

Deep family (D)



This family is designed for curved and irregular surfaces. Can lift even over corners and edges. This product is also available in material that is compliant by FDA (FDA 21 CFR 177.2600) and meets EU's regulation EU 1935/2004.

Lifting forces

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level		
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa
D15-2	2.9	7.8	11	–	–	–
D20-2	5.9	15	18	–	–	–
D30-2	14	26	31	–	–	–
D50	36	78	98	–	–	–

General specifications

	Outer diameter, mm	Height, mm	Min. curve radius, mm	Max. vertical movement, mm	Volume, cm ³
D15-2	16	16.6	6	3	0.9
D20-2	22	13.2	8	4.5	2.5
D30-2	32	19.2	13	5	5
D50	53	31.5	25	10	15

Available materials

	Chloroprene, CR	Silicone, SIL	Silicone FDA EU, SIL FDA
D15-2	●	●	●
D20-2	●	●	●
D30-2	●	●	●
D50	●	●	●

Material resistance

For more material information go to page 23.

Applications

Table shows typical applications for the suction cup. For more detailed information, please visit piab.com.

	Dry sheet metal	FDA EU-standard compliant	Plastic injection molded parts
D15-2	●	●	●
D20-2	●	●	●
D30-2	●	●	●
D50	●	●	●

Fittings

For a table of possible fittings to use go to page 80, for technical information on all fittings visit piab.com.

Ordering information

For a complete list of available cups and combinations with further information visit piab.com. On our webpage you will also be able to find dimensional drawings, CAD-drawings and much more. Register to receive full access to all resources available.

D15-2



Deep suction cup

- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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	mm	mm	g
2.9	7.8	11.0	—	—	—	0.9	6.0	3.0	1.2

Material specifications

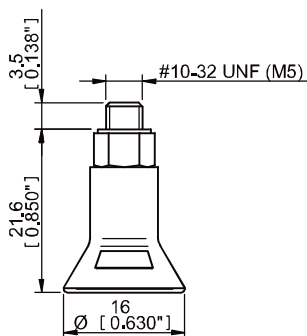
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200

Material resistance

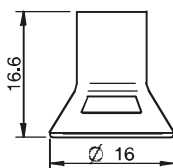
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

Complete suction cups	Art. No.
Suction cup D15-2 Chloroprene, M5 male	3150010
Suction cup D15-2 Silicone, M5 male	3150010S



Rubber parts	Art. No.
Suction cup D15-2 Chloroprene	3150135
Suction cup D15-2 Silicone	3150135S



Fittings	Art. No.
Fitting M5 male, 10–15	3107030

For further information and dimensioned drawings, see section Suction cups/grippers Fittings.

Suction cups/grippers Standard



D20-2



Deep suction cup

- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
5.9	15.0	18.0	—	—	—	2.5	8.0	4.5	2.2

Material specifications

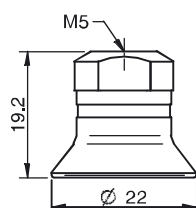
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200

Material resistance

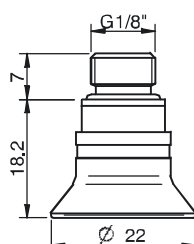
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

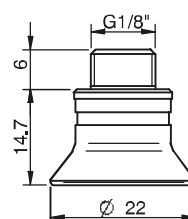
	Complete suction cups	Art. No.
A	Suction cup D20-2 Chloroprene, M5 female	0101215
B	Suction cup D20-2 Chloroprene, G1/8" male, with mesh filter	0101216
C	Suction cup D20-2 Chloroprene, G1/8" male/M5 female, with mesh filter	0101220
A	Suction cup D20-2 Silicone, M5 female	0101226
A	Suction cup D20-2 Silicone, M5 female, with dual flow control valve	0101232
B	Suction cup D20-2 Silicone, G1/8" male, with mesh filter	0101227
C	Suction cup D20-2 Silicone, G1/8" male/M5 female, with mesh filter	0101231
E	Suction cup D20-2 Silicone, G1/8" male/M5 female, PA	0110331



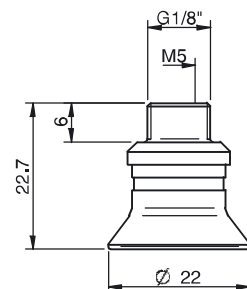
A



B



C

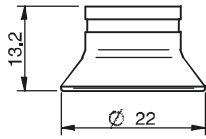


E

Suction cups/grippers Standard



Rubber parts	Art. No.
Suction cup D20-2 Chloroprene	0101123
Suction cup D20-2 Silicone	0101124



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 section Suction cups/grippers Fittings.

