

# Vacuum pad VSP













■ Pneumatic components



## CONTENTS

Series variation	240
● Compact type (VSP-M*-various pads shapes)	246
● Standard, general type (VSP-*R)	258
● Standard, deep type (VSP-*A)	258
● Sponge type (VSP-*S)	280
● Bellows type (VSP-*B)	290
● Multi-level, bellows type (VSP-*W)	300
● Oval type (VSP-*E)	310
● Soft type (VSP-*L)	324
● Soft bellows type (VSP-*LB)	338
● Nonskid type (VSP-*K*)	352
● Thin type (VSP-*P)	360
● Long stroke type (VSP-various pads shapes)	368

○: Option

Pad shape	Holder shape		Pad size	Pad material	Free holder (swinging)	Position locking valve	Page
	With buffer	Vacuum outlet					
<b>Compact vacuum pad: VSP-M* various pads shapes</b> · Space conserved by downsizing existing holder 	<Small> None (fixed type)	Top/joint Side/joint Direct mount type	● Standard small type (ø0.7, ø1, ø1.5, ø2, ø3, ø4) is added to conventional pad type series	● Material for compact type Nitrile rubber, silicon rubber, urethane rubber, Fluoro rubber, antistatic silicon rubber, Antistatic butadiene rubber, Food Sanitation Law compliant NBR		○	246
<b>Standard type (General type): VSP-*R</b> · Ideal for thick, flat work pieces 	None (fixed type)  None (with stopper)	Top/joint Side/joint Direct mount type Top/joint Side/joint Direct mount type	ø1, ø2, ø3, ø4, ø6, ø8, ø10, ø15, ø20, ø25, ø30, ø40, ø50, ø60, ø80, ø100, ø150, ø200	Nitrile rubber, silicon rubber, Urethane rubber, fluoro rubber, Antistatic silicon rubber, Antistatic butadiene rubber, Food Sanitation Law compliant NBR	○	○	258
<b>Standard type (Deep type): VSP-*A</b> · Ideal for picking up round balls, etc. 	None (fixed type)  None (with stopper)	Top/joint Side/joint Direct mount type Top/joint Side/joint Direct mount type	ø15, ø20, ø25, ø30, ø40, ø50, ø60, ø80, ø100	Nitrile rubber, silicon rubber, Urethane rubber, fluoro rubber, Antistatic silicon rubber, Antistatic butadiene rubber, Food Sanitation Law compliant NBR	○	○	258
<b>Sponge type: VSP-*S</b> · Ideal for workpieces with uneven surfaces, such as exterior walls 	None (fixed type)  Provided (with stopper)	Top/joint Side/joint Top/joint Side/joint Direct mount type	ø10, ø15, ø20, ø20, ø30, ø35, ø50, ø70, ø100	Cloroplane rubber	○	○	280
<b>Bellows type: VSP-*B</b> · Ideal for soft workpieces, such as paper or vinyl-packed products 	None (fixed type)  Provided (with stopper)	Top/joint Side/joint Top/joint Side/joint Direct mount type	ø10, ø20, ø30, ø40, ø50, ø80	Nitrile rubber, Silicon rubber, Antistatic silicon rubber	○	○	290
<b>Multi-level bellows type: VSP-*W</b> · Ideal for transferring inclined work pieces or vinyl-packed products 	None (fixed type)  Provided (with stopper)	Top/joint Side/joint Top/joint Side/joint Direct mount type	ø10, ø20, ø30, ø40, ø50	Nitrile rubber, Silicon rubber, Food Sanitation Law compliant NBR		○	300
<b>Oval type: VSP-*E</b> · Ideal for workpieces with limited suction space, such as IC circuit boards 	None (fixed type)  None (screw fixed type)  Provided (with stopper)	Top/joint Side/joint Top/joint Side/joint Direct mount type Top/joint Side/joint Direct mount type	4 x 10, 4 x 20, 4 x 30, 5 x 10, 5 x 20, 5 x 30, 6 x 10, 6 x 20, 6 x 30, 8 x 20, 8 x 30	Nitrile rubber, Silicon rubber, Antistatic butadiene rubber	○	○	310
<b>Soft type: VSP-*L</b> · Ideal for unloading molded parts, and transferring delicate workpieces 	None (fixed type)  Provided (with stopper)  Provided (without stopper)	Top/joint Side/joint Side/joint (Direct mounting type) Top/joint Side/joint Direct mount type Top/joint Side/joint Direct mount type	ø4, ø6, ø8, ø10, ø15, ø20, ø30, ø40	Nitrile rubber, silicon rubber, Fluoro silicon rubber, Antistatic silicon rubber	○	○	324
<b>Soft bellows type: VSP-*LB</b> · Ideal for unloading molded parts, and picking up paper, etc. 	None (fixed type)  Provided (with stopper)  Provided (without stopper)	Top/joint Side/joint Side/joint (Direct mounting type) Top/joint Side/joint Direct mount type Top/joint Side/joint Direct mount type	ø6, ø8, ø10, ø15, ø20	Nitrile rubber, Silicon rubber	○	○	338
<b>Nonskid type: VSP-*K*</b> · Ideal of workpieces covered with oil, such as pressed parts 	None (fixed type)  Provided (with stopper)	Top/joint Side/joint Top/joint Side/joint Direct mount type	ø10, ø20, ø30, ø40, ø50	Oil-resistant NBR	○	○	352
<b>Thin type: VSP-*P</b> · Ideal for transferring thin workpieces, such as photocopy paper and vinyl 	None (fixed type)  Provided (with stopper)	Top/joint Side/joint Direct mount type Top/joint Side/joint Direct mount type	ø8, ø10, ø15, ø20	Nitrile rubber, Fluoro silicon rubber			360
<b>Long stroke: VSP various pads shapes</b> · Ideal when distance from pad to workpiece is not specific 			● Corresponding pad shape Standard type (general), Bellows type, Oval type Standard type (deep), Nonskid type, Sponge type	● Compatible stroke 10mm, 15mm, 20mm, 30mm, 40mm, 50mm	○	○	368

Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

Long stroke

Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

Long stroke

# How to select vacuum pad

## Theoretical lift force (General pad)

Theoretical lift force is obtained with the pad area and the vacuum generated when using that pad.

