



Superior Clamping and Gripping



## Product Information

Gripper for small components MPC 100

# MPC

Gripper for small components

## Easy. Economical. Cost-effective. Gripper for small components MPC

Easily built up 2-finger parallel gripper with good price-performance ratio

### Field of application

Gripping of small to mid-sized workpieces in low-contamination environments with reduced requirements in terms of precision and lifespan and for shorter system run times

### Advantages – Your benefits

**Cost-efficient basic gripper with basic functionalities** specially suitable for simple applications in small components handling

**Series with six unit sizes** for a broad range of applications from small to mid-sized workpieces

**Technically and financially compatible sensor system** for a simple, functional gripping system completely from a single source

**Housing and guidance made of high-strength aluminum** therefore exposed to high physical loads and is weight optimized



Sizes  
Quantity: 6



Weight  
0.05 .. 0.94 kg



Gripping force  
16 .. 370 N



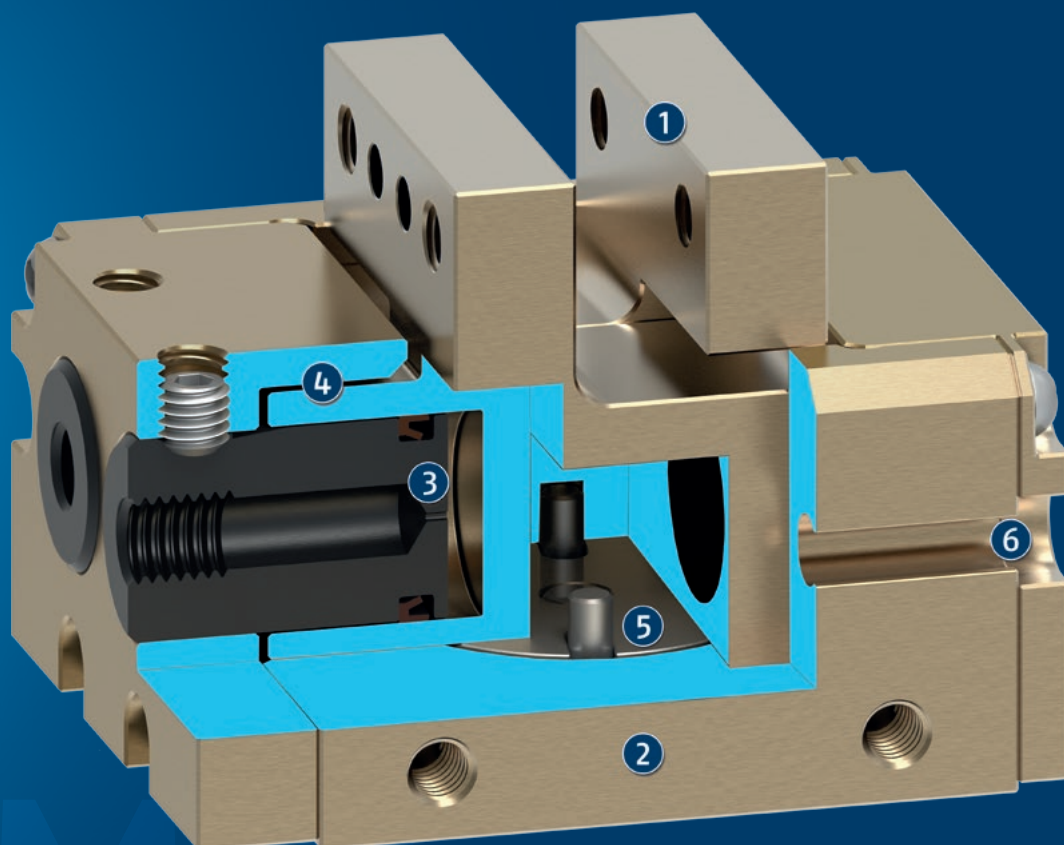
Stroke per jaw  
2.5 .. 15 mm



Workpiece weight  
0.08 .. 1.85 kg

## Functional description

The base jaws are actuated with compressed air by the fixed piston and in turn the gripper is opened or closed. The kinematics synchronizes the movement of the base jaws.



