0308423**	**0308424**
Weight	[kg]	0.2	0.23	0.31	0.42
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. permitted speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Nominal operating pressure coolant	[bar]	40	40	40	40
Min./max. operating pressure coolant	[bar]	20/50	20/50	20/50	20/50
Max. moments $M_x/M_y/M_z$	[Nm]	20/25/10	40/60/40	60/95/55	80/115/70
Max. force F_z	[N]	500	1100	1500	2000
Grippers and their characteristics					
Gripping pinciple		**O.D. gripping**	**O.D. gripping**	**O.D. gripping**	**O.D. gripping**
Description		**PZN-plus 50-1-IS**	**PZN-plus 64-1-IS**	**PZN-plus 80-1-IS**	**PZN-plus 100-1-IS**
ID		**0303539**	**0303540**	**0303541**	**0303542**
Stroke per finger	[mm]	4	6	8	10
Closing force/opening force	[N]	340 - 355/150 - 165	585 - 640/220 - 275	910 - 1080/370 - 540	1610 - 1920/780 - 1090
Max. permitted finger length	[mm]	64	85	105	135
Description		**PZN-plus 50-2-IS**	**PZN-plus 64-2-IS**	**PZN-plus 80-2-IS**	**PZN-plus 100-2-IS**
ID		**0303639**	**0303640**	**0303641**	**0303642**
Stroke per finger	[mm]	2	3	4	5
Closing force/opening force	[N]	705 - 740/310 - 345	900 - 1075/460 - 635	2150 - 2490/760 - 1100	3640 - 4280/1620 - 2260
Max. permitted finger length	[mm]	64	80	100	125
Gripping pinciple		**I.D. gripping**	**I.D. gripping**	**I.D. gripping**	**I.D. gripping**
Description		**PZN-plus 50-1-AS**	**PZN-plus 64-1-AS**	**PZN-plus 80-1-AS**	**PZN-plus 100-1-AS**
ID		**0303509**	**0303510**	**0303511**	**0303512**
Stroke per finger	[mm]	4	6	8	10
Closing force/opening force	[N]	120 - 190/255 - 325	185 - 280/485 - 580	350 - 525/825 - 1000	720 - 1070/1450 - 1800
Max. permitted finger length	[mm]	68	85	105	135
Description		**PZN-plus 50-2-AS**	**PZN-plus 64-2-AS**	**PZN-plus 80-2-AS**	**PZN-plus 100-2-AS**
ID		**0303609**	**0303610**	**0303611**	**0303612**
Stroke per finger	[mm]	2	3	4	5
Closing force/opening force	[N]	245 - 400/525 - 680	315 - 580/705 - 970	730 - 1100/1930 - 2300	1500 - 2210/3290 - 4000
Max. permitted finger length	[mm]	68	80	100	125

ⓘ The grippers have to be ordered separately.

ⓘ The grippers named "IS" are used for O.D. gripping; grippers named "AS" are used for I.D. gripping. By media pressure the gripper of the IS-version is closed; the one of the AS-version is opened via the media pressure. Alternatively it can be gripped with spring force and the media pressure can be loosened.

