

ROTARY ACTUATOR SERIES R1

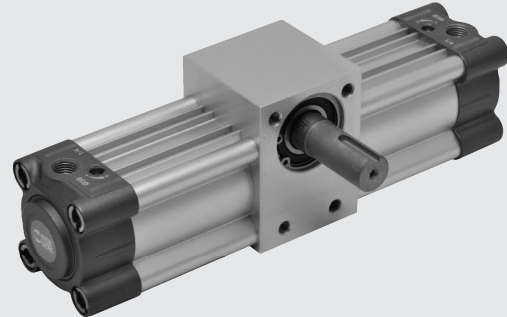
**METAL
WORK**[®]
P N E U M A T I C

Rack-type rotary actuators in various configurations:

- Configuration with standard magnet
- Version with male pinion or female hole
- Mechanical stroke adjustment
- Special configurations on request

The central body has ISO bore holes for wall fixing using ISO pin and/or flange fittings.

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.



ACTUATORS

ROTARY ACTUATOR SERIES R1

TECHNICAL DATA		Ø 32	Ø 40	Ø 50	Ø 63	Ø 80	Ø 100
Gaskets		NBR					
Operating pressure	bar	10					
	MPa	1					
	psi	145					
Temperature range	°C	- 10 to + 80					
	Fluid	Filtered lubricated or unlubricated air. Lubrication, if used, must be continuous					
Rotation angle		90°; 180°; 270°; 360°					
Type of construction		Extruded profile					
Configuration		Magnetic standard cushioned					
Axial load	N	2500	2800	4500	5600	8500	12200
Max. moment (6 bar - 0.6 MPa)	Nm	4.5	12.5	16	32	70	120

N.B.: The product is supplied with negative end-of-stroke piston (in the proximity of head A).
The first cycle involves movement of the piston (towards head B) with consequent anti-clockwise rotation of the pinion.

ACTUAL ROTATION ANGLE

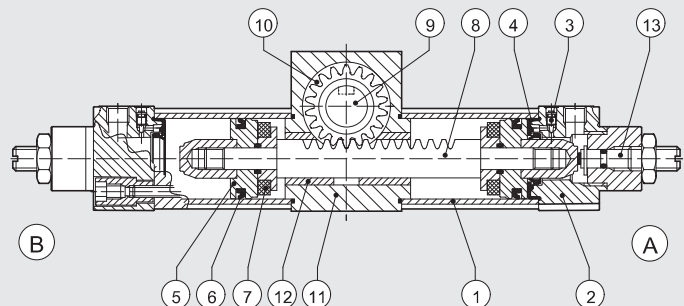
Actuators without regulation of the rotation angle: the manufacturing tolerance is + 4°/0° compared to the nominal value
Actuators with regulation of the rotation angle: the possible regulation ranges from + 2°/- 20°.

WEIGHTS [kg]

