

Vacuum Automation 2.1

The future depends on good product choices








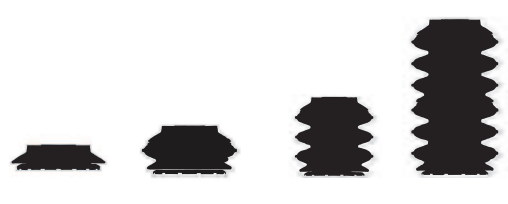
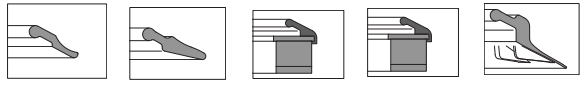




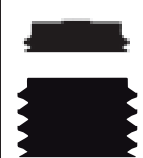
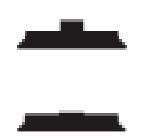









 **piab**


















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33Suction cup selection

Suction cup category		Features	Applications
	piGRIP® Modular suction cups	<ul style="list-style-type: none"> ▶ Unique modular suction cup concept with individually optimized lips and bellows for gripping, lifting and height compensation on almost any kind of object. ▶ A large selection of fittings makes piGRIP® cups ready to fit new machines and easy to retrofit. ▶ The material is 100% recyclable. ▶ Available in FDA approved qualities; silicone (PWIS) free and mark free versions. ▶ The combination of firm bellows and soft lips will allow for high machine speeds. 	Smooth, textured, uneven and also very rough surfaces on objects such as plastic pieces, wood, sheet metal (dry), glass, corrugated cardboard, carton, food, tiles, etc.
	DURAFLEX® Single durometer	<ul style="list-style-type: none"> ▶ Manufactured in a material that features the elasticity of rubber and wear resistance of polyurethane. ▶ The material is silicone free and mark free. ▶ Has an exceptional elastic memory. ▶ The single durometer DURAFLEX® cups are extra wear resistant and long lasting. 	Smooth surfaces on objects such as plastic pieces, furniture parts, sheet metal (dry), glass, solar panels, etc.
	DURAFLEX® Dual durometer	<ul style="list-style-type: none"> ▶ Manufactured in a material that features the elasticity of rubber and wear resistance of polyurethane. ▶ The material is silicone free and mark free. ▶ Has an exceptional elastic memory. ▶ The dual durometer DURAFLEX® cups have firm bellows or body and a soft pliable lip. ▶ The suction cup is then stable, durable and flexible with excellent sealing properties. 	Textured, uneven and also very rough surfaces on objects such as plastic pieces, wood, sheet metal (dry), glass, corrugated cardboard, carton, tiles, etc.
	DURAFLEX® Friction	<ul style="list-style-type: none"> ▶ Manufactured in a material that features the elasticity of rubber and wear resistance of polyurethane. ▶ The material is silicone free and mark free. ▶ Has an exceptional elastic memory. ▶ Have an exceptional grip/shear force on oily surfaces. ▶ Wear on the cups will not degrade the shear/grip performance, it will improve. ▶ These cups are outstanding for handling oily metal sheets with high speed and accelerations. 	Oily metal sheets and other lubricated surfaces.
	DURAFLEX® Bag	<ul style="list-style-type: none"> ▶ Manufactured in a material that features the elasticity of rubber and wear resistance of polyurethane. ▶ The material is silicone free and mark free. ▶ Has an exceptional elastic memory. ▶ Specially designed for plastic bag handling. ▶ The unique suction cup fitting allows the high initial flow needed for a secure grip. ▶ The dual-hardness suction cup with soft lip and firm bellows offers better sealing capabilities. ▶ Stable and secure handling. 	Plastic bag handling.

Model/Size range (mm)					
Model 25-77			Lip type (S, FX, FLIS, FLIF, BG)		
					
10-110 (B, BX)	80-110 (BF)	20-150 (F, FC)	20 (U)	20x60-65x170 (OB, OBL)	10x30-70x175 (OC, OF)
					
10-110 (B, BX)	80-110 (BF)	75-110 (F)	35x90-65x170 (OB)		
					
40-110 (BFF)	35-125 (FCF)	35x90-65x170 (OBF)	20x80-40x110 (OCF)		
					
30-50 (BL)					
					

Suction cup category		Features	Applications
	Silicone	<ul style="list-style-type: none"> ▶ Durable and food grade silicone material (FDA approved). ▶ Soft and pliable. ▶ Possible to get a good grip on non-smooth surfaces, e.g. food parts. ▶ Wide temperature range. ▶ Available from very small sizes. ▶ Options with detectable silicone material and conductive/anti-static silicone. 	Contact with food or FDA environments, packages, pre-coloured plastic parts (high temperature) , bakery (detectable), electronics/ semiconductor (conductive/anti-static).
	Silicone Bag	<ul style="list-style-type: none"> ▶ Durable and food grade silicone material (FDA approved). ▶ Soft and pliable. ▶ Tailor-made for handling different types of bags and pouches with varying content. ▶ The design is optimized for uneven, wrinkled bags and pouches. ▶ It will minimize the “surface leakage” and maximize the grip. ▶ The unique fitting allows the high initial flow needed for a secure grip. 	Bags with fragile contents and food, bags with liquids, viscous contents and frozen food, “easy” bags, open bags.
	Nitrile-PVC and CR	<ul style="list-style-type: none"> ▶ Oil, petrol and ozone resistant material. ▶ Larger sizes are made of Nitrile-PVC and smaller sizes of CR (Chloroprene). 	Conventional suction cup material for general purposes.
	TPU	<ul style="list-style-type: none"> ▶ Probably the most mark-free suction cups on the market! (Almost all suction cups will leave detectable marks or traces on a “micro” level, some washable, others not. Tests have proven that these TPU cups are the best options when marks are not allowed.) 	Solar panels, glass, displays, screens.
	HNBR	<ul style="list-style-type: none"> ▶ High temperature applications where silicone or other paint-wetting impairment substances (PWIS) are not allowed. ▶ Made of HNBR. ▶ Very durable and wear resistant. 	Removing hot plastic parts from injection molding equipment, glass handling.

Model/Size range (mm)				
5-150 (B, BBL) 	15-150 (F) 	15-50 (D) 	2-50 (U) 	
20-50 (BL) 	15 (U) 			
5-150 (B, BL) 	15-150 (F) 	15-50 (D) 	4-50 (U) 	60x140 (OC) 
15-20 (B) 	15-20 (F) 			
20-110 (B) 	50-110 (F) 			

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
Nitrile-PVC, NPV	Excellent	Excellent	Good	Good	Excellent	Fair	Good	Good
Thermoelastic polyurethane, TPU	Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good
Polyurethane, PUR	Excellent	Excellent	Excellent	Poor	Fair	Poor	Fair	Good
Ethylene propylene, EPDM	Fair	Poor	Excellent	Good	Poor	Poor	Excellent	Excellent
Nitrile, NBR	Excellent	Excellent	Fair	Good	Good	Fair	Good	Good
HNBR	Excellent	Excellent	Excellent	Good	Excellent	Fair	Good	Excellent

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

*Please contact Piab.

Material	FDA approved	PWIS free	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Acids	Ethanol	Methanol oxidation
TPE (piGRIP® Support)	No	Yes	Excellent	Excellent	Excellent	Fair	Poor	Poor	Good	Good
TPE (piGRIP® Lip)	Yes	No	Fair	Poor	Excellent	Poor	Poor	Poor	Excellent	Good

Examples of applications

	Chloroprene	Silicone	Conductive silicone	Nitrile-PVC	Nitrile	Polyurethane			Ethylene propylene	HNBR	Thermo Plastic Elastomers
	CR	SIL	CSIL	NPV	NBR	PU	PUR	TPU	EPDM	HNBR	TPE
Food-stuff		x									x
Oily objects	x			x	x	x	x	x		x	
Mark free requirements						x	x	x			
High temperature environments		x	x							x	
Low temperature environments	x	x	x							x	
Rough/uneven surfaces									x		
Electrical components			x						x		
Sensitivity to static electricity			x								

piGRIP® – Thousands of suction cups ready to improve your machine

A unique modular suction cup concept with individually optimized parts for gripping, lifting and height compensation.

FITTING & FLOW RESTRICTORS

A large selection of fittings makes piGRIP® cups ready to fit new machines and easy to retrofit existing cups. Available are both threaded and push on fittings. In applications with a centralized vacuum pump, flow restrictors reduce vacuum flow and maintain vacuum when handling non-leaking objects.

BELLOWS

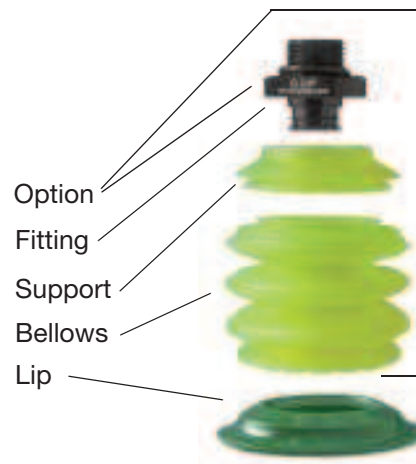
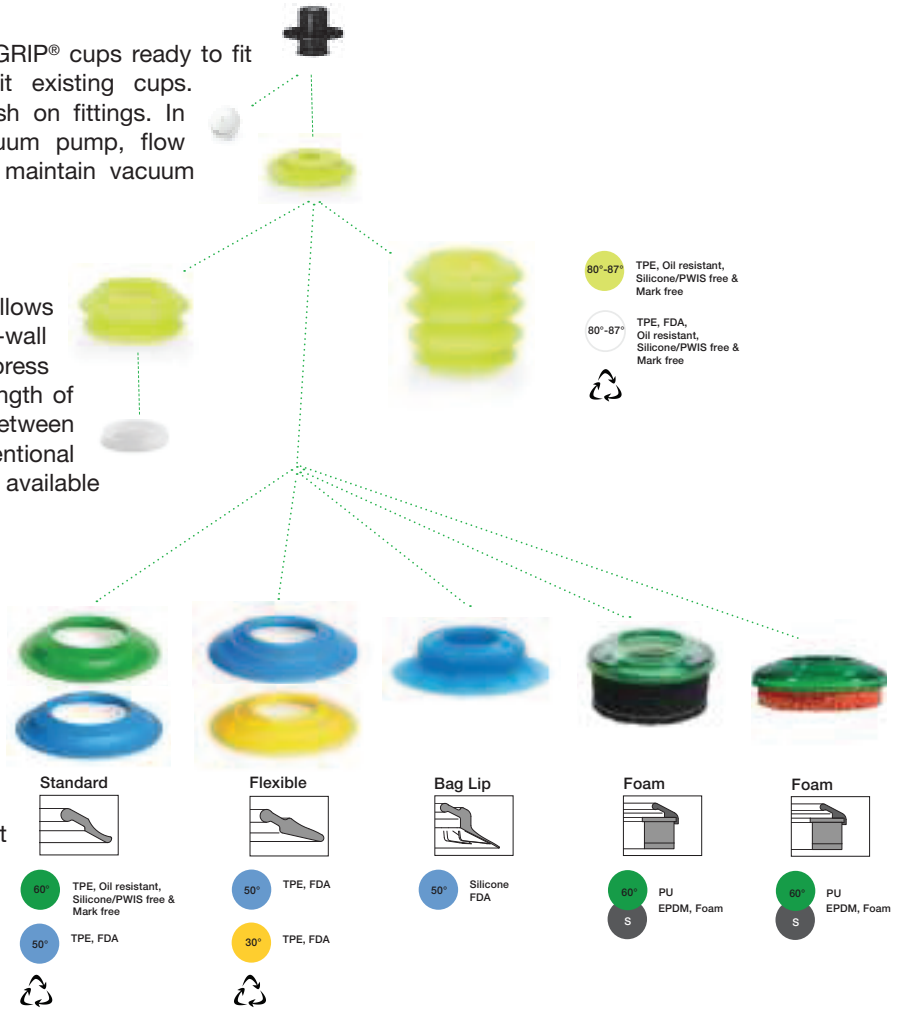
Firm and Stable 1-, 3- and 6- folded bellows allows for faster machine speeds. Thin-wall design makes them faster to compress using less force and energy. The strength of the material increases lifting capacity between 30-50% compared to similar conventional cups. FDA-approved material available (transparent).

FILTERS




A low micron filter disc inside the bellows traps dust and particles increasing system reliability. A mesh filter is available in the fitting.

LIPS

Get an excellent grip on almost anything with the right lip for your application. Choose standard lips from 60° shore to extremely flexible, soft lips in 30° shore. Tailor-made Bag lips for handling bags and pouches. Even foam lips for objects which are difficult to grip with traditional cups.



piGRIP® Configurable products

Product Group									
	piGRIP®	Lip			Bellows or Flat Cup		Support		
Code	Dimension & Type		Material & Durometer		Code	Description	Code	Description	
G	Code	Description	Code	Description					
	S25	Ø 25 mm Standard lip	T60 T50	TPE 60° Shore A TPE 50° Shore A	B1	1 Bellows	S1	Support	
	S35	Ø 35 mm Standard lip			B3	3 Bellows			
	S50	Ø 50 mm Standard lip			B6	6 Bellows (3+3)			
	S70	Ø 70 mm Standard lip			F	Flat			
	FX28	Ø 28 mm Flexible lip	T50 T30	TPE 50° Shore A TPE 30° Shore A					
	FX39	Ø 39 mm Flexible lip							
	FX55	Ø 55 mm Flexible lip							
	FX77	Ø 77 mm Flexible lip							
	FLI25S	Ø 25 mm Foam lip	S	Foam EDPM (soft)					
	FLI35S	Ø 35 mm Foam lip							
	FLI50S	Ø 50 mm Foam lip							
	FLI70S	Ø 70 mm Foam lip							
	FLI25F	Ø 25 mm Foam lip	F	Foam NR (firm)					
	FLI35F	Ø 35 mm Foam lip							
	FLI50F	Ø 50 mm Foam lip							
	FLI70F	Ø 70 mm Foam lip							
	BG34	Ø 34 mm Bag lip	S50	Silicone 50° Shore A					
	BG48	Ø 48 mm Bag lip							
	BG63	Ø 63 mm Bag lip							

Lips are available as spare parts.

G . S50T60 . B3 . S1 .

Code	Type Description	Fitting		Code	Style Description
		Code	Size Description		
G NT	G-Thread NPT-Thread	18	1/8"	M	Male
		14	1/4"		
		38	3/8"		
GL NTL	G-Thread low NPT-Thread low	18	1/8"	M	Male
		14	1/4"		
		38	3/8"		
NS G*	NPSF-Thread G-Thread	18*	1/8"	F	Female
		14	1/4"		
		38	3/8"		
		12	1/2"		
		518*	5x1/8"		
NT	NPT-Thread	14	1/4"	F	Female
		38	3/8"		
M	M-Thread	M6	M6	M	Male
		MF8	M8x1		
		M10	M10		
		MF14	M14x1		
		MF16	M16x1.5		
M	M-Thread	M5	M5	F	Female
		M6	M6		
		M8	M8		
		M10	M10		
		M12	M12		
		MF16	M16x1.5		
U	UNC-Thread	12	1/2"	F	Female
X	No type	X	No size	X	No style

Push-on fitting sold separately.

Option	
Code	Description
00	No filter
01	Filter mesh
02	Filter disc (only bellows cup)
03	Flow restrictor Ø 0.7
04	Flow restrictor Ø 1.0
05	Flow restrictor Ø 1.3
06	Flow restrictor Ø 0.7 and filter disc
07	Flow restrictor Ø 1.0 and filter disc
08	Flow restrictor Ø 1.3 and filter disc
09	Sense
10	Sense and filter disc

FDA approved option incl. material certificate	
Code	Description
FDA	No* US Food and Drug Administration

*) Leave blank for no certificate.

G38M . 01 . ()

Option

Fitting

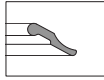
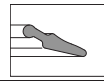
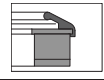
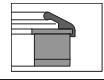

Support

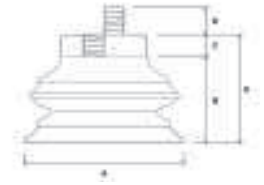
Bellows

Lip



Suction cup dimensions, mm

Lip type & size	Dim. A	Dim B.				
		F (Flat)	B-1 (1 Bellows)	B-3 (3 Bellows)	B-6 (3+3 Bellows)	
	S25	25	10.9	18.7	29.8	48.7
	S35	35	12.4	23.3	38.8	65.2
	S50	50	14.7	30.3	52.4	90.1
	S70	70	17.8	39.6	70.6	123.4
	FX28	28	11.4	19.2	30.3	49.2
	FX39	38	13.1	24.0	39.5	65.9
	FX55	55	15.7	31.3	53.4	91.1
	FX77	77	19.2	41	72	124.8
	FLI25S	25	17.5	25.3	36.4	55.3
	FLI35S	35	21.5	32.4	47.9	74.3
	FLI50S	50	32.1	47.7	69.8	107.5
	FLI70S	70	34.1	55.9	86.9	139.7
	FLI25F	25	16	23.8	34.9	53.8
	FLI35F	35	17	27.9	43.4	69.8
	FLI50F	50	21.1	36.7	58.8	96.5
	FLI70F	70	23.1	44.9	75.9	128.7
	BG34	34	15.5	23.3	34.4	53.3
	BG48	48	18.4	29.3	44.8	71.2
	BG63	63	21.3	36.9	59	96.7



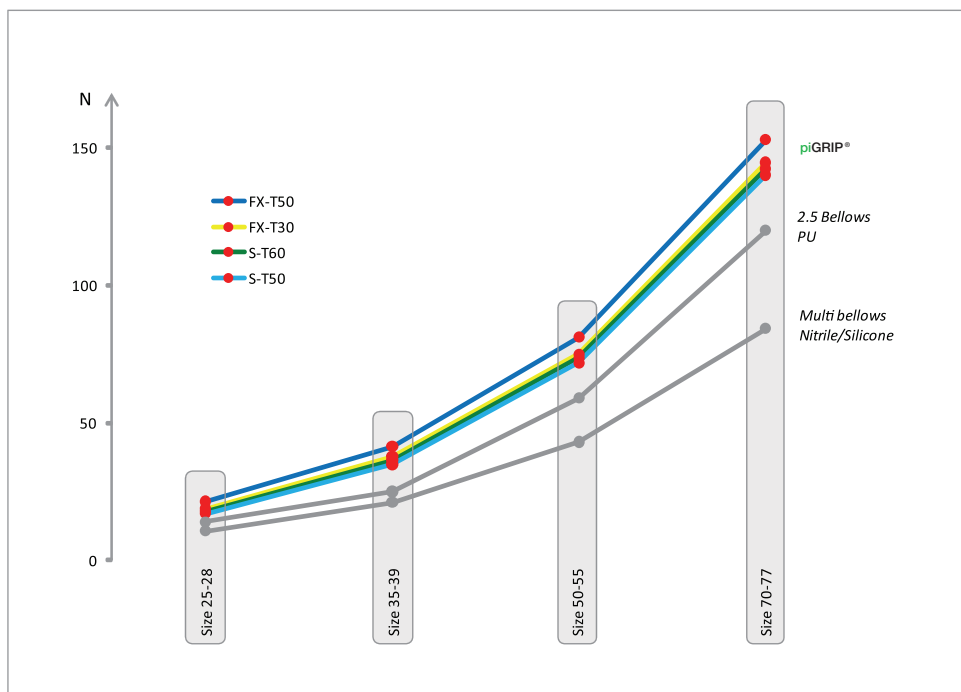
Build height:

$$B + C = H$$

$$18.7 + 5 = 23.7 \text{ mm}$$

piGRIP® Material Data

Up to 50% improved lifting force with piGRIP®. Use fewer cups or smaller sizes.



