



## FIPA Bellows vacuum cups SB

- > Gentle handling of delicate products
- > Bellows allow for height and angle compensation
- > Good adaptation to curved surfaces
- > Lifting of the product occurs via the lifting movement of the bellows



### Bellows vacuum cups, universal, 1.5 folds - SBU 1

- > Universal bellows vacuum cups for handling sensitive or uneven products
- > Diameter: 5 - 88 mm

> See page 81



### High temperature Thermalon® bellows cups, 1.5 folds - SKT-B1

- > Material blend especially suited for removing hot plastic parts to be painted from an injection molding machine
- > Very low-marking and free of silicone and other paint-wetting-impairment substances (PWIS)
- > Heat-resistant up to 160 °C
- > Diameter: 11 - 63 mm

> See page 84



### High temperature HNBR bellows cups, 1.5 folds - SKT-B1

- > Universal vacuum cup for removing hot plastic parts to be painted from an injection molding machine
- > Low-marking and free of silicone and other paint-wetting-impairment substances (PWIS)
- > Heat-resistant up to 160 °C
- > Diameter: 5 - 43 mm

> See page 86



### Bellows vacuum cups, universal, 2.5 folds - SBU 2

- > Universal vacuum cup with large stroke for handling sensitive or uneven products
- > Diameter: 4 - 88 mm

> See page 89

Continued on the next page →



FIPA Bellows vacuum cups SB	
	<p><b>High temperature Thermalon® bellows cups, 2.5 folds - SKT-B2</b></p> <ul style="list-style-type: none"><li>&gt; Material blend especially suited for removing hot plastic parts to be painted from an injection molding machine</li><li>&gt; Very low-marking and free of silicone and other paint-wetting-impairment substances (PWIS)</li><li>&gt; Heat-resistant up to 160 °C</li><li>&gt; Diameter 5 - 62 mm</li></ul> <p>&gt; See page 92</p>
	<p><b>High temperature HNBR bellows cups, 2.5 folds - SKH-B2</b></p> <ul style="list-style-type: none"><li>&gt; Universal vacuum cup with large stroke for removing hot plastic parts to be painted from an injection molding machine</li><li>&gt; Low-marking and free of silicone and other paint-wetting-impairment substances (PWIS)</li><li>&gt; Heat-resistant up to 160 °C</li><li>&gt; Diameter: 5 - 60 mm</li></ul> <p>&gt; See page 94</p>
	<p><b>Bellows vacuum cups, universal, 3.5 folds - SBU 3</b></p> <ul style="list-style-type: none"><li>&gt; Gentle handling of sensitive products</li><li>&gt; Very large lifting movement</li><li>&gt; Diameter: 18 - 25 mm</li></ul> <p>&gt; See page 96</p>
	<p><b>Vulkollan® bellows cups, universal, 1.5 to 2.5 folds - SBU-VU</b></p> <ul style="list-style-type: none"><li>&gt; Sturdy vacuum cup with minimal wear and a long service life - thereby offering long maintenance intervals</li><li>&gt; Short cycle times thanks to very good retraction</li><li>&gt; Diameter: 9 - 62 mm</li></ul> <p>&gt; See page 97</p>
	<p><b>Bellows vacuum cups, 1.5 and 4.5 folds, modular - SP-B</b></p> <ul style="list-style-type: none"><li>&gt; Widely spread out bellows vacuum cups with a short or long stroke</li><li>&gt; Design: Replacement sealing lip for attachment to fitting</li><li>&gt; Diameter: 5 - 160 mm</li></ul> <p>&gt; See page 100</p>
	<p><b>Bellows vacuum cups, 1.5 and 4.5 folds, with fixed mounted fittings - SP-B</b></p> <ul style="list-style-type: none"><li>&gt; Widely spread out bellows vacuum cups with a short or long stroke</li><li>&gt; Design: Complete with vacuum cup fitting and filter screen</li><li>&gt; Diameter: 20 - 160 mm</li></ul> <p>&gt; See page 104</p>



## FIPA Bellows vacuum cups SB



### Varioflex® bellows cups, 1.5 and 2.5 folds - SP-BX

- > Excellent service life and superior retention force
- > Special polyurethane in two degrees of hardness (60° Shore A black, 30° Shore A red)
- > Soft lip for optimal sealing
- > Long service life and low wear
- > Short cycle times and high process reliability
- > Low-marking

#### 1.5 folds - SP-BX1

- > Supports (∅ 20 - 75 mm) stabilise the product
- > Diameter: 15 - 75 mm

> See page 107

#### 2.5 folds - SP-BX2

- > Diameter: 15 - 75 mm

> See page 110



### Vinyl bellows cups, 1.5 and 2.5 folds - SBV

- > Wear-resistant material - long service life
- > Good adaptation to curved or flexible product surfaces

#### 1.5 folds - SBV 1

- > Diameter: 5 - 70 mm

> See page 113

#### 2.5 folds - SBV 2

- > Diameter: 4 - 50 mm

> See page 116



### Bellows vacuum cups, 1.5 folds - SBF-A

- > High degree of holding force thanks to supports at the sealing lip
- > Fine, flexible sealing lip suitable for uneven surfaces
- > Supporting ribs prevent the deformation of thin-walled products
- > High process reliability due to fixed, non-rotating seat of the screw fitting
- > Diameter: 10 - 80 mm

> See page 119



### Bellows vacuum cups, 1.5 folds - SBF-B

- > Soft sealing lip and soft bellows enable adaptation to curved or flexible product surfaces
- > Extremely gentle handling of sensitive products
- > Cost-effective replacement of worn seals thanks to plug-in fittings
- > Diameter: 6 - 20 mm

> See page 122

Continued on the next page →



FIPA Bellows vacuum cups SB	
	<p><b>Bellows vacuum cups, 4.5 folds - SBF-C</b></p> <ul style="list-style-type: none"><li>&gt; Fine, flexible sealing lip fits in perfectly with irregularities of the product (e.g. bag-packaged goods)</li><li>&gt; Large stroke for the gentle handling of sensitive products</li><li>&gt; Connection via screwed fittings (hollow bolt + adapter)</li><li>&gt; Diameter: 10 - 50 mm</li></ul> <p>&gt; See page 124</p>
	<p><b>Bellows vacuum cups for chocolates - SL-PB</b></p> <ul style="list-style-type: none"><li>&gt; Extremely flexible and adaptable suction lip for leak-free sealing of three-dimensional product surfaces</li><li>&gt; Low-marking and FDA-approved</li><li>&gt; Diameter: 12 - 16 mm</li></ul> <p>&gt; See page 125</p>
	<p><b>Vacuum cups for baked goods SL-B</b></p> <ul style="list-style-type: none"><li>&gt; Multiple folds ensure a high degree of height adjustment and gentle product handling</li><li>&gt; FDA-approved</li><li>&gt; Diameter: 34 - 60 mm</li></ul> <p>&gt; See page 126</p>
	<p><b>Detectable vacuum cups for baked goods - SL-BD</b></p> <ul style="list-style-type: none"><li>&gt; Detectable, providing optimum assurance that the product is not contaminated by vacuum components</li><li>&gt; Multiple folds ensure a high degree of height adjustment and gentle product handling</li><li>&gt; FDA-approved</li><li>&gt; Diameter: 35 - 40 mm</li></ul> <p>&gt; See page 128</p>
	<p><b>Vacuum cups for eggs - SL-E</b></p> <ul style="list-style-type: none"><li>&gt; Bellows vacuum cups in a design specially optimised for handling eggs</li><li>&gt; Gentle attachment to the product and a high lifting motion thanks to a long vacuum cup stroke</li><li>&gt; FDA-approved</li><li>&gt; Diameter: 33 - 34 mm</li></ul> <p>&gt; See page 129</p>
	<p><b>Bellows vacuum cups 1.5 and 2.5 folds with special connection for standard packaging machines - SV-SB</b></p> <ul style="list-style-type: none"><li>&gt; Smooth suspension for gentle product handling</li><li>&gt; Available in silicone (FDA-approved) and NR</li><li>&gt; Diameter: 16 - 40 mm</li></ul> <p>&gt; See page 130</p>



## FIPA Bellows vacuum cups SB



### **Bellows vacuum cups, 1.5 folds for dynamic sheet handling - SM-B**

- > Reliable, non-slip handling of oily sheets thanks to "anti-slip" supporting ribs. Good absorption of lateral forces
- > Internal supports help to prevent deep-drawing or deformation of thin sheets
- > Leak-free suction even with curved surfaces due to flexible sealing lip
- > Secure fit thanks to vulcanised connecting thread
- > Diameter: 30 - 125 mm

> See page 133



### **Bellows vacuum suction plates softgrip - SBPL-SG**

- > Very gentle handling of sensitive products thanks to highly flexible fold walls
- > Combines the flexibility of bellows cups with the stability of flat vacuum suction plates
- > Central support block with safety sealing lip ensures a firm grip
- > Diameter: 150 - 210 mm

> See page 136



### **Bellows vacuum suction plates - SBPL-E**

- > Gentle handling of heavy, sensitive products
- > Good adaptation to concave or convex surfaces
- > Rubberised support surfaces prevent deformation of workpieces
- > Diameter: 150 - 350 mm

> See page 137





Bellows vacuum cups, universal, 1.5 folds - SBU 1




**Product Description**


Universal bellows vacuum cups with 1.5 folds for handling sensitive or uneven products.  
Connection up to  $\varnothing$  75 mm by means of plug-in nipple, from  $\varnothing$  88 mm with vulcanised bracket.

**Advantage**

- > Bellows compensates for differences in height and enables good adaptation to curved or uneven product surfaces
- > Soft attachment for sensitive products
- > Cost-effective replacement of worn seals

**Technical data**

Item no.	Model / Lip dimensions		Number of folds	Material / Colour	Connection thread
23.005.181.*	SBU 1-5	2	1.5	NBR (sw), SI (tr)	--
23.011.008.*	SBU 1-11	4.5	1.5	NBR (sw), SI (tr)	--
23.013.120.*	SBU 1-13	4	1.5	NBR (sw), SI (tr), NR (gr)	--
23.016.016.*	SBU 1-16	6	1.5	NBR (sw), SI (tr)	--
23.019.119.*	SBU 1-19	4	1.5	NBR (sw), SI (tr)	--
23.022.028.*	SBU 1-22	8	1.5	NBR (sw), SI (tr)	--
23.025.137.*	SBU 1-25	9	1.5	NBR (sw), SI (tr), NR (gr)	--
23.033.039.*	SBU 1-33	12	1.5	NBR (sw), SI (tr), NR (gr)	--
23.043.096.*	SBU 1-43	12	1.5	NBR (sw), SI (tr), NR (gr)	--
23.053.033.*	SBU 1-53	11	1.5	NBR (sw), SI (tr), NR (gr)	--
23.075.151.*	SBU 1-75	20	1.5	NBR (sw), SI (tr)	--
22.088.158.*	SBU 1-88	23	1.5	NBR (sw), SI (tr)	G1/4-male
22.088.159.*	SBU 1-88	23	1.5	NBR (sw), SI (tr)	G1/4-female

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\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



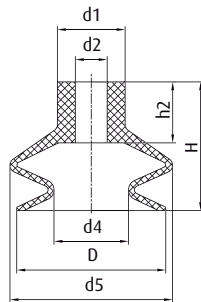
# Series | Bellows vacuum cups SB

Bellows vacuum cups, universal, 1.5 folds - SBU 1

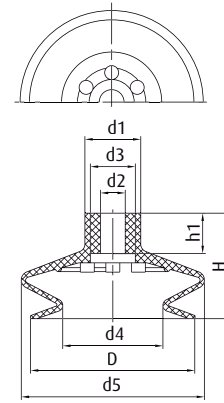
## Accessories

Item no.	Suitable fittings							
	M5-male	M5-female	M6-male	M10-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.005.181.*	270.195 (p.409)	--	--	--	--	--	--	--
23.011.008.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	--	--
23.013.120.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	--	--
23.016.016.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	--	--
23.019.119.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
23.022.028.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
23.025.137.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
23.033.039.*	--	--	270.315 (p.414)	--	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
23.043.096.*	--	--	270.315 (p.414)	--	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
23.053.033.*	--	--	270.315 (p.414)	--	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
23.075.151.*	--	--	--	270.177 (p.416)	--	--	270.451 (p.426)	270.452 (p.431)
22.088.158.*	--	--	--	--	--	--	--	--
22.088.159.*	--	--	--	--	--	--	--	--

## Dimensions



Drawing A



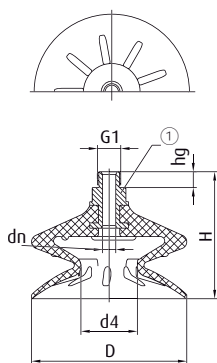
Drawing B

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

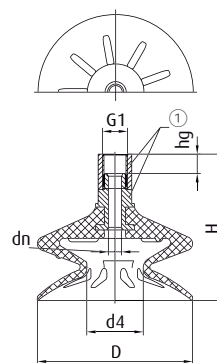




Dimensions



Drawing C



Drawing D

① = Aluminium fitting, vulcanised

Item no.	Drawing	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	∅ d3 [mm]	∅ d4 [mm]	∅ d5 [mm]	∅ dn [mm]	G1	H [mm]	h1 [mm]	h2 [mm]	hg [mm]
23.005.181.*	A	5	3	1.5	--	2	5	--	--	13	--	9.5	--
23.011.008.*	A	12	10	5	--	4.5	12	--	--	16	--	9	--
23.013.120.*	A	13.5	10	3.8	--	5	13.5	--	--	16	--	9	--
23.016.016.*	A	16	10	5	--	8	17	--	--	19	--	9	--
23.019.119.*	A	18.5	10	4.5	--	11	19.5	--	--	15	--	8.5	--
23.022.028.*	A	22	10	4.5	--	11	24	--	--	19	--	9	--
23.025.137.*	A	24	10	4	--	10	24	--	--	23	--	9	--
23.033.039.*	B	33.5	18	8	16.5	17	36	--	--	28	13	--	--
23.043.096.*	B	43	18	8	14.5	23	45	--	--	27	12	--	--
23.053.033.*	B	53	18	8	14.5	32	59	--	--	34	13	--	--
23.075.151.*	B	75	27	11	--	43	70.5	--	--	52	--	22	--
22.088.158.*	C	88	--	--	--	32	88	7.5	G1/4	72	--	--	9
22.088.159.*	D	88	--	--	--	32	88	7.5	G1/4	83	--	--	11

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Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

High temperature Thermalon® bellows cups, 1.5 folds - SKT-B1

### High temperature Thermalon® bellows cups, 1.5 folds - SKT-B1

UP TO 160 °C & MINIMUM MARKING




#### Product Description

Bellows vacuum cups for uneven surfaces especially suited for removing hot plastic parts to be painted from an injection moulding machine. Thermalon® is a material mixture specially optimised for the plastics industry with a hardness of 60° Shore A. Connection via plug-in nipple.


