

Order Instructions – Cylinder Mountings Series DZB...., DZBA...., Ø 32 – 125 mm

Description	Order-No.						
	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Swivel mounting B-	PD 22704	PD 22705	PD 22706	PD 22707	PD 22708	PD 22709	PD 22034
Rear trunnion mounting BA-..	PD 23412	PD 23413	PD 23414	PD 23415	PD 23416	PD 23417	PD 23418
Rear trunnion mounting BAS-..	PD 23843	PD 23844	PD 23845	PD 23846	PD 23847	PD 23848	PD 23849
Rear flange mounting D-..	PD 23403	PD 23404	PD 23405	PD 23406	PD 23407	PD 23408	PD 23409
Centre trunnion mounting EN-..*	KL9234	KL9235	KL9236	KL9237	KL9238	KL9239	KL9240

* Position centre trunnion mounting

Standard position: Type EN1 – The taps of the EN attachment are horizontally aligned to the air supply

Option: Type EN2 – The taps of the EN attachment are vertically aligned to the air supply

Ordering Example:





Basic Cylinder: DZB5063-0500 PD27063-0500

Mounting: BAS-63 PD23846

Accessories

								
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Overview

System	Fig.	Symbol	Series	Page
Bellows Cylinder single convolution type			SP-1B..	128-132
Bellows Cylinder double convolution type			SP-2B..	128 133-136

**Bellows
Cylinders**

*Series SP...
Single convolution
Double convolution*

Bellows cylinders are single acting. They are made of neoprene rubber reinforced by 2 layers of nylon cord.

The external diameter of the bellows is largest when the cylinder is compressed. When air is introduced, they cylinder extends and the bellows diameter decreases. The longer the stroke, the more the force decreases.

There are two basic types:

Single and double convolution.

Single convolution: maximum stroke length 110 mm.

Double convolution: maximum stroke length 240 mm.

Standard delivery includes fitted end plates for the particular type.

Technical Notes

Force

The force available depends on the stroke length: see the force diagrams in the data sheets.

Maximum permissible length

Depends on the operating pressure and is shown in the force diagrams: it must not be exceeded, to avoid damage to the cylinder. The stroke must therefore be limited by an external stop.

Maximum permissible pitch

The pitch of the end plates must not exceed 30°.

Minimum permissible length (E_{min}) and maximum permissible length (E_{max}), must be observed.

Minimum permissible length

Is shown in the dimension tables and must be observed: be sure to provide an external limit stop.

Medium

Air, Water (with glycol additives) and brake fluid. (No hydraulic fluids)

Oil resistance

The amount of oil necessary for lubricating pneumatic systems and moderate external oil contamination are harmless.

Operating pressure range

Is 2-8 bar for the standard 2 ply cylinder.

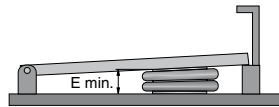
Temperature range

-40 to +70°C

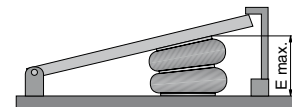
Special versions

Are available on request, e.g. larger diameters, higher temperature ranges, open ended with mounting rings, etc..



Position at minimum permissible length



Position at maximum permissible length



Installation Size

Series	Port size	Type	Force
	G1/4	SP-1B04	See force diagrams
	G1/4	SP-1B05	
	G1/4	SP-1B07	
	G3/4	SP-1B12	
	G3/4	SP-1B22	
	G3/4	SP-1B34	
	G1/4	SP-2B04	
	G1/4	SP-2B05	
	G1/4	SP-2B05A	
	G1/4	SP-2B07	
	G3/4	SP-2B12	
	G3/4	SP-2B22	
	G3/4	SP-2B34	

Characteristics

Characteristics	Symbol	Unit	Description
System			Single acting
Mounting			See drawing
Tube connection			Thread
Ambient temperature range	T_{min} T_{max}	°C °C	- 40 higher temperature ranges on request +70
Installation			Max. pitch of end plates 30°, max. deviation of axes to one another must be less than 10 mm. Both limits of stroke have to be limited by external stops. Return has to be effected by external force.
Medium			Filtered and unlubricated compressed air
Material			End plates of steel, galvanized and chromium anodized; Mounting rings of aluminium. Bellows-neoprene with nylon cord lining.
Operating pressure range	p_{max}	bar	8 (for cushioning duty = 7 bar)