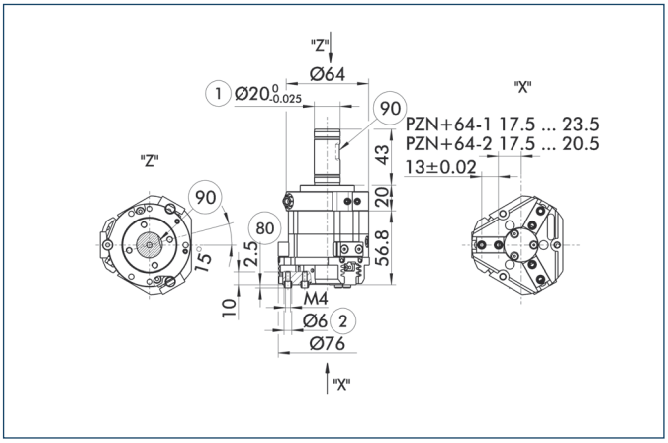
GSW-B with PZN-plus 50



① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

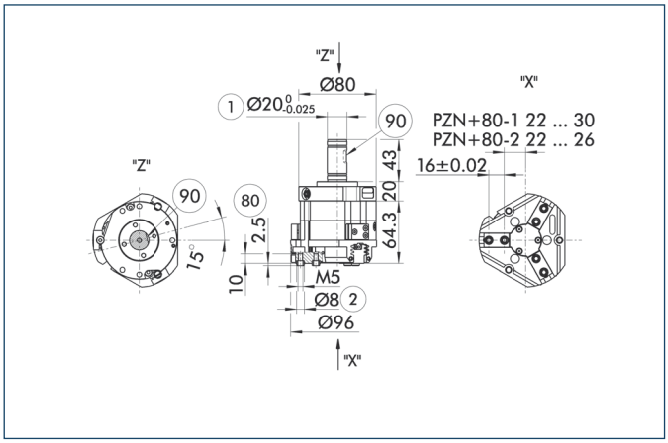
GSW-B with PZN-plus 64



① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

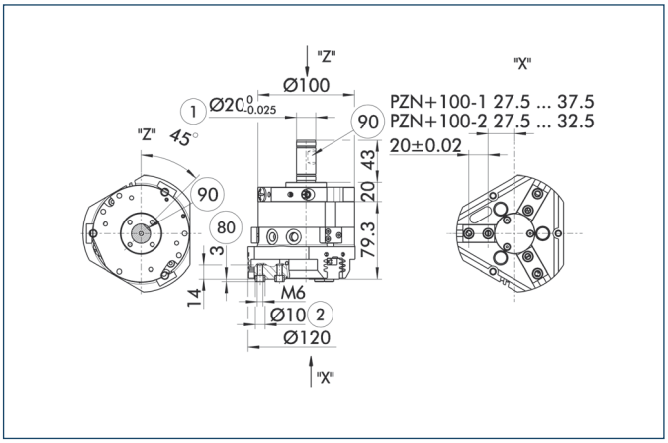
GSW-B with PZN-plus 80



① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with PZN-plus 100

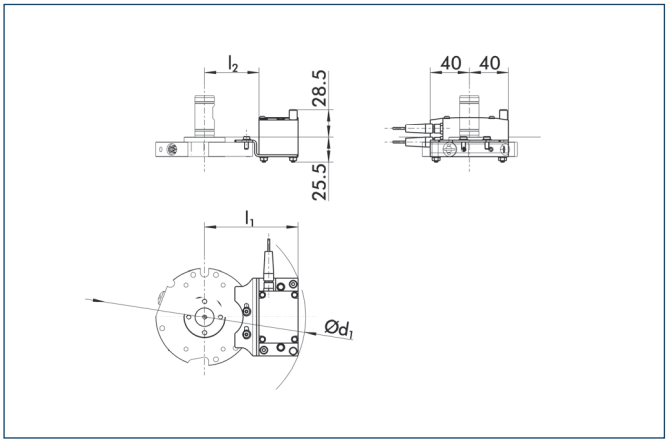


① Gripper connection
② Finger connection
80 Depth of the centering sleeve hole in the matching part
90 Weldon clamping surface

ⓘ Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with 3-Finger Centric Gripper

Mounting kit for RSS

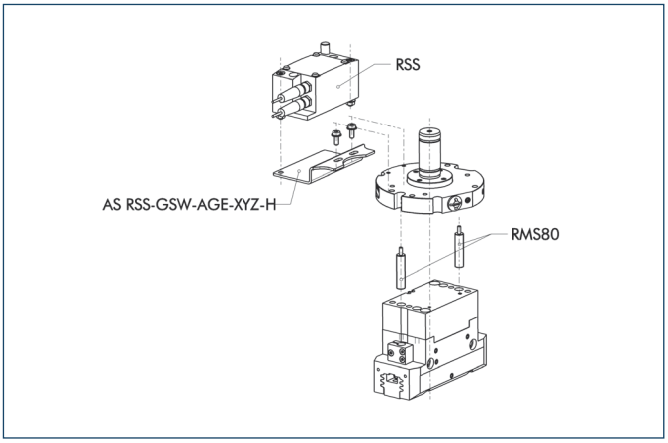


RSS mounted with mounting kit

Description	ID	l_1	l_2	d_1
Mounting kit for RSS				
AS-RSS-GSW-H	**0308440**			
GSW-B 64-PZ		79 mm	38 mm	Ø 177 mm
GSW-B 80-PZ		87 mm	46 mm	Ø 191 mm
GSW-B 100-PZ		97 mm	56 mm	Ø 210 mm

The transmitter RSS-T2 can be assembled with the mentioned attachment kit.

