Electric Grippers Modules

2-Finger Parallel Grippers

2-FINGER PARALLEL GRIPPERS

MEG

Sizes
40 .. 64

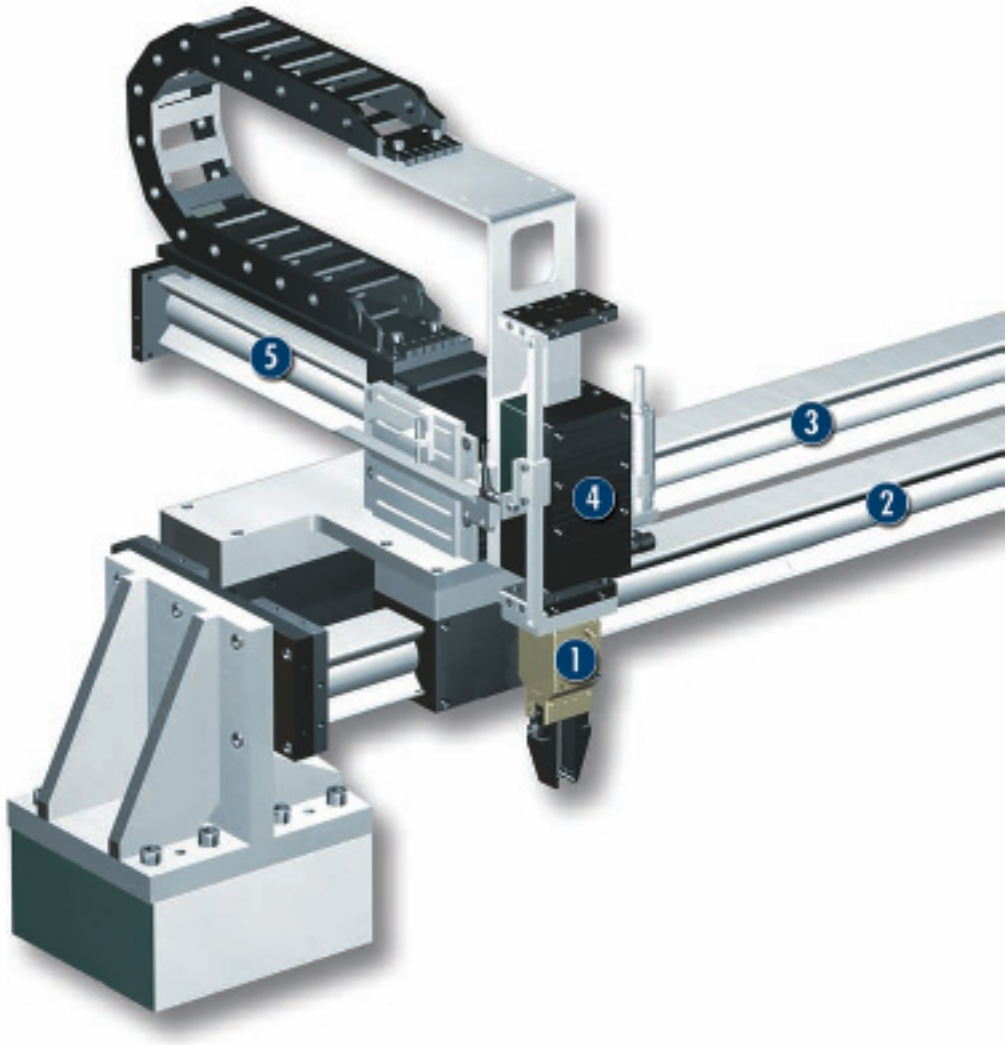
Weight
0.47 kg .. 1.42 kg
1.04 lbs .. 3.13 lbs

Gripping force
60 N .. 175 N
13.5 lbf .. 39 lbf

Stroke per finger
6 mm .. 10 mm
0.236 in .. 0.394 in

Workpiece weight
0.3 kg .. 0.85 kg
0.66 lbs .. 1.87 lbs

Application example



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

1. MEG 50 EC servo-electric 2-Finger Parallel Gripper
2. Linear Axis with direct drive MLD 100
3. Support Axis
4. Short-stroke Axis with direct drive MLD 100 K
   Stroke 50 with reference switch
5. Linear Axis with direct drive MLD 100
   Stroke 300 with measuring system

Gripper for Small Components

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

Area of application

Gripping and movement 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

MEG EC – with external electronics
for control-intensive handling tasks with pre-positioning capability

MEG IC – with integrated electronics
for simple operation and precise handling

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

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

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

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

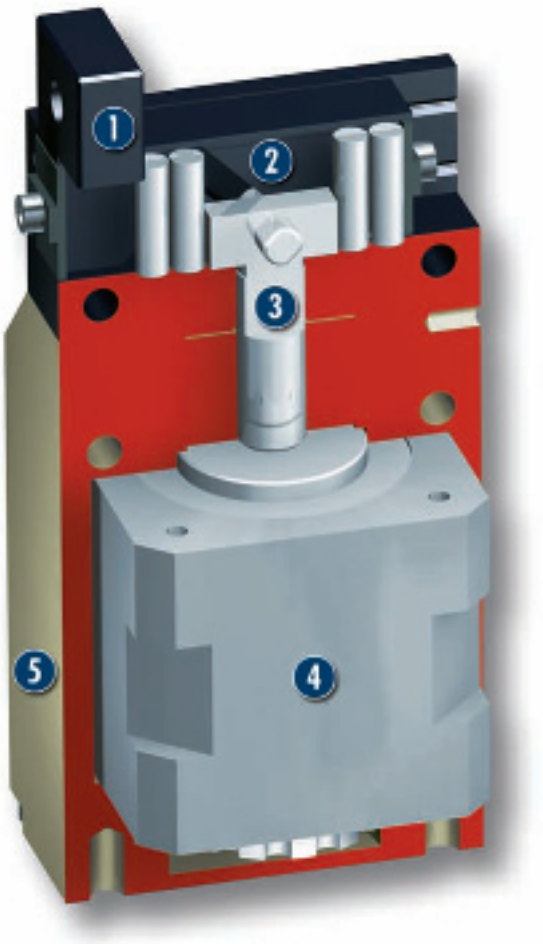
Base jaw material
Steel

Actuation
Electrical, via step motor and ball screw drive; with internal or external control depending on the version.

Warranty
24 months

Scope of delivery
Centering sleeves, assembly and operating manual with manufacturer's declaration

Sectional diagram



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

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

3 Kinematics
wedge hook design for high power transmission and centric gripping

4 Drive
step motor with spindle

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

Function description

The spindle is moved up or down by the step motor drive. The side hooks at the upper end of the spindle engage in the angled slots of the two base jaws, hence transforming this movement into the synchronized opening or closing of the base fingers.

Electrical actuation

The MEG EC gripper is actuated electrically by the appropriate MEG-C control electronics.
The gripping parameters force, position and speed and different operating modes are defined by digital and analog inputs. The gripper status can be monitored by means of digital and analog outputs.
In size 50, an IC version with integrated electronics is also available. This ensures simple operation with the option of setting the gripping force to suit your requirements using a potentiometer.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

IN inductive proximity switches

Sensor cables

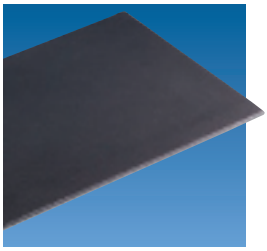
HM carbide clamping inserts

Connection cables

Quentes plastic inserts

Controllers

HKI gripper pads



Fingers and jaws

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

General information on the series

Gripping force

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

Finger length

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

Repeat accuracy

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

Workpiece weight

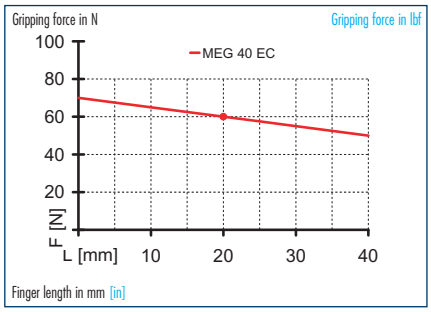
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

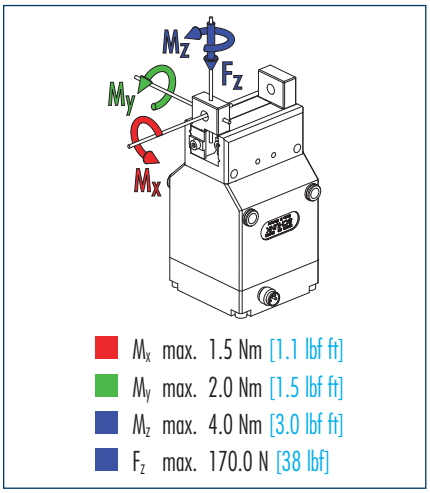
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

MEG 40

Gripping force



Finger load

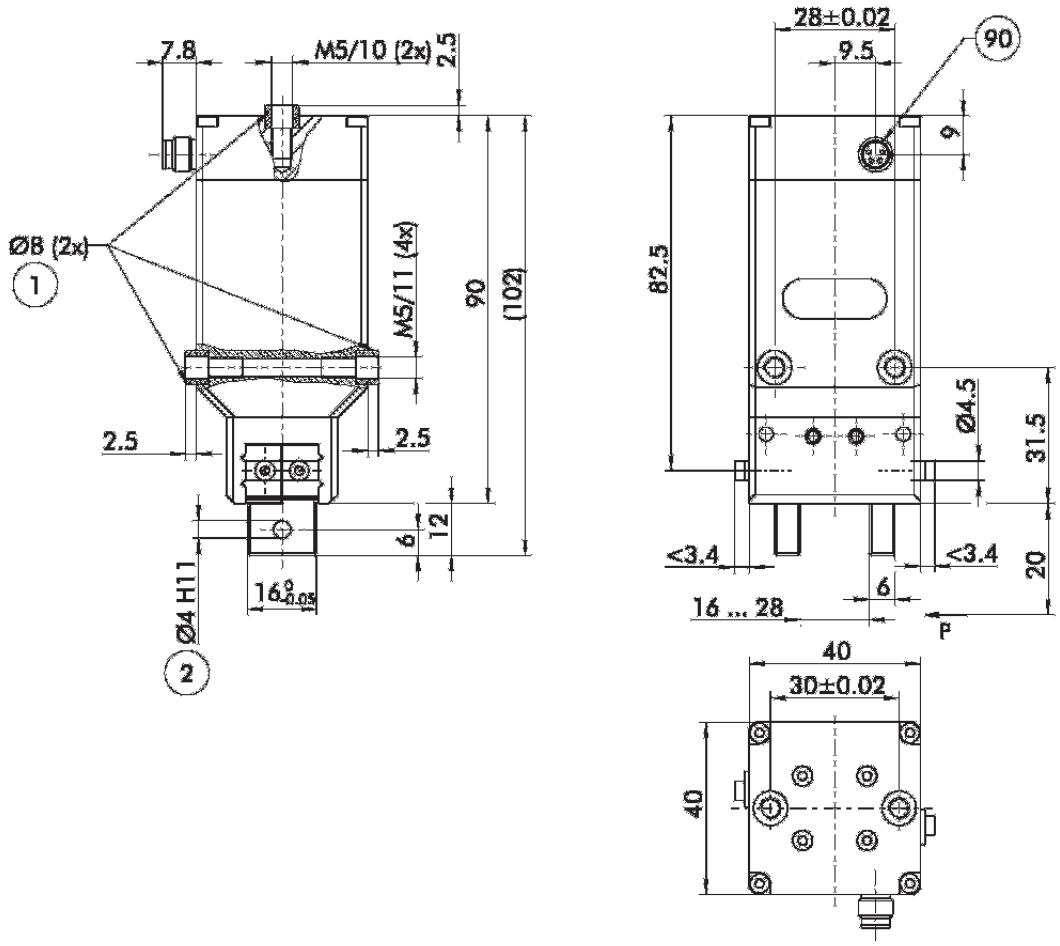


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to reduce the speed so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		MEG 40 EC
Mechanical gripper operating data	**ID**	**0306008**
Stroke per finger	mm [in]	6.0 [0.236]
Constant gripping force (100 % continuous duty)	N [lbf]	60.0 [13.5]
Max. gripping force	N [lbf]	60.0 [13.5]
Min. gripping force	N [lbf]	on request
Weight	kg [lbs]	0.47 [1.04]
Recommended workpiece weight	kg [lbs]	0.3 [0.66]
Closing time	s	0.65
Opening time	s	0.65
Max. permitted finger length	mm [in]	40.0 [1.575]
Max. permitted weight per finger	kg [lbs]	0.08 [0.18]
IP rating		30
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	65.0 [149]
Repeat accuracy	mm [in]	0.02 [0.0008]
Positioning accuracy	mm [in]	on request
Max. speed	mm/s	9.0
Electrical operating data for gripper		
Nominal voltage	V	24.0
Nominal current	A	0.6
Maximum current	A	0.6
Controller operating data	**ID**	**0307004**
Integrated electronics		No
Voltage supply	VDC	24.0
Nominal current	A	1.0
Maximum current	A	1.5
Sensor system		not available
Interface		input/output
Weight	kg [lbs]	0.3 [0.66]
IP rating		30

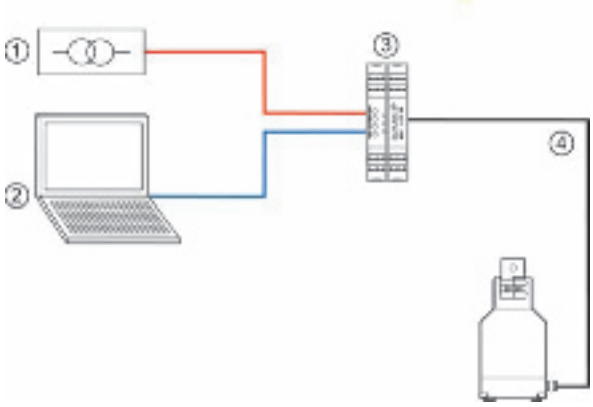
Main views of the MEG 40 EC



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
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

MEG EC control



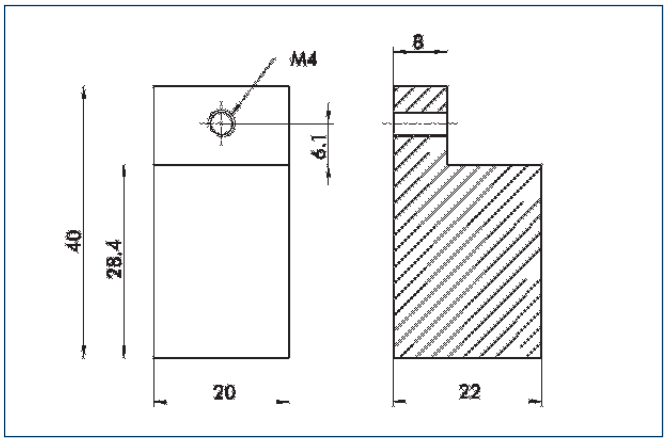
① 24 VDC voltage supply provided by the customer
② Control (PLC or similar) provided by the customer
③ MEG-C external control electronics
④ Connecting cable for control electronics/gripper

Connecting cable for MEG EC

Designation	ID	Length
MEG-EC-K5-W	0307765	5 m
MEG-EC-K10-W	0307766	10 m
MEG-EC-K5-G	0307767	5 m
MEG-EC-K10-G	0307768	10 m

The designations -W and -G indicate the shape of the connectors (W = right-angle version, G = straight version)

Finger blanks



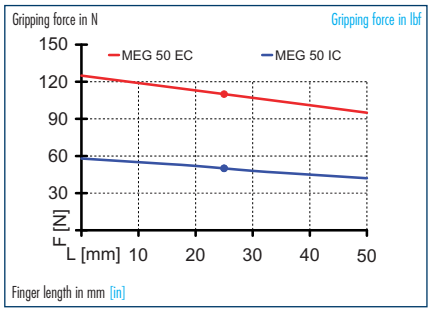
Finger blanks for customized subsequent machining, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 40	Aluminum	2	0340213

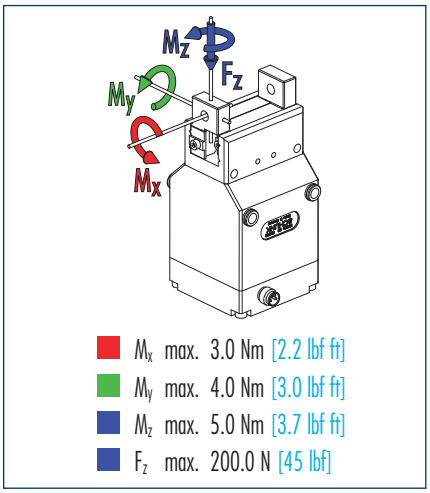
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

MEG 50

Gripping force



Finger load

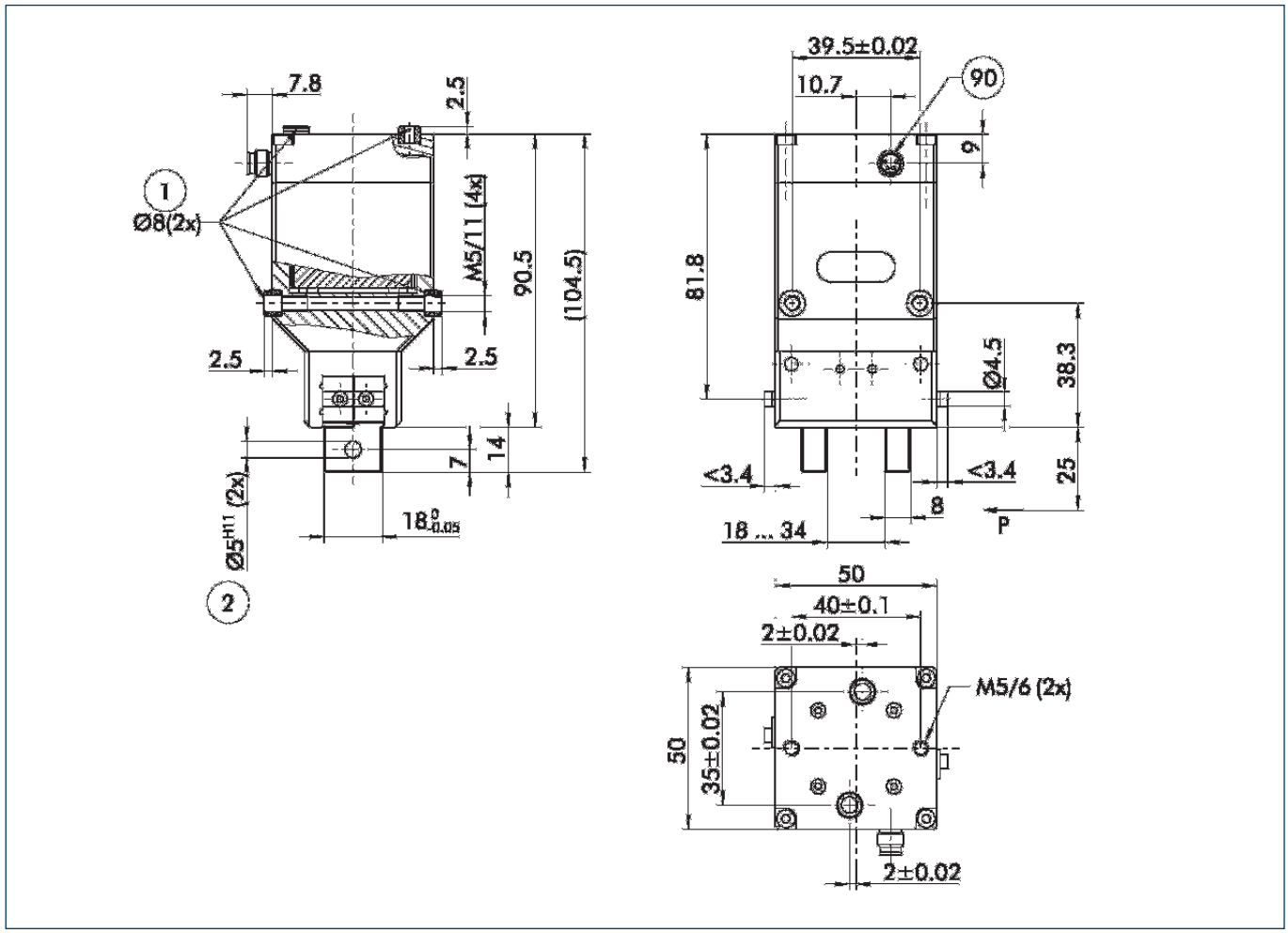


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to reduce the speed so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		MEG 50 EC	MEG 50 IC
Mechanical gripper operating data	**ID**	**0306010**	**0306011**
Stroke per finger	mm [in]	8.0 [0.315]	8.0 [0.315]
Constant gripping force (100 % continuous duty)	N [lbf]	110.0 [25]	95.0 [21.4]
Max. gripping force	N [lbf]	110.0 [25]	95.0 [21.4]
Min. gripping force	N [lbf]	60.0 [13.5]	60.0 [13.5]
Weight	kg [lbs]	0.71 [1.57]	0.85 [1.87]
Recommended workpiece weight	kg [lbs]	0.55 [1.21]	0.45 [0.99]
Closing time	s	0.3	0.8
Opening time	s	0.3	0.8
Max. permitted finger length	mm [in]	50.0 [1.969]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.14 [0.31]	0.14 [0.31]
IP rating		30	30
Min. ambient temperature	°C [°F]	5.0 [41]	5.0 [41]
Max. ambient temperature	°C [°F]	65.0 [149]	65.0 [149]
Repeat accuracy	mm [in]	0.02 [0.0008]	0.02 [0.0008]
Positioning accuracy	mm [in]	on request	on request
Max. speed	mm/s	35.0	10.0
Electrical operating data for gripper			
Nominal voltage	V	24.0	24.0
Nominal current	A	0.9	0.9
Maximum current	A	0.9	0.9
Controller operating data	**ID**	**0307005**	
Integrated electronics		No	Yes
Voltage supply	VDC	24.0	24.0
Nominal current	A	1.0	1.0
Maximum current	A	1.5	1.5
Sensor system		not available	Inductive proximity switches
Interface		input/output	input/output
Weight	kg [lbs]	0.3 [0.66]	0.3 [0.66]
IP rating		30	30

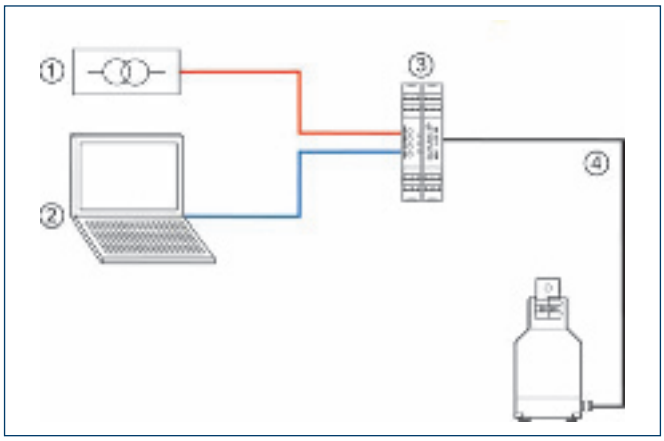
Main views of the MEG 50 EC



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
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

MEG EC control



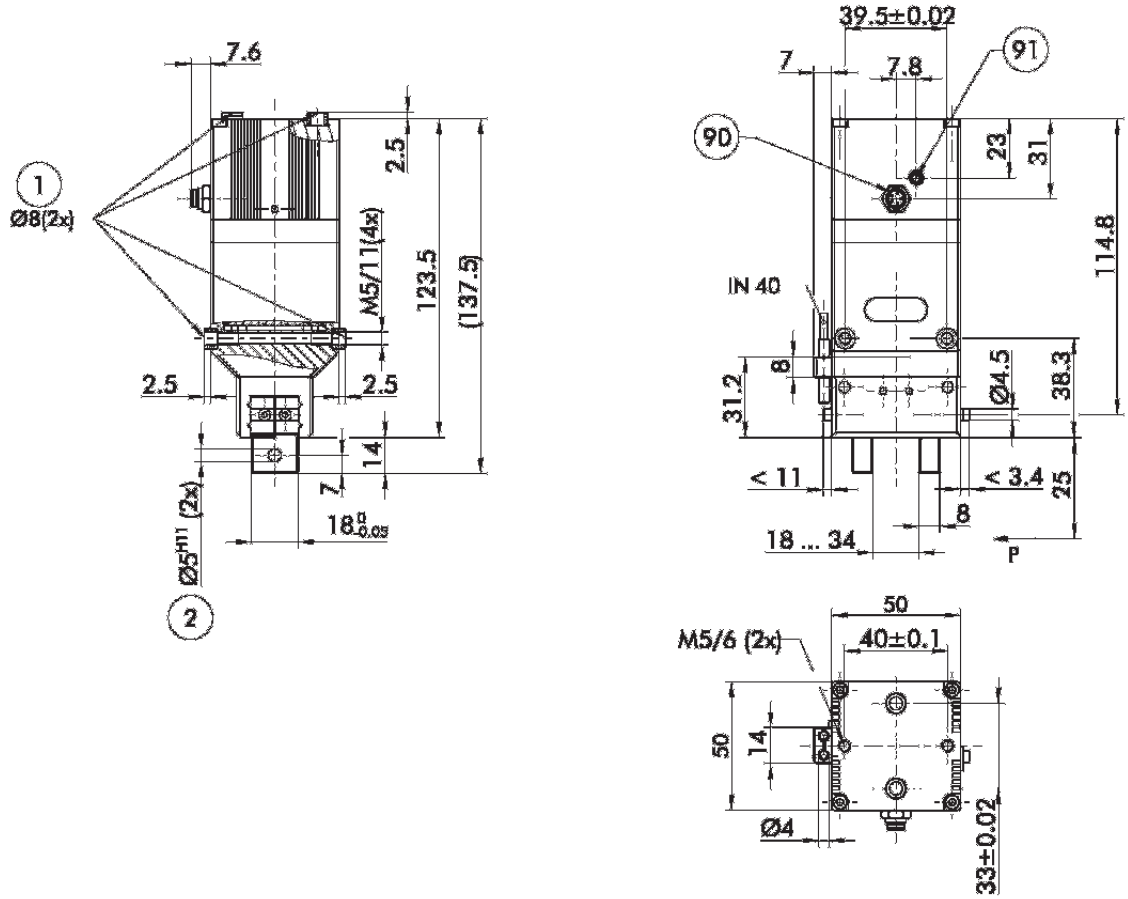
① 24 VDC voltage supply provided by the customer
② Control (PLC or similar) provided by the customer
③ MEG-C external control electronics
④ Connecting cable for control electronics/gripper

Connecting cable for MEG EC

Designation	ID	Length
MEG-EC-K5-W	0307765	5 m
MEG-EC-K10-W	0307766	10 m
MEG-EC-K5-G	0307767	5 m
MEG-EC-K10-G	0307768	10 m

The designations -W and -G indicate the shape of the connectors (W = right-angle version, G = straight version)

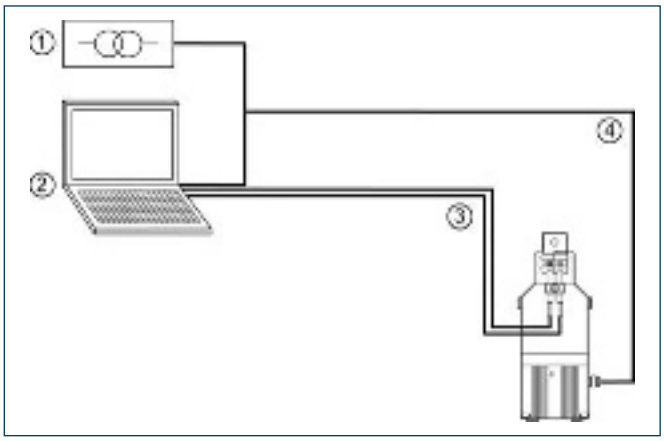
Main views of the MEG 50 IC



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
⑨⓪ 5-pin connector M8x1 Woodhead Type 0908 056GM 09000
⑨① Force potentiometer

MEG IC control



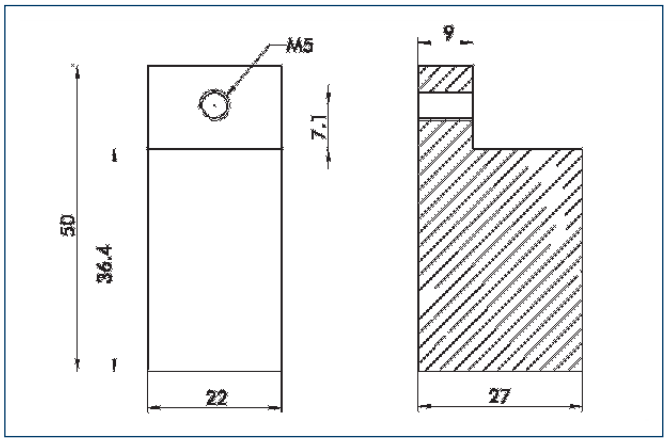
① 24 VDC power supply provided by the customer
② Control (PLC or similar) provided by the customer
③ Proximity switch
④ Connecting cable for control/gripper

Connecting cable for MEG IC

Designation	ID	Length
MEG-IC-K5-W	0307760	5 m
MEG-IC-K10-W	0307761	10 m

The designation -W indicates the shape of the connector (= right-angle version)

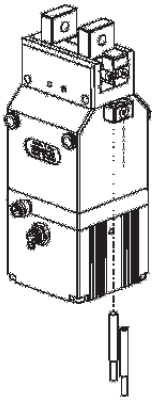
Finger blanks



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

Designation	Housing material	Scope of delivery	ID
ABR 50	Aluminum	2	0340214

Inductive proximity switches for MEG IC

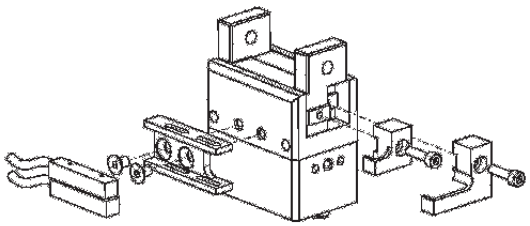


End position monitoring:
Inductive proximity switches, for direct mounting

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

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

Inductive proximity switches for MEG IC



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

Designation	ID	Recommended product
AS-MPG 50	0340153	
IN 5/S-M12	0301569	
IN 5/S-M8	0301469	•

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

Extension cables for proximity switches/ magnetic switches for MEG IC

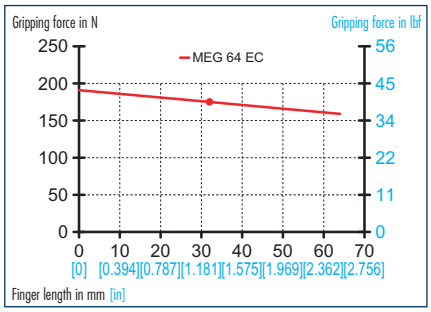
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

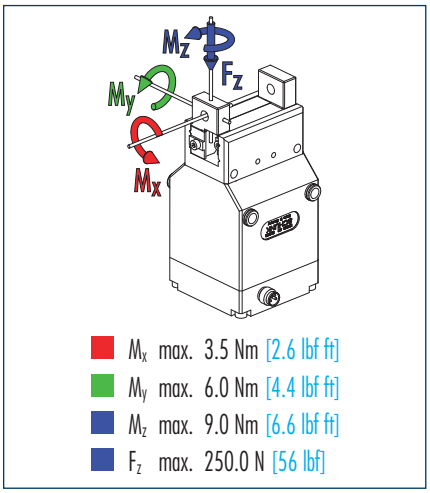
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

MEG 64

Gripping force



Finger load

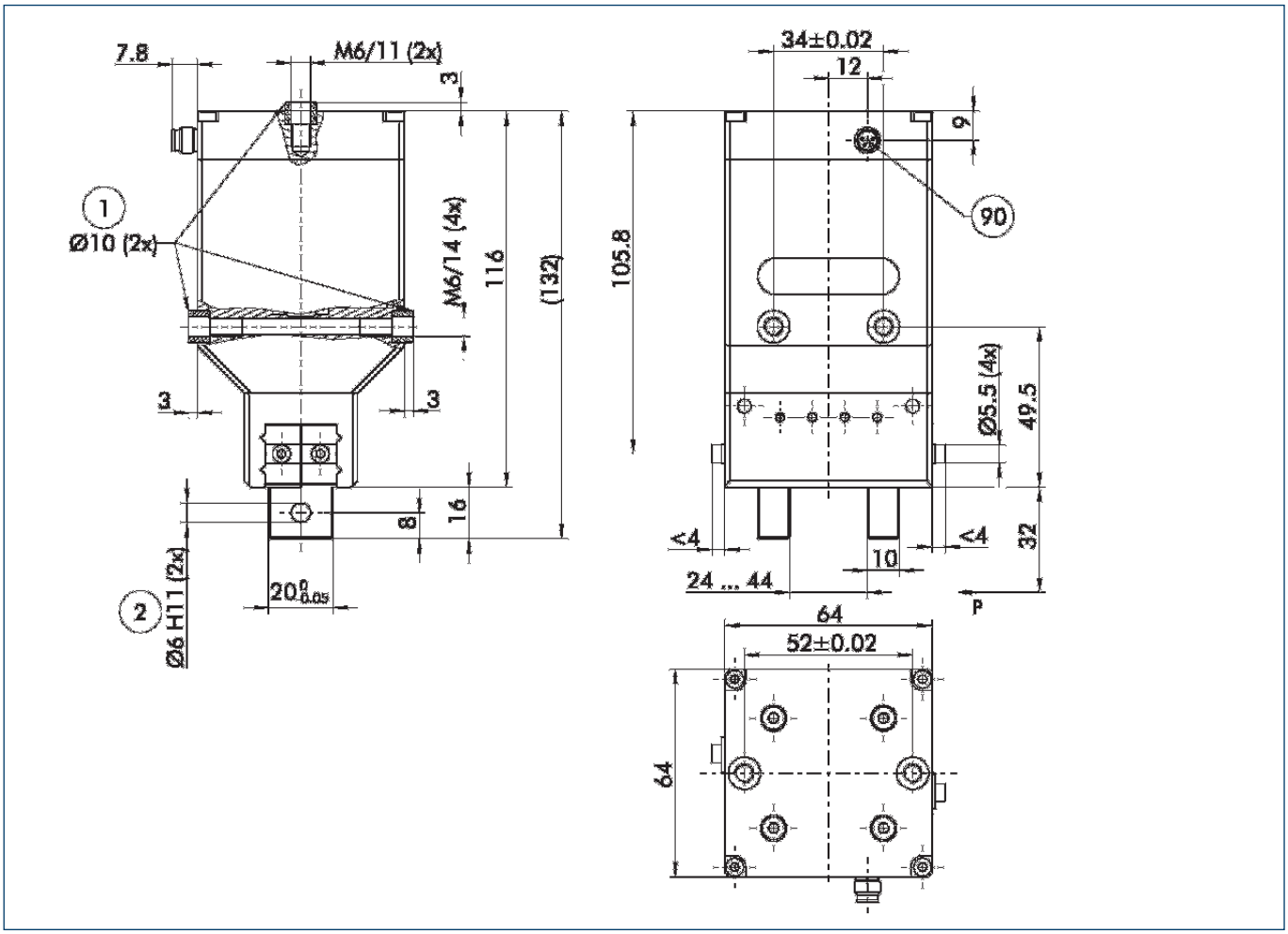


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to reduce the speed so that the jaw movement occurs without any hitting or bouncing.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

Technical data

Designation		MEG 64 EC
Mechanical gripper operating data	**ID**	**0306012**
Stroke per finger	mm [in]	10.0 [0.394]
Constant gripping force (100 % continuous duty)	N [lbf]	175.0 [39]
Max. gripping force	N [lbf]	175.0 [39]
Min. gripping force	N [lbf]	on request
Weight	kg [lbs]	1.42 [3.13]
Recommended workpiece weight	kg [lbs]	0.85 [1.87]
Closing time	s	0.6
Opening time	s	0.6
Max. permitted finger length	mm [in]	64.0 [2.520]
Max. permitted weight per finger	kg [lbs]	0.24 [0.53]
IP rating		30
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	65.0 [149]
Repeat accuracy	mm [in]	0.02 [0.0008]
Positioning accuracy	mm [in]	on request
Max. speed	mm/s	17.0
Electrical operating data for gripper		
Nominal voltage	V	24.0
Nominal current	A	1.3
Maximum current	A	1.3
Controller operating data	**ID**	**0307006**
Integrated electronics		No
Voltage supply	VDC	24.0
Nominal current	A	2.0
Maximum current	A	5.0
Sensor system		not available
Interface		input/output
Weight	kg [lbs]	0.3 [0.66]
IP rating		30

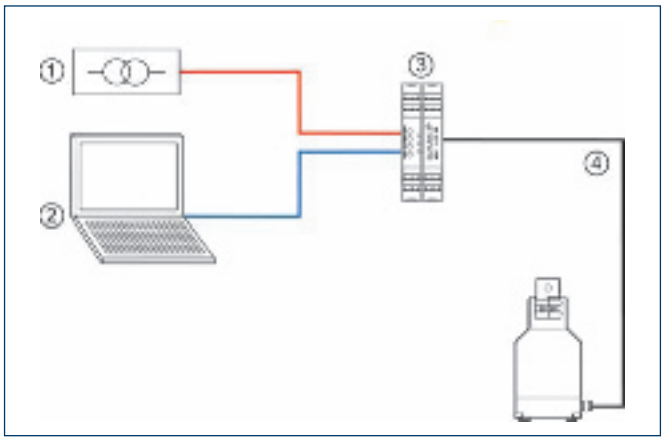
Main views of the MEG 64 EC



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
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

MEG EC control



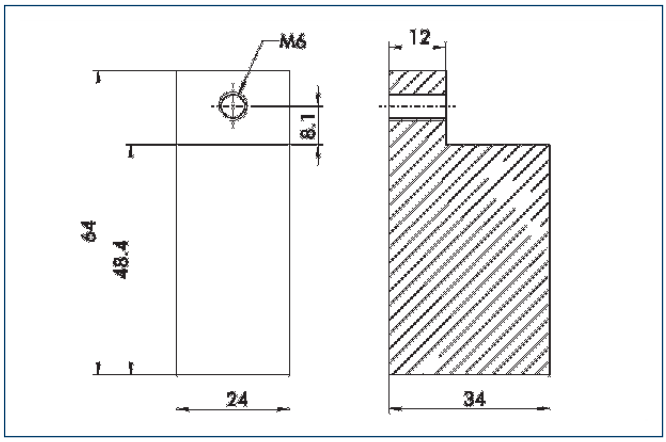
① 24 VDC voltage supply provided by the customer
② Control (PLC or similar) provided by the customer
③ MEG-C external control electronics
④ Connecting cable for control electronics/gripper

Connecting cable for MEG EC

Designation	ID	Length
MEG-EC-K5-W	0307765	5 m
MEG-EC-K10-W	0307766	10 m
MEG-EC-K5-G	0307767	5 m
MEG-EC-K10-G	0307768	10 m

The designations -W and -G indicate the shape of the connectors (W = right-angle version, G = straight version)

Finger blanks



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

Designation	Housing material	Scope of delivery	ID
ABR 64	Aluminum	2	0340215

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

EGN

Electrical · 2-Finger Parallel Grippers · Universal Grippers

Size
100

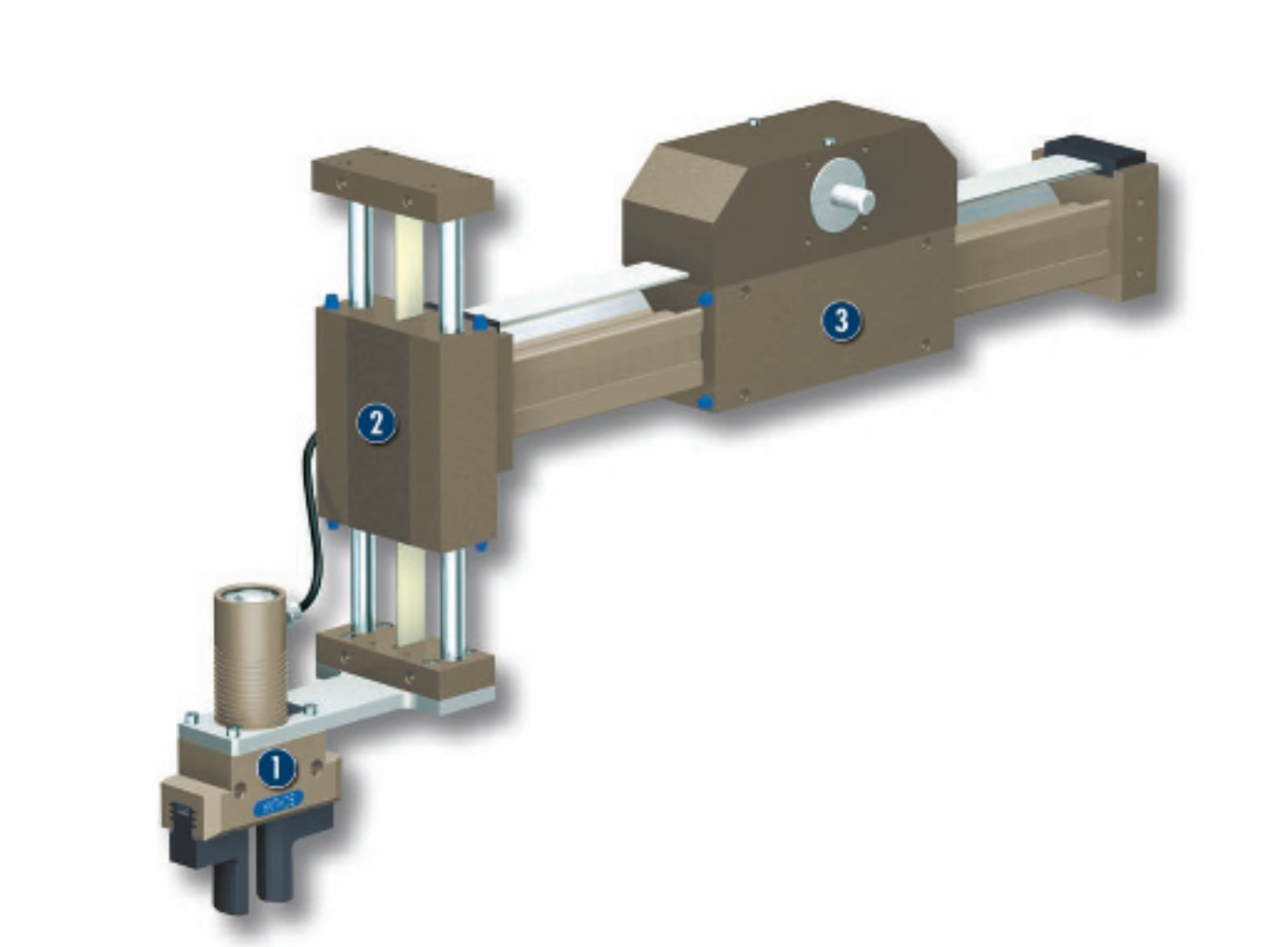
Weight
1.35 kg
2.98 lbs

Gripping force
up to 620 N
up to 139 lbf

Stroke per finger
10 mm
0.394 in

Workpiece weight
3 kg
6.61 lbs

Application example



Combined cantilever and short-stroke unit as rapid pick & place application for components with a high level of variation

1. EGN 100 Servo-electric 2-Finger Parallel Gripper
2. MLL 25 K Short-stroke Module
3. MLL 40 A Gantry Axis

Universal Gripper

Servo-electric 2-finger parallel gripper with large gripping force and high moment capacities thanks to multiple-tooth guide

Area of application

Ideal standard solution for many areas of application; highly versatile because gripping force, position and speed can be controlled.

Your advantages and benefits

Drive design of servo-motor
for flexibility in use

Control via digital and analog control signals
for simple integration in existing control systems

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

Robust multiple-tooth guidance
for precise handling

High maximum moments possible
suitable for the use of long gripper fingers

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

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

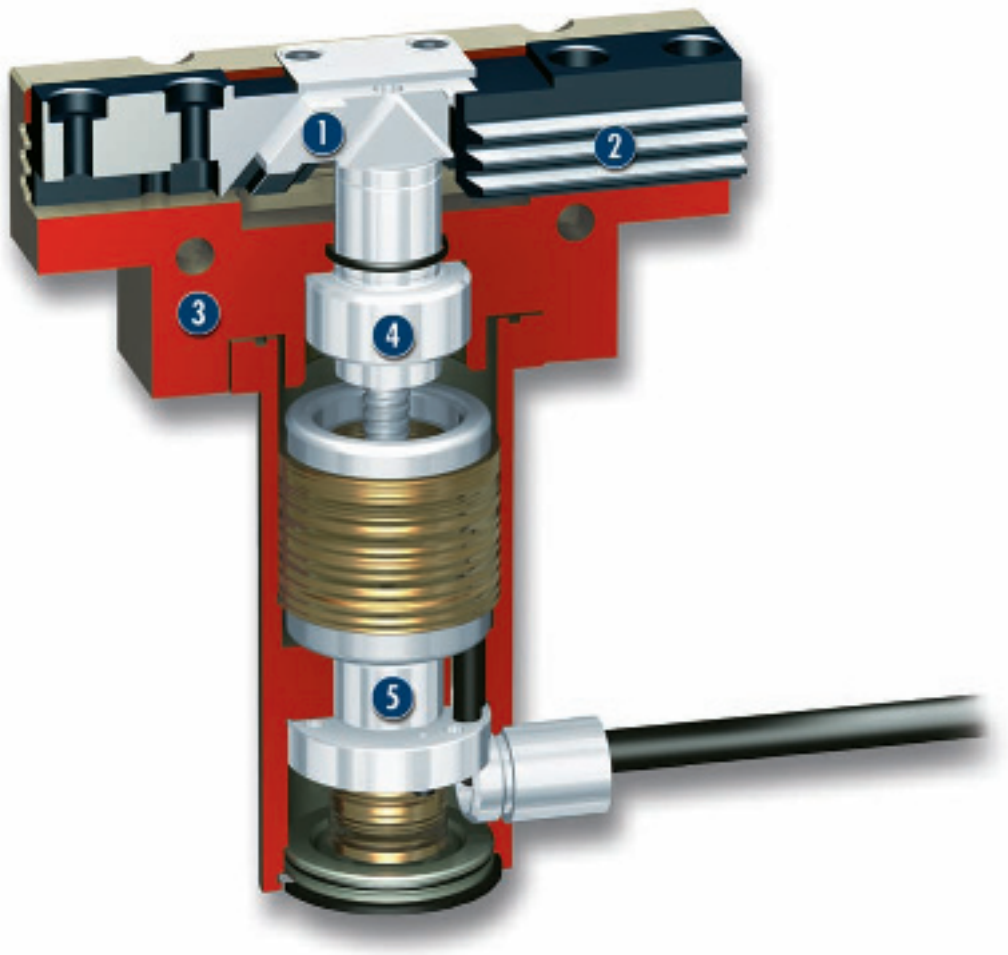
Base jaw material
Steel

Actuation
Servo-electric, by brushless DC servo-motor. A servo-controller is needed to actuate the gripper. We recommend the EGN-C for this purpose.

Warranty
24 months

Scope of delivery
9-pin Sub-D connector, centering sleeves, assembly and operating manual with manufacturer's declaration on CD-ROM

Sectional diagram



1 Kinematics
wedge-hook system for high power transmission and centric gripping

2 Multiple-tooth guidance
precise gripping even with longer gripper fingers thanks to a high-capacity base jaw guide with minimum play

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

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

5 Drive
DC servo-motor with resolver

Function description

The roller-bearing mounted spindle nut transforms the rotational movement of the servo-motor into the axial movement of the wedge hook.
Through its angled active surfaces, the wedge hook transforms this motion into the lateral, synchronous gripping movement of both base jaws.

Electrical actuation

The electric actuation of the EGN gripper is achieved by the relevant EGN-C control electronics.
The control electronics can be integrated in the higher-level servo-controlled concept either via conventional digital and analog inputs/outputs or via the CAN bus (CAN-open protocol) or RS-485 communication interfaces.
If integration takes place simply by terminal signals, the gripping force, position, speed and different operating modes are defined by digital and analog inputs.
The gripper status can be monitored by means of digital and analog outputs.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

HUE protective cover

BSWS quick-change jaw system

Controllers

Finger blanks

FMS force measuring system

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

General information on the series

Gripping force

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

Finger length

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

Repeat accuracy

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

Workpiece weight

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

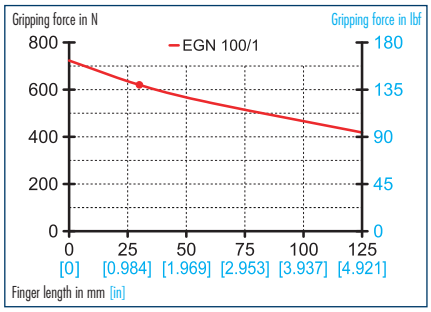
Closing and opening times

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

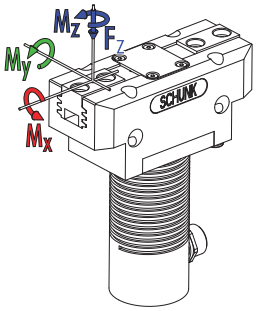
EGN 100

Electrical · 2-Finger Parallel Grippers · Universal Grippers

Gripping force



Finger load



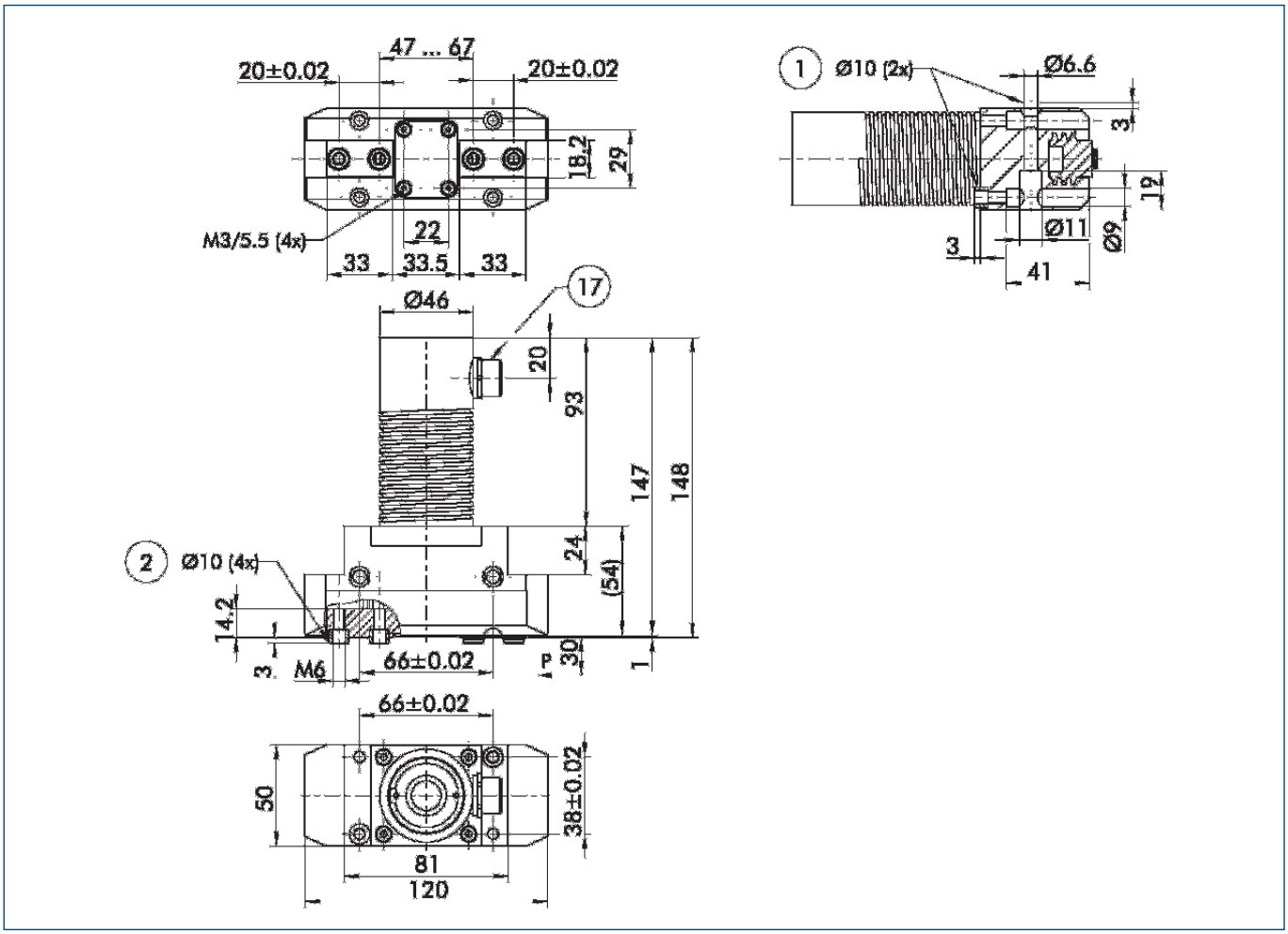
M_x max. 80.0 Nm [59 lbf ft]
M_y max. 100.0 Nm [74 lbf ft]
M_z max. 70.0 Nm [52 lbf ft]
F_z max. 2000.0 N [450 lbf]

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

Technical data

Designation		EGN 100
Mechanical gripper operating data	**ID**	**0306001**
Stroke per finger	mm [in]	10.0 [0.394]
Constant gripping force (100 % continuous duty)	N [lbf]	320.0 [72]
Max. gripping force	N [lbf]	620.0 [139]
Min. gripping force	N [lbf]	140.0 [31]
Weight	kg [lbs]	1.35 [2.98]
Recommended workpiece weight	kg [lbs]	3.0 [6.61]
Closing time	s	0.35
Opening time	s	0.35
Max. permitted finger length	mm [in]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.1 [2.43]
IP rating		40
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	55.0 [131]
Repeat accuracy	mm [in]	0.01 [0.0004]
Positioning accuracy	mm [in]	on request
Max. speed	mm/s	40.0
Max. acceleration	mm/s²	2137.0
Electrical operating data for gripper		
Terminal voltage	V	24.0
Nominal current	A	2.7
Maximum current	A	5.9
Resolution	mm [in]	on request
Controller operating data	**ID**	**0307001**
Integrated electronics		No
Voltage supply	VDC	24.0
Nominal current	A	6.0
Maximum current	A	12.0
Sensor system		Resolver
Interfaces		I/O; RS-485; CAN-Bus
Weight	kg [lbs]	0.98 [2.16]
IP rating		30

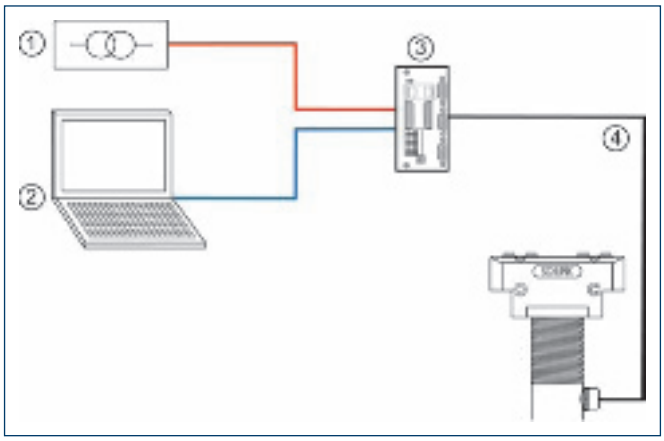
Main views



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

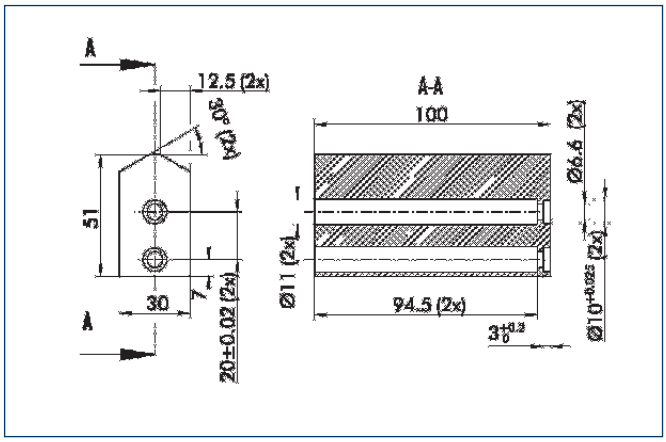
① Gripper connection
② Finger connection
⑰ Cable outlet

Actuation



① 24 VDC power supply provided by the customer
② Control (PLC or similar) provided by the customer
③ EGN-C external control electronics (ID No. 0307001)
④ Control electronics/gripper connecting cables (5 m cables are included in the scope of delivery, attached to the gripper)

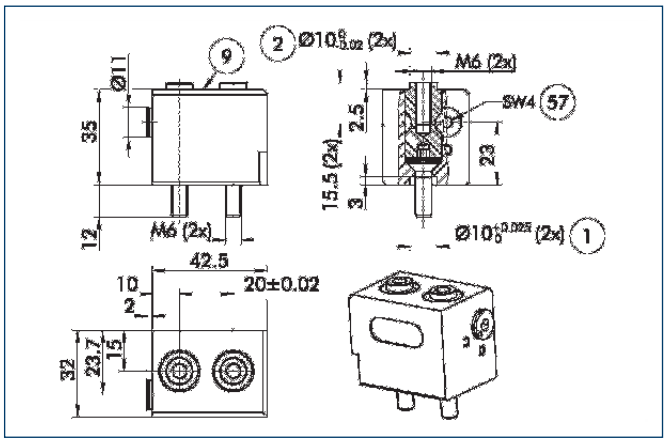
Finger blanks



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

Designation	Housing material	Scope of delivery	ID
ABR-plus 100	Aluminum	1	0300012
SBR-plus 100	16 MnCr 5	1	0300022

BSWS quick-change jaw system

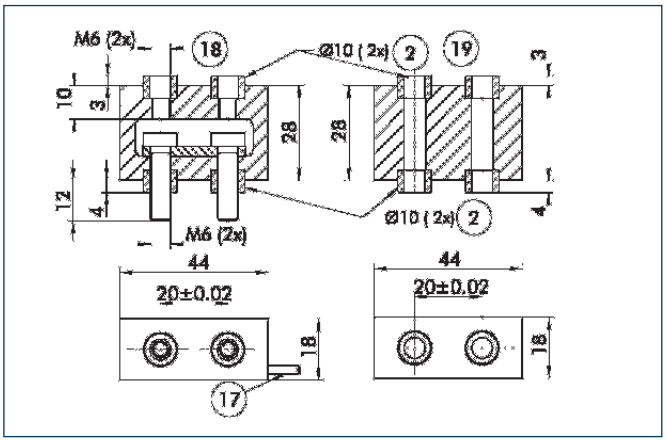


① Gripper connection
② Finger connection
⑨ For screw connection diagram, see basic version
57 Locking mechanism

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

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

FMS force measuring jaws



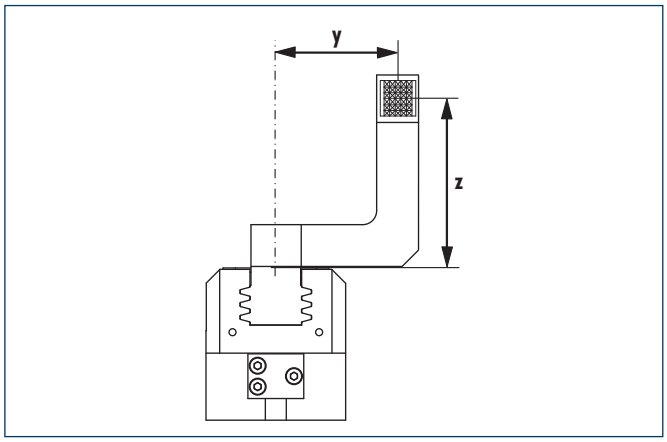
② Finger connection
17 Cable outlet
18 Fine serration
19 Air connection

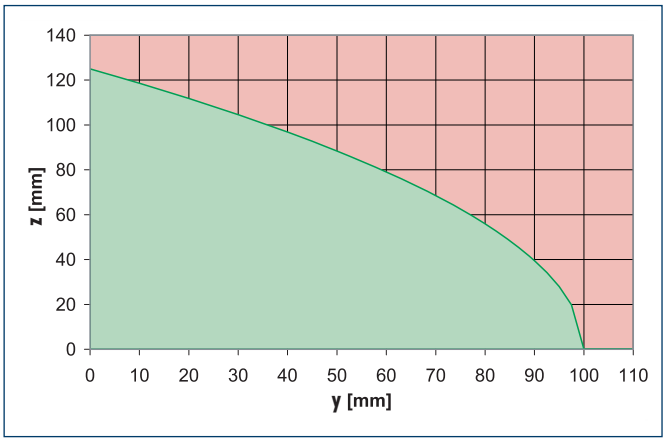
Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, an FMS-A1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

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

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

Maximum permitted overhang





Permitted range

Non-permissible range

Modular robotics

The modules of the PowerCube series provide the basis for flexible combinatorics in automation. Complex systems and multiple-axis robot structures with several degrees of freedom can be achieved with minimum time and expenditure spent on design and programming.

Your advantages and benefits

Modular

- Standardized interfaces for mechatronics and control for rapid and simple assembly without complicated designs
- Cube geometry with diverse possibilities for creating individual solutions from the modular system

Integrated

- The control and power electronics are fully integrated in the modules for minimal space requirements and interfering contours
- Single-cable technology combines data transmission and the power supply for minimal assembly and low start-up costs

Intelligent

- Integrated high-end microcontroller for rapid data processing
- Decentralized control system for digital signal processing
- Universal communication interfaces for rapid incorporation in existing servo-controlled concepts

Module overview

The innovative technology of the PowerCube modules already forms the basis of numerous applications in the fields of measuring and testing systems, laboratory automation, sensor systems, service robotics and flexible robot technology.

PG
Servo-electric
2-Finger Parallel Gripper

PR
Servo-electric
Rotary Actuators

PW
Servo-electric
Pan Tilt Actuators

PSM
Servo-motors with
integrated position control

PDU
Servo-positioning Motor
with precision gears

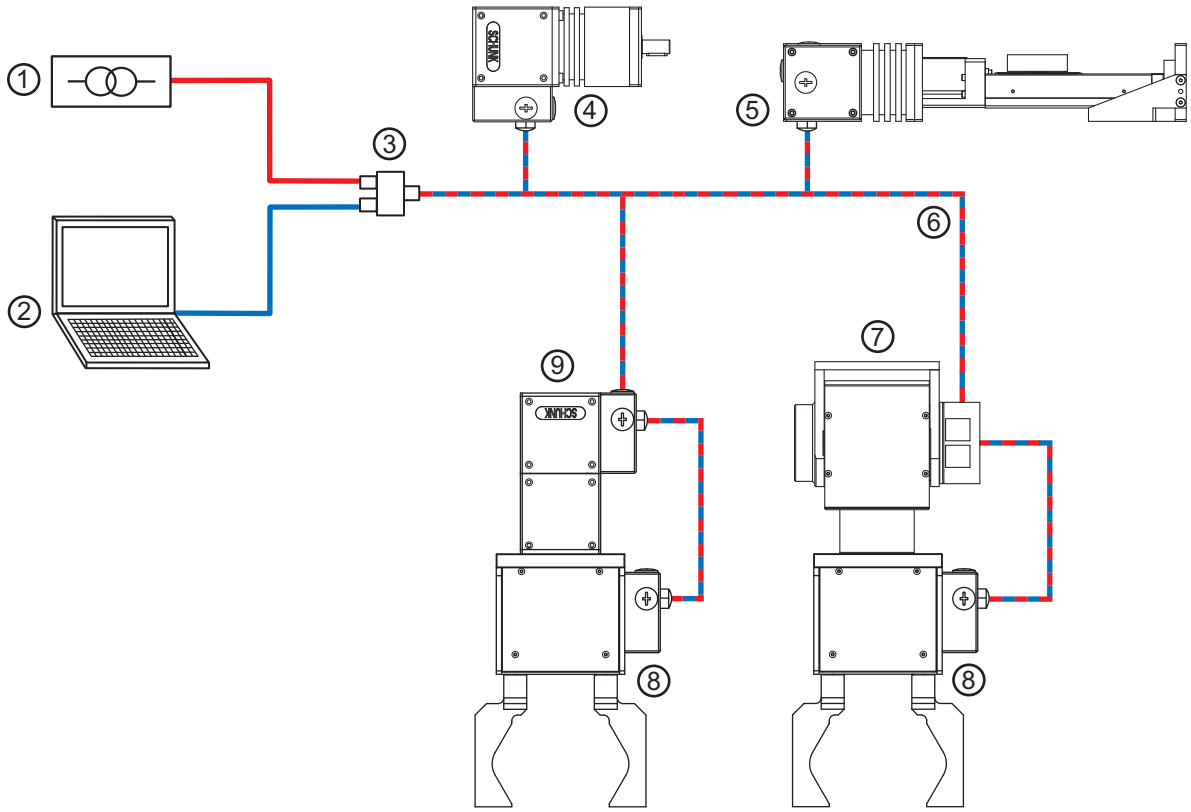
PLS
Servo-electric Linear Axis
with ball-and-screw
spindle drive

Method of actuation

The PowerCube modules work completely independently. The master control system is only required for generating the sequential program and sending it step by step to the connected modules. Therefore, only the current sequential command is stored in the modules, and the following command is stored in the buffer. The current, rotational speed and positioning are controlled in the module itself. Likewise, functions such as temperature and limit monitoring are performed in the module itself. Real-time capability is not absolutely essential for the master control system or bus system.

Control version	A	B			C (on request)
Hardware	Control with PLC (S7)	Control with PC			Control with CNC
Interface	Profibus-DP	CAN bus / RS-232			CANopen
Software	PowerCube standard software (gsd file, programming examples)	Windows operating system PowerCube standard software	LINUX on request	development platforms (LabView, Diadem) on request	(e.g. Eckelmann CNC 55)

ⓘ The CD-ROM "PowerCube-Standard Software" (Id.-No. 0307700) contains: Assembly and operating manual with manufacturer's declaration, Quick-Step software, demo program and diagnostic routines, as well as various drivers.



