

# SPA Series

## Thin Lip Flat Suction Cup

**AIRBEST**



PAPER ANTI-DEFORMATION



Suction Cup

### Features

- ◇ Thin lip, flat and short stroke
- ◇ With support structure at the bottom
- ◇ Available in various sizes

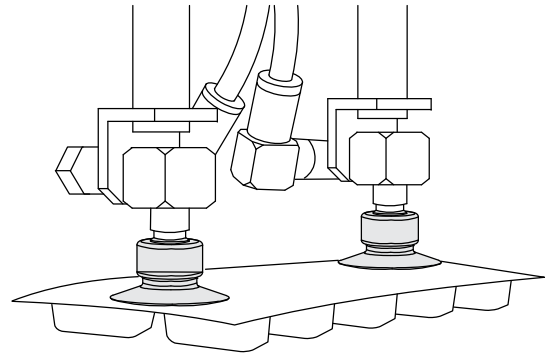
### Advantages

- ◇ Good sealing for handling of thin and flat workpieces
- ◇ Prevents fold during handling of paper and thin film
- ◇ Suitable for workpieces of various sizes and shapes



### Applications

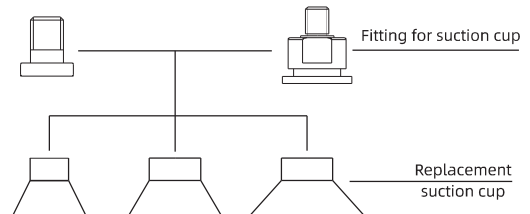
- ◇ Suitable for occasions that has high requirements for mark on product surface during handling, such as paper, plastic film, aluminum foil and copper foil
- ◇ B type suction cup is flat and with thin lip, which is more suitable for handling thin workpieces that are easy to wrinkle, such as aluminum foil, copper foil



### Structure

- ◇ Split structure for easy replacement of wearing parts

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



- SZ
- SP3
- SUF
- SAN
- SAO
- SOFA
- STP
- SFT
- SFA
- SBT
- SBL
- SBLP
- SBS
- SFP
- SBP
- SXP
- SGP
- SBOF
- STC
- SFF
- SOB
- SOE
- SOG
- SFM
- SOM
- SBF
- SDM
- SFU
- SFK
- SHT
- SDL
- SFG
- SFGT
- SFD
- SB
- SBA
- SF
- SU**
- SPA**
- SPD
- SPF
- SPC
- SPJ
- SPU
- SH
- SHB
- SBB
- SOP
- SNP

# SPA Series

## Thin Lip Flat Suction Cup



### How to order

## SPA 15 A N - M5M

① ② ③ ④ ⑤

① Series	② Diameter	③ Stroke	④ Material & Hardness	⑤ Connection thread	
SPA	10 - $\phi$ 10mm	A	N - NBR	50	Nil - Suction cup only M5M - M5x0.8 male thread M6M - M6x1 male thread M8M - M8x1 male thread
	15 - $\phi$ 15mm	B	WS - White silicone	50	
	20 - $\phi$ 20mm	D	CN - Conductive NBR	55	
	30 - $\phi$ 30mm		CS - Conductive silicone	55	
	40 - $\phi$ 40mm				
	50 - $\phi$ 50mm				

### Selection

Model	Connection thread M - Male thread	Model	Connection thread M - Male thread
SPA10A□	SPA10A□-M5M	SPA20B□	SPA20B□-M5M
SPA10B□	SPA10B□-M5M	SPA25A□	SPA25A□-M6M SPA25A□-M8M
SPA15A□	SPA15A□-M5M	SPA30A□	SPA30A□-M6M SPA30A□-M8M
SPA15B□	SPA15B□-M5M	SPA30B□	SPA30B□-M5M
SPA15D□	SPA15D□-M5M	SPA40A□	SPA40A□-M6M SPA40A□-M8M
SPA20A□	SPA20A□-M5M	SPA50A□	SPA50A□-M6M SPA50A□-M8M

