

## Bellows family (B)



The bellows family is suitable for height differences and slightly uneven or curved surfaces. Several short bellows cups in one lifting device can handle objects with height differences and varying shapes. The bellows also provide a slight lifting movement to separate thin items. This family is available, among other material in FDA compliant material, or the durable DURAFLEX® as Mark Free or even for oily surfaces.

### 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
B5	0.3	0.8	1	—	—	—
B8	0.8	1.6	2.5	—	—	—
B10-2	1.5	3.4	4.9	—	—	—
B15-2	2.9	5.9	8.9	—	—	—
B20	5.9	9.8	14	—	—	—
B30	12	22	27	—	—	—
B30-2	12	22	27	—	—	—
B40	22	39	49	—	—	—
B50	33	65	82	—	—	—
B50-2	33	65	82	—	—	—
B75	74	167	226	—	—	—
B75-2	74	167	226	—	—	—
B110	137	343	461	—	—	—
B110-2	137	343	461	—	—	—
B150	294	686	883	—	—	—
B75P	61/83*	149/196*	202/255*	44/121*	96/229*	114/298*
B10XP	2.6/3.1*	3.8/4.6*	4.5/5.5*	1/1*	2/2.5*	2.5/3*
B15XP	5/6*	9/10*	11/12*	2.5/2.5*	5/5*	8/9*
B20XP	7.8/8.7*	15/19.7*	20/23*	3.5/7*	7/11*	10/15*
B25XP	9.7/12*	19/27*	22/30*	8/10*	12/13*	15/18*
B35XP	17/19*	39/48*	50/66*	15/17*	30/33*	40/50*
B52XP	36/42.5*	84/109*	102/150*	30/39*	60/70*	85/90*

	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
B75XP	75/86*	176/222*	228/307*	60/80*	150/200*	180/230*
B110XP	190/200*	380/440*	470/500*	170/190*	350/380*	430/460*
B15MF	4	8	12	4.5	7	10
B20MF	4.5	15.5	21	6.3	11	19
B30MF	12	40	54.5	14.5	32	41
B40MF	18	57	72	13.6	40	47
B50MF	30	93	136	23	63	97
BF80P	73/98**	157/225**	196/294**	54/68**	88/127**	117/166**
BF110P	128/161*	229/334*	225/293*	106/123*	210/231*	246/305*
BFF30P	—	24/23***	27/30***	—	11/5.5***	13.5/7.8***
BFF40P	—	43/45***	56/60***	—	60/35***	81/45***
BFF60P	—	77/82***	112/106***	—	90/76***	122/93***
BFF80P	—	176/174***	236/207***	—	201/110***	240/160***
BFF110P	—	279/284***	377/345***	—	298/235***	346/253***

\* PU30°/PU60° / PU60°, \*\* PU30°/PU50° / PU60°, \*\*\* Dry metal sheet/Oily metal sheet.

## General specifications

	Outer diameter, mm	Height, mm	Min. curve radius, mm	Max. vertical movement, mm	Volume, cm <sup>3</sup>
B5	5.6	9.2	1.5	1.5	0.05
B8	8.8	11.9	1.9	3.5	0.15
B10-2	11	16.4	4	4.5	0.48
B15-2	15.7	19.8	5	6.5	1.1
B20	22	19	10	10	2.7
B30	34	26	15	15	10
B30-2	34	26.2	15	15	10
B40	43	28	20	12	15
B50	53	35.3	30	19	32
B50-2	53	35.4	30	19	32
B75	78	37.3	40	24	110
B75-2	78	37	40	24	110
B110	115	54.3	60	35	310
B110-2	115	54.3	60	35	310
B150	155	71.3	75	45	650
B75P	79	37.3	90	20	110
B10XP	11	13.9	4/6**	3	0.19
B15XP	16	14.8	5.5/10**	3.4	0.4
B20XP	21	10.4	5.5/9**	4.6	1.04
B25XP	26	13.5	11/9**	5.5	1.63
B35XP	37	18.6	17.5/16**	9.5	4.4
B52XP	53	27	29/25**	11.2	13.3
B75XP	77.5	34.3	60/50**	16	42.8
B110XP	113.7	48.5	90/80**	23.4	123

	Outer diameter, mm	Height, mm	Min. curve radius, mm	Max. vertical movement, mm	Volume, cm <sup>3</sup>
B15MF	16	19.5	11	2	1.1
B20MF	23	19	11	8	3.7
B30MF	34	26	16.5	12	10
B40MF	43	28	22	11	15
B50MF	57	35	26	13	32
BF80P	84	44	50	15	40
BF110P	115	53	55/70*	24	110
BFF30P	30	30	15	5	5
BFF40P	45	32–51.5***	23	7	10
BFF60P	61	36–55.3***	35	10	20
BFF80P	85	46–55.8***	50	14	50
BFF110P	115	53–72.5***	95	21	110

\* PU30° / PU30°/PU60°, \*\* PU30°/PU60° / PU60°, \*\*\* Height range includes fittings.

## Available materials

	Chloroprene, CR	Conductive silicone, CSIL	HNBR	Nitrile-PVC, NPV	PU30°/PU50°	PU30°/PU60°	PU55°/PU60°	PU60°	Semi-conductive EPDM	Silicone, SIL	Silicone FDA EU, SIL FDA	TPE-U
B5	●	●	●						●	●	●	
B8	●	●	●							●	●	
B20			●								●	
B40			●								●	
B50			●								●	
B75			●	●						●	●	
B110			●	●						●	●	
B150				●						●	●	
B10-2	●		●							●	●	
B15-2	●		●							●	●	
B30-2			●								●	
B50-2											●	
B75-2				●						●	●	
B110-2				●						●	●	
B75P						●		●				
B10XP						●		●				
B15XP						●		●				
B20XP						●		●				
B25XP						●		●				
B35XP						●		●				
B52XP						●		●				
B75XP						●		●				

	Chloroprene, CR	Conductive silicone, CSIL	HNBR	Nitrile-PVC, NPV	PU30°/PU50°	PU30°/PU60°	PU55°/PU60°	PU60°	Semi-conductive EPDM	Silicone, SIL	Silicone FDA EU, SIL FDA	TPE-U
B110XP						●		●				
B15MF												●
B20MF												●
B30MF												●
B40MF												●
B50MF												●
BF80P					●			●				
BF110P						●		●				
BFF30P							●					
BFF40P							●					
BFF60P							●					
BFF80P							●					
BFF110P							●					

### 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](http://piab.com).

	Oily sheet metal	Dry sheet metal	Corrugated / cardboard	FDA EU-standard compliant	Glass handling	Electronic / semi-conductor	High/low temp cup (plastic)	Mark Free	Plastic injection molded parts
B5		●		●	●	●	●	●	●
B8		●		●	●	●	●	●	●
B20		●		●	●		●	●	●
B30		●							●
B40		●		●	●		●	●	●
B50		●		●	●		●	●	●
B75		●		●	●		●	●	●
B110		●		●				●	
B150		●		●					●
B10-2		●		●	●		●	●	●
B15-2		●		●	●		●	●	●
B30-2		●		●	●		●	●	●
B50-2		●		●					●

	Oily sheet metal	Dry sheet metal	Corrugated / cardboard	FDA EU-standard compliant	Glass handling	Electronic / semi-conductor	High/low temp cup (plastic)	Mark Free	Plastic injection molded parts
B75-2		●		●					●
B110-2		●		●					●
B10XP		●	●		●				●
B15XP		●	●		●				●
B20XP		●	●		●				●
B25XP		●	●		●				●
B35XP		●	●		●				●
B52XP		●	●		●				●
B75XP		●	●		●				●
B110XP		●	●		●				●
B75P		●						●	●
B15MF								●	
B20MF								●	
B30MF								●	
B40MF								●	
B50MF								●	
BF80P		●			●			●	
BF110P		●			●			●	
BFF30P	●								
BFF40P	●								
BFF60P	●								
BFF80P	●								
BFF110P	●								

## Fittings

For a table of possible fittings to use go to page 80, for technical information on all fittings visit [piab.com](http://piab.com).

## Ordering information

For a complete list of available cups and combinations with further information visit [piab.com](http://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.

## B5



### Suction cup with short bellows

- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.
- ▶ Suitable for level adjustment.
- ▶ 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 cm	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
0.30	0.80	1.0	—	—	—	0.05	1.5	1.5	0.11

### Material specifications

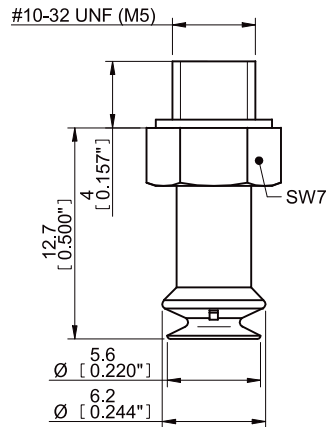
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40-110
Silicone, SIL	Red	50	-40-200
Conductive silicone, CSIL	Black	50	-55-230
Semi-conductive EPDM	Black	50	-40-120
HNBR	Blue	50	-30-140

### Material resistance

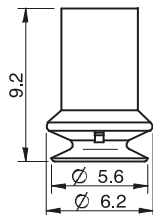
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
Conductive silicone, CSIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
Semi-conductive EPDM	Fair	Poor	Excellent	Good	Poor	Poor	Excellent	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B5 Chloroprene, M5 male	3250082
Suction cup B5 Silicone, M5 male	3250082S
Suction cup B5 Conductive silicone, M5 male	3250082SC



Rubber parts	Art. No.
Suction cup B5 Chloroprene	3150286
Suction cup B5 Silicone	3150286S
Suction cup B5 Conductive silicone	3150286SC



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

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

## B8



### Suction cup with short bellows

- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.
- ▶ Suitable for level adjustment.
- ▶ 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 cm	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
0.80	1.6	2.5	—	—	—	0.15	1.9	3.5	0.3

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	50	-40-110
Silicone, SIL	Red	50	-40-200
Conductive silicone, CSIL	Black	50	-55-230
HNBR	Blue	50	-30-140

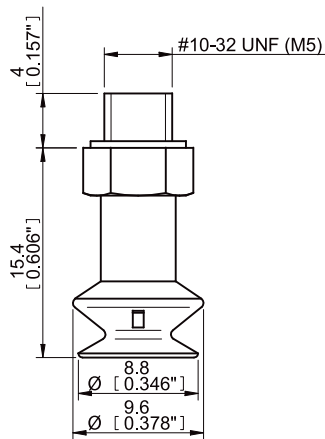
### Material resistance

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
Conductive silicone, CSIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

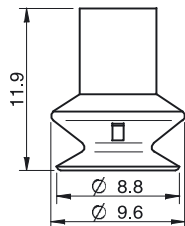


## Ordering information

Complete suction cups	Art. No.
Suction cup B8 Chloroprene, M5 male	3250083
Suction cup B8 Silicone, M5 male	3250083S
Suction cup B8 Conductive silicone, M5 male	3250083SC



Rubber parts	Art. No.
Suction cup B8 Chloroprene	3150287
Suction cup B8 Silicone	3150287S
Suction cup B8 Conductive silicone	3150287SC



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

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

## B10-2



### Suction cup with short bellows

- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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				
1.5	3.4	4.9	—	—	—	0.48	4.0	4.5	1.0

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40-110
Silicone, SIL	Red	50	-40-200
HNBR	Blue	50	-30-140*

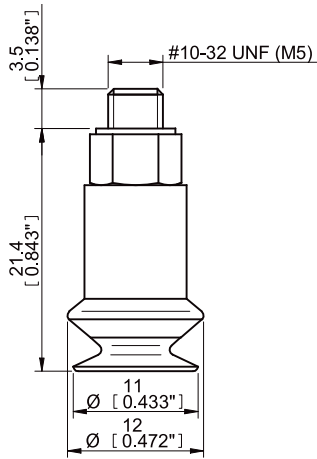
\*For a shorter period of time up to 160 °C

### Material resistance

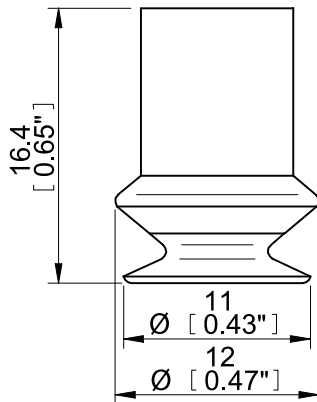
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B10-2 Chloroprene, M5 male	3150023
Suction cup B10-2 Silicone, M5 male	3150023S
Suction cup B10-2 HNBR, M5 male	9906865



Rubber parts	Art. No.
Suction cup B10-2 Chloroprene	3150101
Suction cup B10-2 Silicone	3150101S
Suction cup B10-2 HNBR	0128692



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

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

## B15-2



### Suction cup with short bellows

- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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				
2.9	5.9	8.9	—	—	—	1.1	5.0	6.5	1.5

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40-110
Silicone, SIL	Red	50	-40-200
HNBR	Blue	50	-30-140*

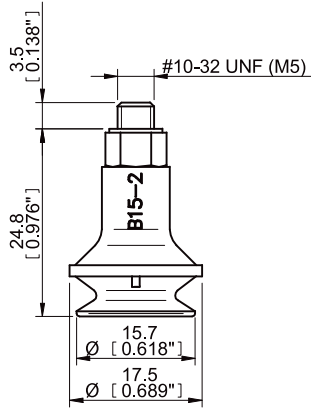
\*For a shorter period of time up to 160 °C

### Material resistance

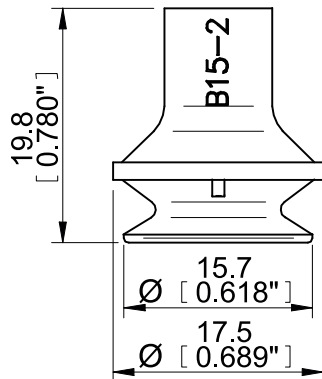
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B15-2 Chloroprene, M5 male	3250037
Suction cup B15-2 Silicone, M5 male	3250037S
Suction cup B15-2 HNBR, M5 male	9906866



Rubber parts	Art. No.
Suction cup B15-2 Chloroprene	3150230
Suction cup B15-2 Silicone	3150230S
Suction cup B15-2 HNBR	0128693



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

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

## B20



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
5.9	9.8	14	—	—	—	2.7	10	10	3.2

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40-110
Silicone, SIL	Red	50	-40-200
HNBR	Blue	50	-30-140*