Proven function and lifting capacity within specified area of operation.

See suction cup selection guide on www.piab.com for specified performance data.










Material Specifications

Material	Hardness Shore A °	Item(s)	Colour	Temp. range ° C	Special qualities
TPE	80-87	Support S1	Lime/Transparent	-20 – 80 / 120*	FDA**, silicone/PWIS free, mark free, oil resistant
TPE	87	Bellows	Lime/Transparent	-20 – 80 / 120*	FDA**, silicone/PWIS free, mark free, oil resistant
TPE	60	Standard Lip (S) T60	Green	-20 – 80 / 120*	Silicone/PWIS free, mark free, oil resistant
TPE	50	Standard Lip (S) T50	Blue	-40 – 80 / 120*	FDA
TPE	50	Flexible Lip (FX) T50	Blue	-40 – 80 / 120*	FDA
TPE	30	Flexible Lip (FX) T30	Yellow	-40 – 80 / 100*	FDA
EPDM	-	Foam Lip (FLI-S)	Black	-40 – 120	Ultra soft cellular rubber
NR	-	Foam Lip (FLI-F)	Orange	-20 – 80	Firm natural rubber
PU	60	Foam Lip holder	Green	10 – 50	

*) Max Temperature short term contact, <10 sec and 50% intermittence, ambient temperature 15-30 °C, mechanical properties will start to degrade.

**) FDA approved option in transparent material.

Fitting dimensions, mm

Type	Code	Dim. C	Dim. D	Description	Recommended fitting size for best performance*			
					S25 FX28 FLI25	S35 FX39 FLI35	S50 FX55 FLI50	S70 FX77 FLI70
	G18M	5	6	Fitting G1/8" male	x	x	x	
	G14M	6	9	Fitting G1/4" male	x	x	x	x
	G38M	6	10	Fitting G3/8" male		x	x	x
	G12M	6	10	Fitting G1/2" male			x	x
	GL18M	1.5	6	Fitting G1/8" low male	x	x	x	
	GL14M	1.5	9	Fitting G1/4" low male	x	x	x	x
	GL38M	1.5	10	Fitting G3/8" low male		x	x	x
	NT18M	5	7	Fitting 1/8" NPT male	x	x	x	
	NT14M	6	11	Fitting 1/4" NPT male	x	x	x	x
	NT38M	6	11.5	Fitting 3/8" NPT male		x	x	x
	NT12M	6	15	Fitting 1/2" NPT male			x	x
	NTL18M	1.5	7	Fitting 1/8" NPT low male	x	x	x	
	NTL14M	1.5	11	Fitting 1/4" NPT low male	x	x	x	x
	NTL38M	1.5	11.5	Fitting 3/8" NPT low male		x	x	x
	MM6M	5	6	Fitting M6 male	x	x		
	MMF8M	5	6	Fitting M8 x 1 male	x	x	x	
	MM10M	6	10	Fitting M10 male	x	x	x	
	MMF14M	6	12	Fitting M14 x 1 male	x	x	x	x
	MMF16M	6	12	Fitting M16 x 1.5 male		x	x	x
	G14F	10	-	Fitting G1/4" fem	x	x	x	
	G38F	13	-	Fitting G3/8" fem		x	x	x
	G12F	14	-	Fitting G1/2" fem			x	x
	NS18F**	7	-	Fitting 1/8" NPSF fem	x	x	x	
	NS14F	10	-	Fitting 1/4" NPSF fem	x	x	x	x
	NS38F	13	-	Fitting 3/8" NPSF fem		x	x	x
	NS12F	14	-	Fitting 1/2" NPSF fem			x	x
	NS518F**	18	-	Fitting 5x1/8" NPSF fem	x	x	x	
	NT14F	12	-	Fitting 1/4" NPT fem	x	x	x	x
	NT38F	13	-	Fitting 3/8" NPT fem		x	x	x
	U12F	12	-	Fitting 1/2" UNC fem			x	x
	MM5F	6	-	Fitting M5 fem	x	x		
	MM6F	6	-	Fitting M6 fem	x	x		
	MM8F	7	-	Fitting M8 fem	x	x	x	
	MM10F	7	-	Fitting M10 fem	x	x	x	
	MM12F	12	-	Fitting M12 fem	x	x	x	
	MMF16F	13	-	Fitting M16 x 1.5 fem		x	x	x

*) No flow restriction or excessive volume to evacuate, which will deteriorate the performance of the vacuum system.

**) Fitting code G18F and G518F are automatically changed to NS18F and NS518F due to identical threads.

Go to suction cup selection guide on www.piab.com to configure your suction cup.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

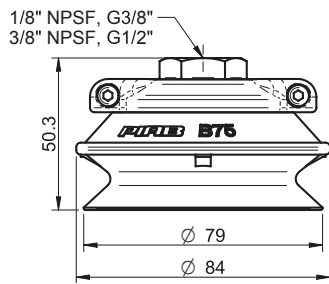
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

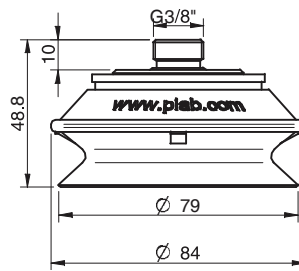
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

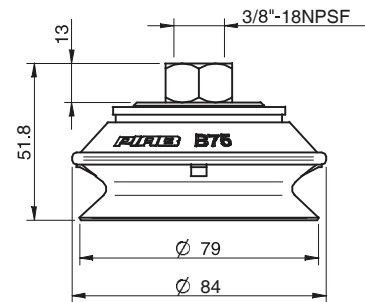
	Complete suction cups	Art. No
A	Suction cup B75P Polyurethane 30/60, 1/8" NPSF female, with mesh filter	0106345
A	Suction cup B75P Polyurethane 30/60, G3/8" female, with mesh filter	0106346
A	Suction cup B75P Polyurethane 30/60, 3/8" NPSF female, with mesh filter	0106347
A	Suction cup B75P Polyurethane 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

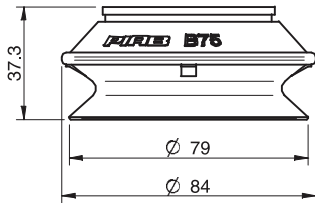


B

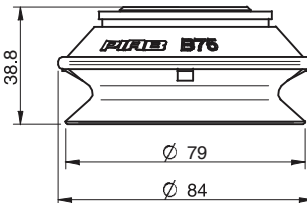


C

	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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

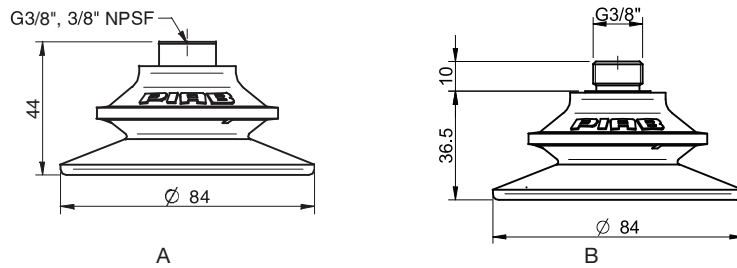
Material resistance

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

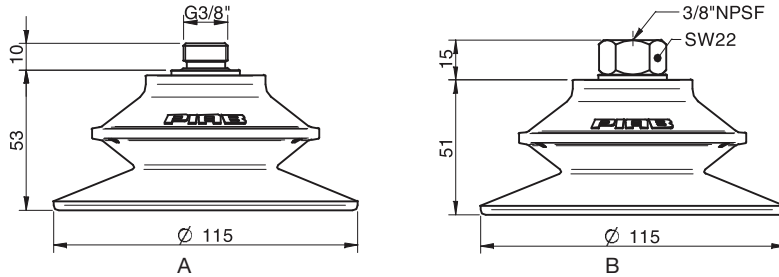
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

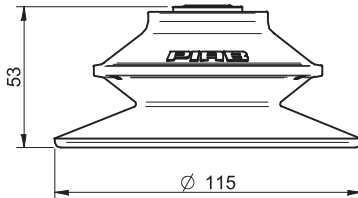
Suction cups/grippers DURAFLEX® Single and dual

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

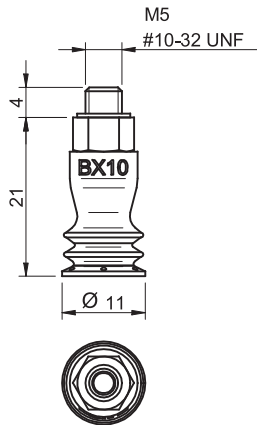
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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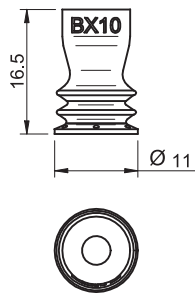
Suction cups/grippers DURAFLEX® Single and dual

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

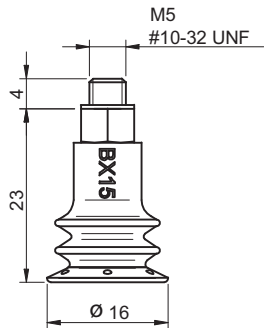
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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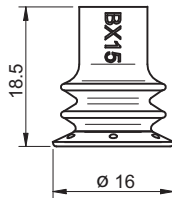
Suction cups/grippers DURAFLEX® Single and dual

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

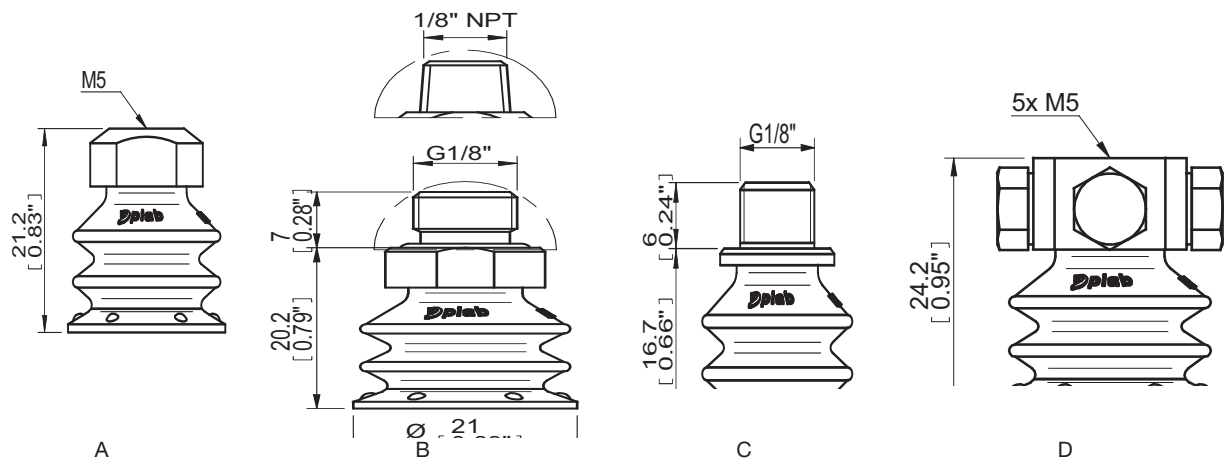
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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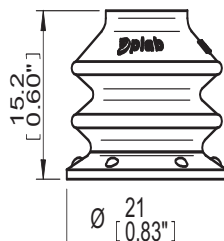
Suction cups/grippers DURAFLEX® Single and dual

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

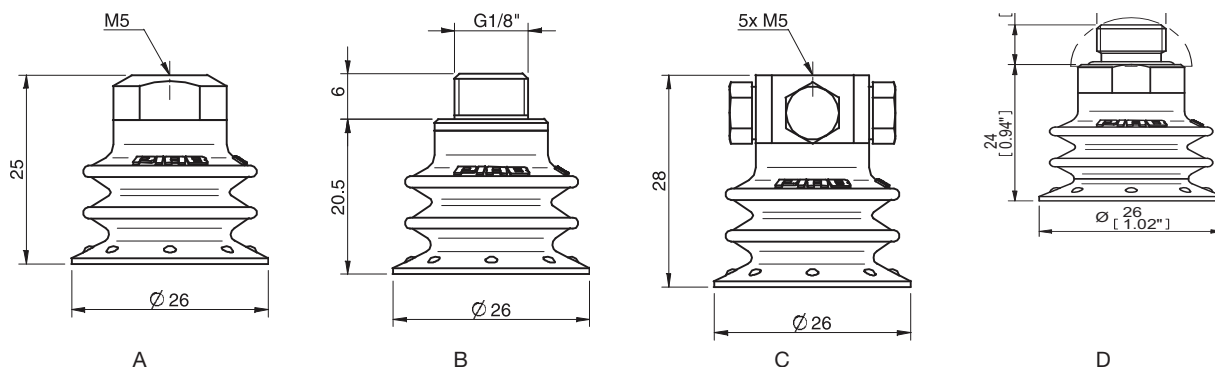
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

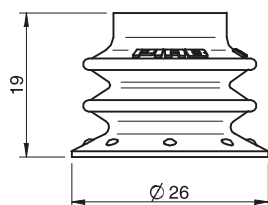
Suction cups/grippers DURAFLEX® Single and dual

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 / M5 female	0109402
B	Suction cup BX25P Polyurethane 30/60 with filter, G1/8" male / M5 female, with dual flow control valve	0109403
C	Suction cup BX25P Polyurethane 30/60 with filter, 5xM5 female	0109405
D	Suction cup BX25P Polyurethane 30/60 with filter, G1/8" male	0114131
A	Suction cup BX25P Polyurethane 60 with filter, M5 female	0109400
B	Suction cup BX25P Polyurethane 60 with filter, G1/8" male / M5 female	0109398
C	Suction cup BX25P Polyurethane 60 with filter, 5xM5 female	0109401
D	Suction cup BX25P Polyurethane 60 with filter, G1/8" male	0114149



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.
Filter for BX25P	Polyester/TPE	-40-90	0109311

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

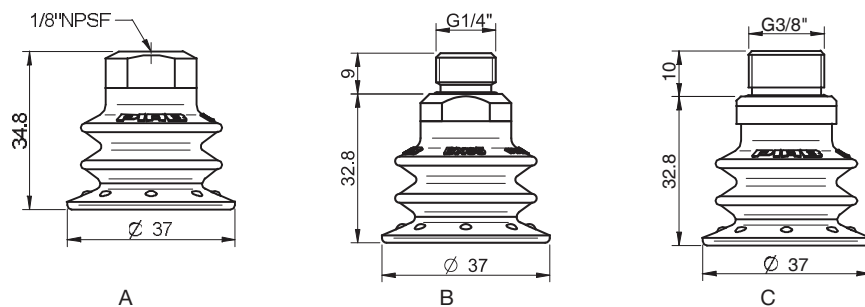
Material resistance

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

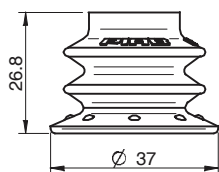
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Ordering information

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, G1/4" male, with mesh filter	0114449
C	Suction cup BX35P Polyurethane 30/60 with filter, G3/8" male, with mesh filter	0107377
C	Suction cup BX35P Polyurethane 30/60 filter, G3/8" male, mesh filter, dual flow control valve	0107378
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
C	Suction cup BX35P Polyurethane 60 with filter, G3/8" male, with mesh filter	0107379
C	Suction cup BX35P Polyurethane 60 with filter, G3/8" male, with mesh filter and dual flow control valve	0107380



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 G1/4" male, 30-40, with mesh filter		3250091
Fitting G3/8" male, 30-40, with mesh filter		3250086
Fitting G3/8" male, 30-40, with mesh and dual flow control valve		3251009

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

Spare Part	Material	Temperature range °C	Art. No.
Filter for BX35P	Polyester/TPE	-40-90	0106373

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

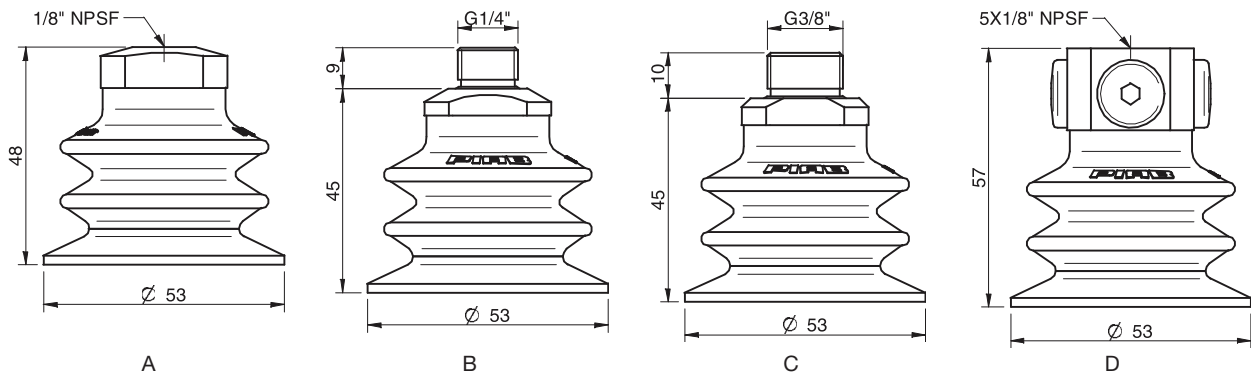
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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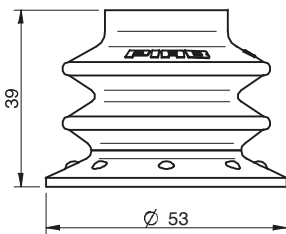
Ordering information

	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, G1/4" male, with mesh filter	0106045
B	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, G3/8" male, with mesh filter	0106740
C	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, 5x1/8" NPSF female	0106046
D	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, G1/4" male, with mesh filter	0107385
B	Suction cup BX52P Polyurethane 60 with filter, G1/4" male, with dual flow control valve	0107386
C	Suction cup BX52P Polyurethane 60 with filter, G3/8" male, with mesh filter	0107387
C	Suction cup BX52P Polyurethane 60 with filter, G3/8" male, with dual flow control valve	0107388
D	Suction cup BX52P Polyurethane 60 with filter, 5x1/8" NPSF female	0107389
D	Suction cup BX52P Polyurethane 60 with filter, 5x1/8" NPSF female, with dual flow control valve	0107390

Suction cups/grippers DURAFLEX® Single and dual



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 G1/4" 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 section Suction cups/grippers Fittings.