### Technical parameters

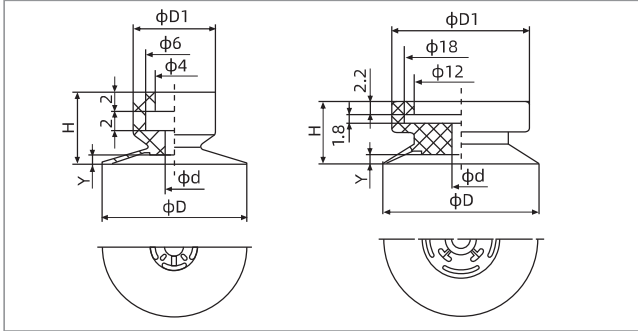
Model	Pull-out force N	Inner volume cm <sup>3</sup>	Weight g	Recommended hose dia. mm	MPQ pcs
SPA10A	3.5	<0.1	0.3	4	10
SPA10B	3.5	<0.1	0.56	4	10
SPA15A	8	<0.1	0.28	4	10
SPA15B	8	<0.1	0.4	4	10
SPA15D	8	<0.1	0.28	4	10
SPA20A	15	0.3	0.8	4	5
SPA20B	15	<0.1	0.7	4	5
SPA25A	22	0.6	2.0	4	5
SPA30A	32	1.1	2.6	4	5
SPA30B	32	0.2	3.4	4	5
SPA40A	56	2.6	2.6	6	5
SPA50A	88	5.8	4.3	6	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.

# SPA Series

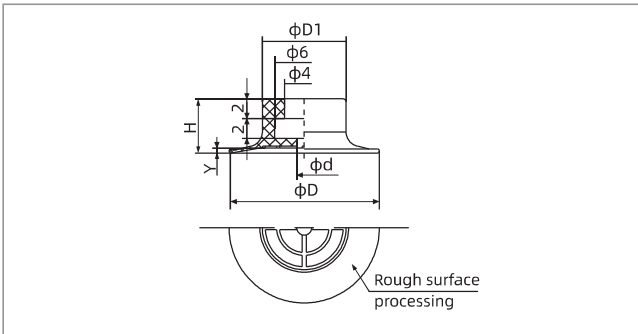
## Thin Lip Flat Suction Cup

### Dimensions(mm) - Suction cup only

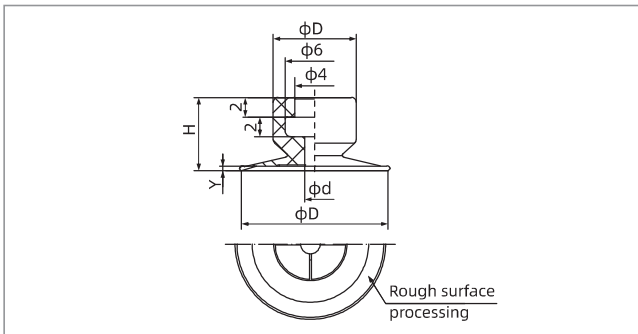


SPA10A-20A

SPA25A-50A



SPA15D



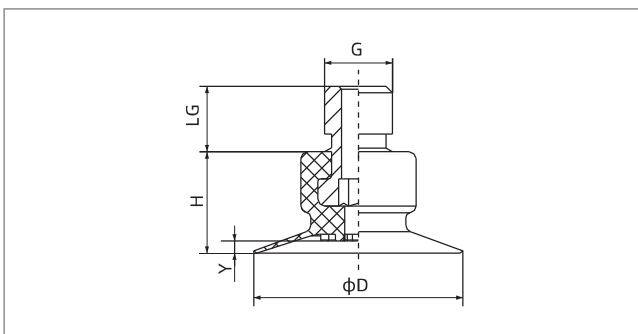
SPA10B-30B

Model/Size	D	D1	H	d	Y
SPA10A□	10	8.5	7.5	2	0.6
SPA15A□	15	8.5	7.5	2	0.9
SPA20A□	20	9	10	2	1.2
SPA25A□	25	22	10	3	1.5
SPA30A□	30	22	10	3	1.8
SPA40A□	40	22	10	3	2.4
SPA50A□	50	22	10	3	3

