# Universal family (U)



This family is designed for flat or slightly curved surfaces. They are available in a number of different materials such as DURAFLEX® silicone and also a material that is compliant by FDA (FDA 21 CFR 177.2600) and meets EU's regulation EU 1935/2004.

# **Lifting forces**

	Lifting force v at vacuum lev	ertical to the surface rel	, N,	Lifting force parallell to the surface, N, at vacuum level				
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 <b>-</b> kPa		
U2	0.03	0.1	0.15	<b> </b> –	<b> </b> –	-		
U3	0.09	0.42	0.65	_	_	_		
U4	0.2	0.9	1.3	0.2	0.8	1		
U6	0.5	1.7	2.5	0.5	1.5	2		
U8	1	2.9	3.9	1	2.9	3.4		
U10	1.5	4.4	6.9	1.5	4.4	4.9		
U15	3.5	8.4	11	3.5	5.4	5.9		
U20	5.9	12	16	5.9	8.8	9.8		
U30	12	25	30	7.8	9.8	11		
U40-2	20	39	49	14	22	27		
U50-2	35	73	92	20	37	44		
U15-3	3.5	8.4	11	3.5	5.4	5.9		
U20-2P	3/3/3*	10.5/11.5/14*	14/15/21*	1.5/1.5/3*	3/3/6*	6/6/8*		

<sup>\*</sup> PU40° / PU50° / PU60°.

# **General specifications**

	Outer diameter, mm	Height, mm	Min. curve radius, mm	Max. vertical movement, mm	Volume, cm³
U2	2.6	3.5	4	0.1	0.003
U3	3.8	4.5	5	0.15	0.005
U4	5	6.1	3	0.2	0.03
U6	7	7	5	0.3	0.05



	Outer diameter, mm	Height, mm	Min. curve radius, mm	Max. vertical movement, mm	Volume, cm³
U8	9	7	6	0.5	0.1
U10	11	10.5	8	0.5	0.18
U15	16.5	11.5	8	1.5	0.5
U20	22	8	13	2.5	1
U30	32	9.5	20	3.5	2
U40-2	41	13	30	4.5	5.5
U50-2	51.4	17.5	35	6	12
U15-3	16.5	11.5	8	1.5	0.5
U20-2P	8.7	14	9/9/12*	5	0.7

<sup>\*</sup> PU40° / PU50° / PU60°.

# **Available materials**

	Chloroprene, CR	Conductive Silicone, CSIL	HNBR	Nitrile-PVC, NPV	PU40°	PU50°	PU60°	Silicone, SIL	Silicone, SIL FDA EU
U2									
U3									
U4	•							•	•
U6			•					•	
U8								•	
U10								•	
U15			•					•	
U20	•		•					•	
U30				•				•	
U40-2				•				•	
U50-2				•				•	•
U15-3								•	
U20-2P						•			

# **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	Electronic / semicondu- ctor	Plastic injection molded parts	Mark Free	High/low temp cup (plastic)	Glass handling	Bag ope- ning/thin paper - slip sheets/film
U2			•					
U3			•					
U4	•	•		•				
U6	•	•		•	•			



	Dry sheet metal	FDA EU- standard compliant	Electronic / semicondu- ctor	Plastic injection molded parts	Mark Free	High/low temp cup (plastic)	Glass handling	Bag ope- ning/thin paper - slip sheets/film
U8	•	•		•				
U10		•		•	•	•	•	
U15		•		•	•	•	•	
U20		•		•	•	•	•	
U30	•	•		•				
U40-2	•	•		•				
U50-2	•	•		•				
U15-3								•
U20-2P					•			•

# **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.







### Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.
- ➤ Suction cups of conductive silicone are suitable for objects with sensitivity to static electricity.

