

PISCO



VACUUM EQUIPMENT LINE-UP

www.nandee.co.th

INDEX

Page

1

Conductive & Mark Free



Page

3

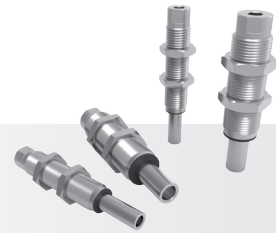
Conductive NBR



Page

5

Pad Holder CLF Series



Page

7

Pad Holder VPG Series



Page

9

Vacuum Generator



Page

14

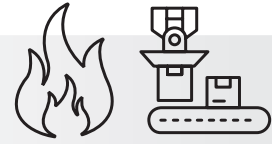
Vacuum PAD



Page

15

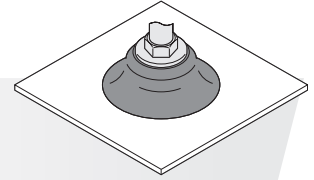
Pad Application



Page

17

Pad Shape



Page

19

Accessories & Filter



Page

20

Flow Sensor & Vacuum Regulator



Page

21

Vacuum Pad FDA Compliant



Page

23

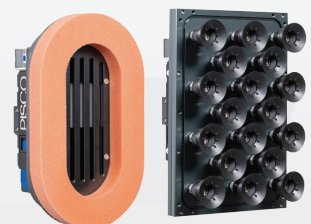
Vacuum Pad for Packaging Bag



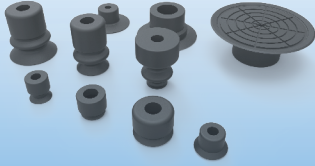
Page

31

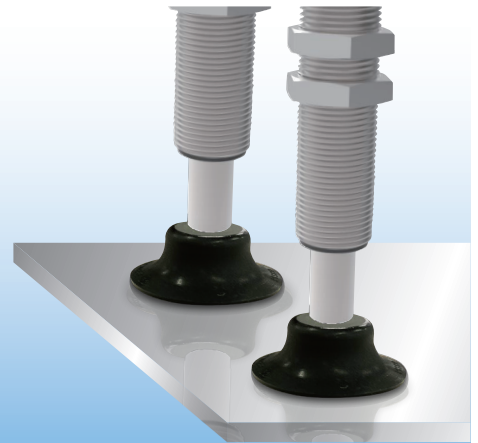
Vacuum Gripper



CONDUCTIVE & MARK FREE



Surface resistance $10^6 \sim 10^9 \Omega/\text{sq}$



Feature of Conductive Pad

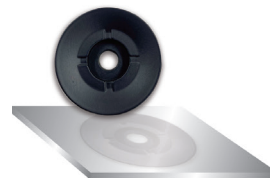


Total inspection by TREK surface resistance meter

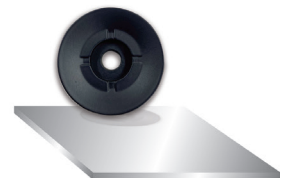
Surface resistance $10^6 \sim 10^9 \Omega/\text{sq}$

- For surface resistance, the resistance value may vary depending on the room temperature and humidity.
- We set the measurement point according to the pad size and type, and conduct a total inspection

Feature of Mark Free Pad



Standard Pad

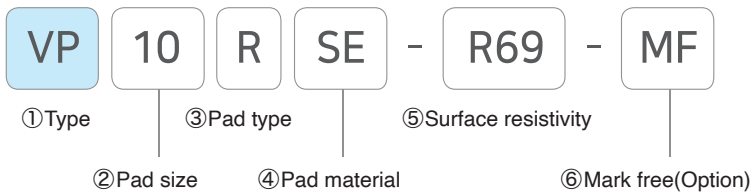


Mark Free Pad

Comparative Data of Standard Pad and Mark Free Pad

	Mark Free	Conductive Pad	Silicon	Nitril (NBR)	Fluorine	Urethane
Pad						
Pad floor surface						
Check water vapor mark						

Order information



① Type







VP	Vacuum pad
----	------------

② Pad size

Code		4	6	8	10	15	20	25	30	40	50
Size(mm)		ø4	ø6	ø8	ø10	ø15	ø20	ø25	ø30	ø40	ø50
Pad type	Standard	O	O	O	O	O	O	O	O	O	O
	Bellows		O	O	O	O	O		O		
	Soft bellows		O	O	O						
	Flat		O	O	O	O	O	O	O		
	Ultrathin			O	O	O					
	Skidproof				O		O		O	O	

*Available size for conductive pad and MF(Mark Free) pad.

③ Pad type

Code	R	B	LB	F	P	K
Type	Standard type	Bellows type	Soft bellows type	Flat type	Ultrathin type	Skidproof
						

④ Pad material

SE	Conductive silicone
----	---------------------

⑤ Surface resistivity

R69	$10^6 \sim 10^9 \Omega/\text{sq}$
-----	-----------------------------------

⑥ Mark free (option)

Code	None	MF
Mark free	-	Mark free coating

Conductive Vacuum pad Inspection Method



Put it on the measuring board in 100 units.

- Actual measurement $10^7 \sim 10^8$: Acceptance
 10^6 early half $\sim 10^8$ latter half : Rejection
- in case of surface resistance, the resistance value may vary depending on the room temperature and humidity.
- We set the measurement point according to the pad size and shape, and conduct a total inspection.



Total inspection by TREK surface resistance meter

CONDUCTIVE NBR



Three types of color

Yellow ■, Blue ■, Red ■

$10^6 \sim 10^9 \Omega/\text{sq}$

Features of Conductive Pad



Surface resistivity $10^6 \sim 10^9 \Omega/\text{sq}$

- In case of surface resistance, the resistance value may vary depending on the room temperature and humidity.
- Our company Conducts a full inspection by determining the measurement points according to the size and shape of the pad.

TREK* Full inspection with measuring instrument

Order Information

VP
10
R
NE
-
R69
Y

① Type ③ Pad type ⑤ Surface resistivity
 ② Pad size ④ Pad material ⑥ Color

① Type

VP	Vacuum pad
----	------------

② Pad outer diameter

Code	4	6	8	10	15	20	25	30	40	50
Size(mm)	ø4	ø6	ø8	ø10	ø15	ø20	ø25	ø30	ø40	ø50
Pad type	Standard	O	O	O	O	O	O	O	O	O
	Bellows		O	O	O	O		O		
	Soft bellows		O	O	O					
	Flat		O	O	O	O	O	O		
	Ultrathin			O	O	O				
	Skidproof				O		O		O	O

*This is the size of the current conductive pad.

③ Pad type

Symbol	R	B	LB	F	P	K
Shape	Standard	Bellows	Soft bellows	Flat	Ultrathin	Skidproof

④ Pad material

NE	Conductivity NBR
----	------------------

⑤ Surface resistivity

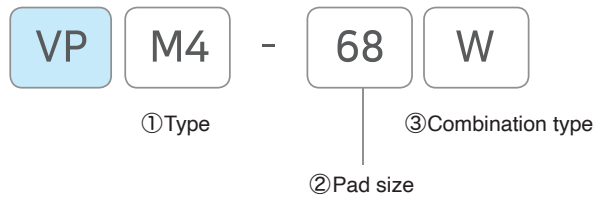
R69	$10^6 \sim 10^9 \Omega/\text{sq}$
-----	-----------------------------------

⑥ Color(Optional)

Symbol	None	Y	BU	R
Color	Black	Yellow	Blue	Red

* Other colors can be specially prepared.

