

Bellows Suction Cups SPB2 (2.5 Folds)

Suction area (Ø) from 20 mm to 50 mm



Suitability for Industry Specific Applications

Applications

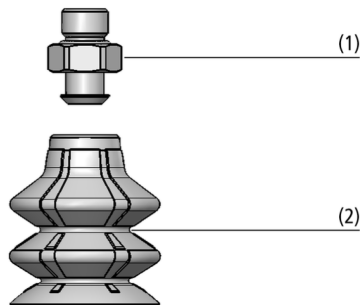
- Round bellows suction cups with 2.5 folds for use in carton and tray erectors with high demands on suction cup stroke, dynamics and wear resistance
- Handling of non-rigid workpieces such as filled cardboard boxes for palletizing and depalletizing processes
- Applications which require high adaptability and high height compensation, such as taking cartons from a magazine in rotary erectors
- Handling of cardboards, inherently stable and flexible packaging in top-loading and side-loading machines



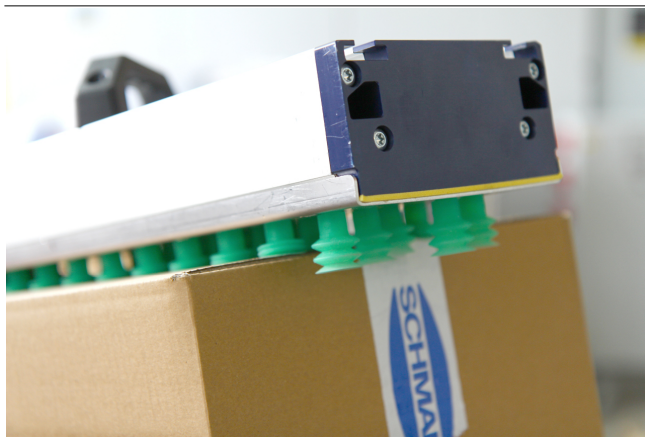
Bellows Suction Cups SPB2 (2.5 Folds)

Design

- Round bellows suction cup SPB2 with 2.5 folds (2) and flexible sealing lip
- Diameter up to 30 mm with a one-piece plug-in connection element (1)
- Starting at 40 mm diameter with a two-piece connection element: consisting of machine-side component and suction cup-side component
- Available as assembled suction cups consisting of connection element and suction cup or as individual parts



System Design Bellows Suction Cups SPB2 (2.5 Folds)



Bellows suction cups SPB2 being used for handling of cardboard boxes

Product Highlights

- Large suction cup stroke for optimum adaptation to curved surfaces
- Large inner fold diameters enables high flow rates for short cycle times
- Flexible sealing lip optimized for cardboard boxes and rigid packaging
- Spacing elements between sealing lip and fold prevent the suction cup from moving

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Designation Code Bellows Suction Cups SPB2 (2.5 Folds)

SPB2	-	30	-	ED-65	-	G1/8-AG
1		2		3		4

1 – Abbreviated designation

Code	Version
SPB2	2.5 folds

2 – Suction area

Code	Diameter in mm
20...50	ø 20 to 50

3 – Material

Code	Material
ED-65	Elastodur

4 – Connection

Code	Connection
G1/8-AG	G1/8-AG (AG = male (M))
G1/8-IG	G1/8-IG (IG = female (F))
G1/4-AG	G1/4-AG
G1/4-IG	G1/4-IG

Suction cup SPB2 (elastomer part + connection element) is delivered assembled. The assembly consists of:

- Suction cup of type SPB2 - elastomer part, available in various diameters
- Connection element of type SC - available with various threads

Available spare parts: suction cup SPB2, connection element (Schmalz-Connector)

Available accessories: pad insert SPI

Ordering Data Bellows Suction Cups SPB2 (2.5 Folds)

