



FIPA Flat vacuum cups SF

- > Handling of flat products with smooth surfaces
- > Low cup volume enables short cycle times
- > Good stability allows the products to pivot



Universal flat vacuum cups - SFU-A

- > Very shallow cup with single sealing lip for handling smooth or slightly rough surfaces
- > Great stability allows high acceleration
- > Connection by means of plug-in nipple (up to a diameter of 50 mm), or vulcanised carrier plate (from a diameter of 60 mm)
- > Diameter: 1 - 200 mm

> See page 32



High temperature Thermalon® cups - SKT-F

- > Optimised special material for improved resistance to marking
- > Heat-resistant up to 160 °C
- > No silicones or paint-wetting-impairment substances (PWIS), enabling later painting of the products
- > Diameter: 5 - 60 mm

> See page 36



Universal flat vacuum cups - SFU-B

- > Very shallow cup with single sealing lip for handling smooth or slightly rough surfaces
- > Great stability allows high acceleration
- > Connection via firmly bolted nipple (from a diameter of 20 mm), thereby increasing process security
- > Diameter: 0.7 - 60 mm

> See page 38



Flat vacuum cups, modular - SP-F

- > Universal flat vacuum cups in even, supported or deep design
- > Design: Replacement sealing lip for attachment to fitting
- > Diameter: 5 - 150 mm

> See page 42



FIPA Flat vacuum cups SF



Flat vacuum cups with fixed mounted fittings - SP-F

- > Universal flat vacuum cups in even or supported design
- > Series with sensing valve prevents dropping of the product if individual vacuum cups in a system are not in contact with the product
- > Design: Complete with vacuum cup fitting and filter screen
- > Diameter: 20 - 150 mm

> See page 47



Flat vacuum cups with a flexible lip - SFU-F

- > Soft, very flexible single sealing lip for handling sensitive products
- > Good sealing to slightly rough surfaces
- > Diameter: 4 - 40 mm

> See page 50



Flat 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 52



Flat vacuum cups with long shaft - SFU-L

- > Gentle handling of particularly sensitive, uneven and slightly curved products
- > Long, slim design enables pipe mounting and low gimbal leveling for uneven product surfaces
- > Diameter: 6 - 60 mm

> See page 56



Vacuum cups for chocolates - SL-PF

- > Extremely flexible and adaptable suction lip for leak-free sealing of three-dimensional product surfaces
- > Low-marking and FDA-approved
- > Diameter: 16 - 22 mm

> See page 58



Silicone cups (FDA-approved) for use with tubes - SV-T

- > With straight or conical opening
- > Direct machine connection through pipe mounting
- > Handling of cans or tubes

> See page 60

Continued on the next page →



FIPA Flat vacuum cups SF	
	<p>Non-slip vacuum cups - SM-P</p> <ul style="list-style-type: none">> Flat vacuum cups for the handling of sheet metal> Distinct, radially encircling supporting ribs increase holding force> Diameter: 10 - 50 mm <p>> See page 62</p>
	<p>Flat vacuum cups for dynamic sheet handling - SM-F</p> <ul style="list-style-type: none">> Reliable, non-slip handling of oily sheets thanks to "anti-slip" supporting ribs.Good absorption of lateral forces> Supports help to prevent deep-drawing or deformation of thin sheets> Vulcanised connection thread ensures a secure fit> Diameter: 30 - 125 mm <p>> See page 64</p>
	<p>Flat vacuum cups for textured surfaces - SFU-R</p> <ul style="list-style-type: none">> Optimal seal with rough and uneven surfaces thanks to very fine sealing lips> Enhanced safety due to two-fold, internal safety sealing lip> Interlocking, clip-in retaining plate for quick and inexpensive replacement of the sealing lip> Diameter: 40 - 200 mm <p>> See page 66</p>
	<p>Flat vacuum cups for porous products - SFU-RT</p> <ul style="list-style-type: none">> Separation of porous plate materials by simultaneous suction and punctual blow-off of the product> Enhanced safety due to two-fold, internal safety sealing lip> Diameter: 160 mm <p>> See page 67</p>
	<p>Flat vacuum cups with safety sealing lips - SFU-S</p> <ul style="list-style-type: none">> High process reliability through multiple sealing lip> Good stability due to vulcanised retainer plate, as well as support surfaces for the product> Diameter: 30 - 225 mm <p>> See page 68</p>
	<p>Short lift vacuum cups SFK</p> <ul style="list-style-type: none">> Minimum lift for flat, sensitive surfaces> Supports prevent deformation of the product and increase stability> Particularly suited for use in clamping systems> Diameter: 20 - 150 mm <p>> See page 70</p>



FIPA Flat vacuum cups SF



Vacuum suction plate with foamed sealing lip - SP-PLM

- > Good sealing of heavily textured surfaces
- > Cost-effective replacement of worn seals
- > Diameter: 35 - 300 mm

> See page 72



Heavy-duty flat vacuum suction plates - SFPL-D

- > Vulcanised steel carrier plate allows lifting of very heavy loads
- > Secure gripping of uneven surfaces thanks to additional inner sealing lip
- > Diameter: 160 - 300 mm

> See page 73



Flat XXL suction rings - SFR

- > Large, flat suction seals vulcanised on steel ring for handling very large loads
- > Connection through circular, circumferentially placed thread holes
- > Diameter: 450 - 920 mm

> See page 74



Series | Flat vacuum cups SF

Universal flat vacuum cups - SFU-A

Universal flat vacuum cups - SFU-A



Product Description

Very shallow cup with single-lip seal for handling various products with smooth or rough surfaces.
Connection up to \varnothing 50 mm by means of plug-in nipple, from \varnothing 60 mm with vulcanised carrier plate (bolttable)


Advantage

- > Great stability allows high acceleration
- > Fast cycle times are possible, due to the cup's low volume
- > Cost-effective replacement of worn seals

Ordering notes:

\varnothing 1 mm to \varnothing 3 mm: PU = 10 pieces

Technical data

Item no.	Model / Lip dimensions		Material / Colour	Connection thread
102.001.002.*	SFU-A -1.5	0.3	NBR (sw), SI (tr)	--
102.002.004.*	SFU-A-2	0.4	NBR (sw), NBR-AS (sw), SI (tr), SI-AS (sw), PU (bl)	--
102.003.005.*	SFU-A -3	0.5	NBR (sw), NBR-AS (sw), SI (tr), SI-AS (sw), PU (bl), FKM (sw)	--
102.005.009.*	SFU-A -5	0.9	NBR (sw), SI (tr), SI-AS (sw), FKM (sw)	--
102.006.013.*	SFU-A -6	1	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (sw)	--
102.008.017.*	SFU-A -8	1.4	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (sw)	--
102.010.024.*	SFU-A -10	1.2	NBR (sw), NBR-AS (sw), SI (tr), SI-AS (sw), PU (bl)	--
102.015.030.*	SFU-A-15	2	NBR (sw), SI (tr), PU (bl)	--
102.015.309.*	SFU-A-15A	1.9	NBR (sw), SI (tr), PU (bl)	--
102.020.041.*	SFU-A -20	2	NBR (sw), SI (tr), PU (bl)	--
102.025.047.*	SFU-A -25	2.5	NBR (sw), SI (tr), PU (bl)	--
102.030.053.*	SFU-A -30	2	NBR (sw), SI (tr), PU (bl)	--
102.035.056.*	SFU-A -35	3	NBR (sw), SI (tr)	--
102.040.061.*	SFU-A -40	3.5	NBR (sw), SI (tr), PU (bl)	--
102.050.065.*	SFU-A -50	4	NBR (sw), SI (tr), PU (bl)	--
102.060.303.*	SFU-A -60	5	NBR (sw), SI (tr), PU (bl)	G1/4-female
102.080.304.*	SFU-A -80	6	NBR (sw), SI (tr), PU (bl)	G1/4-female
102.095.305.*	SFU-A -95	6	NBR (sw), SI (tr), PU (bl)	G1/4-female
154.120.018.*	SFU-A -120	7	NBR (sw), SI (tr)	--
154.150.020.*	SFU-A -150	9	NBR (sw), SI (tr)	--
154.191.025.*	SFU-A -200	13	NBR (sw), SI (tr), PU (bl)	--

* 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										Suitable spring levelers (Snap-In)	
	M3-male	M5-male	M5-female	M6-male	M10x1.25-female	G1/8-male	G1/8-female	G1/4-male	G1/4-female	G1/2-female	Spring leveler	
102.001.002.*	270.011 (p.408)	--	--	--	--	--	--	--	--	--	--	--
102.002.004.*	270.014 (p.408)	270.300 (p.411)	--	--	--	--	--	--	--	--	--	--
102.003.005.*	270.014 (p.408)	270.300 (p.411)	--	--	--	--	--	--	--	--	--	--
102.005.009.*	--	270.010 (p.411)	270.005 (p.412)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	--	50.330 (p.454)	10
102.006.013.*	--	270.010 (p.411)	270.005 (p.412)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	--	50.330 (p.454)	10
102.008.017.*	--	270.010 (p.411)	270.005 (p.412)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	--	50.330 (p.454)	10
102.010.024.*	--	270.010 (p.411)	270.005 (p.412)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	--	50.330 (p.454)	10
102.015.030.*	--	270.200 (p.411)	--	--	--	270.064 (p.418)	270.065 (p.422)	--	--	--	--	--
102.015.309.*	--	270.010 (p.411)	270.005 (p.412)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	--	50.330 (p.454)	10
102.020.041.*	--	270.311 (p.411)	--	--	--	270.063 (p.419)	270.061 (p.422)	--	--	--	--	--
102.025.047.*	--	--	--	270.312/19 (p.414)	--	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--	--
102.030.053.*	--	--	--	270.312/19 (p.414)	--	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--	--
102.035.056.*	--	--	--	270.312/19 (p.414)	--	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--	--
102.040.061.*	--	--	--	270.312/19 (p.414)	--	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--	--
102.050.065.*	--	--	--	--	--	270.490 (p.420)	270.489 (p.423)	270.491 (p.429)	270.492 (p.434)	--	--	--
102.060.303.*	--	--	--	--	270.090 (p.752)	--	--	270.120 (p.750)	--	--	--	--
102.080.304.*	--	--	--	--	270.090 (p.752)	--	--	270.120 (p.750)	--	--	--	--
102.095.305.*	--	--	--	--	270.090 (p.752)	--	--	270.120 (p.750)	--	--	--	--
154.120.018.*	--	--	--	--	--	--	--	--	--	270.056 (p.437)	--	--
154.150.020.*	--	--	--	--	--	--	--	--	--	270.056 (p.437)	--	--
154.191.025.*	--	--	--	--	--	--	--	--	--	270.056 (p.437)	--	--

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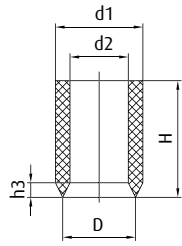
* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