Reed Switches – RSS – Mounting kits

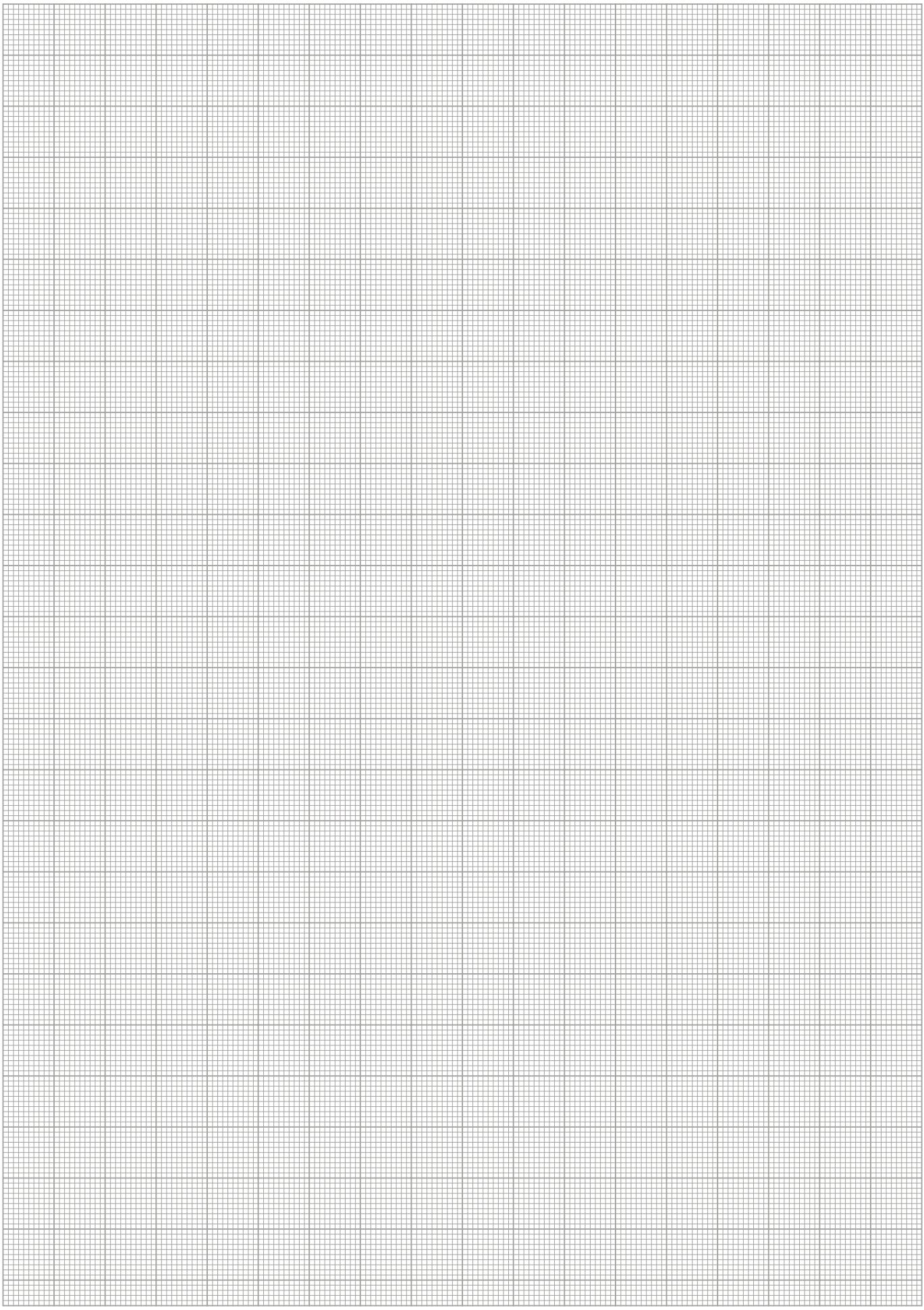


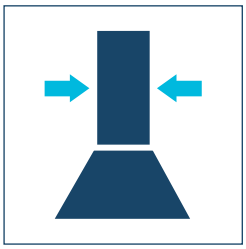
End position monitoring mounted with mounting kit

