SF Series

Universal Flat Suction Cup

UNIVERSAL

RoHS

Features

◇ Support structure at the bottom
◇ Small inner volume
◇ Various sizes are available

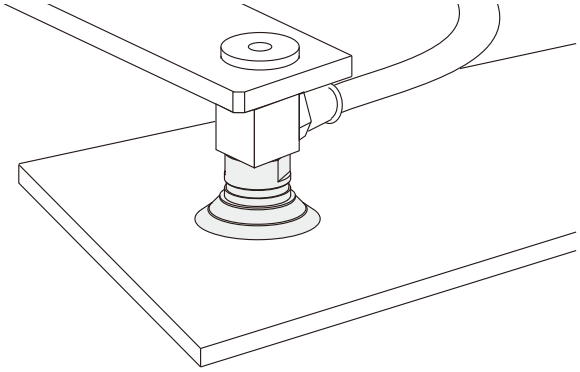


Advantages

◇ Handling thin workpiece without permanent deformation
◇ Short work cycle
◇ Suitable for workpieces with different sizes and shapes

Applications

◇ Suitable for flat workpiece with smooth or slightly rough surfaces, such as smooth wood plate, smooth steel plate, plywood, plastic plate, etc.
◇ Suitable for handling electronic components, anti-static material can effectively prevent electrostactic damage to electronic products

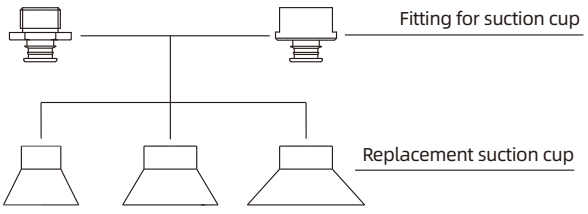


Structure

◇ Suction cup and fitting are split structure design, wearing parts can be replaced separately
◇ Contact inductive valve is optional for suction cup with diameter ϕ50-150mm, in order to avoid accidental vacuum leakage

◇ Note: The functional threaded hole is sealed with a plug when delivered. Seal the thread with thread glue or raw tape when connecting

In same series, replacement suction cup and fitting can be combined on request.



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How to order

SF 50 N - G2F - EB
① ② ③ ④ ⑤

① Series	② Diameter	③ Material & Hardness	④ Connection thread	⑤ Special specification
SF	15 - ϕ15mm	N - NBR 55	Nil - Suction cup only	Nil - Standard
	20 - ϕ20mm	S - Silicone 50	M5M - M5×0.8 male thread	EB - With contact inductive valve
	25 - ϕ25mm	WS - White silicone 50	G1M - G1/8 male thread	EW - With mesh filter
	30 - ϕ30mm	CS - Conductive silicone 55	G2M - G1/4 male thread	EH - With throttle valve
	40 - ϕ40mm		G3M - G3/8 male thread	
	50 - ϕ50mm		G1F - G1/8 female thread	
	75 - ϕ75mm		G2F - G1/4 female thread	
	110 - ϕ110mm		G3F - G3/8 female thread	
	150 - ϕ150mm		G4F - G1/2 female thread	
	200 - ϕ200mm		G6F - G3/4 female thread	
	300 - ϕ300mm			

Selection

Model	Connection thread M - Male thread	F - Female thread
SF15□	SF15□-M5M	-
SF20□	SF20□-G1M(-EW/EH)	SF20□-G1F(-EW/EH)
SF25□	SF25□-G1M(-EW/EH)	SF25□-G1F(-EW/EH)
SF30□	SF30□-G1M(-EW/EH)	SF30□-G1F(-EW/EH)
SF40□	SF40□-G1M(-EW/EH)	SF40□-G1F(-EW/EH)
SF50□	SF50□-G2M(-EW/EH) SF50□-G3M(-EW/EH)	SF50□-G2F(-EW/EH/EB) SF50□-G3F(-EW/EH)
SF75□	-	SF75□-G2F SF75□-G2F-EB
SF110□	-	SF110□-G4F SF110□-G4F-EB
SF150□	-	SF150□-G4F SF150□-G4F-EB
SF200□	-	SF200□-G4F
SF300□	-	SF300□-G6F

