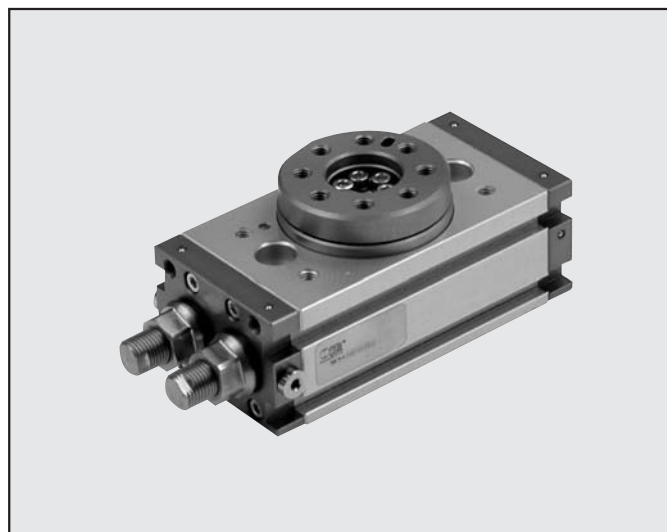


# ROTARY ACTUATORS SERIES R3

1

Actuator with double rack and play take-up.  
 Angle of rotation adjustable from 0 to 180°.  
 The R3 rotary actuator can come with a mechanical stop or hydraulic end-of-stroke cushioning.  
 There is a version with flange and one with shaft (for ø16-20-25-30).  
 There are slots in the body for retracting magnetic proximity sensors, two on each side. There is hole in the flange for air pipes or wires.



We always suggest to use flow microregulators. During the setup of the actuator, start with CLOSE flow microregulators, and open gradually till the achievement of the required speed.

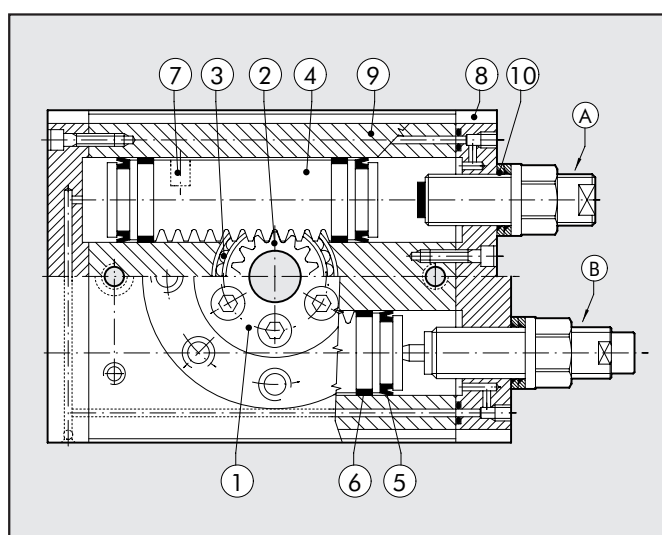
TECHNICAL FEATURES		R3 - 16	R3 - 20	R3 - 22	R3 - 25	R3 - 30	R3 - 40
Pressure range	bar	3 to 7					
Temperature range	°C	5 to 60					
Angle adjustment	degrees	0-180					
Fluid		20µm dried or lubricated filtered air. Lubrication, if used, must be continuous					
Versions		With mechanical stop / hydraulic decelerator					
Sizes		16	20	22	25	30	40
Bores	mm	2 x 16	2 x 20	2 x 22	2 x 25	2 x 30	2 x 40
Theoretical torque	Nm	0.9	1.8	2.7	4.6	9.3	22
Max. axial load	N	74	135	195	300	340	360
Max. radial load	N	78	137	360	450	490	560
Weight	Kg	0.53	0.99	1.29	2.08	3.9	6.7
Rotation time without load	s	0.2	0.2	0.2	0.2	0.3	0.3
Admissible kinetic energy	Joule						
WITH MECHANICAL STOP		0.007	0.025	0.049	0.082	0.090	0.150
(with flange W1630_2180 and with shaft W1630_5180)							
WITH HYDRAULIC DECELERATOR		-	-	-	0.29	1.10	1.60
(with flange W1630_2180 and with shaft W1630_5180)							

