

ROTARY ACTUATOR SERIES R3

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 $\varnothing 16-20-25-30$).

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.

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.



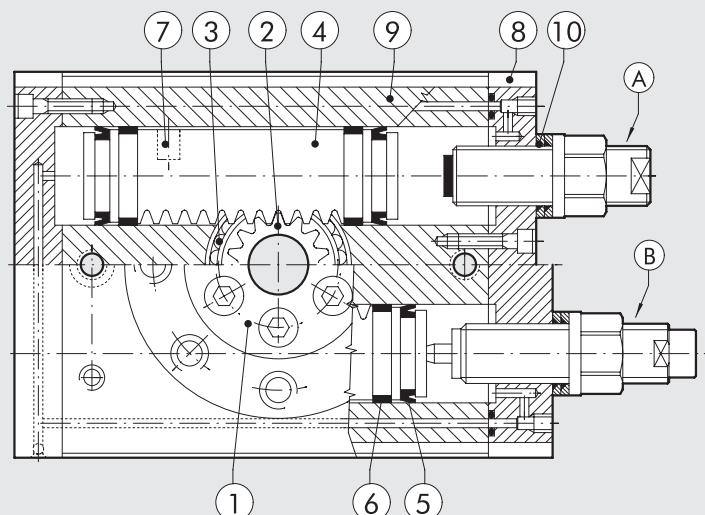
TECHNICAL DATA		R3-16	R3-20	R3-22	R3-25	R3-30	R3-40	
Operating pressure	bar						3 to 7	
	MPa						0.3 to 0.7	
	psi						43.5 to 101	
	degrees						0° to 180°	
Temperature range	°C						-10 to +80	
Angle adjustment	degrees						0° to 180°	
Fluid		20 μ m filtered, lubricated or unlubricated air; lubrication if used, it 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 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	
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

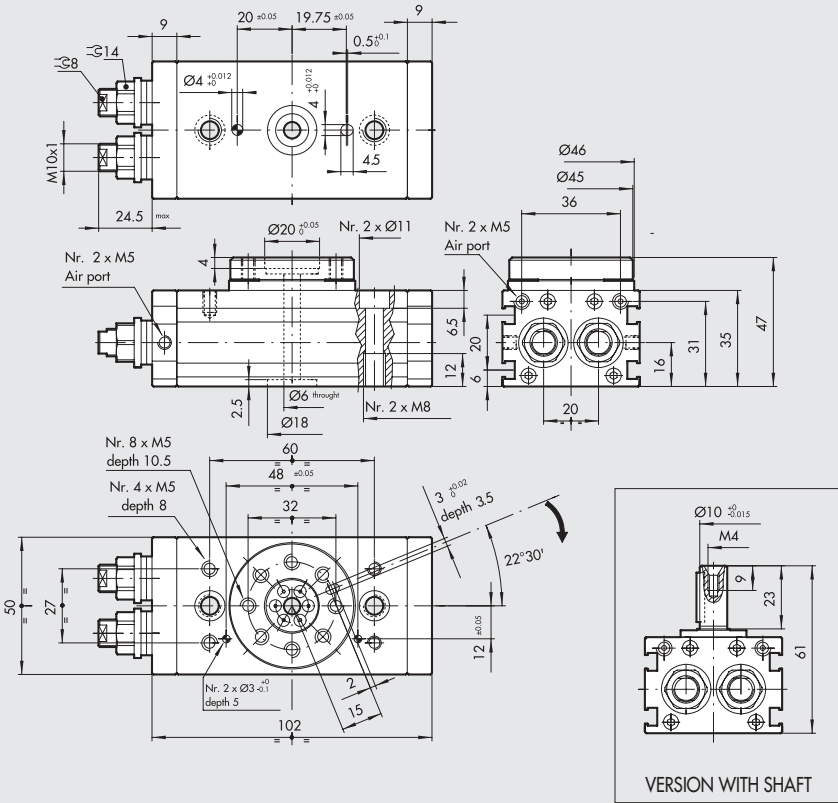
- ① ROTARY FLANGE: anodized aluminium
- ② PINION: hardened and tempered steel
- ③ BALL BEARING
- ④ PISTON / RACK: hardened and tempered steel
- ⑤ CUSHIONING GASKET: NBR
- ⑥ GUIDE PAD: PTFE
- ⑦ MAGNET: neodymium
- ⑧ HEAD: anodized aluminium
- ⑨ BARREL: anodized aluminium
- ⑩ SEAL: NBR

VERSIONS:

