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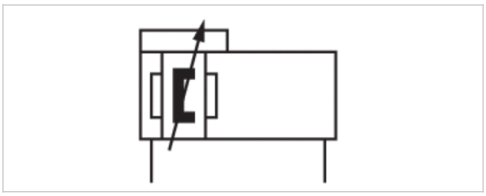
Rodless cylinder, Series RTC-HD

- Ø 16-63 mm
- Ports M7 G 1/8 G 1/4 G 3/8
- double-acting
- with magnetic piston
- ball rail guide
- Heavy Duty
- Cushioning Pneumatically adjustable
- Easy2Combine capable with connection kit



Working pressure min./max.	4 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m³
Pressure for determining piston forces	6.3 bar

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Stroke 200	R480156949	R480149659	R480154726	R480155259	-	-
300	R480156950	R480149553	R480148820	R480154424	-	-
400	R480156951	R480150759	R480148602	R480154425	R480155175	R480156946
500	R480147724	R480147725	R480147726	R480147727	R480147728	R480147729
600	R480156953	R480153574	R480148603	R480148971	R480146987	R480156947
700	R480156954	R480156959	R480154001	R480149554	R480156943	R480149638
800	-	R480155572	R480150325	R480156710	R480149774	R480154379
900	-	-	R480156963	R480156969	R480156944	R480149592
1000	-	-	R480148582	R480150515	R480149030	R480149031

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Piston force	127 N	309 N	507 N	792 N	1237 N	1964 N
Cushioning length	20 mm	20 mm	20 mm	20 mm	20 mm	20 mm
Cushioning energy	1,5 J	4 J	7 J	10 J	15 J	25 J

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Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Speed max.	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s
Weight 0 mm stroke	1,62 kg	2,96 kg	3,9 kg	6,58 kg	8,94 kg	11,75 kg
+10 mm stroke	0,047 kg	0,071 kg	0,086 kg	0,128 kg	0,162 kg	0,193 kg
Stroke max.	1800 mm	4300 mm	4300 mm	4300 mm	4300 mm	3700 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The delivered product is lubricated for lifetime.
Use hydraulic shock absorbers for precise end position adjustment.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cap	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane Stainless steel
Ball rail table	Aluminum, anodized
Guide rail	Steel, hardened

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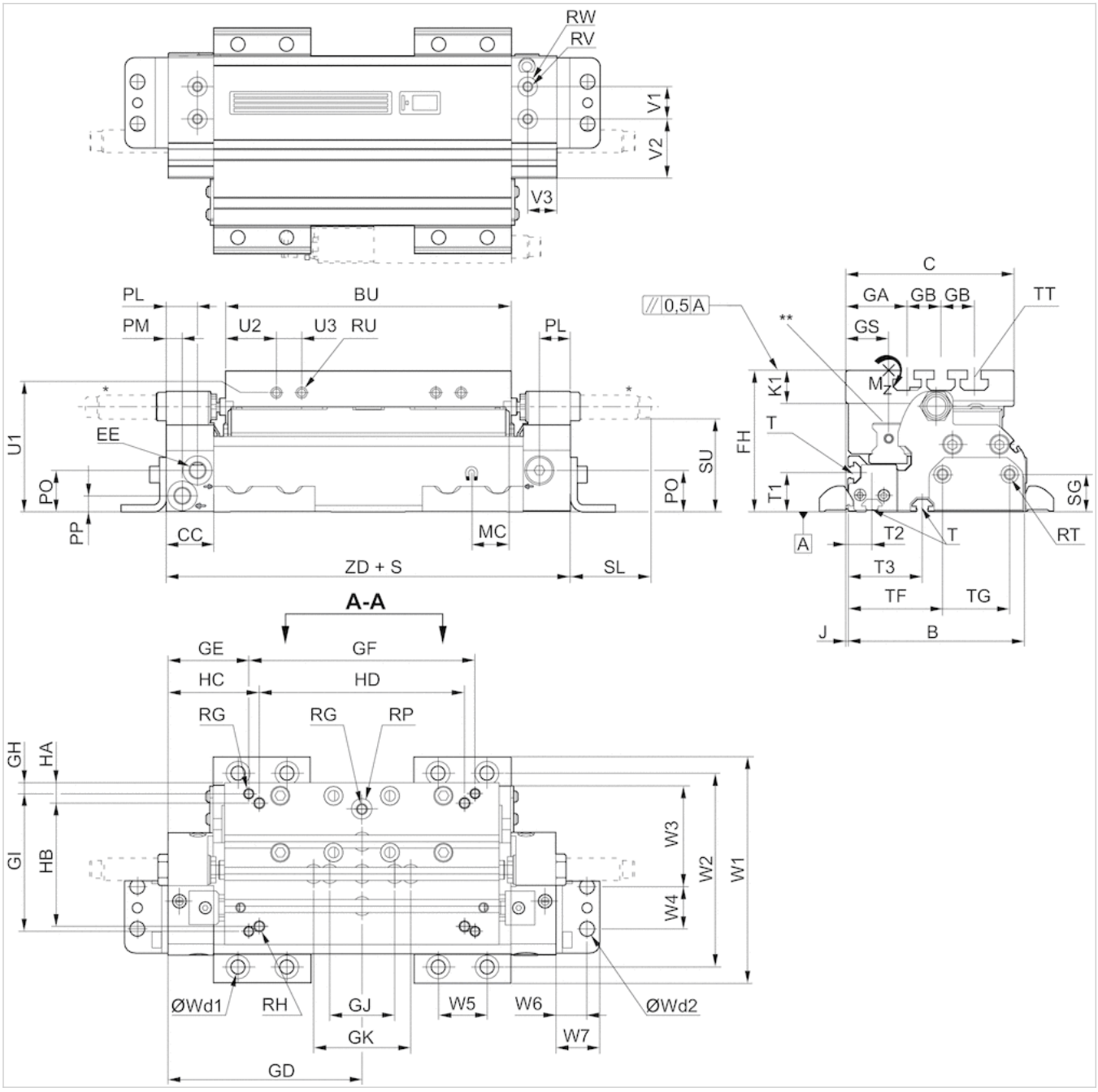
Dimensions

