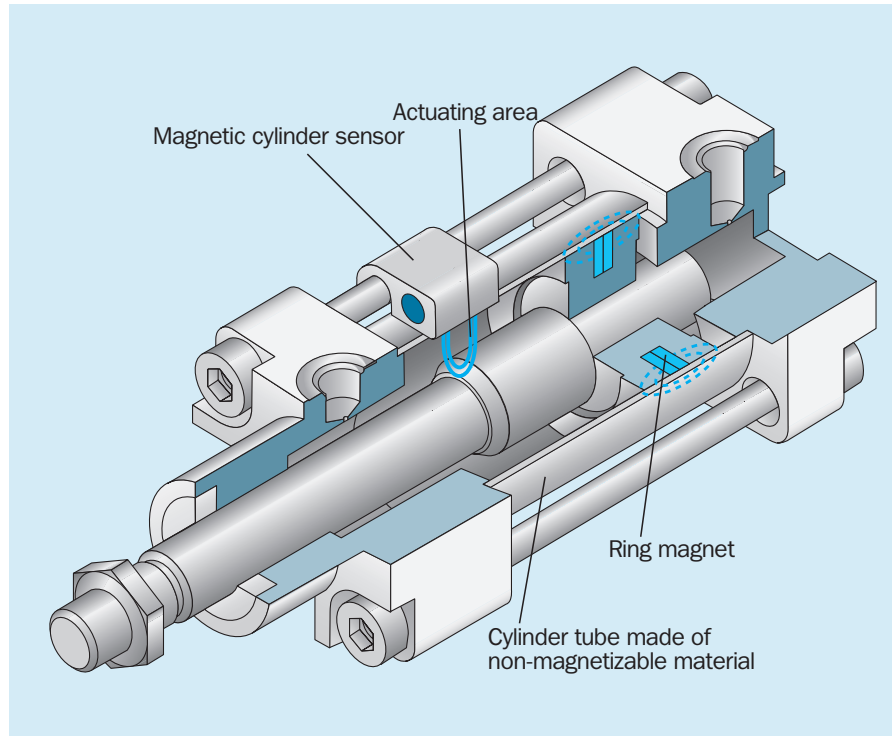


Operating principle

Magnetic cylinder sensors are used to detect the position of pistons in pneumatic cylinders. They are attached directly to the cylinder body and operate according to the same principle as for magnetic proximity sensors.

They detect a ring magnet in the piston through the housing wall made of non-magnetizable material (aluminium, brass, stainless steel).



Glossary

Actuating speed

The short response times of the sensors allow actuating speeds of up to 5 m/s.

Response sensitivity

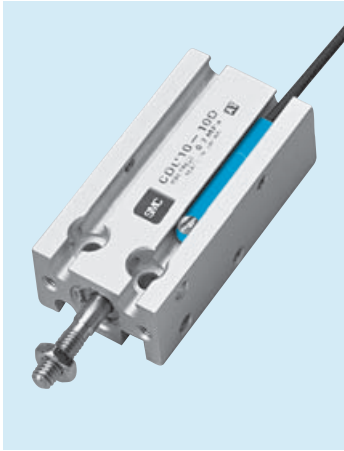
The magnetic induction of pneumatic cylinders is between 5 and 25 m Tesla. A response sensitivity of 3 m Tesla is enough to ensure signal triggering.

The sensitivity of 3 m Tesla is a guide value which depends on the design of the cylinder.

Traverse distance $s_{\bar{u}}$

The traverse distance $s_{\bar{u}}$ is between 5 and 20 mm, depending on the cylinder's construction (wall thickness, diameter, and magnetic induction). The typical hysteresis is 1 mm and remains constant.

Highlights



MZN1/RZN1
For mounting in
C-slot cylinders



BEF-KHZ-PT1
Mounting adapter
For mounting of
MZT6/RZT6 and MZT1/RZT1
on tie-rod and integrated pro-
file cylinders



MZT6/RZT6
For mounting in
T-slot cylinders



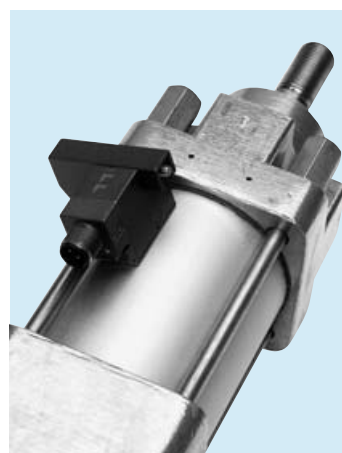
BEF-KHZ-RT1
Mounting adapter
For mounting of
MZT6/RZT6 and MZT1/RZT1
on round body cylinders



MZT1/RZT1
For mounting in
T-slot cylinders

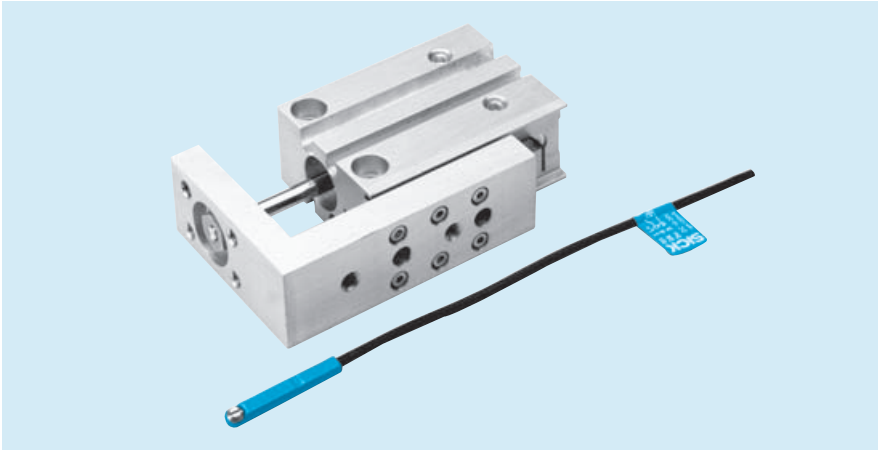


BEF-KHZ-ST1
Mounting adapter
For mounting of
MZT6/RZT6 and MZT1/RZT1
on profile cylinders with dove-
tail groove

