

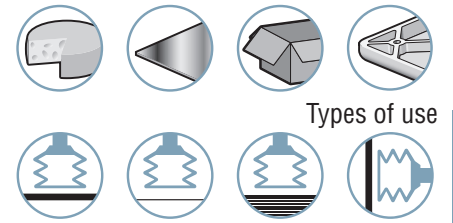
# VPF

## Flat Suction Cups with Cleats Ø 15 to 50 mm



VPF series suction cups are suitable for gripping flat, smooth and rigid products. Cleats prevent the deformation of the product and provide excellent non-slip properties.

Industry-specific applications



Types of use

### Materials

**NBR** Nitrile **STN** SITON®  
**SIT5** Translucent Silicone

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VPF

### Suction Cup Properties

	Ø (mm)	(cm³)	(lbf) (1)	(lbf) (1)	R <sub>min</sub> (mm)	NBR	SI	STN
VPF 15	15.7	0.37	0.81	0.41	13	VPF15NBR	VPF15SI	VPF15STN(*)
VPF 20	22	1.00	1.62	0.81	18	VPF20NBR	VPF20SI	VPF20STN(*)
VPF 25	26.8	1.10	2.11	1.06	22	VPF25NBR	VPF25SI	VPF25STN(*)
VPF 30	32	2.00	2.60	1.30	25	VPF30NBR	VPF30SI	VPF30STN(*)
VPF 40	42.5	1.80	4.06	2.03	52	VPF40NBR	VPF40SI	VPF40STN(*)
VPF 50	53	10.00	7.79	3.90	55	VPF50NBR	VPF50SI	VPF50STN(*)

(1) Actual force of the suction cup in use with 65% vacuum and including a safety factor of 2 for horizontal handling and a factor of 4 for vertical handling.

(\*) On request

### Choice of Fittings

(Ø)	M5-M	G1/8"-M	G1/4"-M	G3/8"-M
15	■	-	-	-
20 - 30	-	■	-	-
40 - 50	-	-	■	■

■ Standard available configurations (suction cup + fitting) Fittings: M = Male  
 Refer to n° table above

### Type of Assembly

**C** **Version C: Barbed fitting**

**E** **Version E: Pressed fitting**

### References "Suction Cup + Fitting"

Ø	THREAD	C		E						
		M5-M		G1/8"-M		G1/4"-M		G3/8"-M		
Ø 15 mm	VPF15NBR	VPF15NBRIMM5C		Fitting with filter		Fitting without filter				
	VPF15SI	VPF15SIIMM5C		VPF20NBR	VPF20NBRIM18MPF	VPF20NBRIM18MP	VPF20SI	VPF20SIIM18MPF	VPF20SIIM18MP	
	VPF15STN	VPF15STNIMM5C		VPF20SI	VPF20STNIM18MPF	VPF20STNIM18MP	VPF25NBR	VPF25NBRIM18MPF	VPF25NBRIM18MP	
				VPF25SI	VPF25SIIM18MPF	VPF25SIIM18MP	VPF25STN(*)	VPF25STNIM18MPF	VPF25STNIM18MP	
				VPF30NBR	VPF30NBRIM18MPF	VPF30NBRIM18MP	VPF30SI	VPF30SIIM18MPF	VPF30SIIM18MP	
				VPF30STN(*)	VPF30STNIM18MPF	VPF30STNIM18MP				
Ø 20 - 30 mm				Fitting with filter		Fitting without filter				
	VPF40NBR	VPF40NBRIM14MPF	VPF40NBRIM14MP	VPF40NBRIM38MPF	VPF40NBRIM38MP	VPF40SI	VPF40SIIM14MPF	VPF40SIIM14MP	VPF40SIIM38MPF	VPF40SIIM38MP
	VPF40SI	VPF40STNIM14MPF	VPF40STNIM14MP	VPF40STNIM38MPF	VPF40STNIM38MP	VPF50NBR	VPF50NBRIM14MPF	VPF50NBRIM14MP	VPF50NBRIM38MPF	VPF50NBRIM38MP
	VPF50NBR	VPF50SIIM14MPF	VPF50SIIM14MP	VPF50SIIM38MPF	VPF50SIIM38MP	VPF50SI	VPF50STNIM14MPF	VPF50STNIM14MP	VPF50STNIM38MPF	VPF50STNIM38MP
	VPF50SI									
	VPF50STN(*)									

(\*) On request

### Accessories

To optimize use of your suction cups, Coval offers a comprehensive range of accessories (sensors, spring extensions, and feeder systems, etc.) see chapters 4 and 14.