- A Stroke adjustment
- B Stroke adjustment with inside hydraulic shock absorbers (available from $\varnothing 25$)

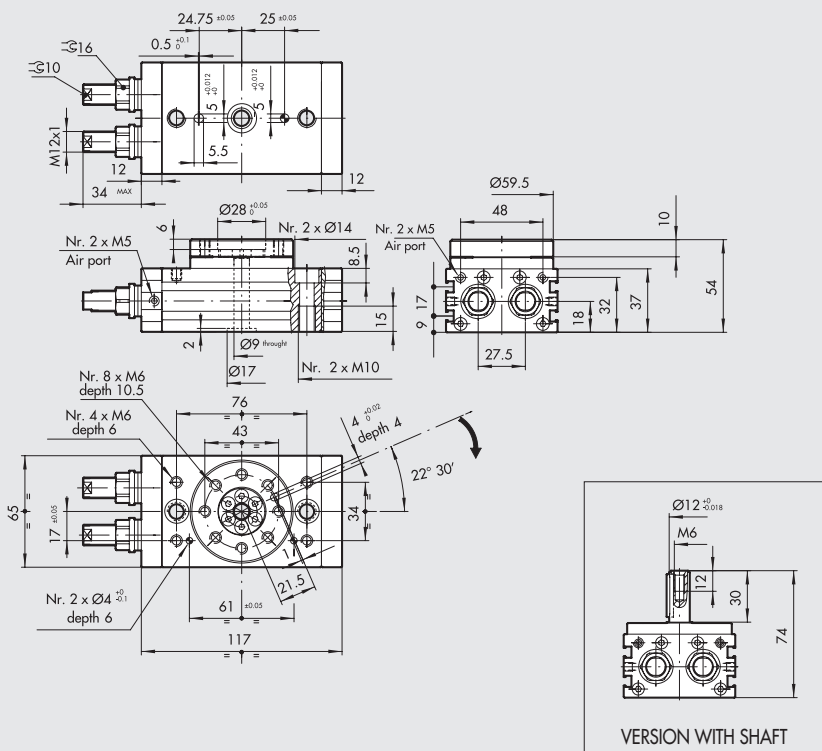


ROTARY ACTUATOR R3-16



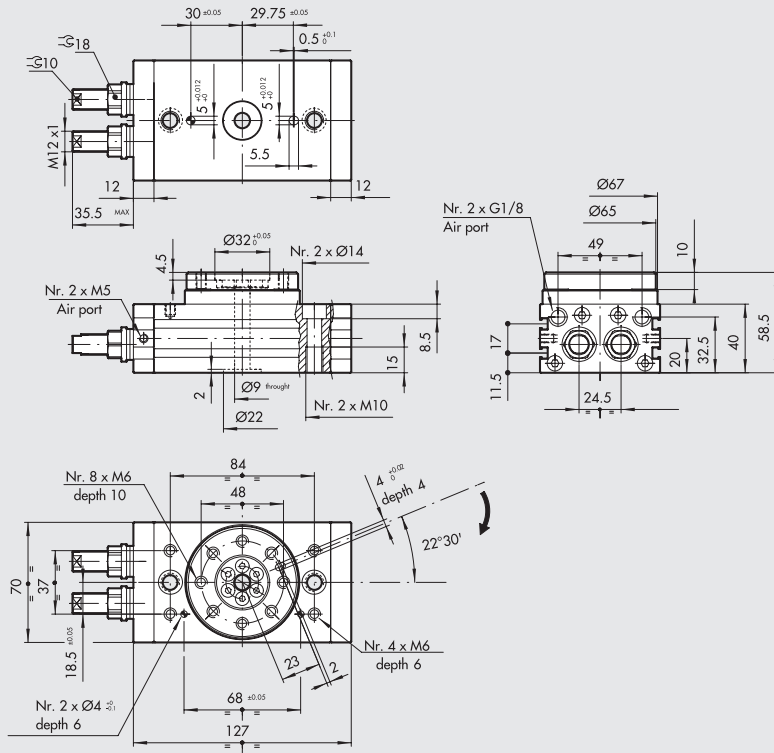
Code	Description
W1630162180	Rotary actuator with flange R3-16
W1630165180	Rotary actuator with shaft R3-16

ROTARY ACTUATOR R3-20



Code	Description
W1630202180	Rotary actuator with flange R3-20
W1630205180	Rotary actuator with shaft R3-20

