

Flat Concave family (FC)



The friction cups in flat concave shape and in the material DURAFLEX® suction cups have been developed to meet the strict demands of the automotive industry and designed for flat and curved surfaces. A typical application is the feeding of sheet metal into a press tool. The FCF-P design is especially suitable for oily surfaces, 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.

Lifting forces

	Lifting force vertical to the surface, lbf, at vacuum level			Lifting force parallel to the surface, lbf, at vacuum level		
	6 -inHg	18 -inHg	27 -inHg	6 -inHg	18 -inHg	27 -inHg
FC20P	1.01	2.70	3.60	1.01	2.02	2.70
FC25P	1.80	4.50	6.07	2.02	2.70	4.05
FC35P	2.47/2.47*	8.09/7.64*	11.5/11.0*	6.07/6.07*	11.5/9.22*	13.9/11.5*
FC50P	6.29/6.29**	17.3/17.3**	23.2/23.4**	11.0/11.7**	18.4/20.9**	22.5/25.0**
FC75P	16.4/16.4**	35.3/37.8**	48.3/50.6**	24.1/20.9**	45.0/50.6**	51.7/57.3**
FC100P	30.8/34.2**	63.8/73.7**	84.8/100.3**	39.6/25.2**	71.5/59.3**	94.4/85.9**
FC150P	61.6/63.8**	145.5/161.0**	207.3/209.5**	77.1/48.3**	172.0/127.7**	202.8/194.0**
FCF25P	—	4.27/4.27***	6.29/6.52***	—	1.57/1.12***	2.25/1.62***
FCF35P	—	9.44/7.64***	13.0/11.2***	—	6.74/5.85***	9.44/7.19***
FCF50P	—	17.5/16.2***	23.8/22.7***	—	17.3/11.7***	23.6/15.7***
FCF75P	—	38.4/36.6***	53.1/51.3***	—	37.3/23.4***	47.4/31.2***
FCF100P	—	78.0/53.1***	110.2/67.0***	—	75.8/31.2***	108.8/46.1***
FCF125P	—	106.8/91.0***	146.1/99.4***	—	100.0/43.6***	135.3/53.1***

* PU50°/PU60°, ** PU40°/PU60°, *** Dry metal sheet/Oily metal sheet.

General specifications

	Outer diameter, in	Height, in	Min. curve radius, in	Max. vertical movement, in	Volume, in ³
FC20P	0.86	0.37	0.98	0.07	0.06
FC25P	1.12	0.43	1.77	0.16	0.18
FC35P	1.38	0.59	1.26	0.22	0.31
FC50P	1.97	1.32	2.09	0.20	0.61

	Outer diameter, in	Height, in	Min. curve radius, in	Max. vertical movement, in	Volume, in ³
FC75P	2.95	0.94	3.07	0.26	1.83
FC100P	3.94	1.06	4.33	0.40	4.88
FC150P	5.91	1.59	6.50	0.56	15.26
FCF25P	0.98	1.10	1.06	—	0.34
FCF35P	1.38	1.14–1.88*	1.57	0.08	0.31
FCF50P	1.97	1.22–1.96*	1.97	0.12	0.61
FCF75P	2.95	1.22–1.61*	3.94	0.16	1.83
FCF100P	3.94	1.42–1.77*	5.91	0.24	4.27
FCF125P	4.96	1.65–2.02*	5.91	0.31	6.10

* Height range includes fittings.

Available materials

	PU40°	PU50°	PU55°/PU60°	PU60°
FC20P		●		
FC25P		●		
FC35P		●		●
FC50P	●			●
FC75P	●			●
FC100P	●			●
FC150P	●			●
FCF25P			●	
FCF35P			●	
FCF50P			●	
FCF75P			●	
FCF100P			●	
FCF125P			●	

Material resistance

For more material information go to page 23.

Applications

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

	Oily sheet metal	Dry sheet metal	Mark free
FC20P		●	●
FC25P		●	●
FC35P		●	●
FC50P		●	●
FC75P		●	●

	Oily sheet metal	Dry sheet metal	Mark free
FC100P		●	●
FC150P		●	●
FCF25P	●		
FCF35P	●		
FCF50P	●		
FCF75P	●		
FCF100P	●		
FCF125P	●		

Fittings

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

Ordering information

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