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

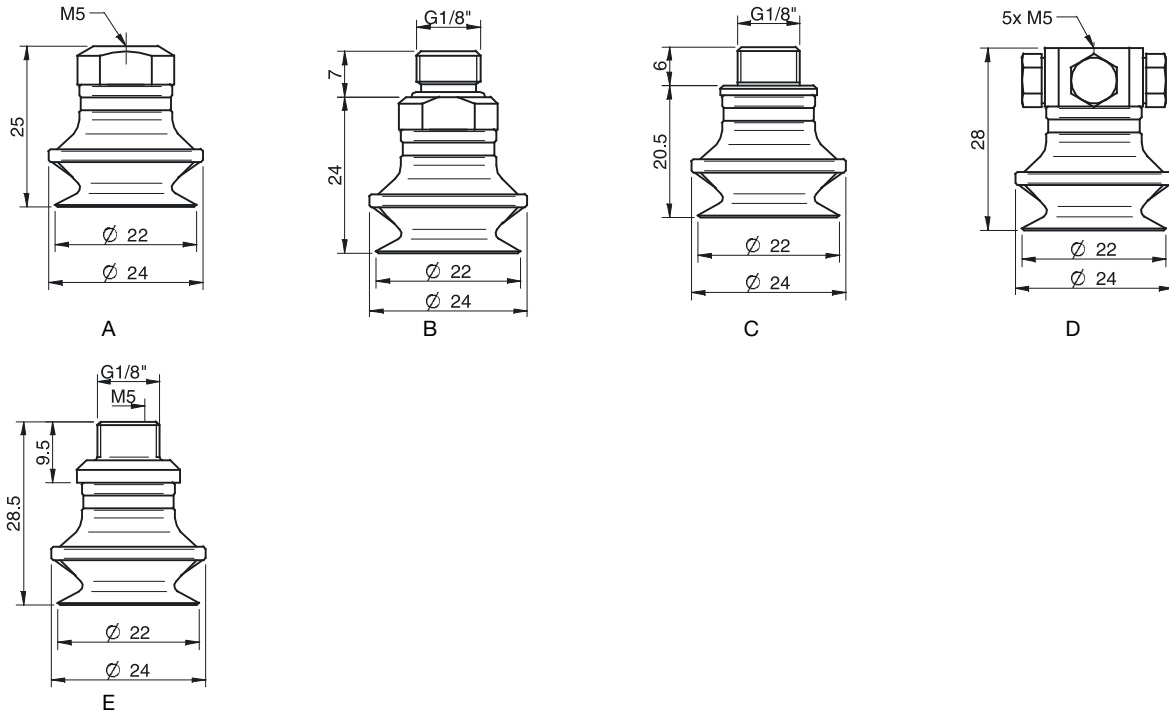
### Material resistance

Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
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

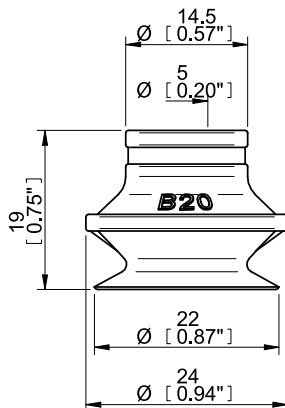
### Ordering information

	Complete suction cups	Art. No.
A	Suction cup B20 Chloroprene, M5 female	0101160
A	Suction cup B20 Chloroprene, M5 female, with dual flow control valve	0101166
B	Suction cup B20 Chloroprene, G1/8" male, with mesh filter	0101161
B	Suction cup B20 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101167
C	Suction cup B20 Chloroprene, G1/8" male/M5 female, with mesh filter	0101165
C	Suction cup B20 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101169
D	Suction cup B20 Chloroprene, 5xM5 female	0101164
A	Suction cup B20 Silicone, M5 female	0101171
A	Suction cup B20 Silicone, M5 female, with dual flow control valve	0101177
B	Suction cup B20 Silicone, G1/8" male, with mesh filter	0101172
B	Suction cup B20 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101178
C	Suction cup B20 Silicone, G1/8" male/M5 female, with mesh filter	0101176
C	Suction cup B20 Silicone, G1/8" male/M5 female, with dual flow control valve	0101180
D	Suction cup B20 Silicone, 5xM5 female	0101175
D	Suction cup B20 Silicone, 5xM5 female, with dual flow control valve	0101181
A	Suction cup B20 HNBR, M5 female	9906875
A	Suction cup B20 HNBR, M5 female, with dual flow control valve	9906876
B	Suction cup B20 HNBR, G1/8" male, with mesh filter	9906877
B	Suction cup B20 HNBR, G1/8" male, with mesh filter and dual flow control valve	9906878

	Complete suction cups	Art. No.
C	Suction cup B20 HNBR, G1/8" male/M5 female, with mesh filter	9906880
C	Suction cup B20 HNBR, G1/8" male/M5 female, with dual flow control valve	9906881
D	Suction cup B20 HNBR, 5xM5 female	9906887
D	Suction cup B20 HNBR, 5xM5 female, with dual flow control valve	9906888
E	Suction cup B20 Chloroprene, G1/8" male/M5 female, PA	0110949
E	Suction cup B20 Silicone, G1/8" male/M5 female, PA	0110336



	Rubber parts	Art. No.
	Suction cup B20 Chloroprene	0101101
	Suction cup B20 Silicone	0101102
	Suction cup B20 HNBR	0128712



	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.

## B30-2



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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	22.0	27	—	—	—	10	15	15	7.0

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40–110
Silicone, SIL	Red	50	-40–200
HNBR	Grey-blue	75	-30–140*

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

### Material resistance

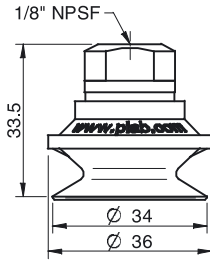
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

### Ordering information

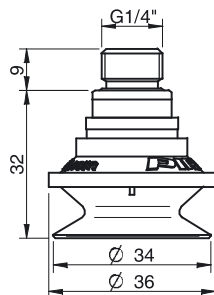
	Complete suction cups	Art. No.
A	Suction cup B30-2 Chloroprene, 1/8" NPSF female, with mesh filter	0101423
A	Suction cup B30-2 Chloroprene, 1/8" NPSF female, with dual flow control valve	0101424
B	Suction cup B30-2 Chloroprene, G1/4" male, with mesh filter	0101418
B	Suction cup B30-2 Chloroprene, G1/4" male, with mesh filter dual flow control valve	0101425
C	Suction cup B30-2 Chloroprene, G3/8" male, with mesh filter	0101420
C	Suction cup B30-2 Chloroprene, G3/8" male, with mesh filter and dual flow control valve	0101427
D	Suction cup B30-2 Chloroprene, 5x1/8" NPSF female	0101422
A	Suction cup B30-2 Silicone, 1/8" NPSF female, with mesh filter	0101436
A	Suction cup B30-2 Silicone, 1/8" NPSF female, with dual flow control valve	0101437
B	Suction cup B30-2 Silicone, G1/4" male, with mesh filter	0101431
B	Suction cup B30-2 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101438
C	Suction cup B30-2 Silicone, G3/8" male, with mesh filter	0101433
C	Suction cup B30-2 Silicone, G3/8" male, with mesh filter and dual flow control valve	0101440
D	Suction cup B30-2 Silicone, 5x1/8" NPSF female	0101435
D	Suction cup B30-2 Silicone, 5x1/8" NPSF female, with dual flow control valve	0101442



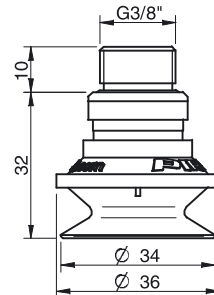
	Complete suction cups	Art. No.
A	Suction cup B30-2 HNBR, 1/8" NPSF female, with mesh filter	0108078
B	Suction cup B30-2 HNBR, G1/4" male, with mesh filter	0108167
C	Suction cup B30-2 HNBR, G3/8" male, with mesh filter	0108168
E	Suction cup B30-2 Chloroprene, 1/8" NPSF female, PA	0109845
E	Suction cup B30-2 Silicone, 1/8" NPSF female, PA	0110343



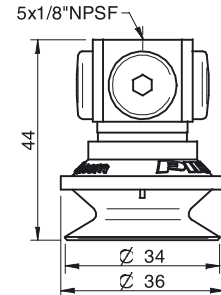
A



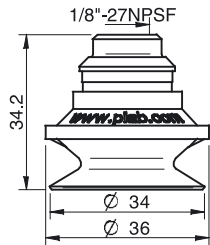
B



C

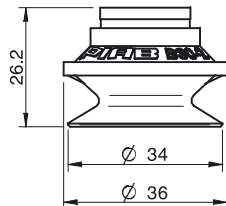


D



E

	Rubber parts	Art. No.
	Suction cup B30-2 Chloroprene	0101103
	Suction cup B30-2 Silicone	0101104
	Suction cup B30-2 HNBR	0108077



	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

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

## B40



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
22.0	39	49	—	—	—	15	20	12	10.0

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40–110
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
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

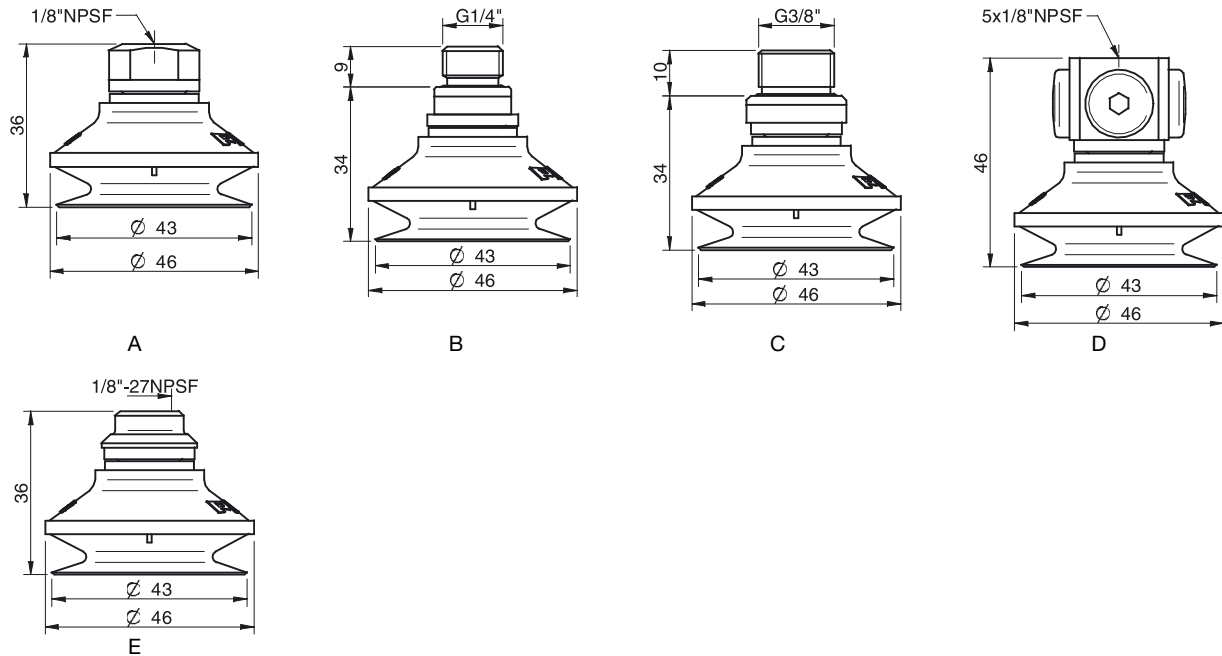
### Ordering information

	Complete suction cups	Art. No.
A	Suction cup B40 Chloroprene, 1/8" NPSF female, with mesh filter	0101462
A	Suction cup B40 Chloroprene, 1/8" NPSF female, with dual flow control valve	0101463
B	Suction cup B40 Chloroprene, G1/4" male, with mesh filter	0101457
B	Suction cup B40 Chloroprene, G1/4" male, with mesh filter and dual flow control valve	0101464
C	Suction cup B40 Chloroprene, G3/8" male, with mesh filter	0101459
C	Suction cup B40 Chloroprene, G3/8" male, with mesh filter and dual flow control valve	0101466
D	Suction cup B40 Chloroprene, 5x1/8" NPSF female	0101461
A	Suction cup B40 Silicone, 1/8" NPSF female, with mesh filter	0101475
A	Suction cup B40 Silicone, 1/8" NPSF female, with dual flow control valve	0101476
B	Suction cup B40 Silicone, G1/4" male, with mesh filter	0101470
B	Suction cup B40 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101477
C	Suction cup B40 Silicone, G3/8" male, with mesh filter	0101472
D	Suction cup B40 Silicone, 5x1/8" NPSF female	0101474
A	Suction cup B40 HNBR, 1/8" NPSF female, with mesh filter	0108082
B	Suction cup B40 HNBR, G1/4" male, with mesh filter	0108169

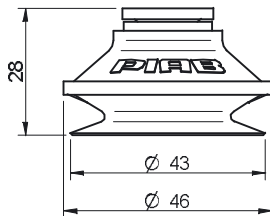
# Suction cups/grippers Standard



Complete suction cups		Art. No.
C	Suction cup B40 HNBR, G3/8" male, with mesh filter	0108170
E	Suction cup B40 Chloroprene, 1/8" NPSF female, PA	0109843
E	Suction cup B40 Silicone, 1/8" NPSF female PA	0110337



Rubber parts		Art. No.
Suction cup B40 Chloroprene		0101105
Suction cup B40 Silicone		0101106
Suction cup B40 HNBR		0108081



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

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

## B50



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
33	65	82	—	—	—	32	30	19	20.0

### 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

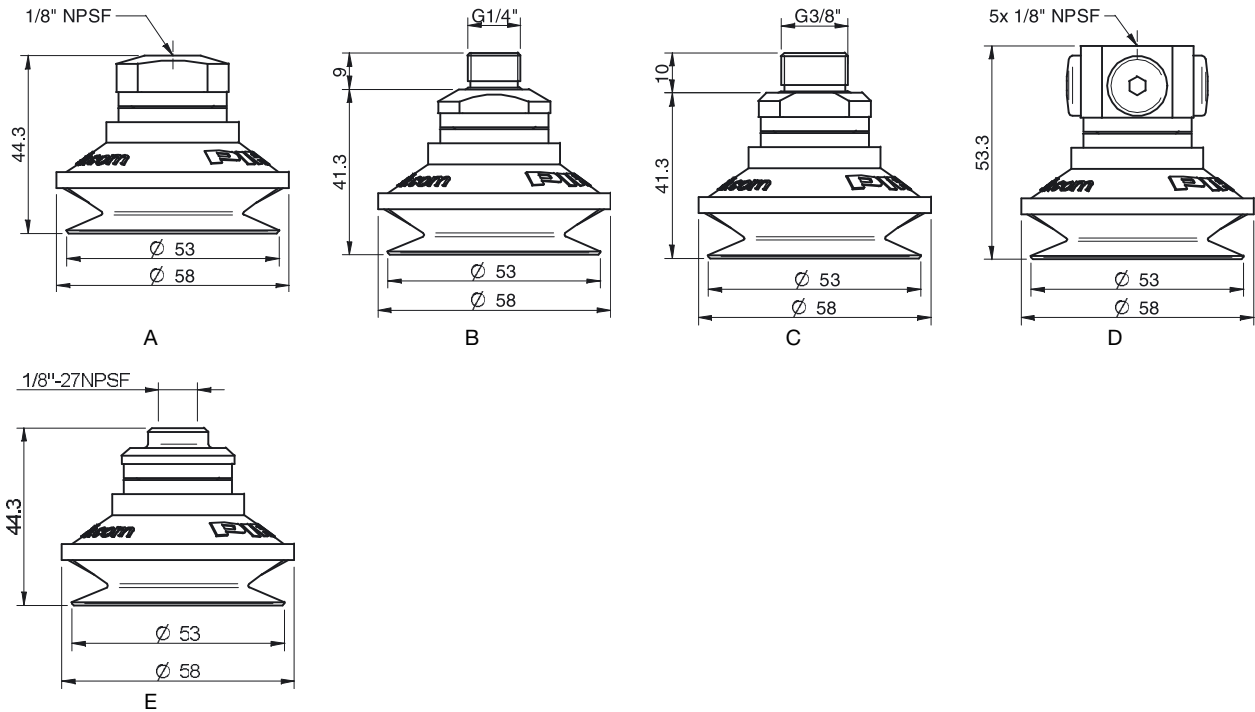
### Material resistance

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

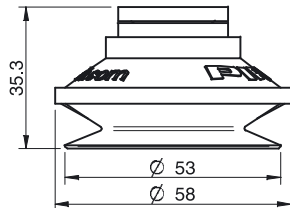
### Ordering information

	Complete suction cups	Art. No.
A	Suction cup B50 Nitrile-PVC, 1/8" NPSF female, with mesh filter	0101649
A	Suction cup B50 Nitrile-PVC, 1/8" NPSF female, with dual flow control valve	0101650
B	Suction cup B50 Nitrile-PVC, G1/4" male, with mesh filter	0101644
B	Suction cup B50 Nitrile-PVC, G1/4" male, with mesh filter and dual flow control valve	0101651
C	Suction cup B50 Nitrile-PVC, G3/8" male, with mesh filter	0101646
C	Suction cup B50 Nitrile-PVC, G3/8" male, with mesh filter and dual flow control valve	0101653
D	Suction cup B50 Nitrile-PVC, 5x1/8" NPSF female	0101648
A	Suction cup B50 Silicone, 1/8" NPSF female, with mesh filter	0101636
A	Suction cup B50 Silicone, 1/8" NPSF female, with dual flow control valve	0101637
B	Suction cup B50 Silicone, G1/4" male, with mesh filter	0101631
B	Suction cup B50 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101638
C	Suction cup B50 Silicone, G3/8" male, with mesh filter	0101633
C	Suction cup B50 Silicone, G3/8" male, with mesh filter and dual flow control valve	0101640
D	Suction cup B50 Silicone, 5x1/8" NPSF female	0101635
A	Suction cup B50 HNBR, 1/8" NPSF female, with mesh filter	0108171