Ø 16 ... 63 mm



S = stroke
T = Type of t-groove nut
TT = Type of t-groove nut
* Shock absorber optional in end cover for diameters 16-40
** RTC-HD 16 & 25: funnel type lube nipple with thread M3, RTC-HD 32 - 63: lube nipple DIN 71412 with thread M6

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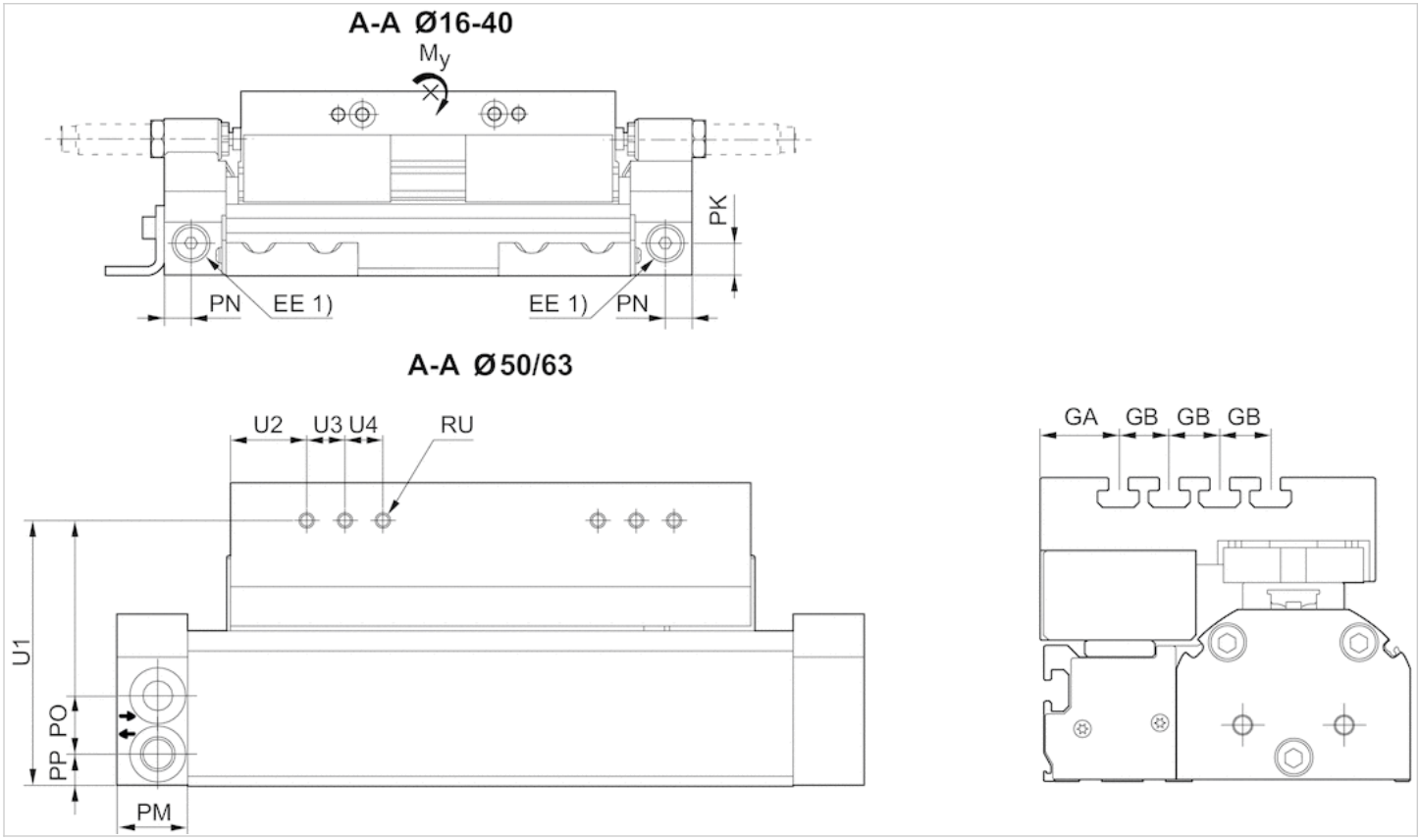