1. 24VDC / 48VDC power supply provided by the customer
2. Control system provided by the customer (see control versions A, B and C)
3. PAE 130 TB terminal block for connecting the power supply, the communication and the hybrid cable
4. PDU servo-motor
5. Linear axis with PLS ball-and-screw spindle drive and PSM servo-motor
6. Hybrid cable (single-cable technology) for connecting the PowerCube modules (power supply and communication)
7. PW servo-electric pan tilt actuator
8. PG servo-electric 2-finger parallel gripper
9. PR servo-electric rotary actuator

Size
70

Weight
1.4 kg
3.09 lbs

Gripping force
up to 200 N
up to 45 lbf

Stroke per finger
70 mm
2.756 in

Workpiece weight
1 kg
2.20 lbs

Application example

Double rotary gripper module for loading and unloading of sensitive components

1 **PG 70 Servo-electric 2-Finger Parallel Gripper**

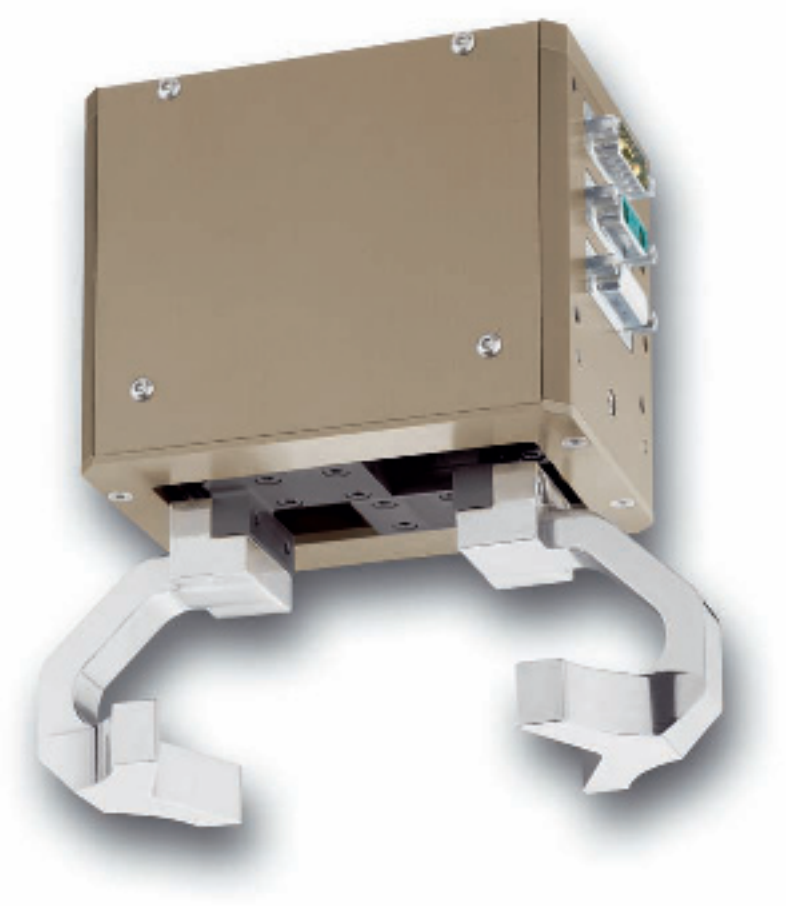
2 **PR 70 Servo-electric Rotary Actuator**

Universal Gripper

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

Area 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

Long 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 or RS-232

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

Single-cable technology for data transmission and power supply
for low assembly and start-up costs

POWERCUBE

General information on the series

Working principle
Ball screw drive

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Aluminum alloy, hard-anodized

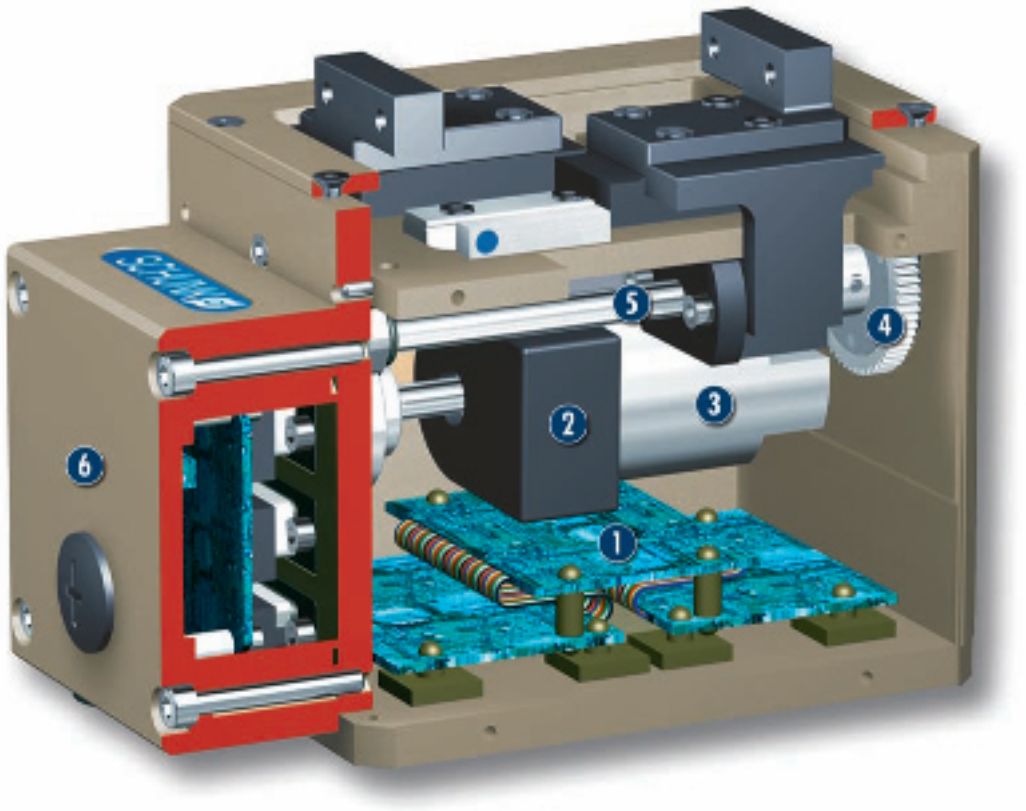
Actuation
Servo-electric, by brushless DC servo-motor

Warranty
24 months

Scope of delivery
The "PowerCube Standard Software" CD-ROM contains an Assembly and Operating Manual with manufacturer's declaration, quick-step, PC CubeDemo and PC PowerCube Config software plus various driver files (see explanation of PowerCube system)

Option
- Internal encoder signal output
- External encoder signal input

Sectional diagram



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

2 Encoder
for gripper positioning and position evaluation

3 Drive
brushless DC servo-motor

4 Gear mechanism
transfers power from the servo-motor to the drive spindle

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

6 Connector housing
link to the customer's system

Function 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.

Electrical actuation

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, CAN-Bus or RS-232 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 transporting the supply voltage and for communication.
If you wish to create combined systems (e.g. a rotary gripper module), various other modules from our PowerCube series are at your disposal.

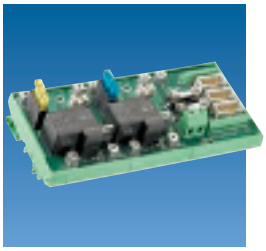
Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

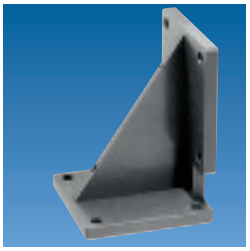
Centering sleeves

Hybrid cable

PAE 130 Terminal Block



Standard connecting elements PAM



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

General information on the series

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

Finger length
Is measured from the upper edge of the gripper housing in the direction of the main axis.

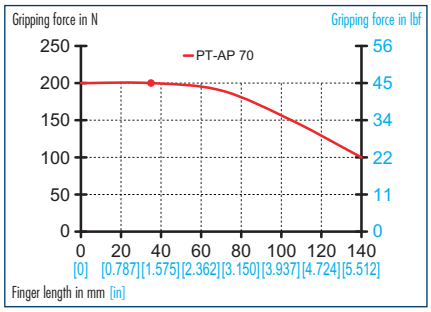
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

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

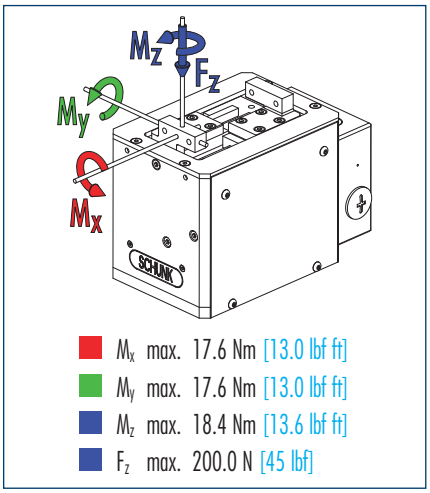
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

PG 70

Gripping force, I.D. gripping



Finger load



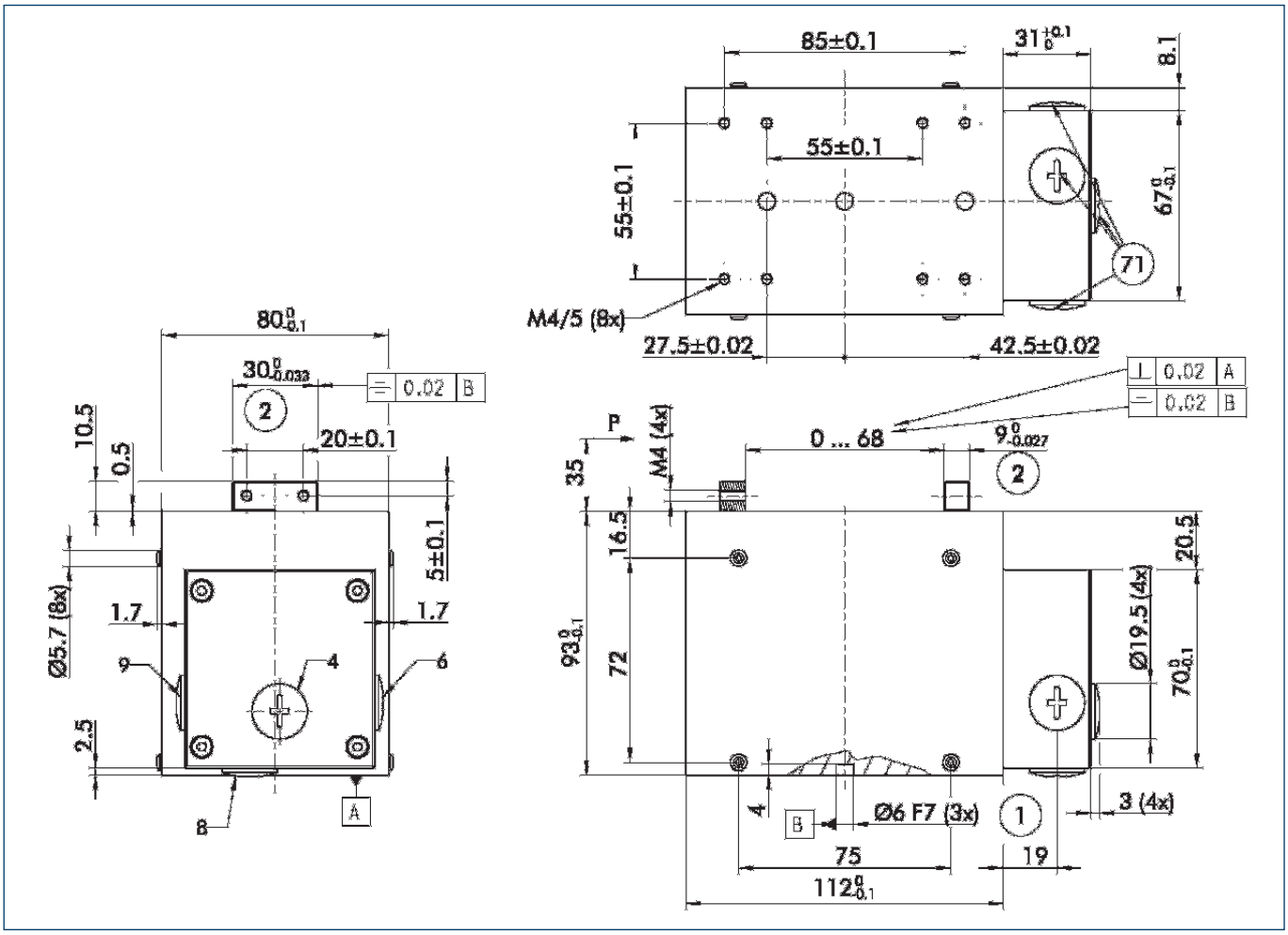
- M_x max. 17.6 Nm [13.0 lbf ft]
- M_y max. 17.6 Nm [13.0 lbf ft]
- M_z max. 18.4 Nm [13.6 lbf ft]
- F_z max. 200.0 N [45 lbf]

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

Technical data

Designation		PG 70
Mechanical gripper operating data	**ID**	**0306087**
Stroke per finger	mm [in]	35.0 [1.378]
Constant gripping force (100 % continuous duty)	N [lbf]	200.0 [45]
Max. gripping force	N [lbf]	200.0 [45]
Min. gripping force	N [lbf]	30.0 [6.7]
Weight	kg [lbs]	1.4 [3.09]
Recommended workpiece weight	kg [lbs]	1.0 [2.20]
Closing time	s	1.1
Opening time	s	1.1
Max. permitted finger length	mm [in]	140.0 [5.512]
IP rating		20
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	55.0 [131]
Repeat accuracy	mm [in]	0.05 [0.0020]
Positioning accuracy	mm [in]	on request
Max. speed	mm/s	82.0
Max. acceleration	mm/s²	328.0
Electrical operating data for gripper		
Terminal voltage	V	24.0
Nominal current	A	2.2
Maximum current	A	on request
Resolution	mm [in]	0.25 [0.010]
Controller operating data		
Integrated electronics		Yes
Voltage supply	VDC	24.0
Nominal current	A	0.5
Sensor system		Encoder
Interface		RS-232; Profibus-DP; CAN-Bus

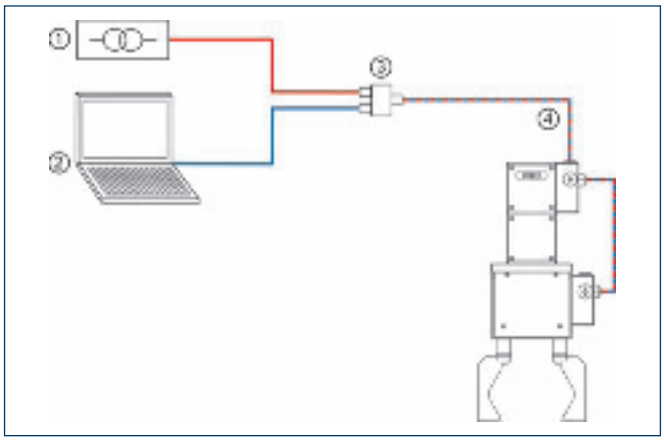
Main views



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
71 M16x1.5 for cable connection

Actuation

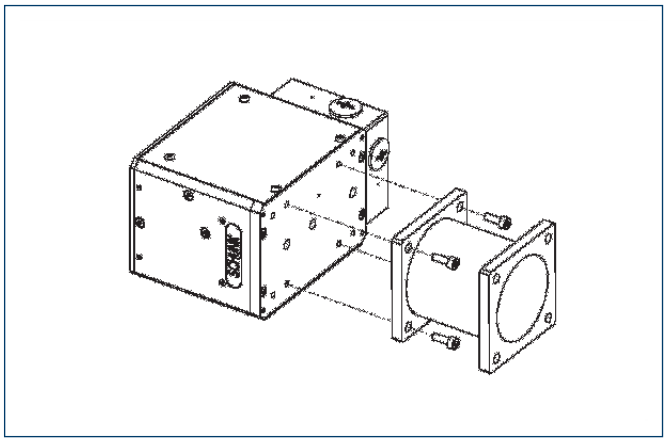


① 24 VDC power supply provided by the customer
② Control (PLC or similar) provided by the customer
③ PAE 130 TB terminal block (ID No. 0307725) for connecting the power supply, the communication and the hybrid cable
④ Hybrid cable for connecting the PowerCube modules

Connecting cable

Designation	ID	Length
PowerCube Hybrid cable, coiled	0307753	0.3 m
PowerCube Hybrid cable, coiled	0307754	0.46 m
PowerCube Hybrid cable, straight (per meter)	9941120	

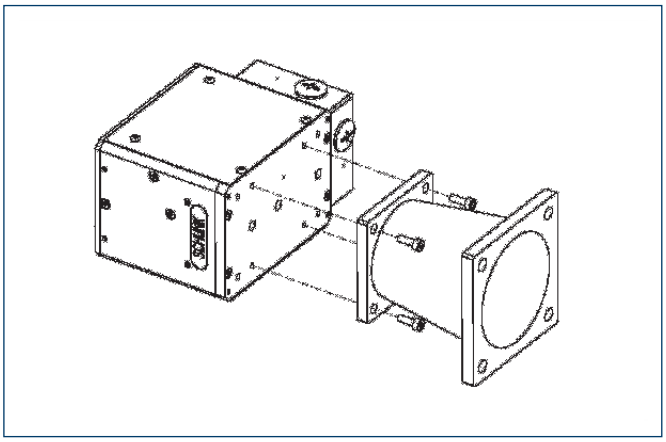
Mechanical accessories



Straight connecting elements

Designation	ID	Dimensions
PAM 100	0307800	70x70/35/70x70 mm
PAM 101	0307801	70x70/70/70x70 mm

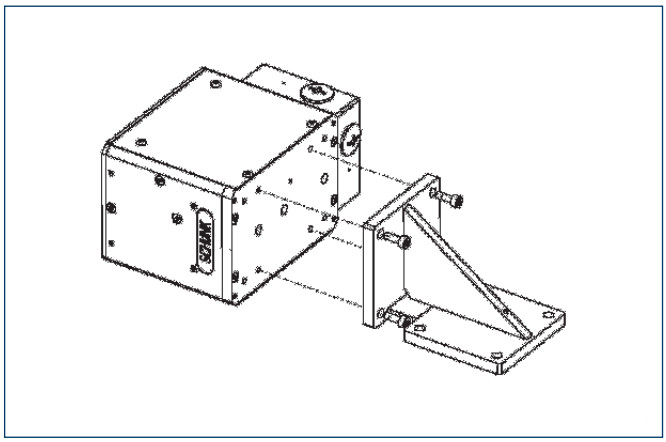
Special lengths on request
Straight standard element for connecting size 70 PowerCube modules



Conical connecting elements

Designation	ID	Dimensions
PAM 110	0307810	90x90/45/70x70 mm
PAM 111	0307811	90x90/90/70x70 mm

Special lengths on request
Conical standard element for connecting size 70 and 90 PowerCube modules



Right-angle connecting elements

Designation	ID
PAM 120	0307820

Special lengths on request
Right-angle standard element for connecting size 70 PowerCube modules

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

PEH

Size
40

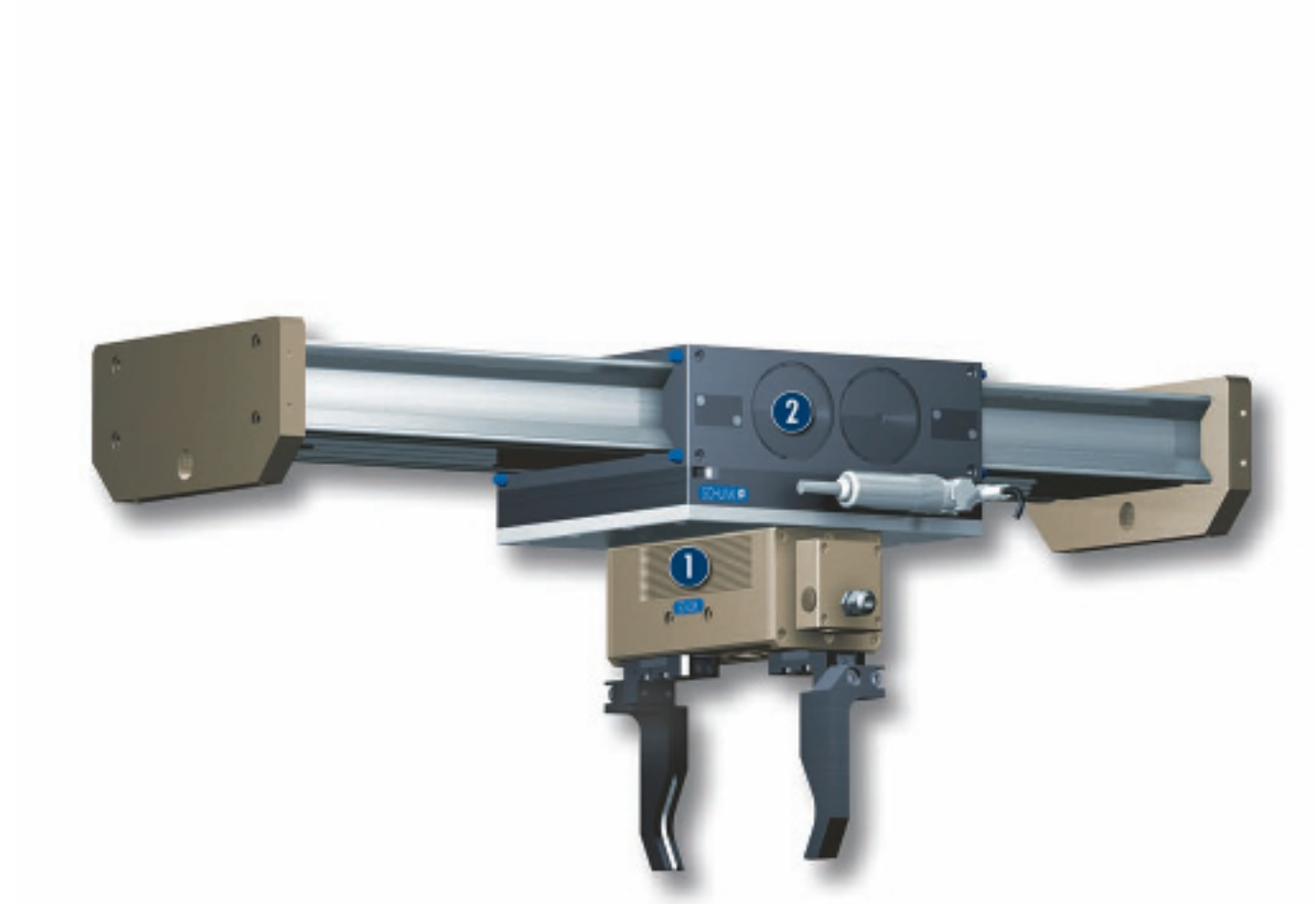
Weight
7.8 kg
17.20 lbs

Gripping force
up to 1150 N
up to 259 lbf

Stroke per finger
60 mm
2.362 in

Workpiece weight
5.75 kg
12.68 lbs

Application example



Fully electrically driven gantry axis for palletizing and depalletizing various components

1 PEH 40 servo-electric 2-Finger Parallel Gripper

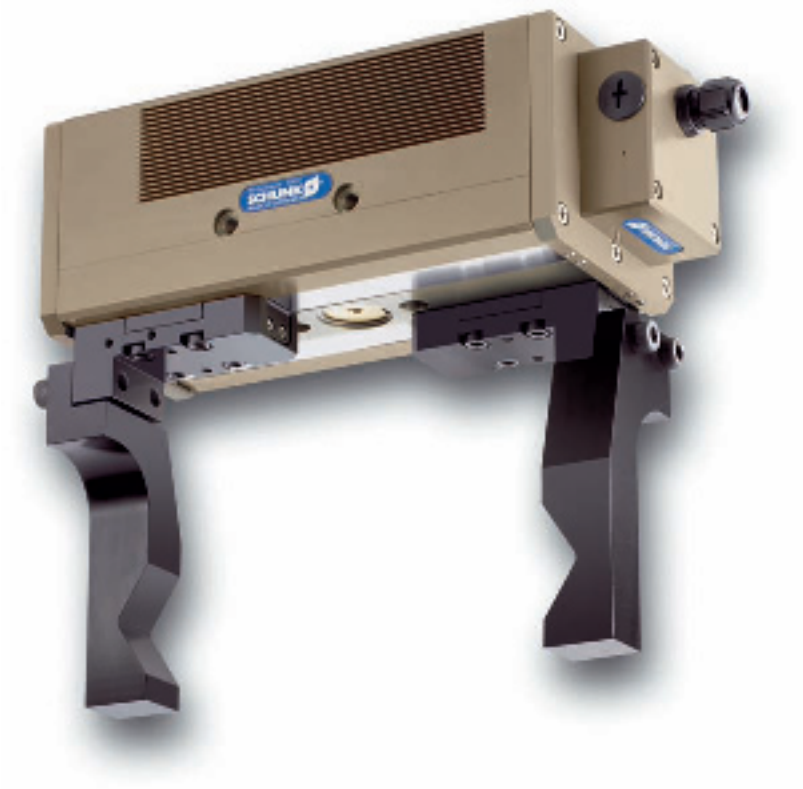
2 LIRAX-M LD 200-T Linear Motor Drive

Long-stroke Gripper

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

Area 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 200 N – 1150 N
for the powerful gripping of various workpieces

Long stroke of 120 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 or RS-232

Robust guidance
for the precise handling of all kinds of workpieces

High maximum moments
suitable for the use of long gripper fingers

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

General information on the series

Working principle
Ball screw drive synchronized by rack and pinion principle

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Steel

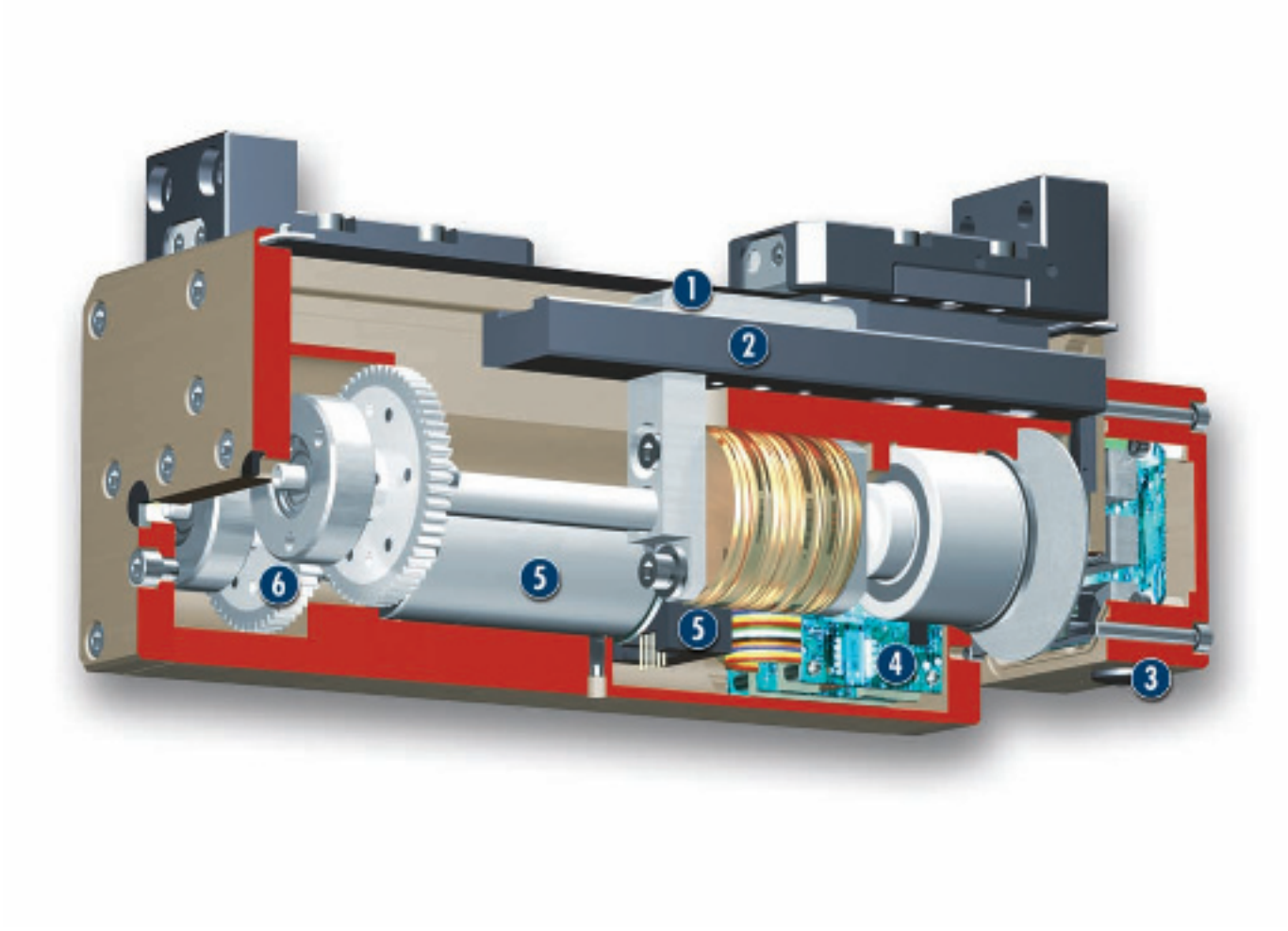
Actuation
Servo-electric, by brushless DC servo-motor

Warranty
24 months

Scope of delivery
Centering sleeves, "PowerCube Standard Software" CD-ROM containing an Assembly and Operating Manual with manufacturer's declaration, quick-step, PC CubeDemo and PC PowerCube Config software plus various driver files (see explanation of PowerCube system)

Option
- Internal encoder signal output
- External encoder signal input

Sectional diagram



1 Kinematics
rack and pinion principle for centric gripping

2 Guidance
for precise gripping with minimum play and high load capacity

3 Humidity protection cap
link to the customer's system

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

5 Drive
DC servo-motor with hall-effect sensors and encoders

6 Gear
transmits power from the servo-motor to the drive spindle

Function description

The brushless servo-motor drives the ball screw on the opposite side via a 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.

Electrical actuation

The PEH 40 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, CAN-Bus or RS-232 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 transporting the supply voltage and for communication.
If you wish to create combined systems (e.g. a rotary gripper module), various other modules from our PowerCube series are at your disposal.

Accessories

Accessories from SCHUNK – the suitable companion for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

Finger blanks

Hybrid cable

ⓘ For the exact size of the accessories, availability of this size and the designation and ID No., please refer to the additional views at the end of the size in question. You can find more detailed information on our accessory range in the "Accessories" catalog section.

General information on the series

Gripping force

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

Finger length

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

Repeat accuracy

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

Workpiece weight

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

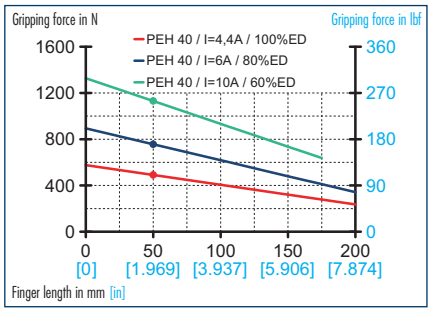
Closing and opening times

Closing and opening times are purely the movement times of the base jaws or base fingers. Relay switching times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

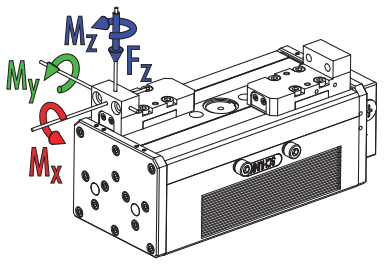
PEH 40

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

Gripping force



Finger load



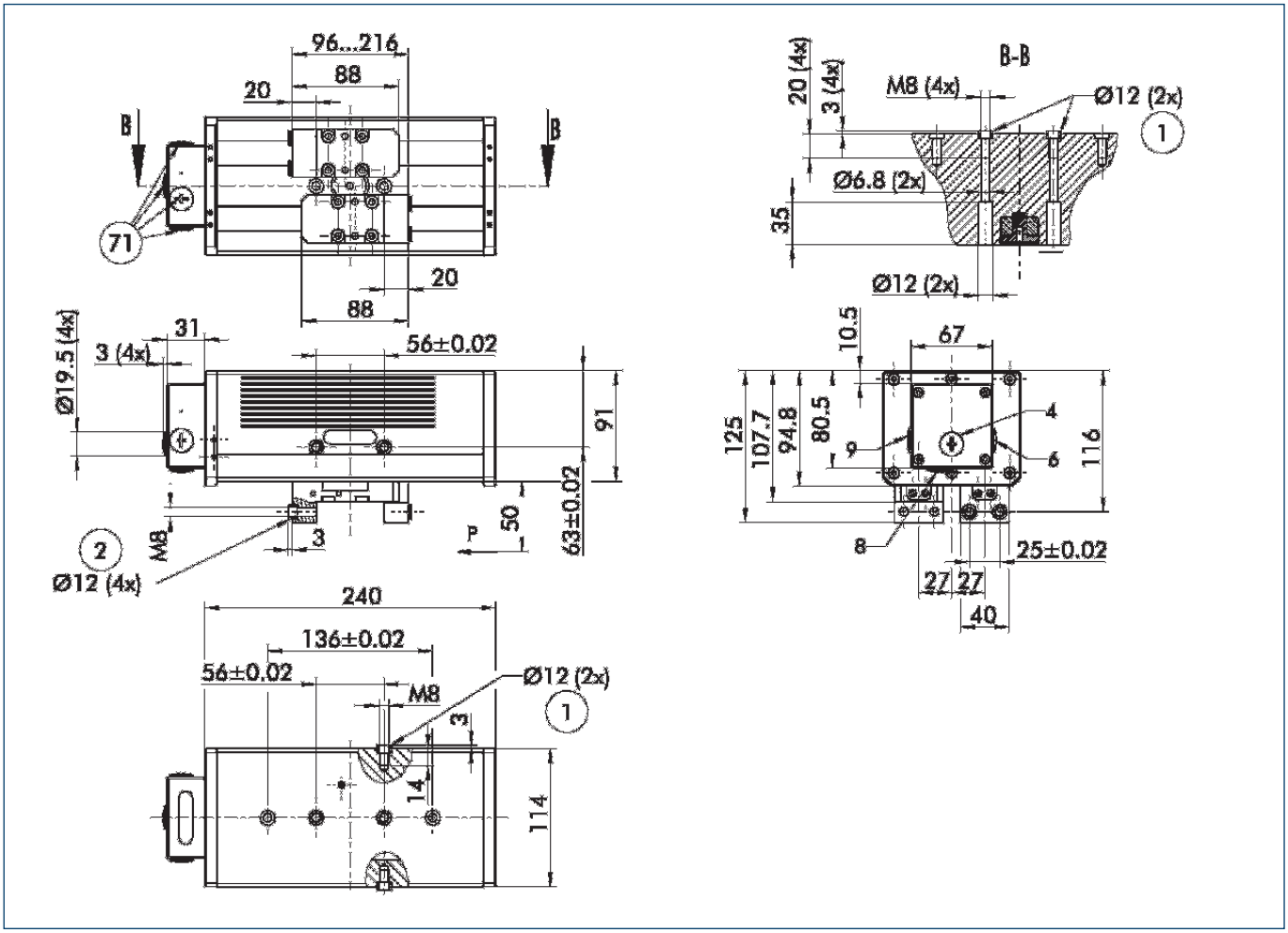
- M_x max. 50.0 Nm [37 lbf ft]
- M_y max. 100.0 Nm [74 lbf ft]
- M_z max. 70.0 Nm [52 lbf ft]
- F_z max. 1100.0 N [247 lbf]

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

Technical data

Designation		PEH 40
Mechanical gripper operating data	ID	0306050
Stroke per finger	mm [in]	60.0 [2.362]
Constant gripping force (100 % continuous duty)	N [lbf]	1150.0 [259]
Max. gripping force	N [lbf]	1150.0 [259]
Min. gripping force	N [lbf]	200.0 [45]
Weight	kg [lbs]	7.8 [17.20]
Recommended workpiece weight	kg [lbs]	5.75 [12.68]
Closing time	s	1.0
Opening time	s	1.0
Max. permitted finger length	mm [in]	200.0 [7.874]
Max. permitted weight per finger	kg [lbs]	3.0 [6.61]
IP rating		41
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	65.0 [149]
Repeat accuracy	mm [in]	0.05 [0.0020]
Positioning accuracy	mm [in]	on request
Max. speed	mm/s	210.0
Max. acceleration	mm/s²	1000.0
Electrical operating data for gripper		
Terminal voltage	V	24.0
Nominal current	A	4.4
Maximum current	A	12.4
Resolution	mm [in]	on request
Controller operating data		
Integrated electronics		No
Voltage supply	VDC	24.0
Nominal current	A	0.5
Sensor system		Encoder
Interface		RS-232; Profibus-DP; CAN-Bus

Main views

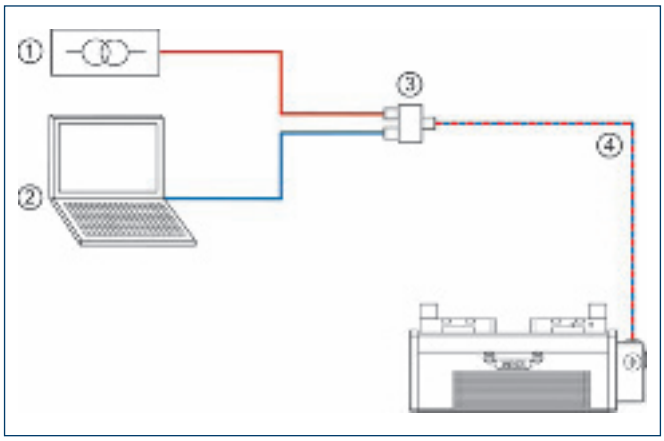


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ Alternatively/additionally to the spring-packaged mechanic gripping force safety device for O.D. and I.D. gripping the pressure maintenance valve SDV-P can be used (see catalog chapter "Accessories").

① Gripper connection
② Finger connection
71 M16x1.5 for cable gland

Actuation



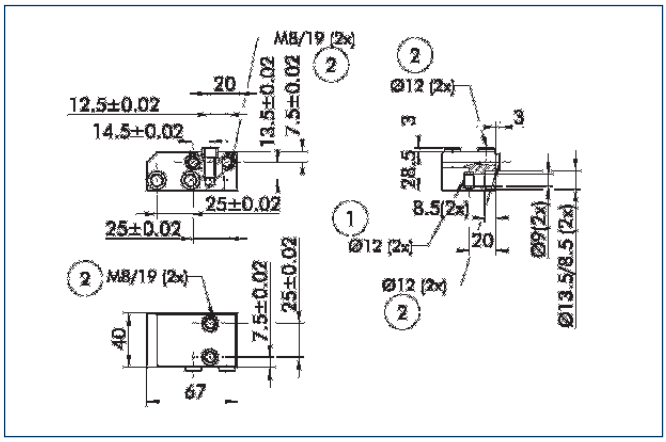
① 24 VDC power provided by the customer
② Control (PLC or similar) provided by the customer
③ PAE 130 TB terminal block (ID No. 0307725) for connecting the power supply, the communication and the hybrid cable
④ Hybrid cable for connecting the PowerCube modules

Interconnecting cable

Description	ID	Length
PowerCube Hybrid cable, coiled	0307753	0.3 m
PowerCube Hybrid cable, coiled	0307754	0.46 m
PowerCube Hybrid cable, straight (per meter)	9941120	

You can find further cables in the "Accessories" catalog section.

Intermediate jaws



① Gripper connection
② Finger connection

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

Designation	Material	Scope of delivery	ID
ZBH 40	16 MnCr 5	2	0300221

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

Electric Grippers Modules

3-Finger Centric Grippers

Size
64

Weight
1 kg
2.20 lbs

Gripping force
up to 500 N
up to 112 lbf

Stroke per finger
6 mm
0.236 in

Workpiece weight
2.5 kg
5.51 lbs

Application example

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

1 EZN 064 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

Area of application

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

Your advantages and benefits

Drive design of servo-motor
for flexibility in use

Control via digital and analog control signals
for simple integration in existing control systems

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

Robust multiple-tooth guidance
for precise handling

High maximum moments possible
suitable for the use of long gripper fingers

Mounting from one side in two screw directions
for universal and flexible gripper assembly

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

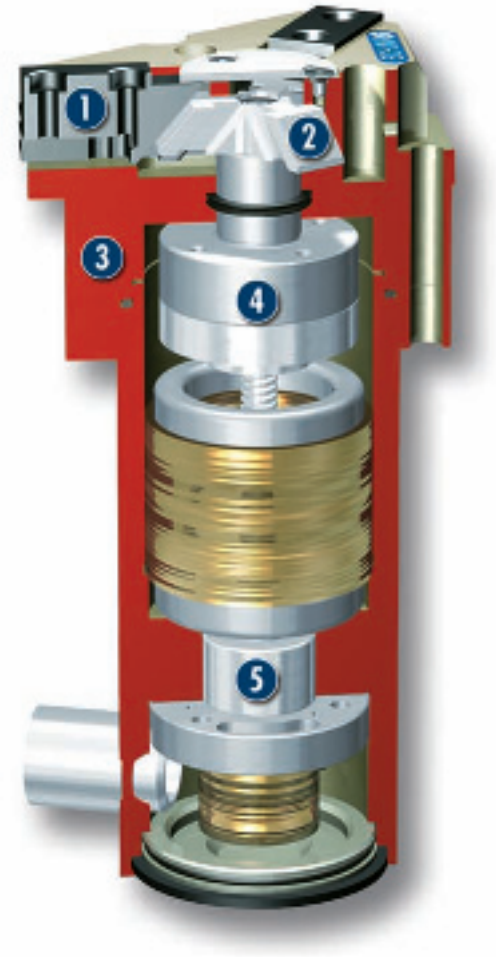
Base jaw material
Steel

Actuation
Servo-electric, by brushless DC servo-motor. A servo-controller is needed to actuate the gripper. We recommend the EGN-C for this purpose.

Warranty
24 months

Scope of delivery
9-pin Sub-D connector, centering sleeves, assembly and operating manual with manufacturer's declaration on CD-ROM

Sectional diagram



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

2 Kinematics
wedge-hook system for high power transmission and centric clamping

3 Housing
weight-reduced through the use of a 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
DC servo-motor with resolver

Function description

The roller-bearing mounted spindle nut transforms the rotational movement of the servo-motor into the axial movement of the wedge hook. Through its angled active surfaces, the wedge hook transforms this motion into the lateral, synchronous gripping movement of all base jaws.

Electrical actuation

The EZN is electrically actuated by the associated EZN-C control electronics. The control electronics can be integrated in the higher-level servo-controlled concept either via conventional digital and analog inputs/outputs or via the CAN-Bus (CAN-open protocol) or RS-485 communication interfaces. If integration takes place simply by terminal signals, the gripping parameters force, position and speed and the different operating modes are defined by digital and analog inputs. The gripper status can be monitored by means of digital and analog outputs.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

HUE protective cover

BSWS quick-change jaw system

Controllers

Finger blanks

FMS force measuring system

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

General information on the series

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

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

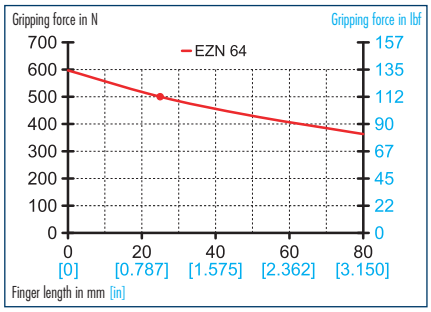
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

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

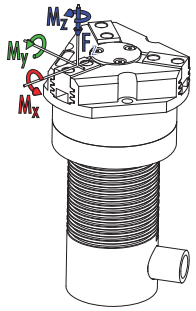
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

EZN 64

Gripping force, I.D. gripping



Finger load



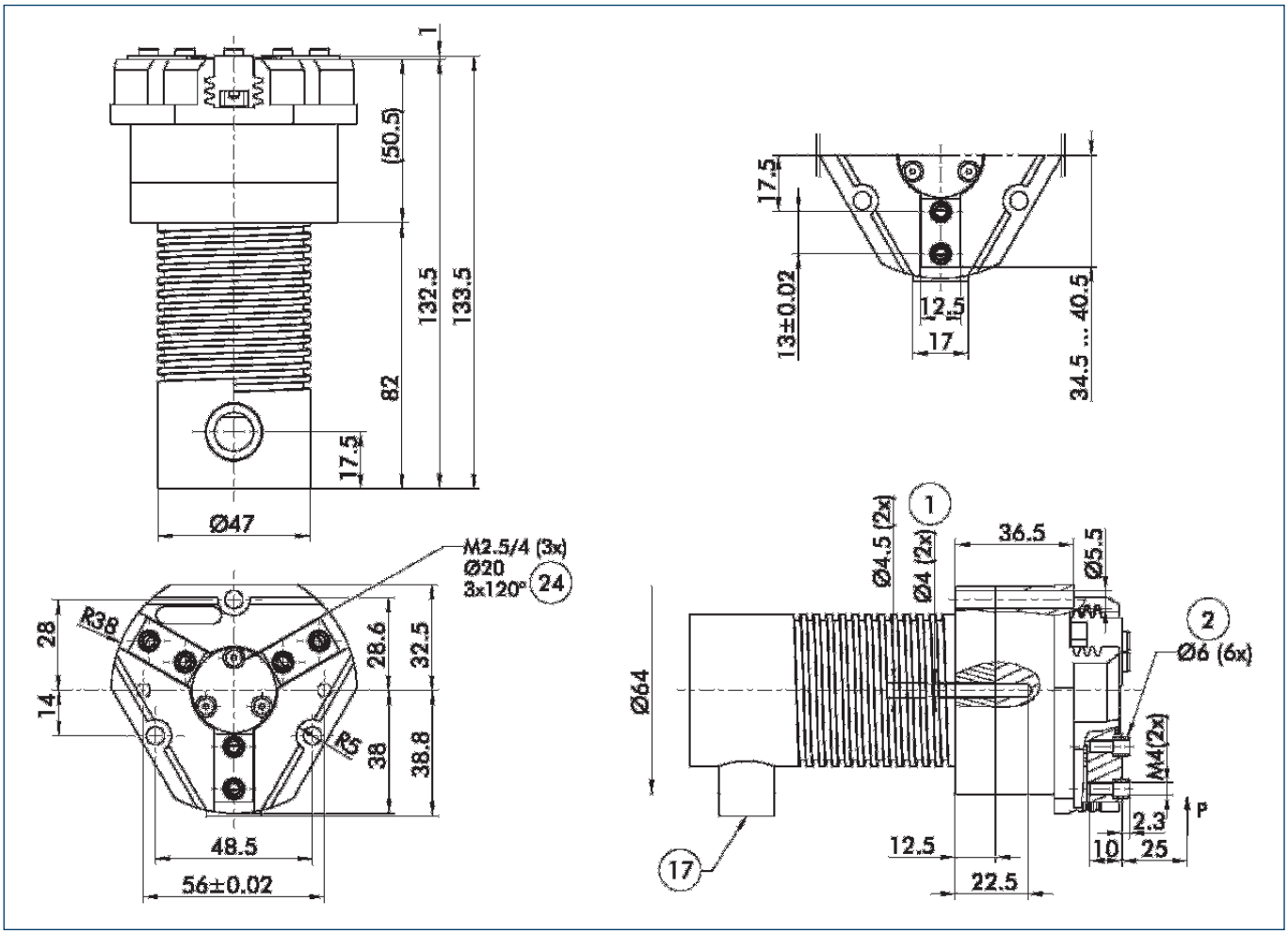
M_x max. 40.0 Nm [30 lbf ft]
M_y max. 60.0 Nm [44 lbf ft]
M_z max. 25.0 Nm [18 lbf ft]
F_z max. 1100.0 N [247 lbf]

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

Technical data

Designation		EZN 64
Mechanical gripper operating data	**ID**	**0306005**
Stroke per finger	mm [in]	6.0 [0.236]
Constant gripping force (100 % continuous duty)	N [lbf]	220.0 [49]
Max. gripping force	N [lbf]	500.0 [112]
Min. gripping force	N [lbf]	70.0 [15.7]
Weight	kg [lbs]	0.98 [2.16]
Recommended workpiece weight	kg [lbs]	2.5 [5.51]
Closing time	s	0.25
Opening time	s	0.25
Max. permitted finger length	mm [in]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]
IP rating		40
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	55.0 [131]
Repeat accuracy	mm [in]	0.01 [0.0004]
Positioning accuracy	mm [in]	on request
Max. speed	mm/s	40.0
Max. acceleration	mm/s²	2137.0
Controller operating data		
Terminal voltage	V	24.0
Nominal current	A	2.7
Maximum current	A	5.9
Resolution	mm [in]	on request
Controller operating data	**ID**	**0307002**
Integrated electronics		No
Voltage supply	VDC	24.0
Nominal current	A	6.0
Maximum current	A	12.0
Sensor system		Resolver
Interface		I/O; RS 485; CAN
Weight	kg [lbs]	0.98 [2.16]
IP rating		30

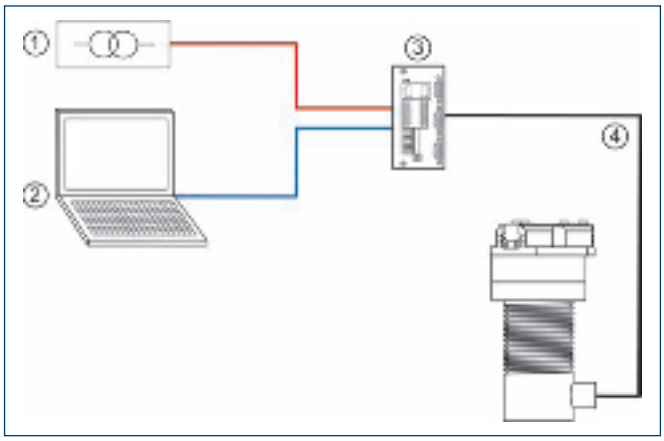
Main views



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

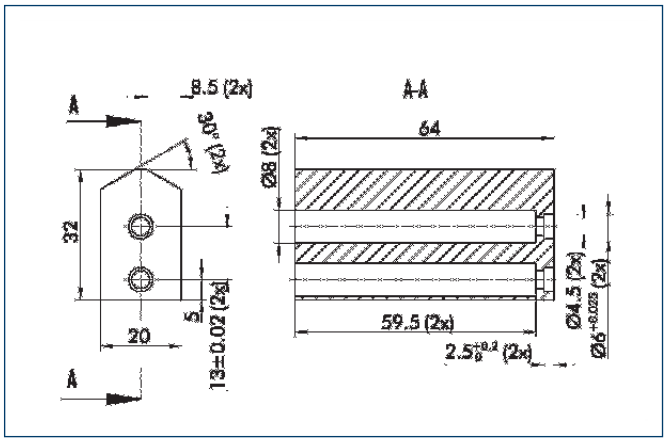
① Gripper connection
② Finger connection
⑰ Cable outlet
㉔ Screw pitch circle

Actuation



① 24 VDC power supply provided by the customer
② Control (PLC or similar) provided by the customer
③ EZN-C external control electronics (ID No. 0307725)
④ Control electronics/gripper interconnecting cables (5 m cables are included in the scope of delivery, mounted to the gripper)

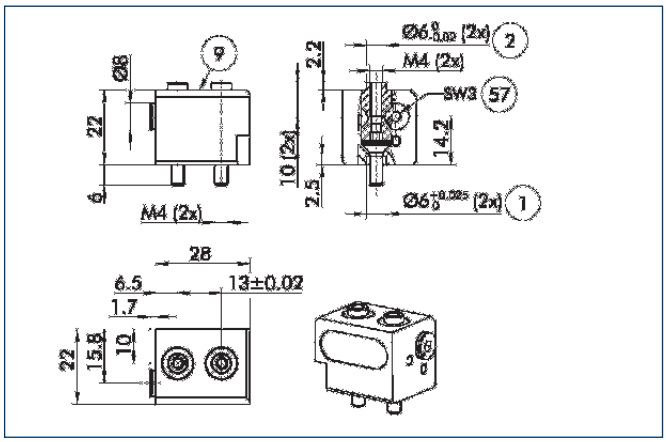
Finger blanks



Finger blanks for customized subsequent machining

Designation	Housing material	Scope of delivery	ID
ABR-plus 64	Aluminum	1	0300010
SBR-plus 64	16 MnCr 5	1	0300020

BSWS quick-change jaw system

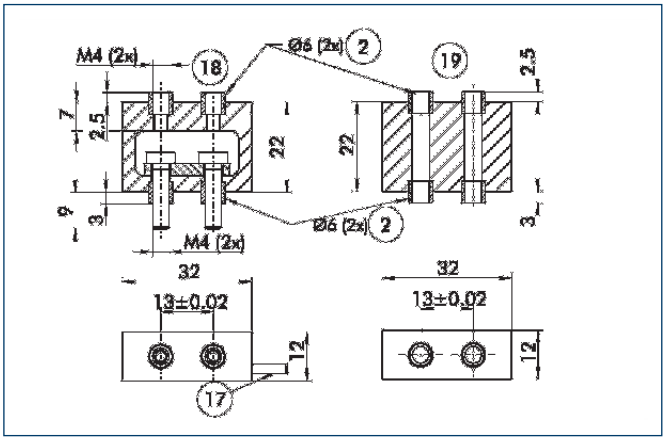


① Gripper connection
② Finger connection
⑨ For screw connection diagram, see basic version
57 Locking mechanism

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

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

FMS force measuring jaws



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

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

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

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

Special Grippers

SPECIAL GRIPPERS

Size
44 ... 64

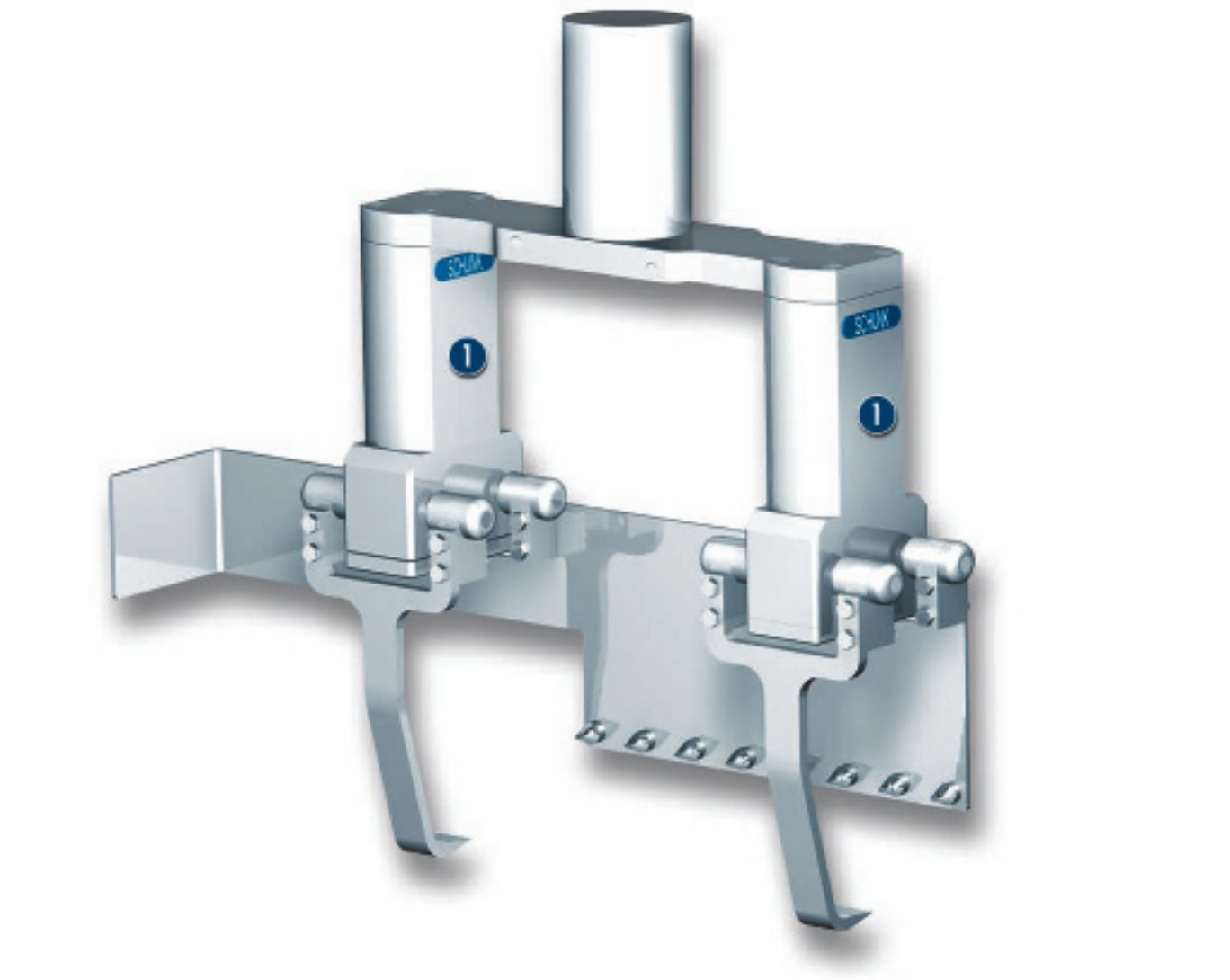
Weight
0.95 kg .. 3.3 kg
2.09 lbs .. 7.28 lbs

Gripping moment
8.2 Nm .. 31.5 Nm
6.0 lbf ft .. 23 lbf ft

Opening angle per finger
10° .. 90° can be preset

Workpiece weight
0.9 kg .. 2.2 kg
1.98 lbs .. 4.85 lbs

Application example



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

1 **LMG 64 Food Gripper**

Food Gripper

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

Area 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 wide range 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

BG-PRÜFZERT
NG 05103
Hygiene geprüft
hygiene tested

General information on the series

Working principle
Positively driven crank system

Housing and base jaw material
Polished stainless steel

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

Temperature range
-25 °C to +90 °C

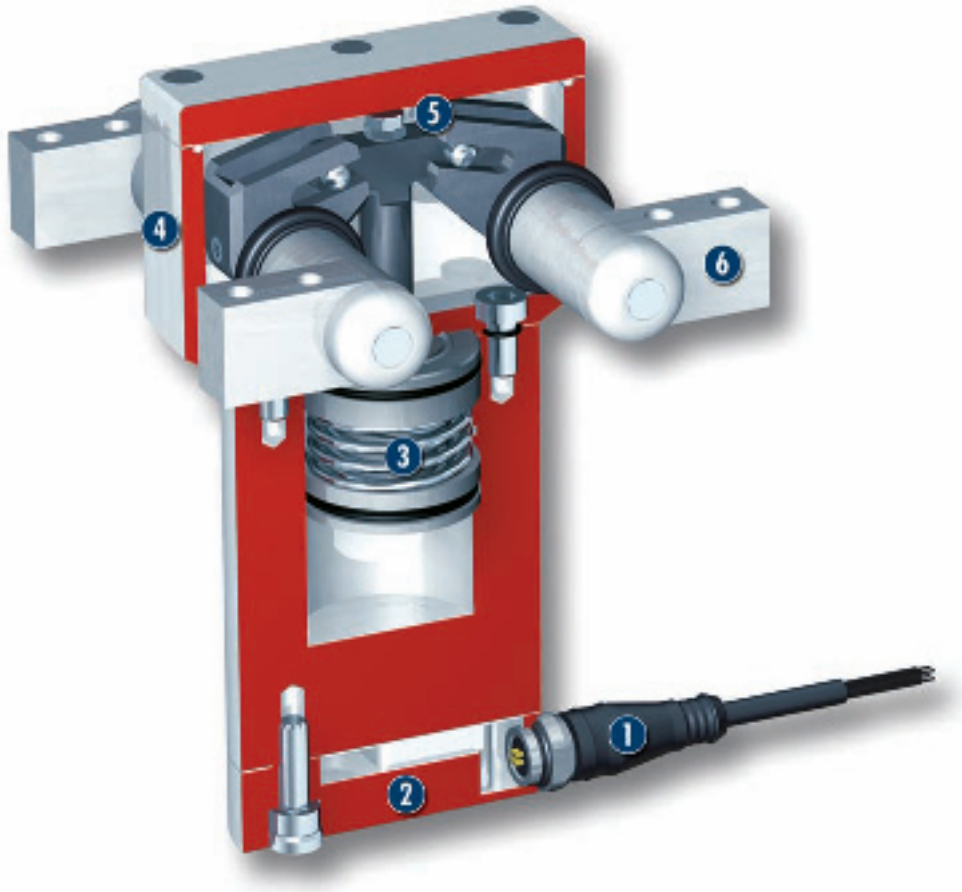
Operating pressure range
4.5 to 6.5 bar

Scope of delivery
O-rings for direct connection, centering sleeves, flat seal for gripper/adapter interface, assembly and operating manual with manufacturer’s declaration

Gripping force safety device
via integrated spring

Warranty
24 months

Sectional diagram



1 Sensor monitoring (optional)
cable strain relief for sensor monitoring with magnetic sensors

2 Air connection
direct connection for hose-free supply of compressed air

3 Gripping force safety device
integrated springs for maintenance of gripping force

4 Polished stainless steel housing
for complete cleaning and corrosion resistance

5 Kinematics
crank system for centric gripping, also for large opening and closing movements

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

Function description

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

Options and special information

An extended temperature range up to 130 °C is available as a special version.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

Fittings

W/WK/KV/GK sensor cables

V sensor distributors

SDV-P pressure maintenance valves

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

General information on the series

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

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

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

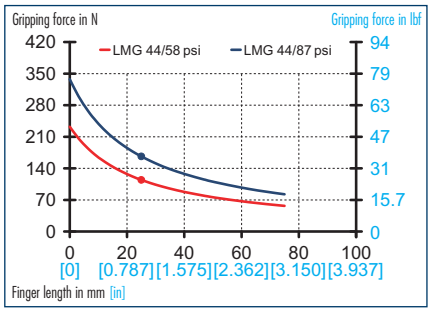
Version A (with monitoring)
Gripper status monitoring in version A is not an option, but a version by its own. The sensors are integrated in the gripper. Sensors can only be replaced by SCHUNK.