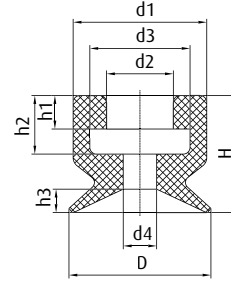
Series | Flat vacuum cups SF

Universal flat vacuum cups - SFU-A

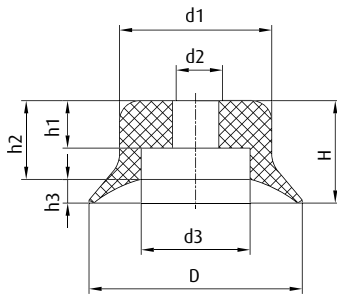
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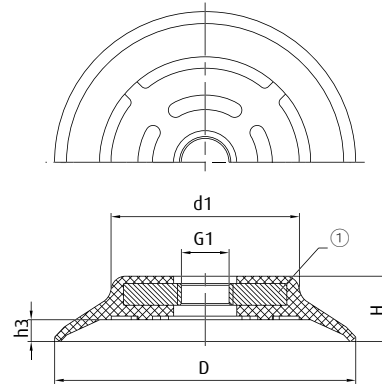
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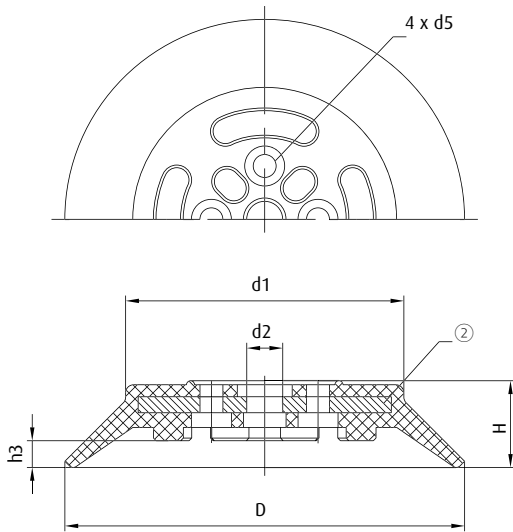
Drawing B



Drawing C



Drawing D



Drawing E

① = Aluminium ② = Steel

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



Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	G1	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]
102.001.002.*	A	1.5	1.8	1.2	--	--	--	--	2.5	--	--	0.3
102.002.004.*	B	2.5	4	2	3	1.2	--	--	4	1.5	2.5	0.5
102.003.005.*	B	4	4	2	3	1.2	--	--	4	1.5	2.5	0.5
102.005.009.*	B	5	7.5	3.8	6	1.3	--	--	6.5	1.8	3.9	0.8
102.006.013.*	B	6.5	7.5	4	6	2	--	--	7	2	4	1
102.008.017.*	B	8.5	8	4	6	2	--	--	7	2	3.5	1.4
102.010.024.*	B	11	8.5	4	6	2	--	--	7.5	1.8	3.8	1.4
102.015.030.*	C	15	12	4.5	7.5	--	--	--	8	2.6	2.1	2.1
102.015.309.*	B	15.5	9	3.8	6	2	--	--	8	2.2	4.4	2
102.020.041.*	C	21	15	4.6	11	--	--	--	10	4.5	8	2.4
102.025.047.*	C	25	16	6	11	--	--	--	14	7	11	3
102.030.053.*	C	30	14	6	11	--	--	--	12	7	10	2
102.035.056.*	C	36	21	6	11	--	--	--	14	7	11.2	2.8
102.040.061.*	C	42	24	6	11	--	--	--	14	7	11.2	2.8
102.050.065.*	C	50	27	8	20	--	--	--	15	7.4	11.5	3.5
102.060.303.*	D	62	38	--	--	--	--	G1/4	16	--	--	4.8
102.080.304.*	D	83	52	--	--	--	--	G1/4	18	--	--	6
102.095.305.*	D	95	66	--	--	--	--	G1/4	18	--	--	5.5
154.120.018.*	E	117	90	14	--	--	8.5	--	26	--	--	9
154.150.020.*	E	150	104	13.5	--	--	8.5	--	33	--	--	10
154.191.025.*	E	193	142	13	--	--	8.5	--	40	--	--	15.5

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Series | Flat vacuum cups SF

High temperature Thermalon® cups - SKT-F

High temperature Thermalon® cups - SKT-F

UP TO 160 °C & MINIMUM MARKING




Product Description

Flat vacuum cups for smooth surfaces especially suitable for removing hot plastic parts to be painted from an injection moulding machine. Thermalon® is a material mixture optimised 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 vulcanised carrier plate (boltable).




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 / Colour	Usage temperature [°C]
102.005.496.*	SKT-F-5	0.9	Thermalon® (bl)	0 - 160
102.008.497.*	SKT-F-8	1.3	Thermalon® (bl)	0 - 160
102.010.498.*	SKT-F-10	1.5	Thermalon® (bl)	0 - 160
102.015.499.*	SKT-F-15	1.9	Thermalon® (bl)	0 - 160
102.020.500.*	SKT-F-20	2.3	Thermalon® (bl)	0 - 160
102.025.501.*	SKT-F-25	3	Thermalon® (bl)	0 - 160
102.030.502.*	SKT-F-30	2	Thermalon® (bl)	0 - 160
102.040.503.*	SKT-F-40	3.9	Thermalon® (bl)	0 - 160
102.050.504.*	SKT-F-50	4	Thermalon® (bl)	0 - 160
102.060.505.*	SKT-F-60	4.9	Thermalon® (bl)	0 - 160

Accessories

Item no.	 Suitable fittings							 Suitable spring levelers (Snap-In)	
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female	Spring leveler	
102.005.496.*	270.010 (p.411)	270.005 (p.412)	--	270.009 (p.417)	270.007 (p.422)	--	--	50.330 (p.454)	10
102.008.497.*	270.010 (p.411)	270.005 (p.412)	--	270.009 (p.417)	270.007 (p.422)	--	--	50.330 (p.454)	10
102.010.498.*	270.010 (p.411)	270.005 (p.412)	--	270.009 (p.417)	270.007 (p.422)	--	--	50.330 (p.454)	10
102.015.499.*	270.200 (p.411)	--	--	270.064 (p.418)	270.065 (p.422)	--	--	50.330 (p.454)	10
102.020.500.*	270.311 (p.411)	--	--	270.063 (p.419)	270.061 (p.422)	--	--	--	--
102.025.501.*	--	--	270.312/19 (p.414)	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--
102.030.502.*	--	--	270.312/19 (p.414)	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--

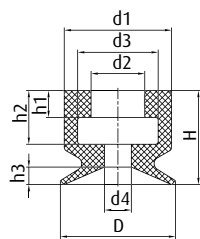
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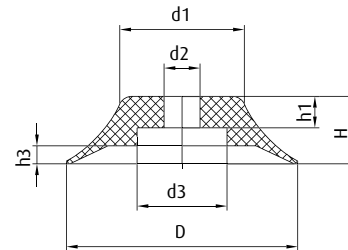
Accessories

Item no.	Suitable fittings						Suitable spring levelers (Snap-In)		
	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female	Spring leveler	
102.040.503.*	--	--	270.312/19 (p.414)	270.030 (p.419)	270.019 (p.423)	270.274 (p.427)	270.275 (p.432)	--	--
102.050.504.*	--	--	--	270.012 (p.421)	270.020 (p.423)	270.491 (p.429)	270.492 (p.434)	--	--
102.060.505.*	--	--	--	--	--	--	--	--	--

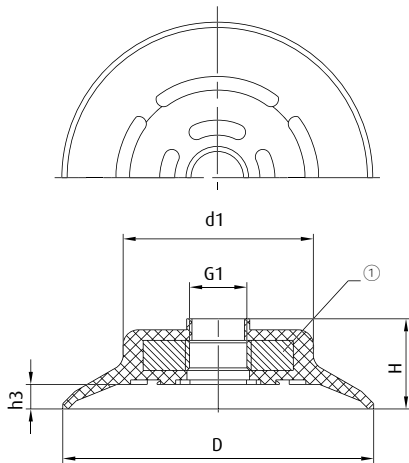
Dimensions



Drawing A



Drawing B



Drawing C

① = Aluminium

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.*	A	5.5	7.5	4	6	1.5	--	6.5	2	4	0.9
102.008.497.*	A	8.5	8	4	6	2	--	7	2	4	1.3
102.010.498.*	A	11	8.5	4	6	2	--	7.5	2	4	1.4
102.015.499.*	B	15.5	12	4.5	8	--	--	8	2.7	--	1.8
102.020.500.*	B	21	15	4.5	11	--	--	10	4.5	--	2.2
102.025.501.*	B	26	16	6	11	--	--	14	7	--	2.8
102.030.502.*	B	31	14.5	6	11	--	--	12	7	--	2
102.040.503.*	B	41	24	6	11	--	--	14	7	--	3.9
102.050.504.*	B	51	27.5	8	20	--	--	15	7	--	4
102.060.505.*	C	62	38	--	30	--	G1/4	18	--	--	5

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



Series | Flat vacuum cups SF

Universal flat vacuum cups - SFU-B

Universal flat vacuum cups - SFU-B




Product Description

Very shallow cup with single-lip seal for handling various products with smooth or slightly rough surfaces.
 Connection up to \varnothing 15 mm by means of plug-in nipple, from \varnothing 20 mm with firmly screwed-in nipple.
 Compatible "snap-in" spring levelers available.

Advantage

- > Great lateral stability allows high acceleration
- > Supported by support faces from \varnothing 30 mm
- > Fastest cycle times are possible due to the cup's low volume
- > 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	Material / Colour	
102.001.425.*	SFU-B-0.7	NBR (sw), SI-AS (sw)	0
102.001.463.*	SFU-B-1	NBR (sw), SI-AS (sw)	0
102.002.464.*	SFU-B-1.5	NBR (sw), SI-AS (sw)	0
102.002.279.*	SFU-B-2	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	0.2
102.003.280.*	SFU-B-3	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	0.3
102.004.281.*	SFU-B-4	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	0.3
102.006.282.*	SFU-B-6	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	0.5
102.008.283.*	SFU-B-8	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	1
102.010.284.*	SFU-B-10	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	1
102.015.285.*	SFU-B-15	NBR (sw), SI (tr), SI-AS (sw), PU (bl), FKM (gr)	1.5
102.020.286.*	SFU-B-20	NBR (sw), SI (tr), PU (bl), FKM (gr)	2
102.025.287.*	SFU-B-25	NBR (sw), SI (tr), PU (bl), FKM (gr)	2
102.030.288.*	SFU-B-30	NBR (sw), SI (tr), PU (bl), FKM (gr)	2
102.040.289.*	SFU-B-40	NBR (sw), SI (tr), PU (bl), FKM (gr)	2
102.050.290.*	SFU-B-50	NBR (sw), SI (tr), PU (bl), FKM (gr)	2
102.060.291.*	SFU-B-60	NBR (sw), SI (tr), PU (bl), FKM (gr)	2.5

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Accessories

Item no.	Suitable fittings								Suitable spring levelers (Snap-In)							
	M3-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		
102.001.425.*	270.524 (p.408)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.001.463.*	270.524 (p.408)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.002.464.*	270.524 (p.408)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.002.279.*	270.427 (p.408)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.003.280.*	270.427 (p.408)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.004.281.*	270.427 (p.408)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.006.282.*	--	270.283 (p.409)	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.008.283.*	--	270.283 (p.409)	--	--	--	--	--	--	--	--	--	--	--	--	--	
102.010.284.*	--	270.010 (p.411)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	50.103 (p.454)	6	50.125 (p.454)	10	50.126 (p.454)	15	50.127 (p.454)	20
102.015.285.*	--	270.010 (p.411)	--	--	270.009 (p.417)	270.007 (p.422)	--	--	50.103 (p.454)	6	50.125 (p.454)	10	50.126 (p.454)	15	50.127 (p.454)	20
102.020.286.*	--	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
102.025.287.*	--	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
102.030.288.*	--	--	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
102.040.289.*	--	--	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
102.050.290.*	--	--	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
102.060.291.*	--	--	--	270.512 (p.416)	--	--	--	--	--	--	--	--	--	--	--	--

