



## SPB2f Bellows Suction Cups

(2.5 Folds)

for the Packaging Industry

Suction area (Ø) from 15 mm to 50 mm

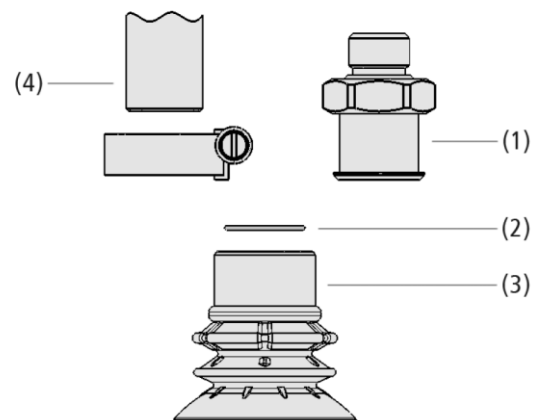


### Applications

- Round bellows suction cup with 2.5 folds for dynamical handling of pouches and other types of very flexible packaging
- Process reliable gripping and handling of pouches containing fluids, solids or powder and packaging that is not very full
- Stable in extremely quick packaging processes, particularly in conjunction with delta robots (case packer and pick-and-place applications)

### Design

- Bellows suction cup SPB2f with 2.5 folds (3) and a gentle and flexible sealing lip with segmented flow vanes and integrated bag stabilizer
- Very large shaft diameter for high volume flow rates
- Specially reinforced suction bellows for additional stability
- Mounting via connection element SC (1); alternatively direct attachment on 3/8" - or 1/2" pipe (4) on the machine side and mounting with a hose clamp
- All connection elements SC with male threads come equipped with an integrated sealing ring
- Optional insert filter for pre-filter (2)



## Product Highlights

- FDA compliant silicone SI allows direct food contact
- Integrated bag stabilizer prevents even thin and soft films from being sucked in
- Reinforced main body with 2.5 folds for secure gripping and stability even at high speeds
- Large nominal diameter enables high flow rates for short cycle times



Bellows suction cups SPB2f when handling pouches

## Designation code

**SPB2f 30 SI-55 G1/8-AG**

①                      ②                      ③                      ④

| ① Model | ② Diameter mm | ③ Material     | ④ Connection |
|---------|---------------|----------------|--------------|
| SPB2f   | 15            | SI-55 Silicone | Null         |
|         | 20            |                | G1/8-AG      |
|         | 25            |                | G1/8-IG      |
|         | 30            |                | G1/4-AG      |
|         | 40            |                | G1/4-IG      |
|         | 50            |                | G3/8-AG      |
|         |               |                | G3/8-IG      |
|         |               |                | G1/2-AG      |
|         |               |                | G1/2-IG      |

Suction cup SPB2f (elastomer part + connection element) is delivered assembled. The assembly consists of:

- Suction cup of type SPB2f - elastomer part, available in various diameters
- Connection element of type SC - available with various threads

Available spare parts: suction cup SPB2f, Connector

## Ordering data

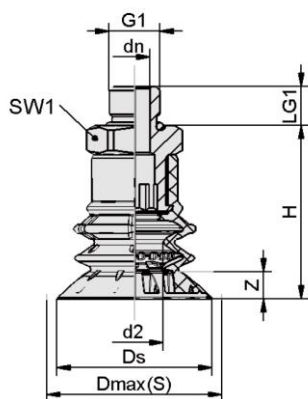
| Type         | G1/8-AG | G1/8-IG | G1/4-AG | G1/4-IG | G3/8-AG | G3/8-IG | G1/2-AG | G1/2-IG |
|--------------|---------|---------|---------|---------|---------|---------|---------|---------|
| SPB2f 15 ... | ●       | ●       |         |         |         |         |         |         |
| SPB2f 20 ... | ●       | ●       |         |         |         |         |         |         |
| SPB2f 25 ... | ●       | ●       |         |         |         |         |         |         |
| SPB2f 30 ... | ●       | ●       | ●       | ●       | ●       | ●       |         |         |
| SPB2f 40 ... | ●       | ●       | ●       | ●       | ●       | ●       |         |         |
| SPB2f 50 ... | ●       | ●       | ●       | ●       | ●       | ●       | ●       | ●       |

