



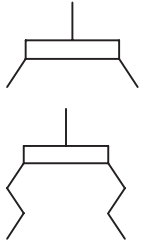
- Suction retention of workpieces with smooth, impervious surfaces
- Silicone suction cups are approved in the manufacture of food products
- Bellows suction cups can adapt to suit uneven, curved and inclined surfaces
- Excellent thermal resistance

Suction cups

Key features

Product overview

Suction gripper and suction cup



Festo vacuum suction grippers offer outstanding functionality and quality.

An extensive range of modular suction cups in different shapes, materials and sizes, plus a wide selection of suction cup holders, angle and height compensators and filters within the

modular suction gripper system, provide users with a huge range of possible combinations for a wide variety of applications.

Suction grippers ESG

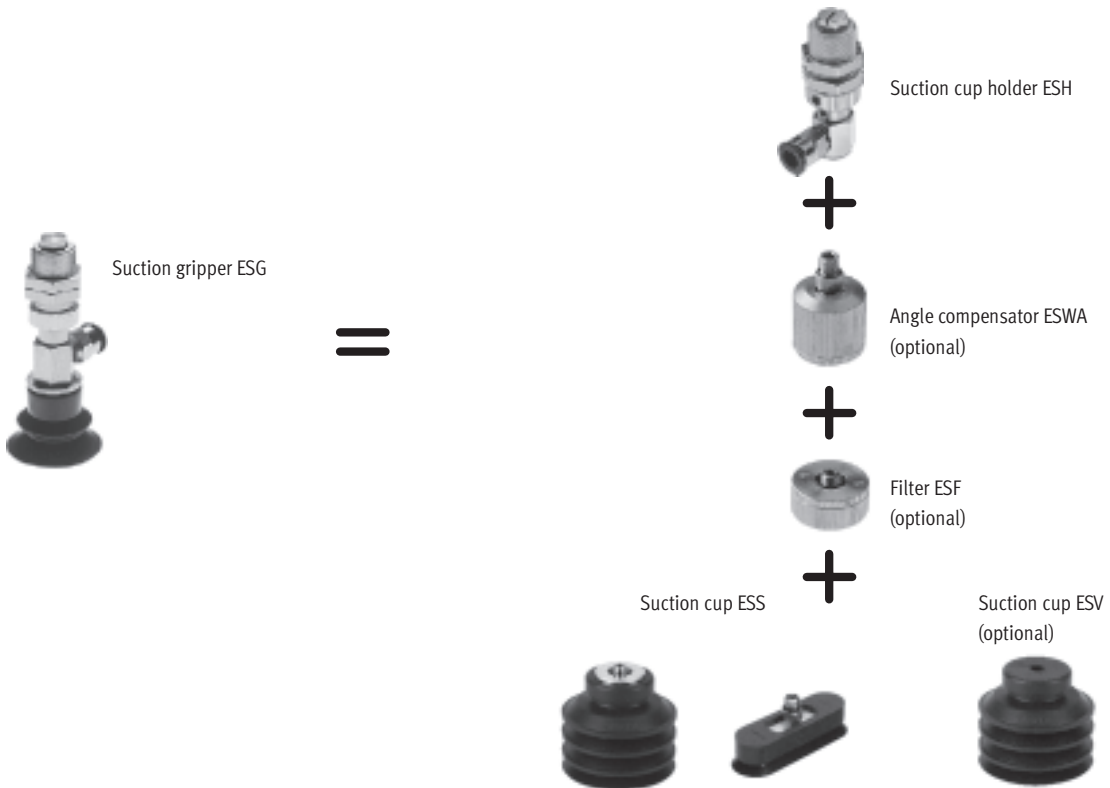
→ 6 / 2.1-7

Modular products with over 2000 variants

- The ideal solution for the transport of workpieces of different weights, surfaces and shapes
- Choose from:
 - 15 suction cup diameters
 - 5 different materials – including antistatic types
 - 5 suction cup shapes
 - Various suction cup holders
 - Optional accessories (filters and angle compensators)
- Wide range of variants
- A suitable solution for every task
- Wide range to suit applications with various temperature ranges and workpiece surfaces
- Suction cups made from silicone are approved for use in the food industry