Order information (Pad adapter / material : STS303F)



① Type

VP	M4	M6
----	----	----

② Pad size

Code	0.74	68	1015	2025	30	40	50
Size	ø0.7 ~ ø4	ø6 ~ ø8	ø10 ~ ø15	ø20 ~ ø25	ø30	ø40	ø50
Type	M4			M6			

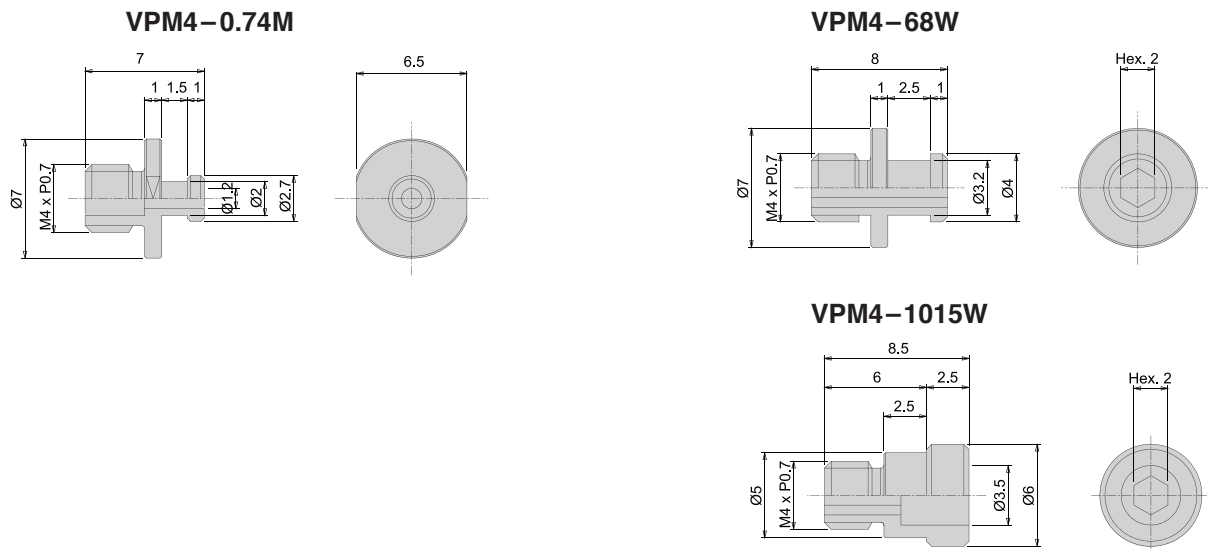
③ Combination type

W	Wrench
---	--------

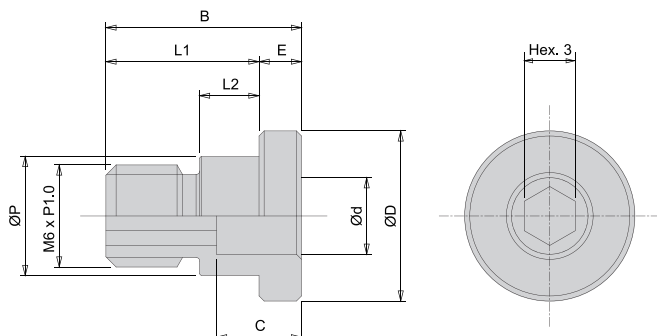
**For 0.74, it's an external D cut.*

Dimension (mm)

VPM4 series

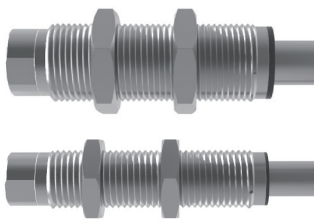


VPM6 series

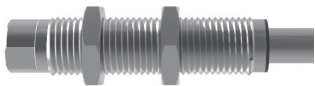


Specification	øD	ød	øP	E	C	B	L1	L2
VPM6-2025W	10	4.5	7	2.5	5	11.5	9	3.5
VPM6-30W	12	4.5	7	2.5	5.5	12.5	10	4
VPM6-40W	15	4	6	3	7	15.5	12.5	6
VPM6-50W	20	4	6	3.5	7.5	16	12.5	6

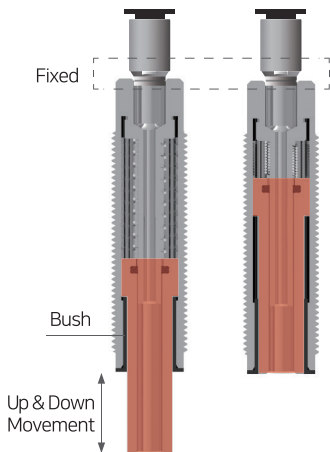
LOW FRICTION VACUUM PAD HOLDER CLF SERIES



M14 For $\phi 20 \sim \phi 50$ Pad available



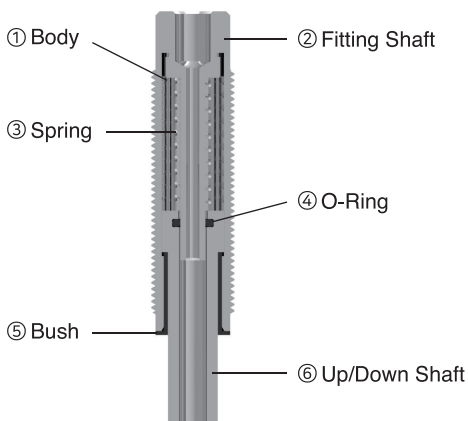
M10 For $\phi 0.7 \sim \phi 15$ Pad available



Holder inner structure

- Reduced particle below **1/10** (compared to prior products)
- Copper alloy unused
- With low friction, low noise! **Noise level 45dB**
- Smooth Up & Down moving according to anti eccentric structure.
- Stuck shaft problem according to tube tension was solved!

