

# ROTARY ACTUATOR SERIES R3 WITH EXTERNAL SHOCK ABSORBERS

Dual-rack actuator with automatic adjustment for wear. Hydraulic shock absorbers are arranged externally and operate at a distance from the axis of rotation which is considerably higher than for internal ones. This means that the absorbable kinetic energy is 4 to 8 times higher.

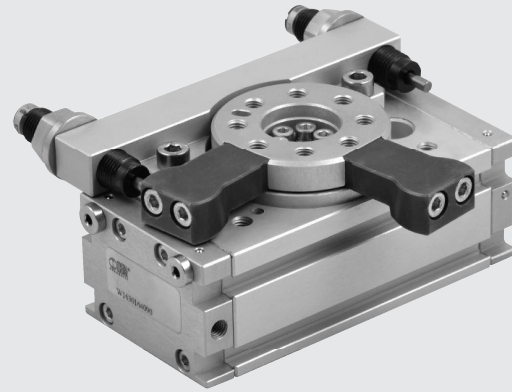
It is reduced in length as there are no adjusting screws.

A 90° and a 180° versions are available.

Grooves are provided in the body to fix retractable magnetic proximity sensors, two on each side.

A hole has been drilled in the flange for the passage of air pipes or power cables.

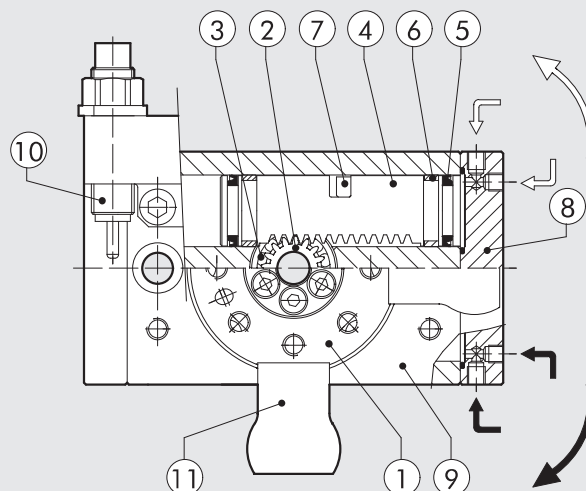
**N.B.:** We always suggest to use flow microregulators. During the setup of the actuator, start with CLOSE flow microregulators, and open gradually till the achievement of the required speed.



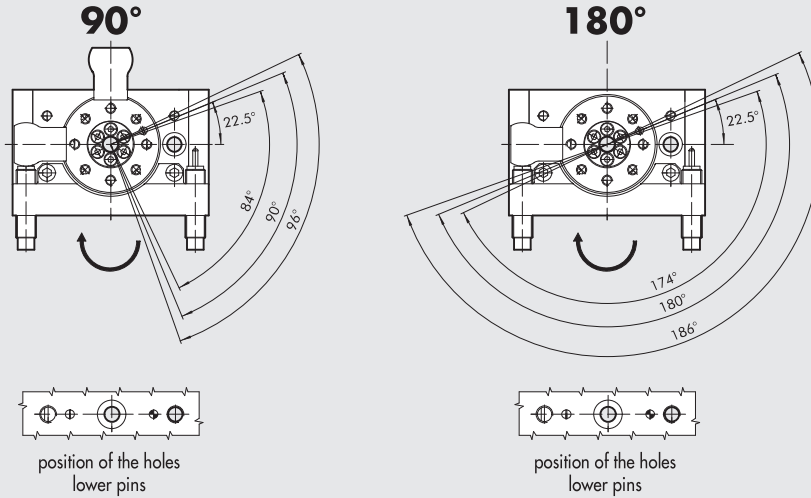
TECHNICAL DATA		R3-16	R3-20	R3-22	R3-25	R3-30	R3-40
Operating pressure	bar	3 to 7					
	MPa	0.3 to 0.7					
	psi	43.5 to 101					
Temperature range	°C	-10 to +80					
	degrees	90° o 180° ± 3°					
Fluid		20 µm filtered, lubricated or unlubricated air; lubrication if used, it must be continuous					
Sizes	mm	16	20	22	25	30	40
Bore	mm	2 x 16	2 x 20	2 x 22	2 x 25	2 x 30	2 x 40
Theoretical torque at 6 bar	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
Max overturning moment	Nm	2.4	4	5.3	9.7	12	18
Admissible kinetic energy	J	0.16	0.55	0.85	1.40	1.85	3.35
Rotation time without load	s	0.2	0.2	0.2	0.2	0.3	0.3

