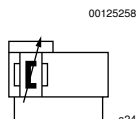


Rodless cylinders ▶ Rodless cylinders

Rodless cylinder, Series RTC-BV

▶ Ø 16 - 80 mm ▶ Ports: M7 - G 3/8 ▶ double-acting ▶ with magnetic piston ▶ integrated guide ▶ Basic Version
 ▶ cushioning: pneumatically, adjustable

Working pressure min./max.	2 bar / 8 bar
Ambient temperature min./max.	-10°C / +60°C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 1 mg/m³
Pressure for determining piston forces	6,3 bar



Materials:	
Cylinder tube	Aluminum, anodized
Covers	Aluminum, anodized
Seals	Polyurethane
Sealing strips	Polyurethane; Stainless steel
Ball rail table	Aluminum, anodized

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.

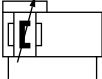
Technical Remarks	
■	The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
■	The delivered product is lubricated for lifetime.

Piston Ø		[mm]	16	25	32	40	50
Piston force		[N]	127	309	507	792	1237
Cushioning length		[mm]	20	20	20	20	20
Cushioning energy		[J]	1.5	4	7	10	15
Speed max.		[m/s]	5.5	6.5	4	5	3
Weight	0 mm stroke	[kg]	0.45	0.82	1.39	2.09	3.37
	+10 mm stroke	[kg]	0.014	0.023	0.031	0.044	0.065
Stroke max.		[mm]	6600	7000	9900	9900	9900

Piston Ø		[mm]	63	80			
Piston force		[N]	1964	3146			
Cushioning length		[mm]	20	20			
Cushioning energy		[J]	25	40			
Speed max.		[m/s]	3	3			
Weight	0 mm stroke	[kg]	5.65	9.71			
	+10 mm stroke	[kg]	0.098	0.157			
Stroke max.		[mm]	5800	4800			

Rodless cylinder, Series RTC-BV

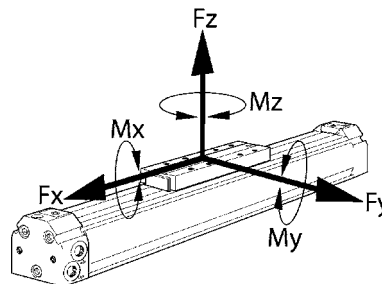
▶ Ø 16 - 80 mm ▶ Ports: M7 - G 3/8 ▶ double-acting ▶ with magnetic piston ▶ integrated guide ▶ Basic Version
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	Piston Ø Ports	16 M7	25 G 1/8	32 G 1/8	40 G 1/4	50 G 1/4
	Stroke 100	R480143252	R480141454	-	-	-
	200	R480143255	R480141455	R480141462	-	-
	300	R480143256	R480141456	R480141463	-	-
	400	R480143257	R480141457	R480141464	R480141472	R480148854
	500	R480143258	R480141458	R480141465	R480141473	R480146166
	600	R480143259	R480141459	R480141466	R480141474	R480149081
	700	R480143260	R480141460	R480141468	R480141475	R480145947
	800	-	R480141461	R480141469	R480141476	R480148600
	900	-	-	R480141470	R480141477	R480147023
	1000	-	-	R480141471	R480141478	R480149199
	Piston Ø Ports	63 G 3/8	80 G 3/8			
Stroke 100		-	-			
200		-	-			
300		-	-			
400	R480147730		R480147731			
500	R480147713		R480147714			
600	R480146014		R480146210			
700	R480145948		R480155522			
800	R480147223		R480147699			
900	R480146204		R480156948			
1000	R480147036		R480147700			

Permissible forces F_x , F_y , F_z and torques M_x , M_y , M_z

$$\frac{M_x}{M_{x_{\max}}} + \frac{M_y}{M_{y_{\max}}} + \frac{M_z}{M_{z_{\max}}} \leq 1$$

00125850



00125255

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>.

