

## Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor

Suction area (Ø) 20 mm and 40 mm



### Suitability for industry specific applications



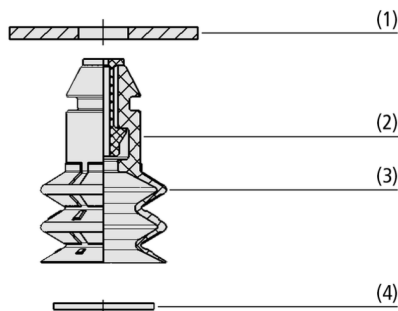
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### Application

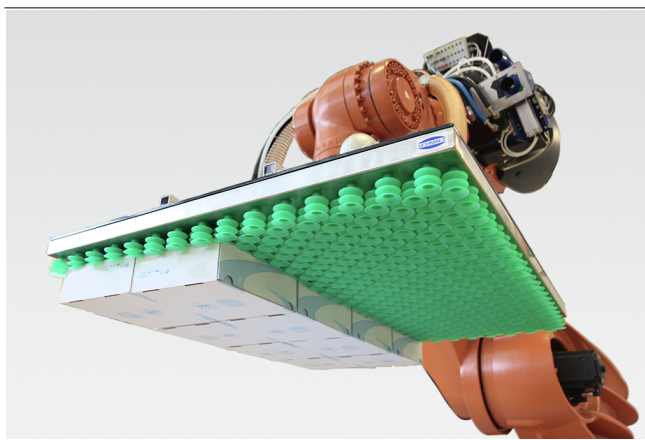
- Round bellows suction cup with 2.5 folds used for palletizing and depalletizing processes in the packaging industry
- Handling of packaging materials such as cardboards, rigid and flexible packaging
- Handling of blister packaging, shrink-wrapped products, plastic bags or trays
- Used in area gripping systems and "suction cup carpets"; integrated flow restrictor to reduce leakage occurring at partial occupancy

### Design

- Round bellows suction cup SPB2 P with 2.5 folds (3) and soft, flexible sealing lip
- Integrated flow restrictor (2) with diameters from 0.8 to 1.5 mm
- Machine side existing hole for tool-free assembly through push-in function (1)
- Optional integration of filter screen (4) as a pre-filter (120 µm filter pore size)



System design Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor



Bellows suction cups SPB2 P being used for handling of cardboard boxes

### Product highlights

- Fast, tool-free installation and removal through push-in function
- Flexible sealing lip optimized for cardboard boxes, packaging material and other unstable surfaces
- Soft bellows suction with large stroke at low restoring force ideal for use in gripping systems
- FDA compliant silicone SI allows direct food contact

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## Designation code Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor

<b>SPB2</b>	-	<b>20</b>	-	<b>SI-40</b>	-	<b>SW80</b>	-	<b>P</b>
1		2		3		4		5

### 1 – Abbreviated designation

Code	Version
SPB2	2.5 folds

### 2 – Suction area

Code	Diameter in mm
20...40	ø 20 and 40

### 3 – Material

Code	Material
SI-40	Silicone
SI-55	Silicone

### 4 – Flow restrictor

Code	Diameter in mm
SW80	ø 0.8
SW100	ø 1
SW130	ø 1.3
SW150	ø 1.5

### 5 – Product addition

Code	Type
P	Push-in function

Bellows suction cup SPB2 P is delivered as a ready-to-connect component. Available in different diameters.

Available spare parts: suction cup SPB2 P, flow restrictor  
 Available accessories: filter disc

## Ordering data Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor

Type	Part no.
SPB2 20 SI-40 SW80 P	10.01.06.03220
SPB2 20 SI-40 SW100 P	10.01.06.03221
SPB2 20 SI-40 SW130 P	10.01.06.03222
SPB2 20 SI-40 SW150 P	10.01.06.03223
SPB2 40 SI-55 SW80 P	10.01.06.03224
SPB2 40 SI-55 SW100 P	10.01.06.03225
SPB2 40 SI-55 SW130 P	10.01.06.03226
SPB2 40 SI-55 SW150 P	10.01.06.03227