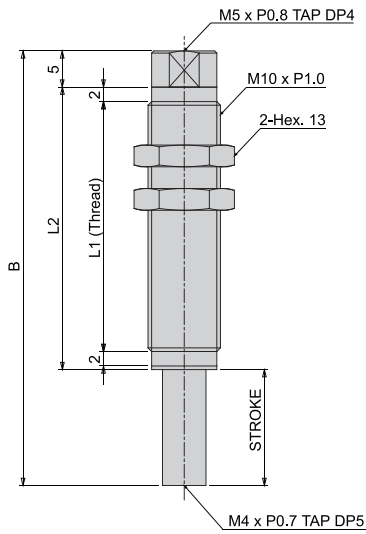
Structure Map



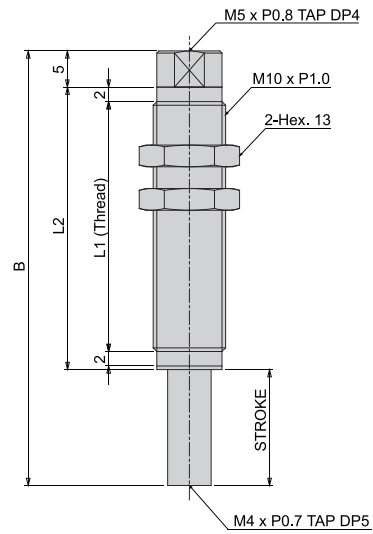
No.	Description	Material
①	Body	STS
②	Fitting Shaft	STS
③	Spring	STS
④	O-Ring	NBR
⑤	Bush	Eng' Plastic
⑥	Up/Down Shaft	STS

Dimension (mm)

VP-CLF-M10 series

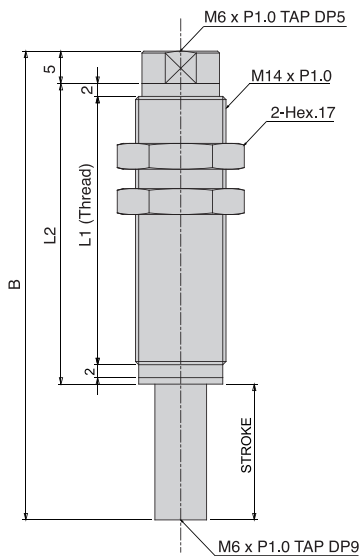


VP-CLF-M10-SF series



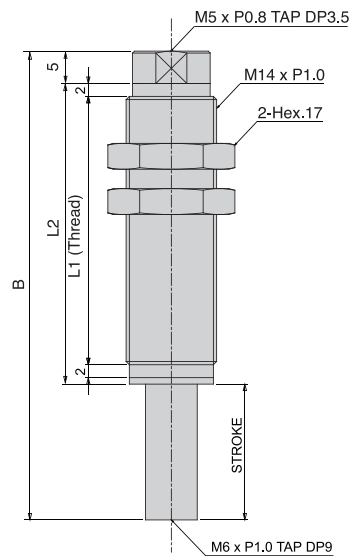
Specification	B	L1	L2	Stroke
VP-CLF-2-M10(SF)	34	21.5	26	2(3)
VP-CLF-5-M10(SF)	40	24.5	29	5(6)
VP-CLF-10-M10(SF)	50	29.5	34	10(11)
VP-CLF-15-M10(SF)	60	34.5	39	15(16)
VP-CLF-20-M10(SF)	70	39.5	44	20(21)

VP-CLF-M14 series



VP-CLF-M14-SF series

M14 Upper Fitting TAP M5 Changed



Specification	B	L1	L2	Stroke
VP-CLF-5-M14(SF)	42.5	26.5	31.5	5(6)
VP-CLF-10-M14(SF)	52.5	31.5	36.5	10(11)
VP-CLF-15-M14(SF)	62.5	36.5	41.5	15(16)
VP-CLF-20-M14(SF)	72.5	41.5	46.5	20(21)

* (SF) is for soft spring type

LOW FRICTION DIRECT MOUNTING TYPE VACUUM PAD HOLDER VPG SERIES

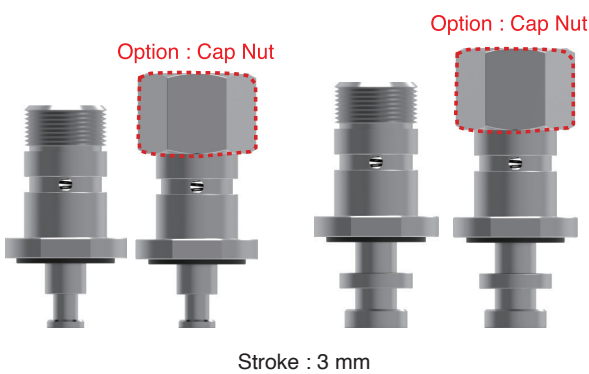


Minimized Current Vacuum Pad Holder

- Realized small space

Had Various Special Holder

- Available special order for customer's needs



Stroke : 3 mm

Non Friction on Body Against Non Rotating Part

- According to different structure as current non rotating part, Non friction on body against non rotating part

Direct Mouning Type Holder

Rotating / Non Rotating Type (Option)

- According to usage, rotating/non rotating option can be selected

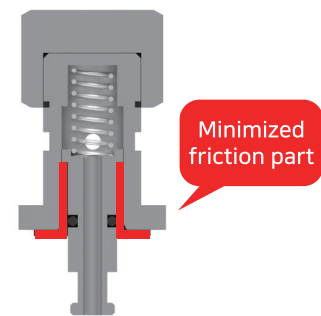
Copper Free Type

- Using STS material

Excellent Durability

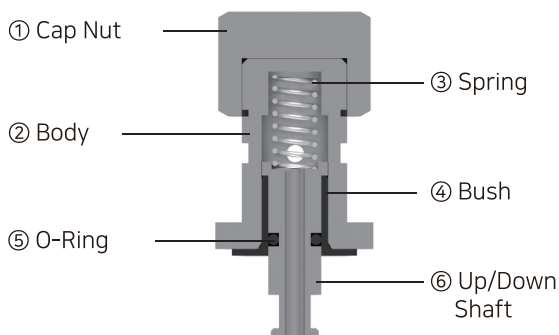
- According to use special bush inner holder shaft, smooth and stable Up&Down moving and excellent durability

Minimized Particle on Long Time Using



Cross section of holder

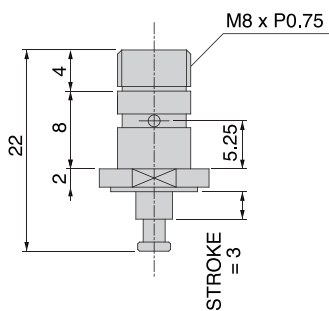
Structure Map



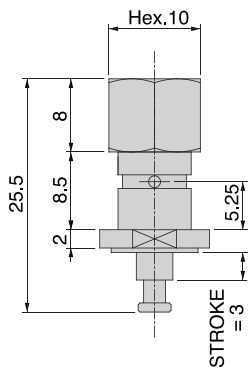
No.	Description	Material
①	Cap Nut	STS
②	Body	STS
③	Spring	STS
④	Bush	Eng' Plastic
⑤	O-Ring	NBR
⑥	Up/Down Shaft	STS

Dimension (mm)

VPG8-3R() series

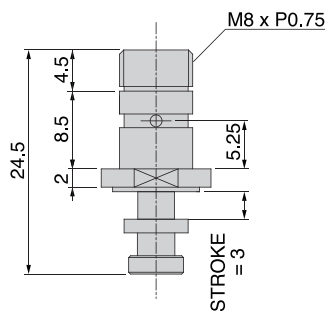


VPG8-3R()