## COMPONENTS

- ① ROTARY FLANGE: anodised aluminium
- ② PINION: hardened and tempered steel
- ③ BALL BEARING
- ④ PISTON / RACK: hardened and tempered steel
- ⑤ CUSHIONING GASKET: NBR
- ⑥ GUIDE SHOE: PTFE
- ⑦ MAGNET: neodymium
- ⑧ HEAD: anodised aluminium
- ⑨ JACKET: anodised aluminium
- ⑩ SEAL: NBR

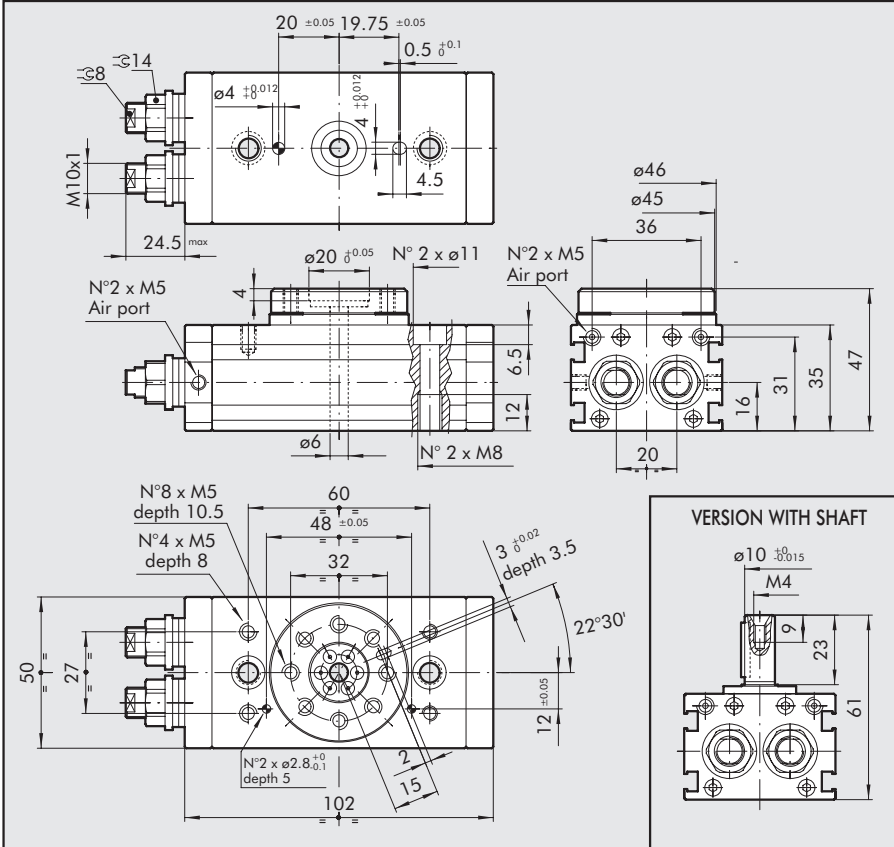
### VERSIONS:

- Ⓐ Stroke adjustment
- Ⓑ Stroke adjustment with inside hydraulic shock absorbers (available from ø25)



