



VACUUM SUCTION CUP WITH NIPPLE

Series VS1RB1

Cat No VS1RB1 - 01 - 01 - B

VACUUM SUCTION CUP WITH NIPPLE (Bellow type - 1.5 Folds) - Size: (Ø4 to Ø53 mm)

Features

- ❑ Wide range of diameters and materials for the most varied workpieces
- ❑ The soft, tapered sealing lip adapts optimally to curved surfaces or uneven surfaces
- ❑ Effective damping of the workpieces during placement by 1.5 folds and support surfaces on the underside (from a diameter of 25 mm)
- ❑ The high stiffness of the upper fold provides stability under horizontal forces and high accelerations



Applications

- ❑ Round bellows suction cup with 1.5 folds for the handling of extremely sensitive workpieces (optimum damping effect due to folds)
- ❑ Handling of workpieces with uneven surfaces, such as pipes (folds permit optimal adaptation to concave and convex surfaces)

Technical Specifications

Model		VS1RB1 - 4	VS1RB1 - 6	VS1RB1 - 11		VS1RB1 - 14		VS1RB1 - 16	
Nipple size		M3	M5	M5	G1/8	M5	G1/8	M5	G1/8
Suction force * (N)		0.29	0.4	0.95		1.2		2.3	
Pull-off force ** (N)		0.5	1.4	3.8		5		6.7	
Volume (cm³)		0.035	0.098	0.225		0.42		0.75	
Workpiece radius minimum (convex) (mm)		2	4	10		15		20	
Tube diameter (OD) # (mm)		6	6	6		6		6	
Weight (g)	NBR - Male thread	0.22	-	2.0	4.7	2.1	4.8	2.3	5.0
	Silicone - Male thread								
	NBR - Female thread	-	1.5	-	5.1	-	5.2	-	5.4
	Silicone - Female thread								
Material of construction		Aluminium, Silicone, NBR							
Ambient temperature (°C)		NBR: -10 to +70							
		Silicone: -20 to +180							

Model		VS1RB1 - 20		VS1RB1 - 25	VS1RB1 - 33	VS1RB1 - 43	VS1RB1 - 53
Nipple size		M5	G1/8	G1/8	G1/4		
Suction force * (N)		4.7		5.3	13.6	22.8	51.3
Pull-off force ** (N)		10.7		17.3	39.6	64.5	95
Volume (cm³)		1.15		2.944	4.75	9.25	26.488
Workpiece radius minimum (convex) (mm)		20		25	40	60	100
Tube diameter (OD) # (mm)		6		6	10	10	10
Weight (g)	NBR - Male thread	2.7	5.1	6.4	16	19	27
	Silicone - Male thread						
	NBR - Female thread	-	5.8	6.8	16	19	27
	Silicone - Female thread						
Material of construction		Aluminium, Silicone, NBR					
Ambient temperature (°C)		NBR: -10 to +70					
		Silicone: -20 to +180					

* - Specified suction forces are theoretical values at a vacuum of -0.6 bar and with a smooth, dry workpiece surface (Do not include a safety factor)

** - The pull-off force of the versions made of natural rubber is reduced by about 40 %

- Recommended tube diameter is based on a tube length of approx. 2 mm

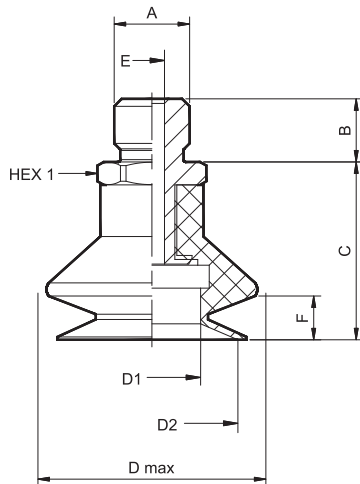
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Series VS1RB1

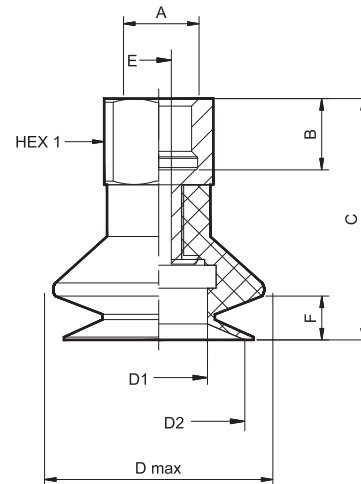
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Basic dimensions

Male threaded nipple



Female threaded nipple



Male thread - Size: Ø4 to 53 mm									
Size Ø	D1	E	D max*	D2	Nipple size A	C	B	HEX 1	F
4	2.5	1	5	4	M3-M	7.5	3	5	2
11	5.1	2.5	13	10.4	M5-M	21	5	7	4
11	5.1	3.5	13	10.4	G1/8-M	22	7.5	14	4
14	5	2.5	14.5	12.5	M5-M	20.5	5	7	5
14	5	3.5	14.5	12.5	G1/8-M	21.5	7.5	14	5
16	8.4	2.5	18.5	15.6	M5-M	24.2	5	7	7
16	8.4	3.5	18.5	15.6	G1/8-M	25.2	7.5	14	7
20	11	2.5	21	18.1	M5-M	20.2	5	7	5
20	11	3.5	21	18.1	G1/8-M	21.2	7.5	14	5
25	9.9	3.5	26.5	22.5	G1/8-M	29	7.5	14	9
33	17	4.4	38	30	G1/4-M	31	11	17	9
43	21.9	4.4	47.5	38	G1/4-M	31.6	11	17	10
53	33	4.4	60	50	G1/4-M	38	11	17	15