Suction grippers as a complete solution

Suction grippers made from individual components



Suction cups

Key features

FESTO

Suction cups VAS/VASB

→ 6 / 2.1-78

Sturdy and reliable

- The ideal solution for the transport of workpieces of different weights, surfaces and shapes
- Choose from:
 - 12 suction cup diameters
 - 2 suction cup shapes: round and bellows design
 - 3 suction cup materials: nitrile rubber, polyurethane and silicone for use in a wide variety of applications
- Wide range to suit applications with various temperature ranges and workpiece surfaces
- Suction cups made from silicone are approved for use in the food industry
- All tubing connector sizes correspond to a holder size



Suction cups VAS/VASB

Features



Suction cups with fixed connecting thread

- VAS: 1 ... 125 mm diameter
VASB: 8 ... 125 mm diameter
- Suction retention of workpieces with smooth, impervious surfaces
- Bellows suction cups can adapt to suit uneven, curved and inclined surfaces

Nitrile rubber (NBR)

- Minimal markings left on shiny surfaces

Polyurethane (PUR)

- Long service life
- Gentle handling with soft suction cup material

Silicone (SI)

- Excellent thermal resistance
- Approved for use in the food industry



Accessories

Vacuum security valve ISV

6 / 3.1-3

- Vacuum does not dissipate when any of several suction cups arranged in parallel fail to maintain contact
- Saves compressed air and energy



Height compensator VAL

6 / 4.1-6

- Gentle handling of the workpieces by compensating for tolerance differences in the workpiece thickness.



Elbow fitting LJK

6 / 4.1-8

- Redirection of air connection
- Swivel joint rotatable 360°



Adapter AD

6 / 4.1-19

- For connection of suction cup with piston rod thread, for example

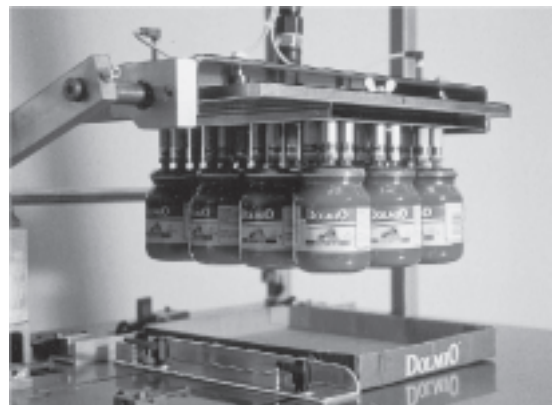


Suction grippers

2.1

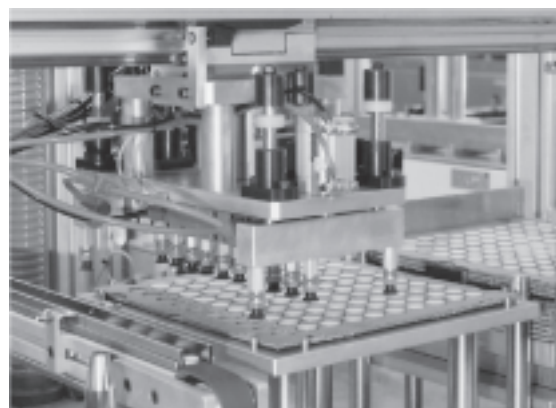
Vacuum technology can be used in a wide range of applications

- Lifting
- Placing
- Moving
- Insertion
- Conveying
- Gripping
- Holding
- Loading
- Clamping
- Transporting
- Repositioning
- Turning



Flexible automation technology is an important field of application for vacuum technology:

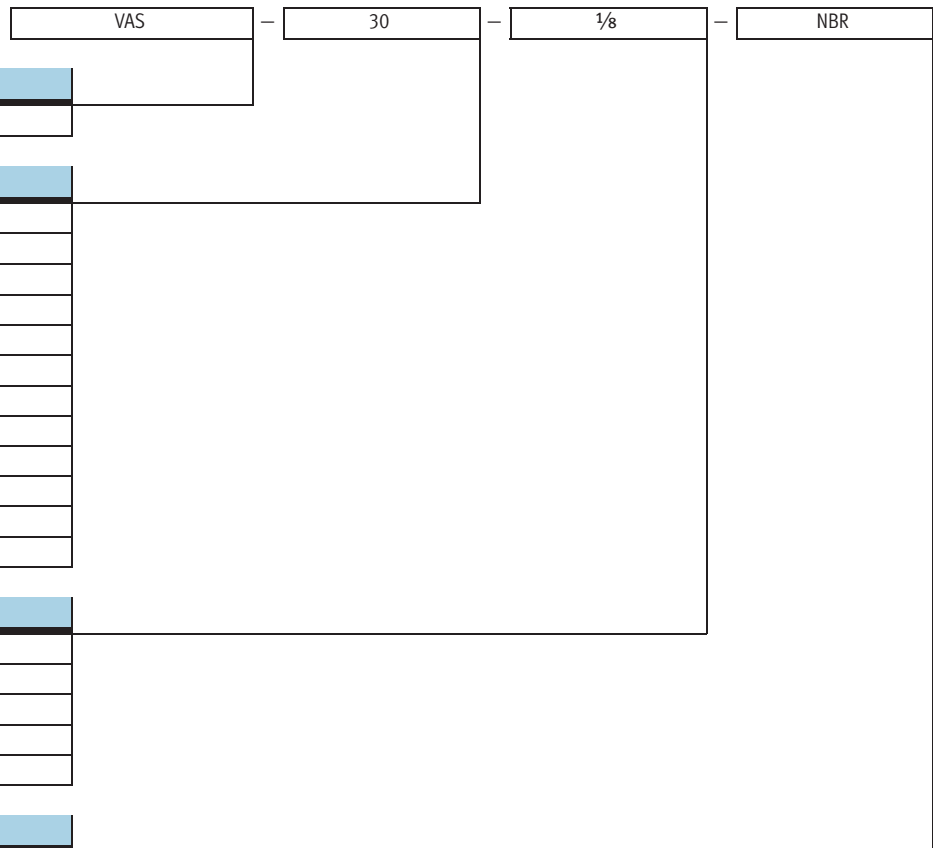
- Small, mid-sized and large series manufacturing
- Assembly
- Conveyor and packaging technology



Suction cups VAS

Type code

FESTO




Type	
VAS	Suction cup

Suction cup Ø [mm]	
1	1
2	2
5	5
8	8
10	10
15	15
30	30
40	40
55	55
75	75
100	100
125	125

Connection sizes	
M3	M3 thread
M5	M5 thread
1/8	G1/8 thread
1/4	G1/4 thread
3/8	G3/8 thread

Materials	
NBR	Nitrile rubber
PUR	Polyurethane
SI	Silicone

-  - Note
Possible combinations can be found in the ordering data.

Suction cups VAS

Technical data



Function



- - Temperature range
-20 ... +200 °C

- - Diameter
1 ... 125 mm



General technical data										
Suction cup Ø [mm]	Design	Vacuum port	Type of mounting	Nominal size [mm]	Effective suction cup Ø [mm]	Shore hardness	Breakaway force at 70% vacuum [N]	Weight		
								NBR [g]	PUR [g]	SI [g]
1	Vacuum port on top, round, standard	M3	Screw-in thread	0.4	0.8	55±5	0.035	1	-	-
2		M3		1	1.6	55±5	0.14	11	-	-
5		M5		1.5	4	55±5	0.9	2	-	-
8		M5 ¹⁾		2	5.5	73	1.6	4	4	2
10		M5		2	8	73	4.5	3	3	3
15		G ¹ / ₈		3	12	73	7.9	11	11	6
30		G ¹ / ₈		3	25	73	34	13	13	7
40		G ¹ / ₄		4	32	73	56	26	27	13
55		G ¹ / ₄		4	44	73	106	32	32	16
75		G ¹ / ₄		4	60	73	197	76	78	36
100		G ¹ / ₄		4	85	73	397	138	142	67
125		G ³ / ₈		7	105	73	606	152	148	148