Static

Piston Ø	F_x [N]	F_y [N]	F_z [N]	M_x [Nm]	M_y [Nm]	M_z [Nm]							
16	800	150	1100	2	25	8							
25	1800	210	3800	6	50	12							
32	2200	550	6600	18	80	43							
40	3500	650	8000	28	140	55							
50	5000	750	9000	35	230	70							
63	6800	850	13000	45	340	90							
80	9500	1000	13000	55	500	110							

Rodless cylinders ▶ Rodless cylinders

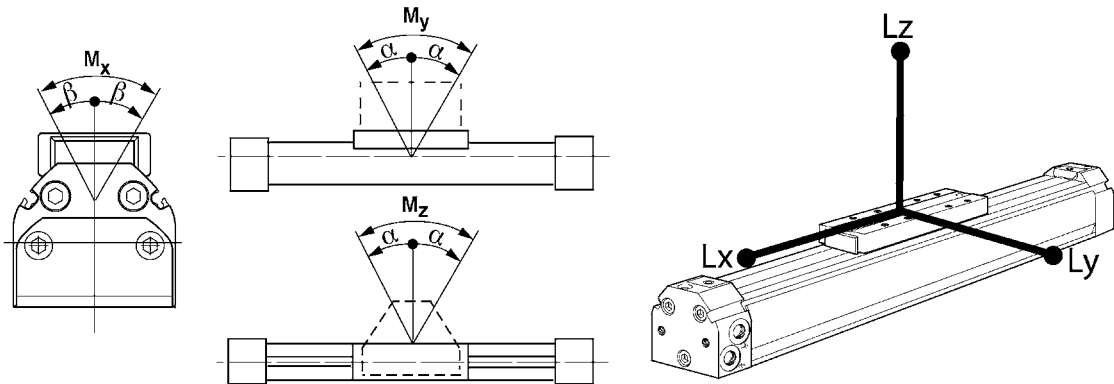
Rodless cylinder, Series RTC-BV

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Dynamic

Piston Ø	Mx [Nm]	My [Nm]	Mz [Nm]										
16	0.42	10	2										
25	1	24	3										
32	3.8	42	12										
40	6	75	15										
50	9.1	128	20										
63	14.5	195	24										
80	20	300	28										

Max. play and recommended max. lever arm length



L = lever arm

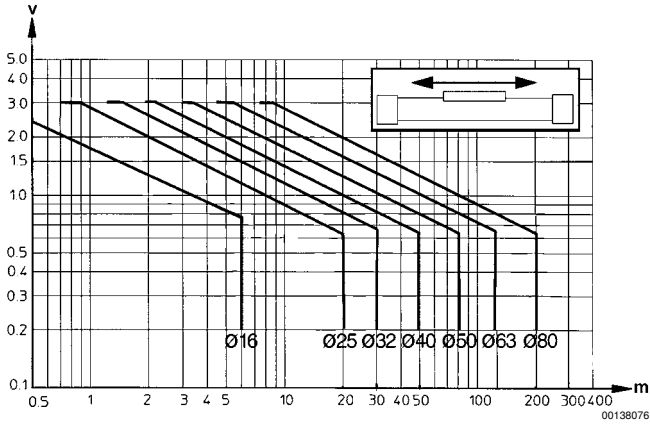
00125764

Piston Ø	α	β	Lx	Ly	Lz								
16	0,5°	2,0° ±1°	162	94	162								
25	0,5°	2,0° ±1°	217	123	217								
32	0,6°	1,5° ±0,5°	240	139	240								
40	0,4°	1,0° ±0,3°	275	158	275								
50	0,4°	1,0° ±0,3°	317	181	317								
63	0,3°	1,0° ±0,3°	368	209	368								
80	0,3°	1,0° ±0,3°	435	245	435								

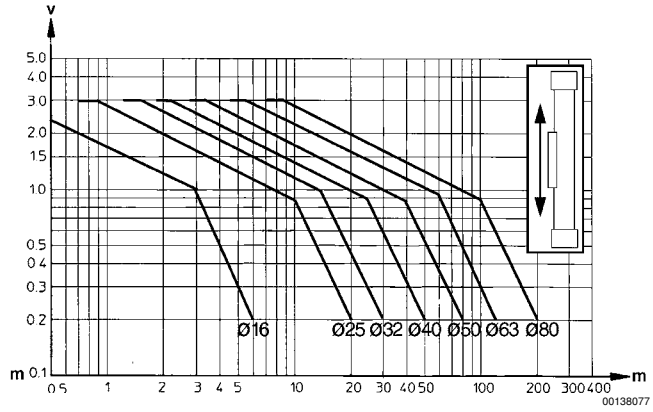
Rodless cylinder, Series RTC-BV

▶ Ø 16 - 80 mm ▶ Ports: M7 - G 3/8 ▶ double-acting ▶ with magnetic piston ▶ integrated guide ▶ Basic Version
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Limit diagram for pneumatic cushioning with horizontal mounting

