



NEW

Vacuum Automation

New Suction Cups for the Packaging Industry

WWW.SCHMALZ.COM/SUCTION-CUPS

The Specialist for Pouches

Bellows Suction Cups PSPF



Don't worry about wrinkles!

The Suction Cups PSPF for pouches filled with liquids have a particularly soft and flexible sealing lip and can also cope with extremely thin plastic films. The highlights:



Enormous flexibility

The supple and soft sealing lip ensures an optimum seal – even on bags that tend to wrinkle.



2C technology

The high-strength connection of bellows and sealing lip combines sophisticated material properties in one suction cup.



Increased process safety

Interlocking bellows ensure optimum stability and support during rapid cycles.



Perfect (material) mixture

The suction cup is made of FDA-compliant silicone and is suitable for contact with food products.

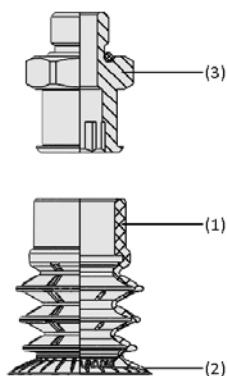
The Specialist for Pouches

Bellows Suction Cups PSPF

Suction area (Ø) from 33 mm to 53 mm

Applications

- 2-component bellows suction cup with 3.5 folds for handling very thin and flexible bags
- Use in the handling of liquid, solid or powder-filled pouches and packaging, especially with low filling degrees
- Use in dynamic packaging processes in connection with delta robots, in case packers and pick & place applications



Design

- 2C Bellows Suction Cups PSPF consisting of flexible bellows (1) and a soft and adaptable sealing lip (2)
- Suction cup with 3.5 bellows available in food-grade silicone
- Very large shaft diameter for high flow rates
- Use of one-piece, plug-in connection elements (3)
- Connection element with external thread and integrated sealing ring

Design Bellows Suction Cups PSPF



Designation Code Bellows Suction Cups PSPF

1 – Abbreviated designation

Code	Version
PSPF	3.5 folds

2 – Suction area

Code	Diameter in mm
33...53	ø 33 to 53

3 – Material

Code	Material
SI-30/55	Silicone

4 – Connection

Code	Connection
G1/4-AG	G1/4-AG (AG = male (M))
G1/4-IG	G1/4-IG (IG = female (F))
G3/8-AG	G3/8-AG
G3/8-IG	G3/8-IG
G1/8-AG	G1/8-AG
G1/8-IG	G1/8-IG



Technical Data Bellows Suction Cups PSPF

Type	Suction force (-600 mbar) [N]*	Material hardness sealing lip [Shore A]	Material hardness bellows [Shore A]	Volume [cm³]	Hose diameter (recom.) [mm]**
PSPF 33	24	30	55	7.5	9
PSPF 43	40	30	55	16.7	9
PSPF 53	61	30	55	31.9	12

*The specified suction forces are theoretical values at a vacuum of -0.6 bar and with a smooth, dry workpiece surface without safety factor.

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

Bellows Suction Cups FSGC



Parcel for you!

The Bellows Suction Cups FSGC for polybags, paper bags and cardboard boxes adapt optimally to all workpiece contours with 4.5 folds and are suitable, for example, for fast sorting processes. The highlights:



Highest pick rates

Process safe automation through optimum design of suction cup neck, internal diameter and sealing lip.



Excellent flexibility

Ideal adaptation to different workpiece contours thanks to increased suction cup stroke and flexible sealing lip.



Maximum holding forces

Best force transmission on a wide variety of packaging materials – even at high accelerations.

