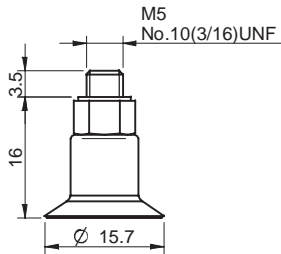
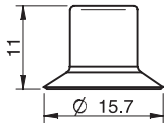


## ORDERING INFORMATION

Complete suction cups	Art. No.
Suction cup F15 Chloroprene, M5 male	3150014
Suction cup F15 Silicone, M5 male	3150014S



Rubber parts	Art. No.
Suction cup F15 Chloroprene	3150125
Suction cup F15 Silicone	3150125S



Fittings	Art. No.
Fitting M5 male	3107030

For further information and dimensioned drawings, see *SUCTION CUPS FITTINGS* chapter.

## F20



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm <sup>3</sup>	mm	mm	g
6.0	14.5	19.0	5.0	8.0	8.5	1.0	18	1.5	1.2

### MATERIAL SPECIFICATIONS

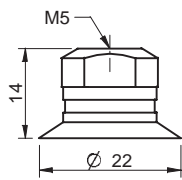
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40-110
Silicone, SIL	Red	50	-40-200

### MATERIAL RESISTANCE

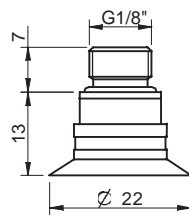
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## ORDERING INFORMATION

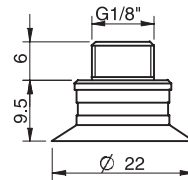
	Complete suction cups	Art. No.
A	Suction cup F20 Chloroprene, M5 female	0101259
A	Suction cup F20 Chloroprene, M5 female, with dual flow control valve	0101265
B	Suction cup F20 Chloroprene, G1/8" male, with mesh filter	0101260
B	Suction cup F20 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101266
C	Suction cup F20 Chloroprene, G1/8" male/M5 female, with mesh filter	0101264
C	Suction cup F20 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101268
D	Suction cup F20 Chloroprene, 5xM5 female	0101263
D	Suction cup F20 Chloroprene, 5xM5 female, with dual flow control valve	0101269
A	Suction cup F20 Silicone, M5 female	0101270
A	Suction cup F20 Silicone, M5 female, with dual flow control valve	0101276
B	Suction cup F20 Silicone, G1/8" male, with mesh filter	0101271
B	Suction cup F20 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101277
C	Suction cup F20 Silicone, G1/8" male/M5 female, with mesh filter	0101275
C	Suction cup F20 Silicone, G1/8" male/M5 female, with dual flow control valve	0101279
D	Suction cup F20 Silicone, 5xM5 female	0101274
D	Suction cup F20 Silicone, 5xM5 female, with dual flow control valve	0101280
E	Suction cup F20 Chloroprene, G1/8" male/M5 female, PA	0110950
E	Suction cup F20 Silicone, G1/8" male/M5 female, PA	0110334



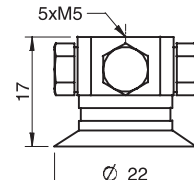
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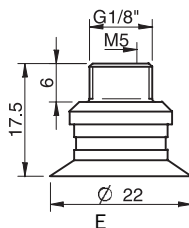
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C

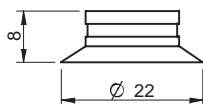


D



E

	Rubber parts	Art. No.
	Suction cup F20 Chloroprene	0101129
	Suction cup F20 Silicone	0101130



	Fittings	Art. No.
	Fitting M5 female	3250003
	Fitting M5 female, with dual flow control valve	3251001
	Fitting G1/8" male, with mesh filter	3250085
	Fitting G1/8" male, with mesh filter and dual flow control valve	3251002
	Fitting G1/8" male/M5 female, with mesh filter	0101152
	Fitting G1/8" male/M5 female, with dual flow control valve	3251004
	Fitting 5xM5 female	0100260
	Fitting 5xM5 female, with dual flow control valve	3251005
	Fitting G1/8" male/M5 female, PA	3150196