Model/Size	D	D1	H	d	Y
SPA15D□	15	8.5	5.5	1.5	0.5

Model/Size	D	D1	H	d	Y
SPA10B□	10	8.5	7.5	2	0.3
SPA15B□	15	8.5	7.5	2	0.5
SPA20B□	20	8.5	10	2	0.8
SPA30B□	30	15	11	3	0.3

### Dimensions(mm) - Suction cup with fitting



SPA10-30 Male thread connection

Model/Size	D	H	G	LG	Y
SPA10A□-M5M	10	7.5	M5×0.8	5	0.6
SPA10B□-M5M	10	7.5	M5×0.8	5	0.3
SPA15A□-M5M	15	7.5	M5×0.8	5	0.9
SPA15B□-M5M	15	7.5	M5×0.8	5	0.5
SPA15D□-M5M	15	5.5	M5×0.8	5	0.5
SPA20A□-M5M	20	10	M5×0.8	5	1.2
SPA20B□-M5M	20	10	M5×0.8	5	0.8
SPA30B□-M5M	30	11	M5×0.8	5	0.3

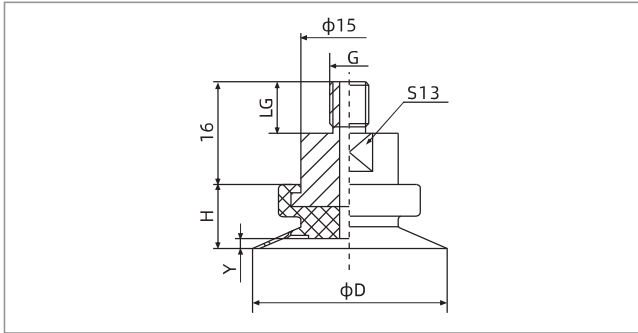
- SZ
- SP3
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- SBS
- SFP
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- SNP

# SPA Series

## Thin Lip Flat Suction Cup



### Dimensions(mm) - Suction cup with fitting



Model/size	D	H	G	LG	Y
SPA25A□-M6M	25	10	M6×1	8	1.5
SPA25A□-M8M	25	10	M8×1.25	8	1.5
SPA30A□-M6M	30	10	M6×1	8	1.8
SPA30A□-M8M	30	10	M8×1.25	8	1.8
SPA40A□-M6M	40	10	M6×1	8	2.4
SPA40A□-M8M	40	10	M8×1.25	8	2.4
SPA50A□-M6M	50	10	M6×1	8	3
SPA50A□-M8M	50	10	M8×1.25	8	3

SPA25A-50A

◇ Note: The dimensional tolerance conforms to the GBT 3672.1-2002-1 M3 rubber product dimensional tolerance standard

### Mounting parts

Item	Model M - Male thread	Applicable suction cup
Fitting for suction cup	PJS-M5M-ST2	SPA10A, 10B, 15A, 15B, 15D, 20A, 20B
	PJS-M5M-ST3	SPA30B
	PJS-M6M-ST7	SPA25A, 30A, 40A, 50A
	PJS-M8M-ST7	SPA25A, 30A, 40A, 50A

