

# FG Series

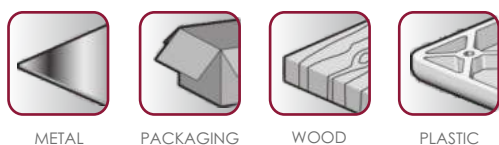
Suction cups with 2,5 bellows Ø5 ÷ 88 mm



Round, bellows suction cups with 2.5 folds for handling of delicate workpiece of almost any material. Thanks to high flexibility, they adapt well to the unevenness of the gripped surface. 2.5 bellows ensure a very smooth grip on delicate surfaces without damaging them. Special support surfaces in the lower part of the suction cup prevent deformation of the surface of the handled object.

2.5-bellows suction cups are also used where a large clamping stroke is required, or where a high position tolerance is required in the direction of the suction cup's approach to the gripped object.

## Industry sector



## Applications



## Materials

<b>NBR</b>	perbunan
<b>TBA</b>	modified perbunan
<b>CR</b>	chloroprene
<b>SI</b>	silicon
<b>NK</b>	natural rubber
<b>PU</b>	polyurethane
<b>STN</b>	Siton
<b>EPDM</b>	ethylene propylene diene rubber

## Technical data

	Ø [mm]	[cm <sup>3</sup> ]	[N] <sup>1)</sup>	[N] <sup>2)</sup>	R <sub>min</sub> [mm]
<b>FG 5</b>	5	0,04	0,1	0,8	8
<b>FG 6</b>	6	0,04	0,1	0,8	8
<b>FG 7</b>	7	0,04	0,1	0,9	8
<b>FG 8</b>	8	0,15	0,7	2,2	9
<b>FG 9</b>	9	0,15	0,7	2,3	10
<b>FG 12</b>	12	0,54	0,9	3,5	13
<b>FG 14</b>	14	0,98	1,2	5,7	15
<b>FG 18</b>	17,5	1,35	2,3	8,5	20
<b>FG 20</b>	20	2	3,8	12,1	30
<b>FG 25</b>	25	5,4	4,5	19	30
<b>FG 26</b>	25	6,1	5	21,5	30
<b>FG 32</b>	32	10	12	36,9	35
<b>FG 42</b>	42	19,5	13,6	44	75
<b>FG 52</b>	52	36	27	96	75
<b>FG 62</b>	62	72,5	39,6	137	75
<b>FG 88</b>	88	165	45,2	286	100

<sup>1)</sup> Lifting force of the suction cup at underpressure -0.6 bar (doesn't include safety factor).

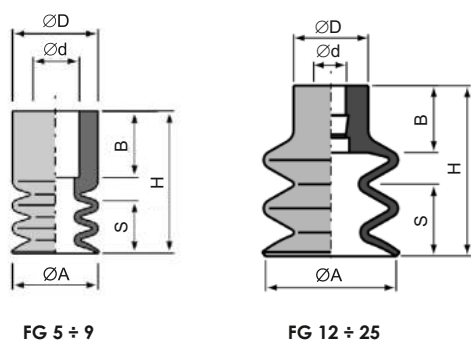
<sup>2)</sup> Pull-off force (for natural rubber this force is reduced by ~40%).

## Order code

**FG 32-SI**      The FG series suction cup with 2,5 bellows 32mm diameter, silicon

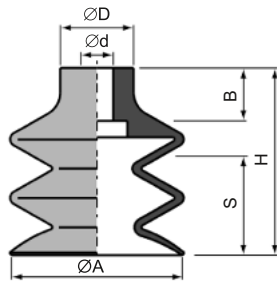
↑      ↑      ↑  
series   diameter   material

## Dimensions



	ØA [mm]	H [mm]	Ød [mm]	ØD [mm]	S <sup>3)</sup> [mm]	B [mm]	[g]
<b>FG 5</b>	5	13,5	4	7	3	8	0,5
<b>FG 6</b>	6	13,2	4	7	3	7	0,5
<b>FG 7</b>	7	14,5	4,7	9	3	6	0,5
<b>FG 8</b>	8	15	4	8	4	7	1
<b>FG 9</b>	9	15	4,4	9	3	7	0,6
<b>FG 12</b>	12	21	4	10	7	9	1,1
<b>FG 14</b>	14	22	4	10	10	9	1,4
<b>FG 18</b>	17,5	22	4	10	10	9	1,8
<b>FG 20</b>	20	23	4	10	10	9	2,2
<b>FG 25</b>	25	34	4	10	20	9	3,8