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

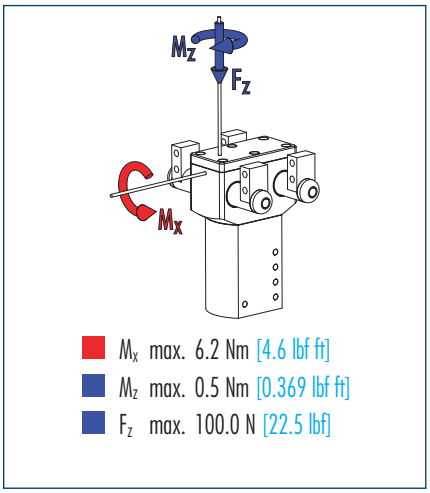
Closing and opening times
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

LMG 44

Gripping force, O.D. gripping



Finger load

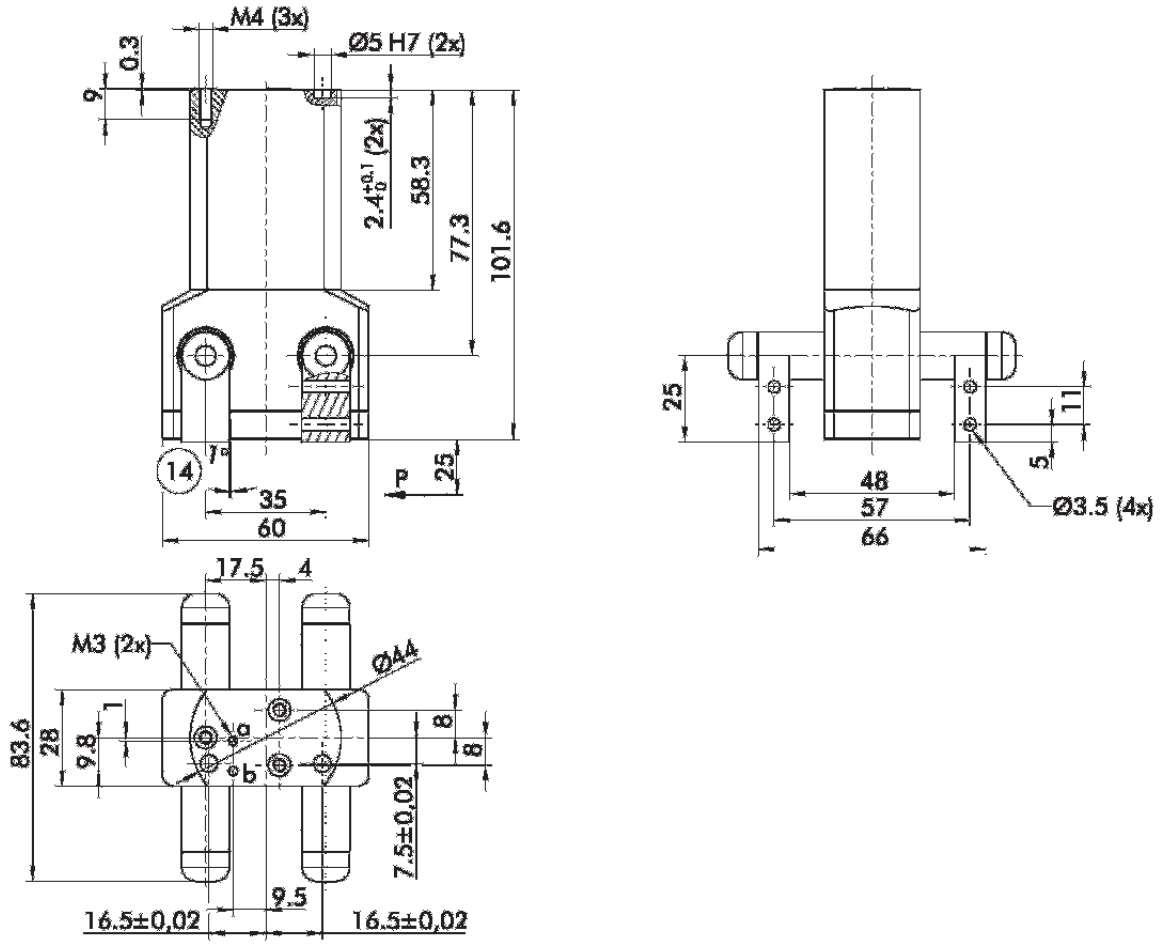


ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LMG 44	LMG 44 A
	ID	0372002	0372003
Opening angle per jaw	°	90.0	90.0
Overtravel angle per jaw	°	2.0	2.0
Closing moment	Nm [lbf ft]	8.2 [6.0]	8.2 [6.0]
Closing moment ensured by spring	Nm [lbf ft]	1.8 [1.3]	1.8 [1.3]
Weight	kg [lbs]	0.95 [2.09]	1.2 [2.65]
Recommended workpiece weight at P	kg [lbs]	0.9 [1.98]	0.9 [1.98]
Air consumption per double stroke	cm^3 [in^3]	16.0 [0.98]	16.0 [0.98]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]	6.5 [94]
Closing time	s	0.4	0.4
Opening time	s	0.5	0.5
Max. permitted finger length	mm [in]	50.0 [1.969]	50.0 [1.969]
Max. permitted weight per finger	kg [lbs]	0.09 [0.20]	0.09 [0.20]
IP rating		69K	69K
Min. ambient temperature	°C [°F]	-25.0 [-13]	-25.0 [-13]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]	0.1 [0.0039]

Main views

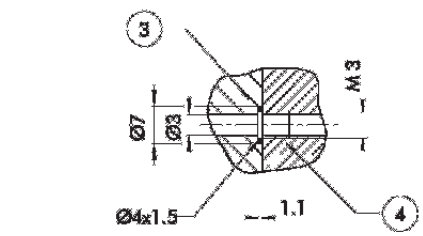


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

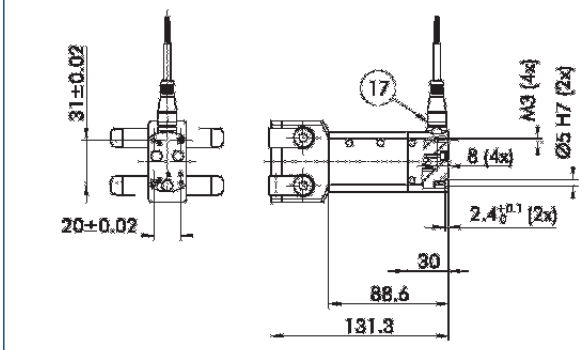
Hose-free direct connection



③ Adapter
④ Gripper

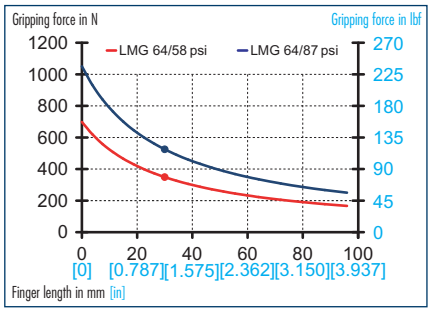
The direct connection is used for supplying compressed air to the gripper without vulnerable hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

LMG 44 (monitoring)

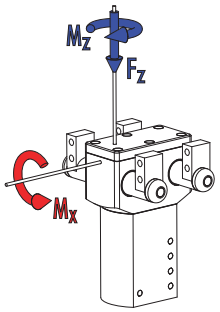


⑰ Cable outlet

Gripping force, O.D. gripping



Finger load



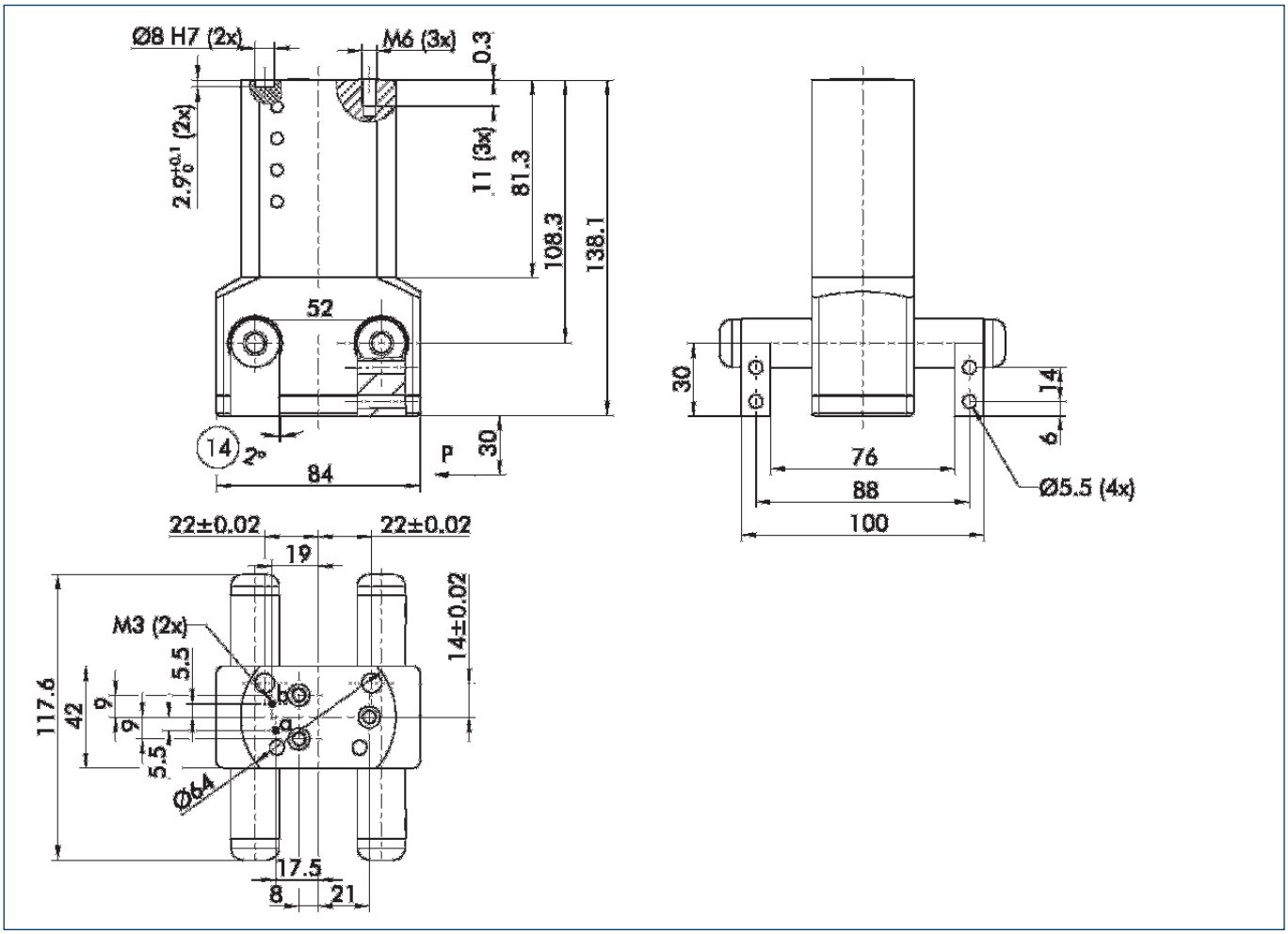
- M_x max. 13.5 Nm [10.0 lbf ft]
- M_z max. 1.3 Nm [1.0 lbf ft]
- F_z max. 280.0 N [63 lbf]

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

Technical data

Description		LMG 64	LMG 64 A
	ID	0372006	0372007
Opening angle per jaw	°	90.0	90.0
Overtravel angle per jaw	°	2.0	2.0
Closing moment	Nm [lbf ft]	31.5 [23]	31.5 [23]
Closing moment ensured by spring	Nm [lbf ft]	5.1 [3.8]	5.1 [3.8]
Weight	kg [lbs]	3.0 [6.61]	3.3 [7.28]
Recommended workpiece weight	kg [lbs]	2.2 [4.85]	2.2 [4.85]
Air consumption per double stroke	cm^3 [in^3]	57.0 [3.48]	57.0 [3.48]
Nominal pressure	bar [psi]	6.0 [87]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]	6.5 [94]
Closing time	s	0.4	0.4
Opening time	s	0.5	0.5
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]
Max. permitted weight per finger	kg [lbs]	0.26 [0.57]	0.26 [0.57]
IP rating		69K	69K
Min. ambient temperature	°C [°F]	-25.0 [-13]	-25.0 [-13]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]	0.1 [0.0039]

Main views

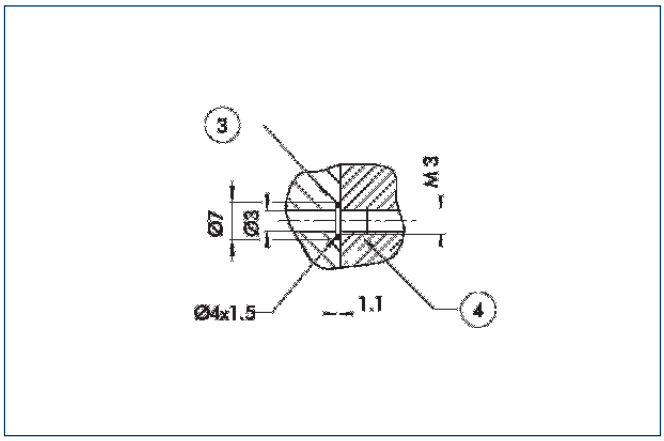


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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

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

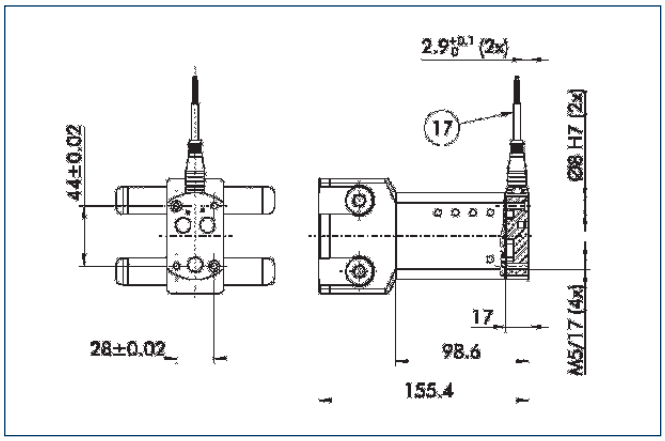
Hose-free direct connection



③ Adapter
④ Gripper

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

LMG 64 A (monitoring)



⑰ Cable outlet

Size
47

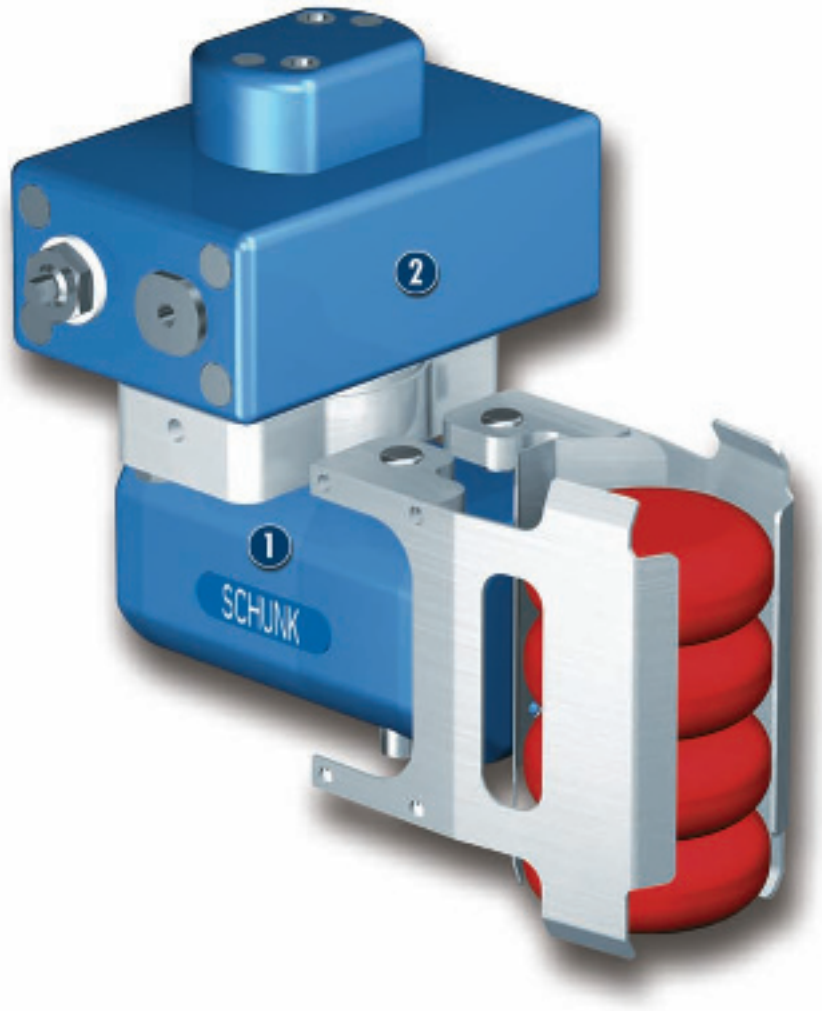
Weight
0.41 kg
14.46 oz

Gripping moment
0.95 Nm
0.701 lbf ft

Opening angle per finger
6° and 17.5°

Workpiece weight
0.03 kg
1.06 oz

Application example



Rotary gripper module for handling pieces of cheese stacked together

1 SG 47 Stack Gripper

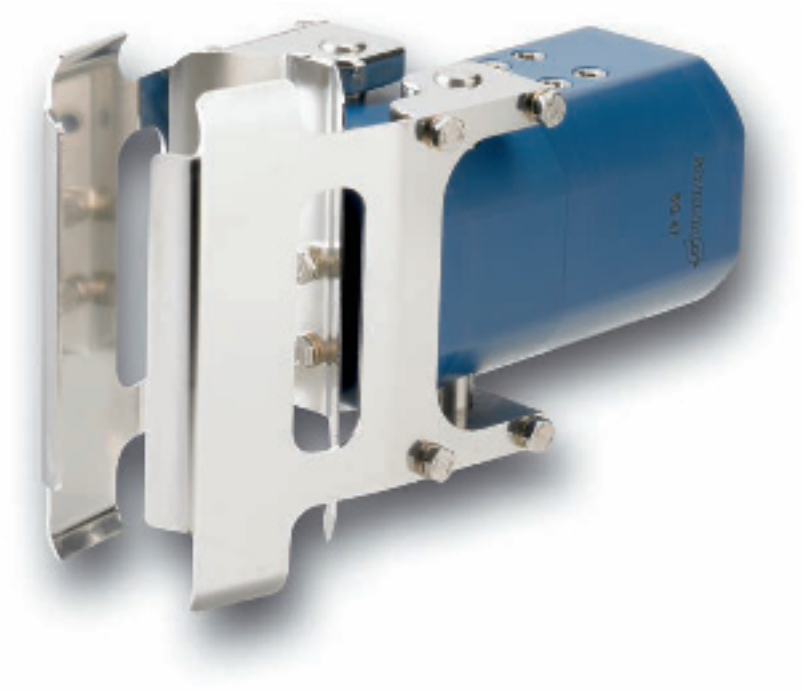
2 FSU-16-2 90° Rotary Actuator

Food Gripper

The SG gripper is a flexible, tough gripper module suitable for a diverse range of handling tasks in the food and packaging industry.

Area of application

The double angular gripping technique enables parts to be removed easily and with precision from disorderly situations. These gripper modules are used as an interface for the removal of food products from conveyor belts to packaging machines, for example.



Your advantages and benefits

Short closing and opening times
enabling the rapid changeover of workpieces

Use of food-compliant plastics and lubricants
guaranteeing absolute compatibility for handling food

Compact design and low weight
making them economical in use, without unnecessary interfering contours

Gripper jaws can be arranged differently for various products
making the gripper suitable for a varied range of applications

Kinematics
Lever mechanism for precise, centric gripping

General information on the series

Working principle
Lever mechanism

Actuation
Pneumatic, dry or lubricated compressed air (10 µm): Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Opening angle
12° and 35°

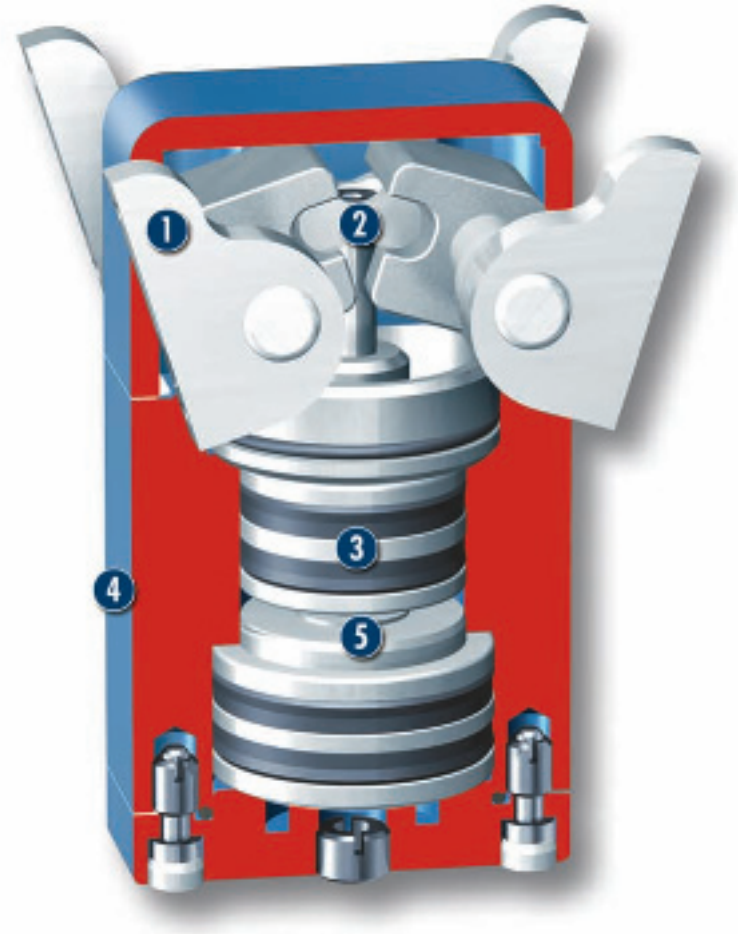
Base jaw material
Polished stainless steel

Housing material
PPS HPV polyphenylene sulfide approved by the FDA (Food and Drug Administration)

Warranty
24 months

Scope of delivery
assembly and operating manual with manufacturer's declaration

Sectional diagram



1 Polished stainless base fingers
for the hygienic connection of workpiece-specific gripper fingers

2 Kinematics
lever mechanism for synchronized gripping

3 Drive
double piston design providing two end positions and an intermediate position

4 Food-compliant plastic housing
for easy cleaning and a lightweight construction

5 Spring (optional)
installation of a spring for the purpose of piston return or maintenance of gripping force

Function description

The two pistons move the piston rod into a different position, depending on the application of pressure at connections A, B and C. The lever mechanism then transforms this movement into the "Closed" finger position or one of the two "Open" positions.

Options and special information

Individual products can be removed from and placed in stacks

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Fittings

SDV-P pressure maintenance valves

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

General information on the series

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

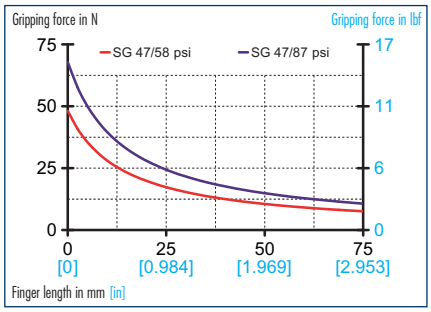
Finger length
is measured from the upper edge of the gripper housing in the direction of the main axis.

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

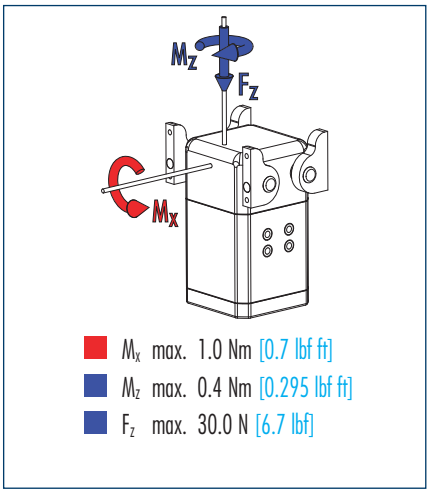
Workpiece weight
The recommended workpiece weight is calculated for a force-type connection with a friction coefficient of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

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

Gripping force, O.D. gripping



Finger load



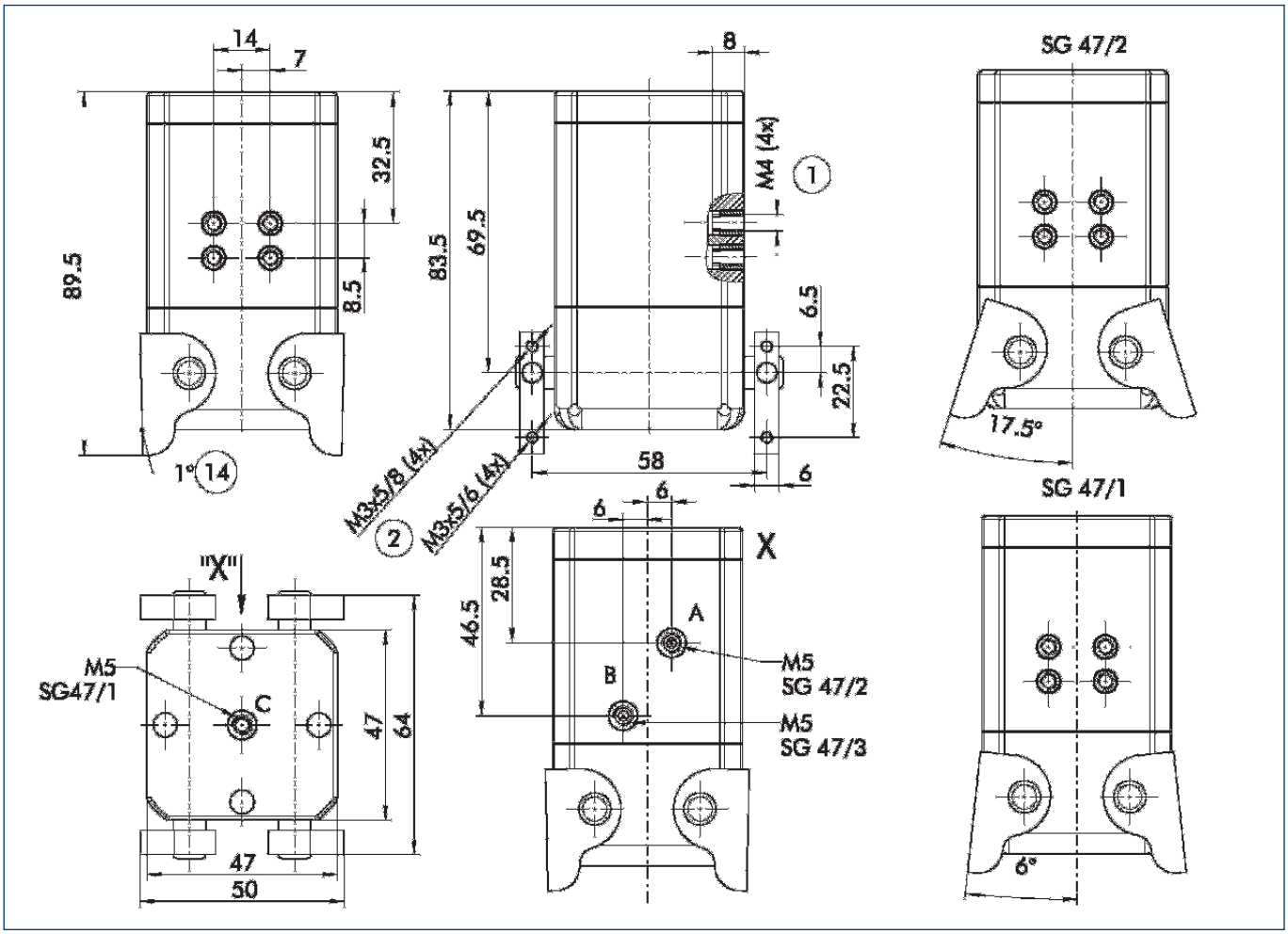
ⓘ Moments and forces apply per base jaw and may occur simultaneously. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SG 47
	ID	0372030
Opening angle per jaw	°	17.5
Spanning angle per jaw up to	°	1.0
Closing moment	Nm [lbf ft]	0.95 [0.701]
Closing moment ensured by spring	Nm [lbf ft]	
Weight	kg [oz]	0.41 [14.46]
Recommended workpiece weight	kg [oz]	0.11 [3.88]
Air consumption per double stroke	cm^3 [in^3]	2.8 [0.17]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	4.0 [58]
Maximum pressure	bar [psi]	6.5 [94]
Closing time	s	0.02
Opening time	s	0.02
Max. permitted finger length	mm [in]	50.0 [1.969]
Max. permitted weight per finger	kg [oz]	0.07 [2.47]
IP rating		69K
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.1 [0.0039]

ⓘ When the gripper opens to the intermediate position of 6° per jaw, the opening and closing times are halved.

Main views



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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
C,c Main/direct connection, center position
① Gripper connection
② Finger connection

DKG-RR

Size
44

Weight
0.11 kg
3.88 oz

Gripping force
30 N
6.7 lbf

Stroke per finger
3 mm
0.118 in

Workpiece weight
0.15 kg
5.29 oz

Application example

Automatically changeable end-of-arm tool for the insertion of small workpieces

1 DKG-RR 44
2-Finger Parallel Gripper

2 SWS-011 Quick-change System

Clean Room Gripper

Parallel gripper with integrated pump effect for removing any contamination that arises

Area of application

For use in clean rooms up to Class 1 (in accordance with US Fed. Study 209)

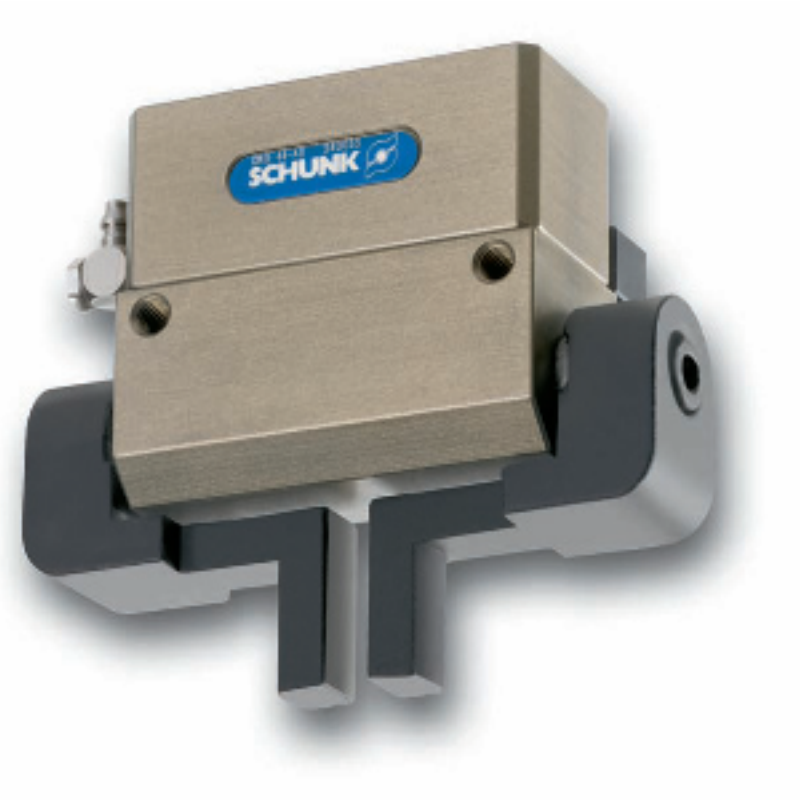
Your advantages and benefits

Pump effect
triggered by the gripping movement itself, for absorbing and pumping away all contamination arising in the gripper

Certification
Clean room class proven by independent experts

Sizes
Sizes 64 and 78 available on request

Mounting on two gripper sides
for universal and flexible gripper assembly



Fraunhofer IPA TESTED DEVICE
2-Finger Parallel Gripper
Type DKG 44
Report No. SC 0107-245

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

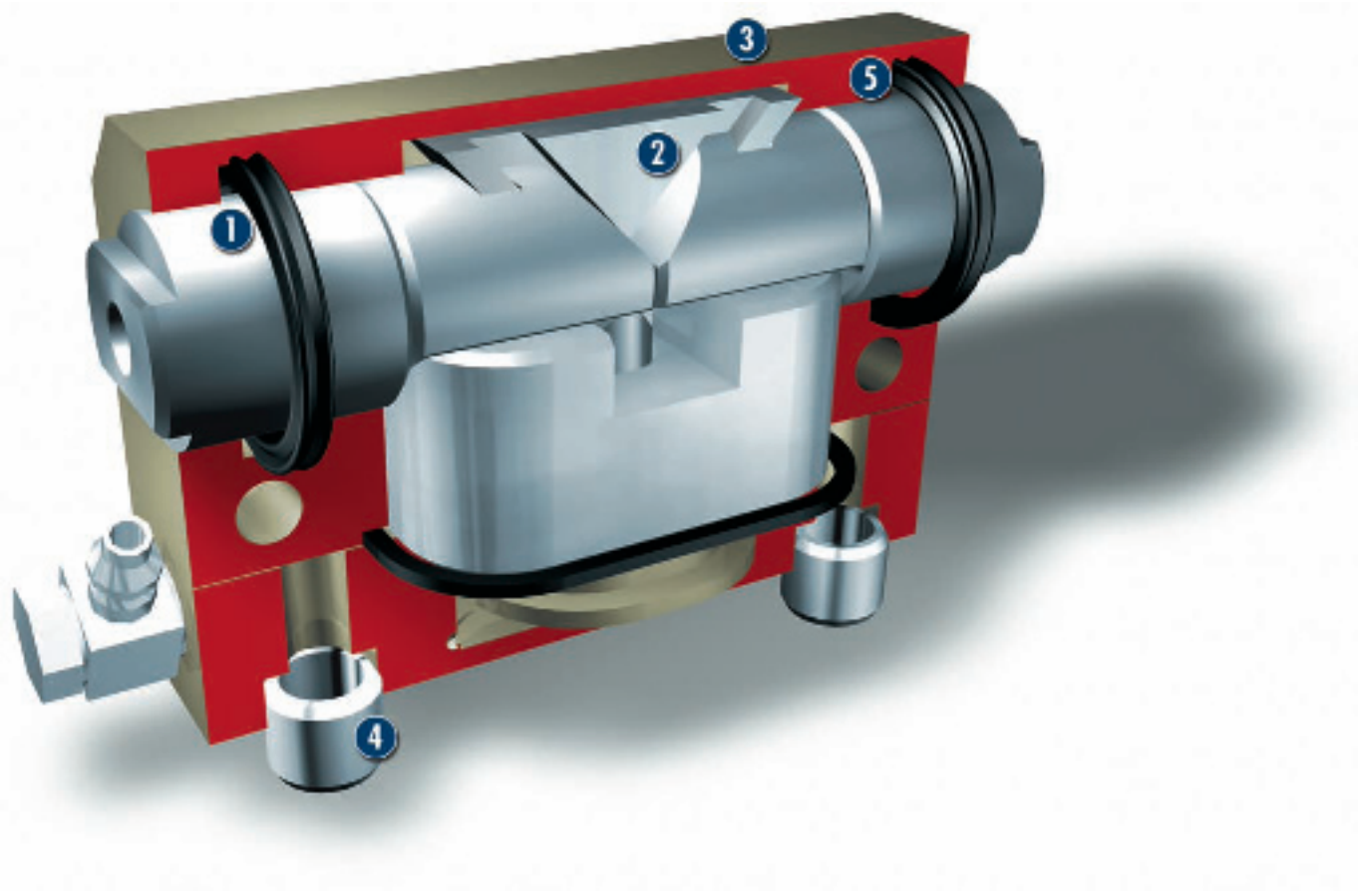
Base jaw material
Hardened stainless steel

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

Warranty
24 months

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

Sectional diagram



1 Base jaws
with circular guides for connecting workpiece-specific gripper fingers

2 Kinematics
wedge-hook system for high power transmission and synchronous gripping

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

4 Centering and mounting possibilities
for universal gripper assembly

5 Guidance
high-precision for gripping with minimum play

Function description

The piston is moved up by means of compressed air. Through its active surfaces, the wedge hook transforms this motion into the lateral, synchronous closing of both base jaws. While the jaws are closing, the excess air in the piston housing is removed from the clean room to the outside through the exhaust line. To open the gripper, the compressed air is removed and the integrated spring presses the gripper into the open position.

Options and special information

The DKG-RR is available in sizes 64 and 78 on request.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

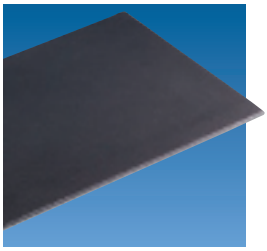
Fittings

IN inductive proximity switches

Quentes plastic inserts

W/WK/KV/GK sensor cables

HKI gripper pads



V sensor distributors

SDV-P pressure maintenance valves

Finger blanks

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

General information on the series

Gripping force

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

Finger length

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

Repeat accuracy

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

Workpiece weight

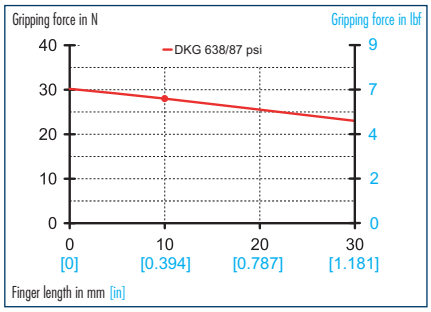
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

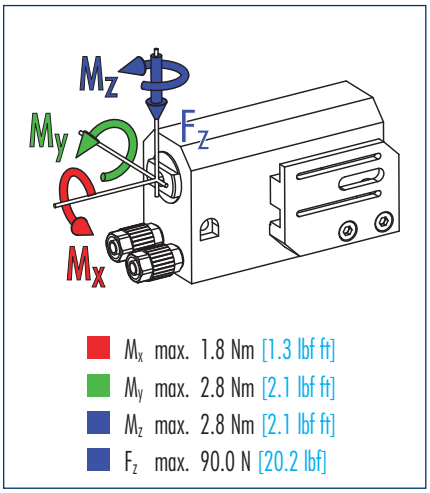
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

DKG-RR 44

Gripping force, O.D. gripping



Finger load



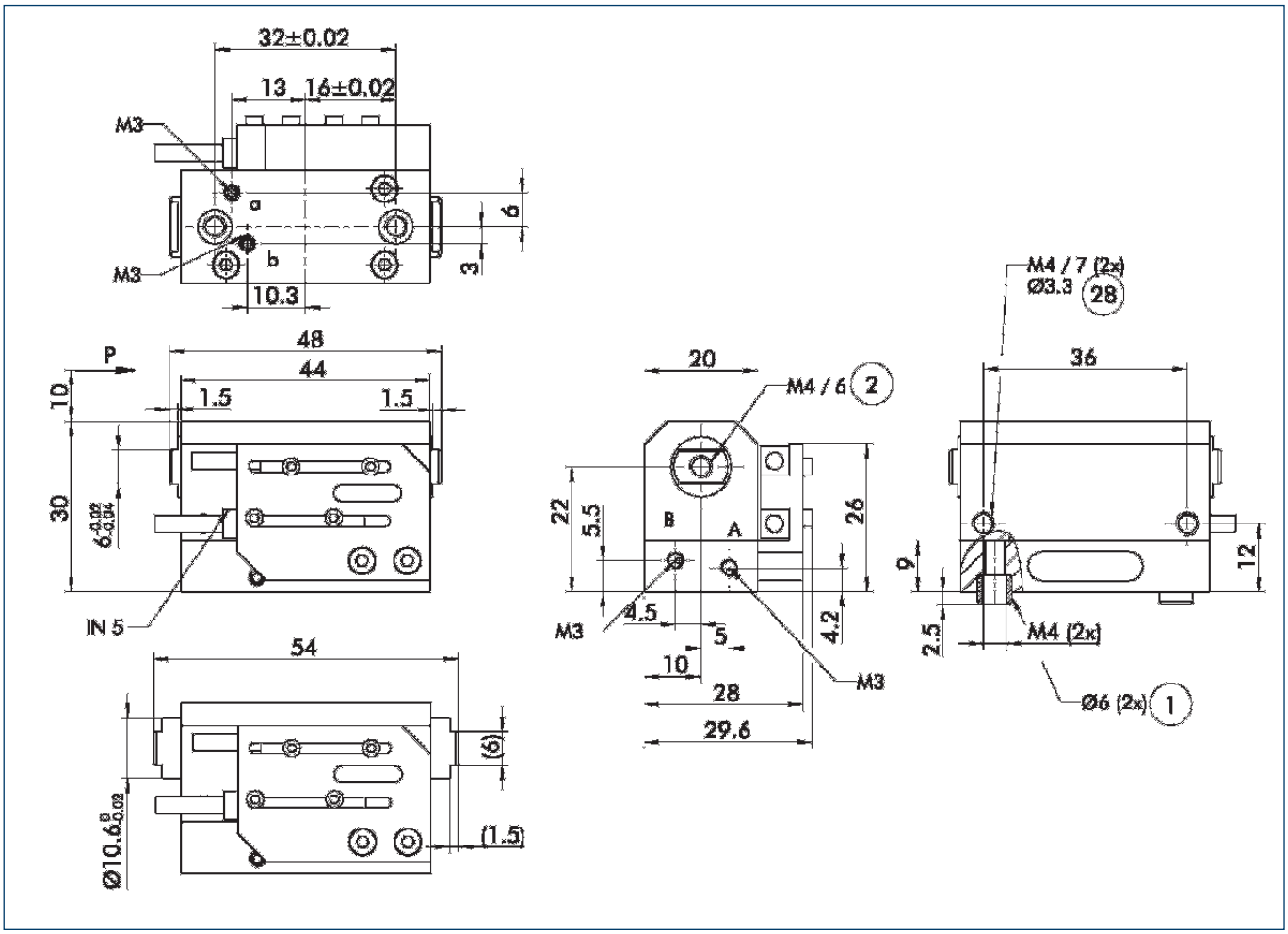
- M_x max. 1.8 Nm [1.3 lbf ft]
- M_y max. 2.8 Nm [2.1 lbf ft]
- M_z max. 2.8 Nm [2.1 lbf ft]
- F_z max. 90.0 N [20.2 lbf]

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

Technical data

Description		DKG-RR 44
	ID	0340027
Stroke per finger	mm [in]	3.0 [0.118]
Closing force	N [lbf]	30.0 [6.7]
Min. gripping force through spring	N [lbf]	10.0 [2.2]
Weight	kg [oz]	0.11 [3.88]
Recommended workpiece weight	kg [oz]	0.15 [5.29]
Air consumption per double stroke	cm^3 [in^3]	0.7 [0.04]
Nominal pressure	bar [psi]	6.0 [87]
Minimum pressure	bar [psi]	3.0 [44]
Maximum pressure	bar [psi]	6.0 [87]
Closing time	s	0.04
Opening time	s	0.12
Max. permitted finger length	mm [in]	30.0 [1.181]
Max. permitted weight per finger	kg [oz]	0.1 [3.53]
IP rating		30
Min. ambient temperature	°C [°F]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]
Repeat accuracy	mm [in]	0.02 [0.0008]
Clean room class according to US-Fed. Study 209		1

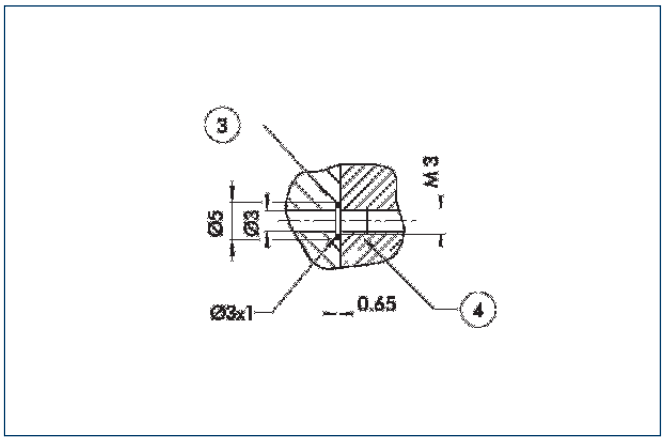
Main views



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

A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
㉘ Through-bore

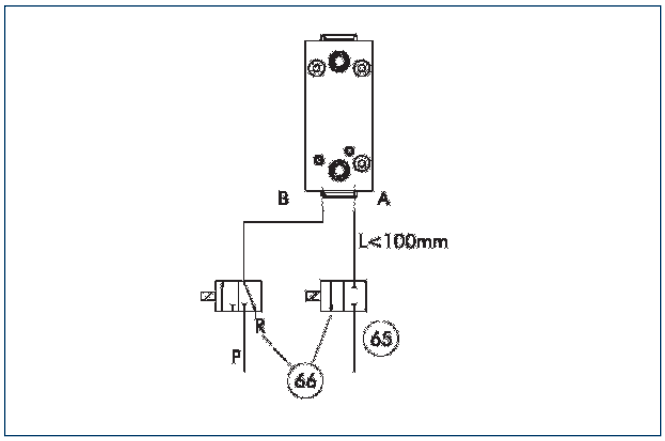
Hose-free direct connection



③ Adapter
④ Gripper

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

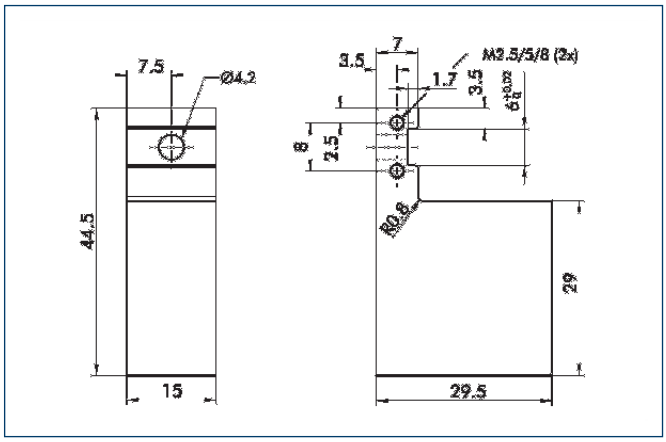
Wiring diagram



A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
⑥⑤ Exhaust line
⑥⑥ Simultaneous actuation

In the RR version, the gripper is closed by compressed air and opened by spring force (single-acting). With each gripping cycle, ambient air is absorbed and conveyed out of the clean room, thereby avoiding contamination.

Finger blanks

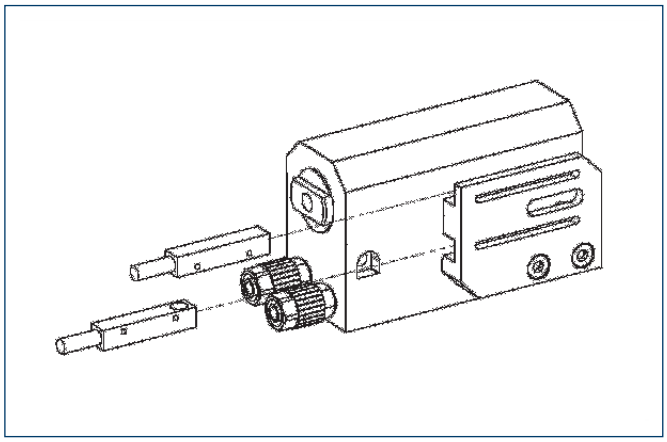


Finger blanks for customized subsequent machining, incl. screw connection diagram

Description	Material	Scope of delivery	ID
RB 44	Aluminum	2	0300281

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

Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

Description	ID	Recommended product
IN 5/S-M12	0301569	
IN 5/S-M8	0301469	•
INK 5/S	0301501	

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

Extension cables for proximity switches/magnetic switches

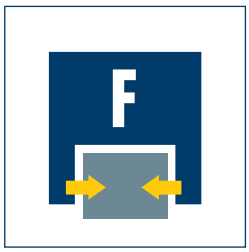
Description	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

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

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

Grippers with Spindle Interface

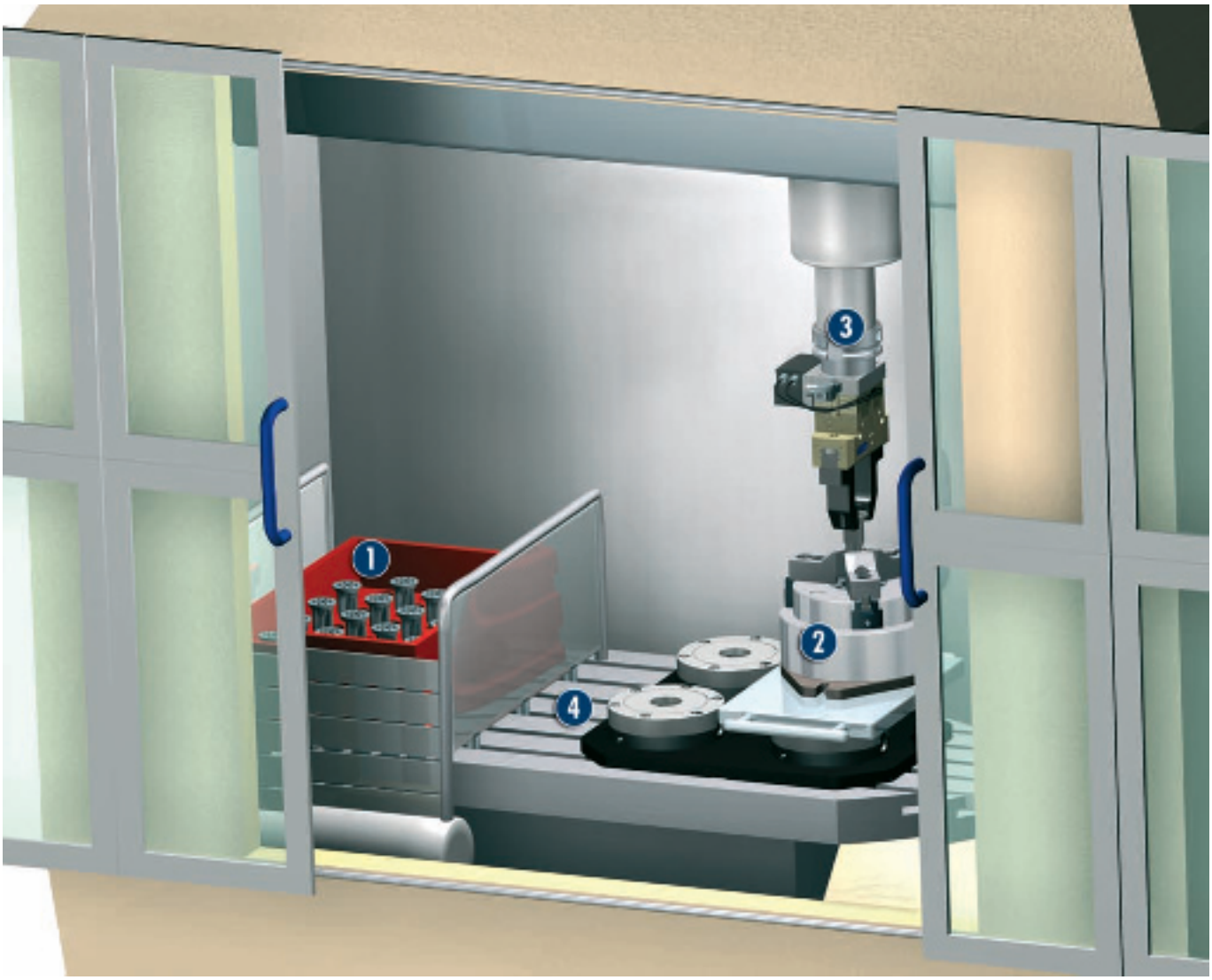
Weight
0.8 kg .. 3.9 kg
1.76 lbs .. 8.60 lbs



Gripping force
70 N .. 1020 N
15.7 lbf .. 229 lbf

Stroke per finger
4 mm .. 10 mm
0.157 in .. 0.394 in

Layout of the work area in the machining center



Example of a handling and machining sequence:

1. Gripper removes blank from magazine and feeds it to the clamping station – part is clamped
2. Station changes to tools, part is machined
3. Station changes to gripper
4. Finished part is placed in magazine, cycle commences again from the beginning

1. Workpiece magazine
2. Clamping device
   NSL 400 pneumatic clamping station with ROTA TPS 160 chuck
3. Gripper with spindle interface
   HSK-A 50 / PGN-plus 80
   with wireless RSS sensor system
4. Machine table

Universal Gripper

PGN-plus/PZN-plus universal gripper with HSK-A spindle interface according to DIN 69893, Capto C6 or KM

Area of application

Unit for the fully automated loading and unloading of machining centers through their own axes

Your advantages and benefits

Low-price module
comprising a PGN-/PZN-plus universal gripper and a spindle interface

Common spindle interfaces (HSK-A, Capto C6, KM)
for the fully automated loading of the machining center through its own axes. Further spindle interfaces for use in your machine available on request.

Fast, automated gripper changeover
from tool magazine

Fully automated workpiece changeover
without the use of robots

General information on the series

Working principle
Pressure distributor and wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

Base jaw material
Blackened steel

Spindle interface material
Heat-treated, hot-work steel

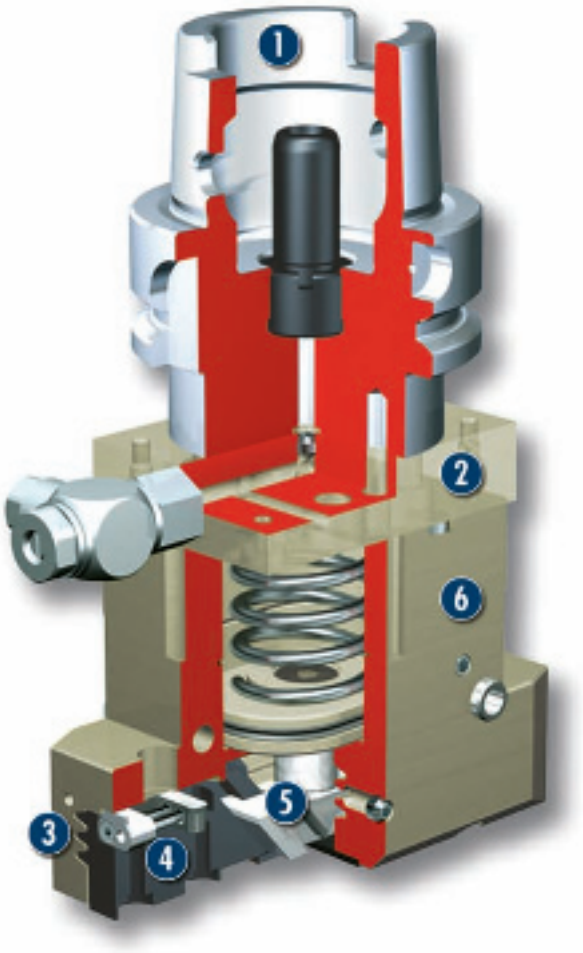
Actuation
Hydraulic via internal coolant supply (filtered, max. particle size 30 µm) or pneumatic via filtered compressed air (10 µm): Dry, lubricated or non-lubricated. Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty
24 months

Scope of delivery
Centering sleeves, assembly and operating manual

Grippers with Spindle Interface

Sectional diagram



1 HSK-A 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 moment capabilities of base jaw guidance with minimum play for long fingers

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

5 Kinematics
wedge-hook principle for high power transmission and synchronous gripping

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

Function 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 process, the gripper continuously lets out coolant via the flow control valve on the side.

Options and special information

Please be aware that when used in extreme conditions (e.g. coolant, casting or grinding dust), the life of the products may be considerably shortened.
Other workpiece interfaces available on request. Please note that connection A of the gripper must not be hermetically sealed.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves

HUE protective cover

BSWS quick-change jaw system

Finger blanks

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

General information on the series

Gripping force
is the arithmetic total of the gripping force applied to each base jaw at distance P (see illustration), measured from the upper edge of the gripper. The gripping force is stated at a set effective pressure of 6 bar.

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

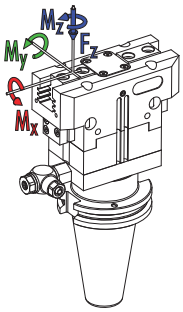
Repeat accuracy
is defined as the spread of the limit position after 100 consecutive strokes.

Closing and opening times
The closing and opening times depend greatly on the flow and pressure of the coolant supply and on the resulting flow resistance.

Gripping principle
Grippers for I.D. gripping are available on request.

CAT 40/PGN-plus

Finger load



	CAT 40 PGN-plus 50-1 IS	CAT 40 PGN-plus 64-1 IS	CAT 40 PGN-plus 80-1 IS
M_x max.	20.0 Nm [14.8 lbf ft]	40.0 Nm [30 lbf ft]	60.0 Nm [44 lbf ft]
M_y max.	25.0 Nm [18 lbf ft]	60.0 Nm [44 lbf ft]	95.0 Nm [70 lbf ft]
M_z max.	10.0 Nm [7.4 lbf ft]	40.0 Nm [30 lbf ft]	55.0 Nm [41 lbf ft]
F_z max.	500.0 N [112 lbf]	1100.0 N [247 lbf]	1500.0 N [337 lbf]

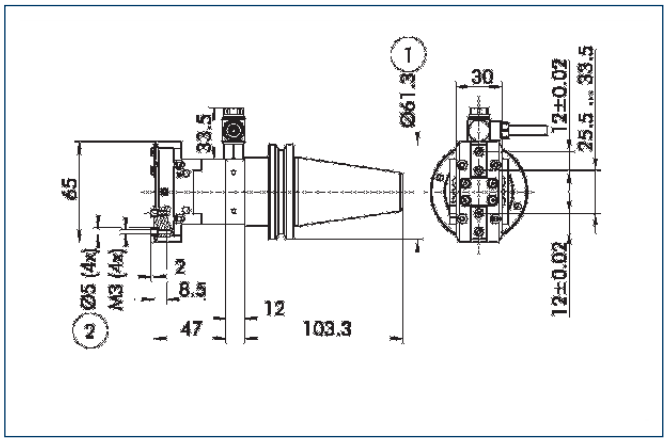
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		CAT 40/PGN-plus 50-1 IS	CAT 40/PGN-plus 64-1 IS	CAT 40/PGN-plus 80-1 IS
	ID	37000361	37000362	37000363
Stroke per jaw	mm [in]	4.0 [0.157]	6.0 [0.236]	8.0 [0.315]
Gripping force	N [lbf]	70.0 - 95.0 [15.7 - 21.4]	115.0 - 160.0 [26 - 36]	180.0 - 260.0 [40 - 58]
Gripping principle		O.D. gripping	O.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	64.0 [2.520]	80.0 [3.150]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.18 [0.40]	0.35 [0.77]	0.6 [1.32]
Weight	kg [lbs]	1.2 [2.65]	1.4 [3.09]	1.94 [4.28]
Max. permitted speed	min^{-1}	20	20	20
IP class		40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose. Grippers with the „IS" designation are for O.D. gripping, those with the „AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

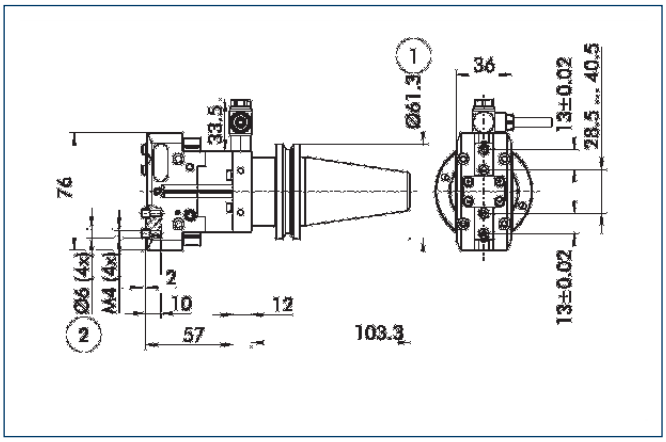
CAT 40/PGN-plus 50-1 IS



① Gripper connection
② Finger connection

ⓘ 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.

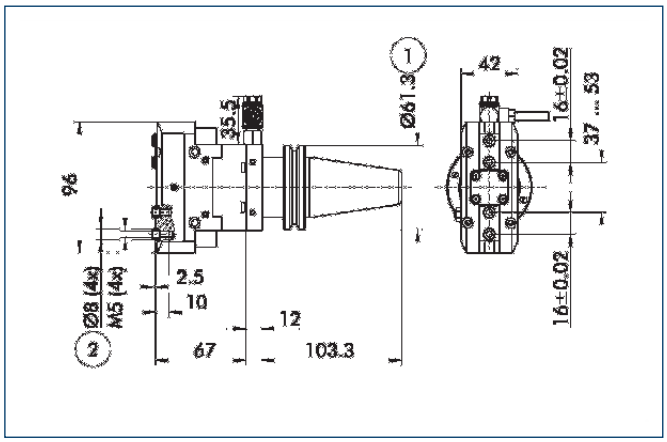
CAT 40/PGN-plus 64-1 IS



① Gripper connection
② Finger connection

ⓘ 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.

CAT 40/PGN-plus 80-1 IS

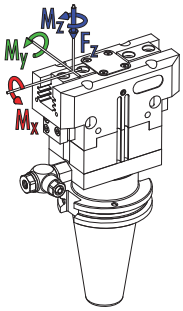


① Gripper connection
② Finger connection

ⓘ 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.

CAT 50/PGN-plus

Finger load



	CAT 50 PGN-plus 80-1 IS	CAT 50 PGN-plus 100-1 IS
M_x max.	60.0 Nm [44 lbf ft]	80.0 Nm [59 lbf ft]
M_y max.	95.0 Nm [70 lbf ft]	100.0 Nm [74 lbf ft]
M_z max.	55.0 Nm [41 lbf ft]	70.0 Nm [52 lbf ft]
F_z max.	1500.0 N [337 lbf]	2000.0 N [450 lbf]

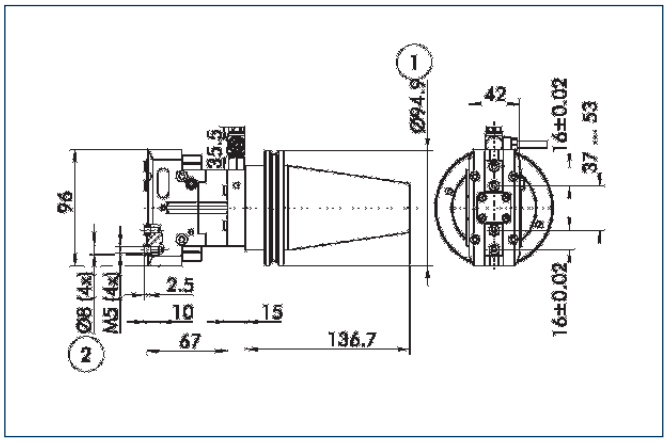
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		CAT 50/PGN-plus 80-1 IS	CAT 50/PGN-plus 100-1 IS
	ID	37000364	37000365
Stroke per jaw	mm [in]	8.0 [0.315]	10.0 [0.394]
Gripping force	N [lbf]	180.0 - 260.0 [40 - 58]	280.0 - 420.0 [63 - 94]
Gripping principle		O.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	100.0 [3.937]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]	1.1 [2.43]
Weight	kg [lbs]	3.1 [6.83]	3.68 [8.11]
Max. permitted speed	min^{-1}	20	20
IP class		40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose. Grippers with the „IS" designation are for O.D. gripping, those with the „AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

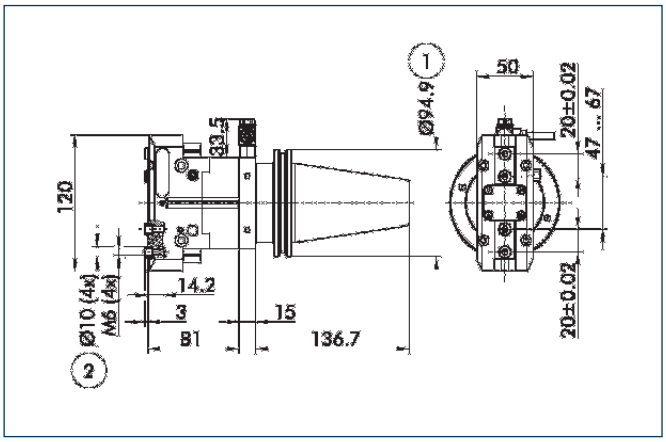
CAT 50/PGN-plus 80-1 IS



① Gripper connection
② Finger connection

ⓘ 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.

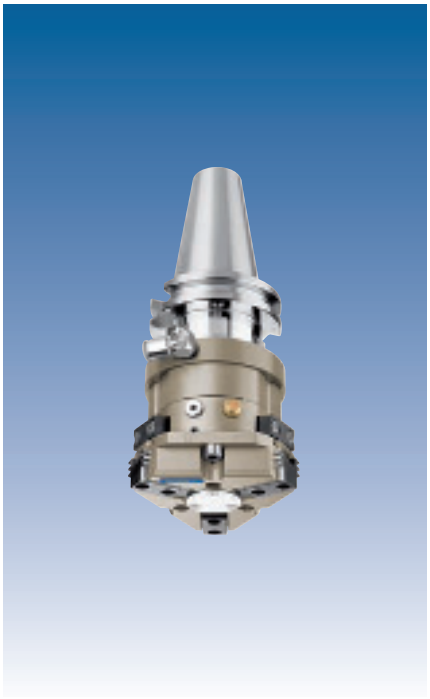
CAT 50/PGN-plus 100-1 IS



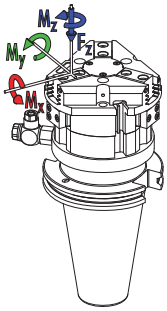
① Gripper connection
② Finger connection

ⓘ 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.

CAT 40/PZN-plus



Finger load



	CAT 40 PZN-plus 64-1 IS	CAT 40 PZN-plus 80-1 IS
M_x max.	40.0 Nm [30 lbf ft]	60.0 Nm [44 lbf ft]
M_y max.	60.0 Nm [44 lbf ft]	95.0 Nm [70 lbf ft]
M_z max.	40.0 Nm [30 lbf ft]	55.0 Nm [41 lbf ft]
F_z max.	1100.0 N [247 lbf]	1500.0 N [337 lbf]

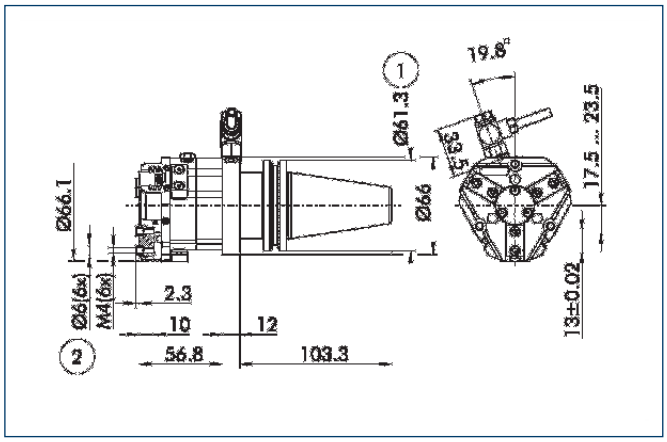
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		CAT 40/PZN-plus 64-1 IS	CAT 40/PZN-plus 80-1 IS
	ID	37000366	37000367
Stroke per jaw	mm [in]	6.0 [0.236]	8.0 [0.315]
Gripping force	N [lbf]	305.0 - 360.0 [69 - 81]	460.0 - 630.0 [103 - 142]
Gripping principle		O.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	80.0 [3.150]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	0.6 [1.32]
Weight	kg [lbs]	1.6 [3.53]	2.1 [4.63]
Max. permitted speed	min^{-1}	20	20
IP class		40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose. Grippers with the „IS" designation are for O.D. gripping, those with the „AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

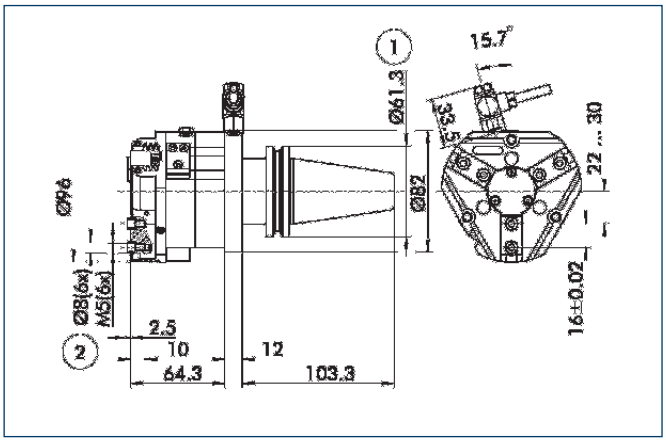
CAT 40/PZN-plus 64-1 IS



① Gripper connection
② Finger connection

ⓘ 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.

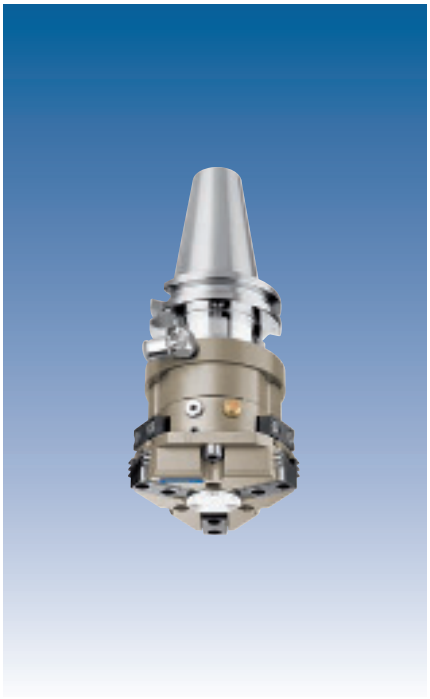
CAT 40/PZN-plus 80-1 IS



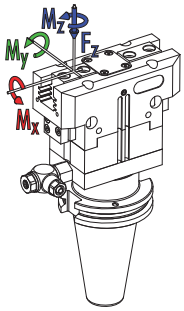
① Rotary unit connection
② Finger connection

ⓘ 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.

CAT 50/PZN-plus



Finger load



	CAT 50 PZN-plus 64-1 IS	CAT 50/ PZN-plus 80-1 IS	CAT 50/ PZN-plus 100-1 IS
Mx max.	40.0 Nm [30 lbf ft]	60.0 Nm [44 lbf ft]	80.0 Nm [59 lbf ft]
My max.	60.0 Nm [44 lbf ft]	95.0 Nm [70 lbf ft]	100.0 Nm [74 lbf ft]
Mz max.	40.0 Nm [30 lbf ft]	55.0 Nm [41 lbf ft]	70.0 Nm [52 lbf ft]
Fz max.	1100.0 N [247 lbf]	1500.0 N [337 lbf]	2000.0 N [450 lbf]

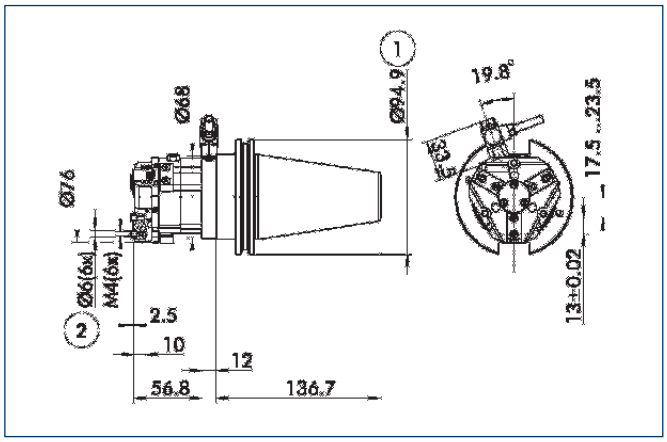
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		CAT 50/PZN-plus 64-1 IS	CAT 50/PZN-plus 80-1 IS	CAT 50/PZN-plus 100-1 IS
	ID	37000368	37000369	37000370
Stroke per jaw	mm [in]	6.0 [0.236]	8.0 [0.315]	10.0 [0.394]
Gripping force	N [lbf]	305.0 - 360.0 [69 - 81]	460.0 - 630.0 [103 - 142]	710.0 - 1020.0 [160 - 229]
Gripping principle		O.D. gripping	O.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	80.0 [3.150]	100.0 [3.937]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	0.6 [1.32]	1.1 [2.43]
Weight	kg [lbs]	2.8 [6.17]	3.3 [7.28]	4.3 [9.48]
Max. permitted speed	min^{-1}	20	20	20
IP class		40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose. Grippers with the „IS" designation are for O.D. gripping, those with the „AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

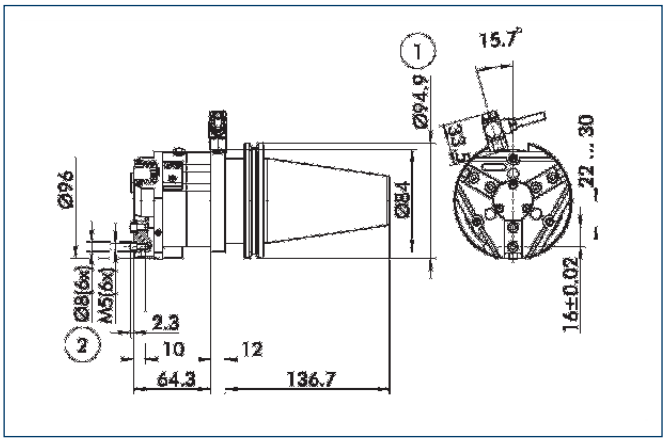
CAT 50/PZN-plus 64-1 IS



① Gripper connection
② Finger connection

ⓘ 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.