Spare Part	Material	Temperature range °C	Art. No.
Filter for BX52P	Polyester/TPE	-40-90	0104726

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

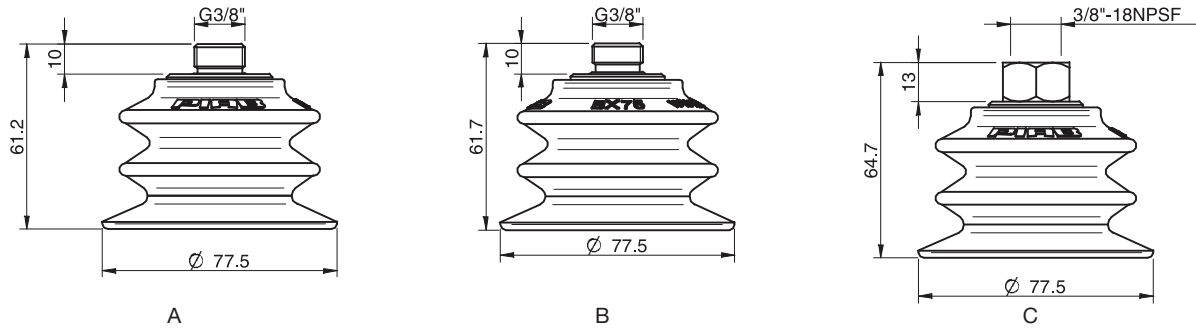
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

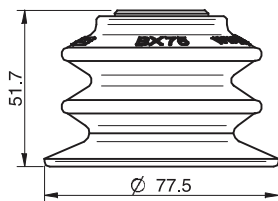
Suction cups/grippers DURAFLEX® Single and dual

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 G3/8" male	0107151
B	Suction cup BX75P Polyurethane 60 with filter, thread insert G3/8" male	0107149
C	Suction cup BX75P Polyurethane 30/60 with filter, 3/8" NPSF female	0108794
C	Suction cup BX75P Polyurethane 60 with filter, 3/8" NPSF female	0108795



	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 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.
Filter for BX75P	Polyester/TPE	-40-90	0106374

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
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

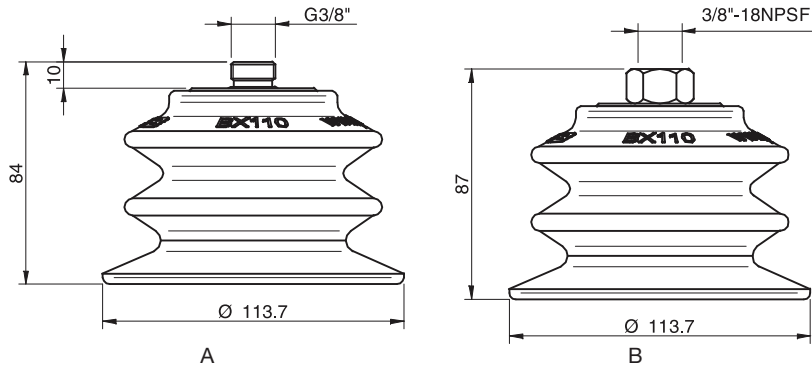
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

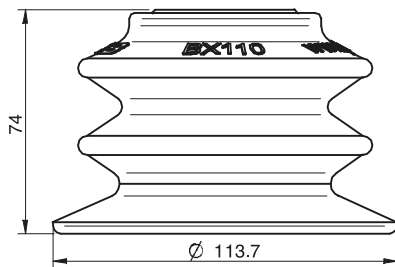
Suction cups/grippers DURAFLEX® Single and dual

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.
Filter for BX110P	Polyester/TPE	-40-90	0108163

F75P



Flat suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ 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 does not leave any marks on the objects handled.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber parts g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU30°/60°	70	193	273	44	176	308	19	150	2	28
PU60°	82	231	330	47	113	169	19	150	2	53

Material specifications

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

Material resistance

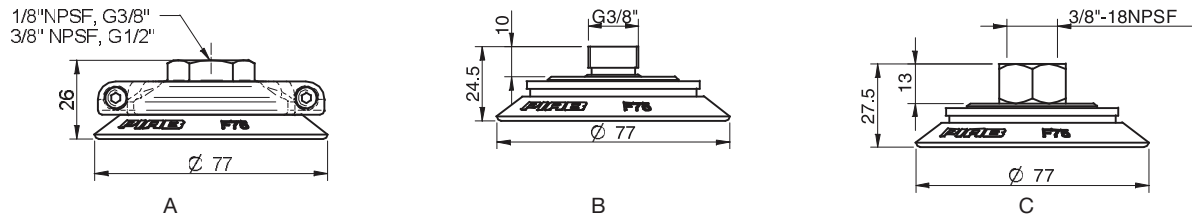
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

Suction cups/grippers DURAFLEX® Single and dual

Ordering information

	Complete suction cups	Art. No.
A	Suction cup F75P Polyurethane 30/60, 1/8" NPSF female, with mesh filter	0106349
A	Suction cup F75P Polyurethane 30/60, G3/8" female, with mesh filter	0106350
A	Suction cup F75P Polyurethane 30/60, 3/8" NPSF female, with mesh filter	0106351
A	Suction cup F75P Polyurethane 30/60, G1/2" female, with mesh filter	0106352
A	Suction cup F75P Polyurethane 60, 1/8" NPSF female, with mesh filter	0111585
A	Suction cup F75P Polyurethane 60, G3/8" female, with mesh filter	0111586
A	Suction cup F75P Polyurethane 60, 3/8" NPSF female, with mesh filter	0111587
A	Suction cup F75P Polyurethane 60, G1/2" female, with mesh filter	0111588
B	Suction cup F75P Polyurethane 30/60, thread insert G3/8" male, with mesh filter	0106830
B	Suction cup F75P Polyurethane 60, thread insert G3/8" male, with mesh filter	0107321
C	Suction cup F75P Polyurethane 30/60, 3/8" NPSF female	0108800
C	Suction cup F75P Polyurethane 60, 3/8" NPSF female	0108801



	Rubber parts	Art. No.
A	Suction cup F75P Polyurethane 30/60	0104724
A	Suction cup F75P Polyurethane 60	0111584
B	Suction cup F75P Polyurethane 30/60, for tread insert	0106829
B	Suction cup F75P Polyurethane 60, for tread insert	0107320



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

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

F110P



Flat suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ 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 does not leave any marks on the objects handled.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber parts g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU30°/60°	167	432	591	149	441	617	60	250	4	82
PU60°	191	498	705	297	523	664	60	250	4	133

Material specifications

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

Material resistance

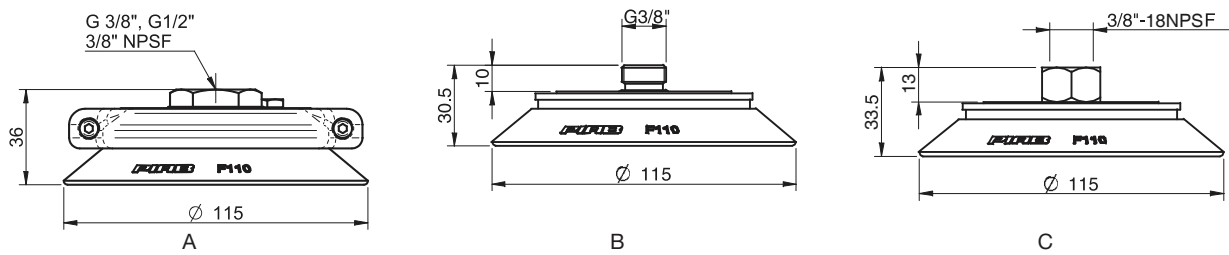
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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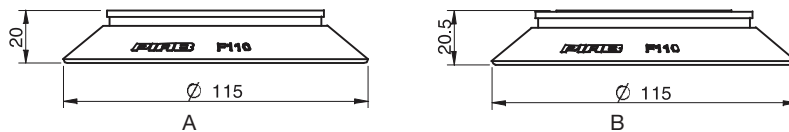
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup F110P Polyurethane 30/60, G3/8" female, with mesh filter	0106353
A	Suction cup F110P Polyurethane 30/60, 3/8" NPSF female, with mesh filter	0106354
A	Suction cup F110P Polyurethane 30/60, G1/2" female, with mesh filter	0106355
A	Suction cup F110P Polyurethane 60, G3/8" female, with mesh filter	0111595
A	Suction cup F110P Polyurethane 60, 3/8" NPSF female, with mesh filter	0111596
A	Suction cup F110P Polyurethane 60, G1/2" female, with mesh filter	0111597
B	Suction cup F110P Polyurethane 30/60, thread insert G3/8" with mesh filter	0106798
B	Suction cup F110P Polyurethane 60, thread insert G3/8", with mesh filter	0107323
C	Suction cup F110P Polyurethane 30/60, 3/8" NPSF female	0108802
C	Suction cup F110P Polyurethane 60, 3/8" NPSF female	0108803



Rubber parts		Art. No.
A	Suction cup F110P Polyurethane 30/60	0104725
A	Suction cup F110P Polyurethane 60	0111593
B	Suction cup F110P Polyurethane 30/60, for thread insert	0106796
B	Suction cup F110P Polyurethane 60, for thread insert	0107322



Fitting		Art. No.
Fitting 110 G3/8" female, with mesh filter		0100557
Fitting 110, 3/8" NPSF female, with mesh filter		0100559
Fitting 110, G1/2" female, with mesh filter		0100561
Thread insert G3/8" male, with O-ring and mesh filter		0107148

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

FC20P



Flat, concave suction cup with cleats

- ▶ Suitable for lifting small objects and narrow parts, also slightly domed, flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
4.5	12.0	16.0	4.5	9.0	12.0	1.0	25	1.9	1.3

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU50	Blue transparent	50	10–50

Material resistance

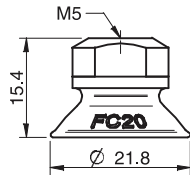
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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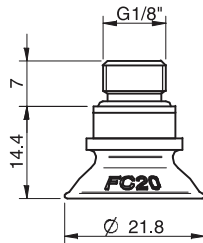
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

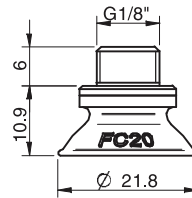
Complete suction cups		Art. No.
A	Suction cup FC20P Polyurethane 50, M5 female	0106717
B	Suction cup FC20P Polyurethane 50, G1/8" male, with mesh filter	0106722
C	Suction cup FC20P Polyurethane 50, G1/8" male / M5 female, with mesh filter	0106718



A



B



C

Rubber part		Art. No.
Suction cup FC20P Polyurethane 50		0106016



Fittings		Art. No.
Fitting M5 female		3250003
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.

FC25P



Flat, concave suction cup with cleats

- ▶ Suitable for lifting small objects and narrow parts, also slightly domed, flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
8.0	20.0	27	9.0	12.0	18.0	3.0	45	4.0	3

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU50	Blue transparent	50	10–50

Material resistance

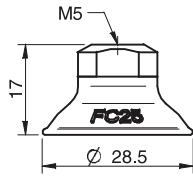
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

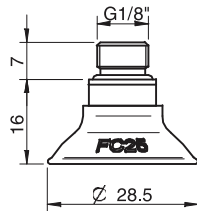
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

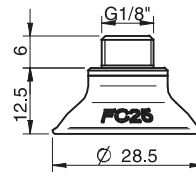
Complete suction cups		Art. No.
A	Suction cup FC25P Polyurethane 50, M5 female	0106719
B	Suction cup FC25P Polyurethane 50, G1/8" male, with mesh filter	0106721
C	Suction cup FC25P Polyurethane 50, G1/8" male / M5 female, with mesh filter	0106720



A



B



C

Rubber part		Art. No.
Suction cup FC25P Polyurethane 50		0104803



Fittings		Art. No.
Fitting M5 female		3250003
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.

FC35P



Flat, concave suction cup with cleats

- ▶ Suitable for slightly domed and flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU50°	11.0	36	51	27	51	62	5.0	32	5.5	6
PU60°	11.0	34	49	27	41	51	5.0	32	5.5	6

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU50	Blue transparent	50	10–50
Polyurethane, PU60	Green transparent	60	10–50

Material resistance

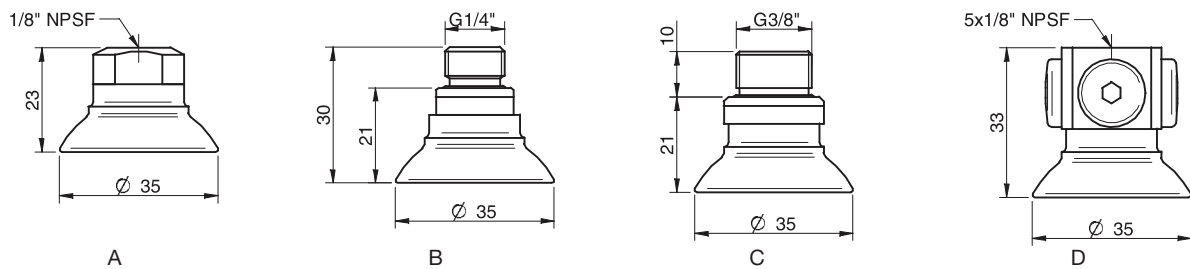
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

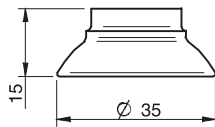
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

	Complete suction cups	Art. No.
A	Suction cup FC35P Polyurethane 50, 1/8" NPSF female, with mesh filter	0103705
A	Suction cup FC35P Polyurethane 50, 1/8" NPSF female, with dual flow control valve	0103709
B	Suction cup FC35P Polyurethane 50, G1/4" male, with mesh filter	0103711
B	Suction cup FC35P Polyurethane 50, G1/4" male, with mesh filter and dual flow control valve	0103713
C	Suction cup FC35P Polyurethane 50, G3/8" male, with mesh filter	0103719
A	Suction cup FC35P Polyurethane 60, 1/8" NPSF female, with mesh filter	0103706
B	Suction cup FC35P Polyurethane 60, G1/4" male, with mesh filter	0103712
C	Suction cup FC35P Polyurethane 60, G3/8" male, with mesh filter	0103720
C	Suction cup FC35P Polyurethane 60, G3/8" male, with mesh filter and dual flow control valve	0103722
D	Suction cup FC35P Polyurethane 60, 5x1/8" NPSF female	0103728



	Rubber parts	Art. No.
	Suction cup FC35P Polyurethane 50	0103290
	Suction cup FC35P Polyurethane 60	0103291



	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..

FC50P



Flat, concave suction cup with cleats

- ▶ Suitable for slightly domed and flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight with fitting g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	28	77	103	49	82	100	10	53	5.0	28
PU60°	28	77	104	52	93	111	10	53	5.0	28

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU60	Green transparent	60	10–50

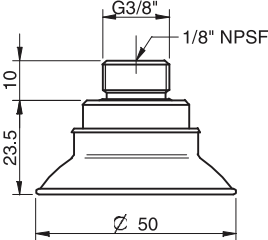
Material resistance

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 FC50P Polyurethane 40, G3/8" male - 1/8" NPSF female	0103289
Suction cup FC50P Polyurethane 60, G3/8" male - 1/8" NPSF female	0103293



FC75P



Flat, concave suction cup with cleats

- ▶ Suitable for slightly domed and flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight with fitting g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	73	157	215	107	200	230	30	78	6.5	45
PU60°	73	168	225	93	225	255	30	78	6.5	45

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU60	Green transparent	60	10–50

Material resistance

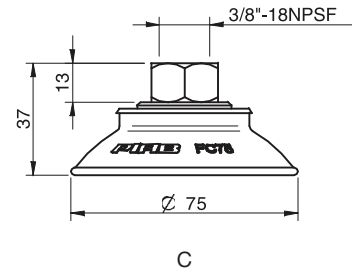
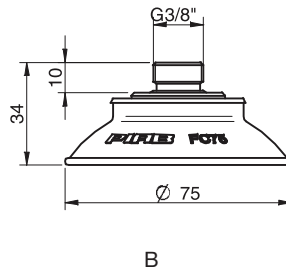
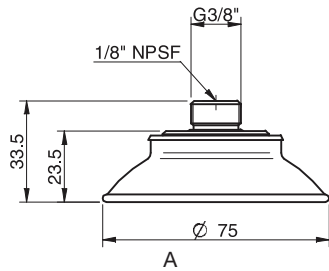
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

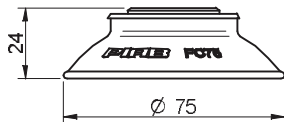
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

	Complete suction cups	Art. No.
A	Suction cup FC75P Polyurethane 40, G3/8" male - 1/8" NPSF female	0103294
A	Suction cup FC75P Polyurethane 60, G3/8" male - 1/8" NPSF female	0103296
B	Suction cup FC75P Polyurethane 40, thread insert G3/8" with mesh filter	0106959
B	Suction cup FC75P Polyurethane 60, thread insert G3/8" with mesh filter	0107303
C	Suction cup FC75P Polyurethane 40, 3/8" NPSF female	0108796
C	Suction cup FC75P Polyurethane 60, 3/8" NPSF female	0108797



	Rubber parts	Art. No.
	Suction cup FC75P Polyurethane 40, for tread insert	0106948
	Suction cup FC75P Polyurethane 60, for tread insert	0107302



	Fitting	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.