Female thread - Size: Ø6 to 53 mm									
Size Ø	D1	E	D max*	D2	Nipple size A	C	B	HEX 1	F
6	3	2	8	5.7	M5-F	19	5.5	8	2
11	5.1	3.5	13	10.4	G1/8-F	28	8	14	4
14	5	3.5	14.5	12.5	G1/8-F	27.5	8	14	5
16	8.4	3.5	18.5	15.6	G1/8-F	31.2	8	14	7
20	11	3.5	21	18.1	G1/8-F	27.2	8	14	5
25	9.9	3.5	26.5	22.5	G1/8-F	35	8	14	9
33	17	4.4	38	30	G1/4-F	42	12	17	9
43	21.9	4.4	47.5	38	G1/4-F	42.6	12	17	10
53	33	4.4	60	50	G1/4-F	49	12	17	15

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

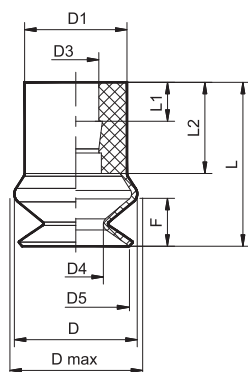
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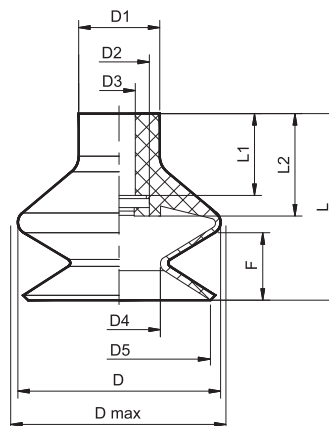
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ACCESSORIES - Suction Cup

Ø4 to 25 mm



Ø33 to 53 mm



Size: Ø4 to 53 mm													
Size Ø	D max*	D	D1	D2	D3	D4	D5	F	L	L1	L2	Ordering No.	
												NBR	SILICONE
4	5	4.6	4	-	2	2.5	4	1.5	5.5	1.5	2.6	VS1RB1-4-N1	VS1RB1-4-S1
6	8	7.5	7.2	-	3.7	3	5.7	2	9	2	3.2	VS1RB1-6-N1	VS1RB1-6-S1
11	13	12	10	-	4.5	5.1	10.4	4	16	3.8	9.3	VS1RB1-11-N1	VS1RB1-11-S1
14	14.5	13.7	10	-	4.5	5	12.5	5	15.5	3.8	8.5	VS1RB1-14-N1	VS1RB1-14-S1
16	18.5	17	10	-	4.5	8.4	15.6	7	19.2	3.8	9.4	VS1RB1-16-N1	VS1RB1-16-S1
20	21	19.9	10	-	4.5	11	18.1	5	15.2	3.8	8.7	VS1RB1-20-N1	VS1RB1-20-S1
25	26.5	25	10	-	4.5	9.9	22.5	9	23	3.8	8.9	VS1RB1-25-N1	VS1RB1-25-S1
33	38	36	18	16	8	17	30	9	27	13	14	VS1RB1-33-N1	VS1RB1-33-S1
43	47.5	45.9	18	14.5	8	21.9	38	10	27.6	13	17.1	VS1RB1-43-N1	VS1RB1-43-S1
53	60	58.6	18	14.5	8	33	50	15	34	12.3	19	VS1RB1-53-N1	VS1RB1-53-S1

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

How to order

VS1RB1

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14

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N1

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60

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M

Size Ø	
4	4 mm
6	6 mm
11	11 mm
14	14 mm
16	16 mm
20	20 mm
25	25 mm
33	33 mm
43	43 mm
53	53 mm

Suction cup material	
N1	NBR
S1	Silicone

Nipple size	
73	M3
70	M5
60	G1/8
61	G1/4

Thread	
M	Male thread
F	Female thread

Note:
Available size and their corresponding Nipple / Thread variants
 Ø4 - M3 (Male)
 Ø6 - M5 (Female)
 Ø11, Ø14, Ø16, Ø20 - M5 (Male) & G1/8 (Male & Female)
 Ø25 - G1/8 (Male & Female)
 Ø33, Ø43, Ø53 - G1/4 (Male & Female)

Ordering example:

Ordering no. for Vacuum suction cup with nipple (Bellow type - 1.5 Folds), Size - Ø14 mm, NBR material, G1/8 Nipple with Male thread :
VS1RB1-14-N1-60M

Subject to change