<kPa, N display>

$$W = \frac{C \times P}{101} \times 10.13 \times f$$

W: Theoretical lift force (N)

C: Pad area (cm<sup>2</sup>)

P: Vacuum (-kPa)

f: Safety factor

<mmHg, kg display>

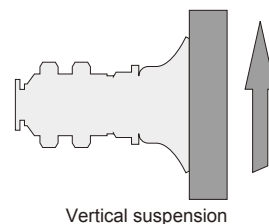
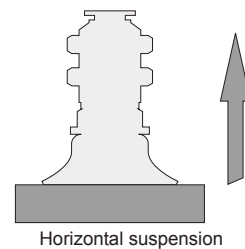
$$W = \frac{C \times P}{760} \times 1.0332 \times f$$

W: Theoretical lift force (kg)

C: Pad area (cm<sup>2</sup>)

P: Vacuum (-mmHg)

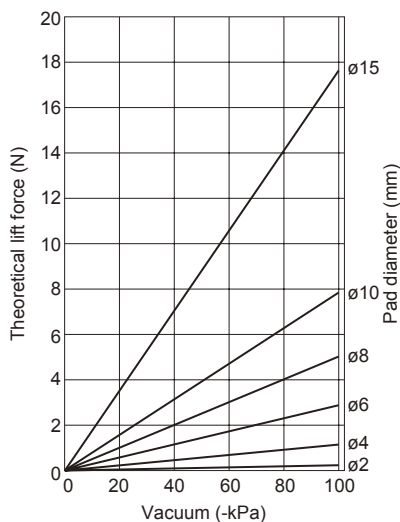
f: Safety factor



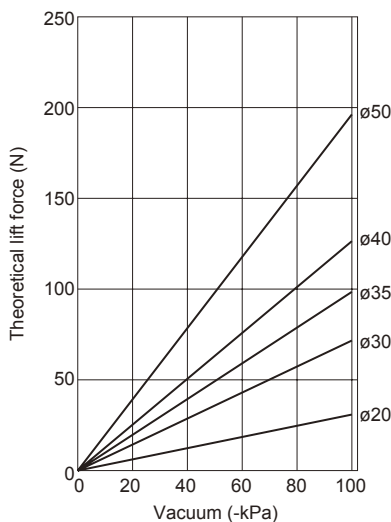
- \*1: When using a sponge pad, the value is calculated with the inner diameter of the sponge pad so see the separate table.
- \*2: Due to the characteristics of the pad, the lift force of the bellows type (multistage bellows) and soft type (soft bellows) pad may differ from the theoretical lift force.
- \*3: The theoretical lift force is a value calculated under static conditions. When actually using the value, provide a 1/4 safety factor for the horizontal suspension, and a 1/8 safety factor for a vertical suspension. Acceleration when moving must also be considered. (Refer to the drawing at right.)