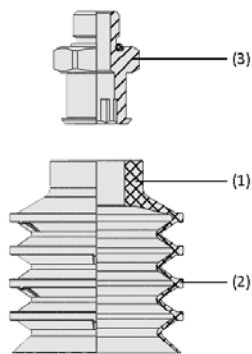
The Parcel Carrier

Bellows Suction Cups FSGC

Suction area (Ø) from 40 mm to 60 mm

Applications

- Round bellows suction cup with 4.5 folds for handling packaged goods in logistics and distribution centers
- Use in sorting cells when transferring cardboard, paper bags, poly bags and shipping bags



Design

- Bellows Suction Cups FSGC with large shaft diameter (1) and optimized bellows structure (2)
- Use of one-piece, plug-in connection elements (3) for quick change of the suction cup
- Suction cup with 4.5 folds available in NBR-55

Design Bellows Suction Cups FSGC

Designation Code Bellows Suction Cups FSGC

1 – Abbreviated designation

Code	Version
FSGC	4.5 folds

2 – Suction area

Code	Diameter in mm
40...60	ø 40 to 60

3 – Material

Code	Material
NBR-55	NBR-55

4 – Connection

Code	Connection
G1/4-AG	G1/4-AG (AG = male (M))
G1/4-IG	G1/4-IG (IG = female (F))
G3/8-AG	G3/8-AG
G3/8-IG	G3/8-IG

Technical Data Bellows Suction Cups FSGC

Type	Suction force (-600 mbar) [N]*	Pull-off force (real) [N]	Material hardness [Shore A]	Volume [cm ³]	Hose diameter (recom.) [mm]**
FSGC 40	35	37	55	29.1	9
FSGC 50	55	59	55	52.4	9
FSGC 60	80	84	55	80.2	12

*The specified suction forces are theoretical values at a vacuum of -0.6 bar and with a smooth, dry workpiece surface without safety factor.

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

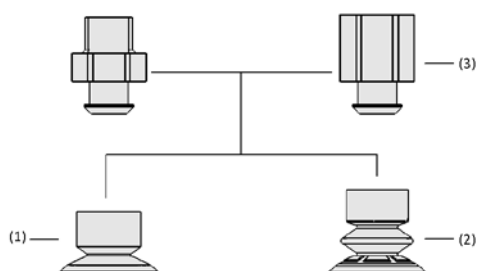
The Soft One for Plastic Films and Paper

Suction Cups SFF / SFB1

Suction area (Ø) from 10 mm to 40 mm



Suction Cups SFF / SFB1



Design Suction Cups SFF / SFB1



Suction Cups SFF / SFB1 when handling coffee capsules

Applications

- Round suction cup for gentle handling of sensitive materials and fragile workpieces
- Use as flat suction cup SFF with flat workpieces such as packaging made of paper, display glass and wafers
- Use as bellows suction cup SFB1 (1.5 folds) for uneven workpieces such as capsules, blister packs and filled bags
- Use in the production of battery components (pouch cells)

Design

- Suction cup with thin and flexible sealing lip consisting of flat suction cup SFF (1) or bellows suction cup SFB1 with 1.5 folds (2) and Schmalz connection element SC (3)
- Inner support surface with honeycomb structure and very good vacuum distribution
- Suction area (Ø) from 10 mm to 40 mm

Product Highlights

- Flexible, thin sealing lip and stabilizing support surface for particularly unstable workpieces
- Safe component handling thanks to very good vacuum distribution
- Large selection of materials for a wide range of requirements (food safe, chemically resistant, temperature resistant)

Product Highlights

- Gentle gripping of sensitive workpieces
- Available as flat or bellows cup

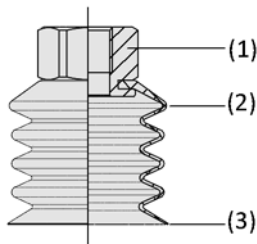
The Food Safe One

Bellows Suction Cups FSDC

Suction area (Ø) 40 mm



Bellows Suction Cups FSDC



Design Bellows Suction Cups FSDC



Bellows Suction Cups FSDC when handling baked goods

Applications

- Food compliant suction cup for industrial use in plants for handling bread and bakery products
- Handling of dough pieces in automated production
- Use in the handling of frozen bakery products

Design

- Suction cup connection nipple made of FDA compliant aluminium (1)
- Bellows suction cups with 4.5 folds (2) made of wear resistant SI-HD (FDA compliant) or metal detectable SI-MD (FDA compliant)
- Flexible sealing lip (3) in conjunction with optimized bellows structure

Product Highlights

- Reduced machine maintenance times due to wear resistant and FDA compliant material SI-HD
- Reliable handling of food products by using the special material SI-MD, detectable by commercially available metal detectors
- Very good adaptation to uneven workpiece contours due to flexible sealing lip