# DIMENSIONS

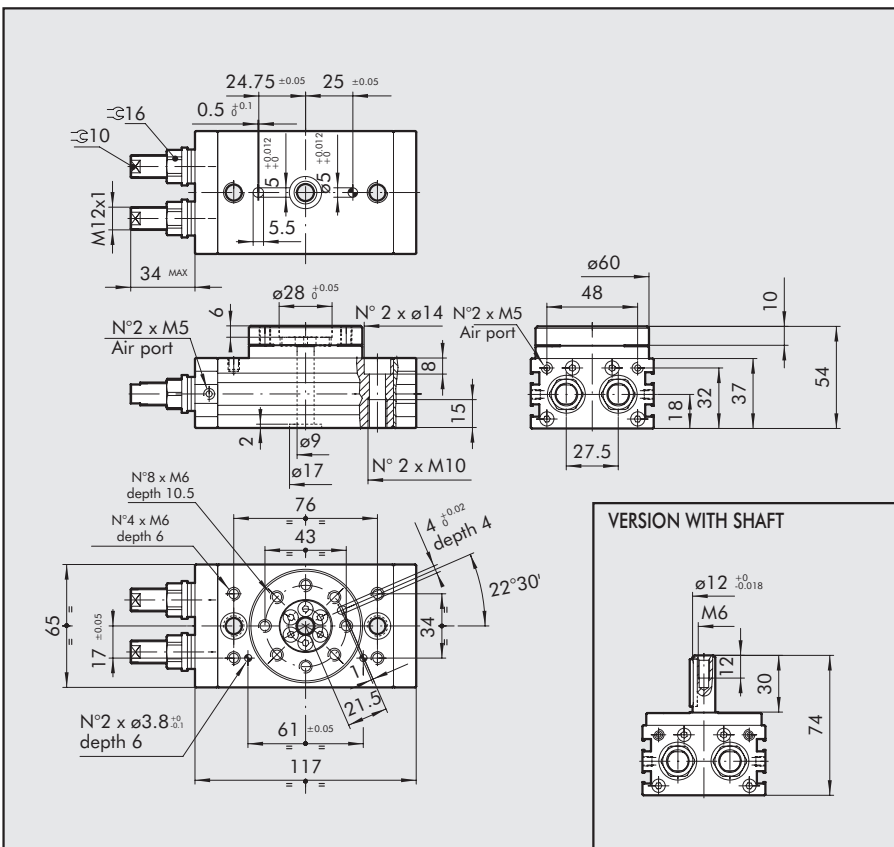
## ROTARY ACTUATOR R3-16



## ORDERING CODES

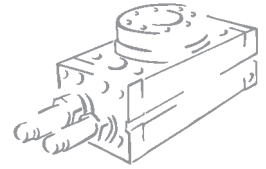
Code	Description
W1630162180	ROTARY ACTUATOR WITH FLANGE R3-16
W1630165180	ROTARY ACTUATOR WITH SHAFT R3-16