Description	ID
Mounting kit for RSS	
AS-RSS-GSW-H	**0308440**
Radio system RSS	
RSS-T2	**0377710**
RSS-R1	**0377700**
RSS-R-A	**0377730**
Mounting kit for Reed Switches	
AS-RMS 80 PGN/PZN-plus 64/80	**0377725**
AS-RMS 80 PGN/PZN-plus 100/125	**0377726**
Reed Switches	
RMS 22-S-M8	**0377720**
RMS 80-S-M8	**0377721**

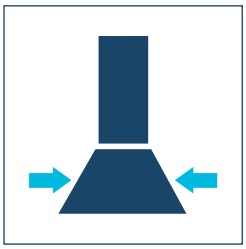
The radio system consists of a transmitter RSS-T2, the receiver RSS-R1 and the antenna RSS-R-A.
For cylindrical reed switches RMS 80 the mentioned attachment kits are required, and can be directly assembled into the sensor's C-slot of the grippers. In case of gripper size 50 standard monitoring is not possible. For size 64 just via reed switch RMS 80 is necessary.

- Two sensors (Closer/S) are required for each gripper, plus extension cables as an option.
- The mounting kit needs to be ordered optionally as an accessory.
- Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



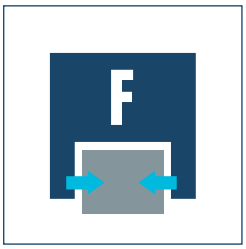


Suction pad diameter
30 mm ... 125 mm



Clamping diameter
20 mm ... 32 mm

Weight
0.12 kg ... 0.39 kg



Gripping force
55 N ... 980 N

Workpiece weight
0.28 kg ... 4.9 kg

Application example

Handling of gears in a milling center

1. Vaccuum Gripper GSW-V
2. Gripper with shaft diameter GSW-B and PGN-plus
3. Gripper with shaft diameter GSW-B and PZN-plus
4. Cleaning Unit RGG
5. Radio sensor system RSS

Vacuum Gripper

Vacuum gripper for spindle interfaces is ideal for handling relatively flat components.

Field of application

Unit for automatic loading and unloading of machining centers by their own axis, which provides a compressed air and collant supply via the tool mounting.

Your advantages and benefits

Low-price module
for flexible automation of your machine

Fast, automated gripper changeover
from the gripper to the storage rack

Fully automated workpiece changeover
without robot- or gantry system

Universally
suited for many different workpieces

General note to the series

Principle of function
Venturi nozzle

Housing material
Aluminum

Material of spindle interface
Aluminum alloy

Suction pad material
NBR-60

Actuation
hydraulically by internal coolant supply (filtered, maximum particle size 30 microns) or pneumatically, via filtered compressed air (10 microns): dry, lubrified or non-lubrified pressure medium: Requirement to the compressed air quality as per DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Assembly and operating manual

Sectional diagram

1 **Vacuum suction cup**
for a flexible range of parts

2 **Intake duct**
for producing suction power

3 **Introduction of medium**
via spindel interface

4 **Venturi nozzle**
for producing negativ pressure

5 **Outlet opening**
for diverting the negative pressure

Functional description

The gripper can be used in any machine which provides compressed air or lubricating coolants supply via the toolholder taper.
The vacuum gripper is equipped with an integrated Venturi nozzle, and therefore does not require a vacuum connection to generate negative pressure.
During the gripping operation the gripper continuously supplies coolant or compressed air by the outlet port.

Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service lifetime of this product considerably.
Further shaft diameters on request.
Please note that the product is not suitable for heat shrinking toolholders.