D30-2



Deep suction cup

- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
14.0	26	31	—	—	—	5.0	13	5.0	4.0

Material specifications

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

Material resistance

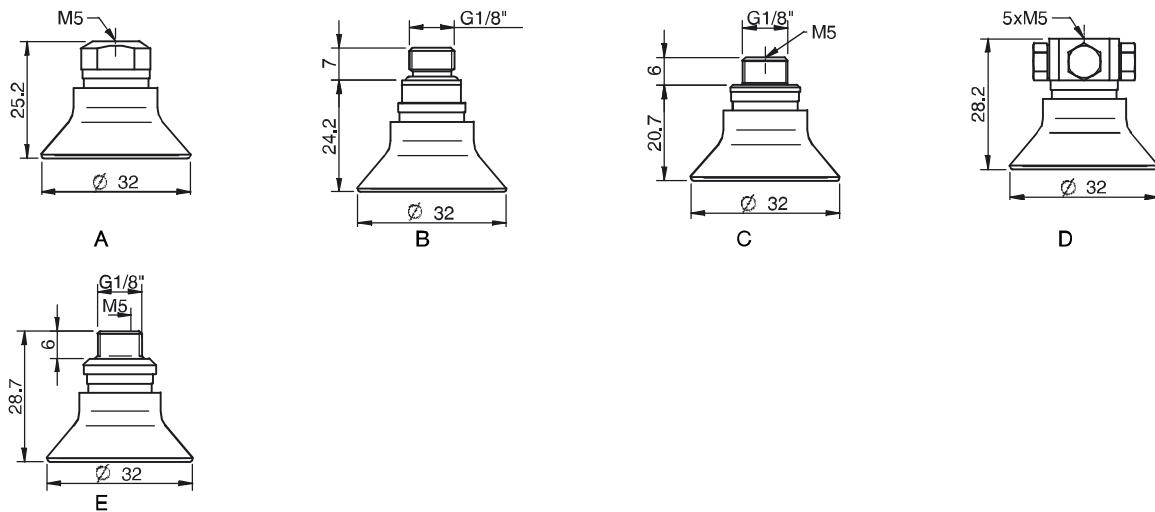
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Suction cups/grippers Standard

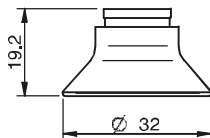


Ordering information

	Complete suction cups	Art. No.
A	Suction cup D30-2 Chloroprene, M5 female	0101237
B	Suction cup D30-2 Chloroprene, G1/8" male, with mesh filter	0101238
B	Suction cup D30-2 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101244
C	Suction cup D30-2 Chloroprene, G1/8" male/M5 female, with mesh filter	0101242
C	Suction cup D30-2 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101246
A	Suction cup D30-2 Silicone, M5 female	0101248
B	Suction cup D30-2 Silicone, G1/8" male, with mesh filter	0101249
C	Suction cup D30-2 Silicone, G1/8" male/M5 female, with mesh filter	0101253
D	Suction cup D30-2 Silicone, 5xM5 female	0101252
E	Suction cup D30-2 Silicone, G1/8" male/M5 female, PA	0110332



Rubber parts	Art. No.
Suction cup D30-2 Chloroprene	0101125
Suction cup D30-2 Silicone	0101126



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 section Suction cups/grippers Fittings.