Continued on the next page →

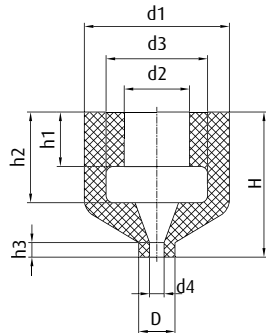
* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



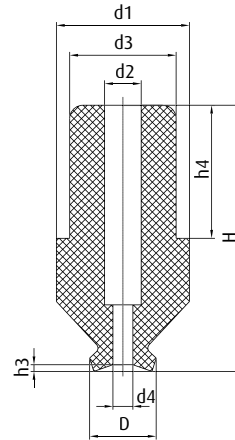
Series | Flat vacuum cups SF

Universal flat vacuum cups - SFU-B

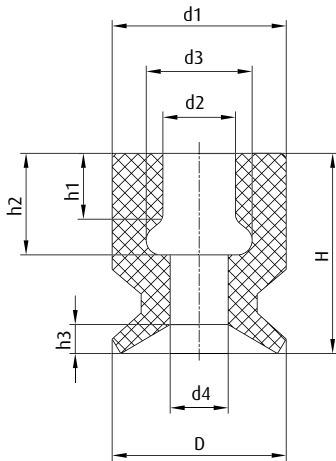
Dimensions



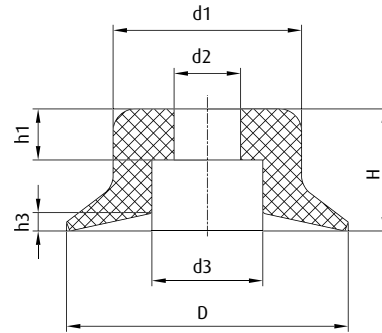
Drawing A



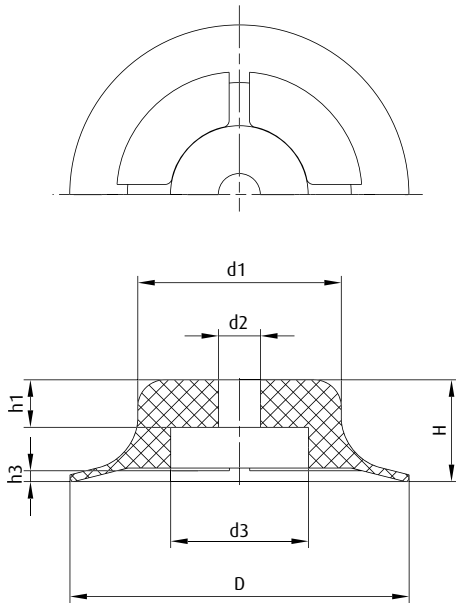
Drawing B



Drawing C



Drawing D



Drawing E

* 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



Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]	h4 [mm]
102.001.425_*	A	0.7	4	1.8	2.9	0.2	4	1.5	2.4	0.4	--
102.001.463_*	A	1	4	1.8	2.8	0.4	4	1.5	2.5	0.4	--
102.002.464_*	A	1.5	4	1.8	2.8	0.7	4	1.5	2.5	0.4	--
102.002.279_*	B	2	4	1.1	3.2	0.6	8	--	--	0.2	4
102.003.280_*	B	3	4	1.2	3.3	0.8	8	--	--	0.3	4
102.004.281_*	B	4	4	1.2	3.3	1.2	8	--	--	0.5	4
102.006.282_*	C	6	6	2.5	3.6	2	7	2.3	3.5	1	--
102.008.283_*	D	8	6	2.6	3.6	--	5.5	2.6	--	1	--
102.010.284_*	D	10	10	4	6	--	8	3	--	1	--
102.015.285_*	D	15	11	3.9	6	--	9	3.1	--	2.4	--
102.020.286_*	D	20	15	6	10	--	10	4.1	--	1.7	--
102.025.287_*	D	25	17	6	10	--	11	4.6	--	1.7	--
102.030.288_*	E	30	17	6	12	--	11	5	--	1.9	--
102.040.289_*	E	40	25	6	15	--	14	7	--	1.6	--
102.050.290_*	E	50	30	6	20	--	15	7	--	1.6	--
102.060.291_*	E	60	40	10.5	28	--	22	11	--	2.3	--

* 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 | Flat vacuum cups SF

Flat vacuum cups, modular - SP-F

Flat vacuum cups, modular - SP-F



Product Description

Universal flat vacuum cup in even, supported or deep design.
Design: 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

Ordering notes:

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

Technical data

Item no.	Model / Lip dimensions		Material / Colour	Accessories
				Retaining ring
				
Smooth design				
102.005.090.*	SP-F-5	0.5	SI (tr), CR (sw)	--
102.007.091.*	SP-F-7	1	SI (tr), CR (sw)	--
102.009.092.*	SP-F-9	1.5	SI (tr), CR (sw)	--
102.011.093.*	SP-F-10	1	SI (tr), CR (sw)	--
102.016.098.*	SP-F-15	2	SI (tr), CR (sw)	--
102.020.095.*	SP-F-20	2.5	SI (tr), CR (sw)	78.011 (p.475)
102.030.096.*	SP-F-30	3.5	SI (tr), CR (sw)	78.011 (p.475)
102.040.094.*	SP-F-40	4	SI (tr), CR (sw)	78.012 (p.475)
102.050.097.*	SP-F-50	6.5	SI (tr), CR (sw)	78.013 (p.475)
				
With cleats				
104.016.003.*	SP-FA-16	0.5	SI (tr), CR (sw)	--
125.020.004.*	SP-FA-20	1	Tepuflex® (or), SI (tr), CR (sw)	78.011 (p.475)
125.025.007.*	SP-FA-25	1	Tepuflex® (or), SI (tr), CR (sw)	78.011 (p.475)
125.030.010.*	SP-FA-30	2	Tepuflex® (or), SI (tr), CR (sw)	78.011 (p.475)
125.040.013.*	SP-FA-40	2	Tepuflex® (or), SI (tr), CR (sw)	78.012 (p.475)
125.050.017.*	SP-FA-50	2.5	Tepuflex® (or), SI (tr), CR (sw)	78.013 (p.475)
154.078.027.*	SP-FA-75	3	Tepuflex® (or), SI (tr), CR (sw)	--
154.113.028.*	SP-FA-110	5	Tepuflex® (or), SI (tr), CR (sw)	--
154.155.026.*	SP-FA-150	5	Tepuflex® (or), SI (tr), CR (sw)	--
				
Deep design				
122.016.012.*	SP-FD-16	1.5	SI (tr), CR (sw)	--
122.022.022.*	SP-FD-20	2.5	SI (tr), CR (sw)	78.011 (p.475)
122.032.036.*	SP-FD-30	5	SI (tr), CR (sw)	78.011 (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
Smooth design										
102.005.090.*	270.153 (p.409)	--	--	--	--	--	--	--	--	--
102.007.091.*	270.153 (p.409)	--	--	--	--	--	--	--	--	--
102.009.092.*	270.153 (p.409)	--	--	--	--	--	--	--	--	--
102.011.093.*	270.134 (p.409)	--	270.104 (p.413)	--	--	--	--	--	--	--
102.016.098.*	270.134 (p.409)	--	270.104 (p.413)	--	--	--	--	--	--	--
102.020.095.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
102.030.096.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
102.040.094.*	--	--	--	--	270.251, 270.501-S (p.423)	270.506-S (p.428)	270.505-S (p.434)	--	--	--
102.050.097.*	--	--	--	--	270.252, 270.502-S (p.424)	270.504-S (p.429)	270.507-S (p.435)	--	--	--
With cleats										
104.016.003.*	270.134 (p.409)	--	270.104 (p.413)	--	--	--	--	--	--	--
125.020.004.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
125.025.007.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
125.030.010.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
125.040.013.*	--	--	--	--	270.251, 270.501-S (p.423)	270.506-S (p.428)	270.505-S (p.434)	--	--	--
125.050.017.*	--	--	--	--	270.252, 270.502-S (p.424)	270.504-S (p.429)	270.507-S (p.435)	--	--	--
154.078.027.*	--	--	--	--	270.527-S (p.424)	--	--	270.528-S (p.436)	270.529-S (p.436)	--
154.113.028.*	--	--	--	--	--	--	--	270.530-S (p.437)	270.531-S (p.437)	--
154.155.026.*	--	--	--	--	--	--	--	--	270.532-S (p.437)	270.533-S (p.437)
Deep design										
122.016.012.*	270.134 (p.409)	--	270.104 (p.413)	--	--	--	--	--	--	--
122.022.022.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--
122.032.036.*	--	270.500-S (p.413)	--	270.250, 270.503-S (p.418)	--	--	--	--	--	--

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 | Flat vacuum cups SF

Flat vacuum cups, modular - SP-F

Flat vacuum cups, modular

Example:



+



=



Assembly example



+



=

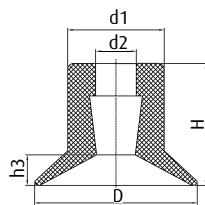


Assembly example

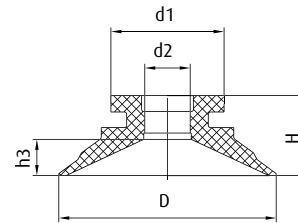
- * Fittings are optionally available with and without filter screen
- ** Fittings come fitted with filter screen as standard

- > 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

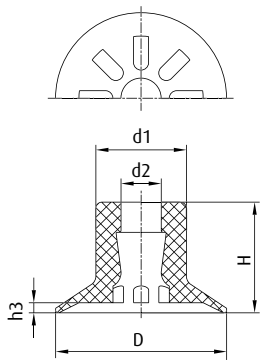
Dimensions



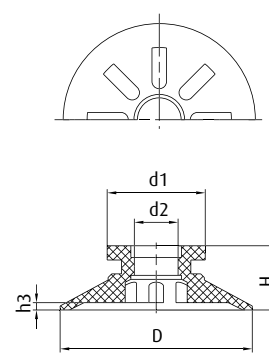
Drawing A



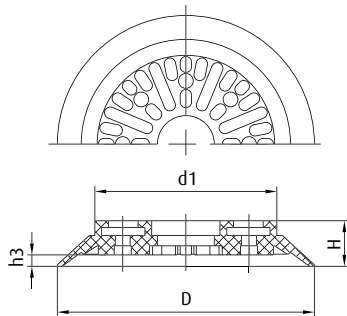
Drawing B



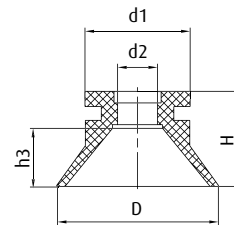
Drawing C



Drawing D



Drawing E



Drawing 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



Item no.	Drawing	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	H [mm]	h3 [mm]
Smooth design						
102.005.090.*	A	5	4.5	2	6	0.5
102.007.091.*	A	7	5	2	7	0.9
102.009.092.*	A	9.5	5	2	7	1.1
102.011.093.*	A	11	9	3.8	10.5	0.8
102.016.098.*	A	16	9.5	4	12	3
102.020.095.*	B	22	14.5	5.5	8	3
102.030.096.*	B	32	14.5	6.5	10.5	4.7
102.040.094.*	B	42	20	7	13.5	6
102.050.097.*	B	52	27	11	19	8.5
With cleats						
104.016.003.*	C	17	9	4	11	1
125.020.004.*	D	22	14.5	5.5	8	0.9
125.025.007.*	D	28	14	5.5	9	1
125.030.010.*	D	32	14.5	6.5	10.5	1.2
125.040.013.*	D	42	20	7	13.5	2.1
125.050.017.*	D	53	27	12	17.5	2
154.078.027.*	E	78	55	--	13	3
154.113.028.*	E	113	80	--	20	5
154.155.026.*	E	155	109	--	24	5
Deep design						
122.016.012.*	F	17.5	9	4	17	8
122.022.022.*	F	22	14.5	5.5	13	8
122.032.036.*	F	32	14.5	5.5	19.5	14.4