## Technical data

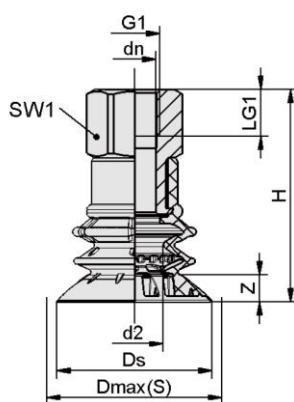
| Type  |    | Suction force at -200 mbar [N] | Suction force at -400 mbar [N] | Suction force (-600 mbar) [N]* | Volume [cm <sup>3</sup> ] |
|-------|----|--------------------------------|--------------------------------|--------------------------------|---------------------------|
| SPB2f | 15 | 0.3                            | 0.5                            | 0.8                            | 1.2                       |
| SPB2f | 20 | 0.6                            | 1.1                            | 1.7                            | 1.9                       |
| SPB2f | 25 | 1.0                            | 2.0                            | 3.0                            | 3.0                       |
| SPB2f | 30 | 4.3                            | 8.5                            | 12.8                           | 7.2                       |
| SPB2f | 40 | 6.8                            | 13.6                           | 20.4                           | 12.9                      |
| SPB2f | 50 | 13.7                           | 27.3                           | 41.0                           | 26.5                      |