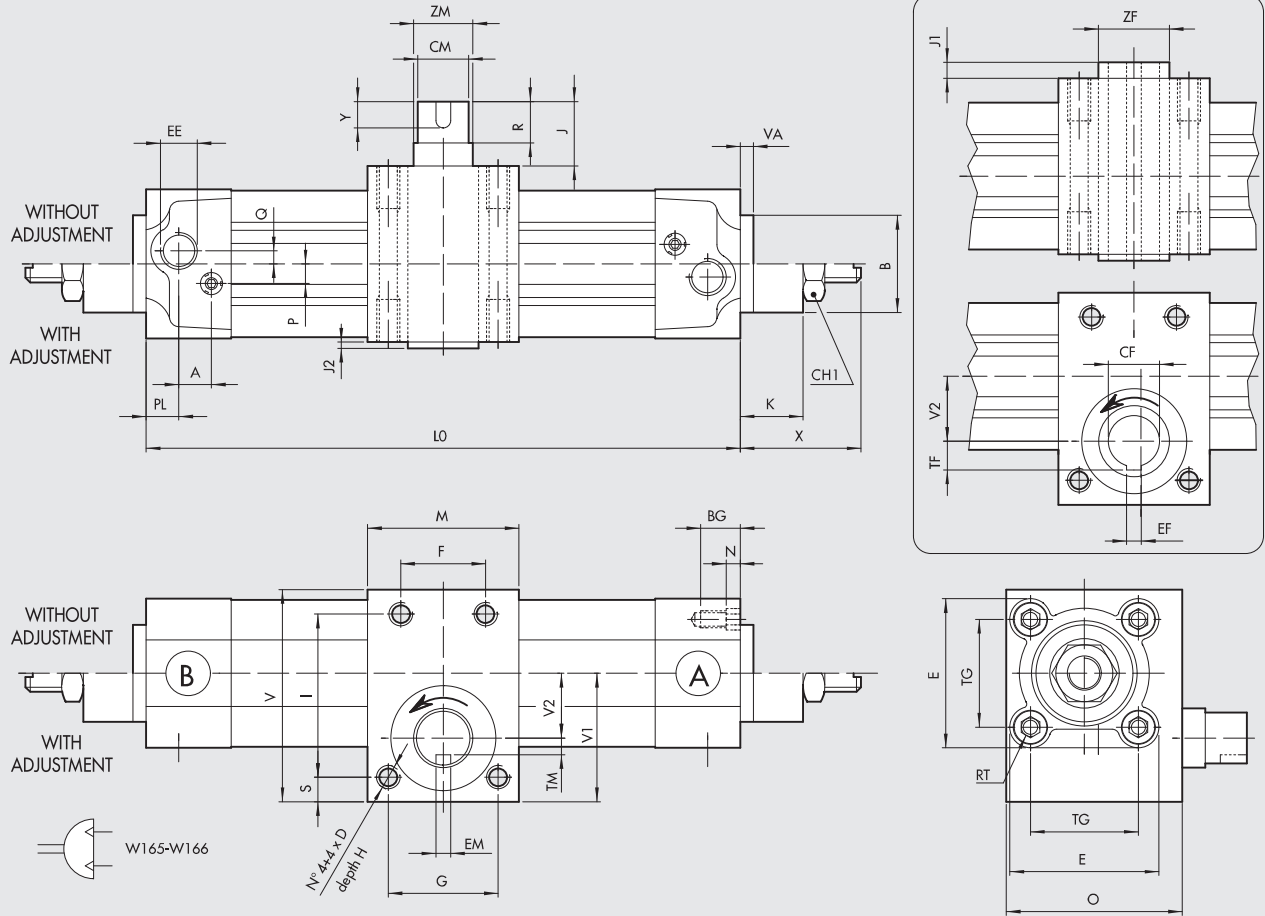
Ø	VERSION W165 __ 1 __				VERSION W165 __ 2 __				VERSION W166 __ 1 __				VERSION W166 __ 2 __			
	Rotation angle				Rotation angle				Rotation angle				Rotation angle			
	90°	180°	270°	360°	90°	180°	270°	360°	90°	180°	270°	360°	90°	180°	270°	360°
32	1.25	1.36	1.47	1.58	1.50	1.62	1.73	1.84	1.18	1.30	1.40	1.51	1.44	1.55	1.61	1.77
40	1.85	1.90	2.15	2.30	2.26	2.41	2.43	2.56	1.74	1.79	2.04	2.19	2.15	2.30	2.32	2.45
50	2.80	3.02	3.24	3.46	3.48	3.70	3.91	4.13	2.63	2.85	3.07	3.29	3.30	3.52	3.74	3.96
63	4.02	4.30	4.58	4.85	4.85	5.13	5.40	5.67	3.75	4.02	4.30	4.57	4.57	4.85	5.12	5.39
80	7.90	8.53	9.13	9.73	9.77	10.41	11.00	11.60	7.26	7.90	8.49	9.09	9.13	9.77	10.37	10.97
100	12.30	13.20	14.10	15.01	14.17	15.07	16.00	16.90	11.13	12.03	12.94	13.85	13.00	13.90	14.81	15.73

COMPONENTS

- ① BARREL: profiled anodized aluminium alloy
- ② HEAD: die cast aluminium
- ③ CUSHIONING NEEDLE: OT 58 with needle out movement safety system even when fully open
- ④ BUFFER + Static O-rings: NBR or FKM/FPM
- ⑤ PISTON: aluminium
- ⑥ PISTON GASKET: NBR
- ⑦ MAGNET: plastoferrite
- ⑧ RACK: AISI 304
- ⑨ PIGNON MALE/FEMALE: nitrided alloy steel
- ⑩ BALL BEARING
- ⑪ CENTRAL BODY: anodized aluminium
- ⑫ RACK GUIDE BUSH: self-lubricating sintered bronze
- ⑬ REGULATION SCREW: AISI 303



DIMENSIONS OF ROTARY ACTUATOR Ø 32 to 100



Note: with the key slot in the position specified, the piston is in contact with head (A)

Ø	L0 ±1 for ROTATION ANGLE				Δ	A	B	BG	CM ^{g7}	CF ^{g7}	CH1	D	E	EE	EF ^{D10}	EM ^{H9}	F	G	H	I	J
	90°	180°	270°	360°																	
32	218.7	261.1	303.5	345.9	0.236	10	30	15.5	14	10	22	M6	46	G1/8	3	5	30	30	14	50	34.5
40	241.4	288.6	335.6	382.8	0.262	10	35	15.5	16	12	22	M6	54	G1/4	4	5	30	30	14	60	39.5
50	265.9	322.4	379.0	435.5	0.314	10	40	18.5	19	14	27	M8	64.5	G1/4	5	6	32	45	16	65	46.5
63	295.1	358.0	420.8	483.6	0.349	10	45	18.5	24	16	27	M10	75.5	G3/8	5	8	38	52	17	73	47.5
80	358.3	443.1	528.0	612.8	0.471	12	45	21.5	28	25	36	M12	94	G3/8	8	8	48	70	20	100	58.5
100	399.8	500.4	600.9	701.4	0.559	12	55	21.5	38	30	36	M14	111	G1/2	8	10	60	80	25	120	67