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

## F25



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm <sup>3</sup>	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
9.0	19.5	25	8.0	9.0	10.0	1.1	22	1.5	1.8

### MATERIAL SPECIFICATIONS

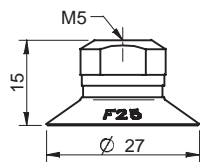
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40-110
Silicone, SIL	Red	50	-40-200

### MATERIAL RESISTANCE

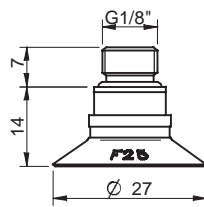
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## ORDERING INFORMATION

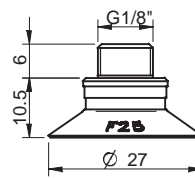
Complete suction cups		Art. No.
A	Suction cup F25 Chloroprene, M5 female	0101292
A	Suction cup F25 Chloroprene, M5 female, with dual flow control valve	0101298
B	Suction cup F25 Chloroprene, G1/8" male, with mesh filter	0101293
B	Suction cup F25 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101299
C	Suction cup F25 Chloroprene, G1/8" male/M5 female, with mesh filter	0101297
C	Suction cup F25 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101301
D	Suction cup F25 Chloroprene, 5xM5 female	0101296
D	Suction cup F25 Chloroprene, 5xM5 female, with dual flow control valve	0101302
A	Suction cup F25 Silicone, M5 female	0101303
A	Suction cup F25 Silicone, M5 female, with dual flow control valve	0101309
B	Suction cup F25 Silicone, G1/8" male, with mesh filter	0101304
B	Suction cup F25 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101310
C	Suction cup F25 Silicone, G1/8" male/M5 female, with mesh filter	0101308
C	Suction cup F25 Silicone, G1/8" male/M5 female, with dual flow control valve	0101312
D	Suction cup F25 Silicone, 5xM5 female	0101307
D	Suction cup F25 Silicone, 5xM5 female, with dual flow control valve	0101313
E	Suction cup F25 Chloroprene, G1/8" male/M5 female, PA	0109842
E	Suction cup F25 Silicone, G1/8" male/M5 female, PA	0110335



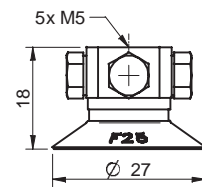
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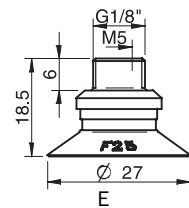
B



C

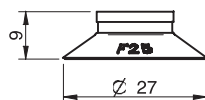


D



E

Rubber parts		Art. No.
Suction cup F25 Chloroprene		0101131
Suction cup F25 Silicone		0101132



Fittings		Art. No.
Fitting M5 female		3250003
Fitting M5 female, with dual flow control valve		3251001
Fitting G1/8" male, with mesh filter		3250085
Fitting G1/8" male, with mesh filter and dual flow control valve		3251002
Fitting G1/8" male/M5 female, with mesh filter		0101152
Fitting G1/8" male/M5 female, with dual flow control valve		3251004
Fitting 5xM5 female		0100260
Fitting 5xM5 female, with dual flow control valve		3251005
Fitting G1/8" male/M5 female, PA		3150196

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

## F30-2



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm <sup>3</sup>	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
12.0	25	31	11.0	16.0	20.0	2.0	25	2.0	2.2