## COMPONENTS

- ① ROTARY FLANGE: anodized aluminium
- ② PINION: hardened and tempered steel
- ③ BALL BEARING
- ④ PISTON / RACK: hardened and tempered steel
- ⑤ CUSHIONING GASKET: NBR
- ⑥ GUIDE PAD: PTFE
- ⑦ MAGNET: neodymium
- ⑧ HEAD: anodized aluminium
- ⑨ BARREL: anodized aluminium
- ⑩ STROKE REGULATOR WITH HYDRAULIC SHOCK ABSORBERS
- ⑪ Block for 90° version



ROTATION ANGLE



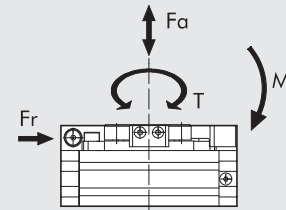
ADMISSIBLE KINETIC ENERGY Joule [J]

Bore Ø	With flange, 90° rotation°: W1630_4090	With flange, 180° rotation°: W1630_4180
16	0.16	
20	0.55	
22	0.85	
25	1.40	
30	1.85	
40	3.35	

ACTUATORS

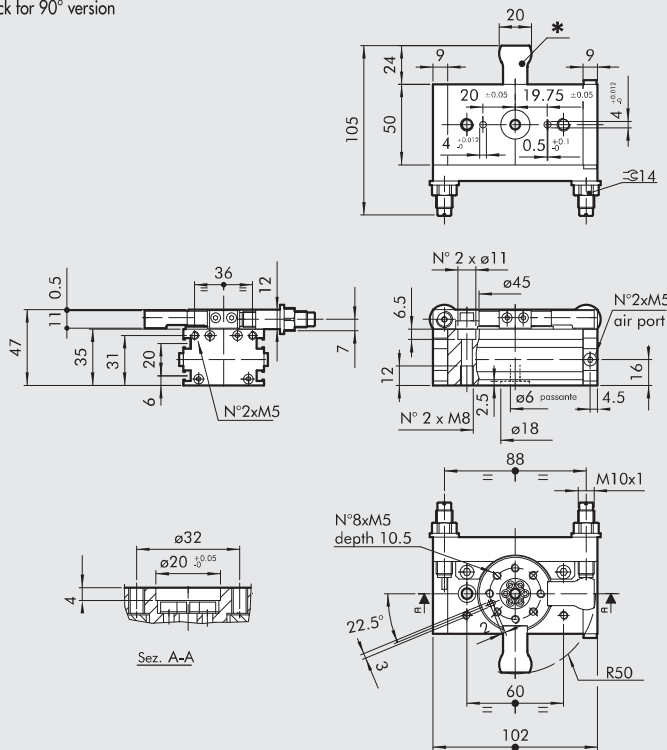
DIMENSIONES - FORCES AND MOMENTS

Bore Ø	T Theoretical torque at 6 bar [Nm]	FA Max. axial load [N]	FR Max. radial load [N]	M Averturing momnet [Nm]
16	0.9	74	78	2.4
20	1.8	135	137	4
22	2.7	195	360	5.3
25	4.6	300	450	9.7
30	9.3	340	490	12
40	22	360	560	18