1) VAS-8-M5-S: Barbed fittings for 3 mm plastic tubing, lateral connection

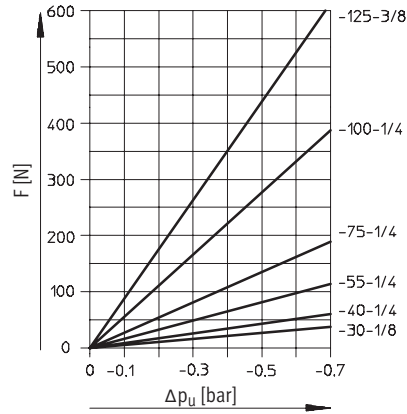
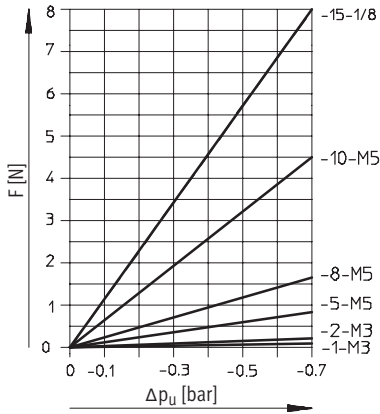
Ambient conditions			
Variant	VAS-...-NBR	VAS-...-PUR	VAS-...-SI
Operating medium	Atmospheric air		
Ambient temperature [°C]	-20 ... +80	-20 ... +60	-40 ... +200
Corrosion resistance CRC ¹⁾	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Suction cups VAS