SF Series

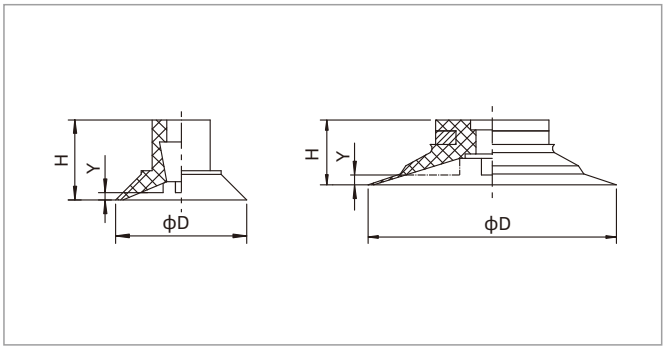
Universal Flat Suction Cup

Technical parameters

Model	Pull-out force N	Inner volume cm^3	Weight g	Recommended hose dia. mm	MPQ pcs
SF15	8	0.5	0.7	6	10
SF20	14.5	0.8	1.4	6	5
SF25	22	1.2	1.8	6	5
SF30	32	1.5	2.6	6	5
SF40	60	3	5.2	6	5
SF50	88	7	11.5	6	1
SF75	200	20	47.2	8	1
SF110	430	60	116	10	1
SF150	795	160	344.2	10	1
SF200	1,500	550	732.2	12	1
SF300	3,200	730	2,700	12	1

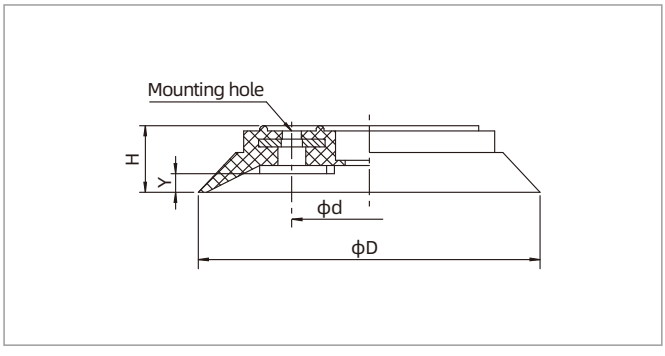
◇ Note:Testing vacuum level -60kPa, workpiece with smooth and clean surface. The data of pull-out force as above are figured out without considering safety factor. The data may be different according to different workpiece surfaces. Recommend the length of vacuum hose to be as short as possible, max 2m.

Dimensions(mm) - Suction cup only



SF15 SF20-50

Model/Size	D	H	Y
SF15□	16.5	11	0.8
SF20□	22	8	1
SF25□	27	9	1
SF30□	32	10	1.2
SF40□	42	13	1.2
SF50□	53	17.5	3.2



SF75-200

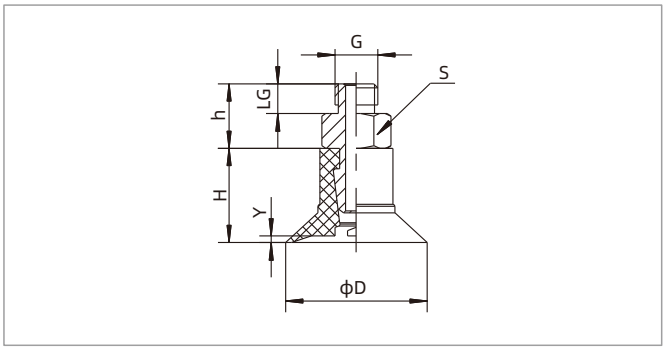
Model/Size	D	H	d	Y	Mounting hole
SF75□	77	13	35	4	4-ϕ6
SF110□	112	20	55	6	8-ϕ6
SF150□	152	26	70	8	8-ϕ6
SF200□	200	45	40	20	4-ϕ9