- ① **Base Jaw**  
for the connection of workpiece-specific gripper fingers
- ② **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy
- ③ **Drive**  
through pneumatic double piston system
- ④ **Guidance**  
Price-attractive flat guidance
- ⑤ **Kinematics**  
Synchronization of base jaws for centric gripping
- ⑥ **Sensor system**  
Double-sided C-slot for the use of magnetic sensors

## General notes about the series

**Operating principle:** synchronized double piston

**Warranty:** 12 months

**Maintenance and repair:** is not envisaged. The gripper is maintenance-free. In the event of a defect, the entire gripper is replaced.

**Scope of delivery:** Accessory kit with centering pins, assembly instructions (operating manual with declaration of incorporation is available online)

**Gripping force maintenance:** possible with pressure maintenance valve SDV-P

**Gripping force:** is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

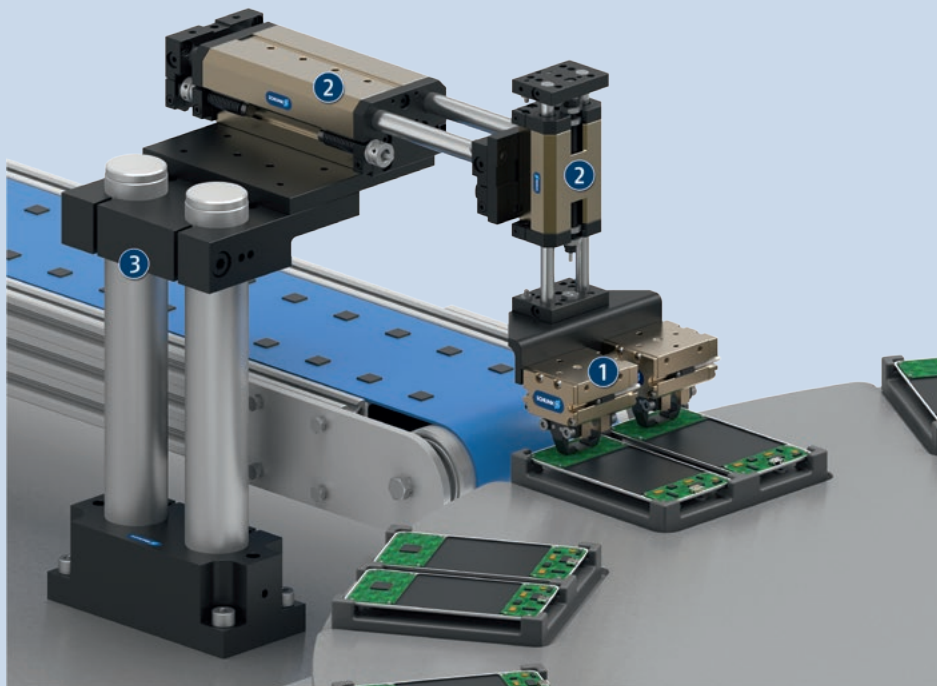
**Finger length:** is measured from the reference surface as the distance P in direction to the main axis.

The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportionally to the nominal operating pressure.

**Repeat accuracy:** is defined as a distribution of the end Position for 100 consecutive strokes.

**Workpiece weight:** is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

**Closing and opening times:** are purely the times that the base jaws or fingers are in motion. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.



## Application example

Pick & place application with double gripper for mounting electronic components on end products for the communications and electronics industry

- ① Gripper for small components MPC
- ② Linear module KLM

- ③ Pillar assembly system

## SCHUNK offers more ...

The following components make the product MPC even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Linear module