FC100P



Flat, concave suction cup with cleats

- ▶ Suitable for slightly domed and flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	137	284	377	176	318	420	80	110	10.2	64
PU60°	152	328	446	112	264	382	80	110	10.2	64

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU60	Green transparent	60	10–50

Material resistance

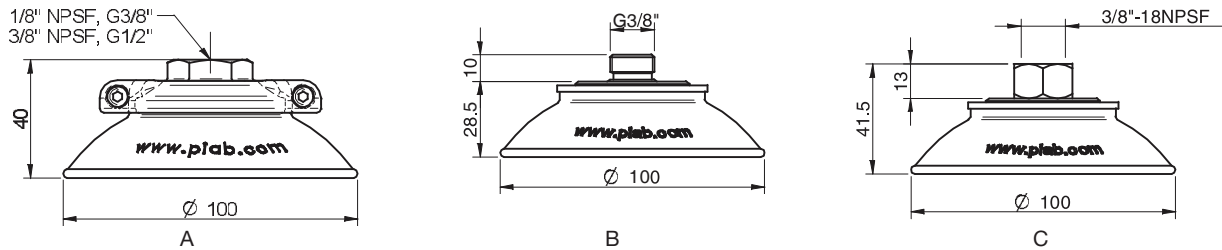
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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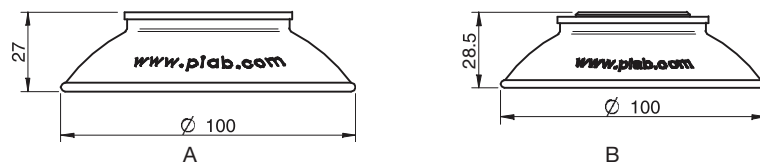
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup FC100P Polyurethane 40, 1/8" NPSF female, with mesh filter	0103731
A	Suction cup FC100P Polyurethane 40, G3/8" female, with mesh filter	0103734
A	Suction cup FC100P Polyurethane 40, 3/8" NPSF female, with mesh filter	0103737
A	Suction cup FC100P Polyurethane 40, G1/2" female, with mesh filter	0103740
A	Suction cup FC100P Polyurethane 60, 1/8" NPSF female, with mesh filter	0103733
A	Suction cup FC100P Polyurethane 60, G3/8" female, with mesh filter	0103736
A	Suction cup FC100P Polyurethane 60, G1/2" female, with mesh filter	0103742
A	Suction cup FC100P Polyurethane 60, 3/8" NPSF female, with mesh filter	0103739
B	Suction cup FC100P Polyurethane 40, thread insert G3/8" male, with mesh filter	0106836
B	Suction cup FC100P Polyurethane 60, thread insert G3/8" male, with mesh filter	0107305
C	Suction cup FC100P Polyurethane 40, 3/8" NPSF female	0108798
C	Suction cup FC100P Polyurethane 60, 3/8" NPSF female	0108799



Rubber parts		Art. No.
A	Suction cup FC100P Polyurethane 40	0103297
A	Suction cup FC100P Polyurethane 60	0103299
B	Suction cup FC100P Polyurethane 40, for tread insert	0106835
B	Suction cup FC100P Polyurethane 60, for tread insert	0107304



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.

FC150P



Flat, concave suction cup with cleats

- ▶ Suitable for slightly domed and flat and oily surfaces, e.g., such as those encountered when handling steel sheets in press processes.
- ▶ Thanks to the high friction of the rubber material, the suction cups can withstand high forces at rapid accelerations in horizontal directions, even on oily surfaces.
- ▶ The suction cups have cleats that prevent thin objects from being disfigured.
- ▶ 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	274	716	932	343	765	902	250	165	14.2	213
PU60°	284	647	922	215	568	863	250	165	14.2	213

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU60	Green transparent	60	10–50

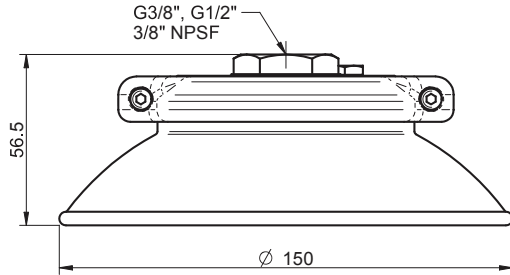
Material resistance

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

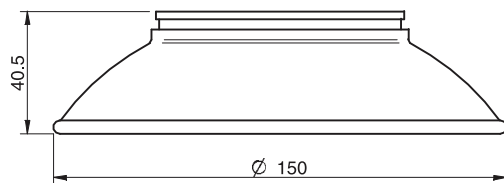
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Ordering information

Complete suction cups	Art. No.
Suction cup FC150P Polyurethane 40, G3/8" female, with mesh filter	0103743
Suction cup FC150P Polyurethane 40, 3/8" NPSF female, with mesh filter	0103749
Suction cup FC150P Polyurethane 40, G1/2" female, with mesh filter	0103755
Suction cup FC150P Polyurethane 60, G3/8" female, with mesh filter	0103745
Suction cup FC150P Polyurethane 60, 3/8" NPSF female, with mesh filter	0103751
Suction cup FC150P Polyurethane 60, G1/2" female, with mesh filter	0103757



Rubber parts	Art. No.
Suction cup FC150P Polyurethane 40	0101946
Suction cup FC150P Polyurethane 60	0103301



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

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

OB20x60P with swivel fitting



Oval suction cup with short bellows

- ▶ Suitable for level adjustment. Can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ DURAFLEX® are 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.
- ▶ Swivel option, prior to the locking operation, for easy positioning of the oval cup.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight with fitting g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
13.0	34	57	13.0	37	48	24.0	7.0	4.5	11.0

Material specifications

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

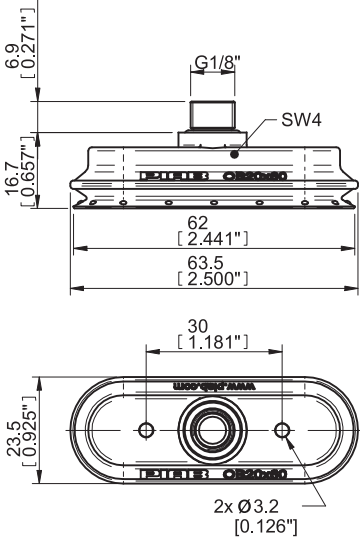
Material resistance

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

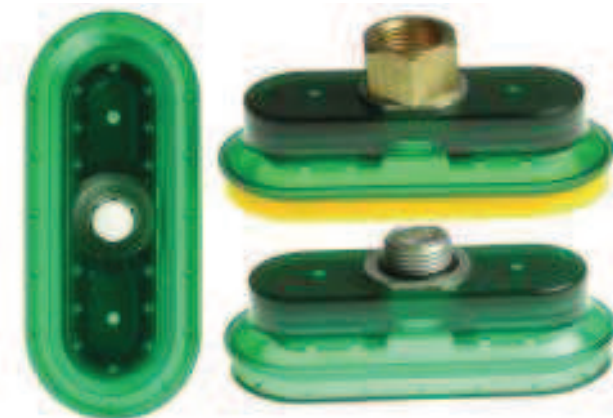
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Ordering information

Complete suction cups	Art. No.
Suction cup OB20x60P Polyurethane 60, G1/8" male	0115291



OB35x90P



Oval suction cup with short bellows

- ▶ Suitable for level adjustment. Can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ 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® are 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU60°	42	117	185	32	85	111	38	30.0	10.5	55
PU30°/60°	42	119	174	48	73	100	38	30.0	10.5	55

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

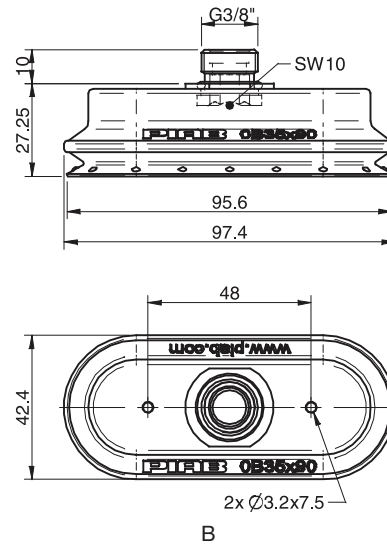
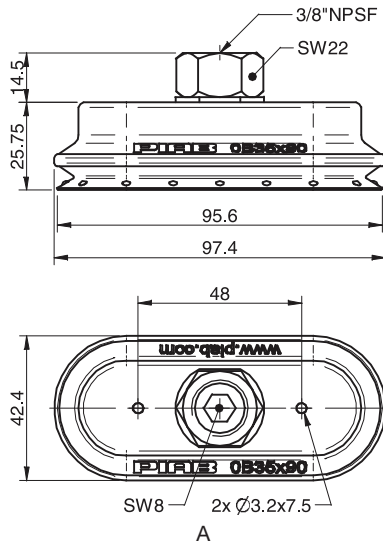
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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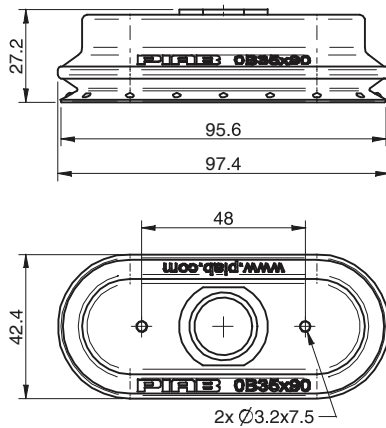
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup OB35x90P Polyurethane 60, 3/8" NPSF female	0108672
B	Suction cup OB35x90P Polyurethane 60, thread insert G3/8" male, with mesh filter	0108673
A	Suction cup OB35x90P Polyurethane 30/60, 3/8" NPSF female	0109857
B	Suction cup OB35x90P Polyurethane 30/60, thread insert G3/8" male, with mesh filter	0109856

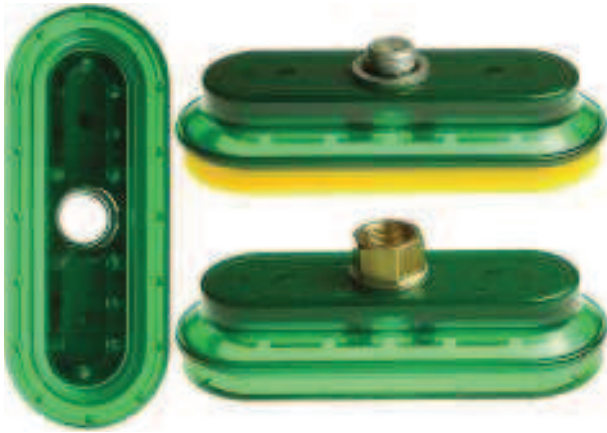


Rubber parts		Art. No.
Suction cup OB35x90P Polyurethane 60		0109912
Suction cup OB35x90P Polyurethane 30/60		0109913



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

OB50x140P



Oval suction cup with short bellows

- ▶ Suitable for level adjustment. Can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ 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® are 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU60°	77	231	368	122	292	396	95	26	11.3	129
PU30°/60°	58	235	366	110	260	349	95	23.0	11.3	129

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

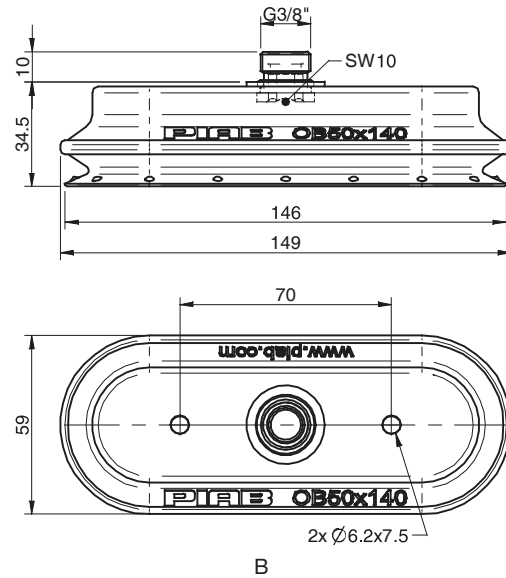
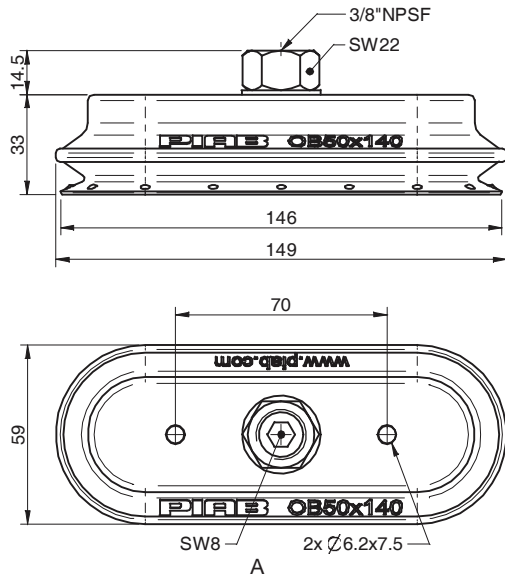
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

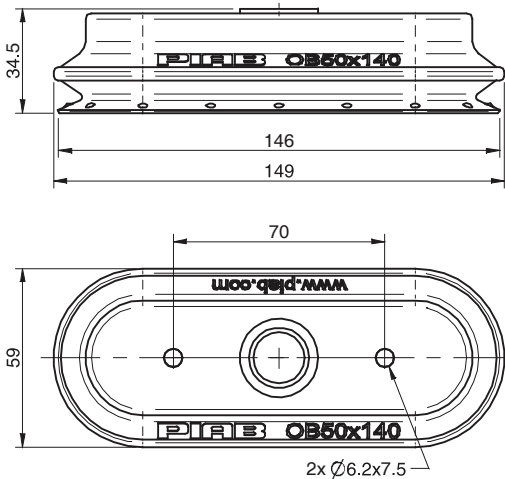
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup OB50x140P Polyurethane 60, 3/8" NPSF female	0108674
B	Suction cup OB50x140P Polyurethane 60, thread insert G3/8" male, with mesh filter	0108675
A	Suction cup OB50x140P Polyurethane 30/60, 3/8" NPSF female	0109859
B	Suction cup OB50x140P Polyurethane 30/60, thread insert G3/8" male, with mesh filter	0109858



Rubber parts		Art. No.
Suction cup OB50x140P Polyurethane 60		0109914
Suction cup OB50x140P Polyurethane 30/60		0109915



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

OB65x170P



Oval suction cup with short bellows

- ▶ Suitable for level adjustment. Can handle objects with height differences and varying shapes, for example embossed or corrugated plates.
- ▶ Lifting movement to separate small and thin objects.
- ▶ 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® are 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU60°	130	310	533	170	440	600	175	38	16.0	241
PU30°/60°	119	335	541	141	379	532	175	38	16.0	241

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

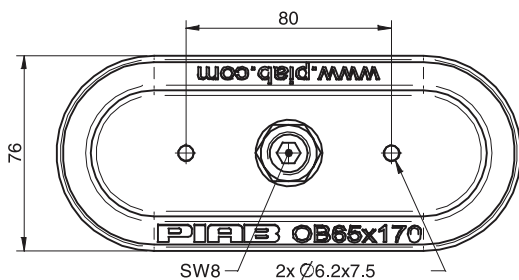
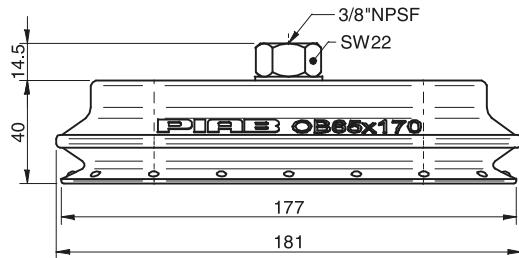
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

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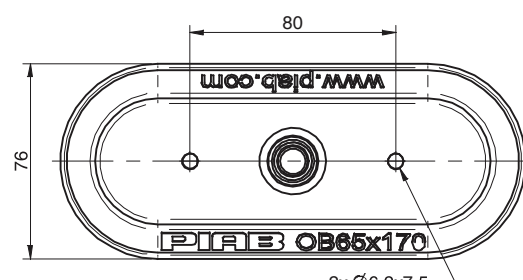
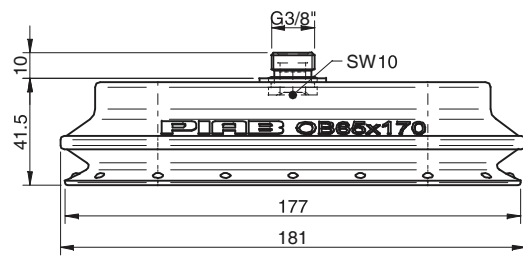
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup OB65x170P Polyurethane 60, 3/8" NPSF female	0108676
B	Suction cup OB65x170P Polyurethane 60, thread insert G3/8" male, with mesh filter	0108677
A	Suction cup OB65x170P Polyurethane 30/60, 3/8" NPSF female	0109861
B	Suction cup OB65x170P Polyurethane 30/60, thread insert G3/8" male, with mesh filter	0109860

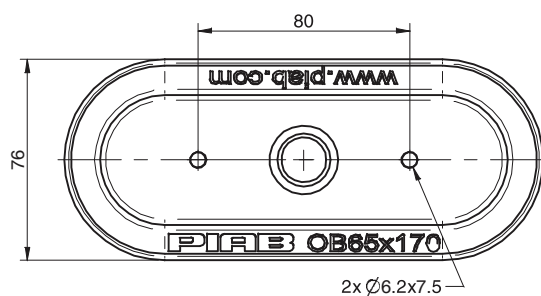
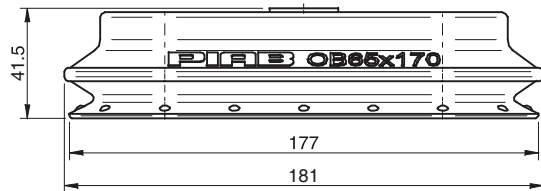


A



B

Rubber parts		Art. No.
Suction cup OB65x170P Polyurethane 60		0109916
Suction cup OB65x170P Polyurethane 30/60		0109917



2x Ø6.2x7.5

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

OC35x90P



Oval, concave suction cup

- ▶ Suitable for oblong objects with slightly domed or flat and oily surfaces, such as those encountered in body parts in the automotive industry.
- ▶ 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.
- ▶ Fitting option, male G3/8", with a swivel function prior to the locking operation, for easy positioning of the oval cup.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight with fitting g	Weight with adj. thread insert g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa					
PU40°	49	117	171	53	112	147	20.0	—	3.0	27	40
PU60°	49	132	171	68	161	206	20.0	—	3.0	27	40

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU60	Green transparent	60	10–50

Material resistance

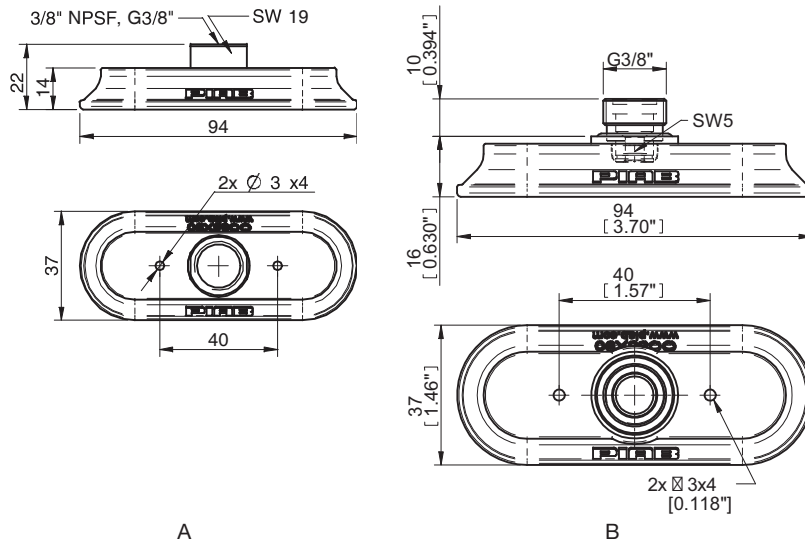
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

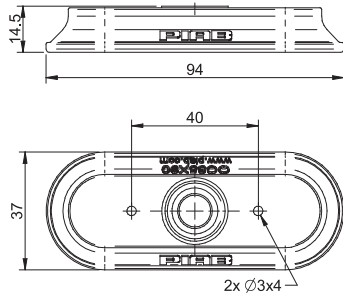
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

	Complete suction cups	Art. No.
A	Suction cup OC35x90P Polyurethane 40, G3/8" female	0102374
A	Suction cup OC35x90P Polyurethane 40, 3/8" NPSF female	0102375
A	Suction cup OC35x90P Polyurethane 60, G3/8" female	0103305
A	Suction cup OC35x90P Polyurethane 60, 3/8" NPSF female	0103303
B	Suction cup OC35x90P Polyurethane 40, adjustable thread insert G3/8" male with mesh filter	0115307
B	Suction cup OC35x90P Polyurethane 60, adjustable thread insert G3/8" male with mesh filter	0115313



Rubber parts	Art. No.
Suction cup OC35x90P Polyurethane 40	0115306



OF10x30P



Flat, oval suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and give extra friction when the lifting force is parallel to the surface of the object.
- ▶ DURAFLEX® are 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

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 with fitting
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm ³	mm	mm	g
4.0	11.0	17.0	6.0	12.0	17.0	0.5	15.0	1.0	4.0

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU50	Blue transparent	50	10-50

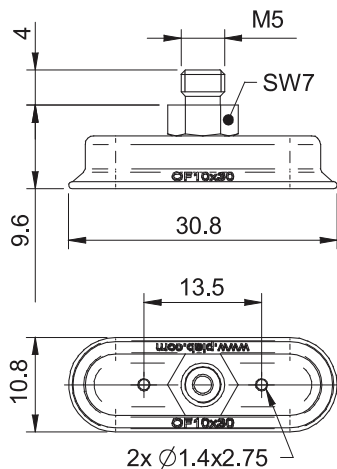
Material resistance

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 OF10x30P Polyurethane 50, M5 male	0110084



OF15x45P with swivel fitting



Flat, oval suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and give extra friction when the lifting force is parallel to the surface of the object.
- ▶ DURAFLEX® are 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.
- ▶ Swivel option, prior to the locking operation, for easy positioning of the oval cup.