# Lifting forces & Technical data

		force vertica , N, at vacuu		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	cm³	mm	mm	g
ĺ	0.03	0.10	0.15	_	_	_	0.003	4.0	0.10	0.012

### **Material specifications**

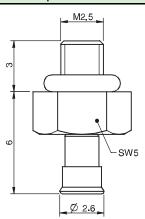
Material	Colour	Hardness ∘Shore A	Temperature range °C
Conductive silicone, CSIL	Black	50	-55–230

### **Material resistance**

Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### **Ordering information**

Complete suction cups	Art. No.
Suction cup U2 Conductive silicone, M2.5 male	3250080SC



Rubber parts	Art. No.
Suction cup U2 Conductive silicone	3150284SC



Fittings						Art. No.
Fitting M2.5 male						3250084





### Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.
- ➤ Suction cups of conductive silicone are suitable for objects with sensitivity to static electricity.

# 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	cm³	mm	mm	g
i	0.09	0.42	0.65	_	_	_	0.005	5.0	0.15	0.030

### **Material specifications**

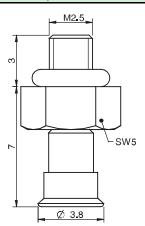
Material	Colour	Hardness ∘Shore A	Temperature range °C
Conductive silicone, CSIL	Black	50	-55–230

### **Material resistance**

Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### **Ordering information**

Complete suction cups	Art. No.
Suction cup U3 Conductive silicone, M2.5 male	3250081SC



Rubber parts	Art. No.
Suction cup U3 Conductive silicone	3150285SC



Fittings	Art. No.
Fitting M2.5 male	3250084





### Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# 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
0.20	0.90	1.3	0.20	0.80	1.0	0.03	3.0	0.20	0.08

# **Material specifications**

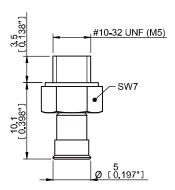
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200

#### **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 U4 Chloroprene, M5 male	3150059
Suction cup U4 Silicone, M5 male	3150059S



Rubber parts	Art. No.
Suction cup U4 Chloroprene	3150114
Suction cup U4 Silicone	3150114S



Fittings	Art. No.
Fitting M5 male, 5–8	3107031





### Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# Lifting forces & Technical data

	force vertica , N, at vacuu		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
0.50	1.7	2.5	0.50	1.5	2.0	0.05	5.0	0.30	0.14

### **Material specifications**

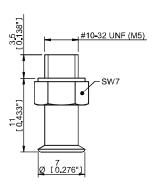
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200

#### **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 U6 Chloroprene, M5 male	3150003
Suction cup U6 Silicone, M5 male	3150003S



Rubber parts	Art. No.
Suction cup U6 Chloroprene	3150115
Suction cup U6 Silicone	3150115S



Fittings	Art. No.
Fitting M5 male, 5-8	3107031





### Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

### Lifting forces & Technical data

	ng force vertica ice, N, at vacui		Lifting force parallel to the surface, N, at vacuum level			Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kP	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm	mm	mm	g
1.0	2.9	3.9	1.0	2.9	3.4	0.10	6.0	0.50	0.16

### **Material specifications**

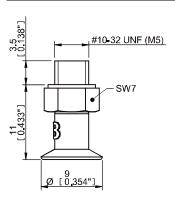
Material	Colour	Hardness ∘Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200

### **Material resistance**

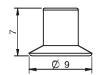
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

# **Ordering information**

Complete suction cups	Art. No.
Suction cup U8 Chloroprene, M5 male	3150004
Suction cup U8 Silicone, M5 male	3150004S



Rubber parts	Art. No.
Suction cup U8 Chloroprene	3150116
Suction cup U8 Silicone	3150116S



Fittings	Art. No.
Fitting M5 male, 5–8	3107031



# **U10**



# Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# 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	cm³	mm	mm	g
1.5	4.4	6.9	1.5	4.4	4.9	0.18	8.0	0.50	0.65