### MATERIAL SPECIFICATIONS

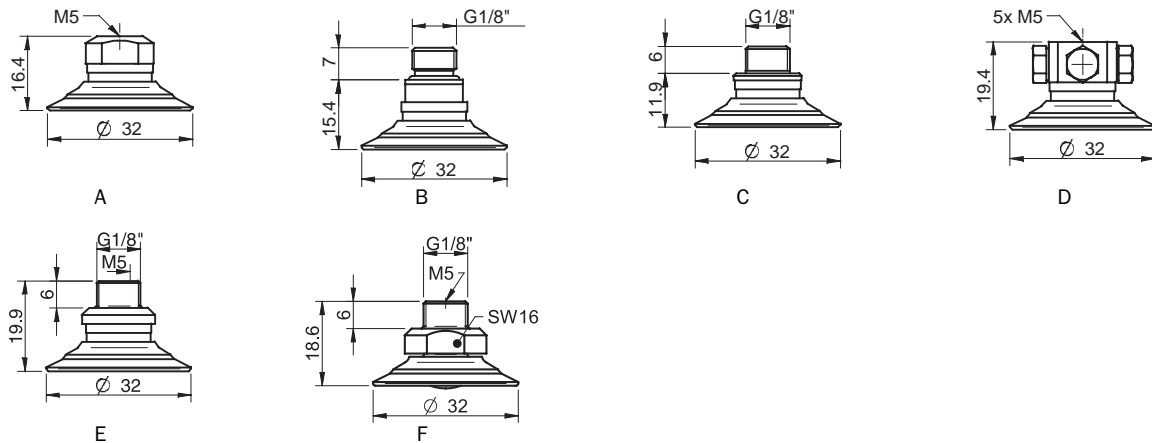
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200

### MATERIAL RESISTANCE

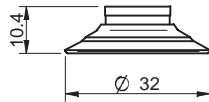
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### ORDERING INFORMATION

	Complete suction cups	Art. No.
A	Suction cup F30-2 Chloroprene, M5 female	0101325
A	Suction cup F30-2 Chloroprene, M5 female, with dual flow control valve	0101331
B	Suction cup F30-2 Chloroprene, G1/8" male, with mesh filter	0101326
B	Suction cup F30-2 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101332
C	Suction cup F30-2 Chloroprene, G1/8" male/M5 female, with mesh filter	0101330
C	Suction cup F30-2 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101334
F	Suction cup F30-2 Chloroprene, G1/8" male/M5 female, with cone valve	3250039
D	Suction cup F30-2 Chloroprene, 5xM5 female	0101329
A	Suction cup F30-2 Silicone, M5 female	0101341
A	Suction cup F30-2 Silicone, M5 female, with dual flow control valve	0101347
B	Suction cup F30-2 Silicone, G1/8" male, with mesh filter	0101342
B	Suction cup F30-2 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101348
C	Suction cup F30-2 Silicone, G1/8" male/M5 female, with mesh filter	0101346
C	Suction cup F30-2 Silicone, G1/8" male/M5 female, with dual flow control valve	0101350
F	Suction cup F30-2 Silicone, G1/8" male/M5 female, with cone valve	3250039S
D	Suction cup F30-2 Silicone, 5xM5 female	0101345
D	Suction cup F30-2 Silicone, 5xM5 female, with dual flow control valve	0101351
E	Suction cup F30-2 Chloroprene, G1/8" male/M5 female PA	0109846
E	Suction cup F30-2 Silicone, G1/8" male/M5 female PA	0110344



Rubber parts	Art. No.
Suction cup F30-2 Chloroprene	0101133
Suction cup F30-2 Chloroprene, for fitting with cone valve	3150239
Suction cup F30-2 Silicone	0101134
Suction cup F30-2 Silicone, for fitting with cone valve	3150239S



Fittings	Art. No.
Fitting M5 female	3250003
Fitting M5 female, with dual flow control valve	3251001
Fitting G1/8" male, with mesh filter	3250085
Fitting G1/8" male, with mesh filter and dual flow control valve	3251002
Fitting G1/8" male/M5 female, with mesh filter	0101152
Fitting G1/8" male/M5 female, with dual flow control valve	3251004
Fitting G1/8" male/M5 female, with cone valve	0101155
Fitting 5xM5 female	0100260
Fitting 5xM5 female, with dual flow control valve	3251005
Fitting G1/8" male/M5 female, PA	3150196

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

Spare Part	Material	Temperature range °C	Art. No.
Cone valve for F30-2	Al/SS/NBR	-40-110	3150055

## F40-2



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm <sup>3</sup>	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
20.0	40	50	15.0	25	30	4.8	52	2.5	5.5

