

SPF Series

Flat Suction Cup

AIRBEST



RoHS

Features

- ◇ With support structure at the bottom
- ◇ Optimal design
- ◇ Small inner volume
- ◇ Available in various sizes

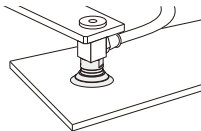
Advantages

- ◇ Be able to prevent permanent deformation of workpieces
- ◇ Small size, large suction force
- ◇ Short working cycle
- ◇ Suitable for workpieces of various sizes and shapes



Applications

- ◇ Handling of flat workpieces with smooth or slightly rough surface such as wood, metal plate, plywood and plastic plate
- ◇ Suitable for handling electronic components, conductive material can effectively prevent electrostatic damage to electronic components



Structure

- ◇ Suction cups with diameter less than 50mm adopt split structure for easy replacement of wearing parts
- ◇ One-piece structure for suction cup with diameter 60mm-200mm

In the same series, replacement suction cup and fitting can be combined as required



SPF Series

Flat Suction Cup

AIRBEST

Suction Cup

How to order

SPF 15 N - MSM

① ② ③ ④

① Series	② Diameter	③ Material & Hardness	④ Connection thread
SPF	2 - ϕ 2mm	35 - ϕ 35mm	N - NBR
	3.5 - ϕ 3.5mm	40 - ϕ 40mm	W5 - White silicone
	5 - ϕ 5mm	50 - ϕ 50mm	CN - Conductive NBR
	6 - ϕ 6mm	60 - ϕ 60mm	CS - Conductive silicone
	8 - ϕ 8mm	80 - ϕ 80mm	
	10 - ϕ 10mm	95 - ϕ 95mm	
	15 - ϕ 15mm	120 - ϕ 120mm	
	20 - ϕ 20mm	150 - ϕ 150mm	
	25 - ϕ 25mm	200 - ϕ 200mm	
	30 - ϕ 30mm		

Selection

Model	Connection thread M - Male thread
SPF2□	SPF2□-M3M
SPF3.5□	SPF3.5□-M3M
SPF5□	SPF5□-MSM
SPF6□	SPF6□-MSM
SPF8□	SPF8□-MSM
SPF10□	SPF10□-MSM
SPF15□	SPF15□-MSM
SPF20□	SPF20□-MSM

Model	Connection thread M - Male thread
SPF25□	SPF25□-MSM
SPF30□	SPF30□-MSM
SPF35□	SPF35□-MSM
SPF40□	SPF40□-MSM
SPF50□	SPF50□-MSM
SPF60□-M10F	-
SPF80□-M10F	-
SPF95□-M10F	-

Technical parameters

Model	Pull-out force N	Inner volume cm ³	Weight g	Recommended hose dia. mm	MPQ pcs
SPF2	0.15	<0.1	0.1	4	10
SPF3.5	0.4	<0.1	0.1	4	10
SPF5	0.9	<0.1	0.2	4	10
SPF6	1.2	<0.1	0.2	4	10
SPF8	2.2	<0.1	0.2	4	10
SPF10	3.5	<0.1	0.3	4	10
SPF15	8	0.2	0.4	6	10
SPF20	15	0.5	1.6	6	5
SPF25	24	1.1	2.5	6	5
SPF30	32	1	3.3	6	5

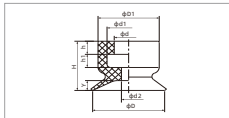
Model	Pull-out force N	Inner volume cm ³	Weight g	Recommended hose dia. mm	MPQ pcs
SPF35	43	2.4	6.6	6	5
SPF40	60	3.4	8.4	6	5
SPF50	92	5.7	10.4	8	1
SPF60	127	11	23.2	8	1
SPF80	226	25.3	48.2	8	1
SPF95	319	38	70.3	10	1
SPF120	510	81	159.5	10	1
SPF150	800	171	322.4	12	1
SPF200	1,410	364	521.5	12	1

SPF Series

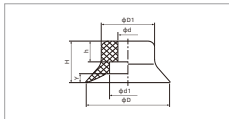
Flat Suction Cup

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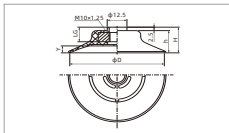
Dimensions(mm) - Suction cup only