	Complete suction cups	Art. No.
B	Suction cup B50 HNBR, G1/4" male, with mesh filter	0108172
C	Suction cup B50 HNBR, G3/8" male, with mesh filter	0108173
E	Suction cup B50 Nitrile-PVC, 1/8" NPSF female, PA	0111063



Rubber parts	Art. No.
Suction cup B50 Silicone	0101108
Suction cup B50 Nitrile-PVC	0101107
Suction cup B50 HNBR	0108165



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.

## B50-2



### Suction cup with short bellows and filter

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
33	65	82	—	—	—	32	30	19	20.0

### Material specifications

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

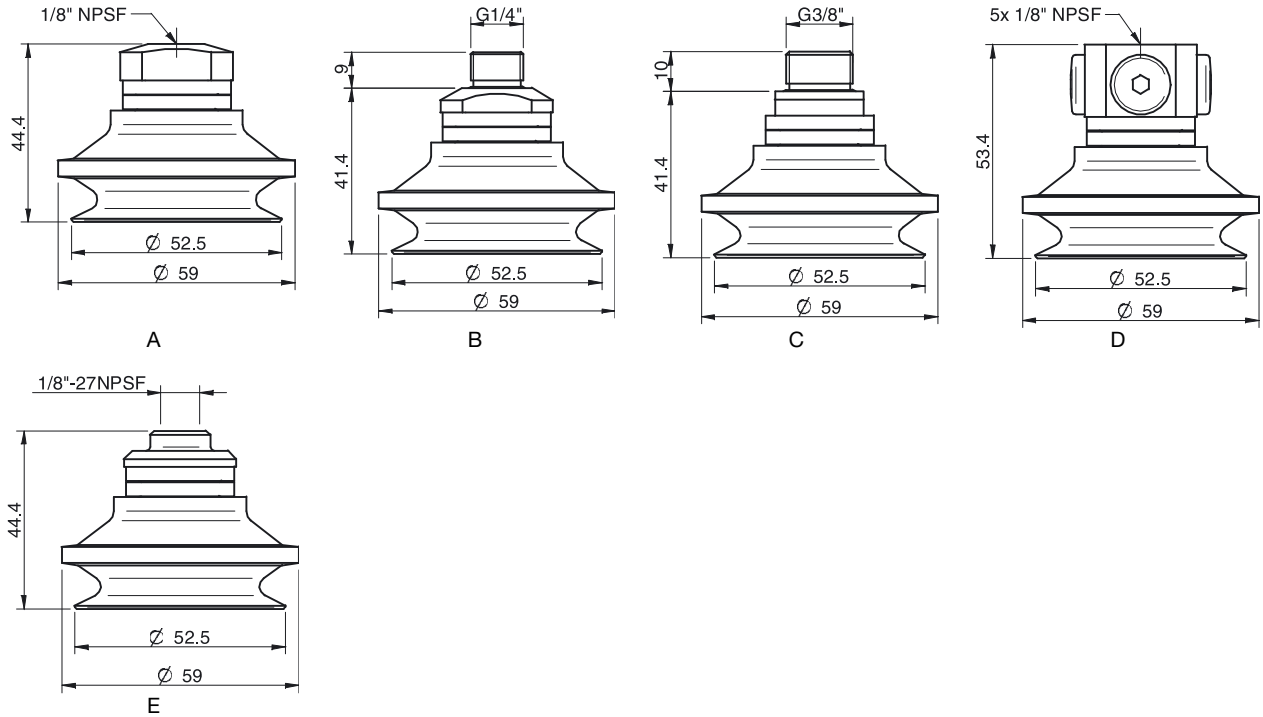
\* Filter disc max. 80 °C

### Material resistance

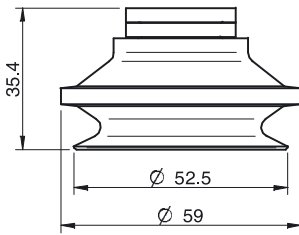
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### Ordering information

	Complete suction cups	Art. No
A	Suction cup B50-2 Nitrile-PVC with filter, 1/8" NPSF female, with mesh filter	0101675
A	Suction cup B50-2 Nitrile-PVC with filter, 1/8" NPSF female, with dual flow control valve	0101676
B	Suction cup B50-2 Nitrile-PVC with filter, G1/4" male, with mesh filter	0101670
B	Suction cup B50-2 Nitrile-PVC with filter, G1/4" male, with dual flow control valve and mesh filter	0101677
C	Suction cup B50-2 Nitrile-PVC with filter, G3/8" male, with mesh filter	0101672
D	Suction cup B50-2 Nitrile-PVC with filter, 5x1/8" NPSF female	0101674
A	Suction cup B50-2 Silicone with filter, 1/8" NPSF female, with mesh filter	0101662
A	Suction cup B50-2 Silicone with filter, 1/8" NPSF female, with dual flow control valve	0101663
B	Suction cup B50-2 Silicone with filter, G1/4" male, with mesh filter	0101657
C	Suction cup B50-2 Silicone with filter, G3/8" male, with mesh filter	0101659
D	Suction cup B50-2 Silicone with filter, 5x1/8" NPSF female	0101661
E	Suction cup B50-2 Nitrile-PVC with filter, 1/8" NPSF female, PA	0110957
E	Suction cup B50-2 Silicone with filter, 1/8" NPSF female, PA	0110347



Rubber parts	Art. No.
Suction cup B50-2 Nitrile-PVC with filter	0101109
Suction cup B50-2 Silicone with filter	0101110



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.

Spare Part	Material	Temperature range °C	Art. No.
Filter for B50-2	Polyethylene, PE	-40-80	3150243



## B75



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
74	167	226	—	—	—	110	40	24	35

### 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

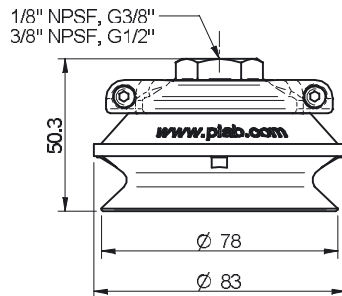
### Material resistance

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

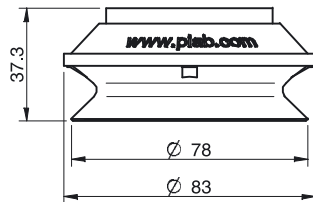


## Ordering information

Complete suction cups	Art. No.
Suction cup B75 Nitrile-PVC, 1/8" NPSF female, with mesh filter	0101854
Suction cup B75 Nitrile-PVC, G3/8" female, with mesh filter	0101855
Suction cup B75 Nitrile-PVC, 3/8" NPSF female, with mesh filter	0101856
Suction cup B75 Nitrile-PVC, G1/2" female, with mesh filter	0101857
Suction cup B75 Silicone, 1/8" NPSF female, with mesh filter	0101850
Suction cup B75 Silicone, G3/8" female, with mesh filter	0101851
Suction cup B75 Silicone, 3/8" NPSF female, with mesh filter	0101852
Suction cup B75 Silicone, G1/2" female, with mesh filter	0101853
Suction cup B75 HNBR, 1/8" NPSF female, with mesh filter	0108174
Suction cup B75 HNBR, G3/8" female, with mesh filter	0108175
Suction cup B75 HNBR, 3/8" NPSF female, with mesh filter	0108176
Suction cup B75 HNBR, G1/2" female, with mesh filter	0108177



Rubber parts	Art. No.
Suction cup B75 Nitrile-PVC	3150107P
Suction cup B75 Silicone	3150107S
Suction cup B75 HNBR	3150107T



Fittings	Art. No.
Fitting 75, 1/8" NPSF female, with mesh filter	0100548
Fitting 75, G3/8" female, with mesh filter	0100551
Fitting 75, 3/8" NPSF female, with mesh filter	0100553
Fitting 75, G1/2" female, with mesh filter	0100555

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

## B75-2



### Suction cup with short bellows and filter

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
74	167	226	—	—	—	110	40	24	35

### Material specifications

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

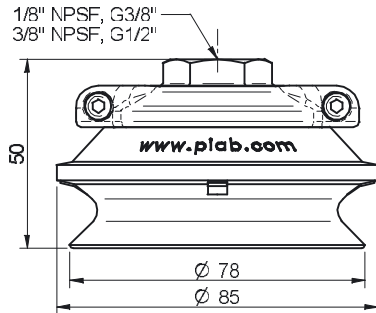
\* Filter disc max. 80 °C

### Material resistance

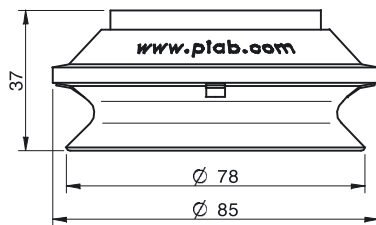
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B75-2 Nitrile-PVC with filter, 1/8" NPSF female, with mesh filter	0101862
Suction cup B75-2 Nitrile-PVC with filter, G3/8" female, with mesh filter	0101863
Suction cup B75-2 Nitrile-PVC with filter, 3/8" NPSF female, with mesh filter	0101864
Suction cup B75-2 Nitrile-PVC with filter, G1/2" female, with mesh filter	0101865
Suction cup B75-2 Silicone with filter, 1/8" NPSF female, with mesh filter	0101858
Suction cup B75-2 Silicone with filter, G3/8" female, with mesh filter	0101859
Suction cup B75-2 Silicone with filter, 3/8" NPSF female, with mesh filter	0101860
Suction cup B75-2 Silicone, G1/2" female, with mesh filter	0101861



Rubber parts	Art. No.
Suction cup B75-2 Nitrile-PVC with filter	0101942
Suction cup B75-2 Silicone with filter	0101943



Fittings	Art. No.
Fitting 75, 1/8" NPSF female, with mesh filter	0100548
Fitting 75, G3/8" female, with mesh filter	0100551
Fitting 75, 3/8" NPSF female, with mesh filter	0100553
Fitting 75, G1/2" female, with mesh filter	0100555

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

Spare part	Material	Temperature range °C	Art. No.
Filter for B75-2	Polyethylene, PE	-40-80	3150244

## B110



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
137	343	461	—	—	—	310	60	35	120

### 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*

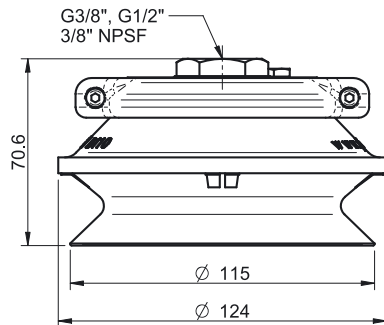
\* For a shorter period of time up to +160 °C

### Material resistance

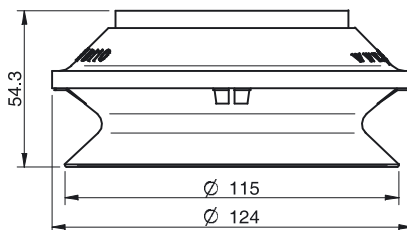
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B110 Nitrile-PVC, G3/8" female, with mesh filter	0101890
Suction cup B110 Nitrile-PVC, 3/8" NPSF female, with mesh filter	0101891
Suction cup B110 Nitrile-PVC, G1/2" female, with mesh filter	0101892
Suction cup B110 Silicone, G3/8" female, with mesh filter	0101884
Suction cup B110 Silicone, 3/8" NPSF female, with mesh filter	0101885
Suction cup B110 Silicone, G1/2" female, with mesh filter	0101886
Suction cup B110 HNBR, G3/8" female, with mesh filter	0108178
Suction cup B110 HNBR, G1/2" female, with mesh filter	0108180
Suction cup B110 HNBR, 3/8" NPSF female, with mesh filter	0108179



Rubber parts	Art. No.
Suction cup B110 Nitrile-PVC	3150108P
Suction cup B110 Silicone	3150108S
Suction cup B110 HNBR	3150108T



Fittings	Art. No.
Fitting 110 G3/8" female, with mesh filter	0100557
Fitting 110, G1/2" female, with mesh filter	0100561
Fitting 110, 3/8" NPSF female, with mesh filter	0100559

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

## B110-2



### Suction cup with short bellows and filter

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
137	343	461	—	—	—	310	60	35	120

### Material specifications

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

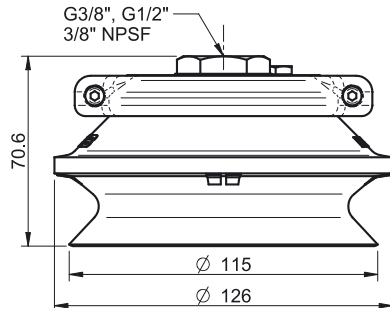
\* Filter disc max. 80 °C

### Material resistance

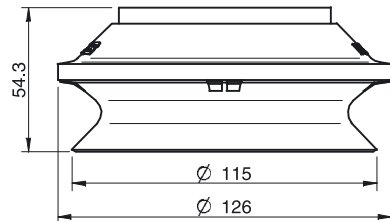
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B110-2 Nitrile-PVC with filter, G3/8" female, with mesh filter	0101902
Suction cup B110-2 Nitrile-PVC with filter, 3/8" NPSF female, with mesh filter	0101903
Suction cup B110-2 Nitrile-PVC with filter, G1/2" female, with mesh filter	0101904
Suction cup B110-2 Silicone with filter, G3/8" female, with mesh filter	0101896
Suction cup B110-2 Silicone with filter, 3/8" NPSF female, with mesh filter	0101897
Suction cup B110-2 Silicone with filter, G1/2" female, with mesh filter	0101898



