Series 69
rotary cylinders

Magnetic, cushioned
0 32, 40, 50, 63, 80, 100, 125 mm
Rotational angles: 90°, 180°, 270° and 360°

» Male or female version »

Clean design

Through an adjustment screw it is possible to recover part of the play between pinion and rack.
On the heads there is a screw which allows rotation to be adjusted by ± 5°.
Series 69 rotary cylinders are available in 7 different bores and can satisfy a large range of operational requirements.

GENERAL DATA

Type of construction	with internal tie-rods
Operation	double-acting
Materials	end blocks / tube / body = AL rack = steel rack guide shoe = acetal resin pinion = hardened steel seals = NBR
Type of mounting	threaded holes in the central body by means of brackets for ISO 15552 cylinders
Bore	0 32, 40, 50, 63, 80, 100, 125
Operating temperature	0°C + 80°C (with dry air - 20°C)
Standard rotation angles	90°, 180°, 270°, 360° (others on request)
Bearings	Ball bearings (0 32 mm teflon bronze guide)
Operating pressure	1 + 10 bar
Fluid	filtered air class 7.8.4 according to ISO 8573-1. If lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted

TABLE OF TORQUE FORCE IN Nm (THEORETICAL)

0	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
32	1,2	2,4	3,6	4,8	6	7,2	8,4	9,6	10,8	12
40	2,25	4,5	6,75	9	11,25	13,5	15,75	18	20,25	22,5
50	3,9	7,8	11,7	15,6	19,5	23,4	27,3	31,2	35,1	39
63	7,3	14,6	21,9	29,2	36,5	43,8	51,1	58,4	65,7	73
80	15,7	31,4	47,1	62,8	78,5	94,2	109,9	125,6	141,3	157
100	26,35	52,7	79,05	105,4	131,75	158,1	184,45	210,8	237,15	263,5
125	51	102	153	204	255	306	357	408	459	510

CODING EXAMPLE

69 **050** **090**

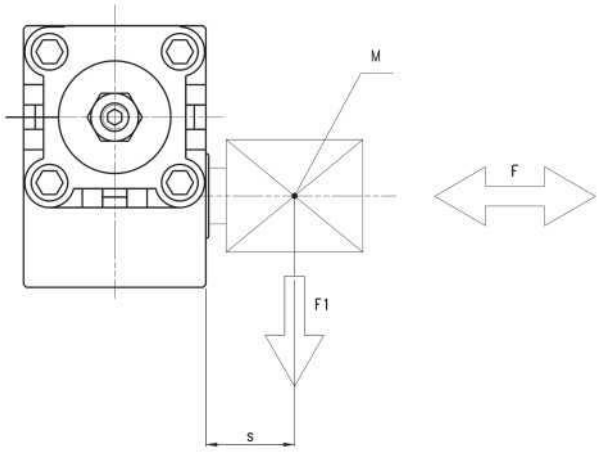
69	SERIES	PNEUMATIC SYMBOL CD18
050	BORE 032 = 32 mm 040 = 40 mm 050 = 50 mm 063 = 63 mm 080 = 80 mm 100 = 100 mm 125 = 125 mm	
090	ROTATIONAL ANGLES 090 = 90° 180 = 180° 270 = 270° 360 = 360°	
F	PINION F = Female M = Male	
	SEALS MATERIAL: = NBR W = FKM + 130°C	

PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.