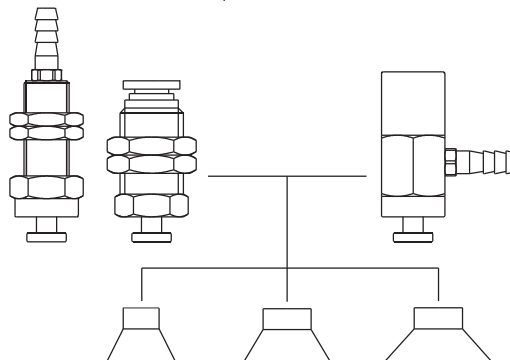
# SPA Series

## Suction Cup with Locking Fitting

### 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

## SPA10AN - L B6 - M4F

①                      ②      ③                      ④

① Model	② Vacuum port direction	③ Vacuum port connection	④ Mounting thread
<b>SPA10AN</b>	Nil - Vertical direction L - Lateral direction	A4 - One-touch fitting $\phi$ 4 hose A6 - One-touch fitting $\phi$ 6 hose B6 - Pagoda fitting $\phi$ 6 hose	M4F - M4x0.7 female thread M6F - M6x1 female thread M8M - M8x1 male thread M10M - M10x1 male thread M12M - M12x1 male thread M14M - M14x1 male thread

◇ Please refer to page 279 for suction cup selection

### Selection

Model	Vacuum port direction Vertical-Pagoda fitting	Vertical-One-touch fitting	Lateral-Pagoda fitting
SPA10A□	SPA10A□-B6-M8M	SPA10A□-A4-M12M	SPA10A□-LB6-M4F
SPA10B□	SPA10B□-B6-M8M	SPA10B□-A4-M12M	SPA10B□-LB6-M4F
SPA15A□	SPA15A□-B6-M8M	SPA15A□-A4-M12M	SPA15A□-LB6-M4F
SPA15B□	SPA15B□-B6-M8M	SPA15B□-A4-M12M	SPA15B□-LB6-M4F
SPA15D□	SPA15D□-B6-M8M	SPA15D□-A4-M12M	SPA15D□-LB6-M4F
SPA20A□	SPA20A□-B6-M8M	SPA20A□-A4-M12M	SPA20A□-LB6-M4F
SPA20B□	SPA20B□-B6-M8M	SPA20B□-A4-M12M	SPA20B□-LB6-M4F
SPA25A□	SPA25A□-B6-M10M	SPA25A□-A6-M14M	SPA25A□-LB6-M6F
SPA30A□	SPA30A□-B6-M10M	SPA30A□-A6-M14M	SPA30A□-LB6-M6F
SPA30B□	SPA30B□-B6-M10M	SPA30B□-A6-M14M	SPA30B□-LB6-M6F
SPA40A□	SPA40A□-B6-M10M	SPA40A□-A6-M14M	SPA40A□-LB6-M6F
SPA50A□	SPA50A□-B6-M10M	SPA50A□-A6-M14M	SPA50A□-LB6-M6F

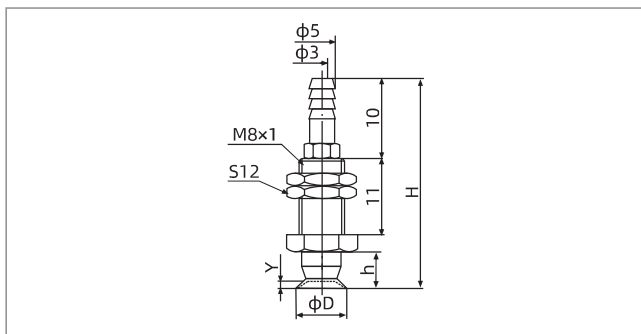
- SZ
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- SDM
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# SPA Series

