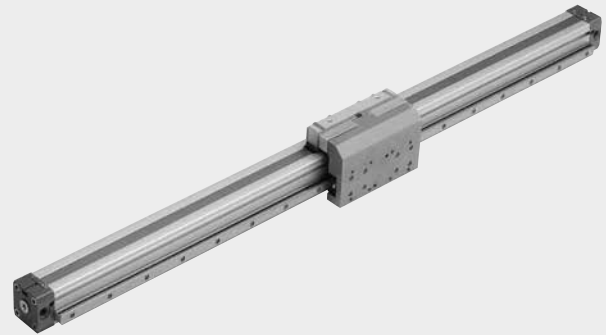


RODLESS CYLINDER WITH BALL RECIRCULATING GUIDE

The range of rodless cylinders with ball circulation guides is available with five different bores \varnothing 16, 25, 32, 40 and 63. The bore 63 can be supplied in two versions: the "standard" one for intermediate loads and the "heavy" one for considerably weighty loads. Besides the general features specified for standard rodless cylinders, the other main features are:

- Very high load capacity, acting in all directions without discharging onto the cylinder slide.
- Hardened steel guide connected firmly to the cylinder barrel.
- Ball circulation pads constructed using special technology that make them very silent when the guide slides, with very long maintenance intervals. For example, they only need lubricating every 2000 km or once a year, using type 2 grease, preferably containing lithium soap.
- Extra sturdy slide support with various holes for fixing the loads. Holes for centring pins are also provided.
- 100 to 2650 stroke at intervals of 1 mm.
- Integrated pneumatic adjustable cushioning.
- Adjustable limit switches and decelerations can be applied at any time.

For this type of cylinder (size 32 and upwards), the valves can be fitted directly using the retracting sensors without requiring any intermediate brackets. Refer to the table on page A1.56



TECHNICAL DATA		NBR	FKM/FPM
Operating pressure	bar		1 to 8
	MPa		0.1 to 0.8
	Psi		14.5 to 116
Temperature range	$^{\circ}$ C		-10 to +80
	$^{\circ}$ F		14 to 176
Fluid		50 μ m unlubricated filtered air lubrication, if used, must be continuous	
Bores	mm	\varnothing 16, 25, 32, 40, 63	
Type of construction		Doubl-acting rodless cylinder with direct transmission system	
Strokes	mm	\varnothing 16: from 100 to 1350 with 1 interval	
		\varnothing 25: from 100 to 2300 with 1 interval	
		\varnothing 32: from 100 to 2300 with 1 interval	
		\varnothing 40: from 100 to 2250 with 1 interval	
		\varnothing 63 standard: from 100 to 2100 with 1 interval	
		\varnothing 63 heavy: from 100 to 2650 with 1 interval	
Threaded ports		M5, G1/8", G1/4", G3/8"	
Assembly		As required	
Recommended speed	m/s	<1	\geq 1
Max. speed with decelerators	m/s	<1	2
Weight		See cylinder "General technical data" at the beginning of the chapter	
Notes		For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip	

COMPONENTS

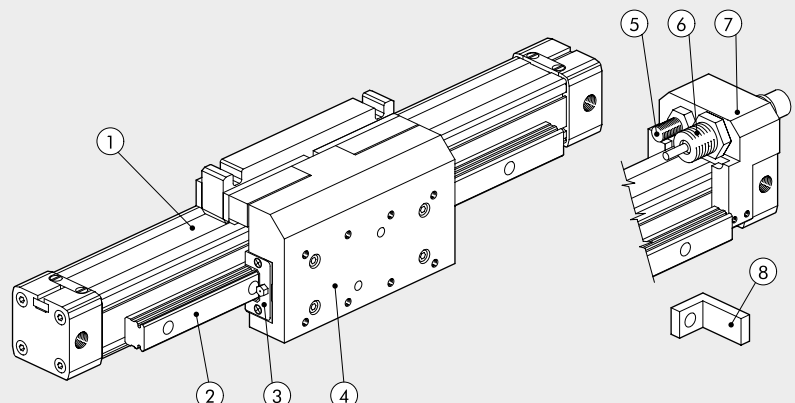
For version 275

- ① CYLINDER: see components of rodless cylinders - series STD
- ② GUIDE: hardened steel
- ③ PAD: steel with hardened ball circulation
- ④ SLIDE SUPPORT: anodized aluminium