Rubber parts	Art. No.
Suction cup B110-2 Nitrile-PVC with filter	0101944
Suction cup B110-2 Silicone with filter	0101945



Fittings	Art. No.
Fitting 110 G3/8" female, with mesh filter	0100557
Fitting 110, G1/2" female, with mesh filter	0100561
Fitting 110, 3/8" NPSF female, with mesh filter	0100559

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

Spare Part	Material	Temperature range °C	Art. No.
Filter for B110-2	Polyethylene, PE	-40-80	3150249

## B150



### Suction cup with short bellows

- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
294	686	883	—	—	—	650	75	45	265

### Material specifications

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

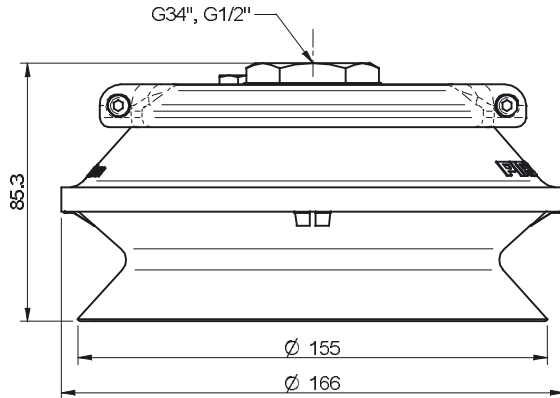
### Material resistance

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

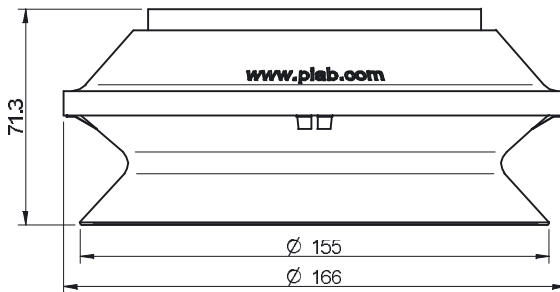


## Ordering information

Complete suction cups	Art. No.
Suction cup B150 Nitrile-PVC, G1/2" female, with mesh filter	0101931
Suction cup B150 Nitrile-PVC, G3/4" female, with mesh filter	0101932
Suction cup B150 Silicone, G1/2" female, with mesh filter	0101928
Suction cup B150 Silicone, G3/4" female, with mesh filter	0101929



Rubber parts	Art. No.
Suction cup B150 Nitrile-PVC	3150109P
Suction cup B150 Silicone	3150109S



Fittings	Art. No.
Fitting 150, G1/2" female, with mesh filter	0100564
Fitting 150, G3/4" female, with mesh filter	0100567

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

## B75P



### Suction cup with short bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material of the DURAFLEX® is mark free.

### 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 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				
PU30°/60°	61	149	202	44	96	114	110	90	20	48
PU60°	83	196	255	121	229	298	110	90	20	72

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10-50
Polyurethane, PU60	Green transparent	60	10-50

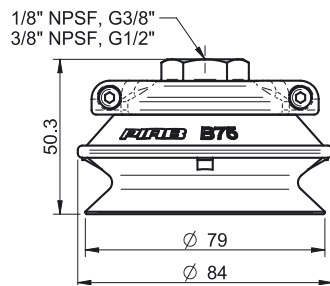
### Material resistance

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

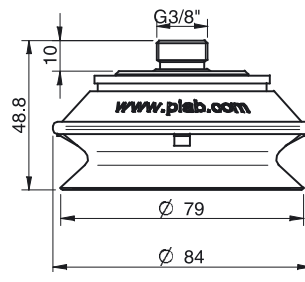
\*\*Please contact Piab.

## Ordering information

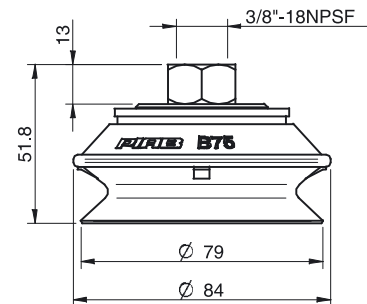
	Complete suction cups	Art. No
A	Suction cup B75P Polyurethane 30/60, 1/8" NPSF female, with mesh filter	0106345
A	Suction cup B75P Polyurethane 30/60, G3/8" female, with mesh filter	0106346
A	Suction cup B75P Polyurethane 30/60, 3/8" NPSF female, with mesh filter	0106347
A	Suction cup B75P Polyurethane 30/60, G1/2" female, with mesh filter	0106348
A	Suction cup B75P Polyurethane 60, 1/8" NPSF female, with mesh filter	0111600
A	Suction cup B75P Polyurethane 60, G3/8" female, with mesh filter	0111601
A	Suction cup B75P Polyurethane 60, 3/8" NPSF female, with mesh filter	0111602
A	Suction cup B75P Polyurethane 60, G1/2" female, with mesh filter	0111603
B	Suction cup B75P Polyurethane 30/60, thread insert G3/8" male, with mesh filter	0106833
B	Suction cup B75P Polyurethane 60, thread insert G3/8" male with mesh filter	0107319
C	Suction cup B75P Polyurethane 30/60, 3/8" NPSF female	0108790
C	Suction cup B75P Polyurethane 60, 3/8" NPSF female	0108791



A

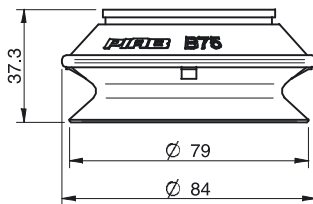


B

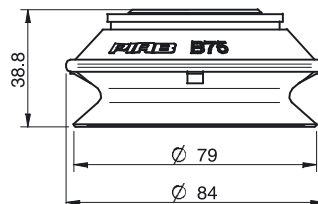


C

	Rubber parts	Art. No
A	Suction cup B75P Polyurethane 30/60	0104723
A	Suction cup B75P Polyurethane 60	0111594
B	Suction cup B75P Polyurethane 30/60, for thread insert	0106832
B	Suction cup B75P Polyurethane 60, for thread insert	0107318



A



B

	Fittings	Art. No.
	Fitting 75, 1/8" NPSF female, with mesh filter	0100548
	Fitting 75, G3/8" female, with mesh filter	0100551
	Fitting 75, 3/8" NPSF female, with mesh filter	0100553
	Fitting 75, G1/2" female, with mesh filter	0100555
	Thread insert G3/8" male, with O-ring and mesh filter	0107148

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

## BF80P



### Suction cup with short bellows

- ▶ Suitable for uneven surfaces.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material of the DURAFLEX® is mark free.

### 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 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				
PU30°/50°	73	157	196	54	88	117	40	132	15	53
PU60°	98	225	294	68	127	166	40	132	15	53

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow	30	10-50
Polyurethane, PU50	Blue transparent	50	10-50
Polyurethane, PU60	Green transparent	60	10-50

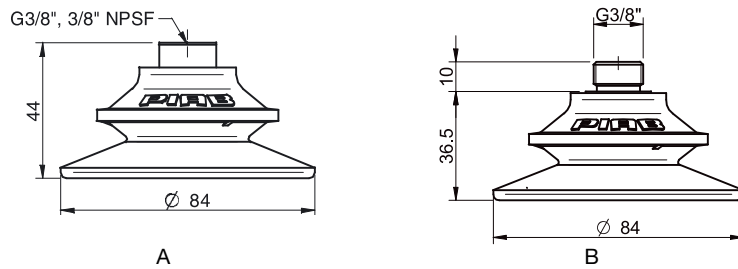
### Material resistance

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

\*\*Please contact Piab.

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup BF80P Polyurethane 30/50, G3/8" female	0102370
A	Suction cup BF80P Polyurethane 30/50, 3/8" NPSF female	0102371
A	Suction cup BF80P Polyurethane 60, G3/8" female	0103307
A	Suction cup BF80P Polyurethane 60, 3/8" NPSF female	0103309
B	Suction cup BF80P Polyurethane 30/50, G3/8" male with mesh filter	0107326
B	Suction cup BF80P Polyurethane 60, G3/8" male with mesh filter	0107327
B	Suction cup BF80P Polyurethane 30/50, G3/8" male	0106985
B	Suction cup BF80P Polyurethane 60, G3/8" male	0107476



## BF110P



### Suction cup with short bellows

- ▶ Suitable for uneven surfaces.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material of the DURAFLEX® is mark free.

### 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 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				
PU30°/60°	128	229	225	106	210	246	110	55	24	110
PU60°	161	334	293	123	231	305	110	70	24	110

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

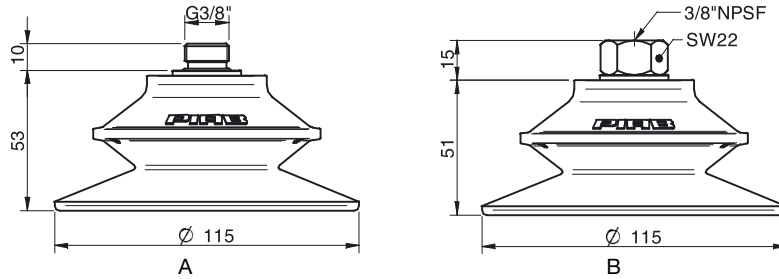
### Material resistance

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

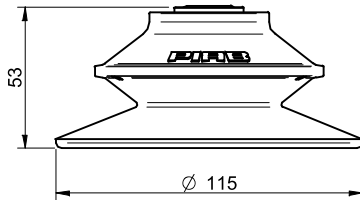
\*\*Please contact Piab.

## Ordering information

Complete suction cups		Art. No.
A	Suction cup BF110P Polyurethane 30/60, thread insert G3/8" male with mesh filter	0110290
B	Suction cup BF110P Polyurethane 30/60, 3/8" NPSF female	0110291
A	Suction cup BF110P Polyurethane 60, thread insert G3/8" male with mesh filter	0110287
B	Suction cup BF110P Polyurethane 60, 3/8" NPSF female	0110288



Rubber parts		Art. No.
Suction cup BF110P Polyurethane 30/60 with O-ring		0110289
Suction cup BF110P Polyurethane 60, with O-ring		0110286



Fittings		Art. No.
Thread insert G3/8" male, with O-ring and mesh filter		0107148

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

## BX10P



- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	1	2.3	3.7	—	—	—	0.56	4.0	4.5	1
PU60°	1	2.3	3.7	—	—	—	0.56	6.0	4.5	1

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

### Material resistance

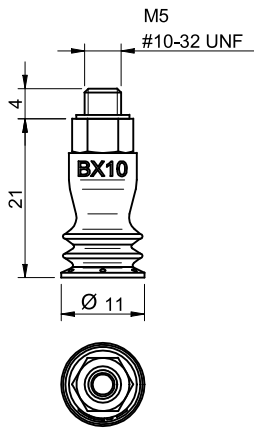
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

\*\*Please contact Piab.

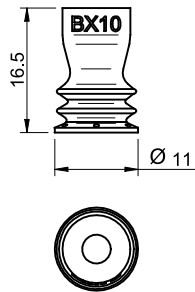


## Ordering information

Description	Art. No.
Suction cup BX10P Polyurethane 30/60, M5 male	0122869
Suction cup BX10P Polyurethane 60, M5 male	0122967



Rubber parts	Art. No.
Suction cup BX10P Polyurethane 30/60	0118329
Suction cup BX10P Polyurethane 60	0122966



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

## BX15P



- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	2.0	4.0	4.5	—	—	—	0.92	5.5	5.5	1.15
PU60°	2.0	6.0	6.0	—	—	—	0.92	6.0	5.5	1.14

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

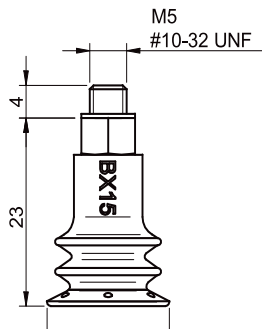
### Material resistance

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

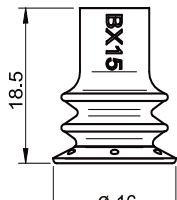
\*\*Please contact Piab.

## Ordering information

Complete suction cups	Art. No.
Suction Cup BX15P Polyurethane 30/60, M5 male	0124344
Suction Cup BX15P Polyurethane 60, M5 male	0124345



Rubber parts	Art. No.
Suction cup BX15P Polyurethane 30/60	0118505
Suction cup BX15P Polyurethane 60	0124237



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

## BX20P



### Suction cup with 2½ bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	4.8	7.0	11.0	—	—	—	1.16	8.5	6.5	1.43
PU60°	4.5	7.0	9.5	—	—	—	1.16	10.0	6.5	1.43

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

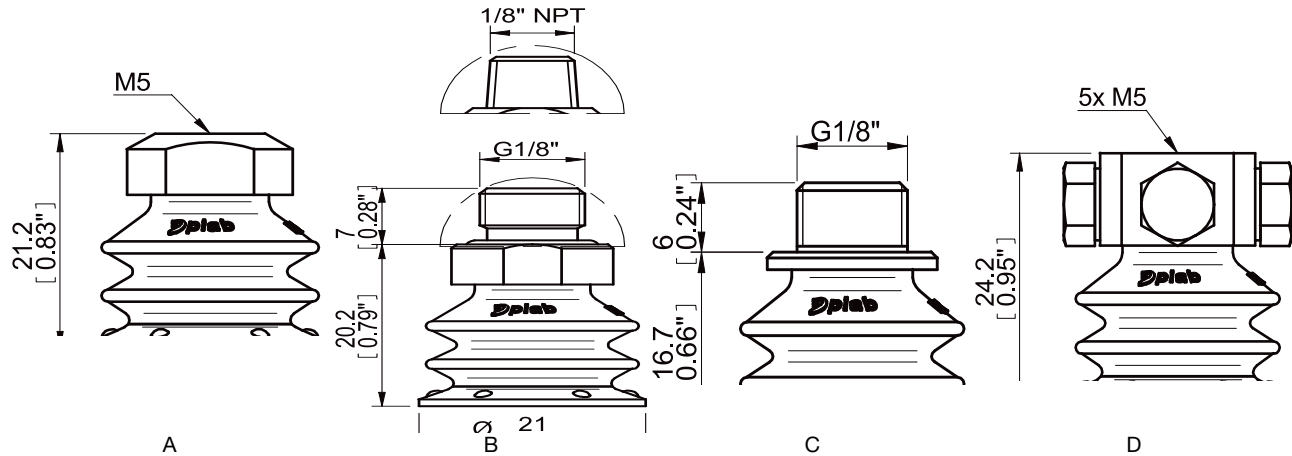
### Material resistance

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

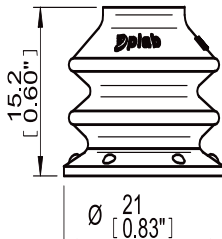
\*\*Please contact Piab.