# **Material specifications**

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200
HNBR	Blue	50	-30-140*

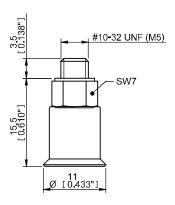
<sup>\*</sup>For a shorter period of time up to 160 °C

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
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

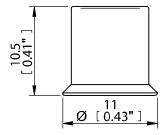


# **Ordering information**

Complete suction cups	Art. No.
Suction cup U10 Chloroprene, M5 male	3150005
Suction cup U10 Silicone, M5 male	3150005S
Suction cup U10 HNBR, M5 male	9906863



Rubber parts	Art. No.
Suction cup U10 Chloroprene	3150117
Suction cup U10 Silicone	3150117S
Suction cup U10 HNBR	0128689



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



# **U15**



# Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# 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	cm³	mm	mm	g
3.5	8.4	11.0	3.5	5.4	5.9	0.50	8.0	1.5	0.70

# **Material specifications**

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200
HNBR	Blue	50	-30-140*

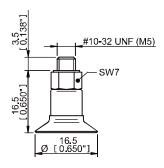
<sup>\*</sup>For a shorter period of time up to 160 ℃

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
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

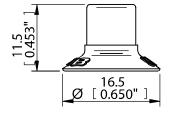


# **Ordering information**

Complete suction cups	Art. No.
Suction cup U15 Chloroprene, M5 male	3150006
Suction cup U15 Silicone, M5 male	3150006S
Suction cup U15 HNBR, M5 male	9906864



Rubber parts	Art. No.
Suction cup U15 Chloroprene	3150118
Suction cup U15 Silicone	3150118S
Suction cup U15 HNBR	0128690



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



# U15-3



# Universal suction cup with reinforced lip

- ► Wide temperature range (-60°C to +200°C)
- ► Reinforced lip

### 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
3.5	8.4	11.0	3.5	5.4	5.9	0.50	8.0	1.5	0.70

### **Material specifications**

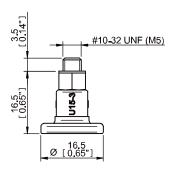
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL	Red	40	-40–200

#### **Material resistance**

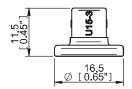
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### **Ordering information**

Complete suction cup	Art. No.
Suction cup U15-3 Silicone, M5 male	0117947



Rubber part	Art. No.
Suction cup U15-3 Silicone	0114981



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



# **U20**



# Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# 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	cm³	mm	mm	g
5.9	12.0	16.0	5.9	8.8	9.8	1.0	13.0	2.5	1.2

# **Material specifications**

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40–110
Silicone, SIL	Red	50	-40–200
HNBR	Blue	50	-30-140*

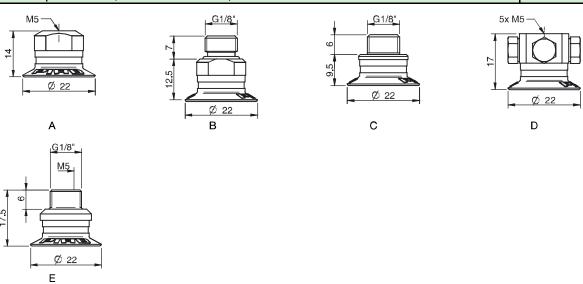
<sup>\*</sup>For a shorter period of time up to 160 °C

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
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