Rotation unit



Pressure maintenance valve

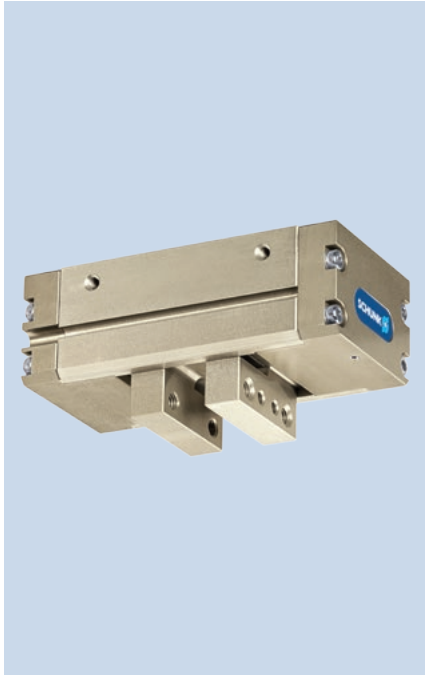


Magnetic switches

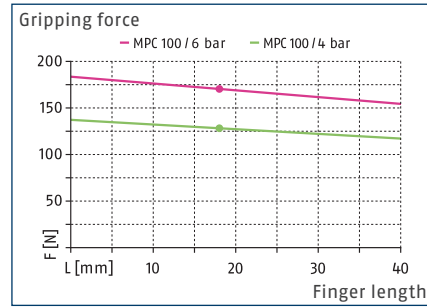
① For more information on these products can be found on the following product pages or at [schunk.com](http://schunk.com). Please contact us: SCHUNK technical hotline +49-7133-103-2696

# MPC 100

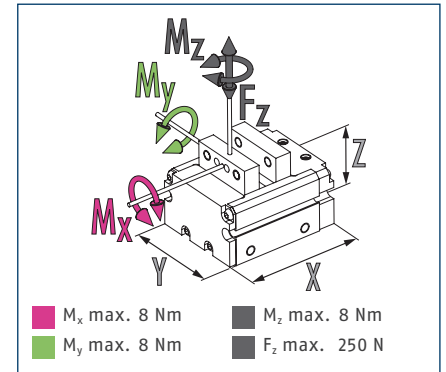
Gripper for small components



## Gripping force



## Dimensions and maximum loads



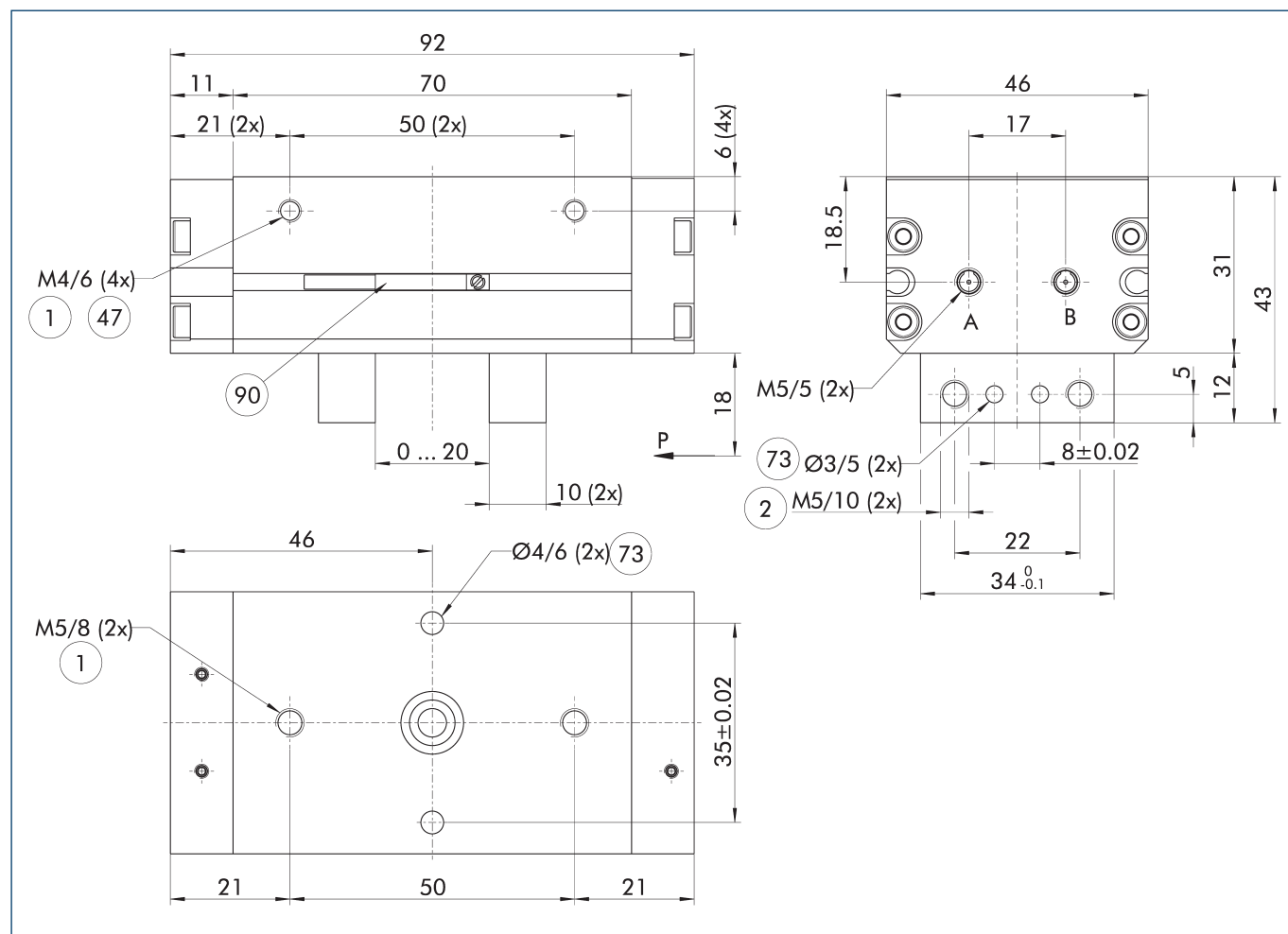
① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself.