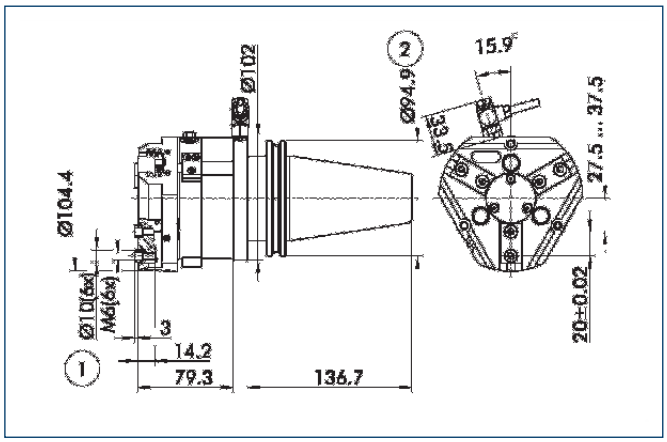
CAT 50/PZN-plus 80-1 IS



① Gripper connection
② Finger connection

ⓘ 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.

CAT 50/PZN-plus 100-1 IS

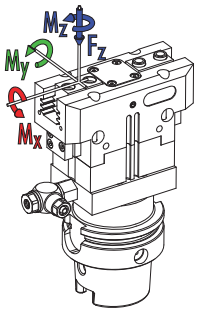


① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 50/PGN-plus

Finger load



	HSK-A 50 PGN-plus 50	HSK-A 50 PGN-plus 64	HSK-A 50 PGN-plus 80
M_x max.	20.0 Nm [14.8 lbf ft]	40.0 Nm [30 lbf ft]	60.0 Nm [44 lbf ft]
M_y max.	25.0 Nm [18 lbf ft]	60.0 Nm [44 lbf ft]	95.0 Nm [70 lbf ft]
M_z max.	10.0 Nm [7.4 lbf ft]	40.0 Nm [30 lbf ft]	55.0 Nm [41 lbf ft]
F_z max.	500.0 N [112 lbf]	1100.0 N [247 lbf]	1500.0 N [337 lbf]

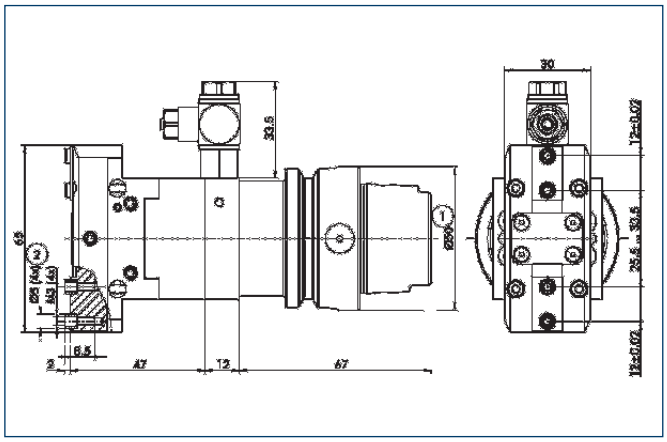
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		HSK-A 50 PGN-plus 50 AS	HSK-A 50 PGN-plus 50 IS	HSK-A 50 PGN-plus 64 AS	HSK-A 50 PGN-plus 64 IS	HSK-A 50 PGN-plus 80 AS	HSK-A 50 PGN-plus 80 IS
	ID	0308505	0308500	0308506	0308501	0308507	0308502
Stroke per jaw	mm [in]	4.0 [0.157]	4.0 [0.157]	6.0 [0.236]	6.0 [0.236]	8.0 [0.315]	8.0 [0.315]
Gripping force	N [lbf]	75.0 - 100.0 [16.9 - 22.5]	70.0 - 95.0 [15.7 - 21.4]	135.0 - 180.0 [30 - 40]	115.0 - 160.0 [26 - 36]	230.0 - 310.0 [52 - 70]	180.0 - 260.0 [40 - 58]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	64.0 [2.520]	64.0 [2.520]	80.0 [3.150]	80.0 [3.150]	100.0 [3.937]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.18 [0.40]	0.18 [0.40]	0.35 [0.77]	0.35 [0.77]	0.6 [1.32]	0.6 [1.32]
Weight	kg [lbs]	0.8 [1.76]	0.8 [1.76]	1.0 [2.20]	1.0 [2.20]	1.54 [3.40]	1.54 [3.40]
Max. permitted speed	min^{-1}	20	20	20	20	20	20
IP rating		40	40	40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

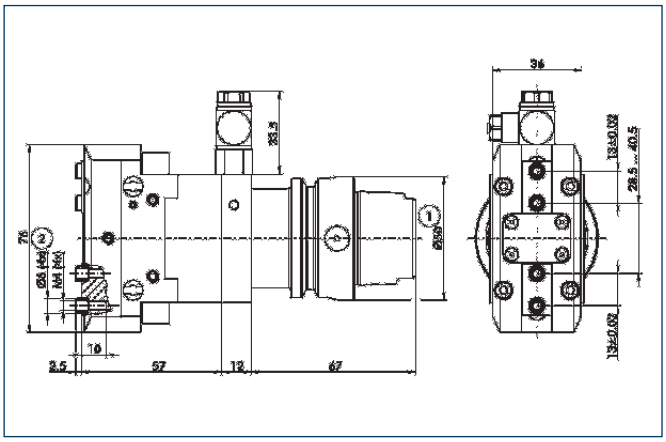
HSK-A 50 PGN-plus 50 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

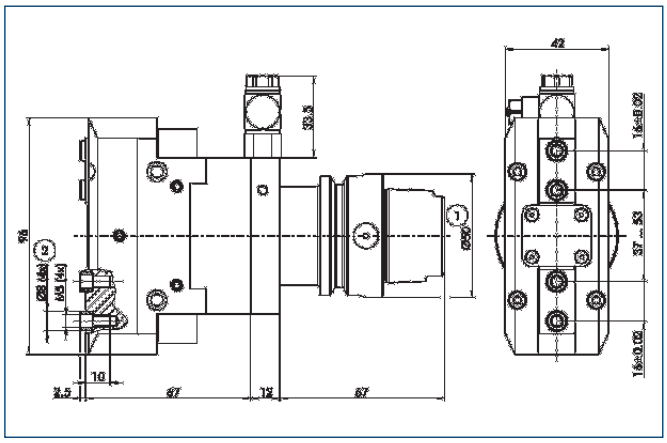
HSK-A 50 PGN-plus 64 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 50 PGN-plus 80 AS/IS

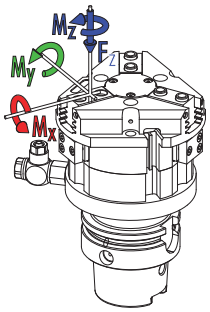


① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 50/PZN-plus

Finger load



	HSK-A 50 PZN-plus 64	HSK-A 50 PZN-plus 80
M_x max.	40.0 Nm [30 lbf ft]	60.0 Nm [44 lbf ft]
M_y max.	60.0 Nm [44 lbf ft]	95.0 Nm [70 lbf ft]
M_z max.	40.0 Nm [30 lbf ft]	55.0 Nm [41 lbf ft]
F_z max.	1100.0 N [247 lbf]	1500.0 N [337 lbf]

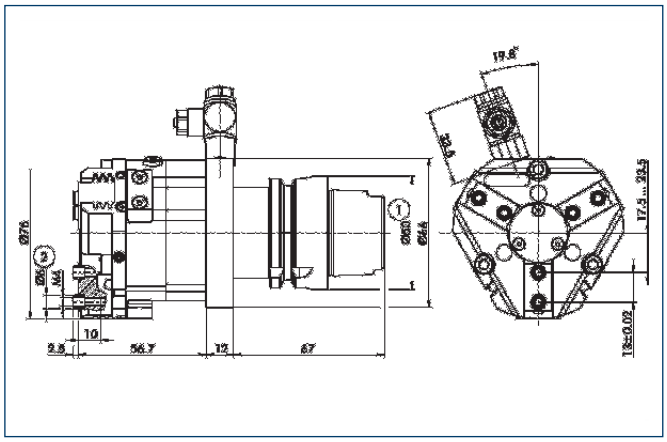
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		HSK-A 50 PZN-plus 64 AS	HSK-A 50 PZN-plus 64 IS	HSK-A 50 PZN-plus 80 AS	HSK-A 50 PZN-plus 80 IS
	ID	0308516	0308511	0308517	0308512
Stroke per jaw	mm [in]	6.0 [0.236]	6.0 [0.236]	8.0 [0.315]	8.0 [0.315]
Gripping force	N [lbf]	360.0 - 455.0 [81 - 102]	305.0 - 360.0 [69 - 81]	555.0 - 730.0 [125 - 164]	460.0 - 630.0 [103 - 142]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]	100.0 [3.937]	100.0 [3.937]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	0.35 [0.77]	0.6 [1.32]	0.6 [1.32]
Weight	kg [lbs]	1.2 [2.65]	1.2 [2.65]	1.7 [3.75]	1.7 [3.75]
Max. permitted speed	min^{-1}	20	20	20	20
IP rating		40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

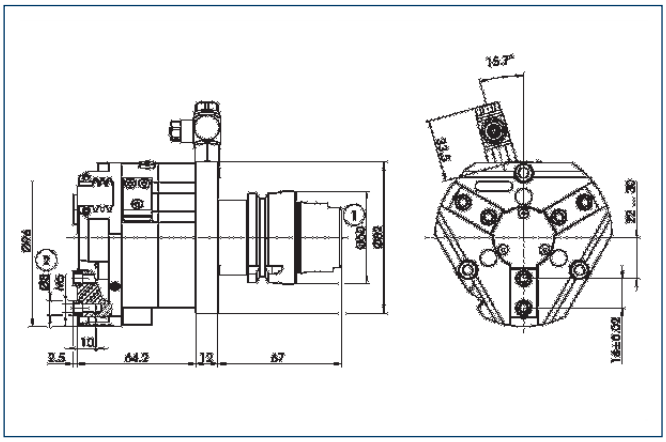
HSK-A 50 PZN-plus 64 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 50 PZN-plus 80 AS/IS

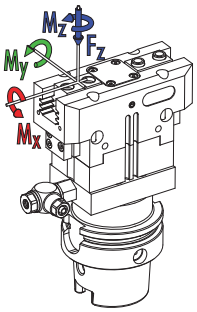


① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 63/PGN-plus

Finger load



		HSK-A 63 PGN-plus 80	HSK-A 63 PGN-plus 100
M_x	max.	60.0 Nm [44 lbf ft]	80.0 Nm [59 lbf ft]
M_y	max.	95.0 Nm [70 lbf ft]	100.0 Nm [74 lbf ft]
M_z	max.	55.0 Nm [41 lbf ft]	70.0 Nm [52 lbf ft]
F_z	max.	1500.0 N [337 lbf]	2000.0 N [450 lbf]

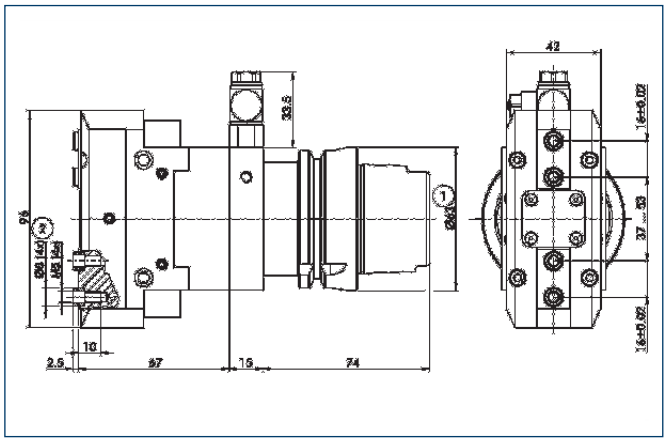
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		HSK-A 63 PGN-plus 80 AS	HSK-A 63 PGN-plus 80 IS	HSK-A 63 PGN-plus 100 AS	HSK-A 63 PGN-plus 100 IS
	ID	0308527	0308522	0308528	0308523
Stroke per jaw	mm [in]	8.0 [0.315]	8.0 [0.315]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	230.0 - 310.0 [52 - 70]	180.0 - 260.0 [40 - 58]	345.0 - 485.0 [78 - 109]	280.0 - 420.0 [63 - 94]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	100.0 [3.937]	100.0 [3.937]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]	0.6 [1.32]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	1.9 [4.19]	1.9 [4.19]	2.48 [5.47]	2.48 [5.47]
Max. permitted speed	min^{-1}	20	20	20	20
IP rating		40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

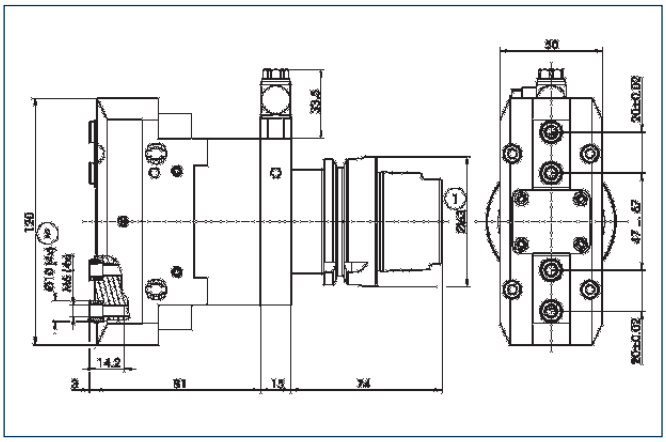
HSK-A 63 PGN-plus 80 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 63 PGN-plus 100 AS/IS

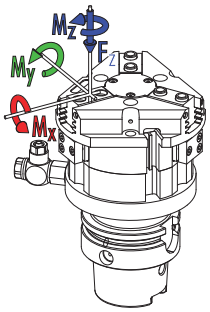


① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 63/PZN-plus

Finger load



	HSK-A 63 PZN-plus 64	HSK-A 63 PZN-plus 80	HSK-A 63 PZN-plus 100
M_x max.	40.0 Nm [30 lbf ft]	60.0 Nm [44 lbf ft]	80.0 Nm [59 lbf ft]
M_y max.	60.0 Nm [44 lbf ft]	95.0 Nm [70 lbf ft]	100.0 Nm [74 lbf ft]
M_z max.	40.0 Nm [30 lbf ft]	55.0 Nm [41 lbf ft]	70.0 Nm [52 lbf ft]
F_z max.	1100.0 N [247 lbf]	1500.0 N [337 lbf]	2000.0 N [450 lbf]

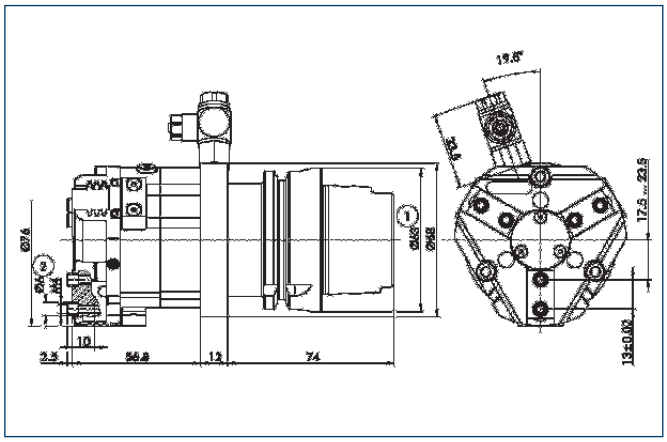
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		HSK-A 63 PZN-plus 64 AS	HSK-A 63 PZN-plus 64 IS	HSK-A 63 PZN-plus 80 AS	HSK-A 63 PZN-plus 80 IS	HSK-A 63 PZN-plus 100 AS	HSK-A 63 PZN-plus 100 IS
	ID	0308536	0308531	0308537	0308532	0308538	0308533
Stroke per jaw	mm [in]	6.0 [0.236]	6.0 [0.236]	8.0 [0.315]	8.0 [0.315]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	360.0 - 455.0 [81 - 102]	305.0 - 360.0 [69 - 81]	555.0 - 730.0 [125 - 164]	460.0 - 630.0 [103 - 142]	850.0 - 1200.0 [191 - 270]	710.0 - 1020.0 [160 - 229]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]	100.0 [3.937]	100.0 [3.937]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	0.35 [0.77]	0.6 [1.32]	0.6 [1.32]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	1.6 [3.53]	1.6 [3.53]	2.1 [4.63]	2.1 [4.63]	3.1 [6.83]	3.1 [6.83]
Max. permitted speed	min-1	20	20	20	20	20	20
IP rating		40	40	40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

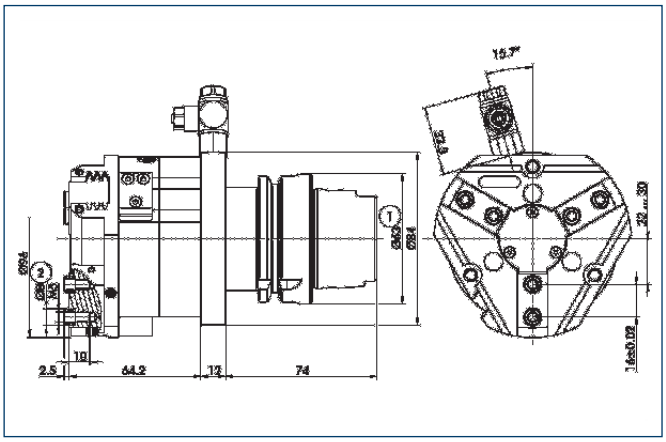
HSK-A 63 PZN-plus 64 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

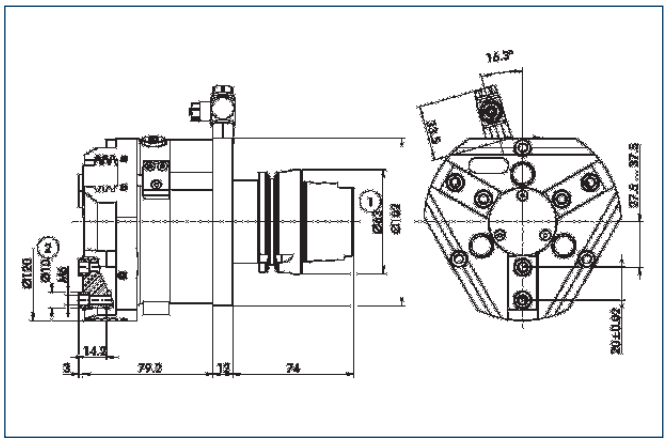
HSK-A 63 PZN-plus 80 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 63 PZN-plus 100 AS/IS

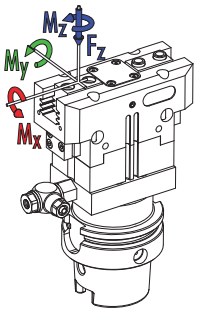


① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 100/PGN-plus

Finger load



HSK-A 100

PGN-plus 100

- M_x max. 80.0 Nm [59 lbf ft]
- M_y max. 100.0 Nm [74 lbf ft]
- M_z max. 70.0 Nm [52 lbf ft]
- F_z max. 2000.0 N [450 lbf]

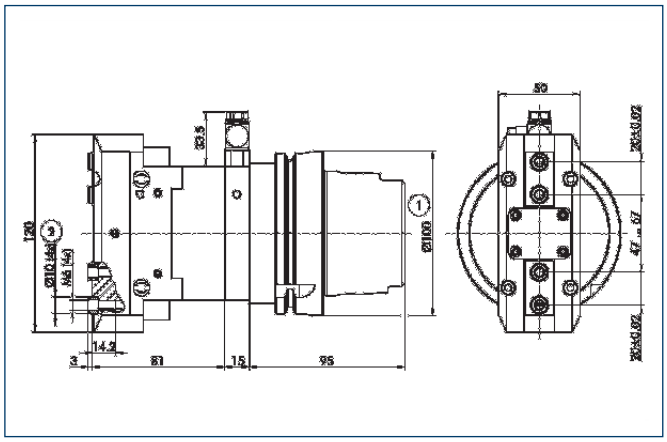
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		HSK-A 100 PGN-plus 100 AS	HSK-A 100 PGN-plus 100 IS
	ID	0308548	0308543
Stroke per jaw	mm [in]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	345.0 - 485.0 [78 - 109]	280.0 - 420.0 [63 - 94]
Gripping principle		I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	3.9 [8.60]	3.9 [8.60]
Max. permitted speed	min^{-1}	20	20
IP rating		40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

HSK-A 100 PGN-plus 100 AS/IS

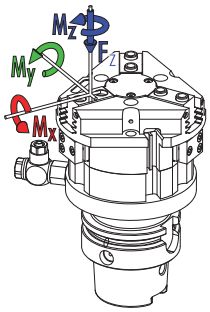


① Gripper connection
② Finger connection

ⓘ 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.

HSK-A 100/PZN-plus

Finger load



HSK-A 100
PZN-plus 100 IS

- M_x max. 80.0 Nm [59 lbf ft]
- M_y max. 100.0 Nm [74 lbf ft]
- M_z max. 70.0 Nm [52 lbf ft]
- F_z max. 2000.0 N [450 lbf]

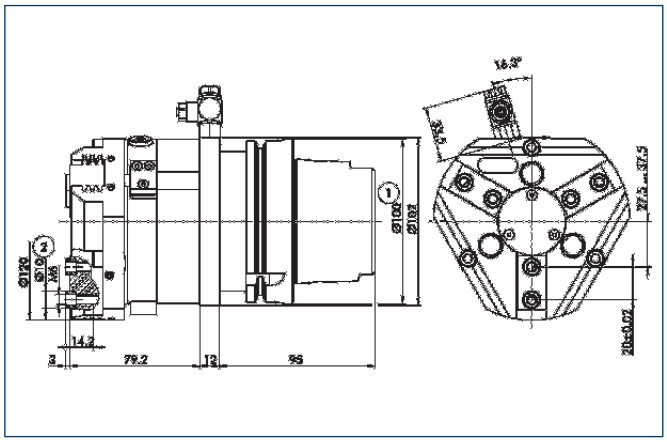
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		HSK-A 100 PZN-plus 100 AS	HSK-A 100 PZN-plus 100 IS
	ID	0308558	0308553
Stroke per jaw	mm [in]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	850.0 - 1200.0 [191 - 270]	710.0 - 1020.0 [160 - 229]
Gripping principle		I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	4.9 [10.80]	4.9 [10.80]
Max. permitted speed	min^{-1}	20	20
IP rating		40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

HSK-A PZN-plus 100 AS/IS

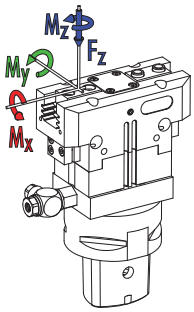


① Gripper connection
② Finger connection

ⓘ 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.

Capto C6/PGN-plus

Finger load



		CAPTO C6 PGN-plus 80	CAPTO C6 PGN-plus 100
M_x	max.	60.0 Nm [44 lbf ft]	80.0 Nm [59 lbf ft]
M_y	max.	95.0 Nm [70 lbf ft]	100.0 Nm [74 lbf ft]
M_z	max.	55.0 Nm [41 lbf ft]	70.0 Nm [52 lbf ft]
F_z	max.	1500.0 N [337 lbf]	2000.0 N [450 lbf]

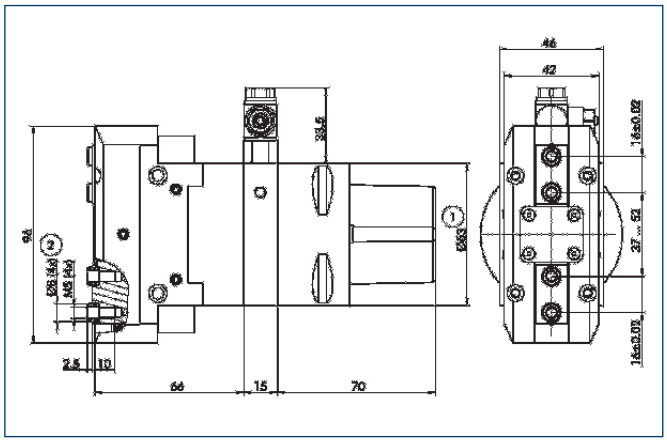
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		CAPTO C6 PGN-plus 80 AS	CAPTO C6 PGN-plus 80 IS	CAPTO C6 PGN-plus 100 AS	CAPTO C6 PGN-plus 100 IS
	ID	0308461	0308481	0308462	0308482
Stroke per jaw	mm [in]	8.0 [0.315]	8.0 [0.315]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	230.0 - 310.0 [52 - 70]	180.0 - 260.0 [40 - 58]	345.0 - 485.0 [78 - 109]	280.0 - 420.0 [63 - 94]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	100.0 [3.937]	100.0 [3.937]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]	0.6 [1.32]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	1.8 [3.97]	1.8 [3.97]	2.2 [4.85]	2.2 [4.85]
Max. permitted speed	min^{-1}	20	20	20	20
IP rating		40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

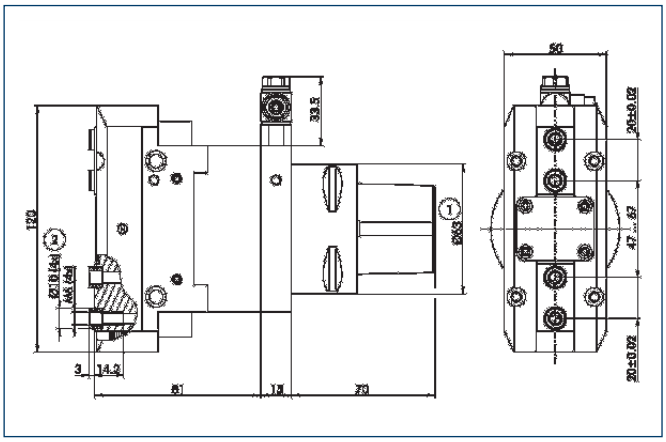
Capto C6 PGN-plus 80 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

Capto C6 PGN-plus 100 AS/IS

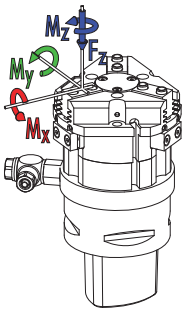


① Gripper connection
② Finger connection

ⓘ 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.

Capto C6/PZN-plus

Finger load



	CAPTO C6 PZN-plus 64	CAPTO C6 PZN-plus 100
M_x max.	40.0 Nm [30 lbf ft]	80.0 Nm [59 lbf ft]
M_y max.	60.0 Nm [44 lbf ft]	100.0 Nm [74 lbf ft]
M_z max.	40.0 Nm [30 lbf ft]	70.0 Nm [52 lbf ft]
F_z max.	1100.0 N [247 lbf]	2000.0 N [450 lbf]

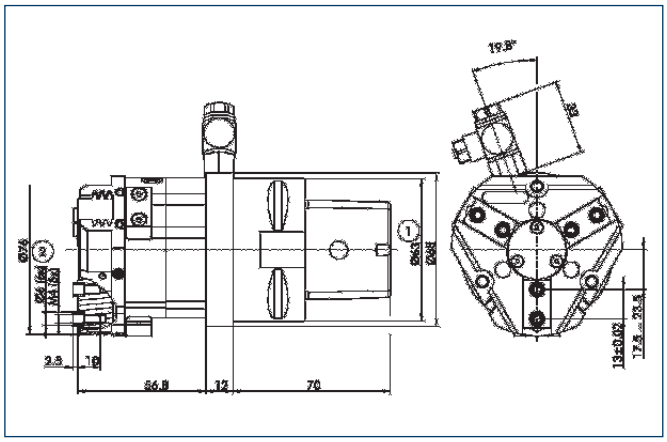
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		CAPTO C6 PZN-plus 64 AS	CAPTO C6 PZN-plus 64 IS	CAPTO C6 PZN-plus 100 AS	CAPTO C6 PZN-plus 100 IS
	ID	0308465	0308485	0308467	0308487
Stroke per jaw	mm [in]	6.0 [0.236]	6.0 [0.236]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	360.0 - 455.0 [81 - 102]	305.0 - 360.0 [69 - 81]	850.0 - 1200.0 [191 - 270]	710.0 - 1020.0 [160 - 229]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	80.0 [3.150]	80.0 [3.150]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	0.35 [0.77]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	1.7 [3.75]	1.7 [3.75]	3.2 [7.05]	3.2 [7.05]
Max. permitted speed	min^{-1}	20	20	20	20
IP rating		40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

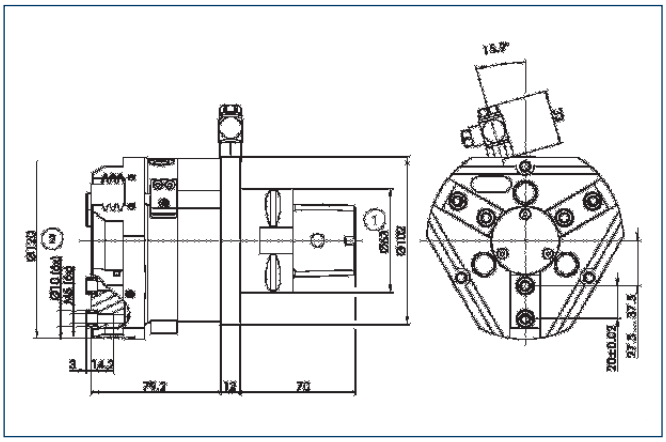
Capto C6 PZN-plus 64 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

Capto C6 PZN-plus 100 AS/IS

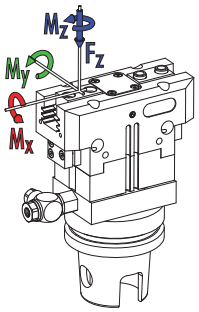


① Gripper connection
② Finger connection

ⓘ 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.

KM 63/PGN-plus

Finger load



	KM 63 PGN-plus 80	KM 63 PGN-plus 100
M_x max.	60.0 Nm [44 lbf ft]	80.0 Nm [59 lbf ft]
M_y max.	95.0 Nm [70 lbf ft]	100.0 Nm [74 lbf ft]
M_z max.	55.0 Nm [41 lbf ft]	70.0 Nm [52 lbf ft]
F_z max.	1500.0 N [337 lbf]	2000.0 N [450 lbf]

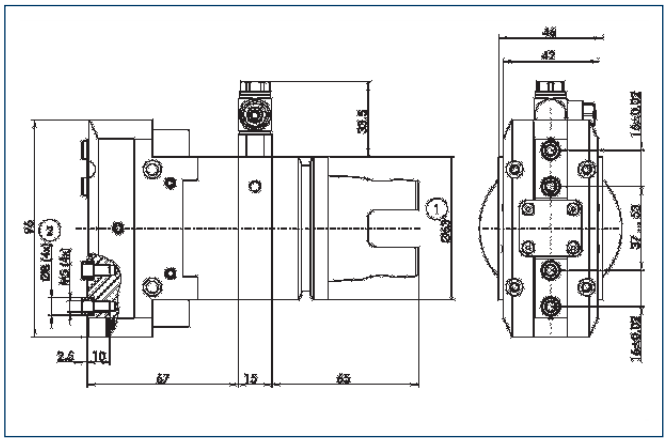
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		KM 63 PGN-plus 80 AS	KM 63 PGN-plus 80 IS	KM 63 PGN-plus 100 AS	KM 63 PGN-plus 100 IS
	ID	0308471	0308491	0308472	0308492
Stroke per jaw	mm [in]	8.0 [0.315]	8.0 [0.315]	10.0 [0.394]	10.0 [0.394]
Gripping force	N [lbf]	230.0 - 310.0 [52 - 70]	180.0 - 260.0 [40 - 58]	345.0 - 485.0 [78 - 109]	280.0 - 420.0 [63 - 94]
Gripping principle		I.D. gripping	O.D. gripping	I.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	100.0 [3.937]	100.0 [3.937]	125.0 [4.921]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.6 [1.32]	0.6 [1.32]	1.1 [2.43]	1.1 [2.43]
Weight	kg [lbs]	1.5 [3.31]	1.5 [3.31]	1.9 [4.19]	1.9 [4.19]
Max. permitted speed	min^{-1}	20	20	20	20
IP rating		40	40	40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

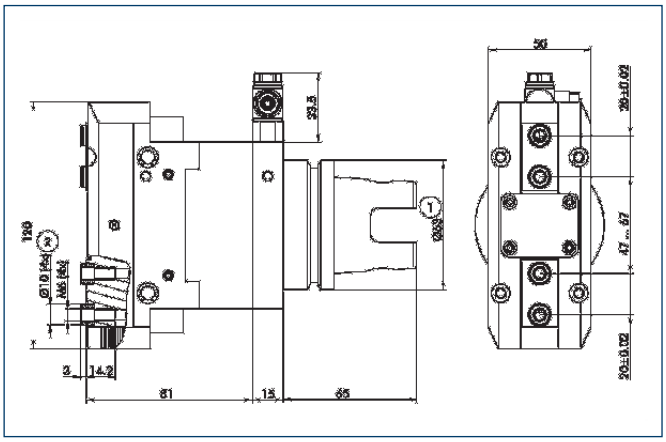
KM 63 PGN-plus 80 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

KM 63 PGN-plus 100 AS/IS

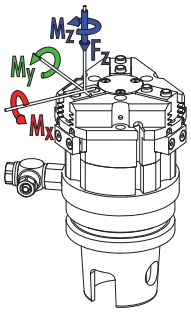


① Gripper connection
② Finger connection

ⓘ 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.

KM 63/PZN-plus

Finger load



	KM 63 PZN-plus 64	KM 63 PZN-plus 100
M_x max.	40.0 Nm [30 lbf ft]	80.0 Nm [59 lbf ft]
M_y max.	60.0 Nm [44 lbf ft]	100.0 Nm [74 lbf ft]
M_z max.	40.0 Nm [30 lbf ft]	70.0 Nm [52 lbf ft]
F_z max.	1100.0 N [247 lbf]	2000.0 N [450 lbf]

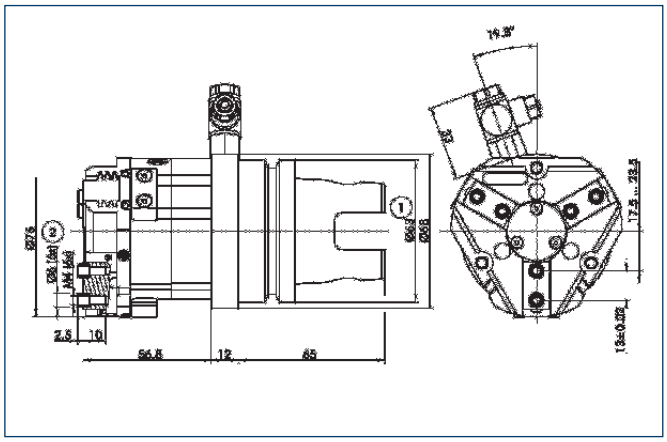
ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		KM 63 PZN-plus 64 IS	KM 63 PZN-plus 100 IS
	ID	0308495	0308497
Stroke per jaw	mm [in]	6.0 [0.236]	10.0 [0.394]
Gripping force	N [lbf]	305.0 - 360.0 [69 - 81]	710.0 - 1020.0 [160 - 229]
Gripping principle		O.D. gripping	O.D. gripping
Max. permitted finger length	mm [in]	80.0 [3.150]	125.0 [4.921]
Max. permitted weight per finger	kg [lbs]	0.35 [0.77]	1.1 [2.43]
Weight	kg [lbs]	1.4 [3.09]	3.0 [6.61]
Max. permitted speed	min^{-1}	20	20
IP rating		40	40
Min. required supply pressure	bar [psi]	6.0 [87]	6.0 [87]
Max. permitted supply pressure	bar [psi]	60.0 [870]	60.0 [870]
Min. ambient temperature	°C [°F]	-10.0 [14]	-10.0 [14]
Max. ambient temperature	°C [°F]	90.0 [194]	90.0 [194]
Repeat accuracy	mm [in]	0.01 [0.0004]	0.01 [0.0004]

ⓘ When commissioned on a machine tool, the grippers must be set to the pressure of the drive medium. Please use our setting kit, ID 0308599, for this purpose.
Grippers with the "IS" designation are for O.D. gripping, those with the "AS" designation for I.D. gripping. In the IS version, the gripper is closed via the pressure of the medium; in the AS version, the pressure of the medium opens the gripper. Alternatively, gripping can be achieved by spring force, and the release with the pressure of the medium.

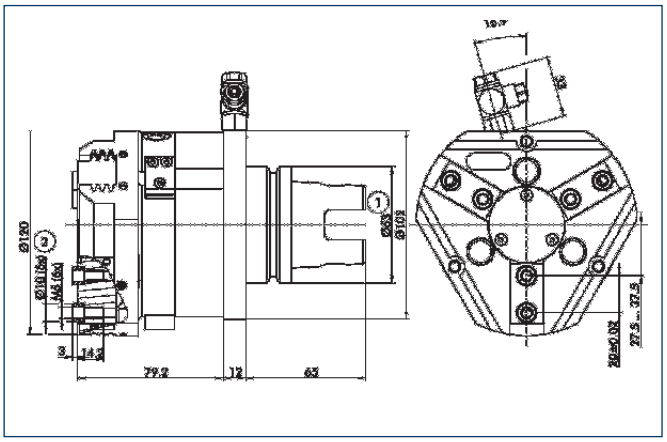
KM 63 PZN-plus 64 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

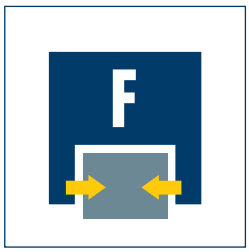
KM 63 PZN-plus 100 AS/IS



① Gripper connection
② Finger connection

ⓘ 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.

Weight
0.022 kg .. 0.066 kg
0.78 oz .. 2.33 oz

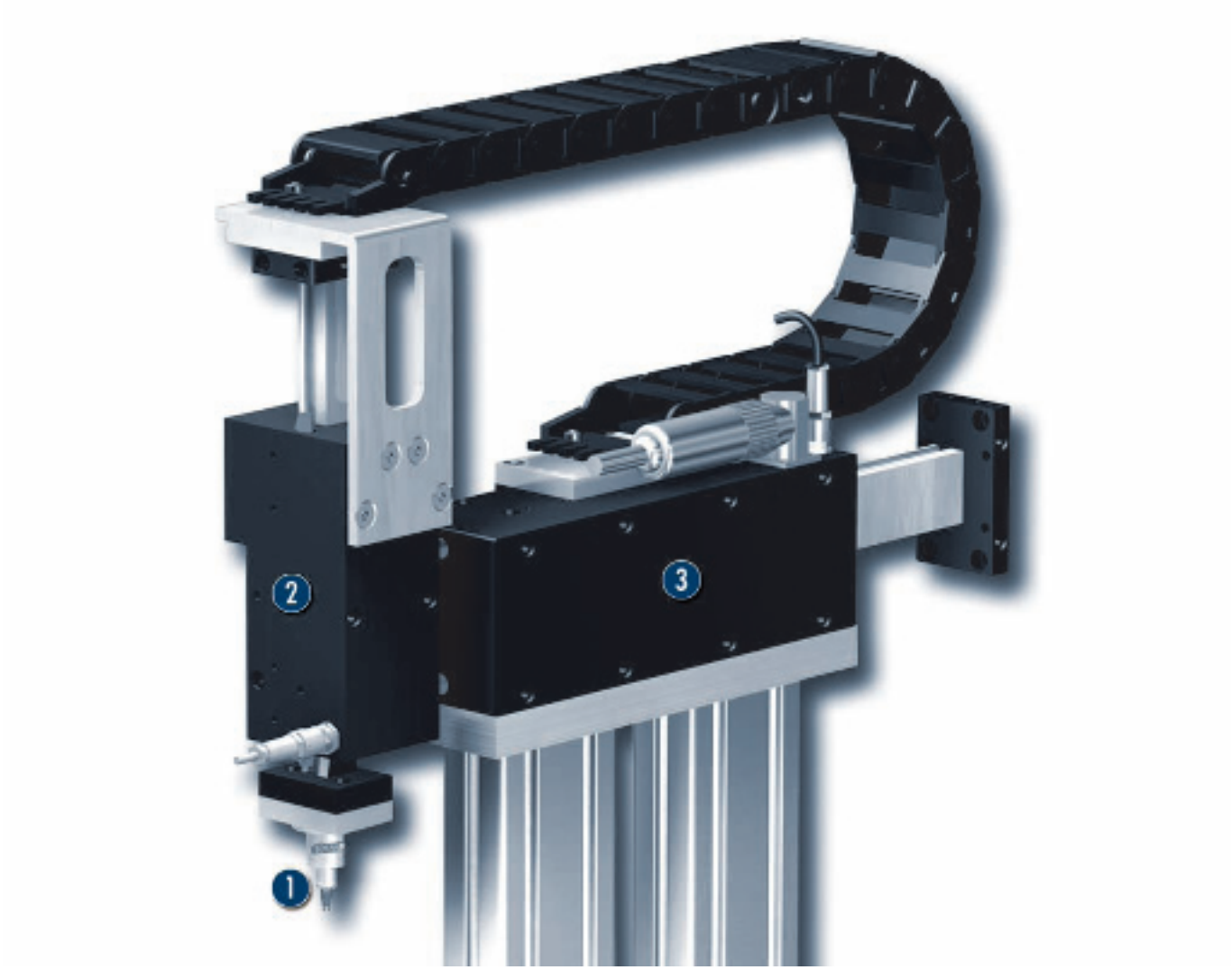


Gripping force
0.15 N
0.034 lbf

Stroke per finger
2.2 mm
0.087 in

Workpiece weight
0.003 kg
0.11 oz

Application example



Pick & place unit for assembling circuit boards with capacitors

1. MC-GE 005
Miniature Centric Gripper
2. Servo-electric Short-stroke Module with MLD 50K direct drive
3. Servo-electric Linear Axis with MLD 100 direct drive

Miniature Gripper

Single-acting miniature gripper with electric or pneumatic drive and spring return

Area of application

Grips the smallest workpieces in clean to low-soiling environments, such as in assembly lines and laboratories

Your advantages and benefits

Simple, fast drive kinematics
for short cycle times and high cycle frequencies

Integrated stroke adjustment
for optimum adaptation to different workpieces

Flexible fingers
for gripping sensitive or asymmetrical components

Small, compact design
for minimal interfering contours and low weight

General information on the series

Working principle
Single-acting, spring return via fingers

Housing material
Aluminum

Actuation
Electric, 24 VDC, or pneumatic

Warranty
24 months

Scope of delivery
Gripper with mounted finger guard, assembly and operating manual with manufacturer's declaration

Maintenance
Maintenance-free

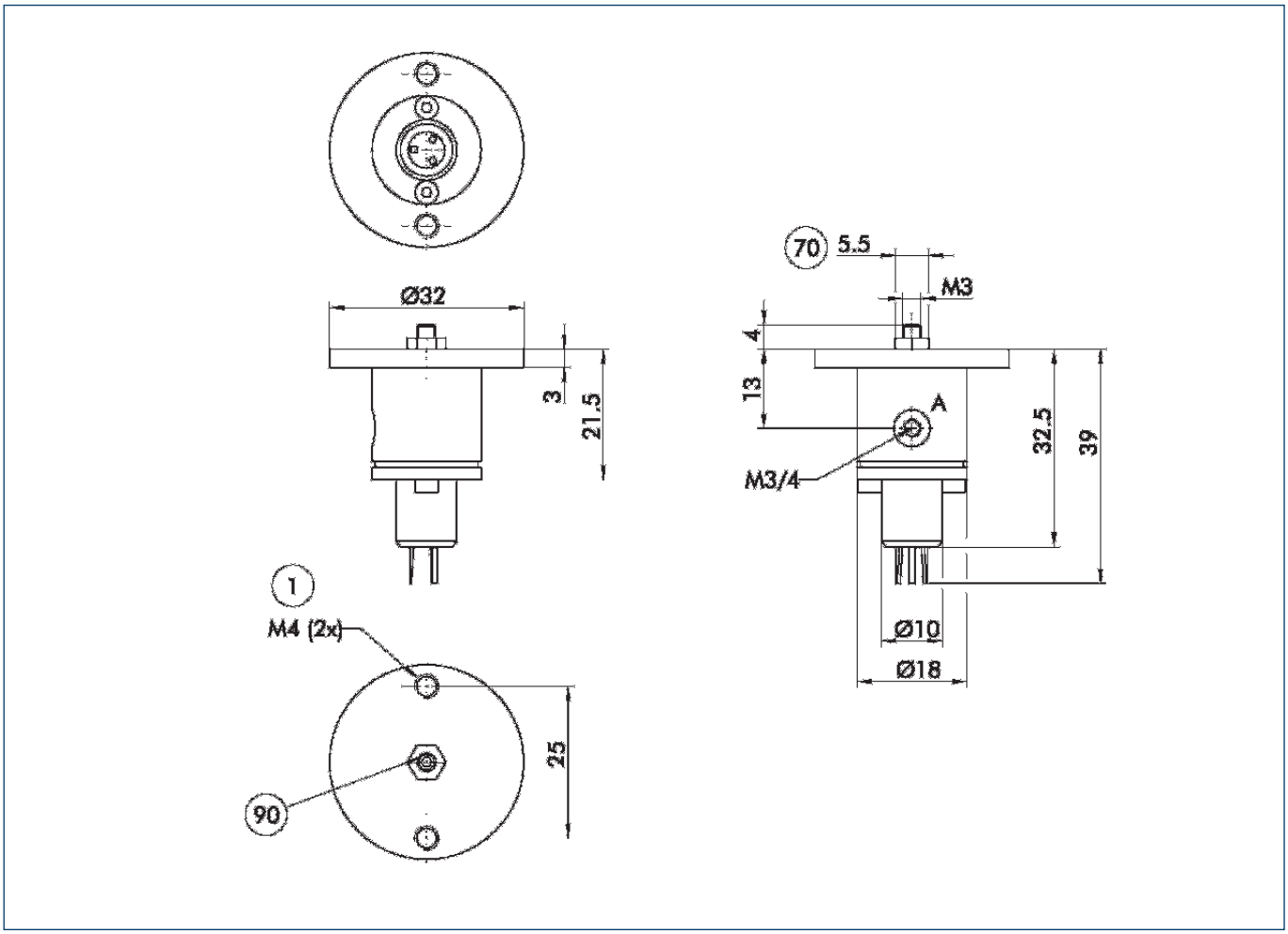
Accessories
The MC-GE or MC-GP is also available on request as a 2-finger parallel gripper.

MC-GP 005

Technical data

Description		MC-GP 005
	ID	0305600
Max. stroke per finger	mm [in]	2.2 [0.087]
Gripping force	N [lbf]	0.15 [0.034]
Weight	kg [oz]	0.022 [0.78]
Recommended workpiece weight (max.)	kg [oz]	0.003 [0.11]
Minimum pressure	bar [psi]	2.0 [29]
Maximum pressure	bar [psi]	7.0 [102]
Closing time at max. stroke	s	0.05
Opening time at max. stroke	s	0.04
Smallest gripping Ø	mm [in]	0.6 [0.024]
Largest gripping Ø	mm [in]	5.0 [0.197]
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	55.0 [131]
Repeat accuracy	mm [in]	0.1 [0.0039]

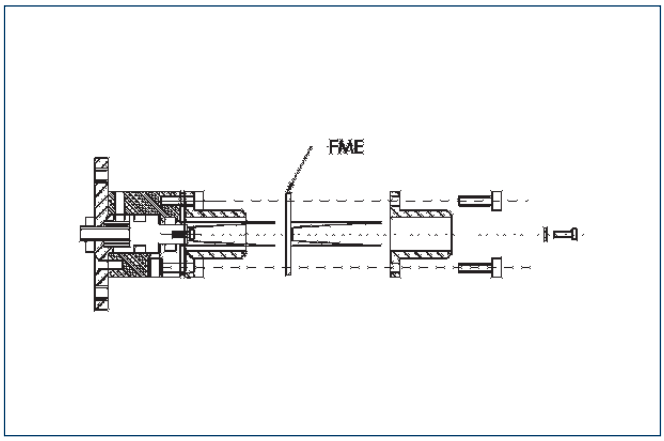
Main views



The drawing shows the gripper in the basic position with open fingers.

A,a Main/direct connection, gripper opening
1 Gripper connection
70 Width across flats
90 Preset gripper diameter

FME finger module



If a finger is damaged, it suffices to simply replace the FME finger module.

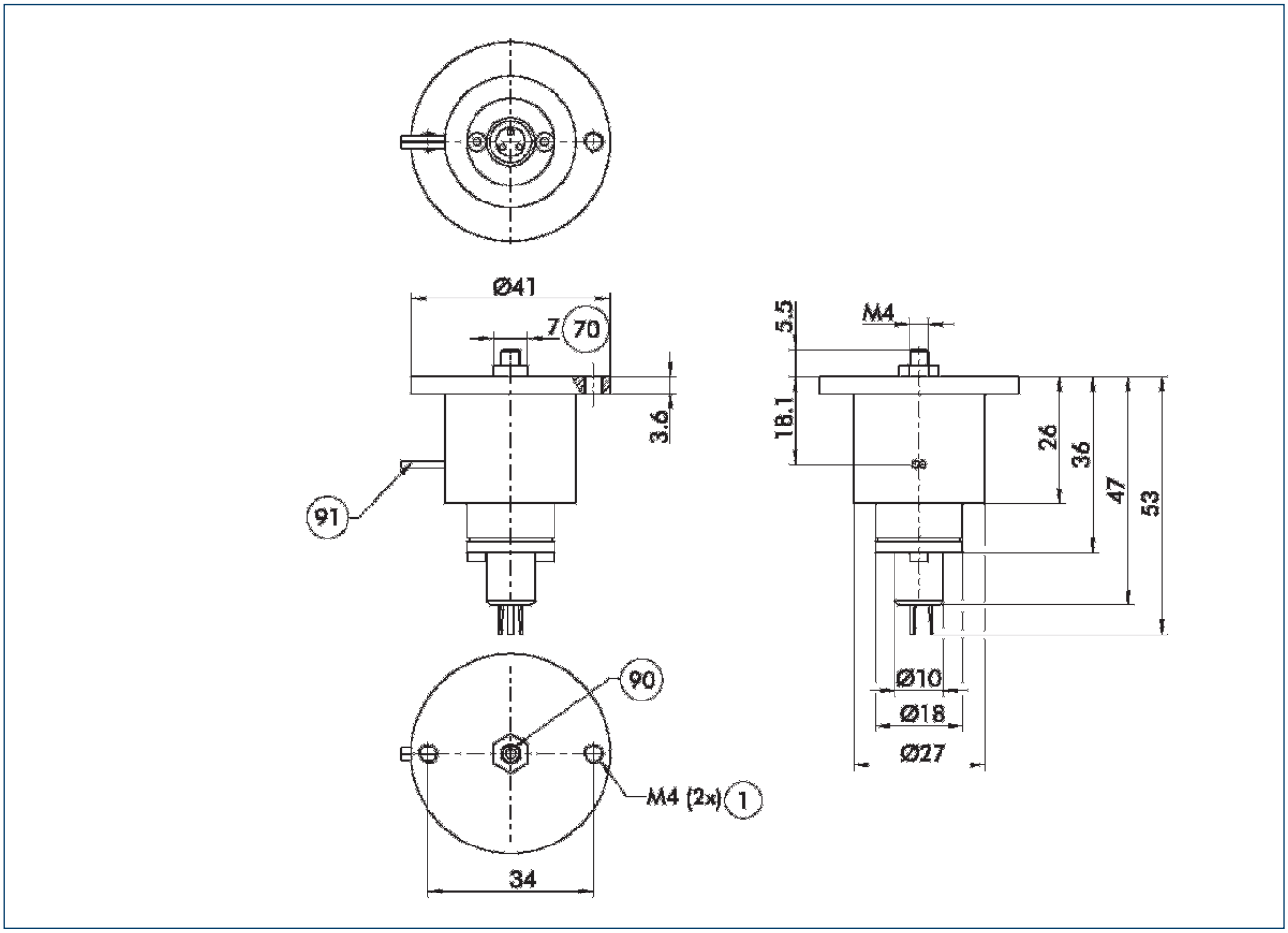
Description	ID
FME	0305603

MC-GE 005

Technical data

Description		MC-GE 005
	ID	0305601
Max. stroke per finger	mm [in]	2.2 [0.087]
Gripping force	N [lbf]	0.15 [0.034]
Weight	kg [oz]	0.066 [2.33]
Recommended workpiece weight (max.)	kg [oz]	0.003 [0.11]
Opening time at max. stroke	s	0.04
Closing time at max. stroke	s	0.04
Smallest gripping Ø	mm [in]	0.6 [0.024]
Largest gripping Ø	mm [in]	5.0 [0.197]
Min. ambient temperature	°C [°F]	5.0 [41]
Max. ambient temperature	°C [°F]	55.0 [131]
Repeat accuracy	mm [in]	0.2 [0.0079]
Voltage supply	V	24.0
Nominal power	A	0.2
Maximum power	A	1.0

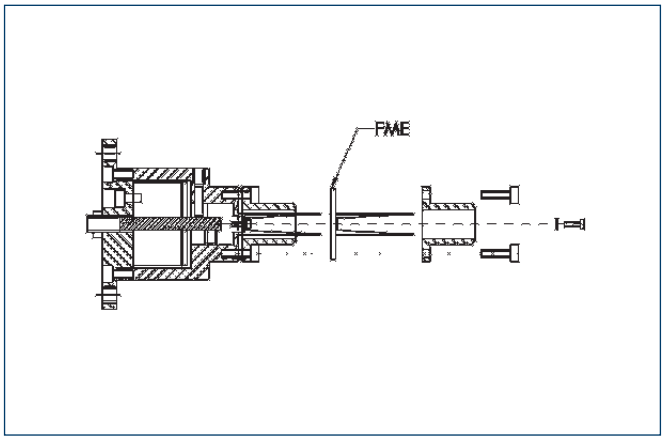
Main views



The drawing shows the gripper in the basic position with open fingers.

① Gripper connection
⑦⓪ Width across flats
⑨⓪ Preset gripper diameter
⑨① 2-wire cable, length 200 mm, cross section 2 x 0.08 mm²

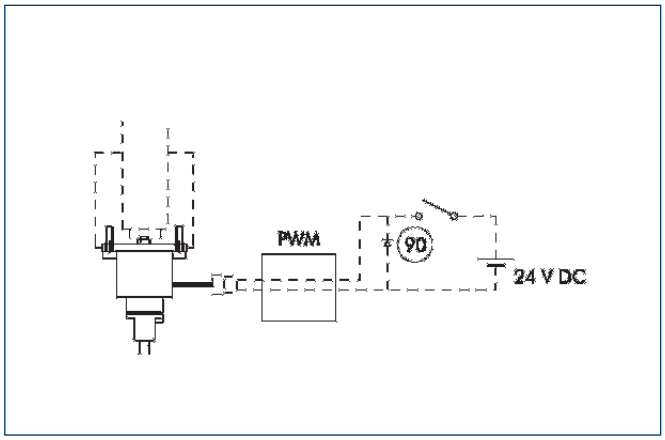
FME finger module



If a finger is damaged, it suffices to simply replace the FME finger module.

Description	ID
FME	0305603

PMW module



⑨⓪ Protective diode (provided by customer)

The PMW (pulse-width modulation) module is employed for the purpose of heat reduction with an ON time of > 5 min.

Description	ID
PWM-Modul	0305602

Weight
0.065 kg
0.14 lbs

Workpiece weight
0.003 kg
0.01 lbs

Max. finger opening
3 mm .. 4 mm
0.118 in .. 0.157 in

Application example

For mounting gears in the watch and clock-making industry

1. Finger attachment (parallel or centric gripper available)
2. Front part of housing with drive unit
3. Button for initiating the gripping cycle
4. Rear part of housing with battery compartment

Manually Guided Gripper

MGM manual miniature gripper with 2-finger parallel or 3-finger centric gripper attachment

Area of application

For use as a gripping tool for small to very small components in assembly, sorting tasks, laboratory work, precise and manual joining processes and in many other applications with miniature components

Your advantages and benefits

Ergonomic shape
for comfortable, fatigue-free working

Replaceable fingers
for handling all kinds of components

Operation
Operation using a pushbutton

Time-controlled gripping cycle

General information on the series

Length
Approx. 160 mm without gripper fingers

Drive
Slow cycle: 1 x type AAA micro-battery and 1 x aluminum packing block
Fast cycle: 2 x type AAA micro-batteries

Period of use
Approx. 1 hour continuous operation with 1 set of batteries

Scope of delivery
Gripper drive and finger attachment
Batteries not included in scope of delivery

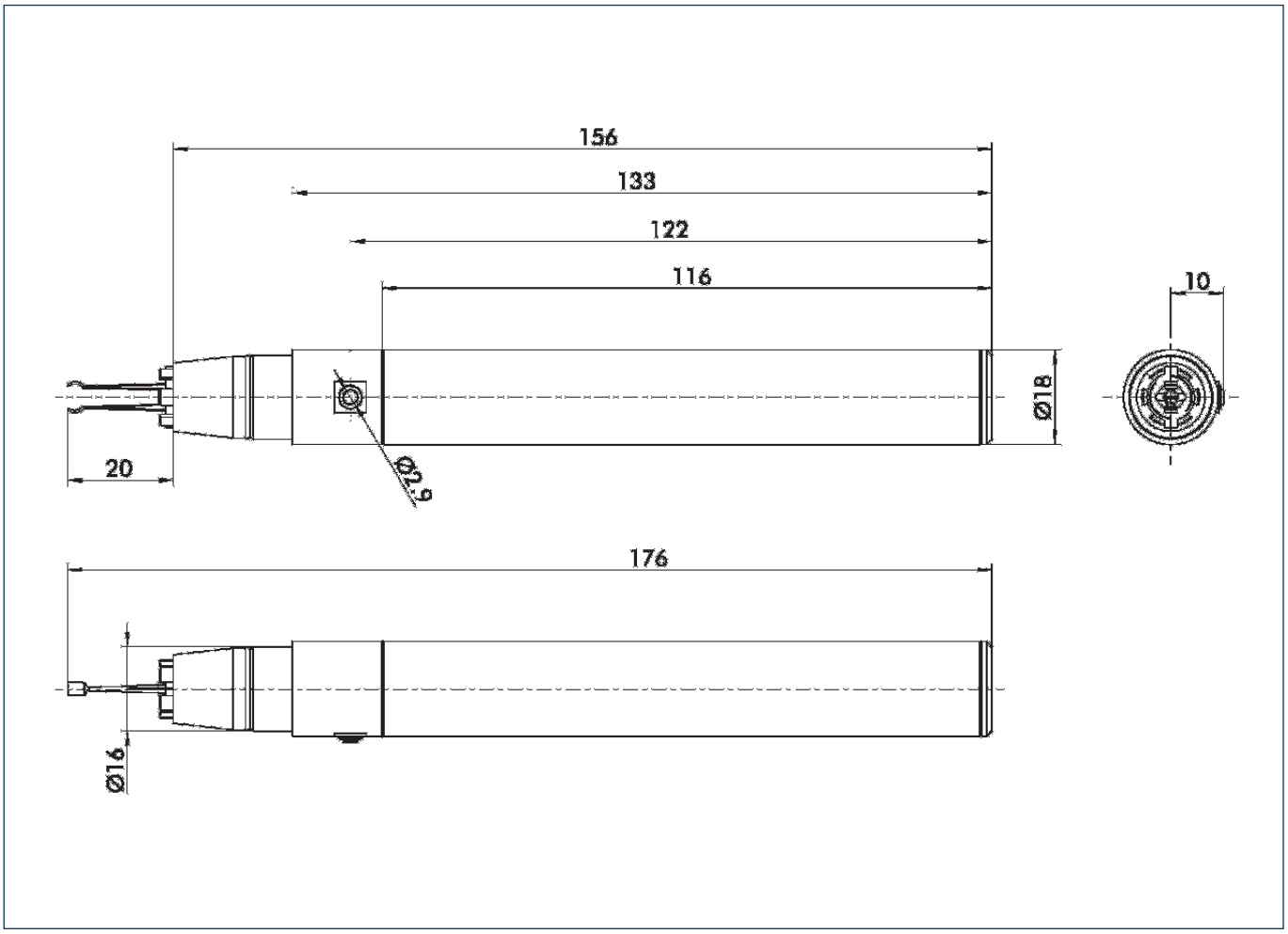
Warranty
24 months

Technical data

Description	ID	MGM 0301001	MGM 0301002	MGM 0301003	MGM 0301004
No. of fingers		2	2	3	3
Jaw design		parallel-narrow	parallel-wide	centric-narrow	centric-wide
Weight without batteries	kg [lbs]	0.065 [0.14]	0.065 [0.14]	0.065 [0.14]	0.065 [0.14]
Time for "Open-Closed-Open" cycle (fast)	s	1.0	1.0	1.0	1.0
Time for "Open-Closed-Open" cycle (slow)	s	2.0	2.0	2.0	2.0
Max. workpiece weight	kg [lbs]	0.003 [0.01]	0.003 [0.01]	0.003 [0.01]	0.003 [0.01]
Max. finger opening	mm [in]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]	4.0 [0.157]

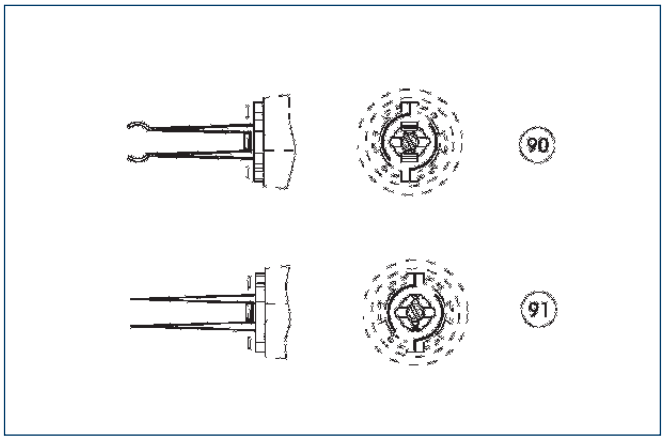
ⓘ The maximum workpiece weight that can be gripped depends upon the characteristics of the workpiece (shape, surface, material, ...) and varies within a certain tolerance range.

Main views



The drawing shows the gripper in the basic position with open fingers, and does not include the options described below.

MGM 2-finger parallel finger attachment

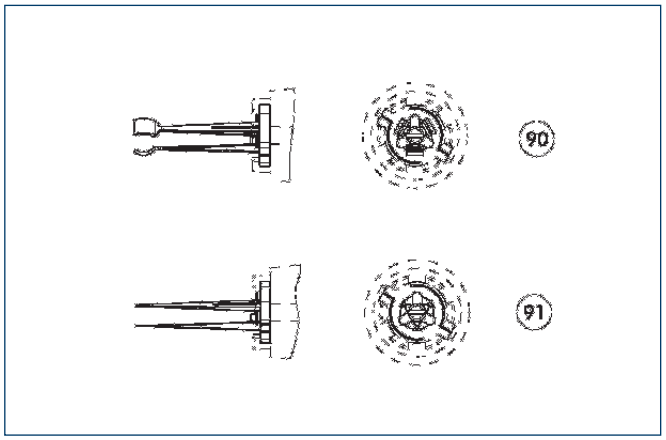


(90) Finger attachment MGM, 2-finger, parallel–wide (91) Finger attachment MGM, 2-finger, parallel–narrow

The MGM finger attachments are available with narrow and wide fingers for the different versions.

Description	ID	No. of fingers	Finger design	Weight [kg]
Finger attachments MGM	0301010	2	parallel–narrow	0.005
Finger attachments MGM	0301011	2	parallel–wide	0.005

MGM 3-finger centric finger attachment

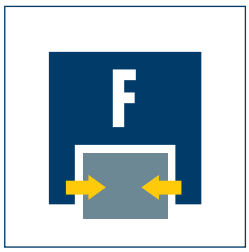


(90) Finger attachment MGM, 3-finger, centric–wide (91) Finger attachment MGM, 3-finger, centric–narrow

The MGM finger attachments are available with narrow and wide fingers for the different versions.