◇ Note: The dimensional tolerance conforms to GBT3672.1-2002-1 M3 rubber product dimensional tolerance standard

SF Series

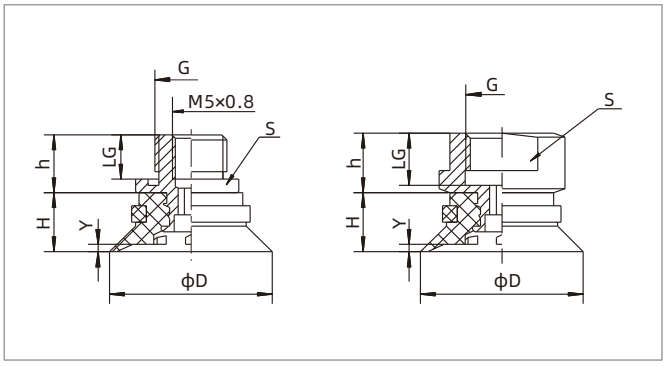
Universal Flat Suction Cup

Dimensions(mm) - Suction cup with fitting



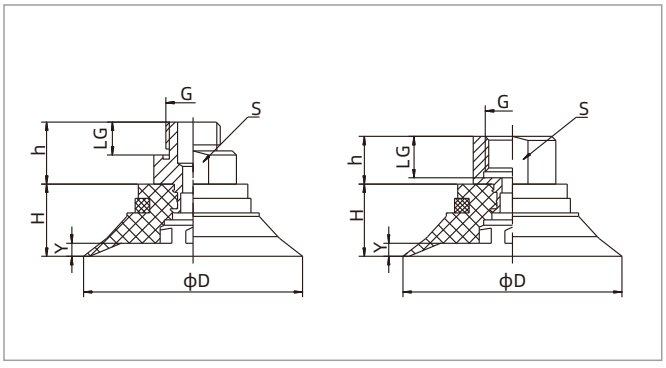
SF15□-M5M Male thread connection

Model/Size	D	H	G	LG	h	S	Y
SF15□-M5M	16.5	11	M5×0.8	3.5	7.5	7	0.8



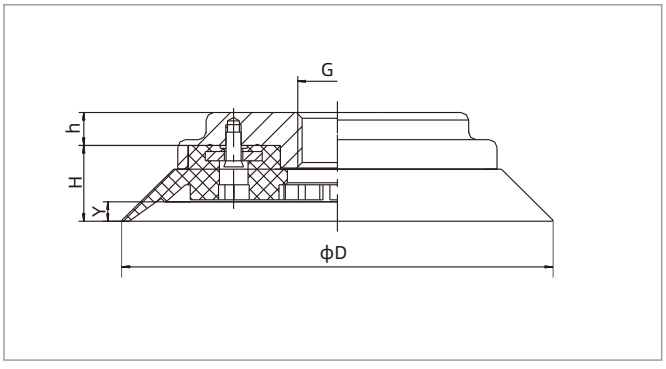
SF20-30 Male thread connection SF20-30 Female thread connection

Model/Size	D	H	G	LG	h	S	Y
SF20□-G1M	22	8	G1/8	6	7.8	13	1
SF20□-G1F	22	8	G1/8	7	8	13	1
SF25□-G1M	27	9	G1/8	6	7.8	13	1
SF25□-G1F	27	9	G1/8	7	8	13	1
SF30□-G1M	32	10	G1/8	6	7.8	13	1.2
SF30□-G1F	32	10	G1/8	7	8	13	1.2