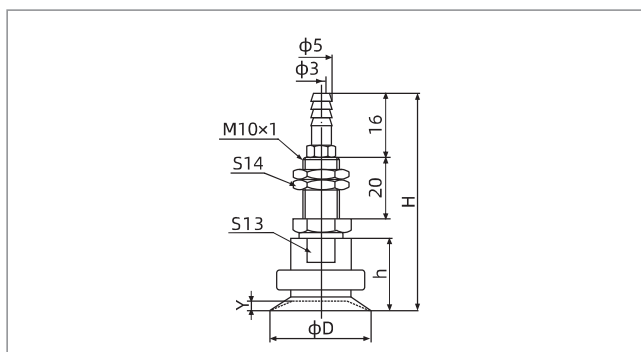
## Suction Cup with Locking Fitting



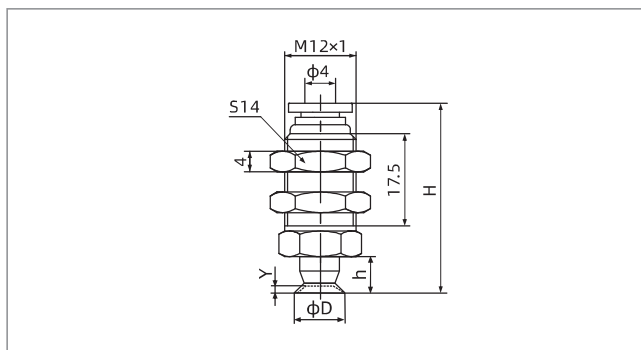
### Dimensions(mm)



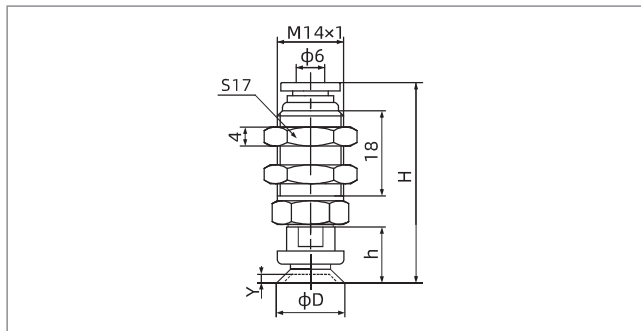
SPA10-20 Vertical-Pagoda fitting



SPA25-50 Vertical-Pagoda fitting



SPA10-20 Vertical-One-touch fitting



SPA25-50 Vertical-One-touch fitting

Model/Size	D	H	h	Y
SPA10A□-B6-M8M	10	31.5	7.5	0.6
SPA10B□-B6-M8M	10	31.5	7.5	0.3
SPA15A□-B6-M8M	15	31.5	7.5	0.9
SPA15B□-B6-M8M	15	31.5	7.5	0.5
SPA15D□-B6-M8M	15	29.5	5.5	0.5
SPA20A□-B6-M8M	20	34	10	12
SPA20B□-B6-M8M	20	34	10	0.8

Model/Size	D	H	h	Y
SPA25A□-B6-M10M	25	66	18	1.5
SPA30A□-B6-M10M	30	66	18	1.8
SPA30B□-B6-M10M	30	59	11	1.5
SPA40A□-B6-M10M	40	66	18	2.4
SPA50A□-B6-M10M	50	66	18	3

Model/Size	D	H	h	Y
SPA10A□-A4-M12M	10	35	7.5	0.6
SPA10B□-A4-M12M	10	35	7.5	0.3
SPA15A□-A4-M12M	15	35	7.5	0.9
SPA15B□-A4-M12M	15	35	7.5	0.5
SPA15D□-A4-M12M	15	33	5.5	0.5
SPA20A□-A4-M12M	20	37.5	10	12
SPA20B□-A4-M12M	20	37.5	10	0.8

