

# BFF30P, BFF40P, BFF60P, BFF80P, BFF110P



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### 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 > 0.1g/m<sup>2</sup> 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, lbf, at vacuum level		Friction/shear forces parallel to the surface, lbf, at vacuum level		Volume in <sup>3</sup>	Min. curve radius in	Weight oz
		18 -inHg	27 -inHg	18 -inHg	27 -inHg			
BFF30P	Oily steel plate	5.17 (5.40*)	6.74 (6.07*)	1.24 (2.47*)	1.75 (3.03*)	0.31	0.59	0.34
BFF40P	Oily steel plate	10.1 (9.67*)	13.5 (12.6*)	7.87 (13.5*)	10.1 (18.2*)	0.61	0.91	0.71–1.20
BFF60P	Oily steel plate	18.4 (17.3*)	23.8 (25.2*)	17.1 (20.2*)	20.9 (27.4*)	1.22	1.38	1.06–2.15
BFF80P	Oily steel plate	39.1 (39.6*)	46.5 (53.1*)	24.7 (45.2*)	36.0 (54.0*)	3.05	1.97	2.33–4.97
BFF110P	Oily steel plate	63.8 (62.7*)	77.6 (84.8*)	52.8 (67.0*)	56.9 (77.8*)	6.71	3.74	5.64–9.70

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

### Material specifications

Material	Color	Hardness, °Shore A	Temperature range, °F
Polyurethane, PU55	Orange	55	50–122
Polyurethane, PU60	Green transparent	60	50–122

### Material resistance

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

### Measurements suction cups with fitting [in]

BFF30P		BFF40P			BFF60P				
A	B	C	D	E	B	C	D	E	F

1	1.18	1.77	1.77	1.77	1.77	2.40	2.40	2.40	2.40	2.40
2		0.87	—	—	—	1.02	—	—	—	—
3	1.18	1.26	1.26	1.52	2.03	1.42	1.42	1.67	2.18	1.57
Max. vertical movement	0.20	0.28	0.28	0.28	0.28	0.39	0.39	0.39	0.39	0.39
Max. expanding lip	1.22	1.81	1.81	1.81	1.81	2.44	2.44	2.44	2.44	2.44

Measurements suction cups with fitting [in]										
	BFF80P					BFF110P				
	B	C	D	E	F	B	C	D	E	G
1	3.35	3.35	3.35	3.35	3.35	4.53	4.53	4.53	4.53	4.53
2	1.46	—	-	—	—	2.09	—	—	—	—
3	1.81	1.97	2.20	2.20	2.01	2.48	2.60	2.85	2.85	2.09
Max. vertical movement	0.55	0.55	0.55	0.55	0.55	0.83	0.83	0.83	0.83	0.83
Max. expanding lip	3.43	3.43	3.43	3.43	3.43	4.65	4.65	4.65	4.65	4.65

## Ordering information

	Suction cups with fitting	Part No.
A	Suction cup BFF30P Polyurethane 55/60, G3/8" male, 1/8" NPSF female	BFF30P.4R.G68W
B	Suction cup BFF40P Polyurethane 55/60, G3/8" male, with mesh filter	BFF40P.4R.04UF
C	Suction cup BFF40P Polyurethane 55/60, G3/8" female	BFF40P.4R.04UA
D	Suction cup BFF40P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF40P.4R.G63W
C	Suction cup BFF40P Polyurethane 55/60, 3/8" NPT female	BFF40P.4R.04UN
E	Suction Cup BFF40P Polyurethane 55/60, M10x1.5 male	BFF40P.4R.M10M
B	Suction cup BFF60P Polyurethane 55/60, G3/8" male, with mesh filter	BFF60P.4R.06UF
C	Suction cup BFF60P Polyurethane 55/60, G3/8" female	BFF60P.4R.06UA
D	Suction cup BFF60P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF60P.4R.G64W
F	Suction cup BFF60P Polyurethane 55/60, G3/8" female, plastic thread	BFF60P.5RC.G56WC
C	Suction cup BFF60P Polyurethane 55/60, 3/8" NPT female	BFF60P.4R.06UN
E	Suction cup BFF60P Polyurethane 55/60, M10x1.5 male	BFF60P.4R.M10M
B	Suction cup BFF80P Polyurethane 55/60, G3/8" male, with mesh filter	BFF80P.5R.G45M
C	Suction cup BFF80P Polyurethane 55/60, G3/8" female	BFF80P.5R.G45W
D	Suction cup BFF80P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF80P.5R.G65W
F	Suction cup BFF80P Polyurethane 55/60, G3/8" female, plastic thread	BFF80P.5RC.G56WC
C	Suction cup BFF80P Polyurethane 55/60, 3/8" NPT female	BFF80P.5R.N47W
E	Suction cup BFF80P Polyurethane 55/60, M10x1.5 male	BFF80P.5R.M10M
B	Suction cup BFF110P Polyurethane 55/60, G3/8" male, with mesh filter	BFF110P.5R.G45M
C	Suction cup BFF110P Polyurethane 55/60, G3/8" female	BFF110P.5R.G45W
D	Suction cup BFF110P Polyurethane 55/60, G3/8" female, 17 mm thread	BFF110P.5R.G65W
G	Suction cup BFF110P Polyurethane 55/60, G3/8" female, plastic thread	BFF110P.5RC.G57WC
C	Suction cup BFF110P Polyurethane 55/60, 3/8" NPT female	BFF110P.5R.N47W
E	Suction cup BFF110P Polyurethane 55/60, M10x1.5 male	BFF110P.5R.M10M