MAXIMUM ADMISSIBLE LOADS AND FORCES

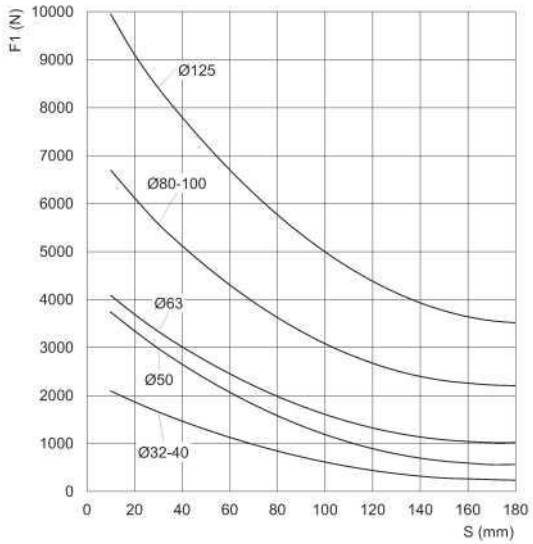
	0 32	0 40	0 50	0 63	0 80	0 100	0 125
Maximum axial load F with F1 = 0	100 N	100 N	120 N	120 N	200 N	250 N	300 N
Maximum angular speed ʊ (rad/s)	66 (rad/s)	55 (rad/s)	49 (rad/s)	42 (rad/s)	31 (rad/s)	29 (rad/s)	23 (rad/s)
Maximum cushionable kinetic energy (J) calculated as $E = {}^{1}/_{2} \cdot J \cdot {}^{2}ʊ$	0.8 (J)	1.4 (J)	2.1 (J)	4.0 (J)	7.5 (J)	9.0 (J)	15 (J)



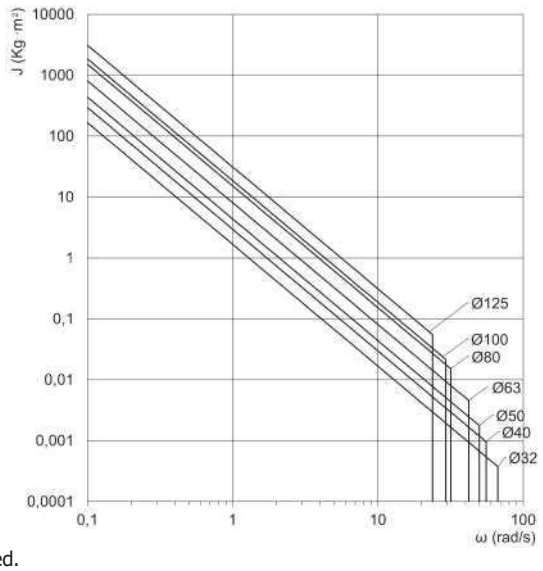
M = Center of gravity of the applied theoretical load F = Axial load (N)
F1 = Radial load (N)

s = distance between actuator and center of gravity of the applied theoretical load (mm)

