

# Bellows Suction Cups SPB2 (2.5 Folds)

Suction area (Ø) from 20 mm to 50 mm



## Suitability for Industry Specific Applications

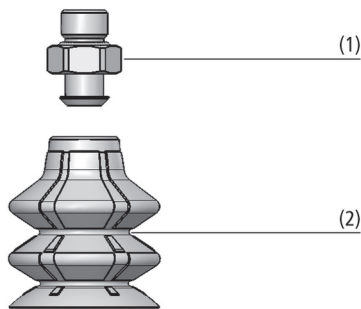


Bellows Suction Cups SPB2 (2.5 Folds)

## Applications

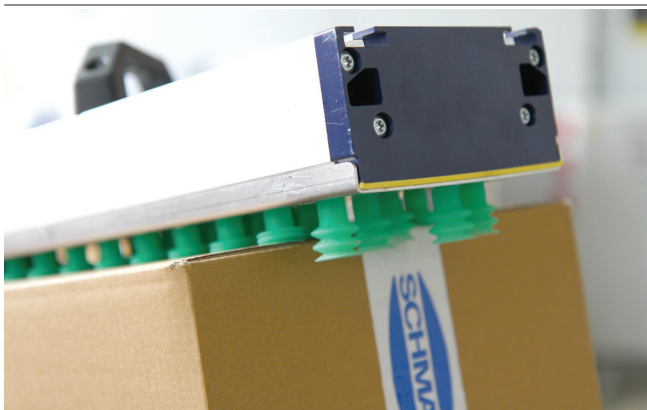
- Round bellows suction cups with 2.5 folds for use in carton and tray erectors with high demands on suction cup stroke, dynamics and wear resistance
- Handling of non-rigid workpieces such as filled cardboard boxes for palletizing and depalletizing processes
- Applications which require high adaptability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

## 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)
- From diameter 40 mm with two-piece connection element: consisting of machine-side component and suction cup-side component
- Available as mounted suction cup 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

## Our Highlights...

- High suction cup stroke
- Large inner fold diameters
- Flexible, adaptable sealing lip
- Locking elements between sealing lip and fold

## Your Benefits...

- Good adaptability and height adjustment on curved surfaces
- High volume flow rates and short cycle times
- Good sealing on cardboard and rigid packaging
- Gearing prevents shifting of suction cup

# Bellows Suction Cups SPB2 (2.5 Folds)

Suction area (Ø) from 20 mm to 50 mm

## Designation Code Bellows Suction Cups SPB2 (2.5 Folds)

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

### 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
G1/4-AG	G1/4-AG (AG = male (M))
G1/4-IG	G1/4-IG (IG = female (F))
G1/8-AG	G1/8-AG
G1/8-IG	G1/8-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:			
		G1/4-AG	G1/4-IG	G1/8-AG	G1/8-IG
SPB2	20	-	-	10.01.06.03453	10.01.06.03454
SPB2	25	-	-	10.01.06.03455	10.01.06.03456
SPB2	30	-	-	10.01.06.03457	10.01.06.03458
SPB2	40	10.01.06.03459	10.01.06.03460	-	-
SPB2	50	10.01.06.03461	10.01.06.03462	-	-

## 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

# Bellows Suction Cups SPB2 (2.5 Folds)

Suction area (Ø) from 20 mm to 50 mm



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

Type	Spare Parts		Part no.
SPB2 40 ED-65 G1/4-AG	Schmalz-Connector	SC 050 G1/4-AG	10.01.06.02487
SPB2 40 ED-65 G1/4-IG	Schmalz-Connector	SC 050 G1/4-IG	10.01.06.02488
SPB2 50 ED-65 G1/4-AG	Schmalz-Connector	SC 050 G1/4-AG	10.01.06.02487
SPB2 50 ED-65 G1/4-IG	Schmalz-Connector	SC 050 G1/4-IG	10.01.06.02488



## Ordering Data Accessories Bellows Suction Cups SPB2 (2.5 Folds)

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



## Technical Data Bellows Suction Cups SPB2 (2.5 Folds)

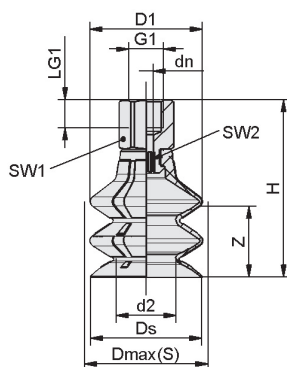
Type	Suction force [N]*	Pull-off force [N]	Lateral force [N]	Volume [cm³]	Workpiece radius min. (convex) [mm]	Hose diameter (recom.) d [mm]**
SPB2 20	6.8	15.7	8.4	4.2	20	4
SPB2 25	9.9	20.1	9.1	7.6	20	4
SPB2 30	14.4	28.4	12.8	12.4	30	6
SPB2 40	24.8	40.5	20.3	27.9	60	6
SPB2 50	34.6	61.8	28.5	51.8	75	6

\*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

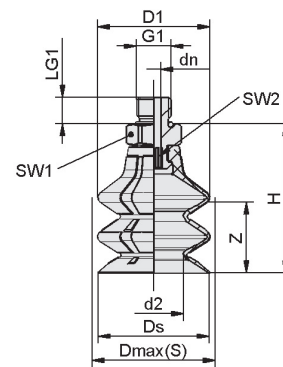
\*\*The recommended hose diameter refers to a hose length of approx. 2 m



## Design Data Bellows Suction Cups SPB2 (2.5 Folds)



SPB2 IG



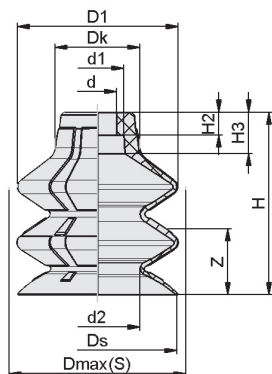
SPB2 AG

Schmalz – The Company  
 Vacuum Suction Cups  
 Special Grippers  
 Gripping Systems  
 Clamping Systems  
 Mounting Elements  
 Vacuum Generators  
 Valve Technology  
 Switches and Monitoring  
 Filters and Connections  
 Services  
 Contact  
 Glossary  
 Index of Products

# Bellows Suction Cups SPB2 (2.5 Folds)

Suction area (Ø) from 20 mm to 50 mm

## Design Data Bellows Suction Cups SPB2 (2.5 Folds)



SPB2

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 M3

\*\*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 M3

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

Schmalz - The Company  
 Vacuum Suction Cups  
 Special Grippers  
 Gripping Systems  
 Clamping Systems  
 Mounting Elements  
 Vacuum Generators  
 Valve Technology  
 Switches and Monitoring  
 Filters and Connections  
 Services  
 Contact  
 Glossary  
 Index of Products