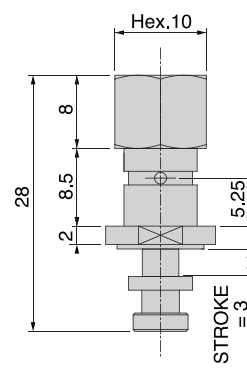


VPG8-3R()-C

VPG15-3R() series

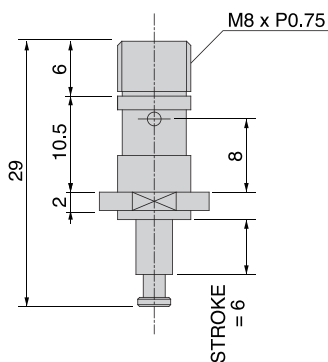


VPG15-3R()

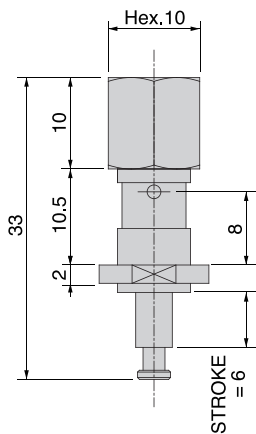


VPG15-3R()-C

VPG8-6R() series

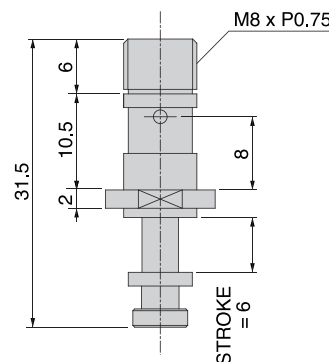


VPG8-6R()

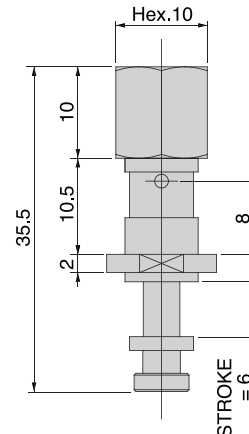


VPG8-6R()-C

VPG15-6R() series

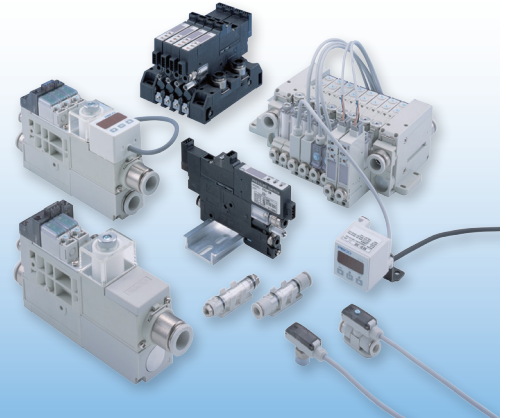


VPG15-6R()



VPG15-6R()-C

VACUUM COMPONENT



- Vacuum Generator** Compressed air is converted to vacuum and be combined with suction cup to transport materials.
- Vacuum Pad** General-shape cup suitable for thick and flat work and deep-shape cup for spherical fruits (apple, etc.) or balls are available.
- Vacuum Accessories** Swing-type suction cup bracket allows the suction cup to tilt freely. The vacuum breaking unit reduces the vacuum breaking time and can also control the vacuum breaking pressure.
- Vacuum Filter** Filter out the dust and water drops sucked in by the vacuum generator or vacuum pump.



-S3 No copper-based material is used (standard)

-S3 No copper-based material is used (optional)

2in1 Two different functions integrated into one product

food Food sanitation act or FDA compliant

AIR Reduce compressed air consumption

Vacuum Generator - Simple Type



VH / VS series [Valve direct mounting type elbow / straight] **-S3**

- Compressed air is converted to vacuum and can be combined with suction cup to transport materials.
- Nozzle diameter : $\phi 0.5 \sim \phi 2.0$
- Medium : Air
- Operating pressure : 0.15 ~ 0.7 MPa
- Operating temp. : 0 ~ 60°C (No freezing)
- Performance* : H / L / E



VM / VC series [Vacuum pad direct mounting type elbow / straight] **-S3**

- Compressed air is converted to vacuum and can be combined with suction cup to transport materials.
- Vacuum pad direct mounting.
- Nozzle diameter : VM $\phi 0.3 \sim \phi 0.5$, VC $\phi 0.3 \sim \phi 2.0$
- Medium : Air
- Operating pressure : 0.15 ~ 0.7 MPa
- Operating temp. : 0 ~ 60°C (No freezing)
- Performance* : H / L / E

* H : High-vacuum type (Rated supply pressure: 0.5 MPa) L : Large-flow type (Rated supply pressure: 0.5 MPa)
 E : High-vacuum at low air pressure supply type (Rated supply pressure: 0.35 MPa)

Vacuum Generator - Simple Type



VU series [Pipe type]

-S3

- Compressed air is converted to vacuum and can be combined with suction cup to transport materials.
- Nozzle diameter : $\phi 0.5 \sim \phi 0.7$
- Medium : Air
- Operating pressure : 0.15 ~ 0.7 MPa
- Operating temp. : 0 ~ 60°C (No freezing)
- Performance* : H / L / E



VUM series [Small-sized pipe type]

-S3

- Super small and lightweight ejector.
- Compressed air is converted to vacuum and can be combined with suction cup to transport materials.
- Connectable to small vacuum pad holder VPMB directly.
- Nozzle diameter : $\phi 0.3 \sim \phi 0.5$
- Medium : Air
- Operating pressure : 0.15 ~ 0.7 MPa
- Operating temp. : 0 ~ 60°C (No freezing)
- Performance* : H / L / E



VY series [Blow-off mechanism equipped type]

2in1

- Ejector and blow-off mechanism are integrated.
- Small and lightweight body makes it possible to place on the terminal part of the vacuum piping. High speed cycle of suction and blow-off mechanism is achieved by diffuser spool.
- Nozzle diameter : $\phi 0.5 \sim \phi 0.7$
- Medium : Air
- Operating pressure : 0.3 ~ 0.7 MPa
- Operating temp. : 0 ~ 60°C (No freezing)
- Performance* : H / L / E



VB series [Box type]

- Integrated with mechanical vacuum switch. Compressed air is converted to vacuum and can be combined with suction cup to transport materials.
- Nozzle diameter : $\phi 0.5 \sim \phi 1.2$
- Medium : Air
- Operating pressure : 0.15 ~ 0.7 MPa
- Operating temp. : 0 ~ 60°C (No freezing)
- Performance* : H / L / E

* H : High-vacuum type (Rated supply pressure: 0.5 MPa) L : Large-flow type (Rated supply pressure: 0.5 MPa)
 E : High-vacuum at low air pressure supply type (Rated supply pressure: 0.35 MPa)

Vacuum Generator - Simple Type



VLM series [Multi-stage high flow]

- Securing high flow and high vacuum level.
- Excellent in ozone resistance.
- Suitable for suction conveyance, defoaming deaeration, vacuum packing, vacuum holding etc.
- Nozzle diameter : $\phi 1.6$
- Nozzle quantity : 1~6 pcs (Single, Double, Triple Layer)
- Suction flow rate : 290 ~ 1110 L /min (ANR)
- Air consumption : 110 ~ 660 L/min (ANR)
- Medium : Air
- Operating pressure : 0.3 ~ 0.7 MPa
- Operating temp. : 5 ~ 50°C