1) Auxiliary air feeding
An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Dimensions

Piston Ø	B	C	BU	CC	EE	FH	GA	GB	GD	GE	GF	GH	GI	GJ	GK	GS	HA
16 mm	82	82	122	28	M7	60	27	20	93.5	43.5	100	5	20/20/20	40	–	32	7.6
25 mm	103	99.5	147	28	G 1/8	70	26	20	107.5	52.5	110	16	20/40	40	–	37	6.4
32 mm	105	100	170	28	G 1/8	83.8	36.5	20	120	50	140	6.7	85	40	60	25.5	12.7
40 mm	132	122	186	28	G 1/4	97.7	36.5	20	131.5	46.5	170	12	100	40	60	31.5	12.7
50 mm	144.5	132.5	205	28	G 1/4	119.4	31	20	147.3	52.3	190	10	100	40	60	31.5	15.2
63 mm	161	139	233	28	G 3/8	129.4	31	20	166.5	71.5	190	10	100	40	60	31.5	15.2

Piston Ø	HB	HC	HD	J	K1	MC	PK	PL	PM	PN	PO	PP	RG 1)	RH 2)	RP
16 mm	69.9	55.4	76.2	1.5	20.7	12	11.9	18	7	7	13.3	7.3	M5	UNC 1/4-20	Ø 9
25 mm	83.8	44	127	1.5	21.4	15	10.1	20	8	9	21.5	9.3	M5	UNC 1/4-20	Ø 9
32 mm	76.2	56.5	127	1.5	19.7	20	15	18.5	9.5	12	24.5	9.5	M6	UNC 1/4-20	Ø 12
40 mm	101.6	55.4	152.4	1.5	25.6	17	18	18	10	11	31.5	10.5	M6	UNC 1/4-20	Ø 12
50 mm	99.06	66	162.6	1.5	28.6	23	N/A	16	16	N/A	35	12	M8	UNC 5/16-18	Ø 12
63 mm	101.6	59.8	213.4	1.5	28.6	25	N/A	14	14	N/A	45.5	14.5	M8	UNC 5/16-18	Ø 12

Piston Ø	RT 3)	RU 4)	RV	RW	SG	SL	SU	T	TT	V1	V2	V3	W1	W2	W3	W4
16 mm	M5	M5	M5x8	Ø 9H8x1,6	17.3	33.2	38.6	N4	N6	20	6	14	110.4	93.4	56	18
25 mm	M5	M6	M5x8	Ø 9H8x1,6	17.3	49.3	47.1	N6	N6	20	26.5	18	131.4	114.4	72	18
32 mm	M6	M6	M6x10	Ø 12H8x2,1	22	48.3	55.5	N6	N8	20	36.5	18	139.4	119.4	63	26
40 mm	M6	M6	M6x10	Ø 12H8x2,1	22	45.1	73.4	N6	N8	20	40.5	18	166.4	146.4	84	26
50 mm	M8	M5	-	-	22	N/A	N/A	N8	N8	-	-	-	192.1	166.9	63.5	70