## ROTARY ACTUATOR R3-20

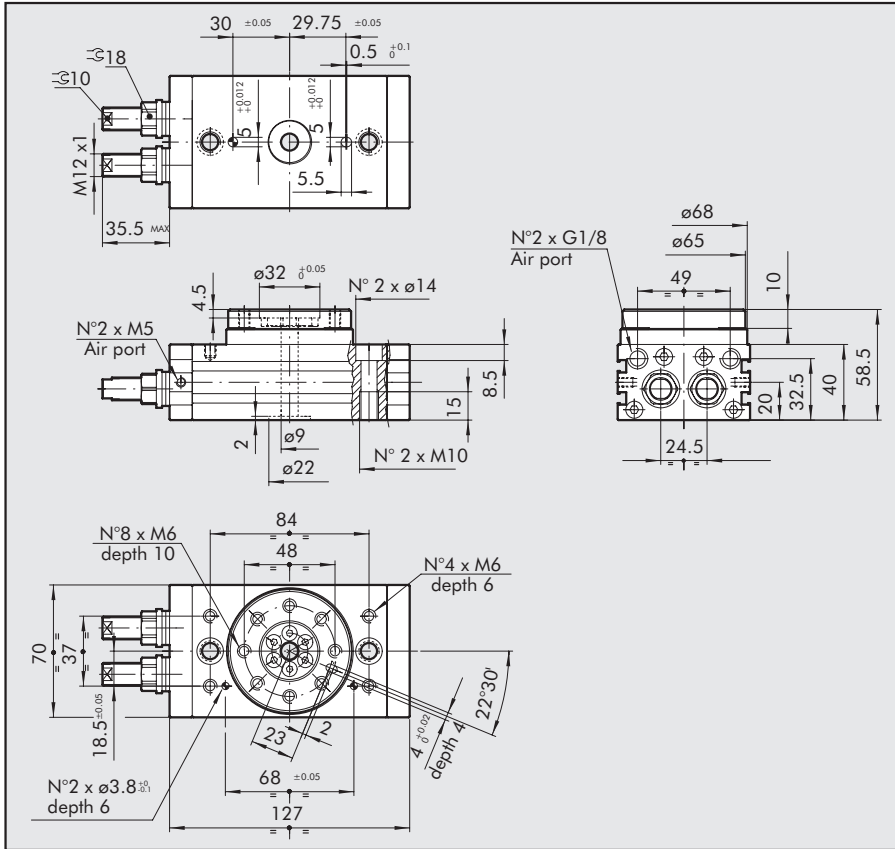


## ORDERING CODES

Code	Description
W1630202180	ROTARY ACTUATOR WITH FLANGE R3-20
W1630205180	ROTARY ACTUATOR WITH SHAFT R3-20



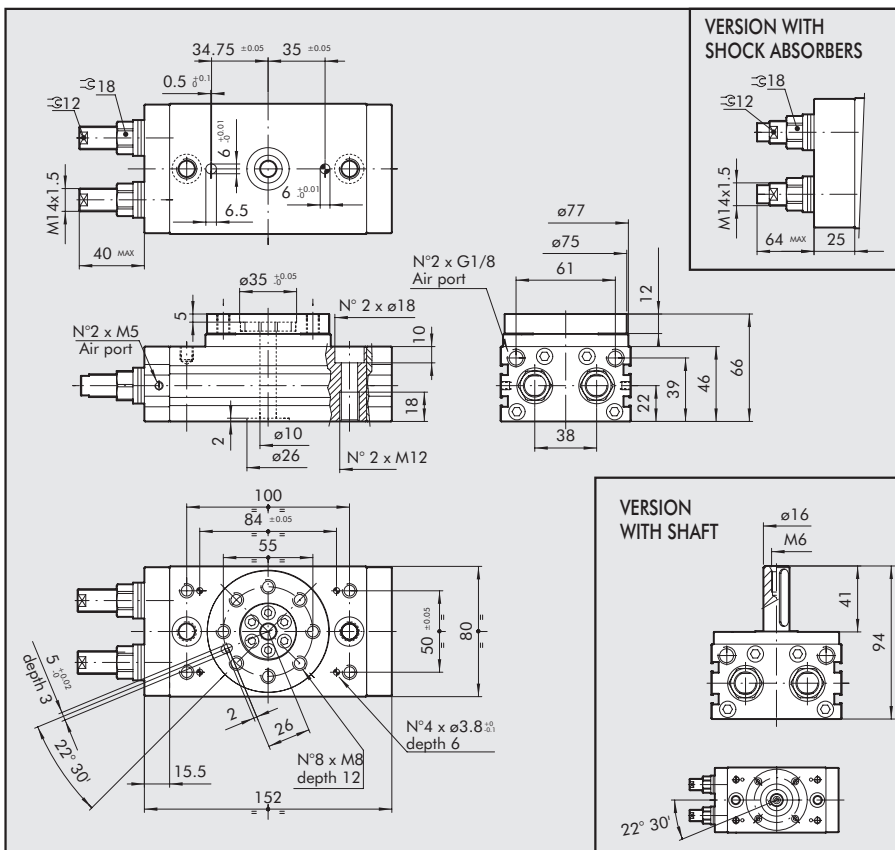
### ROTARY ACTUATOR R3-22



### ORDERING CODES

Code	Description
W1630222180	ROTARY ACTUATOR WITH FLANGE R3-22