Description	ID	No. of fingers	Finger design	Weight [kg]
Finger attachments MGM	0301012	3	centric–narrow	0.005
Finger attachments MGM	0301013	3	centric–wide	0.005

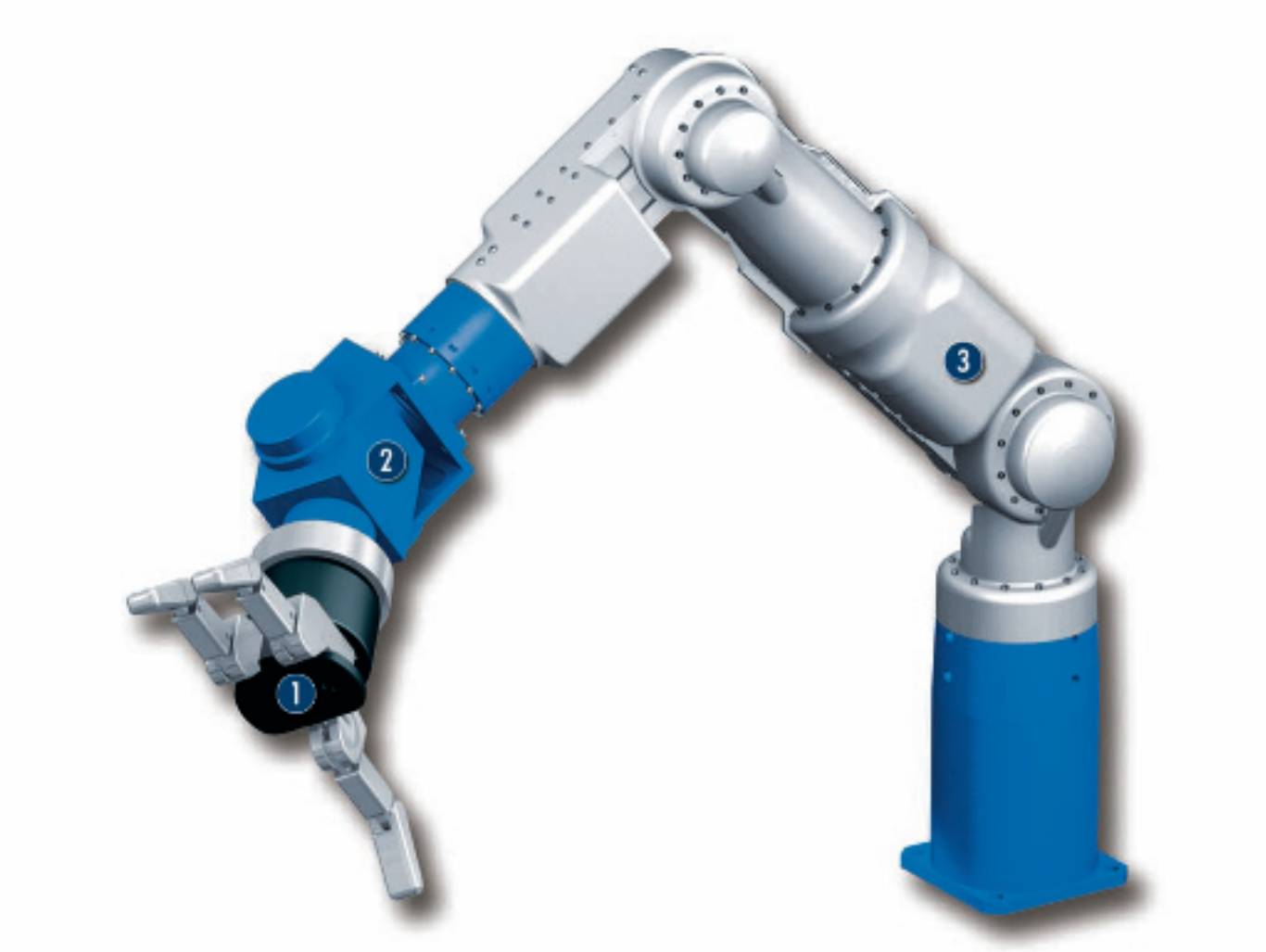
Weight
1.18 kg
2.60 lbs



Gripping force per finger
5 N
1.1 lbf

Workpiece weight form-fit clamping
6 kg
13.23 lbs

Application example



7-DOF light-weight arm and gripping hand for applications in research and development and in service robotics

1. SGH Servo-electric Gripping Hand
2. PW 70 Rotary Tilt Unit
3. LWA 2 Light-weight Arm

Gripping Hand

Servo-electric gripping hand with eight programmable axes and joints

Area of application

For universal use, and ideally suited for all handling tasks requiring the precise, force-controlled gripping of difficult-to-grip workpieces or materials (e.g. foam, glass, highly-elastic rubber, ...).

Your advantages and benefits

Three multi-jointed fingers (two of which can be rotated)
for the form-fit or friction-locked gripping of various workpieces without retooling

Four integrated motors
for the precise closed-loop control of gripping force, speed and position

Common communication interface RS-232
for transmitting all gripper parameters, such as speed, stroke, position and motor current

Compact design
despite the integration of four motors and gear mechanisms

General information on the series

Scope of delivery
- Separate communication and control box
- Four DC servo-motors, three of which with patented decoupling gear
- Incremental sensors for all motors, control and test software
- Stands for safe table mounting, maintenance kit

Communication
Trigger box reached via RS-232 interface

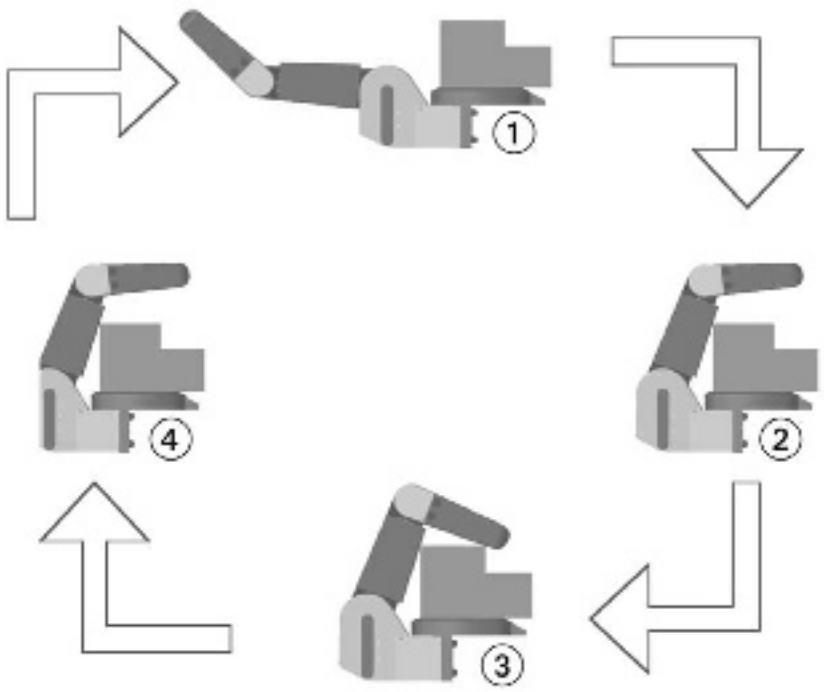
Warranty
12 months

Options and special information

Strain gauges
in fingers for measuring occurring forces and moments

24 V DC version
for mobile use

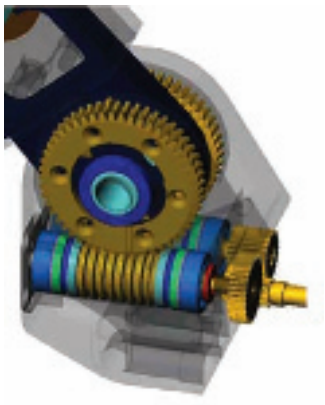
Drive design



Innovative drive design

A finger with two independent joints is driven by just one motor, saving both weight and volume. The SGH is therefore slim like the human hand. The result is that the fingers have good accessibility to workpieces and a large range of movement. This drive design is achieved using a special gear mechanism, which either drives both finger joints simultaneously, causing the first finger joint to move relative to the hand surface, or drives just the front joint, causing the second finger joint to move relative to the first finger joint.

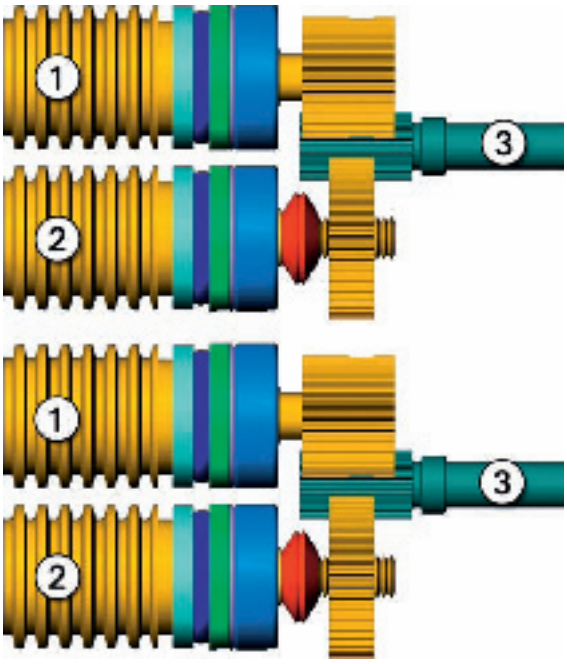
① The finger is completely opened.
② The first finger joint rests, the second joint continues to move.
③ The finger is completely closed.
④ The first finger joint has opened, the second joint begins to open.



The gear mechanism between the hand surface and the first finger joint consists of two worm gears and the force-type connection for finger joint 1.

The first finger joint is driven directly, the second joint by means of a Bowden cable, which is secured to a gear situated on the axis of the first finger joint.

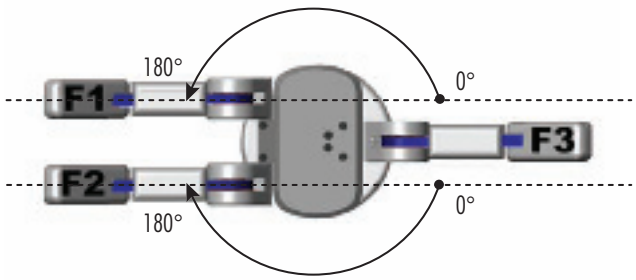
Processes in the gear mechanism when a finger closes

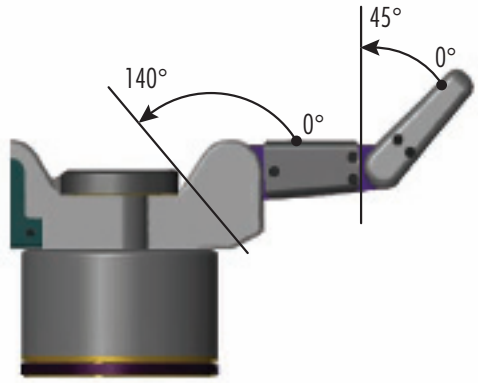


① Finger joint 2
② Finger joint 1
③ Input shaft

When neither the first nor second finger joint is touching the workpiece, both axes are driven, whereby the input torque for finger joint 1 is conveyed by means of a force-type connection (the two red diaphragm springs that hold the narrow gear wheel). There is no relative movement between finger joint 2 and finger joint 1, the two finger joints rotate together around finger axis 1. When finger joint 1 is touching the workpiece, joint 1 can no longer move and the two diaphragm springs can no longer hold the narrow gear. The latter disengages, breaking the friction lock. Now only joint 2 continues moving, while joint 1 is stationary.

Range of movement





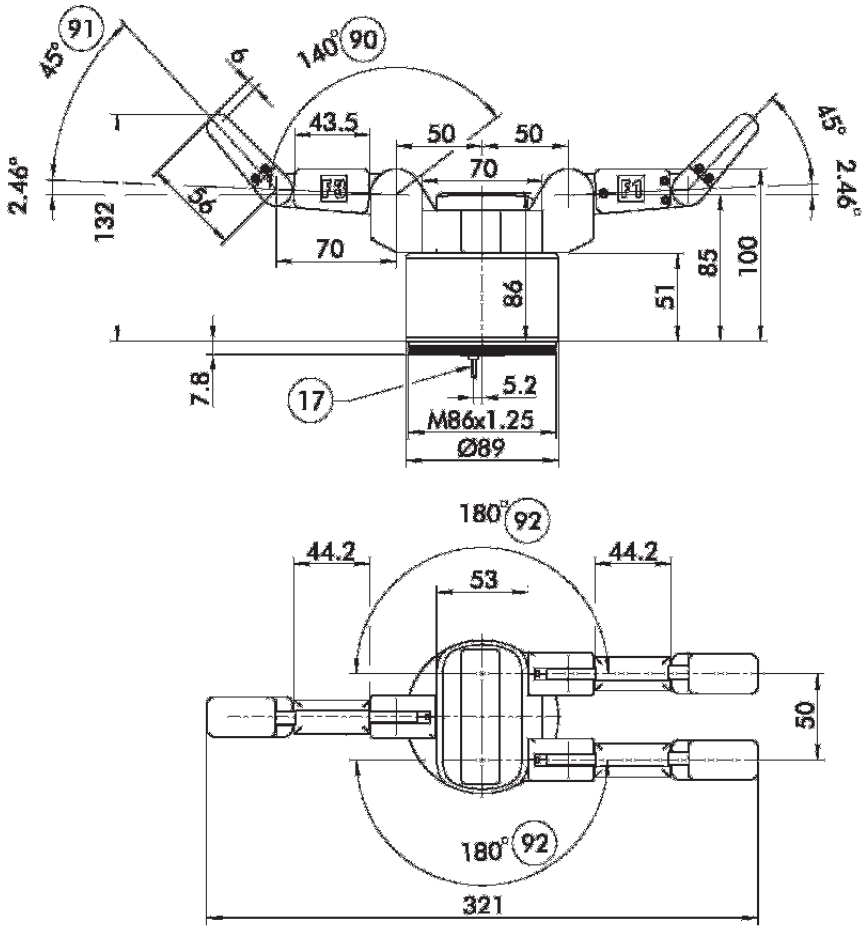
The SCHUNK SGH gripping hand has three fingers each with two joints. In addition, the two outer fingers can be rotated by 180° around the hand surface.

Technical data

Description		SGH
	ID	0306400
Force per finger	N [lbf]	5.0 [1.1]
Swivel ranges of finger joint 1	°	140.0
Swivel ranges of finger joint 2	°	45.0
Swivel ranges, splaying movement	°	180.0
Weight of hand	kg [lbs]	1.18 [2.60]
Max. workpiece weight (recommended for form-fit clamping)	kg [lbs]	6.0 [13.23]
Time for complete finger stroke (both joints)	s	1.0
Time for splaying movement (180°)	s	0.4
Repeat accuracy	°	0.1
Power supply	V AC	220.0
Communication with trigger box		RS-232
Axes		8
Fingers		3
Fingers with rotating movement		2
Joints per finger		2
Motors per finger		1
Motors per hand		4

ⓘ The stated information on the force, repeat accuracy, workpiece weight and finger stroke assumes compliance with defined motion and environmental parameters.

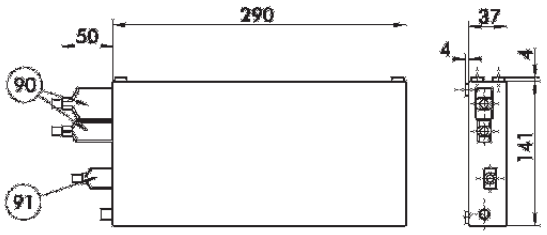
Main views



The drawing shows the gripper in the basic position with open fingers.

⑰ Cable outlet
⑨⓪ Joint 1 swivel range
⑨① Joint 2 swivel range
⑨② Splaying joint swivel range

Trigger box



⑨⓪ Actuating connector
⑨① Mains connector

Accessories

ACCESSORIES

Inductive Proximity Switches

Inductive proximity switches are used to monitor the current position of automation components. They are available from SCHUNK in the versions IN (sensor with 30 cm molded cable and cable connector) or INK (sensor with 2 m long feeder cable and litz wires for wiring).

Function description

With their oscillator coil, inductive proximity switches produce a high-frequency, alternating magnetic field. This field occurs on the active surface of the sensor. If a metal object enters the field, it draws energy from the magnetic field, thereby reducing the oscillation amplitude. This change is detected, and the sensor switches.

Your advantages and benefits

Mounting through bracket
for simple, fast assembly

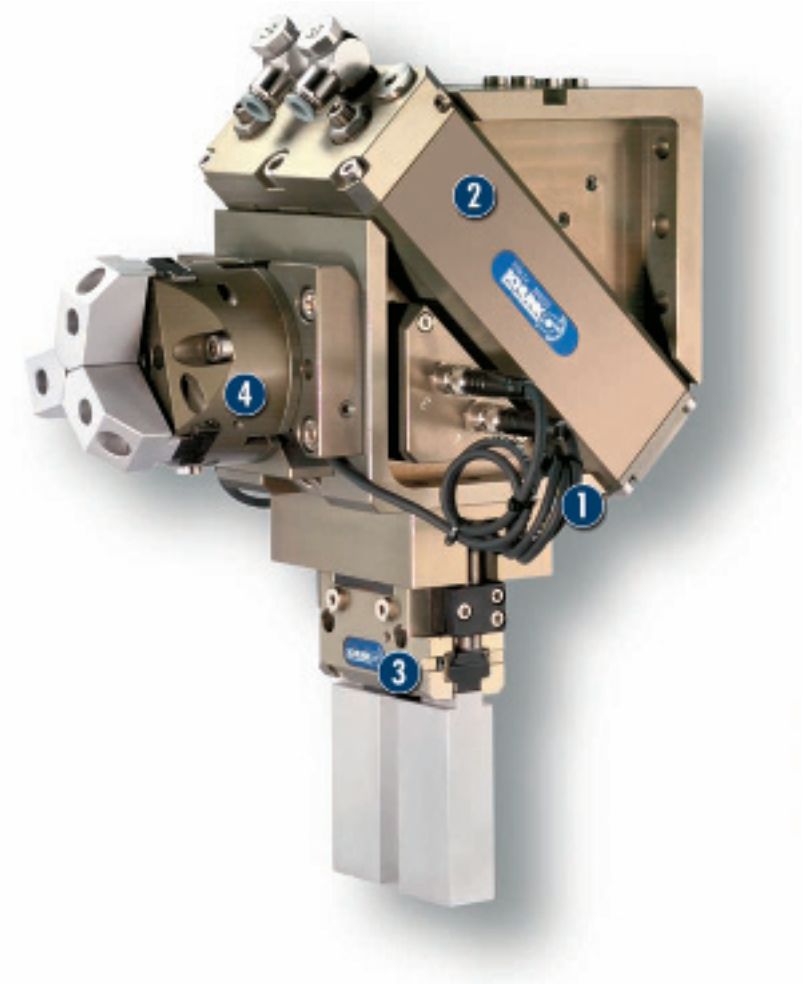
Version with LED display
for checking the switching state directly at the sensor

Version with connector
for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable
for a long life and resistance to many chemicals

Proximity switch can be installed flush
for minimal interfering contours in the application

Application example



1 **Plug-in IN Sensors**

2 **PSK Swivel Head**

3 **PGN 2-Finger Parallel Gripper with ABR finger blanks**

4 **PZN 3-Finger Centric Gripper with workpiece-specific gripper fingers**

Area of application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Inductive SCHUNK sensors detect metals without contact and are resistant to vibration, dust and humidity.

General information

Protection class according to DIN 40050
IP 67 when connected
Voltage
10 – 30 V DC, residual ripple < 15 %
Switching method
PNP switching
Warranty
24 months

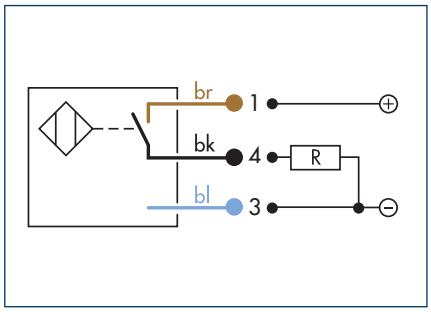
Notes

SCHUNK gripping, rotary and linear modules and robot accessory components must always be ordered from SCHUNK with the matching sensors, as these are ideally adapted to work together.

If major characteristics such as switching distance, switching function, hysteresis and voltage are largely the same, then proximity switches from other manufacturers may be used instead of inductive proximity switches (IN, INK) from SCHUNK.

However, if proximity switches from other manufacturers are used, SCHUNK cannot guarantee either their function or their functional reliability.

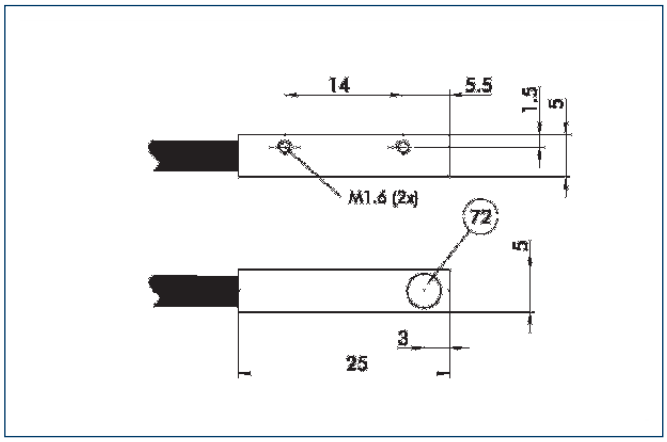
Circuit diagram of closer



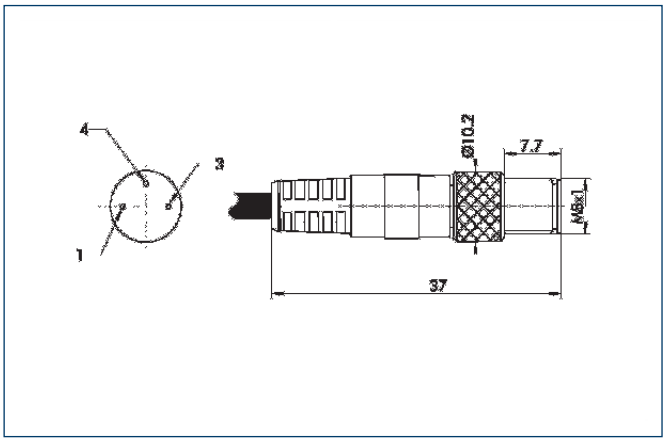
Technical data

Description		IN 5/S-M8	IN 5/S-M12	INK 5/S
	ID	0301469	0301569	0301501
Switching function		Closer	Closer	Closer
Switching distance	[mm]	1.0	1.0	1.0
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0
Cable connector/cable end		M8	M12	Open wire
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67
IP rating (connector, plugged in)		67	67	67
LED display on sensor		No	No	No
Cable diameter	[mm]	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5
No. of wires		3	3	3
Wire cross section	[mm^2]	0.14	0.14	0.14

IN 5/S sensor

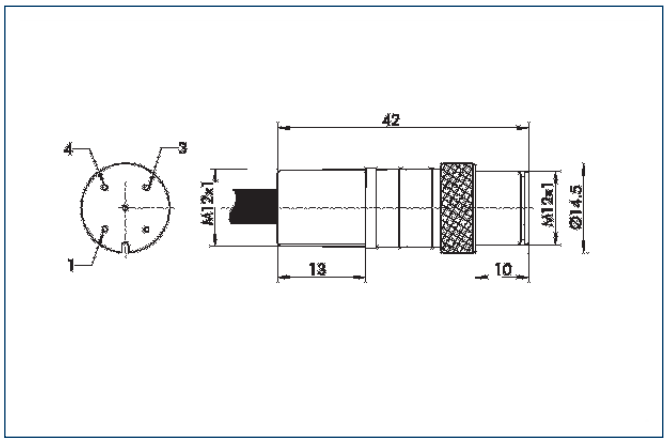


M8 connector

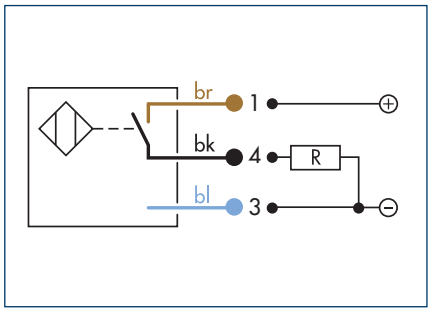


72 Active sensor surface

M12 connector



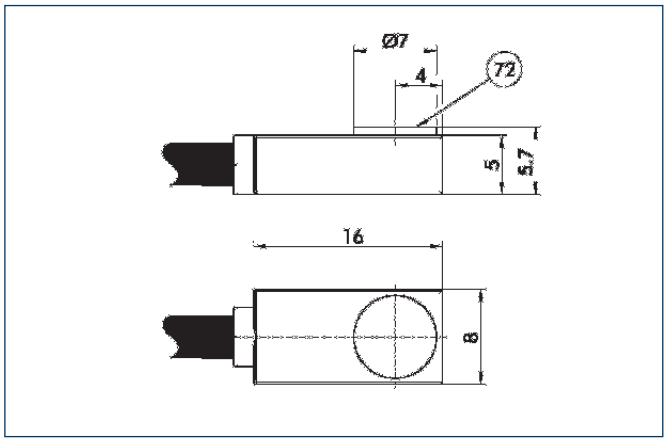
Circuit diagram of closer



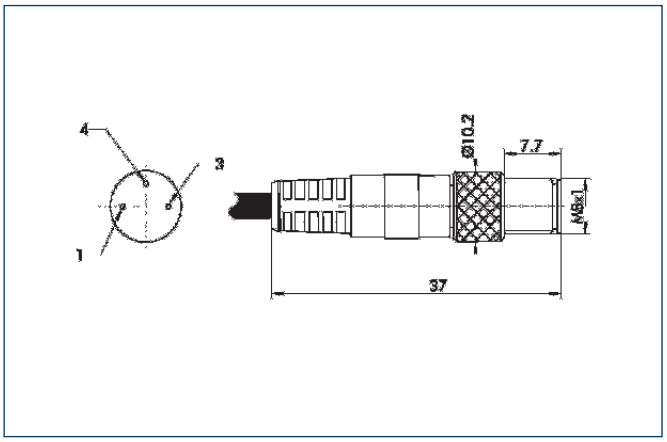
Technical data

Description		IN 8/S-M8	IN 8/S-M12	INK 8/S
	ID	0301481	0301581	9700052
Switching function		Closer	Closer	Closer
Switching distance	[mm]	0.8	0.8	0.8
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0
Cable connector/cable end		M12	M12	Open wire
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67
IP rating (connector, plugged in)		67	67	67
LED display on sensor		No	No	No
Cable diameter	[mm]	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5
No. of wires		3	3	3
Wire cross section	[mm^2]	0.14	0.14	0.14

IN 8/S sensor

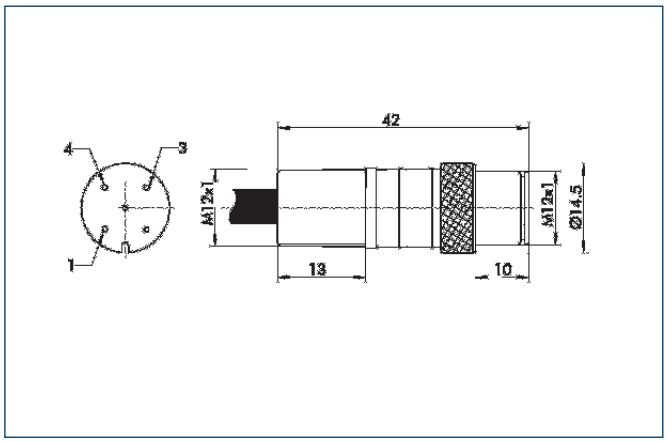


M8 connector

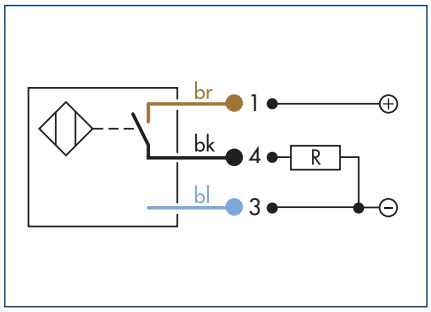


72 Active sensor surface

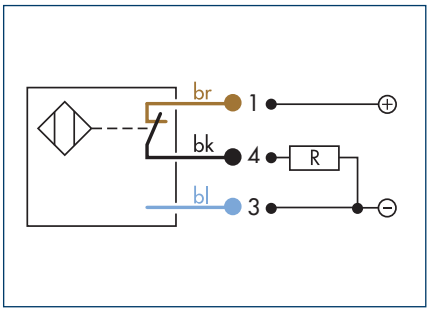
M12 connector



Circuit diagram of closer



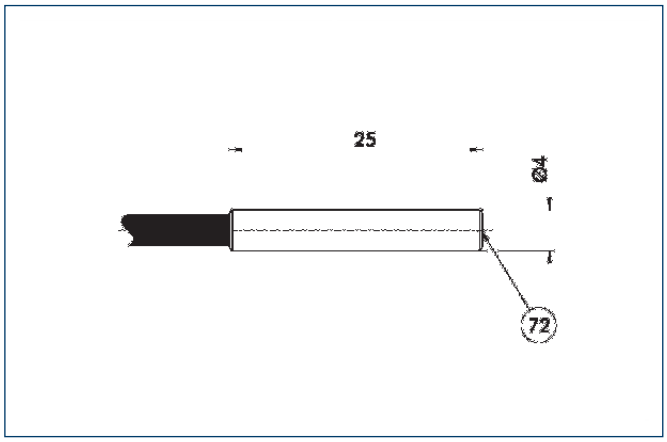
Circuit diagram of opener



Technical data

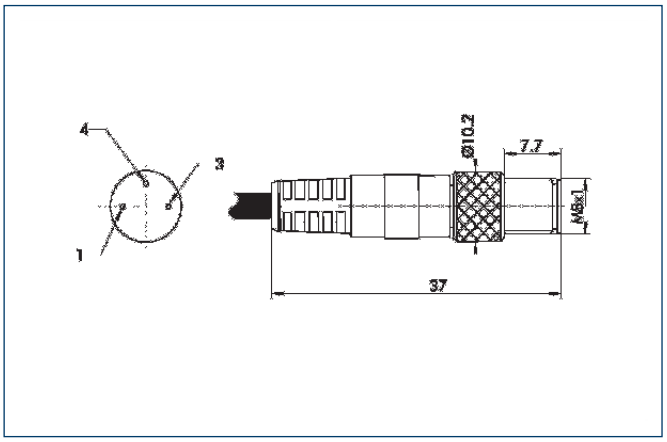
Description		IN 40/S-M8	IN 40/S-M12	INK 40/S	IN 40/O-M8	IN 40/O-M12	INK 40/O
	ID	0301474	0301574	0301555	0301484	0301584	0301556
Switching function		Closer	Closer	Closer	Opener	Opener	Opener
Switching distance	[mm]	0.8	0.8	0.8	0.8	0.8	0.8
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP	PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0	30.0	30.0	200.0
Cable connector/cable end		M8	M12	Open wire	M8	M12	Open wire
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67	67	67	67
IP rating (connector, plugged in)		67	67	67	67	67	67
LED display on sensor		Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter	[mm]	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5	17.5	17.5	17.5
No. of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14

IN 40 sensor

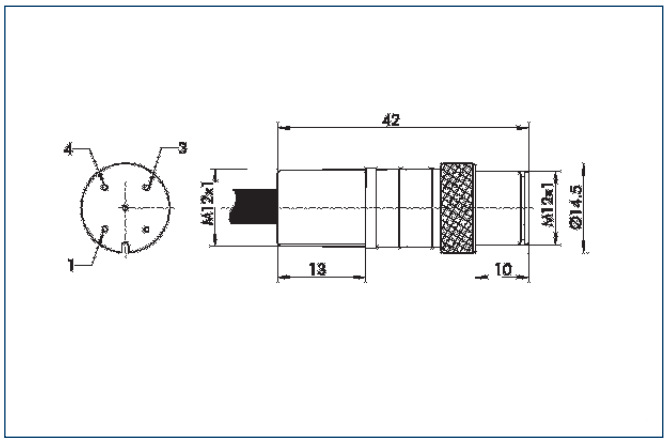


72 Active sensor surface

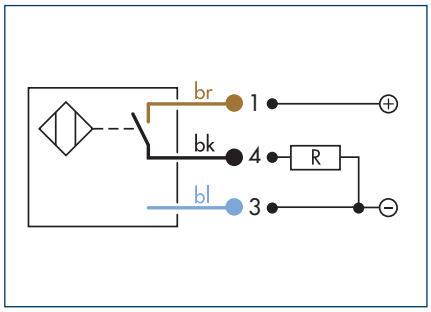
M8 connector



M12 connector



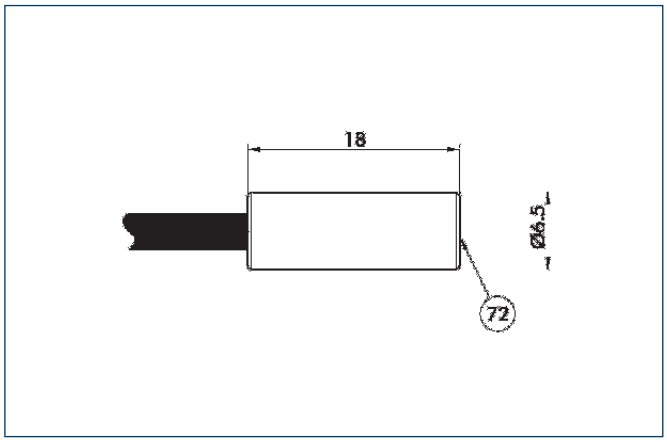
Circuit diagram of closer



Technical data

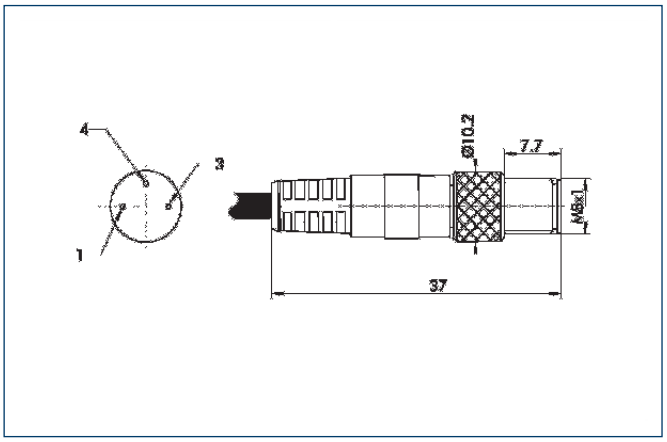
Description		IN 60/S-M8	IN 60/S-M12	INK 60/S
	ID	0301485	0301585	0301553
Switching function		Closer	Closer	Closer
Switching distance	[mm]	1.5	1.5	1.5
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0
Cable connector/cable end		M8	M12	Open wire
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67
IP rating (connector, plugged in)		67	67	67
LED display on sensor		No	No	No
Cable diameter	[mm]	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5
No. of wires		3	3	3
Wire cross section	[mm^2]	0.14	0.14	0.14

IN 60/S sensor

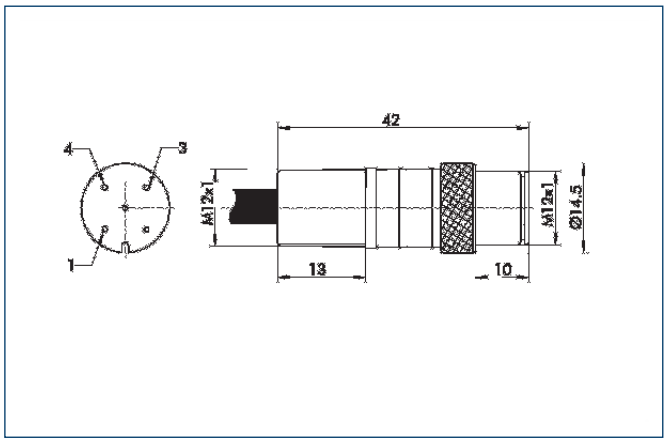


72 Active sensor surface

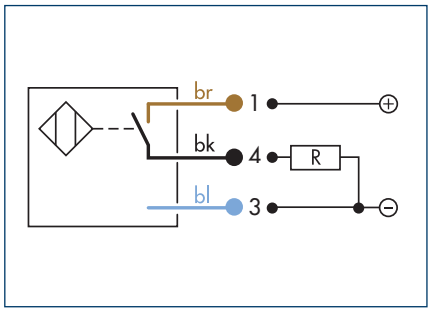
M8 connector



M12 connector



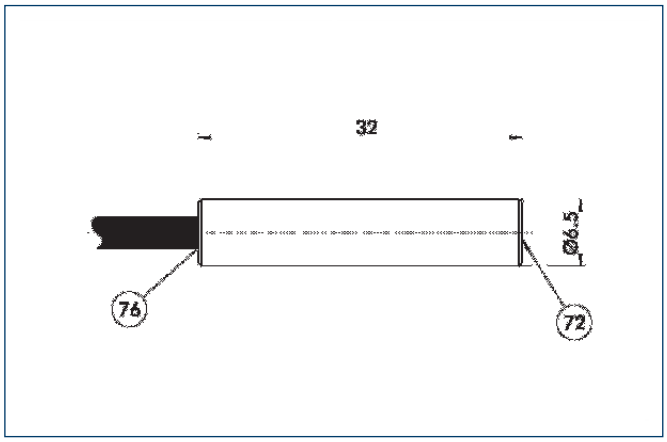
Circuit diagram of closer



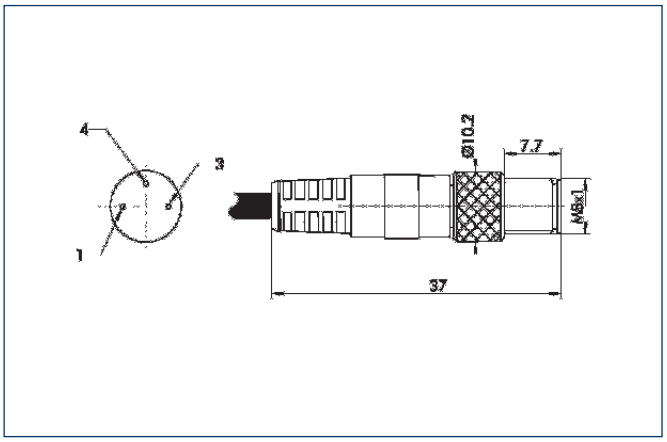
Technical data

Description		IN 65/S-M8	IN 65/S-M12	INK 65/S
	ID	0301476	0301576	0301554
Switching function		Closer	Closer	Closer
Switching distance	[mm]	1.5	1.5	1.5
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0
Cable connector/cable end		M8	M12	Open wire
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67
IP rating (connector, plugged in)		67	67	67
LED display on sensor		Yes	Yes	No
Cable diameter	[mm]	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5
No. of wires		3	3	3
Wire cross section	[mm^2]	0.14	0.14	0.14

IN 65/S sensor

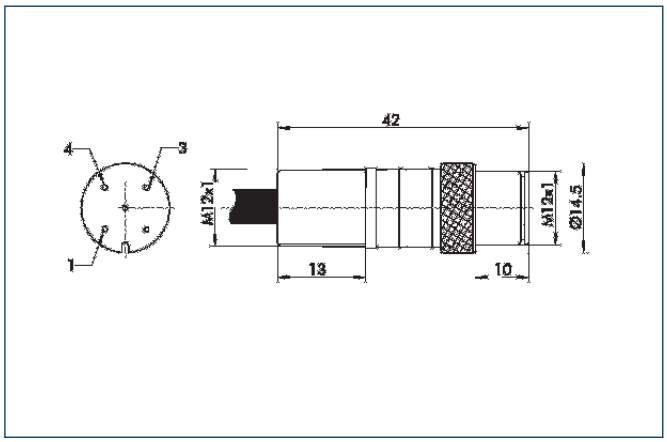


M8 connector

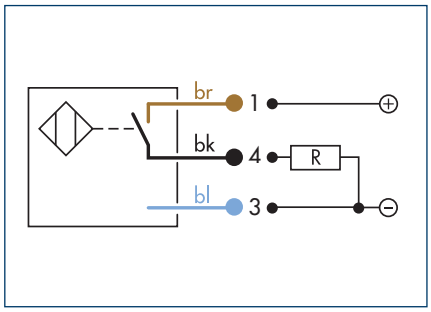


(72) Active sensor surface
(76) LED

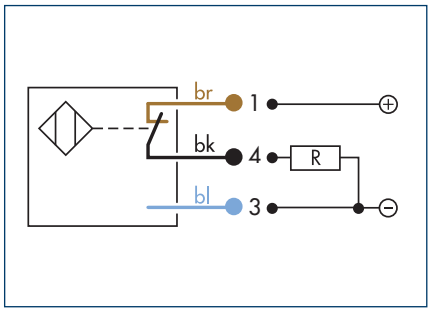
M12 connector



Circuit diagram of closer



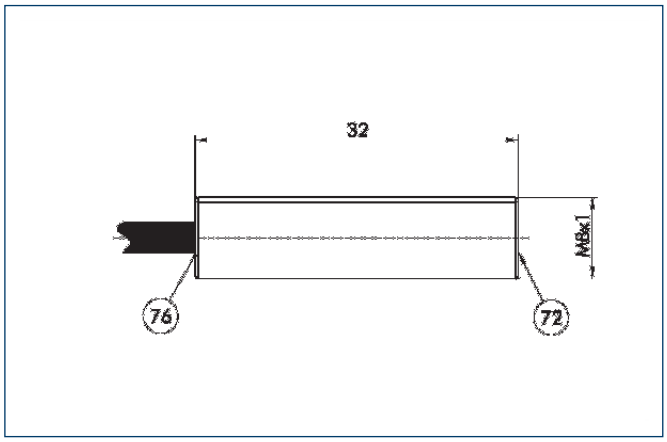
Circuit diagram of opener



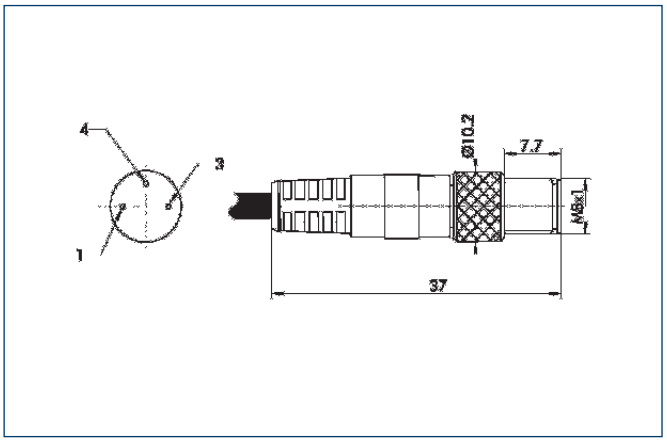
Technical data

Description		IN 80/S-M8	IN 80/S-M12	INK 80/S	IN 80/O-M8	IN 80/O-M12	INK 80/O
	ID	0301478	0301578	0301550	0301488	0301588	0301551
Switching function		Closer	Closer	Closer	Opener	Opener	Opener
Switching distance	[mm]	1.5	1.5	1.5	1.5	1.5	1.5
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP	PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0	30.0	30.0	200.0
Cable connector/cable end		M8	M12	Open wire	M8	M12	Open wire
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67	67	67	67
IP rating (connector, plugged in)		67	67	67	67	67	67
LED display on sensor		Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter	[mm]	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5	17.5	17.5	17.5
No. of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14

IN 80 sensor

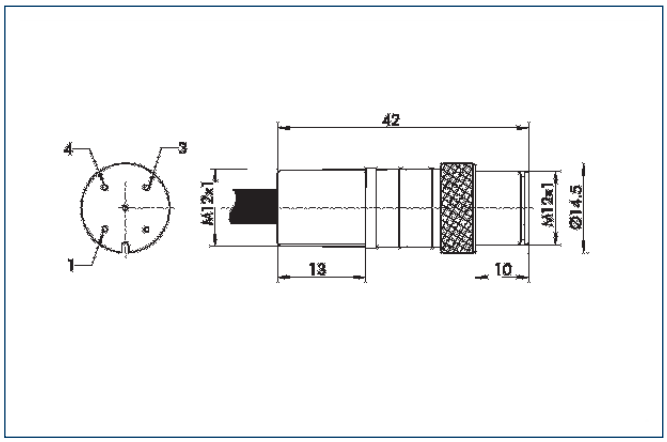


M8 connector



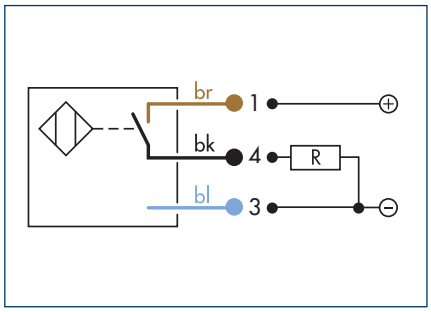
(72) Active sensor surface
(76) LED

M12 connector



IN B-80/80SL

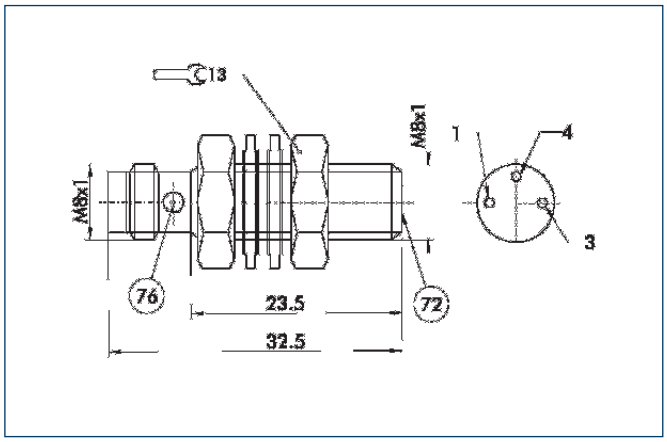
Circuit diagram of closer



Technical data

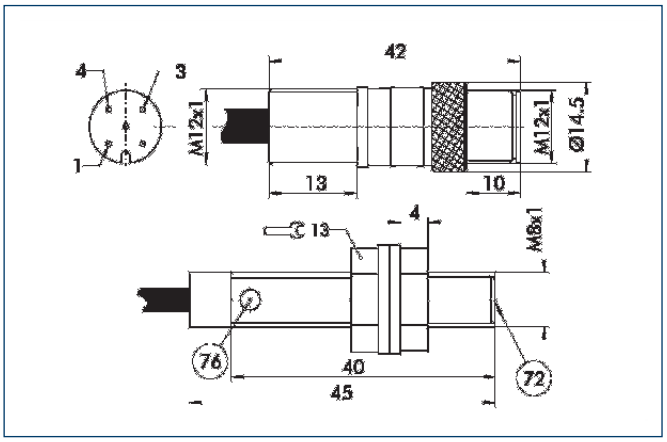
Description		IN-B 80/S-M8	IN 80/SL-M12	INK 80/SL
	ID	0301477	0301529	0301579
Switching function		Closer	Closer	Closer
Switching distance	[mm]	1.5	3.0	3.0
Hysteresis of nominal switching distance		< 15%	< 15%	< 15%
Switching method		PNP	PNP	PNP
Cable length	[cm]		30.0	200.0
Cable connector/cable end		M8	M12	Open wire
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0	1000.0
IP rating (sensor)		67	67	67
IP rating (connector, plugged in)		67	67	67
LED display on sensor		Yes	Yes	Yes
Cable diameter	[mm]		3.5	3.5
Min. bending radius (dynamic)	[mm]		35.0	35.0
Min. bending radius (static)	[mm]		17.5	17.5
No. of wires/contacts		3	3	3
Wire cross section	[mm²]		0.14	0.14

IN B-80 sensor



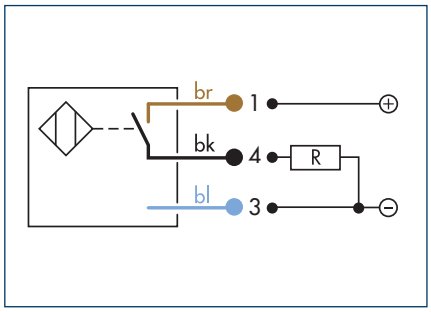
72 Active sensor surface
76 LED

IN 80/SL sensor



72 Active sensor surface
76 LED

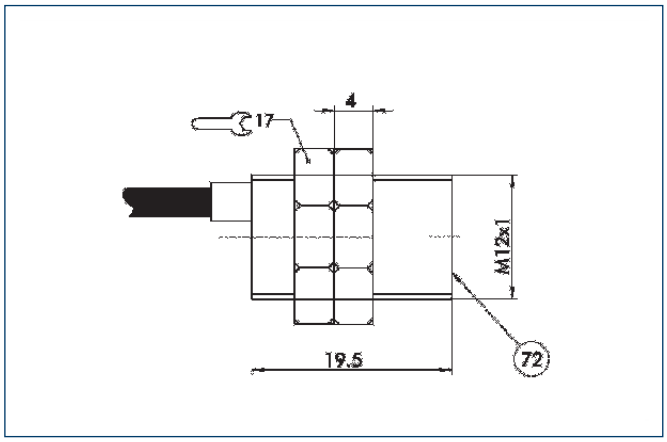
Circuit diagram of closer



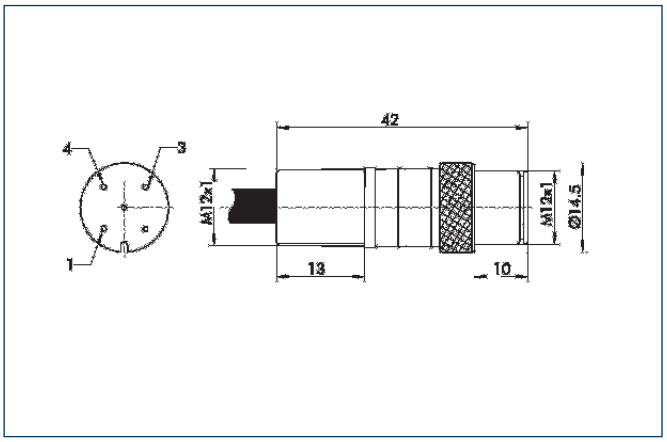
Technical data

Description		IN 120/S-M12	INK 120/S
	ID	0301592	0301562
Switching function		Closer	Closer
Switching distance	[mm]	2.0	2.0
Hysteresis of nominal switching distance		< 15%	< 15%
Switching method		PNP	PNP
Cable length	[cm]	30.0	200.0
Cable connector/cable end		M12	Open wire
Type of voltage		DC	DC
Nominal voltage	[V]	24.0	24.0
Min. voltage	[V]	10.0	10.0
Max. voltage	[V]	30.0	30.0
Voltage drop	[V]	1.5	1.5
Max. power on contact	[A]	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0
Max. switching frequency	[Hz]	1000.0	1000.0
IP rating (sensor)		67	67
IP rating (connector, plugged in)		67	67
LED display on sensor		No	No
Cable diameter	[mm]	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5
No. of wires		3	3
Wire cross section	[mm²]	0.14	0.14

IN 120/S sensor



M12 connector



(72) Active sensor surface

Reed Switches

Reed switches are mechanical switches that react to the presence of magnetic fields (magnets). They are frequently used as low-price alternatives to electronic magnetic switches (MMS).

Function description

Reed switches consist of tiny, metal contacts (reeds). Under the influence of a magnetic field, they bend and touch one another, closing the contact.

Your advantages and benefits

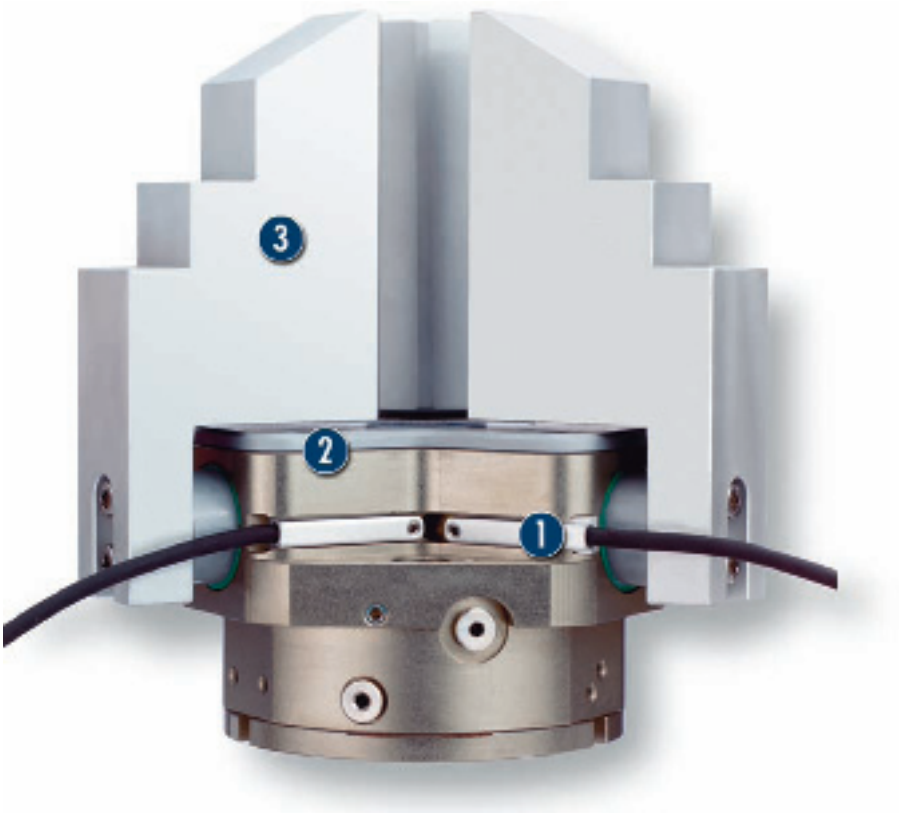
Economical
for cost-saving applications

Installed in the sensor slot
for space-saving, simple and fast assembly

Version with connector
for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable
for a long life and resistance to many chemicals

Application example



1 RMS Reed Switches for mounting in the C-slot of the gripper

2 Sealed 3-Finger Centric Gripper

3 Workpiece-specific Gripper Fingers

Area of application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Reed switches from SCHUNK detect metals without contact or wear and are resistant to dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours. Please note that not all SCHUNK products with sensor slot can be monitored using low-cost reed switches.

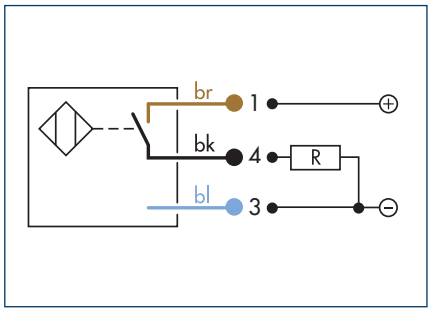
General information

Material
Sensor housing: PA in the RMS 22, stainless steel in the RMS 80
Cable: PUR sheathing
Mounting
Clamps in sensor slot (RMS 22) / brackets (RMS 80)
Protection class to DIN 40050
IP 67 when connected
Warranty
24 months

Notes

SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored by RMS slot-fitted reed switches can generally only be reliably monitored with the appropriate RMS reed switches from SCHUNK. Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself.
For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.

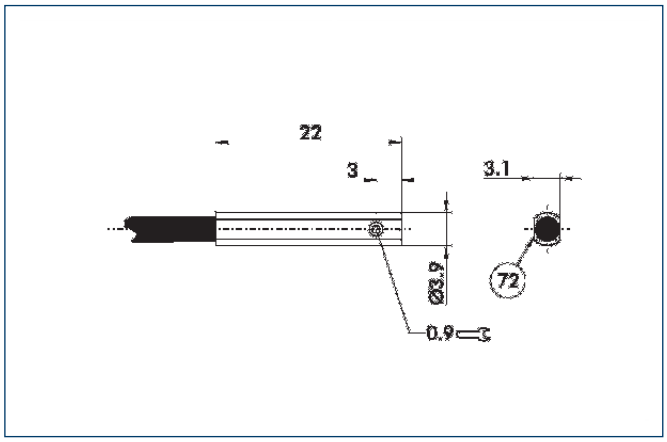
Circuit diagram of closer



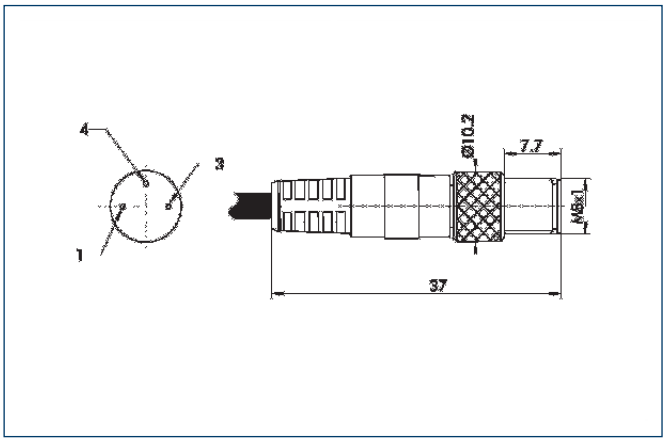
Technical data

Description		RMS 22-S-M8
	ID	0377720
Switching function		Closer
Switching method		PNP, NPN
Cable length	[cm]	30.0
Cable connector/cable end		M8
Type of voltage		DC
Max. voltage DC	[V]	120.0
Voltage drop DC	[V]	0.0
Max. current on contact DC	[A]	0.4
Type of voltage		AC
Max. voltage AC	[V]	120.0
Voltage drop AC	[V]	0.0
Max. power on contact AC	[A]	0.4
Min. ambient temperature	[°C]	-5.0
Max. ambient temperature	[°C]	70.0
Typical switching time	[s]	0.01
IP rating (sensor)		67
IP rating (connector, plugged in)		67
LED display on sensor		No
Cable diameter	[mm]	2.1
Min. bending radius (dynamic)	[mm]	21.0
Min. bending radius (static)	[mm]	10.5
No. of wires		2
Wire cross section	[mm²]	0.14

RMS 22 sensor

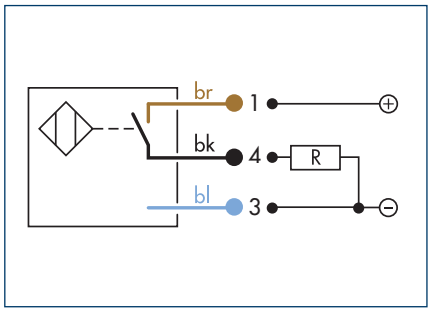


M8 connector



(72) Active sensor surface

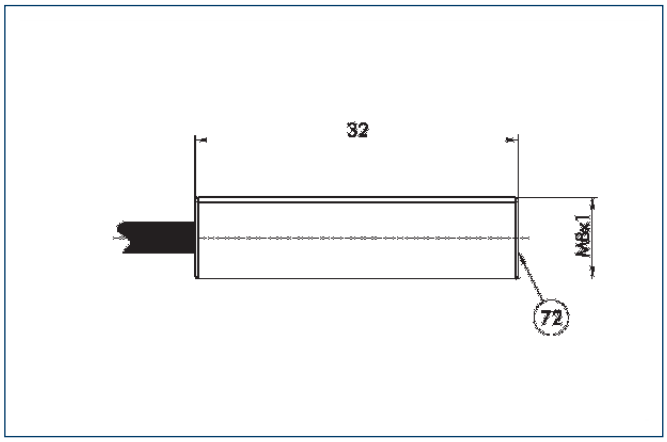
Circuit diagram of closer



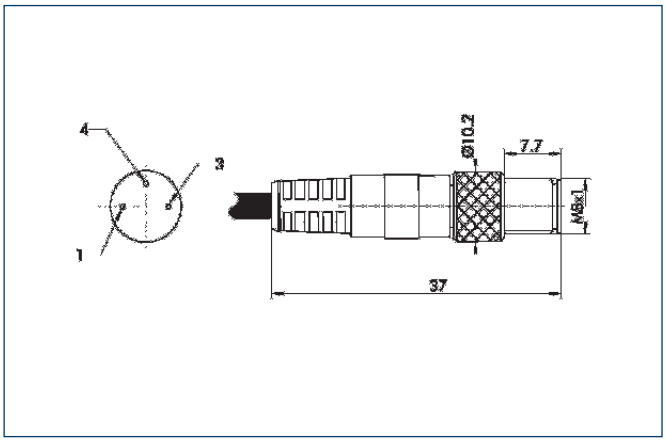
Technical data

Description		RMS 80-S-M8
	ID	0377721
Switching function		Closer
Switching method		PNP, NPN
Cable length	[cm]	30.0
Cable connector/cable end		M8
Type of voltage		DC
Max. voltage DC	[V]	120.0
Voltage drop DC	[V]	0.0
Max. current on contact DC	[A]	0.4
Type of voltage		AC
Max. voltage AC	[V]	120.0
Voltage drop AC	[V]	0.0
Max. power on contact AC	[A]	0.4
Min. ambient temperature	[°C]	-5.0
Max. ambient temperature	[°C]	70.0
Typical switching time	[s]	0.01
IP rating (sensor)		67
IP rating (connector, plugged in)		67
LED display on sensor		No
Cable diameter	[mm]	2.1
Min. bending radius (dynamic)	[mm]	21.0
Min. bending radius (static)	[mm]	10.5
No. of wires		2
Wire cross section	[mm²]	0.14

RMS 80 sensor



M8 connector



(72) Active sensor surface

Magnetic Switches

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact and, above a certain switching threshold, enable their output.

Function description

Magnetic switches react to magnetic fields. The resistors in the sensor consist of several ferromagnetic and non-magnetic layers. Two shielded and two non-shielded resistors are combined in a bridge circuit, which produces a signal proportional to the magnetic field when one is present. Above a threshold value, an output signal is switched via a comparator, and the sensor reacts.

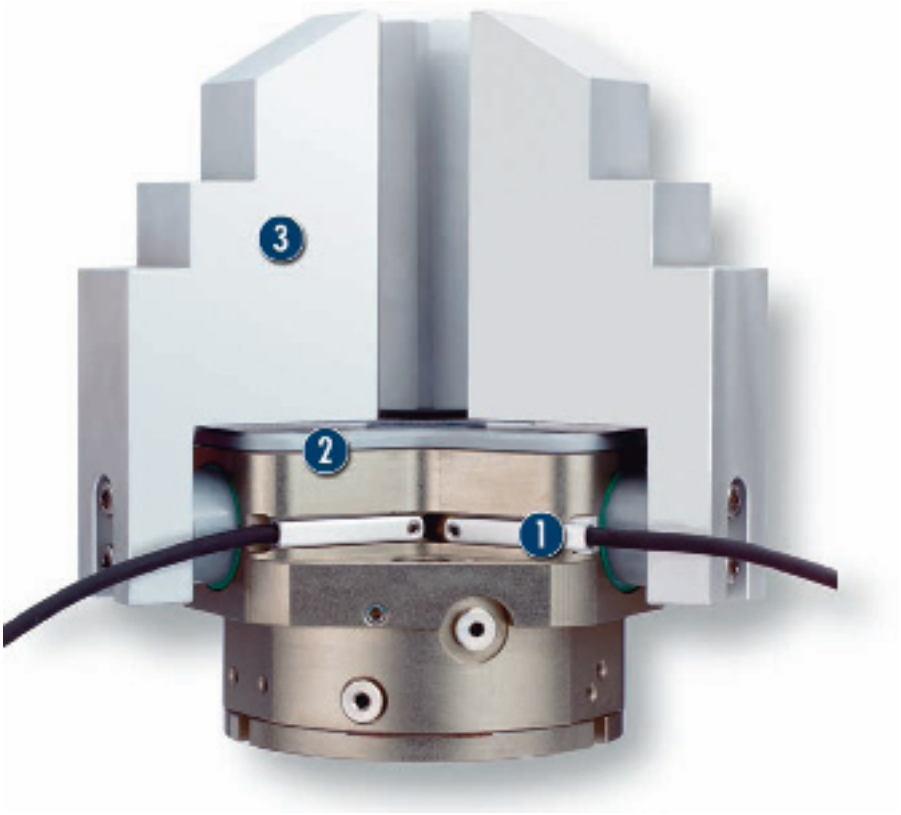
Your advantages and benefits

Installation in the sensor slot
for space-saving, simple and fast assembly

Version with LED display (MMS 22)
for checking the switching position directly at the sensor

Version with connector
for easy, rapid replacement of the extension cable

Application example



1 **MMS Electronic Magnetic Switches for mounting in the C-slot of the gripper**

2 **Sealed 3-Finger Centric Gripper**

3 **Workpiece-specific Gripper Fingers**

Area of application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours.

General information

Material
Sensor housing: PA in the MMS 22, aluminum in the MMS 30
Cable: with PUR sheathing
Mounting
Clamps in the sensor slot
Protection class to DIN 40050
IP 67 when connected
Voltage
10 – 30 V DC at < 10 % residual ripple
Switching method
PNP switching / NPN switching
Warranty
24 months

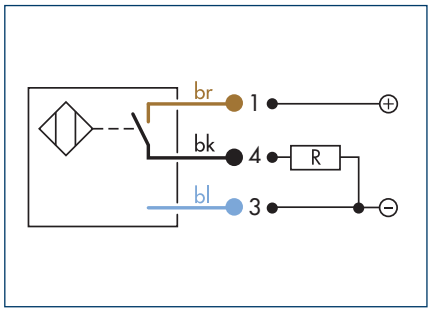
Notes

SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored with electromagnetic slot-fitted switches can generally only be reliably monitored with the appropriate electromagnetic switches from SCHUNK.

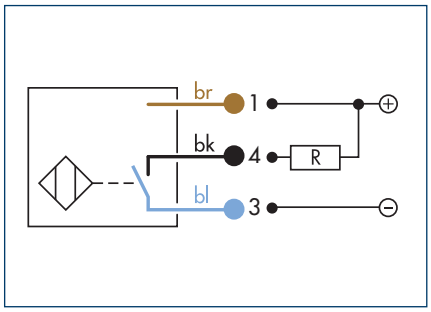
Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself.

For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.