Bellows Cylinder

Series SP-1B..
Single convolution

Stroke, Weight, Frequency

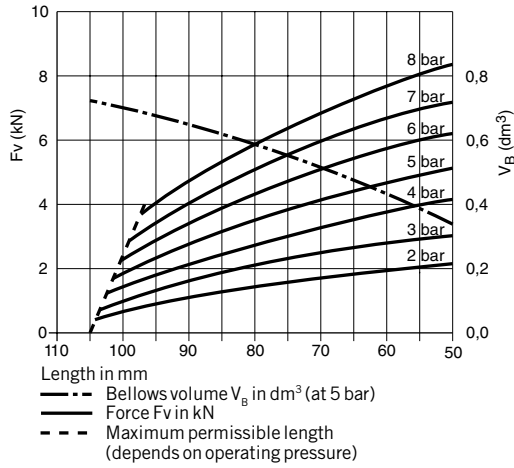
Type	Stroke max. (mm)	Weight (mass) (kg)	Frequency ¹⁾ (Hz)
SP-1B04	55	0.85	3 (when E = 80)
SP-1B05	45	1.0	4 (when E = 75)
SP-1B07	90	2.1	2.8 (when E = 90)
SP-1B12	100	2.7	2.4 (when E = 100)
SP-1B22	110	4.5	2.1 (when E = 120)
SP-1B34	110	5.5	2.1 (when E = 120)

¹⁾ Nominal values at p_{max}

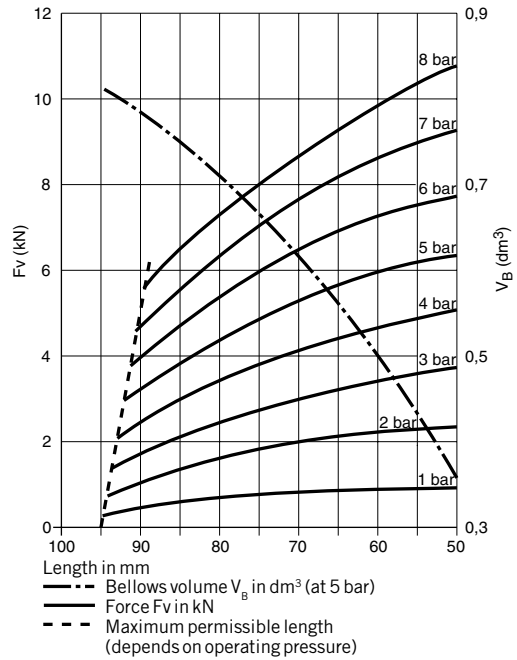


Force Diagrams – Series SP-1B..