### MATERIAL SPECIFICATIONS

Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0-90
Silicone, SIL	Red	50	-40-200

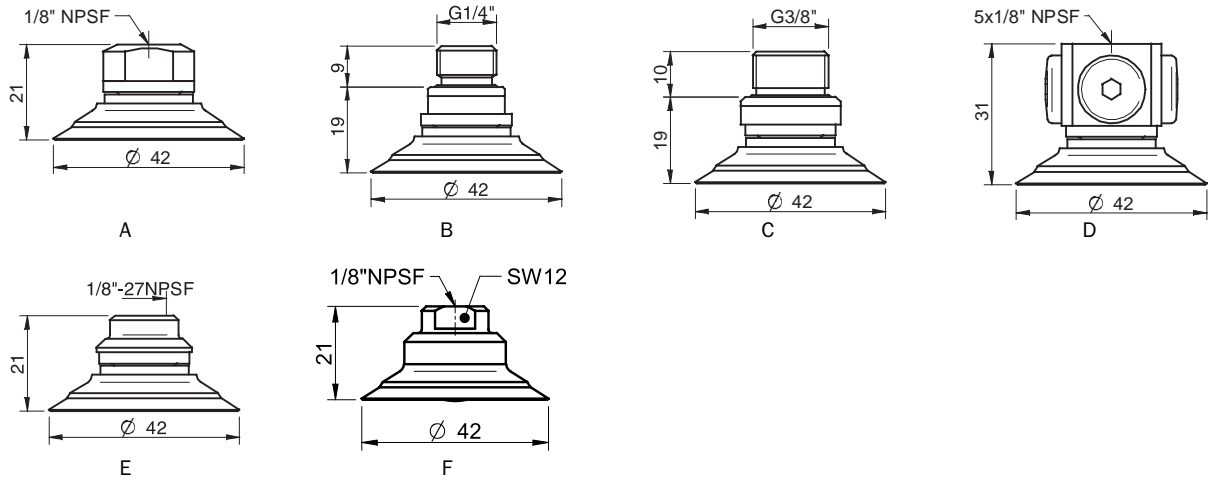
### MATERIAL RESISTANCE

Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

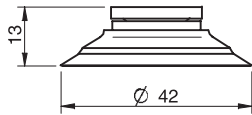
### ORDERING INFORMATION

	Complete suction cups	Art. No.
A	Suction cup F40-2 Nitrile-PVC, 1/8"NPSF female, with mesh filter	0101572
A	Suction cup F40-2 Nitrile-PVC, 1/8"NPSF female, with dual flow control valve	0101573
B	Suction cup F40-2 Nitrile-PVC, G1/4" male, with mesh filter	0101567
B	Suction cup F40-2 Nitrile-PVC, G1/4" male, with mesh filter and dual flow control valve	0101574
C	Suction cup F40-2 Nitrile-PVC, G3/8" male, with mesh filter	0101569
C	Suction cup F40-2 Nitrile-PVC, G3/8" male, with mesh filter and dual flow control valve	0101576
D	Suction cup F40-2 Nitrile-PVC, 5x1/8"NPSF female	0101571
D	Suction cup F40-2 Nitrile-PVC, 5x1/8"NPSF female, with dual flow control valve	0101578
E	Suction cup F40-2 Nitrile-PVC, 1/8"NPSF female PA	0109847
F	Suction cup F40-2 Nitrile-PVC, 1/8"NPSF female, with cone valve	3150050P
A	Suction cup F40-2 Silicone, 1/8"NPSF female, with mesh filter	0101553
A	Suction cup F40-2 Silicone, 1/8"NPSF female, with dual flow control valve	0101554
B	Suction cup F40-2 Silicone, G1/4" male, with mesh filter	0101548
B	Suction cup F40-2 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101555
C	Suction cup F40-2 Silicone, G3/8" male, with mesh filter	0101550
C	Suction cup F40-2 Silicone, G3/8" male, with mesh filter and dual flow control valve	0101557
D	Suction cup F40-2 Silicone, 5x1/8"NPSF female	0101552
D	Suction cup F40-2 Silicone, 5x1/8"NPSF female, with dual flow control valve	0101559
E	Suction cup F40-2 Silicone, 1/8"NPSF female PA	0110345
F	Suction cup F40-2 Silicone, 1/8"NPSF female, with cone valve	3150050S