* 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



Flat vacuum cups with fully assembled fitting - SP-F



Product Description	Advantage
<p>Universal flat vacuum cups in even or supported design. Series with sensing valve prevents dropping of the product if individual vacuum cups in a system are not in contact with the product.</p> <p>Version: Complete with vacuum cup fitting and filter screen.</p>	<ul style="list-style-type: none"> > High suction force > Fast cycle times possible > Very resistant to wear (Tepuflex®) > Compatible with established products from other vendors

Technical data						Accessories
Item no.	Model / Lip dimensions	Connection thread		Material / Colour	Spare cup	
						
Smooth design with fitting & filter screen						
120.020.006._*	SP-F-20	G1/8-male, M5-female	2.5	SI (tr), CR (sw)	102.020.095._* (p.205)	
120.030.013._*	SP-F-30	G1/8-male, M5-female	3.5	SI (tr), CR (sw)	102.030.096._* (p.223)	
120.040.076._*	SP-F-40	G1/8-female	4	SI (tr), CR (sw)	102.040.094._* (p.234)	
120.050.078._*	SP-F-50	G1/8-female	6.5	SI (tr), CR (sw)	102.050.097._* (p.242)	
						
Smooth design with fitting, filter screen & touch valve						
121.030.006._*	SP-F-30	G1/8-male, M5-female	2.5	SI (tr), CR (sw)	102.030.096._* (p.223)	
121.040.007._*	SP-F-40	G1/8-female	4	SI (tr), CR (sw)	102.040.094._* (p.234)	
121.050.008._*	SP-F-50	G1/8-female	2.5	SI (tr), CR (sw)	102.050.097._* (p.242)	
						
With cleats, fitting & filter screen						
123.020.003._*	SP-FA-20	G1/8-male, M5-female	1	Tepuflex® (or), SI (tr), CR (sw)	125.020.004._* (p.205)	
123.025.010._*	SP-FA-25	G1/8-male, M5-female	1	Tepuflex® (or), SI (tr), CR (sw)	125.025.007._* (p.216)	
123.030.019._*	SP-FA-30	G1/8-male, M5-female	2	Tepuflex® (or), SI (tr), CR (sw)	125.030.010._* (p.223)	
123.040.028._*	SP-FA-40	G1/8-female	2	Tepuflex® (or), SI (tr), CR (sw)	125.040.013._* (p.235)	
123.050.034._*	SP-FA-50	G1/8-female	2.5	Tepuflex® (or), SI (tr), CR (sw)	125.050.017._* (p.242)	
152.078.133._*	SP-FA-75	G1/8-female	3	Tepuflex® (or), SI (tr), CR (sw)	154.078.027._* (p.252)	
152.078.136._*	SP-FA-75	G3/8-female	3	Tepuflex® (or), SI (tr), CR (sw)	154.078.027._* (p.252)	
152.078.139._*	SP-FA-75	G1/2-female	3	Tepuflex® (or), SI (tr), CR (sw)	154.078.027._* (p.252)	
152.113.134._*	SP-FA-110	G3/8-female	5	Tepuflex® (or), SI (tr), CR (sw)	154.113.028._* (p.262)	
152.113.137._*	SP-FA-110	G1/2-female	5	Tepuflex® (or), SI (tr), CR (sw)	154.113.028._* (p.262)	
152.155.135._*	SP-FA-150	G1/2-female	5	Tepuflex® (or), SI (tr), CR (sw)	154.155.026._* (p.269)	
152.155.138._*	SP-FA-150	G3/4-female	5	Tepuflex® (or), SI (tr), CR (sw)	154.155.026._* (p.269)	
						
With cleats, fitting, filter screen & touch valve						
124.030.002._*	SP-FA-30	G1/8-male, M5-female	2	SI (tr), CR (sw)	125.030.010._* (p.223)	
124.040.006._*	SP-FA-40	G1/8-female	2	SI (tr), CR (sw)	125.040.013._* (p.235)	
124.050.009._*	SP-FA-50	G1/8-female	2.5	SI (tr), CR (sw)	125.050.017._* (p.242)	

* 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

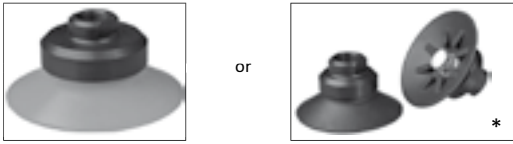


Series | Flat vacuum cups SF

Flat vacuum cups with fully assembled fitting - SP-F

Flat vacuum cups with fully mounted fitting

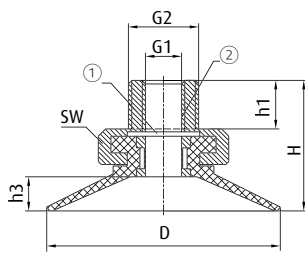
Example:



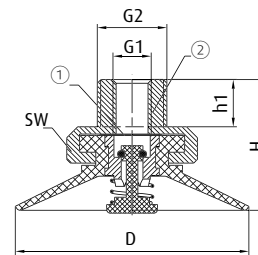
* Version with touch valve available only for flat vacuum cups in smooth design and flat vacuum cups with cleats

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

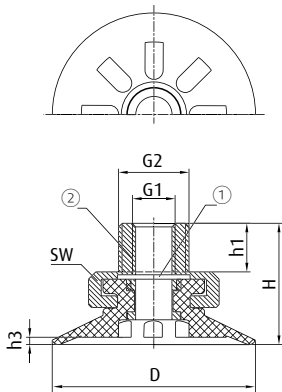
Dimensions



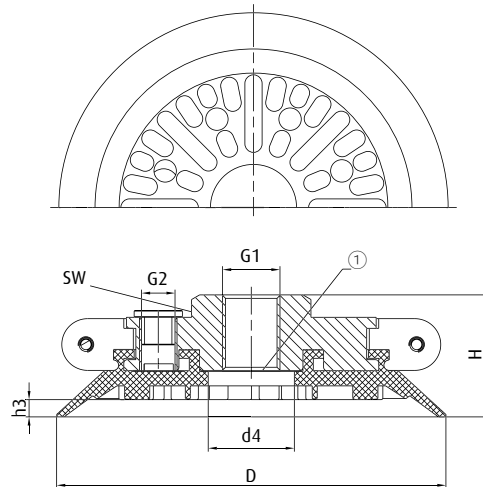
Drawing A



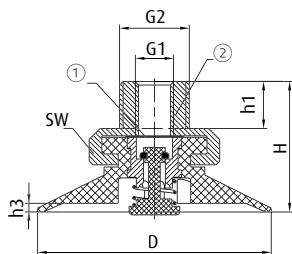
Drawing B



Drawing C



Drawing D



Drawing E

① = Filter screen ② = 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



Item no.	Drawing	Ø D [mm]	Ø d4 [mm]	G1	G2	H [mm]	h1 [mm]	h3 [mm]	SW
Smooth design with fitting & filter screen									
120.020.006.*	A	22	--	M5	G1/8	15.5	6.5	3	17
120.030.013.*	A	32	--	M5	G1/8	18	6.5	4.5	17
120.040.076.*	A	42	--	G1/8	--	22	--	6	12
120.050.078.*	A	52	--	G1/8	--	27	--	8.5	12
Smooth design with fitting, filter screen & touch valve									
121.030.006.*	B	32	--	M5	G1/8	18	6.5	--	17
121.040.007.*	B	42	--	G1/8	--	22	--	--	12
121.050.008.*	B	52	--	G1/8	--	27	--	--	12
With cleats, fitting & filter screen									
123.020.003.*	C	22	--	M5	G1/8	15.5	6.5	0.9	17
123.025.010.*	C	28	--	M5	G1/8	16.5	6.5	1	17
123.030.019.*	C	32	--	M5	G1/8	18	6.5	1.2	17
123.040.028.*	C	42	--	G1/8	--	22	--	2.1	12
123.050.034.*	C	53	--	G1/8	--	26	--	2	12
152.078.133.*	D	78	10	G1/8	--	26	--	3	28
152.078.136.*	D	78	10	G3/8	--	26	--	3	28
152.078.139.*	D	78	10	G1/2	--	26	--	3	28
152.113.134.*	D	113	25	G3/8	G1/8	35	--	5	30
152.113.137.*	D	113	25	G1/2	G1/8	35	--	5	30
152.155.135.*	D	155	25	G1/2	G1/8	38	--	5	38
152.155.138.*	D	155	25	G3/4	G1/8	38	--	5	38
With cleats, fitting, filter screen & touch valve									
124.030.002.*	E	32	--	M5	G1/8	18	--	1.2	17
124.040.006.*	E	42	--	G1/8	--	22	--	2.1	12
124.050.009.*	E	53	--	G1/8	--	26	--	2	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



Series | Flat vacuum cups SF

Flat vacuum cups with a flexible lip - SFU-F

Flat vacuum cups with a flexible lip - SFU-F




Product Description

Flat vacuum cups with a soft, very flexible single-lip seal for handling highly sensitive products.
Connection via plug-in nipple.
Compatible "snap-in" spring levelers available.


















Advantage

- > Gentle product handling
- > Very good fit to the product surface
- > Good seal over a slightly rough surface
- > Low volume of the cup enables fast cycle times
- > Cost-effective replacement of worn seals

Technical data

Item no.	Model / Lip dimensions		Material / Colour
102.004.216.*	SFU-F-4	1	NBR (sw), SI (tr)
102.006.217.*	SFU-F-6	1	NBR (sw), SI (tr)
102.008.218.*	SFU-F-8	1	NBR (sw), SI (tr)
102.010.219.*	SFU-F-10	1	NBR (sw), SI (tr)
102.015.220.*	SFU-F-15	2	NBR (sw), SI (tr)
102.020.221.*	SFU-F-20	2	NBR (sw), SI (tr)
102.030.222.*	SFU-F-30	2	NBR (sw), SI (tr)
102.040.223.*	SFU-F-40	2	NBR (sw), SI (tr)

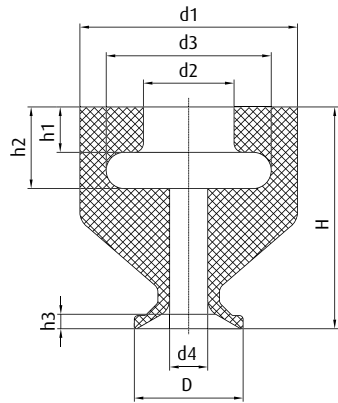
Accessories

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		
102.004.216.*	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
102.006.217.*	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
102.008.218.*	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
102.010.219.*	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
102.015.220.*	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
102.020.221.*	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
102.030.222.*	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
102.040.223.*	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