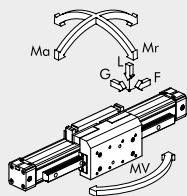
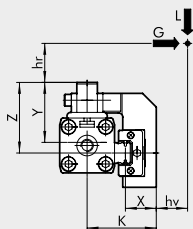
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Besides the details specified above:

- ⑤ END-OF-STROKE STUD PIN: zinc-plated steel, complete with 2 zinc-plated nuts for fixing
- ⑥ DECELERATOR: burnished steel, complete with 2 zinc-plated or burnished nuts for fixing
- ⑦ DECELERATOR SUPPORT: anodized aluminium
- ⑧ BRACKET: hardened-and-tempered and zinc-plated steel



DIMENSIONING - FORCES AND MOMENTS



Ø	Version	Actual force F at 6 bar [N]	Cushioning stroke [mm]	K [mm]	X [mm]	Y [mm]	Z [mm]	Max load L [N]	Max load G [N]	Ma max [Nm]	Mr max [Nm]	Mv max [Nm]
16	-	110	15	35	16	29	33	500	500	16	15	16
25	-	250	21	50.5	21	44	51.5	1500	1500	100	50	100
32	-	420	26	59	22.5	53.5	70	3000	3000	200	100	200
40	-	640	32	68	24.7	58	73	4000	4000	200	140	200
63	standard	1550	40	84	23.1	79	100	6000	6000	400	140	400
63	heavy	1550	40	91	29.2	79	88	10000	10000	600	400	600

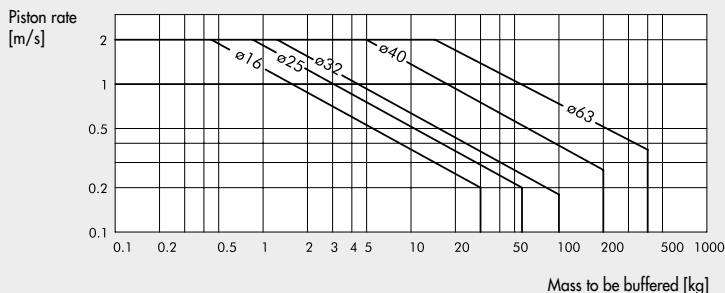
N.B.: When the cylinder is subjected simultaneously to torque and force, keep to the following equations, where the lengths have to be given in metres.

$$Ma = F \times (hr + Y) \quad Mr = G \times (hr + z) + Lx (hv + X) \quad Mv = F \times (K + hv)$$