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Piston Ø	RT 3)	RU 4)	RV	RW	SG	SL	SU	T	TT	V1	V2	V3	W1	W2	W3	W4
63 mm	M8	M5	-	-	30	N/A	N/A	N8	N8	-	-	-	208.6	183.4	80	50

Piston Ø	W5	W6	W7	Wd1	Wd2	T1	T2	T3	TF	TG	U1	U2	U3	U4	ZD	M [kg] 5)
16 mm	30	13.5	19.8	M6	M6	20.8	13.7	–	55.5	19	47	16.5	15	15	187	0.64
25 mm	30	16.5	19.8	M6	M6	20	14	54	71.5	19	60	18	21.5	15	215	1.25
32 mm	30	19	26.8	M8	M8	23	14	44	56	40	71	30	21	15	240	1.4
40 mm	30	19	26.8	M8	M8	24.7	29.5	59.5	77	40	82.7	30	29	15	263.1	2.57
50 mm	40	22	32.7	M12	M12	35.6	18.5	43.5	78.5	40	104.4	30	15	15	294.6	3.19
63 mm	40	22	32.7	M12	M12	45.6	17	39.5	65	80	114.4	30	15	15	333	3.46

1) thread depth: 12 mm for piston Ø 16–25, 16 mm for piston Ø 32–40, 14 mm for piston Ø 50–63

2) thread depth: 12,7 mm for piston Ø 16–63 mm

3) thread depth: 9 mm for piston Ø 16–40 mm, 12 mm for piston Ø 50–63 mm

4) thread depth: 10 mm for piston Ø 16–63 mm

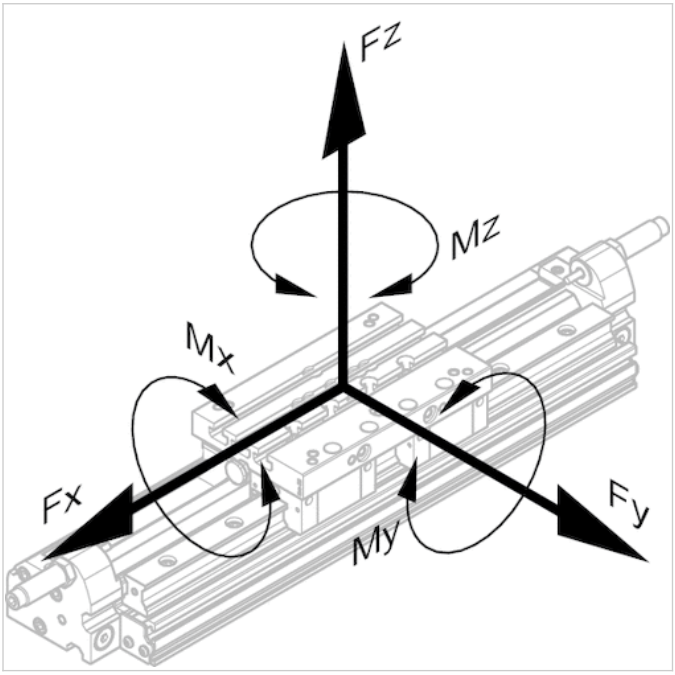
5) M = moving mass

Dimensions

Permissible forces Fx Fy Fz and torques Mx My Mz

$$\frac{Mx}{Mx_{max.}} + \frac{My}{My_{max.}} + \frac{Mz}{Mz_{max.}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the http://www.aventics.com.



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dynamic

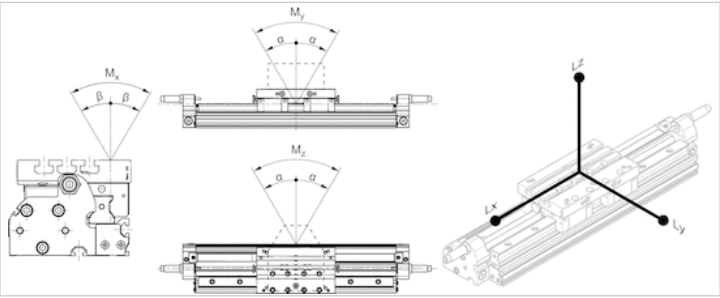
Piston Ø	Mx [Nm]	My [Nm]	Mz [Nm]
16 mm	34	138	53
25 mm	100	336	114
32 mm	154	502	190
40 mm	254	764	376
50 mm	254	924	455
63 mm	254	1120	551

static

Piston Ø	Fx [N]	Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]
16 mm	1640	1640	4284	34	138	53
25 mm	2640	2640	7810	100	336	114
32 mm	3760	3760	9952	154	502	190
40 mm	6840	6840	13922	254	764	376
50 mm	6840	6840	13922	254	924	455
63 mm	6840	6840	13922	254	1120	551