### ● General pad (rubber pad)

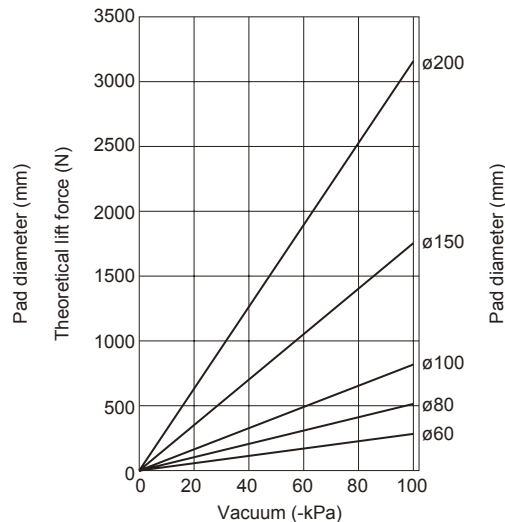
· Pad diameter: ø2mm to ø15mm



· Pad diameter: ø20mm to ø50mm

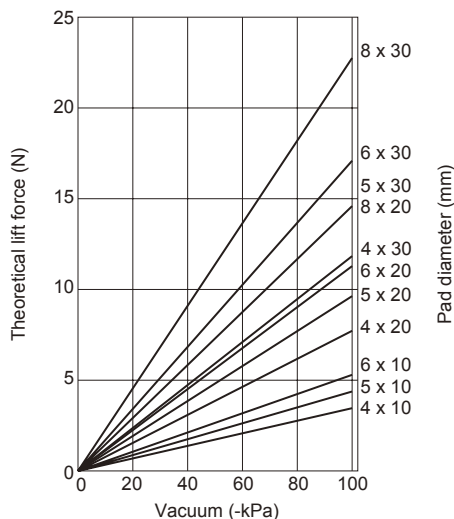


· Pad diameter: ø60mm to ø200mm



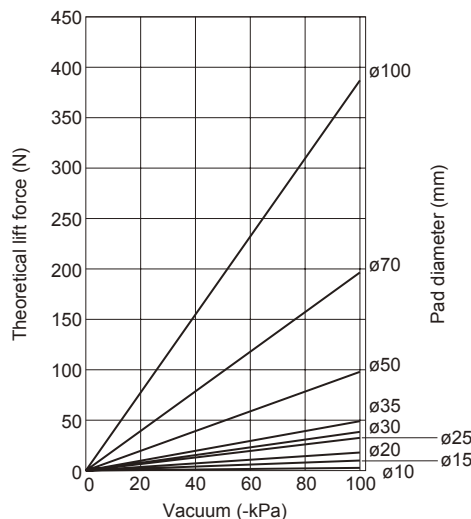
### ● Oval pad

· Pad diameter: \* x 10mm, \* x 20mm, \* x 30mm



### ● Sponge pad

· Pad diameter: ø10mm to ø100mm



## Selection guide

### Characteristics of each pad

Pad material		Nitrile rubber	Silicon rubber	Urethane rubber	Fluorine rubber	Fluoro silicon rubber	Butadiene rubber (low-resistance type)	Cloroplane rubber (sponge type)
		NBR	Si	U	FKM	FSi	BR	CR
Item								
Pad color		Black <sup>*2</sup>	White	Blue	Gray	Light blown	Black	Black
Properties	Surface hardness (Shear A)	40 to 60	40 to 50	60	60	40	60	-
	High temperature working limit temperature	110	180	60	230	180	100	80
	Low temperature working limit temperature	-30	-40	-20	-10	-50	-50	-45
	Weather resistance	△	◎	○	○	○	○	○
	Ozone resistance	△	◎	◎	◎	◎	X	○
	Acid resistance	△	○	X	◎	○	△	△
	Alkaline resistance	○	◎	X	X	◎	○	◎
	Oil resistance							
	(Gasoline, light oil)	◎	△	◎	◎	△	X	X
	(Benzene, toluene)	△	△	△	◎	△	X	△

Reading the evaluation ⇒ ◎: Best, ○: Appropriate, △: Acceptable, X: Incompatible

\*1: The surface resistance rate of the low resistance pad is 200 Ω or less.

\*2: Food Sanitation Law compliant pads are in gray.

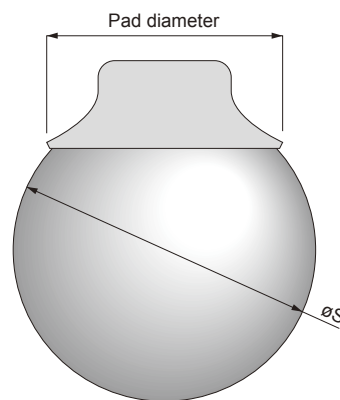
Note 1: The listed properties are the characteristics of typical synthetic rubber used for pad materials.

Note 2: The working limit temperature is an instant temperature. This must be carefully confirmed if the temperature continues for a set time.

### Sucking up a spherical surface (deep pad)

Minimum pickup diameter

Pad diameter (mm)	ø15	ø20	ø25	ø30	ø40	ø50	ø60	ø80	ø100
Sphere diameter (ø Smm)	20	30	40	50	80	100	120	160	200



# Vacuum pad

Pad diameter conformity table according to material

Material Pad diameter	N Nitrile						
	Standard (general type)	Standard (deep type)	Bellows type	Multi-level bellows	Soft type	Soft bellows	Thin type
1	●						
2	●						
3	●						
4	●				●		
6	●				●	●	
8	●				●	●	●
10	●		●	●	●	●	●
15	●	●			●	●	●
20	●	●	●	●	●	●	●
25	●	●					
30	●	●	●	●	●		
35							
40	●	●	●	●	●		
50	●	●	●	●			
60	●	●					
70							
80	●	●	●				
100	●	●					
150	●						
200	●						

Material Pad diameter	S Silicon					FS Fluoro silicon		
	Standard (general type)	Standard (deep type)	Bellows type	Multi-level bellows	Soft type	Soft bellows	Soft type	Thin type
1	●							
2	●							
3	●							
4	●				●		●	
6	●				●	●	●	
8	●				●	●	●	●
10	●		●	●	●	●	●	●
15	●	●			●	●	●	●
20	●	●	●	●	●	●	●	●
25	●	●						
30	●	●	●	●	●		●	
35								
40	●	●	●	●	●		●	
50	●	●	●	●				
60	●	●						
70								
80	●	●	●					
100	●	●						
150	●							
200	●							

Material Pad diameter	U Urethane		F Fluorine rubber		SE Antistatic rubber			E Antistatic rubber (low-resistance type)
	Standard (general type)	Standard (deep type)	Standard (general type)	Standard (deep type)	Standard (general type)	Bellows type	Soft type	Standard (general type)
1	●		●		●			●
2	●		●		●			●
3	●		●		●			●
4	●		●		●		●	●
6	●		●		●		●	●
8	●		●		●		●	●
10	●		●		●	●	●	●
15	●	●	●	●	●		●	●
20	●	●	●	●	●	●	●	●
25	●	●	●	●	●			●
30	●	●	●	●	●	●	●	●
35								
40	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●		●
60	●	●	●	●				
70								
80	●	●	●	●				
100	●	●	●	●				
150	●		●					
200	●		●					

Material Pad diameter	G Food Sanitation Law compliant NBR			Cloroplane rubber	KNH Oil-resistant NBR
	Standard (general type)	Standard (deep type)	Multi-level bellows	Sponge type	Nonskid type
1	●				
2	●				
3	●				
4	●				
6	●				
8	●				
10	●		●	●	●
15	●	●		●	
20	●	●	●	●	●
25	●	●		●	
30	●	●	●	●	●
35				●	
40	●	●	●		●
50	●		●	●	●
60					
70				●	
80					
100				●	
150					
200					

Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

Long stroke



Vacuum pad for exterior walls and stone objects  
 Vacuum pad sponge type

# VSP-\*S\* Series

● Pad diameter:  $\varnothing$ 10mm to  $\varnothing$ 100mm

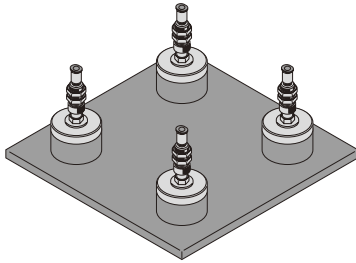


## Features

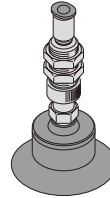
- Ideal of work pieces with uneven surfaces.
  - Pad diameter:  $\varnothing$ 10mm,  $\varnothing$ 15mm,  $\varnothing$ 20mm,  $\varnothing$ 25mm,  $\varnothing$ 30mm,  $\varnothing$ 35mm,  $\varnothing$ 50mm,  $\varnothing$ 70mm,  $\varnothing$ 100mm
  - Pad material: cloroplane rubber
  - Holder shape: 5 types

## Application

● Exterior walls for buildings



● Work pieces such as small stone objects or shells



Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

Long stroke

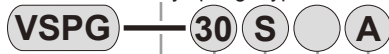
## How to order

\* Refer to the table on pages 283 to 289 for the model combination.

● Vacuum pad/sponge type



● Pad rubber only/sponge type



A Holder shape

B Pad diameter

C Pad shape

D Pad material

E Frame

F Port size/shape

G Free holder (swinging)

H Position locking valve

Symbol	Descriptions
<b>A Holder shape</b>	
A	Fixed type top vacuum outlet
B	Fixed type side vacuum outlet
C	With buffer top vacuum outlet
D	With buffer side vacuum outlet
F	Direct mount type spring type
<b>B Pad diameter Note 1</b>	
See Appendix Table 1 for the pad diameter.	
<b>C Pad shape</b>	
S	Sponge type
<b>D Pad material</b>	
Blank	Cloroplane rubber
<b>E Frame</b>	
Blank	Without frame
A	With frame
<b>F Port size/shape</b>	
6	ø6 push-in joint
6T	ø6 barbed joint
6A	Rp1/8
<b>G Free holder (shaking) Note 2 Page 417</b>	
F1	With free holder 30° swinging angle type
F2	With free holder 15° swinging angle type
Blank	No free holder
<b>H Position locking valve Note 1, 2 Page 422</b>	
V	With position locking valve
Blank	Without

### ⚠ Note on model no. selection

Note 1: Item B "70" or "100" cannot be selected when "V" is selected for Item H.

Note 2: Item G "F1" and "F2" and Item H "V" cannot be selected at the same time.

Note 3: See page 417 for details on the free holder (F1, F2), and page 422 for details on the position locking valve (V).

See the list of target vacuum pads (page 424) for details on applicable pad sizes and shapes.

Appendix Table 1

Pad diameter									
Symbol	10	15	20	25	30	35	50	70	100
Pad diameter (mm)	ø10	ø15	ø20	ø25	ø30	ø35	ø50	ø70	ø100

Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

Long stroke



## Characteristic of pad materials

Item	Cloroplane rubber (sponge type)		
	CR		
Pad color	Black		
Properties	Surface hardness (Shear A)	-	
	High temperature working limit temperature	80	
	Low temperature working limit temperature	-45	
	Weather resistance	○	
	Ozone resistance	○	
	Acid resistance	△	
	Alkaline resistance	◎	
	Oil resistance	(Gasoline, light oil)	X
		(Benzene, toluene)	△

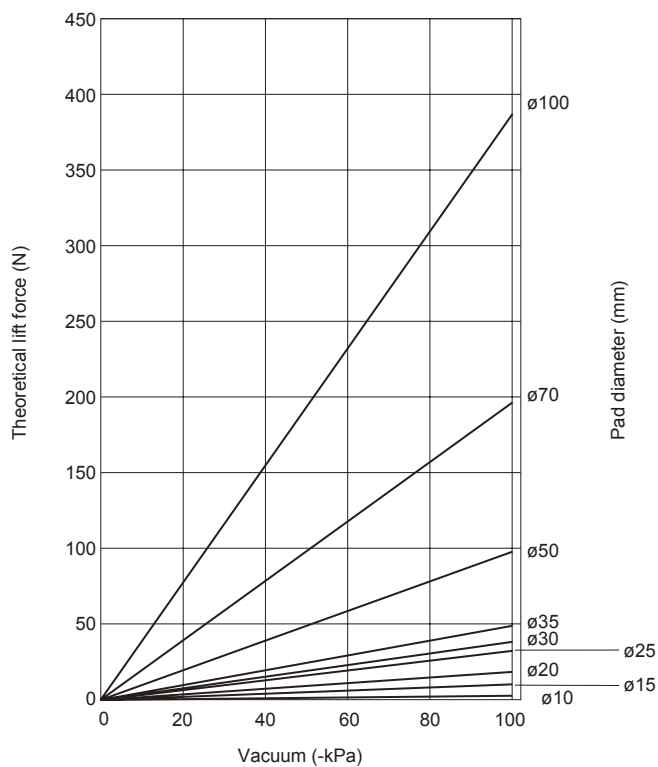
Reading the evaluation ⇒ ◎: Best, ○: Appropriate, △: Acceptable, X: Incompatible

Note 1: The listed properties are the characteristics of typical synthetic rubber used for pad materials.

Note 2: The working limit temperature is an instant temperature. This must be carefully confirmed if the temperature continues for a set time.