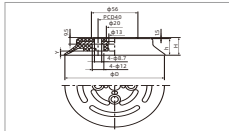
SPF2-15



SPF20-50



SPF60-95



SPF120-200

Model/Size	D	H	D1	d	h	d1	h1	d2	Y
SPF2□	2	4	4	2	1.5	3	1	1.2	0.5
SPF3.5□	3.5	4	4	2	1.5	3	1	1.2	0.5
SPF5□	5	6.5	7.5	4	2	6	2	1.4	0.8
SPF6□	6	6.5	7.5	4	2	6	2	2	0.8
SPF8□	8	7	8	4	2	6	2	2	1.2
SPF10□	10	7.5	8.5	4	2	6	2	2	1.5
SPF15□	15	8	9	4	2	6	2	2	1.9

Model/Size	D	H	D1	d	h	d1	Y
SPF20□	20	10	15	6	4.5	10.8	2.3
SPF25□	25	14	16	6	7	11	3
SPF30□	29	12	14	6	7	11	2
SPF35□	35	14	21	6	7	11	3
SPF40□	40	14	24	6	7	11	3.5
SPF50□	50	15	27	8	7	20	4

Model/Size	D	H	h	LG	Y
SPF60□-M10F	60	18.5	16	10.5	5
SPF80□-M10F	80	20.5	18	11.5	6
SPF95□-M10F	95	21	18.5	11	6

Model/size	D	H	h	Y
SPF120□	120	25.5	24	6
SPF150□	150	32.5	31	9
SPF200□	200	37.5	36	13

○ Note: The dimensional tolerance conforms to GB/T 3672.1-2002-1 M3 rubber product dimensional tolerance standard

SPF Series

Flat Suction Cup

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Suction Cup

Mounting parts

Item	Model M - Male thread	Applicable suction cup
Fitting for suction cup	PJS-M3M-ST1	SPF2, 3.5
	PJS-M5M-ST2	SPF5, 6, 8, 10, 15
	PJS-M5M-ST3	SPF20
	PJS-M5M-ST4	SPF25, 30, 35, 40
	PJS-MBM-ST6	SPF50

SZ

SPH

SPJ

SLF

SAN

SAD

SOFA

STP

SFT

SFA

SBT

SBL

SBLP

SBS

SBP

SXP

SGP

SBOF

STC

SFF

SOB

SOF

SDG

SFM

SOM

SBP

SOM

SFU

SFK

SHT

SOL

SPG

SPGT

SPD

SB

SBA

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SFA

SPD

SPF

SPC

SPJ

SPU

SH

SHB

SBB

SGP

SNP

SPF Series

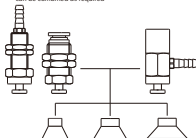
Suction Cup with Locking Fitting

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Structure

- Consisting of replacement suction cup and locking fitting
- Plug-in fitting for suction cup
- Vertical vacuum port, Pagoda fitting or one-touch fitting for connection, male thread for mounting
- Lateral vacuum port, Pagoda fitting for connection, female thread for mounting

In the same series, replacement suction cup and locking fitting can be combined as required



How to order

SPF10N - L B6 - M4F

① ② ③ ④

① Model	② Vacuum port direction	③ Vacuum port connection	④ Mounting thread
SPF10N	Nil - Vertical direction L - Lateral direction	A4 - One-touch fitting $\phi 4$ hose A6 - One-touch fitting $\phi 6$ hose B4 - Pagoda fitting $\phi 4$ hose B6 - Pagoda fitting $\phi 6$ hose R1 - Rc1/8 female thread	M3F - M3×0.5 female thread M4F - M4×0.7 female thread M6F - M6×1 female thread M8F - M8×1.25 female thread M16F - M16×2 female thread M5M - M5×0.5 male thread M8M - M8×1 male thread M10M - M10×1 male thread M12M - M12×1 male thread M14M - M14×1 male thread M16M - M16×1.5 male thread