ROTARY ACTUATOR R3-22

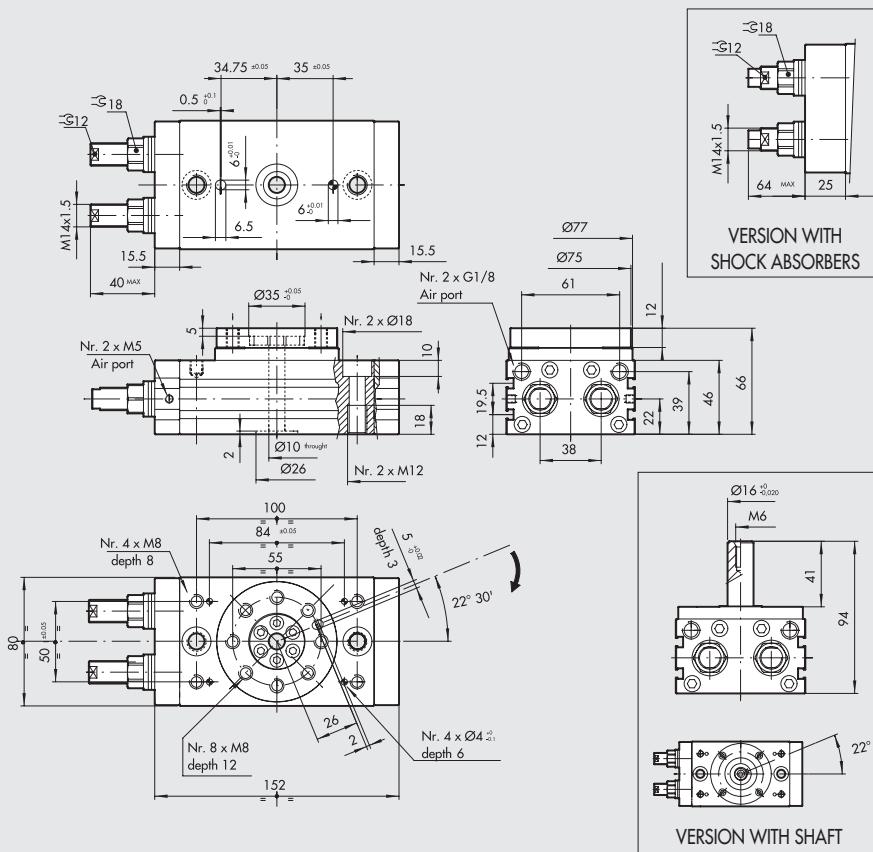


Code	Description
W1630222180	Rotary actuator with flange R3-22

ACTUATORS

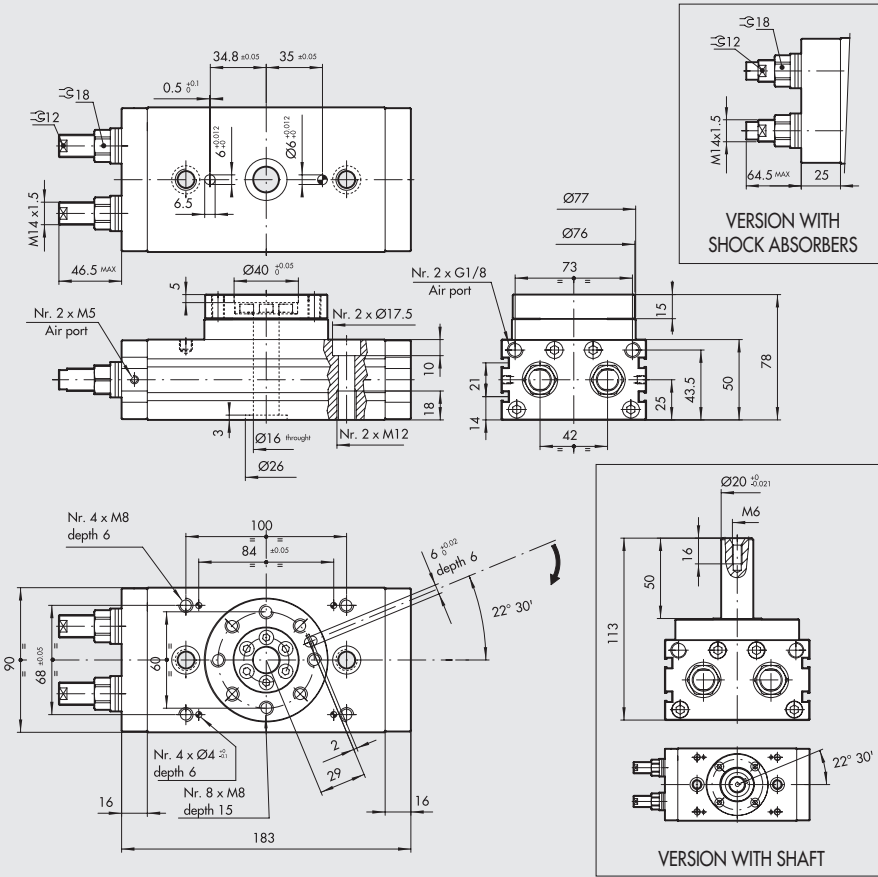
ROTARY ACTUATOR SERIES R3

ROTARY ACTUATOR R3-25



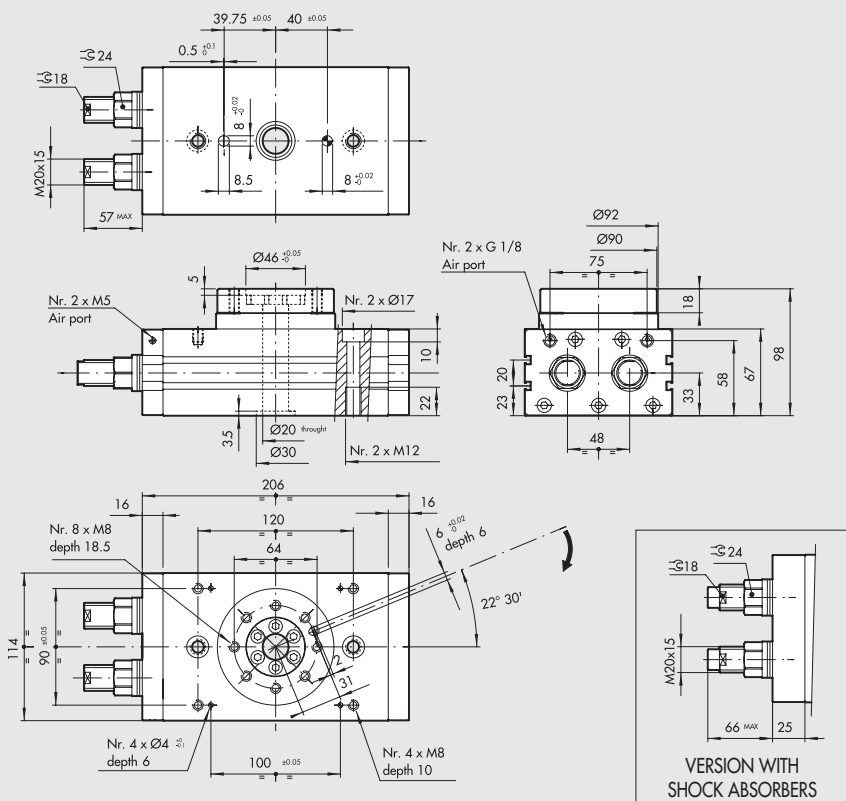
Code	Description
W1630252180	Rotary actuator with flange R3-25
W1630253180	Rotary actuator with flange + shock absorbers R3-25
W1630255180	Rotary actuator with shaft R3-25
W1630256180	Rotary actuator with shaft + shock absorbers R3-25

ROTARY ACTUATOR SERIES R3-30



Code	Description
W1630302180	Rotary actuator with flange R3-30
W1630303180	Rotary actuator with flange + shock absorbers R3-30
W1630305180	Rotary actuator with shaft R3-30
W1630306180	Rotary actuator with shaft + shock absorbers R3-30

ROTARY ACTUATOR SERIES R3-40



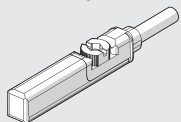
Code	Description
W1630402180	Rotary actuator with flange R3-40
W1630403180	Rotary actuator with flange + shock absorbers R3-40

ACCESSORIES

RETRACTABLE SENSOR

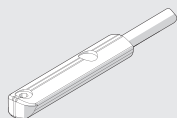
SENSOR, SQUARE TYPE

Latest generation,
secure fixing



SENSOR, OVAL TYPE

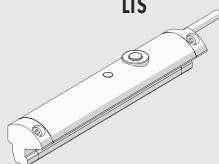
Traditional




For codes and technical data, see **chapter A6**.

POSITION SENSORS

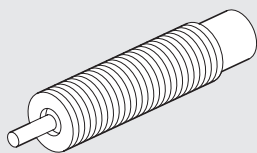
LTS



For technical data and usage strokes see **chapter A6**. 