ROTARY ACTUATOR SERIES R3-16 WITH EXTERNAL SHOCK ABSORBERS, 90/180°

\* Block for 90° version

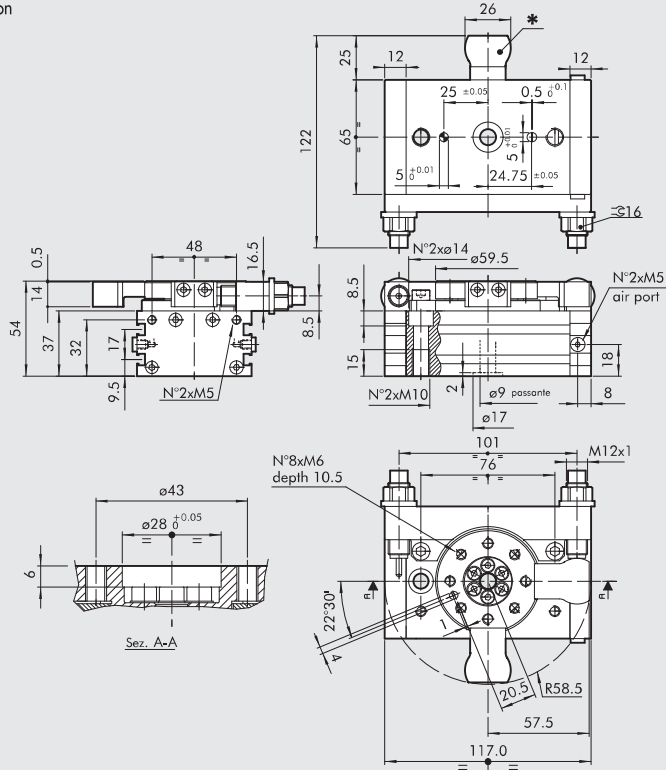


Code	Description
W1630164090	Rotary actuator with flange + shock absorbers R3-16-90
W1630164180	Rotary actuator with flange + shock absorbers R3-16-180

ROTARY ACTUATOR SERIES R3 WITH EXTERNAL SHOCK ABSORBERS

ROTARY ACTUATOR SERIES R3-20 WITH EXTERNAL SHOCK ABSORBERS, 90/180°

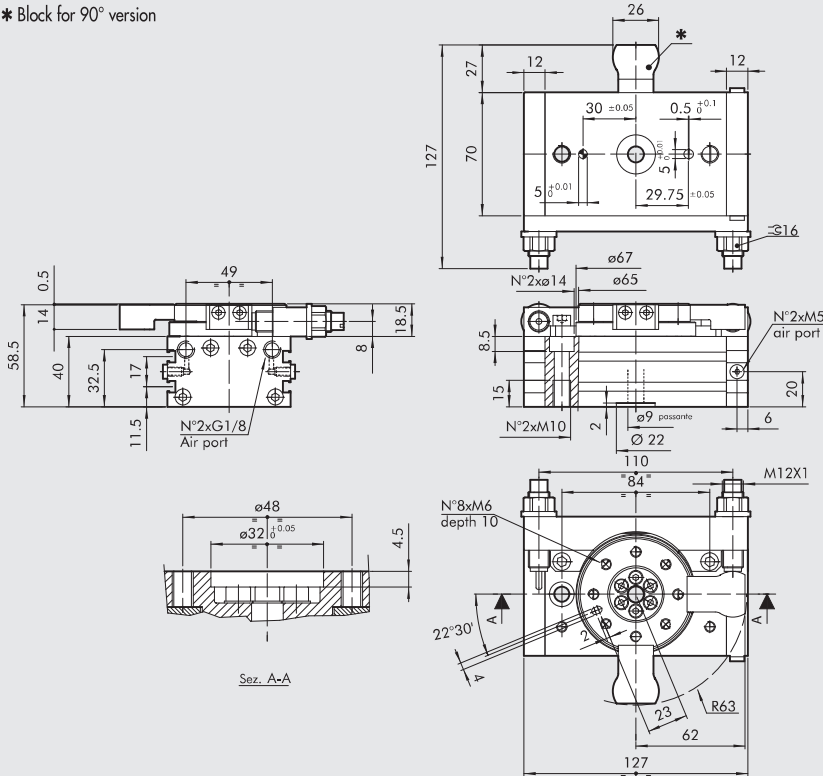
\* Block for 90° version



Code	Description
W1630204090	Rotary actuator with flange + shock absorbers R3-20-90
W1630204180	Rotary actuator with flange + shock absorbers R3-20-180

