

Bellows Suction Cups SPB4f (4.5 Folds)

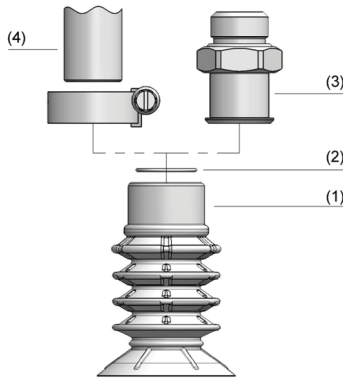
Suction area (Ø) from 30 mm to 50 mm



Suitability for Industry Specific Applications



Bellows Suction Cups SPB4f (4.5 Folds)



System Design Bellows Suction Cups SPB4f (4.5 Folds)



Bellows suction cup SPB4f for handling pouches

Applications

- Round, bellows suction cup with 4.5 folds for handling pouches and other very flexible packaging
- Reliable gripping and handling especially of pouches and packaging with low filling degree as well as liquid, solid or powder filled pouches
- For use in fast packaging processes, particularly together with delta robots (case packers and pick-and-place applications)

Design

- Bellows suction cup SPB4f with 4.5 folds (1) as well as soft, flexible sealing lip with segmented flow fins and integrated bag stabilizer
- Very large shaft diameter for high volume flow rates
- Special reinforced bellows for additional stability
- Installation using the Schmalz connection element SC (3); alternatively by attaching directly onto a pipe (4) on the machine side and fixing with a hose clamp
- All connection elements SC with male thread are equipped with an integrated sealing ring
- Optional filter as pre-filter (2)

Our Highlights...

- Suction cup made from FDA compliant silicone SI
- Integrated pouch stabilizer
- Reinforced basic body and folds
- Very large nominal diameter
- Extremely flexible and adaptable sealing lip

Your Benefits...

- Can be used directly in the food industry
- Pouch stabilization; thin and soft plastic films are not drawn in
- Secure gripping with high lateral loads
- High volume flow rates and short cycle times
- Optimal sealing on pouches with strong wrinkles



- 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 SPB4f (4.5 Folds)

Suction area (Ø) from 30 mm to 50 mm

Designation Code Bellows Suction Cups SPB4f (4.5 Folds)

SPB4f	-	40	-	SI-55	-	G1/8-IG
1		2		3		4

1 – Abbreviated designation

Code	Version
SPB4f	4.5 folds

2 – Suction area

Code	Diameter in mm
30...50	ø 30 to 50

3 – Material

Code	Material
SI-55	Silicone

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
G3/8-AG	G3/8-AG
G3/8-IG	G3/8-IG
G1/2-AG	G1/2-AG
G1/2-IG	G1/2-IG

Suction cup SPB4f (elastomer part + connection element) with integrated bag stabilizer is delivered assembled.

The assembly consists of:

- Suction cup of type SPB4f – elastomer part, available in various diameters
- Connection element of type SC – available with various threads

Available spare parts: suction cup SPB4f, Schmalz-Connector

Available accessories: filter screen (sieve, round), hose clamp

Ordering Data Bellows Suction Cups SPB4f (4.5 Folds)

Type	Part no.
SPB4f 30 SI-55 G1/8-AG	10.01.06.03538
SPB4f 30 SI-55 G1/8-IG	10.01.06.03541
SPB4f 30 SI-55 G1/4-AG	10.01.06.03539
SPB4f 30 SI-55 G1/4-IG	10.01.06.03542
SPB4f 30 SI-55 G3/8-AG	10.01.06.03540
SPB4f 30 SI-55 G3/8-IG	10.01.06.03543
SPB4f 40 SI-55 G1/8-AG	10.01.06.03544
SPB4f 40 SI-55 G1/8-IG	10.01.06.03547
SPB4f 40 SI-55 G1/4-AG	10.01.06.03545
SPB4f 40 SI-55 G1/4-IG	10.01.06.03548
SPB4f 40 SI-55 G3/8-AG	10.01.06.03546
SPB4f 40 SI-55 G3/8-IG	10.01.06.03549
SPB4f 50 SI-55 G1/8-AG	10.01.06.03550
SPB4f 50 SI-55 G1/8-IG	10.01.06.03554
SPB4f 50 SI-55 G1/4-AG	10.01.06.03551
SPB4f 50 SI-55 G1/4-IG	10.01.06.03555
SPB4f 50 SI-55 G3/8-AG	10.01.06.03552
SPB4f 50 SI-55 G3/8-IG	10.01.06.03556
SPB4f 50 SI-55 G1/2-AG	10.01.06.03553
SPB4f 50 SI-55 G1/2-IG	10.01.06.03557

Bellows Suction Cups SPB4f (4.5 Folds)