Please specify the part n°. e.g. VPF20NBRIM18MPF  
 See part n° table above

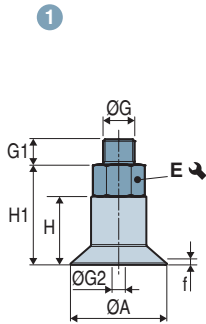
# VPF

## Flat Suction Cups with Cleats Ø 15 to 50 mm Assembly Diagrams

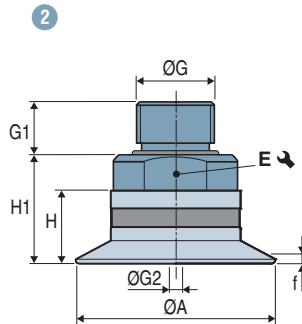


### Suction Cup + Fitting

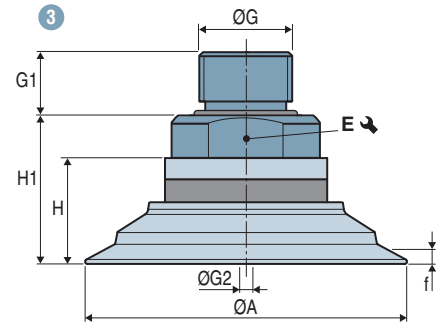
VPF 15



VPF 20...30



VPF 40...50

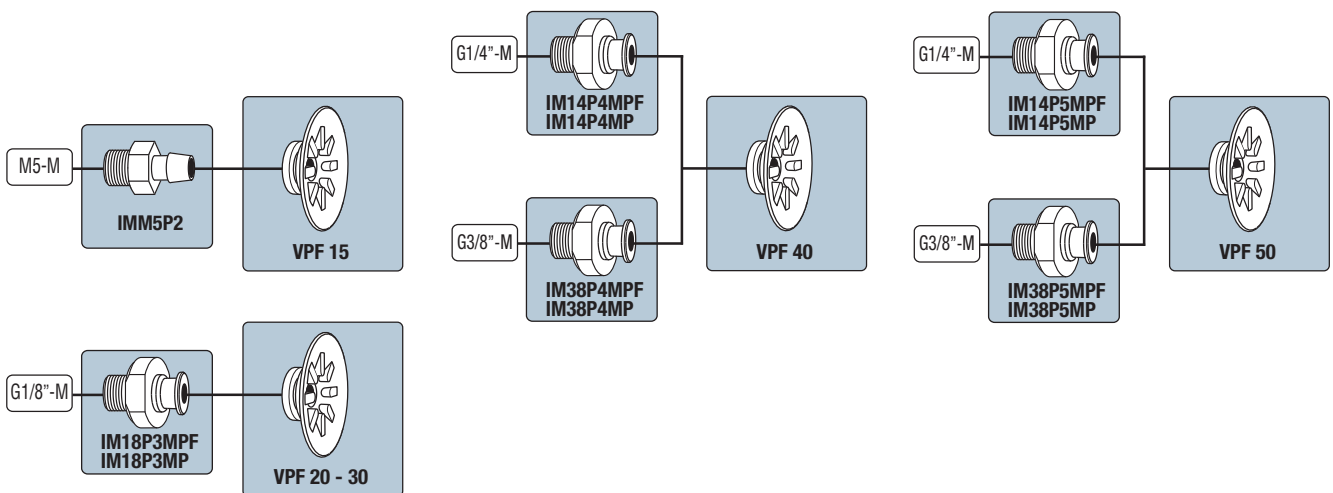


VPF 2

	Diagram	ØA	f <sup>(1)</sup>	H	H1	ØG	G1	ØG2 <sup>(2)</sup>	E ↗	g (g)
VPF15---IMM5C	1	15.7	1	11	15.5	M5-M	4	2.7	7	1.5
VPF20---IM18MP-	2	22	1	8	13	G1/8"-M	7	4	13	4.4
VPF25---IM18MP-	2	26.8	1.3	9	14	G1/8"-M	7	4	13	4.9
VPF30---IM18MP-	2	32	1.8	10	15	G1/8"-M	7	4	13	5.4
VPF40---IM14MP-	3	42.5	1.9	13	19	G1/4"-M	9	5	19	12.6
VPF40---IM38MP-	3	42.5	1.9	13	19	G3/8"-M	10	5	22	17.2
VPF50---IM14MP-	3	53	2.4	17.5	23.5	G1/4"-M	9	6	22	24.8
VPF50---IM38MP-	3	53	2.4	17.5	23.5	G3/8"-M	10	6	23.9	27.8

(1) f = Deflection of the suction cup. (2) Ø G2 = Ø internal orifice of the fitting.

### Assembly Diagrams



Note: All dimensions are in mm.

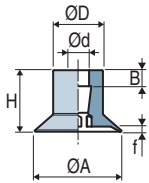
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## Flat Suction Cups with Cleats Ø 15 to 50 mm Assembly Diagrams