Ø	J1	J2	K	M	N	O	P	PL	Q	R	RT	S	TG	TF	TM	V	V1	V2	VA	X	Y	ZM	ZF
32	4.5	-	16	47	4.5	47	6	10	4	30	M6	9	32.5	6.4	4	68	44.5	19	4	32 - 35.5	20	15	15
40	5	2	20	52.5	4.5	54.5	6	12	4	35	M6	7	38	7.8	5	74	45	22	4	45.5 - 50	25	17	17
50	7	-	25	63	5.5	64	6	14	6	40	M8	10	46.5	9.3	6	85	51	25	4	48.5 - 53	25	20	20
63	2.5	-	25	75	5.5	75	6	16	6	45	M8	11	56.5	10.3	8	95	56	27.5	4	46.5 - 51	30	25	25
80	8.5	-	33	95	5.5	95	10	18	7	50	M10	12.5	72	15.8	10	125	76	39	4	61 - 67	35	35	35
100	7	-	38	108	5.5	110	10	20	7	60	M10	15	89	18.3	14	150	90.5	45.5	4	66.5 - 74.5	45	45	45

Δ = Linear displacement (mm) for each degree of rotation

KEY TO CODES

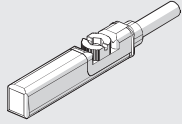
W165 TYPE		050 BORES		1 VERSION		090 ANGLE OF ROTATION •	
W165	Rotary actuator with male pinion	032		1	Without adjustment of rotation angle	090	
W166	Rotary actuator with female pinion	040		2	With adjustment of rotation angle	180	
		050				270	
		063				360	
		080					
		100					

• Expressed in sexagesimal degrees.

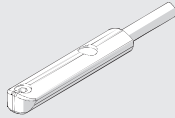
ACCESSORIES: MAGNETIC SENSORS

RETRACTABLE SENSOR

SENSOR, SQUARE TYPE
Latest generation,
secure fixing



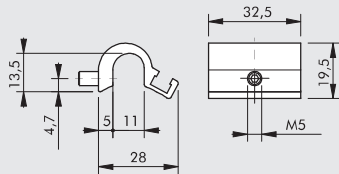
SENSOR, OVAL TYPE
Traditional



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

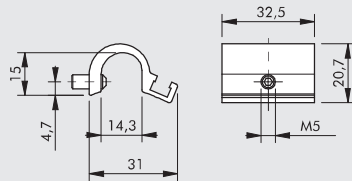
SENSOR SUPPORT BRACKETS FOR SENSORS SQUARE TYPE AND OVAL TYPE

Ø 32 to 40



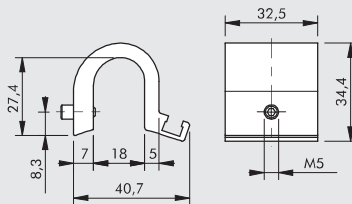
Code	Description
W0950001711	Bracket D.32-40

Ø 50 to 63



Code	Description
W0950001712	Bracket D.50-63

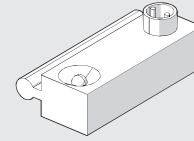
Ø 80 to 125



Code	Description
W0950001713	Bracket D.80-100-125

NOTES

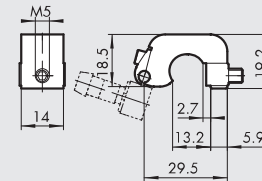
SENSOR SERIES DSM



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

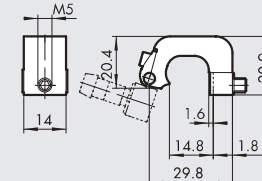
SENSOR SUPPORT BRACKETS FOR SENSORS DSM

Ø 32 to 40



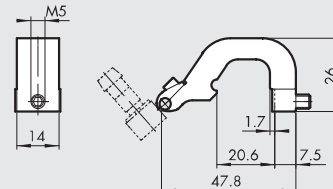
Code	Description
W0950000711	Bracket D.32-40 DST 80

Ø 50 to 63



Code	Description
W0950000712	Bracket D.50-63 DST 81

Ø 80 to 100

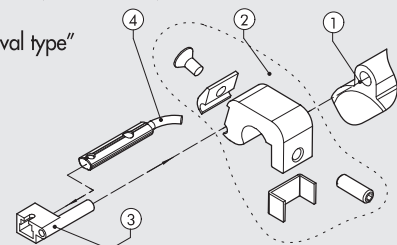


Code	Description
W0950000713	Bracket D.80-100-125 DST 82

ADAPTER FOR OVAL TYPE RETRACTABLE SENSORS

ASSEMBLY DIAGRAM

- ① Rotary actuator Serie R1
- ② Sensor bracket mod. DST (Ø 32 to 100)
- ③ Adaptor
- ④ Retractable sensor "oval type"



Code	Description
W0950001001	Adaptor DSS005 for DST/ST brackets