VVV series [Multi-stage nozzle]

- Ensuring high vacuum pressure & flow by low (0.35 MPa) air supply.
- 3 vacuum ports enable easy distribution.
- Easy maintenance and long life.
- Exhaust direction can be selected from straight or elbow, depending on the installation site.
- Optional digital pressure gauge to check the pressure.
- Nozzle diameter : $\phi 1.6, 2.5, 2.7$ mm
- Operating pressure : 0.3 ~ 0.7 MPa
- Rated supply pressure : 0.35 MPa
- Operating temp. : 5 ~ 50°C



VRL series [Unitasking]

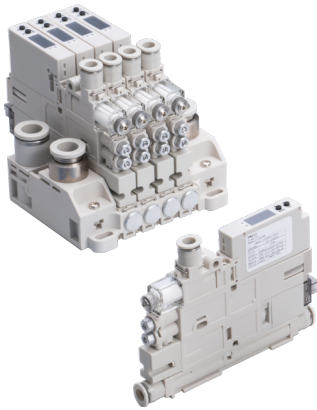
- To convey small, irregular materials, such as particles, powder and fibers in the air current.
- Select the proper type according to work-piece size and the amount.
- Medium : Air / Inert gas
- Suction flow : 50 ~ 300N L /min
- Min. dia. of flow channel : $\phi 2.8 \sim \phi 7.5$ mm
- Final vacuum : - 53 kPa
- Operating pressure : 0 ~ 0.9 MPa
- Rated supply pressure : 0.5 MPa
- Operating temp. : 0 ~ 60°C (No freezing)



VLS series [Boxed type aluminum body]

- Nozzle diameter: $\phi 2.0, 2.5, 2.8$ mm
- Quiet operation with the cylinder type muffler.
- Pressure gauge and sensor can be installed.
- Simple structure - easy maintenance.

Vacuum Generator - Complex Type



VA series [Multi-function]

-s3

- A total solution for vacuum piping that can respond to customer need with diverse line up
- Selectable fastening method, direct mounting type is fixed from the side with screws and DIN rail mounted type can be selected.
- The manifold type has a structure that allows the number of stations to be increased or decreased.
- The suction flow rate of two-stage nozzle type increase by up to two times compare to existing single nozzle type

Model	Medium	Performance*	Nozzle bore [mm]	Vacuum level [kPa]	Suction flow L /min [ANR]	Air consumption L /min [ANR]	Operating pressure [MPa]
VA	Air	H / L / E	ø0.3 ~ 1.5	-90 ~ -66	5.5 ~ 70.5	3.5 ~ 105	0.3 ~ 0.7



VJ series [Multi-function]

-s3

- Pressure adjusting function is added to the conventional blow-off air control function to prevent work-pieces from being blown away.
- A relief mechanism built into the blow-off circuit which breaks the vacuum (extra pressure is relieved) achieve shorter blow-off time.
- Wide variety of combinations can cope with various needs. External vacuum controller for vacuum pump series is for available. Less wiring is achieved.

Model	Medium	Performance*	Nozzle bore [mm]	Vacuum level [kPa]	Suction flow L /min [ANR]	Air consumption L /min [ANR]	Operating pressure [MPa]
VJ	Air	H / L / E	ø0.5 ~ 1.2	-93.1 ~ -66.5	7 ~ 38	11.5 ~ 70	0.3 ~ 0.7



VK series [Multi-function]

- Selection of the most suitable module for your application is possible by the modularized each unit and rich combination of units.
- 7 unit combinations and 18 module types.

Model	Medium	Performance*	Nozzle bore [mm]	Vacuum level [kPa]	Suction flow L /min [ANR]	Air consumption L /min [ANR]	Operating pressure [MPa]
VK	Air	H / L / E	ø0.5 ~ 1.2	-93 ~ -66.5	5.4 ~ 50	11.5 ~ 70	0.25 ~ 0.7



VX series [Multi-function]

-s3

- Lightweight and compact body meeting market needs.
- Pursue of faster responsiveness of suction solenoid valve to the extreme realized the high cycle of vacuum system.
- Wide variety of combinations enables to meet various applications. External vacuum controller for vacuum pump is also available.
- Max. 10 mounting units in a manifold type.

Model	Medium	Performance*	Nozzle bore [mm]	Vacuum level [kPa]	Suction flow L /min [ANR]	Air consumption L /min [ANR]	Operating pressure [MPa]
VX	Air	H / L / E	ø0.5 ~ 1.0	-93.1 ~ -66.5	7 ~ 26	8.8 ~ 46	0.3 ~ 0.7

* H : High-vacuum type (Rated supply pressure: 0.5 MPa) L : Large-flow type (Rated supply pressure: 0.5 MPa)
 E : High-vacuum at low air pressure supply type (Rated supply pressure: 0.35 MPa)

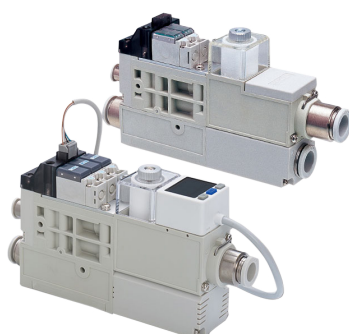
Vacuum Generator - Complex Type



VN series [Multi-function] [High-speed response]

- The low-profile vacuum generator is suitable for application requiring a limited space.
- High speed, yet stable response is realized. (ON / OFF = 5msec or less)
- Tiny work piece is removed gently when releasing vacuum with blow-off.
- Common supply port type is also available.
- 20L/min. of vacuum release (blow-off) air flow is secured.
- Exhaust type : Silencer vent

Model	Medium	Nozzle bore [mm]	Final vacuum [kPa]	Suction flow L /min [ANR]	Air consumption L /min [ANR]	Operating pressure [MPa]	Rated supply pressure [MPa]
VN	Air	ø0.4 ~ 0.6	-90.4	2 ~ 9.5	6 ~ 12	0 ~ 0.55	0.35 ~ 0.5



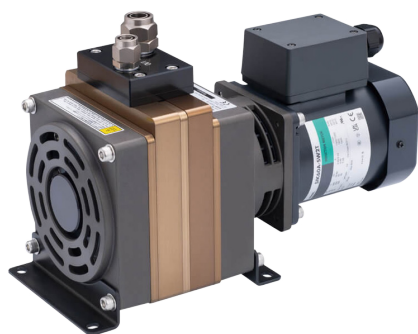
VQ series [Control large flow]



- Best suitable to control large flow with width of 31.5mm.
- The suction flow rate of double-stage pump is about 40% more flow than single stage pump.
- Exhaust method : Silencer vent, tube exhaust (ø12mm push-in fitting)

Model	Medium	Nozzle bore [mm]	Final vacuum [kPa]	Suction flow L /min [ANR]	Air consumption L /min [ANR]	Operating pressure [MPa]	Rated supply pressure [MPa]
VQ	Air	ø0.7 ~ 2.0	-93 ~ -66	24 ~ 160	23 ~ 200	0.3 ~ 0.7	0.35 ~ 0.5