## Theoretical lift force

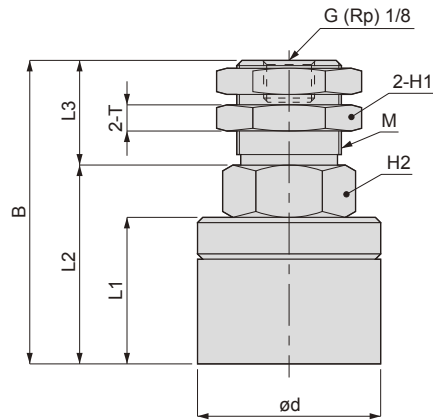
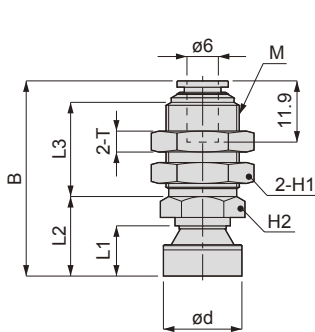
● Pad diameter: ø10mm to ø100mm



## Dimensions (fixed type, top vacuum outlet VSP-A)

- Push-in joint type VSP-A\*\*S-6/6A
  - VSP-A10 to 50S-6

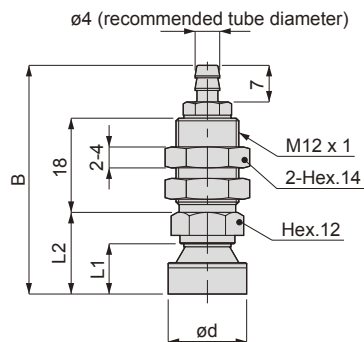
- VSP-A70, 100S-6A



Unit: mm

Model No.	Pad diameter $\phi d$	Set screw M	B	L1	L2	L3	Opposite side H1	Opposite side H2	T	Weight (g)
VSP-A 10S-6	10	M14 x 1	37.4	9.5	15.1	18	17	14	4	31.5
VSP-A 15S-6	15	M14 x 1	37.4	9.5	15.1	18	17	14	4	32
VSP-A 20S-6	20	M14 x 1	43.4	15.5	21.1	18	17	14	4	33.5
VSP-A 25S-6	25	M14 x 1	43.4	15.5	21.1	18	17	14	4	35
VSP-A 30S-6	30	M14 x 1	43.4	15.5	21.1	18	17	14	4	35
VSP-A 35S-6	35	M14 x 1	55.9	28	33.6	18	17	14	4	71
VSP-A 50S-6	50	M14 x 1	55.9	28	33.6	18	17	14	4	114
VSP-A 70S-6A	70	M20 x 1	60	30	40	20	24	22	5	244
VSP-A 100S-6A	100	M20 x 1	60	30	40	20	24	22	5	374.5

- Barbed joint type VSP-A\*\*S-6T



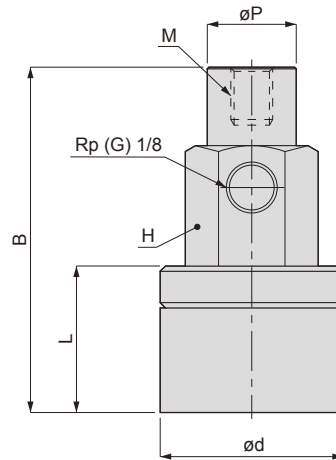
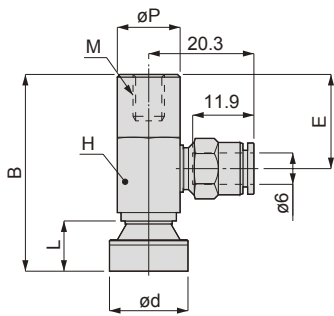
Unit: mm

Model No.	Pad diameter $\phi d$	B	L1	L2	Weight (g)
VSP-A 10S-6T	10	43.5	9.5	15.5	25
VSP-A 15S-6T	15	43.5	9.5	15.5	25.5
VSP-A 20S-6T	20	49.5	15.5	21.5	27
VSP-A 25S-6T	25	49.5	15.5	21.5	28.5
VSP-A 30S-6T	30	49.5	15.5	21.5	28.5
VSP-A 35S-6T	35	62	28	34	64.5
VSP-A 50S-6T	50	62	28	34	107.5

## Dimensions (fixed type, side vacuum outlet VSP-B)

- Push-in joint type VSP-B\*\*S-6/6A
- VSP-B10 to 50S-6

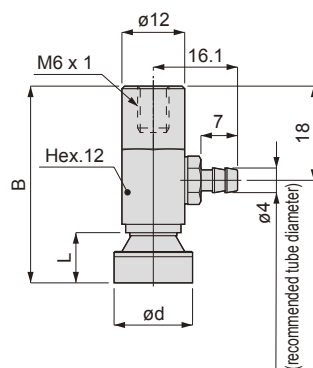
- VSP-B70, 100S-6A



Unit: mm

Model No.	Pad diameter $\phi d$	Set screw M	B	L	$\phi P$	E	Opposite side H	Weight (g)
VSP-B 10S-6	10	M6 x 1	37.5	9.5	12	18	12	29
VSP-B 15S-6	15	M6 x 1	37.5	9.5	12	18	12	29.5
VSP-B 20S-6	20	M6 x 1	43.5	15.5	12	18	12	31
VSP-B 25S-6	25	M6 x 1	43.5	15.5	12	18	12	32.5
VSP-B 30S-6	30	M6 x 1	43.5	15.5	12	18	12	32.5
VSP-B 35S-6	35	M6 x 1	56	28	12	18	12	68.5
VSP-B 50S-6	50	M6 x 1	56	28	12	18	12	111.5
VSP-B 70S-6A	70	M8 x 1.25	68	30	17	23	22	250.5
VSP-B 100S-6A	100	M8 x 1.25	68	30	17	23	22	381