ROTARY ACTUATOR SERIES R3-22 WITH EXTERNAL SHOCK ABSORBERS, 90/180°

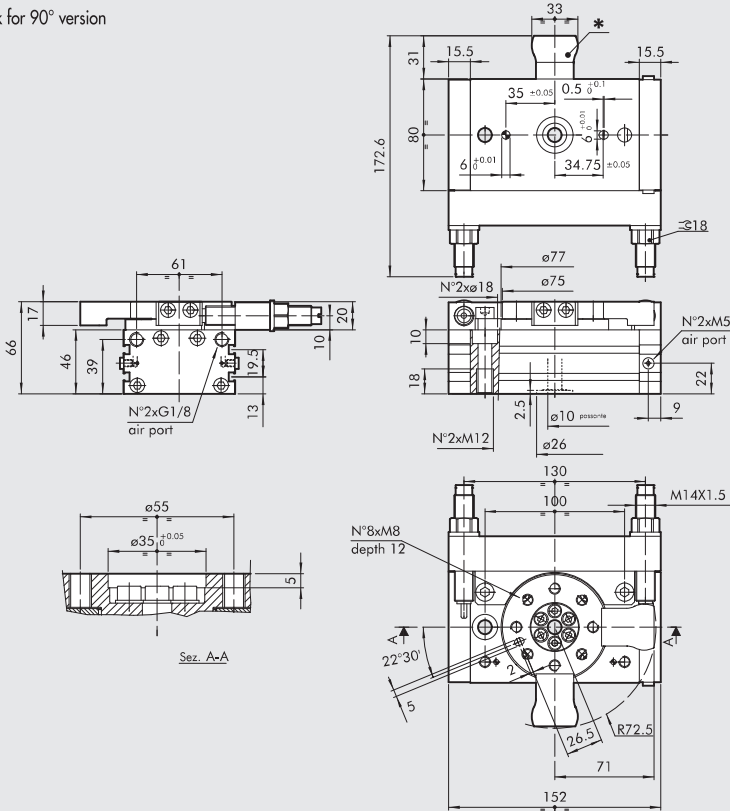
\* Block for 90° version



Code	Description
W1630224090	Rotary actuator with flange + shock absorbers R3-22-90
W1630224180	Rotary actuator with flange + shock absorbers R3-22-180

**ROTARY ACTUATOR SERIES R3-25 WITH EXTERNAL SHOCK ABSORBERS, 90/180°**

\* Block for 90° version



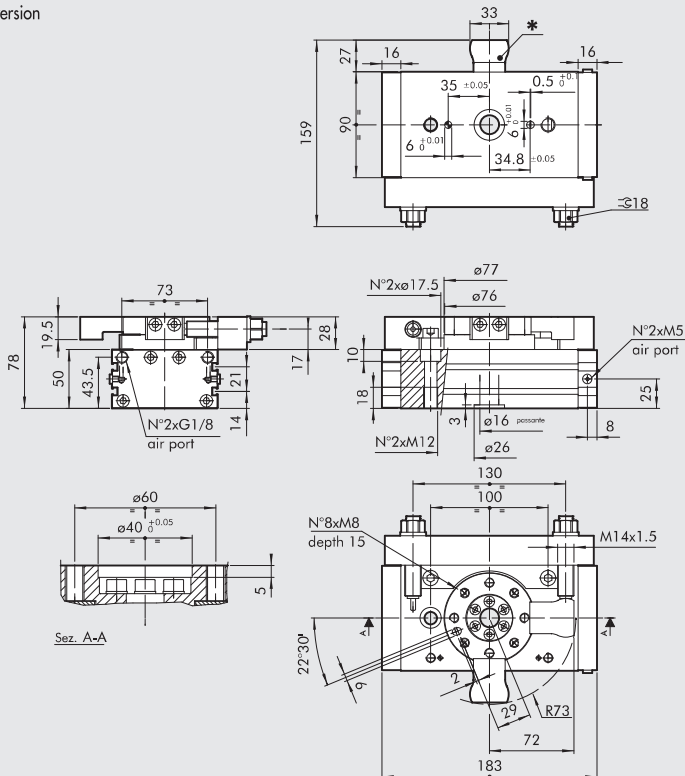
Code	Description
W1630254090	Rotary actuator with flange + shock absorbers R3-25-90
W1630254180	Rotary actuator with flange + shock absorbers R3-25-180