CHOICE AND CHECK OF THE ACTUATOR TO BE USED



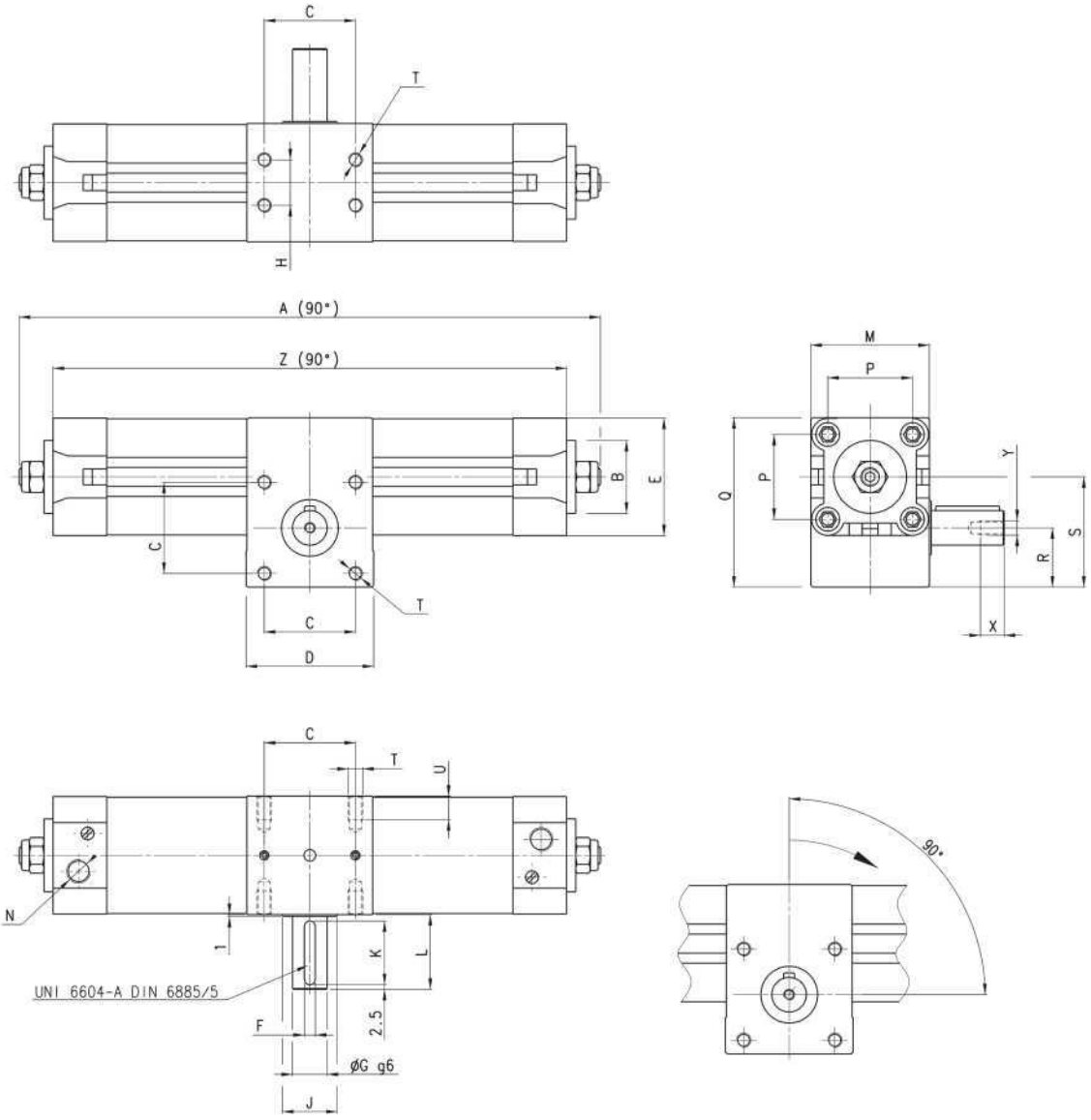
Max. radial load F1 with F = 0
S = distance between actuator and center of gravity of the applied theoretical load (mm)



Maximum energy that can be cushioned according to the angular speed.
J = Moment of inertia (Kg • m2)
ʊ = Angular speed (rad/s)