SF40-50 Male thread connection SF40-50 Female thread connection

Model/Size	D	H	G	LG	h	S	Y
SF40□-G1M	42	13	G1/8	6	12	17	1.2
SF40□-G1F	42	13	G1/8	7	10	17	1.2
SF50□-G2M	53	17.5	G1/4	9	17	24	3.2
SF50□-G2F	53	17.5	G1/4	10	13	24	3.2
SF50□-G3M	53	17.5	G3/8	10	18	24	3.2
SF50□-G3F	53	17.5	G3/8	11	13	24	3.2



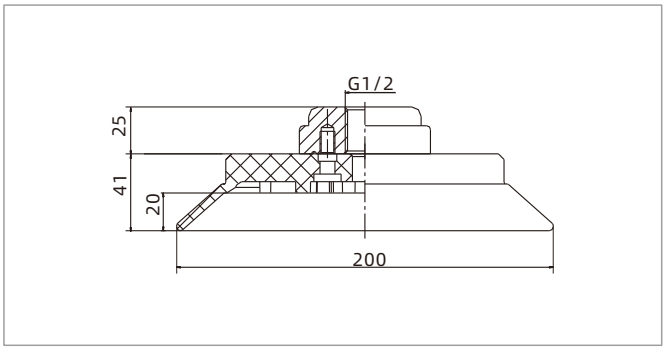
SF75-150 Female thread connection

Model/Size	D	H	G	h	Y
SF75□-G2F	77	13	G1/4	13	4
SF110□-G4F	112	20	G1/2	9	6
SF150□-G4F	152	26	G1/2	10	8

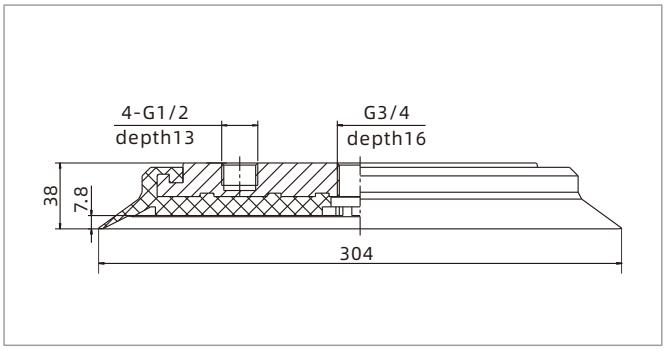
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Dimensions(mm) - Suction cup with fitting

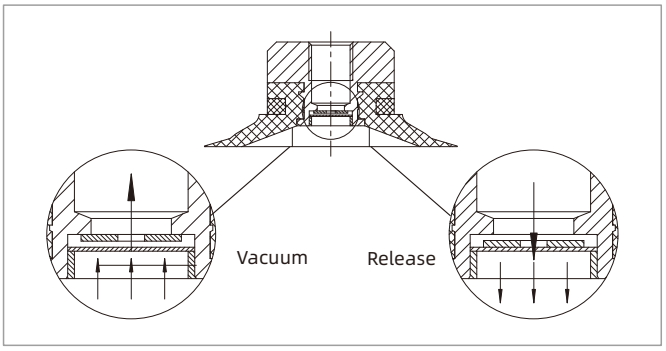


SF200 Female thread connection



SF300 Female thread connection

Accessories

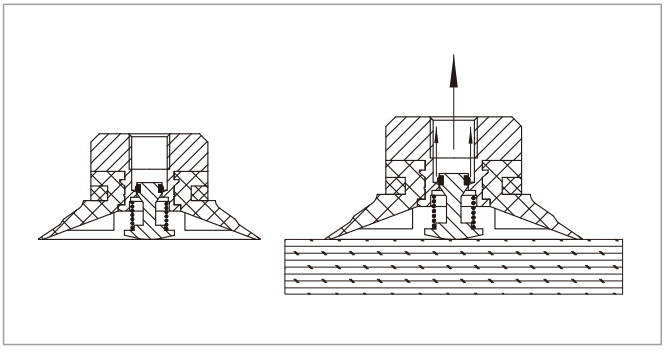


EH - Throttle valve

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◇ The flow through the vacuum port increases when the suction cup doesn't contact the workpiece, the valve plate fits the vacuum port, just little vacuum flow leaks from the small hole