Rubber parts	Art. No.
Suction cup F40-2 Nitrile-PVC	0101135
Suction cup F40-2 Nitrile-PVC, for fitting with cone valve	3150240P
Suction cup F40-2 Silicone	0101136
Suction cup F40-2 Silicone, for fitting with cone valve	3150240S



Fittings	Art. No.
Fitting 1/8"NPSF female, with mesh filter	0101153
Fitting 1/8"NPSF female, with dual flow control valve	3251006
Fitting 1/8"NPSF female, with cone valve	0101156
Fitting G1/4" male, with mesh filter	3250091
Fitting G1/4" male, with mesh filter and dual flow control valve	3251007
Fitting G3/8" male, with mesh filter	3250086
Fitting G3/8" male, with mesh and dual flow control valve	3251009
Fitting 5x1/8"NPSF female	0100261
Fitting 5x1/8"NPSF female, with dual flow control valve	3251011
Fitting 1/8"NPSF female, PA	3150197

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

Spare Part	Material	Temperature range °C	Art. No.
Cone valve for F40-2	Al/SS/NBR	-40-110	3150056

## F50-2



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm <sup>3</sup>	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
36	74	96	24.0	40	50	10	55	3.0	14

### MATERIAL SPECIFICATIONS

Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0-90
Silicone, SIL	Red	50	-40-200
HNBR	Grey-blue	75	-30-140*