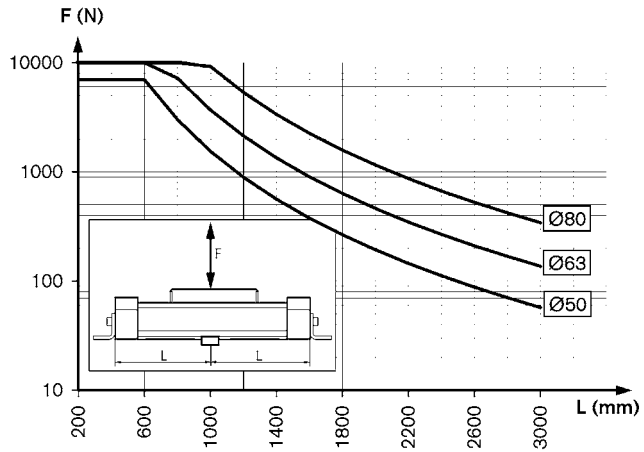
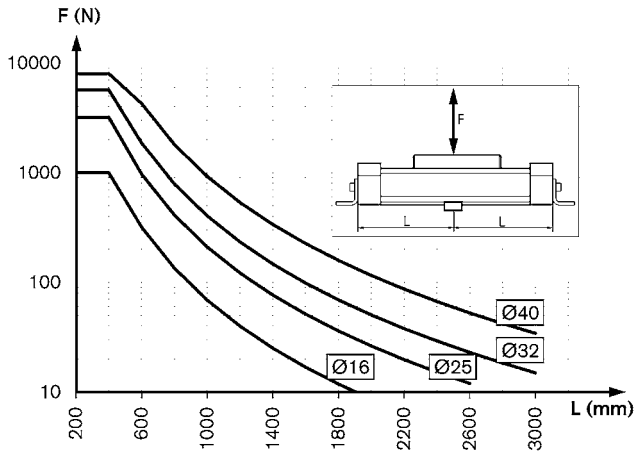


Limit diagram for pneumatic cushioning with vertical mounting



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.

Support span



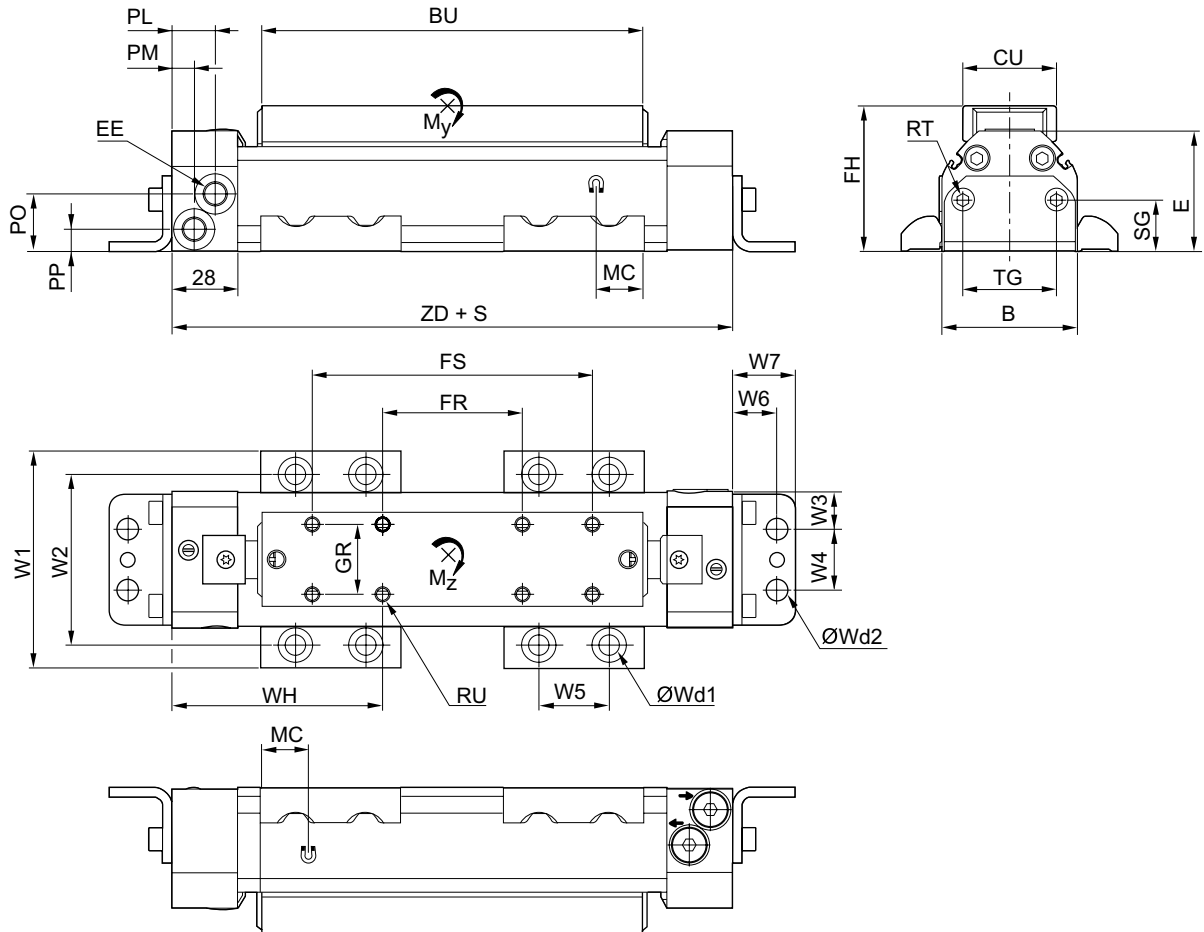
Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Rodless cylinders ▶ Rodless cylinders