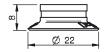


# **Ordering information**

	Complete suction cups	Art. No.
Α	Suction cup U20 Chloroprene, M5 female	0101373
Α	Suction cup U20 Chloroprene, M5 female, with dual flow control valve	0101379
В	Suction cup U20 Chloroprene, G1/8" male, with mesh filter	0101374
В	Suction cup U20 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101380
С	Suction cup U20 Chloroprene, G1/8" male/M5 female, with mesh filter	0101378
С	Suction cup U20 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101382
D	Suction cup U20 Chloroprene, 5xM5 female	0101377
Α	Suction cup U20 Silicone, M5 female, with dual flow control valve	0101390
В	Suction cup U20 Silicone, G1/8" male, with mesh filter	0101385
В	Suction cup U20 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101391
С	Suction cup U20 Silicone, G1/8" male/M5 female, with mesh filter	0101389
D	Suction cup U20 Silicone, 5xM5 female	0101388
D	Suction cup U20 Silicone, 5xM5 female, with dual flow control valve	0101394
Α	Suction cup U20 HNBR, M5 female	9906867
Α	Suction cup U20 HNBR, M5 female, with dual flow control valve	9906868
В	Suction cup U20 HNBR, G1/8" male, with mesh filter	9906869
В	Suction cup U20 HNBR, G1/8" male, with mesh filter and dual flow control valve	9906870
С	Suction cup U20 HNBR, G1/8" male/M5 female, with mesh filter	9907052
С	Suction cup U20 HNBR, G1/8" male/M5 female, with dual flow control valve	9906872
D	Suction cup U20 HNBR, 5xM5 female	9906890
D	Suction cup U20 HNBR, 5xM5 female, with dual flow control valve	9906891
Ε	Suction cup U20 Chloroprene, G1/8" male/M5 female, PA	0110956
Е	Suction cup U20 Silicone, G1/8" male/M5 female, PA	0110328



Rubber parts	Art. No.
Suction cup U20 Chloroprene	0101144
Suction cup U20 Silicone	0101145
Suction cup U20 HNBR	0128711





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



# **U30**



# Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			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
12.0	25.0	30	7.8	9.8	11.0	2.0	20.0	3.5	1.8

# **Material specifications**

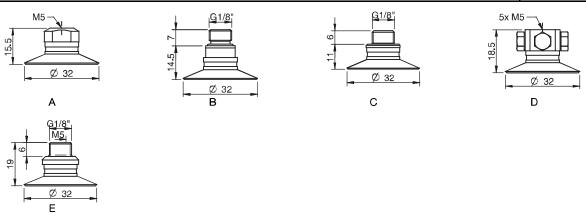
Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0–90
Silicone, SIL	Red	50	-40–200

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

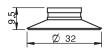


# **Ordering information**

	Complete suction cups	Art. No.
Α	Suction cup U30 Nitrile-PVC, M5 female	0101406
В	Suction cup U30 Nitrile-PVC, G1/8" male, with mesh filter	0101407
В	Suction cup U30 Nitrile-PVC, G1/8" male, with mesh filter and dual flow control valve	0101413
С	Suction cup U30 Nitrile-PVC, G1/8" male / M5 female, with mesh filter	0101411
С	Suction cup U30 Nitrile-PVC, G1/8" male / M5 female, with dual flow control valve	0101415
Α	Suction cup U30 Silicone, M5 female, with mesh filter	0101395
В	Suction cup U30 Silicone, G1/8" male, with mesh filter	0101396
В	Suction cup U30 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101402
С	Suction cup U30 Silicone, G1/8" male / M5 female, with mesh filter	0101400
D	Suction cup U30 Silicone, 5xM5 female, with mesh filter	0101399
Е	Suction cup U30 Nitrile-PVC, G1/8" male / M5 female, PA	0109839



Rubber parts	Art. No.
Suction cup U30 Nitrile-PVC	0101146
Suction cup U30 Silicone	0101147



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



# U40-2



# Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
20.0	39	49	14.0	22.0	27	5.5	30	4.5	4.0

# **Material specifications**

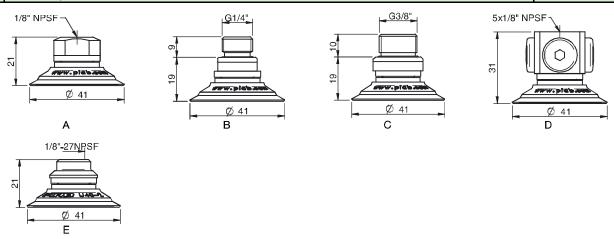
Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0–90
Silicone, SIL	Red	50	-40–200