Circuit diagram of closer



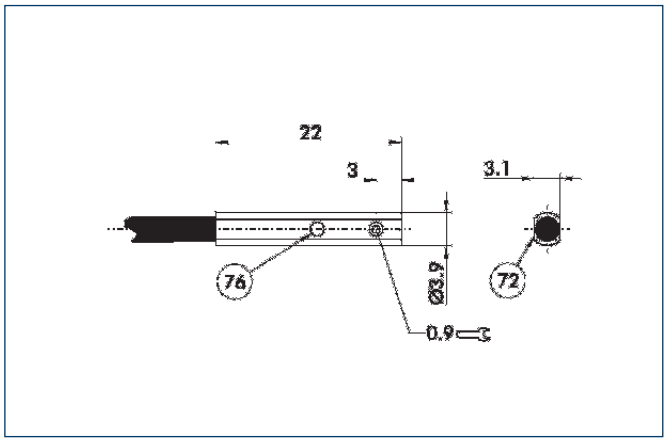
Circuit diagram of NPN closer



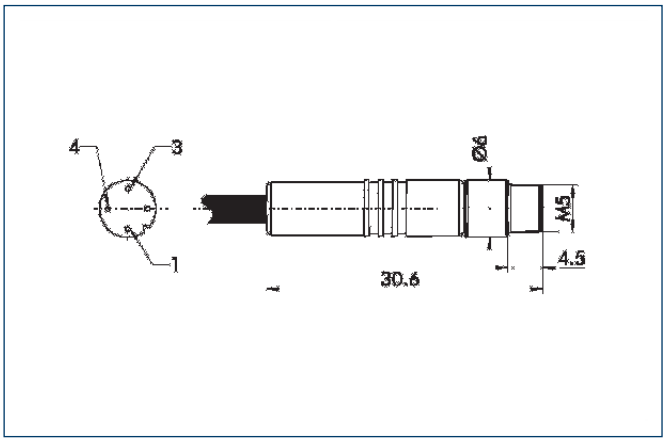
Technical data

Description		MMS 22-S-M5-PNP	MMS 22-S-M5-NPN	MMS 22-S-M8-PNP	MMS 22-S-M8-NPN	MMSK 22-S-PNP	MMSK 22-S-NPN
	ID	0301454	0301455	0301450	0301451	0301452	0301453
Switching function		Closer	Closer	Closer	Closer	Closer	Closer
Switching method		PNP	NPN	PNP	NPN	PNP	NPN
Cable length	[cm]	30.0	30.0	30.0	30.0	200.0	200.0
Cable connector/cable end		M5	M5	M8	M8	Open wire	Open wire
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	70.0	70.0	70.0	70.0	70.0	70.0
Typical switching time	[s]	0.001	0.001	0.001	0.001	0.001	0.001
IP rating (sensor)		67	67	67	67	67	67
IP rating (connector, plugged in)		67	67	67	67	67	67
LED display on sensor		Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter	[mm]	2.1	2.1	2.1	2.1	2.1	2.1
Min. bending radius (dynamic)	[mm]	21.0	21.0	21.0	21.0	21.0	21.0
Min. bending radius (static)	[mm]	10.5	10.5	10.5	10.5	10.5	10.5
No. of wires		3	3	3	3	3	3
Wire cross section	[mm²]	0.14	0.14	0.14	0.14	0.14	0.14

MMS 22 sensor

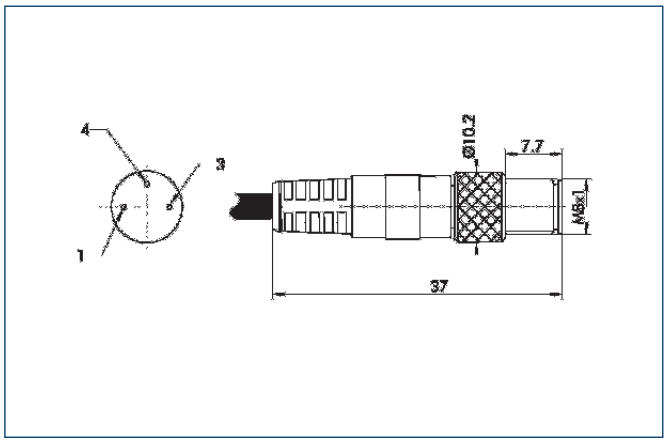


M5 connector



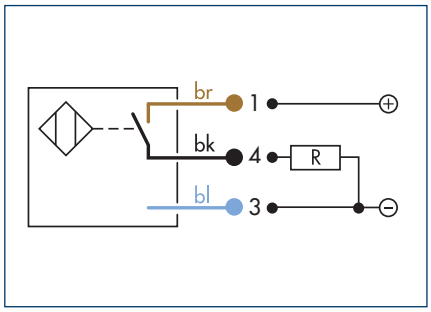
(72) Active sensor surface
(76) LED

M8 connector

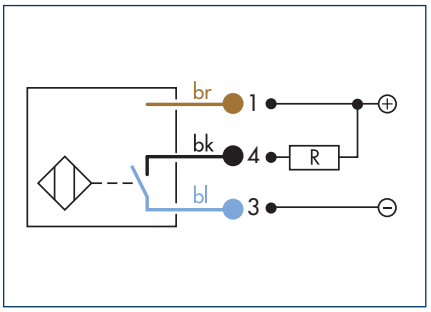


MMS 22-SA

Circuit diagram of closer



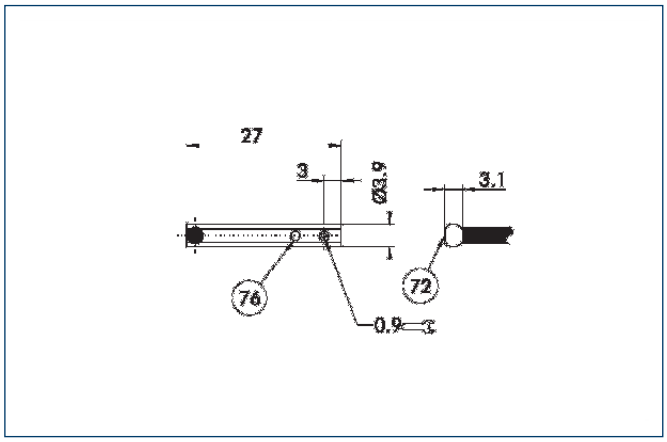
Circuit diagram of NPN closer



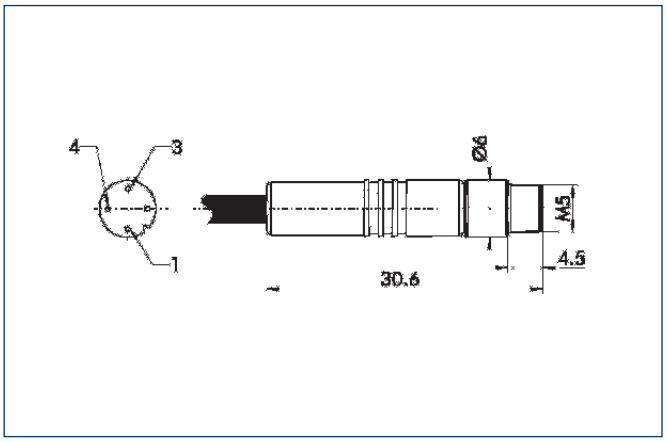
Technical data

Description		MMS 22-S-M5-PNP-SA	MMS 22-S-M5-NPN-SA	MMS 22-S-M8-PNP-SA	MMS 22-S-M8-NPN-SA	MMSK 22-S-PNP-SA	MMSK 22-S-NPN-SA
	ID	0301460	0301461	0301456	0301457	0301458	0301459
Switching function		Closer	Closer	Closer	Closer	Closer	Closer
Switching method		PNP	NPN	PNP	NPN	PNP	NPN
Cable length	[cm]	30.0	30.0	30.0	30.0	200.0	200.0
Cable connector/cable end		M5	M5	M8	M8	Open wire	Open wire
Type of voltage		DC	DC	DC	DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	70.0	70.0	70.0	70.0	70.0	70.0
Typical switching time	[s]	0.001	0.001	0.001	0.001	0.001	0.001
IP rating (sensor)		67	67	67	67	67	67
IP rating (connector, plugged in)		67	67	67	67	67	67
LED display on sensor		Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter	[mm]	2.1	2.1	2.1	2.1	2.1	2.1
Min. bending radius (dynamic)	[mm]	21.0	21.0	21.0	21.0	21.0	21.0
Min. bending radius (static)	[mm]	10.5	10.5	10.5	10.5	10.5	10.5
No. of wires		3	3	3	3	3	3
Wire cross section	[mm^2]	0.14	0.14	0.14	0.14	0.14	0.14

MMS 22-SA sensor

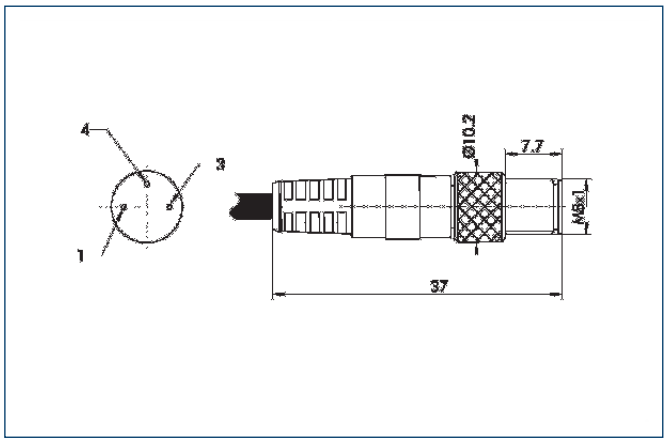


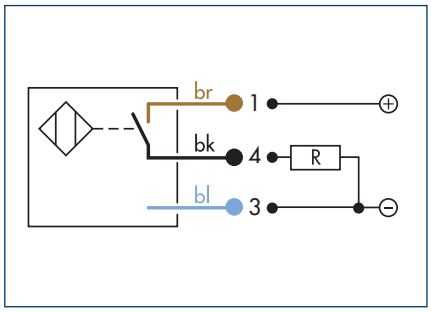
M5 connector



(72) Active sensor surface
(76) LED

M8 connector

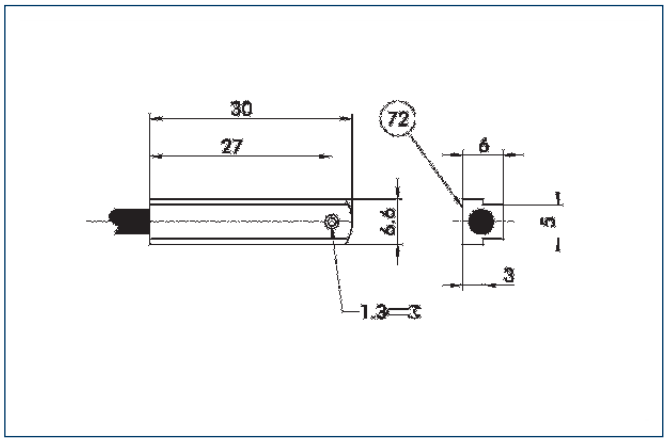




Technical data

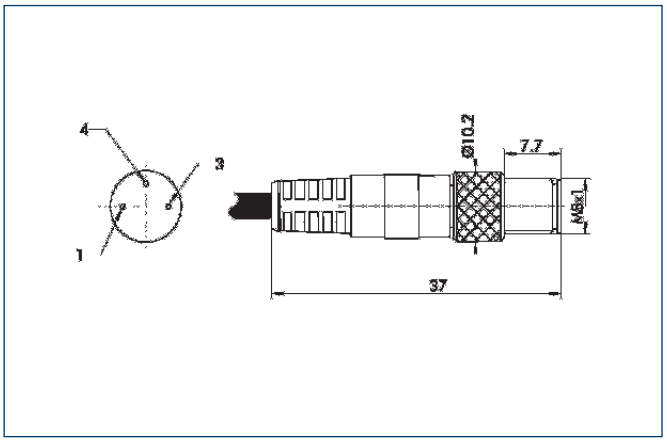
Description		MMS 30-S-M8-PNP	MMS 30-S-M12-PNP	MMSK 30-S-PNP
ID		0301471	0301571	0301563
Switching function		Closer	Closer	Closer
Switching method		PNP	PNP	PNP
Cable length	[cm]	30.0	30.0	200.0
Cable connector/cable end		M8	M12	Open wire
Type of voltage		DC	DC	DC
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage	[V]	10.0	10.0	10.0
Max. voltage	[V]	30.0	30.0	30.0
Voltage drop	[V]	1.5	1.5	1.5
Max. power on contact	[A]	0.2	0.2	0.2
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
Typical switching time	[s]	0.001	0.001	0.001
IP rating (sensor)		67	67	67
IP rating (connector, plugged in)		67	67	67
LED display on sensor		No	No	No
Cable diameter	[mm]	3.5	3.5	3.5
Min. bending radius (dynamic)	[mm]	35.0	35.0	35.0
Min. bending radius (static)	[mm]	17.5	17.5	17.5
No. of wires		3	3	3
Wire cross section	[mm^2]	0.14	0.14	0.14

MMS 30 sensor

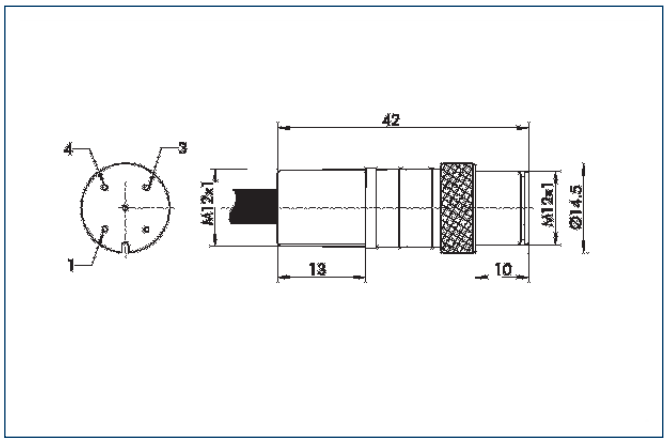


(72) Active sensor surface

M8 connector



M12 connector



Sensor tester

The SST sensor tester enables the rapid testing and adjustment of inductive sensors, magnetic switches and reed contacts. The necessary power is supplied by a 9 V compound battery.

Function description

The sensor is connected to the M8 – M12 or terminal connection of the sensor tester and the ON button pressed. The sensor position is displayed visually by LEDs and output acoustically via a signal buzzer.

Your advantages and benefits

Visual and acoustic signal
for simple function checking and adjustment

For 2 and 3-wire DC technology
enabling the connection of reed contacts, capacitive and inductive sensors

Tests possible without dismantling sensors
for short maintenance times

Connections for M8 and M12 or open cable ends possible
ensuring suitability for all SCHUNK sensors

PNP and NPN sensors can be tested

Operating voltage with 9 V compound battery
for mobile use

Automatic cut-off function
for an extended battery life

Application example

Area of application

Sensor testing and adjustment of the switching point (sensor calibration)

1. Sensor tester SST
2. Inductive proximity switches IN 80
3. Metal plate

General information

Scope of delivery

Sensor tester incl. assembly and operating manual with manufacturer's declaration, 9 V compound battery

Notes

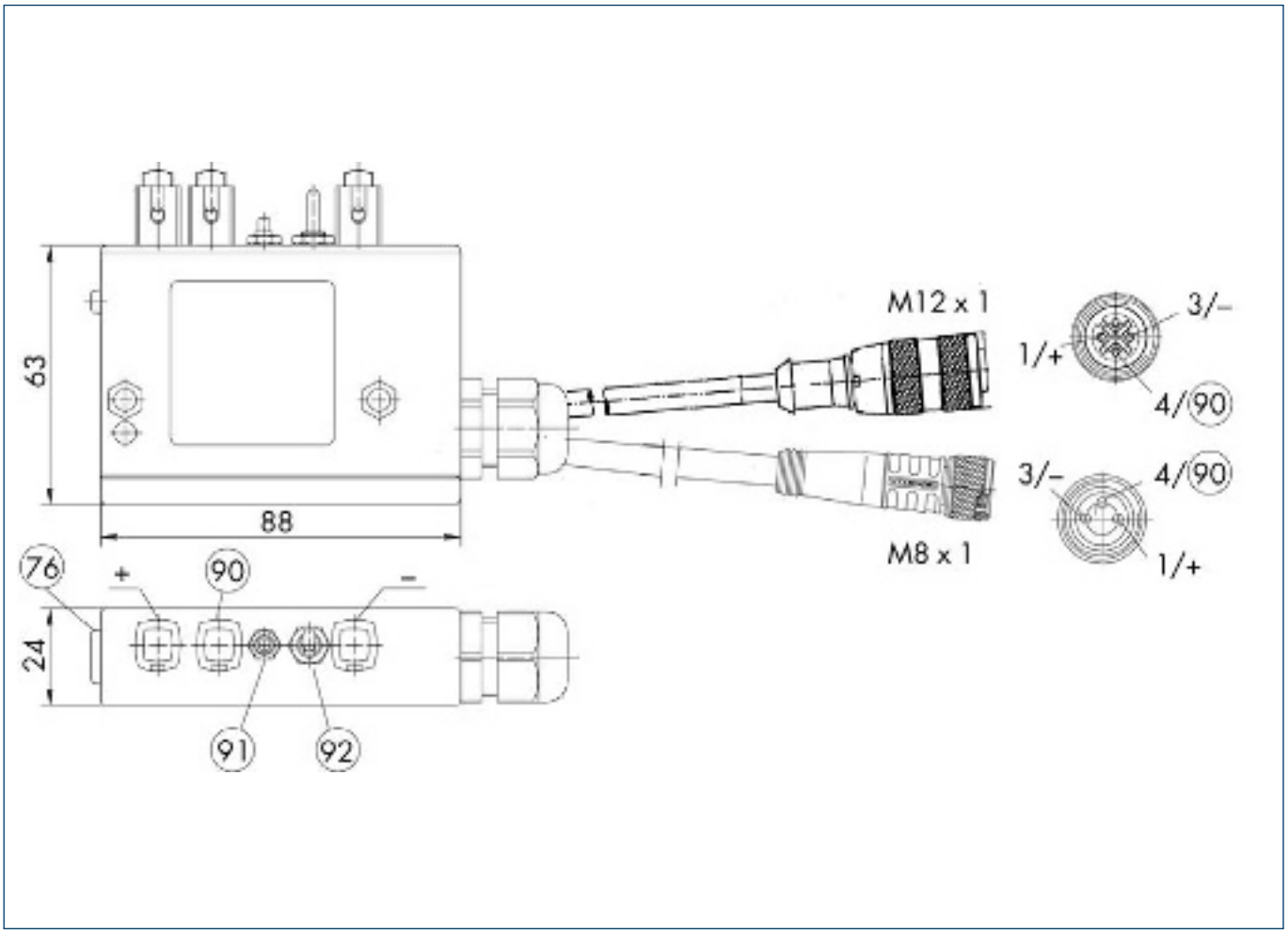
Please note that only one SST input (M8 or M12 or cable terminal input) can be used at once.

If the toggle switch is towards the sticker (nameplate), PNP is selected, if not, NPN

Technical data

Description	SST
ID	0301400
Battery	9 V DC (compound battery Type LR 61)
Connection 1	M12*1
Connection 2	M8*1
Connection 3	direct clamping
Housing material	plastic
IP class	20

Main views



76 LED
90 Output
91 ON button
92 PNP / NPN changeover switch

Adjustable housing for proximity switch

The adjustable housings enable the position of the sensor to be set once only. If the sensor is changed, the sensor position is retained.

Function description

The sensor is inserted in the adjustable housing and fastened with the coupling ring. Next, the switching position is set. When the sensor is changed, the adjustable housing remains in the same location – only the sensor is changed by removing the coupling ring.

Your advantages and benefits

Setting has to be carried out only once
for rapid sensor replacement without recalibration

Corrosion-free material
for a long service life

Switches are protected against shocks
preventing mechanical destruction

Application example

Area of application

For universal use in the monitoring of automation modules with proximity switches

1 NHG adjustable housing

2 SRU 63 Flat Rotary Actuator

General information

Warranty
24 months

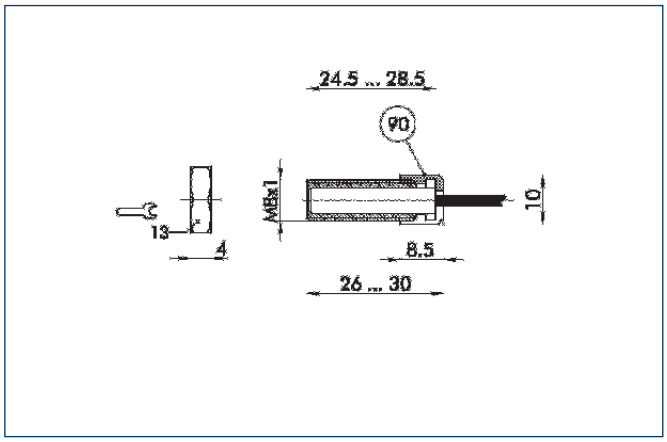
Notes

The coupling ring is slotted for fitting onto the cable.

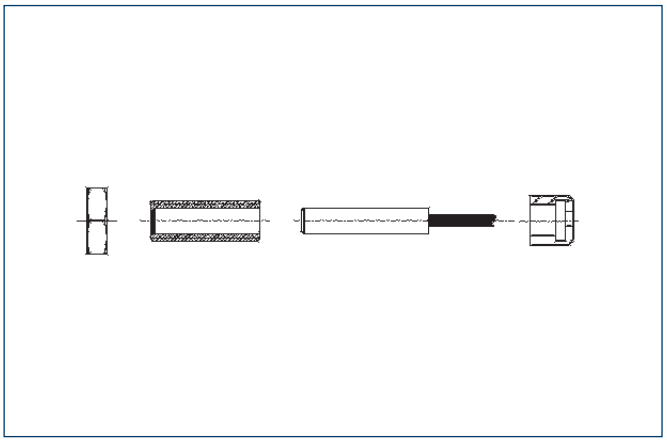
Technical data

Description		NHG 5	NHG 8
	ID	9646006	9646007
Suitable sensor Ø		M5	M8
Min. sensor length	[mm]	31.5	24.5
Max. sensor length	[mm]	35.5	28.5
Weight	[kg]	0.008	0.006
Material		Steel	Steel

NHG 5

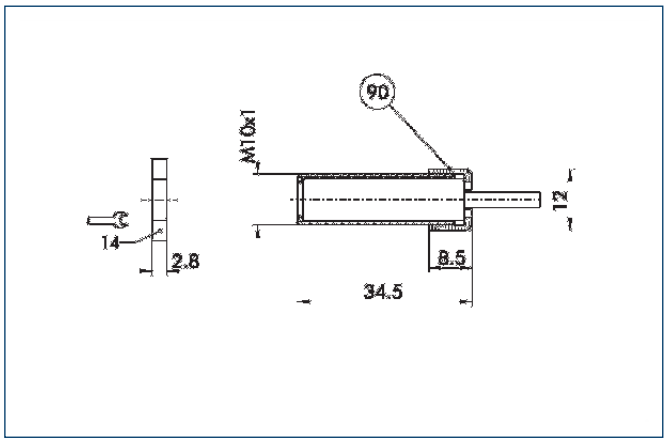


NHG 5 assembly

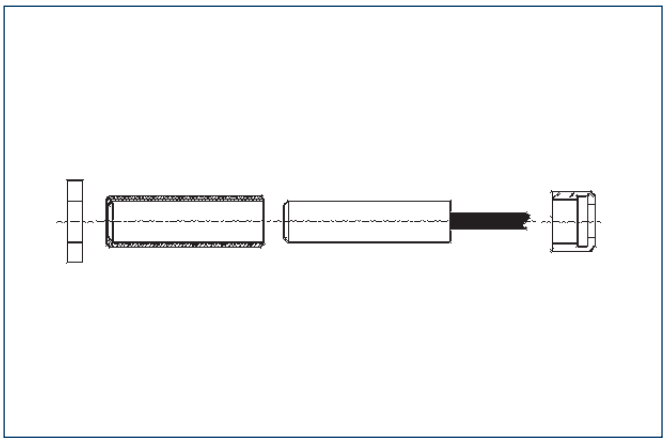


(90) Coupling ring is slotted for fitting onto the cable

NHG 8



NHG 8 assembly

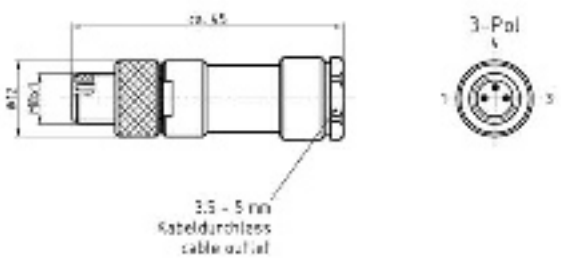


(90) Coupling ring is slotted for fitting onto the cable

Accessories for Sensor Systems

Configurable cable connectors, straight

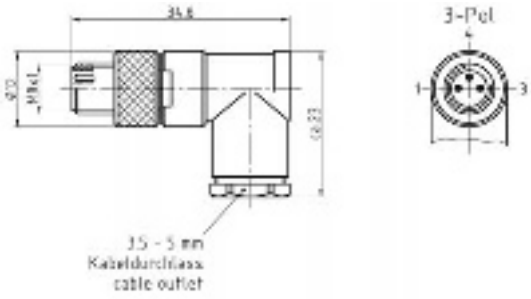
Pin connector



ID		0300050
Connection		3-pin
Maximum voltage	[V]	60 AC / 75 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.25
Protection class		IP 67
Housing material		PA

Configurable cable connectors, angled

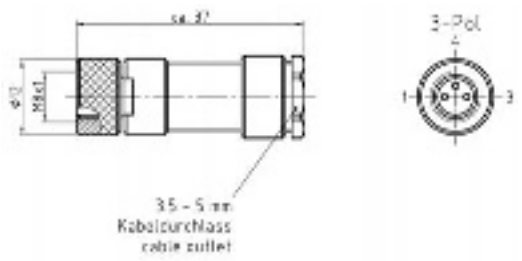
Pin connector



ID		0300051
Connection		3-pin
Maximum voltage	[V]	60 AC / 75 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.25
Protection class		IP 67
Housing material		PA

Configurable cable connectors, straight

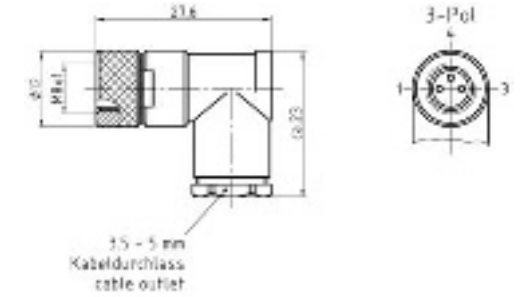
Socket connector



ID		0300052
Connection		3-pin
Maximum voltage	[V]	60 AC / 75 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.25
Protection class		IP 67
Housing material		PA

Configurable cable connectors, angled

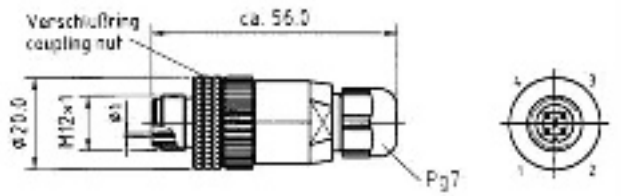
Socket connector



ID		0300053
Connection		3-pin
Maximum voltage	[V]	60 AC / 75 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.25
Protection class		IP 67
Housing material		PA

Configurable cable connectors, straight

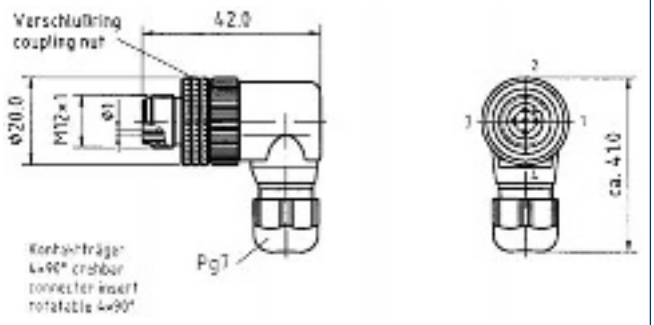
Sealed pin connector



ID		0300060
Connection		4-pin
Maximum voltage	[V]	250 AC / 300 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.75
Protection class		IP 68
Housing material		PA
Cable terminal area	[mm]	Ø 2.5 – Ø 6.5

Configurable cable connectors, angled

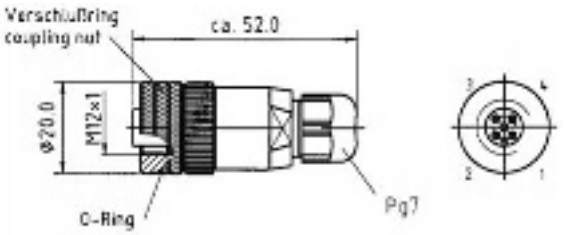
Sealed pin connector



ID		0300061
Connection		4-pin
Maximum voltage	[V]	250 AC / 300 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.75
Protection class		IP 68
Housing material		PA
Cable terminal area	[mm]	Ø 2.5 – Ø 6.5

Configurable cable connectors, straight

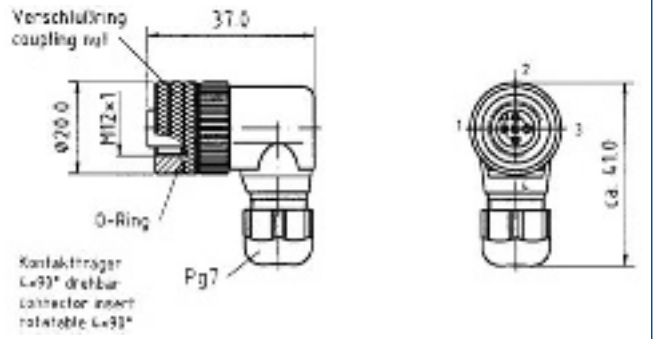
Sealed socket connector



ID		0300062
Connection		4-pin
Maximum voltage	[V]	250 AC / 300 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.75
Protection class		IP 68
Housing material		PA
Cable terminal area	[mm]	Ø 2.5 – Ø 6.5

Configurable cable connectors, angled

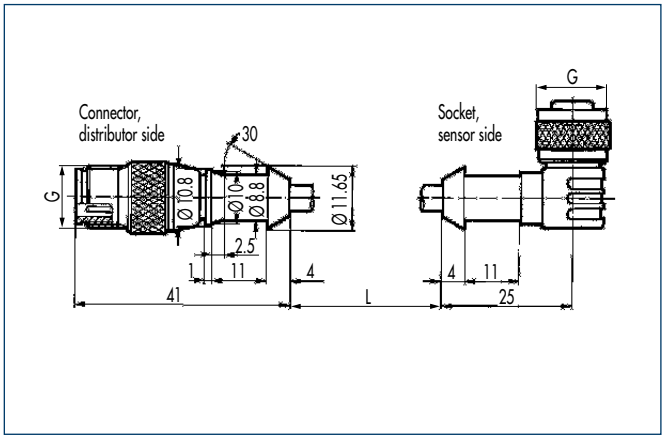
Sealed socket connector



ID		0300063
Connection		4-pin
Maximum voltage	[V]	250 AC / 300 DC
Maximum amperage	[A]	4
Max. cross-section for connection	[mm²]	0.75
Protection class		IP 68
Housing material		PA
Cable terminal area	[mm]	Ø 2.5 – Ø 6.5

Accessories for Sensor Systems

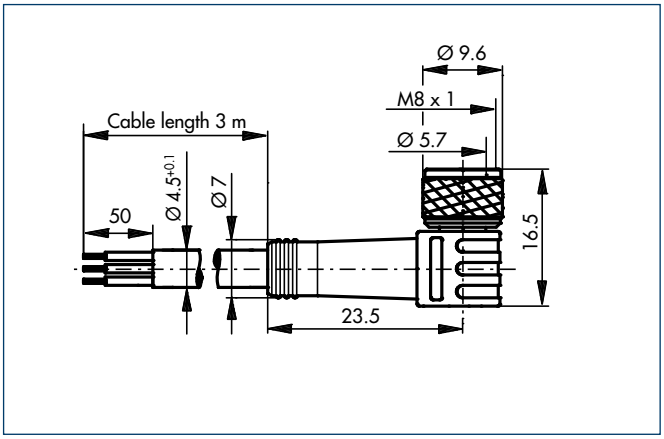
KV cable extensions for IN



KV cable extensions for IN proximity switches

Description	ID	Length L	Thread G
KV 3-M12	**0301595**	0.3 m	M12
KV 10-M12	**0301596**	1.0 m	M12
KV 20-M12	**0301597**	2.0 m	M12
KV 3-M8	**0301495**	0.3 m	M8
KV 10-M8	**0301496**	1.0 m	M8
KV 20-M8	**0301497**	2.0 m	M8

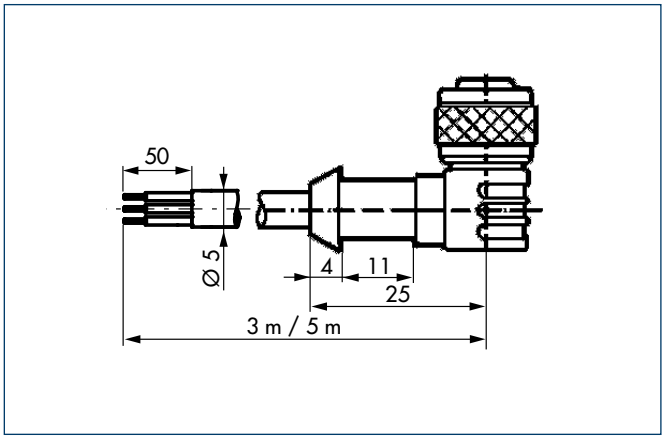
Feeder cable with right-angle plug WK



M8 connector, right-angle plug with 2 LEDs

Description	ID	Cable length
WK 3-M8	**0301594**	3 m
WK 5-M8	**0301502**	5 m
WK 3-M8 NPN	**0301602**	3 m
WK 5-M8 NPN	**9641116**	5 m

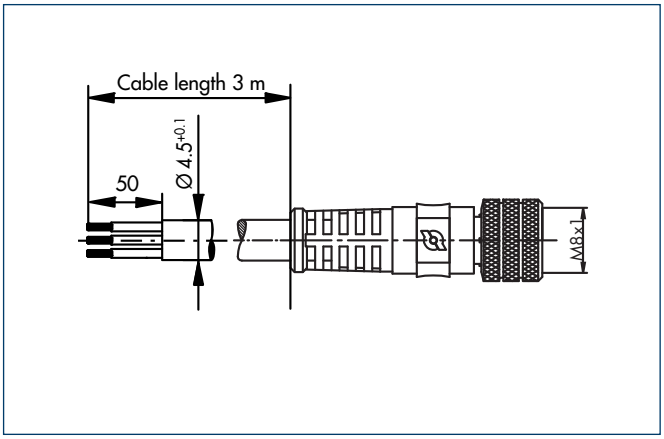
Feeder cable with right-angle plug W



M12 connector, right-angle plug with 2 LEDs

Description	ID	Cable length
W 3-M12	**0301503**	3 m
W 5-M12	**0301507**	5 m

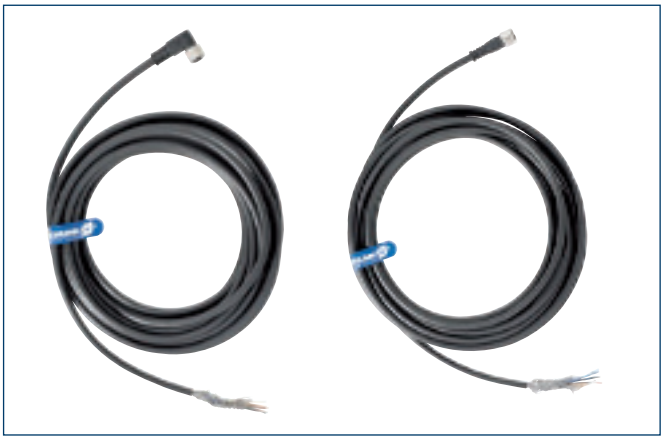
Feeder cable with straight plug GK 3



M8 connector, straight plug with 2 LEDs

Description	ID	Cable length
GK 3-M8	**0301622**	3 m

Interconnecting cable for MEG



Interconnecting cable for the electrical connection of MEG-K and MEG-EC 2-finger parallel grippers

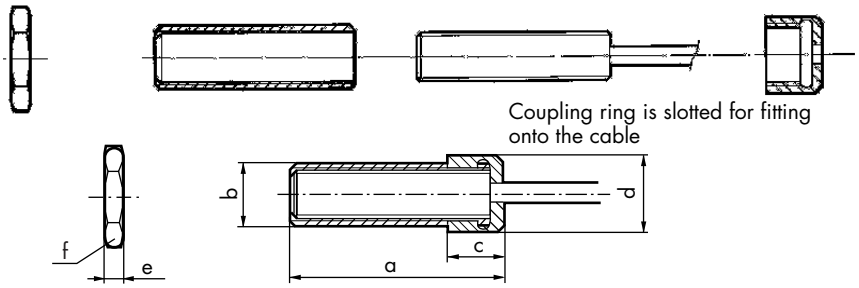
Description	ID	Cable length
MEG-EC-K5-W	**0307765**	5 m
MEG-EC-K10-W	**0307766**	10 m
MEG-EC-K5-G	**0307767**	5 m
MEG-EC-K10-G	**0307768**	10 m
MEG-IC-K5-W	**0307760**	5 m
MEG-IC-K10-W	**0307761**	10 m

Hybrid cable for PG/PR/PW/PDU/PSM

Interconnecting cable for the electrical connection of modules from the PowerCube series

Description	ID	Basic length	Extended length
PowerCube hybrid cable spiraled	**0307753**	0.3 m	0.8 m
PowerCube hybrid cable spiraled	**0307754**	0.46 m	1.5 m
PowerCube hybrid cable straight	**9941120**	By the meter	–

Adjustable housing for proximity switches



Description	NHG 5	NHG 8
ID	**9646006**	**9646007**
Suitable for type	M5 x 0.5 x 25	M8 x 1 x 32
a	27	34.5
b	M8 x 1	M10 x 1
c	8.5	8.5
d	10	12
e	4	2.8
f	SW 13	SW 14

Advantages of the NHG

- Setting has to be carried out only once
- Rapid replacement of faulty switches
- Corrosion-free material
- Setting does not have to be changed if proximity switch is replaced
- Switches are protected against mechanical influences

Accessories for Sensor Systems

Product advantages

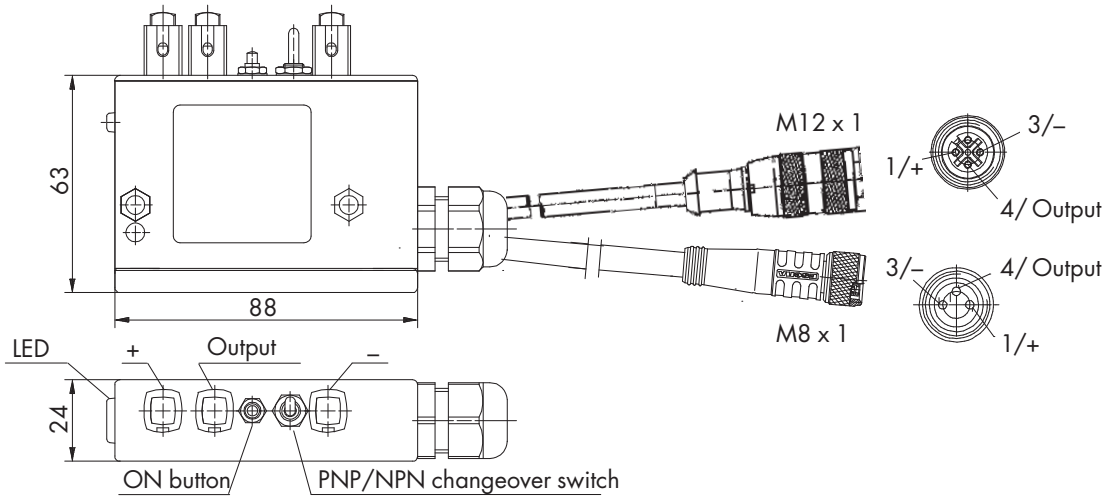
The SST sensor tester is an efficient assistant in service and assembly. For the rapid testing and adjustment of proximity sensors.

- Visual and acoustic signal
- For 2 and 3-wire DC technology
- Testing possible without dismantling sensors
- Connections for M8 and M12 or open cable ends possible
- PNP and NPN detection possible
- Operating voltage with 9 V compound battery
- "Auto-Power Off" function

Technical data

Description		SST
	ID	0301400
Supply voltage	[V]	9 DC (compound battery type 6 LR 61)
Internal operating voltage	[V]	15 DC
Protection class to DIN 40050		IP 20
LED display		Yes
Operating voltage display		Green LED
Function display		Yellow LED
Undervoltage display		Red LED
Housing		PA 6.6 blue

Main views


63
88
24
LED
+
Output
–
ON button
PNP/NPN changeover switch
M12 x 1
3/–
1/+
4/ Output
M8 x 1
3/–
4/ Output
1/+

Sensor Distributor

For connecting all SCHUNK sensors and sensor systems (IN/INK/MMS, etc.). In the versions 2 (V2), 4 (V4) and 8 (V8).

Function description

Distributors collect incoming signals and forward them in a single cable. This eliminates with unnecessary cables. The switching state of the connected components can be checked by the LEDs integrated in the distributor.

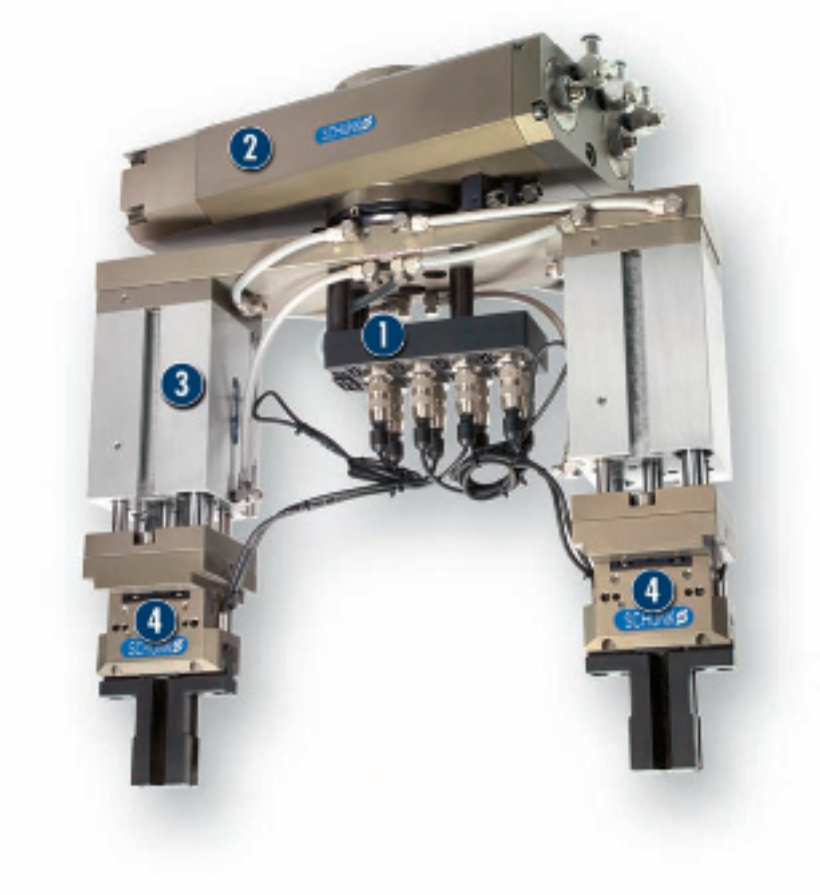
Your advantages and benefits

Status and switching display via LED
for directly checking the switching state

One feeder cable
making it ideal for feeding through signals

Sturdy PA housing
for a long life and resistance to many chemicals

Application example



Area of application

Sensor distributors from SCHUNK are universal and resistant to vibration, dust and humidity.
They are therefore suitable for use in both clean and dirty environments.

1. **V 8 Sensor Distributor**
2. **SRU 63 Flat Rotary Actuator**
3. **PHE Stroke Module**
4. **PGN 2-Finger Parallel Gripper with workpiece-specific gripper fingers**

General information

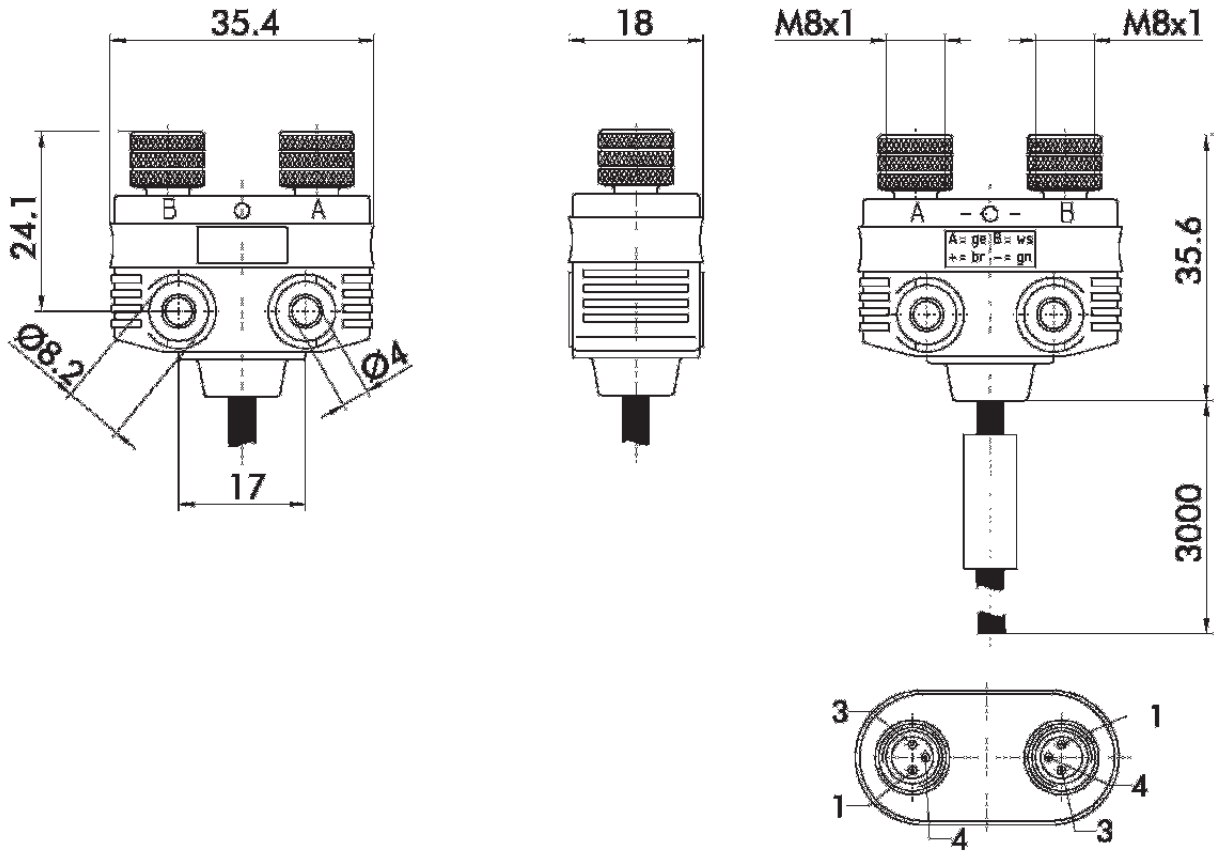
Materials
Housing: PA 6 GF 30, black
Cable: PUR sheathing
Mounting
with screws
Protection class to DIN 40050
IP 67 when connected

Scope of delivery
Complete incl. sealing plugs for sealing unused connections, 1 set of labels
Warranty
24 months

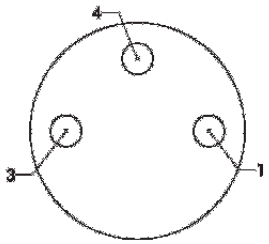
Technical data

Description		V 2-M8	V 2-M12
	ID	0301900	0301589
Socket		M8*1	M12*1
Cable length	[m]	3.0	3.0
Nominal voltage	[V]	24.0	24.0
Min. voltage	[V]	10.0	10.0
Max. voltage	[V]	30.0	30.0
Max. current per wire	[A]	2.0	2.0
Max. overall current		2.0	2.0

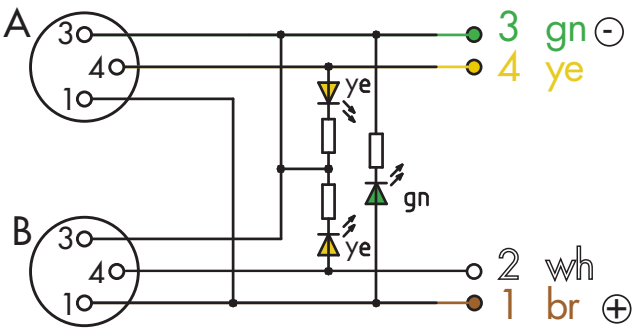
Main views of the V 2-M8



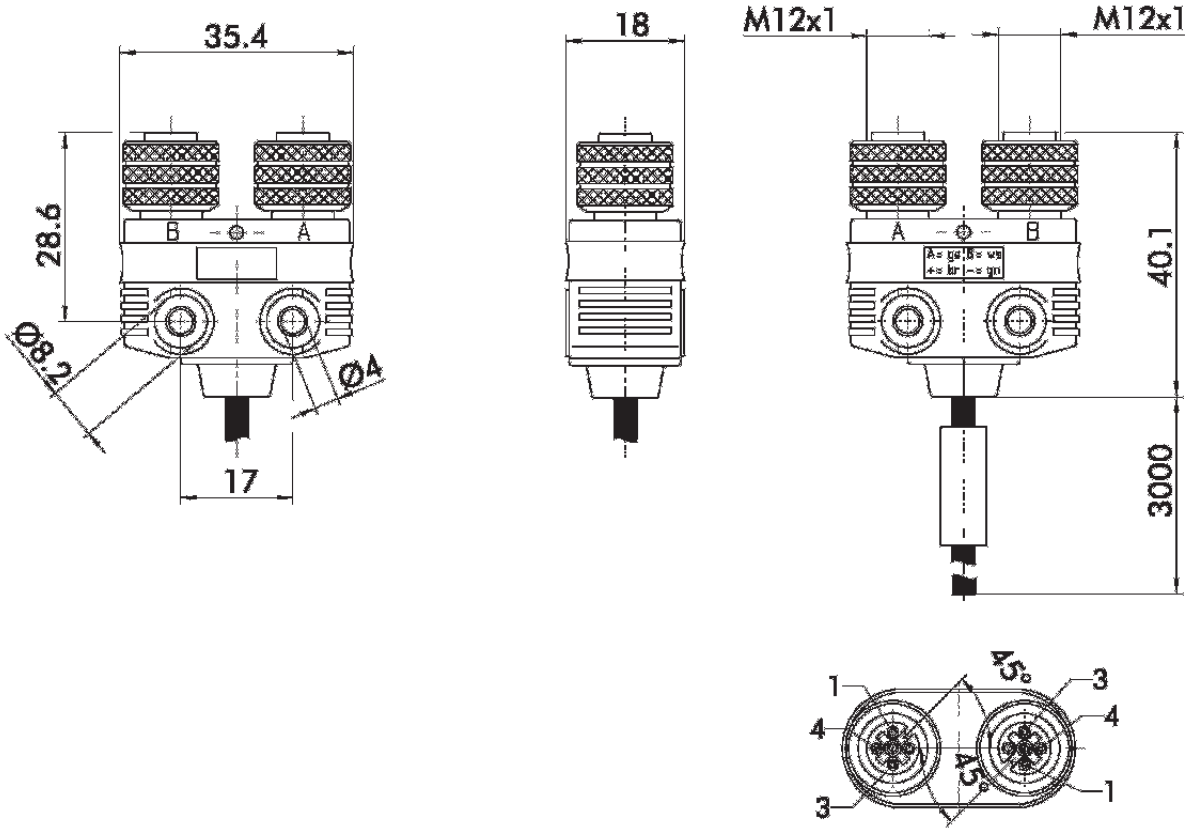
M8 contact assignment



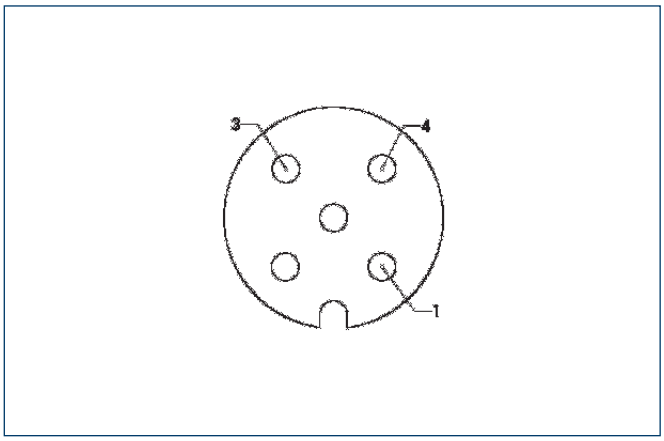
Wiring diagram



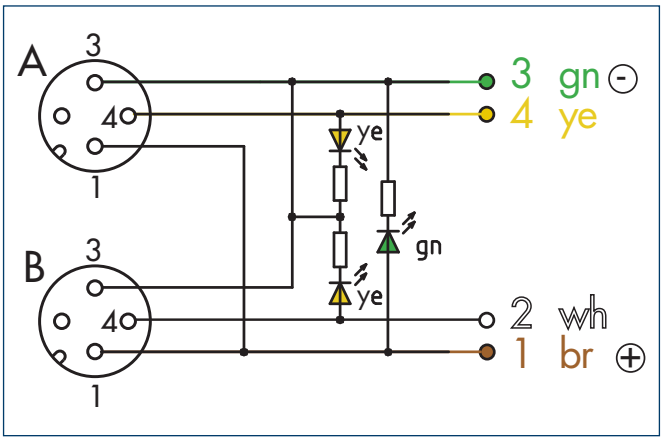
Main views of the V 2-M12



M12 contact assignment



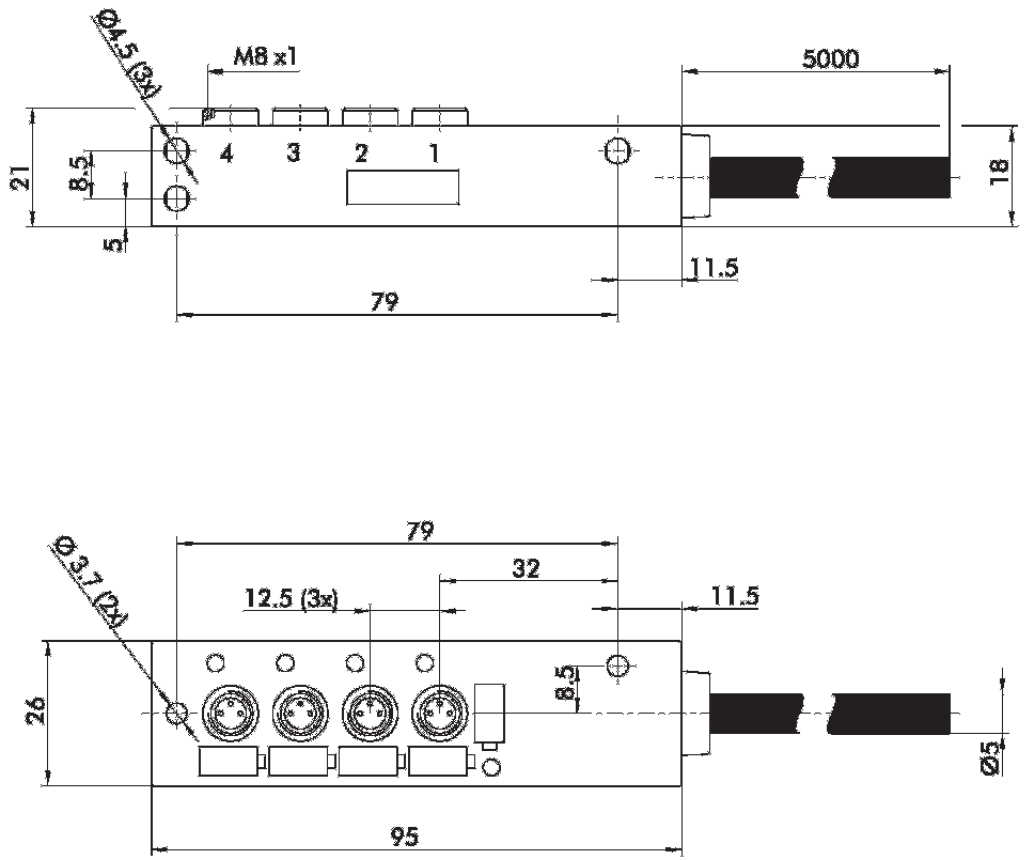
Wiring diagram



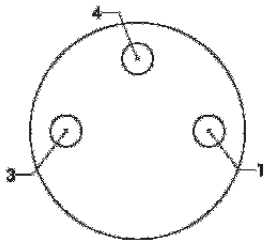
Technical data

Description		V 4-M8	V 4-M12
	ID	0301904	0301902
Socket		M8*1	M12*1
Cable length	[m]	3.0	3.0
Nominal voltage	[V]	24.0	24.0
Min. voltage	[V]	10.0	10.0
Max. voltage	[V]	30.0	30.0
Max. current per wire	[A]	2.0	2.0
Max. overall current		2.0	2.0

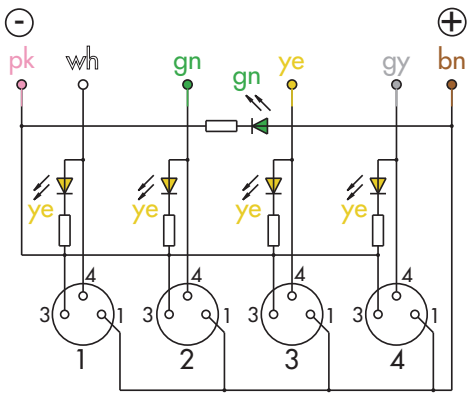
Main views of the V 4-M8



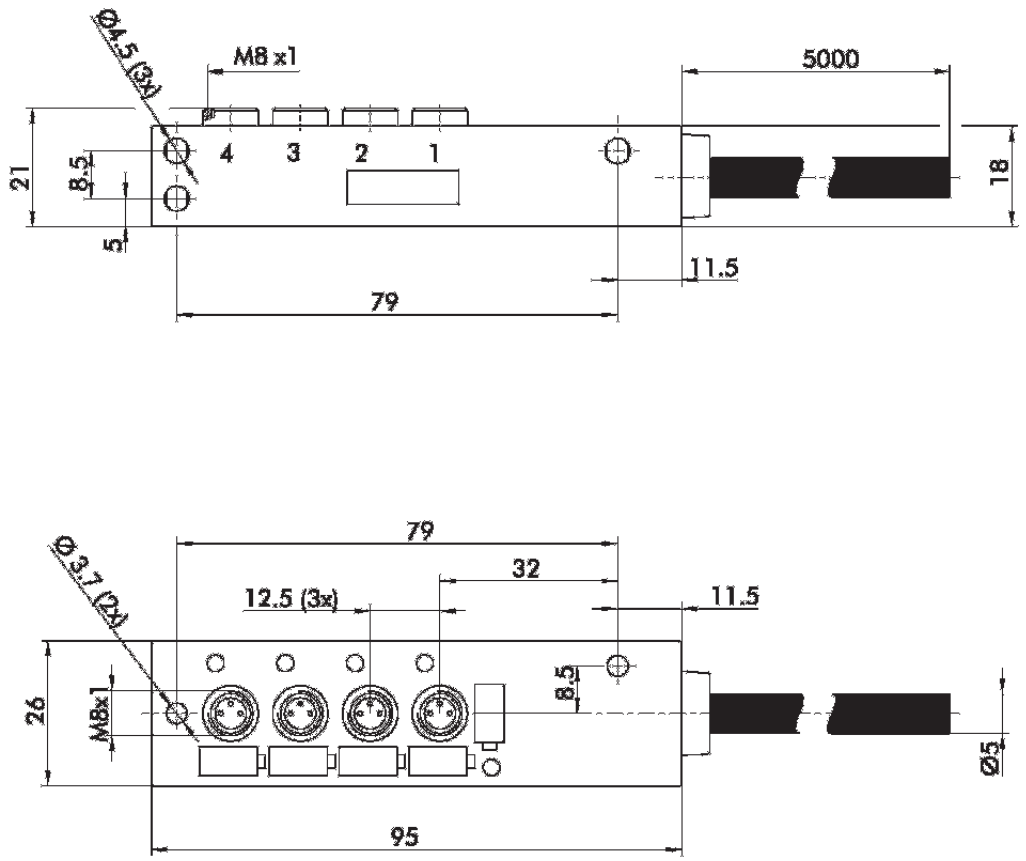
M8 contact assignment



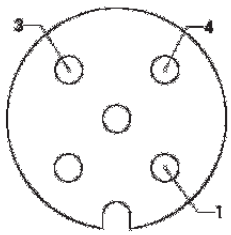
Wiring diagram



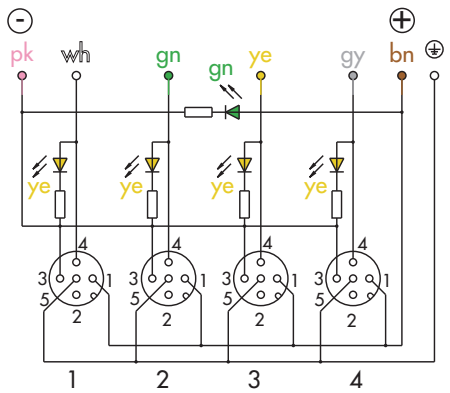
Main views of the V 4-M12



M12 contact assignment



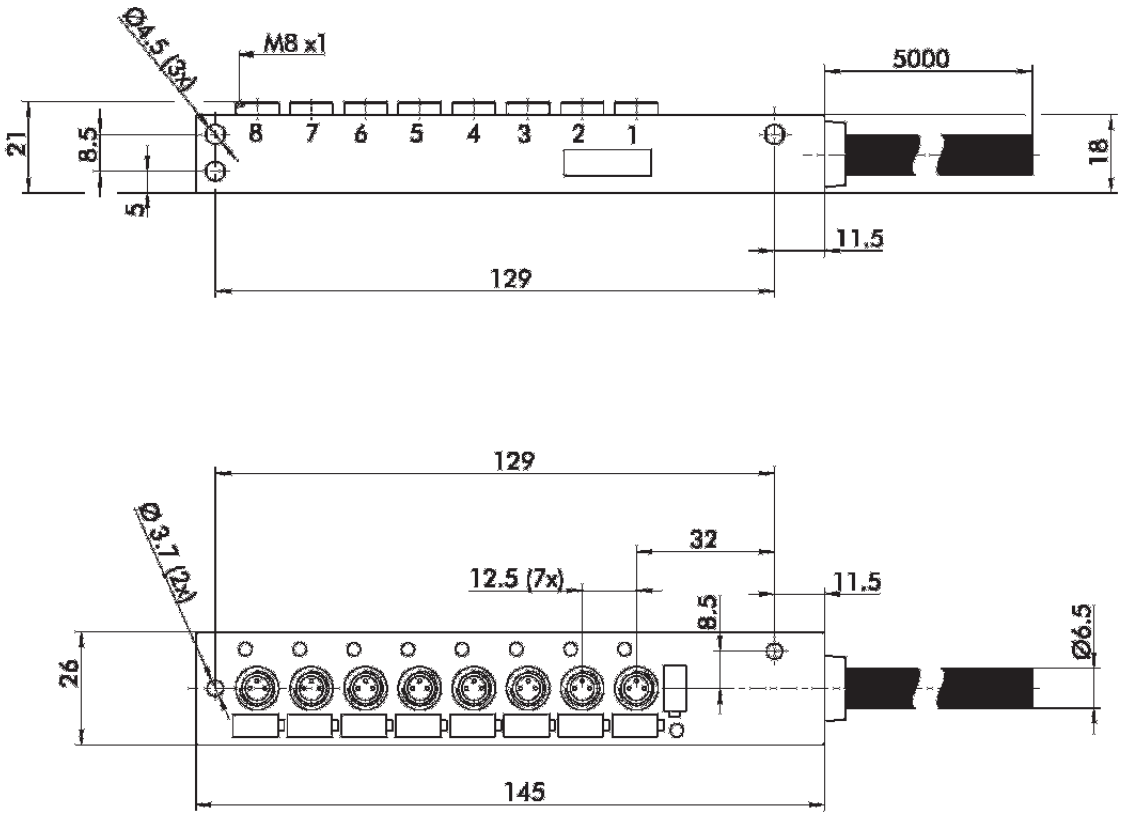
Wiring diagram



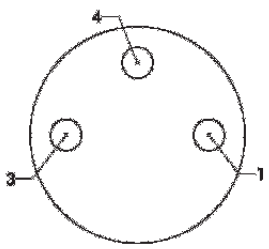
Technical data

Description		V 8-M8	V 8-M12
	ID	0301906	0301590
Socket		M8*1	M12*1
Cable length	[m]	3.0	3.0
Nominal voltage	[V]	24.0	24.0
Min. voltage	[V]	10.0	10.0
Max. voltage	[V]	30.0	30.0
Max. current per wire	[A]	2.0	2.0
Max. overall current		2.0	2.0

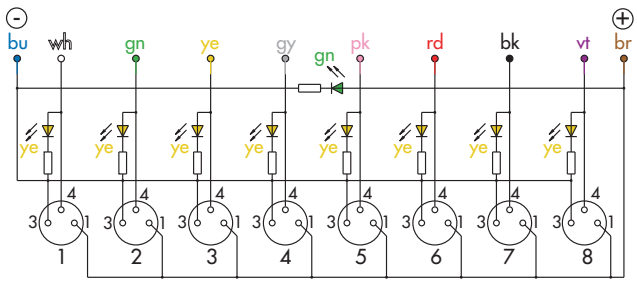
Main views of the V 8-M8



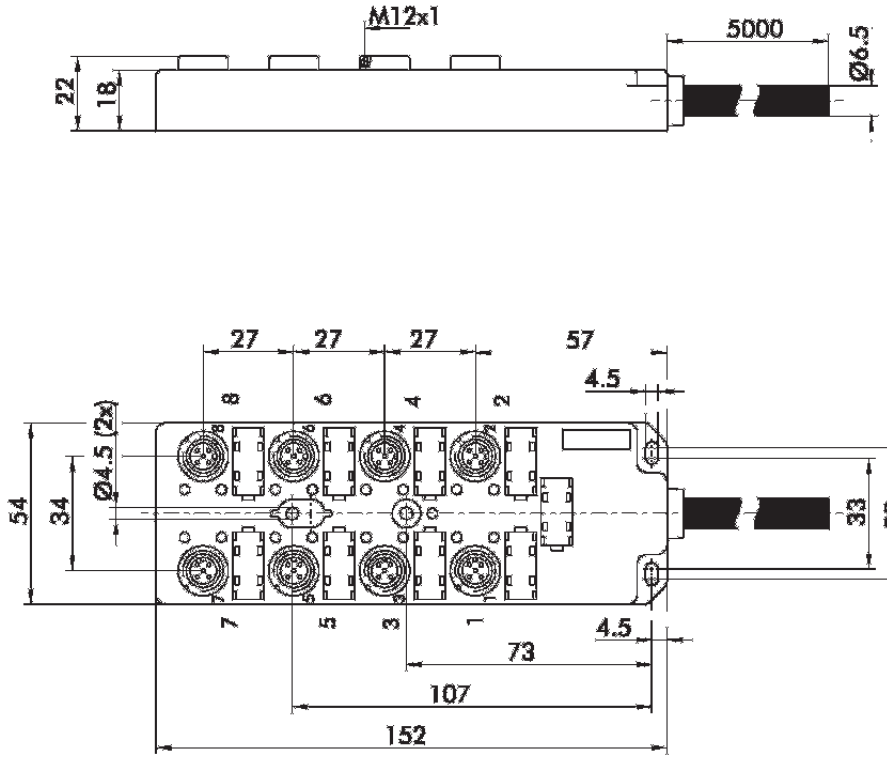
M8 contact assignment



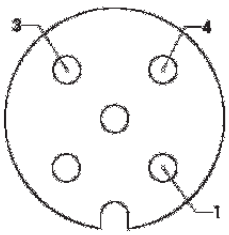
Wiring diagram



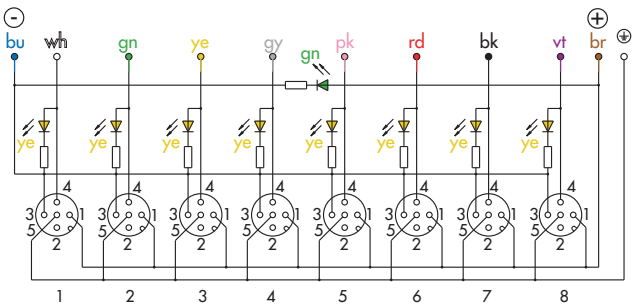
Main views of the V 8-M12



M12 contact assignment



Wiring diagram



APS-M1

Analog Position Sensor System

Mechanical, analog system comprising sensor and processor for accurately recording the position of gripper jaws.