Series 69 cylinders - male pinion

* increase in “A” and “Z” for each 90° of rotation

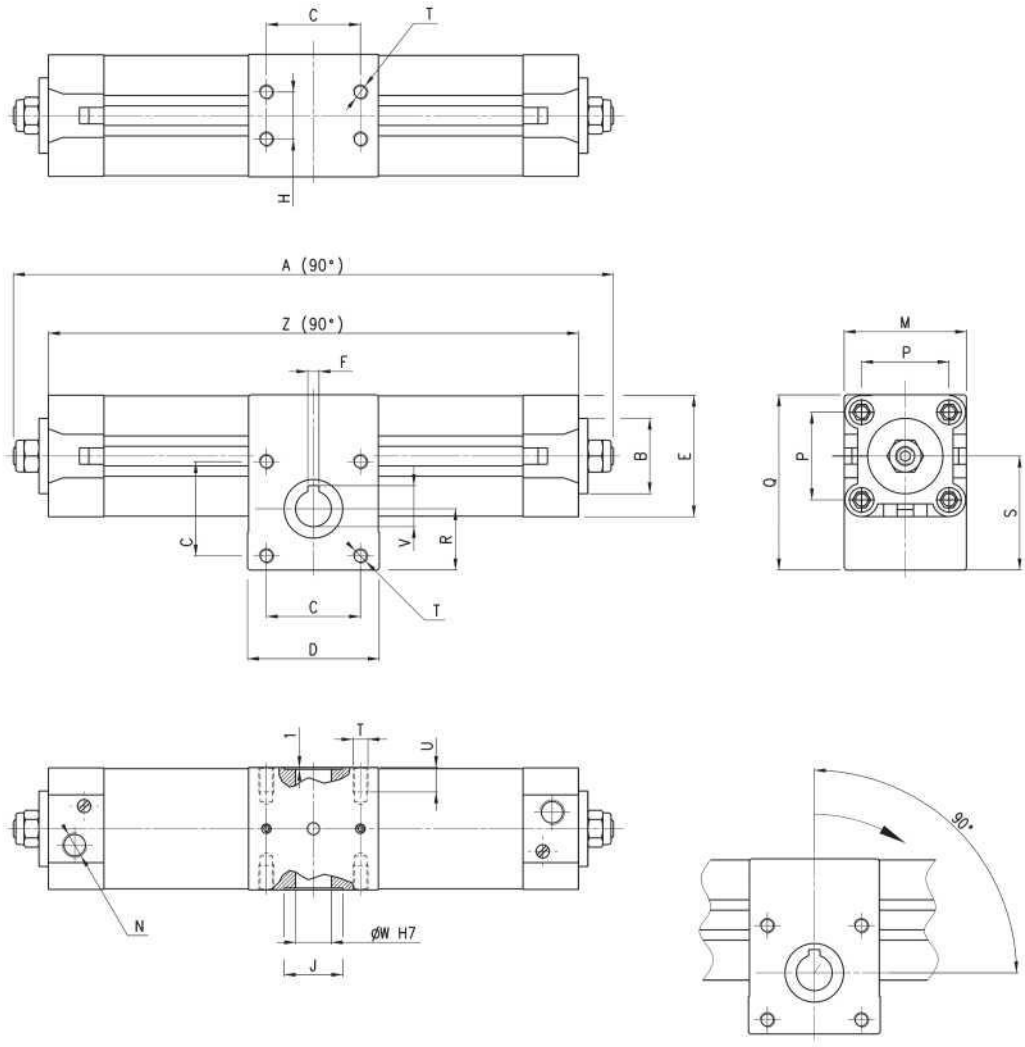


DIMENSIONS

0	A	B	ω	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	Y	X	Z
32	249	30	47	33	50	46	5	14	18	25	25	31	50	G1/8	32,5	71,5	25	46,5	M6	10	M5	12,5	219
40	295	35	56,5	40	60	55	5	14	22	25	25	31	60	G1/4	38	82	30	54,5	M6	10	M5	12,5	263
50	316	40	63	50	70	64,5	6	19	25	30	35	41	65	G1/4	46,5	94	32,5	60,5	M8	13	M6	16	282
63	357	45	74,5	60	75	75	8	24	35	30	35	41	75	G3/8	56,5	110	37	70,8	M8	13	M8	19	325
80	443	45	99	80	99	93	8	28	50	45	45	51	99	G3/8	72	142	50	93,5	M10	16	M8	19	404
100	472	55	107	80	115	110	10	38	60	50	45	51	115	G1/2	89	156,5	54	99	M10	16	M10	22	434
125	549	60	132	90	125	135	10	38	70	60	45	51	140	G1/2	110	188	60	118	M12	20	M10	22	505

Series 69 cylinders - female pinion

* increase in “A” and “Z” for each 90° of rotation



DIMENSIONS

0	A	B	ᴪ	C	D	E	F	H	J	M	N	P	Q	R	S	T	U	V	W	Z
32	249	30	47	33	50	46	5	18	25	50	G1/8	32,5	71,5	25	46,5	M6	10	16,3	14	219
40	295	35	56,5	40	60	55	5	22	25	60	G1/4	38	82	30	54,5	M6	10	16,3	14	263
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125	549	60	132	90	125	135	8	70	60	140	G1/2	110	188	60	118	M12	16	31,3	28	505