◇ The flow through the vacuum port reduces when the suction cup sucks the workpiece, the valve plate leaves the vacuum port, suction cup works normally. (Suction cup must work vertically when it is equipped with throttle vlave)



EB - Contact inductive valve

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◇ When the suction cup doesn't contact the workpiece, the inductive valve closes the vacuum port to prevent the vacuum flow leakage

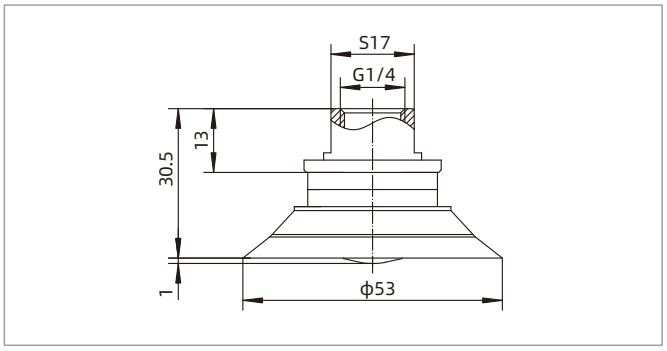
◇ When the suction cup contacts the workpiece, compresses the valve rod of the inductive valve, the vacuum port opens and the suction cup works normally

◇ Note: The contact inductive valve should be used with PSPT-H, PSPH and PSPD series level compensators. Otherwise, the spring force of inductive valve is higher than that of the level compensator, which results in the failure to open the valve. Please contact us for more details.

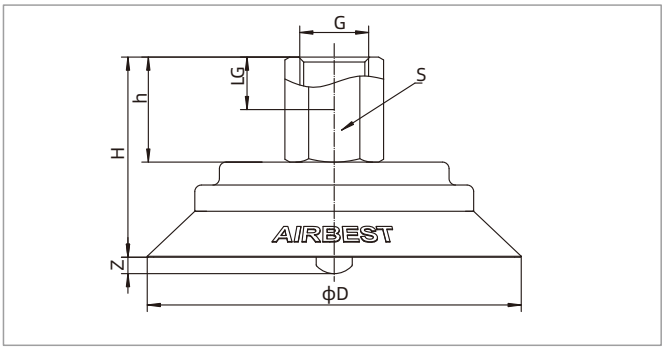
SF Series

Universal Flat Suction Cup

Dimensions(mm) - With contact inductive valve



SF50□-G2F-EB



SF75-150

Model/Size	D	H	h	G	LG	S	Z	Spring force N
SF75-G2F-EB	77	58	32	G1/4	10	27	5	13
SF75-G4F-EB	77	58	32	G1/2	15	27	5	13
SF110-G4F-EB	112	61	32	G1/2	15	27	5	15
SF150-G4F-EB	152	69	32	G1/2	15	27	5	16

◇ Note: The spring force is the min. pressure required when the suction cup is attached to the surface of the workpiece and the inductive valve is fully opened. The spring force (50% stroke) of the level compensator should be higher than that of the inductive valve.

Mounting parts

Item	Model M - Male thread	F - Female thread	Applicable suction cup
Fitting for suction cup	PJS-M5M-SC3	-	SF15
	PJS-G1M-SF1	PJS-G1F-SF1	SF20, 25, 30
	PJS-G1M-SF2	PJS-G1F-SF2	SF40
	PJS-G2M-SF3	PJS-G2F-SF3	SF50
	PJS-G3M-SF3	PJS-G3F-SF3	SF50
	-	PJS-G2F-SF75	SF75
	-	PJS-G4F-SF110	SF110
	-	PJS-G4F-SF150	SF150
	-	PJS-G4F-SF200	SF200