SPARE PARTS

SHOCK ABSORBERS



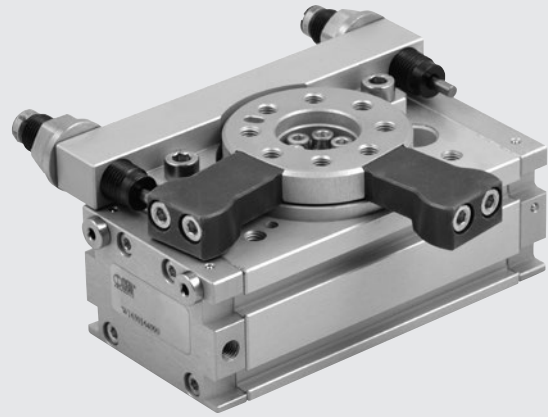
Code	Ø	Description
0950004015	25	Shock absorbers ECO S 25 MC2 short M14x1.5
0950004008	30	Shock absorbers ECO 25 MC4 M14x1.5
0950004005	40	Shock absorbers ECO 50 MC2 + nut M20x1.5

NOTES

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.

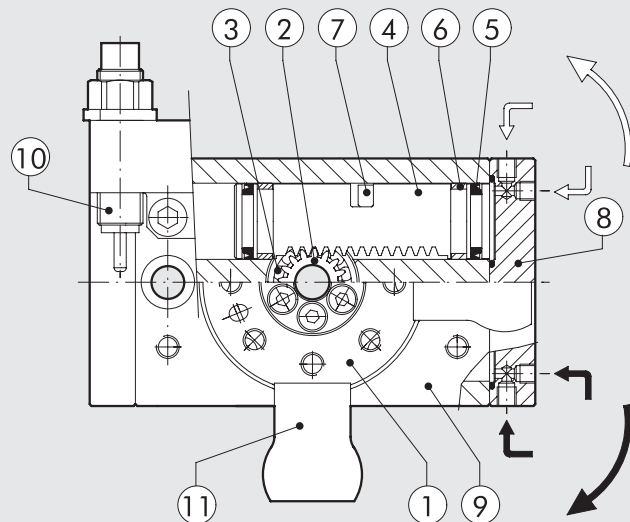
N.B.: We always suggest to use flow microregulators. During the setup of the actuator, start with CLOSE flow microregulators, and open gradually till the achievement of the required speed.



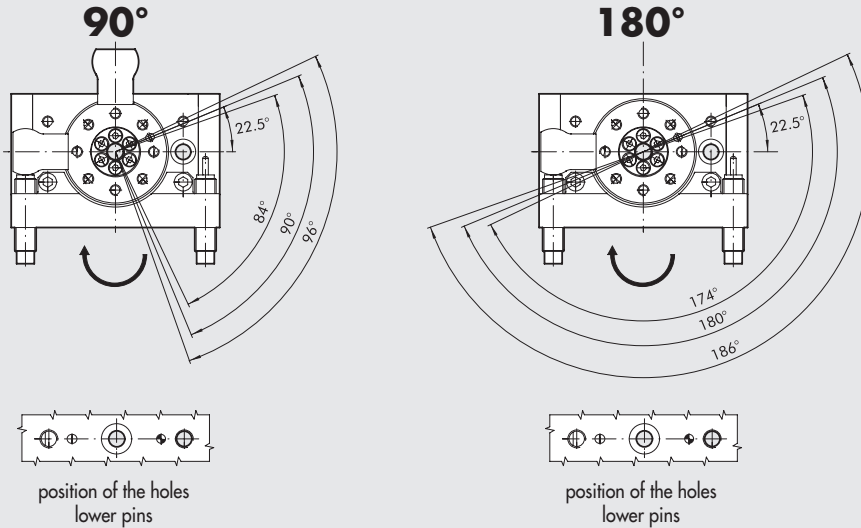
TECHNICAL DATA		R3-16	R3-20	R3-22	R3-25	R3-30	R3-40
Operating pressure	bar	3 to 7					
	MPa	0.3 to 0.7					
	psi	43.5 to 101					
Temperature range	°C	-10 to +80					
Angle adjustment	degrees	90° o 180° ± 3°					
Fluid		20 µm filtered, lubricated or unlubricated air; lubrication if used, it must be continuous					
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

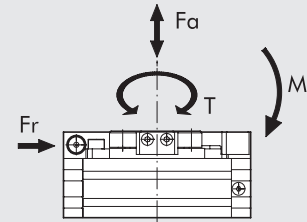


ADMISSIBLE KINETIC ENERGY Joule [J]