Precondition

If the spindles to not rotate, them machines have to provide compressed air or coolant.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Cleaning Unit

Mechanic gripper

Toolholder

ⓘ 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 will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Suction pad

Perfectly adaptable to smooth surfaces, with dampening effect during attachment and stroke effect during the suction phase.
Special suction cups on request.

Times

The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Workpiece weight

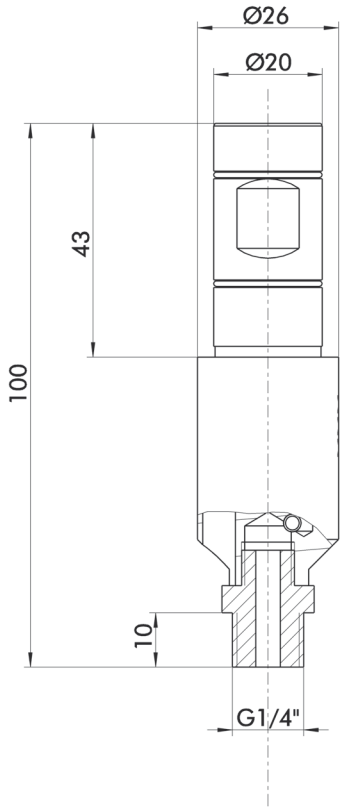
The recommended workpiece weight is calculated for a force-fit connection, indicated nominal flow rate and pressure as well as a safety factor of 2 against the weight of the acceleration of gravity g.

GSW-V 20

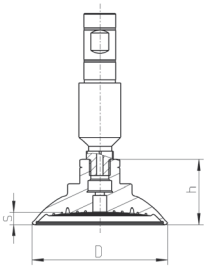
Technical data

Description		GSW-V 20	GSW-V 20-SND030	GSW-V 20-SND080	GSW-V 20-SND125
ID		0309120	0309121	0309122	0309123
Weight	[kg]	0.12	0.14	0.19	0.28
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. admissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	220	220	220	220
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vaccuum	[bar]	-0.8	-0.8	-0.8	-0.8
Minimum vaccuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	90	90	90	90

Main view



Suction cup dimensions



Description	ID	D	H	S
Suction pad				
SND 30-G1/4	**0309135**	34 mm	20 mm	3 mm
SND 80-G1/4	**0309136**	89 mm	40 mm	7.6 mm
SND 125-G1/4	**0309137**	135 mm	48 mm	12.5 mm

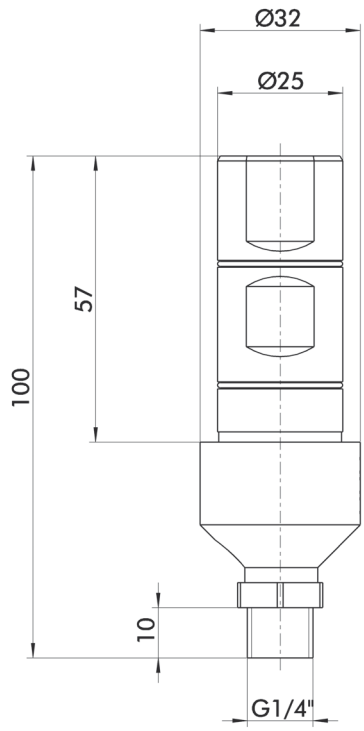
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSW-V 25

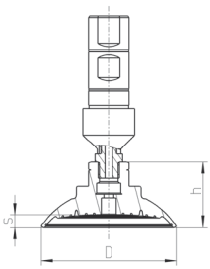
Technical data

Description		GSW-V 25	GSW-V 25-SND030	GSW-V 25-SND080	GSW-V 25-SND125
ID		0309125	0309126	0309127	0309128
Weight	[kg]	0.15	0.17	0.22	0.31
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. admissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	200	200	200	200
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vaccuum	[bar]	-0.8	-0.8	-0.8	-0.8
Minimum vaccuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	94	94	94	94

Main view



Suction cup dimensions



Description	ID	D	H	S
Suction pad				
SND 30-G1/4	**0309135**	34 mm	20 mm	3 mm
SND 80-G1/4	**0309136**	89 mm	40 mm	7.6 mm
SND 125-G1/4	**0309137**	135 mm	48 mm	12.5 mm