\*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

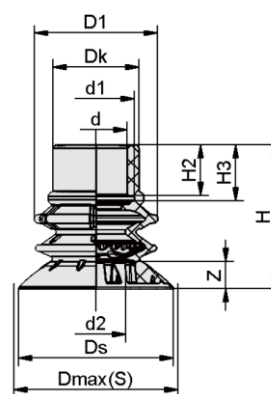
## Design Data



SPB2f AG



SPB2f IG



SPB2f

| Type                   | d2 [mm] | Dmax(S) [mm]** | dn [mm] | Ds [mm] | G1      | H [mm] | LG1 [mm] | SW1 [mm] | Z (Stroke) [mm] |
|------------------------|---------|----------------|---------|---------|---------|--------|----------|----------|-----------------|
| SPB2f 15 SI-55 G1/8-IG | 4.0     | 17.0           | 4.1     | 15.0    | G1/8"-F | 35     | 8.0      | 14       | 8               |
| SPB2f 15 SI-55 G1/8-AG | 4.0     | 17.0           | 4.1     | 15.0    | G1/8"-M | 27     | 7.5      | 14       | 8               |
| SPB2f 20 SI-55 G1/8-IG | 6.0     | 22.5           | 4.1     | 20.0    | G1/8"-F | 38     | 8.0      | 14       | 10              |
| SPB2f 20 SI-55 G1/8-AG | 6.0     | 22.5           | 4.1     | 20.0    | G1/8"-M | 30     | 7.5      | 14       | 10              |
| SPB2f 25 SI-55 G1/8-IG | 8.0     | 28.0           | 4.1     | 25.0    | G1/8"-F | 40     | 8.0      | 14       | 10              |
| SPB2f 25 SI-55 G1/8-AG | 8.0     | 28.0           | 4.1     | 25.0    | G1/8"-M | 32     | 7.5      | 14       | 10              |
| SPB2f 30 SI-55 G1/8-AG | 7.2     | 32.0           | 4.0     | 30.0    | G1/8"-M | 40     | 7.5      | 22       | 5               |
| SPB2f 30 SI-55 G1/8-IG | 7.2     | 32.0           | 8.6     | 30.0    | G1/8"-F | 50     | 12.0     | 22       | 5               |
| SPB2f 30 SI-55 G1/4-AG | 7.2     | 32.0           | 8.0     | 30.0    | G1/4"-M | 40     | 10.0     | 22       | 5               |
| SPB2f 30 SI-55 G1/4-IG | 7.2     | 32.0           | 11.0    | 30.0    | G1/4"-F | 50     | 12.0     | 22       | 5               |
| SPB2f 30 SI-55 G3/8-AG | 7.2     | 32.0           | 10.3    | 30.0    | G3/8"-M | 40     | 10.0     | 22       | 5               |
| SPB2f 30 SI-55 G3/8-IG | 7.2     | 32.0           | 11.0    | 30.0    | G3/8"-F | 50     | 12.0     | 22       | 5               |
| SPB2f 40 SI-55 G1/8-AG | 15.3    | 42.0           | 4.0     | 39.7    | G1/8"-M | 45     | 7.5      | 22       | 7               |
| SPB2f 40 SI-55 G1/8-IG | 15.3    | 42.0           | 8.6     | 39.7    | G1/8"-F | 55     | 12.0     | 22       | 7               |
| SPB2f 40 SI-55 G1/4-AG | 15.3    | 42.0           | 8.0     | 39.7    | G1/4"-M | 45     | 10.0     | 22       | 7               |
| SPB2f 40 SI-55 G1/4-IG | 15.3    | 42.0           | 11.0    | 39.7    | G1/4"-F | 55     | 12.0     | 22       | 7               |
| SPB2f 40 SI-55 G3/8-AG | 15.3    | 42.0           | 10.3    | 39.7    | G3/8"-M | 45     | 10.0     | 22       | 7               |
| SPB2f 40 SI-55 G3/8-IG | 15.3    | 42.0           | 11.0    | 39.7    | G3/8"-F | 55     | 12.0     | 22       | 7               |
| SPB2f 50 SI-55 G1/8-AG | 21.0    | 52.0           | 4.0     | 49.7    | G1/8"-M | 54     | 7.5      | 27       | 9               |
| SPB2f 50 SI-55 G1/8-IG | 21.0    | 52.0           | 8.6     | 49.7    | G1/8"-F | 68     | 12.0     | 27       | 9               |
| SPB2f 50 SI-55 G1/4-AG | 21.0    | 52.0           | 8.0     | 49.7    | G1/4"-M | 54     | 10.0     | 27       | 9               |
| SPB2f 50 SI-55 G1/4-IG | 21.0    | 52.0           | 11.4    | 49.7    | G1/4"-F | 68     | 12.0     | 27       | 9               |
| SPB2f 50 SI-55 G3/8-AG | 21.0    | 52.0           | 10.3    | 49.7    | G3/8"-M | 54     | 10.0     | 27       | 9               |
| SPB2f 50 SI-55 G3/8-IG | 21.0    | 52.0           | 15.0    | 49.7    | G3/8"-F | 68     | 12.0     | 27       | 9               |
| SPB2f 50 SI-55 G1/2-AG | 21.0    | 52.0           | 15.0    | 49.7    | G1/2"-M | 54     | 14.0     | 27       | 9               |
| SPB2f 50 SI-55 G1/2-IG | 21.0    | 52.0           | 15.0    | 49.7    | G1/2"-F | 68     | 16.0     | 27       | 9               |

\*\*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] |
|-------|----|--------|---------|---------|---------|---------|----------------|---------|--------|---------|---------|-----------------|
| SPB2f | 15 | 7.5    | 10.5    | 4.0     | 14.0    | 13.1    | 17.0           | 15.0    | 20.3   | 4.6     | 6.6     | 8               |
| SPB2f | 20 | 7.5    | 10.5    | 6.0     | 15.7    | 13.5    | 22.5           | 20.0    | 23.4   | 4.7     | 6.7     | 10              |
| SPB2f | 25 | 7.5    | 10.5    | 8.0     | 18.5    | 14.5    | 28.0           | 25.0    | 25.3   | 4.7     | 6.7     | 10              |
| SPB2f | 30 | 16.0   | 19.6    | 7.2     | 24.4    | 22.0    | 32.0           | 30.0    | 32.3   | 13.0    | 14.4    | 5               |
| SPB2f | 40 | 16.0   | 19.6    | 15.3    | 31.6    | 24.4    | 42.0           | 39.7    | 37.0   | 13.0    | 14.4    | 7               |
| SPB2f | 50 | 20.0   | 24.8    | 21.0    | 41.6    | 31.0    | 52.0           | 49.7    | 45.6   | 14.0    | 16.0    | 9               |

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