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 with fitting
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm ³	mm	mm	g
9.0	27	41	6.0	20.0	34	1.0	30	1.0	8.25

Material specifications

Material	Colour	Hardness °Shore A	Temperature range °C
Polyurethane, PU50	Blue transparent	50	10-50

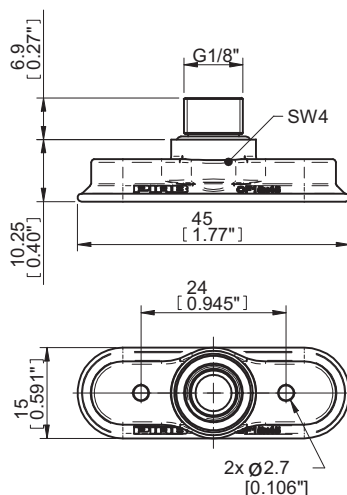
Material resistance

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

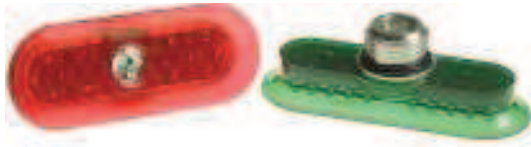
**Please contact Piab.

Ordering information

Complete suction cups	Art. No.
Suction cup OF15x45P Polyurethane 50, G1/8" male	0115285



OF25x70P with swivel fitting



Flat, oval suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and give extra friction when the lifting force is parallel to the surface of the object.
- ▶ DURAFLEX® are 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.
- ▶ Swivel option, prior to the locking operation, for easy positioning of the oval cup.

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight with fitting g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	24.0	66	107	46	90	105	6.0	50	1.9	19
PU60°	24.0	77	118	42	127	161	6.0	50	1.9	19

Material specifications

Material	Color	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10–50
Polyurethane, PU60	Green transparent	60	10–50

Material resistance

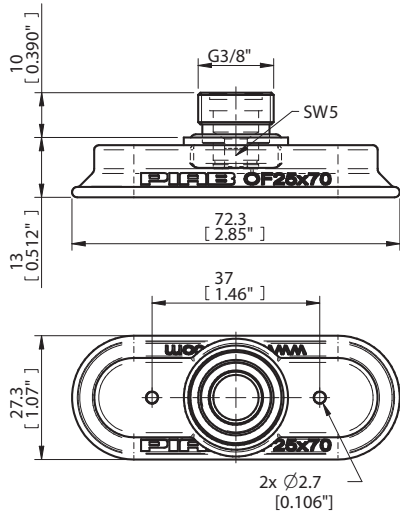
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

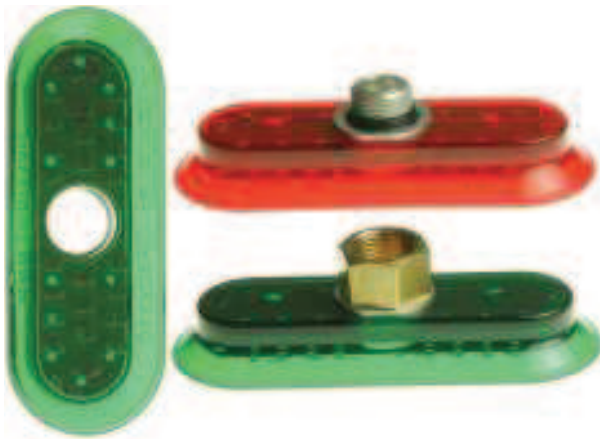
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups	Art. No.
Suction cup OF25x70P Polyurethane 40, G3/8" male	0115304
Suction cup OF25x70P Polyurethane 60, G3/8" male	0115311



OF40x110P



Flat, oval suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and give extra friction when the lifting force is parallel to the surface of the object.
- ▶ DURAFLEX® are 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	69	203	293	120	230	296	21.0	77	3.1	48
PU60°	74	200	303	98	228	410	21.0	77	3.1	48

Material resistance

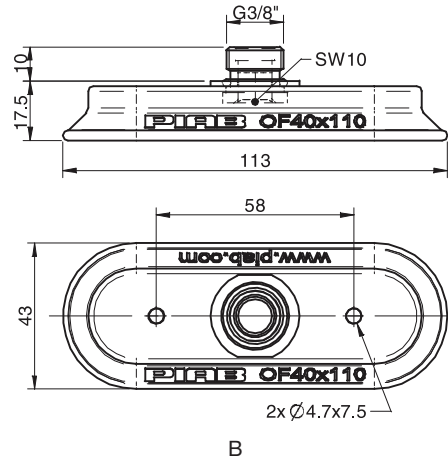
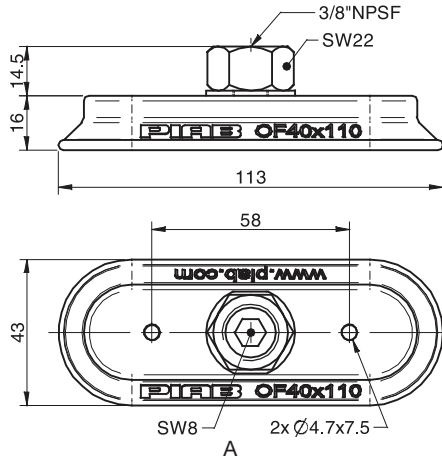
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

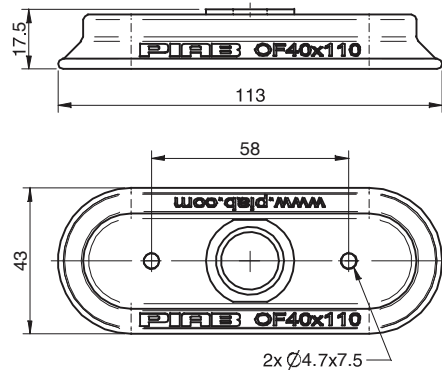
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup OF40x110P Polyurethane 40, 3/8" NPSF female	0109851
B	Suction cup OF40x110P Polyurethane 40, thread insert G3/8" male, with mesh filter	0109850
A	Suction cup OF40x110P Polyurethane 60, 3/8" NPSF female	0108265
B	Suction cup OF40x110P Polyurethane 60, thread insert G3/8" male, with mesh filter	0108263



Rubber parts		Art. No.
Suction cup OF40x110P Polyurethane 40		0109907
Suction cup OF40x110P Polyurethane 60		0109906



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

OF55x150P



Flat, oval suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and give extra friction when the lifting force is parallel to the surface of the object.
- ▶ DURAFLEX® are 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	131	366	527	155	350	455	37	150	3.0	109
PU60°	134	376	558	128	338	477	37	150	3.0	109

Material resistance

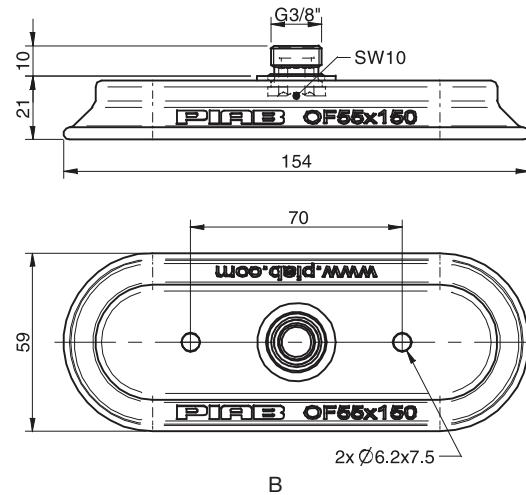
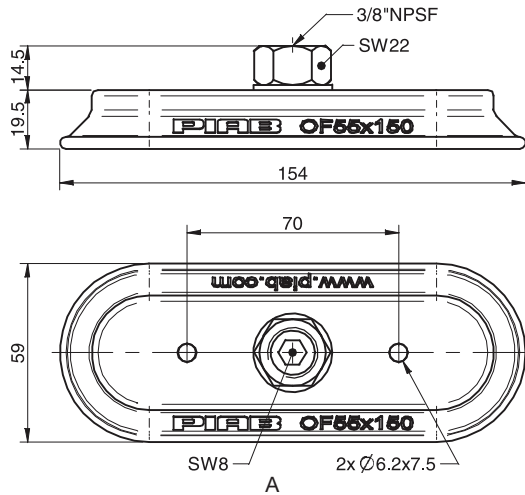
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

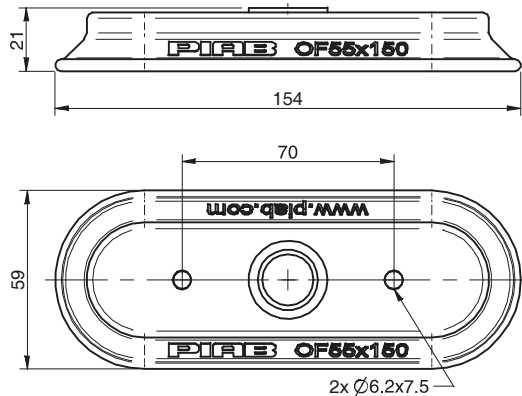
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup OF55x150P Polyurethane 40, 3/8" NPSF female	0109853
B	Suction cup OF55x150P Polyurethane 40, thread insert G3/8" male, with mesh filter	0109852
A	Suction cup OF55x150P Polyurethane 60, 3/8" NPSF female	0108036
B	Suction cup OF55x150P Polyurethane 60, thread insert G3/8" male, with mesh filter	0108030



Rubber parts		Art. No.
Suction cup OF55x150P Polyurethane 40		0109909
Suction cup OF55x150P Polyurethane 60		0109908



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

OF70x175P



Flat, oval suction cup with cleats

- ▶ Suitable for flat and rough surfaces.
- ▶ Fair stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.
- ▶ Cleats prevent thin, sensitive objects from being deformed and give extra friction when the lifting force is parallel to the surface of the object.
- ▶ DURAFLEX® are 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

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40°	190	530	785	170	440	630	80	130	5.7	193
PU60°	180	570	860	200	555	750	80	130	5.7	193

Material resistance

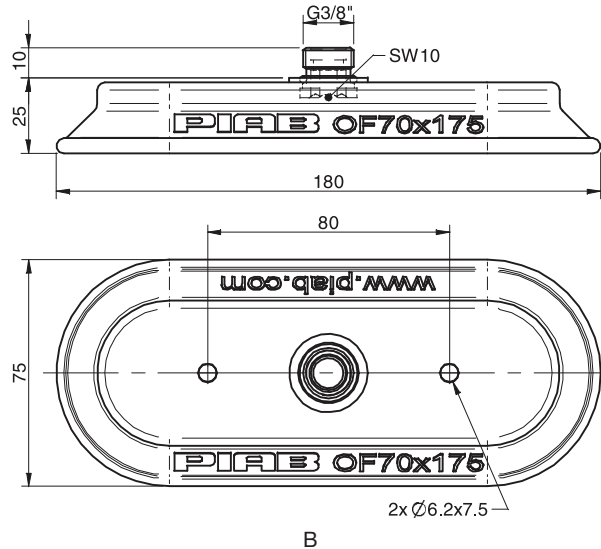
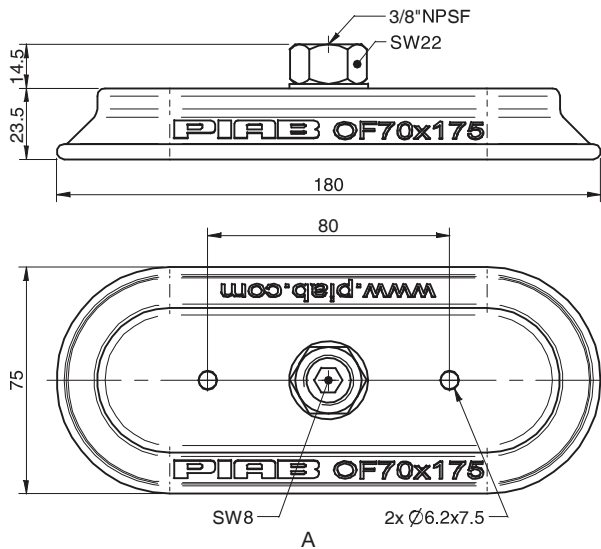
Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Ethanol	Methanol	Oxidation
Excellent	Excellent	Excellent	Fair**	Fair	Fair**	Fair	Poor	Poor

**Please contact Piab.

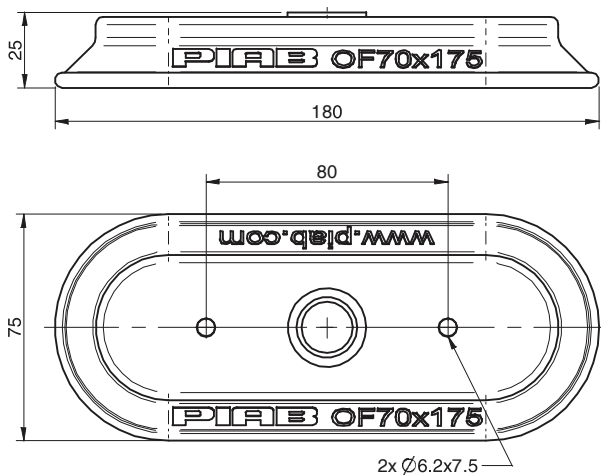
Suction cups/grippers DURAFLEX® Single and dual

Ordering information

Complete suction cups		Art. No.
A	Suction cup OF70x175P Polyurethane 40, 3/8" NPSF female	0109855
B	Suction cup OF70x175P Polyurethane 40, thread insert G3/8" male, with mesh filter	0109854
A	Suction cup OF70x175P Polyurethane 60, 3/8" NPSF female	0108264
B	Suction cup OF70x175P Polyurethane 60, thread insert G3/8" male, with mesh filter	0108671



Rubber parts		Art. No.
Suction cup OF70x175P Polyurethane 40		0109911
Suction cup OF70x175P Polyurethane 60		0109910



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

U20-2P



Universal suction cup

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

Lifting forces & Technical data

Material	Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
	20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
PU40	3	10.5	14	1.5	3	6	0.7	9	5	1.7
PU50	3	11.5	15	1.5	3	6	0.7	9	5	1.7
PU60	3	14	21	3	6	8	0.7	12	5	1.7

Material specifications

Material	Color	Hardness °Shore A	Temperature range °C
Polyurethane, PU40	Red transparent	40	10-50
Polyurethane, PU50	Blue transparent	50	10-50
Polyurethane, PU60	Green transparent	60	10-50

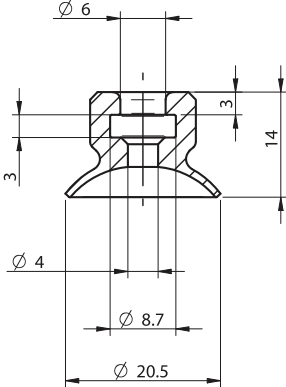
Material resistance

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

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



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 ³	Min. curve radius mm	Weight g
		60 -kPa	90 -kPa	60 -kPa	90 -kPa			
BFF40P	Oily steel plate	45	60	35	45	10	23	20–34
BFF60P	Oily steel plate	82	106	76	93	20	35	30–58
BFF80P	Oily steel plate	174	207	110	160	50	50	66–96
BFF110P	Oily steel plate	284	345	235	253	110	95	160–178

Values valid for steel sheet with surface finish Ra 1 and 2-3g/m² of press oil.

Material specifications

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

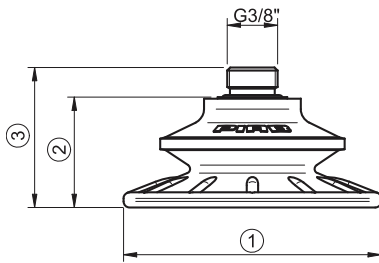
Material resistance

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

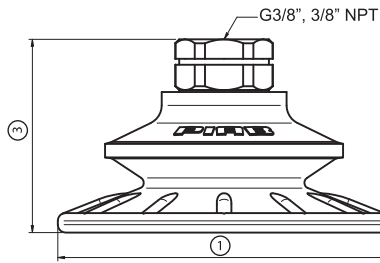
**Please contact Piab.