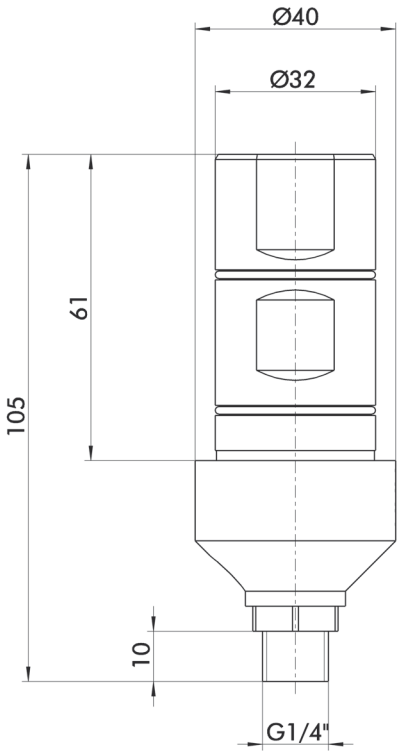
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

GSW-V 32

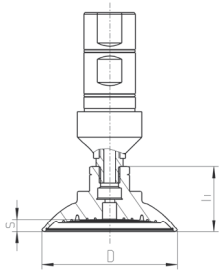
Technical data

Description		GSW-V 32	GSW-V 32-SND030	GSW-V 32-SND080	GSW-V 32-SND125
ID		0309130	0309131	0309132	0309133
Weight	[kg]	0.23	0.24	0.3	0.39
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. admissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	350	350	350	350
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	250	250	250	250
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vaccuum	[bar]	-0.8	-0.8	-0.8	-0.8
Minimum vaccuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	98	98	98	98

Main view



Suction cup dimensions



Description	ID	D	H	S
Suction pad				
SND 30-G1/4	**0309135**	34 mm	20 mm	3 mm
SND 80-G1/4	**0309136**	89 mm	40 mm	7.6 mm
SND 125-G1/4	**0309137**	135 mm	48 mm	12.5 mm

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

Size
20

Weight
0.1 g

Application example

Handling of gears in a milling center

1. Vaccuum Gripper GSW-V
2. Gripper with shaft diameter GSW-B and PGN-plus
3. Gripper with shaft diameter GSW-B and PZN-plus
4. Cleaning Unit RGG
5. Radio sensor system RSS

Cleaning Unit
for cleaning of clamping devices and for automating machine tools

Field of application
every machine with conventinal tool mountings and compressed air or coolant supply by the spindle

Your advantages and benefits

Low-price module
for flexible automation of your machine

Fast, automatic cleaning
for a maximum machine utilization

Idle times
reduced on a minimum

Increased safety
for machine operator

General note to the series

Material of spindle interface
Aluminum alloy

Actuation
hydraulically by internal coolant supply (filtered, maximum particle size 30 microns) or pneumatically, via filtered compressed air (10 microns): dry, lubrified or non-lubrified pressure medium: Requirement to the compressed air quality as per DIN ISO 8573-1: 6 4 4

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery
Locking screws, set-screws, assembly and operation manual

Sectional diagram

1 **Locking screws and restrictor inserts**
for changing the cleaning jet

2 **Center bore**
for introduction of cleaning medium

3 **Outlet openings**
for producing cleaning jets

4 **Clamping diameter**
for mounting in any toolholding system

Functional description

The Cleaning Unit can be used in any machine which provides compressed air or lubricating coolants supply via the toolholder taper.
Cleanliness made simple – a total of six nozzles on the ballhead blow out a powerful jet of air or coolant, which is forced from the toolholder taper into the shaft of the cleaning unit via a bore.
The head can also rotate with the machine tool spindle when it moves, and can reach all corners of the working area.

Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service lifetime of this product considerably.
Further shaft diameters on request.
Please note that the product is not suitable for heat shrinking toolholders.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Vacuum Gripper

Mechanic gripper

Toolholder

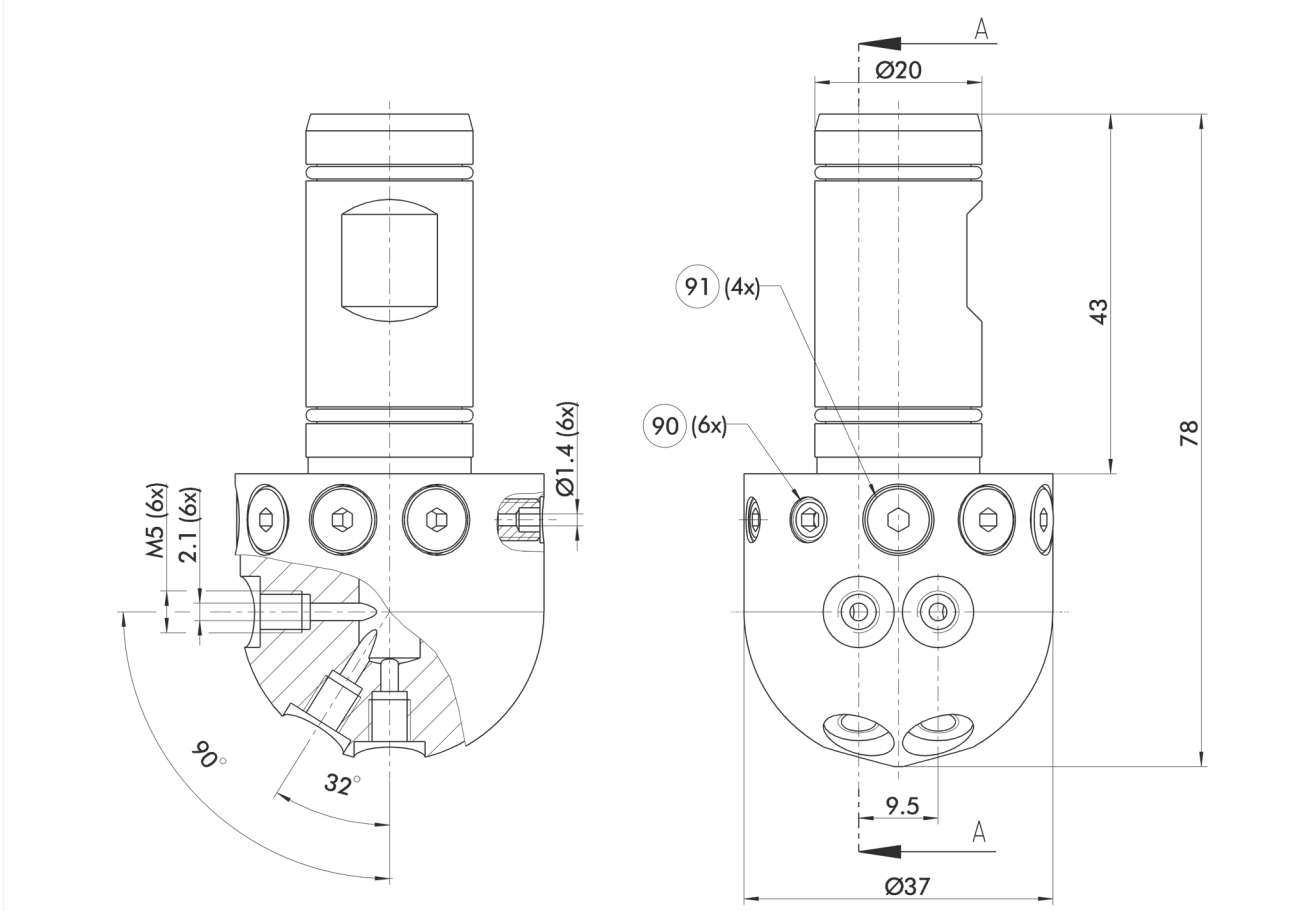
ⓘ For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

RGG 20

Technical data

Description		RGG 20
ID		**0308590**
Weight	[g]	0.1
Min./max. ambient temperature	[°C]	-10/90
Max. admissible speed	[1/min]	100
Max. operating pressure	[bar]	80
Material		Aluminum alloy

Main view



For reducing the jet of the nozzles, the set-screws with nozzle bores can be used. Unused nozzles can be closed with the locking screws.

(90) Set-screws with throttling port
(91) Locking screws