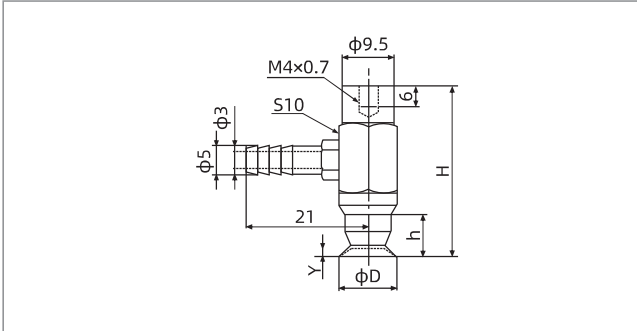
Model/Size	D	H	h	Y
SPA25A□-A6-M14M	25	48	18	1.5
SPA30A□-A6-M14M	30	48	18	1.8
SPA30B□-A6-M14M	30	40	11	1.5
SPA40A□-A6-M14M	40	48	18	2.4
SPA50A□-A6-M14M	50	48	18	3

# SPA Series

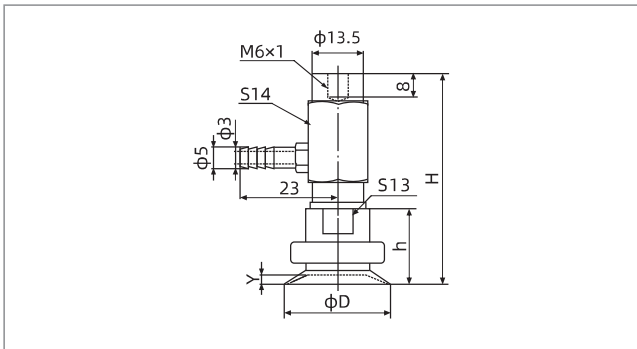
## Suction Cup with Locking Fitting



### Dimensions(mm)



SPA10-20 Lateral-Pagoda fitting



SPA25-50 Lateral-Pagoda fitting

Model/Size	D	H	h	Y
SPA10A□-LB6-M4F	10	30	7.5	0.6
SPA10B□-LB6-M4F	10	30	7.5	0.3
SPA15A□-LB6-M4F	15	30	7.5	0.9
SPA15B□-LB6-M4F	15	30	7.5	0.5
SPA15D□-LB6-M4F	15	28	5.5	0.5
SPA20A□-LB6-M4F	20	32.5	10	12
SPA20B□-LB6-M4F	20	32.5	10	0.8

Model/Size	D	H	h	Y
SPA25A□-LB6-M6F	25	51.5	18	1.5
SPA30A□-LB6-M6F	30	51.5	18	1.8
SPA30B□-LB6-M6F	30	44.5	11	1.5
SPA40A□-LB6-M6F	40	51.5	18	2.4
SPA50A□-LB6-M6F	50	51.5	18	3

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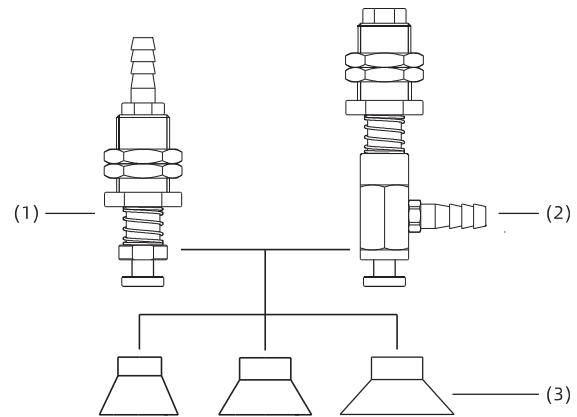


## Suction Cup with Level Compensator

### 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

## SPA10AN - 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
SPA10AN	F - PSPF Series	E - External spring	4      6	B6 - Vertical, pagoda fitting $\phi 6$ hose	M11 - M11 $\times$ 1
			10    15	LB6 - Lateral, pagoda fitting $\phi 6$ hose	M14 - M14 $\times$ 1