## Technical data

Description		MPC 100
ID		1343466
Stroke per jaw	[mm]	10
Closing/opening force	[N]	170/170
Weight	[kg]	0.34
Recommended workpiece weight	[kg]	0.85
Fluid consumption double stroke	[cm <sup>3</sup> ]	8
Min./nom./max. operating pressure	[bar]	2/6/8
Closing/opening time	[s]	0.09/0.09
Max. permissible finger length	[mm]	40
Max. permissible mass per finger	[kg]	0.13
Protection class IP		30
Min./max. ambient temperature	[°C]	5/60
Repeat accuracy	[mm]	0.02
Dimensions X x Y x Z	[mm]	92 x 46 x 31

① It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.

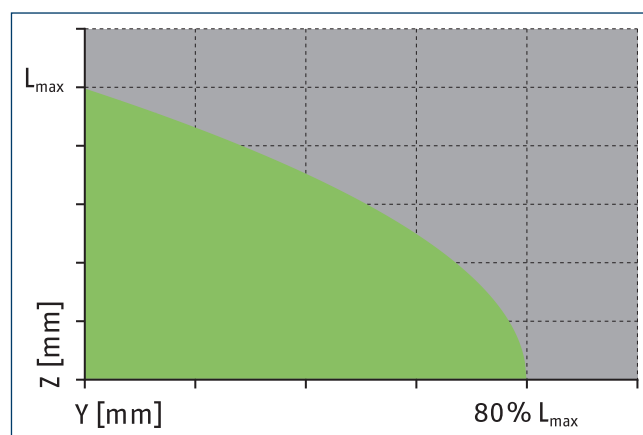
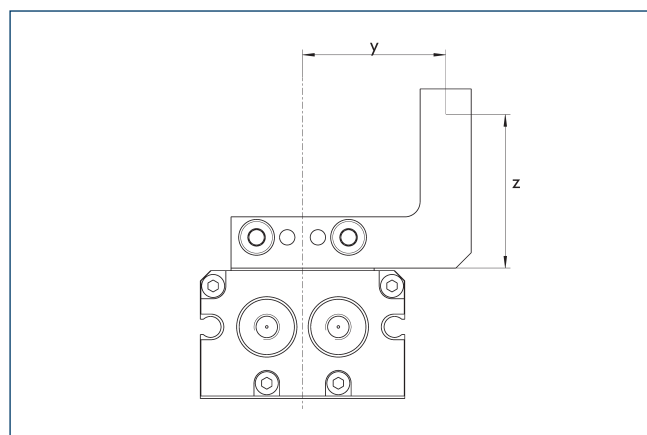
## Main view



The drawing shows the basic version of the gripper with open jaws.