- Barbed joint type VSP-B\*\*S-6T



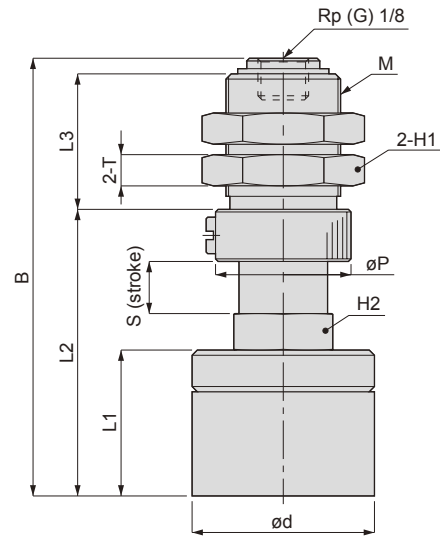
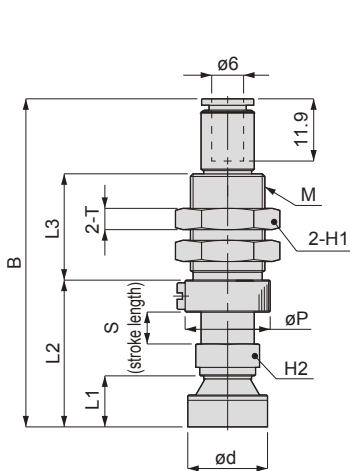
Unit: mm

Model No.	Pad diameter $\phi d$	B	L	Weight (g)
VSP-B 10S-6T	10	37.5	9.5	27
VSP-B 15S-6T	15	37.5	9.5	27.5
VSP-B 20S-6T	20	43.5	15.5	29
VSP-B 25S-6T	25	43.5	15.5	30.5
VSP-B 30S-6T	30	43.5	15.5	30.5
VSP-B 35S-6T	35	66	28	66.5
VSP-B 50S-6T	50	66	28	109.5

## Dimensions (fixed type, top vacuum outlet VSP-C, barbed joint type)

- Push-in joint type VSP-C\*\*S-6/6A
  - VSP-C10 to 50S

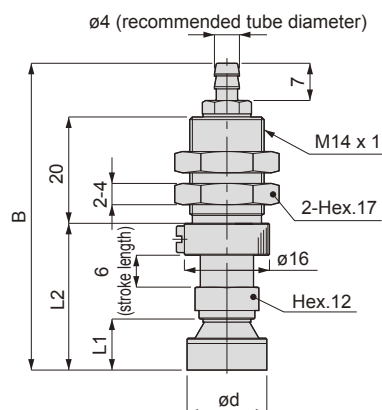
- VSP-C70, 100S



Unit: mm

Model No.	Pad diameter Ød	Set screw M	B	L1	L2	L3	ØP	stroke S	Opposite side H1	Opposite side H2	T	Spring force (N)	Weight (g)
VSP-C 10S-6	10	M14 x 1	61.8	9.5	27.5	20	16	6	17	12	4	8 to 12	35
VSP-C 15S-6	15	M14 x 1	61.8	9.5	27.5	20	16	6	17	12	4	8 to 12	35.5
VSP-C 20S-6	20	M14 x 1	67.8	15.5	33.5	20	16	6	17	12	4	8 to 12	37
VSP-C 25S-6	25	M14 x 1	67.8	15.5	33.5	20	16	6	17	12	4	8 to 12	38.5
VSP-C 30S-6	30	M14 x 1	67.8	15.5	33.5	20	16	6	17	12	4	8 to 12	38.5
VSP-C 35S-6	35	M14 x 1	80.3	28	46	20	16	6	17	12	4	8 to 12	74
VSP-C 50S-6	50	M14 x 1	80.3	28	46	20	16	6	17	12	4	8 to 12	117
VSP-C 70S-6A	70	M22 x 1	86	30	57	26	26	10	27	19	6	12 to 15	272
VSP-C 100S-6A	100	M22 x 1	86	30	57	26	26	10	27	19	6	12 to 15	402.5

- Barbed joint type VSP-C\*\*S-6T

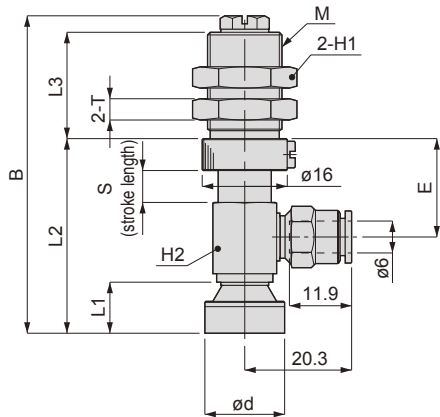


Unit: mm

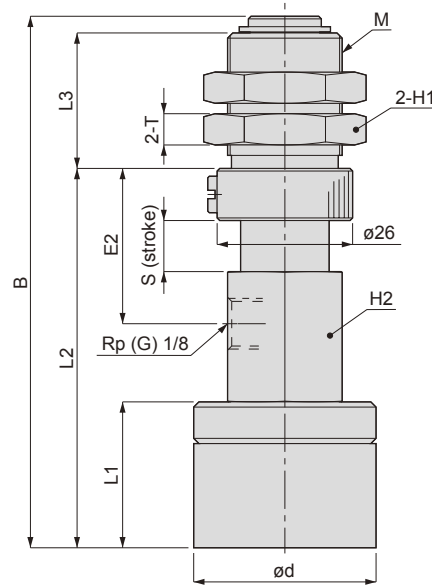
Model No.	Pad diameter Ød	B	L1	L2	Spring force (N)	Weight (g)
VSP-C 10S-6T	10	57.6	9.5	27.5	8 to 12	33
VSP-C 15S-6T	15	57.6	9.5	27.5	8 to 12	33.5
VSP-C 20S-6T	20	63.6	15.5	33.5	8 to 12	35
VSP-C 25S-6T	25	63.6	15.5	33.5	8 to 12	36.5
VSP-C 30S-6T	30	63.6	15.5	33.5	8 to 12	36.5
VSP-C 35S-6T	35	76.1	28	46	8 to 12	72
VSP-C 50S-6T	50	76.1	28	46	8 to 12	115