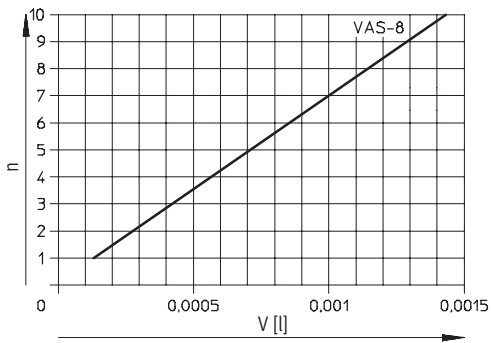
Technical data

Theoretical suction force F as a function of vacuum p_u

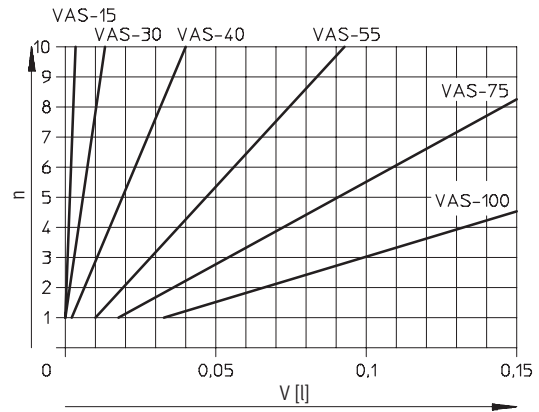


Suction cup volume

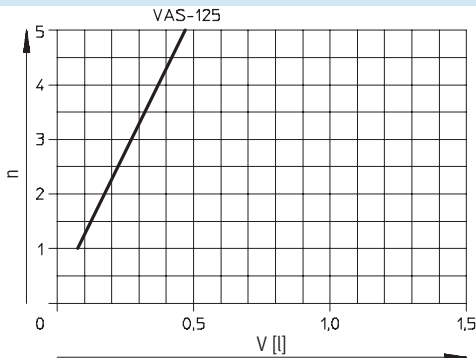
VAS-8



VAS-15 ... 100



VAS-125



Suction cups VAS

Technical data

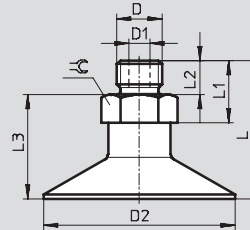
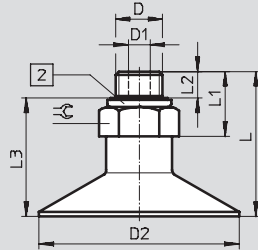
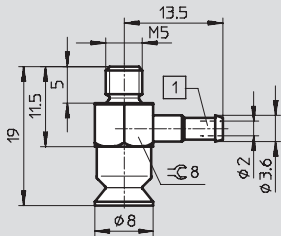


Dimensions

VAS-8-M5-S

VAS-...-NBR/-PUR

VAS-...-SI



1 Barbed fitting for 3 mm plastic tubing

2 Sealing ring

Type	D	D1 Ø	D2 Ø	L	L1	L2	L3	⌀
VAS-...-NBR								
VAS-1-M3-NBR ¹⁾	M3	0.9	1	6.6	5	3	3.6	4.5
VAS-2-M3-NBR ¹⁾	M3	1	2	9	5	3	6	4.5
VAS-5-M5-NBR	M5	1.5	5	16.5	11.5	3.5	13	8
VAS-8-M5-NBR	M5	2	8	18.7	11.5	3	15.7	8
VAS-10-M5-NBR	M5	2	10	19.2	11.5	3.5	15.7	8
VAS-15-1/8-NBR	G1/8	3	15	20	12	4.7	15.3	13
VAS-30-1/8-NBR	G1/8	3	30	21.5	12	4.7	16.8	13
VAS-40-1/4-NBR	G1/4	4	40	30.5	19	5.8	24.7	17
VAS-55-1/4-NBR	G1/4	4	55	33.5	19	5.8	27.7	17
VAS-75-1/4-NBR	G1/4	4	75	27	18	5.8	21.2	17
VAS-100-1/4-NBR	G1/4	4	100	27	18	5.8	21.2	17
VAS-125-3/8-NBR	G3/8	7	125	36	20	6	30	19
VAS-...-PUR								
VAS-8-M5-PUR	M5	2	8	18.7	11.5	3	15.7	8
VAS-10-M5-PUR	M5	2	10	19.2	11.5	3.5	15.7	8
VAS-15-1/8-PUR	G1/8	3	15	20	12	4.7	15.3	13
VAS-30-1/8-PUR	G1/8	3	30	21.5	12	4.7	16.8	13
VAS-40-1/4-PUR	G1/4	4	40	29.5	19	5.8	23.7	17
VAS-55-1/4-PUR	G1/4	4	55	32.5	19	5.8	26.7	17
VAS-75-1/4-PUR	G1/4	4	75	27	18	5.8	21.2	17
VAS-100-1/4-PUR	G1/4	4	100	27	18	5.8	21.2	17
VAS-125-3/8-PUR	G3/8	7	125	36	20	6	30	19
VAS-...-SI								
VAS-8-M5-SI	M5	2	8	19.2	11.5	5	14.2	8
VAS-10-M5-SI	M5	2	10	19.2	11.5	5	14.2	8
VAS-15-1/8-SI	G1/8	3	15	20	12	6.5	13.5	13
VAS-30-1/8-SI	G1/8	3	30	21.5	12	6.5	15	13
VAS-40-1/4-SI	G1/4	4	40	30.5	17	8	22.5	17
VAS-55-1/4-SI	G1/4	4	55	33.5	17	8	25.5	17
VAS-75-1/4-SI	G1/4	4	75	28	14	8	20	17
VAS-100-1/4-SI	G1/4	4	100	28.5	14.5	8	20.5	17
VAS-125-3/8-SI	G3/8	7	125	36	16.5	9	27	19

1) Sealing rings are not included in the scope of delivery.