ACTUATORS

ROTARY ACTUATOR SERIES R3 WITH EXTERNAL SHOCK ABSORBERS

**ROTARY ACTUATOR SERIES R3-30 WITH EXTERNAL SHOCK ABSORBERS, 90/180°**

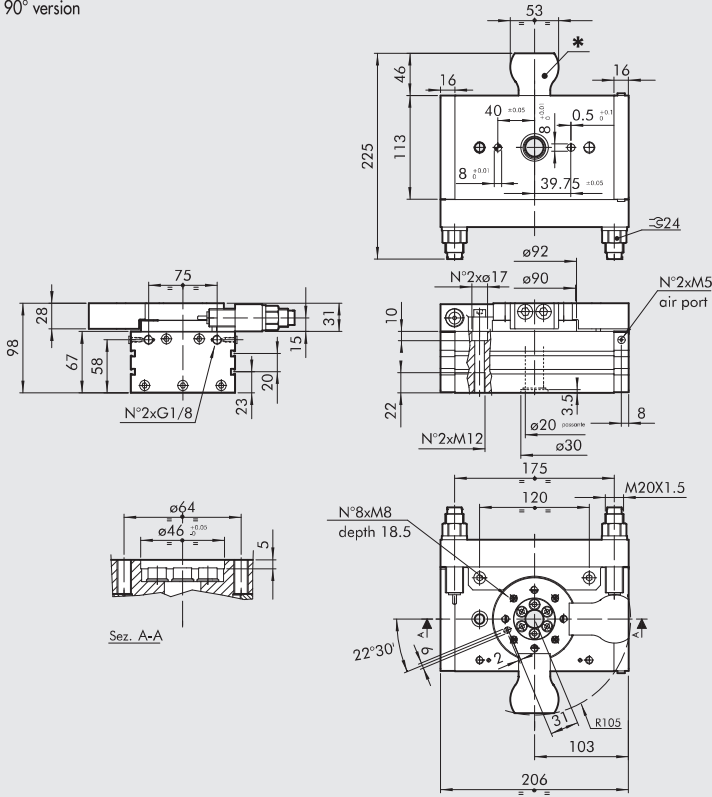
\* Block for 90° version



Code	Description
W1630304090	Rotary actuator with flange + shock absorbers R3-30-90
W1630304180	Rotary actuator with flange + shock absorbers R3-30-180

ROTARY ACTUATOR SERIES R3-40 WITH EXTERNAL SHOCK ABSORBERS, 90/180°

\* Block for 90° version

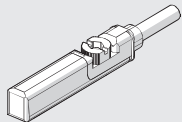


Code	Description
W1630404090	Rotary actuator with flange + shock absorbers R3-40-90
W1630404180	Rotary actuator with flange + shock absorbers R3-40-180

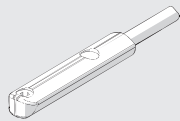
ACCESSORIES

RETRACTABLE SENSOR

**SENSOR, SQUARE TYPE**  
Latest generation,  
secure fixing



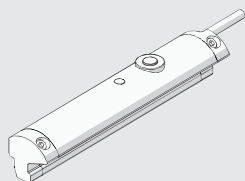
**SENSOR, OVAL TYPE**  
Traditional



For codes and technical data, see chapter A6.

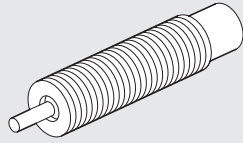
LTS POSITION SENSORS

For technical data and usage strokes see chapter A6.



**SPARE PARTS**

**SHOCK ABSORBERS**



Code	Ø	Description
0950004009	16	Shock absorbers ECO 10 MF3 M10x1
0950004010	22	Shock absorbers ECO 15 MF4 M12x1
0950004015	25 - 30	Shock absorbers ECO S 25 MC2 M14x1.5
0950004005	40	Shock absorbers ECO MC2 + nut M20x1.5

**NOTES**

**ACTUATORS**

ROTARY ACTUATOR SERIES R3 WITH EXTERNAL SHOCK ABSORBERS