○ Please refer to page 313 for suction cup selection

Selection

Model	Vacuum port direction Vertical-Pagoda fitting	Vertical-One-touch fitting	Lateral-Pagoda fitting
SPF2□	SPF2□ - B4-M5M	-	SPF2□ - LB4-M3F
SPF3.5□	SPF3.5□ - B4-M5M	-	SPF3.5□ - LB4-M3F
SPF5□	SPF5□ - B6-M8M	SPF5□ - A4-M12M	SPF5□ - LB6-M4F
SPF6□	SPF6□ - B6-M8M	SPF6□ - A4-M12M	SPF6□ - LB6-M4F
SPF8□	SPF8□ - B6-M8M	SPF8□ - A4-M12M	SPF8□ - LB6-M4F
SPF10□	SPF10□ - B6-M8M	SPF10□ - A4-M12M	SPF10□ - LB6-M4F
SPF15□	SPF15□ - B6-M8M	SPF15□ - A4-M12M	SPF15□ - LB6-M4F
SPF20□	SPF20□ - B6-M10M	SPF20□ - A6-M14M	SPF20□ - LB6-M4F
SPF25□	SPF25□ - B6-M10M	SPF25□ - A6-M14M	SPF25□ - LB6-M6F
SPF30□	SPF30□ - B6-M10M	SPF30□ - A6-M14M	SPF30□ - LB6-M6F
SPF35□	SPF35□ - B6-M10M	SPF35□ - A6-M14M	SPF35□ - LB6-M6F
SPF40□	SPF40□ - B6-M10M	SPF40□ - A6-M14M	SPF40□ - LB6-M6F
SPF50□	SPF50□ - B6-M10M	SPF50□ - A6-M14M	SPF50□ - LB6-M6F

SPF Series

Suction Cup with Locking Fitting

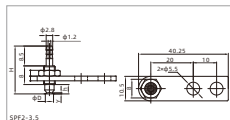
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Suction Cup

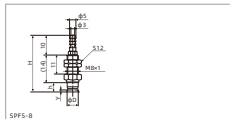
Selection

Model	Vacuum port direction Vertical-Pagoda fitting	Lateral-Pagoda fitting
SPF60□	SPF60□-R1-M16M	SPF60□-LR1-M8F
SPF80□	SPF80□-R1-M16M	SPF80□-LR1-M8F
SPF95□	SPF95□-R1-M16M	SPF95□-LR1-M8F
SPF120□	-	SPF120□-LR1-M16F
SPF150□	-	SPF150□-LR1-M16F
SPF200□	-	SPF200□-LR1-M16F

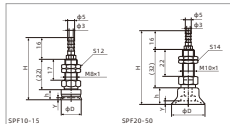
Dimensions(mm)



Vertical-Pagoda fitting



Vertical-Pagoda fitting



Vertical-Pagoda fitting

Model/Size	D	H	h	Y
SPF2□-B4-M5M	2	20.5	4	0.5
SPF3.5□-B4-M5M	3.5	20.5	4	0.5

Model/Size	D	H	h	Y
SPF5□-B6-M8M	5	30.5	6.5	0.8
SPF6□-B6-M8M	6	30.5	6.5	0.8
SPF8□-B6-M8M	8	31	7	1.2

Model/Size	D	H	h	Y
SPF10□-B6-M8M	10	45.5	7.5	1.5
SPF15□-B6-M8M	15	46	8	1.9
SPF20□-B6-M10M	20	58	10	2.3
SPF25□-B6-M10M	25	62	14	3
SPF30□-B6-M10M	30	60	12	2
SPF35□-B6-M10M	35	62	14	3
SPF40□-B6-M10M	40	62	14	3.5
SPF50□-B6-M10M	50	63	15	4

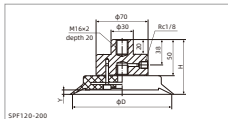
SPF Series

Suction Cup with Locking Fitting

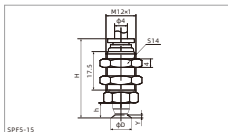
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Suction Cup

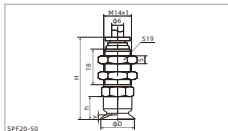
Dimensions(mm)



Lateral-Female thread connection



Vertical-One-touch fitting



Vertical-One-touch fitting

Model/Size	D	H	Y
SPF120□-LR1-M16F	120	75.5	6
SPF150□-LR1-M16F	150	82.5	9
SPF200□-LR1-M16F	200	87.5	13

Model/Size	D	H	Y
SPF5□-A4-M12M	5	34	0.8
SPF6□-A4-M12M	6	34	0.8
SPF8□-A4-M12M	8	34.5	1.2
SPF10□-A4-M12M	10	35	1.5
SPF15□-A4-M12M	15	35.5	1.9