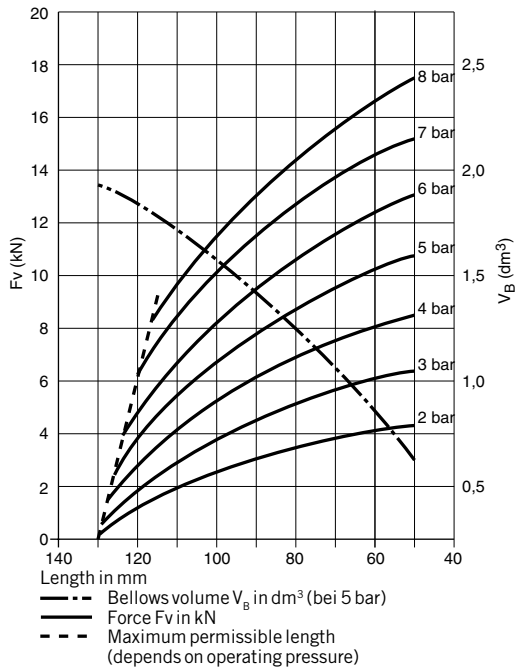
Type: SP-1B04, Stroke: max. 55 mm



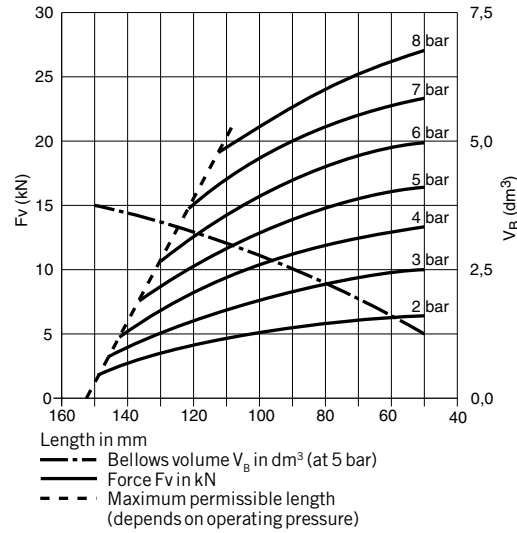
Type: SP-1B05, Stroke: max. 45 mm



Type: SP-1B07, Stroke: max. 90 mm

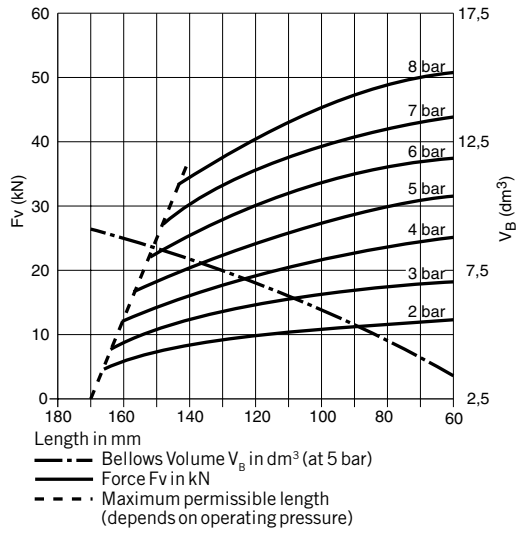


Type: SP-1B12, Stroke: max. 100 mm

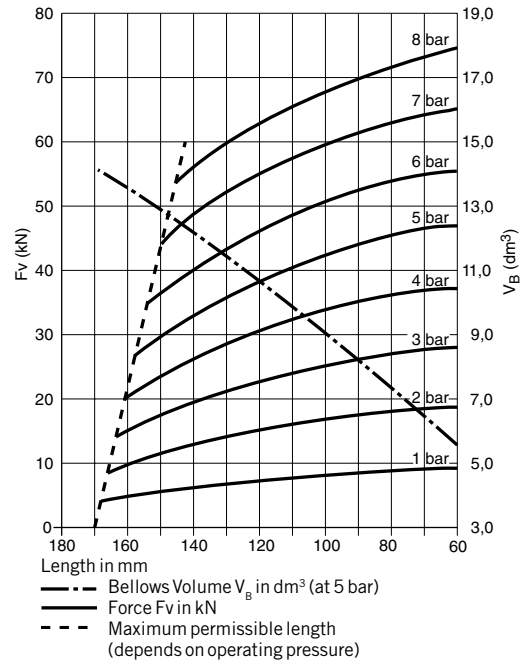


Force Diagrams – Series SP-1B..

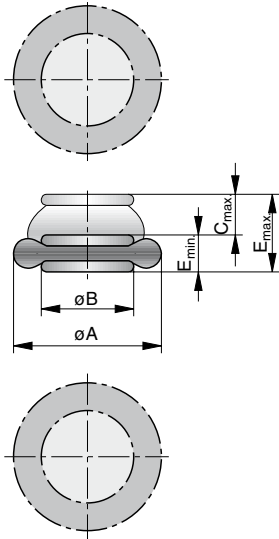
Type: SP-1B22, Stroke: max. 110 mm



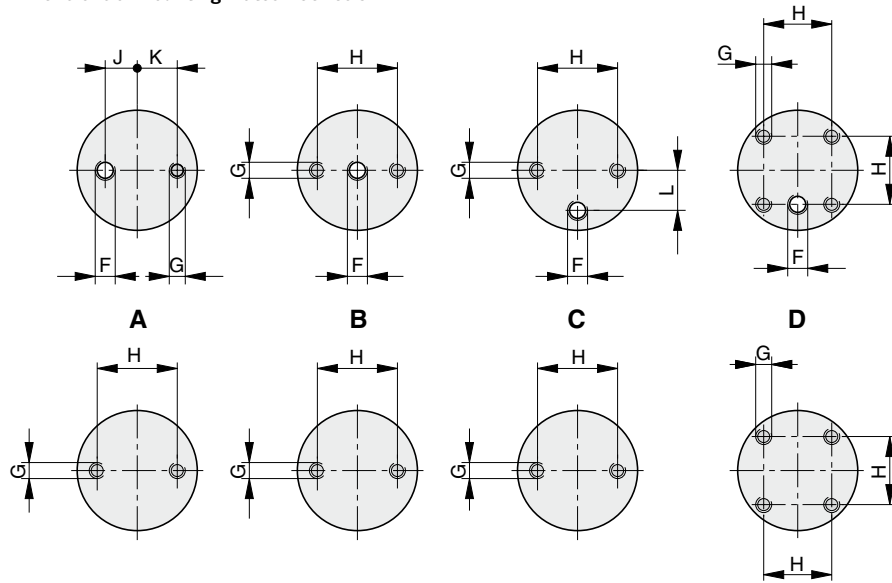
Type: SP-1B34, Stroke: max. 110 mm



**Dimensions
Series SP-1B..**



Dimensions of Mounting Plates – Series SP-1B..