Suction area (\varnothing) from 30 mm to 50 mm

Ordering Data Spare Parts Bellows Suction Cups SPB4f (4.5 Folds)

Type	Spare Parts		Part no.
SPB4f 30	Bellows suction cup (round)	SPB4f 30 SI-55 SC080	10.01.06.03264
SPB4f 40	Bellows suction cup (round)	SPB4f 40 SI-55 SC080	10.01.06.03265
SPB4f 50	Bellows suction cup (round)	SPB4f 50 SI-55 SC090	10.01.06.03266

Type	Spare Parts		Part no.
SPB4f 30 SI-55 G1/8-AG	Schmalz-Connector	SC 080 G1/8-AG	10.01.06.03142
SPB4f 30 SI-55 G1/8-IG	Schmalz-Connector	SC 080 G1/8-IG	10.01.06.03270
SPB4f 30 SI-55 G1/4-AG	Schmalz-Connector	SC 080 G1/4-AG	10.01.06.03268
SPB4f 30 SI-55 G1/4-IG	Schmalz-Connector	SC 080 G1/4-IG	10.01.06.03271
SPB4f 30 SI-55 G3/8-AG	Schmalz-Connector	SC 080 G3/8-AG	10.01.06.02593
SPB4f 30 SI-55 G3/8-IG	Schmalz-Connector	SC 080 G3/8-IG	10.01.06.02594
SPB4f 40 SI-55 G1/8-AG	Schmalz-Connector	SC 080 G1/8-AG	10.01.06.03142
SPB4f 40 SI-55 G1/8-IG	Schmalz-Connector	SC 080 G1/8-IG	10.01.06.03270
SPB4f 40 SI-55 G1/4-AG	Schmalz-Connector	SC 080 G1/4-AG	10.01.06.03268
SPB4f 40 SI-55 G1/4-IG	Schmalz-Connector	SC 080 G1/4-IG	10.01.06.03271
SPB4f 40 SI-55 G3/8-AG	Schmalz-Connector	SC 080 G3/8-AG	10.01.06.02593
SPB4f 40 SI-55 G3/8-IG	Schmalz-Connector	SC 080 G3/8-IG	10.01.06.02594
SPB4f 50 SI-55 G1/8-AG	Schmalz-Connector	SC 090 G1/8-AG	10.01.06.03269
SPB4f 50 SI-55 G1/8-IG	Schmalz-Connector	SC 090 G1/8-IG	10.01.06.03272
SPB4f 50 SI-55 G1/4-AG	Schmalz-Connector	SC 090 G1/4-AG	10.01.06.02793
SPB4f 50 SI-55 G1/4-IG	Schmalz-Connector	SC 090 G1/4-IG	10.01.06.03273
SPB4f 50 SI-55 G3/8-AG	Schmalz-Connector	SC 090 G3/8-AG	10.01.06.02791
SPB4f 50 SI-55 G3/8-IG	Schmalz-Connector	SC 090 G3/8-IG	10.01.06.03274
SPB4f 50 SI-55 G1/2-AG	Schmalz-Connector	SC 090 G1/2-AG	10.01.06.02595
SPB4f 50 SI-55 G1/2-IG	Schmalz-Connector	SC 090 G1/2-IG	10.01.06.02596



Ordering Data Accessories Bellows Suction Cups SPB4f (4.5 Folds)

Type	Accessories		Part no.
SPB4f 30	Sieve, round	SIEB 17x0.8 MS-A2 103 0.103/0.07	10.07.01.00320
SPB4f 40	Sieve, round	SIEB 17x0.8 MS-A2 103 0.103/0.07	10.07.01.00320
SPB4f 50	Sieve, round	SIEB 19.5x1 MS-A2 103	10.07.01.00321

Type	Accessories		Part no.
SPB4f 30	Hose clamp	SSB 16-27 ST-VZ	10.07.10.00002
SPB4f 40	Hose clamp	SSB 16-27 ST-VZ	10.07.10.00002
SPB4f 50	Hose clamp	SSB 20-32 ST-VZ	10.07.10.00003



Technical Data Bellows Suction Cups SPB4f (4.5 Folds)

Type	Suction force at -200 mbar [N]	Suction force at -400 mbar [N]	Suction force [N]*	Volume [cm ³]
SPB4f 30	4.3	8.5	12.80	6.0
SPB4f 40	6.8	13.6	20.40	15.2
SPB4f 50	13.7	27.3	41.00	33.2

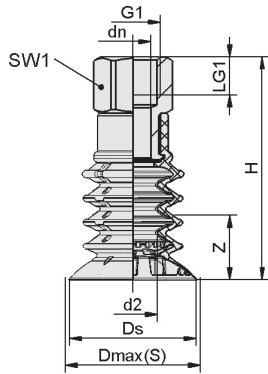
*The specified suction forces are theoretical values at a vacuum of -0.6 bar and with a smooth, dry workpiece surface - they do not include a safety factor