Type		Vacuum connection:			
		G1/8-IG	G1/8-AG	G1/4-IG	G1/4-AG
SPB2	20	10.01.06.03454	10.01.06.03453	-	-
SPB2	25	10.01.06.03456	10.01.06.03455	-	-
SPB2	30	10.01.06.03458	10.01.06.03457	-	-
SPB2	40	-	-	10.01.06.03460	10.01.06.03459
SPB2	50	-	-	10.01.06.03462	10.01.06.03461

Ordering Data Spare Parts Bellows Suction Cups SPB2 (2.5 Folds)

Type	Spare Parts		Part no.
SPB2 20	Bellows suction cup (round)	SPB2 20 ED-65 SC040	10.01.06.03409
SPB2 25	Bellows suction cup (round)	SPB2 25 ED-65 SC040	10.01.06.03410
SPB2 30	Bellows suction cup (round)	SPB2 30 ED-65 SC040	10.01.06.03411
SPB2 40	Bellows suction cup (round)	SPB2 40 ED-65 SC050	10.01.06.03412
SPB2 50	Bellows suction cup (round)	SPB2 50 ED-65 SC050	10.01.06.03413

Type	Spare Parts		Part no.
SPB2 20 ED-65 G1/8-AG	Schmalz-Connector	SC 040 G1/8-AG	10.01.06.02490
SPB2 20 ED-65 G1/8-IG	Schmalz-Connector	SC 040 G1/8-IG	10.01.06.02482
SPB2 25 ED-65 G1/8-AG	Schmalz-Connector	SC 040 G1/8-AG	10.01.06.02490
SPB2 25 ED-65 G1/8-IG	Schmalz-Connector	SC 040 G1/8-IG	10.01.06.02482
SPB2 30 ED-65 G1/8-AG	Schmalz-Connector	SC 040 G1/8-AG	10.01.06.02490
SPB2 30 ED-65 G1/8-IG	Schmalz-Connector	SC 040 G1/8-IG	10.01.06.02482
SPB2 40 ED-65 G1/4-AG	Schmalz-Connector	SC 050 G1/4-AG MOD	10.01.06.02487
SPB2 40 ED-65 G1/4-IG	Schmalz-Connector	SC 050 G1/4-IG MOD	10.01.06.02488
SPB2 50 ED-65 G1/4-AG	Schmalz-Connector	SC 050 G1/4-AG MOD	10.01.06.02487
SPB2 50 ED-65 G1/4-IG	Schmalz-Connector	SC 050 G1/4-IG MOD	10.01.06.02488

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Ordering Data Accessories Bellows Suction Cups SPB2 (2.5 Folds)

Type		Accessories		Part no.
SPB2	20	Cup insert PA	SPI 20 PA SPB2-20	10.01.06.04041
SPB2	25	Cup insert PA	SPI 25 PA SPB2-25	10.01.06.04042
SPB2	30	Cup insert PA	SPI 30 PA SPB2-30	10.01.06.04043
SPB2	40	Cup insert PA	SPI 40 PA SPB2-40	10.01.06.04044
SPB2	50	Cup insert PA	SPI 50 PA SPB2-50	10.01.06.04045

Technical Data Bellows Suction Cups SPB2 (2.5 Folds)

Type		Suction force (-600 mbar) [N]*	Pull-off force [N]	Lateral force [N]	Volume [cm ³]	Workpiece radius min. (convex) [mm]	Hose diameter (recom.) d [mm]**
SPB2	20	6.8	15.7	8.4	4.2	20	4
SPB2	25	9.9	20.1	9.1	7.6	20	4
SPB2	30	14.4	28.4	12.8	12.4	30	6
SPB2	40	24.8	40.5	20.3	27.9	60	6
SPB2	50	34.6	61.8	28.5	51.8	75	6

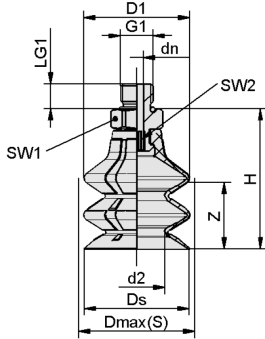
*The specified suction forces are theoretical values at a vacuum of -0.6 bar and with a smooth, dry workpiece surface - they do not include a safety factor