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup BX20P Polyurethane 30/60, M5 female	0125104
B	Suction cup BX20P Polyurethane 30/60, G1/8" male	0125108
C	Suction cup BX20P Polyurethane 30/60, G1/8" male / M5 female	0125105
C	Suction cup BX20P Polyurethane 30/60, G1/8" male / M5 female, with dual flow control valve	0125106
D	Suction cup BX20P Polyurethane 30/60, 5xM5 female	0125107
A	Suction cup BX20P Polyurethane 60, M5 female	0125109
B	Suction cup BX20P Polyurethane 60, G1/8" male	0125112
C	Suction cup BX20P Polyurethane 60, G1/8" male / M5 female	0125110
D	Suction cup BX20P Polyurethane 60, 5xM5 female	0125111



	Rubber parts	Art. No.
	Suction cup BX20P Polyurethane 30/60	0118507
	Suction cup BX20P Polyurethane 60	0124249



	Fittings	Art. No.
	Fitting M5 female	3250003
	Fitting G1/8" male, with mesh filter	3250085
	Fitting 1/8" NPT male, with mesh filter	3250088
	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

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

## BX25P



### Suction cup with 2½ bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	8.0	13.0	18.0	5.0*	10.0*	12.0*	3.0	6.0	8.5	3
PU60°	9.0	14.0	18.0	7.0*	11.0*	15.0*	3.0	8.0	8.5	3

\*The suction cup is not intended for handling shear lifts. The values are given as a dimensioning guide to be used when, e.g., the acceleration/retardation causes shear forces.

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

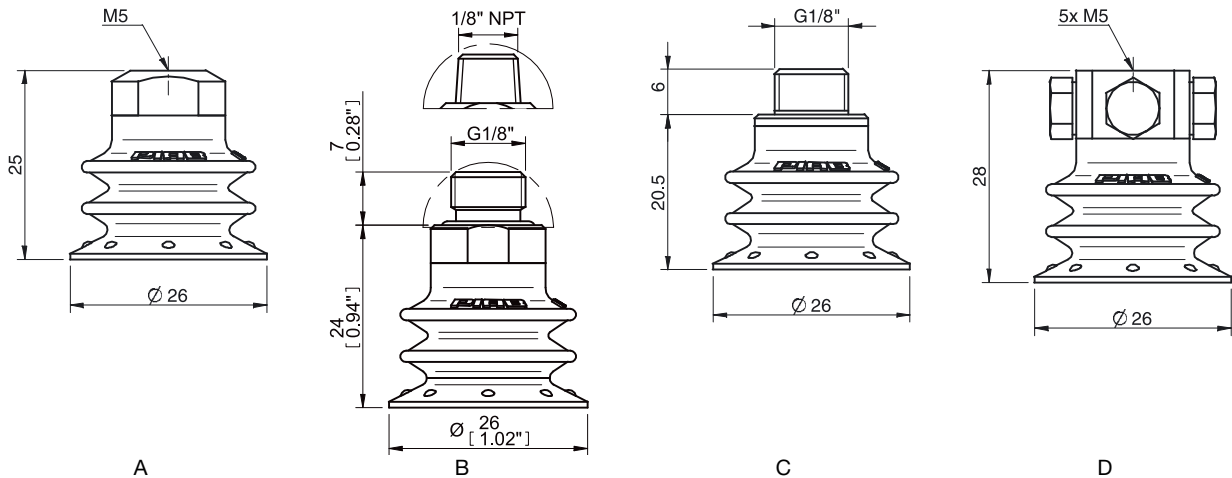
### Material resistance

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

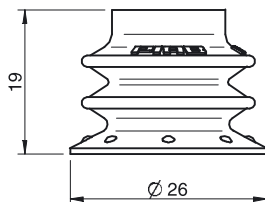
\*\*Please contact Piab.

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup BX25P Polyurethane 30/60 with filter, M5 female	0109404
B	Suction cup BX25P Polyurethane 30/60 with filter, G1/8" male	0114131
C	Suction cup BX25P Polyurethane 30/60 with filter, G1/8" male / M5 female	0109402
C	Suction cup BX25P Polyurethane 30/60 with filter, G1/8" male / M5 female, with dual flow control valve	0109403
D	Suction cup BX25P Polyurethane 30/60 with filter, 5xM5 female	0109405
A	Suction cup BX25P Polyurethane 60 with filter, M5 female	0109400
B	Suction cup BX25P Polyurethane 60 with filter, G1/8" male	0114149
C	Suction cup BX25P Polyurethane 60 with filter, G1/8" male / M5 female	0109398
D	Suction cup BX25P Polyurethane 60 with filter, 5xM5 female	0109401



Rubber parts	Art. No.
Suction cup BX25P Polyurethane 30/60	0109006
Suction cup BX25P Polyurethane 30/60, with filter	0109312
Suction cup BX25P Polyurethane 60	0108240
Suction cup BX25P Polyurethane 60, with filter	0109397



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/M5 female	3250004
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

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

Spare Part	Material	Temperature range °C	Art. No.
Suction cup filter BX25P, 10 pcs	Polyester/TPE	-40-90	0201000

## BX35P



### Suction cup with 2½ bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	12.0	20.0	28	14.0*	27*	34*	10.0	10.0	14.0	8.0
PU60°	15.0	25	30	22.0*	30*	36*	10.0	10.0	14.0	8.0

\*The suction cup is not intended for handling shear lifts. The values are given as a dimensioning guide to be used when, e.g., the acceleration/retardation causes shear forces.

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

### Material resistance

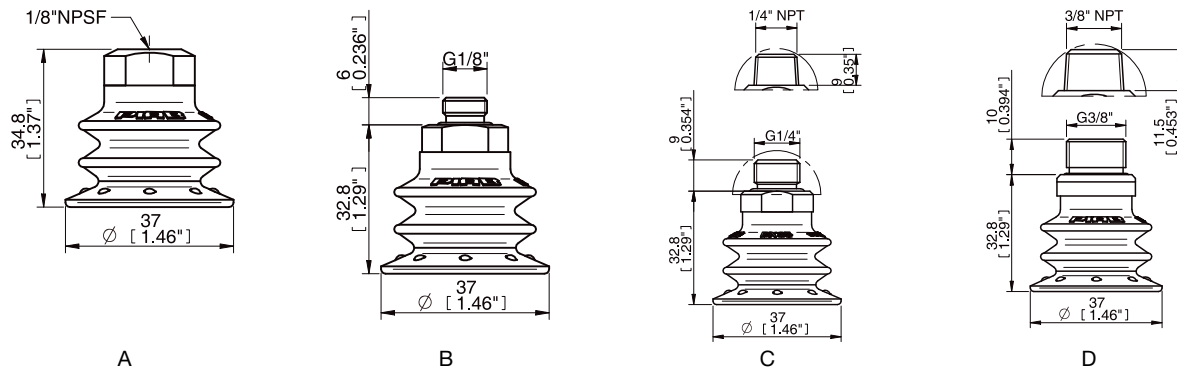
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

\*\*Please contact Piab.

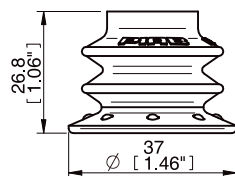


## Ordering information

	Complete suction cups	Art. No.
A	Suction cup BX35P Polyurethane 30/60 with filter, 1/8" NPSF female	0106604
A	Suction cup BX35P Polyurethane 30/60 with filter, 1/8" NPSF female, with dual flow control valve	0106605
B	Suction cup BX35P Polyurethane 30/60 with filter, G1/8" male, with mesh filter	9912151
C	Suction cup BX35P Polyurethane 30/60 with filter, G1/4" male, with mesh filter	0114449
C	Suction cup BX35P Polyurethane 30/60 with filter, 1/4" NPT male, with mesh filter	0107563
C	Suction cup BX35P Polyurethane 30/60 with filter, 1/4" NPT male, with dual flow control valve	9909193
D	Suction cup BX35P Polyurethane 30/60 with filter, G3/8" male, with mesh filter	0107377
D	Suction cup BX35P Polyurethane 30/60 with filter, G3/8" male, mesh filter, dual flow control valve	0107378
D	Suction cup BX35P Polyurethane 30/60 with filter, 3/8" NPT male, with mesh filter	9906975
D	Suction cup BX35P Polyurethane 30/60 with filter, 3/8" NPT male, with dual flow control valve	9909194
A	Suction cup BX35P Polyurethane 60 with filter, 1/8" NPSF female	0107561
A	Suction cup BX35P Polyurethane 60 with filter, 1/8" NPSF female, with dual flow control valve	0107562
B	Suction cup BX35P Polyurethane 60 with filter, G1/8" male, with mesh filter	9912152
C	Suction cup BX35P Polyurethane 60 with filter, 1/4" NPT male, with mesh filter	0107567
C	Suction cup BX35P Polyurethane 60 with filter, 1/4" NPT male, with dual flow control valve	9909190
D	Suction cup BX35P Polyurethane 60 with filter, G3/8" male, with mesh filter	0107379
D	Suction cup BX35P Polyurethane 60 with filter, G3/8" male, with mesh filter and dual flow control valve	0107380
D	Suction cup BX35P Polyurethane 60 with filter, 3/8" NPT male, with mesh filter	9909187
D	Suction cup BX35P Polyurethane 60 with filter, 3/8" NPT male, with dual flow control valve	9909191



Rubber parts	Art. No.
Suction cup BX35P Polyurethane 30/60, with filter	0106619
Suction cup BX35P Polyurethane 60, with filter	0107376
Suction cup BX35P, Polyurethane 30/60	0106292
Suction cup BX35P, Polyurethane 60	0107477



Fittings	Art. No.
Fitting 1/8" NPSF female, 30-40	3250005
Fitting 1/8" NPSF female, 30-40, with dual flow control valve	3251006
Fitting G1/8" male, 40, with mesh filter	0200714
Fitting G1/4" male, 30-40, with mesh filter	3250091
Fitting 1/4" NPT male, with mesh filter	3250093
Fitting 1/4" NPT male, with dual flow control valve	3251008
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 3/8" NPT male, with mesh filter	3250089
Fitting 3/8" NPT male, with dual flow control valve	3251010

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

Spare Part	Material	Temperature range °C	Art. No.
Suction cup filter BX35P, 10 pcs	Polyester/TPE	-40-90	0201001

## BX52P



### Suction cup with 2½ bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	32	56	75	28*	44*	54*	30	32	19.0	24
PU60°	37	59	80	27*	49*	56*	30	32	19.0	24

\*The suction cup is not intended for handling shear lifts. The values are given as a dimensioning guide to be used when, e.g., the acceleration/retardation causes shear forces.

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

### Material resistance

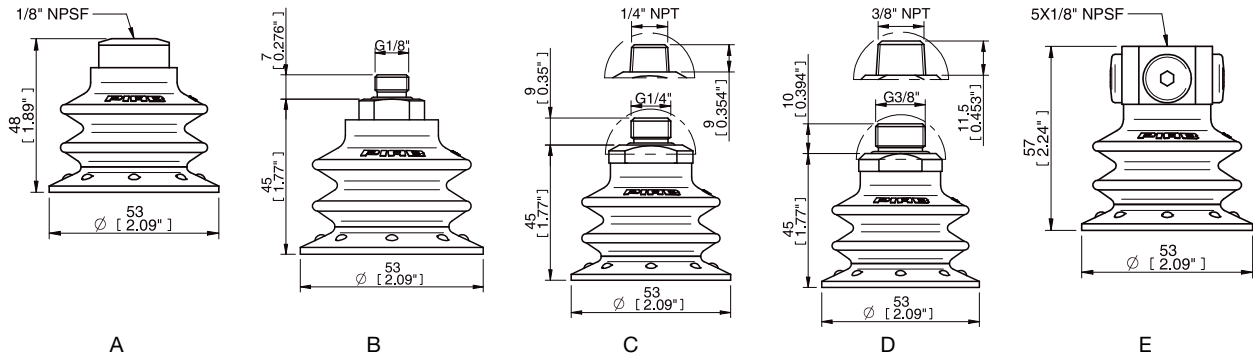
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

\*\*Please contact Piab.

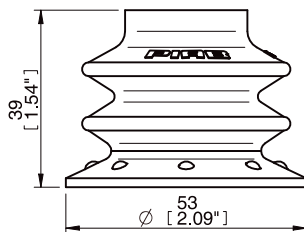
### Ordering information

	Complete suction cups	Art. No.
A	Suction cup BX52P Polyurethane 30/60 with filter, 1/8" NPSF female	0104727
A	Suction cup BX52P Polyurethane 30/60 with filter, 1/8" NPSF female, with mesh filter	0106044
A	Suction cup BX52P Polyurethane 30/60 with filter, 1/8" NPSF female, with dual flow control valve	0106019
B	Suction cup BX52P Polyurethane 30/60 with filter, G1/8" male, with mesh filter	9912153
C	Suction cup BX52P Polyurethane 30/60 with filter, G1/4" male, with mesh filter	0106045
C	Suction cup BX52P Polyurethane 30/60 with filter, G1/4" male, with dual flow control valve	0106739
C	Suction cup BX52P Polyurethane 30/60 with filter, 1/4" NPT male, with mesh filter	0106047
C	Suction cup BX52P Polyurethane 30/60 with filter, 1/4" NPT male, with dual flow control valve	9908595
D	Suction cup BX52P Polyurethane 30/60 with filter, G3/8" male, with mesh filter	0106740
D	Suction cup BX52P Polyurethane 30/60 with filter, G3/8" male, with dual flow control valve	0106741
D	Suction cup BX52P Polyurethane 30/60 with filter, 3/8" NPT male, with mesh filter	0107515
D	Suction cup BX52P Polyurethane 30/60 with filter, 3/8" NPT male, with dual flow control valve	9908596
E	Suction cup BX52P Polyurethane 30/60 with filter, 5x1/8" NPSF female	0106046
E	Suction cup BX52P Polyurethane 30/60 with filter, 5x1/8" NPSF female, with dual flow control valve	0106742
A	Suction cup BX52P Polyurethane 60 with filter, 1/8" NPSF female	0107383
A	Suction cup BX52P Polyurethane 60 with filter, 1/8" NPSF female, with mesh filter	0107382
B	Suction cup BX52P Polyurethane 60 with filter, G1/8" male, with mesh filter	9912154
C	Suction cup BX52P Polyurethane 60 with filter, G1/4" male, with mesh filter	0107385

	Complete suction cups	Art. No.
C	Suction cup BX52P Polyurethane 60 with filter, G1/4" male, with dual flow control valve	0107386
C	Suction cup BX52P Polyurethane 60 with filter, 1/4" NPT male, with mesh filter	0107391
C	Suction cup BX52P Polyurethane 60 with filter, 1/4" NPT male, with dual flow control valve	9908593
D	Suction cup BX52P Polyurethane 60 with filter, G3/8" male, with mesh filter	0107387
D	Suction cup BX52P Polyurethane 60 with filter, G3/8" male, with dual flow control valve	0107388
D	Suction cup BX52P Polyurethane 60 with filter, 3/8" NPT male, with mesh filter	0107516
D	Suction cup BX52P Polyurethane 60 with filter, 3/8" NPT male, with dual flow control valve	9908594
E	Suction cup BX52P Polyurethane 60 with filter, 5x1/8" NPSF female	0107389
E	Suction cup BX52P Polyurethane 60 with filter, 5x1/8" NPSF female, with dual flow control valve	0107390



	Rubber parts	Art. No.
	Suction cup BX52P Polyurethane 30/60, with filter	0104729
	Suction cup BX52P Polyurethane 60, with filter	0108039
	Suction cup BX52P Polyurethane 30/60	0104529
	Suction cup BX52P Polyurethane 60	0107381



Fittings	Art. No
Fitting 1/8" NPSF female, 50	3250017
Fitting 1/8" NPSF female, 50, with mesh filter	0101154
Fitting 1/8" NPSF female, 50, with dual flow control valve	3251012
Fitting G1/8" male, 50, with mesh filter	0200715
Fitting G1/4" male, 50, with mesh filter	3250092
Fitting G1/4" male, with mesh filter and dual flow control valve	3251013
Fitting 1/4" NPT male, with mesh filter	3250094
Fitting 1/4" NPT male, with dual flow control valve	3251014
Fitting G3/8" male, 50, with mesh filter	3250087
Fitting G3/8" male, 50, with mesh filter and dual flow control valve	3251015
Fitting 3/8" NPT male, with mesh filter	3250090
Fitting 3/8" NPT male, with dual flow control valve	3251016
Fitting 5x1/8" NPSF female, 50	0100262
Fitting 5x1/8" NPSF female, 50, with dual flow control valve	3251017

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

Spare Part	Material	Temperature range °C	Art. No.
Suction cup filter BX52P, 10 pcs	Polyester/TPE	-40-90	0201002

## BX75P



### Suction cup with 2½ bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	62	110	141	39*	83*	116*	80	23.0	26	71
PU60°	80	120	166	78*	114*	150*	80	23.0	26	71

\*The suction cup is not intended for handling shear lifts. The values are given as a dimensioning guide to be used when, e.g., the acceleration/retardation causes shear forces.