### Selection

Model	Vacuum port direction Vertical - Pagoda fitting		Lateral - Pagoda fitting	
SPA10A□	SPA10A□-FE4B6-M11	SPA10A□-FE10B6-M11	SPA10A□-FE4LB6-M11	SPA10A□-FE10LB6-M11
SPA10B□	SPA10B□-FE4B6-M11	SPA10B□-FE10B6-M11	SPA10B□-FE4LB6-M11	SPA10B□-FE10LB6-M11
SPA15A□	SPA15A□-FE4B6-M11	SPA15A□-FE10B6-M11	SPA15A□-FE4LB6-M11	SPA15A□-FE10LB6-M11
SPA15B□	SPA15B□-FE4B6-M11	SPA15B□-FE10B6-M11	SPA15B□-FE4LB6-M11	SPA15B□-FE10LB6-M11
SPA15D□	SPA15D□-FE4B6-M11	SPA15D□-FE10B6-M11	SPA15D□-FE4LB6-M11	SPA15D□-FE10LB6-M11
SPA20A□	SPA20A□-FE4B6-M11	SPA20A□-FE10B6-M11	SPA20A□-FE4LB6-M11	SPA20A□-FE10LB6-M11
SPA20B□	SPA20B□-FE4B6-M11	SPA20B□-FE10B6-M11	SPA20B□-FE4LB6-M11	SPA20B□-FE10LB6-M11
SPA25A□	SPA25A□-FE6B6-M14	SPA25A□-FE15B6-M14	SPA25A□-FE6LB6-M14	SPA25A□-FE15LB6-M14
SPA30A□	SPA30A□-FE6B6-M14	SPA30A□-FE15B6-M14	SPA30A□-FE6LB6-M14	SPA30A□-FE15LB6-M14
SPA30B□	SPA30B□-FE6B6-M14	SPA30B□-FE15B6-M14	SPA30B□-FE6LB6-M14	SPA30B□-FE15LB6-M14
SPA40A□	SPA40A□-FE6B6-M14	SPA40A□-FE15B6-M14	SPA40A□-FE6LB6-M14	SPA40A□-FE15LB6-M14
SPA50A□	SPA50A□-FE6B6-M14	SPA50A□-FE15B6-M14	SPA50A□-FE6LB6-M14	SPA50A□-FE15LB6-M14

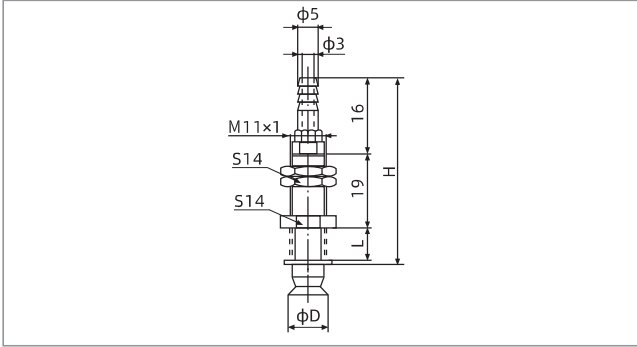


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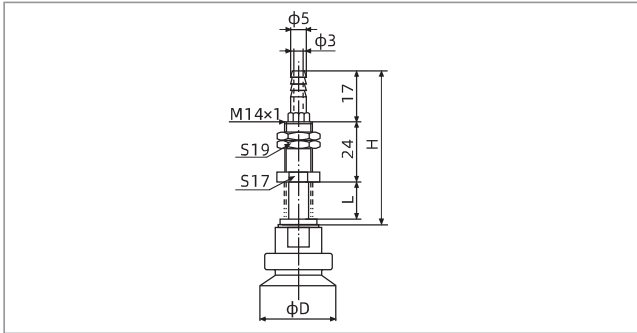
## Suction Cup with Level Compensator