Dimension Table (mm) and Order Instructions

Type	Order-No.	Mounting plate	ØA at 8 bar	ØB	C _{max} **	E _{max} **	E _{min}	F	G*	H	J	K	L
SP-1B04	KY9500	A	150	88	55	105	50	G1/4	M8	22	9	11	-
SP-1B05	KY8401	B	165	110	45	95	50	G1/4	M8	44.5	-	-	-
SP-1B07	KY9501	C	205	135	80	130	50	G1/4	M8	54	-	-	27
SP-1B12	KY9502	C	250	160	100	150	50	G3/4	M8	89	-	-	38
SP-1B22	KY9590	C	350	229	110	170	60	G3/4	M12	157.5	-	-	73
SP-1B34	KY8010	D	420	288	110	170	60	G3/4	M8	158.8	-	-	-

* 15 deep

**These dimensions depend on the operating pressure: see force diagrams

Characteristics

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Operating pressure range	p_{max}	bar	8 (for cushioning duty = 7 bar)

Bellows Cylinder

Series SP-2B..
Double convolution

Stroke, Weight, Frequency

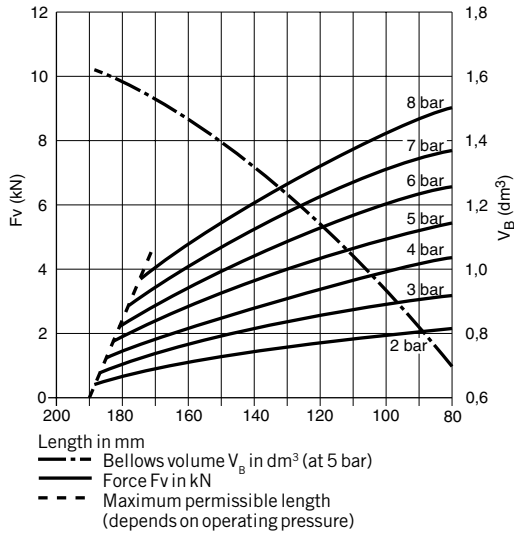
Type	Stroke max. (mm)	Weight (mass) (kg)	Frequency ¹⁾ (Hz)
SP-2B04	110	1.1	2.3 (when E = 80)
SP-2B05	80	1.2	2.5 (when E = 120)
SP-2B05A	105	1.25	2.3 (when E = 140)
SP-2B07	125	2.6	1.9 (when E = 160)
SP-2B12	150	3.5	1.8 (when E = 180)
SP-2B22	170	4.9	1.7 (when E = 190)
SP-2B34	170	6.8	1.7 (when E = 190)

¹⁾Nominal values at p_{max}

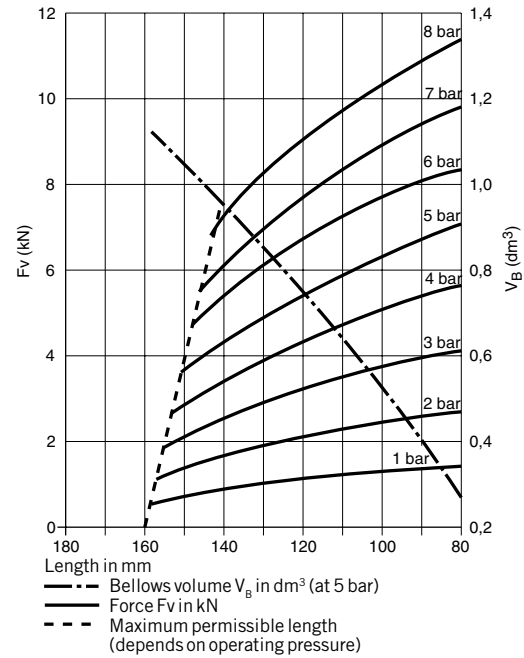


Force Diagrams – Series SP-2B..

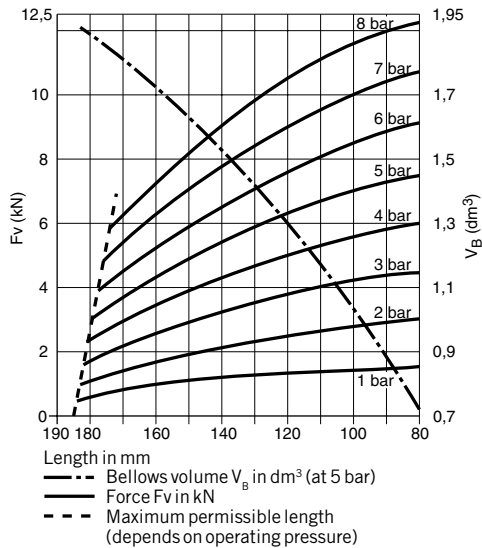
Type: SP-2B04, Stroke: max. 110 mm



Type: SP-2B05, Stroke: max. 80 mm



Type: SP-2B05A, Stroke: max. 105 mm



Type: SP-2B07, Stroke: max. 125 mm