D50



Deep suction cup

- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	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	78	98	—	—	—	15	25	10	18

Material specifications

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

Material resistance

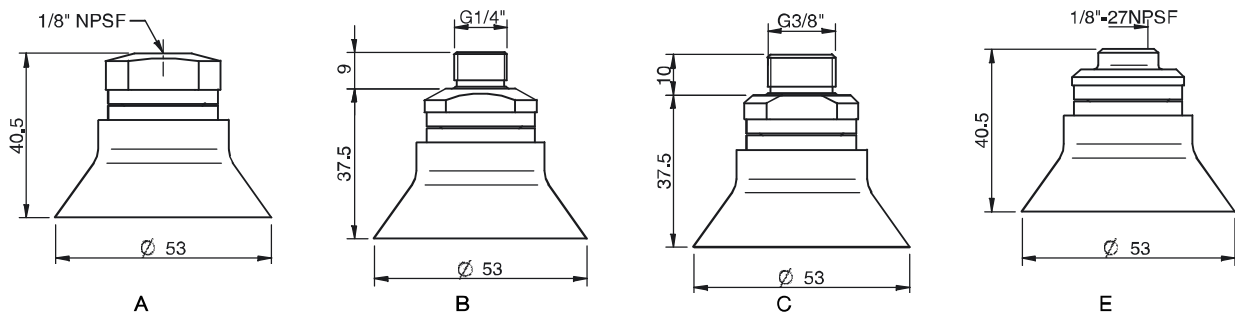
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Suction cups/grippers Standard

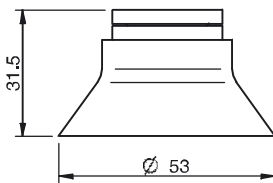


Ordering information

	Complete suction cups	Art. No.
A	Suction cup D50 Chloroprene, 1/8" NPSF female, with mesh filter	0101727
B	Suction cup D50 Chloroprene, G1/4" male, with mesh filter	0101722
C	Suction cup D50 Chloroprene, G3/8" male, with mesh filter	0101724
A	Suction cup D50 Silicone, 1/8" NPSF female, with mesh filter	0101740
B	Suction cup D50 Silicone, G1/4" male, with mesh filter	0101735
C	Suction cup D50 Silicone, G3/8" male, with mesh filter	0101737
E	Suction cup D50 Chloroprene, 1/8" NPSF female, PA	0109841



	Rubber parts	Art. No.
	Suction cup D50 Chloroprene	0101127
	Suction cup D50 Silicone	0101128



	Fittings	Art. No
	Fitting 1/8" NPSF female, 50, with mesh filter	0101154
	Fitting 1/8" NPSF female, 50, with dual flow control valve	3251012
	Fitting G1/4" male, 50, with mesh filter	3250092
	Fitting G1/4" male, with mesh filter and dual flow control valve	3251013
	Fitting G3/8" male, 50, with mesh filter	3250087
	Fitting G3/8" male, 50, with mesh filter and dual flow control valve	3251015
	Fitting 5x1/8" NPSF female, 50	0100262
	Fitting 5x1/8" NPSF female, 50, with dual flow control valve	3251017
	Fitting 1/8" NPSF female, 50, PA	3150198

For further information and dimensioned drawings, see section Suction cups/grippers Fittings.

D15-2 FDA



Deep suction cup

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	mm	mm	g
2.9	7.8	11.0	—	—	—	0.9	6.0	3.0	1.2

Material specifications

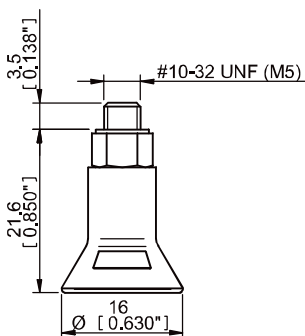
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40-200

Material resistance

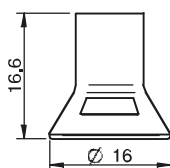
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

Complete suction cups	Art. No.
Suction cup D15-2 Silicone FDA, M5 male	9909674



Rubber parts	Art. No.
Suction cup D15-2 Silicone FDA	0200266



Fittings	Art. No.
Fitting M5 male, 10-15	3107030

For further information and dimensioned drawings, see section Suction cups/grippers Fittings.