- A Main connection open gripper
- B Main connection close gripper
- 1 Gripper connection
- 2 Finger connection
- 47 on both sides
- 73 Fit for centering pins
- 90 Sensor J02...

## Maximum permitted finger projection



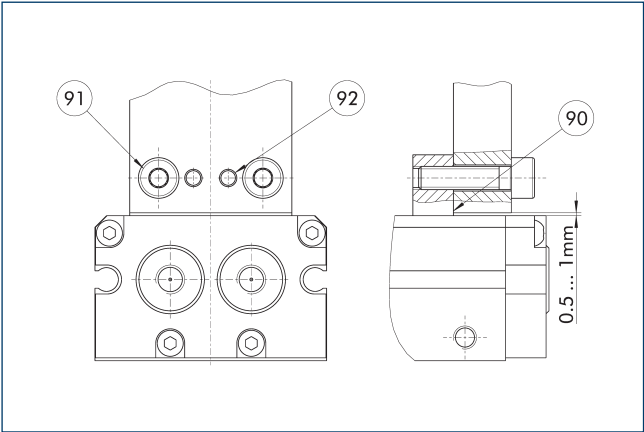
■ Permitted range      ■ Inadmissible range

L<sub>max</sub> is equivalent to the maximum permitted finger length, see the technical data table.

# MPC 100

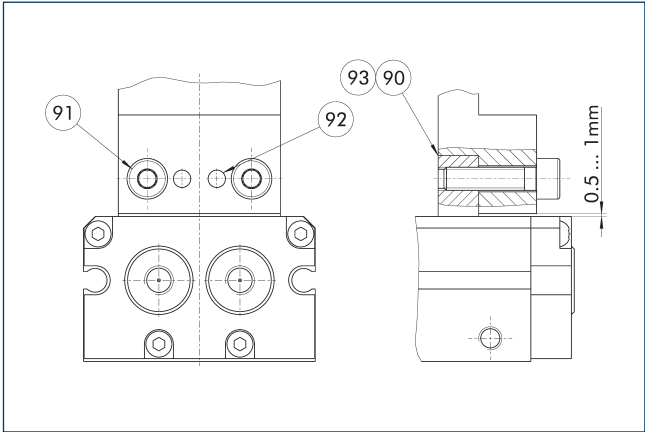
Gripper for small components

## Jaw design O.D. gripping



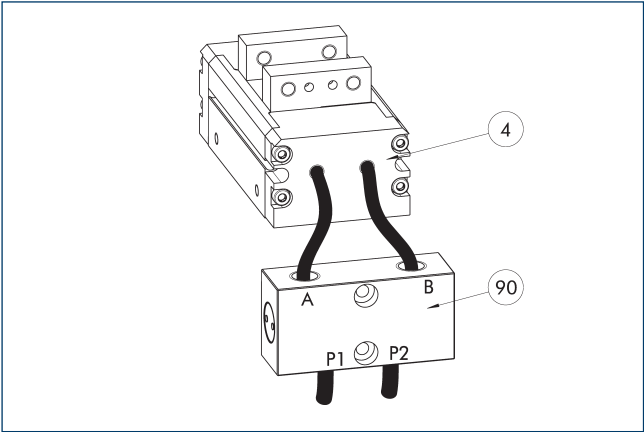
- ⑨0 Support of the top jaws at the base jaw
- ⑨1 Fastening screws
- ⑨2 Cylindrical pins

## Jaw design I.D. gripping



- ⑨0 Support of the top jaws at the base jaw
- ⑨1 Fastening screws
- ⑨2 Cylindrical pins
- ⑨3 Dimensions of steps can be seen in the main view of the MPC