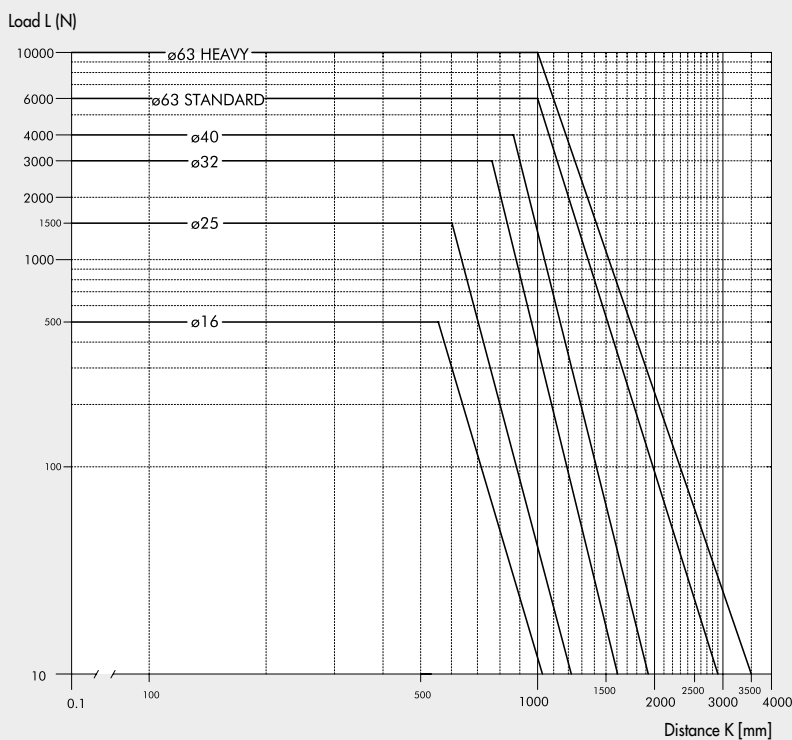
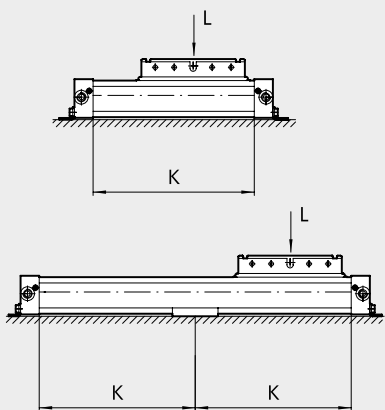
$$\frac{Ma}{Ma_{max}} + \frac{Mr}{Mr_{max}} + \frac{Mv}{Mv_{max}} + \frac{L}{L_{max}} + \frac{G}{G_{max}} \leq 1$$

DIAGRAM OF SPEED AND MAXIMUM CUSHIONABLE LOAD

For the cylinder to reach the end-of-stroke position without intense or repeated impact which would damage it, it is necessary to annul the kinetic energy of the moving mass and the work generated. The maximum cushionable load depends on the traversing speed and the absorption of the air buffer supplied standard with the various cylinders. The diagram shows the speeds and cushionable mass for the various diameters at a pressure of 6 bar.