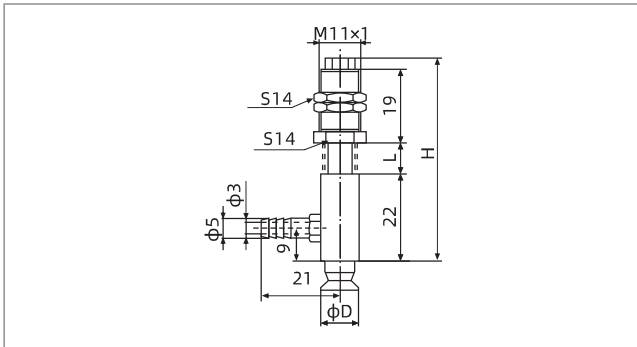
### Dimensions(mm)



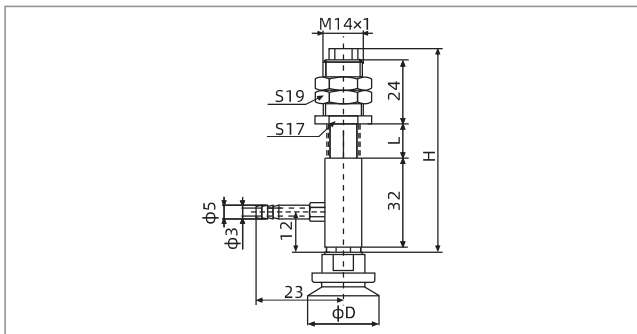
SPA10-20 Vertical-Pagoda fitting



SPA25-50 Vertical-Pagoda fitting



SPA10-20 Lateral-Pagoda fitting



SPA25-50 Lateral-Pagoda fitting

Model/Size	D	H	L	Buffer stroke
SPA10□□-FE4B6-M11	10	46	8	4
SPA10□□-FE10B6-M11	10	58	20	10
SPA15□□-FE4B6-M11	15	46	8	4
SPA15□□-FE10B6-M11	15	58	20	10
SPA20□□-FE4B6-M11	20	46	8	4
SPA20□□-FE10B6-M11	20	58	20	10

Model/Size	D	H	L	Buffer stroke
SPA25□□-FE6B6-M14	25	57	13	6
SPA25□□-FE15B6-M14	25	74	30	15
SPA30□□-FE6B6-M14	30	57	13	6
SPA30□□-FE15B6-M14	30	74	30	15
SPA40□□-FE6B6-M14	40	57	13	6
SPA40□□-FE15B6-M14	40	74	30	15
SPA50□□-FE6B6-M14	50	57	13	6
SPA50□□-FE15B6-M14	50	74	30	15

Model/Size	D	H	L	Buffer stroke
SPA10□□-FE4LB6-M11	10	52	8	4
SPA10□□-FE10LB6-M11	10	64	20	10
SPA15□□-FE4LB6-M11	15	52	8	4
SPA15□□-FE10LB6-M11	15	64	20	10
SPA20□□-FE4LB6-M11	20	52	8	4
SPA20□□-FE10LB6-M11	20	64	20	10

Model/Size	D	H	L	Buffer stroke
SPA25□□-FE6LB6-M14	25	73	13	6
SPA25□□-FE15LB6-M14	25	90	30	15
SPA30□□-FE6LB6-M14	30	73	13	6
SPA30□□-FE15LB6-M14	30	90	30	15
SPA40□□-FE6LB6-M14	40	73	13	6
SPA40□□-FE15LB6-M14	40	90	30	15
SPA50□□-FE6LB6-M14	50	73	13	6
SPA50□□-FE15LB6-M14	50	90	30	15

- SZ
- SP3
- SUF
- SAN
- SAO
- SOFA
- STP
- SFT
- SFA
- SBT
- SBL
- SBLP
- SBS
- SFP
- SBP
- SXP
- SGP
- SBOF
- STC
- SFF
- SOB
- SOF
- SOG
- SFM
- SOM
- SBF
- SDM
- SFU
- SFK
- SHT
- SDL
- SFG
- SFGT
- SFD
- SB
- SBA
- SF
- SU
- SPA**
- SPD
- SPF
- SPC
- SPJ
- SPU
- SH
- SHB
- SBB
- SOP
- SNP