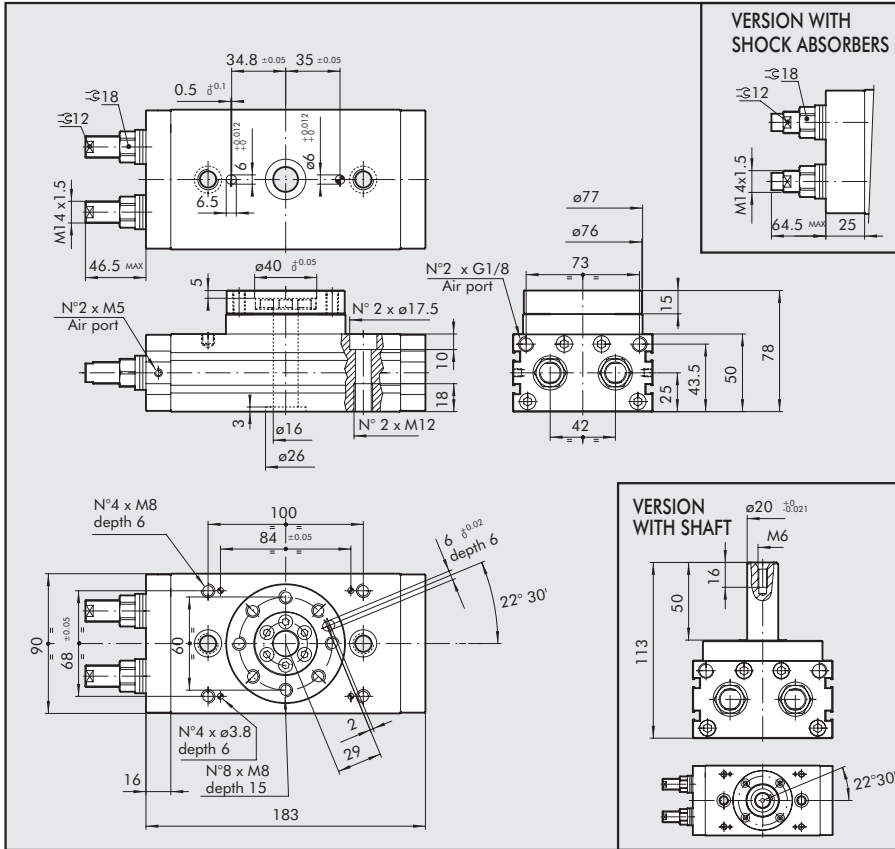
### ROTARY ACTUATOR R3-25



### ORDERING CODES

Code	Description
W1630252180	ROTARY ACTUATOR WITH FLANGE R3-25
W1630253180	ROTARY ACTUATOR WITH FLANGE + SHOCK ABS. R3-25
W1630255180	ROTARY ACTUATOR WITH SHAFT R3-25
W1630256180	ROTARY ACTUATOR WITH SHAFT + SHOCK ABS. R3-25