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

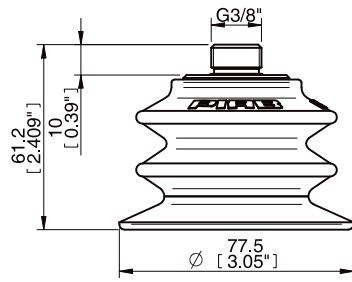
### Material resistance

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

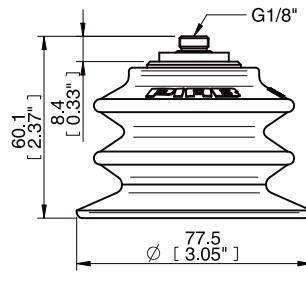
\*\*Please contact Piab.

## Ordering information

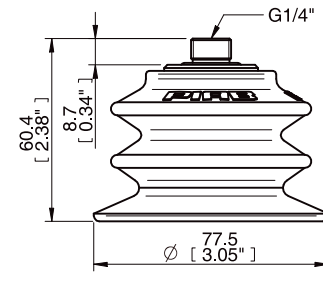
	Complete suction cups	Art. No.
A	Suction cup BX75P Polyurethane 30/60, G3/8" male / 1/8" NPSF female	0106293
A	Suction cup BX75P Polyurethane 30/60 with filter, G3/8" male / 1/8" NPSF female	0106606
B	Suction cup BX75P Polyurethane 30/60 with filter, thread insert G1/8" male	0201082
B	Suction cup BX75P Polyurethane 60 with filter, thread insert G1/8" male	0201083
C	Suction cup BX75P Polyurethane 30/60 with filter, thread insert G1/4" male	0201073
C	Suction cup BX75P Polyurethane 60 with filter, thread insert G1/4" male	0201074
D	Suction cup BX75P Polyurethane 30/60 with filter, thread insert G3/8" male	0107151
D	Suction cup BX75P Polyurethane 60 with filter, thread insert G3/8" male	0107149
E	Suction cup BX75P Polyurethane 30/60 with filter, 3/8" NPSF female	0108794
E	Suction cup BX75P Polyurethane 60 with filter, 3/8" NPSF female	0108795



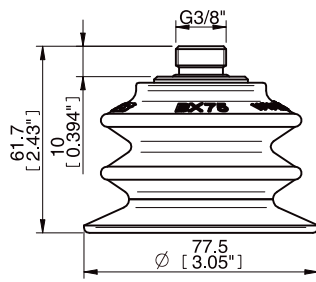
A



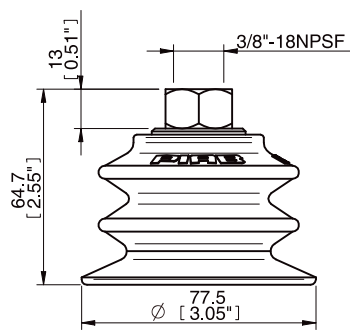
B



C

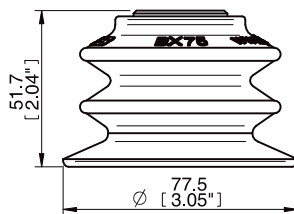


D



E

Rubber parts	Art. No.
Suction cup BX75P Polyurethane 30/60 with filter, for thread insert	0107145
Suction cup BX75P Polyurethane 60 with filter, for thread insert	0107150



Fittings	Art. No.
Thread insert G1/8" male, with O-ring and mesh filter	0200716
Thread insert G1/4" male, with O-ring and mesh filter	0201077
Thread insert G3/8" male, with O-ring	0106797

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

Spare Part	Material	Temperature range °C	Art. No.
Suction cup filter BX75P, 10 pcs	Polyester/TPE	-40-90	0201003

## BX110P



### Suction cup with 2½ bellows

- ▶ Suitable for level adjustment and for uneven and porous surfaces such as cardboard, etc.
- ▶ In the two-coloured suction cup the bellows and the sealing lip are of different hardnesses, which makes the suction cup strong and stable and, at the same time, soft and flexible.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane.
- ▶ The material DURAFLEX® is mark free.

### 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 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				
PU30°/60°	158	306	346	83*	258*	260*	230	55	39	237
PU60°	181	426	424	158*	244*	293*	230	55	39	237

\*The suction cup is not intended for handling shear lifts. The values are given as a dimensioning guide to be used when, e.g., the acceleration/retardation causes shear forces.

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU30	Yellow transparent	30	10–50
Polyurethane, PU60	Green transparent	60	10–50

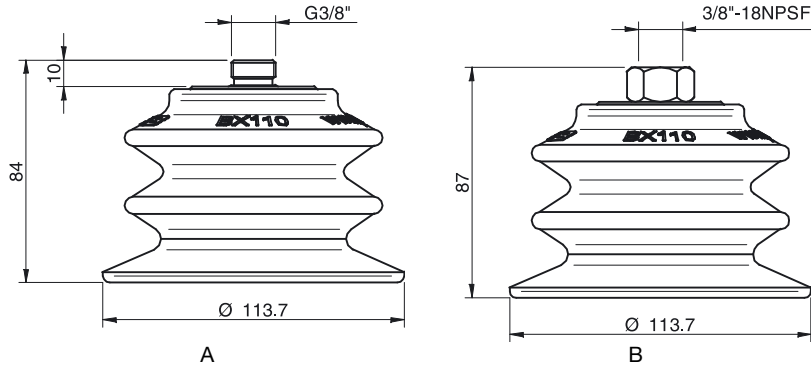
### Material resistance

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

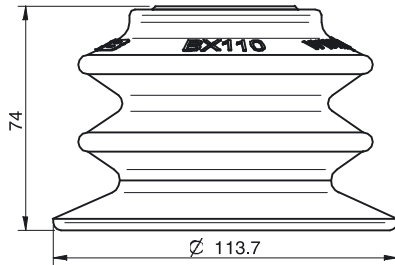
\*\*Please contact Piab.

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup BX110P Polyurethane 30/60 with filter, thread insert G3/8" male	0108273
B	Suction cup BX110P Polyurethane 30/60 with filter, 3/8" NPSF female	0108403
A	Suction cup BX110P Polyurethane 60 with filter, thread insert G3/8" male	0108341
B	Suction cup BX110P Polyurethane 60 with filter, 3/8" NPSF female	0108404



	Rubber parts	Art. No.
	Suction cup BX110P Polyurethane 30/60	0107093
	Suction cup BX110P Polyurethane 30/60, with filter	0108164
	Suction cup BX110P Polyurethane 60, with filter	0108340



	Fittings	Art. No.
	Thread insert G3/8" male, with O-ring	0106797

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

Spare Part	Material	Temperature range °C	Art. No.
Suction cup filter BX110P, 10 pcs	Polyester/TPE	-40-90	0201004



## B5 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.
- ▶ Suitable for level adjustment.

### 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
0.30	0.80	1.0	—	—	—	0.05	1.5	1.5	0.11

### Material specifications

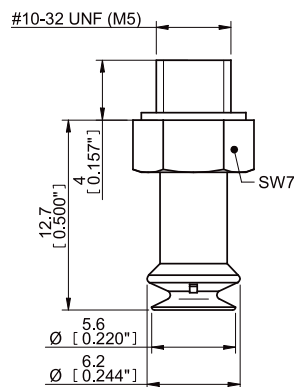
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

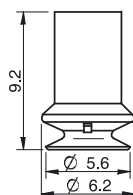
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### Ordering information

Complete suction cups	Art. No.
Suction cup B5 Silicone FDA, M5 male	9909604



Rubber parts	Art. No.
Suction cup B5 Silicone FDA	0200277



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

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



## B8 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.
- ▶ Suitable for level adjustment.

### 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
0.80	1.6	2.5	—	—	—	0.15	1.9	3.5	0.3

### Material specifications

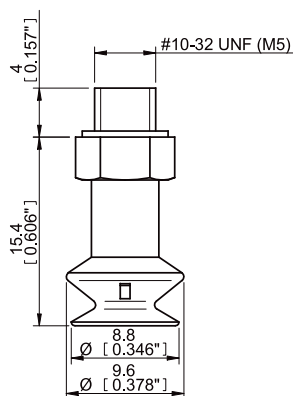
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

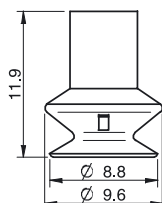
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

### Ordering information

Complete suction cups	Art. No.
Suction cup B8 Silicone FDA, M5 male	9909605



Rubber parts	Art. No.
Suction cup B8 Silicone FDA	0200278



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

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

## B10-2 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.
- ▶ Suitable for level adjustment.

### 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				
1.5	3.4	4.9	—	—	—	0.48	4.0	4.5	1.0

### Material specifications

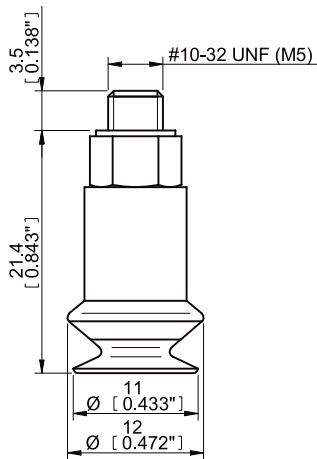
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

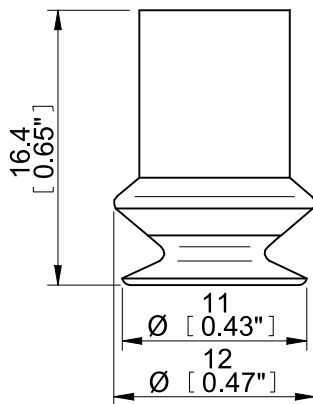
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B10-2 Silicone FDA, M5 male	9909606



Rubber parts	Art. No.
Suction cup B10-2 Silicone FDA	0200241



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

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

## B15-2 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.
- ▶ Suitable for level adjustment.

### 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				
2.9	5.9	8.9	—	—	—	1.1	5.0	6.5	1.5

### Material specifications

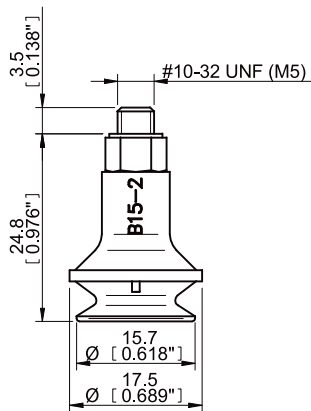
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

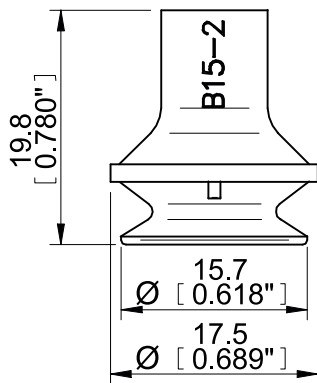
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B15-2 Silicone FDA, M5 male	9909607



Rubber parts	Art. No.
Suction cup B15-2 Silicone FDA	0200271



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

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

## B20 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
5.9	9.8	14	—	—	—	2.7	10	10	3.2

### Material specifications

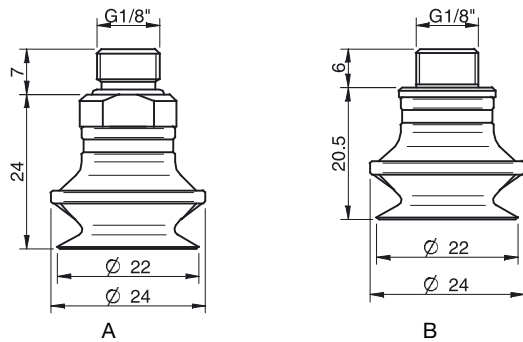
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

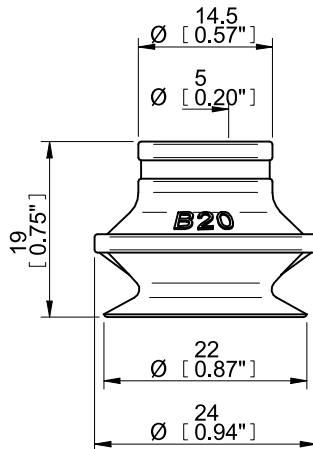
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup B20 Silicone FDA, G1/8" male, with mesh filter	9909608
B	Suction cup B20 Silicone FDA, G1/8" male/M5 female, with mesh filter	9909700



	Rubber parts	Art. No.
	Suction cup B20 Silicone FDA	0200405



	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.