## Ordering data Spare parts Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor

Type	Spare parts	Part no.
SPB2 20 SI-40 SW80 P	Bellows suction cup (round)	SPB2 20 SI-40 P
SPB2 20 SI-40 SW100 P	Bellows suction cup (round)	SPB2 20 SI-40 P
SPB2 20 SI-40 SW130 P	Bellows suction cup (round)	SPB2 20 SI-40 P
SPB2 20 SI-40 SW150 P	Bellows suction cup (round)	SPB2 20 SI-40 P
SPB2 40 SI-55 SW80 P	Bellows suction cup (round)	SPB2 40 SI-55 P
SPB2 40 SI-55 SW100 P	Bellows suction cup (round)	SPB2 40 SI-55 P
SPB2 40 SI-55 SW130 P	Bellows suction cup (round)	SPB2 40 SI-55 P
SPB2 40 SI-55 SW150 P	Bellows suction cup (round)	SPB2 40 SI-55 P

Type	SW 80 P 7.3	SW 100 P 7.3	SW 130 P 7.3	SW 150 P 7.3
SPB2 0.8	10.05.04.00090	-	-	-
SPB2 1.0	-	10.05.04.00091	-	-
SPB2 1.3	-	-	10.05.04.00092	-
SPB2 1.5	-	-	-	10.05.04.00093

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### Ordering data Accessories Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor

Type		Accessories		Part no.
SPB2	20	Filter disc	FD 16 120	10.01.06.02565
SPB2	40	Filter disc	FD 34 120	10.01.06.02572

### Technical data Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor

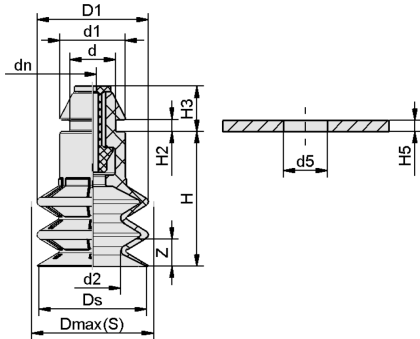
Type		Suction force (-600 mbar) [N]*	Pull-off force [N]	Workpiece radius min. (convex) [mm]	Volume [cm <sup>3</sup> ]
SPB2	20	4.9	8	25	2.5
SPB2	40	14.9	40	75	22.0

\*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

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### Design data Bellows Suction Cups SPB2 P (2.5 Folds) Flow Restrictor



SPB2 P

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Type*			d [mm]	d1 [mm]	d2 [mm]	d5 [mm]	D1 [mm]	Dmax(S) [mm]**	dn [mm]	Ds [mm]	H [mm]	H2 [mm]	H3 [mm]	H5 [mm]	Z (Stroke) [mm]
SPB2	20	0.80	8.5	11.8	10.2	7.9	20.0	20.5	0.8	19.6	24.3	2.2	8.2	2	9
SPB2	20	1.00	8.5	11.8	10.2	7.9	20.0	20.5	1.0	19.6	24.3	2.2	8.2	2	9
SPB2	20	1.30	8.5	11.8	10.2	7.9	20.0	20.5	1.3	19.6	24.3	2.2	8.2	2	9
SPB2	20	1.50	8.5	11.8	10.2	7.9	20.0	20.5	1.5	19.6	24.3	2.2	8.2	2	9
SPB2	40	0.80	12.5	15.7	17.8	11.5	43.5	44.6	0.8	42.7	47.0	2.2	8.2	2	20
SPB2	40	1.00	12.5	15.7	17.8	11.5	43.5	44.6	1.0	42.7	47.0	2.2	8.2	2	20
SPB2	40	1.30	12.5	15.7	17.8	11.5	43.5	44.6	1.3	42.7	47.0	2.2	8.2	2	20
SPB2	40	1.50	12.5	15.7	17.8	11.5	43.5	44.6	1.5	42.7	47.0	2.2	8.2	2	20

\*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