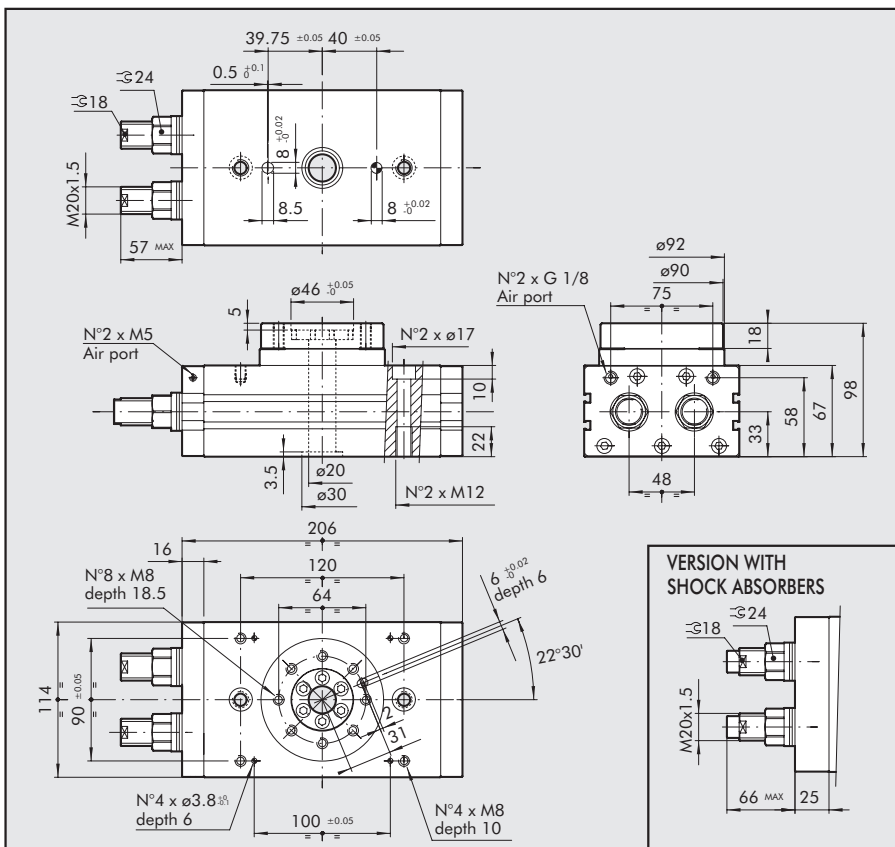
### ROTARY ACTUATOR SERIES R3-30



### ORDERING CODES

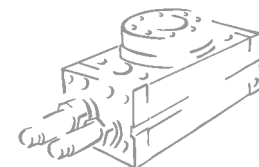
Code	Description
W1630302180	ROTARY ACTUATOR WITH FLANGE R3-30
W1630303180	ROTARY ACTUATOR WITH FLANGE + SHOCK ABS. R3-30
W1630305180	ROTARY ACTUATOR WITH SHAFT R3-30
W1630306180	ROTARY ACTUATOR WITH SHAFT + SHOCK ABS. R3-30

### ROTARY ACTUATOR SERIES R3-40



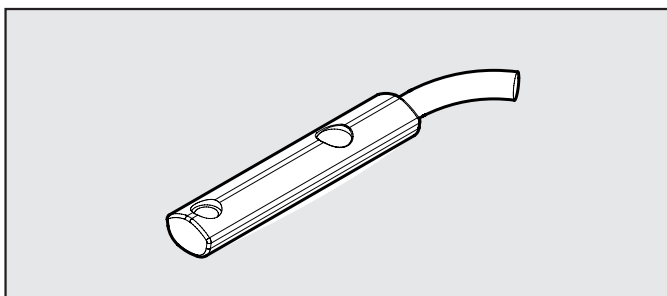
### ORDERING CODES

Code	Description
W1630402180	ROTARY ACTUATOR WITH FLANGE R3-40
W1630403180	ROTARY ACTUATOR WITH FLANGE + SHOCK ABS. R3-40



## ACCESSORIES

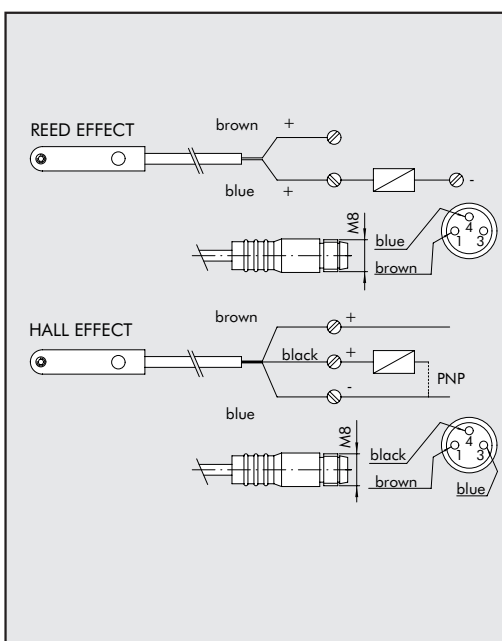
### RETRACTABLE SENSOR WITH INSERTION FROM ABOVE



Code	Description
W0952025390	HALL N.O. SENSOR, VERTICAL INSERTION 2.5m
W0952029394	HALL N.O. SENSOR, VERTICAL INSERTION 300 mm M8
W0952022180	REED N.O. SENSOR, VERTICAL INSERTION 2.5m
W0952028184	REED N.O. SENSOR, VERTICAL INSERTION 300 mm M8
W0952125556	HALL N.O. SENSOR, VERTICAL INSERTION 2m ATEX

This type of sensor can be inserted in the slot of the sensor from above. This means the cylinder heads do not require a through opening.