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

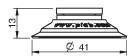


# **Ordering information**

	Complete suction cups	Art. No.
	Suction cup U40-2 Nitrile-PVC, 1/8" NPSF female, with mesh filter	0101623
В	Suction cup U40-2 Nitrile-PVC, G1/4" male, with mesh filter	0101618
В	Suction cup U40-2 Nitrile-PVC, G1/4" male, with mesh filter and dual flow control valve	0101625
С	Suction cup U40-2 Nitrile-PVC, G3/8" male, with dual flow control valve	0101627
Α	Suction cup U40-2 Silicone, 1/8" NPSF female, with mesh filter	0101610
В	Suction cup U40-2 Silicone, G1/4" male, with mesh filter	0101605
С	Suction cup U40-2 Silicone, G3/8" male, with mesh filter	0101607
D	Suction cup U40-2 Silicone, 5x1/8" NPSF female	0101609
Е	Suction cup U40-2 Silicone, 1/8" NPSF female, PA	0110338



Rubber parts	Art. No.
Suction cup U40-2 Nitrile-PVC	0101148
Suction cup U40-2 Silicone	0101149



Fittings	Art. No
Fitting 1/8" NPSF female, 30–40, with mesh filter	0101153
Fitting 1/8" NPSF female, 30–40, with dual flow control valve	3251006
Fitting G1/4" male, 30–40, with mesh filter	3250091
Fitting G1/4" male, 30–40, with mesh filter and dual flow control valve	3251007
Fitting G3/8" male, 30–40, with mesh filter	3250086
Fitting G3/8" male, 30–40, with mesh and dual flow control valve	3251009
Fitting 5x1/8" NPSF female, 30–40	0100261
Fitting 5x1/8" NPSF female, 30–40, with dual flow control valve	3251011
Fitting 1/8" NPSF female, 30–40, PA	3150197



# U50-2



# Universal suction cup

- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

# Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			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
35	73	92	20	37	44	12	35	6.0	10.0

# **Material specifications**

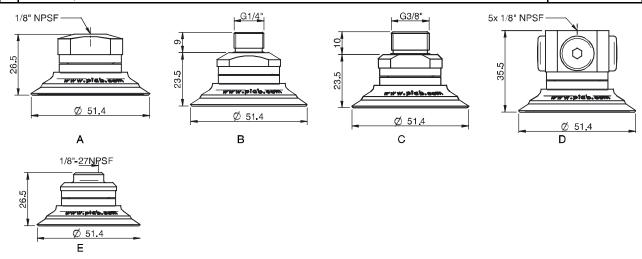
Material	Colour	Hardness °Shore A	Temperature range °C
Nitrile-PVC, NPV	Black	50	0–90
Silicone, SIL	Red	50	-40–200

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

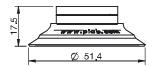


# **Ordering information**

	Complete suction cups	Art. No
Α	Suction cup U50-2 Nitrile-PVC, 1/8" NPSF female, with mesh filter	0101823
В	Suction cup U50-2 Nitrile-PVC, G1/4" male, with mesh filter	0101818
С	Suction cup U50-2 Nitrile-PVC, G3/8" male, with mesh filter	0101820
D	Suction cup U50-2 Nitrile-PVC, 5x1/8" NPSF female	0101822
Α	Suction cup U50-2 Silicone, 1/8" NPSF female, with mesh filter	0101810
Α	Suction cup U50-2 Silicone, 1/8" NPSF female, with dual flow control valve	0101811
В	Suction cup U50-2 Silicone, G1/4" male, with mesh filter	0101805
С	Suction cup U50-2 Silicone, G3/8" male, with mesh filter	0101807
С	Suction cup U50-2 Silicone, G3/8" male, with mesh filter and dual flow control valve	0101814
E	Suction cup U50-2 Silicone, 1/8" NPSF female, PA	0110330



Rubber parts	Art. No.
Suction cup U50-2 Silicone	0101151
Suction cup U50-2 Nitrile-PVC	0101150



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

# Suction cups/grippers DURAFLEX® Single and dual



# U20-2P



### Universal suction cup

- ► Long life time suction cup
- ► Suitable for several book binding applications
- ► Easy to handle different paper qualities due to the possibilities to order the U20-2P in three different shore
- ▶ DURAFLEX® are suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.