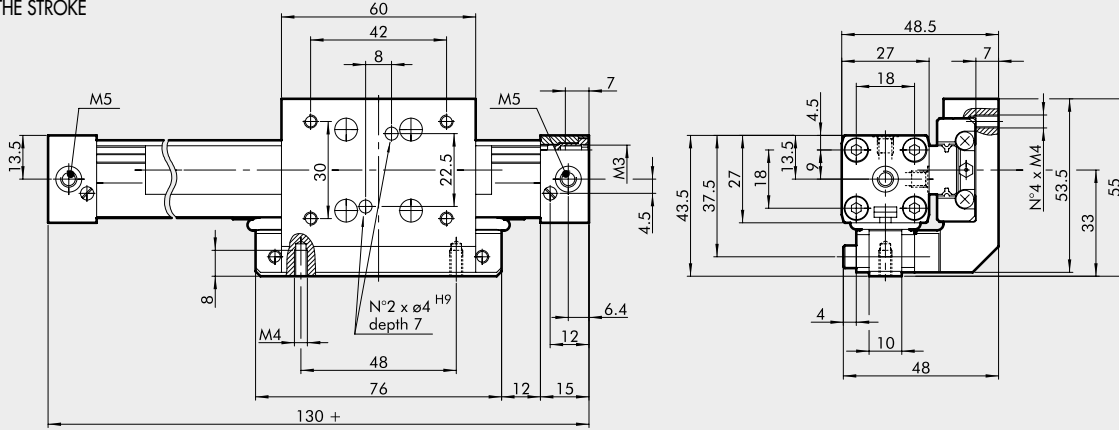


MAXIMUM LOAD ACCORDING TO THE DISTANCE BETWEEN SUPPORTS



DIMENSIONS Ø 16

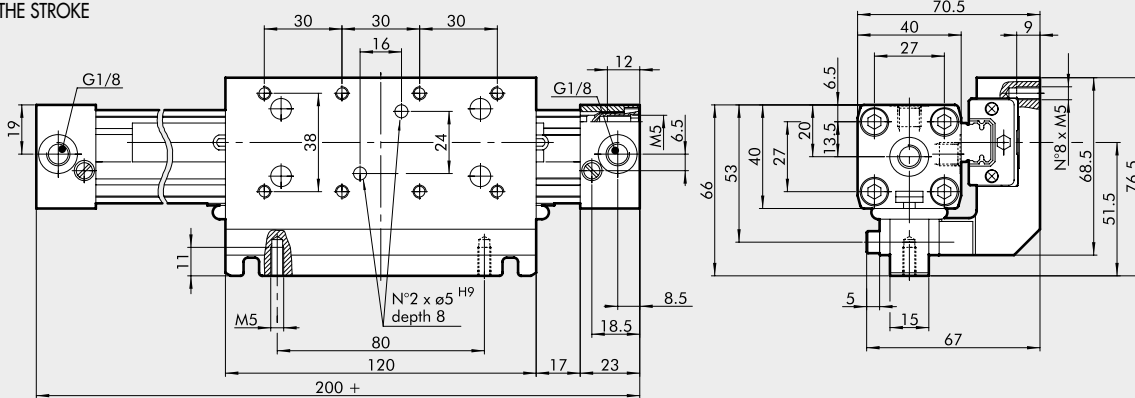
+ = ADD THE STROKE



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DIMENSIONS Ø 25

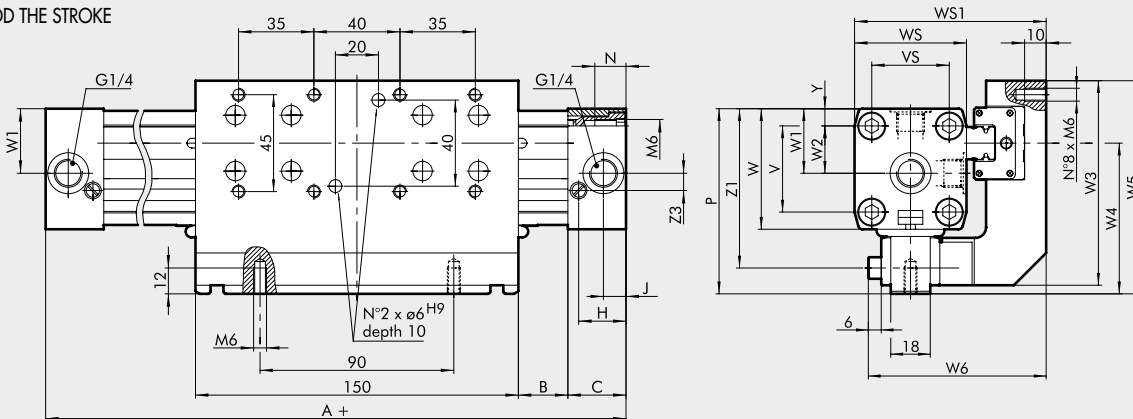
+ = ADD THE STROKE



275