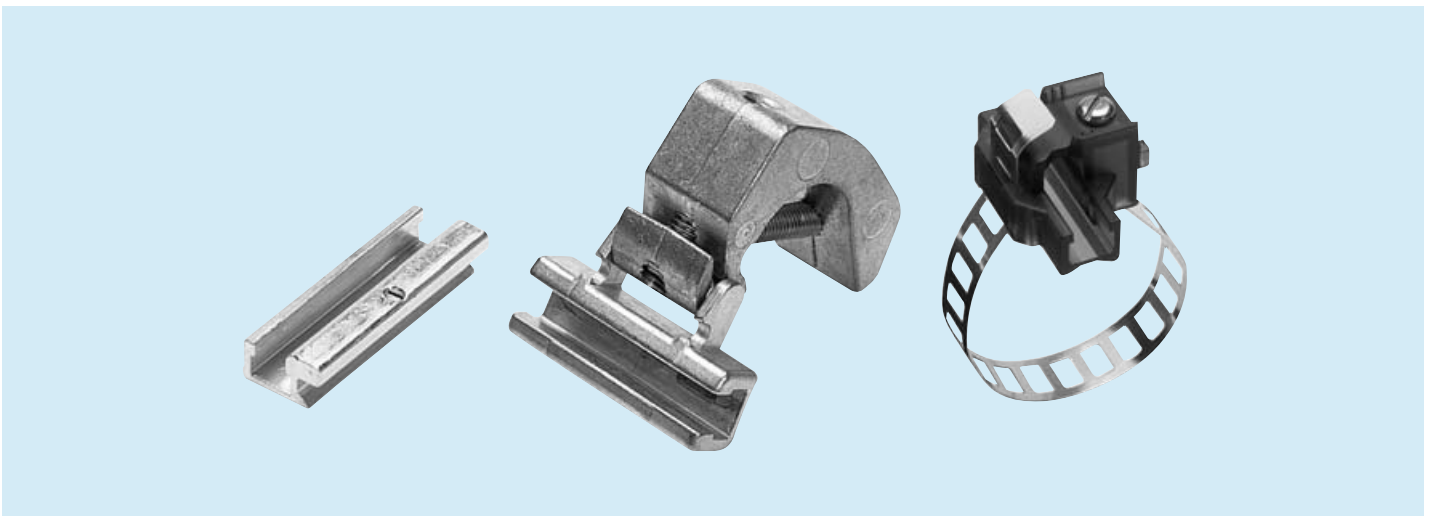


MZU2 –
weld immune version
For mounting onto different
types of cylinders by means
of adapters, with optional Tef-
lon coating

Highlights



- Drop-in mounting
- Fits into the grooves of all common pneumatic cylinders
- Simple assembly with standard tool



Mounting adapters for MZT6/RZT6 and MZT1/RZT1

- Simple installation reduces plant downtime
- Optimising inventory costs
- A sensor for different types of pneumatic cylinders

Type code

| | MZ | R1 | 03V | P | S | A | U | O | |
|---|----|----|-----|---|---|---|---|---|-----------------------------------|
| Sensor technology | | | | | | | | | Additional marking |
| Magnetic | M | | | | | | | | Resistant to humidity |
| Reed contact | R | | | | | | | | Cables and connectors |
| Design | | | | | | | W | | Cable, PVC |
| Cylinder sensor | | Z | | | | | U | | Cable, PUR-PVC |
| Application | | | | | | | P | | Cable with plug, M8x1 |
| Round body cylinder | | R1 | | | | | Q | | Cable with plug, M12x1 |
| Round body cylinder | | R2 | | | | | T | | Plug, M8x1 |
| Tie-rod type cylinder | | Z1 | | | | | C | | Plug, M12x1 |
| Tie-rod type cylinder | | Z2 | | | | | | | Housing material |
| Profile rod type cylinder | | P3 | | | | A | | | Aluminium |
| Profile rod type cylinder | | P4 | | | | K | | | Plastic |
| Short-stroke cylinder | | K1 | | | | D | | | Zinc die-cast |
| Short-stroke cylinder | | K3 | | | | T | | | Zinc die-cast with Teflon coating |
| "T" slot | | U2 | | | | | | | Output |
| Universal | | F1 | | | S | | | | Closed |
| "T" slot | | T1 | | | N | | | | NAMUR |
| "T" slot | | T6 | | | | | | | Interface |
| "C" slot | | N1 | | | | | | | DC (3 core conductor) PNP |
| Response sensitivity/sensor position | | | | P | | | | | DC (3 core conductor) NPN |
| In mT | | | 02 | N | | | | | AC/DC (2 core conductor) |
| In mT | | | 03 | U | | | | | Reed (3 core) |
| Sensor, front | | | V | R | | | | | NAMUR |
| Sensor, centred | | | Z | - | | | | | |