Ordering information

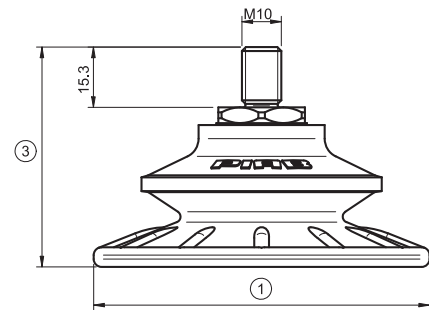
	Complete suction cups	Code	Art. No.
A	Suction cup BFF40P Polyurethane 55/60, G3/8" male, with mesh filter	BFF40P.4R.04UF	0118991
B	Suction cup BFF40P Polyurethane 55/60, G3/8" female	BFF40P.4R.04UA	0118992
B	Suction cup BFF40P Polyurethane 55/60, 3/8" NPT female	BFF40P.4R.04UN	0122278
C	Suction Cup BFF40P 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
B	Suction cup BFF60P Polyurethane 55/60, 3/8" NPT female	BFF60P.4R.06UN	0122279
C	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
B	Suction cup BFF80P Polyurethane 55/60, 3/8" NPT female	BFF80P.5R.N47W	0122280
C	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
B	Suction cup BFF110P Polyurethane 55/60, 3/8" NPT female	BFF110P.5R.N47W	0122281
C	Suction cup BFF110P Polyurethane 55/60, M10x1.5 male	BFF110P.5R.M10M	0121430



A



B



C

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

FCF35P, FCF50P, FCF75P, FCF100P, FCF125P



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 "FCF" design is suitable for slightly domed and flat surfaces, e.g., such as those encountered when handling metal sheets in press lines.
- ▶ The suction cups have support cleats that prevent thin objects from being disfigured.
- ▶ 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 ³	Min. curve radius mm	Weight g
		60 -kPa	90 -kPa	60 -kPa	90 -kPa			
FCF35P	Oily steel plate	34	50	26	32	5	40	19–42
FCF50P	Oily steel plate	72	101	52	70	10	50	31–67
FCF75P	Oily steel plate	163	228	104	139	30	100	60–78
FCF100P	Oily steel plate	236	298	139	205	70	150	92–113
FCF125P	Oily steel plate	405	442	194	236	100	150	151–170

Values valid for steel sheet with surface finish Ra 1 and 2-3g/m² of press oil.

Material specifications

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

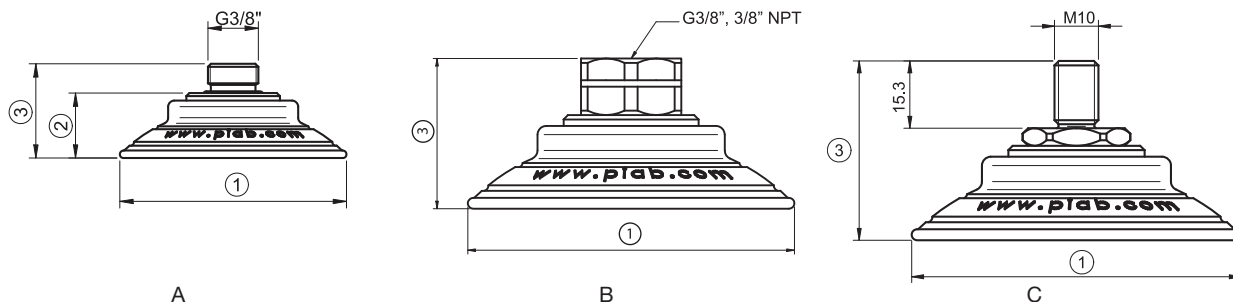
Material resistance

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 FCF35P Polyurethane 55/60, G3/8" male, with mesh filter	FCF35P.4R.O4UF	0119913
B	Suction cup FCF35P Polyurethane 55/60, G3/8" female	FCF35P.4R.O4UA	0118981
B	Suction cup FCF35P Polyurethane 55/60, 3/8" NPT female	FCF35P.4R.O4UN	0122282
C	Suction cup FCF35P Polyurethane 55/60, M10x1.5 male	FCF35P.4R.M10M	0121431
A	Suction cup FCF50P Polyurethane 55/60, G3/8" male, with mesh filter	FCF50P.4R.O5UF	0118985
B	Suction cup FCF50P Polyurethane 55/60, G3/8" female	FCF50P.4R.O5UA	0118986
B	Suction cup FCF50P Polyurethane 55/60, 3/8" NPT female	FCF50P.4R.O5UN	0122283
C	Suction cup FCF50P Polyurethane 55/60, M10x1.5 male	FCF50P.4R.M10M	0121432
A	Suction cup FCF75P Polyurethane 55/60, G3/8" male, with mesh filter	FCF75P.5R.G45M	0118423
B	Suction cup FCF75P Polyurethane 55/60, G3/8" female	FCF75P.5R.G45W	0118429
B	Suction cup FCF75P Polyurethane 55/60, 3/8" NPT female	FCF75P.5R.N47W	0122284
C	Suction cup FCF75P Polyurethane 55/60, M10x1.5 male	FCF75P.5R.M10M	0121433
A	Suction cup FCF100P Polyurethane 55/60 G3/8" male, with mesh filter	FCF100P.5R.G40M	0118430
B	Suction cup FCF100P Polyurethane 55/60, G3/8" female	FCF100P.5R.G46W	0118432
B	Suction cup FCF100P Polyurethane 55/60, 3/8" NPT female	FCF100P.5R.N48W	0122285
C	Suction cup FCF100 Polyurethane 55/60, M10x1.5 male	FCF100P.5R.M10M	0121385
A	Suction cup FCF125P Polyurethane 55/60, G3/8" male, with mesh filter	FCF125P.5R.G40M	0118435
B	Suction cup FCF125P Polyurethane 55/60, G3/8" female	FCF125P.5R.G46W	0118437
B	Suction cup FCF125P Polyurethane 55/60, 3/8" NPT female	FCF125P.5R.N48W	0122286
C	Suction cup FCF125P Polyurethane 55/60, M10x1.5 male	FCF125P.5R.M10M	0121435



	Measures complete suction cups														
	FCF35P			FCF50P			FCF75P			FCF100P			FCF125P		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
1	35	35	35	50	50	50	75	75	75	100	100	100	126	126	126
2	19	—	—	24	—	—	22	—	—	26	—	—	32	—	—
3	29	29	47.8	34	31	49.9	31	34	40.8	36	39	44.8	42	45	50.8
Max. vertical movement, mm	2	2	2	3	3	3	4	4	4	6	6	6	8	8	8
Max. expanding lip, mm	38	38	38	54	54	54	79	79	79	105	105	105	132	132	132

OBF35x90P, OBF50x140P, OBF65x170P



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 "OBF" design is suitable for oblong objects with domed and flat surfaces, such as those encountered with body parts in the automotive industry.
- ▶ Can handle objects with height differences.
- ▶ Fitting option, male G3/8", with a swivel function prior to the locking operation, for easy positioning of the oval cup.
- ▶ 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 ³	Min. curve radius mm	Weight g
		60 -kPa	90 -kPa	60 -kPa	90 -kPa			
OBF35x90P	Oily steel plate	108	157	105	151	36	30	77-97
OBF50x140P	Oily steel plate	246	372	271	347	95	50	172-190
OBF65x170P	Oily steel plate	403	502	538	665	200	50	289-310

Values valid for steel sheet with surface finish Ra 1 and 2-3g/m2 of press oil.

Material specifications

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

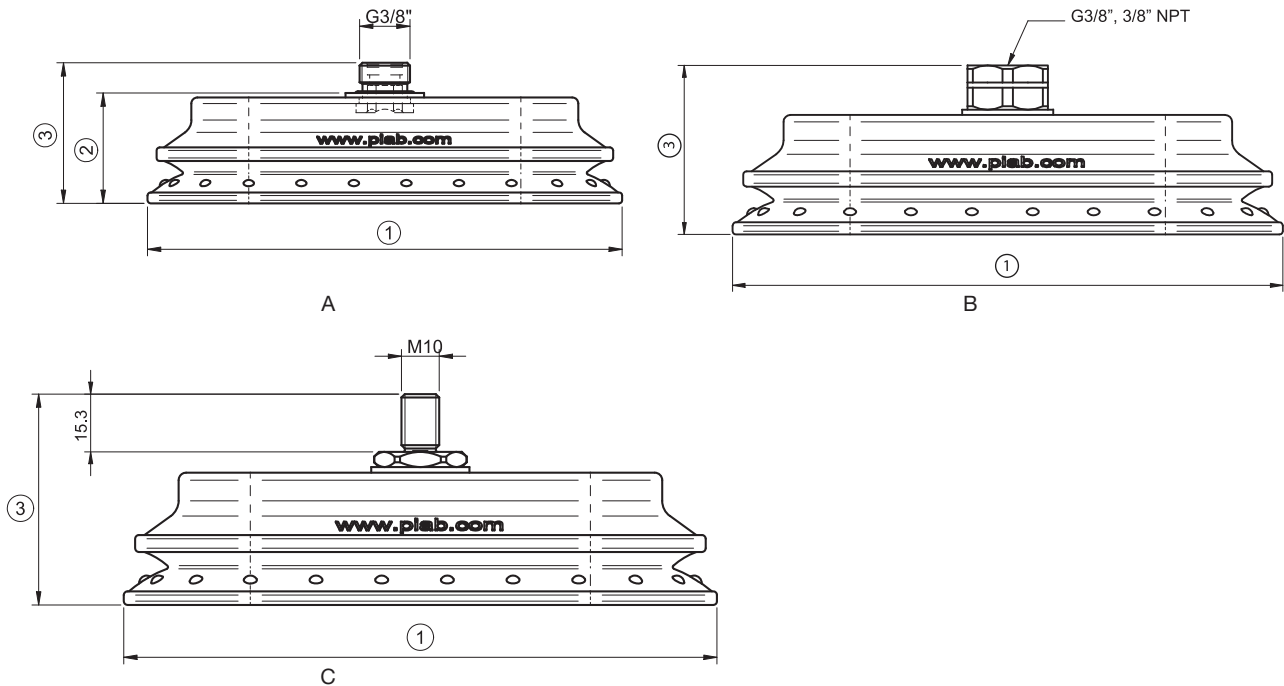
Material resistance

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 OBF35x90P Polyurethane 55/60, G3/8" male, with mesh filter	OBF35x90P.5R.G40M	0119121
B	Suction cup OBF35x90P Polyurethane 55/60, G3/8" female	OBF35x90P.5R.G46W	0119123
B	Suction cup OBF35x90P Polyurethane 55/60, 3/8" NPT female	OBF35x90P.5R.N48W	0122287
C	Suction cup OBF35x90P Polyurethane 55/60, M10x1.5 male	OBF35x90P.5R.M10M	0121436
A	Suction cup OBF50x140P Polyurethane 55/60, G3/8" male, with mesh filter	OBF50x140P.5R.G40M	0119125
B	Suction cup OBF50x140P Polyurethane 55/60, G3/8" female	OBF50x140P.5R.G46W	0119127
B	Suction cup OBF50x140P Polyurethane 55/60, 3/8" NPT female	OBF50x140P.5R.N48W	0122288
C	Suction cup OBF50x140P Polyurethane 55/60, M10x1.5 male	OBF50x140P.5R.M10M	0121437
A	Suction cup OBF65x170P Polyurethane 55/60, G3/8" male, with mesh filter	OBF65x170P.5R.G40M	0119129
B	Suction cup OBF65x170P Polyurethane 55/60, G3/8" female	OBF65x170P.5R.G46W	0119131
B	Suction cup OBF65x170P Polyurethane 55/60, 3/8" NPT female	OBF65x170P.5R.N48W	0122289
C	Suction cup OBF65x170P Polyurethane 55/60, M10x1.5 male	OBF65x170P.5R.M10M	0121438



Measures complete suction cups	OBF35x90P			OBF50x140P			OBF65x170P		
	A	B	C	A	B	C	A	B	C
1	50x105	50x105	50x105	67x157	67x157	67x157	82x187	82x187	82x187
2	29	—	—	37	—	—	44	—	—
3	39	42	47.8	47	50	55.8	54	57	62.8
Max. vertical movement, mm	11	11	11	13	13	13	15	15	15
Max. expanding lip, mm	50x109	50x109	50x109	67x162	67x162	67x162	83x191	83x191	83x191

OCF20x80P, OCF30x90P, OCF40x110P



- ▶ 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 "OCF" design is suitable for oblong objects with slightly curved or flat surfaces, such as those encountered with body parts in the automotive industry.
- ▶ Fitting option, male G3/8", with a swivel function prior to the locking operation, for easy positioning of the oval cup.
- ▶ 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 force vertical to the surface, N, at vacuum level		Friction/Shear forces parallel to the surface, N, at vacuum level		Volume cm ³	Min. curve radius mm	Weight g
		60 -kPa	90 -kPa	60 -kPa	90 -kPa			
OCF20x80P	Oily steel plate	82	90	35	48	15	20	24
OCF30x90P	Oily steel plate	115	159	51	74	17	25	24
OCF40x110P	Oily steel plate	185	246	54	78	34	42	55

Values valid for steel sheet with surface finish Ra 1 and 2-3g/m2 of press oil.

Material specifications

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

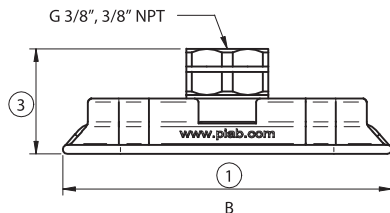
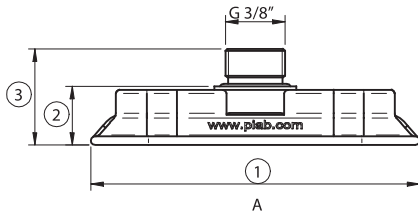
Material resistance

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 OCF20x80P Polyurethane 55/60, G3/8" male	OCF20x80P.5R.G41M	0121847
B	Suction cup OCF20x80P Polyurethane 55/60, 3/8" NPT female	OCF20x80P.5R.N47W	0121859
B	Suction cup OCF20x80P Polyurethane 55/60, G3/8" female	OCF20x80P.5R.G45W	0122455
A	Suction cup OCF30x90P Polyurethane 55/60, G3/8" male	OCF30x90P.5R.G41M	0122456
B	Suction cup OCF30x90P Polyurethane 55/60, 3/8" NPT female	OCF30x90P.5R.N47W	0122459
B	Suction cup OCF30x90P Polyurethane 55/60, G3/8" female	OCF30x90P.5R.G45W	0121786
A	Suction cup OCF40x110P Polyurethane 55/60, G3/8" male	OCF40X110P.5R.G40M	0122457
B	Suction cup OCF40x110P Polyurethane 55/60, 3/8" NPT female	OCF40X110P.5R.N48W	0121865
B	Suction cup OCF40x110P Polyurethane 55/60, G3/8" female	OCF40X110P.5R.G46W	0122860



	OCF20x80P		OCF30x90P		OCF40x110P	
	A	B	A	B	A	B
1	24x84	24x84	32.5x92.5	32.5x92.5	43x113	43x113
2	17.0	15.5	16.5	16.5	22.5	22.5
3	27.0	30.1	26.5	29.5	32.5	35.5
Max. vertical movement, mm	3	3	4	4	5	5
Max. expanding lip, mm	27x86.2	27x86.2	36x95	36x95	49x118	49x118

BL30-3P



Suction cup specially designed for plastic bag handling

- ▶ High-flow fitting allowing high initial vacuum flow needed for plastic bag handling.
- ▶ Suitable for level adjustment and uneven surfaces.
- ▶ Dual hardness allowing strength and stability in conjunction with softness and flexibility.
- ▶ DURAFLEX® material features the elasticity of rubber in combination with the wear resistance of polyurethane.
- ▶ The DURAFLEX® material is mark-free.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
10	22	28	9*	10*	16*	14	6	14	6

*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	30	10–50
Polyurethane, PU70	Black	70	10–50

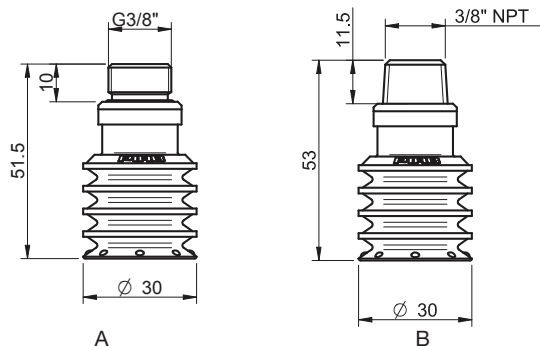
Material resistance

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

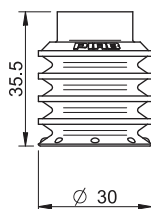
**Please contact Piab.

Ordering information

Complete suction cup		Art. No.
A	Suction cup BL30-3P Polyurethane 30/70, G3/8" male	0113743
B	Suction cup BL30-3P Polyurethane 30/70, 3/8" NPT male	0113744



Rubber part		Art. No.
Suction cup BL30-3P Polyurethane 30/70		0110545



Fitting		Art. No.
Fitting G3/8" male, bag		0112662
Fitting 3/8" NPT male, bag		0112692

BL40-3P



Suction cup specially designed for plastic bag handling

- ▶ High-flow fitting allowing high initial vacuum flow needed for plastic bag handling.
- ▶ Suitable for level adjustment and uneven surfaces.
- ▶ Dual hardness allowing strength and stability in conjunction with softness and flexibility.
- ▶ DURAFLEX® material features the elasticity of rubber in combination with the wear resistance of polyurethane.
- ▶ The DURAFLEX® material is mark-free.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
20	43	55	13*	24*	36*	27	13	21	12

*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	30	10–50
Polyurethane, PU70	Black	70	10–50

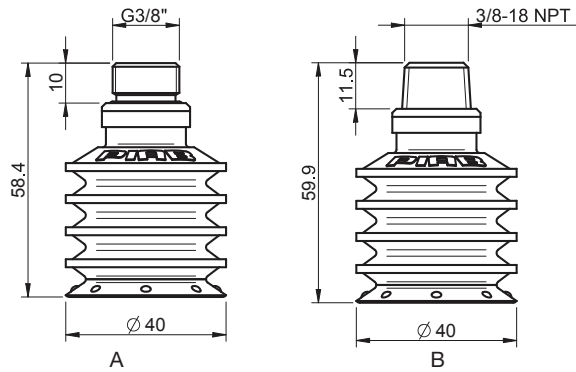
Material resistance

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

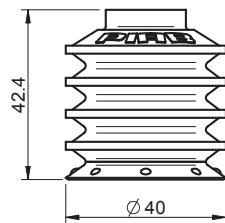
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Ordering information

Complete suction cup		Art. No.
A	Suction cup BL40-3P Polyurethane 30/70, G3/8" male	0111791
B	Suction cup BL40-3P Polyurethane 30/70, 3/8" NPT male	0112693



Rubber part		Art. No.
Suction cup BL40-3P Polyurethane 30/70		0112667



Fittings		Art. No.
Fitting G3/8" male, bag		0112662
Fitting 3/8" NPT male, bag		0112692

BL50-3P



Suction cup specially designed for plastic bag handling

- ▶ High-flow fitting allowing high initial vacuum flow needed for plastic bag handling.
- ▶ Suitable for level adjustment and uneven surfaces.
- ▶ Dual hardness allowing strength and stability in conjunction with softness and flexibility.
- ▶ DURAFLEX® material features the elasticity of rubber in combination with the wear resistance of polyurethane.
- ▶ The DURAFLEX® material is mark-free.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
24	60	75	22*	49*	60*	54	16	26	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	30	10–50
Polyurethane, PU70	Black	70	10–50

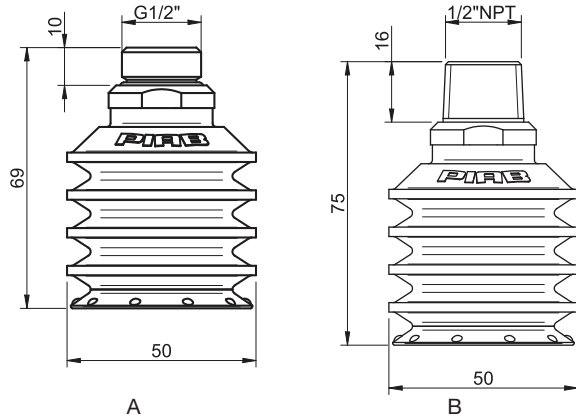
Material resistance

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

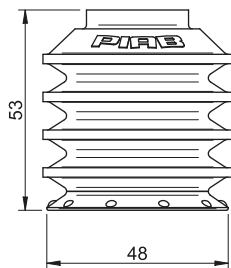
**Please contact Piab.