## Dimensions (with buffer, side vacuum outlet VSP-D)

- Push-in joint type VSP-D\*\*S-6/6A
- VSP-D10 to 50S-6



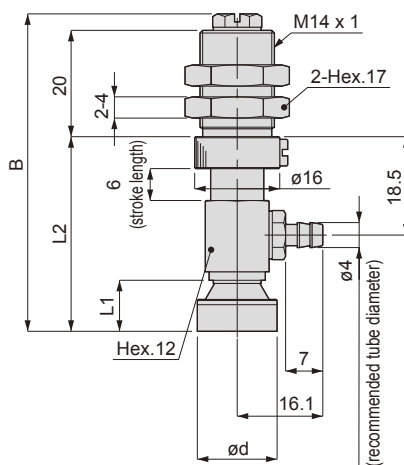
- VSP-D70, 100S-6A



Unit: mm

Model No.	Pad diameter $\phi d$	Set screw M	B	L1	L2	L3	Stroke length S	E	Opposite side H1	Opposite side H2	T	Spring force (N)	Weight (g)
VSP-D 10S-6	10	M14 x 1	59.6	9.5	36.5	20	6	18.5	17	12	4	8 to 12	46.5
VSP-D 15S-6	15	M14 x 1	59.6	9.5	36.5	20	6	18.5	17	12	4	8 to 12	47
VSP-D 20S-6	20	M14 x 1	65.6	15.5	42.5	20	6	18.5	17	12	4	8 to 12	48.5
VSP-D 25S-6	25	M14 x 1	65.6	15.5	42.5	20	6	18.5	17	12	4	8 to 12	50
VSP-D 30S-6	30	M14 x 1	65.6	15.5	42.5	20	6	18.5	17	12	4	8 to 12	50
VSP-D 35S-6	35	M14 x 1	78.1	28	55	20	6	18.5	17	12	4	8 to 12	86
VSP-D 50S-6	50	M14 x 1	78.1	28	55	20	6	18.5	17	12	4	8 to 12	129
VSP-D 70S-6A	70	M22 x 1	104	30	75	26	10	30	27	22	6	12 to 15	354.5
VSP-D 100S-6A	100	M22 x 1	104	30	75	26	10	30	27	22	6	12 to 15	485

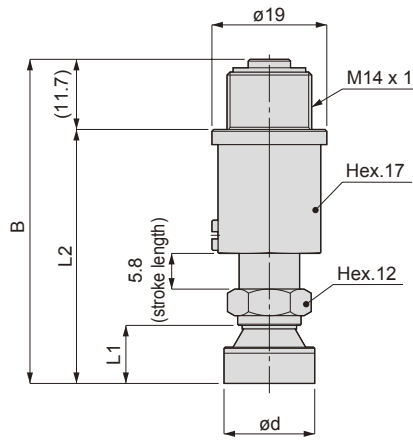
- Barbed joint type VSP-D\*\*S-6T



Unit: mm

Model No.	Pad diameter $\phi d$	B	L1	L2	Spring force (N)	Weight (g)
VSP-D 10S-6T	10	59.6	9.5	36.5	8 to 12	44.5
VSP-D 15S-6T	15	59.6	9.5	36.5	8 to 12	45
VSP-D 20S-6T	20	65.6	15.5	42.5	8 to 12	46.5
VSP-D 25S-6T	25	65.6	15.5	42.5	8 to 12	48
VSP-D 30S-6T	30	65.6	15.5	42.5	8 to 12	48
VSP-D 35S-6T	35	78.1	28	55	8 to 12	83.5
VSP-D 50S-6T	50	78.1	28	55	8 to 12	126.5

Dimensions (direct mount type with buffer VSP-F)



Unit: mm

Model No.	Pad diameter ød	B	L1	L2	Spring force (N)	Weight (g)
VSP-F 10S	10	53.5	9.5	41.8	9 to 13	54
VSP-F 15S	15	53.5	9.5	41.8	9 to 13	54.5
VSP-F 20S	20	59.5	15.5	47.8	9 to 13	56
VSP-F 25S	25	59.5	15.5	47.8	9 to 13	57.5
VSP-F 30S	30	59.5	15.5	47.8	9 to 13	57.5
VSP-F 35S	35	72	28	60.3	9 to 13	93
VSP-F 50S	50	72	28	60.3	9 to 13	136

Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level  
bellows

Oval

Soft

Soft bellows

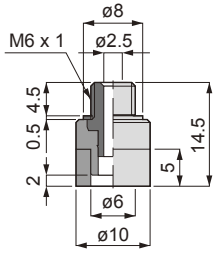
Nonskid

Thin

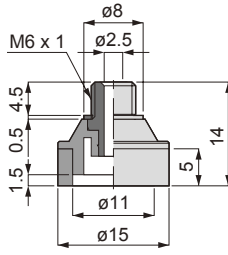
Long stroke

## Dimensions for only pad type

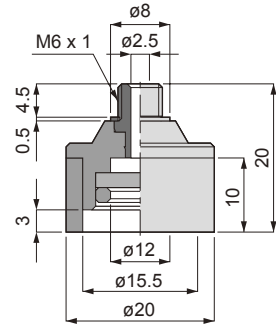
● VSPG-10SA



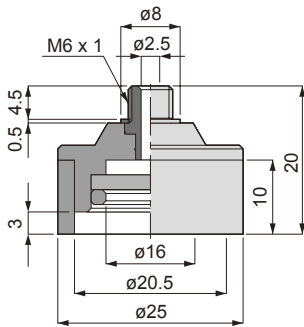
● VSPG-15SA



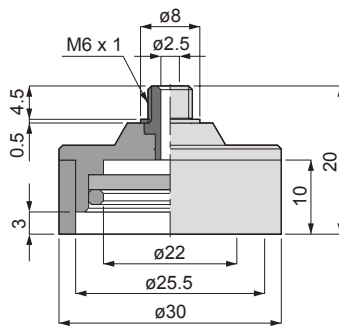
● VSPG-20SA



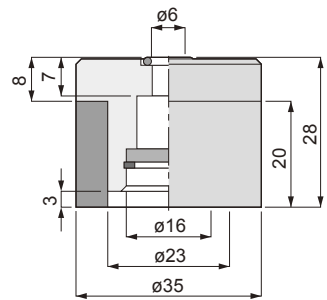
● VSPG-25SA



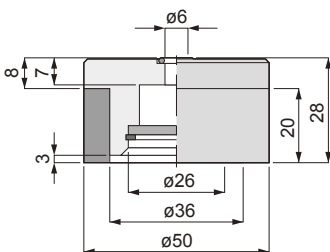
● VSPG-30SA



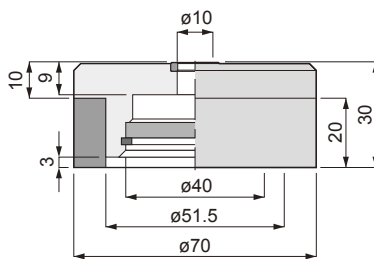
● VSPG-35SA



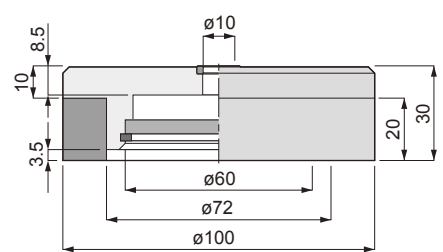
● VSPG-50SA



● VSPG-70SA



● VSPG-100SA



Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

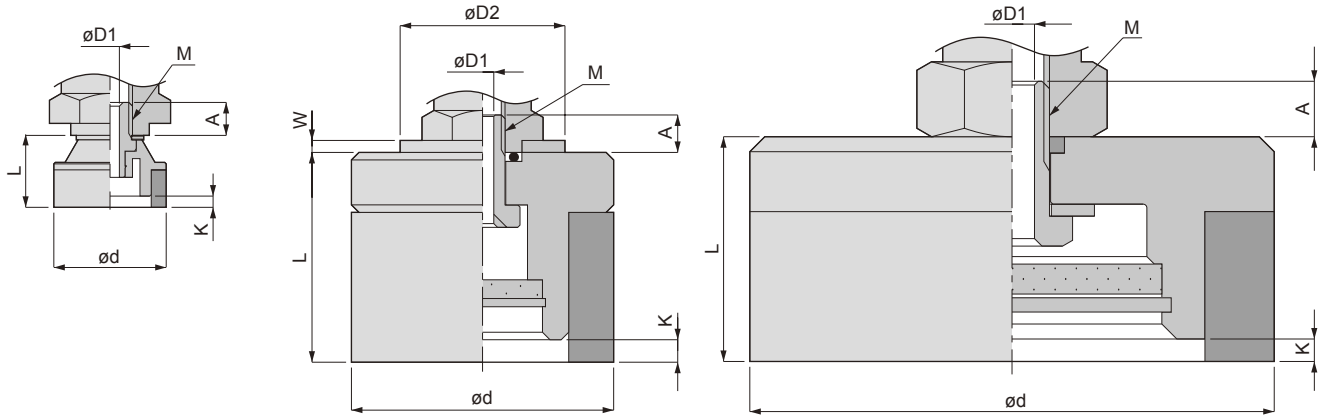
Long stroke

## Detailed drawing of pad and holder fixing section

● VSPG-10 to 30SA

● VSPG-35, 50SA

● VSPG-70, 100SA



Unit: mm

Model No.	Pad diameter $\varnothing d$	L	Lip inner height K	Set screw M	A	$\varnothing D1$	$\varnothing D2$	W
VSPG- 10SA	10	9.6	1.5	M6 x 1	4.4	3	-	-
VSPG- 15SA	15	9.6	1.5	M6 x 1	4.4	3	-	-
VSPG- 20SA	20	15.6	3	M6 x 1	4.4	3	-	-
VSPG- 25SA	25	15.6	3	M6 x 1	4.4	3	-	-
VSPG- 30SA	30	15.6	3	M6 x 1	4.4	3	-	-
VSPG- 35SA	35	28	3	M6 x 1	3	3	22	1.6
VSPG- 50SA	50	28	3	M6 x 1	3	3	22	1.6
VSPG- 70SA	70	30	3	M10 x 1.5	6	6	-	-
VSPG- 100SA	100	30	3.5	M10 x 1.5	6	6	-	-

Vacuum pad

Compact

General/Deep

Sponge

Bellows

Multi-level bellows

Oval

Soft

Soft bellows

Nonskid

Thin

Long stroke