DIMENSIONS Ø 32; Ø 40

+ = ADD THE STROKE

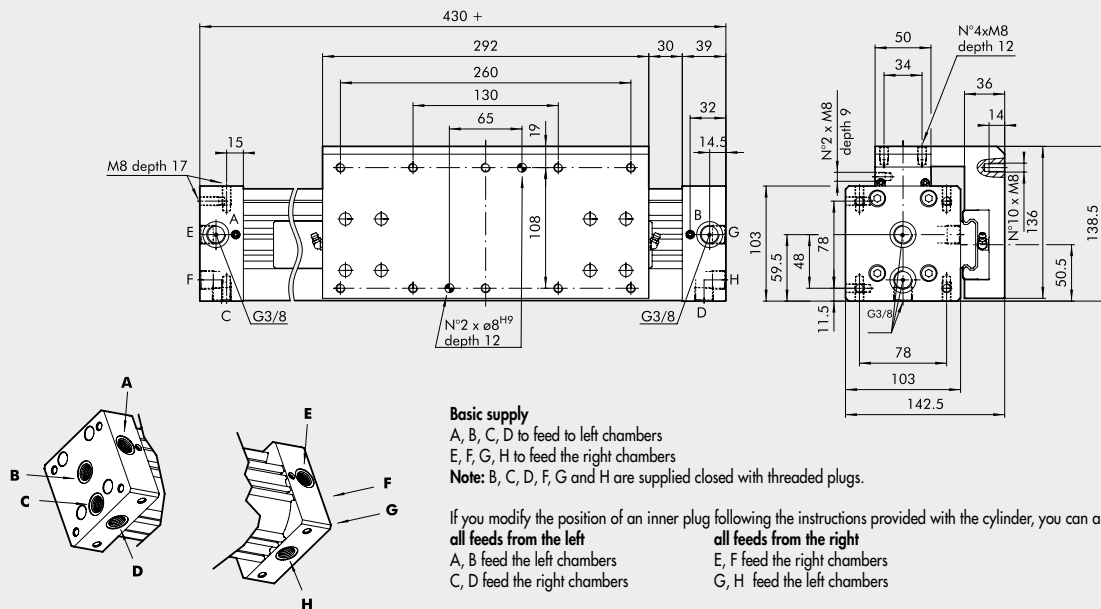


275

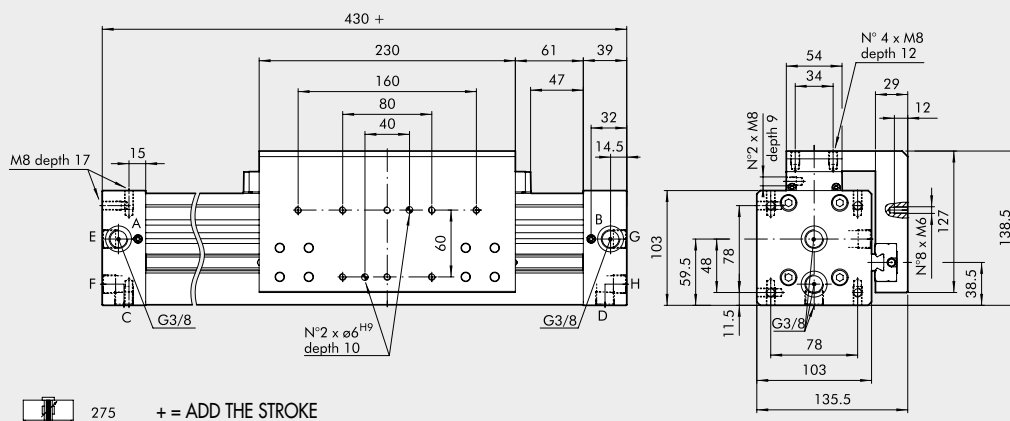
Ø	A	B	C	H	J	N	P	V	VS	W	WS	WS1	W1	W2	W3	W4	W5	W6	Y	Z1	Z3
32	250	23	27	22	10.5	14	86	40	36	56	52	85	30	22	95	70	99	78.5	8	74	8
40	300	45	30	24	15	17.5	97	54	54	69	72	104	36	27	98	73	102	88	9	85	11.8