## B30-2 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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	22.0	27	—	—	—	10	15	15	7.0

### Material specifications

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

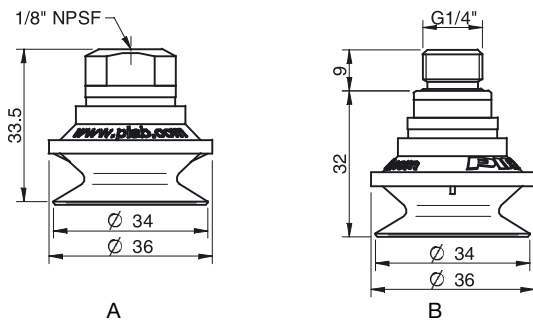
### Material resistance

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

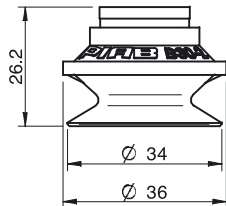


## Ordering information

	Complete suction cups	Art. No.
A	Suction cup B30-2 Silicone FDA, 1/8" NPSF female, with mesh filter	9909610
B	Suction cup B30-2 Silicone FDA, G1/4" male, with mesh filter	9909609



	Rubber parts	Art. No.
	Suction cup B30-2 Silicone FDA	0200407



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

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

## B40 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
22.0	39	49	—	—	—	15	20	12	10.0

### Material specifications

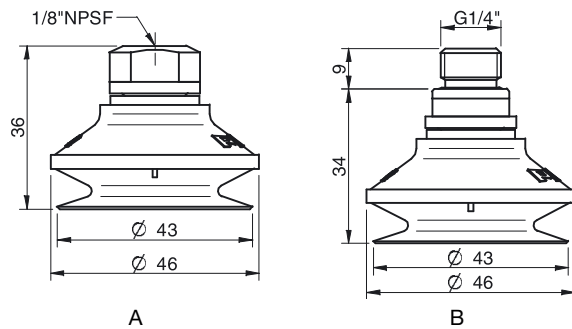
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

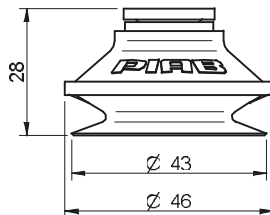
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup B40 Silicone FDA, 1/8" NPSF female, with mesh filter	9909613
B	Suction cup B40 Silicone FDA, G1/4" male, with mesh filter	9909611



	Rubber parts	Art. No.
	Suction cup B40 Silicone FDA	0200408



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

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

## B50 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
33	65	82	—	—	—	32	30	19	20.0

### Material specifications

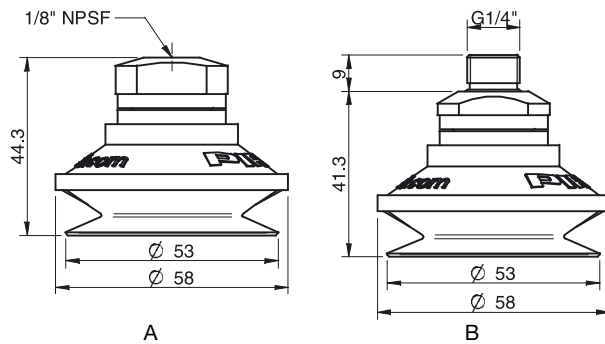
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

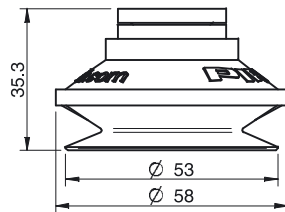
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup B50 Silicone FDA, 1/8" NPSF female, with mesh filter	9909709
B	Suction cup B50 Silicone FDA, G1/4" male, with mesh filter	9909614



	Rubber parts	Art. No.
	Suction cup B50 Silicone FDA	0200409



	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.

## B50-2 FDA



### Suction cup with short bellows and filter

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
33	65	82	—	—	—	32	30	19	20.0

### Material specifications

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

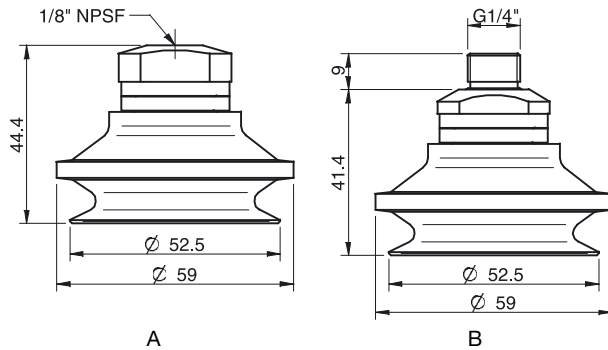
\* Filter disc max. 80 °C

### Material resistance

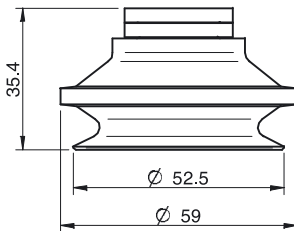
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups		Art. No
A	Suction cup B50-2 Silicone FDA with filter, 1/8" NPSF female, with mesh filter	9909619
B	Suction cup B50-2 Silicone FDA with filter, G1/4" male, with mesh filter	9909618



Rubber parts		Art. No.
Suction cup B50-2 Silicone FDA with filter		0200484



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.

Spare Part	Material	Temperature range °C	Art. No.
Filter for B50-2	Polyethylene, PE	-40-80	3150243

## B75 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
74	167	226	—	—	—	110	40	24	35

### Material specifications

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

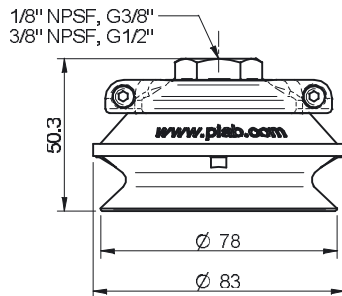
### Material resistance

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

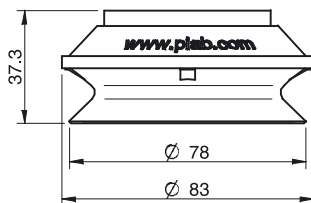


## Ordering information

Complete suction cups	Art. No.
Suction cup B75 Silicone FDA, G3/8" female, with mesh filter	0200546



Rubber parts	Art. No.
Suction cup B75 Silicone FDA	0200245



Fittings	Art. No.
Fitting 75, G3/8" female, with mesh filter	0100551

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

## B75-2 FDA



### Suction cup with short bellows and filter

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
74	167	226	—	—	—	110	40	24	35

### Material specifications

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

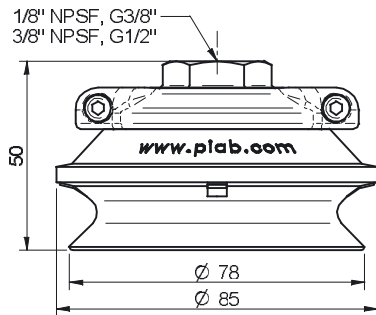
\* Filter disc max. 80 °C

### Material resistance

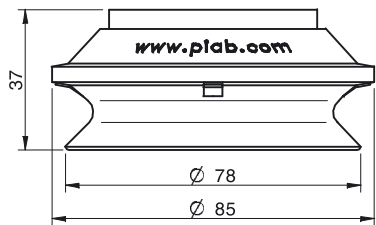
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B75-2 Silicone FDA with filter, G3/8" female, with mesh filter	0200531



Rubber parts	Art. No.
Suction cup B75-2 Silicone FDA with filter	0200485



Fittings	Art. No.
Fitting 75, G3/8" female, with mesh filter	0100551

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

Spare part	Material	Temperature range °C	Art. No.
Filter for B75-2	Polyethylene, PE	-40-80	3150244

## B110 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
137	343	461	—	—	—	310	60	35	120

### Material specifications

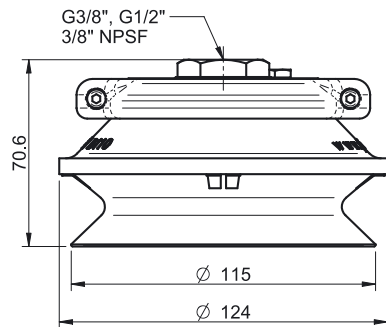
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL FDA	Transparent	50	-40–200

### Material resistance

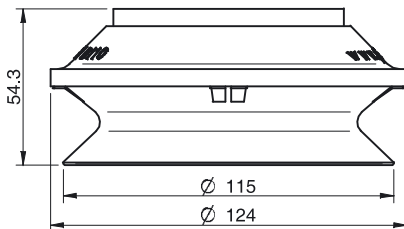
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B110 Silicone FDA, G1/2" female, with mesh filter	0200551



Rubber parts	Art. No.
Suction cup B110 Silicone FDA	0200246



Fittings	Art. No.
Fitting 110, G1/2" female, with mesh filter	0100561

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

## B110-2 FDA



### Suction cup with short bellows and filter

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
137	343	461	—	—	—	310	60	35	120

### Material specifications

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

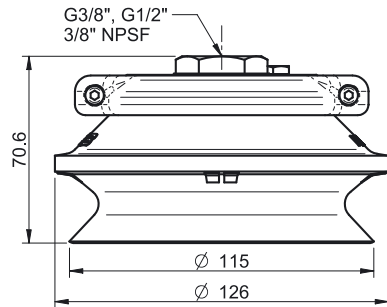
\* Filter disc max. 80 °C

### Material resistance

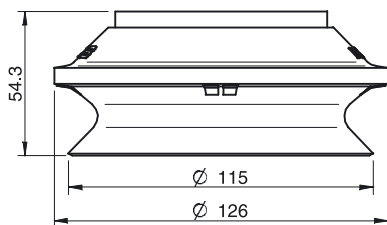
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL FDA	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

## Ordering information

Complete suction cups	Art. No.
Suction cup B110-2 Silicone FDA with filter, G1/2" female, with mesh filter	0200536



Rubber parts	Art. No.
Suction cup B110-2 Silicone FDA with filter	0200486



Fittings	Art. No.
Fitting 110, G1/2" female, with mesh filter	0100561

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

Spare Part	Material	Temperature range °C	Art. No.
Filter for B110-2	Polyethylene, PE	-40-80	3150249

## B150 FDA



### Suction cup with short bellows

- ▶ The silicone material complies with FDA 21 CFR 177.2600.
- ▶ Suitable for level adjustment. Several short bellows in one lifting device can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ The lifting movement can be used to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface of the object, in order to achieve good precision and safe lifting movement.

### 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				
294	686	883	—	—	—	650	75	45	265

### Material specifications

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

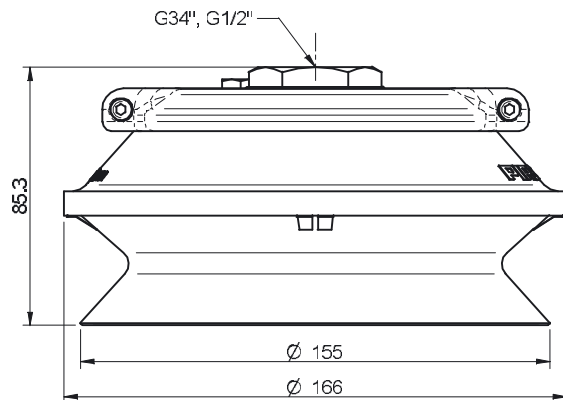
### Material resistance

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

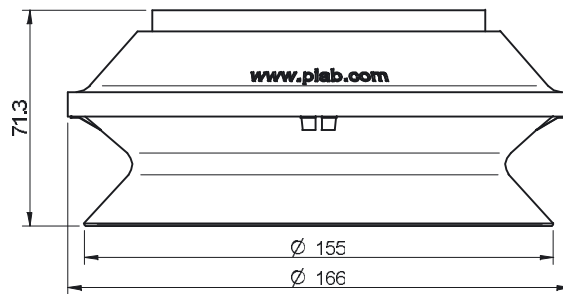


## Ordering information

Complete suction cups	Art. No.
Suction cup B150 Silicone FDA, G1/2" female, with mesh filter	0200552



Rubber parts	Art. No.
Suction cup B150 Silicone FDA	0200247



Fittings	Art. No.
Fitting 150, G1/2" female, with mesh filter	0100564

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

## B15MF



### Suction cup with short bellows, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
4.0	8.0	12.0	4.5	7.0	10.0	1.1	11	2.0	1.3

### Material specifications

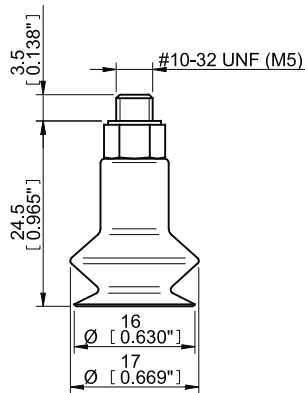
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20-80

### Material resistance

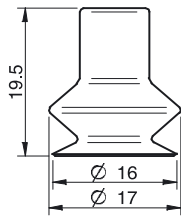
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

## Ordering information

Complete suction cups	Art. No.
Suction cup B15MF Thermoelastic polyurethane, M5 male	3250069



Rubber parts	Art. No.
Suction cup B15MF Thermoelastic polyurethane	3150264



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

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

## B20MF



### Suction cup with short bellows, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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				
4.5	15.5	21.0	6.3	11.0	19.0	2.7	11	8.0	2.0

### Material specifications

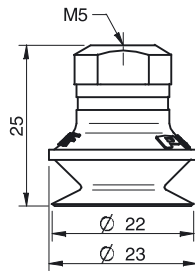
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20-80

### Material resistance

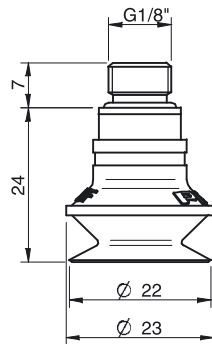
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

## Ordering information

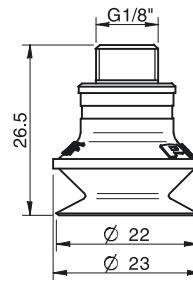
	Complete suction cups	Art. No.
A	Suction cup B20MF Thermoelastic polyurethane, M5 female	0101182
A	Suction cup B20MF Thermoelastic polyurethane, M5 female, with dual flow control valve	0101188
B	Suction cup B20MF Thermoelastic polyurethane, G1/8" male, with mesh filter	0101183
B	Suction cup B20MF Thermoelastic polyurethane, G1/8" male, with dual flow control valve and mesh filter	0101189
C	Suction cup B20MF Thermoelastic polyurethane, G1/8" male/M5 female, with mesh filter	0101187
C	Suction cup B20MF Thermoelastic polyurethane, G1/8" male/M5 fem., with dual flow control valve	0101191
D	Suction cup B20MF Thermoelastic polyurethane, 5xM5 female	0101186
D	Suction cup B20MF Thermoelastic polyurethane, 5xM5 female, with dual flow control valve	0101192



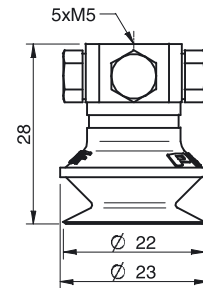
A



B

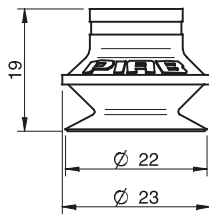


C



D

	Rubber parts	Art. No.
	Suction cup B20MF Thermoelastic polyurethane	0101111



	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

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

## B30MF



### Suction cup with short bellows, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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	40.0	54.5	14.5	32.0	41.0	10.0	16.5	12.0	7

### Material specifications

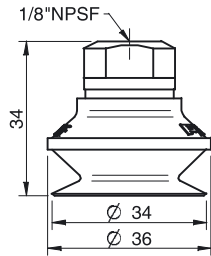
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20-80