Rotary Vacuum Pump



RPV series

- Realizing low driving noise, low vibration, low heat generation, low dust generation and long life.
- Light weight and compact. Space saving is realized by adoption of the special rotor form.
- The top level high efficiency in the industry is realized for the pumping speed per motor power 1 (W). 1.0/1.2 [pumping speed (L/min)/motor power (W)] (50/60Hz)
- Lubrication is unnecessary by adoption of the excellent clean vacuum grease for low dust and low volatile.
- Low dust generation is realized by minimization of sliding parts. Contamination to surrounding area is controlled.
- Low noise operation and low vibration are realized by full balancing design for rotary part.
- Low generation of heat is realized by adoption of forced air-cooling system.
- RoHS and CE marking compliant. (Single-phase 100V with built-in power switch type is not compliant with CE marking.)
- Uses: Adsorption and handling, vacuum packaging, defoaming, degassing, vacuum forming, etc.
- Gas (inhaled gas): No corrosive or exposable gas, max. suction pressure : Atmospheric pressure

Model	Type	Cylinder numbers	Cylinder layout	Pumping speed L /min	Final vacuum [kPa] G	Motor voltage [V]	Ambient temp. [°C]
RPV06A	Medium vacuum 30L	Twin	In-line	30 (50Hz)	≤ -100.95 (50Hz)	200/220/230	5 ~ 40
RPV062	Low vacuum 60L	Twin	Parallel	60 (50Hz)	≤ -97.8 (50Hz)	200/220/230	5 ~ 40
RPV063	Low vacuum 90L	Triple	Parallel	90 (50Hz)	≤ -97.8 (50Hz)	200/220/230	5 ~ 40
RPV064	Low vacuum 120L	Quad	Parallel	120 (50Hz)	≤ -97.8 (50Hz)	200/220/230	5 ~ 40

Vacuum Pad



VP*- R / A / RM [Standard] -s3

- Pad size : $\phi 0.7 \sim \phi 200$
- Various vacuum pad material options.
- R : Best suitable for flat work-piece.
- A : Suitable for round fruit or ball.
- RM : Small work-piece and semiconductor facility.



VP*- L [Soft] -s3

- Pad size : $\phi 4 \sim \phi 40$
- No mark on plastic molded articles.



VP*- K [Skidproof] -s3

- Pad size : $\phi 10 \sim \phi 50$
- Vacuum pad for greasy work-piece.



VP*- LB [Soft bellows] -s3

- Pad size : $\phi 6 \sim \phi 20$
- Vacuum pad for resin molded product.
- No mark on plastic molded articles.



VP*- B [Bellows] -s3

- Pad size : $\phi 2 \sim \phi 100$
- Vacuum pad for retort pouch.
- Variety of selections in pad holder for "copper alloy free" and against "low ozone concentration"



VP*- W [Multi - bellows] -s3

- Pad size : $\phi 6 \sim \phi 50$
- Vacuum pad for retort pouch.
- Variety of selections in pad holder for "copper alloy free" and against "low ozone concentration"



VP* - E [Oval type] -s3

- Pad size : $\phi 2 \times 4 \sim \phi 8 \times 30$
- Vacuum pad for circuit board and semiconductor



VP* - Q [Mark-free] -s3

- Pad size : $\phi 10 \sim \phi 30$
- Vacuum pad for smart glass, painting and semiconductor equipment.



VP* - P [Ultrathin] -s3

- Pad size : $\phi 8 \sim \phi 20$
- Vacuum pad for paper and plastic bag.



VP*- S [Sponge] -s3

- Pad size : $\phi 10 \sim \phi 100$
- Vacuum pad for wall panels and stones



VP*- F/FH [Flat/large suction flow type] -s3

- Pad size : $\phi 10 \sim \phi 30$
- Vacuum pad for panel and vinyl.



VP*- BE/BD [For metal detectors] -s3

- Pad size : $\phi 10, \phi 15, \phi 20$
- Silicone rubber infused with metal powder. When there is contamination due to pad detachment, the metal detection machine will react to it.
- For work-piece contacting parts, Food Safe act.

Vacuum Pad - Application Environment

• Please choose the vacuum pad material and shape that suits your work and usage environment.

Application		Cardboard	Plywood	Iron plate	Food	Semiconductor	Molded product	Thin
Vacuum pad material / shape	Code							
Rubber	Nitrile rubber	N	•	•	•			
	Oil resistant NBR	NH	•	•	•			
	Urea rubber	U	•	•	•			
	Silicone rubber	S			•	•	•	•
	Fluororubber	F				•		
	Fluorosilicone rubber	FS					•	
	Neoprene	C			•			
	HNBR	HN	•	•	•			
	EPDM	EP						
	Compliant with food sanitation law NBR	G	•	•	•	•		
	Antistatic NBR [Low resistance]	NE	•	•	•	•		
	Antistatic BR [Low resistance]	E					•	
Antistatic silicone rubber	SE				•	•	•	
Resin	PEEK	K				•		
	POM	M						
	Antistatic PEEK	KE				•		
Standard	General	R	•	•	•	•		
	Deep	A				•	•	
	Small	RM					•	
	Soft	L					•	•
	Soft bellows	LB	•	•	•	•	•	
	Skidproof	K	•	•	•	•	•	
	Bellows	B	•	•	•	•	•	
	Multi-bellows	W	•	•	•	•	•	
	Packaging	PB				•		
	Metal detection	BE BD				•		
	Ultrathin	P	•	•	•	•	•	•
	Flat	F				•	•	•
	Mark-free	Q					•	
	Sponge	S				•	•	
	Oval	E	•	•	•	•	•	

*1. Rubber material: Volume resistance of antistatic NBR (low resistance) and antistatic BR (low resistance) is 200Ω·cm or less.

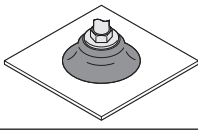
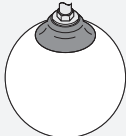

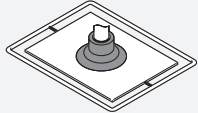
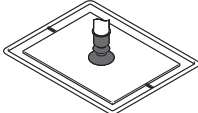
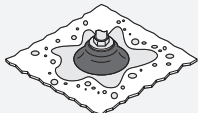
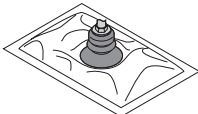
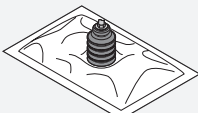
Vacuum Pad - Application Environment

pharmaceutical chemistry	High temperature	Low concentration ozone	Light / Ozone resistant	Humid environment	Uneven surface	Packing machine	Packaging bag	Electronic equipment parts	Liquid crystal manufacturing equipment
				•		•			
				•		•			
		•				•			
	•	•		•		•	•		
•	•	•		•		•			
	•	•		•		•			
		•		•	•				
		•	•	•					
				•					
				•		•		•	
				•				•	
	•			•		•		•	
				•					•
		•		•		•		•	•
				•				•	
				•				•	
				•			•		
				•			•		
				•					
				•		•			
				•		•			
				•				•	•
				•				•	
				•				•	
				•	•				
•	•	•	•	•				•	

*2. Rubber material: The volume resistance of antistatic silicone rubber is 105Ω·cm or less
 *3. Resin material: The volume resistance of antistatic PEEK is 105 to 106 Ω·cm.