DIMENSIONS Ø 63

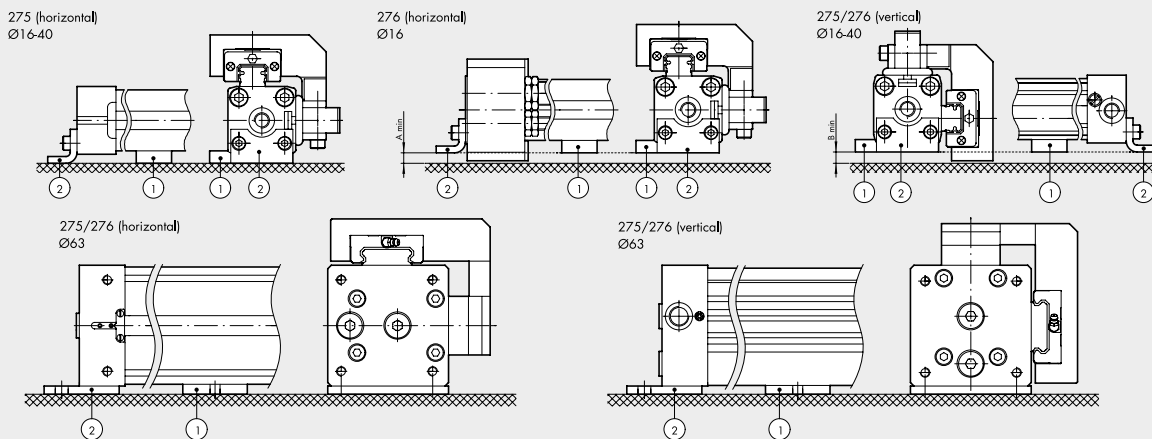
HEAVY



STANDARD

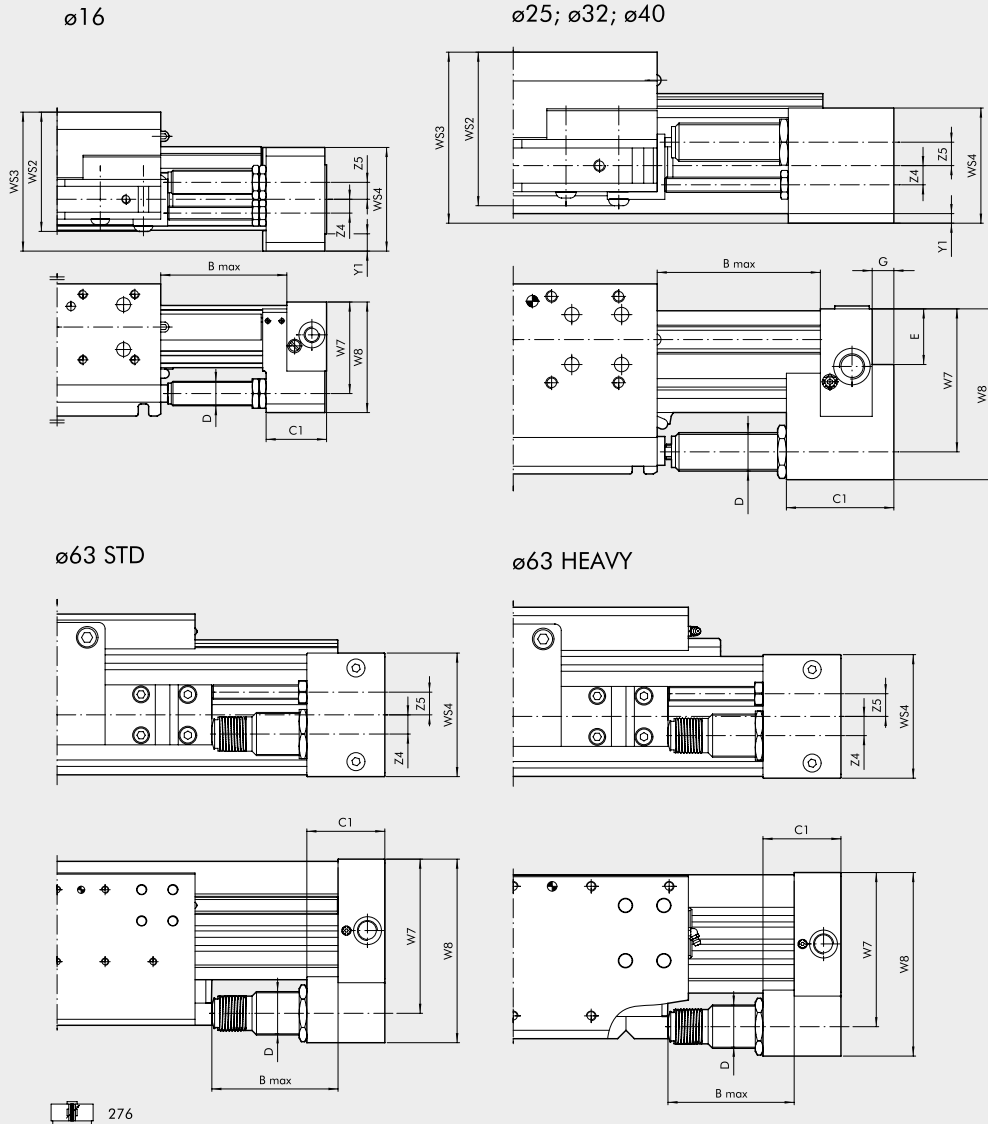


ASSEMBLY DIAGRAMS



Ø	Horizontal layout		Vertical layout	
	A min	Intern. support code (1)	B min	Intern. support code (1)
16	8	W0950164004	12	W0950164004
25	10	W0950254004	10	W0950254004
32	4	W0950324004	11	W0950324004
40	3	W0950404004	5	W0950404004
63	-	W0950637036	-	W0950637033

DIMENSION VERSION WITH ADJUSTABLE LIMIT SWITCH AND SHOCK ABSORBERS Ø 16 to 63



Ø	Version	B max	C1	D	E	G	W7	W8	WS2	WS3	WS4	Y1	Z4	Z5	Stroke	Max. cushioned force		Max. impact force [N]	Max. thrust force [N]
																Per stroke [J]	Per hour [J]		
16	-	50	22	M12x1	-	-	38	46	52	56	42	7.5	7	7.5	10.4	10	14125	1000	220
25	-	72	44	M14x1.5	17	9	53	67	71	80.5	50	5	8	9.8	16	26	34000	2800	530
32	-	90	56	M20x1.5	29	11	74	89	82.5	91	60	4	10	12.2	22	54	53700	3750	890