Suction cups VAS

Technical data

FESTO

Ordering data							
Suction cup Ø [mm]	Screw-in thread	Nitrile rubber		Polyurethane		Silicone	
		Part No.	Type	Part No.	Type	Part No.	Type
1	M3	173 437	VAS-1-M3-NBR	–	–	–	–
2	M3	173 438	VAS-2-M3-NBR	–	–	–	–
5	M5	173 439	VAS-5-M5-NBR	–	–	–	–
8	M5	34 588	VAS-8-M5-NBR	36 135	VAS-8-M5-PUR	160 988	VAS-8-M5-SI
10	M5	173 440	VAS-10-M5-NBR	173 441	VAS-10-M5-PUR	173 442	VAS-10-M5-SI
15	G1/8	36 142	VAS-15-1/8-NBR	36 136	VAS-15-1/8-PUR	158 973	VAS-15-1/8-SI
30	G1/8	34 587	VAS-30-1/8-NBR	36 137	VAS-30-1/8-PUR	158 974	VAS-30-1/8-SI
40	G1/4	36 143	VAS-40-1/4-NBR	36 138	VAS-40-1/4-PUR	158 975	VAS-40-1/4-SI
55	G1/4	36 144	VAS-55-1/4-NBR	36 139	VAS-55-1/4-PUR	158 976	VAS-55-1/4-SI
75	G1/4	36 145	VAS-75-1/4-NBR	36 140	VAS-75-1/4-PUR	160 989	VAS-75-1/4-SI
100	G1/4	34 586	VAS-100-1/4-NBR	36 141	VAS-100-1/4-PUR	160 990	VAS-100-1/4-SI
125	G3/8	152 605	VAS-125-3/8-NBR	152 606	VAS-125-3/8-PUR	160 991	VAS-125-3/8-SI
Lateral outlet							
8	M5	–	–	12 612	VAS-8-M5-S	–	–
Free of copper, PTFE and silicone							
8	M5	183 508	VAS-8-M5-NBR-CT	183 511	VAS-8-M5-PUR-CT	–	–
15	G1/8	183 509	VAS-15-1/8-NBR-CT	183 512	VAS-15-1/8-PUR-CT	–	–
30	G1/8	183 510	VAS-30-1/8-NBR-CT	183 513	VAS-30-1/8-PUR-CT	–	–

Suction grippers

2.1

Bellows suction cups VASB

Type code



Suction grippers

2.1




Type	
VASB	Bellows suction cup

Suction cup Ø [mm]	
8	8
15	15
30	30
40	40
55	55
75	75
100	100
125	125

Connection sizes	
M5	M5 thread
1/8	G1/8 thread
1/4	G1/4 thread
3/8	G3/8 thread

Materials	
NBR	Nitrile rubber
PUR	Polyurethane
SI	Silicone

 - Note
Possible combinations can be found in the ordering data.

Bellows suction cups VASB

Technical data

Function



-  - Temperature range
-20 ... +200 °C

-  - Diameter
8 ... 125 mm



General technical data										
Suction cup Ø [mm]	Design	Vacuum port	Type of mounting	Nominal size [mm]	Effective suction cup Ø [mm]	Shore hardness	Breakaway force at 70% vacuum [N]	Weight		
								NBR [g]	PUR [g]	SI [g]
8	Vacuum port on top, round, bellows, 1.5 convolutions	M5	Screw-in thread	2	5.5	73	1.6	4	4	2
15		G1/8		3	12	73	7.9	11	11	6
30		G1/8		3	25	73	34	15	15	9
40		G1/4		4	32	73	56	30	30	16
55		G1/4		4	44	73	106	42	42	26
75		G1/4		4	60	73	197	95	95	53
100		G1/4		4	85	73	397	170	170	95
125		G3/8		7	105	73	606	207	194	194

Ambient conditions			
Variant	VAS-...-NBR	VAS-...-PUR	VAS-...-SI
Operating medium	Atmospheric air		
Ambient temperature [°C]	-20 ... +80	-20 ... +60	-40 ... +200
Corrosion resistance CRC ¹⁾	2		