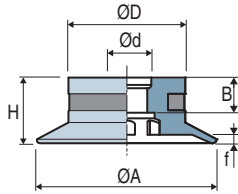


### Suction Cups

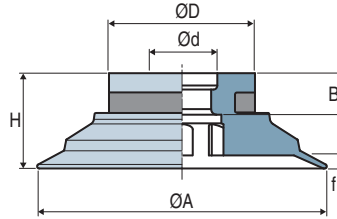
VPF 15



VPF 20...30



VPF 40...50

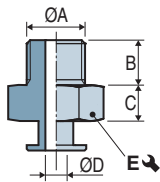


	Ø A	H	Ø d	Ø D	f <sup>(1)</sup>	B	(g)
VPF 15	15.7	11	4	9	1	3	0.7
VPF 20	22	8	5	14.3	1	4.5	1.2
VPF 25	26.8	9	5	14.3	1.3	4.5	1.7
VPF 30	32	10	5	14.3	1.8	4.5	2.2
VPF 40	42.5	13	7	20	1.9	6	5.6
VPF 50	53	17.5	10.5	27	2.4	7.5	12.7

(1) f = Deflection of the suction cup.

### Barbed Fittings

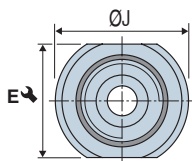
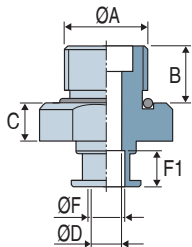
IMM5P2



	ØA	B	C	ØD	E	Material	(g)
IMM5P2	M5-M	4	4.5	2.7	7	Aluminum	0.8

### Pressed fittings

Male fittings



Fitting with stainless steel filter 200 µm	Fitting without filter	ØA	B	C	ØD	E	ØJ	ØF	F1	Materials Fitting*	(g)
IM18P3MPF	IM18P3MP	G1/8"-M	7	5	4	13	15	5	4.7	Aluminum	3.2
IM14P4MPF	IM14P4MP	G1/4"-M	9	6	5	19	21	6	5.7	Aluminum	7
IM14P5MPF	IM14P5MP	G1/4"-M	9	6	6	22	28	10	8.7	Aluminum	12.1
IM38P4MPF	IM38P4MP	G3/8"-M	10	6	5	22	24	6	5.7	Aluminum	11.6
IM38P5MPF	IM38P5MP	G3/8"-M	10	6	6	23.9	28	10	8.7	Aluminum	15.1

\*Male fittings (IM) equipped with O-ring sealing

Note: All dimensions are in mm.  
The values represent the average characteristics of our products.