Rodless cylinder, Series RTC-BV

- ▶ Ø 16 - 80 mm ▶ Ports: M7 - G 3/8 ▶ double-acting ▶ with magnetic piston ▶ integrated guide ▶ Basic Version
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Piston Ø 16 - 80, Dimensions in mm



00125261

S = stroke

Piston Ø	B	BU	CU	E	EE	FH	FR	FS	GR	MC	PL	PM	PO
16	34	118	26	36	M7	41	60	100	20	12	21.5	9	13.1
25	44	147	26	45.5	G 1/8	50.6	40	100	20	15	20	8	21.5
32	58	163	40	51.5	G 1/8	62.1	60	120	30	20	18.5	9.5	24.5
40	70	182	40	60.5	G 1/4	71.1	60	120	30	17	18	10	31.5
50	92	205	40	67.5	G 1/4	78.3	60	140	30	23	16	16	35.5
63	112	233	55	82.5	G 3/8	93.3	100	180	40	25	14	14	45.5
80	140	269	55	103.5	G 3/8	114.2	100	180	40	27	14	14	59.5

Piston Ø	PP	RT 1)	RU 2)	SG	TG	W1	W2	W3	W4	W5	W6	W7	Wd1
16	7.5	M5	M4	17.3	19	63	45.5	8	18	30	13.5	19.8	M6
25	9.3	M5	M4	17.3	19	73	55.5	13	18	30	13.5	19.8	M6
32	9.5	M6	M6	22	40	93	72.5	16	26	30	19	26.8	M8
40	11	M6	M6	22	40	105	84.5	22	26	30	19	26.8	M8
50	12.5	M8	M6	22	40	140	114.5	11	70	40	22	32.7	M12
63	14.5	M8	M8	30	80	160	134.5	31	50	40	22	32.7	M12
80	16.5	M8	M8	30	80	188	162.5	45	50	40	22	32.7	M12

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Piston Ø	Wd2	WH	ZD	M [kg] 3)									
16	M6	63.5	187	0.08									
25	M6	87.5	215	0.16									
32	M8	90	240	0.32									
40	M8	101.5	263	0.49									
50	M12	117.1	294.2	0.73									
63	M12	116.5	333.2	1.31									
80	M12	130.5	361	2.14									

1) thread depth: 9 mm for piston Ø 16–40 mm, 12 mm for piston Ø 50–80 mm

2) thread depth: 6 mm for piston Ø 16–25 mm, 10 mm for piston Ø 32–50 mm, 15 mm for piston Ø 63–80 mm

3) M = moving mass