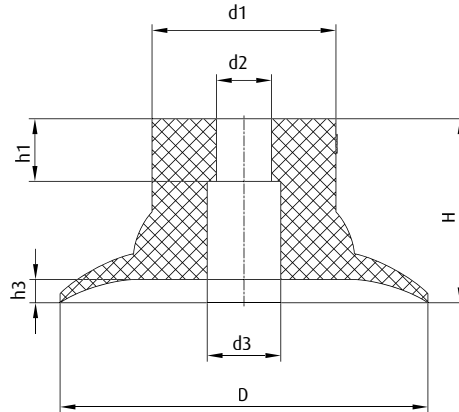
* When ordering please add the appropriate material code to item no. You will find it in the foldout.
Average holding forces for vacuum cups you will find on page 760



Dimensions



Drawing A



Drawing B

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]
102.004.216.*	A	3.8	12	5	9	1.1	12	2.5	4.5	0.7
102.006.217.*	A	6	12	5	9	2.1	12.5	2.5	4.5	0.8
102.008.218.*	A	8	12	5	9	2	12.5	2.5	4.5	1.7
102.010.219.*	A	10.5	12	5	9	3	14.5	2.5	4.5	4.2
102.015.220.*	A	16	12	5	9.5	3.3	14	2.4	4.7	2.3
102.020.221.*	B	20	12	4.5	6	--	15	4.7	--	2.1
102.030.222.*	B	30	15	4.5	6	--	15	5	--	1.9
102.040.223.*	B	40	19.5	4.7	6.5	--	15	5	--	2

* 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 | Flat vacuum cups SF

Flat vacuum cups with curved lip - SFU-D

Flat vacuum cups with curved lip - SFU-D




Product Description

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, slightly curved products
- > Large lift

Technical data

Item no.	Model / Lip dimensions		Material / Colour
112.004.001.*	SFU-D-4	0.5	NBR (sw), SI (r)
112.005.002.*	SFU-D-5	0.7	NBR (sw), SI (r)
112.006.003.*	SFU-D-6	1	NBR (sw), SI (r)
112.008.007.*	SFU-D-8	1.5	NBR (sw), SI (w), NR (sw)
112.010.011.*	SFU-D-10	2	NBR (sw), SI (w)
112.012.015.*	SFU-D-12	2	NBR (sw), SI (w), NR (sw)
112.015.022.*	SFU-D-15	2	NBR (sw), SI (w), NR (sw)
112.018.024.*	SFU-D-18	2.3	NBR (sw), SI (w), NR (sw)
112.020.031.*	SFU-D-20	2.3	NBR (sw), SI (w), NR (sw)
112.022.037.*	SFU-D-22	2.5	NBR (sw), SI (w)
112.025.042.*	SFU-D-25	4.5	NBR (sw), SI (w), NR (sw)
112.030.052.*	SFU-D-30	4.5	NBR (sw), SI (w)
112.035.060.*	SFU-D-35	5	NBR (sw), SI (w), NR (sw)
112.040.071.*	SFU-D-40	4	NBR (sw), SI (tr)
112.045.077.*	SFU-D-45	7	NBR (sw), SI (w), NR (sw)
112.060.091.*	SFU-D-60	9	NBR (sw), SI (tr)
112.085.102.*	SFU-D-85	12	NBR (sw), SI (tr), NR (sw)

* 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							
	M3-male	M5-male	M5-female	M6-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
112.004.001.*	270.025 (p.408)	--	--	--	--	--	--	--
112.005.002.*	270.025 (p.408)	--	--	--	--	--	--	--
112.006.003.*	270.025 (p.408)	--	--	--	--	--	--	--
112.008.007.*	--	270.536 (p.409)	--	--	--	--	--	--
112.010.011.*	--	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
112.012.015.*	--	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
112.015.022.*	--	270.134 (p.409)	--	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
112.018.024.*	--	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
112.020.031.*	--	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
112.022.037.*	--	270.134 (p.409)	270.347 (p.412)	270.104 (p.413)	270.033 (p.416)	270.478 (p.421)	--	--
112.025.042.*	--	270.443 (p.410)	--	--	270.238 (p.417)	270.110 (p.422)	270.534 (p.425)	--
112.030.052.*	--	270.443 (p.410)	--	--	270.238 (p.417)	270.110 (p.422)	270.534 (p.425)	--
112.035.060.*	--	--	--	--	--	--	270.451 (p.426)	270.452 (p.431)
112.040.071.*	--	--	--	--	--	--	270.451 (p.426)	270.452 (p.431)
112.045.077.*	--	--	--	--	--	--	270.451 (p.426)	270.452 (p.431)
112.060.091.*	--	--	--	--	--	--	270.042 (p.431)	--
112.085.102.*	--	--	--	--	--	--	270.216 (p.431)	--

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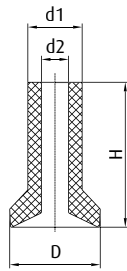
* When ordering please add the appropriate material code to item no. You will find it in the foldout.
Average holding forces for vacuum cups you will find on page 760



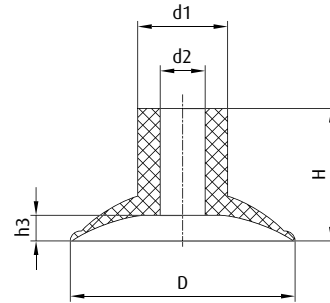
Series | Flat vacuum cups SF

Flat vacuum cups with curved lip - SFU-D

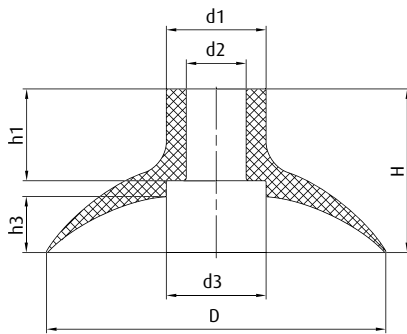
Dimensions



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._*	A	4	3	1.5	--	7.5	--	--
112.005.002._*	A	5	3	1.5	--	8	--	--
112.006.003._*	A	6	3	1.5	--	8	--	--
112.008.007._*	B	8	5	2.8	--	8	--	1.6
112.010.011._*	B	10	6.5	3.8	--	10.5	--	1.9
112.012.015._*	B	12	8	4	--	11	--	1.7
112.015.022._*	B	15	8	4	--	12	--	2.5
112.018.024._*	B	18	8	3.9	--	11.5	--	2.3
112.020.031._*	B	20	8	4	--	12	--	2.3
112.022.037._*	B	22	8	4	--	13	--	2.5
112.025.042._*	B	25	12	6	--	16	--	4.3
112.030.052._*	B	30	12	6	--	17	--	4.4
112.035.060._*	B	35	15	10	--	16.5	--	5.2
112.040.071._*	B	40	15	10	--	16	--	4
112.045.077._*	B	45	15.5	10	--	17	--	7.5
112.060.091._*	C	60	15	10	25	23	10	9
112.085.102._*	C	85	25	15	25	41	23	14

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



Notes:

A vertical red line is positioned on the left side of the page. The main body of the page is filled with horizontal grey lines, providing a ruled area for writing notes.



Series | Flat vacuum cups SF

Flat vacuum cups with long shaft - SFU-L

Flat vacuum cups with long shaft - SFU-L




Product Description

Flat vacuum cups for handling sensitive or uneven and slightly curved products. Long, slim design enables pipe mounting and low gimbal leveling for uneven product surfaces.


Advantage

- > Gentle handling of particularly sensitive products
- > Cost-effective replacement of worn seals

Technical data

Item no.	Model / Lip dimensions	 Lip height	Material / Colour
122.006.002.*	SFU-L-6	1.5	NBR (sw), SI (tr)
122.010.005.*	SFU-L-10	1.5	NBR (sw), SI (tr)
122.016.009.*	SFU-L-16	5	NBR (sw), SI (tr), NR (sw)
122.025.025.*	SFU-L-25	5	NBR (sw), SI (tr), NR (sw)
122.040.043.*	SFU-L-40	4	SI (tr), NR (sw)
122.060.059.*	SFU-L-60	10	NBR (sw), SI (tr), NR (sw)

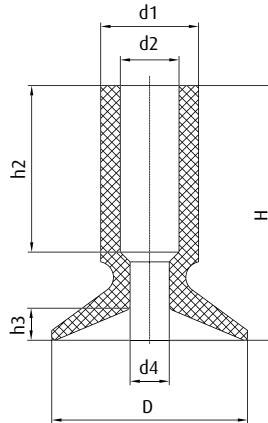
Accessories

Item no.	 Suitable fittings				
	M5-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
122.006.002.*	270.001 (p.409)	--	--	--	--
122.010.005.*	270.022 (p.409)	--	--	--	--
122.016.009.*	270.013 (p.410)	270.003 (p.416)	270.015 (p.421)	270.194 (p.425)	--
122.025.025.*	--	270.132 (p.417)	270.114 (p.422)	270.043 (p.425)	270.178 (p.431)
122.040.043.*	--	--	--	270.049-1 (p.426)	--
122.060.059.*	--	--	--	270.049-1 (p.426)	--

* 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



Item no.	∅ D [mm]	∅ d1 [mm]	∅ d2 [mm]	∅ d4 [mm]	H [mm]	h2 [mm]	h3 [mm]
122.006.002.*	6	4	2	1	12	8	1.3
122.010.005.*	10	5	3	2	13	8.5	1.6
122.016.009.*	16	8	4.8	3	20	13	3.8
122.025.025.*	25	12	8	4	30	18	5.5
122.040.043.*	43	20	11	4.4	41	22	10.2
122.060.059.*	62	24	11	6	45	21	14.5

* 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 | Flat vacuum cups SF

Flat vacuum cups for chocolates - SL-PF

Flat vacuum cups for chocolates - SL-PF



Product Description

Flat 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	Lip height	Material / Colour
107.016.008._*	SL-PF-16	2.4	SI (tr)
102.018.345._*	SL-PF-18	--	SI (tr)
107.018.004._*	SL-PF-18A	--	SI (tr)
102.022.043._*	SL-PF-22	5	SI (tr)

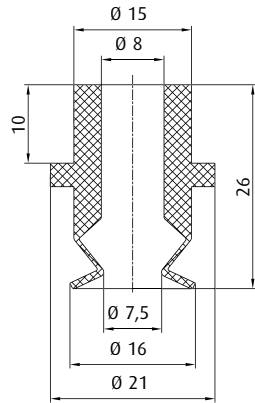
Accessories

Item no.	Suitable fittings				
	M5-male	G1/8-male	G1/8-female	G1/4-male	G1/4-female
107.016.008._*	--	270.132 (p.417)	270.114 (p.422)	270.043 (p.425)	270.178 (p.431)
102.018.345._*	270.443 (p.410)	270.238 (p.417)	270.110 (p.422)	270.534 (p.425)	--
107.018.004._*	270.399 (p.410)	270.033 (p.416)	270.478 (p.421)	--	--
102.022.043._*	--	270.112 (p.419)	270.114 (p.422)	270.113 (p.425)	270.178 (p.431)

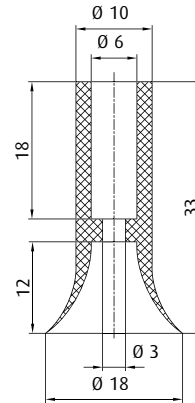
* When ordering please add the appropriate material code to item no. You will find it in the foldout.
Average holding forces for vacuum cups you will find on page 760