## SDV-P pressure maintenance valve



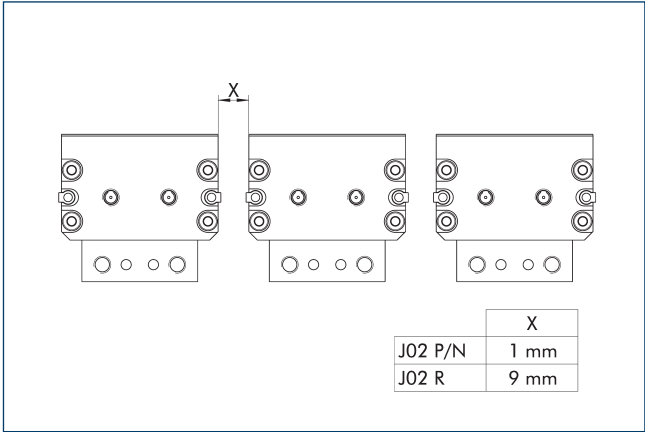
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

- ① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at [schunk.com](http://schunk.com).

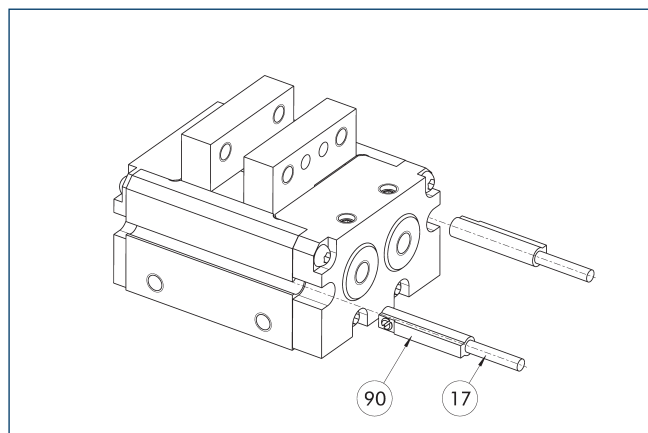
## Monitoring for stacked arrangements



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



## Magnetic switch J02N/P



⑰ Cable outlet

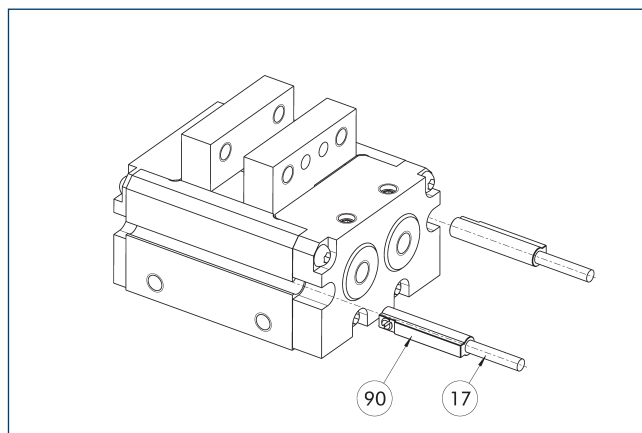
⑨⑩ Magnetic switch J02

Position monitoring with one position per sensor, can be mounted in C-slot. Available in the types NPN (J02N) and PNP (J02P), and with open cable end (2M) or cable plug (Q8). Further information can be found in the product's catalog chapter.

Description	ID	
Magnetic switches		
J02N-2M	1353058	
J02N-Q8	1353073	
J02P-2M	1353035	
J02P-Q8	1353072	

① Two sensors are required for each unit, as well as optional extension cables. Please consider the minimum permissible bending radii for sensor cables.

## Reed switch J02R



⑰ Cable outlet

⑨⑩ Reed switch J02R

Position monitoring with one position per sensor, can be mounted in C-slot. Available as a reed switch, and with open cable end (2M) or cable connector (Q8). Further information can be found in the product's catalog chapter.

Description	ID	
Reed switch J02R		
J02R-2M	1353064	
J02R-Q8	1353087	

① Two sensors are required for each unit, as well as optional extension cables. Please consider the minimum permissible bending radii for sensor cables.

**SCHUNK GmbH & Co. KG**  
**Spann- und Greiftechnik**

Bahnhofstr. 106 - 134  
D-74348 Lauffen/Neckar  
Tel. +49-7133-103-2599  
Fax +49-7133-103-2239  
info@de.schunk.com  
schunk.com



Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding.  
[schunk.com/Lehmann](https://schunk.com/Lehmann)