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	

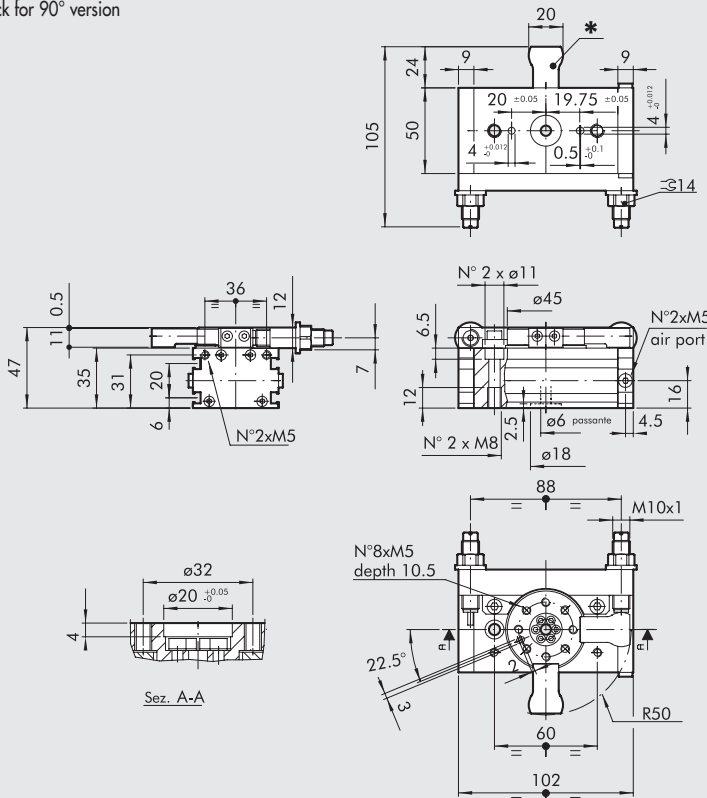
DIMENSIONES - FORCES AND MOMENTS

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°

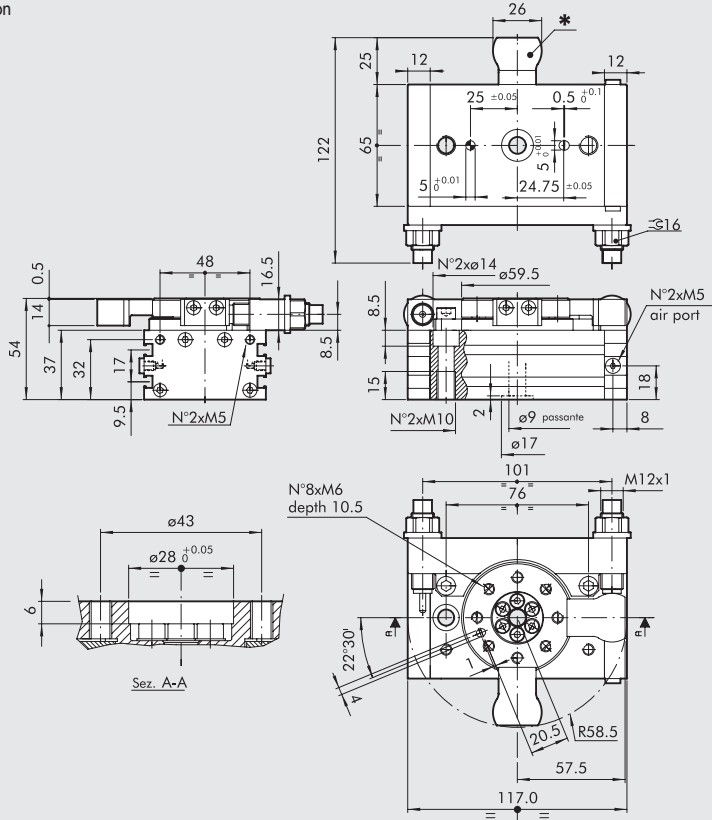
* Block for 90° version



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

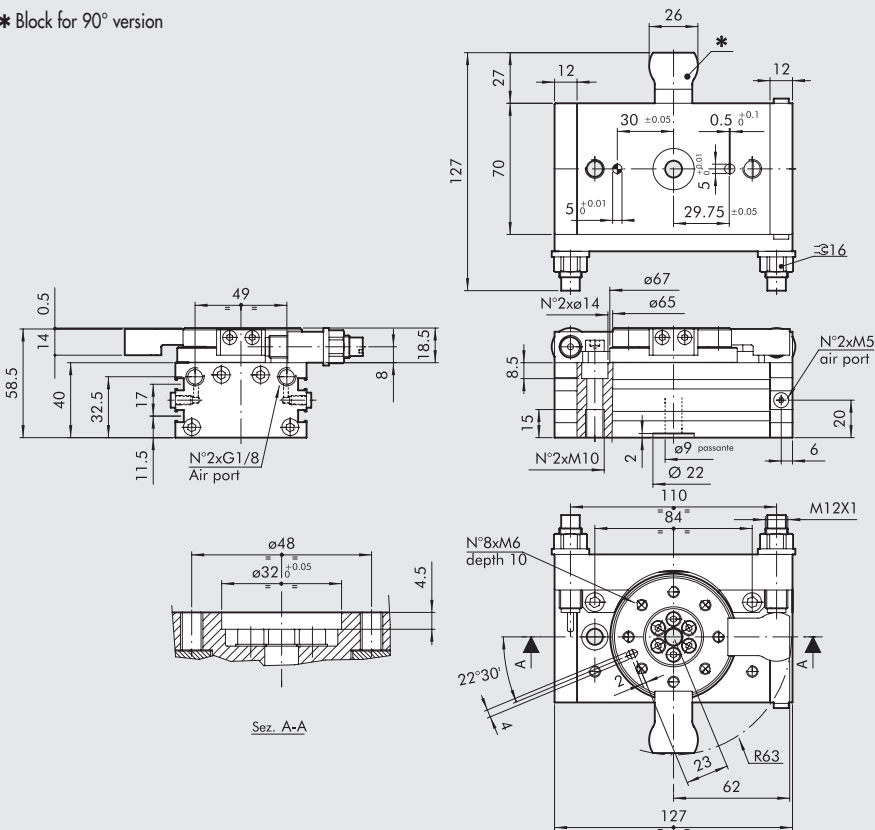
* Block for 90° version



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°

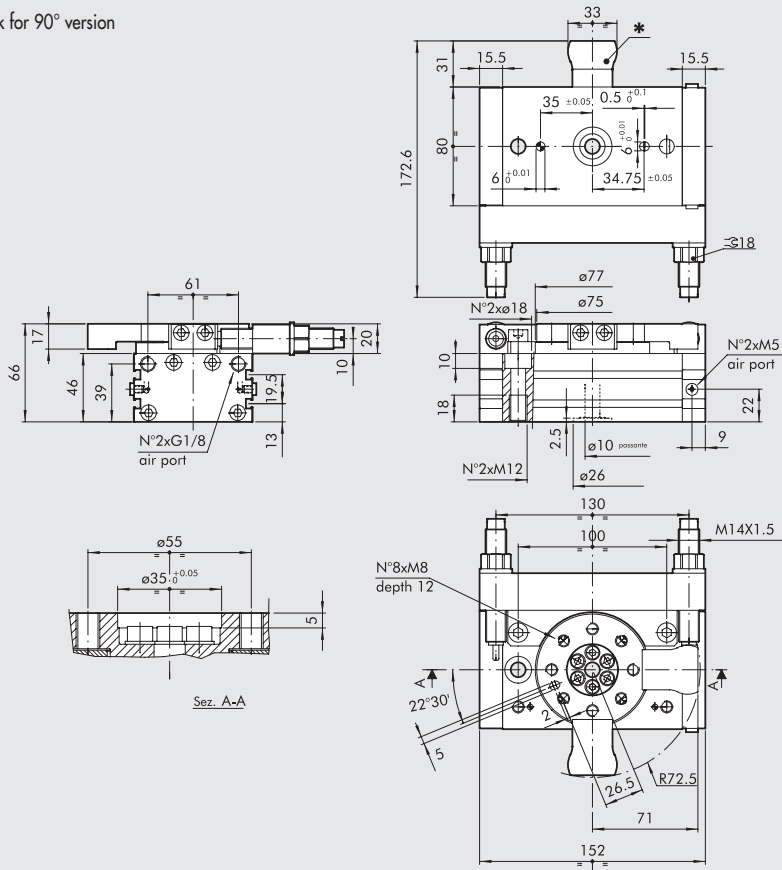