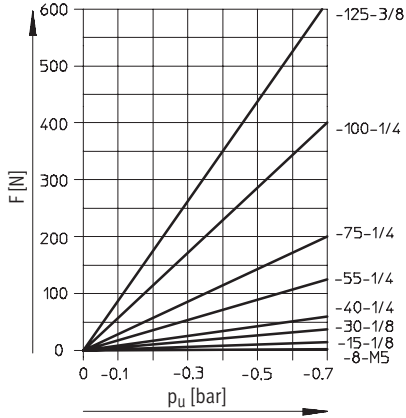
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Bellows suction cups VASB

Technical data

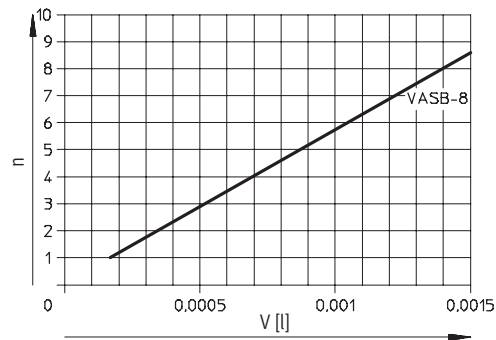


Theoretical suction force F as a function of vacuum p_u

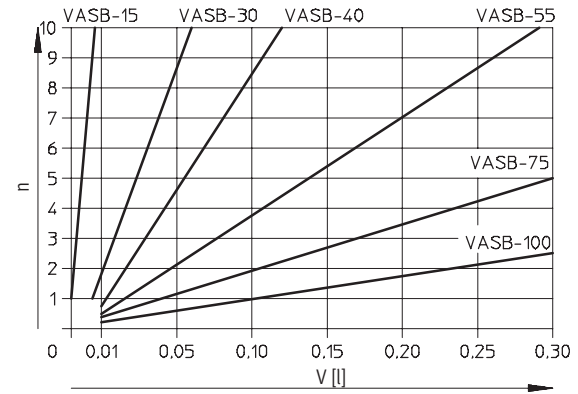


Suction cup volume

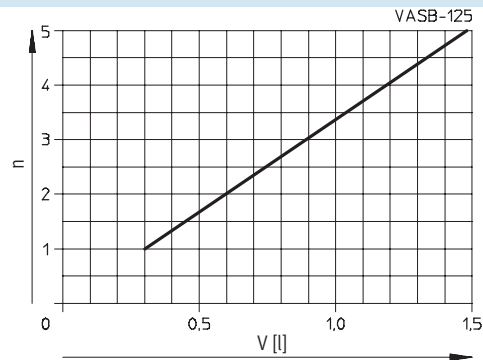
VASB-8



VASB-15 ... 100



VASB-125



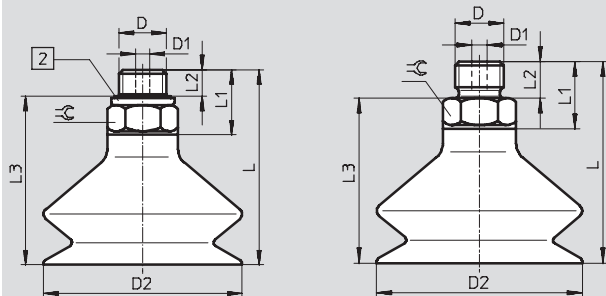
Bellows suction cups VASB

Technical data

Dimensions

VASB-...-NBR/VASB-...-PUR

VASB-...-SI



2) Sealing ring

Type	D	D1 Ø	D2 Ø	L	L1	L2	L3	⌀C
VASB-...-NBR								
VASB-8-M5-NBR	M5	0.5	8	22.5	11.5	3.5	19	8
VASB-15-1/8-NBR	G1/8	3	15	25.5	12	4.7	20.8	13
VASB-30-1/8-NBR	G1/8	3	30	34	12	4.7	29.3	13
VASB-40-1/4-NBR	G1/4	4	40	43	17	5.8	37.2	17
VASB-55-1/4-NBR	G1/4	4	55	52	17	5.8	46.2	17
VASB-75-1/4-NBR	G1/4	4	75	43.5	17	5.8	37.7	17
VASB-100-1/4-NBR	G1/4	4	100	43.5	17	5.8	37.7	17
VASB-125-3/8-NBR	G3/8	7	125	60	20	6	54	19
VASB-...-PUR								
VASB-8-M5-PUR	M5	0.5	8	22.5	11.5	3.5	19	8
VASB-15-1/8-PUR	G1/8	3	15	25.5	12	4.7	20.8	13
VASB-30-1/8-PUR	G1/8	3	30	34	12	4.7	29.3	13
VASB-40-1/4-PUR	G1/4	4	40	43	17	5.8	37.2	17
VASB-55-1/4-PUR	G1/4	4	55	52	17	5.8	46.2	17
VASB-75-1/4-PUR	G1/4	4	75	43.5	17	5.8	37.7	17
VASB-100-1/4-PUR	G1/4	4	100	43.5	17	5.8	37.7	17
VASB-125-3/8-PUR	G3/8	7	125	60	20	6	54	19
VASB-...-SI								
VASB-8-M5-SI	M5	2	8	22.5	11.5	5	17.5	8