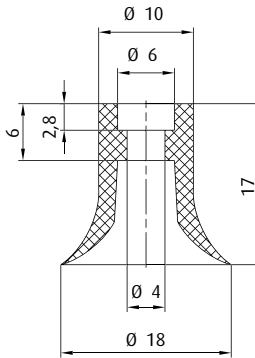
Dimensions



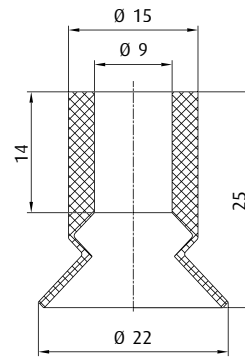
Drawing A



Drawing B



Drawing C



Drawing D

Item no.	Drawing
107.016.008.*	A
102.018.345.*	B
107.018.004.*	C
102.022.043.*	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 | Flat vacuum cups SF

Vacuum cups for handling tubes - SV-T

Vacuum cups for handling tubes - SV-T



Product Description

Special FDA-compliant seals for pipe mounting

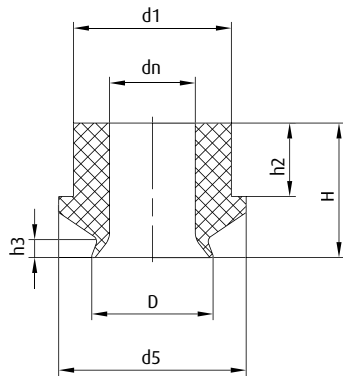
Technical data

Item no.	Model / Lip dimensions	Material / Colour
With straight passage - SV-TG		
107.019.076._*	SV-TG-19	SI (tr)
107.019.112._*	SV-TG-20	SI (tr)
107.022.107._*	SV-TG-22	SI (tr)
107.025.109._*	SV-TG-25	SI (tr)
107.026.111._*	SV-TG-26	SI (tr)
107.028.108._*	SV-TG-28	SI (tr)
107.032.113._*	SV-TG-32	SI (tr)
107.037.114._*	SV-TG-37	SI (tr)
107.045.115._*	SV-TG-46	SI (tr)
With conical passage - SV-TK		
107.011.103._*	SV-TK-11	SI (tr)
107.012.106._*	SV-TK-12	SI (tr)
107.013.101._*	SV-TK-13	SI (tr)
107.013.105._*	SV-TK-13A	SI (tr)
107.015.102._*	SV-TK-15	SI (tr)
107.017.066._*	SV-TK-17	SI (tr)
107.018.104._*	SV-TK-18	SI (tr)

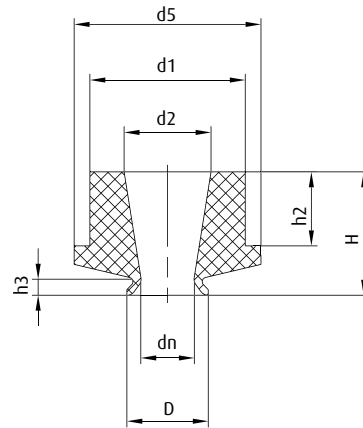
* When ordering please add the appropriate material code to item no. You will find it in the foldout.
Average holding forces for vacuum cups you will find on page 760



Dimensions



Drawing A



Drawing B

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d5 [mm]	Ø dn [mm]	H [mm]	h2 [mm]	h3 [mm]
With straight passage - SV-TG									
107.019.076._*	A	18.5	25	--	30	14	21	12	2.2
107.019.112._*	A	19.5	25	--	30	14	22	12	2.9
107.022.107._*	A	22	25	--	30	17	21.5	12	2.5
107.025.109._*	A	25	25	--	31	17	22	12	2.6
107.026.111._*	A	26	25	--	30	17	23	12	5.5
107.028.108._*	A	28	25	--	30	19	24	12	5.5
107.032.113._*	A	32	32	--	40	25	25	13	2.3
107.037.114._*	A	37	45	--	53	29	31	17.5	2.7
107.045.115._*	A	46	45	--	54	37	32	17.5	--
With conical passage - SV-TK									
107.011.103._*	B	11	25	13.5	31	7.5	21	12	1.2
107.012.106._*	B	12.5	25	14	30	10.5	21	12	1.9
107.013.101._*	B	13	25	14	30	10.5	20	12	1.1
107.013.105._*	B	13	25	14	30	8.5	20	12	2.6
107.015.102._*	B	15	25	16	30	10.5	20	12	3
107.017.066._*	B	17.5	25	17	31	12.5	20	12	2.7
107.018.104._*	B	18	25	18	30	14	21	12	2.4

* 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 | Flat vacuum cups SF

Anti-slip flat vacuum cups - SM-P


Anti-slip flat vacuum cups - SM-P



Product Description

Flat vacuum cups of oil-resistant NBR for handling metal sheets. Distinct radially extending cleats increase the holding force and prevent “deep drawing” of the product as well as any slipping of oily sheets. The firmly bolted holder (from Ø 20 mm) provides a secure seating.

Technical data

Item no.	Model / Lip dimensions	Connection thread		Material / Colour
With female thread - SM-PI				
100.010.100._*	SM-PI-10	G1/8-female	0.5	NBR (sw)
100.020.101._*	SM-PI-20	G1/8-female	1.1	NBR (sw)
100.030.102._*	SM-PI-30	G1/8-female	1.8	NBR (sw)
100.040.103._*	SM-PI-40	G1/8-female	2.5	NBR (sw)
100.050.104._*	SM-PI-50	G1/4-female	3.1	NBR (sw)
With male thread - SM-PI				
100.010.110._*	SM-PA-10	G1/8-male	0.5	NBR (sw)
100.020.111._*	SM-PA-20	G1/8-male	1.1	NBR (sw)
100.030.112._*	SM-PA-30	G1/8-male	1.8	NBR (sw)
100.040.113._*	SM-PA-40	G1/8-male	2.5	NBR (sw)
100.050.114._*	SM-PA-50	G1/4-male	3.1	NBR (sw)

Accessories

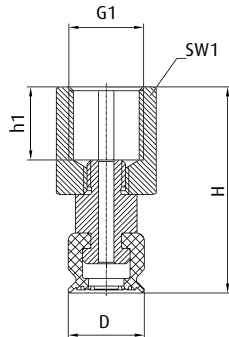
Spare cup

104.010.065.1 (p.183)
104.020.066.1 (p.201)
104.030.067.1 (p.219)
104.040.068.1 (p.231)
104.050.069.1 (p.239)
104.010.065.1 (p.183)
104.020.066.1 (p.201)
104.030.067.1 (p.219)
104.040.068.1 (p.231)
104.050.069.1 (p.239)

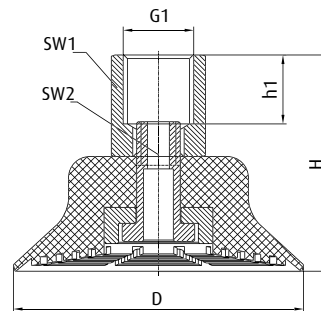
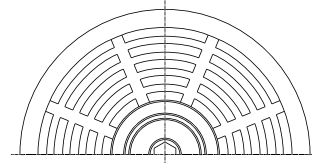
* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



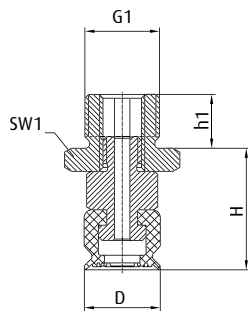
Dimensions



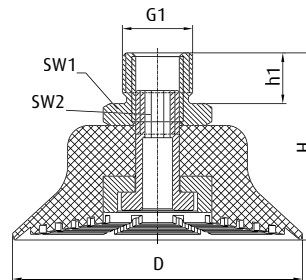
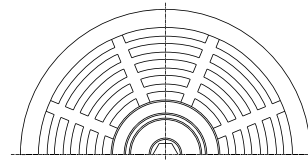
Drawing A



Drawing B



Drawing C



Drawing D

Item no.	Drawing	Ø D [mm]	G1	H [mm]	h1 [mm]	SW1	SW2
With female thread - SM-PI							
100.010.100.*	A	10	G1/8	27	9.5	13	--
100.020.101.*	B	20	G1/8	24	9.5	13	3
100.030.102.*	B	30	G1/8	26	9.5	13	3
100.040.103.*	B	40	G1/8	30	9.5	13	3
100.050.104.*	B	50	G1/4	35	11	17	3
With male thread - SM-PI							
100.010.110.*	C	10	G1/8	16	7	13	--
100.020.111.*	D	20	G1/8	23	8	13	3
100.030.112.*	D	30	G1/8	25	8	13	3
100.040.113.*	D	40	G1/8	29	8	13	3
100.050.114.*	D	50	G1/4	32	10	17	3

* 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 | Flat vacuum cups SF

Flat vacuum cups for dynamic sheet handling - SM-F

Flat vacuum cups for dynamic sheet handling - SM-F



Product Description

Robust, round NBR flat 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.

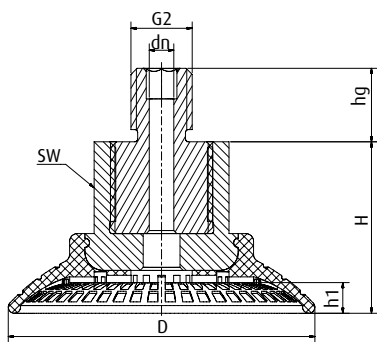
Advantage

- > Reliable, non-slip handling of oily sheets due to "anti-slip" cleats. Good absorption of lateral forces
- > Supports help to prevent deep-drawing or deformation of thin sheets
- > Leak-free suction even with slightly curved surfaces due to flexible sealing lip
- > Vulcanised connection thread ensures a secure fit

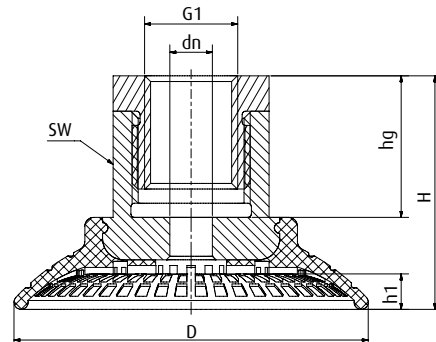
Technical data

Model / Lip dimensions	Thread (Aluminium)						
	G1/4-male	G1/4-female	G3/8-female	M10-male	M14x1.5-male	Rectangular adapter	
SM-F-30	103.030.030.1	103.030.031.1	103.030.032.1	103.030.033.1	103.030.034.1	103.030.035.1	3
SM-F-40	103.040.036.1	103.040.037.1	103.040.038.1	103.040.039.1	103.040.040.1	103.040.041.1	4
SM-F-50	103.050.042.1	103.050.043.1	103.050.044.1	103.050.045.1	103.050.046.1	103.050.047.1	5
SM-F-60	103.060.048.1	103.060.049.1	103.060.050.1	103.060.051.1	103.060.052.1	103.060.053.1	6
SM-F-80	103.080.054.1	103.080.055.1	103.080.056.1	103.080.057.1	103.080.058.1	103.080.059.1	7.6
SM-F-100	103.100.060.1	103.100.061.1	103.100.062.1	103.100.063.1	103.100.064.1	103.100.065.1	9.5
SM-F-125	103.125.066.1	103.125.067.1	103.125.068.1	103.125.069.1	103.125.070.1	103.125.071.1	12.5