#### Advantage

- > Extremely low-marking
- > Free of silicone and other paint-wetting-impairment substances (PWIS)
- > Bellows compensate differences in height and enable good adaptation to curved or uneven product surfaces

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour	Usage temperature [°C]
23.011.234.*	SKT-B1-11	5.5	1.5	Thermalon® (bl)	0 - 160
23.014.235.*	SKT-B1-14	5	1.5	Thermalon® (bl)	0 - 160
23.016.236.*	SKT-B1-16	8.5	1.5	Thermalon® (bl)	0 - 160
23.018.237.*	SKT-B1-18	5	1.5	Thermalon® (bl)	0 - 160
23.020.238.*	SKT-B1-20	5	1.5	Thermalon® (bl)	0 - 160
23.022.239.*	SKT-B1-22	8	1.5	Thermalon® (bl)	0 - 160
23.025.240.*	SKT-B1-25	12	1.5	Thermalon® (bl)	0 - 160
23.033.241.*	SKT-B1-33	11	1.5	Thermalon® (bl)	0 - 160
23.043.242.*	SKT-B1-43	12.5	1.5	Thermalon® (bl)	0 - 160
23.053.243.*	SKT-B1-53	15	1.5	Thermalon® (bl)	0 - 160
23.063.244.*	SKT-B1-63	15	1.5	Thermalon® (bl)	0 - 160

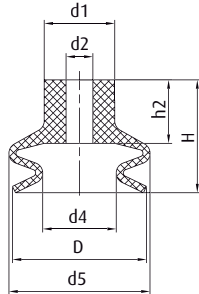
#### Accessories

Item no.	 Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.011.234.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.014.235.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.016.236.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.018.237.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.020.238.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.022.239.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.025.240.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.033.241.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
23.043.242.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
23.053.243.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
23.063.244.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)

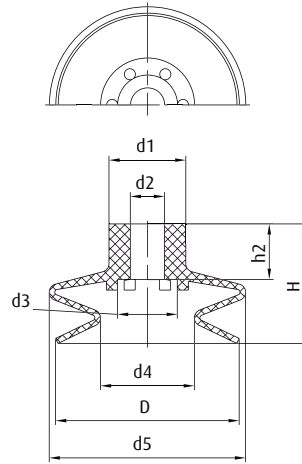
\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



## Dimensions



Drawing A



Drawing B

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	H [mm]	h2 [mm]
23.011.234.*	A	11	10	3.8	--	5	12	16	9
23.014.235.*	A	13	10	3.8	--	5	14	16	9
23.016.236.*	A	16	10	3.8	--	8	17.5	19	9
23.018.237.*	A	18	10	3.8	--	8	18	16.5	9
23.020.238.*	A	19	10	3.8	--	10.5	20	16	9
23.022.239.*	A	22	10	3.8	--	11	24	19	9
23.025.240.*	A	24	10	3.8	--	9.5	25	23	9
23.033.241.*	B	33	18	8	14	17	36	28	13
23.043.242.*	B	43	18	8	14	22	46	28	13
23.053.243.*	B	53	18	8	14	33	59	34	13
23.063.244.*	B	63	18	8	14	44	67	34	13

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## Series | Bellows vacuum cups SB

High temperature HNBR bellows cups, 1.5 folds - SKH-B1

### High temperature HNBR bellows cups, 1.5 folds - SKH-B1

UP TO 160 °C &  
MINIMUM MARKING




#### Product Description

Bellows vacuum cups for uneven surfaces with suitability for removing hot plastic parts to be painted from an injection moulding machine. Connection via plug-in nipple.


#### Advantage

- > Free of silicone and other paint-wetting-impairment substances (PWIS)
- > Minimum-marking
- > Bellows compensate differences in height and enable good adaptation to curved or uneven product surfaces

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour	Usage temperature [°C]
23.005.178._*	SKH-B1-5	2	1.5	HNBR (ge)	0 - 160
23.008.166._*	SKH-B1-8	3.5	1.5	HNBR (ge)	0 - 160
23.011.008._*	SKH-B1-11	4.5	1.5	HNBR (ge)	0 - 160
23.015.122._*	SKH-B1-15	5	1.5	HNBR (ge)	0 - 160
23.016.016._*	SKH-B1-16	6	1.5	HNBR (ge)	0 - 160
23.020.124._*	SKH-B1-20	8	1.5	HNBR (ge)	0 - 160
23.030.125._*	SKH-B1-30	9	1.5	HNBR (ge)	0 - 160
23.043.096._*	SKH-B1-43	12	1.5	HNBR (ge)	0 - 160

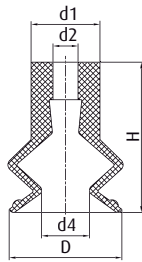
#### Accessories

Item no.	 Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.005.178._*	270.153 (p.409)	--	--	--	--	--	--
23.008.166._*	270.153 (p.409)	--	--	--	--	--	--
23.011.008._*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
23.015.122._*	270.010 (p.411)	270.005 (p.412)	--	270.009 (p.417)	270.007 (p.422)	--	--
23.016.016._*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
23.020.124._*	270.311 (p.411)	--	--	270.063 (p.419)	270.061 (p.422)	--	--
23.030.125._*	--	--	270.312/19 (p.414)	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)
23.043.096._*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)

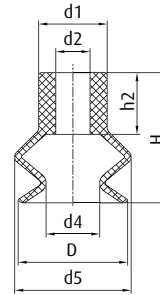
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Average holding forces for vacuum cups you will find on page 760



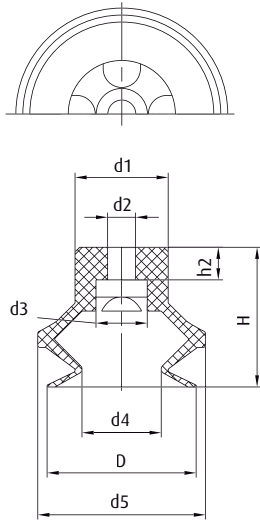
### Dimensions



Drawing A



Drawing B



Drawing C

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	H [mm]	h2 [mm]
23.005.178.*	A	6	5	2	--	2.2	--	9	--
23.008.166.*	A	9	5.5	2	--	3.8	--	12	--
23.011.008.*	B	12	10	5	--	4.5	12	16	9
23.015.122.*	C	15	8.5	3.6	6	8	17	16	1.7
23.016.016.*	B	16	10	5	--	8	17	19	9
23.020.124.*	C	21.5	15	4.5	11	10	23.5	20	4.6
23.030.125.*	C	32	20	6	11	17	36	30	7
23.043.096.*	B	43	18	8	--	23	45	27	12

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760





Bellows vacuum cups, universal, 2.5 folds - SBU 2




**Product Description**

Universal bellows vacuum cups with 2.5 folds for handling sensitive or uneven products over large lift movements.  
Connection up to  $\varnothing$  75 mm by means of plug-in nipple, from  $\varnothing$  88 mm with vulcanised bracket.

**Advantage**

- > Bellows compensate for differences in height and enable good adaptation to curved or uneven product surfaces
- > Soft attachment for sensitive products
- > Cost-effective replacement of worn seals

**Technical data**

Item no.	Model / Lip dimensions		Number of folds	Material / Colour	Connection thread
21.004.083.*	SBU 2-4	3	2.5	SI (tr)	--
21.005.057.*	SBU 2-5	3	2.5	NBR (g), SI (g), SI-AS (sw)	--
21.006.093.*	SBU 2-6A	3	2.5	NBR (sw), SI (tr)	--
21.006.087.*	SBU 2-6	3.5	2.5	NBR (sw), SI (tr)	--
21.008.094.*	SBU 2-8	4	2.5	NBR (sw), SI (tr)	--
21.009.002.*	SBU 2-9	2	2.5	NBR (sw), SI (tr), SI-AS (sw), NR (gr), PU (bl)	--
21.010.119.*	SBU 2-10	8	2.5	NBR (sw), SI (tr)	--
21.012.135.*	SBU 2-12	7	2.5	NBR (sw), SI (tr), NR (gr), PU (bl)	--
21.014.133.*	SBU 2-14A	11	2.5	NBR (sw), SI (tr), NR (gr)	--
21.014.007.*	SBU 2-14	12	2.5	NBR (sw), SI (tr), PU (bl)	--
21.018.010.*	SBU 2-18	8	2.5	NBR (sw), SI (tr), PU (bl)	--
21.020.016.*	SBU 2-20	9	2.5	NBR (sw), SI (tr)	--
21.025.060.*	SBU 2-25	19	2.5	NBR (sw), SI (tr)	--
21.032.075.*	SBU 2-32	13	2.5	NBR (sw), SI (tr), NR (gr), PU (bl)	--
21.043.049.*	SBU 2-43	19	2.5	NBR (sw), SI (tr), NR (gr)	--
21.062.055.*	SBU 2-62	25	2.5	NBR (sw), SI (tr)	--
20.088.123.*	SBU 2-88	36	2.5	NBR (sw), SI (tr)	G1/4-male
20.088.124.*	SBU 2-88	36	2.5	NBR (sw), SI (tr)	G1/4-female

Continued on the next page →

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



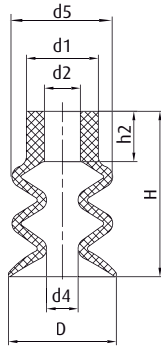
# Series | Bellows vacuum cups SB

Bellows vacuum cups, universal, 2.5 folds - SBU 2

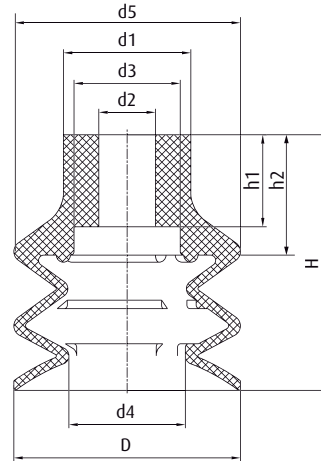
## Accessories

Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.004.083.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.005.057.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.006.093.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.006.087.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.008.094.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.009.002.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.010.119.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.012.135.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.014.133.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.014.007.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.018.010.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.020.016.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
21.025.060.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
21.032.075.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
21.043.049.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
21.062.055.*	--	--	270.315 (p.414)	--	--	270.540 (p.429)	270.539 (p.434)
20.088.123.*	--	--	--	--	--	--	--
20.088.124.*	--	--	--	--	--	--	--

## Dimensions



Drawing A



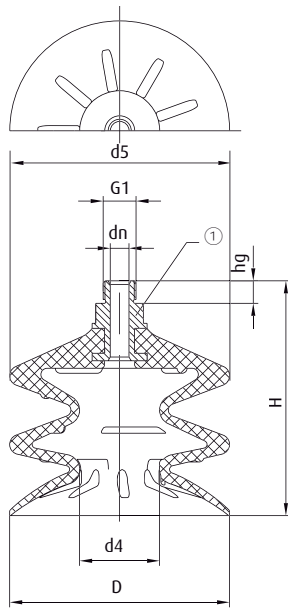
Drawing B

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

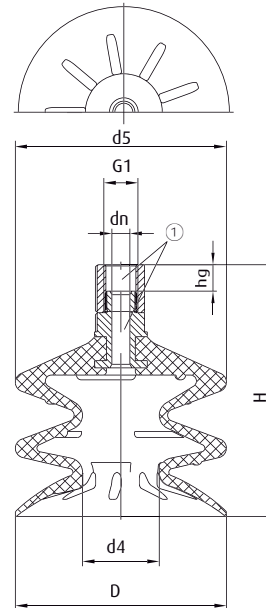




Dimensions



Drawing C



Drawing D

① = Aluminium fitting, vulcanised

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	Ø dn [mm]	G1	H [mm]	h1 [mm]	h2 [mm]	hg [mm]
21.004.083.*	A	4.5	7	4	--	2	6.5	--	--	14	--	8	--
21.005.057.*	A	5.5	7	4	--	2.5	6.5	--	--	14	--	8.5	--
21.006.093.*	A	6	8	4	--	3	8	--	--	15	--	8	--
21.006.087.*	A	6.5	9	5	--	2.5	6.5	--	--	14.5	--	7.5	--
21.008.094.*	A	7.5	8	4	--	4	7.5	--	--	15	--	8.5	--
21.009.002.*	A	9	9	5	--	4	9	--	--	15	--	7	--
21.010.119.*	A	10	10	5	--	4.5	10	--	--	21	--	7	--
21.012.135.*	A	12	10	5	--	5	12	--	--	21	--	9	--
21.014.133.*	A	14	10	3.8	--	5.5	14	--	--	23	--	7.5	--
21.014.007.*	A	15	10	5	--	4.5	15	--	--	23	--	7	--
21.018.010.*	A	18	10	4.5	--	7	18	--	--	22	--	8.5	--
21.020.016.*	A	20	10	4.5	--	10	20	--	--	23	--	9	--
21.025.060.*	A	25	10	4.8	--	10	25	--	--	33	--	8	--
21.032.075.*	B	32	18	8	15	16.5	32	--	--	36	13	17	--
21.043.049.*	B	42	20	8	15	15.5	42	--	--	46	13	17	--
21.062.055.*	B	62	21	8.5	14.5	27.5	62	--	--	54	13	14.7	--
20.088.123.*	C	88	--	--	--	32	88	7.5	G1/4	94	--	--	9
20.088.124.*	D	88	--	--	--	32	88	7.5	G1/4	105	--	--	11

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

High temperature Thermalon® bellows cups, 2.5 folds - SKT-B2

### High temperature Thermalon® bellows cups, 2.5 folds - SKT-B2

UP TO 160 °C & MINIMUM MARKING



#### Product Description

Bellows vacuum cups for uneven surfaces especially suited for removing hot plastic parts to be painted from an injection moulding machine. Thermalon® is a material mixture specially optimised for the plastics industry with a hardness of 60° Shore A. Connection via plug-in nipple.

#### Advantage

- > Extremely low-marking
- > Free of silicone and other paint-wetting-impairment substances (PWIS)
- > Long vacuum cup lift and good adaptation to curved or uneven product surfaces

#### Technical data

Item no.	Model / Lip dimensions	↓	Material / Colour	Number of folds	Usage temperature [°C]
21.005.146._*	SKT-B2-5	3	Thermalon® (bl)	2.5	0 - 160
21.007.147._*	SKT-B2-7	3	Thermalon® (bl)	2.5	0 - 160
21.009.148._*	SKT-B2-9	3	Thermalon® (bl)	2.5	0 - 160
21.012.149._*	SKT-B2-12	7	Thermalon® (bl)	2.5	0 - 160
21.014.150._*	SKT-B2-14	10	Thermalon® (bl)	2.5	0 - 160
21.018.151._*	SKT-B2-18	10	Thermalon® (bl)	2.5	0 - 160
21.020.152._*	SKT-B2-20	10	Thermalon® (bl)	2.5	0 - 160
21.025.153._*	SKT-B2-25	20	Thermalon® (bl)	2.5	0 - 160
21.032.154._*	SKT-B2-32	14.5	Thermalon® (bl)	2.5	0 - 160
21.042.155._*	SKT-B2-42	22	Thermalon® (bl)	2.5	0 - 160
21.052.156._*	SKT-B2-52	27	Thermalon® (bl)	2.5	0 - 160
21.062.157._*	SKT-B2-62	31	Thermalon® (bl)	2.5	0 - 160

#### Accessories

Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.005.146._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.007.147._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.009.148._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.012.149._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.014.150._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.018.151._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.020.152._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.025.153._*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.032.154._*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
21.042.155._*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)

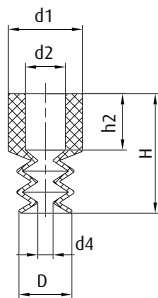
\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



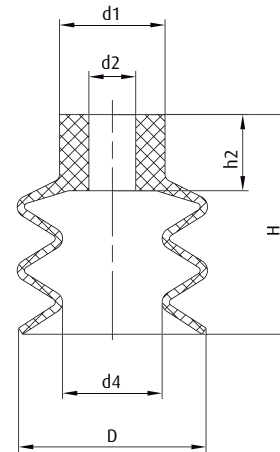
### Accessories

Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.052.156.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
21.062.157.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)

### Dimensions



Drawing A



Drawing B

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d4 [mm]	H [mm]	h2 [mm]
21.005.146.*	A	5.5	7	4	2.2	13.5	8
21.007.147.*	A	6	8.5	4.5	1.8	14	6.5
21.009.148.*	A	9.5	9	4.4	4	15	7.5
21.012.149.*	B	12	10	3.8	5	21	9
21.014.150.*	B	14	10	3.8	5	23	9
21.018.151.*	B	17.5	10	3.8	7.5	23	9
21.020.152.*	B	20	10	3.8	10	23	9
21.025.153.*	B	25	10	3.8	10	34	9
21.032.154.*	B	32	18	8	17	38	13
21.042.155.*	B	42	18	8	18.5	46	13
21.052.156.*	B	52	18	8	25	49	13
21.062.157.*	B	62	21	8	30	55	13

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

High temperature HNBR bellows cups, 2.5 folds - SKH-B2

### High temperature HNBR bellows cups, 2.5 folds - SKH-B2

UP TO 160 °C &  
MINIMUM MARKING




#### Product Description

Bellows vacuum cups for uneven surfaces with suitability for removing hot plastic parts to be painted from an injection moulding machine. Connection via plug-in nipple.


#### Advantage

- > Free of silicone and other paint-wetting-impairment substances (PWIS)
- > Minimum-marking
- > Long vacuum cup lift and good adaptation to curved or uneven product surfaces

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour	Usage temperature [°C]
21.005.057.*	SKH-B2-5	3	2.5	HNBR (ge)	0 - 160
21.007.089.*	SKH-B2-7	3	2.5	HNBR (ge)	0 - 160
21.009.002.*	SKH-B2-9	2	2.5	HNBR (ge)	0 - 160
21.012.135.*	SKH-B2-12	7	2.5	HNBR (ge)	0 - 160
21.014.053.*	SKH-B2-14	9	2.5	HNBR (ge)	0 - 160
21.018.010.*	SKH-B2-18	8	2.5	HNBR (ge)	0 - 160
21.020.016.*	SKH-B2-20	9	2.5	HNBR (ge)	0 - 160
21.032.075.*	SKH-B2-32	13	2.5	HNBR (ge)	0 - 160
21.043.049.*	SKH-B2-43	19	2.5	HNBR (ge)	0 - 160
21.060.051.*	SKH-B2-60	25	2.5	HNBR (ge)	0 - 160

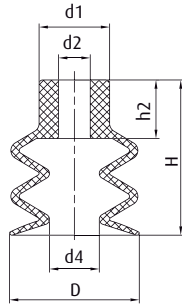
#### Accessories

Item no.	 Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.005.057.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.007.089.*	270.010 (p.411)	270.005 (p.412)	--	270.009 (p.417)	270.007 (p.422)	--	--
21.009.002.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.012.135.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.014.053.*	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
21.018.010.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
21.020.016.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
21.032.075.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
21.043.049.*	--	--	270.315 (p.414)	270.196 (p.420)	270.114 (p.422)	270.190 (p.428)	270.192 (p.432)
21.060.051.*	--	--	270.315 (p.414)	--	--	270.540 (p.429)	270.539 (p.434)

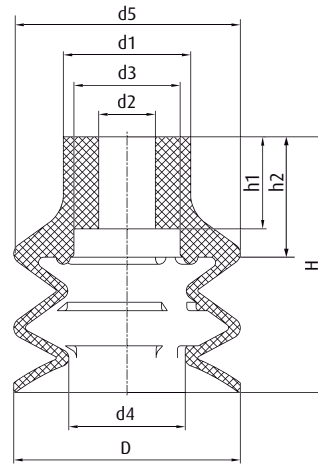
\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



### Dimensions



Drawing A



Drawing B

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	H [mm]	h1 [mm]	h2 [mm]
21.005.057.*	A	5.5	7	4	--	2.5	--	14	--	8.5
21.007.089.*	B	7	7.5	4	5.5	3	7	10	2	3.5
21.009.002.*	A	9	9	5	--	4	--	15	--	7
21.012.135.*	A	12	10	5	--	5	--	21	--	9
21.014.053.*	A	14	8	4	--	5.5	--	18	--	5.5
21.018.010.*	A	18	10	4.5	--	7	--	22	--	8.5
21.020.016.*	A	20	10	4.5	--	10	--	23	--	9
21.032.075.*	B	32	18	8	15	16.5	32	36	13	17
21.043.049.*	B	42	20	8	15	15.5	42	46	13	17
21.060.051.*	B	61	22	8	14	28	61	57	14	18.5

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups, universal, 3.5 folds - SBU 3

### Bellows vacuum cups, universal, 3.5 folds - SBU 3



#### Product Description

Universal bellows vacuum cups with 3.5 folds for handling sensitive or uneven products over very large lift movements. Connection via plug-in nipple.

#### Advantage

- > Bellows compensate for differences in height and enable good adaptation to curved or uneven product surfaces
- > Soft attachment for sensitive products
- > Cost-effective replacement of worn seals

#### Technical data

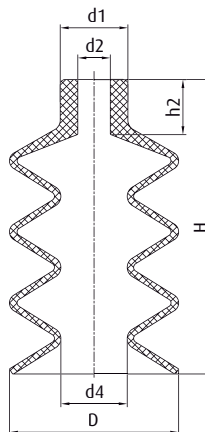
Item no.	Model / Lip dimensions		Number of folds	Material / Colour
25.018.031._*	SBU 3-18	12	3.5	NBR (sw), SI (tr)
25.025.005._*	SBU 3-25	24	3.5	NBR (sw), SI (tr)

#### Accessories

##### Suitable fittings

Item no.	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male
25.018.031._*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)
25.025.005._*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)

#### Dimensions



Item no.	$\varnothing D$ [mm]	$\varnothing d1$ [mm]	$\varnothing d2$ [mm]	$\varnothing d4$ [mm]	H [mm]	h2 [mm]
25.018.031._*	18	9.5	5	8	29	7
25.025.005._*	25	10	4.8	10	44	8

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

## Series | Bellows vacuum cups SB

Vulkollan® bellows cups, universal, 1.5 to 2.5 folds - SBU-VU



### Vulkollan® bellows cups, universal, 1.5 to 2.5 folds - SBU-VU



SBU1-VU

SBU2-VU




#### Product Description


Extremely robust universal bellows vacuum cups, material made from Vulkollan®

#### Advantage

- > Minimal abrasion
- > Very long life cycle
- > Very good resetting, enabling fast cycle times
- > Bellows compensate differences in height and enable good adaptation to curved or uneven product surfaces
- > Cost-effective replacement of worn seals

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
	<b>Bellows vacuum cups, 1.5 folds - SBU1-VU</b>			
<b>23.020.169._*</b>	SBU1-VU-20	7	1.5	Vulkollan® (br)
<b>23.030.170._*</b>	SBU1-VU-30	8	1.5	Vulkollan® (br)
<b>23.050.171._*</b>	SBU1-VU-50	10	1.5	Vulkollan® (br)
	<b>Bellows vacuum cups, 2.5 folds - SBU2-VU</b>			
<b>21.009.106._*</b>	SBU2-VU-9	2	2.5	Vulkollan® (br)
<b>21.020.090._*</b>	SBU2-VU-20	8	2.5	Vulkollan® (br)
<b>21.032.091._*</b>	SBU2-VU-30	16	2.5	Vulkollan® (br)
<b>21.030.076._*</b>	SBU2-VU-31	14	2.5	Vulkollan® (br)
<b>21.051.097._*</b>	SBU2-VU-50	18	2.5	Vulkollan® (br)
<b>21.062.092._*</b>	SBU2-VU-60	25	2.5	Vulkollan® (br)

Continued on the next page 

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



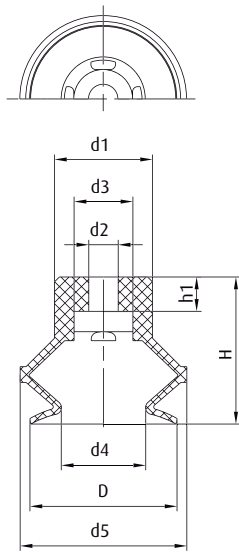
# Series | Bellows vacuum cups SB

Vulkollan® bellows cups, universal, 1.5 to 2.5 folds - SBU-VU

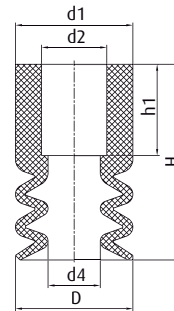
## Accessories

Item no.	Suitable fittings							
	M5-male	M5-female	M6-male	M8-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
<b>Bellows vacuum cups, 1.5 folds - SBU1-VU</b>								
23.020.169.*	--	--	270.312/19 (p.414)	--	270.482 (p.420)	270.481 (p.423)	270.483 (p.429)	270.484 (p.433)
23.030.170.*	--	--	270.312/19 (p.414)	--	270.482 (p.420)	270.481 (p.423)	270.483 (p.429)	270.484 (p.433)
23.050.171.*	--	--	270.314 (p.415)	--	270.490 (p.420)	270.489 (p.423)	270.491 (p.429)	270.492 (p.434)
<b>Bellows vacuum cups, 2.5 folds - SBU2-VU</b>								
21.009.106.*	270.013 (p.410)	270.005 (p.412)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	--	--
21.020.090.*	270.024 (p.410)	--	270.104 (p.413)	--	270.033 (p.416)	270.478 (p.421)	--	--
21.032.091.*	--	--	270.315 (p.414)	--	270.132 (p.417)	270.114 (p.422)	270.190, 270.540 (p.428)	270.192, 270.539 (p.432)
21.030.076.*	--	--	--	270.255 (p.415)	270.486 (p.420)	270.485 (p.423)	270.487 (p.429)	270.488 (p.434)
21.051.097.*	--	--	--	--	270.132 (p.417)	270.114 (p.422)	270.204 (p.427)	270.324 (p.432)
21.062.092.*	--	--	270.315 (p.414)	--	--	--	270.540 (p.429)	270.539 (p.434)

## Dimensions



Drawing A



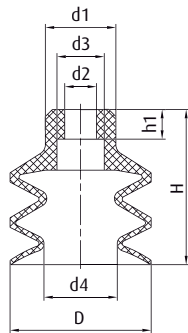
Drawing B

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

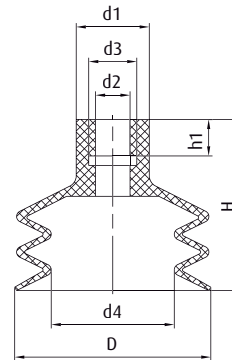




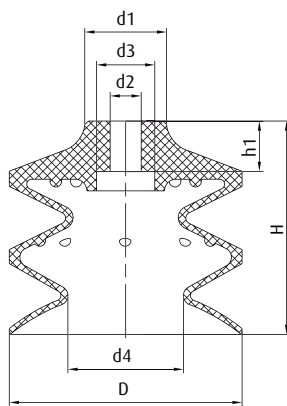
## Dimensions



**Drawing C**



**Drawing D**



**Drawing E**

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	H [mm]	h1 [mm]
<b>Bellows vacuum cups, 1.5 folds - SBU1-VU</b>									
23.020.169.*	A	20	15	6	12	12.5	22	22	7
23.030.170.*	A	30	20	6	12	17	34	30	7
23.050.171.*	A	50	29	9	20	31	56	37	7
<b>Bellows vacuum cups, 2.5 folds - SBU2-VU</b>									
21.009.106.*	B	9	9	5	--	4	--	15	7
21.020.090.*	C	20	10	4.5	6.5	10.5	--	22	4.2
21.032.091.*	B	30	18	8	15	17	--	38	13
21.030.076.*	C	31	18.5	8	15	19.5	--	29	7
21.051.097.*	D	51	19	9	12.5	32	--	45	9.5
21.062.092.*	E	60	21	8	15	30	--	55	13

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups with 1.5 and 4.5 folds, modular - SP-B

### Bellows vacuum cups with 1.5 and 4.5 folds, modular - SP-B






#### Product Description

Bellows vacuum cups with a short or long lift.  
Version: Replacement sealing lip for attachment to fitting

#### Advantage

- > High suction force
- > Fast cycle times possible
- > Very resistant to wear (Tepuflex®)
- > Compatible with established products from other vendors

#### Technical data

Item no.	Model / Lip dimensions	 Number of folds	Material / Colour
 <b>Bellows vacuum cups, 1.5 folds</b>			
<b>23.005.178._*</b>	SP-B1-5	2	SI (r), SI-AS (sw), CR (sw)
<b>23.008.166._*</b>	SP-B1-8	3.5	SI (r), SI-AS (sw), CR (sw)
<b>23.011.007._*</b>	SP-B1-10	5	SI (tr), SI-AS (sw), CR (sw)
<b>23.016.015._*</b>	SP-B1-15	7	SI (tr), SI-AS (sw), CR (sw)
<b>23.020.026._*</b>	SP-B1-20	9	Tepuflex® (or), SI (tr), CR (sw)
<b>23.030.037._*</b>	SP-B1-30	9	Tepuflex® (or), SI (tr), CR (sw)
<b>23.040.045._*</b>	SP-B1-40	9	Tepuflex® (or), SI (tr), CR (sw)
<b>23.050.054._*</b>	SP-B1-50	12	Tepuflex® (or), SI (tr), CR (sw)
<b>23.078.065._*</b>	SP-B1-75	22	Tepuflex® (or), SI (tr), CR (sw)
<b>23.117.069._*</b>	SP-B1-110	29	Tepuflex® (or), SI (tr), CR (sw)
<b>23.160.072._*</b>	SP-B1-150	41	Tepuflex® (or), SI (tr), CR (sw)
 <b>Bellows vacuum cups, 4.5 folds</b>			
<b>25.020.025._*</b>	SP-B4-20	16	SI (tr), CR (sw)
<b>25.030.026._*</b>	SP-B4-30	21	SI (tr), CR (sw)
<b>25.040.027._*</b>	SP-B4-40	20	SI (tr), CR (sw)
<b>25.050.028._*</b>	SP-B4-50	25	SI (tr), CR (sw)

#### Accessories

Filter disc	Retaining ring	Stiffening ring
--	--	--
78.200 (p.474)	78.011 (p.475)	--
78.201 (p.474)	78.011 (p.475)	--
78.202 (p.474)	78.012 (p.475)	--
78.203 (p.474)	78.013 (p.475)	--
--	--	--
--	--	--
--	--	--
--	--	--
--	78.011 (p.475)	78.000 (p.475)
--	78.012 (p.475)	78.001 (p.475)
--	78.012 (p.475)	78.002 (p.475)
--	78.013 (p.475)	78.003 (p.475)

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



### Accessories

Item no.	Suitable fittings									
	M5- male	M5- female	M6- male	G1/8- male	G1/8- female	G1/4- male	G3/8- male	G3/8- female	G1/2- female	G3/4- female
<b>Bellows vacuum cups, 1.5 folds</b>										
23.005.178.*	270.153 (p.409)	--	--	--	--	--	--	--	--	--
23.008.166.*	270.153 (p.409)	--	--	--	--	--	--	--	--	--
23.011.007.*	270.134 (p.409)	--	270.104 (p.413)	--	--	--	--	--	--	--
23.016.015.*	270.134 (p.409)	--	270.104 (p.413)	--	--	--	--	--	--	--
23.020.026.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
23.030.037.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
23.040.045.*	--	--	--	--	270.251, 270.501-S (p.423)	270.506-S (p.428)	270.505-S (p.434)	--	--	--
23.050.054.*	--	--	--	--	270.252, 270.502-S (p.424)	270.504-S (p.429)	270.507-S (p.435)	--	--	--
23.078.065.*	--	--	--	--	270.527-S (p.424)	--	--	270.528-S (p.436)	270.529-S (p.436)	--
23.117.069.*	--	--	--	--	--	--	--	270.530-S (p.437)	270.531-S (p.437)	--
23.160.072.*	--	--	--	--	--	--	--	--	270.532-S (p.437)	270.533-S (p.437)
<b>Bellows vacuum cups, 4.5 folds</b>										
25.020.025.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
25.030.026.*	--	--	--	--	270.251, 270.501-S (p.423)	270.506-S (p.428)	270.505-S (p.434)	--	--	--
25.040.027.*	--	--	--	--	270.251, 270.501-S (p.423)	270.506-S (p.428)	270.505-S (p.434)	--	--	--
25.050.028.*	--	--	--	--	270.252, 270.502-S (p.424)	270.504-S (p.429)	270.507-S (p.435)	--	--	--

### Ordering notes:

Explanation of the ending of the accessory fitting:  
 > S with screen

Continued on the next page →

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
 Average holding forces for vacuum cups you will find on page 760



# Series | Bellows vacuum cups SB

Bellows vacuum cups with 1.5 and 4.5 folds, modular - SP-B

## Bellows vacuum cups - modular

### Example:



+



=



Assembly example



+



=

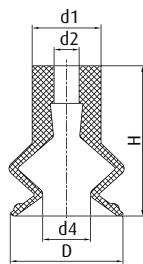


Assembly example

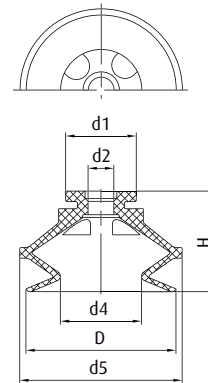
- \* Fittings are optionally available with and without filter screen
- \*\* Fittings come fitted with filter screen as standard

- > The modular series allows you to assemble your own vacuum cups
- > Worn sealing lips can be replaced quickly, cost-effective and easily
- > High flexibility thanks to a large selection of fitting threads

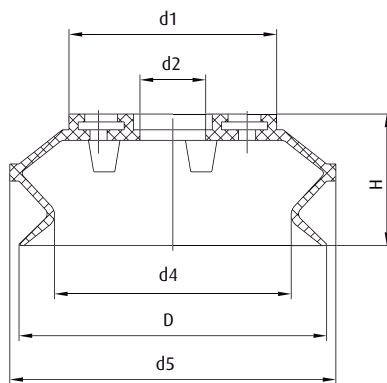
## Dimensions



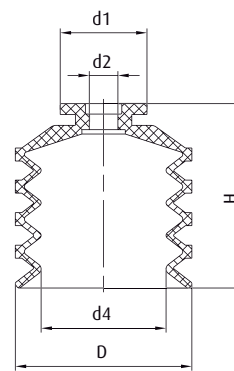
Drawing A



Drawing B



Drawing C



Drawing D

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

# Series | Bellows vacuum cups SB

Bellows vacuum cups with 1.5 and 4.5 folds, modular - SP-B



Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d4 [mm]	Ø d5 [mm]	H [mm]
<b>Bellows vacuum cups, 1.5 folds</b>							
23.005.178.*	A	6	4.5	2	2.2	--	9
23.008.166.*	A	9	5.5	2	3.8	--	12
23.011.007.*	A	11	9	3.9	5.5	--	17
23.016.015.*	A	16	9	3.9	8	--	19
23.020.026.*	B	21	14.5	5.5	11	24	19.5
23.030.037.*	B	33	15	5.5	18.5	37	28
23.040.045.*	B	43	20	7.5	23	46	29
23.050.054.*	B	53	26	10.5	32	58	35
23.078.065.*	C	81	55	10	59	84	37
23.117.069.*	C	117	79	25	90	124	50
23.160.072.*	C	160	110	24	112	166	67
<b>Bellows vacuum cups, 4.5 folds</b>							
25.020.025.*	D	20	14.5	5	14	--	23
25.030.026.*	D	31	20	6.5	22	--	32
25.040.027.*	D	41	20	6.5	29	--	43
25.050.028.*	D	51	27	10.5	37	--	53

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups, 1.5 and 4.5 folds, with fully assembled fitting - SP-B

### Bellows vacuum cups, 1.5 and 4.5 folds, with fully assembled fitting - SP-B



#### Product Description

Bellows vacuum cups with a short or long lift.  
Version: Complete with vacuum cup fitting and filter screen.

#### Advantage

- > High suction force
- > Fast cycle times possible
- > Very resistant to wear (Tepuflex®)
- > Compatible with established products from other vendors

#### Technical data

Item no.	Model / Lip dimensions	Connection thread		Number of folds	Material / Colour
 <b>Complete vacuum cups, 1.5 folds with fitting &amp; filter screen</b>					
<b>22.020.020._*</b>	SP-B1-20	G1/8-male, M5-female	9	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.030.033._*</b>	SP-B1-30	G1/8-male, M5-female	9	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.040.045._*</b>	SP-B1-40	G1/8-female	9	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.050.056._*</b>	SP-B1-50	G1/8-female	12	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.078.163._*</b>	SP-B1-75	G1/8-female	22	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.078.166._*</b>	SP-B1-75	G3/8-female	22	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.078.169._*</b>	SP-B1-75	G1/2-female	22	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.117.164._*</b>	SP-B1-110	G3/8-female	29	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.117.167._*</b>	SP-B1-110	G1/2-female	29	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.160.165._*</b>	SP-B1-150	G1/2-female	41	1.5	Tepuflex® (or), SI (tr), CR (sw)
<b>22.160.168._*</b>	SP-B1-150	G3/4-female	41	1.5	Tepuflex® (or), SI (tr), CR (sw)
 <b>Complete vacuum cups, 4.5 folds with fitting &amp; filter screen</b>					
<b>24.020.033._*</b>	SP-B4-20	G1/8-male, M5-female	16	4.5	SI (tr), CR (sw)
<b>24.030.039._*</b>	SP-B4-30	G1/8-female	21	4.5	SI (tr), CR (sw)
<b>24.040.074._*</b>	SP-B4-40	G1/8-female	20	4.5	SI (tr), CR (sw)
<b>24.050.087._*</b>	SP-B4-50	G1/8-female	30	4.5	SI (tr), CR (sw)

#### Accessories

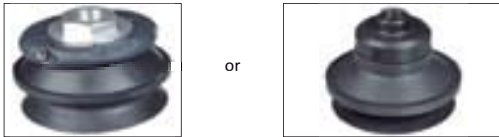
Spare cup	Filter disc	Stiffening ring
23.020.026._* (p.308)	78.200 (p.474)	--
23.030.037._* (p.321)	78.201 (p.474)	--
23.040.045._* (p.332)	78.202 (p.474)	--
23.050.054._* (p.338)	78.203 (p.474)	--
23.078.065._* (p.349)	--	--
23.078.065._* (p.349)	--	--
23.078.065._* (p.349)	--	--
23.117.069._* (p.355)	--	--
23.117.069._* (p.355)	--	--
23.160.072._* (p.358)	--	--
23.160.072._* (p.358)	--	--
25.020.025._* (p.308)	--	78.000 (p.475)
25.030.026._* (p.318)	--	78.001 (p.475)
25.040.027._* (p.330)	--	78.002 (p.475)
25.050.028._* (p.337)	--	78.003 (p.475)

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



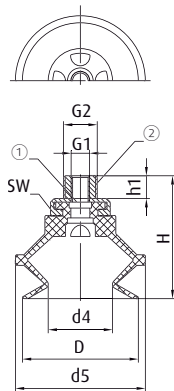
## Bellows vacuum cups with fully assembled fitting

### Example:

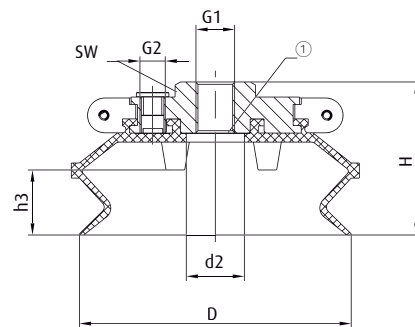


- > High process reliability thanks to permanently installed fitting
- > Worn sealing lips can be replaced if necessary

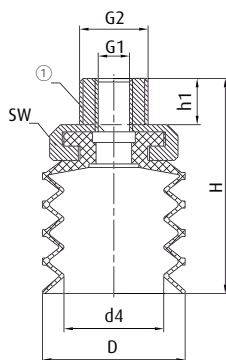
## Dimensions



Drawing A



Drawing B



Drawing C

① = Filter screen    ② = Aluminium

Continued on the next page →

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups, 1.5 and 4.5 folds, with fully assembled fitting - SP-B

Item no.	Drawing	∅ D [mm]	∅ d2 [mm]	∅ d4 [mm]	∅ d5 [mm]	G1	G2	H [mm]	h1 [mm]	h3 [mm]	SW
<b>Complete vacuum cups, 1.5 folds with fitting &amp; filter screen</b>											
22.020.020.*	A	21	--	11	24	M5	G1/8	27	6.5	--	17
22.030.033.*	A	33	--	18.5	37	M5	G1/8	35	6.5	--	17
22.040.045.*	A	43	--	23	46	G1/8	--	35	--	--	12
22.050.056.*	A	53	--	32	58	G1/8	--	42	--	--	12
22.078.163.*	B	81	10	--	--	G1/8	--	50	--	21.6	28
22.078.166.*	B	81	10	--	--	G3/8	--	50	--	21.6	28
22.078.169.*	B	81	10	--	--	G1/2	--	50	--	21.6	28
22.117.164.*	B	117	25	--	--	G3/8	G1/8	66	--	28	30
22.117.167.*	B	117	25	--	--	G1/2	G1/8	66	--	28	30
22.160.165.*	B	160	24	--	--	G1/2	G1/8	81.5	--	42	38
22.160.168.*	B	160	24	--	--	G3/4	G1/8	81.5	--	42	38
<b>Complete vacuum cups, 4.5 folds with fitting &amp; filter screen</b>											
24.020.033.*	C	20	--	14	--	M5	G1/8	30	6.5	--	17
24.030.039.*	C	31	--	22	--	G1/8	--	40	--	--	12
24.040.074.*	C	41	--	29	--	G1/8	--	51	--	--	12
24.050.087.*	C	51	--	37	--	G1/8	--	61	--	--	12

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760





## Varioflex® bellows cups, 1.5 folds - SP-BX1

**NEW**



**COMPOSITE MATERIAL 60°/30°**

### Product Description

Bellows vacuum cups with 1.5 folds made of an extremely wear-resistant polymer.  
Soft, flexible sealing lip in 30° Shore A (red).  
Stable body in 60° Shore A (black).  
Cleats stabilise the product.

### Advantage



- > Long life cycle reduces machine downtimes
- > Perfect sealing performance on rough or uneven surface
- > High stability and fast reset
- > Oil and Ozone resistant
- > Extremely low-marking
- > Bellows compensate for height differences
- > Cleats allow for fast acceleration

### Notes:

Explanation of the type description:

- > SP-BX1 = series name of the bellows vacuum cup with 1.5 folds
- > -xx = nominal diameter
- > Example: SP-BX1-15 = bellows vacuum cup with 1.5 folds and a nominal diameter of 15 mm

### Technical data

Model / Lip dimensions	Ø [mm]	Connection thread 1	Item no.	Connection thread 2	Item no.	Connection thread 3	Item no.	Usage temperature [°C]		
	<b>Bellows vacuum cups 1.5 folds - SP-BX1 fully assembled with fitting</b>									
SP-BX1-15	16	M5-male	22.016.253.16	M6-male	22.016.254.16	--	--	4.5	10 - 50	23.016.263.16
SP-BX1-20	21	G1/8-male	22.021.255.16	--	--	--	--	5	10 - 50	23.021.264.16
SP-BX1-25	26	G1/8-male	22.026.256.16	--	--	--	--	5	10 - 50	23.026.265.16
SP-BX1-35	37	G1/8-female	22.037.257.16	G1/4-male	22.037.258.16	--	--	9	10 - 50	23.037.266.16
SP-BX1-50	53	G1/8-female	22.053.259.16	G1/4-male	22.053.260.16	G3/8-male	22.053.261.16	10	10 - 50	23.053.267.16
SP-BX1-75	75	G3/8-male	22.075.262.16	G3/8-female	22.075.263.16	--	--	18	10 - 50	--

### Accessories

Spare cup

Continued on the next page →

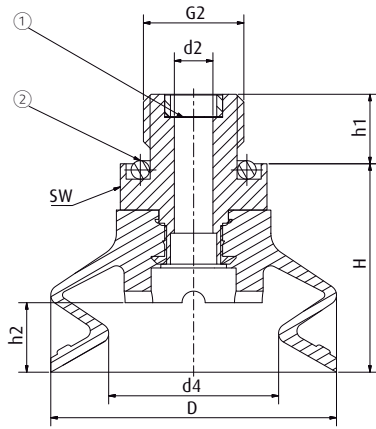
\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



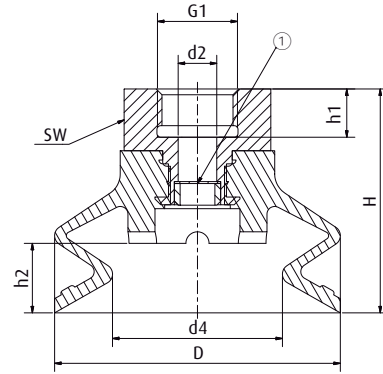
# Series | Bellows vacuum cups SB

Varioflex® bellows cups, 1.5 folds - SP-BX1

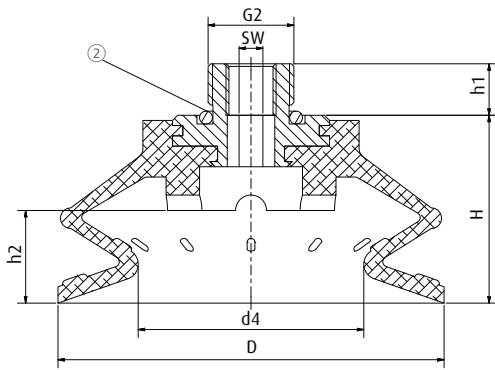
## Dimensions



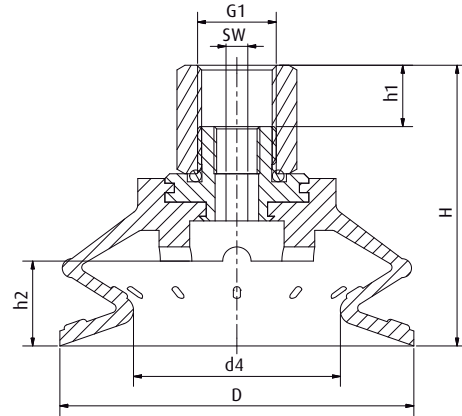
Drawing A



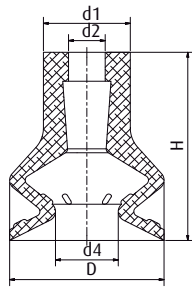
Drawing B



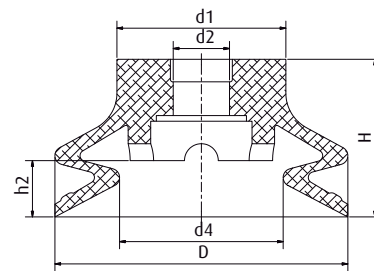
Drawing C



Drawing D



Drawing E



Drawing F

① = Filter screen ② = O-ring

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

# Series | Bellows vacuum cups SB

Varioflex® bellows cups, 1.5 folds - SP-BX1



Item no.	Drawing	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	∅ d4 [mm]	G1 (female)	G2 (male)	H	h1 [mm]	h2 [mm]	SW
<b>Bellows vacuum cups 1.5 folds - SP-BX1 fully assembled with fitting</b>											
22.016.253.*	A	16	--	2.5	6.5	--	M5	25	3.6	--	8
22.016.254.*	A	16	--	2.5	6.5	--	M6	24	6	--	13
22.021.255.*	A	21	--	4	12	--	G1/8	19	7	5	13
22.026.256.*	A	26	--	4	14.5	--	G1/8	19	7	5	13
22.037.257.*	B	37	--	5	22	G1/8	--	29	6.3	9	19
22.037.258.*	A	37	--	5	22	--	G1/4	27	9	9	19
22.053.259.*	B	53	--	8	32.5	G1/8	--	35	9	10	22
22.053.260.*	A	53	--	6	32.5	--	G1/4	32	9	10	22
22.053.261.*	A	53	--	6	32.5	--	G3/8	32	10	10	22
22.075.262.*	C	75	--	--	44	--	G3/8	36.5	10	18	8
22.075.263.*	D	75	--	--	44	G3/8	--	55	13	18	8
<b>Spare cups</b>											
23.016.263.*	E	16	9	4	6.5	--	--	19.5	--	--	--
23.021.264.*	F	21	11	5	12	--	--	14	--	5	--
23.026.265.*	F	26	15	5	14.5	--	--	14	--	5	--
23.037.266.*	F	37	20	7	22	--	--	21	--	9	--
23.053.267.*	F	53	26	10.5	32.5	--	--	26	--	10	--

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



# Series | Bellows vacuum cups SB

Varioflex® bellows cups, 2.5 folds - SP-BX2

## Varioflex® bellows cups, 2.5 folds - SP-BX2

**NEW**



COMPOSITE MATERIAL 60°/30°



### Product Description

Bellows vacuum cups with 2.5 folds made of an extremely wear-resistant polymer.  
Soft, flexible sealing lip in 30° Shore A (red).  
Stable body in 60° Shore A (black).

### Advantage





- > Long life cycle reduces machine downtimes
- > Perfect sealing performance on rough or uneven surface
- > High stability and fast reset
- > Oil and Ozone resistant
- > Extremely low-marking
- > Excellent height and angle compensation
- > Optional: Filter disc from Ø 26 mm installed between the bellows

### Notes:

Explanation of the type description:

- > SP-BX2 = series name of the bellows vacuum cup with 2.5 folds
- > -xx = nominal diameter
- > Example: SP-BX2-15 = bellows vacuum cup with 2.5 folds and a nominal diameter of 15 mm

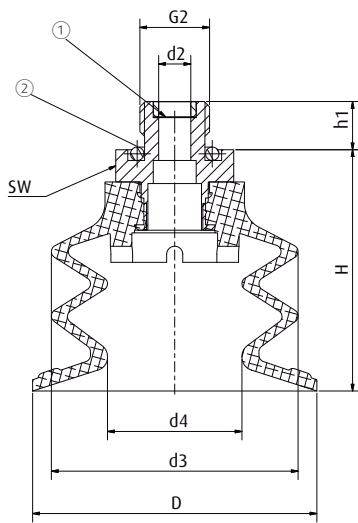
### Technical data

Model / Lip dimensions	Ø [mm]	Connection thread 1	Item no.	Connection thread 2	Item no.	Connection thread 3	Item no.	Usage temp. [°C]	Accessories
									<b>Spare cup</b>
 <b>Bellows vacuum cups 2.5 folds - SP-BX2 fully assembled with fitting</b>									
SP-BX2-15	16	M5-male	20.016.145.16	M6-male	20.016.146.16	--	--	5.5 10 - 50	21.016.175.16
SP-BX2-20	21	G1/8-male	20.021.147.16	--	--	--	--	6.5 10 - 50	21.021.176.16
SP-BX2-25	26	G1/8-male	20.026.148.16	--	--	--	--	8 10 - 50	21.026.177.16
SP-BX2-35	37	G1/8-female	20.037.149.16	G1/4-male	20.037.150.16	--	--	14 10 - 50	21.037.177.16
SP-BX2-50	53	G1/8-female	20.053.151.16	G1/4-male	20.053.152.16	G3/8-male	20.053.153.16	19 10 - 50	21.053.178.16
SP-BX2-75	77	G3/8-male	20.077.154.16	G3/8-female	20.077.155.16	--	--	25 10 - 50	--
 <b>Bellows vacuum cups 2.5 folds - SP-BX2 fully assembled with fitting and filter</b>									
SP-BX2-25	26	G1/8-male	20.026.148.16-FI	--	--	--	--	8 10 - 50	21.026.177.16-FI
SP-BX2-35	37	G1/8-female	20.037.149.16-FI	G1/4-male	20.037.150.16-FI	--	--	14 10 - 50	21.037.177.16-FI
SP-BX2-50	53	G1/8-female	20.053.151.16-FI	G1/4-male	20.053.152.16-FI	G3/8-male	20.053.153.16-FI	19 10 - 50	21.053.178.16-FI
SP-BX2-75	77	G3/8-male	20.077.154.16-FI	G3/8-female	20.077.155.16-FI	--	--	25 10 - 50	--

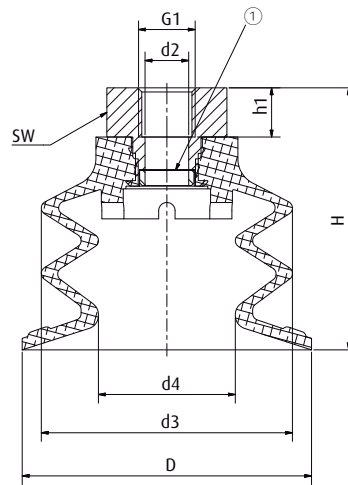
\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



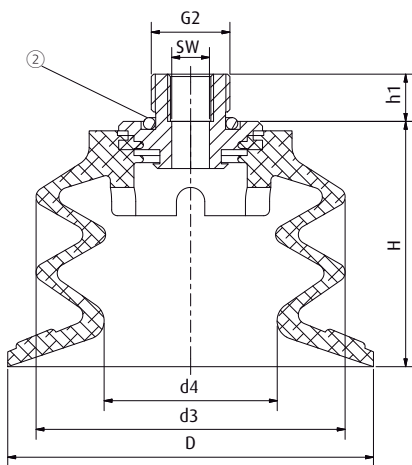
Dimensions



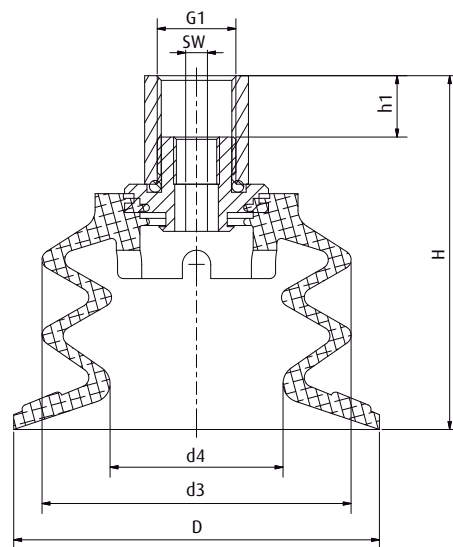
Drawing A



Drawing B



Drawing C



Drawing D

① = Filter screen ② = O-ring

Continued on the next page →

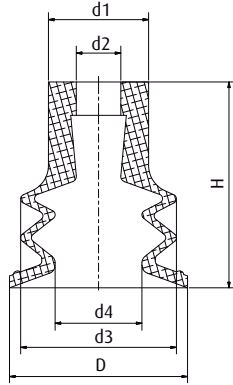
\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



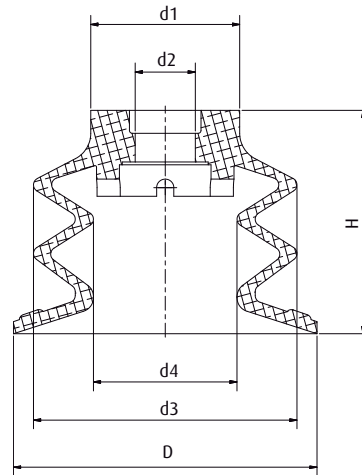
# Series | Bellows vacuum cups SB

Varioflex® bellows cups, 2.5 folds - SP-BX2

## Dimensions



Drawing E



Drawing F

① = Filter screen ② = O-ring

Item no.	Drawing	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	∅ d3 [mm]	∅ d4 [mm]	G1 (female)	G2 (male)	H	h1 [mm]	SW
<b>Bellows vacuum cups 2.5 folds - SP-BX2 fully assembled with fitting</b>											
20.016.145.*	A	16	--	2.8	14	9	--	M5	24	4	8
20.016.146.*	A	16	--	2.5	14	9	--	M6	23	6	13
20.021.147.*	A	21	--	4	20	12	--	G1/8	20.2	7	13
20.026.148.*	A	26	--	4	23	12	--	G1/8	24	7	13
20.037.149.*	B	37	--	5	31	18	G1/8	--	34.8	6.3	19
20.037.150.*	A	37	--	5	31	18	--	G1/4	32.8	9	19
20.053.151.*	B	53	--	8	46	25	G1/8	--	48	9	22
20.053.152.*	A	53	--	6	46	25	--	G1/4	45	9	22
20.053.153.*	A	53	--	6	46	25	--	G3/8	45	10	22
20.077.154.*	C	77.5	--	--	65.5	37	--	G3/8	52	10	8
20.077.155.*	D	77.5	--	--	65.5	37	G3/8	--	75	13	8
<b>Spare cups</b>											
21.016.175.*	E	16	9	4	14	9	--	--	18.5	--	--
21.021.176.*	F	21	11	5	20	12	--	--	15.2	--	--
21.026.177.*	F	26	15	5	23	12	--	--	19	--	--
21.037.177.*	F	37	20	7	31	18	--	--	27	--	--
21.053.178.*	F	53	26	10.5	46	25	--	--	39	--	--

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



### Vinyl bellows cups, 1.5 folds - SBV 1




#### Product Description


Durable bellows vacuum cups with 1.5 folds from snug-fitting, wear-resistant material. Very well suited for handling abrasive products such as cardboard. Flexible material enables low-leakage gripping of highly flexible products such as foil-packaged goods. Connection via plug-in nipple.

#### Advantage

- > Bellows compensate differences in height and enable good adaptation to curved or uneven product surfaces
- > Flexible, soft lips
- > Long life cycle
- > Cost-effective replacement of worn seals

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
23.005.095._*	SBV 1-5	2	1.5	Vinyl (bl)
23.007.112._*	SBV 1-7	2	1.5	Vinyl (bl)
23.013.097._*	SBV 1-13	5	1.5	Vinyl (bl)
23.015.098._*	SBV 1-15	5	1.5	Vinyl (bl)
23.019.109._*	SBV 1-19	8	1.5	Vinyl (bl)
23.020.114._*	SBV 1-20	6	1.5	Vinyl (bl)
23.022.028._*	SBV 1-22	8	1.5	Vinyl (bl)
23.028.113._*	SBV 1-28	9	1.5	Vinyl (bl)
23.030.107._*	SBV 1-30	10.5	1.5	Vinyl (bl)
23.031.192._*	SBV 1-31	6	1.5	Vinyl (bl)
23.035.111._*	SBV 1-35	12	1.5	Vinyl (bl)
23.052.116._*	SBV 1-52	6	1.5	Vinyl (bl)
23.070.060._*	SBV 1-70	20	1.5	Vinyl (bl)

Continued on the next page 

\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



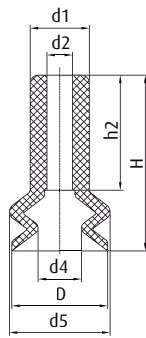
# Series | Bellows vacuum cups SB

Vinyl bellows cups, 1.5 folds - SBV 1

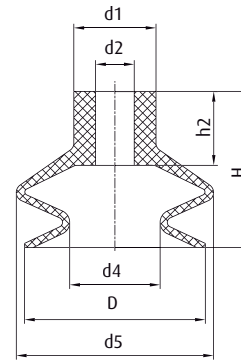
## Accessories

Item no.	Suitable fittings					
	M5-male	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.005.095.*	270.195 (p.409)	--	--	--	--	--
23.007.112.*	270.001 (p.409)	--	--	--	--	--
23.013.097.*	270.013 (p.410)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	--	--
23.015.098.*	270.134 (p.409)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.019.109.*	--	--	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)
23.020.114.*	270.134 (p.409)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.022.028.*	270.013 (p.410)	270.103 (p.413)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
23.028.113.*	270.134 (p.409)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
23.030.107.*	--	270.312/19 (p.414)	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)
23.031.192.*	--	270.312/19 (p.414)	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)
23.035.111.*	270.443 (p.410)	--	270.238 (p.417)	270.110 (p.422)	270.534 (p.425)	--
23.052.116.*	--	--	270.132 (p.417)	--	270.208 (p.425)	270.452 (p.431)
23.070.060.*	--	--	--	--	270.184 (p.431)	--

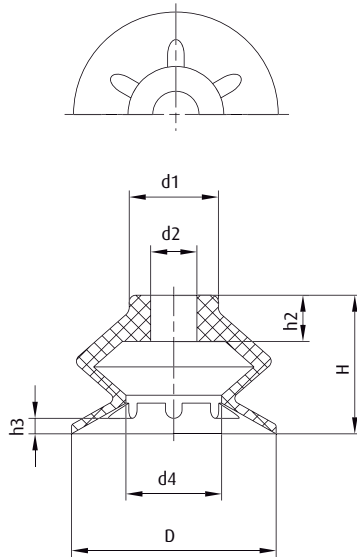
## Dimensions



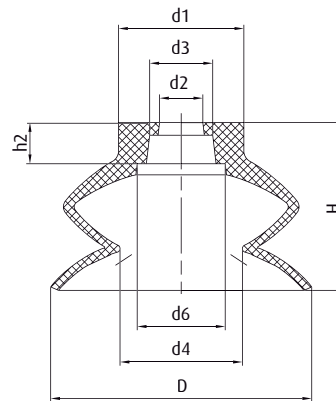
Drawing A



Drawing B



Drawing C



Drawing D

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



# Series | Bellows vacuum cups SB

Vinyl bellows cups, 1.5 folds - SBV 1



Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	Ø d6 [mm]	H [mm]	h2 [mm]	h3 [mm]
23.005.095._*	A	4.5	3	1.5	--	2.5	4	--	12.5	10	--
23.007.112._*	A	6	3.7	1.6	--	2.5	6.5	--	11	7	--
23.013.097._*	B	13	7.5	3.5	--	7.5	12.5	--	14.5	6.5	--
23.015.098._*	B	15.5	9	3.4	--	8.5	17	--	20.5	11.5	--
23.019.109._*	B	19	13	7	--	12	19	--	18	7.5	--
23.020.114._*	B	20	9.5	3.5	--	11	19	--	20	9.5	--
23.022.028._*	A	22	10	4.5	--	11	24	--	19	9	--
23.028.113._*	B	28	12.5	3.5	--	13	26	--	21	9	--
23.030.107._*	B	30	13	7	--	15	29.5	--	22	7	--
23.031.192._*	C	31	13.5	7	--	14.5	--	--	21	7	2.4
23.035.111._*	B	35	17	6	--	20	33	--	30	16	--
23.052.116._*	B	51	18.5	9.5	--	30	50	--	41	21	--
23.070.060._*	D	70	34	11.5	17	33	--	24	45	11	--

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Vinyl bellows cups, 2.5 folds - SBV 2

### Vinyl bellows cups, 2.5 folds - SBV 2



#### Product Description

Durable bellows vacuum cups with a long lift, made of snug-fitting, wear-resistant material. Very well suited for handling abrasive products such as cardboard. Flexible material enables low-leakage gripping of highly flexible products such as foil-packaged goods. Connection via plug-in nipple.

#### Advantage

- > Long vacuum cup lift and good adaptation to curved or uneven product surfaces
- > Flexible, soft lips
- > Long life cycle
- > Cost-effective replacement of worn seals

#### Technical data

Item no.	Model / Lip dimensions	Number of folds	Material / Colour
21.004.142.*	SBV 2-4	1.3	Vinyl (bl)
21.006.001.*	SBV 2-6	3.5	Vinyl (bl)
21.010.070.*	SBV 2-10	5	Vinyl (bl)
21.018.068.*	SBV 2-18	11	Vinyl (bl)
21.023.066.*	SBV 2-23	9	Vinyl (bl)
21.029.069.*	SBV 2-29	10	Vinyl (bl)
21.032.082.*	SBV 2-32	14	Vinyl (bl)
21.040.027.*	SBV 2-40	16	Vinyl (bl)
21.050.084.*	SBV 2-50	20	Vinyl (bl)

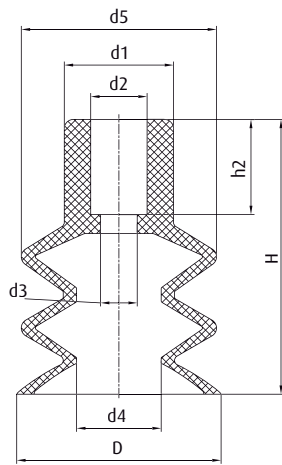
#### Accessories

Item no.	Suitable fittings						
	M5-male	M6-male	M10-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.004.142.*	270.195 (p.409)	--	--	--	--	--	--
21.006.001.*	270.013 (p.410)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	--	--
21.010.070.*	270.013 (p.410)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	--	--
21.018.068.*	270.013 (p.410)	270.103 (p.413)	--	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
21.023.066.*	--	--	270.177 (p.416)	--	--	270.451 (p.426)	270.452 (p.431)
21.029.069.*	--	--	--	270.132 (p.417)	270.114 (p.422)	270.043 (p.425)	270.178 (p.431)
21.032.082.*	--	--	270.177 (p.416)	--	--	270.451 (p.426)	270.452 (p.431)
21.040.027.*	--	--	270.177 (p.416)	--	--	270.451 (p.426)	270.452 (p.431)
21.050.084.*	--	--	270.177 (p.416)	--	--	270.451 (p.426)	270.452 (p.431)

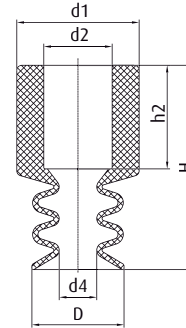
\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



Dimensions



Drawing A



Drawing B

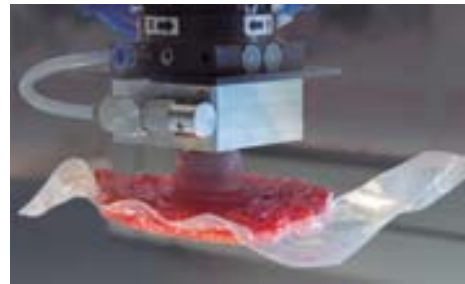
Item no.	Drawing	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	∅ d3 [mm]	∅ d4 [mm]	∅ d5 [mm]	H [mm]	h2 [mm]
21.004.142._*	A	3.5	3	1.5	1.5	2	4.5	12.5	9
21.006.001._*	B	6.5	8.5	5	--	2.5	--	14	7
21.010.070._*	B	10	10	5	--	5	--	15.5	7.5
21.018.068._*	A	19	10	5	5	9	19	24	9
21.023.066._*	A	23	17	11	11	13.5	23	26	12
21.029.069._*	A	29	15.5	8	5	12	28	39	13.5
21.032.082._*	A	32	17	11	11	19.5	32	35	14
21.040.027._*	A	40	20	10.5	8	18.5	40	53	13.5
21.050.084._*	A	50	19.5	10.5	6.5	30	50	49	13.5

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760





### Bellows vacuum cups, 1.5 folds - SBF-A



#### Product Description

Bellows vacuum cup with soft, very flexible single sealing lip for handling highly sensitive products with high leveling adjustment. Connection with fixed screwed nipple or attachment frame (Ø 80 mm). Compatible "snap-in" spring levelers available.

#### Advantage

- > Large holding force
- > Fine, flexible sealing lip fits in perfectly with irregularities of the product
- > Cleats for the sealing lip prevent retraction of flexible products (e.g. films)
- > Cost-effective replacement of worn seals
- > High process reliability due to fixed, non-rotating seat of the screw nipple

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
	<b>Rubber sealing lip for attachment to fitting</b>			
23.010.139.*	SBF-A -10	4	1.5	NBR (sw), SI (tr)
23.020.140.*	SBF-A -20	6	1.5	NBR (sw), SI (tr)
23.030.141.*	SBF-A -30	8	1.5	NBR (sw), SI (tr)
23.040.142.*	SBF-A -40	9.5	1.5	NBR (sw), SI (tr)
23.050.143.*	SBF-A -50	11	1.5	NBR (sw), SI (tr)
23.080.144.*	SBF-A -80	10	1.5	NBR (sw), SI (tr)

#### Accessories

##### Spare cup

	<b>Full vacuum cups with receptacle</b>				
22.080.161.*	SBF-A -80	10	1.5	NBR (sw), SI (tr)	23.080.144.* (p.348)

#### Accessories

Item no.	Suitable fittings								Suitable spring levelers (Snap-In)							
	M4-male	M5-male	M6-male	M10-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female	Spring leveler	Spring leveler	Spring leveler	Spring leveler	Spring leveler	Spring leveler		
<b>Rubber sealing lip for attachment to fitting</b>																
23.010.139.*	270.458 (p.408)	270.134 (p.409)	270.104 (p.413)	--	--	--	--	--	50.103 (p.454)	6	50.125 (p.454)	10	50.126 (p.454)	15	50.127 (p.454)	20
23.020.140.*	--	270.311 (p.411)	270.459 (p.414)	--	270.480 (p.420)	270.479 (p.423)	--	--	50.095 (p.456)	20	50.096 (p.456)	30	50.097 (p.456)	40	50.098 (p.456)	50

Continued on the next page →

\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



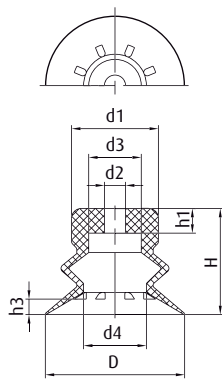
# Series | Bellows vacuum cups SB

Bellows vacuum cups, 1.5 folds - SBF-A

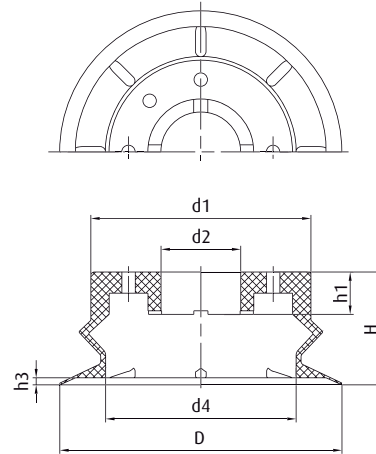
## Accessories

Item no.	Suitable fittings								Suitable spring levelers (Snap-In)							
	M4-male	M5-male	M6-male	M10-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female	Spring leveler	Spring leveler	Spring leveler	Spring leveler	Spring leveler	Spring leveler	Spring leveler	
23.030.141.*	--	--	270.460 (p.414)	--	270.482 (p.420)	270.481 (p.423)	270.483 (p.429)	270.484 (p.433)	50.095 (p.456)	20	50.096 (p.456)	30	50.097 (p.456)	40	50.098 (p.456)	50
23.040.142.*	--	--	270.498 (p.414)	--	270.486 (p.420)	270.485 (p.423)	270.487 (p.429)	270.488 (p.434)	50.170 (p.456)	20	50.171 (p.456)	30	50.172 (p.456)	40	50.173 (p.456)	50
23.050.143.*	--	--	270.499 (p.414)	--	270.490 (p.420)	270.489 (p.423)	270.491 (p.429)	270.492 (p.434)	50.174 (p.456)	20	50.175 (p.456)	30	50.176 (p.456)	40	50.177 (p.456)	50
23.080.144.*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<b>Full vacuum cups with receptacle</b>																
22.080.161.*	--	--	--	270.462 (p.416)	--	--	270.514 (p.429)	270.513 (p.434)	--	--	--	--	--	--	--	--

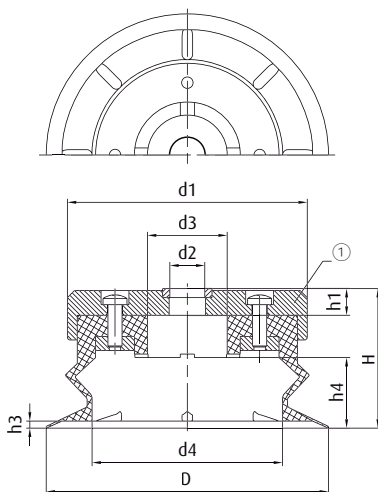
## Dimensions



Drawing A



Drawing B



Drawing C

① = Aluminium

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

# Series | Bellows vacuum cups SB

Bellows vacuum cups, 1.5 folds - SBF-A



Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]	h1 [mm]	h3 [mm]	h4 [mm]
<b>Rubber sealing lip for attachment to fitting</b>										
23.010.139.*	A	10	10	4	6	5	15.5	3	1	--
23.020.140.*	A	20	15	6	10	11	19	4	2	--
23.030.141.*	A	30	17	6	12	14	23	5	2.8	--
23.040.142.*	A	40	25	6	15	18	30	7	4.4	--
23.050.143.*	A	50	30	6	21	21	32	7	4	--
23.080.144.*	B	80	62	23	--	54	32	12	2	--
<b>Full vacuum cups with receptacle</b>										
22.080.161.*	C	80	68	10	23	54	40	7.5	2	20

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups, 1.5 folds - SBF-B

### Bellows vacuum cups, 1.5 folds - SBF-B




#### Product Description

Bellows vacuum cup, 1.5 folds with soft sealing lip and a soft bellows for handling curved or uneven product surfaces. Connection via plug-in nipple. Compatible "snap-in" spring levelers available.





#### Advantage

- > Bellows compensate height differences
- > Good adaptation to curved or uneven product surfaces
- > Cost-effective replacement of worn seals

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
23.006.145.*	SBF-B-6	5	1.5	NBR (sw), SI (tr)
23.008.146.*	SBF-B-8	5	1.5	NBR (sw), SI (tr)
23.010.147.*	SBF-B-10	5	1.5	NBR (sw), SI (tr)
23.015.148.*	SBF-B-15	7	1.5	NBR (sw), SI (tr)
23.020.149.*	SBF-B-20	6	1.5	NBR (sw), SI (tr)

#### Accessories

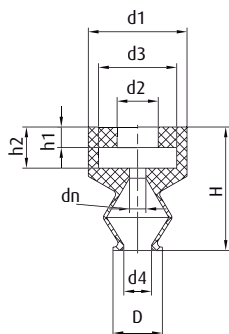
Item no.	 Suitable fittings					 Suitable spring levelers (Snap-In)					
	M5-male	M6-male	G1/8-male	G1/8-female	G1/4-male	Spring leveler		Hose outside Ø	Spring leveler		Hose outside Ø
23.006.145.*	270.200 (p.411)	--	270.064 (p.418)	270.065 (p.422)	--	50.018 (p.454)	8.5	4	50.019 (p.454)	8.5	6
23.008.146.*	270.200 (p.411)	--	270.064 (p.418)	270.065 (p.422)	--	50.018 (p.454)	8.5	4	50.019 (p.454)	8.5	6
23.010.147.*	270.200 (p.411)	--	270.064 (p.418)	270.065 (p.422)	--	50.018 (p.454)	8.5	4	50.019 (p.454)	8.5	6
23.015.148.*	270.200 (p.411)	--	270.064 (p.418)	270.065 (p.422)	--	50.018 (p.454)	8.5	4	50.019 (p.454)	8.5	6
23.020.149.*	270.317 (p.410)	270.103 (p.413)	270.205 (p.416)	270.109 (p.421)	270.194 (p.425)	--	--	--	50.020 (p.454)	8.5	6

\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760

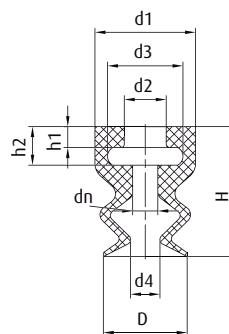




### Dimensions



Drawing A



Drawing B

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø dn [mm]	H [mm]	h1 [mm]	h2 [mm]
23.006.145.*	A	6	12	5	9.5	3.4	2	15	2.5	5
23.008.146.*	B	8	12	5	9	4	2	14.5	2.5	4.5
23.010.147.*	B	10	12	5	9	3.5	3	15.5	2.5	4.5
23.015.148.*	B	15	12	5	9	5.5	3	17	2.5	4.5
23.020.149.*	B	20	12	4.5	6	6	6	20	5	9.5

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups, 4.5 folds - SBF-C

### Bellows vacuum cups, 4.5 folds - SBF-C




#### Product Description

Bellows vacuum cup, 4.5 folds, with a very thin, flexible sealing lip and a large lift. Fine, flexible sealing lip fits in perfectly with irregularities of the product (e.g. groceries packaged in bags).  
Connection via screw nipples (hollow bolt + adapter)


#### Advantage

- > Optimal height and angle compensation
- > Very good fit to irregular products
- > Gentle handling of sensitive products
- > A very safe seat, bolted down with a bracket from the bottom
- > Cost-effective replacement of worn seals

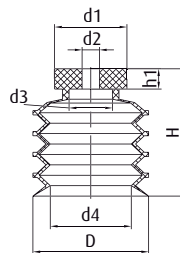
#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
25.010.044._*	SBF-C-10	4	4.5	NBR (sw), SI (tr)
25.020.045._*	SBF-C-20	10	4.5	NBR (sw), SI (tr)
25.030.046._*	SBF-C-30	14	4.5	NBR (sw), SI (tr)
25.040.047._*	SBF-C-40	19	4.5	NBR (sw), SI (tr)
25.050.048._*	SBF-C-50	26	4.5	NBR (sw), SI (tr)

#### Accessories

Item no.	 Suitable fittings					
	M4-male	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
25.010.044._*	270.458 (p.408)	--	270.009 (p.417)	270.007 (p.422)	--	--
25.020.045._*	--	270.459 (p.414)	270.480 (p.420)	270.479 (p.423)	--	--
25.030.046._*	--	270.460 (p.414)	270.482 (p.420)	270.481 (p.423)	270.483 (p.429)	270.484 (p.433)
25.040.047._*	--	--	270.486 (p.420)	270.485 (p.423)	270.487 (p.429)	270.488 (p.434)
25.050.048._*	--	--	270.490 (p.420)	270.489 (p.423)	270.491 (p.429)	270.492 (p.434)

#### Dimensions



Item no.	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]	h1 [mm]
25.010.044._*	10	10	4	--	6	14.5	3
25.020.045._*	20	15	6	10	14	25	4
25.030.046._*	30	18	6	12	19	38.5	5
25.040.047._*	40	25	6	15	28	44	7
25.050.048._*	50	30	6	19	32	54	7

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



### Bellows vacuum cups for chocolates - SL-PB



#### Product Description

Bellows vacuum cups made of FDA-approved material for handling delicate products with heavily textured surfaces.

#### Advantage

- > Gentle handling of the most sensitive surfaces
- > Also suitable for three-dimensional products, e.g. chocolates

#### Technical data

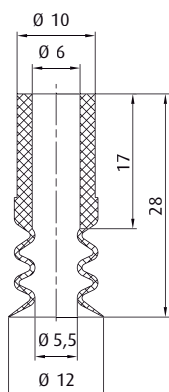
Item no.	Model / Lip dimensions	7	Material / Colour	Number of folds
21.012.079._*	SL-PB-12		SI (w)	2.5
27.016.001._*	SL-PB-16		SI (tr)	1.5

#### Accessories

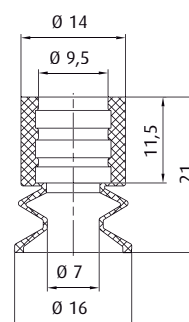
Suitable fittings

Item no.	M5-male	M10-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.012.079._*	270.443 (p.410)	--	270.238 (p.417)	270.110 (p.422)	270.534 (p.425)	--
27.016.001._*	270.244 (p.410)	270.177 (p.416)	--	--	270.451 (p.426)	270.452 (p.431)

#### Dimensions



Drawing A



Drawing B

Item no.	Drawing
21.012.079._*	A
27.016.001._*	B

\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Vacuum cups for baked goods - SL-B

### Vacuum cups for baked goods - SL-B



#### Product Description

Bellows vacuum cups especially suitable for baked goods such as waffles, bread, rolls, pizzas and donut.

#### Advantage

- > Large degree of leveling
- > Gentle attachment to the product
- > Good holding strength through optimised lip geometry
- > FDA-compliant

#### Ordering notes:

Matching assembly aid for special fitting 270.419: Item No. 90.007

#### Technical data

Item no.	Model / Lip dimensions	Number of folds	Number of folds	Material / Colour
21.034.179.*	SL-B-34	12	2.5	SI (tr)
25.038.016.*	SL-B-38	24	4.5	SI (tr)
27.039.017.*	SL-B-38A	20	5.5	SI (tr)
25.040.043.*	SL-B-40	24	4.5	SI (tr)
25.040.058.*	SL-B-40A	25	4.5	SI (bl)
21.060.074.*	SL-B-60	12	2.5	SI (tr)

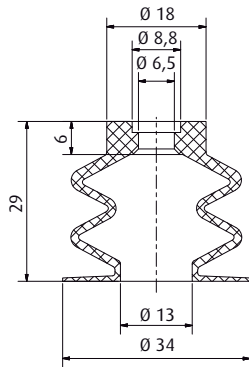
#### Accessories

Item no.	Suitable fittings				
	Without Thread	M6-male	G1/4-male	G1/4-female	G1/2-male
21.034.179.*	--	270.039 (p.414)	--	--	--
25.038.016.*	270.419 (p.441)	--	270.183 (p.431)	270.182 (p.434)	--
27.039.017.*	270.419 (p.441)	--	270.183 (p.431)	270.182 (p.434)	--
25.040.043.*	270.419 (p.441)	--	270.183 (p.431)	270.182 (p.434)	--
25.040.058.*	270.419 (p.441)	--	270.183 (p.431)	270.182 (p.434)	--
21.060.074.*	--	--	--	--	270.372 (p.437)

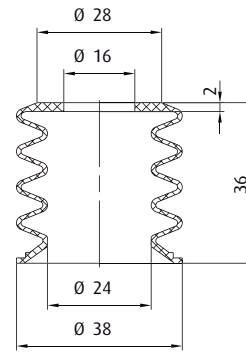
\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



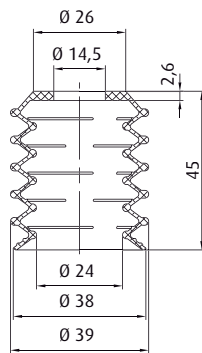
Dimensions



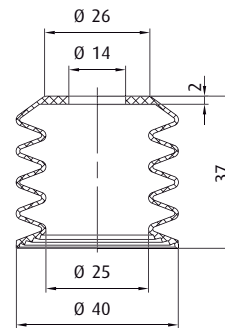
Drawing A



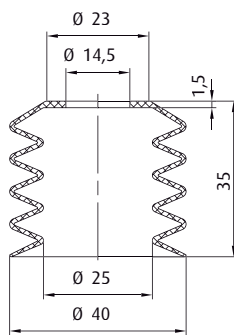
Drawing B



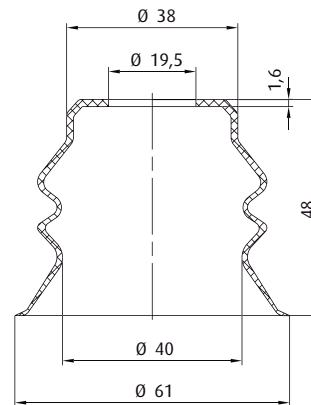
Drawing C



Drawing D



Drawing E



Drawing F

Item no.	Drawing
21.034.179._*	A
25.038.016._*	B
27.039.017._*	C
25.040.043._*	D
25.040.058._*	E
21.060.074._*	F

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Detectable vacuum cups for baked goods - SL-BD

### Detectable vacuum cups for baked goods - SL-BD



#### Product Description

Bellows vacuum cups especially suitable for baked goods such as bread, rolls or pizza. The vacuum cup material used is a special mixture that can be detected, for example by metal detectors from SAFELINE, and then separated and discarded.

#### Advantage

- > Detectable
- > FDA-compliant

#### Ordering notes:

Matching assembly aid for special fittings 270.419: Item No. 90.007

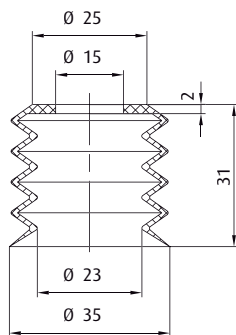
#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
25.035.069._*	SL-BD-35	25	4.5	SI (r)
25.040.066._*	SL-BD-40	28	4.5	SI (br), SI (bl)

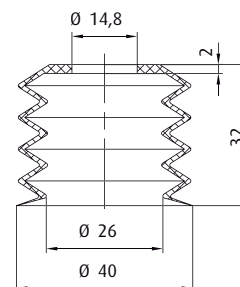
#### Accessories

Item no.	Without Thread
25.035.069._*	270.419 (p.441)
25.040.066._*	270.419 (p.441)

#### Dimensions



Drawing A



Drawing B

Item no.	Drawing
25.035.069._*	A
25.040.066._*	B

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



### Vacuum cups for eggs - SL-E



#### Product Description

Bellows vacuum cups made of FDA-compliant silicone in a design specially optimised for handling eggs. Very long vacuum cup lift.

#### Advantage

- > Good absorption
- > Great stroke movement

#### Technical data

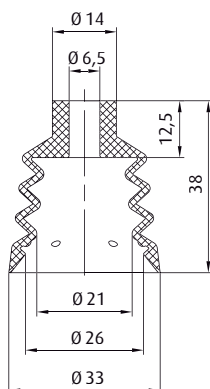
Item no.	Model / Lip dimensions	Number of folds	Material / Colour
27.033.008._*	SL-E-33	16	SI (tr)
27.034.023._*	SL-E-34	39	SI (r)

#### Accessories

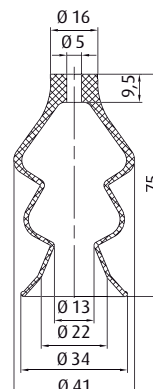
Suitable fittings

Item no.	M5-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
27.033.008._*	--	270.132 (p.417)	270.114 (p.422)	270.208 (p.425)	270.178 (p.431)
27.034.023._*	270.443 (p.410)	270.238 (p.417)	270.110 (p.422)	270.534 (p.425)	--

#### Dimensions



Drawing A



Drawing B

Item no.	Drawing
27.033.008._*	A
27.034.023._*	B

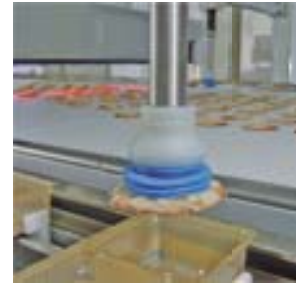
\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum cups, 1.5 and 2.5 folds - SV-SB

### Bellows vacuum cups, 1.5 and 2.5 folds - SV-SB




#### Product Description

Bellows vacuum cups, 1.5 and 2.5 folds, for standard packaging machines. Soft, flexible sealing lip for smooth contact. FDA-compliant materials (SI).


#### Advantage

> Gentle handling of sensitive products

#### Technical data

Item no.	Model / Lip dimensions		Number of folds	Material / Colour
<b>Bellows vacuum cups 1.5 folds - SV-SB1</b>				
23.016.232._*	SV-SB1-16	6	1.5	SI (tr)
23.030.230._*	SV-SB1-30	7	1.5	NR (gr)
<b>Bellows vacuum cups 2.5 folds - SV-SB2</b>				
21.030.030._*	SV-SB2-30	13	2.5	SI (tr), NR (bl)
21.040.132._*	SV-SB2-40	11	2.5	SI (tr), SI (bl)

#### Accessories

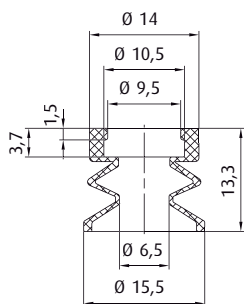
Item no.	 Suitable fittings				
	M5-male	M6-male	M10-male	G1/4-male	G1/4-female
<b>Bellows vacuum cups 1.5 folds - SV-SB1</b>					
23.016.232._*	270.311 (p.411)	270.312/19 (p.414)	--	--	--
23.030.230._*	--	--	270.177 (p.416)	270.451 (p.426)	270.452 (p.431)
<b>Bellows vacuum cups 2.5 folds - SV-SB2</b>					
21.030.030._*	--	--	270.177 (p.416)	270.451 (p.426)	270.452 (p.431)
21.040.132._*	--	--	--	--	--

\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760

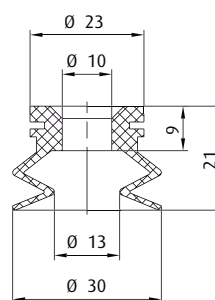




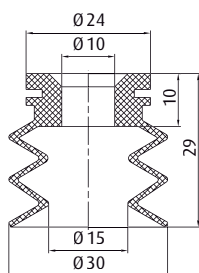
## Dimensions



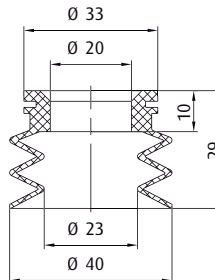
**Drawing A**



**Drawing B**



**Drawing C**



**Drawing D**

Item no.	Drawing
<b>Bellows vacuum cups 1.5 folds - SV-SB1</b>	
23.016.232.*	A
23.030.230.*	B
<b>Bellows vacuum cups 2.5 folds - SV-SB2</b>	
21.030.030.*	C
21.040.132.*	D

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760





### Bellows vacuum cups with 1.5 folds for dynamic sheet handling - SM-B

**NEW**



#### Product Description

Robust, round NBR bellows vacuum cups, 60° Shore A with vulcanised fitting made of aluminium and large area, multi-part "anti-slip" cleats. Various connection threads available. Silicone-free.

#### Advantage

- > Internal supports help to prevent deep-drawing or deformation of thin sheets
- > Leak-free suction even with curved surfaces due to flexible sealing lip
- > Fold geometry allows handling of three dimensional shaped sheets
- > Secure fit due to vulcanised connection thread

#### Technical data

Model / Lip dimensions	Thread (Aluminium)						
	G1/4-male	G1/4-female	G3/8-female	M10-male	M14x1.5-male	Rectangular adapter	
SM-B-30	22.030.171.1	22.030.172.1	22.030.173.1	22.030.174.1	22.030.175.1	22.030.176.1	9
SM-B-40	22.040.177.1	22.040.178.1	22.040.179.1	22.040.180.1	22.040.181.1	22.040.182.1	10
SM-B-50	22.050.183.1	22.050.184.1	22.050.185.1	22.050.186.1	22.050.187.1	22.050.188.1	11.5
SM-B-60	22.060.189.1	22.060.190.1	22.060.191.1	22.060.192.1	22.060.193.1	22.060.194.1	14.5
SM-B-80	22.080.195.1	22.080.196.1	22.080.197.1	22.080.198.1	22.080.199.1	22.080.200.1	22
SM-B-100	22.100.201.1	22.100.202.1	22.100.203.1	22.100.204.1	22.100.205.1	22.100.206.1	26
SM-B-125	22.125.207.1	22.125.208.1	22.125.209.1	22.125.210.1	22.125.211.1	22.125.212.1	32

#### "Anti-Slip" Cleats (SM-B-80)



Continued on the next page

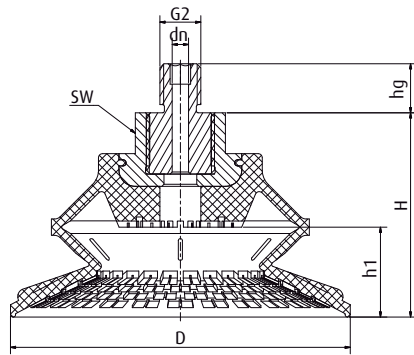
\* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



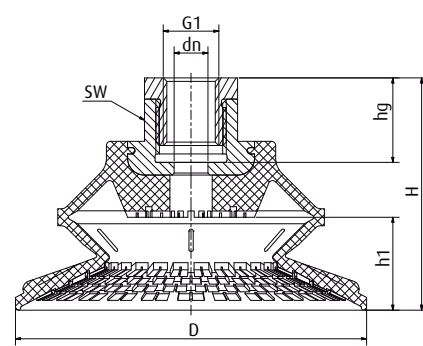
# Series | Bellows vacuum cups SB

Bellows vacuum cups with 1.5 folds for dynamic sheet handling - SM-B

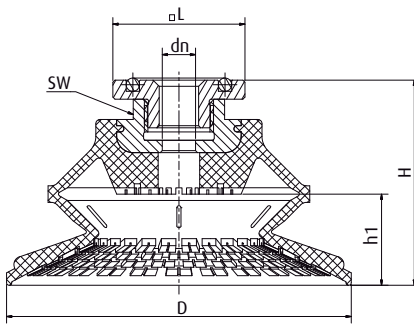
## Dimensions



Drawing A



Drawing B



Drawing C

Item no.	Drawing	Ø D [mm]	Ø dn [mm]	G1 (female)	G2 (male)	□L [mm]	H [mm]	h1 [mm]	hg [mm]	SW
22.030.171.*	A	32	4	--	G1/4	--	28	9	10	17
22.030.172.*	B	32	4	G1/4	--	--	28	9	12	17
22.030.173.*	B	32	4	G3/8	--	--	44	9	10	17
22.030.174.*	A	32	4	--	M10	--	28	9	12	17
22.030.175.*	A	32	4	--	M14x1.5	--	28	9	12	17
22.030.176.*	C	32	4	--	--	32	31.2	9	--	17
22.040.177.*	A	42	4	--	G1/4	--	29	10	10	17
22.040.178.*	B	42	4	G1/4	--	--	29	10	12	17
22.040.179.*	B	42	4	G3/8	--	--	45	10	10	17
22.040.180.*	A	42	4	--	M10	--	29	10	12	17
22.040.181.*	A	42	4	--	M14x1.5	--	29	10	12	17
22.040.182.*	C	42	4	--	--	32	31.2	10	--	17
22.050.183.*	A	52	6	--	G1/4	--	37	11.5	10	22
22.050.184.*	B	52	6	G1/4	--	--	42	11.5	20	22
22.050.185.*	B	52	6	G3/8	--	--	37	11.5	15	22
22.050.186.*	A	52	4	--	M10	--	37	11.5	12	22
22.050.187.*	A	52	6	--	M14x1.5	--	37	11.5	12	22
22.050.188.*	C	52	6	--	--	32	36.5	11.5	--	22
22.060.189.*	A	63	6	--	G1/4	--	41.5	14.5	10	22
22.060.190.*	B	63	8	G1/4	--	--	46.5	14.5	20	22
22.060.191.*	B	63	8	G3/8	--	--	41.5	14.5	15	22
22.060.192.*	A	63	4	--	M10	--	41.5	14.5	12	22
22.060.193.*	A	63	6	--	M14x1.5	--	41.5	14.5	12	22
22.060.194.*	C	63	8	--	--	32	41	14.5	--	22

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760

## Series | Bellows vacuum cups SB

Bellows vacuum cups with 1.5 folds for dynamic sheet handling - SM-B



Item no.	Drawing	Ø D [mm]	Ø dn [mm]	G1 (female)	G2 (male)	□L [mm]	H [mm]	h1 [mm]	hg [mm]	SW
22.080.195.*	A	83	6	--	G1/4	--	50	22	10	22
22.080.196.*	B	83	8	G1/4	--	--	55	22	20	22
22.080.197.*	B	83	8	G3/8	--	--	50	22	15	22
22.080.198.*	A	83	4	--	M10	--	50	22	12	22
22.080.199.*	A	83	6	--	M14x1.5	--	50	22	12	22
22.080.200.*	C	83	8	--	--	32	49.5	22	--	22
22.100.201.*	A	103	6	--	G1/4	--	57	26	10	22
22.100.202.*	B	103	8	G1/4	--	--	62	26	20	22
22.100.203.*	B	103	8	G3/8	--	--	57	26	15	22
22.100.204.*	A	103	4	--	M10	--	57	26	12	22
22.100.205.*	A	103	6	--	M14x1.5	--	57	26	12	22
22.100.206.*	C	103	8	--	--	32	56.5	26	--	22
22.125.207.*	A	128	6	--	G1/4	--	68	32	10	22
22.125.208.*	B	128	8	G1/4	--	--	73	32	20	22
22.125.209.*	B	128	8	G3/8	--	--	68	32	15	22
22.125.210.*	A	128	4	--	M10	--	68	32	12	22
22.125.211.*	A	128	6	--	M14x1.5	--	68	32	12	22
22.125.212.*	C	128	8	--	--	32	67.5	32	--	22

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



## Series | Bellows vacuum cups SB

Bellows vacuum suction plates softgrip - SBPL-SG

### Bellows vacuum suction plates softgrip - SBPL-SG




#### Product Description

Vacuum suction plate with 1.5 folds for gentle handling of heavy but sensitive products (e.g. glass plates). Divided support surfaces prevent deformation of the product and provide a firm grip. Additional safety sealing lip on the support block positions the product orthogonally to the ground.  
Connection via an interlocking, snap-in aluminium plate.

#### Advantage

- > Very careful handling due to soft sealing lip and lightly compressing bellows
- > Cleats provide product support
- > Cost-effective replacement of worn seals

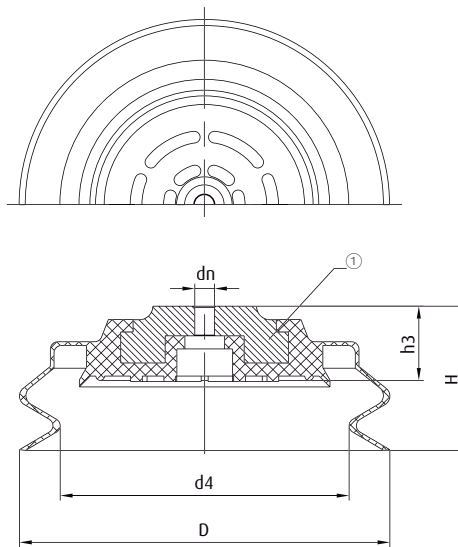
#### Technical data

Item no.	Model / Lip dimensions		Weight [g]	Material / Colour	Number of folds
22.150.109.*	SBPL-SG-150	28	353	NBR (sw)	1.5
22.210.115.*	SBPL-SG-210	32	860	NBR (sw)	1.5

#### Accessories

Spare cup
23.150.090.1 (p.357)
23.210.009.1 (p.360)

#### Dimensions



① = Aluminium

Item no.	Ø D [mm]	Ø d4 [mm]	Ø dn [mm]	H [mm]	h3 [mm]
22.150.109.*	150	117	8	58	30
22.210.115.*	212	180	8	65	31

\* When ordering please add the appropriate material code to item no. You will find it in the foldout.  
Average holding forces for vacuum cups you will find on page 760



### Bellows vacuum suction plates - SBPL-E



#### Product Description

Vacuum suction plate, 1.5 folds, vulcanised carrier plate made of steel. Soft sealing lip from a low-marking NBR blend and lightly compressing bellows for gentle handling of heavy but sensitive products (e.g. glass plates). Divided support surfaces provide a firm grip for all loads.


#### Advantage

- > Gentle handling of heavy, sensitive products
- > Good adaptation to both concave and convex surfaces
- > Rubberised support surfaces prevent deformation of workpieces
- > Low-marking

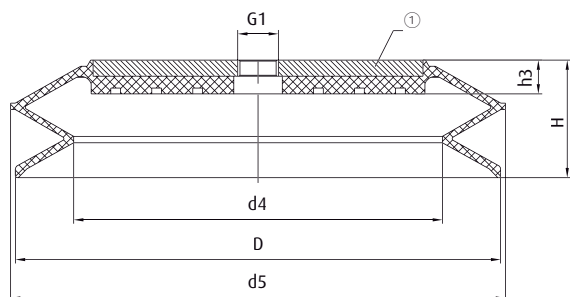
#### Ordering notes:

Customised drilling patterns on request

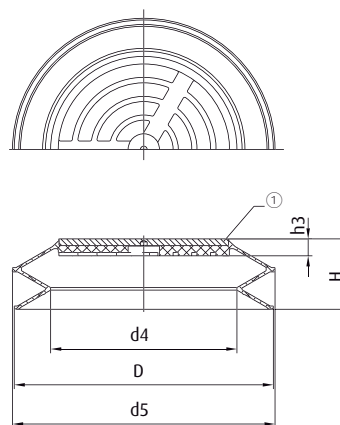
#### Technical data

Item no.	Model / Lip dimensions	Connection thread		Weight [g]	Number of folds	Material / Colour
22.150.084.*	SBPL-E-150	G1/2-female	32	460	1.5	NBR (gr)
22.200.087.*	SBPL-E-200	G1/2-female	30	860	1.5	NBR (gr)
22.250.088.*	SBPL-E-250	G1/2-female	38	1,900	1.5	NBR (gr)
22.300.091.*	SBPL-E-300	without	60	4,200	1.5	NBR (gr)
22.350.102.*	SBPL-E-350	without	55	4,200	1.5	NBR (gr)

#### Dimensions



Drawing A



Drawing B

① = Steel

Item no.	Drawing	Ø D [mm]	Ø d4 [mm]	Ø d5 [mm]	G1	H [mm]	h3 [mm]
22.150.084.*	A	150	94	157	G1/2	54	15.5
22.200.087.*	A	200	140	206	G1/2	57	17
22.250.088.*	A	250	190	255	G1/2	61	17.5
22.300.091.*	B	306	220	310	--	83	20
22.350.102.*	B	350	262	350	--	84	21