Ordering information

Complete suction cup		Art. No.
A	Suction cup BL50-3P Polyurethane 30/70, G1/2" male	0113745
B	Suction cup BL50-3P Polyurethane 30/70, 1/2" NPT male	0113746



Rubber part		Art. No.
Suction cup BL50-3P Polyurethane 30/70		0112641



Fitting		Art. No.
Fitting G1/2" male, bag		0113117
Fitting 1/2" NPT male, bag		0113140

BL20-2



Suction cup with long bellows

- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Less suitable when the lifting force is parallel to the surface of the object.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
0.32/3.2*	0.62/6.2*	—	—	—	—	4.0	4.0	13	3

*Lifting force with reinforcement rings.

Material specifications

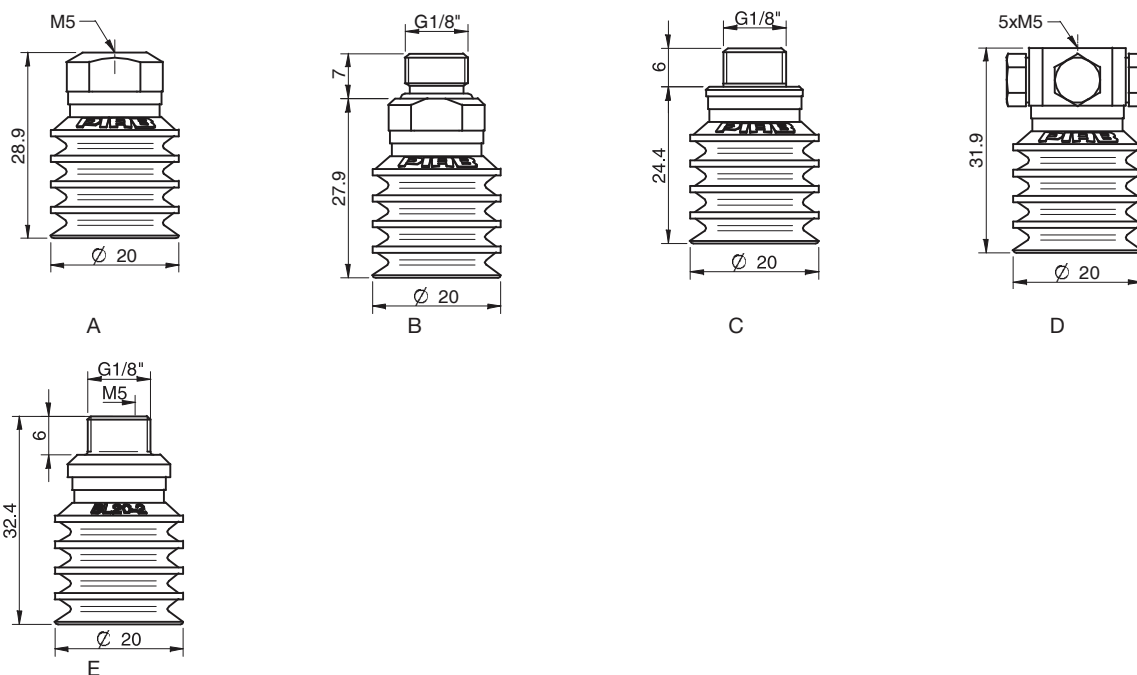
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40–110
Silicone, SIL	Red	50	-40–200

Material resistance

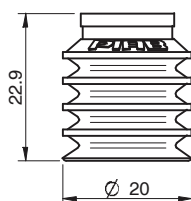
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup BL20-2 Chloroprene, M5 female	0101193
B	Suction cup BL20-2 Chloroprene, G1/8" male, with mesh filter	0101194
B	Suction cup BL20-2 Chloroprene, G1/8" male, with mesh filter and dual flow control valve	0101200
C	Suction cup BL20-2 Chloroprene, G1/8" male/M5 female, with mesh filter	0101198
C	Suction cup BL20-2 Chloroprene, G1/8" male/M5 female, with dual flow control valve	0101202
D	Suction cup BL20-2 Chloroprene, 5xM5 female	0101197
A	Suction cup BL20-2 Silicone, M5 female	0101204
A	Suction cup BL20-2 Silicone, M5 female, with dual flow control valve	0101210
B	Suction cup BL20-2 Silicone, G1/8" male, with mesh filter	0101205
B	Suction cup BL20-2 Silicone, G1/8" male, with mesh filter and dual flow control valve	0101211
C	Suction cup BL20-2 Silicone, G1/8" male/M5 female, with mesh filter	0101209
D	Suction cup BL20-2 Silicone, 5xM5 female	0101208
E	Suction cup BL20-2 Chloroprene, G1/8" male/M5 female, PA	0109844
E	Suction cup BL20-2 Silicone, G1/8" male/M5 female, PA	0110339



Rubber parts	Art. No.
Suction cup BL20-2 Chloroprene	0101115
Suction cup BL20-2 Silicone	0101116



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.

Spare Part	Material	Temperature range °C	Art. No.
Reinforcement ring for BL20-2, 4x	Polyamide, PA	-40-110	3150071

BL30-2



Suction cup with long bellows

- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Less suitable when the lifting force is parallel to the surface of the object.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm ³	mm	mm	g
0.64/6.4*	1.6/16.0*	—	—	—	—	10	8	20	7

*Lifting force with reinforcement rings.

Material specifications

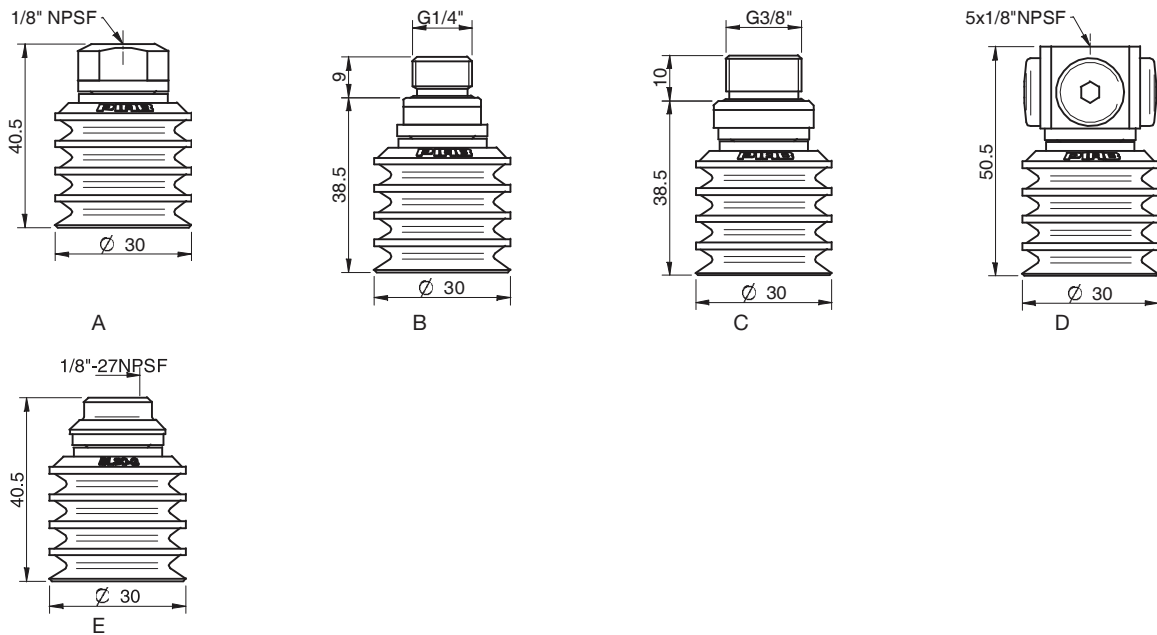
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40–110
Silicone, SIL	Red	50	-40–200

Material resistance

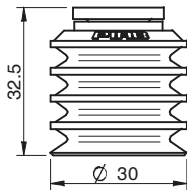
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup BL30-2 Chloroprene, 1/8" NPSF female, with mesh filter	0101501
A	Suction cup BL30-2 Chloroprene, 1/8" NPSF female, with dual flow control valve	0101502
B	Suction cup BL30-2 Chloroprene, G1/4" male, with mesh filter	0101496
B	Suction cup BL30-2 Chloroprene, G1/4" male, with mesh filter and dual flow control valve	0101503
C	Suction cup BL30-2 Chloroprene, G3/8" male, with mesh filter	0101498
A	Suction cup BL30-2 Silicone, 1/8" NPSF female, with mesh filter	0101514
A	Suction cup BL30-2 Silicone, 1/8" NPSF female, with dual flow control valve	0101515
B	Suction cup BL30-2 Silicone, G1/4" male, with mesh filter	0101509
B	Suction cup BL30-2 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101516
C	Suction cup BL30-2 Silicone, G3/8" male, with mesh filter	0101511
D	Suction cup BL30-2 Silicone, 5x1/8" NPSF female	0101513
E	Suction cup BL30-2 Chloroprene, 1/8" NPSF female, PA	0110951
E	Suction cup BL30-2 Silicone, 1/8" NPSF female, PA	0110340



Rubber parts	Art. No.
Suction cup BL30-2 Chloroprene	0101117
Suction cup BL30-2 Silicone	0101118



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.

Spare Part	Material	Temperature range °C	Art. No.
Reinforcement ring for BL30-2, 4x	Polyamide, PA	-40-110	3150072

BL40-2



Suction cup with long bellows

- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Less suitable when the lifting force is parallel to the surface of the object.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
1.1/11.0*	2.2/22.0*	—	—	—	—	27	11	33	10

*Lifting force with reinforcement rings.

Material specifications

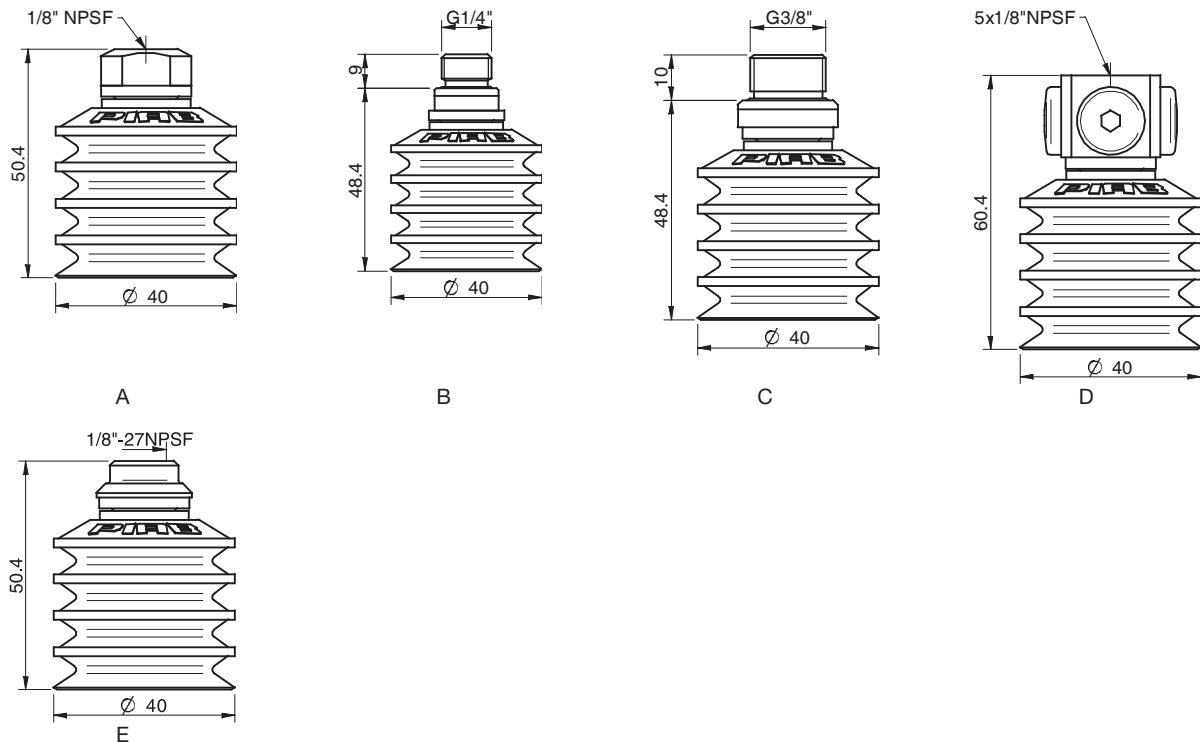
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40–110
Silicone, SIL	Red	50	-40–200

Material resistance

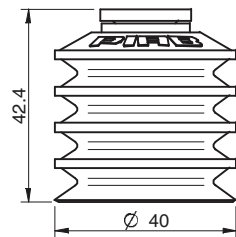
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup BL40-2 Chloroprene, 1/8" NPSF female, with mesh filter	0101527
B	Suction cup BL40-2 Chloroprene, G1/4" male, with mesh filter	0101522
B	Suction cup BL40-2 Chloroprene, G1/4" male, with mesh filter and dual flow control valve	0101529
C	Suction cup BL40-2 Chloroprene, G3/8" male, with mesh filter	0101524
D	Suction cup BL40-2 Chloroprene, 5x1/8" NPSF female	0101526
D	Suction cup BL40-2 Chloroprene, 5x1/8" NPSF female, with dual flow control valve	0101533
A	Suction cup BL40-2 Silicone, 1/8" NPSF female, with mesh filter	0101540
B	Suction cup BL40-2 Silicone, G1/4" male, with mesh filter	0101535
B	Suction cup BL40-2 Silicone, G1/4" male, with mesh filter and dual flow control valve	0101542
C	Suction cup BL40-2 Silicone, G3/8" male, with mesh filter	0101537
D	Suction cup BL40-2 Silicone, 5x1/8" NPSF female	0101539
E	Suction cup BL40-2 Chloroprene, 1/8" NPSF female, PA	0110946
E	Suction cup BL40-2 Silicone, 1/8" NPSF female, PA	0110341



Rubber parts	Art. No.
Suction cup BL40-2 Chloroprene	0101119
Suction cup BL40-2 Silicone	0101120



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.

Spare Part	Material	Temperature range °C	Art. No.
Reinforcement ring for BL40-2 & B-BL40-2, 4x	Polyamide, PA	-40–110	3150073

BL50-2



Suction cup with long bellows

- ▶ Suitable for level adjustment.
- ▶ Lifting movement to separate small and thin objects.
- ▶ Less suitable when the lifting force is parallel to the surface of the object.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
1.7/17.0*	4.3/43*	—	—	—	—	53	13	34	20.0

*Lifting force with reinforcement rings.

Material specifications

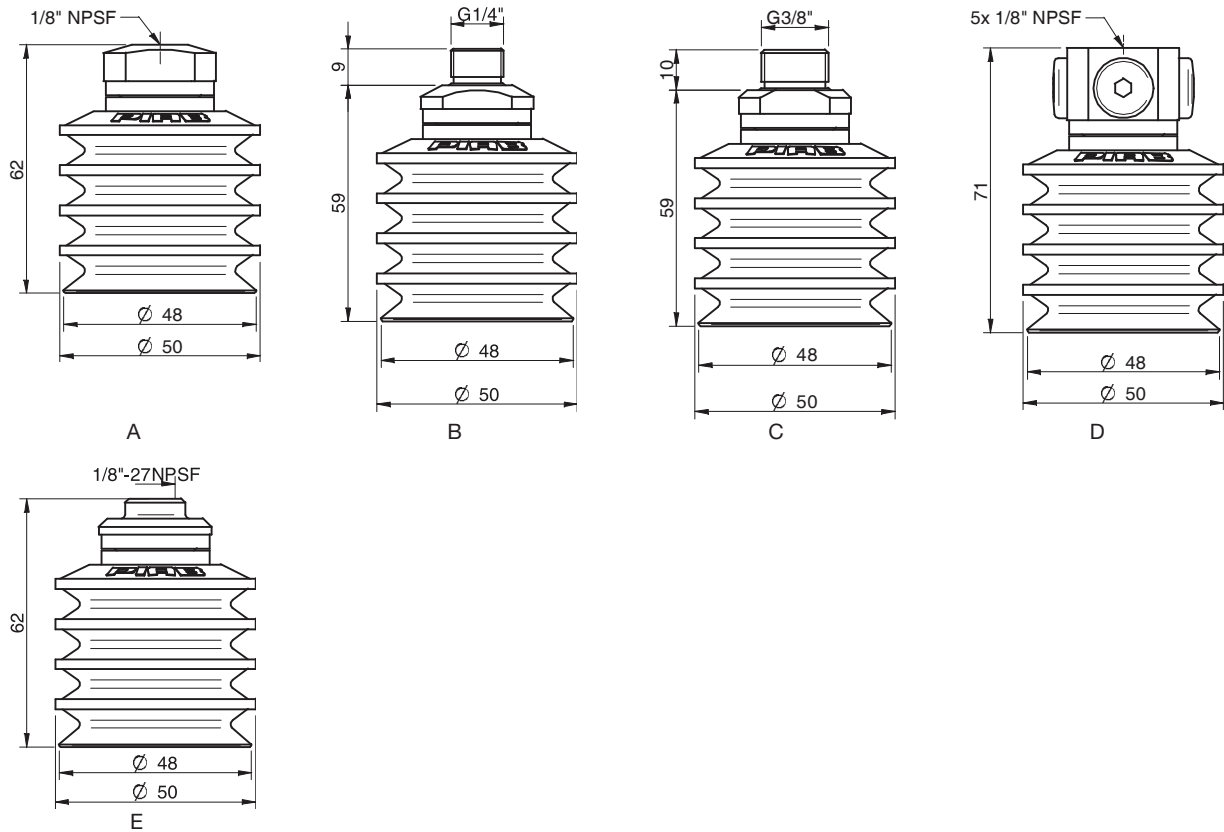
Material	Colour	Hardness °Shore A	Temperature range °C
Chloroprene, CR	Black	60	-40–110
Silicone, SIL	Red	50	-40–200

Material resistance

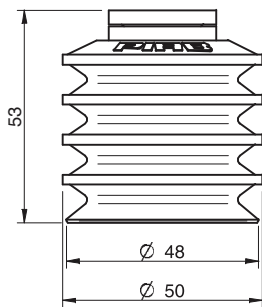
Material	Wear resistance	Oil	Weather & ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Chloroprene, CR	Excellent	Fair	Good	Good	Fair	Poor	Good	Good
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup BL50-2 Chloroprene, 1/8" NPSF female, with mesh filter	0101701
A	Suction cup BL50-2 Chloroprene, 1/8" NPSF female, with dual flow control valve	0101702
B	Suction cup BL50-2 Chloroprene, G1/4" male, with mesh filter	0101696
B	Suction cup BL50-2 Chloroprene, G1/4" male, with mesh filter and dual flow control valve	0101703
C	Suction cup BL50-2 Chloroprene, G3/8" male, with mesh filter	0101698
C	Suction cup BL50-2 Chloroprene, G3/8" male, with mesh filter and dual flow control valve	0101705
D	Suction cup BL50-2 Chloroprene, 5x1/8" NPSF female	0101700
A	Suction cup BL50-2 Silicone, 1/8" NPSF female, with mesh filter	0101714
A	Suction cup BL50-2 Silicone, 1/8" NPSF female, with dual flow control valve	0101715
B	Suction cup BL50-2 Silicone, G1/4" male, with mesh filter	0101709
C	Suction cup BL50-2 Silicone, G3/8" male, with mesh filter	0101711
E	Suction cup BL50-2 Chloroprene, 1/8" NPSF female, PA	0110958
E	Suction cup BL50-2 Silicone, 1/8" NPSF female, PA	0110342



Rubber parts	Art. No.
Suction cup BL50-2 Chloroprene	0101121
Suction cup BL50-2 Silicone	0101122



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.
Reinforcement ring for BL50-2, 4x	Polamide, PA	-40-110	3150074

BL30-4



Suction cup with long bellows and long lip

- ▶ Long and flexible bellow
- ▶ Long and thin lip
- ▶ High flow fitting
- ▶ Working area = lip diameter
- ▶ Wide temperature range (-40°C to +200°C)
- ▶ The silicone material complies with FDA 21 CFR 177.2600

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
8.0	—	—	—	—	—	4.1	20	19	5

The suction cup is not intended for deeper vacuum levels than 20 -kPa.