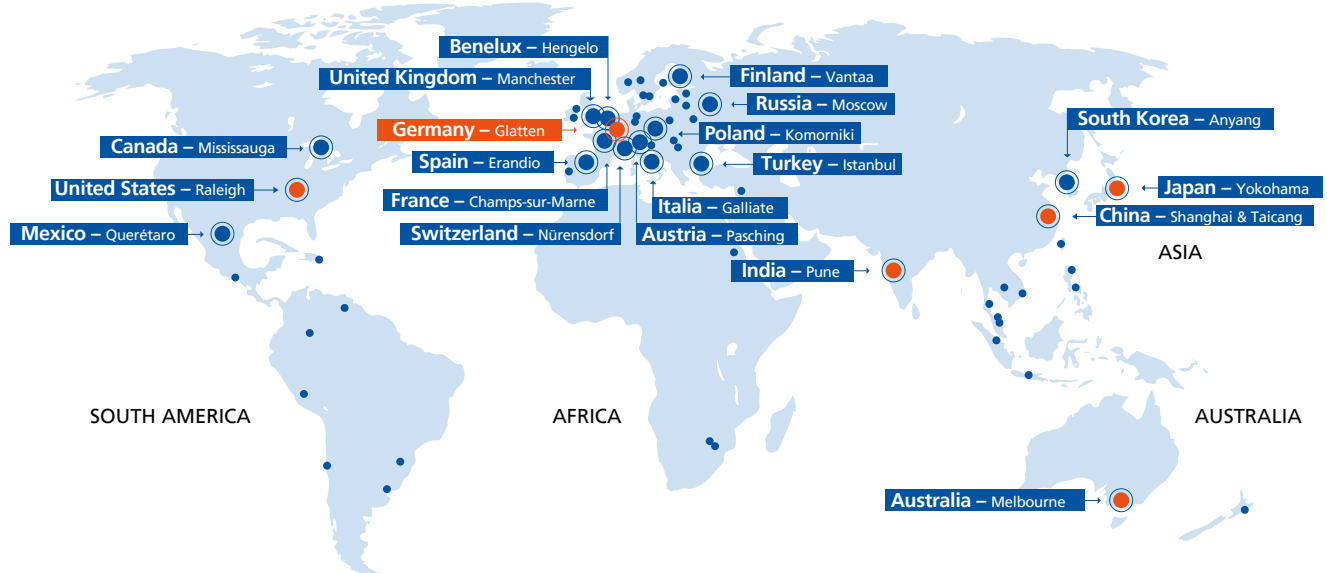
Product Highlights

- 4.5 bellows with flexible sealing lip
- Two suction cup materials specially for the food industry

At your service worldwide

NORTH AMERICA

EUROPE



Headquarters

Schmalz Germany – Glatten

Sales and Production Companies

Schmalz Australia – Melbourne
Schmalz China – Shanghai
Schmalz India – Pune

Schmalz Japan – Yokohama
Schmalz United States – Raleigh (NC)

Subsidiaries

Schmalz Austria – Pasching
Schmalz Benelux – Hengelo (NL)
Schmalz Canada – Mississauga
Schmalz Finland – Vantaa
Schmalz France – Champs-sur-Marne
Schmalz Italy – Galliate (NO)
Schmalz Mexico – Querétaro

Schmalz Poland – Komorniki (Poznan)
Schmalz Russia – Moscow
Schmalz Spain – Erandio (Vizcaya)
Schmalz South Korea – Anyang
Schmalz Switzerland – Nürens Dorf
Schmalz Turkey – Istanbul
Schmalz United Kingdom – Manchester

Sales Partners

You can find the Schmalz sales partner in your country at:
WWW.SCHMALZ.COM/SALESNETWORK

Vacuum Automation

WWW.SCHMALZ.COM/AUTOMATION

Handling Systems

WWW.SCHMALZ.COM/HANDLING-SYSTEMS

J. Schmalz GmbH
Johannes-Schmalz-Str. 1
72293 Glatten, Germany
T: +49 7443 2403-0
schmalz@schmalz.de
WWW.SCHMALZ.COM