Model/Size	D	H	Y
SPF20□-A6-M14M	20	39	2.3
SPF25□-A6-M14M	25	43	3
SPF30□-A6-M14M	30	41	2
SPF35□-A6-M14M	35	43	3
SPF40□-A6-M14M	40	43	3.5
SPF50□-A6-M14M	50	44	4

52

SPH

SPJ

SPK

SPL

SAN

SAD

SOFA

STP

SFT

SFA

SBT

SBL

SBLP

SBLP

SBS

SPF

SEP

SXP

SGP

SBOF

STC

SFF

SOB

SOF

SDG

SDM

SOM

SEP

SOM

SFU

SFK

SHT

SOL

SFG

SFGT

SFD

SB

SBA

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SP2P

SFA

SPD

SPF

SPC

SPJ

SPU

SH

SHB

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SOP

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SPF Series

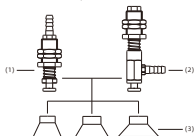
Suction Cup with Level Compensator

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Structure

- Consisting of replacement suction cup(3) and level compensator
- Plug-in fitting for suction cup
- Vertical vacuum port(1), male thread for mounting
- Lateral vacuum port(2), male thread for mounting

In the same series, replacement suction cup and level compensator can be combined as required



How to order

SPF10N - F E 10 LB6 - M11

① ② ③ ④ ⑤ ⑥

① Model	② Level compensator type	③ Buffer type	④ Buffer stroke	⑤ Vacuum port connection	⑥ Mounting thread
SPF10N	F - PSPF Series	E - External spring	2 5 3 10 4 15 6 30	B4 - Vertical, Pagoda fitting $\phi 4$ hose B6 - Vertical, Pagoda fitting $\phi 6$ hose LB4 - Lateral, Pagoda fitting $\phi 4$ hose LB6 - Lateral, Pagoda fitting $\phi 6$ hose LR1 - Lateral, Rc1/8 female thread	M5 - M5x0.5 M9 - M9x1 M11 - M11x1 M14 - M14x1 M16 - M16x1.5

Selection

Model	Vacuum port direction Vertical-Pagoda fitting		Lateral-Pagoda fitting	
SPF2□	SPF2□-FE2B4-M5	SPF2□-FE5B4-M5	SPF2□-FE2LB4-M5	SPF2□-FE5LB4-M5
SPF3.5□	SPF3.5□-FE2B4-M5	SPF3.5□-FE5B4-M5	SPF3.5□-FE2LB4-M5	SPF3.5□-FE5LB4-M5
SPF5□	SPF5□-FE3B6-M9	SPF5□-FE10B6-M9	SPF5□-FE3LB6-M9	SPF5□-FE10LB6-M9
SPF6□	SPF6□-FE3B6-M9	SPF6□-FE10B6-M9	SPF6□-FE3LB6-M9	SPF6□-FE10LB6-M9
SPF8□	SPF8□-FE3B6-M9	SPF8□-FE10B6-M9	SPF8□-FE3LB6-M9	SPF8□-FE10LB6-M9
SPF10□	SPF10□-FE4B6-M11	SPF10□-FE10B6-M11	SPF10□-FE4LB6-M11	SPF10□-FE10LB6-M11
SPF15□	SPF15□-FE4B6-M11	SPF15□-FE10B6-M11	SPF15□-FE4LB6-M11	SPF15□-FE10LB6-M11
SPF20□	SPF20□-FE4B6-M11	SPF20□-FE10B6-M11	SPF20□-FE4LB6-M11	SPF20□-FE10LB6-M11
SPF25□	SPF25□-FE6B6-M14	SPF25□-FE15B6-M14	SPF25□-FE6LB6-M14	SPF25□-FE15LB6-M14
SPF30□	SPF30□-FE6B6-M14	SPF30□-FE15B6-M14	SPF30□-FE6LB6-M14	SPF30□-FE15LB6-M14
SPF35□	SPF35□-FE6B6-M14	SPF35□-FE15B6-M14	SPF35□-FE6LB6-M14	SPF35□-FE15LB6-M14
SPF40□	SPF40□-FE6B6-M14	SPF40□-FE15B6-M14	SPF40□-FE6LB6-M14	SPF40□-FE15LB6-M14
SPF50□	SPF50□-FE6B6-M14	SPF50□-FE15B6-M14	SPF50□-FE6LB6-M14	SPF50□-FE15LB6-M14