Material specifications

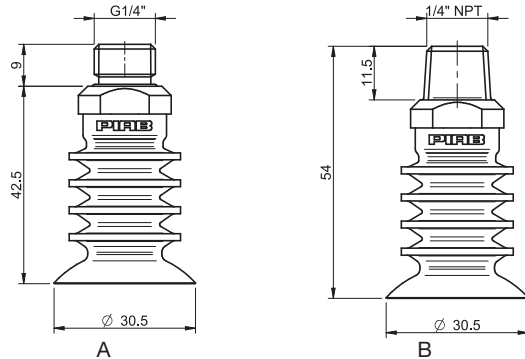
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL	Red	40	-40-200

Material resistance

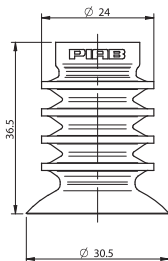
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cups	Art. No.
A	Suction cup BL30-4 Silicone, G1/4" male	0118369
B	Suction cup BL30-4 Silicone, 1/4" NPT male	0118371



	Rubber parts	Art. No.
	Suction cup BL30-4 Silicone	0116971



	Fittings	Art. No.
	Fitting G1/4" male, bag	0118793
	Fitting 1/4" NPT male, bag	0118794

Spare Part	Material	Temperature range °C	Art. No.
Reinforcement ring for BL20-2, 4x	Polyamide, PA	-40-110	3150071

BL40-4



Suction cup with long bellows and long lip

- ▶ Long and flexible bellow
- ▶ Long and thin lip
- ▶ High flow fitting
- ▶ Working area = lip diameter
- ▶ Wide temperature range (-40°C to +200°C)
- ▶ The silicone material complies with FDA 21 CFR 177.2600

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
10	15	22	9*	16*	26*	15	15	18	8

*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

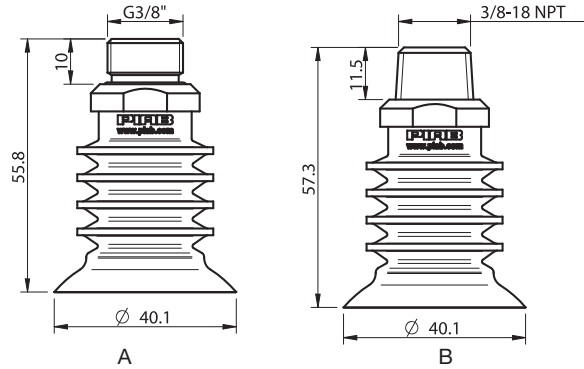
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL	Red	40	-40-200

Material resistance

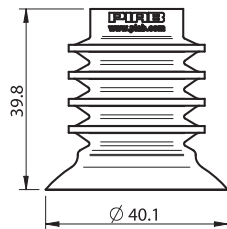
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cup	Art. No.
A	Suction cup BL40-4 Silicone, G3/8" male	0116993
B	Suction cup BL40-4 Silicone, 3/8" NPT male	0116996



	Rubber part	Art. No.
	Suction cup BL40-4 Silicone	0114848



	Fittings	Art. No.
	Fitting G3/8" male, bag	0112662
	Fitting 3/8" NPT male, bag	0112692

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

Spare Part	Material	Temperature range °C	Art. No.
Reinforcement ring for BL30-2, 4x	Polyamide, PA	-40-110	3150072

BL50-4



Features

- ▶ Good sealing properties
- ▶ Suitable for bags with fragile content e.g. snacks and cookies and lifting frozen food
- ▶ Suitable for level compensation
- ▶ The silicone material complies with FDA 21 CFR 177.2600
- ▶ High flow fitting

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
8	25	—	—	—	—	35	30	22	25

Material specifications

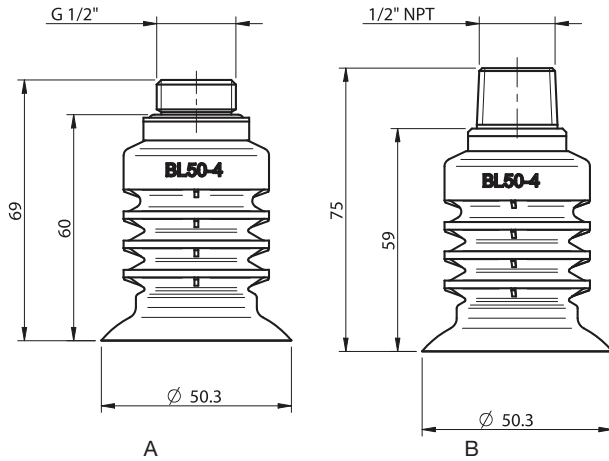
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL	Red	40	-40-200

Material resistance

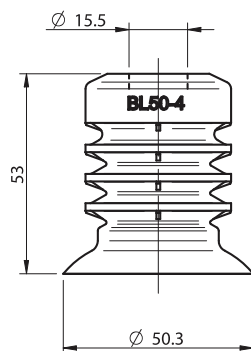
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

	Complete suction cup	Art. No.
A	Suction cup BL50-4 Silicone, G1/2" male	0120543
B	Suction cup BL50-4 Silicone, 1/2" NPT male	0120544



	Rubber parts	Art. No.
	Suction cup BL50-4 Silicone	0117612



	Description	Art. No.
	Fitting G1/2" male, bag	0113117
	Fitting 1/2" NPT male, bag	0113140

BL30-5



Suction cup specially optimised for difficult bag handling

- ▶ High initial flow, with re-enforced bellows and long, thin lip
- ▶ Suitable for handling difficult-to-handle bags, e.g., bags filled with liquid, frozen food, and for heavy bags
- ▶ Suitable working temperature is -40–200 °C
- ▶ Suitable for level compensation
- ▶ Made of silicone material that complies with FDA 21 CFR 177.2600

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level		Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	cm	mm	mm	g
8	9	8.55	17	11	14.5

Material specifications

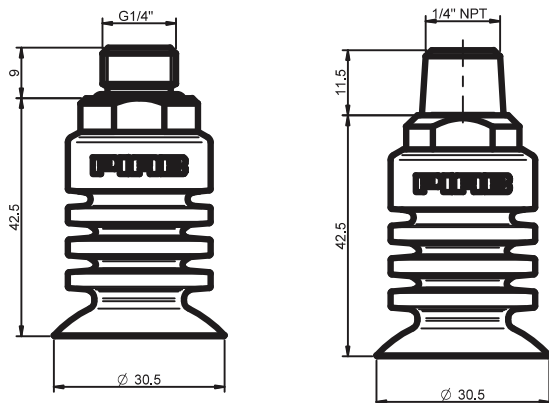
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL	Red	40	-40–200

Material resistance

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

Ordering information

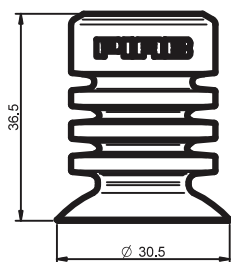
Complete suction cups		Art. No.
A	Suction cup BL30-5 Silicone, G1/4" male	0124515
B	Suction cup BL30-5 Silicone, 1/4" NPT male	0124516



A

B

Rubber part		Art. No.
Suction cup BL30-5 Silicone		0121519



Fittings		Art. No.
Fitting G1/4" male, bag		0118793
Fitting 1/4" NPT male, bag		0118794

BL40-5



Suction cup specially optimised for difficult bag handling

- ▶ High initial flow, with re-enforced bellows and long, thin lip
- ▶ Suitable for handling difficult-to-handle bags, e.g., bags filled with liquid, frozen food, and for heavy bags
- ▶ Suitable working temperature is -40–200 °C
- ▶ Suitable for level compensation
- ▶ Made of silicone material that complies with FDA 21 CFR 177.2600

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level		Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	cm ³	mm	mm	g
13	15	14	22	20	10

Material specifications

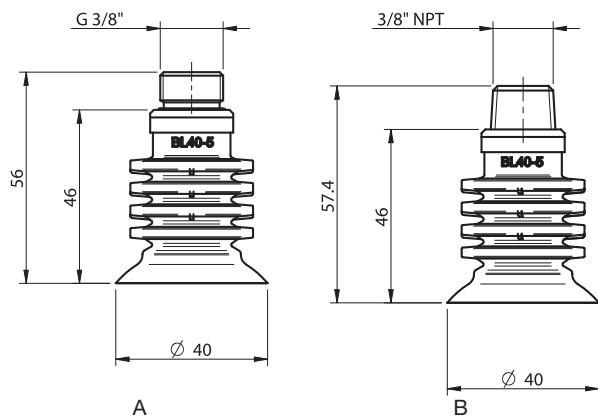
Material	Colour	Hardness °Shore A	Temperature range °C
Silicone, SIL	Red	40	-40–200

Material resistance

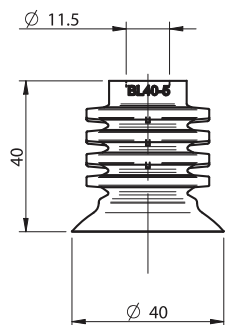
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Ordering information

Complete suction cups		Art. No.
A	Suction cup BL40-5 Silicone, G3/8" male	0120576
B	Suction cup BL40-5 Silicone, 3/8" NPT male	0120577



Rubber part		Art. No.
Suction cup BL40-5 Silicone		0117611



Fittings		Art. No.
Fitting G3/8" male, bag		0112662
Fitting 3/8" NPT male, bag		0112692

BL50-5



Suction cup specially optimised for difficult bag handling

- ▶ High initial flow, with re-enforced bellows and long, thin lip.
- ▶ Suitable for handling difficult-to-handle bags, e.g., bags filled with liquid, frozen food, and for heavy bags.
- ▶ Suitable working temperature is -40–200 °C.
- ▶ Suitable for level compensation.
- ▶ Made of silicone material that complies with FDA 21 CFR 177.2600.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
8	25	—	—	—	—	26	30	18	29

Material specifications

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

Material resistance

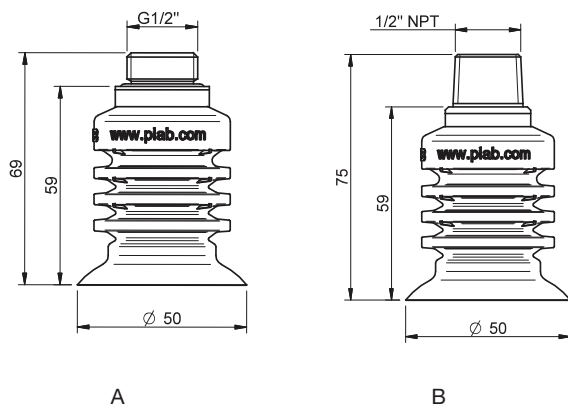
Material	Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Silicone, SIL	Good	Poor	Excellent	Fair	Poor	Poor	Good	Excellent

Suction cups/grippers Silicone Bag

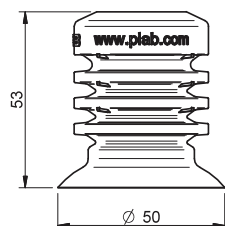


Ordering information

	Complete suction cups	Art. No.
A	Suction cup BL50-5 Silicone, G1/2" male	0122961
B	Suction cup BL50-5 Silicone, 1/2" NPT male	0122962



Rubber part	Art. No.
Suction cup BL50-5 Silicone	0121520



Description	Art. No.
Fitting G1/2" male, bag	0113117
Fitting 1/2" NPT male, bag	0113140

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

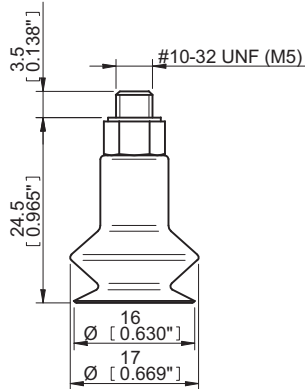
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20–80

Material resistance

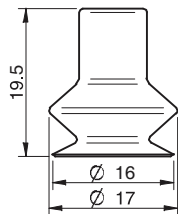
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

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 ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
4.5	15.5	21.0	6.3	11.0	19.0	2.7	11	8.0	2.0

Material specifications

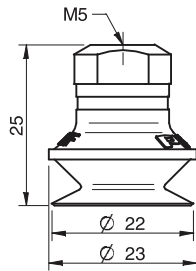
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20–80

Material resistance

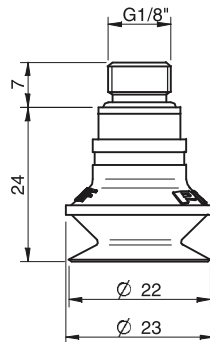
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

Ordering information

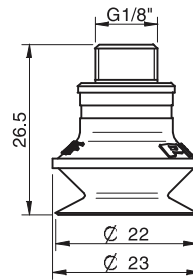
	Complete suction cups	Art. No.
A	Suction cup B20MF Thermoelastic polyurethane, M5 female	0101182
A	Suction cup B20MF Thermoelastic polyurethane, M5 female, with dual flow control valve	0101188
B	Suction cup B20MF Thermoelastic polyurethane, G1/8" male, with mesh filter	0101183
B	Suction cup B20MF Thermoelastic 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



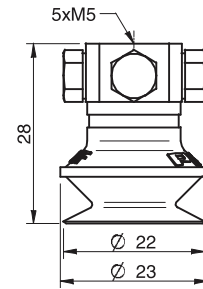
A



B

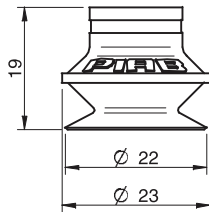


C



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.

F15MF



Flat suction cup with cleats, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for flat surfaces.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume	Min. curve radius	Max. vertical movement	Weight rubber part
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa	cm	mm	mm	g
4.0	8.0	12.0	4.5	9.0	14.5	0.37	17	1.0	0.8

Material specifications

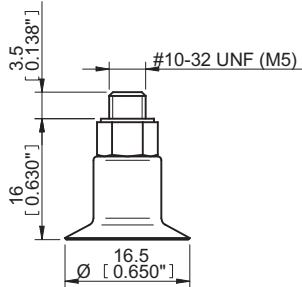
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20–80

Material resistance

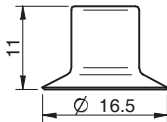
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

Ordering information

Complete suction cups	Art. No.
Suction cup F15MF Thermoelastic polyurethane, M5 male	3250074



Rubber parts	Art. No.
Suction cup F15MF Thermoelastic polyurethane	3150269



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

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

F20MF



Flat suction cup with cleats, mark free

- ▶ Suction cup of TPU, a mark free material that leaves no trace on the object being handled.
- ▶ Suitable for flat surfaces.
- ▶ Good stability and little inherent movement.
- ▶ Recommended when the lifting force is parallel to the surface of the object.

Lifting forces & Technical data

Lifting force vertical to the surface, N, at vacuum level			Lifting force parallel to the surface, N, at vacuum level			Volume cm ³	Min. curve radius mm	Max. vertical movement mm	Weight rubber part g
20 -kPa	60 -kPa	90 -kPa	20 -kPa	60 -kPa	90 -kPa				
3.6	14.5	22.0	8.0	14.5	21.0	1.0	18	2.0	1.2

Material specifications

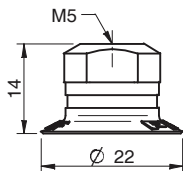
Material	Colour	Hardness °Shore A	Temperature range °C
Thermoelastic polyurethane, TPU	Transparent white	81	-20–80

Material resistance

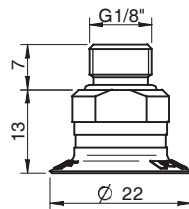
Wear resistance	Oil	Weather & Ozone	Hydrolysis	Petrol	Concentrated acids	Alcohol	Oxidation
Excellent	Excellent	Excellent	Poor	Poor	Poor	Good	Good

Ordering information

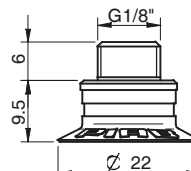
Complete suction cups		Art. No.
A	Suction cup F20MF Thermoelastic polyurethane, M5 female	0101281
B	Suction cup F20MF Thermoelastic polyurethane, G1/8" male, with mesh filter	0101282
B	Suction cup F20MF Thermoelastic polyurethane, G1/8" male, with mesh filter and dual flow control valve	0101288
C	Suction cup F20MF Thermoelastic polyurethane, G1/8" male / M5 female, with mesh filter	0101286
C	Suction cup F20MF Thermoelastic polyurethane, G1/8" male / M5 fem., with dual flow control valve	0101290
D	Suction cup F20MF Thermoelastic polyurethane, 5xM5 female	0101285
D	Suction cup F20MF Thermoelastic polyurethane, 5xM5 female, with dual flow control valve	0101291



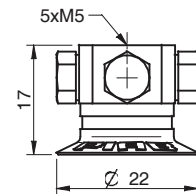
A



B

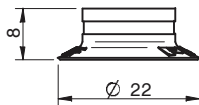


C



D

Rubber parts	Art. No.
Suction cup F20MF Thermoelastic polyurethane	0101139



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.