### Lifting forces & Technical data

Material	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	cm³	mm	mm	g
PU40	3	10.5	14	1.5	3	6	0.7	9	5	1.7
PU50	3	11.5	15	1.5	3	6	0.7	9	5	1.7
PU60	3	14	21	3	6	8	0.7	12	5	1.7

### **Material specifications**

Material	Color	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU50	Blue transparent	50	<b>10–</b> 50
Polyurethane, PU60	Green transparent	60	10–50

Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

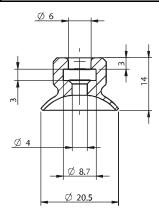
<sup>\*\*</sup>Please contact Piab.

# Suction cups/grippers DURAFLEX® Single and dual



# **Ordering information**

Rubber parts	Art. No.
Suction cup U20-2P Polyurethane 40	0119994
Suction cup U20-2P Polyurethane 50	0119995
Suction cup U20-2P Polyurethane 60	0119996





# **U4 FDA**



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
0.20	0.90	1.3	0.20	0.80	1.0	0.03	3.0	0.20	0.08

### **Material specifications**

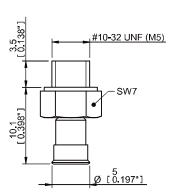
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **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 U4 Silicone FDA, M5 male	9909632



Rubber parts	Art. No.
Suction cup U4 Silicone FDA	0200254



Fittings	Art. No.
Fitting M5 male, 5–8	3107031



# **U6 FDA**



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# 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	cm³	mm	mm	g
0.50	1.7	2.5	0.50	1.5	2.0	0.05	5.0	0.30	0.14

### **Material specifications**

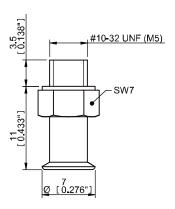
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **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 U6 Silicone FDA, M5 male	9909633



Rubber parts	Art. No.
Suction cup U6 Silicone FDA	0200255



Fittings	Art. No.
Fitting M5 male, 5–8	3107031



# **U8 FDA**



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
1.0	2.9	3.9	1.0	2.9	3.4	0.10	6.0	0.50	0.16

### **Material specifications**

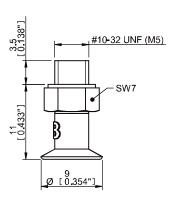
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **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 U8 Silicone FDA, M5 male	9909634



Rubber parts	Art. No.
Suction cup U8 Silicone FDA	0200256



Fittings						Art. No.
Fitting M5 male, 5-8						3107031
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# U10 FDA



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# Lifting forces & Technical data

		force vertica , N, at vacuเ			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20	0 -kPa	60 -kPa	90 -kPa	20 -kPa	20 -kPa   60 -kPa   90 -kPa		cm³	mm	mm	g
	1.5	4.4	6.9	1.5	4.4	4.9	0.18	8.0	0.50	0.65

### **Material specifications**

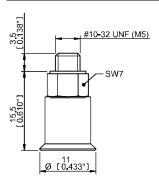
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **Material resistance**

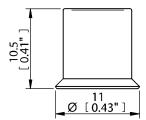
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

# **Ordering information**

Complete suction cups	Art. No.
Suction cup U10 Silicone FDA, M5 male	9909635



Rubber parts	Art. No.
Suction cup U10 Silicone FDA	0200257



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



# U15 FDA



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# Lifting forces & Technical data

	ng force vertical to ace, N, at vacuum			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
3.5	8.4	11.0	3.5	5.4	5.9	0.50	8.0	1.5	0.70