\* For a shorter period of time up to +160 °C

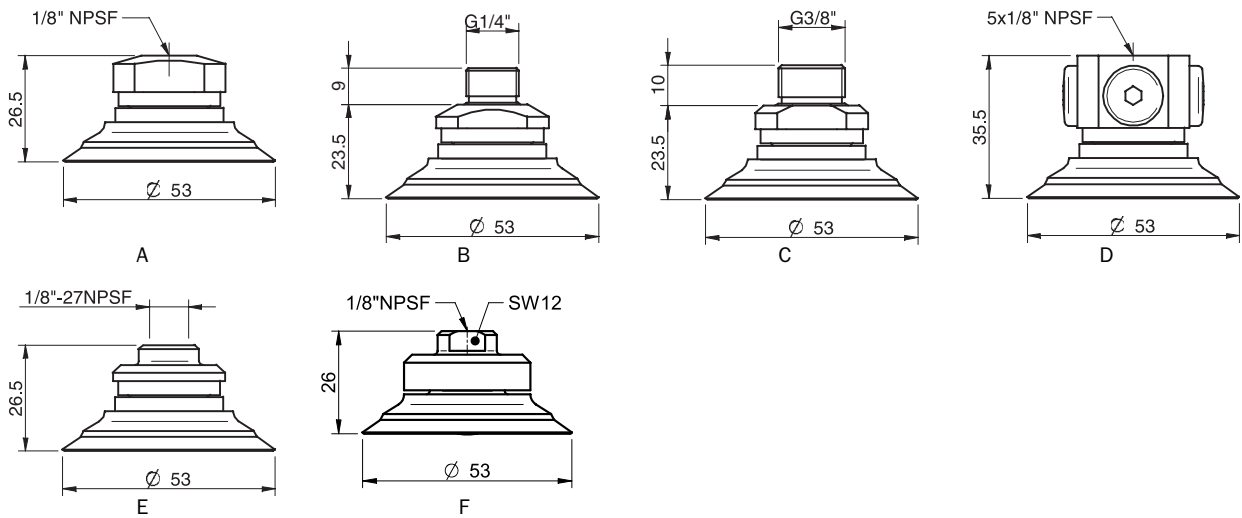
### MATERIAL RESISTANCE

Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

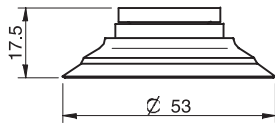
### ORDERING INFORMATION

	Complete suction cups	Art. No.
A	Suction cup F50-2 Nitrile-PVC, 1/8"NPSF female, with mesh filter	0101772
A	Suction cup F50-2 Nitrile-PVC, 1/8"NPSF female, with dual flow control valve	0101773
B	Suction cup F50-2 Nitrile-PVC, G1/4" male, with mesh filter	0101767
B	Suction cup F50-2 Nitrile-PVC, G1/4" male, with mesh filter and dual flow control valve	0101774
C	Suction cup F50-2 Nitrile-PVC, G3/8" male, with mesh filter	0101769
C	Suction cup F50-2 Nitrile-PVC, G3/8" male, with mesh filter and dual flow control valve	0101776
D	Suction cup F50-2 Nitrile-PVC, 5x1/8"NPSF female	0101771
D	Suction cup F50-2 Nitrile-PVC, 5x1/8"NPSF female, with dual flow control valve	0101778
E	Suction cup F50-2 Nitrile-PVC, 1/8"NPSF female, PA	0110952
F	Suction cup F50-2 Nitrile-PVC, 1/8"NPSF female, with cone valve	3150051P
A	Suction cup F50-2 Silicone, 1/8"NPSF female, with mesh filter	0101753
A	Suction cup F50-2 Silicone, 1/8"NPSF female, with dual flow control valve	0101754
B	Suction cup F50-2 Silicone, G1/4" male, with mesh filter	0101748
B	Suction cup F50-2 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101755
C	Suction cup F50-2 Silicone, G3/8" male, with mesh filter	0101750
C	Suction cup F50-2 Silicone, G3/8" male, with mesh filter and dual flow control valve	0101757
D	Suction cup F50-2 Silicone, 5x1/8"NPSF female	0101752
D	Suction cup F50-2 Silicone, 5x1/8"NPSF female, with dual flow control valve	0101759
E	Suction cup F50-2 Silicone, 1/8"NPSF female, PA	0110346
F	Suction cup F50-2 Silicone, 1/8"NPSF female, with cone valve	3150051S
A	Suction cup F50-2 HNBR, 1/8"NPSF female	0108181
B	Suction cup F50-2 HNBR, G1/4" male, with mesh filter	0108182
C	Suction cup F50-2 HNBR, G3/8" male, with mesh filter	0108183

# SUCTION CUPS F



Rubber parts	Art. No.
Suction cup F50-2 Nitrile-PVC	0101137
Suction cup F50-2 Nitrile-PVC, for fitting with cone valve	3150241P
Suction cup F50-2 Silicone	0101138
Suction cup F50-2 Silicone, for fitting with cone valve	3150241S
Suction cup F50-2 HNBR	0108166



Fittings	Art. No.
Fitting 1/8"NPSF female	3250017
Fitting 1/8"NPSF female, with mesh filter	0101154
Fitting 1/8"NPSF female, with dual flow control valve	3251012
Fitting 1/8"NPSF female, with cone valve	0101157
Fitting G1/4" male, with mesh filter	3250092
Fitting G1/4" male, with mesh filter and dual flow control valve	3251013
Fitting G3/8" male, with mesh filter	3250087
Fitting G3/8" male, with mesh filter and dual flow control valve	3251015
Fitting 5x1/8"NPSF female	0100262
Fitting 5x1/8"NPSF female, with dual flow control valve	3251017
Fitting 1/8"NPSF female, PA	3150198

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

Spare Part	Material	Temperature range °C	Art. No.
Cone valve for F50-2	Al/SS/NBR	-40-110	3150057

Suction cups F

## F75



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm <sup>3</sup>	mm	mm	g
80	200	270	60	110	140	20	150	3.0	23

### MATERIAL SPECIFICATIONS

Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0–90
Silicone, SIL	Red	50	-40–200
HNBR	Grey-blue	75	-30–140*