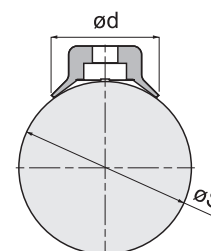
Vacuum Pad - Pad Shape

• Please select suitable pads for your application from the following.

Pad shape	Recommended workpiece	Pad size	Pad material	Features	
R Standard general type		Thick & flat work-piece	ø1~ø200	N,S,U,F,SE,E,NE,G,HN,EP	1.Small : Small work-piece an semiconductor facility. General : Best suitable for flat work-piece. Flat work-piece : Work-piece with enough hardness and thickness Deep : Suitable for round fruit or ball. Round fruit : Apple,etc. 2.Wide selection of pad sizes,materials and holder types. 3.Stroke length of a spring holder is selectable. 4.Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration" -S3 spec. : No copper based metal parts. HNBR or FKM is adopted for seal rubber.
A Standard deep type		Round fruit or ball (*1)	ø15~ø100	N,S,U,F,NE,G,HN,EP	
RM Standard small type		Small work-piece or semiconductor manufacturing device	ø0.7~ø4	N,S,U,F,SE,E,NE,G,HN,EP	
L Soft		Taking out molded parts / Fragile work-piece	ø4~ø40	N,S,FS,SE,NE	1.Various selections of pad size,pad material and holder type. newly added pad materials for various types of work-piece. 2.soft and flexible pad enables to pick up paper, and also leaves less mark on work-piece. 3.Downsized holders (A,B, C and D type) are available for space-saving. No need to detach a holder when replacing vacuum pad. Optional selection of Fall prevention valve and vacuum Filter. 4.Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration". -S3 spec. : No copper based metal parts. HNBR or FKM is adopted for seal rubber.
LB Soft bellows		Taking out molded parts / Fragile work-piece	ø6~ø20	N,S,U,NE,HN,EP	
K Skidproof		Greasy work-piece such as pressed parts	ø10~ø50	NH,S,U,F,NE	1.Vacuum pad for greasy work-piece. 2.Avoid slipping by unique pad shape design. 3.Downsized holders (A,B,C and D type) are available for space-saving. No need to detach a holder when replacing vacuum pad. Optional selection of Fall prevention valve and vacuum Filter. 4.Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration". -S3 spec. : No copper based metal parts. HNBR or FKM is adopted for seal rubber.
B Bellows		Food package	ø6~ø100	N,S,U,F,SE,NE,NH,EP	1.Suitable for soft work-pieces such as papers,plastic bags,etc. This pad has a characteristic of flexible motion. 2.Downsized holders (A,B,C and D type)are available for space-saving.No need to detach a holder when replacing vacuum pad. Optional selection of Fall prevention valve and Vacuum Filter.
W Multi-bellows		Food package	ø10~ø50	N,S,U,F,NE,G,HN,EP	3.Resin attachment to avoid suction marks on work-piece is now available. Best suitable for transporting of glass, painting process and taking-out molded parts. 4.Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration" -S3 spec: No copper based metal parts. HNBR or FKM is adopted for seal rubber.

*1. The table below is a reference for the vacuum pad deep type and the size of round work-piece.

		Unit:mm							
Spherical dia.øS	ø20	ø30	ø40	ø50	ø80	ø100	ø120	ø160	ø200
Pad size ød	ø15	ø20	ø25	ø30	ø40	ø50	ø60	ø80	ø100



Vacuum Pad - Pad Shape

Pad shape		Recommended workpiece	Pad size	Pad material	Features
PB Packaging bags		Bag-like article conveyance	ø30 ~ ø50	S	<ol style="list-style-type: none"> 1. Realize followability to speedy and precise movement of conveyance robot. 2. Pad hardness and bellows layers for selection. 3. Contributing space-saving and followability to high-speed conveyance. Compared to 5 bellows layers, approx 25.3% shorter. 4. For work-piece contacting parts, Food Safe Act. (Japan) complied and FDA equivalent materials (*) are used. *This product is not FDA certificated.
BE, BD For metal detectors		Bag-like article conveyance	ø10 ~ ø20	MSF3, MSF5, MSS3, MSS5	<ol style="list-style-type: none"> 1. Silicone rubber infused with metal powder. When there is contamination due to pad detachment, the metal detection machine will react to it. 2. Available in iron powder and SUS powder specifications. The industry's first SUS powder specification prevents rubber friction powder from rusting. 3. There are two types of rubber hardness to choose from: 30° and 50°. Rubber hardness is identified by color. 4. Lip protrusions prevent adhesion with the bellows part. 5. Complies with food hygiene laws and FDA requirements.
P Ultrathin		Thin work-piece such as paper or plastic bag	ø8 ~ ø20	N,S,U,F, FS,NE	<ol style="list-style-type: none"> 1. Improvement in adhesion and minimizing the overlapping adhesion by the lower lip height. 2. Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration". -S3 spec. : No copper based metal parts. HNBR or FKM is adopted for seal rubber.
F Flat		Thin work-piece such as sheet or plastic bag	ø10 ~ ø30	N,S,U,F, NE,SE	<ol style="list-style-type: none"> 1. Groove on a flat pad reduces deformation and wrinkle on a work-piece. 2. Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration". -S3 spec.: No copper based metal parts. HNBR or FKM is adopted for seal rubber.
Q Mark-free		LCD glass / in Painting process/ semiconductor manufacturing device	ø10 ~ ø30	K,M,KE	<ol style="list-style-type: none"> 1. Flexible resin pad leaves less suction mark on work-piece. 2. Smoothly release work-pieces by blow-off air. 3. Easy replacement of a resin pad without a spanner or a hex.key. 4. Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration". -S3 spec: No copper based metal parts. HNBR or FKM is adopted for seal rubber.
S Sponge		Exterior wall panel, pebble, seashell	ø10 ~ ø100	C,S	<ol style="list-style-type: none"> 1. Suitable for work-pieces with rough and uneven surface such as wall panel, small stone and seashell. 2. Downsized holders (A,B,C and D type) are available for space-saving. No need to detach a holder when replacing vacuum pad. Optional selection of Fall prevention valve and Vacuum Filter. 3. Variety of selections in pad holder for "Copper alloy free" and against "low ozone concentration". No copper based metal parts. HNBR or FKM is adopted for seal rubber.
E Oval		Long work-piece (e.g. circuit board and semiconductor product)	ø2x4 ~ ø8x30	N,S,U, F,SE, E,NE, HN,EP	<ol style="list-style-type: none"> 1. Long work-pieces with limited suction area like circuit board and semiconductors. 2. Oval vacuum pad is with vacuum ejector. 3. Three types of switch for selection <ol style="list-style-type: none"> 1 Switch output+1 Analog output 2 Switch output 1 Analog output

Accessories & Filter



VSPE [Cylinder]

2in1

- Pad size : $\phi 4 \sim \phi 40$, $0.7 \sim \phi 50$
- Vacuum pad equipped with cylinder & Vacuum generator.