* Block for 90° version



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°

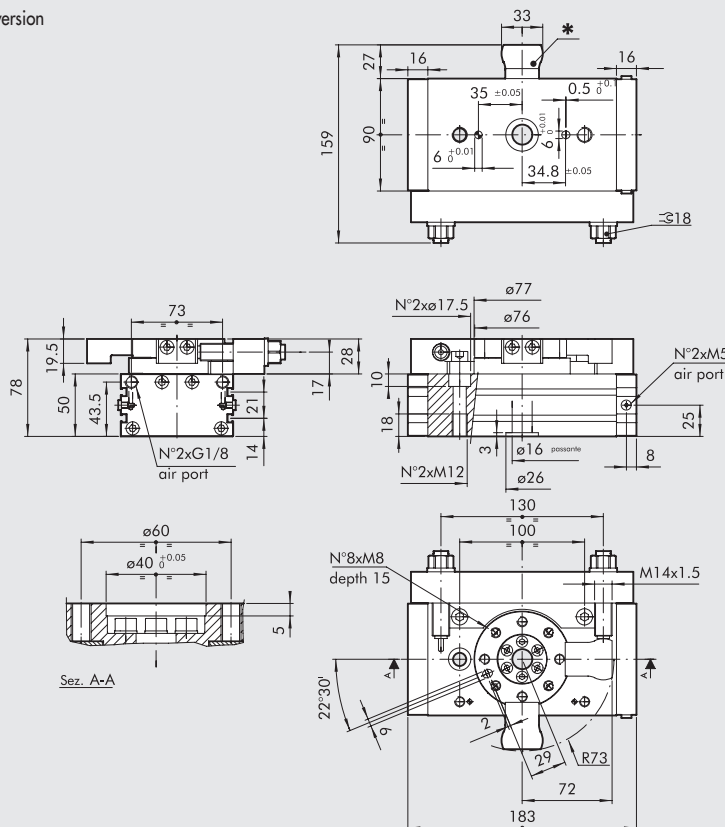
* Block for 90° version



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

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

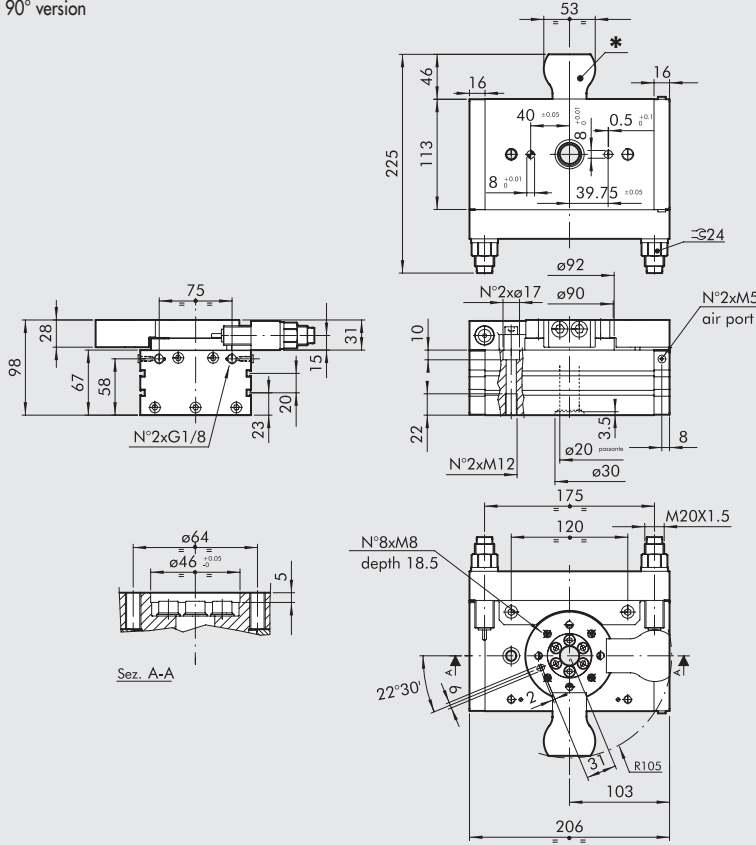
* Block for 90° version



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



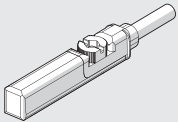
Code	Description
W1630404090	Rotary actuator with flange + shock absorbers R3-40-90
W1630404180	Rotary actuator with flange + shock absorbers R3-40-180

ACCESSORIES

RETRACTABLE SENSOR

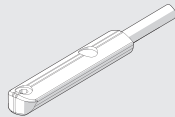
SENSOR, SQUARE TYPE

Latest generation, secure fixing



SENSOR, OVAL TYPE

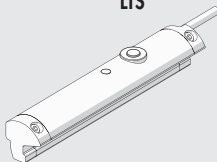
Traditional



For codes and technical data, see chapter A6.

POSITION SENSORS

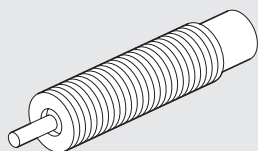
LTS



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