VASB-15-1/8-SI	G1/8	3	15	25.5	12	6.5	19	13
VASB-30-1/8-SI	G1/8	3	30	34	12	6.5	27.5	13
VASB-40-1/4-SI	G1/4	4	40	43	17	8	35	17
VASB-55-1/4-SI	G1/4	4	55	52	17	8	44	17
VASB-75-1/4-SI	G1/4	4	75	43.5	14	8	35.5	17
VASB-100-1/4-SI	G1/4	4	100	43.5	14	8	35.5	17
VASB-125-3/8-SI	G3/8	7	125	60	16.5	9	51	19

1) Sealing rings are not included in the scope of delivery.

Bellows suction cups VASB

Technical data

FESTO

Ordering data							
Suction cup Ø [mm]	Screw-in thread	Nitrile rubber		Polyurethane		Silicone	
		Part No.	Type	Part No.	Type	Part No.	Type
8	M5	35 410	VASB-8-M5-NBR	35 417	VASB-8-M5-PUR	160 992	VASB-8-M5-SI
15	G1/8	35 411	VASB-15-1/8-NBR	35 418	VASB-15-1/8-PUR	158 977	VASB-15-1/8-SI
30	G1/8	35 412	VASB-30-1/8-NBR	35 419	VASB-30-1/8-PUR	158 978	VASB-30-1/8-SI
40	G1/4	35 413	VASB-40-1/4-NBR	35 420	VASB-40-1/4-PUR	158 979	VASB-40-1/4-SI
55	G1/4	35 414	VASB-55-1/4-NBR	35 421	VASB-55-1/4-PUR	158 980	VASB-55-1/4-SI
75	G1/4	35 415	VASB-75-1/4-NBR	35 422	VASB-75-1/4-PUR	160 993	VASB-75-1/4-SI
100	G1/4	35 416	VASB-100-1/4-NBR	35 423	VASB-100-1/4-PUR	160 994	VASB-100-1/4-SI
125	G3/8	152 609	VASB-125-3/8-NBR	152 610	VASB-125-3/8-PUR	160 995	VASB-125-3/8-SI
Free of copper, PTFE and silicone							
8	M5	183 514	VASB-8-M5-NBR-CT	183 517	VASB-8-M5-PUR-CT	-	
15	G1/8	183 515	VASB-15-1/8-NBR-CT	183 518	VASB-15-1/8-PUR-CT	-	
30	G1/8	183 516	VASB-30-1/8-NBR-CT	183 519	VASB-30-1/8-PUR-CT	-	