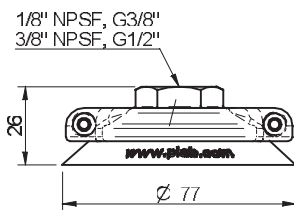
\* For a shorter period of time up to +160 °C

### MATERIAL RESISTANCE

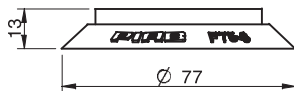
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

## ORDERING INFORMATION

Complete suction cups	Art. No.
Suction cup F75 Nitrile-PVC, 1/8"NPSF female, with mesh filter	0101873
Suction cup F75 Nitrile-PVC, G3/8" female, with mesh filter	0101874
Suction cup F75 Nitrile-PVC, G3/8" female, with cone valve	0101877
Suction cup F75 Nitrile-PVC, 3/8"NPSF female, with mesh filter	0101875
Suction cup F75 Nitrile-PVC, G1/2" female, with mesh filter	0101876
Suction cup F75 Nitrile-PVC, G1/2" female, with cone valve	0101879
Suction cup F75 Silicone, 1/8"NPSF female, with mesh filter	0101866
Suction cup F75 Silicone, G3/8" female, with mesh filter	0101867
Suction cup F75 Silicone, G3/8" female, with cone valve	0101870
Suction cup F75 Silicone, 3/8"NPSF female, with mesh filter	0101868
Suction cup F75 Silicone, G1/2" female, with mesh filter	0101869
Suction cup F75 Silicone, G1/2" female, with cone valve	0101872
Suction cup F75 HNBR, 1/8"NPSF female, with mesh filter	0108184
Suction cup F75 HNBR, G3/8" female, with mesh filter	0108185
Suction cup F75 HNBR, 3/8"NPSF female, with mesh filter	0108186
Suction cup F75 HNBR, G1/2" female, with mesh filter	0108187



Rubber parts	Art. No.
Suction cup F75 Nitrile-PVC	3150131P
Suction cup F75 Silicone	3150131S
Suction cup F75 HNBR	3150131T



Fittings	Art. No.
Fitting 1/8"NPSF female, with mesh filter	0100548
Fitting G3/8" female, with mesh filter	0100551
Fitting G3/8" female, with cone valve	0100552
Fitting 3/8"NPSF female, with mesh filter	0100553
Fitting G1/2" female, with mesh filter	0100555
Fitting G1/2" female, with cone valve	0100556

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

Spare Part	Material	Temperature range °C	Art. No.
Cone valve for Fitting 75	Al/SS/NBR	-40-110	0100729

Suction cups  
F

## F110



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm <sup>3</sup>	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
140	420	560	140	250	300	70	250	4.0	66

### MATERIAL SPECIFICATIONS

Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0-90
Silicone, SIL	Red	50	-40-200
HNBR	Grey-blue	75	-30-140*

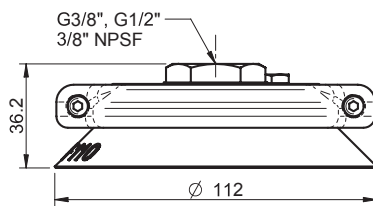
\* For a shorter period of time up to +160 °C

### MATERIAL RESISTANCE

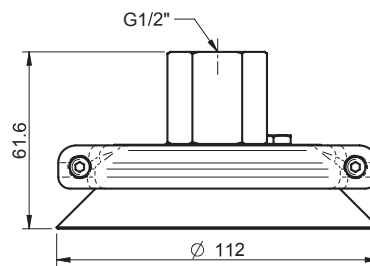
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

## ORDERING INFORMATION

Complete suction cups		Art. No.
A	Suction cup F110 Nitrile-PVC, G3/8" female, with mesh filter	0101915
A	Suction cup F110 Nitrile-PVC, 3/8"NPSF female, with mesh filter	0101916
A	Suction cup F110 Nitrile-PVC, G1/2" female, with mesh filter	0101917
B	Suction cup F110 Nitrile-PVC, G1/2" female, with cone valve	0101921
A	Suction cup F110 Silicone, G3/8" female, with mesh filter	0101908
A	Suction cup F110 Silicone, 3/8"NPSF female, with mesh filter	0101909
A	Suction cup F110 Silicone, G1/2" female, with mesh filter	0101910
B	Suction cup F110 Silicone, G1/2" female, with cone valve	0101914
A	Suction cup F110 HNBR, G3/8" female, with mesh filter	0108188
A	Suction cup F110 HNBR, 3/8"NPSF female, with mesh filter	0108189
A	Suction cup F110 HNBR, G1/2" female, with mesh filter	0108190