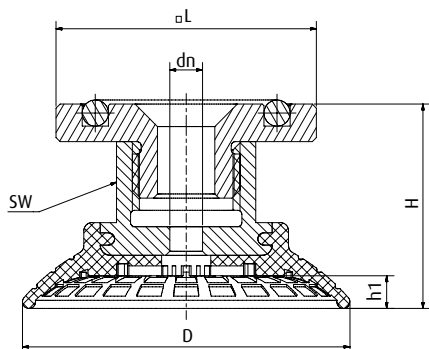
Dimensions



Drawing A



Drawing B



Drawing C



„Anti-Slip“-Cleats (SM-F-100)



Item no.	Drawing	G1 (female)	G2 (male)	∅ D [mm]	∅ dn [mm]	□L [mm]	H [mm]	h1 [mm]	hg [mm]	SW
103.030.030.*	A	--	G1/4	30	4	--	20	3	10	17
103.030.031.*	B	G1/4	--	30	4	--	20	3	12	17
103.030.032.*	B	G3/8	--	30	4	--	36	3	10	17
103.030.033.*	A	--	M10	30	4	--	20	3	12	17
103.030.034.*	A	--	M14x1.5	30	4	--	20	3	12	17
103.030.035.*	C	--	--	30	4	32	23.2	3	--	17
103.040.036.*	A	--	G1/4	40	4	--	22	4	10	17
103.040.037.*	B	G1/4	--	40	4	--	22	4	12	17
103.040.038.*	B	G3/8	--	40	4	--	38	4	10	17
103.040.039.*	A	--	M10	40	4	--	22	4	12	17
103.040.040.*	A	--	M14x1.5	40	4	--	22	4	12	17
103.040.041.*	C	--	--	40	4	32	25	4	--	17
103.050.042.*	A	--	G1/4	50	6	--	28	5	10	22
103.050.043.*	B	G1/4	--	50	6	--	33	5	20	22
103.050.044.*	B	G3/8	--	50	6	--	28	5	15	22
103.050.045.*	A	--	M10	50	4	--	28	5	12	22
103.050.046.*	A	--	M14x1.5	50	6	--	28	5	12	22
103.050.047.*	C	--	--	50	6	32	27.5	5	--	22
103.060.048.*	A	--	G1/4	60	6	--	31	6	10	22
103.060.049.*	B	G1/4	--	60	8	--	36	6	20	22
103.060.050.*	B	G3/8	--	60	8	--	31	6	15	22
103.060.051.*	A	--	M10	60	4	--	31	6	12	22
103.060.052.*	A	--	M14x1.5	60	6	--	31	6	12	22
103.060.053.*	C	--	--	60	6	32	30.5	6	--	22
103.080.054.*	A	--	G1/4	80	6	--	35	7.6	10	22
103.080.055.*	B	G1/4	--	80	8	--	40	7.6	20	22
103.080.056.*	B	G3/8	--	80	8	--	35	7.6	15	22
103.080.057.*	A	--	M10	80	4	--	35	7.6	12	22
103.080.058.*	A	--	M14x1.5	80	6	--	35	7.6	12	22
103.080.059.*	C	--	--	80	8	32	34.5	7.6	--	22
103.100.060.*	A	--	G1/4	100	6	--	36	9.5	10	22
103.100.061.*	B	G1/4	--	100	8	--	41	9.5	20	22
103.100.062.*	B	G3/8	--	100	8	--	36	9.5	15	22
103.100.063.*	A	--	M10	100	4	--	36	9.5	12	22
103.100.064.*	A	--	M14x1.5	100	6	--	36	9.5	12	22
103.100.065.*	C	--	--	100	8	32	35.5	9.5	--	22
103.125.066.*	A	--	G1/4	125	6	--	43	12.5	10	22
103.125.067.*	B	G1/4	--	125	8	--	48	12.5	20	22
103.125.068.*	B	G3/8	--	125	8	--	43	12.5	15	22
103.125.069.*	A	--	M10	125	4	--	43	12.5	12	22
103.125.070.*	A	--	M14x1.5	125	6	--	43	12.5	12	22
103.125.071.*	C	--	--	125	8	32	42.5	12.5	--	22



Series | Flat vacuum cups SF

Flat vacuum cups for textured surfaces - SFU-R

Flat vacuum cups for textured surfaces - SFU-R



Product Description

Flat vacuum cups with safety sealing lips to handle rough surfaces, as well as smooth but very uneven products. Connection via an interlocking, snap-in aluminium plate


Advantage

- > Leak-free gripping of many difficult product surfaces thanks to extremely flexible, thinly tapered sealing lip
- > High stability under lateral forces
- > Optimum process reliability due to additional double lip seal
- > Cleats help prevent warping of the product
- > Cost-effective, tool-free changing of worn seals

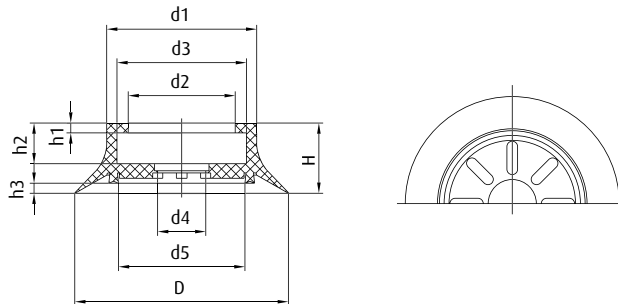
Technical data

Item no.	Model / Lip dimensions		Material / Colour
102.040.357.*	SFU-R-40	3	SI (tr), NR (br)
102.070.234.*	SFU-R-70	6	NBR (gr), SBR (br), SI (tr), NR (bg), NR (br)
102.100.269.*	SFU-R-100	5	SBR (br), NBR (gr), NR (br)
102.200.350.*	SFU-R-200	5	NR (w)

Accessories

Item no.	 Suitable fittings		
	G1/8-female	G1/4-female	G1/2-female
102.040.357.*	270.234 (p.438)	--	--
102.070.234.*	--	270.179 (p.438)	--
102.100.269.*	--	270.180 (p.438)	--
102.200.350.*	--	--	270.335 (p.438)

Dimensions



Item no.	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	Ø d5 [mm]	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]
102.040.357.*	40	26	17.5	21	8	21	12.5	2.9	6	2.5
102.070.234.*	70	50	33	43	14	40	30	3.5	17	5.4
102.100.269.*	100	70	50	61	23	59	33	4.6	19	4.7
102.200.350.*	200	168	148	158	25	158	31	5	18.5	3.2



Flat vacuum cups for separating porous products - SFU-RT



Product Description

Patented flat vacuum cups for stacking of partially air-permeable plate material that air is drawn through. Separates uppermost plate layer from underlying plate layers. Soft sealing lip made of abrasion-resistant NR. Secure handling even of rough surfaces thanks to additional internal safety sealing lip. High stability under lateral forces. Cost-effective replacement of the wear part, as it comes in two parts.

Ordering notes

Elastomer seal and carrier plate 270.380 must be ordered separately

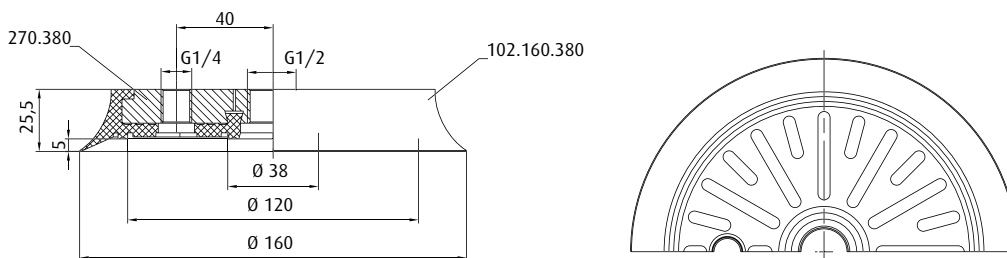
Technical data

Item no.	Model / Lip dimensions		Material / Colour	Suitable fittings
102.160.380.4	SFU-RT-160	6	NR (bg)	270.380

Functional principle

Task: Access the top layer of porous materials without carrying along the lower layers. Simultaneous intake (outer chamber) and selective blowing in a separate central chamber breaks adhesive forces between the layers. The unwanted take-up of lower layers is prevented. The air pressure level should be between 1 and 3 bar and is dependent on the nature of the product.

Dimensions



Gripping force [N] at vacuum level [%]

Item no.	20 % Vacuum	30 % Vacuum	40 % Vacuum	50 % Vacuum	60 % Vacuum	70 % Vacuum
102.160.380.4	83	137	186	230	280	324

* 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 | Flat vacuum cups SF

Flat vacuum cups with double safety sealing lips - SFU-S

Flat vacuum cups with double safety sealing lips - SFU-S




Product Description

Flat vacuum cups with dual internal safety sealing lip as well as vulcanised carrier plate made of aluminium.

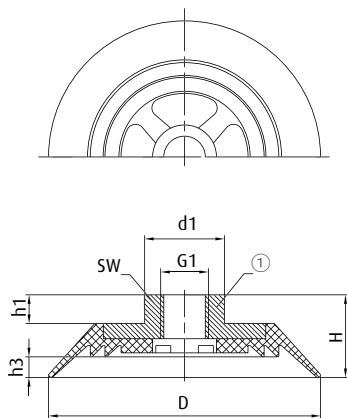
Advantage

- > High process reliability through multiple sealing lip
- > Excellent lateral stability due to vulcanised carrier plate, as well as rubberised support surfaces for the product

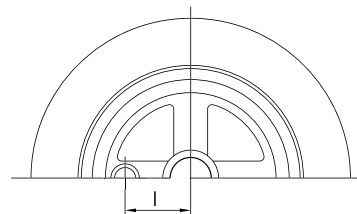
Technical data

Item no.	Model / Lip dimensions	Connection thread		Material / Colour
150.030.031._*	SFU-S-30	M5-female	3	SI (r), CR (sw)
150.050.032._*	SFU-S-50	G1/8-female	5.5	SI (r), FKM (sw), CR (sw)
150.075.033._*	SFU-S-75	G1/4-female	6	SI (r), FKM (sw), CR (sw)
150.100.034._*	SFU-S-100	G3/8-female	9	NBR (sw), SI (tr), NR (w)
150.150.010._*	SFU-S-150	G1/2-female	9	SI (gr), CR (gr)
150.225.018._*	SFU-S-225	G3/4-female	9.5	SI (gr), CR (gr)

Dimensions



Drawing A



Drawing B

① = Aluminium ** = Vacuum connection at the side possible

* 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



Item no.	Drawing	∅ D [mm]	l [mm]	∅ d1 [mm]	G1	G2	H [mm]	h1 [mm]	h3 [mm]	SW
150.030.031.*	A	29	--	10	M5	--	17.5	7	3	8
150.050.032.*	A	50	--	18	G1/8	--	18.5	7	5.5	14
150.075.033.*	A	75	--	22	G1/4	--	23	8	5.5	17
150.100.034.*	A	100	--	30	G 3/8	--	30	10	9	24
150.150.010.*	B	146	30	34	G1/2	G1/8	42	15.5	9	27
150.225.018.*	B	223	50	49	G3/4	G1/8	52	20	9.5	40

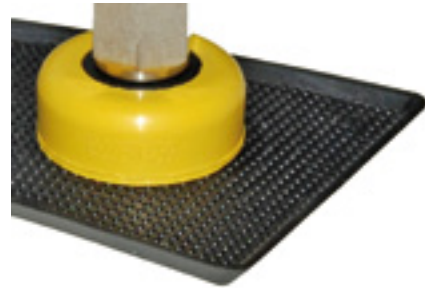
* When ordering please add the appropriate material code to item no. You will find it in the foldout.
Average holding forces for Vacuum cups you will find on page 760



Series | Flat vacuum cups SF

Flat vacuum cups with a short lift - SFK

Flat vacuum cups with a short lift - SFK



Product Description

Flat vacuum cups with a minimum lift for flat surfaces. HNBR version especially suited for removing hot plastic parts from an injection moulding machine, as they are silicone-free and temperature-resistant up to 160 °C. SFK-G series particularly suitable for clamping elements. Connection via a form-locking, snap-in aluminium plate.