40	-	105	74	M25x1.5	32.8	14	89	108	92	108	75	1.5	12.5	12.7	25	90	70000	5500	1550
63	standard	105	65	M36x1.5	-	-	128.5	153	-	-	103	-	16	19	25	160	91000	11120	2220
63	heavy	105	65	M36x1.5	-	-	128.5	153	-	-	103	-	16	19	25	160	91000	11120	2220

For graphs to help choose shock absorbers see page A1.187

KEY TO CODES

CYL	2 7 TYPE	5	0	2 5 BORE	0 1 5 0 STROKE	C	N GASKETS
	27 Rodless cylinder	5 Double-acting cushioned magnetic with ball circulation guides 6 Double-acting cushioned magnetic with ball circulation guides + adjustable limit switch and shock absorbers	0 STD Magnetic S STD Non-magnetic ■ G STD No stick-slip A HEAVY Magnetic ■ B HEAVY No stick-slip C HEAVY Non-magnetic	16 25 32 40 63	Ø 16: 100 to 1350 mm Ø 25 - 32: 100 to 2300 mm Ø 40: 100 to 2250 mm Ø 63 std: 100 to 2100 mm Ø 63 heavy: 100 to 2650 mm		N NBR gasket ● V FKM/FPM gasket

■ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only ● For speed ≥ 1/m/s