<sup>3)</sup> Suction cup mounting stroke



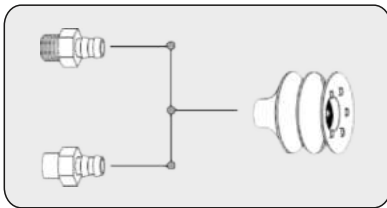
FG 26 ÷ 88

	ØA [mm]	H [mm]	Ød [mm]	ØD [mm]	s <sup>3)</sup> [mm]	B [mm]	[g]
<b>FG 26</b>	25	31	8	16	11	13	8
<b>FG 32</b>	32	37,5	8	18	14,5	13	9,4
<b>FG 42</b>	42	46	8	18	22	13	18,5
<b>FG 52</b>	52	49	8	18	27	13	24,6
<b>FG 62</b>	62	55	8	21	31	13	50
<b>FG 88</b>	88	87,5	12	25	48,5	20	175

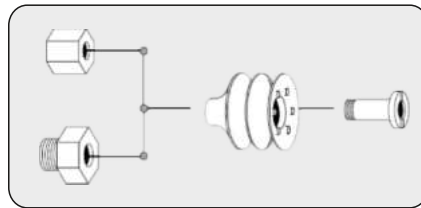
<sup>3)</sup> Suction cup mounting stroke.

## Fittings for the FG series

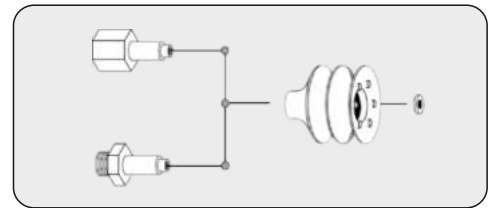
Push-in fittings | N type



Screwed fittings | S type



Fittings riveted by the manufacturer | Z type



**N016 - ZM5**

↑ fitting type    ↑ thread type

Order code of the fitting with M5 male for the FG 5 ÷ FG 25 suction cups

## Order codes of the fittings

	M3 male	M5 male	M6 male	M8 male	M10 male	G1/8 male	G1/8 male	G1/4 male	G1/4 fem	G3/8 male	G3/8 fem	G1/2 male
<b>5, 6</b>	N017-ZM3	N017-ZM5										
<b>7 ... 25</b>		N016-ZM5	N016-ZM6			N016-ZG18	N016-WG18					
								N018-ZG14	N018-WG14			
<b>26... 62</b>		S018-ZM5	S018-ZM6	S018-ZM8	S018-ZM10	S018-ZG18	S018-WG18	S018-ZG14	S018-WG14			
								Z018-ZG14	Z018-WG14			
<b>88</b>								N019-ZG14	N019-WG14	N019-ZG38	N019-WG38	
								S019-ZG14	S019-WG14	S019-ZG38	S019-WG38	S019-ZG12
								Z019-ZG14	Z019-WG14	Z019-ZG38	Z019-WG38	

# FGG Series



The FGG series suction cups are designed for gripping structural surfaces and porous, with numerous indentations, cracks or protrusions (raw wood, decorative laminates, ornamental glass, reflective sheets materials, raw stone, concrete, etc.). The possibility of grasping objects showing large surface leaks was obtained thanks to the use of additional sealing foam, glued to the gripping surface of the suction cup.

## Materials

**NBR** perbunan (32÷88mm)

**SI** silikon (20÷88mm)

## Applications



## Order code

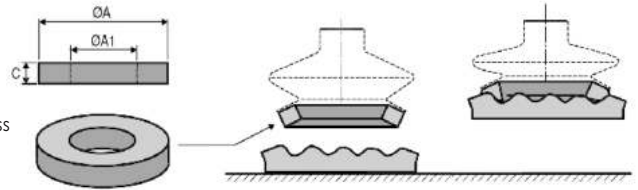
**FGG 32-NBR**



↑ series    ↑ diameter    ↑ material

FGG series suction cup  
with 2,5 bellows, 32mm diam.  
perbunan

## Dimensions

Dimensions and fittings  
FGG series suction cups  
are like in the FG series.  
The height have to be  
increased by the thickness  
of additional foam.



	ØA [mm]	ØA1 [mm]	C [mm]	S <sup>4)</sup> [mm]	 [g]
<b>FGG 32-NBR</b>	32	22	5	2,5	0,3
<b>FGG 42-NBR</b>	42	28	5	2,5	0,7
<b>FGG 52-NBR</b>	53	33	10	5,0	2,7
<b>FGG 62-NBR</b>	62	42	10	5,0	2,8
<b>FGG 88-NBR</b>	88	68	10	5,0	4,6
<b>FGG 20-SI</b>	20	10	2	1,0	0,2
<b>FGG 25-SI</b>	25	13	2	1,0	0,4
<b>FGG 26-SI</b>	25	13	2	1,0	0,4
<b>FGG 32-SI</b>	32	19	2	1,0	0,5
<b>FGG 42-SI</b>	42	20	5	2,5	2,2
<b>FGG 52-SI</b>	53	33	5	2,5	2,8
<b>FGG 62-SI</b>	62	42	5	2,5	3,4
<b>FGG 88-SI</b>	88	64	5	2,5	6,4

<sup>4)</sup> Foam mounting stroke.