**The recommended hose diameter is based on a hose length of approx. 2 m

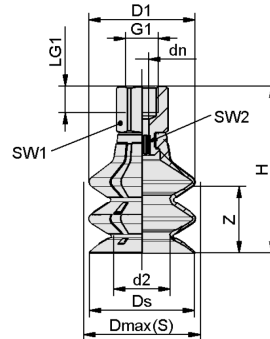
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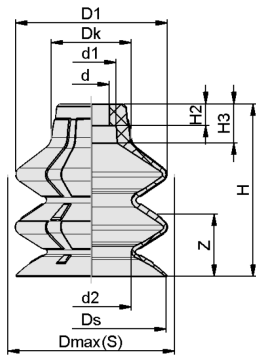
Design Data Bellows Suction Cups SPB2 (2.5 Folds)



SPB2 AG



SPB2 IG



SPB2

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Design Data Bellows Suction Cups SPB2 (2.5 Folds)

Type*	d2 [mm]	dn [mm]	D1 [mm]	Dmax(S) [mm]**	Ds [mm]	G1	H [mm]	LG1 [mm]	SW1 [mm]	SW2 [mm]	Z (Stroke) [mm]
SPB2 20 ED-65 G1/8- AG	12.0	4.0	22.1	23.5	21.4	G1/8"-M	32	7.5	14	4	13
SPB2 20 ED-65 G1/8-IG	12.0	4.0	22.1	23.5	21.4	G1/8"-F	40	8.0	14	4	13
SPB2 25 ED-65 G1/8- AG	14.5	4.0	27.2	28.0	26.4	G1/8"-M	37	7.5	14	4	17
SPB2 25 ED-65 G1/8-IG	14.5	4.0	27.2	28.0	26.4	G1/8"-F	45	8.0	14	4	17
SPB2 30 ED-65 G1/8- AG	16.9	4.0	32.2	34.0	31.4	G1/8"-M	43	7.5	14	4	20
SPB2 30 ED-65 G1/8-IG	16.9	4.0	32.2	34.0	31.4	G1/8"-F	51	8.0	14	4	20
SPB2 40 ED-65 G1/4- AG	22.9	6.1	42.2	44.5	41.3	G1/4"-M	53	10.0	17	6	25
SPB2 40 ED-65 G1/4-IG	22.9	6.1	42.2	44.5	41.3	G1/4"-F	63	12.0	17	6	25
SPB2 50 ED-65 G1/4- AG	27.1	6.1	52.2	55.5	51.3	G1/4"-M	64	10.0	17	6	32
SPB2 50 ED-65 G1/4-IG	27.1	6.1	52.2	55.5	51.3	G1/4"-F	74	12.0	17	6	32

*Acceptable dimensional tolerances for rubber parts concerning to DIN ISO 3302-1 E3

**External dimension of the suction cup when it is pressed against the workpiece by the vacuum

Type*	d [mm]	d1 [mm]	d2 [mm]	D1 [mm]	Dk [mm]	Dmax(S) [mm]**	Ds [mm]	H [mm]	H2 [mm]	H3 [mm]	Z (Stroke) [mm]	
SPB2	20	7.5	10.5	12.0	22.2	15.0	23.5	21.4	25.3	4.6	7.0	13.0
SPB2	25	7.5	10.5	14.5	27.2	15.5	28.0	26.4	30.9	4.6	7.8	17.0
SPB2	30	7.5	10.5	16.9	32.2	16.8	34.0	31.4	36.2	4.6	7.9	20.0
SPB2	40	11.0	17.3	22.9	42.2	22.5	44.5	41.3	45.0	7.0	9.9	25.0
SPB2	50	11.0	17.3	27.1	52.2	23.5	55.5	51.3	55.9	7.0	11.6	32.0

*Acceptable dimensional tolerances for rubber parts concerning to DIN ISO 3302-1 E3

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