Function description

The high-resolution APS-M1S sensor is actuated by an inclined surface (mounting kit), which is attached to the gripper base jaw. The changes in position of the sensor are recorded, amplified, prepared and made available to an analog output by the APS-M1E processor.

Your advantages and benefits

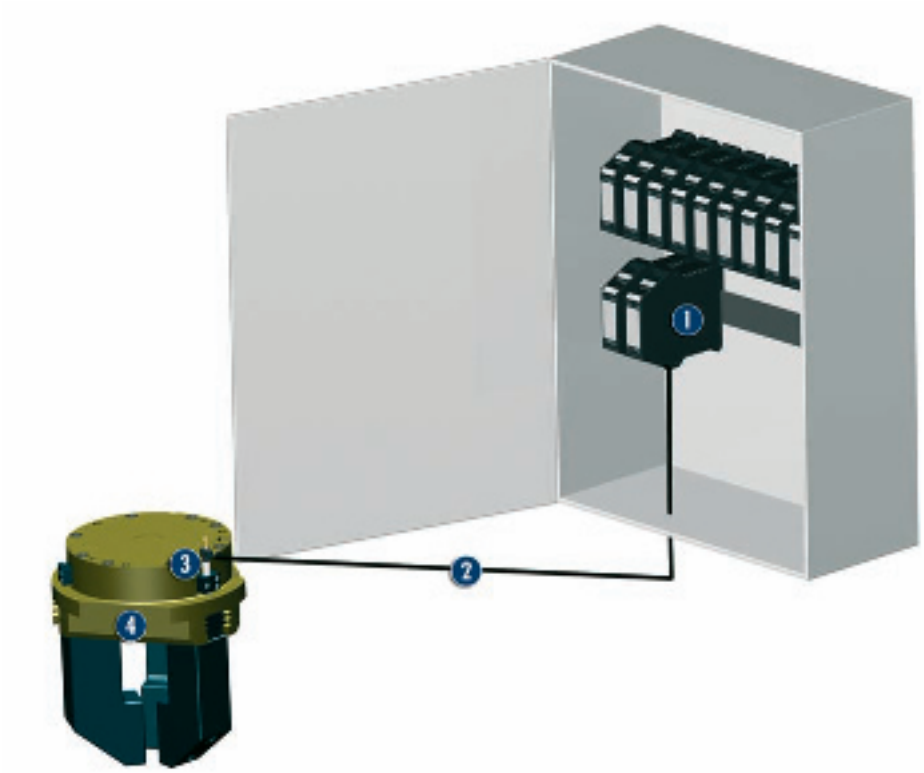
Position output
as voltage (V) or current (mA)

Precise measuring system
also for long strokes

Compact design
for space-saving installation in any control cabinet

Conforms to CE
for absolute safety and long life during permanent operation

Application example



Area of application

for the precise measurement of the gripper jaw position in clean environments

1 APS-M1E Processor

2 APS-K7 Extension Cable

3 APS-M1S Sensor

4 PZN-plus 100
3-Finger Centric Gripper

General information

Warranty
24 months

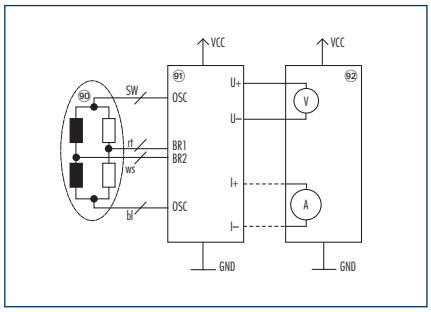
Ordering
The sensor and processor must be ordered as individual items.

Notes

The accuracy of the complete system as stated here is available from a stroke per jaw of 7 mm. The entire range of the sensor cannot be exploited with smaller strokes. The relative accuracy (ratio of repeat accuracy to jaw stroke) decreases, the absolute repeat accuracy (in mm) is the same as for a gripper with a 7 mm stroke, i.e. 0.021 mm.

APS-M1

Wiring diagram



(90) APS-M1S Sensor
(91) APS-M1E Electronic Processor
(92) Automation device, e.g. S7-300

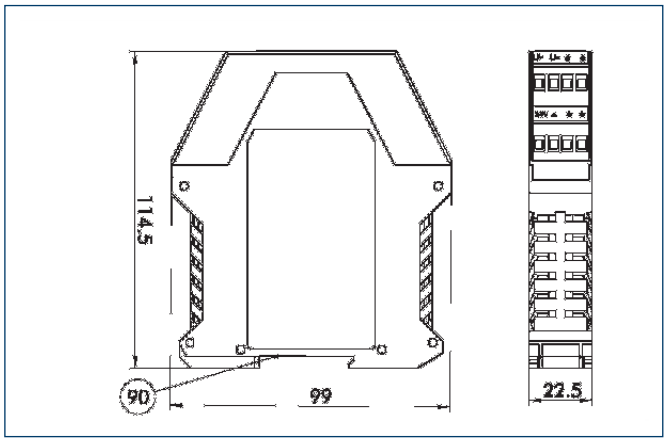
ⓘ When using an APS system, a mounting kit, APS sensor (APS-M1S) and processor (APS-M1E) are required for each gripper. The mounting kits can be found with the grippers. Mounting kits for other components/grippers are available on request. The sensor has a 3 m molded cable.

Technical data

Description		APS-M1S
	ID	0302062
Measuring stroke	[mm]	2.0
Measuring accuracy	[mm]	0.004
Nominal current input	[A]	0.023
Tightness		67
Thermal drift of zero signal	[%/10K]	0.1
Thermal drift of amplification factor	[%/10K]	0.2
Min. ambient temperature	[°C]	10.0
Max. ambient temperature	[°C]	60.0
Weight	[kg]	0.16
Sensor material		Steel
Cable sheath		PUR

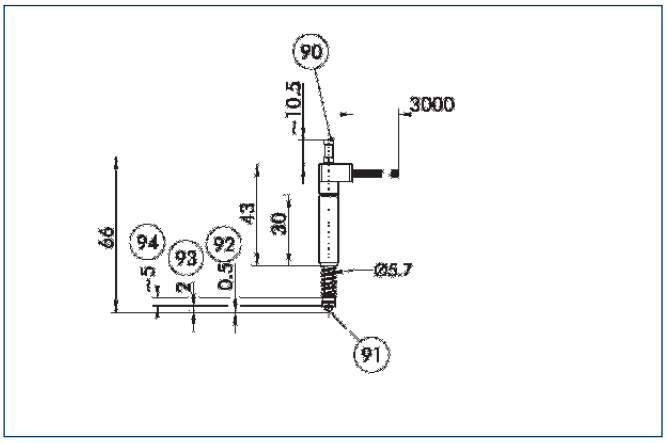
Description		APS-M1E
	ID	0302064
Supply voltage		DC
Nominal voltage	[V]	24.0
Min. voltage	[V]	22.0
Max. voltage	[V]	26.0
Nominal current	[A]	0.1
IP rating		20
Min. ambient temperature	[°C]	0.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy (sensor and processor)	[mm]	0.3
Weight	[kg]	0.16
Housing material		PA
Output signal		0..10 V DC | 4..20 mA
Mounting		top hat rail

APS processor



(90) Groove for mounting rail

APS sensor



(90) Position with retracted feeler rod
(91) Carbide ball 1/8"
(92) Initial stroke
(93) Range of measurement
(94) Free stroke

APS-K extension cable

As an option, an extension cable can be connected between the sensor and the processor. (The max. cable length between the sensor and the processor is 10 m, between the processor and its controller (SPC) max. 1 m.)

Description	ID	Length
APS-K2	0302066	2.0 m
APS-K7	0302068	7.0 m

Mounting kits

The suitable mounting kit is specified with the gripper.

ID	Description
0302075	AS-APS-M1-64/1
0302076	AS-APS-M1-64/2
0302077	AS-APS-M1-80/1
0302078	AS-APS-M1-80/2
0302079	AS-APS-M1-100/1
0302080	AS-APS-M1-100/2
0302081	AS-APS-M1-125/1
0302082	AS-APS-M1-125/2
0302083	AS-APS-M1-160/1 and 240/2
0302084	AS-APS-M1-160/2
0302085	AS-APS-M1-200/1 and 380/2
0302086	AS-APS-M1-200/2
0302087	AS-APS-M1-240/1
0302088	AS-APS-M1-300/1
0302089	AS-APS-M1-300/2
0302090	AS-APS-M1-380/1

FPS Flexible Position Sensor

The optional FPS sensor system measures the position of gripper jaws. It then indicates in which of the five freely teachable zones the jaws currently are. Alternatively, the jaw position can be read out via the "FPS Controller" software (FPS-F5/ F5T only).

Function description

A permanent magnet that moves with the base jaw provides the FPS sensor with its magnetic field. The strength of this permeation changes depends on the distance of the magnet from the sensor. This variable is recorded, evaluated and output by the FPS electronic processor.

Your advantages and benefits

Simplest operation
with just two buttons, or with the machine control system using free control lines

Simple start-up
as the customer can set all positions during the teaching operation

Five digital outputs
for greater economy as compared to individual sensors

Small distance between two switching points, adjustable

Resistant to contamination
through non-ferromagnetic materials

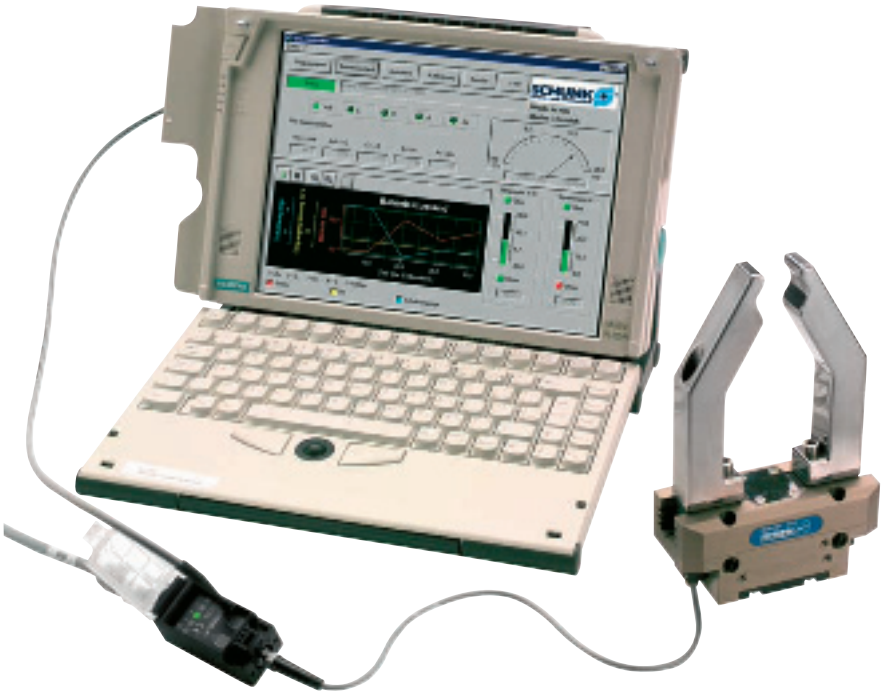
Function and switching status display
via LEDs on the electronic processor

Conforms to CE
for safety and long life during permanent operation

Digital technology
for resistance to interference

Additional advantages of the FPS-F5 and F5 T
- Measuring functionality
- Communication and remote maintenance via RS-232 protocol
- Position programming and readout of switching points
- Monitoring of temperature and input voltage
- Visualization via PC possible
- Data logging
- Calibration of system to gripper stroke
- Intelligent access authorization
- Adaptation to new product during the process

Application example



Area of application

Position sensing of gripper jaws up to a stroke of approx. 30 mm in environments that may be clean or dirty, but are free from steel chips.

General information

Resolution

The resolution is the minimum stroke difference that is required in order to reliably distinguish between two signals. Used in conjunction with most SCHUNK grippers, the FPS system achieves a resolution of 1 – 3 % of a jaw stroke. However, in some grippers a resolution of only 10 % is achieved due to the nature of the design. More precise resolutions may be reached, however, with the use of special solutions. Please contact us regarding the resolution/accuracy of the FPS system.

Connector for the electronic processor (enclosed)

12-pin circular connector (Binder type series 723, waterproof) suitable for connection cables with a diameter of 6 to 8 mm, recommended conductor cross-section 0.14 mm^2 (max. 0.25 mm^2)

Ambient conditions

Use within the range of strong magnetic fields is not recommended. Neither the FPS sensor nor the FPS magnet may come into contact with ferromagnetic dust, chips or other substances.

Display

Five colored LEDs

Range of measurement

5 to 30 mm with SCHUNK magnet (NdFeB magnet cut to size, dimensions (6 x 25 mm x L) with various lengths L depending on the part of the range of measurement

Material

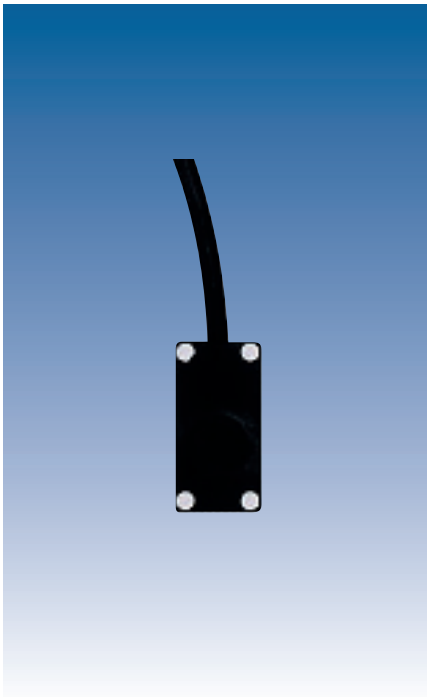
Processor: Plastic PA 6
Cable: PU, resistant to coolants/lubricants

Warranty

24 months

Notes

All data were determined on the basis of SCHUNK attachments and specifications. Please consult us regarding use of the sensor with modules from other manufacturers.

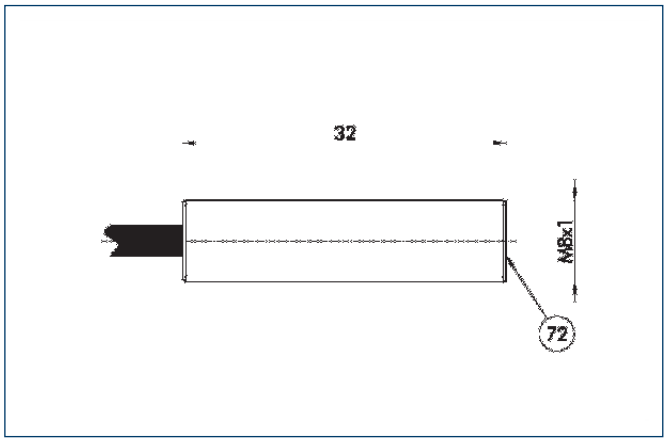


FPS sensors

Either the FPS-S13 or the FPS-SM8 sensor is required, depending on the type of gripper. Each sensor is connected to its own FPS-A5/F5/F5T processor.

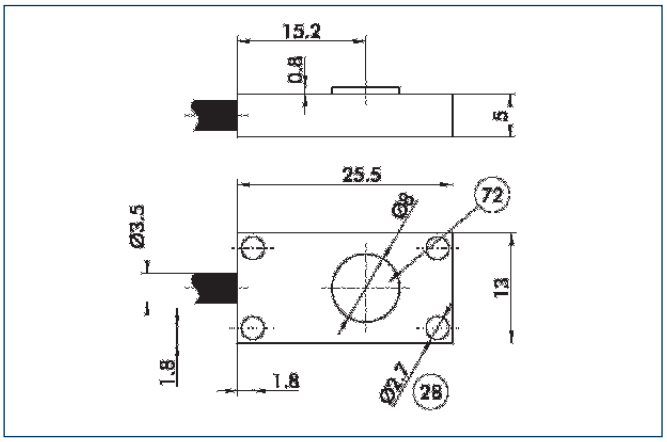
Description		FPS-S 13	FPS-S M8
	ID	0301705	0301704
Cable diameter	[mm]	3.5	3.5
Cable length	[cm]	30.0	30.0
Connection of FPS on processor side		M8	M8
Weight	[kg]	0,01	0,015
Min. ambient temperature	[°C]	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0
IP rating (sensor)		65	65
IP rating (connector, plugged in)		65	65
Min. bending radius (dynamic)	[mm]	17.5	17.5
Min. bending radius (static)	[mm]	35.0	35.0

S-M8 sensor



72 Active sensor surface

S13 sensor



28 Through-bore
72 Active sensor surface

Cable extensions

Max. extension between FPS sensor and electronic processor for trouble-free operation: 1 m

Description	ID	Length
KV 05	0301598	0.5 m
KV 1	0301599	1.0 m

FPS-A5/FPS-F5 Processor

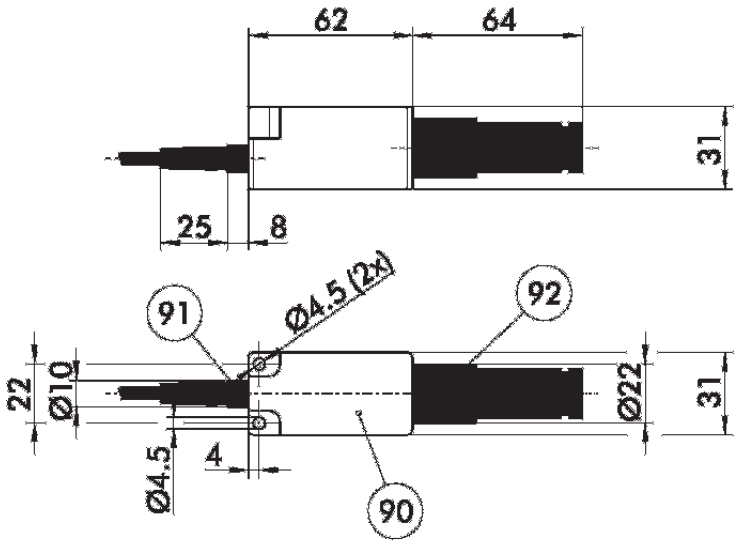
Measurement of the gripper stroke using sensors, assignment to the positions/zones "Open", "Intermediate position 1,2,3" or "Closed", and output of a position signal. A maximum of four switching points/five zones are freely programmable. FPS-F5 additionally with RS-232 interface, remote maintenance, measuring functionality, system calibration to the millimeter, temperature and voltage monitoring.

FPS-F5T processor

Measurement of the gripper stroke using sensors, comparison with target value, output of tolerance information "Within tolerance", "Above tolerance" or "Below tolerance", plus "Open" and "Closed". Otherwise, like the FPS-F5.

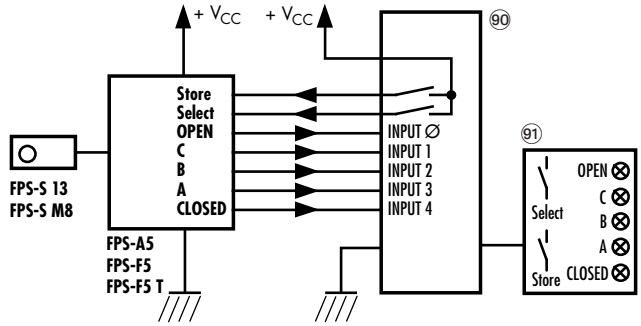
Description		FPS-A5	FPS-F5	FPS-F5 T
	ID	0301802	0301805	0301807
Nominal voltage	[V]	24.0	24.0	24.0
Min. voltage (DC)	[V]	10.0	10.0	10.0
Max. voltage (DC)	[V]	30.0	30.0	30.0
Nominal current (DC)	[A]	0.01	0.01	0.01
Weight	[kg]	0.06	0.06	0.06
Min. ambient temperature	[°C]	-25.0	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0	70.0
IP rating		65	65	65

Main views



90 Transparent plastic cover, over control and display panel
91 Connector on sensor side
92 Connector on control cabinet side

Wiring diagram



90 SPC/PLC
91 Machine panel (provided by customer)

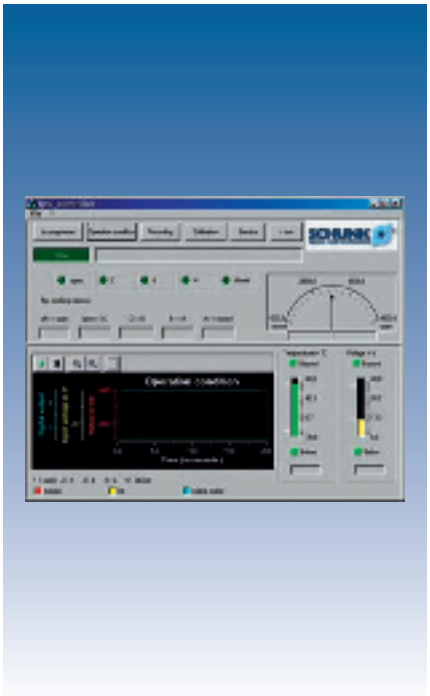
For the contact assignment of the connections on the PLC side, please refer to the user's manual.

Cable extension (open wires)

From the electronic processor to the control cabinet

Description	ID	Length
KV 10	0301801	10.0 m

FPS Software

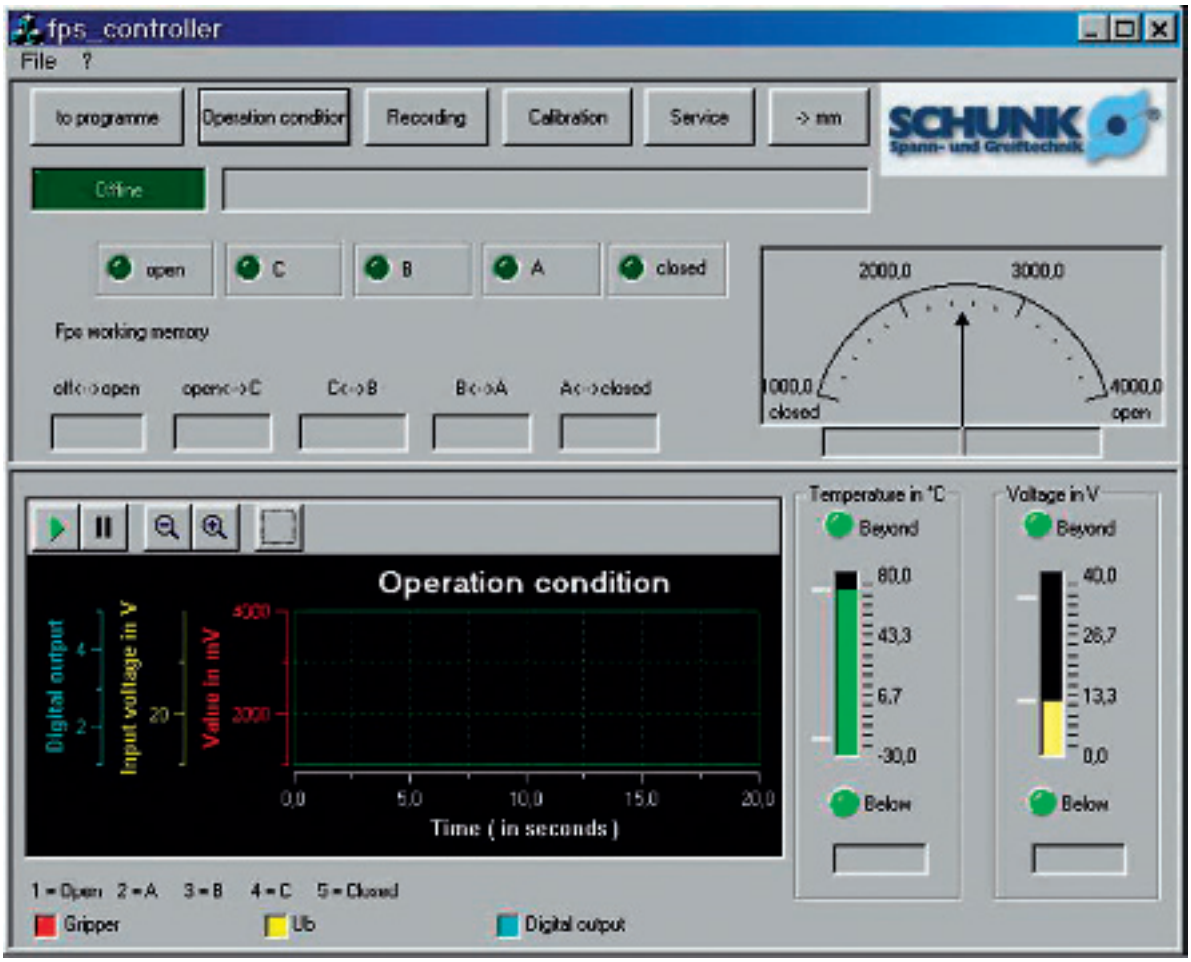


Software for FPS-F5/F5 T

The free FPS Controller software allows the user to monitor the FPS processor via an RS-232 interface. As a result, the FPS system can be calibrated to stroke measurement, the position can be read out and the FPS processor can be programmed.
The FPS software also provides access to all auxiliary functions (see above).

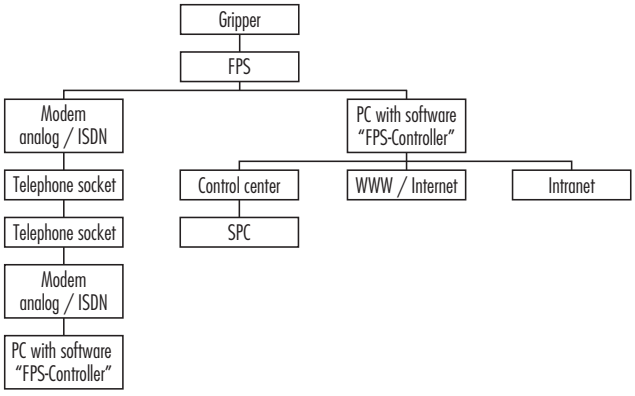
Description	Software
ID (CD)	0301806
Download	www.schunk.com
Operating system	MS Windows

Screenshot software



Set-up with laptop

Possible connection methods



Force Measuring System

The FMS force measuring system is used for measuring the gripping forces during the gripping process. This opens up numerous new possibilities both during start-up and in the production process.

Function description

The FMS intermediate jaws are screwed on between the gripper base jaw and the top jaw, which comes in contact with the workpiece. Gripping forces on the top jaw result in a flow of force through the FMS intermediate jaw. Intelligently arranged strain gauges inside the intermediate jaw react to the resulting deformation.
The FMS processor detects the change in the strain gauges and emits an analog signal indicating the force.

Your advantages and benefits

Simplest handling
via a control line that is directly connected to an SPC

Easy-to-perform measurement
of the actual, active gripping force

Result output via analog voltage value

Simple, linear relationship
between output voltage and gripping force

Simple zero balancing
with button or via control line

Integrated LCD
for visual monitoring

Easy assembly

Dirt-proof and waterproof
also for use in extreme ambient conditions.

Application example

1 **PGN-plus 100 AS**
2-Finger Parallel Gripper

2 **FMS-ZBA Intermediate Jaw with Sensor (active)**

3 **FMS-ZBP Intermediate Jaw without Sensor (passive)**

4 **Workpiece-specific Gripper Finger**

5 **Electronic Processor**

Area of application

Gripping force control
By sending control signals to the proportional valve that supplies the gripper, the PLC can influence the automatically measured gripping force.

Teaching robots
When gripping firmly fixed workpieces, the teaching of robots is simple and precise. Symmetrical gripping only takes place if the left- and right-hand gripper jaws apply the same force – thereby protecting the gripper and the robot.

Static grip force monitoring
- Monitoring the grip force as the jaws close prevents the workpiece from being dropped when movement initiates.
- Overload protection by monitoring the max. permitted force, which can be triggered e.g. by an inadvertent increase in pressure, by off-center gripping or the incorrect positioning of the workpiece.
- Preventive maintenance by replacing grippers in good time when there is a decline in the gripping force. This avoids unexpected manufacturing down-times.

Dynamic grip force monitoring
- The effect of acceleration forces on the gripper jaws can be recorded and the motion sequence modified if necessary.
- Component monitoring during highly dynamic movements.

Measuring and teaching processes
- Dimensional checking of the gripped component on the basis of an inserted reference component. If the component to be measured differs by more than ±0.05 mm from the reference component, teaching can take place. If the difference is smaller, the precise dimensions can be measured accurately even to within ±0.002 mm.
- Gauging the weight of the component by measuring the force due to weight of the component on the gripper fingers.

General information

For all PGN-plus and PZN-plus grippers
as well as for all grippers with identical finger connection diagram, for other grippers on request (remember to ask about the delivery time!)

Conforms to CE
for absolute safety and long life during permanent operation

Warranty
24 months

Notes
The FMS force measuring system allows you to measure forces that act on the base jaw in the direction of the jaw movement. Up to three active (equipped with sensors) FMS-ZBA intermediate jaws are required for this purpose, depending on the application. The remaining base jaws are equipped with FMS-ZBP passive intermediate jaws (without sensors). Each FMS-ZBA active intermediate jaw requires an FMS-A1 electronic processor for evaluation, and an FMS-AK connection cable for connecting the electronic processor to an PLC or a control cabinet.

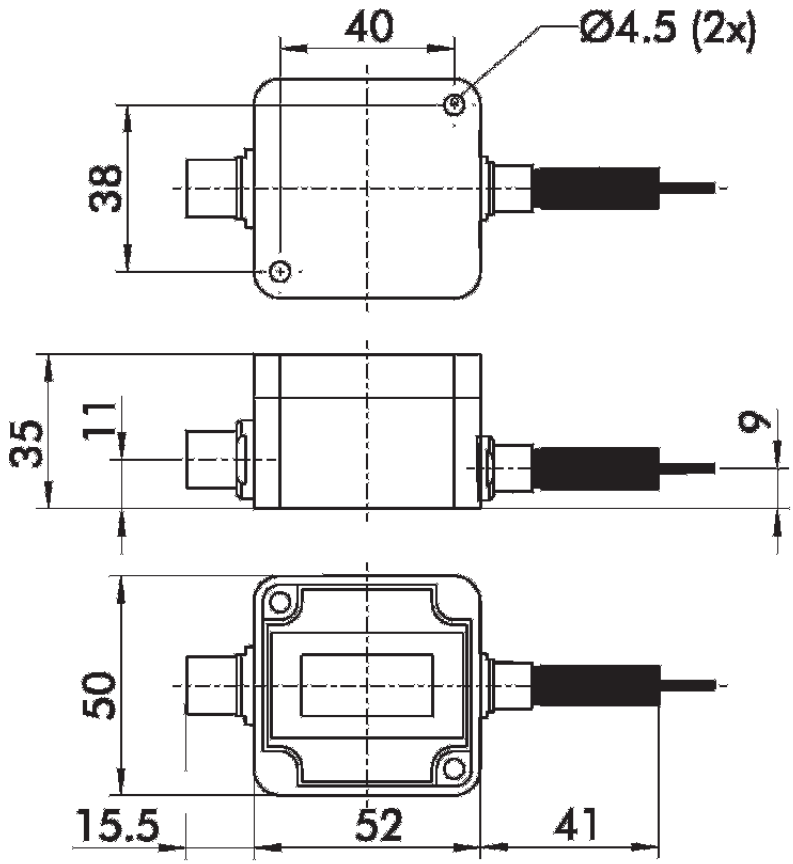
FMS Processor

Each FMS-ZBA active intermediate jaw requires an electronic processor.
The FMS-A1 processor is required for intermediate jaw sizes up to 125, the FMS-A2 processor from size 160.
The electronic processor is used to prepare, display and forward the measurement results. It is equipped with a housing connector and socket for connecting the force measuring jaw and the connection cable.

Description		FMS-A1	FMS-A2
	ID	0301810	0301811
Measuring accuracy	[%]	3.0	3.0
Output signal		- 5VDC.. +5VDC	- 5VDC.. +5VDC
Type of voltage		DC	DC
Nominal voltage	[V]	24.0	24.0
Min. voltage	[V]	18.0	18.0
Max. voltage	[V]	30.0	30.0
Nominal current	[A]	0.0045	0.0045
IP rating		67	67
Weight	[kg]	63.0	63.0

ⓘ The output voltage is linear to the forces occurring at the gripper fingers.
The bandwidth of the output signal is not fully exploited by every active intermediate jaw.
Zero balancing must be performed prior to measurement.
The limit class A according to EN 61326 is complied with.
The test to EN 61000-4-2, EN 61000-4-3, EN 61000-4-4 and EN 61000-4-6 was passed in conformity with EN 61326.

Main views



FMS-AK connection cable

The FMS-AK connection cable is used for connecting the electronic processor to a control cabinet or an PLC. A cable bushing is fitted on the side of the electronic processor, the other side is open.

Description	ID	Length
FMS-AK 5	**0301821**	5.0 m
FMS-AK 10	**0301822**	10.0 m
FMS-AK 20	**0301823**	20.0 m

FMS-ZBA/-ZBP

Force measuring jaws

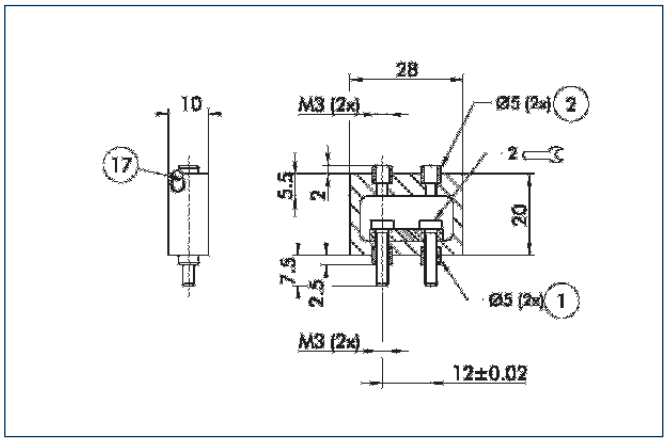
The force measuring jaw is situated between the gripper base jaw and the top jaw. The gripping force is conducted through it. Active intermediate jaws measure these forces and transfer the measured value to the electronic processor. Active intermediate jaws are equipped with a 30 cm cable and a cable connector. Passive intermediate jaws act solely as a bridge for the forces.

Definitions

ⓘ The range of measurement is the range in which the overall system has an accuracy of < 3 %.
The overload range is the range in which the overall system has an accuracy of > 3 %. At the end of the overload range there is a risk of mechanical destruction of the intermediate jaw.

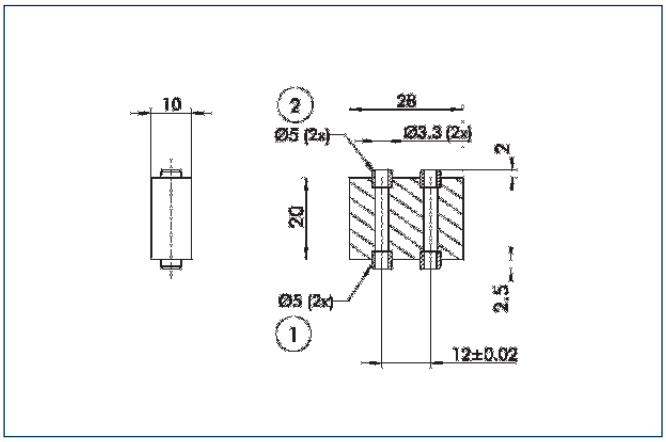
Description	ID	Start of range of measurement [N]	End of range of measurement [N]	End of overload range [N]	Weight [kg]	Min. ambient temperature [°C]	Max. ambient temperature [°C]
FMS-ZBA 50	**0301830**	0.0	145.0	290.0	0.03	-10.0	70.0
FMS-ZBP 50	**0301831**				0.02		
FMS-ZBA 64	**0301832**	0.0	260.0	520.0	0.04	-10.0	70.0
FMS-ZBP 64	**0301833**				0.025		
FMS-ZBA 80	**0301834**	0.0	430.0	860.0	0.056	-10.0	70.0
FMS-ZBP 80	**0301835**				0.035		
FMS-ZBA 100	**0301836**	0.0	685.0	1370.0	0.082	-10.0	70.0
FMS-ZBP 100	**0301837**				0.055		
FMS-ZBA 125	**0301838**	0.0	1120.0	2240.0	0.128	-10.0	70.0
FMS-ZBP 125	**0301839**				0.105		
FMS-ZBA 160	**0301840**	0.0	1600.0	3200.0	0.24	-10.0	70.0
FMS-ZBP 160	**0301841**				0.185		
FMS-ZBA 200	**0301842**	0.0	2325.0	4650.0	0.403	-10.0	70.0
FMS-ZBP 200	**0301843**				0.34		
FMS-ZBA 240	**0301844**	0.0	3700.0	7400.0	0.69	-10.0	70.0
FMS-ZBP 240	**0301845**				0.59		
FMS-ZBA 300	**0301846**	0.0	5150.0	10300.0	0.907	-10.0	70.0
FMS-ZBP 300	**0301847**				0.78		
FMS-ZBA 380	**0301848**	0.0	7100.0	14200.0	1.84	-10.0	70.0
FMS-ZBP 380	**0301849**				1.6		

FMS-ZBA 50



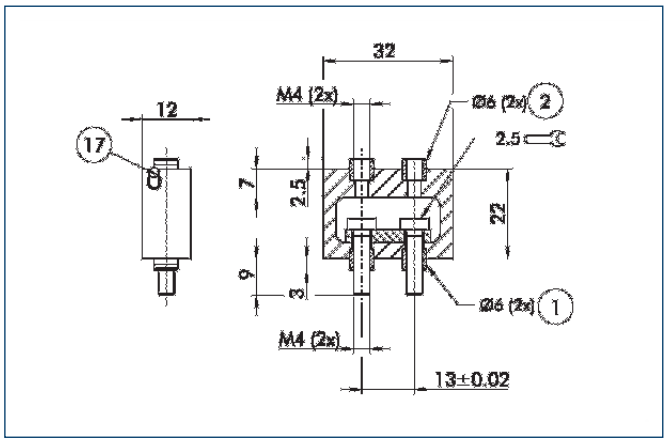
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 50



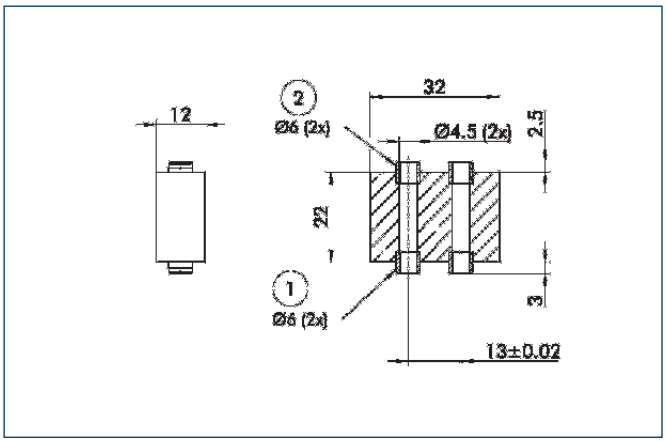
① Gripper connection
② Finger connection

FMS-ZBA 64



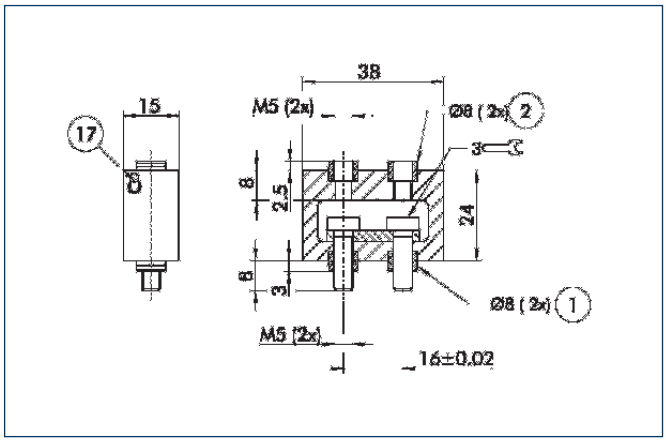
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 64



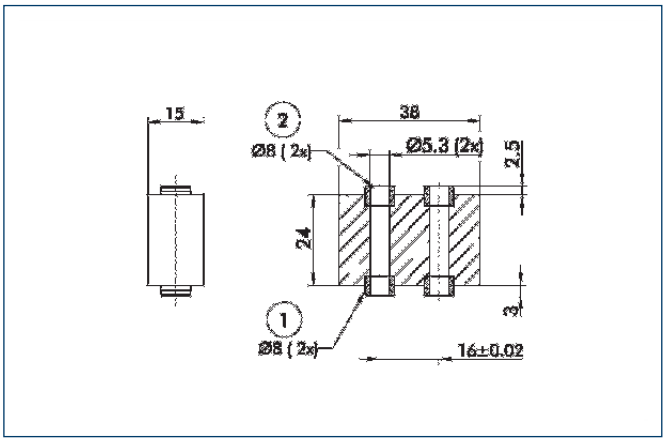
① Gripper connection
② Finger connection

FMS-ZBA 80



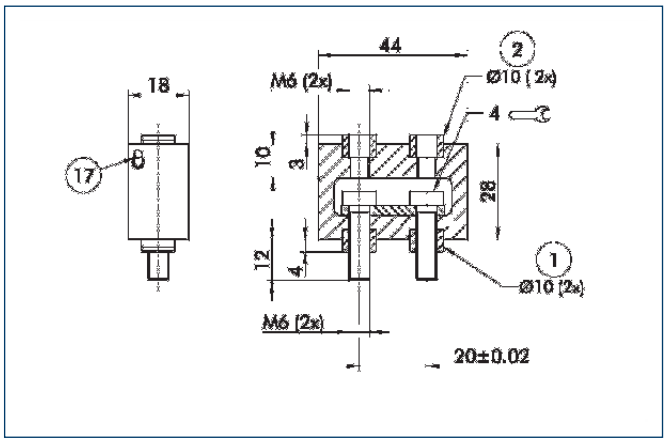
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 80



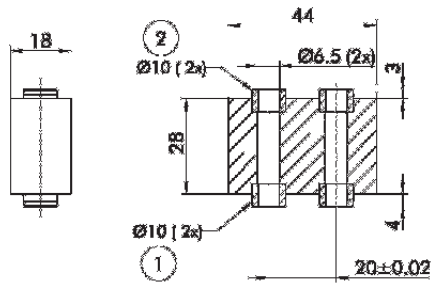
① Gripper connection
② Finger connection

FMS-ZBA 100



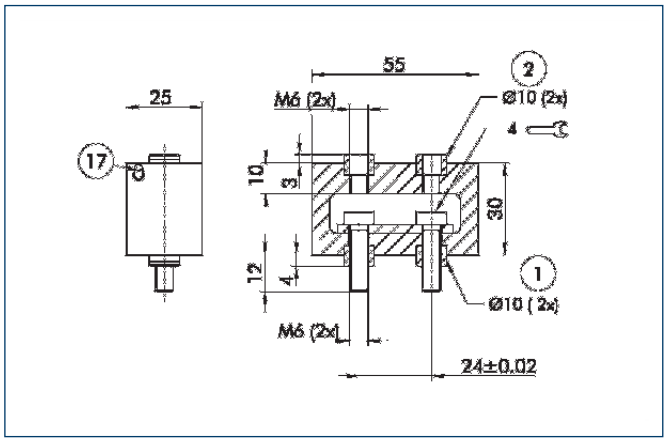
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 100



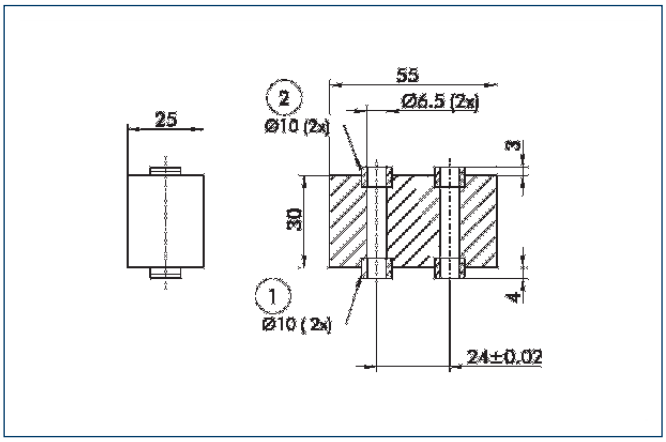
① Gripper connection
② Finger connection

FMS-ZBA 125



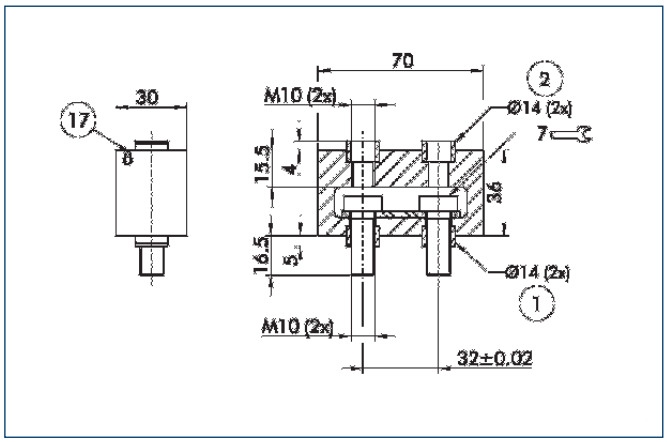
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 125



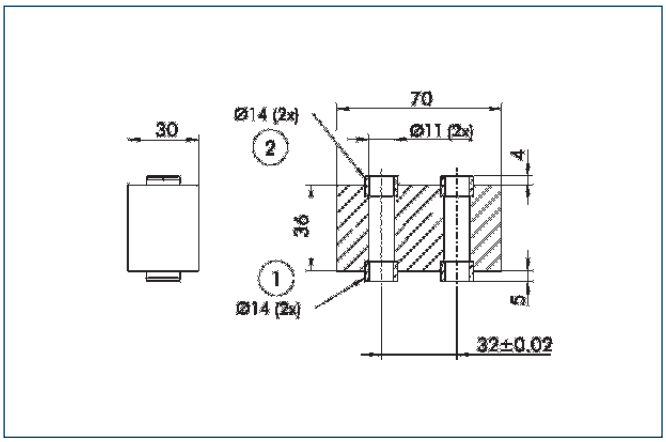
① Gripper connection
② Finger connection

FMS-ZBA 160



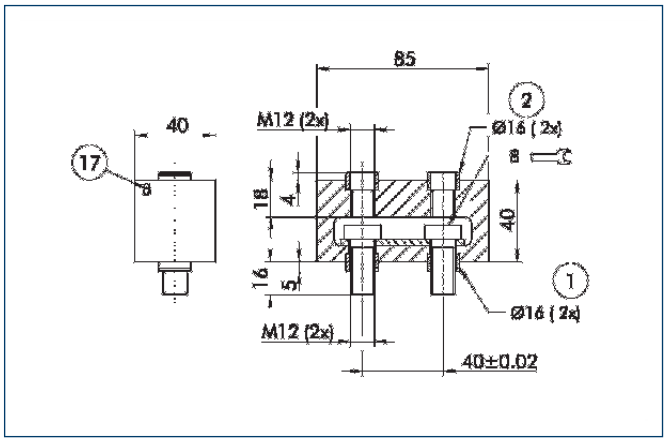
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 160



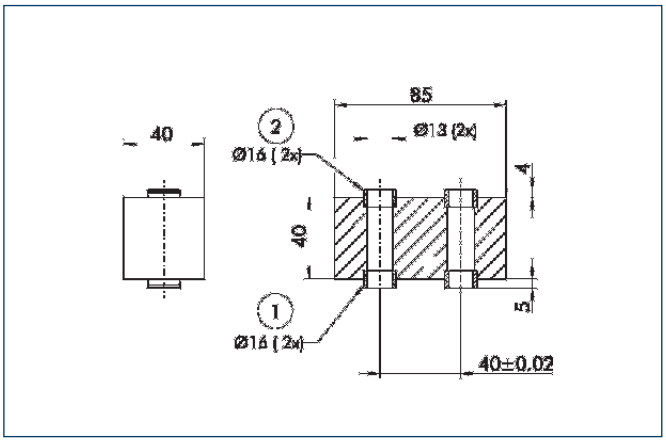
① Gripper connection
② Finger connection

FMS-ZBA 200



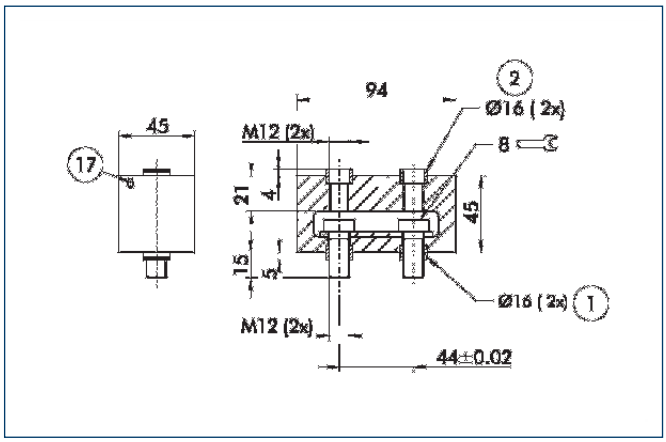
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 200



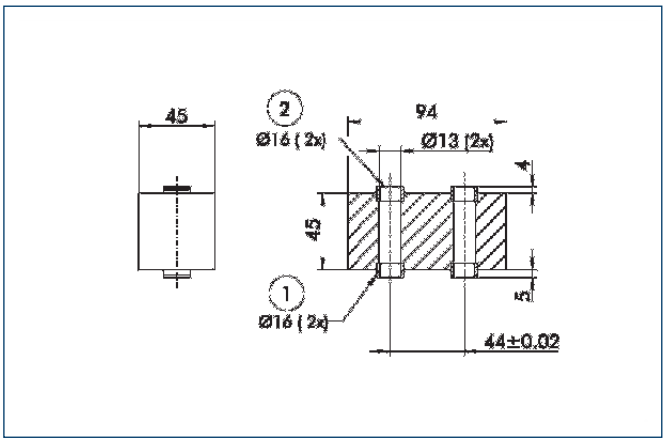
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBA 240



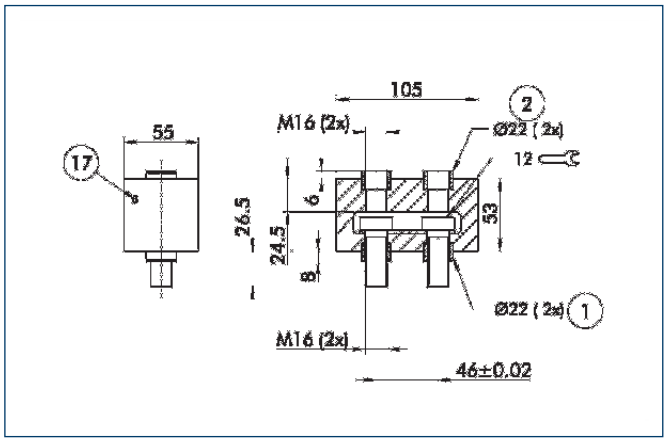
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 240



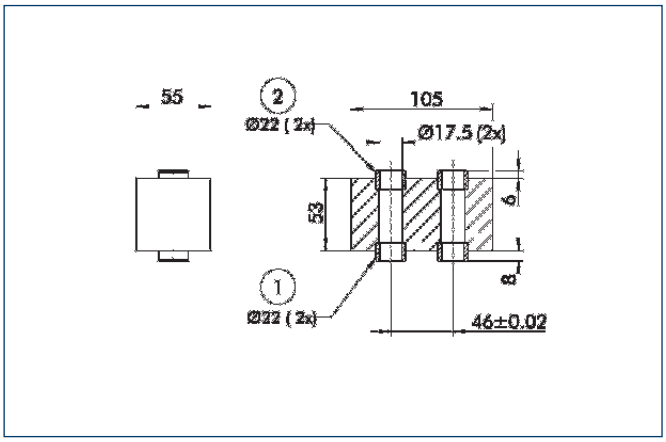
① Gripper connection
② Finger connection

FMS-ZBA 300



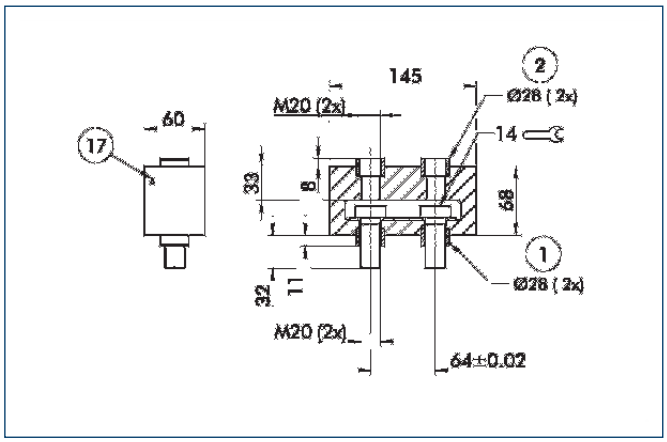
① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 300



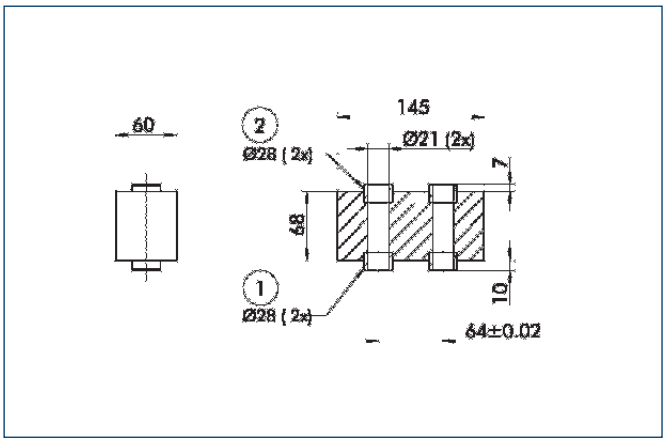
① Gripper connection
② Finger connection

FMS-ZBA 380



① Gripper connection
② Finger connection
⑰ Cable outlet

FMS-ZBP 380



① Gripper connection
② Finger connection

Finger Blanks and Intermediate Jaws

Gripper Jaws

of aluminum or steel for customized subsequent machining

Function description

Finger and jaw blanks already feature the mechanical interface to the gripper.
The customer only needs to machine the blank to the specific workpiece geometry.

Your advantages and benefits

Matching finger blanks
for common gripper types

Easy mounting
thanks to standardized mounting pattern

High replacement accuracy
thanks to centering

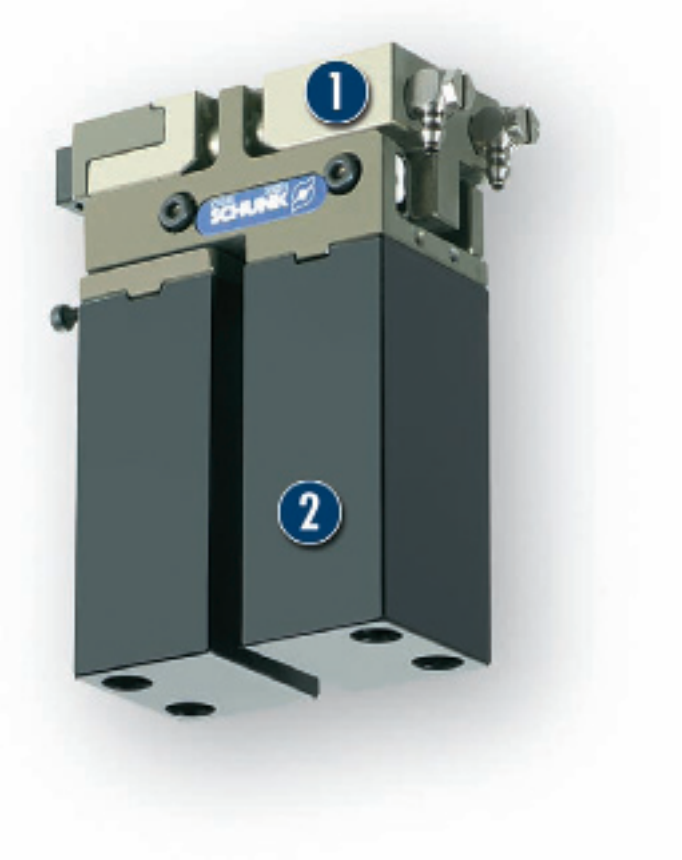
Clamping contour
can be machined rapidly and easily

Fast delivery

Aluminum finger blanks
of high-strength aluminum alloy

Steel finger blanks
of hardenable steel

Application example



Area of application

Optional

1 KTG 2-Finger Parallel Gripper

2 RB Finger Blanks for KTG

General information

Scope of delivery

including screws

Notes

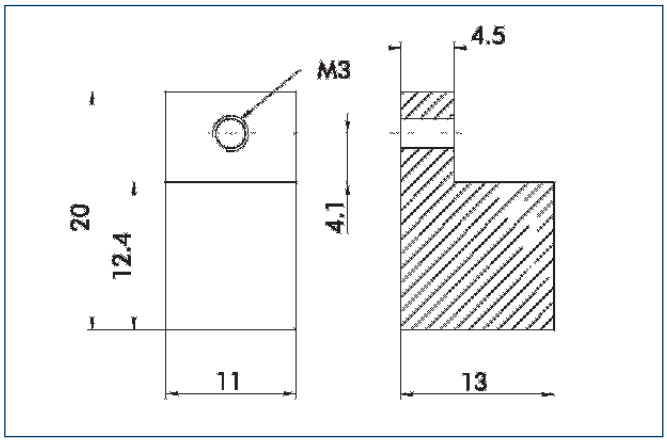
To suit your special requirements, we will be glad to supply low-cost special solutions, workpiece-specific gripper fingers, adapter plates and complete assemblies. Please ask for details.