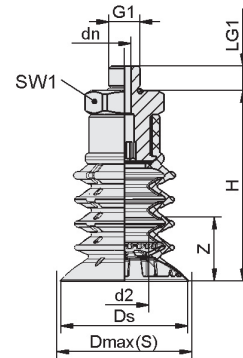
Bellows Suction Cups SPB4f (4.5 Folds)

Suction area (Ø) from 30 mm to 50 mm

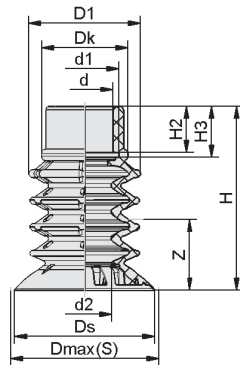
Design Data Bellows Suction Cups SPB4f (4.5 Folds)



SPB4f IG



SPB4f AG



SPB4f

Type*	dn [mm]	d2 [mm]	Dmax(S) [mm]**	Ds [mm]	G1	H [mm]	LG1 [mm]	SW1 [mm]	Z (Stroke) [mm]
SPB4f 30 SI-55 G1/8-AG	4.0	12.3	32.0	30.7	G1/8"-M	47.5	7.5	22	10
SPB4f 30 SI-55 G1/8-IG	8.6	12.3	32.0	30.7	G1/8"-F	57.5	12.0	22	10
SPB4f 30 SI-55 G1/4-AG	8.0	12.3	32.0	30.7	G1/4"-M	47.5	10.0	22	10
SPB4f 30 SI-55 G1/4-IG	11.0	12.3	32.0	30.7	G1/4"-F	57.5	12.0	22	10
SPB4f 30 SI-55 G3/8-AG	10.3	12.3	32.0	30.7	G3/8"-M	47.5	10.0	22	10
SPB4f 30 SI-55 G3/8-IG	11.0	12.3	32.0	30.7	G3/8"-F	57.5	12.0	22	10
SPB4f 40 SI-55 G1/8-AG	4.0	15.3	42.0	39.7	G1/8"-M	59.5	7.5	22	20
SPB4f 40 SI-55 G1/8-IG	8.6	15.3	42.0	39.7	G1/8"-F	69.5	12.0	22	20
SPB4f 40 SI-55 G1/4-AG	8.0	15.3	42.0	39.7	G1/4"-M	59.5	10.0	22	20
SPB4f 40 SI-55 G1/4-IG	11.0	15.3	42.0	39.7	G1/4"-F	69.5	12.0	22	20
SPB4f 40 SI-55 G3/8-AG	10.3	15.3	42.0	39.7	G3/8"-M	59.5	10.0	22	20
SPB4f 40 SI-55 G3/8-IG	11.0	15.3	42.0	39.7	G3/8"-F	69.5	12.0	22	20
SPB4f 50 SI-55 G1/8-AG	4.0	21.0	52.0	49.7	G1/8"-M	72.5	7.5	27	26
SPB4f 50 SI-55 G1/8-IG	8.6	21.0	52.0	49.7	G1/8"-F	86.5	12.0	27	26

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 SPB4f (4.5 Folds)

Suction area (\emptyset) from 30 mm to 50 mm

Design Data Bellows Suction Cups SPB4f (4.5 Folds)

Type*	dn [mm]	d2 [mm]	Dmax(S) [mm]**	Ds [mm]	G1	H [mm]	LG1 [mm]	SW1 [mm]	Z (Stroke) [mm]
SPB4f 50 SI-55 G1/4-AG	8.0	21.0	52.0	49.7	G1/4"-M	72.5	10.0	27	26
SPB4f 50 SI-55 G1/4-IG	11.4	21.0	52.0	49.7	G1/4"-F	86.5	12.0	27	26
SPB4f 50 SI-55 G3/8-AG	10.3	21.0	52.0	49.7	G3/8"-M	72.5	10.0	27	26
SPB4f 50 SI-55 G3/8-IG	15.0	21.0	52.0	49.7	G3/8"-F	86.5	12.0	27	26
SPB4f 50 SI-55 G1/2-AG	15.0	21.0	52.0	49.7	G1/2"-M	72.5	14.0	27	26
SPB4f 50 SI-55 G1/2-IG	15.0	21.0	52.0	49.7	G1/2"-F	86.5	16.0	27	26

*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]
SPB4f 30	16.0	19.6	12.3	22.4	24.4	32	30.7	40.0	13.0	14.4	10
SPB4f 40	16.0	19.6	15.3	31.6	24.4	42	39.7	52.0	13.0	14.4	20
SPB4f 50	20.0	24.8	21.0	41.6	31.0	52	49.7	65.0	14.0	16.0	26

*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