### Material resistance

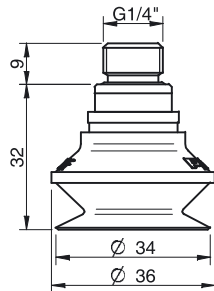
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

## Ordering information

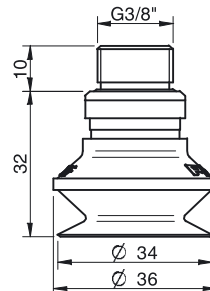
	Complete suction cups	Art. No.
A	Suction cup B30MF Thermoelastic polyurethane, 1/8" NPSF female, with mesh filter	0101449
A	Suction cup B30MF Thermoelastic polyurethane, 1/8" NPSF female, with dual flow control valve	0101450
B	Suction cup B30MF Thermoelastic polyurethane, G1/4" male, with mesh filter	0101444
C	Suction cup B30MF Thermoelastic polyurethane, G3/8" male, with mesh filter	0101446
D	Suction cup B30MF Thermoelastic polyurethane, 5x1/8" NPSF female	0101448



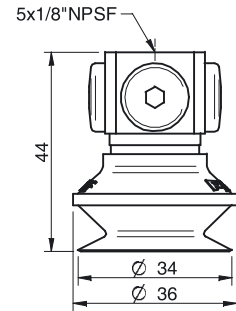
A



B

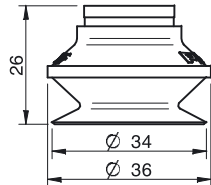


C



D

	Rubber parts	Art. No.
	Suction cup B30MF Thermoelastic polyurethane	0101112



	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

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

## B40MF



### Suction cup with short bellows, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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				
18	57	72	13.6	40	47	15	22	11	10

### Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20-80

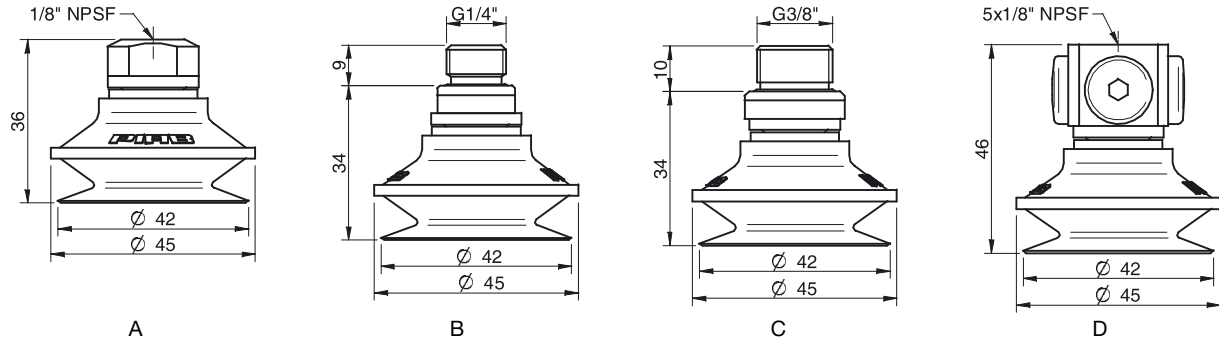
### Material resistance

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

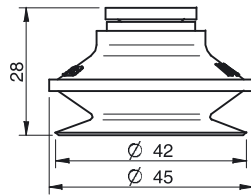


## Ordering information

	Complete suction cups	Art. No.
A	Suction cup B40MF Thermoelastic polyurethane, 1/8" NPSF female, with mesh filter	0101488
A	Suction cup B40MF Thermoelastic polyurethane, 1/8" NPSF female, with dual flow control valve	0101489
B	Suction cup B40MF Thermoelastic polyurethane, G1/4" male, with mesh filter	0101483
B	Suction cup B40MF Thermoelastic polyurethane, G1/4" male, with mesh filter and dual flow control valve	0101490
C	Suction cup B40MF Thermoelastic polyurethane, G3/8" male, with mesh filter	0101485
C	Suction cup B40MF Thermoelastic polyurethane, G3/8" male, with mesh filter and dual flow control valve	0101492
D	Suction cup B40MF Thermoelastic polyurethane, 5x1/8" NPSF female	0101487



	Rubber parts	Art. No.
	Suction cup B40MF Thermoelastic polyurethane	0101113



	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

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

## B50MF



### Suction cup with short bellows, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Only lightweight objects should be handled when the lifting force is parallel to the surface.

### 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				
30	93	136	23	63	97	32	26	13	19

### Material specifications

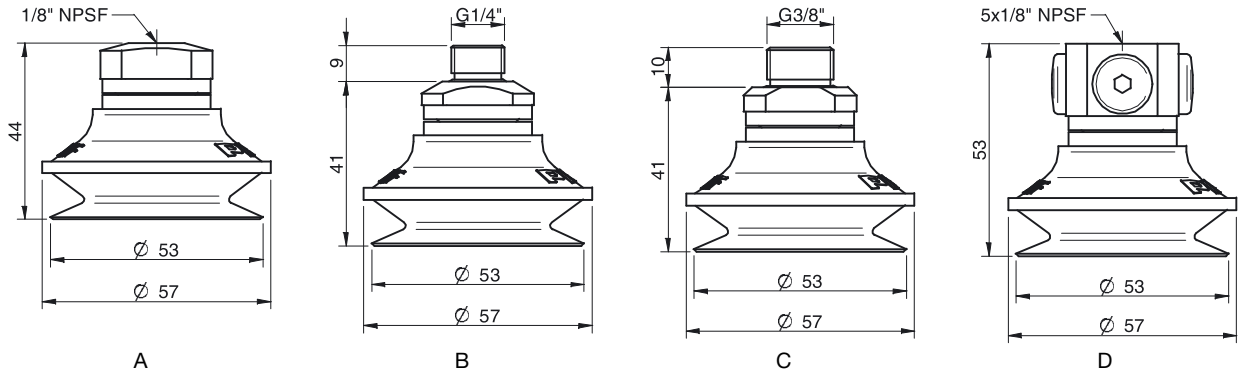
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20-80

### Material resistance

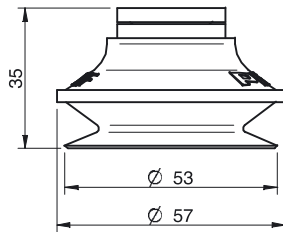
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

## Ordering information

	Complete suction cups	Art. No.
A	Suction cup B50MF Thermoelastic polyurethane, 1/8" NPSF female, with mesh filter	0101688
A	Suction cup B50MF Thermoelastic polyurethane, 1/8" NPSF female, with dual flow control valve	0101689
B	Suction cup B50MF Thermoelastic polyurethane, G1/4" male, with mesh filter	0101683
B	Suction cup B50MF Thermoelastic polyurethane, G1/4" male, with dual flow control valve and mesh filter	0101690
C	Suction cup B50MF Thermoelastic polyurethane, G3/8" male, with mesh filter	0101685
D	Suction cup B50MF Thermoelastic polyurethane, 5x1/8" NPSF female	0101687



	Rubber parts	Art. No.
	Suction cup B50MF Thermoelastic polyurethane	0101114



	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

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

## BFF40P, BFF60P, BFF80P, BFF110P



### Features

- ▶ Special designed friction cups for oily surfaces, such as sheets in metal forming processes.
- ▶ Normal wear on friction cup will not affect the long term shear force performance.
- ▶ Best choice if  $> 0,1\text{g/m}^2$  press oil is used on the sheet.
- ▶ Thanks to the strong grip on oily surfaces, the suction cups can withstand high shear forces, typically 2–4 times more than corresponding conventional suction cups.
- ▶ The "BFF" design is suitable for uneven/curved surfaces or if level compensation is needed, for example in de-stacking applications.
- ▶ The flat inner support gives stability during movement in any orientation.
- ▶ DURAFLEX® suction cups manufactured in a specially developed material that features the elasticity of rubber and wear resistance of polyurethane. The material does not leave any marks on the objects handled.

### Lifting forces & Technical data

Model	Material to be handled	Lifting forces vertical to the surface, N, at vacuum level		Friction/shear forces parallel to the surface, N, at vacuum level		Volume cm <sup>3</sup>	Min. curve radius mm	Weight g
		60 -kPa	90 -kPa	60 -kPa	90 -kPa			
BFF40P	Oily steel plate	45 (43*)	60 (56*)	35 (60*)	45 (81*)	10	23	20–34
BFF60P	Oily steel plate	82 (77*)	106 (112*)	76 (90*)	93 (122*)	20	35	30–61
BFF80P	Oily steel plate	174 (176*)	207 (236*)	110 (201*)	160 (240*)	50	50	66–141
BFF110P	Oily steel plate	284 (279*)	345 (377*)	235 (298*)	253 (346*)	110	95	160–275

Values valid for steel sheet with surface finish Ra 1 and 2-3g/m<sup>2</sup> of press oil. \*) Dry metal sheet

### Material specifications

Material	Colour	Hardness, °Shore A	Temperature range, °C
Polyurethane, PU55	Orange	55	10–50
Polyurethane, PU60	Green transparent	60	10–50

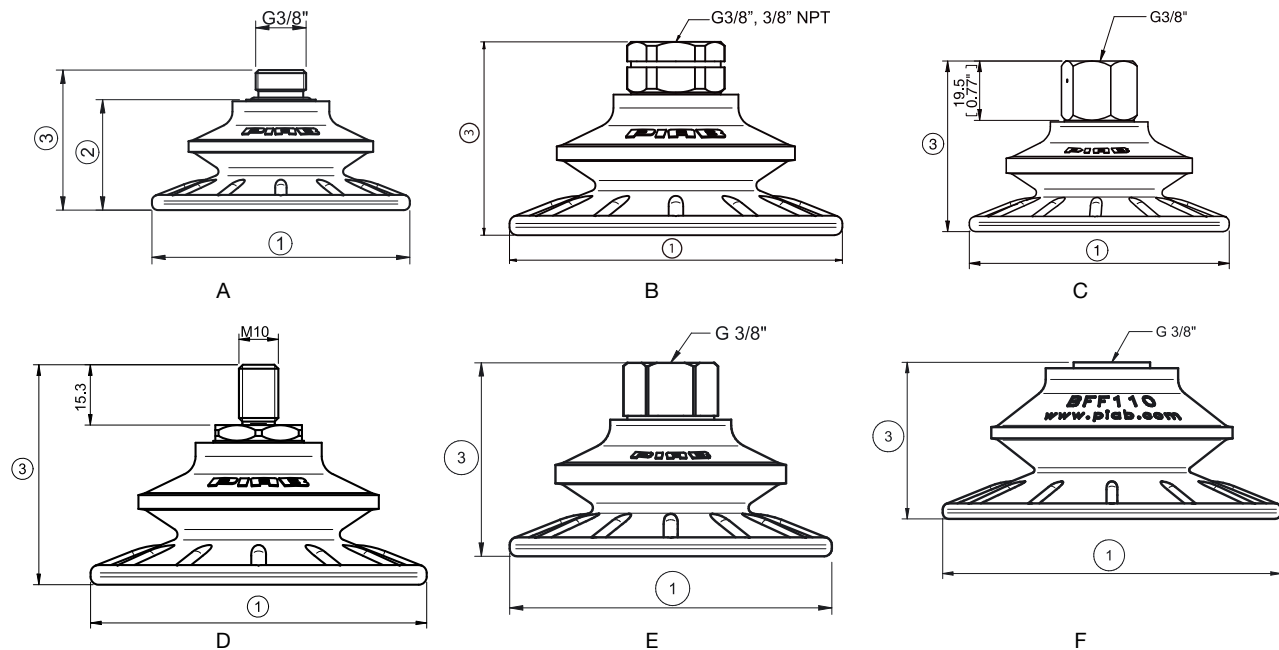
### Material resistance

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

\*\*Please contact Piab.

## Ordering information

	Complete suction cups	Code	Art. No.
A	Suction cup BFF40P Polyurethane 55/60, G3/8" male, with mesh filter	BFF40P.4R.04UF	0118991
B	Suction cup BFF40P Polyurethane 55/60, G3/8" female	BFF40P.4R.04UA	0118992
C	Suction cup BFF40P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF40P.4R.G63W	0200697
B	Suction cup BFF40P Polyurethane 55/60, 3/8" NPT female	BFF40P.4R.04UN	0122278
D	Suction Cup BFF40P Polyurethane 55/60, M10x1.5 male	BFF40P.4R.M10M	0121427
A	Suction cup BFF60P Polyurethane 55/60, G3/8" male, with mesh filter	BFF60P.4R.06UF	0118994
B	Suction cup BFF60P Polyurethane 55/60, G3/8" female	BFF60P.4R.06UA	0118995
C	Suction cup BFF60P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF60P.4R.G64W	0200699
E	Suction cup BFF60P Polyurethane 55/60, G3/8" female, plastic thread	BFF60P.5RC.G56WC	0124742
B	Suction cup BFF60P Polyurethane 55/60, 3/8" NPT female	BFF60P.4R.06UN	0122279
D	Suction cup BFF60P Polyurethane 55/60, M10x1.5 male	BFF60P.4R.M10M	0121428
A	Suction cup BFF80P Polyurethane 55/60, G3/8" male, with mesh filter	BFF80P.5R.G45M	0118997
B	Suction cup BFF80P Polyurethane 55/60, G3/8" female	BFF80P.5R.G45W	0118670
C	Suction cup BFF80P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF80P.5R.G65W	0200695
E	Suction cup BFF80P Polyurethane 55/60, G3/8" female, plastic thread	BFF80P.5RC.G56WC	0124717
B	Suction cup BFF80P Polyurethane 55/60, 3/8" NPT female	BFF80P.5R.N47W	0122280
D	Suction cup BFF80P Polyurethane 55/60, M10x1.5 male	BFF80P.5R.M10M	0121384
A	Suction cup BFF110P Polyurethane 55/60, G3/8" male, with mesh filter	BFF110P.5R.G45M	0118671
B	Suction cup BFF110P Polyurethane 55/60, G3/8" female	BFF110P.5R.G45W	0118673
C	Suction cup BFF110P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF110P.5R.G65W	0200696
F	Suction cup BFF110P Polyurethane 55/60, G3/8" female, plastic thread	BFF110P.5RC.G57WC	0124734
B	Suction cup BFF110P Polyurethane 55/60, 3/8" NPT female	BFF110P.5R.N47W	0122281
D	Suction cup BFF110P Polyurethane 55/60, M10x1.5 male	BFF110P.5R.M10M	0121430



Measures complete suction cups	BFF40P				BFF60P					BFF80P					BFF110P				
	A	B	C	D	A	B	C	D	E	A	B	C	D	E	A	B	C	D	F
1	45	45	45	45	61	61	61	61	61	85	85	85	85	85	115	115	115	115	115
2	22	—	—	—	26	—	—	—	—	37	—	—	—	—	53	—	—	—	—
3	32	32	38.7	51.5	36	36	42.5	55.3	40	46	50	56	55.8	51	63	66	72.5	72.3	53
Max. vertical movement, mm	7	7	7	7	10	10	10	10	10	14	14	14	14	14	21	21	21	21	21
Max. expanding lip, mm	46	46	46	46	62	62	62	62	62	87	87	87	87	87	118	118	118	118	118