ABR for MPG

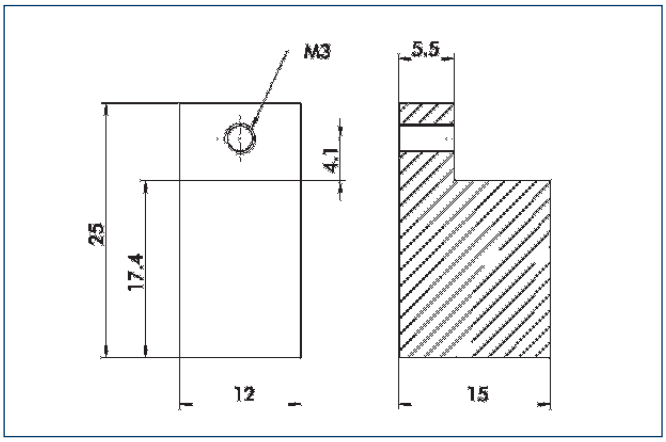
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 20	0340210	2	0.006	Aluminum
ABR 25	0340211	2	0.008	Aluminum
ABR 32	0340212	2	0.016	Aluminum
ABR 40	0340213	2	0.031	Aluminum
ABR 50	0340214	2	0.068	Aluminum
ABR 64	0340215	2	0.12	Aluminum

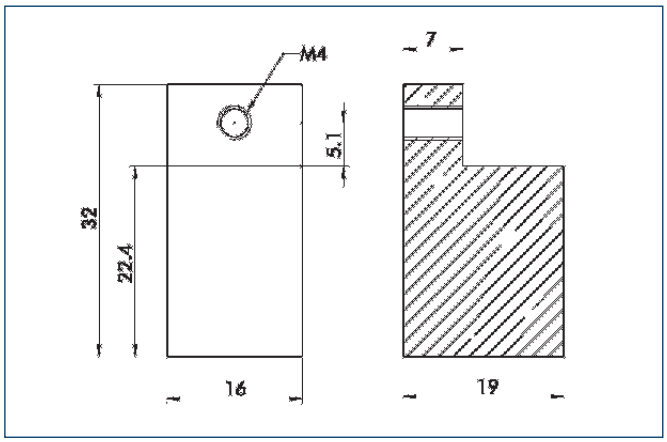
ABR 20



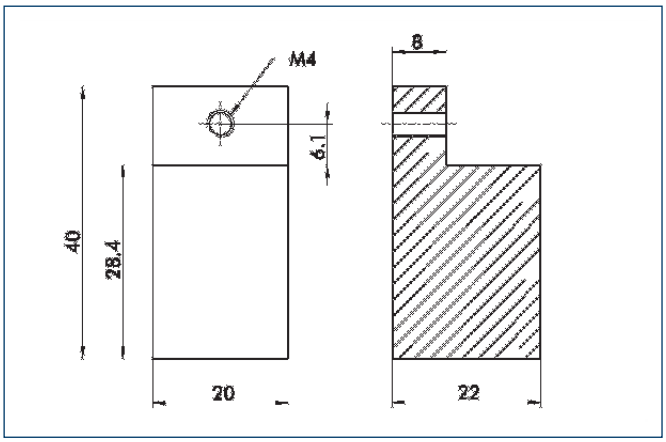
ABR 25



ABR 32

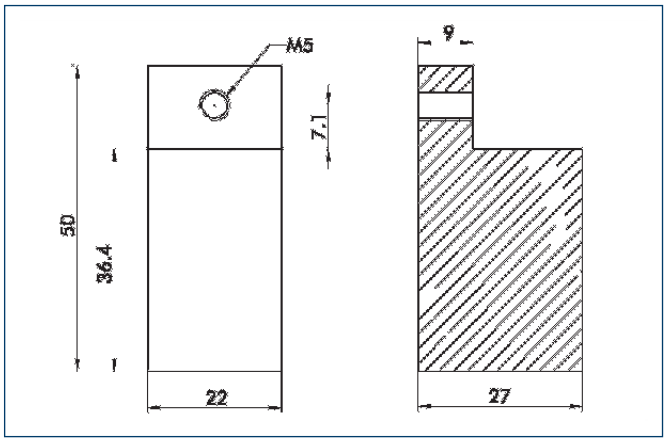


ABR 40

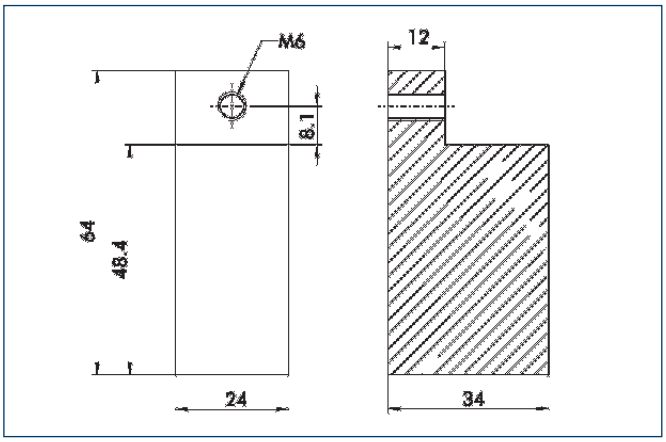


ABR for MPG

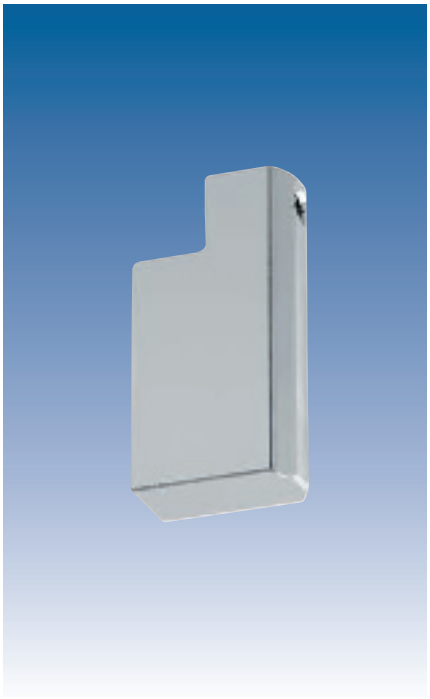
ABR 50



ABR 64



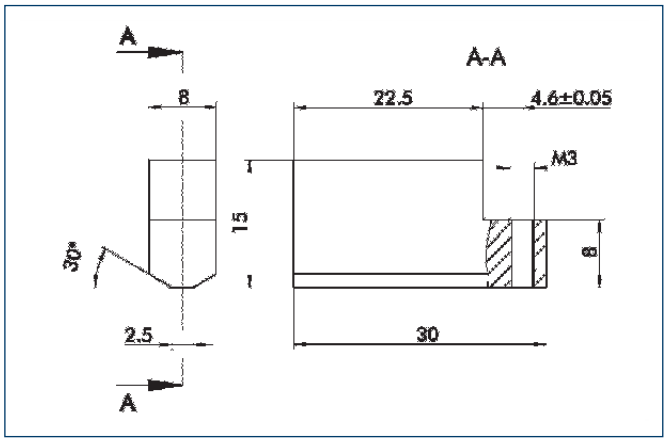
ABR for MPZ



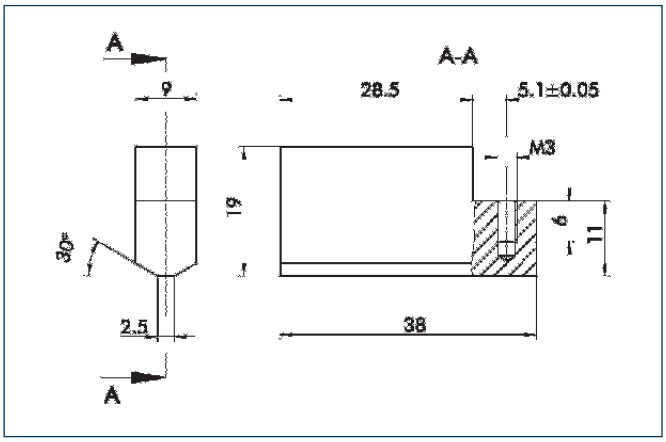
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 30	0340519	3	0.08	Aluminum
ABR 38	0340529	3	0.015	Aluminum
ABR 45	0340539	3	0.024	Aluminum

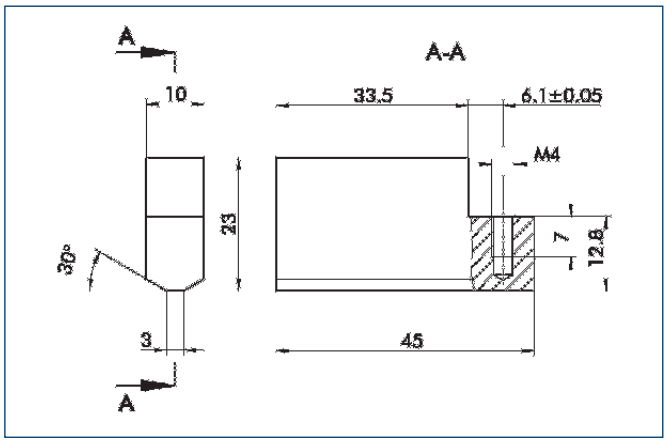
ABR 30



ABR 38



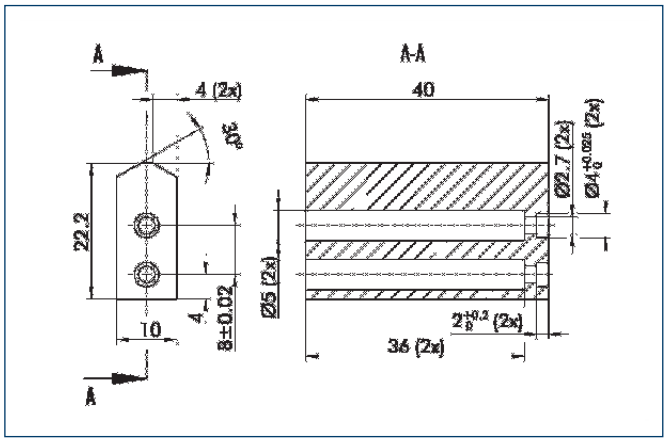
ABR 45



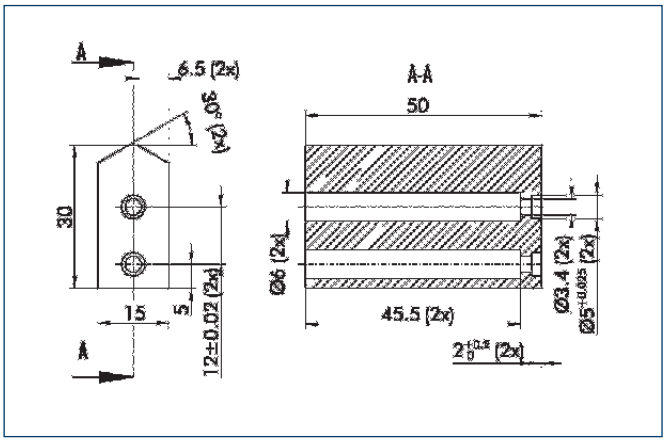
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR-plus 40	0300008	1	0.02	Aluminum
SBR-plus 40	0300018	1	0.055	16 MnCr 5
ABR-plus 50	0300009	1	0.045	Aluminum
SBR-plus 50	0300019	1	0.125	16 MnCr 5
ABR-plus 64	0300010	1	0.093	Aluminum
SBR-plus 64	0300020	1	0.26	16 MnCr 5
ABR-plus 80	0300011	1	0.162	Aluminum
SBR-plus 80	0300021	1	0.455	16 MnCr 5
ABR-plus 100	0300012	1	0.358	Aluminum
SBR-plus 100	0300022	1	1.004	16 MnCr 5
ABR-plus 125	0300013	1	0.638	Aluminum
SBR-plus 125	0300023	1	1.788	16 MnCr 5
ABR-plus 160	0300014	1	1.291	Aluminum
SBR-plus 160	0300024	1	3.45	16 MnCr 5
ABR-plus 200	0300015	1	2.191	Aluminum
SBR-plus 200	0300025	1	6.144	16 MnCr 5
SBR-plus 240	0300027	1	7.98	16 MnCr 5
ABR-plus 240	0300017	1	2.84	Aluminum
ABR-plus 300	0300016	1	3.236	Aluminum
SBR-plus 300	0300026	1	9.072	16 MnCr 5

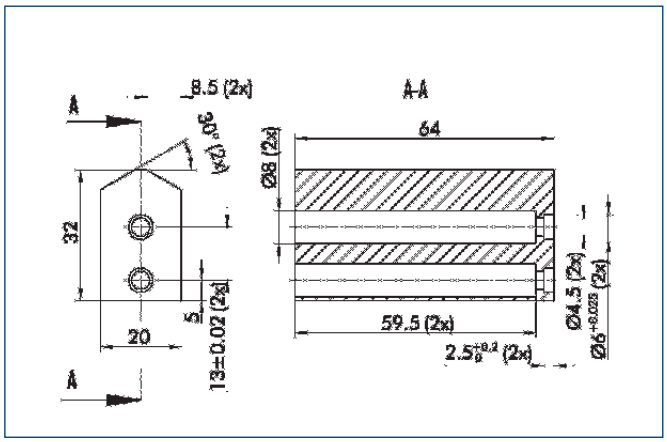
ABR-plus/SBR-plus 40



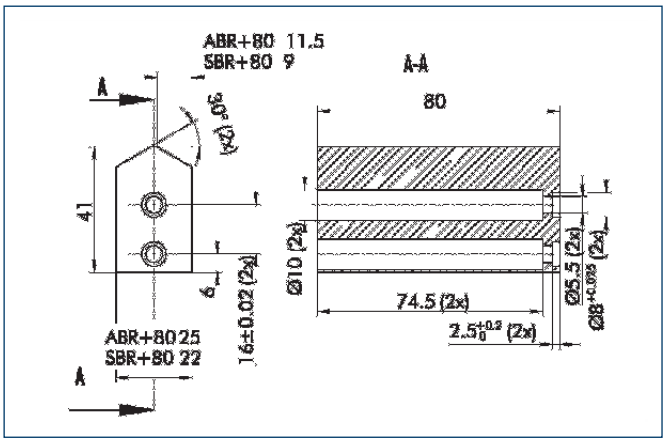
ABR-plus/SBR-plus 50



ABR-plus/SBR-plus 64

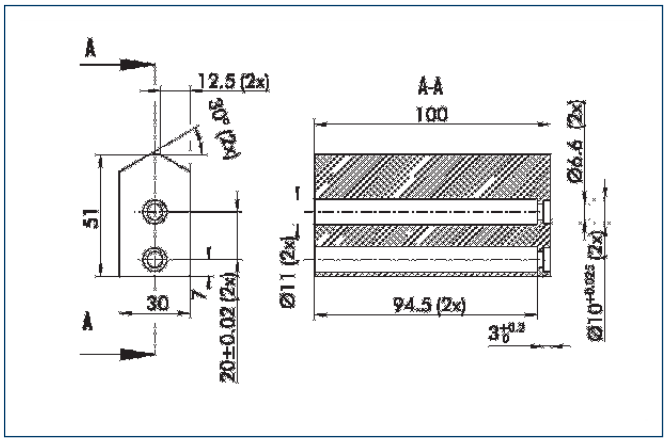


ABR-plus/SBR-plus 80

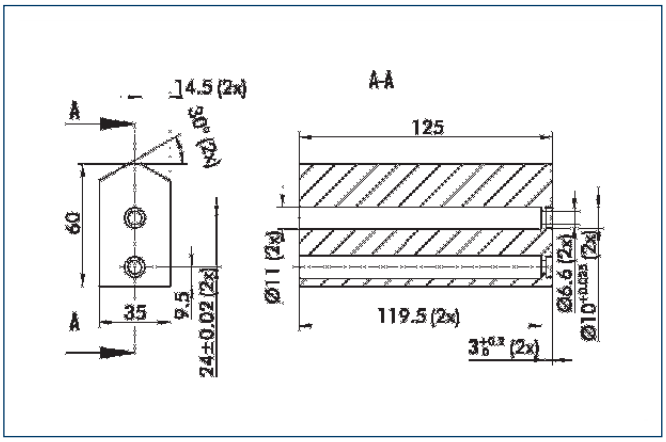


ABR-plus/SBR-plus

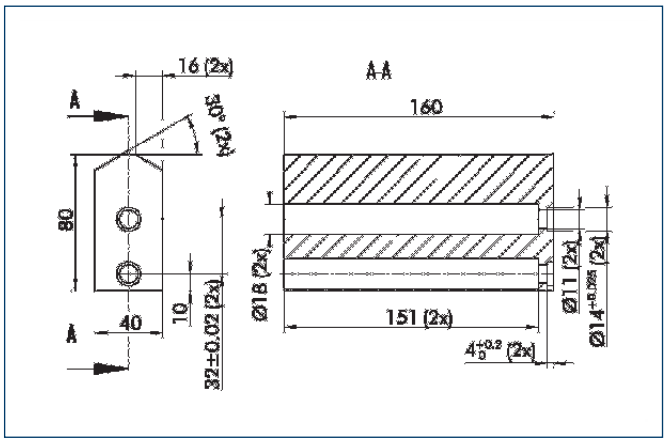
ABR-plus/SBR-plus 100



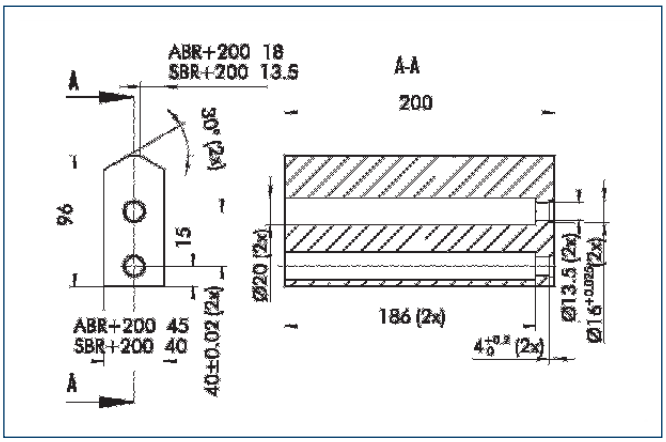
ABR-plus/SBR-plus 125



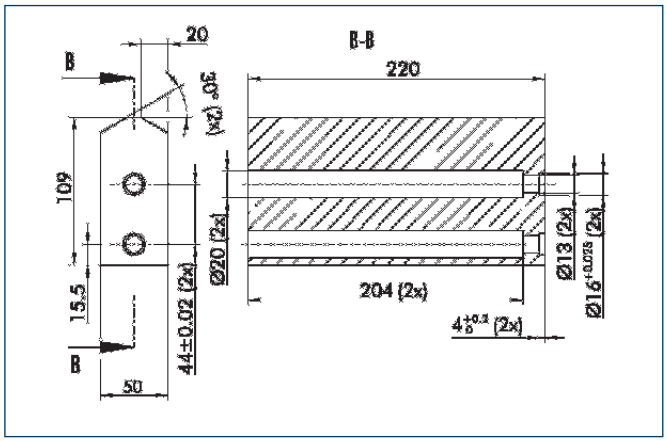
ABR-plus/SBR-plus 160



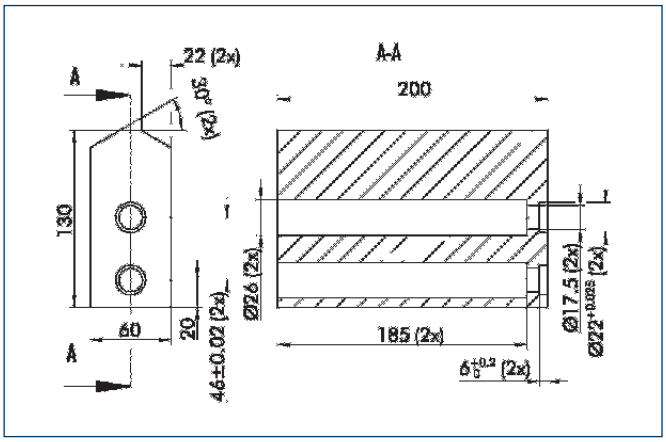
ABR-plus/SBR-plus 200



ABR-plus/SBR-plus 240



ABR-plus/SBR-plus 300

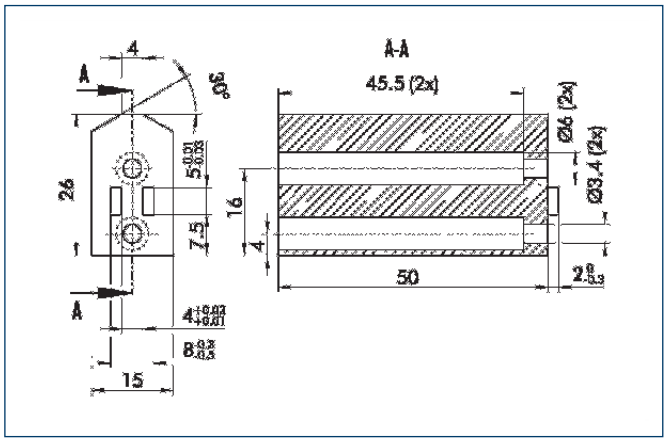


ABR for PGN/PZN

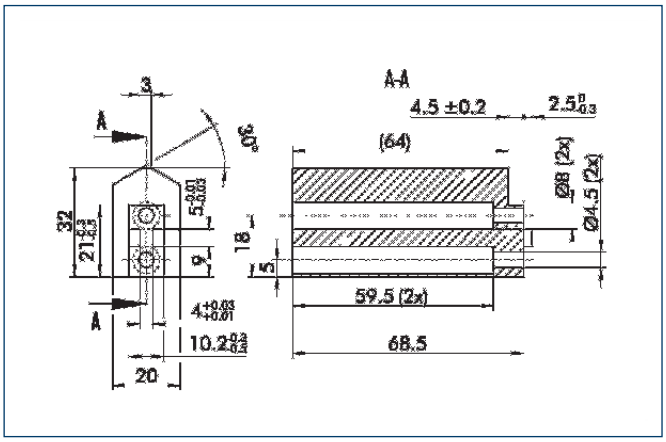
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 50	0300714	1	0.045	Aluminum
SBR 50	0300715	1	0.15	16 MnCr 5
ABR 64	0300725	1	0.093	Aluminum
SBR 64	0300734	1	0.26	16 MnCr 5
ABR 80	0300726	1	0.162	Aluminum
SBR 80	0300735	1	0.455	16 MnCr 5
ABR 100	0300727	1	0.358	Aluminum
SBR 100	0300736	1	1.004	16 MnCr 5
ABR 125	0300728	1	0.638	Aluminum
SBR 125	0300737	1	1.788	16 MnCr 5
ABR 160	0300729	1	1.291	Aluminum
SBR 160	0300738	1	3.45	16 MnCr 5
ABR 200	0300751	1	2.191	Aluminum
SBR 200	0300739	1	6.144	16 MnCr 5
ABR 300	0300752	1	3.236	Aluminum
SBR 300	0300753	1	9.072	16 MnCr 5

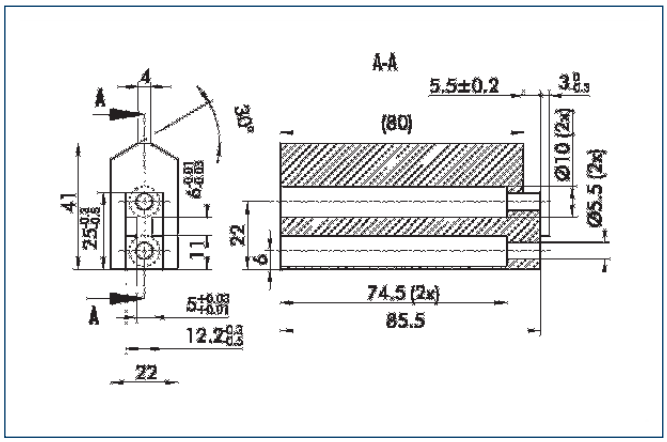
ABR 50/SBR 50



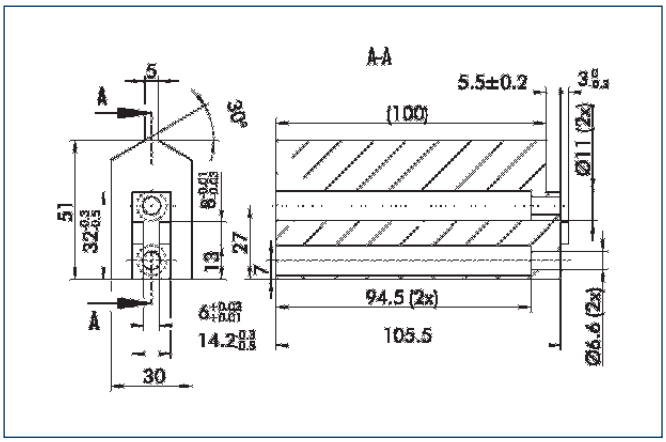
ABR 64/SBR 64



ABR 80/SBR 80

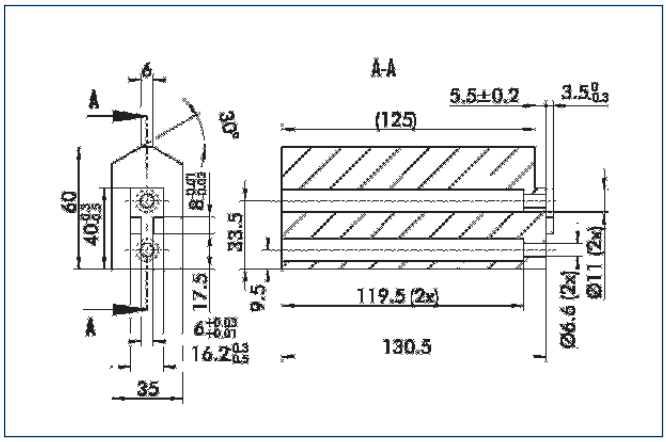


ABR 100/SBR 100

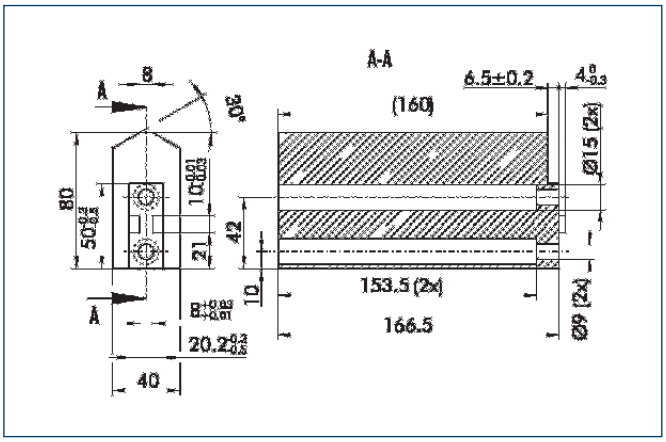


ABR for PGN/PZN

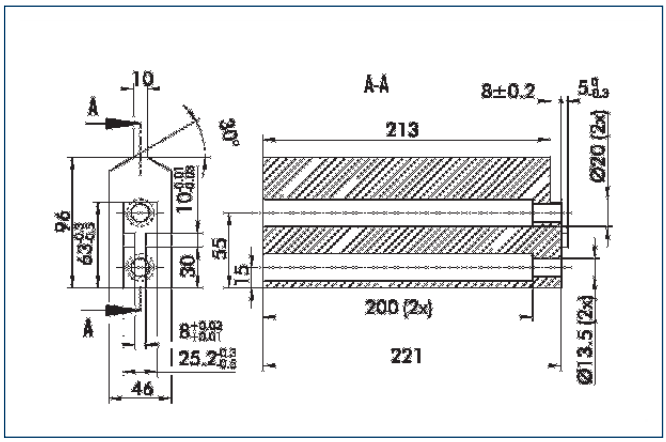
ABR 125/SBR 125



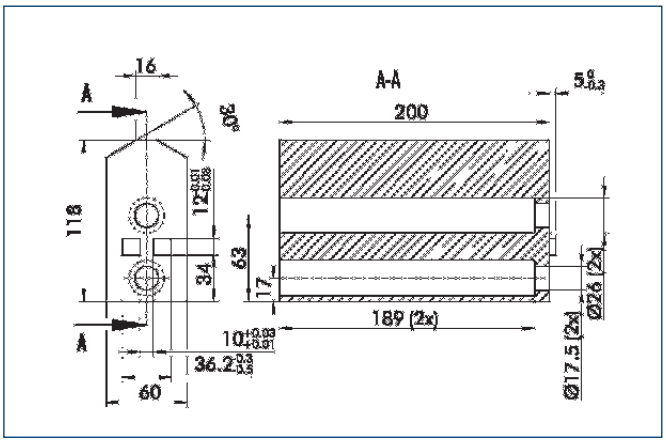
ABR 160/SBR 160



ABR 200/SBR 200



ABR 300/SBR 300

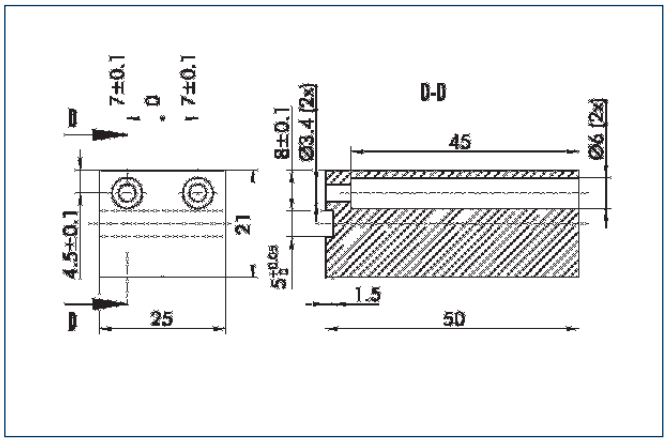


RB for KTG

Technical data

Description	ID	Items per ID no.	Weight [kg]	Material
RB 50	**0300280**	2	0.065	Aluminum

RB 50

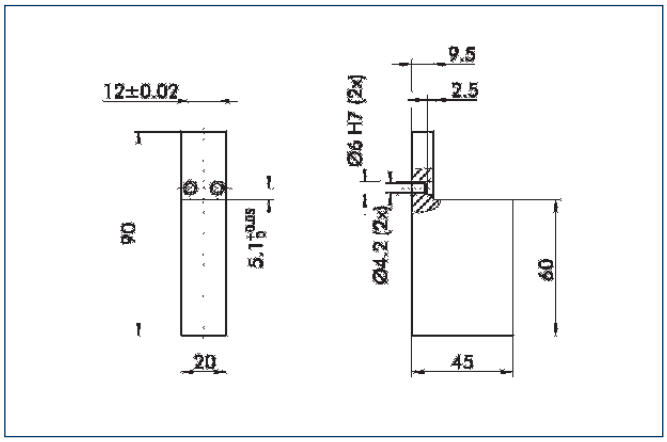


RB for KGG

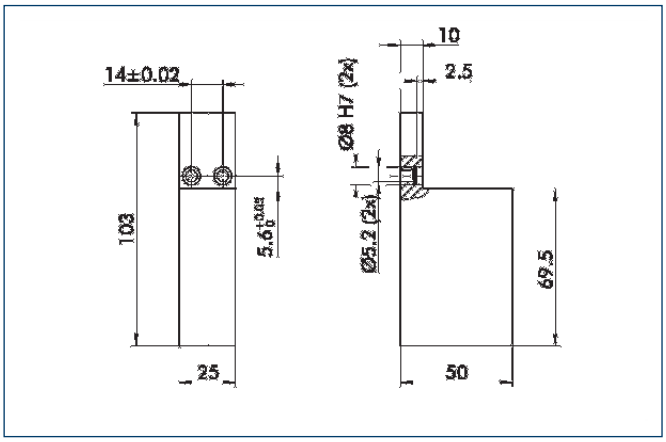
Technical data

Description	ID	Items per ID	Weight [kg]	Material
RB 80	0300284	2	0.141	Aluminum
RB 80	0303089	2	0.141	Aluminum
RB 100	0303090	2	0.32	Aluminum
RB 140	0303091	2	0.467	Aluminum
RB 220	0300286	2	1.354	Aluminum
RB 140	0300285	2	0.467	Aluminum
RB 280	0300287	2	3.102	Aluminum

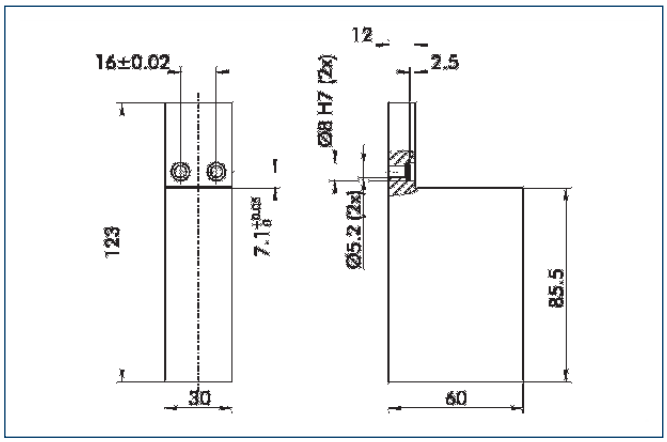
RB 80



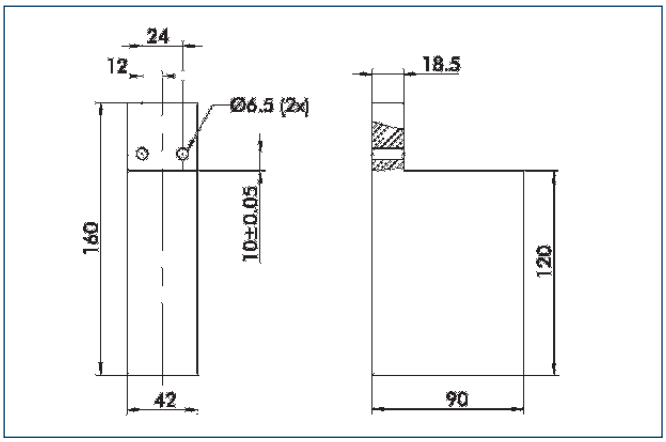
RB 100



RB 140

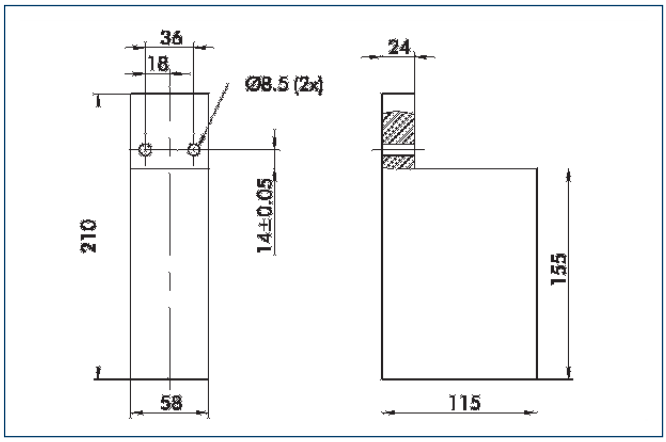


RB 220

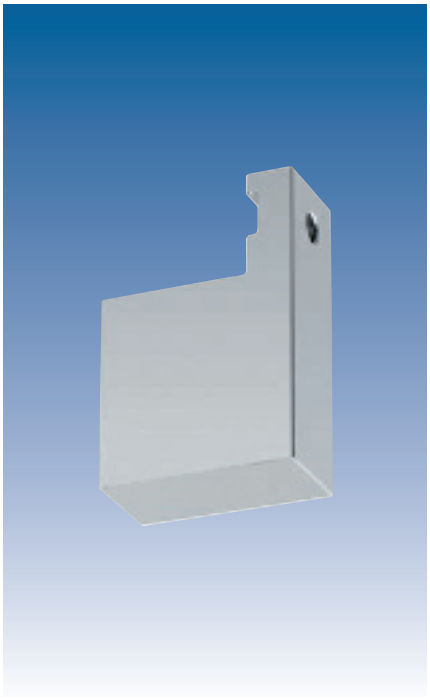


RB for KGG

RB 280



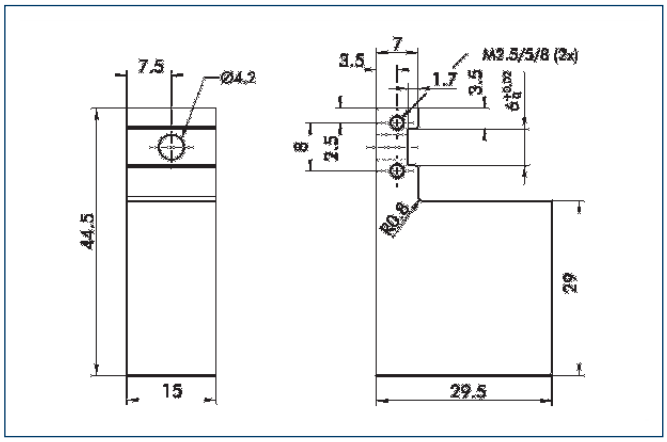
RB for DKG-RR



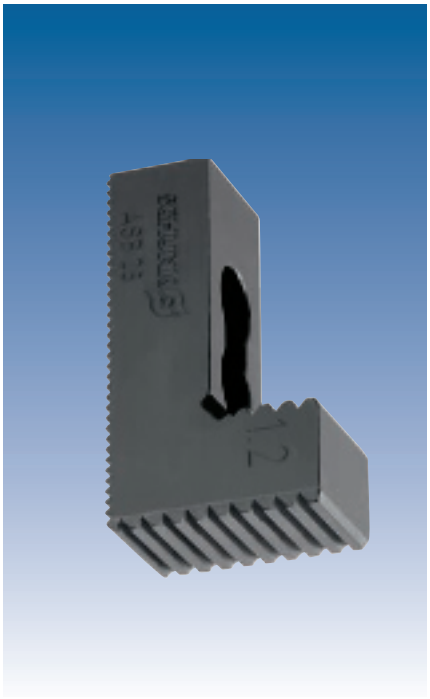
Technical data

Description	ID	Items per ID	Weight [kg]	Material
RB 44	0300281	2	0.038	Aluminum

RB 44



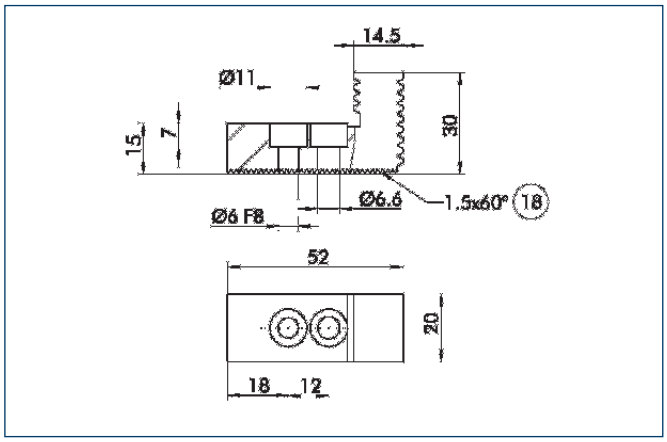
ASB/SBR for UFG



Technical data

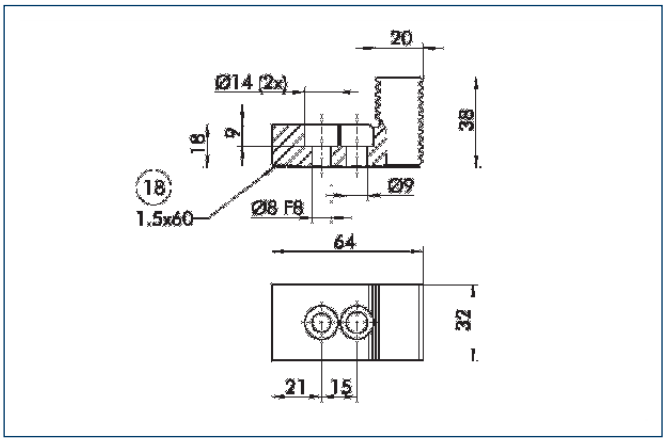
Description	ID	Items per ID	Weight [kg]	Material
ASB 26	0302703	3	0.13	16 MnCr 5
ASB 32	0302704	3	0.34	16 MnCr 5
SBR 26	0302707	3	0.29	16 MnCr 5
SBR 32	0302708	3	0.6	16 MnCr 5

ASB 26



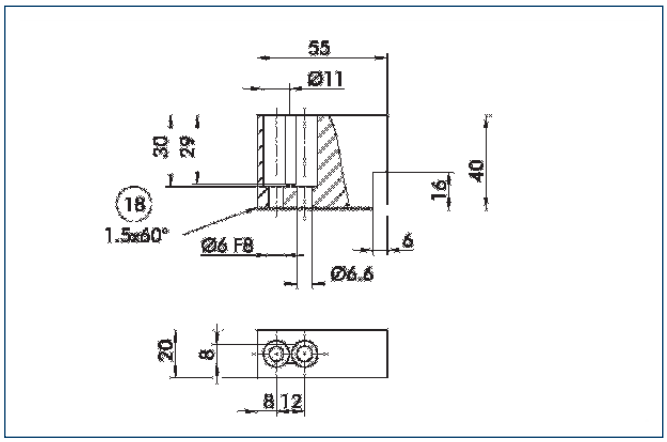
(18) Fine serration

ASB 32



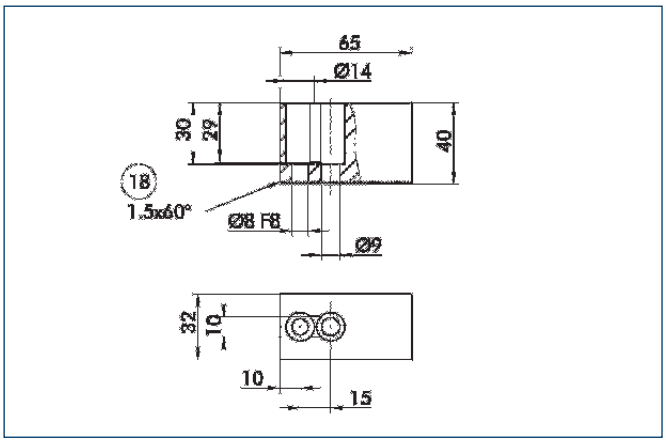
(18) Fine serration

SBR 26



(18) Fine serration

SBR 32



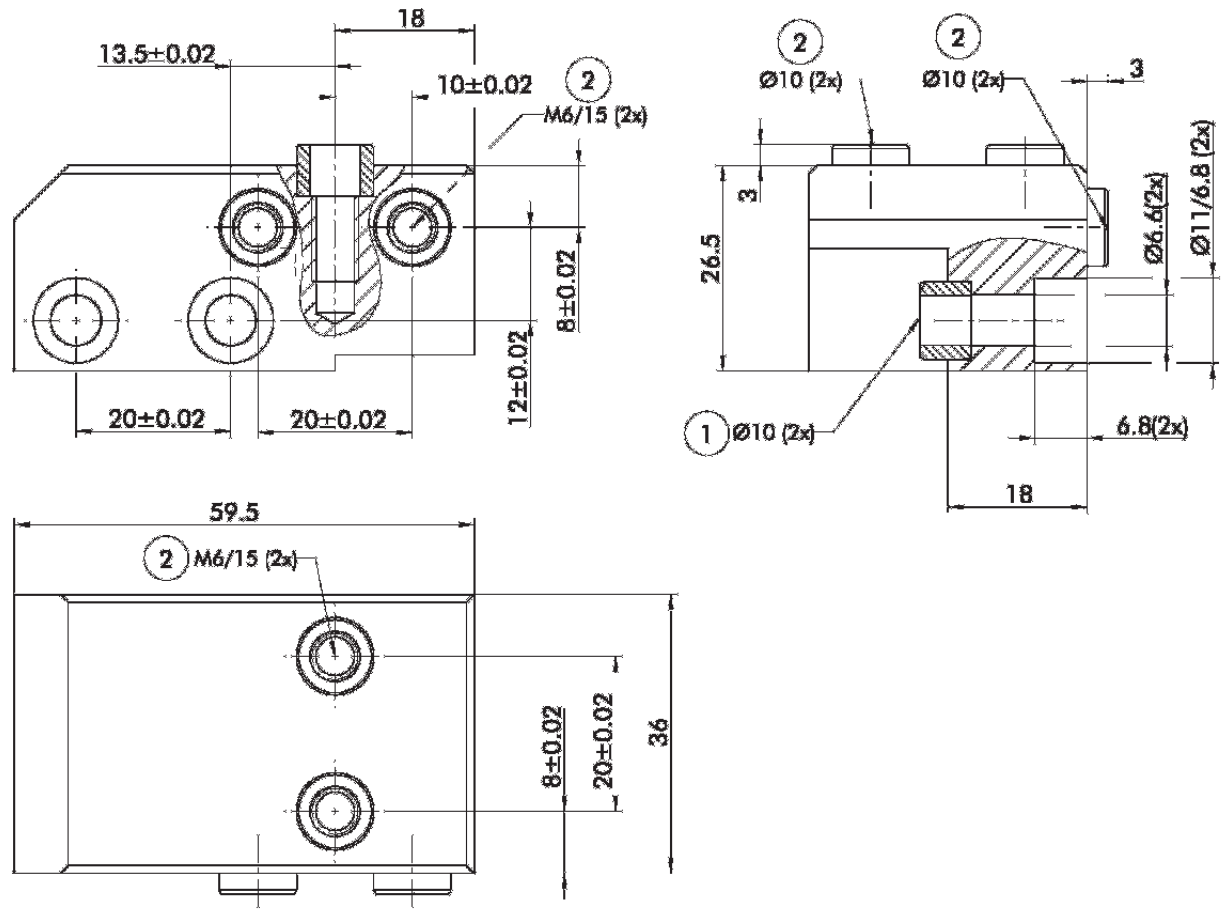
(18) Fine serration

ZBH for PFH

Technical data

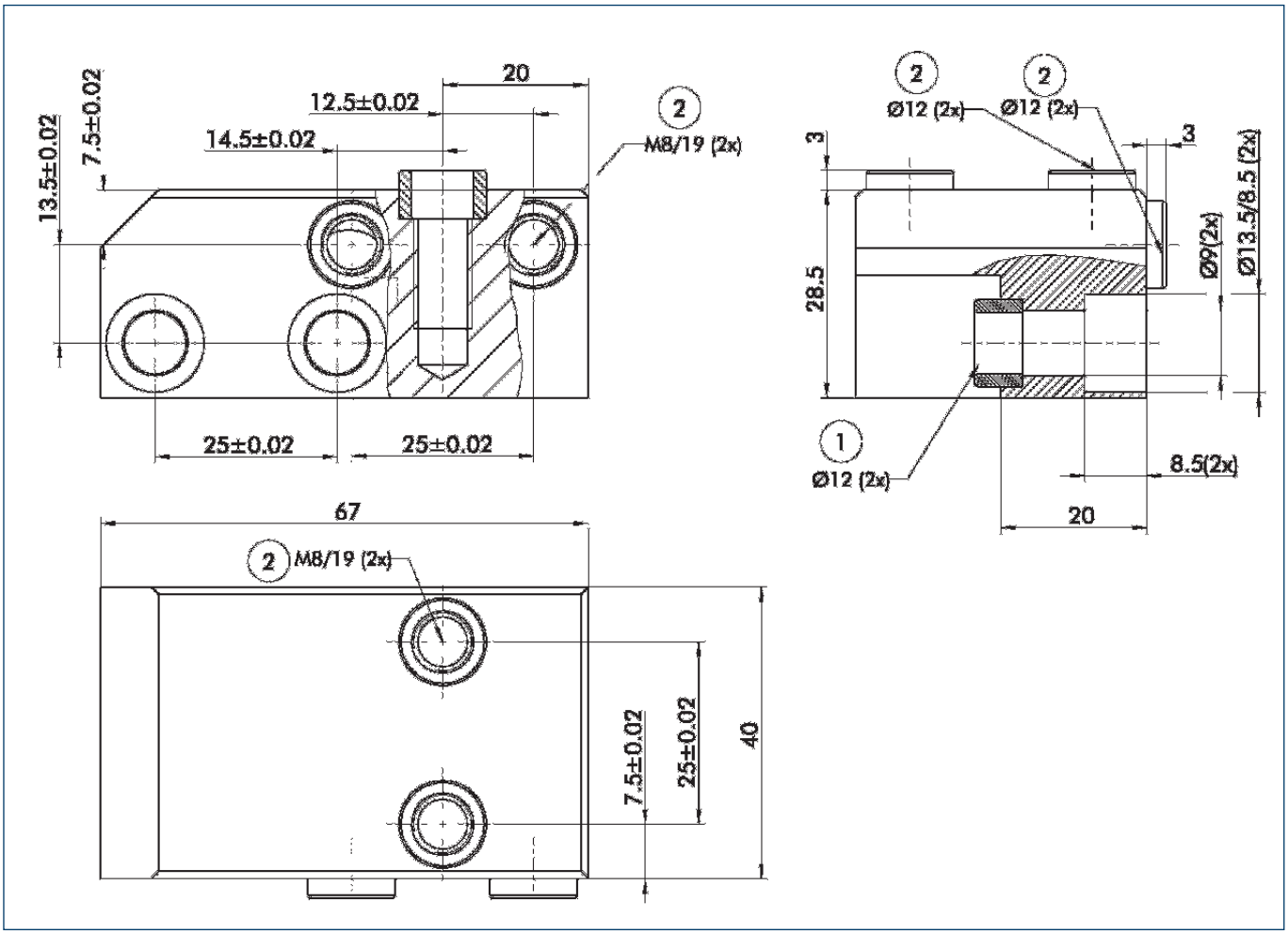
Description	ID	Items per ID	Weight [kg]	Material
ZBH 30	0300220	2	0.66	16 MnCr 5
ZBH 40	0300221	2	0.89	16 MnCr 5
ZBH 50	0300222	2	1.64	16 MnCr 5

ZBH 30 for PFH 30



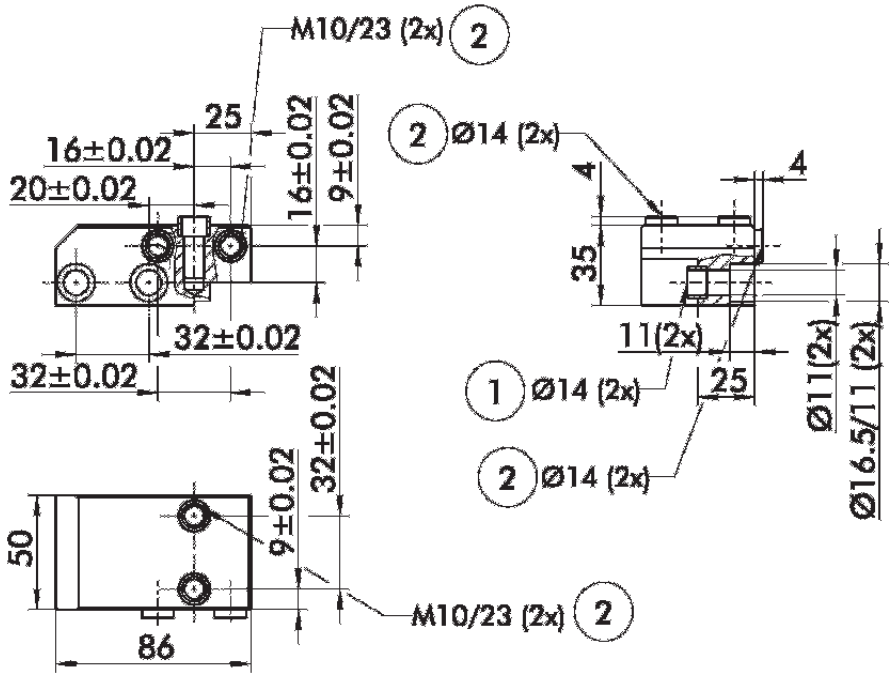
① Gripper connection
② Finger connection

ZBH 40 for PFH 40



① Gripper connection
② Finger connection

ZBH 50 for PFH 50



① Gripper connection
② Finger connection

QUENTES

Product advantages

High friction coefficient of approx. 0.3 – 0.4
thanks to the use of glass-fiber-reinforced plastic

Gentle clamping
of the most delicate surfaces, no clamping marks, excellent for ground or surface-treated parts

Low-cost system
through replaceable clamping inserts

High stability
through the aluminum support structure of the supporting jaw

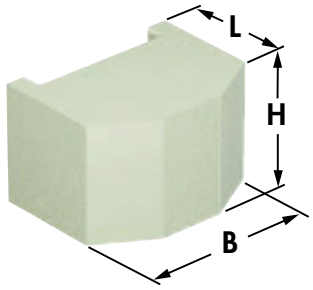
Light, stable design
for high speeds

All-round workpiece locating surface
for low-deformation clamping of machined parts

Technical data

Description		Quentes 5	Quentes 10
	ID	0300760	0300761
Weight	[kg]	0.13	0.28

Main views



		Quentes 5	Quentes 10
B	[mm]	37	50
H	[mm]	25	32
L	[mm]	38	38

Product advantages

Increased friction factor
so that a lower gripping force is required

Different sizes available

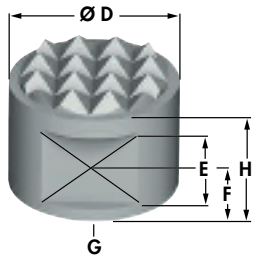
Rapid replacement possible

High load bearing capacity

Technical data

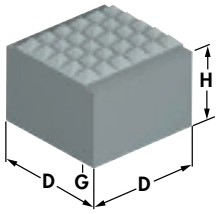
Description		HM 6	HM 8	HM 10	HM 11	HM 12	HM 13	HM 14	HM 15
	ID	0300780	0300781	0300782	0300783	0300784	0300785	0300786	0300787
Max. load strength	[N]	4500	6000	8000	11000	11000	20000	30000	20000
Keyed surface		No	No	Yes	Yes	No	Yes	Yes	Yes

HM 6 – HM 14 clamping insert

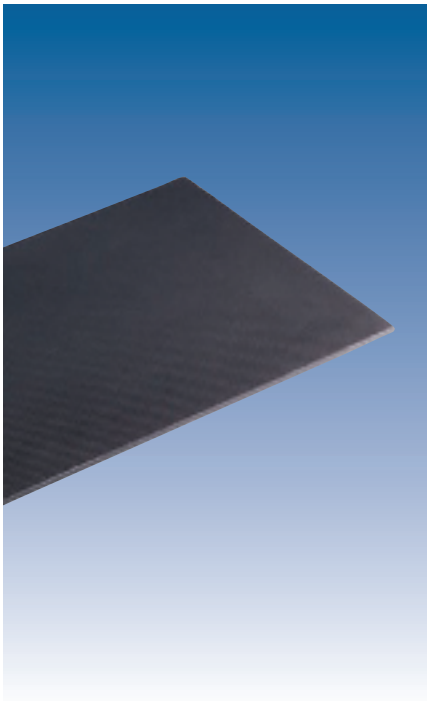


	HM 6	HM 8	HM 10	HM 11	HM 12	HM 13	HM 14
$H_{-0.13}$	10	10	10	9.5	12.7	9.5	9.5
$D_{-0.13}$	Ø 6	Ø 8	Ø 10	Ø 12.7	Ø 12.7	Ø 15.8	Ø 19
F	–	4.5	4.5	4.5	4.5	4.5	4.5
E	–	5	5	5	5	5	5
Thread G	M3	M4	M5	M5	M6	M6	M6

HM 15 clamping insert



	HM 15
$H_{-0.13}$	9.5
$D_{-0.13}$	Ø 12.7 $^{+0.08}_{-0.13}$
F	–
E	–
Thread G	M6



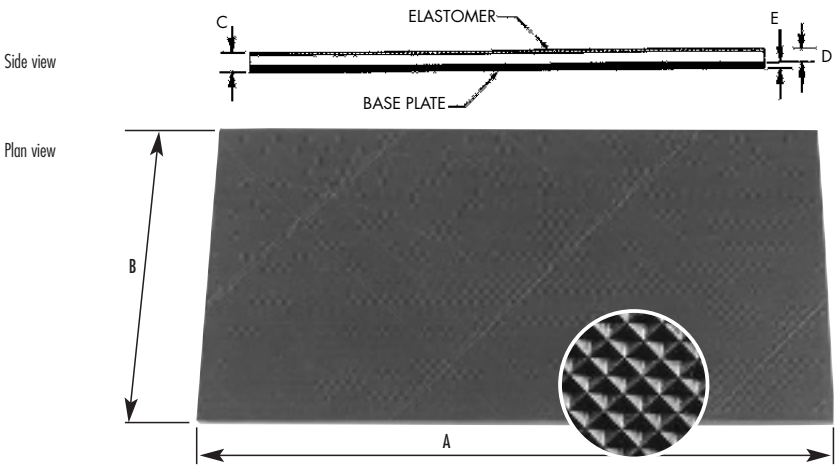
Product advantages

- Pliable surface
- Resistant to harsh ambient conditions
- Easy installation and replacement
- Can be adapted to customer-specific applications
- Ribbed surface for picking up workpieces with delicate surfaces

Technical data

Description		HKI 1E	HKI 1A	HKI 1S
	ID	0324160	0324161	0324162
		elastomer pad only	with aluminum base plate	with stainless steel base plate
Weight	[g/cm³]	0.3	1.0	3.6
Operating temperature range	[°C]	-30 to +100	-30 to +100	-30 to +100
Coefficient of friction against steel, dry		~ 0.5	~ 0.5	~ 0.5
Elastomer, NBR (Perbunan)		60 ± 5 Shore A	60 ± 5 Shore A	60 ± 5 Shore A

Main views

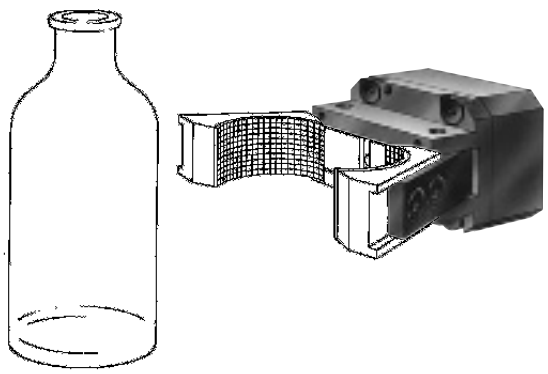


Gripper pads, type HKI 1

Gripper pads of durable, non-slip elastomer material for gripper jaws. Indispensable for applications that work best with a higher friction factor.
The gripper pads can be employed in a wide temperature range and are resistant to oil and other aggressive elements.
Gripper pads are available either with or without metal base plates.

		HKI 1 E	HKI 1A	HKI 1S
A	[mm]	300	300	300
B	[mm]	150	150	150
C	[mm]	–	6.3	13.5
D	[mm]	3.3	4.8	10.2
E	[mm]	–	1.5	3.3

HKI application example



Guide Sleeves

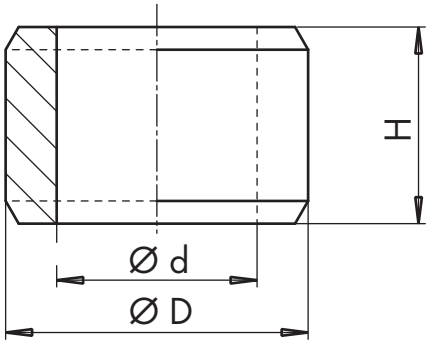
Product advantages

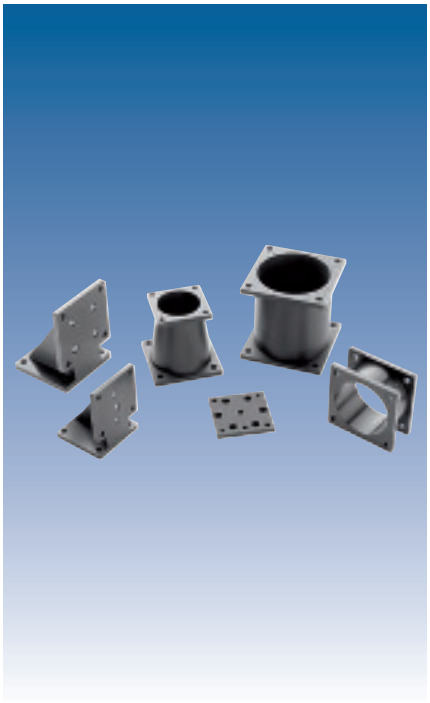
- Simple, space-saving centering
- Easy assembly
- High replacement accuracy
- Suitable for numerous SCHUNK automation modules

Technical data

Diameter [mm]	ID	Ø d	H
2	9941547	1.3	1.95 – 0.05
2.5	9941628	1.7	1.95 – 0.05
3	9941629	2.1	1.95 – 0.05
3.5	9939947	2.1	2.95 – 0.05
4	9939376	2.6	3.95 – 0.05
5	9939377	3.1	4.35 – 0.05
6	9939384	4.1	5.35 – 0.05
8	9939378	5.1	5.35 – 0.05
10	9939379	6.2	6.65 – 0.05
12	9939380	8.2	6.65 – 0.05
14	9939381	10.2	8.60 – 0.10
16	9939382	12.2	8.60 – 0.10
22	9939383	16.2	13.60 – 0.10
28	9941220	21.0	17.60 – 0.10

Main views

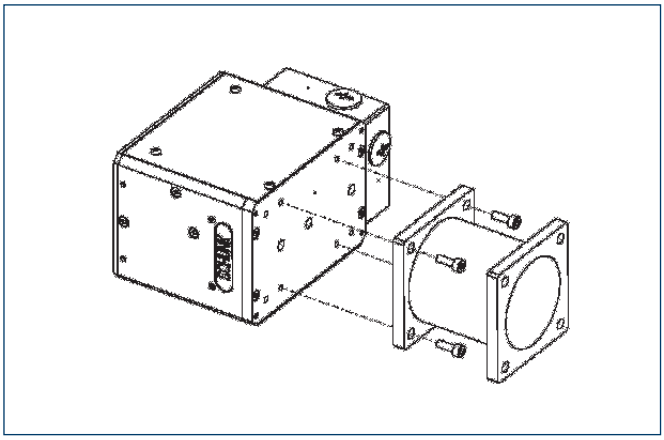




Product advantages

- Standard elements for connecting PowerCube modules with complete repeat accuracy
- Suitable for all grippers and rotary units of the PowerCube series (PG/PR/PW/PSM/PDU)
- Shaped designs: straight, conical and right-angle
- Special lengths on request

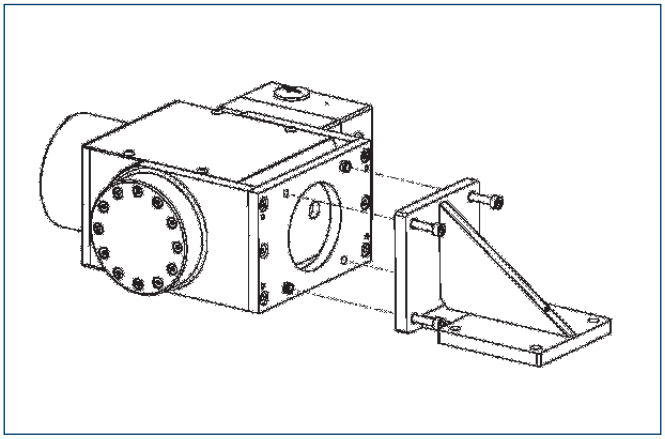
Straight PAM



Straight standard connecting element suitable for PG grippers, PR rotary unit, PW rotary tilting unit, PSM/PDU servo-motors and PLS linear modules of the PowerCube series. Special lengths on request

Description		PAM 100	PAM 101	PAM 102	PAM 103	PAM 104	PAM 105
	ID	0307800	0307801	0307802	0307803	0307804	0307805
Dimensions	[mm]	70x70/35/70x70	70x70/70/70x70	90x90/45/90x90	90x90/90/90x90	110x110/55/110x110	110x110/110/110x110
Suitable for		PG 70/PR 70/ PW 70/PSM 70/ PDU 70/PLS 70	PG 70/PR 70/ PW 70/PSM 70/ PDU 70/PLS 70	PR 90/PW 90/ PSM 90/PDU 90/ PLS 90	PR 90/PW 90/ PSM 90/PDU 90/ PLS 90	PR 110/PW 110/ PSM 110/PDU 110/ PLS 110	PR 110/PW 110/ PSM 110/PDU 110/ PLS 110

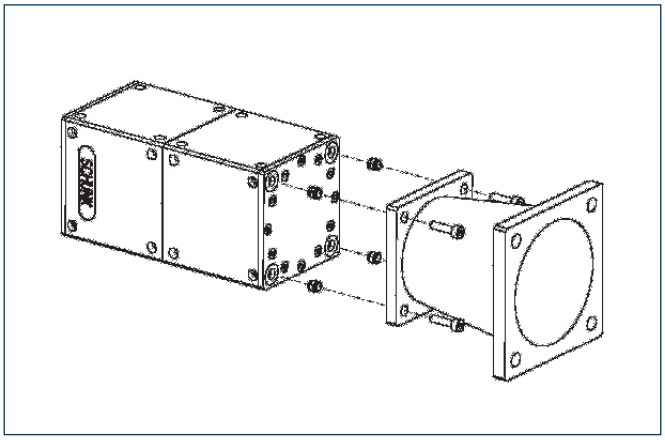
Right-angle PAM



Right-angle standard connecting element suitable for PG grippers, PR rotary unit, PW rotary tilting unit, PSM/PDU servo-motors and PLS linear modules of the PowerCube series. Special lengths on request

Description		PAM 120	PAM 121	PAM 122
	ID	0307820	0307821	0307822
Dimensions	[mm]	90°/ 70.5x98	90°/ 90.5x122	90°/ 110.5x146
Suitable for		PG 70/PR 70/PW 70/ PSM 70/PDU 70/PLS 70	PR 90/PW 90/PSM 90/ PDU 90/PLS 90	PR 110/PW 110/PSM 110/ PDU 110/PLS 110

Conical PAM



Conical standard connecting element for connecting PowerCube modules in various sizes, suitable for PG grippers, PR rotary unit, PW rotary tilting unit, PSM/PDU servo-motors and PLS linear modules. Special lengths on request

Description		PAM 110	PAM 111	PAM 112	PAM 113
	ID	0307810	0307811	0307812	0307813
Dimensions	[mm]	90x90/45/70x70	90x90/90/70x70	110x110/55/90x90	110x110/110/90x90
Suitable for		PR/PW/PSM/PDU/ sizes 70 and 90	PR/PW/PSM/PDU/ sizes 70 and 90	PR/PW/PSM/PDU/ sizes 90 and 110	PR/PW/PSM/PDU/ sizes 90 and 110

Application example

1. SDV-P pressure maintenance valve
2. SWV pivot screw connection
3. PGN-plus 2-Finger Parallel Gripper with workpiece-specific gripper fingers

Pressure maintenance valve and fitting

Your advantages and benefits

Suitable for all SCHUNK gripper, rotary and linear modules and robot accessories

Everything from a single source

The SDV-P pressure maintenance valve protects against a loss of pressure

Version as plug-in connection (SCHUNK fittings)

Pressure maintenance valve

In the event of a loss of pressure, the pressure maintenance valve prevents the air from escaping out of the gripper. This prevents a loss in clamping force, and the workpieces remain securely clamped in the gripper jaws. Especially suitable for grippers that cannot be equipped with mechanical pressure maintenance.

Function

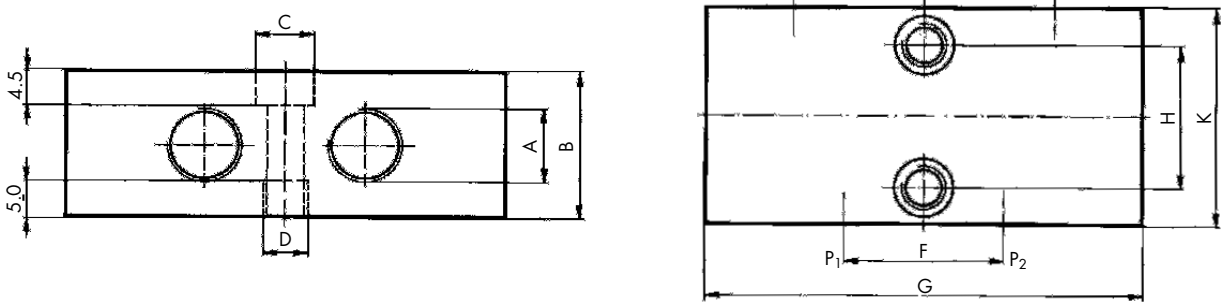
Two check valves connected in parallel, which automatically open the return channel and close the pressure line on a loss of pressure.

Technical data

Description		SDV-P 04	SDV-P 07
	ID	0403130	0403131
Nominal size	[mm]	4	7
Flow	[l/min]	200	300
Weight	[g]	100	180
Medium		filtered compressed air 10 µm lubricated or dry	filtered compressed air, 10 µm lubricated or dry
Pressure range	[bar]	0.5 - 10	0.5 - 10 bar
Temperature range	[°C]	-10 to +80	-10 to +80
Switching time	[ms]	approx. 10	approx. 10
Version		stainless steel	stainless steel
Max. drop in pressure within 24 h. (test volume 2 cm^3)	[bar]	0.5	0.5

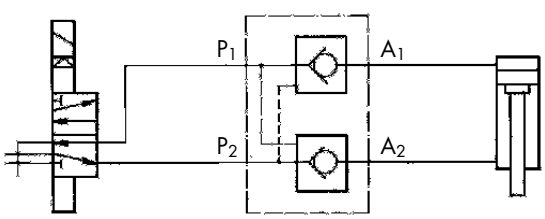
ⓘ Max. flow per port at p = 6 bar

Main views



Variable	SDV-P 04	SDV-P 07
A	G 1/8"	G 1/4"
B	20	24
C	8	8
D	M 5	M 5
E	36	44.6
F	22	26
G	60	75
H	20	26
K	30	40

Circuit diagram



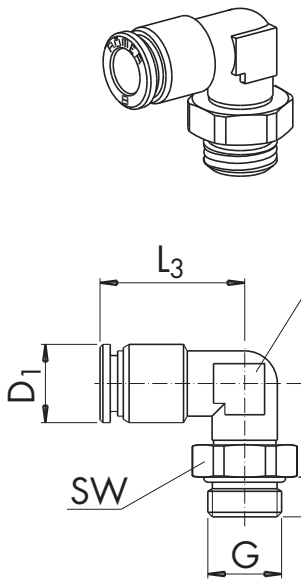
WV elbow fitting

Version as push-in connection for simple, rapid connection to pneumatic energy supplies

Technical data

Description		WV-G 1-8-6	WV-G 1-8-8	WV-G 1-4-6
	ID	9937129	9936730	9937170
Hose	[mm]	6	8	6
Material of body			Ms 58 nickel-plated	
			release ring: POM plastic, gray	
Material of clamping collet			stainless steel	
			seal: O-ring, NBR	
Temperature range	[°C]	-10 to 60	-10 to 60	-10 to 60
Max. operating pressure	[bar]	20	20	20

Main views of WV elbow fitting



Variable	WV-G 1-8-6	WV-G 1-8-8	WV-G 1-4-6
G	1/8"	1/8"	1/4"
L1	5	5	7
L2	13.5	16	15.5
L3	22	25.5	23.5
D1	12	14	12
SW	13	13	17
S4	10	12	10

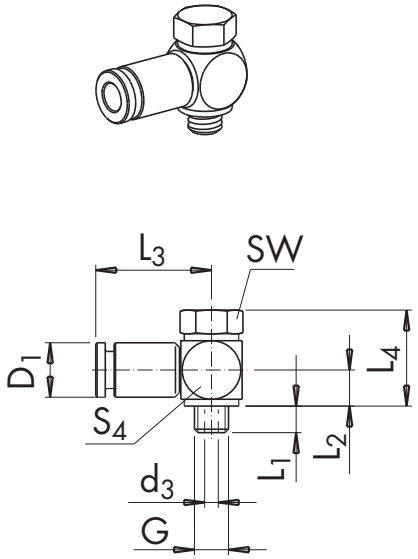
SWV banjo fitting

Version as push-in connection for simple, rapid connection to pneumatic energy supplies

Technical data

Description		SWV-M3-4	SWV-M5-6	SWV-G8-6	SWV-G4-6	SWV-G4-8
	ID	9210505	9936171	9937152	9937128	9936728
Hose	[mm]	4	6	6	6	8
Material of body				Ms 58 nickel-plated		
				release ring: POM plastic, gray		
Material of clamping collet				stainless steel		
				seal: O-ring, NBR		
Temperature range	[°C]	-10 to 60	-10 to 60	-10 to 60	-10 to 60	-10 to 60
Max. operating pressure	[bar]	20	20	20	20	20

Main views of SWV banjo fitting



Variable	SWV-M3-4	SWV-M5-6	SWV-G8-6	SWV-G4-6	SWV-G4-8
G	M3	M5	G1/8"	G1/4"	G1/4"
d3	1.1	2	5	7	7
L1	2	4	6.5	8	8
L2	2.5	6.2	8.25	8.4	15.3
L3	7.3	18.5	22.5	24.5	25
L4	7.3	15.8	20.5	21.6	21.6
D1	3.4	10	12	12	13.5
SW	5	8	14	17	17
S4	5	10	15	19	19

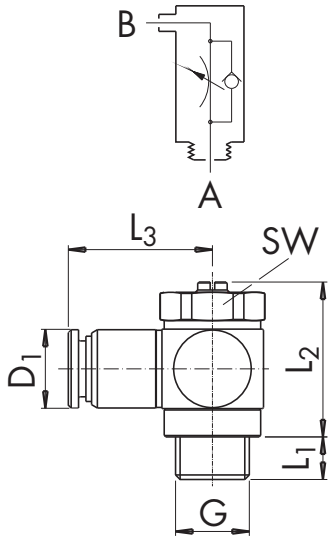
DSV banjo fitting with one-way flow control valve

Version as push-in connection for simple, rapid connection
to pneumatic energy supplies

Technical data

Description		DSV-M3-4	DSV-M5-6	DSV-G8-6	DSV-G4-6	DSV-G8-8
	ID	9720005	9936160	9936159	9936161	9936162
Hose	[mm]	3	6	6	6	8
Material of body				Ms 58 nickel-plated		
				release ring: POM plastic, gray		
Material of clamping collet				stainless steel		
				seal: O-ring, NBR		
Temperature range	[°C]	-10 to 60	-10 to 60	-10 to 60	-10 to 60	-10 to 60
Max. operating pressure	[bar]	20	20	20	20	20

Main views of DSV banjo fitting with one-way flow control valve



Variable	DSV-M3-4	DSV-M5-6	DSV-G8-6	DSV-G4-6	DSV-G8-8
G	M3	M5	G1/8"	G1/4"	G1/8"
L1	2.5	4	5	6.5	5
L2 max.	29	21.5	30	32	30
L3	11	21	22.5	24.5	23
D1	4.8	10.4	12	12	14
SW	knurled	8	14	17	14

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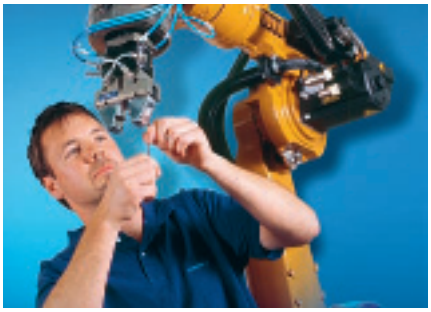

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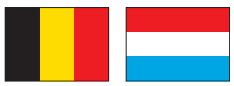

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