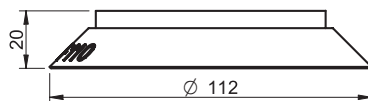


A



B

Rubber part		Art. No.
Suction cup F110 Nitrile-PVC		3150132P
Suction cup F110 Silicone		3150132S
Suction cup F110 HNBR		3150132T



Fittings		Art. No.
Fitting G3/8" female, with mesh filter		0100557
Fitting G1/2" female, with mesh filter		0100561
Fitting 3/8"NPSF female, with mesh filter		0100559
Fitting G1/2" female, with cone valve		0100563

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

Spare Part	Material	Temperature range °C	Art. No.
Cone valve for Fitting 110 & 150	Al/SS/NBR	-40-110	3350034

## F150



### FLAT SUCTION CUP WITH CLEATS

- ▶ Suitable for flat objects.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and gives extra friction when the lifting force is parallel.

### LIFTING FORCES & TECHNICAL DATA

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm <sup>3</sup>	mm	mm	g
300	850	1100	250	600	800	160	500	6.0	200

### MATERIAL SPECIFICATIONS

Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0-90
Silicone, SIL	Red	50	-40-200

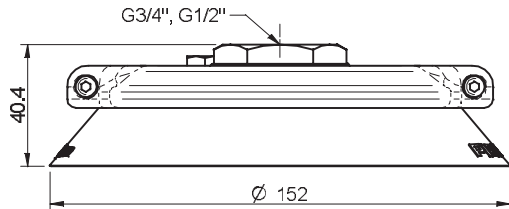
### MATERIAL RESISTANCE

Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

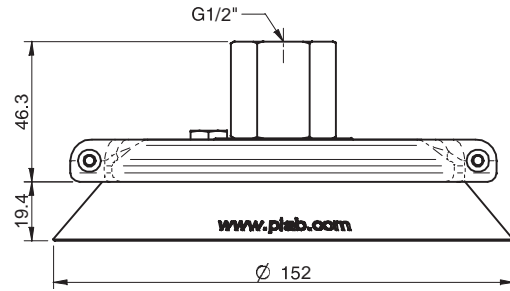


## ORDERING INFORMATION

Complete suction cups		Art. No.
A	Suction cup F150 Nitrile-PVC, G3/4" female, with mesh filter	0101939
A	Suction cup F150 Nitrile-PVC, G1/2" female, with mesh filter	0101938
B	Suction cup F150 Nitrile-PVC, G1/2" female, with cone valve	0101941
A	Suction cup F150 Silicone, G3/4" female, with mesh filter	0101935
A	Suction cup F150 Silicone, G1/2" female, with mesh filter	0101934
B	Suction cup F150 Silicone, G1/2" female, with cone valve	0101937

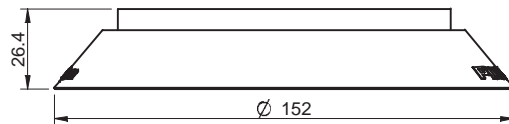


A



B

Rubber parts		Art. No.
Suction cup F150 Nitrile-PVC		3150133P
Suction cup F150 Silicone		3150133S



Fittings		Art. No.
Fitting G1/2" female, with mesh filter		0100564
Fitting G3/4" female, with mesh filter		0100567
Fitting G1/2" female, with cone valve		0100566

For further information and dimensioned drawings, see SUCTION CUPS FITTINGS chapter.

Spare Part	Material	Temperature range °C	Art. No.
Cone valve for Fitting 110 & 150	Al/SS/NBR	-40-110	3350034