SPF Series

Suction Cup with Level Compensator

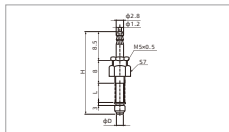
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Suction Cup

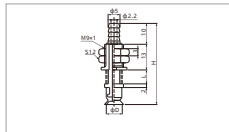
Selection

Model	Vacuum port direction Vertical-Pagoda fitting	Lateral-Pagoda fitting	
SPF60□	-	SPF60□-FE10LR1-M16	SPF60□-FE30LR1-M16
SPF80□	-	SPF80□-FE10LR1-M16	SPF80□-FE30LR1-M16
SPF95□	-	SPF95□-FE10LR1-M16	SPF95□-FE30LR1-M16

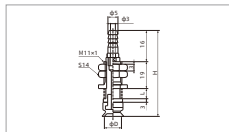
Dimensions(mm)



SPF2-3.5 Vertical-Pagoda fitting



SPF5-8 Vertical-Pagoda fitting



SPF10-20 Vertical-Pagoda fitting

Model/Size	D	H	L	Buffer stroke
SPF2□-FE2B4-M5	2	28.5	5	2.5
SPF2□-FE5B4-M5	2	33.5	10	5
SPF3.5□-FE2B4-M5	3.5	28.5	5	2.5
SPF3.5□-FE5B4-M5	3.5	33.5	10	5

Model/Size	D	H	L	Buffer stroke
SPF5□-FE3B6-M9	5	37.5	6	3
SPF5□-FE10B6-M9	5	51.5	20	10
SPF6□-FE3B6-M9	6	37.5	6	3
SPF6□-FE10B6-M9	6	51.5	20	10
SPF8□-FE3B6-M9	8	38	6	3
SPF8□-FE10B6-M9	8	52	20	10

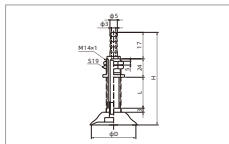
Model/Size	D	H	L	Buffer stroke
SPF10□-FE4B6-M11	10	53.5	8	4
SPF10□-FE10B6-M11	10	65.5	20	10
SPF15□-FE4B6-M11	15	54	8	4
SPF15□-FE10B6-M11	15	66	20	10
SPF20□-FE4B6-M11	20	56	8	4
SPF20□-FE10B6-M11	20	68	20	10

SPF Series

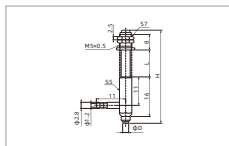
Suction Cup with Level Compensator

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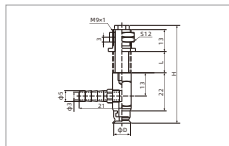
Dimensions(mm)



SPF25-50 Vertical-Pagoda fitting



SPF2-3.5 Lateral-Pagoda fitting



SPF5-8 Lateral-Pagoda fitting

Model/Size	D	H	L	Buffer stroke
SPF25□-FE6B6-M14	25	71	13	6
SPF25□-FE15B6-M14	25	88	30	15
SPF30□-FE6B6-M14	30	69	13	6
SPF30□-FE15B6-M14	30	86	30	15
SPF35□-FE6B6-M14	35	71	13	6
SPF35□-FE15B6-M14	35	88	30	15
SPF40□-FE6B6-M14	40	71	13	6
SPF40□-FE15B6-M14	40	88	30	15
SPF50□-FE6B6-M14	50	72	13	6
SPF50□-FE15B6-M14	50	89	30	15

Model/Size	D	H	L	Buffer stroke
SPF2□-FE2LB4-M5	2	35.5	5	2.5
SPF2□-FE5LB4-M5	2	40.5	10	5
SPF3.5□-FE2LB4-M5	3.5	35.5	5	2.5
SPF3.5□-FE5LB4-M5	3.5	40.5	10	5

Model/Size	D	H	L	Buffer stroke
SPF5□-FE3LB6-M9	5	50.5	6	3
SPF5□-FE10LB6-M9	5	64.5	20	10
SPF6□-FE3LB6-M9	6	50.5	6	3
SPF6□-FE10LB6-M9	6	64.5	20	10
SPF8□-FE3LB6-M9	8	51	6	3
SPF8□-FE10LB6-M9	8	65	20	10