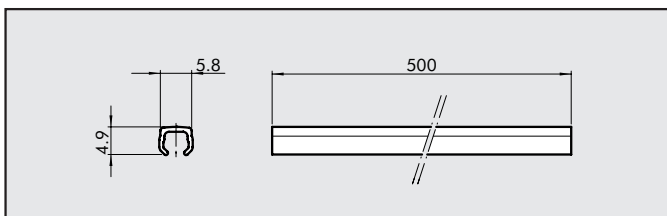
### WIRING DIAGRAM



### TECHNICAL DATA

	Reed	Effetto Hall	Effetto Hall
Type of contact	N.O.	N.O.	N.O.
Switch	-	PNP	PNP
Supply voltage (U <sub>b</sub> )	V 10 ÷ 30 AC/DC	10 ÷ 30 DC	18 ÷ 30 DC
Power	W 3 (peak valve=6)	3	≤ 1.7
Voltage variation	-	≤ 10% di U <sub>b</sub>	≤ 10% di U <sub>b</sub>
Voltage drop	V -	≤ 2	≤ 2.2
Input current	mA -	≤ 10	≤ 10
Output current	mA ≤ 100	≤ 100	≤ 70
Switching frequency	Hz ≤ 400	≤ 5	1000
Short-circuit protection	-	Yes	Yes
Over-voltage suppression	-	Yes	Yes
Polarity inversion protection	-	Yes	Yes
EMC	EN 60 947-5-2	EN 60 947-5-2	EN 60 947-5-2
LED display	Yellow	Yellow	Yellow
Magnetic sensitivity	2,8 mT ±25%	2,8 mT ±25%	2.6
Repeatability	≤ 0,1 mT	≤ 0,1 mT	≤ 0,1 (U <sub>b</sub> and ta fixed)
Degree of protection (EN 60529)	IP 67	IP 67	IP 68, IP 69K
Vibration and shock resistance	30 g, 11 ms, 10÷55 Hz, 1mm	30 g, 11 ms, 10÷55 Hz, 1mm	30 g, 11 ms, 10÷55 Hz, 1mm
Temperature range	°C -25 ÷ +75	-25 ÷ +75	-20 ÷ +45
Sensor capsule material	PA66 + PA6I/6T	PA66 + PA6I/6T	PA
2.5m/2m connecting cable	PVC; 2 x 0,12 mm <sup>2</sup>	PVC; 3 x 0,14 mm <sup>2</sup>	PVC; 3 x 0,12 mm <sup>2</sup>
Connecting cable with M8x1	Polyurethane; 2 x 0,14 mm <sup>2</sup>	Polyurethane; 3 x 0,14 mm <sup>2</sup>	-
Wire NO.	2	3	3

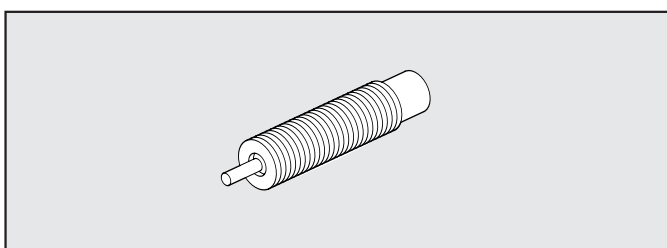
### BAR FOR GROOVING



Code	Description
W0950000160	BAR FOR GROOVING L=500 mm

## SPARES

### SHOCK ABSORBERS



Code	Bore	Description
0950004008	ø25-30	Shock absorbers SA 0410PD3 SB + nut M14x1.5
0950004005	ø40	Shock absorbers PR050 MC2 + nut M20x1.5