Advantage

- > Great suction power thanks to the largest active vacuum suction surface possible
- > Minimised wear, as the suction lip does not slide over the product during suction
- > Low space requirement
- > Cost-effective replacement of worn seals

Technical data

Item no.	Model / Lip dimensions	Lift	Material / Colour
	SFK-K		
102.020.458.*	SFK-K-20	0.5	HNBR (ge), NR (br)
102.030.459.*	SFK-K-30	0.8	HNBR (ge), NR (br)
102.045.460.*	SFK-K-45	1.2	HNBR (ge), NR (br)
	SFK-G		
154.065.003.*	SFK-G-65	3	NBR (sw), SI (w), NR (sw)
154.110.014.*	SFK-G-110	1.5	NBR (sw), SI (w)
154.150.021.*	SFK-G-150	2	NBR (sw), SI (w)

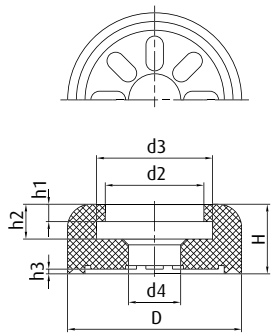
Accessories

Item no.	Suitable fittings				
	M5-male	G1/8-female	G1/4-female	G3/8-female	G1/2-female
SFK-K					
102.020.458.*	270.521 (p.412)	--	--	--	--
102.030.459.*	--	270.234 (p.438)	--	--	--
102.045.460.*	--	270.235 (p.438)	--	--	--
SFK-G					
154.065.003.*	--	270.158 (p.438)	270.264 (p.438)	270.161 (p.438)	270.286 (p.438)
154.110.014.*	--	--	270.224 (p.438)	270.167 (p.438)	270.266 (p.438)
154.150.021.*	--	--	270.171 (p.438)	270.173 (p.438)	270.268 (p.438)

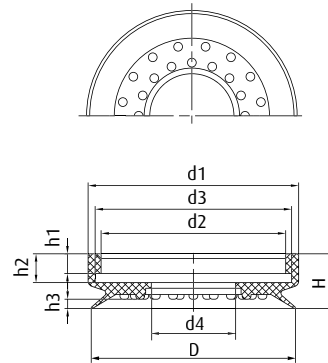
* When ordering please add the appropriate material code to item no. You will find it in the foldout. Average holding forces for vacuum cups you will find on page 760



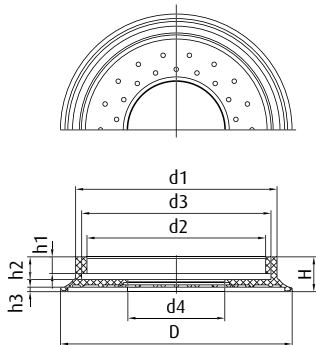
Dimensions



Drawing A



Drawing B



Drawing C

Item no.	Drawing	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	Ø d3 [mm]	Ø d4 [mm]	H [mm]	h1 [mm]	h2 [mm]	h3 [mm]
SFK-K										
102.020.458._*	A	20	20	10	14	6.5	12	3	7	0.5
102.030.459._*	A	30	30	17	20	9	12	3	6	0.8
102.045.460._*	A	45	45	25	28	9	12	3.5	5.5	1.2
SFK-G										
154.065.003._*	B	65	67	59	63	27	17.5	6.3	9	3
154.110.014._*	C	114	96	88	91	53	17	8	11	1.2
154.150.021._*	C	153	133	118	125	64	23	11	15	3

* 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 | Flat vacuum cups SF

Vacuum suction plates with foam rubber sealing lip - SP-PLM

Vacuum suction plates with foam rubber sealing lip - SP-PLM



Product Description

Flat vacuum suction plate with a soft, foamed sealing lip made of EPDM. The sealing lip snaps (form-locking) into a support plate.

Advantage

- > Good sealing of heavily textured surfaces
- > Cost-effective replacement of worn seals

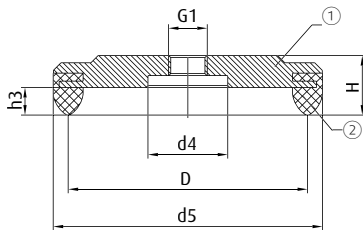
Technical data

Item no.	Model / Lip dimensions	Connection thread		Weight [g]	Material / Colour
160.042.001.*	SP-PLM-35	G1/8-female	1	22	EPDM (sw)
160.067.003.*	SP-PLM-60	G1/8-female	1	63	EPDM (sw)
160.107.006.*	SP-PLM-100	G1/2-female	1	234	EPDM (sw)
160.145.014.*	SP-PLM-140	G1/2-female	1	588	EPDM (sw)
160.215.009.*	SP-PLM-200	G3/4-female	2.5	1,220	EPDM (sw)
160.315.012.*	SP-PLM-300	G3/4-female	2.5	2,482	EPDM (sw)

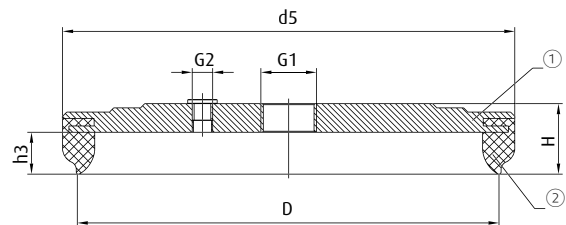
Accessories

Spare cup	Touch valve
102.038.451.15 (p.227)	270.129 (p.670)
102.060.452.15 (p.244)	270.129 (p.670)
102.100.453.15 (p.259)	270.130 (p.670)
102.140.454.15 (p.266)	270.130 (p.670)
102.210.455.15 (p.273)	--
102.310.456.15 (p.279)	--

Dimensions



Drawing A



Drawing B

① = Aluminium ② = EPDM foamed

Item no.	Drawing	Ø D [mm]	Ø d4 [mm]	Ø d5 [mm]	G1	G2	H [mm]	h3 [mm]
160.042.001.*	A	35	20	43	G1/8	--	15	7
160.067.003.*	A	60	20	68	G1/8	--	15	7
160.107.006.*	A	100	30	108	G1/2	--	19	7
160.145.014.*	A	138	30	145	G1/2	--	24	7
160.215.009.*	B	201	--	215	G3/4	G1/8	34	20
160.315.012.*	B	300	--	315	G3/4	G1/8	34	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



Heavy-duty flat vacuum suction plates - SFPL-D




Product Description

Heavy-duty vacuum suction plate for both smooth and rough surfaces such as metal sheets, cut marble, granite, precast concrete, metal plates or rough-sawn wood. Central mounting connection - lateral vacuum port.

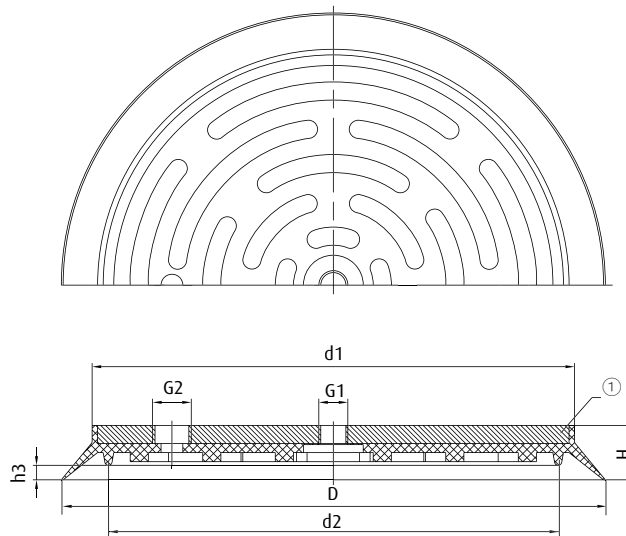
Advantage

- > Vulcanised steel carrier plate allows lifting of very heavy loads
- > Secure gripping of uneven surfaces thanks to additional inner sealing lip
- > Lateral vacuum connection

Technical data

Item no.	Model / Lip dimensions	Connection thread		Weight [g]	Material / Colour
152.160.127.*	SFPL-D-160	M12-female	9	970	CR (sw)
152.200.128.*	SFPL-D-200	M12-female	9	1,741	CR (sw)
152.250.129.*	SFPL-D-250	M12-female	9	2,990	CR (sw)
152.300.130.*	SFPL-D-300	M16-female	12	4,370	NBR (sw)
152.350.131.*	SFPL-D-350	M16-female	13	6,274	NBR (sw)

Dimensions



① = Steel

Item no.	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	G1	G2	H [mm]	h3 [mm]
152.160.127.*	160	124	109	M12	G3/8	28	9
152.200.128.*	200	166	146	M12	G3/8	27	7.5
152.250.129.*	250	212	194	M12	G3/8	27	7
152.300.130.*	300	266	248	M16	G1/2	30	8
152.350.131.*	350	316	298	M16	G1/2	30	8



Series | Flat vacuum cups SF

Flat XXL suction rings - SFR


Flat XXL suction rings - SFR



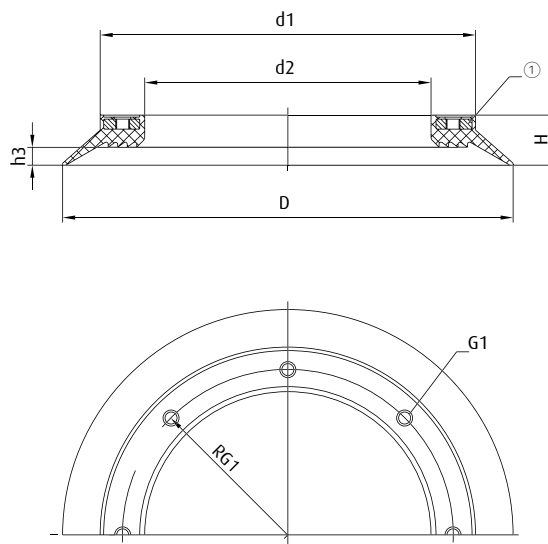
Product Description

Large flat suction seals vulcanised on steel ring for handling very large loads. Mounting through circular, circumferentially placed thread holes.

Technical data

Item no.	Material / Colour	
152.285.099.*	NBR (sw)	11
152.450.105.*	NBR (sw)	18
152.540.106.*	NBR (sw)	18
152.630.107.*	NBR (sw)	18
152.720.108.*	NBR (sw)	18
152.920.109.*	NBR (sw)	18

Dimensions



① = Ring made of vulcanised ST37

Item no.	Ø D [mm]	Ø d1 [mm]	Ø d2 [mm]	G1	R G1	H [mm]	h3 [mm]
152.285.099.*	285	250	160	4xM12	102.5	32	11
152.450.105.*	450	375	286	8xM12	165	50	18
152.540.106.*	540	465	375	8xM12	210	50	18
152.630.107.*	630	556	464	12xM12	255	50	18
152.720.108.*	720	646	554	12xM12	300	50	18
152.920.109.*	920	846	754	12xM12	400	50	18