### **Material specifications**

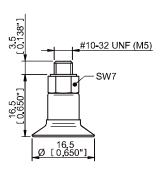
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **Material resistance**

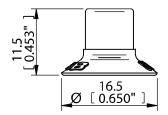
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

# **Ordering information**

Complete suction cups	Art. No.
Suction cup U15 Silicone FDA, M5 male	9909636



Rubber parts	Art. No.
Suction cup U15 Silicone FDA	0200258



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



# U20 FDA



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
5.9	12.0	16.0	5.9	8.8	9.8	1.0	13.0	2.5	1.2

### **Material specifications**

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

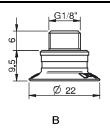
#### **Material resistance**

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

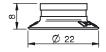
# **Ordering information**

	Complete suction cups	Art. No.
Α	Suction cup U20 Silicone FDA, G1/8" male, with mesh filter	9909717
В	Suction cup U20 Silicone FDA, G1/8" male/M5 female, with mesh filter	9909718





Rubber parts	Art. No.
Suction cup U20 Silicone FDA	0200440



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



# U30 FDA



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

### Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			orce paral e, N, at val level		Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
12.0	25.0	30	7.8	9.8	11.0	2.0	20.0	3.5	1.8

### **Material specifications**

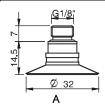
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

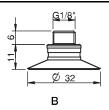
#### **Material resistance**

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

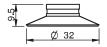
# **Ordering information**

	Complete suction cups	Art. No.
Α	Suction cup U30 Silicone FDA, G1/8" male, with mesh filter	9909720
В	Suction cup U30 Silicone FDA, G1/8" male / M5 female, with mesh filter	9909721





Rubber parts	Art. No.	
Suction cup U30 Silicone FDA	0200441	



Fitting G1/8" male, with mesh filter	Art. No.
Titting Cityo Titalo, With most littor	3250085
Fitting G1/8" male/M5 female, with mesh filter 01	0101152



# **U40-2 FDA**



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- Also used for concave objects.

# Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level				Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
20.0	39	49	14.0	22.0	27	5.5	30	4.5	4.0

### **Material specifications**

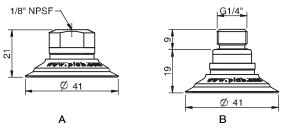
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **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.
Α	Suction cup U40-2 Silicone FDA, 1/8" NPSF female, with mesh filter	9909723
В	Suction cup U40-2 Silicone FDA, G1/4" male, with mesh filter	9909722



Rubber parts	Art. No.
Suction cup U40-2 Silicone FDA	0200442



Fittings	Art. No
Fitting 1/8" NPSF female, 30–40, with mesh filter	0101153
Fitting G1/4" male, 30–40, with mesh filter	3250091



# **U50-2 FDA**



### Universal suction cup

- ► The silicone material complies with FDA 21 CFR 177.2600.
- Suitable for objects with flat or slightly curved surfaces.
- ► Also used for concave objects.

### Lifting forces & Technical data

	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm³	mm	mm	g
35	73	92	20	37	44	12	35	6.0	10.0

### **Material specifications**

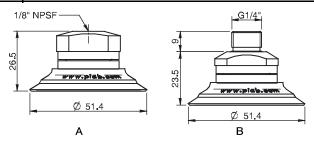
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### **Material resistance**

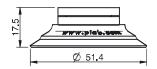
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

# **Ordering information**

	Complete suction cups	Art. No
Α	Suction cup U50-2 Silicone FDA, 1/8" NPSF female, with mesh filter	9909726
В	Suction cup U50-2 Silicone FDA, G1/4" male, with mesh filter	9909725



Rubber parts	Art. No.
Suction cup U50-2 Silicone FDA	0200443



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