D20-2 FDA



Deep suction cup

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
5.9	15.0	18.0	—	—	—	2.5	8.0	4.5	2.2

Material specifications

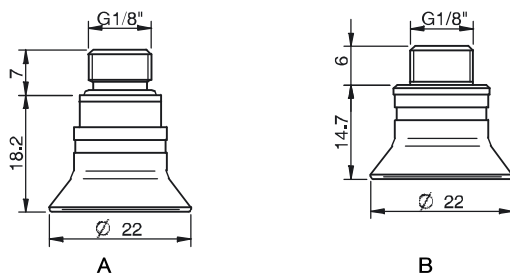
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

Material resistance

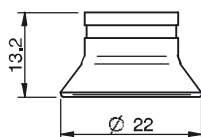
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup D20-2 Silicone FDA, G1/8" male, with mesh filter	9909712
B	Suction cup D20-2 Silicone FDA, G1/8" male/M5 female, with mesh filter	9909713



Rubber parts	Art. No.
Suction cup D20-2 Silicone FDA	0200444



Fittings	Art. No.
Fitting G1/8" male, with mesh filter	3250085
Fitting G1/8" male/M5 female, with mesh filter	0101152

For further information and dimensioned drawings, see section Suction cups/grippers Fittings.

D30-2 FDA



Deep suction cup

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
14.0	26	31	—	—	—	5.0	13	5.0	4.0

Material specifications

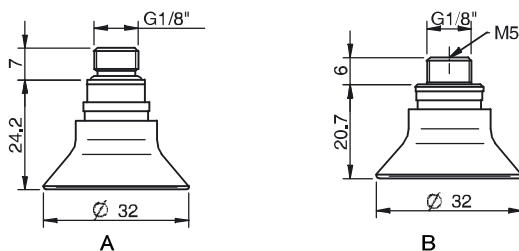
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

Material resistance

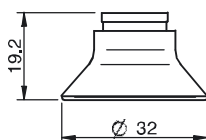
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup D30-2 Silicone FDA, G1/8" male, with mesh filter	9909714
B	Suction cup D30-2 Silicone FDA, G1/8" male/M5 female, with mesh filter	9909715



Rubber parts	Art. No.
Suction cup D30-2 Silicone FDA	0200446



Fittings	Art. No.
Fitting G1/8" male, with mesh filter	3250085
Fitting G1/8" male/M5 female, with mesh filter	0101152

For further information and dimensioned drawings, see section Suction cups/grippers Fittings.

D50 FDA



Deep suction cup

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for objects with curved or irregular surfaces.
- ▶ Grips around corners and edges.

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 ³	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	78	98	—	—	—	15	25	10	18

Material specifications

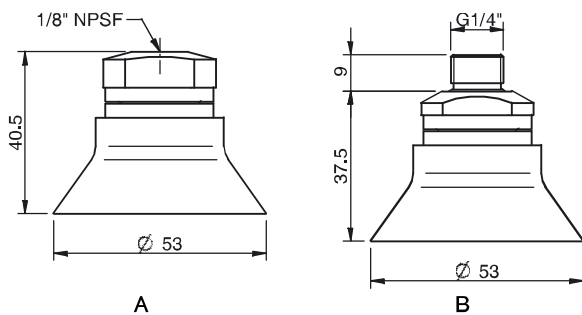
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

Material resistance

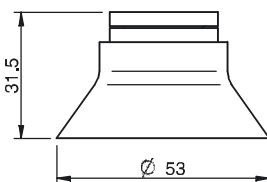
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup D50 Silicone FDA, 1/8" NPSF female, with mesh filter	9909676
B	Suction cup D50 Silicone FDA, G1/4" male, with mesh filter	9909675



Rubber parts	Art. No.
Suction cup D50 Silicone FDA	0200445



Fittings	Art. No.
Fitting 1/8" NPSF female, 50, with mesh filter	0101154
Fitting G1/4" male, 50, with mesh filter	3250092

For further information and dimensioned drawings, see section Suction cups/grippers Fittings.