Dimensions

Max. play and recommended max. lever arm length



L = lever arm
M = Torques

Dimensions

Piston Ø	α	β	Lx	Ly	Lz
16 mm	0,1°	0,2°	260	260	260
25 mm	0,1°	0,2°	344	344	344
32 mm	0,1°	0,2°	404	404	404
40 mm	0,1°	0,2°	440	440	440
50 mm	0,1°	0,2°	532	532	532
63 mm	0,1°	0,2°	644	644	644

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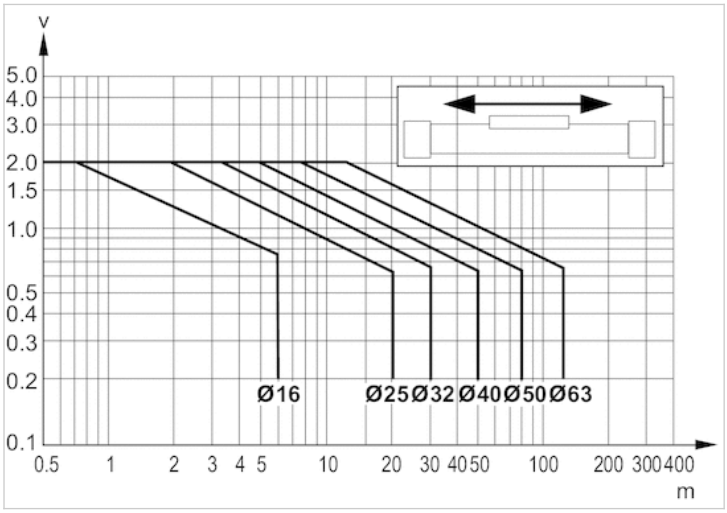
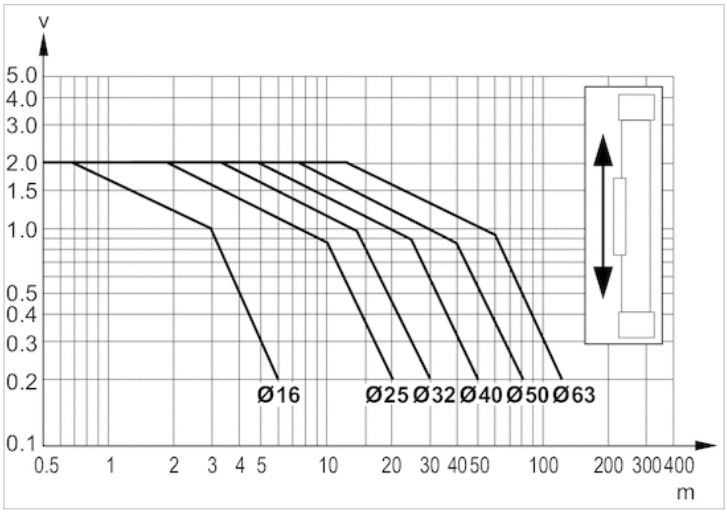
Diagrams

Limit diagram for pneumatic cushioning with horizontal mounting

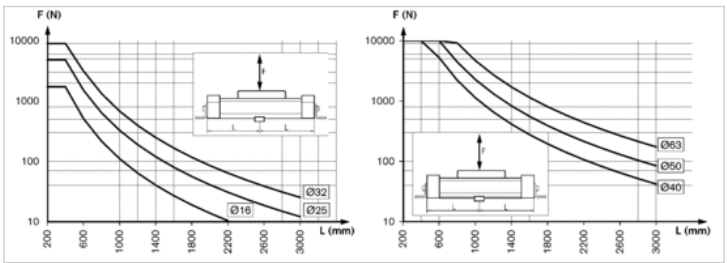


v = Piston velocity [m/s]m = Cushionable mass [kg]
The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

Limit diagram for pneumatic cushioning with vertical mounting



Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm