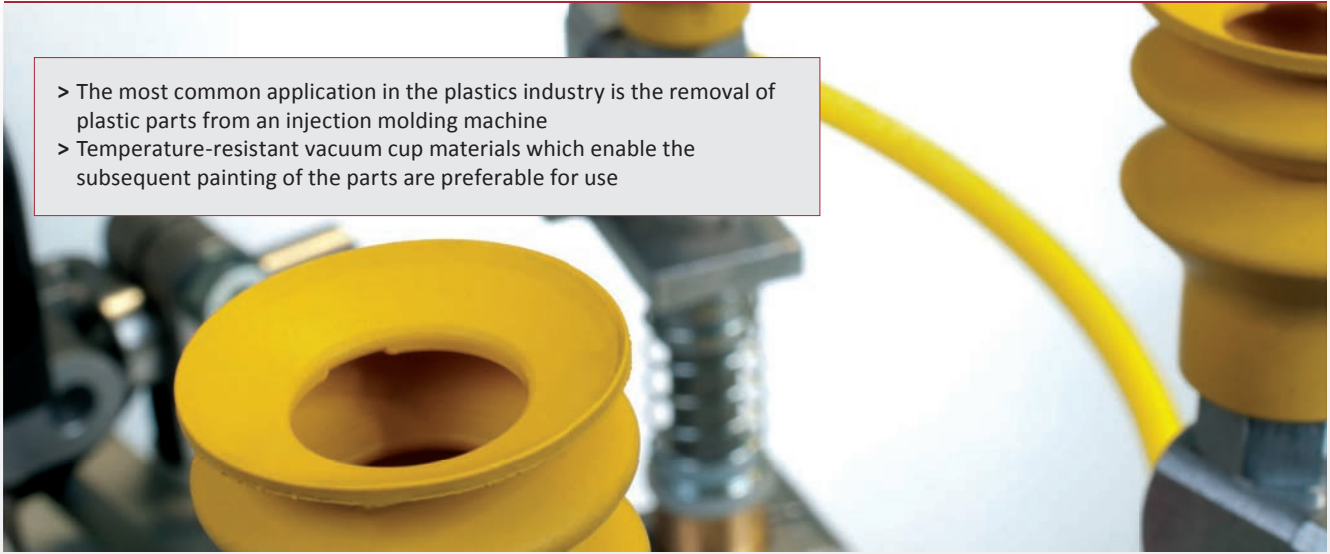




### FIPA Vacuum cups for demolding

- > The most common application in the plastics industry is the removal of plastic parts from an injection molding machine
- > Temperature-resistant vacuum cup materials which enable the subsequent painting of the parts are preferable for use



#### **Thermalon® vacuum cups**

- > Optimized material for low marking
- > Heat-resistant up to 160 °C
- > No silicones or other adhesive-repelling substances, enabling later painting of the products

#### **Bellows vacuum cups, 1.5 folds – SKT-B1**

- > Good adaptation to uneven product surfaces
- > Diameter: 11 - 63 mm

#### **Bellows vacuum cups, 2.5 folds – SKT-B2**

- > Very good adaptation to uneven product surfaces
- > Large range of height and angle adjustment
- > Particularly gentle placement on product surfaces
- > Diameter: 5 - 62 mm



#### **Flat vacuum cups – SKT-F**

- > Flat vacuum cups with a flexible single sealing lip
- > Low internal volume saves energy
- > Diameter: 5 - 60 mm

#### **Oval vacuum cups – SKH-O**

- > Oval-shaped flat vacuum cups for the handling of narrow products
- > Narrow width enables the gripping of ribbed surfaces
- > Significantly greater suction power than round vacuum cups of equal width
- > Dimensions: 4x2 - 45x15 mm

> See page 124



FIPA Vacuum cups for demolding



**HNBR vacuum cups – SKH-B1, SKH-B2 and SKH-O**

**Bellows cups 1.5 and 2.5 folds, flat vacuum cups and oval vacuum cups**

- > Standard material for removing hot plastic parts from an injection molding machine
- > Heat-resistant up to 160 °C
- > No silicones or other adhesive-repelling substances, enabling later painting of the products
- > Low-marking
- > Wear-resistant material
- > Good adaptation to uneven product surfaces
- > Diameter: 5 - 60 mm

> See page 132



**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
- > Short cycle times and high process reliability
- > Operating temperature: 10 - 50 °C
- > Low-marking

**1.5 folds – SP-BX1**

- > Good adaptation to uneven product surfaces
- > Supports (Ø 20–75 mm) stabilise the product
- > Diameter: 15 - 75 mm

**2.5 folds – SP-BX2**

- > Excellent adaptation to uneven product surfaces
- > Large range of height and angle adjustment
- > Diameter: 15 - 75 mm

> See page 138



**Flat silicone vacuum cups with curved lip – SFU-D**

- > Universal flat vacuum cups with tapering curved sealing lip
- > Pre-tension of the sealing lip enables gripping of uneven, slightly curved products
- > Diameter: 4 - 85 mm

> See page 144



**Bellows silicone vacuum cups, universal – SBU 1 and SBU 2**  
**1.5 and 2.5 folds**

- > Universal bellows vacuum cups for handling sensitive or uneven products
- > Bellows compensates for differences in height and enables good adaptation to curved or uneven product surfaces
- > Diameter: 4 - 88 mm

> See page 147

For the full range of vacuum cups please refer to the FIPA Vacuum Technology Catalog or our website [www.fipa.com](http://www.fipa.com).



# Vacuum cups | Vacuum cups for demolding

High-temperature Thermalon® cups – SKT-F

## High-temperature Thermalon® cups – SKT-F

UP TO 160 °C (320 °F) & MINIMUM MARKING




### Product notes

Flat vacuum cups for smooth surfaces especially suitable for removing hot plastic parts to be painted from an injection molding machine. Thermalon® is a material mixture specially optimized for the plastics industry with a hardness of 60° Shore A. Connection up to Ø 50 mm by means of plug-in nipple, from Ø 60 mm with vulcanized carrier plate (bolttable).




### Advantage

- > Extremely low-marking
- > Free of silicone and other paint-wetting-impairment substances (PWIS)
- > Great stability allows high acceleration

### Technical data

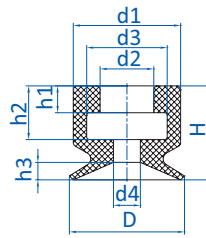
Item no.	Model / Lip dimensions		Material / Color	Usage temperature [°C (°F)]
102.005.496.19	SKT-F-5	0.9	Thermalon® (bl)	0 - 160 (32 - 320)
102.008.497.19	SKT-F-8	1.3	Thermalon® (bl)	0 - 160 (32 - 320)
102.010.498.19	SKT-F-10	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
102.015.499.19	SKT-F-15	1.9	Thermalon® (bl)	0 - 160 (32 - 320)
102.020.500.19	SKT-F-20	2.3	Thermalon® (bl)	0 - 160 (32 - 320)
102.025.501.19	SKT-F-25	3	Thermalon® (bl)	0 - 160 (32 - 320)
102.030.502.19	SKT-F-30	2	Thermalon® (bl)	0 - 160 (32 - 320)
102.040.503.19	SKT-F-40	3.9	Thermalon® (bl)	0 - 160 (32 - 320)
102.050.504.19	SKT-F-50	4	Thermalon® (bl)	0 - 160 (32 - 320)
102.060.505.19	SKT-F-60	4.9	Thermalon® (bl)	0 - 160 (32 - 320)

### Accessories

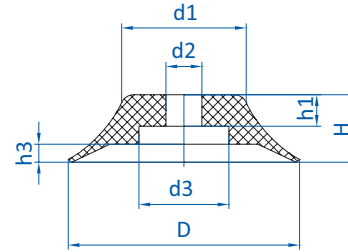
Item no.	 Suitable fittings							 Suitable suspensions (Snap-in)	
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female	Suspensions	
102.005.496.19	270.010	270.005	--	270.009	270.007	--	--	50.330	9
102.008.497.19	270.010	270.005	--	270.009	270.007	--	--	50.330	9
102.010.498.19	270.010	270.005	--	270.009	270.007	--	--	50.330	9
102.015.499.19	270.200	--	--	270.064	270.065	--	--	50.330	9
102.020.500.19	270.311	--	--	270.063	270.061	--	--	--	--
102.025.501.19	--	--	270.312/19	270.030	270.019	270.274	270.275	--	--
102.030.502.19	--	--	270.312/19	270.030	270.019	270.274	270.275	--	--
102.040.503.19	--	--	270.312/19	270.030	270.019	270.274	270.275	--	--
102.050.504.19	--	--	--	270.012	270.020	270.491	270.492	--	--
102.060.505.19	--	--	--	--	--	--	--	--	--



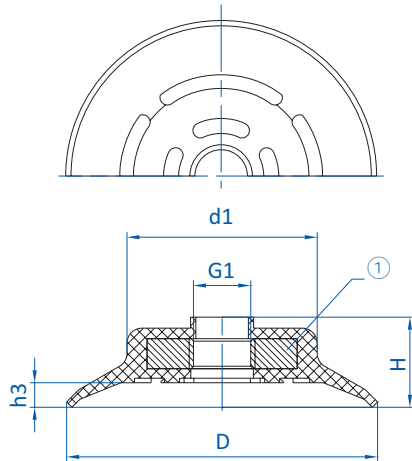
### Dimensions



Drawing A



Drawing B



Drawing C

① = Aluminum

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	G1	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]
102.005.496.19	A	5.5	7.5	4	6	1.5	--	6.5	2	4	0.9
102.008.497.19	A	8.5	8	4	6	2	--	7	2	4	1.3
102.010.498.19	A	11	8.5	4	6	2	--	7.5	2	4	1.4
102.015.499.19	B	15.5	12	4.5	8	--	--	8	2.7	--	1.8
102.020.500.19	B	21	15	4.5	11	--	--	10	4.5	--	2.2
102.025.501.19	B	26	16	6	11	--	--	14	7	--	2.8
102.030.502.19	B	31	14.5	6	11	--	--	12	7	--	2
102.040.503.19	B	41	24	6	11	--	--	14	7	--	3.9
102.050.504.19	B	51	27.5	8	20	--	--	15	7	--	4
102.060.505.19	C	62	38	--	30	--	G1/4	18	--	--	5



# Vacuum cups | Vacuum cups for demolding

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

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

UP TO 160 °C (320 °F) &  
MINIMUM MARKING



### Product notes

Bellows vacuum cups for uneven surfaces especially suited for removing hot plastic parts to be painted from an injection molding machine. Thermalon® is a material mixture specially optimized 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	5.5	Number of folds	Material / Color	Short-term working temperature < 30 Sec [°C (°F)]
23.011.234.19	SKT-B1-11	5.5	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.014.235.19	SKT-B1-14	5	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.016.236.19	SKT-B1-16	8.5	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.018.237.19	SKT-B1-18	5	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.020.238.19	SKT-B1-20	5	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.022.239.19	SKT-B1-22	8	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.025.240.19	SKT-B1-25	12	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.033.241.19	SKT-B1-33	11	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.043.242.19	SKT-B1-43	12.5	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.053.243.19	SKT-B1-53	15	1.5	Thermalon® (bl)	0 - 160 (32 - 320)
23.063.244.19	SKT-B1-63	15	1.5	Thermalon® (bl)	0 - 160 (32 - 320)

### Accessories

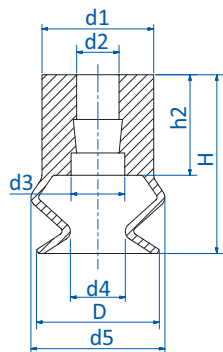
Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.011.234.19	270.134	270.347	270.104	270.033	270.478	--	--
23.014.235.19	270.134	270.347	270.104	270.033	270.478	--	--
23.016.236.19	270.134	270.347	270.104	270.033	270.478	--	--
23.018.237.19	270.134	270.347	270.104	270.033	270.478	--	--
23.020.238.19	270.134	270.347	270.104	270.033	270.478	--	--
23.022.239.19	270.134	270.347	270.104	270.033	270.478	--	--
23.025.240.19	270.134	270.347	270.104	270.033	270.478	--	--
23.033.241.19	--	--	270.315	270.196	270.114	270.190	270.192
23.043.242.19	--	--	270.315	270.196	270.114	270.190	270.192
23.053.243.19	--	--	270.315	270.196	270.114	270.190	270.192



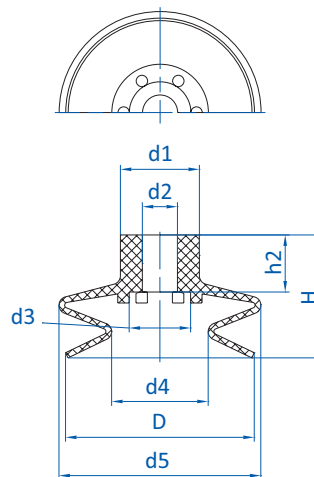
### Accessories

Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.063.244.19	--	--	270.315	270.196	270.114	270.190	270.192

### Dimensions



Drawing A



Drawing B

Item no.	Drawing	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	∅ d3 [mm]	∅ d4 [mm]	∅ d5 [mm]	H [mm]	h2 [mm]
23.011.234.19	A	11	10	3.8	4.8	5	12	16	9
23.014.235.19	A	13	10	3.8	4.8	5	14	16	9
23.016.236.19	A	16	10	3.8	4.8	8	17.5	19	9
23.018.237.19	A	18	10	3.8	4.8	8	18	16.5	9
23.020.238.19	A	19	10	3.8	4.8	10.5	20	16	9
23.022.239.19	A	22	10	3.8	4.8	11	24	19	9
23.025.240.19	A	24	10	3.8	4.8	9.5	25	23	9
23.033.241.19	B	33	18	8	14	17	36	28	13
23.043.242.19	B	43	18	8	14	22	46	28	13
23.053.243.19	B	53	18	8	14	33	59	34	13
23.063.244.19	B	63	18	8	14	44	67	34	13



# Vacuum cups | Vacuum cups for demolding

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

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

UP TO 160 °C (320 °F) &  
MINIMUM MARKING




### Product notes

Bellows vacuum cups for uneven surfaces especially suited for removing hot plastic parts to be painted from an injection molding machine. Thermalon® is a material mixture specially optimized 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 stroke and good adaptation to curved or uneven product surfaces

### Technical data

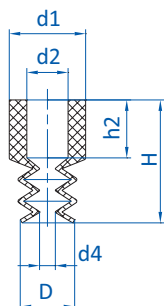
Item no.	Model / Lip dimensions		Material / Color	Number of folds	Short-term working temperature < 30 Sec [°C (°F)]
21.005.146.19	SKT-B2-5	3	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.007.147.19	SKT-B2-7	3	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.009.148.19	SKT-B2-9	3	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.012.149.19	SKT-B2-12	7	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.014.150.19	SKT-B2-14	10	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.018.151.19	SKT-B2-18	10	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.020.152.19	SKT-B2-20	10	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.025.153.19	SKT-B2-25	20	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.032.154.19	SKT-B2-32	14.5	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.042.155.19	SKT-B2-42	22	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.052.156.19	SKT-B2-52	27	Thermalon® (bl)	2.5	0 - 160 (32 - 320)
21.062.157.19	SKT-B2-62	31	Thermalon® (bl)	2.5	0 - 160 (32 - 320)

### Accessories

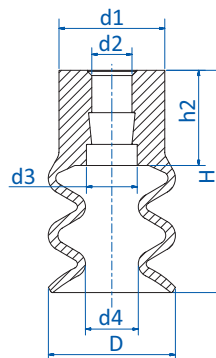
Item no.	 Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.005.146.19	270.134	270.347	270.104	270.033	270.478	--	--
21.007.147.19	270.134	270.347	270.104	270.033	270.478	--	--
21.009.148.19	270.134	270.347	270.104	270.033	270.478	--	--
21.012.149.19	270.134	270.347	270.104	270.033	270.478	--	--
21.014.150.19	270.134	270.347	270.104	270.033	270.478	--	--
21.018.151.19	270.134	270.347	270.104	270.033	270.478	--	--
21.020.152.19	270.134	270.347	270.104	270.033	270.478	--	--
21.025.153.19	270.134	270.347	270.104	270.033	270.478	--	--
21.032.154.19	--	--	270.315	270.196	270.114	270.190	270.192
21.042.155.19	--	--	270.315	270.196	270.114	270.190	270.192
21.052.156.19	--	--	270.315	270.196	270.114	270.190	270.192
21.062.157.19	--	--	270.315	270.196	270.114	270.190	270.192



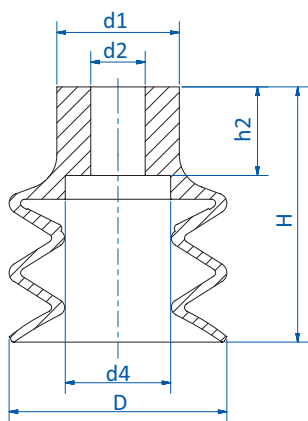
### Dimensions



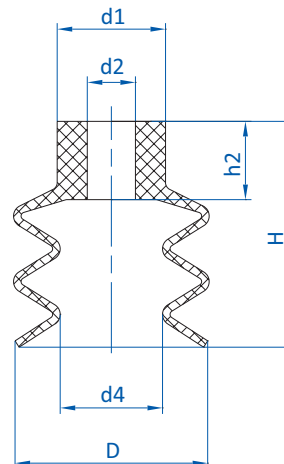
Drawing A



Drawing B



Drawing C



Drawing D

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d4 [mm]	H [mm]	h2 [mm]
21.005.146.19	A	5.5	7	4	2.2	13.5	8
21.007.147.19	A	6	9	4.5	1.8	14	6.5
21.009.148.19	A	9.5	9	4.4	4	15	7.5
21.012.149.19	B	12	10	3.8	5	21	9
21.014.150.19	B	14	10	3.8	5	23	9
21.018.151.19	B	17.5	10	3.8	7.5	23	9
21.020.152.19	B	20	10	3.8	10	23	9
21.025.153.19	B	25	10	3.8	10	34	9
21.032.154.19	C	32	18	8	17	38	13
21.042.155.19	C	42	18	8	18.5	46	13
21.052.156.19	D	52	18	8	25	49	13
21.062.157.19	D	62	18	8	30	55	13



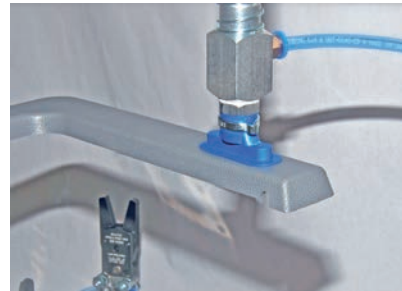


# Vacuum cups | Vacuum cups for demolding

High-temperature Thermalon® oval cups – SKT-O

## High-temperature Thermalon® oval cups – SKT-O

UP TO 160 °C (320 °F) & MINIMUM MARKING



### Product notes

Oval vacuum cups for smooth surfaces suitable for removing hot plastic parts to be painted from an injection molding machine. Thermalon® is a material mixture specially optimized 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)
- > Significantly increased suction force compared to round vacuum cups of the same width
- > Soft sealing lip also allows adhesion to curved products

### Ordering notes

From size 24x8 mm upward, a gripper clamp (available separately) is recommended to prevent inadvertent rotation.

### Technical data

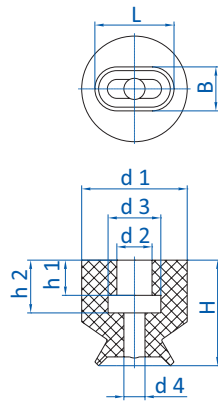
Item no.	Model / Lip dimensions	Lip thickness	Material / Color	Lip dimensions	Usage temperature [°C (°F)]	Accessories
						Clamp
132.4x2.079.19	SKT-O-4x2	0.4	Thermalon® (bl)	4x2	0 - 160 (32 - 320)	--
132.7x4.080.19	SKT-O-7x4	0.5	Thermalon® (bl)	7x4	0 - 160 (32 - 320)	--
132.15x5.081.19	SKT-O-15x5	0.6	Thermalon® (bl)	15x5	0 - 160 (32 - 320)	--
132.18x6.082.19	SKT-O-18x6	1	Thermalon® (bl)	18x6	0 - 160 (32 - 320)	--
132.24x8.083.19	SKT-O-24x8	1	Thermalon® (bl)	24x8	0 - 160 (32 - 320)	78.032
132.30x10.084.19	SKT-O-30x10	1	Thermalon® (bl)	30x10	0 - 160 (32 - 320)	78.032
132.45x15.085.19	SKT-O-45x15	2	Thermalon® (bl)	45x15	0 - 160 (32 - 320)	78.033
132.60x20.086.19	SKT-O-60x20	2.5	Thermalon® (bl)	60x20	0 - 160 (32 - 320)	78.033
132.75x25.087.19	SKT-O-75x25	2.5	Thermalon® (bl)	75x25	0 - 160 (32 - 320)	78.034

### Accessories

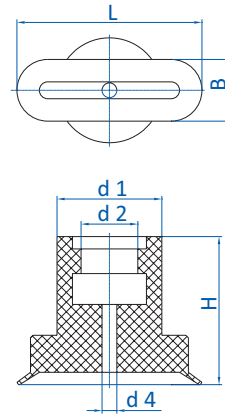
Item no.	Suitable fittings						
	M3-male	M4-male	M5-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
132.4x2.079.19	270.014	270.111	270.300	--	--	--	--
132.7x4.080.19	270.014	270.111	270.300	--	--	--	--
132.15x5.081.19	--	--	270.094	270.095	270.096	--	--
132.18x6.082.19	--	--	270.094	270.095	270.096	--	--
132.24x8.083.19	--	--	270.094	270.095	270.096	--	--
132.30x10.084.19	--	--	270.094	270.095	270.096	--	--
132.45x15.085.19	--	--	--	--	--	270.097	270.098
132.60x20.086.19	--	--	--	--	--	270.097	270.098
132.75x25.087.19	--	--	--	--	--	270.097	270.098



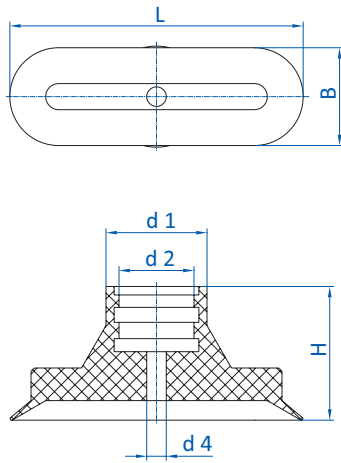
### Dimensions



Drawing A



Drawing B



Drawing C

Item no.	Drawing	L [mm]	B [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]
132.4x2.079.19	A	4.5	2.5	6	2	3	1.2	6
132.7x4.080.19	A	7	3.5	6	2	3	1.4	6
132.15x5.081.19	B	15	5	8.5	4.6	--	1.2	12
132.18x6.082.19	B	18	6	8.5	4.6	--	1.5	12
132.24x8.083.19	B	24	8	11.5	5.5	--	1.5	12
132.30x10.084.19	B	30	10	11.5	5.5	--	2.5	12
132.45x15.085.19	C	45	15	15.5	11.5	--	3	21
132.60x20.086.19	C	60	20	15.5	11.5	--	4	21
132.75x25.087.19	C	75	25	17.5	11.5	--	4	21



# Vacuum cups | Vacuum cups for demolding

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

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

UP TO 160 °C (320 °F) & MINIMUM MARKING




### Product notes

Bellows vacuum cups for uneven surfaces with suitability for removing hot plastic parts to be painted from an injection molding machine.


### 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

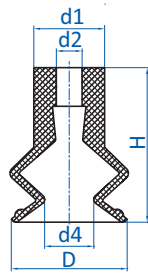
Item no.	Model / Lip dimensions		Number of folds	Material / Color	Usage temperature [°C (°F)]
<b>23.005.178.14</b>	SKH-B1-5	2	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.008.166.14</b>	SKH-B1-8	3.5	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.011.008.14/2</b>	SKH-B1-11	4.5	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.015.122.14</b>	SKH-B1-15	5	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.016.016.14/2</b>	SKH-B1-16	6	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.020.124.14/2</b>	SKH-B1-20	8	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.030.125.14</b>	SKH-B1-30	9	1.5	HNBR (ge)	0 - 160 (32 - 320)
<b>23.043.096.14</b>	SKH-B1-43	12	1.5	HNBR (ge)	0 - 160 (32 - 320)

### Accessories

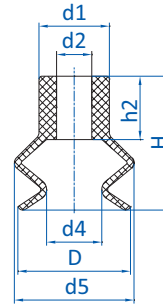
Item no.	 Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
<b>23.005.178.14</b>	270.153	--	--	--	--	--	--
<b>23.008.166.14</b>	270.153	--	--	--	--	--	--
<b>23.011.008.14/2</b>	270.013	270.005	270.103	270.003	270.015	--	--
<b>23.015.122.14</b>	270.010	270.005	--	270.009	270.007	--	--
<b>23.016.016.14/2</b>	270.013	270.005	270.103	270.003	270.015	--	--
<b>23.020.124.14/2</b>	270.311	--	--	270.063	270.061	--	--
<b>23.030.125.14</b>	--	--	270.312/19	270.030	270.019	270.274	270.275
<b>23.043.096.14</b>	--	--	270.315	270.196	270.114	270.190	270.192



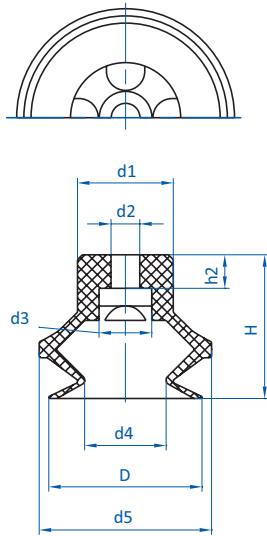
### Dimensions



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]
23.005.178.14	A	6	5	2	--	2.2	--	9	--
23.008.166.14	A	9	5.5	2	--	3.8	--	12	--
23.011.008.14/2	B	12	10	5	--	4.5	12	16	9
23.015.122.14	C	15	8.5	3.6	6	8	17	16	1.7
23.016.016.14/2	B	16	10	5	--	8	17	19	9
23.020.124.14/2	C	21.5	15	4.5	11	10	23.5	20	4.6
23.030.125.14	C	32	20	6	11	17	36	30	7
23.043.096.14	B	43	18	8	--	23	45	27	12



# Vacuum cups | Vacuum cups for demolding

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

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

UP TO 160 °C (320 °F) & MINIMUM MARKING



### Product notes

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

### Advantage

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

### Technical data

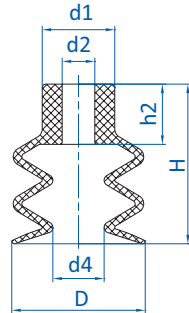
Item no.	Model / Lip dimensions	↓	Number of folds	Material / Color	Usage temperature [°C (°F)]
21.005.057.14	SKH-B2-5	3	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.007.089.14	SKH-B2-7	3	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.009.002.14	SKH-B2-9	2	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.012.135.14	SKH-B2-12	7	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.014.053.14	SKH-B2-14	9	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.018.010.14	SKH-B2-18	8	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.020.016.14/2	SKH-B2-20	9	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.032.075.14/3	SKH-B2-32	13	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.043.049.14	SKH-B2-43	19	2.5	HNBR (ge)	0 - 160 (32 - 320)
21.060.051.14	SKH-B2-60	25	2.5	HNBR (ge)	0 - 160 (32 - 320)

### Accessories

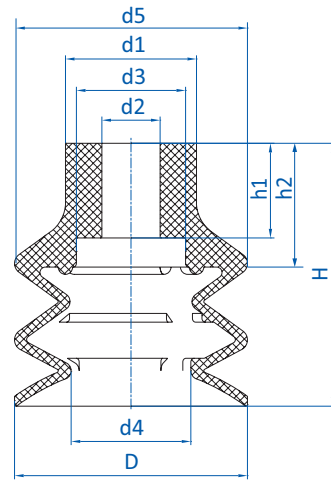
Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.005.057.14	270.134	270.347	270.104	270.033	270.478	--	--
21.007.089.14	270.010	270.005	--	270.009	270.007	--	--
21.009.002.14	270.013	270.005	270.103	270.003	270.015	--	--
21.012.135.14	270.013	270.005	270.103	270.003	270.015	--	--
21.014.053.14	270.134	270.347	270.104	270.033	270.478	--	--
21.018.010.14	270.013	270.005	270.103	270.003	270.015	--	--
21.020.016.14/2	270.013	270.005	270.103	270.003	270.015	270.194	--
21.032.075.14/3	--	--	270.315	270.196	270.114	270.190	270.192
21.043.049.14	--	--	270.315	270.196	270.114	270.190	270.192
21.060.051.14	--	--	270.315	--	--	270.540	270.539



### 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]
21.005.057.14	A	5.5	7	4	--	2.5	--	14	--	8.5
21.007.089.14	B	7	7.5	4	5.5	3	7	10	2	3.5
21.009.002.14	A	9	9	5	--	4	--	15	--	7
21.012.135.14	A	12	10	5	--	5	--	21	--	9
21.014.053.14	A	14	8	4	--	5.5	--	18	--	5.5
21.018.010.14	A	18	10	4.5	--	7	--	22	--	8.5
21.020.016.14/2	A	20	10	4.5	--	10	--	23	--	9
21.032.075.14/3	B	32	18	8	15	16.5	32	36	13	--
21.043.049.14	B	42	20	8	15	15.5	42	46	13	17
21.060.051.14	B	61	22	8	14	28	61	57	14	18.5



# Vacuum cups | Vacuum cups for demolding

High-temperature HNBR oval cups – SKH-O

## High-temperature HNBR oval cups – SKH-O

**UP TO 160 °C (320 °F) & MINIMUM MARKING**



### Product notes

Oval vacuum cups for smooth surfaces suitable for removing hot plastic parts to be painted from an injection molding machine. Connection via plug-in nipple.


### Advantage

- > Free of silicone and other paint-wetting-impairment substances (PWIS)
- > Minimum marking
- > Significantly increased suction force compared to round vacuum cups of the same width
- > Soft sealing lip also allows adhesion to curved products

### Ordering notes

From size 15x5 mm upward, a gripper clamp (available separately) is recommended to prevent inadvertent rotation

### Technical data


Item no.	Model / Lip dimensions		Material / Color	Usage temperature [°C (°F)]
<b>132.4x2.031.14</b>	SKH-O-4x2A	0.5	HNBR (ge)	0 - 160 (32 - 320)
<b>132.7x4.034.14</b>	SKH-O-7x4	0.8	HNBR (ge)	0 - 160 (32 - 320)
<b>132.15x5.067.14</b>	SKH-O-15x5	1	HNBR (ge)	0 - 160 (32 - 320)
<b>132.24x8.066.14</b>	SKH-O-24x8	1	HNBR (ge)	0 - 160 (32 - 320)
<b>132.36x12.068.14</b>	SKH-O-36x12	2	HNBR (ge)	0 - 160 (32 - 320)
<b>132.45x15.064.14</b>	SKH-O-45x15	3	HNBR (ge)	0 - 160 (32 - 320)

### Accessories

#### Clamp

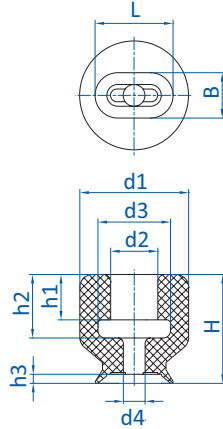
--
--
78.030
78.032
78.032
78.033

### Accessories

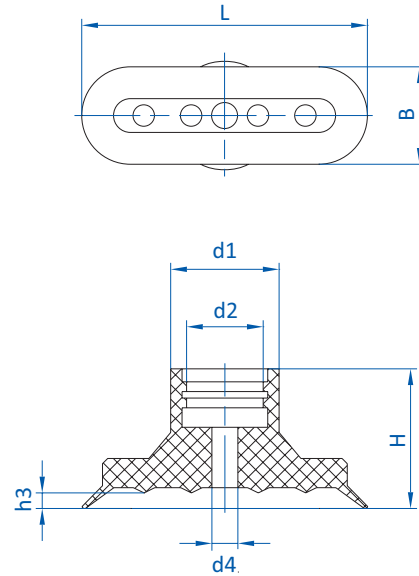
Item no.	 Suitable fittings					
	M3-male	M4-male	M5-male	G1/8-male	G1/4-male	G1/4-female
<b>132.4x2.031.14</b>	270.014	270.111	270.300	--	--	--
<b>132.7x4.034.14</b>	270.014	270.111	270.300	--	--	--
<b>132.15x5.067.14</b>	--	--	--	270.431	--	--
<b>132.24x8.066.14</b>	--	--	--	270.431	--	--
<b>132.36x12.068.14</b>	--	--	--	270.431	--	--
<b>132.45x15.064.14</b>	--	--	--	--	270.097	270.098



### Dimensions



Drawing A



Drawing B

Item no.	Drawing	L [mm]	B [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]
132.4x2.031.14	A	4.3	2.5	6	2.6	4	1.2	6	2.5	3.5	0.5
132.7x4.034.14	A	7.5	4	6	2.4	3	1.4	6	2.3	3	0.7
132.15x5.067.14	B	15	5	9	5	--	2	12	--	--	0.8
132.24x8.066.14	B	24	8.5	12.5	5	--	3	13	--	--	1.5
132.36x12.068.14	B	36	12	12	5	--	4	12	--	--	1.6
132.45x15.064.14	B	44	15	16.5	12	--	4	22	--	--	2.4





# Vacuum cups | Vacuum cups for demolding

Varioflex® bellows cups, 1.5 folds – SP-BX1

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



POLYURETHANE COMPOSITE MATERIAL 60°/30°



### Product notes

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 stabilize 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
- > 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 (°F)]
------------------------	--------	---------------------	----------	---------------------	----------	---------------------	----------	-----------------------------

### Accessories

Spare cup



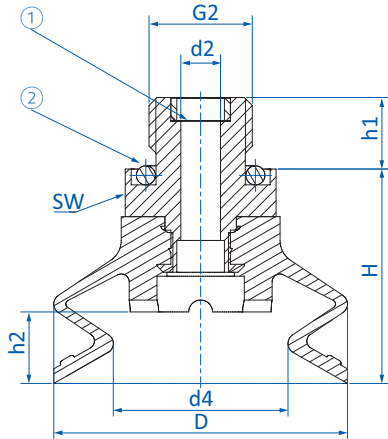
### Bellows vacuum cups 1.5 folds – SP-BX1 fully assembled with fitting



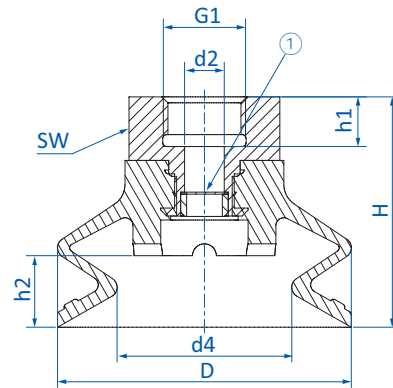
SP-BX1-15	16	M5-male	22.016.253.16	M6-male	22.016.254.16	--	--	4.5	10 - 50 (50 - 122)	23.016.263.16
SP-BX1-20	21	G1/8-male	22.021.255.16	--	--	--	--	5	10 - 50 (50 - 122)	23.021.264.16
SP-BX1-25	26	G1/8-male	22.026.256.16	--	--	--	--	5	10 - 50 (50 - 122)	23.026.265.16
SP-BX1-35	37	G1/8-female	22.037.257.16	G1/4-male	22.037.258.16	--	--	9	10 - 50 (50 - 122)	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 (50 - 122)	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 (50 - 122)	--
SP-BX1-115	115	G3/8-IG	22.115.266.16	G1/2-IG	22.115.267.16	--	--	28	10 - 50 (50 - 122)	23.115.274.16
SP-BX1-160	160	G3/8-IG	22.160.264.16	G1/2-IG	22.160.265.16	--	--	40	10 - 50 (50 - 122)	23.160.273.16



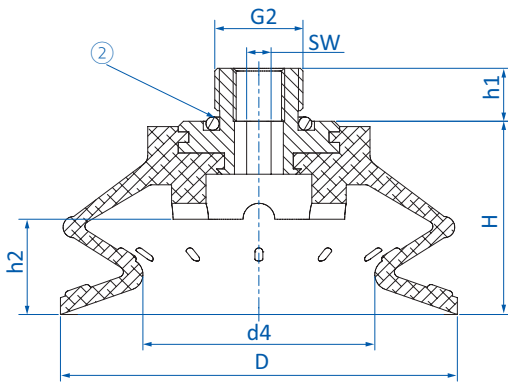
## Dimensions



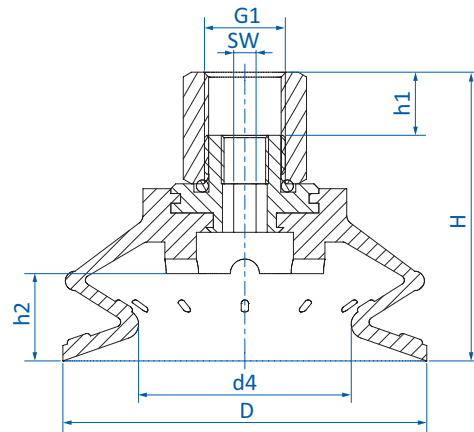
Drawing A



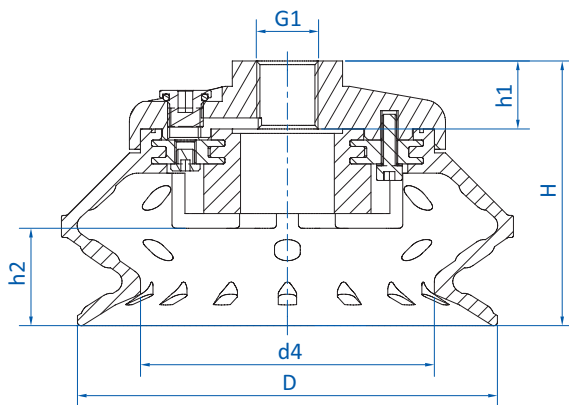
Drawing B



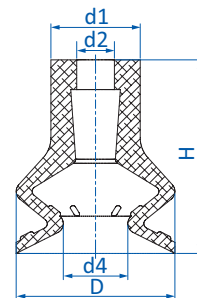
Drawing C



Drawing D



Drawing E



Drawing F

① = Filter screen ② = O-ring

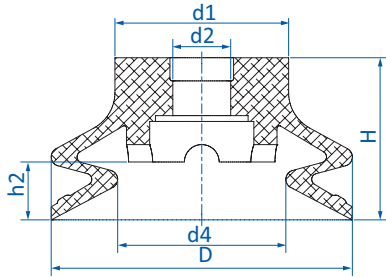
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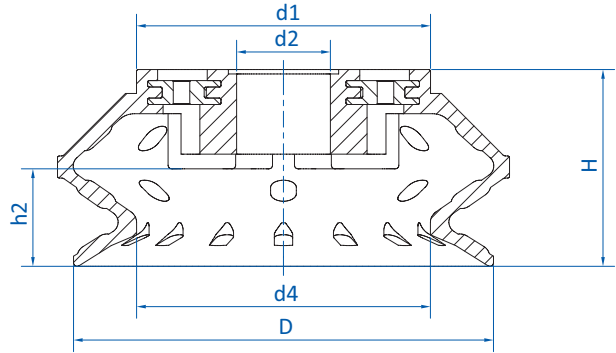
# Vacuum cups | Vacuum cups for demolding

Varioflex® bellows cups, 1.5 folds – SP-BX1

## Dimensions



Drawing G



Drawing H

① = Filter screen ② = O-ring

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>											
22.016.253.16	A	16	--	2.5	6.5	--	M5	25	3.6	--	8
22.016.254.16	A	16	--	2.5	6.5	--	M6	24	6	--	13
22.021.255.16	A	21	--	4	12	--	G1/8	19	7	5	13
22.026.256.16	A	26	--	4	14.5	--	G1/8	19	7	5	13
22.037.257.16	B	37	--	5	22	G1/8	--	29	6.3	9	19
22.037.258.16	A	37	--	5	22	--	G1/4	27	9	9	19
22.053.259.16	B	53	--	8	32.5	G1/8	--	35	9	10	22
22.053.260.16	A	53	--	6	32.5	--	G1/4	32	9	10	22
22.053.261.16	A	53	--	6	32.5	--	G3/8	32	10	10	22
22.075.262.16	C	75	--	--	44	--	G3/8	36.5	10	18	8
22.075.263.16	D	75	--	--	44	G3/8	--	59.5	13	18	8
22.115.266.16	E	115	--	--	79.9	G3/8	--	72	18.5	26.5	--
22.115.267.16	E	115	--	--	79.9	G1/2	--	72	18.5	26.5	--
22.160.264.16	E	160	--	--	112.7	G3/8	--	89	21	40.5	--
22.160.265.16	E	160	--	--	112.7	G1/2	--	89	21	40.5	--
<b>Spare cups</b>											
23.016.263.16	F	16	9	4	6.5	--	--	19.5	--	--	--
23.021.264.16	G	21	11	5	12	--	--	14	--	5	--
23.026.265.16	G	26	15	5	14.5	--	--	14	--	5	--
23.037.266.16	G	37	20	7	22	--	--	21	--	9	--
23.053.267.16	G	53	26	10.5	32.5	--	--	26	--	10	--
23.115.274.16	H	115	80	25.5	79.9	--	--	53.5	--	26.5	--
23.160.273.16	H	160	110	25.5	112.7	--	--	68	--	40.5	--



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

**POLYURETHANE COMPOSITE MATERIAL 60°/30°**



#### Product notes

Bellows vacuum cups with 2.5 bellows 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
- > 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

#### Accessories

Model / Lip dimensions	Ø [mm]	Connection thread 1	Item no.	Connection thread 2	Item no.	Connection thread 3	Item no.	Usage temp. [°C (°F)]	Spare cup
<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 (50 - 122)	21.016.175.16
SP-BX2-20	21	G1/8-male	20.021.147.16	--	--	--	--	6.5 10 - 50 (50 - 122)	21.021.176.16
SP-BX2-25	26	G1/8-male	20.026.148.16	--	--	--	--	8 10 - 50 (50 - 122)	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 (50 - 122)	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 (50 - 122)	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 (50 - 122)	--
<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 (50 - 122)	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 (50 - 122)	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 (50 - 122)	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 (50 - 122)	--

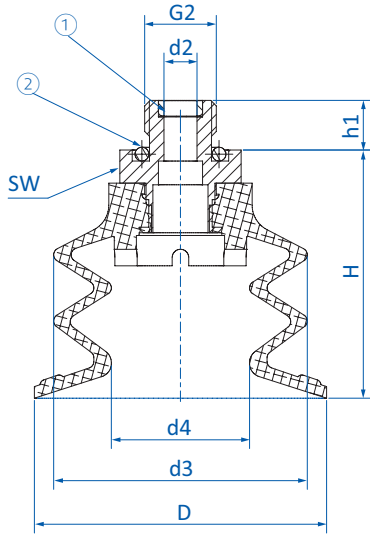
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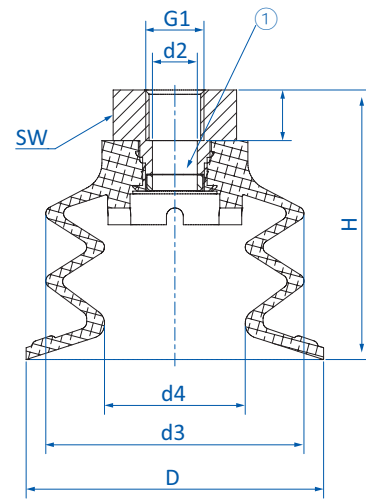
# Vacuum cups | Vacuum cups for demolding

Varioflex® bellows cups, 2.5 folds – SP-BX2

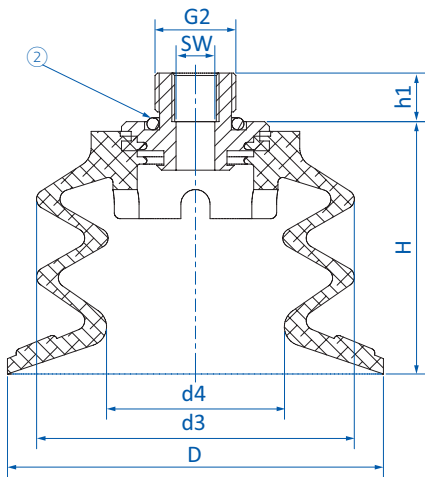
## Dimensions



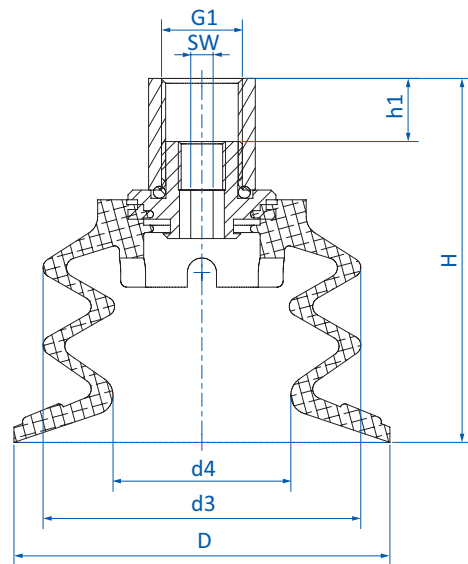
Drawing A



Drawing B



Drawing C

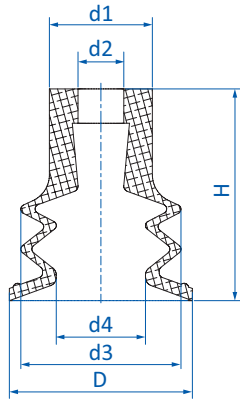


Drawing D

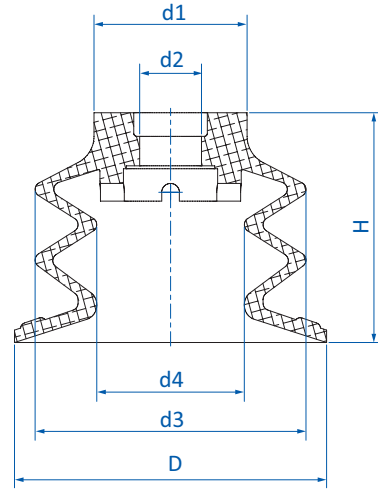
① = Filter screen ② = O-ring



### Dimensions



Drawing E



Drawing F

① = Filter screen ② = O-ring

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	G1 (female)	G2 (male)	H	h1 [mm]	SW
<b>Bellows vacuum cups 2.5 folds – SP-BX2 fully assembled with fitting</b>											
20.016.145.16	A	16	--	2.8	14	9	--	M5	24	4	8
20.016.146.16	A	16	--	2.5	14	9	--	M6	23	6	13
20.021.147.16	A	21	--	4	20	12	--	G1/8	20.2	7	13
20.026.148.16	A	26	--	4	23	12	--	G1/8	24	7	13
20.037.149.16	B	37	--	5	31	18	G1/8	--	34.8	6.3	19
20.037.150.16	A	37	--	5	31	18	--	G1/4	32.8	9	19
20.053.151.16	B	53	--	8	46	25	G1/8	--	48	9	22
20.053.152.16	A	53	--	6	46	25	--	G1/4	45	9	22
20.053.153.16	A	53	--	6	46	25	--	G3/8	45	10	22
20.077.154.16	C	77.5	--	--	65.5	37	--	G3/8	52	10	8
20.077.155.16	D	77.5	--	--	65.5	37	G3/8	--	75	13	8
<b>Spare cups</b>											
21.016.175.16	E	16	9	4	14	9	--	--	18.5	--	--
21.021.176.16	F	21	11	5	20	12	--	--	15.2	--	--
21.026.177.16	F	26	15	5	23	12	--	--	19	--	--
21.037.177.16	F	37	20	7	31	18	--	--	27	--	--
21.053.178.16	F	53	26	10.5	46	25	--	--	39	--	--



# Vacuum cups | Vacuum cups for demolding

## Flat vacuum cups with curved lip – SFU-D

### Flat vacuum cups with curved lip – SFU-D




#### Product notes

Universal flat vacuum cups with tapering curved sealing lip. Connection via plug-in nipple.

#### Advantage


- > Pre-tension of the sealing lip enables gripping of uneven and slightly curved products
- > Large stroke

#### Technical data

Item no.	Model / Lip dimensions		Material / Color
112.004.001.2	SFU-D-4	0.5	SI (r)
112.005.002.2	SFU-D-5	0.7	SI (r)
112.006.003.2	SFU-D-6	1	SI (r)
112.008.007.2	SFU-D-8	1.5	SI (w)
112.010.011.2	SFU-D-10	2	SI (w)
112.012.015.2	SFU-D-12	2	SI (w)
112.015.022.2	SFU-D-15	2	SI (w)
112.018.024.2	SFU-D-18	2.3	SI (w)
112.020.031.2	SFU-D-20	2.3	SI (w)
112.022.037.2	SFU-D-22	2.5	SI (w)
112.025.042.2	SFU-D-25	4.5	SI (w)
112.030.052.2	SFU-D-30	4.5	SI (w)
112.035.060.2	SFU-D-35	5	SI (w)
112.040.071.2	SFU-D-40	4	SI (tr)
112.045.077.2	SFU-D-45	7	SI (w)
112.060.091.2	SFU-D-60	9	SI (tr)
112.085.102.2	SFU-D-85	12	SI (tr)



### Accessories

Item no.	 Suitable fittings							
	M3-male	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
<b>112.004.001.2</b>	270.025	--	--	--	--	--	--	--
<b>112.005.002.2</b>	270.025	--	--	--	--	--	--	--
<b>112.006.003.2</b>	270.025	--	--	--	--	--	--	--
<b>112.008.007.2</b>	--	270.536	--	--	--	--	--	--
<b>112.010.011.2</b>	--	270.134	270.347	270.104	270.033	270.478	--	--
<b>112.012.015.2</b>	--	270.134	270.347	270.104	270.033	270.478	--	--
<b>112.015.022.2</b>	--	270.134	--	270.104	270.033	270.478	--	--
<b>112.018.024.2</b>	--	270.134	270.347	270.104	270.033	270.478	--	--
<b>112.020.031.2</b>	--	270.134	270.347	270.104	270.033	270.478	--	--
<b>112.022.037.2</b>	--	270.134	270.347	270.104	270.033	270.478	--	--
<b>112.025.042.2</b>	--	270.443	--	--	270.238	270.110	270.534	--
<b>112.030.052.2</b>	--	270.443	--	--	270.238	270.110	270.534	--
<b>112.035.060.2</b>	--	--	--	--	--	--	270.451	270.452
<b>112.040.071.2</b>	--	--	--	--	--	--	270.451	270.452
<b>112.045.077.2</b>	--	--	--	--	--	--	270.451	270.452
<b>112.060.091.2</b>	--	--	--	--	--	--	270.042	--
<b>112.085.102.2</b>	--	--	--	--	--	--	270.216	--

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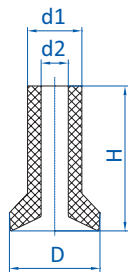




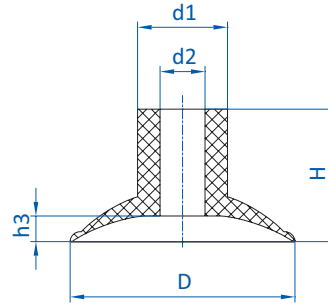
# Vacuum cups | Vacuum cups for demolding

Flat vacuum cups with curved lip – SFU-D

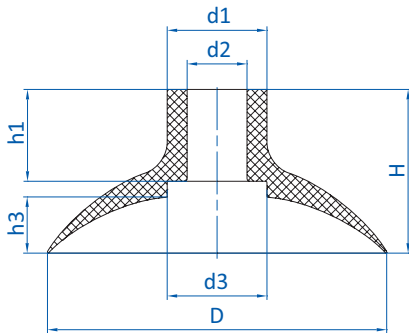
## Dimensions



Drawing A



Drawing B



Drawing C

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	H [mm]	h1 [mm]	h3 [mm]
112.004.001.2	A	4	3	1.5	--	7.5	--	--
112.005.002.2	A	5	3	1.5	--	8	--	--
112.006.003.2	A	6	3	1.5	--	8	--	--
112.008.007.2	B	8	5	2.8	--	8	--	1.6
112.010.011.2	B	10	6.7	3.8	--	10.5	--	1.9
112.012.015.2	B	12	8	4	--	11	--	1.7
112.015.022.2	B	15	8	4	--	12	--	2.5
112.018.024.2	B	18	8	3.9	--	11.5	--	2.3
112.020.031.2	B	20	8	4	--	12	--	2.3
112.022.037.2	B	22	8	4	--	13	--	2.5
112.025.042.2	B	25	12	6	--	16	--	4.3
112.030.052.2	B	30	12	6	--	17	--	4.4
112.035.060.2	B	35	15	10	--	16.5	--	5.2
112.040.071.2	B	40	15	10	--	16	--	4
112.045.077.2	B	45	15.5	10	--	17	--	7.5
112.060.091.2	C	60	15	10	25	23	10	9
112.085.102.2	C	85	25	15	25	41	23	14



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




#### Product notes


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 vulcanized 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 / Color	Connection thread
<b>23.005.181.2</b>	SBU 1-5	2	1.5	SI (tr)	--
<b>23.011.008.2</b>	SBU 1-11	4.5	1.5	SI (tr)	--
<b>23.013.120.2</b>	SBU 1-13	4	1.5	SI (tr)	--
<b>23.016.016.2</b>	SBU 1-16	6	1.5	SI (tr)	--
<b>23.019.119.2</b>	SBU 1-19	4	1.5	SI (tr)	--
<b>23.022.028.2</b>	SBU 1-22	8	1.5	SI (tr)	--
<b>23.025.137.2/25</b>	SBU 1-25	9	1.5	SI (tr)	--
<b>23.033.039.2</b>	SBU 1-33	12	1.5	SI (tr)	--
<b>23.043.096.2</b>	SBU 1-43	12	1.5	SI (tr)	--
<b>23.053.033.2</b>	SBU 1-53	11	1.5	SI (tr)	--
<b>23.075.151.2</b>	SBU 1-75	20	1.5	SI (tr)	--
<b>22.088.158.2</b>	SBU 1-88	23	1.5	SI (tr)	G1/4-male
<b>22.088.159.2</b>	SBU 1-88	23	1.5	SI (tr)	G1/4-female

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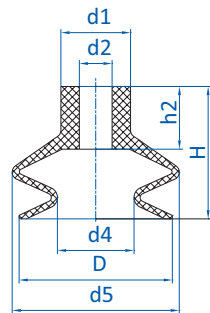
# Vacuum cups | Vacuum cups for demolding

Bellows vacuum cups, universal, 1.5 folds – SBU 1

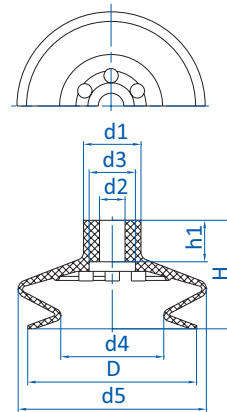
## Accessories

Item no.	Suitable fittings							
	M5-male	M5-female	M6-male	M10-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
23.005.181.2	270.195	--	--	--	--	--	--	--
23.011.008.2	270.013	270.005	270.103	--	270.003	270.015	--	--
23.013.120.2	270.013	270.005	270.103	--	270.003	270.015	--	--
23.016.016.2	270.013	270.005	270.103	--	270.003	270.015	--	--
23.019.119.2	270.013	270.005	270.103	--	270.003	270.015	270.194	--
23.022.028.2	270.013	270.005	270.103	--	270.003	270.015	270.194	--
23.025.137.2/25	270.013	270.005	270.103	--	270.003	270.015	270.194	--
23.033.039.2	--	--	270.315	--	270.196	270.114	270.190	270.192
23.043.096.2	--	--	270.315	--	270.196	270.114	270.190	270.192
23.053.033.2	--	--	270.315	--	270.196	270.114	270.190	270.192
23.075.151.2	--	--	--	270.177	--	--	270.451	270.452
22.088.158.2	--	--	--	--	--	--	--	--
22.088.159.2	--	--	--	--	--	--	--	--

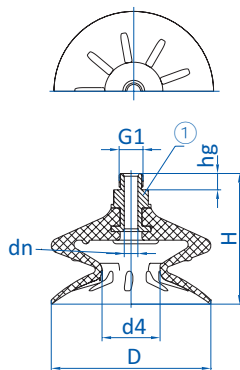
## Dimensions



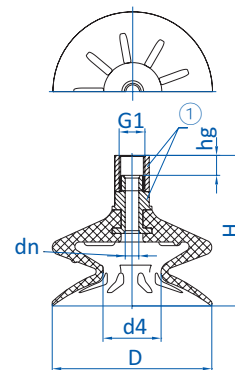
Drawing A



Drawing B



Drawing C



Drawing D

① = Aluminum fitting, vulcanized



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]
23.005.181.2	A	5	3	1.5	--	2	5	--	--	13	--	9.5	--
23.011.008.2	A	12	10	5	--	4.5	12	--	--	16	--	9	--
23.013.120.2	A	13.5	10	3.8	--	5	13.5	--	--	16	--	9	--
23.016.016.2	A	16	10	5	--	8	17	--	--	19	--	9	--
23.019.119.2	A	18.5	10	4.5	--	11	19.5	--	--	15	--	8.5	--
23.022.028.2	A	22	10	4.7	--	11	24	--	--	19	--	9	--
23.025.137.2/25	A	24	10	4	--	10	24	--	--	23	--	9	--
23.033.039.2	B	33.5	18	8	16.5	17	36	--	--	28	13	--	--
23.043.096.2	B	43	18	8	14.5	23	45	--	--	27	12	--	--
23.053.033.2	B	53	18	8	14.5	32	59	--	--	34	13	--	--
23.075.151.2	B	75	27	11	--	43	70.5	--	--	52	--	22	--
22.088.158.2	C	88	--	--	--	32	88	7.5	G1/4	72	--	--	9
22.088.159.2	D	88	--	--	--	32	88	7.5	G1/4	83	--	--	11



# Vacuum cups | Vacuum cups for demolding

Bellows vacuum cups, universal, 2.5 folds – SBU 2

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




### Product notes

Universal bellows vacuum cups with 2.5 folds for handling sensitive or uneven products over large stroke movements.  
Connection up to Ø 75 mm by means of plug-in nipple, from Ø 88 mm with vulcanized 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

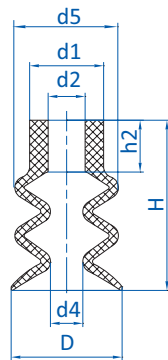
Item no.	Model / Lip dimensions		Number of folds	Material / Color	Connection thread
<b>21.004.083.2tr</b>	SBU 2-4	3	2.5	SI (tr)	--
<b>21.005.057.2/3</b> <b>21.005.057.2/4</b>	SBU 2-5	3	2.5	SI (tr)	--
<b>21.006.093.2</b>	SBU 2-6A	3	2.5	SI (tr)	--
<b>21.006.087.2</b>	SBU 2-6	3.5	2.5	SI (tr)	--
<b>21.008.094.2</b>	SBU 2-8	4	2.5	SI (tr)	--
<b>21.009.002.2</b>	SBU 2-9	2	2.5	SI (tr)	--
<b>21.010.119.2</b>	SBU 2-10	8	2.5	SI (tr)	--
<b>21.012.135.2</b>	SBU 2-12	7	2.5	SI (tr)	--
<b>21.014.133.2</b>	SBU 2-14A	11	2.5	SI (tr)	--
<b>21.014.007.2</b>	SBU 2-14	12	2.5	SI (tr)	--
<b>21.018.010.2</b>	SBU 2-18	8	2.5	SI (tr)	--
<b>21.020.016.2</b>	SBU 2-20	9	2.5	SI (tr)	--
<b>21.025.060.2</b>	SBU 2-25	19	2.5	SI (tr)	--
<b>21.032.075.2</b>	SBU 2-32	13	2.5	SI (tr)	--
<b>21.043.049.2</b>	SBU 2-43	19	2.5	SI (tr)	--
<b>21.062.055.2</b>	SBU 2-62	25	2.5	SI (tr)	--
<b>20.088.123.2</b>	SBU 2-88	36	2.5	SI (tr)	G1/4-male
<b>20.088.124.2</b>	SBU 2-88	36	2.5	SI (tr)	G1/4-female



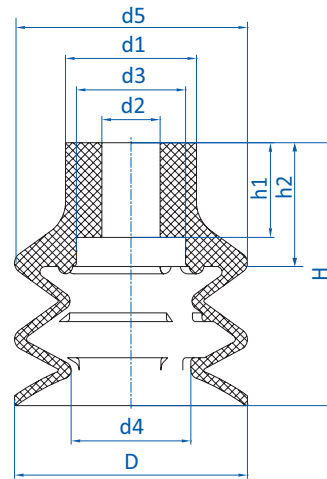
### Accessories

Item no.	Suitable fittings						
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
21.004.083.2tr	270.134	270.347	270.104	270.033	270.478	--	--
21.005.057.2/3 21.005.057.2/4	270.134	270.347	270.104	270.033	270.478	--	--
21.006.093.2	270.134	270.347	270.104	270.033	270.478	--	--
21.006.087.2	270.013	270.005	270.103	270.003	270.015	--	--
21.008.094.2	270.134	270.347	270.104	270.033	270.478	--	--
21.009.002.2	270.013	270.005	270.103	270.003	270.015	--	--
21.010.119.2	270.013	270.005	270.103	270.003	270.015	--	--
21.012.135.2	270.013	270.005	270.103	270.003	270.015	--	--
21.014.133.2	270.134	270.347	270.104	270.033	270.478	--	--
21.014.007.2	270.013	270.005	270.103	270.003	270.015	--	--
21.018.010.2	270.013	270.005	270.103	270.003	270.015	--	--
21.020.016.2	270.013	270.005	270.103	270.003	270.015	270.194	--
21.025.060.2	270.013	270.005	270.103	270.003	270.015	270.194	--
21.032.075.2	--	--	270.315	270.196	270.114	270.190	270.192
21.043.049.2	--	--	270.315	270.196	270.114	270.190	270.192
21.062.055.2	--	--	270.315	--	--	270.540	270.539
20.088.123.2	--	--	--	--	--	--	--
20.088.124.2	--	--	--	--	--	--	--

### Dimensions



Drawing A



Drawing B

① = Aluminum fitting, vulcanized

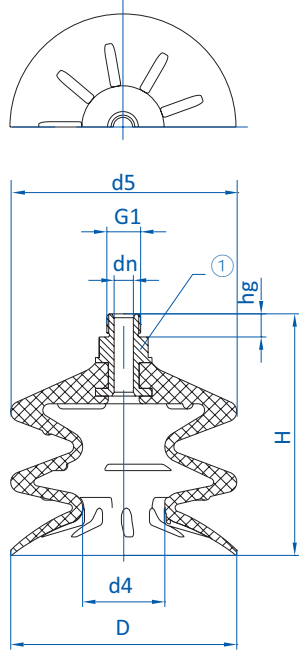
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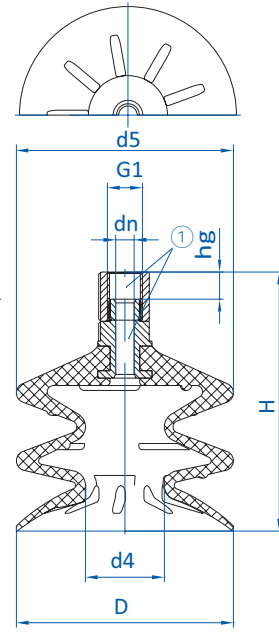
# Vacuum cups | Vacuum cups for demolding

Bellows vacuum cups, universal, 2.5 folds – SBU 2

## Dimensions



Drawing C



Drawing D

① = Aluminum fitting, vulcanized

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]
21.004.083.2tr	A	4.5	7	4	--	2	6.5	--	--	14	--	8	--
21.005.057.2/3 21.005.057.2/4	A	5.5	7	4	--	2.5	6.5	--	--	14	--	8.5	--
21.006.093.2	A	6	8	4	--	3	8	--	--	15	--	8	--
21.006.087.2	A	6.5	9	5	--	2.5	6.5	--	--	14.5	--	7.5	--
21.008.094.2	A	7.5	8	4	--	4	7.5	--	--	15	--	8.5	--
21.009.002.2	A	9	9	5	--	4	9	--	--	15	--	7	--
21.010.119.2	A	10	10	5	--	4.5	10	--	--	21	--	7	--
21.012.135.2	A	12	10	5	--	5	12	--	--	21	--	9	--
21.014.133.2	A	14	10	3.8	--	5.5	14	--	--	23	--	7.5	--
21.014.007.2	A	15	10	5	--	4.5	15	--	--	23	--	7	--
21.018.010.2	A	18	10	4.5	--	7	18	--	--	22	--	8.5	--
21.020.016.2	A	20	10	4.5	--	10	20	--	--	23	--	9	--
21.025.060.2	A	25	10	4.8	--	10	25	--	--	33	--	8	--
21.032.075.2	B	32	18	8	15	16.5	32	--	--	36	--	17	--
21.043.049.2	B	42	20	8	15	15.5	42	--	--	46	13	--	--
21.062.055.2	B	62	21	8.5	14.5	27.5	62	--	--	54	13	14.7	--
20.088.123.2	C	88	--	--	--	32	88	7.5	G1/4	94	--	--	9
20.088.124.2	D	88	--	--	--	32	88	7.5	G1/4	105	--	--	11



## FIPA Vacuum cups – Further industry solutions



> Besides the plastics industry FIPA vacuum cups are also successfully used in other markets for many years.



### Vacuum cups for sheet metal handling

- > Flat and bellows vacuum cups for dynamic handling of dry or oiled sheet metal
- > Non-slip handling thanks to "anti-slip" supporting ribs
- > Free of silicone and other paint-wetting-impairment substances (PWIS)



### Vacuum cups for the packaging industry

- > Round, oval and square bellows vacuum cups for gentle product contact
- > Good adaptation to curved or flexible product surfaces
- > Varioflex® bellows cups for good adaptation to uneven product surfaces



### Vacuum cups for the food industry

- > Bellows vacuum cups with flexible lip seal for optimum sealing
- > FDA compliant vacuum cups for bakery products, with multiple bellows for large height compensation and gentle product handling
- > FDA compliant special vacuum cups, e.g. for gentle handling of eggs or chocolates

For the full range of vacuum cups please refer to the FIPA Vacuum Technology Catalog or our website [www.fipa.com](http://www.fipa.com).