VT [Air pincette]

2in1

- Pad size : $\phi 1 \sim \phi 8$
- Vacuum pad equipped with vacuum generator.
- Air pincette equipped with vacuum pad and vacuum generator. Suitable for assembling small components.
- Valve incorporated product "VTB" makes less noise and save energy.
- Including vacuum tube



ECV [Fall prevention valve]

- Male thread size : M3 ~ M10, Rc1/8
- Minimize the pressure drop of other circuit when a workpiece falls down.
- Even if some vacuum pads are not operated, active vacuum pads can work normally because vacuum drop is reduced.



FH [Free holder]

- Pad size : $\phi 10 \sim \phi 100$
- Articulation angle : $30^\circ / 15^\circ$
- Suitable for picking up work-pieces with non-vertical position or with unfixed angle.



VFB [Large capacity union type]

-s3

- Dusts and drains are removed by cyclone effect and element.
- Dusts are not scattered by easy detachment of dust case.
- Operating pressure : $-100 \sim 0$ kPa
- Filtering accuracy : $10 \mu\text{m}$



VFR [Large capacity union type]

-s3

- Dusts and drains are removed by cyclone effect and element
- Large dust case reduces maintenance frequency.
- Assemble to the exhaust part of vacuum generator to move the dust.
- Operating pressure : $-100 \sim 0$ kPa
- Filtering accuracy : $10 \mu\text{m}$



VFU [Small union type]

-s3

- There are 2 selections of element size depending on dust size or exchange period of the element.
- (0,1 type) Small vacuum filter is suitable for a high-cycle vacuum operation. (2,3 type) easy to assemble and stable.
- Operating pressure : $-100 \sim 0$ kPa
- Filtering accuracy : $5 \mu\text{m}$ (Trapping efficiency 95%)



VFJ [Plug-in]

-s3

- Vacuum Filter for Various Vacuum Piping
- Plug-in type with filter.PP material achieves a low price
- Operating pressure : $-100 \sim 0$ kPa
- Filtering accuracy : $5 \mu\text{m}$ (Trapping efficiency 95%)



VFL [Large flow]

-s3

- Vacuum filter for vacuum pumps and large flow vacuum generators.
- Operating pressure : $-101 \sim 0$ kPa
- Filtering accuracy : 1,5, 10, 200 μm (Trapping efficiency 95%)
- Bowl capacity : 90 cm^3
- Processing flow rate : 360 L/min [ANR]



VFF [Direct mounting type]

- Operating pressure : $-100 \sim 0$ kPa
- Filtering accuracy : $10 \mu\text{m}$
- Vacuum filter for various vacuum piping.

Flow Sensor

- Applicable for semiconductor manufacturing process
- RS485 Modbus RTU real-time monitoring.



VUS-SEU 11-12 series [Pressure]

- Measured pressure range : 0 ~ 1000 kPa, -100 ~ 0 kPa, -100 ~ 300 kPa
- Repeatability : Switch output $\pm 3.0\%$ F.S. Analog indicator $\pm 1\%$ F.S. ± 1 digit
- Response time : Switch output 1ms, Analog indicator 2.5ms
- Port size : $\varnothing 4, \varnothing 6, M5 \times 0.8$



VUS - SEU 31-32 series [Pressure]

- Measured pressure range : 0 ~ 1000 kPa, -100 ~ 0 kPa, -100 ~ 300 kPa
- Repeatability : $\pm 2\%$ F.S. ± 1 digit
- Response time : 2.5 ms
- Port size : O.D. 1/8", I.D. M5x0.8



PF01 series [Flow]

- Measured flow rate : 0 ~ 500, 0 ~ 1000 ml/min
0 ~ 5, 0 ~ 10, 0 ~ 50, 0 ~ 100, 0 ~ 200 L /min
- Working pressure : -0.09-0.8 Mpa
- Repeatability : $\pm 1\%$ F.S. ± 1 digit
- Response time : Switch output-min. 50ms, Analog output 100 ms or less
- Port size : $\varnothing 6, \varnothing 8, 1/8", 1/4"$



PF02 series [Flow]

- Measured flow rate : 2 ~ 500, 5 ~ 1000, 10 ~ 2000 L /min
- Working pressure : 0 ~ 1 Mpa
- Repeatability : $\pm 1\%$ F.S. ± 1 digit
- Response time : Switch output min. 50ms, Analog output 100 ms or less
- Port size : 1/2", 3/4"



PFP01 series [Flow & Pressure]

- Measured flow rate : 0 ~ 500, 0 ~ 1000 ml /min
0 ~ 5, 0 ~ 10, 0 ~ 50, 0 ~ 100, 0 ~ 200 L /min
- Rated pressure : -90 ~ 800 kPa
- Repeatability : flow $\pm 1\%$ F.S. ± 1 digit, pressure $\pm 0.2\%$ F.S. ± 1 digit
- Response time : flow min. 50ms, pressure min. 2.5 ms
- Port size : $\varnothing 6, \varnothing 8, 1/8", 1/4"$



PFP02 series [Flow & Pressure]

- Measured flow rate : 2 ~ 500, 5 ~ 1000, 10 ~ 2000 L /min
- Rated pressure : -90 ~ 1000 kPa
- Repeatability : flow $\pm 1\%$ F.S. ± 1 digit, pressure $\pm 0.2\%$ F.S. ± 1 digit
- Response time : flow min. 50ms, pressure min. 2.5 ms
- Port size : 1/2", 3/4"

Vacuum Regulator



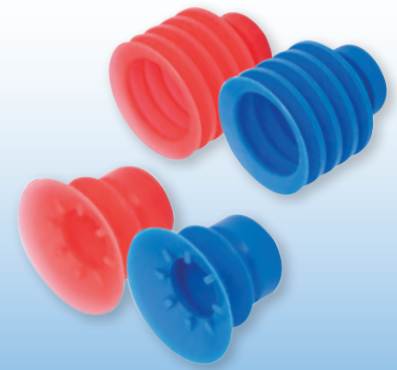
- Push-lock knob for easy pressure adjustment.
- Realized max. 50% of weight saving compared to conventional model. The main body is made of resin, and aluminum is used for the metal part.
- Best suitable for the control of the source pressure. Terminal pressure also can be controlled.

RVZ series [Vacuum regulator push-lock type]



- Applicable tube O.D : $\varnothing 6, \varnothing 8$ mm
- Operating pressure : -100 ~ 100 kPa
- Setting pressure : -100 ~ 1.3kPa
- Max. suction flow rate : 30 L /min[ANR]
- Operating temp. : 0 ~ 50°C (No freezing)

VACUUM PAD



FDA COMPLIANT



4.5 folds bellows

Durometer Shore A		20	40
		Pink/YS2	Blue/YS4
Coloring/code			
Cup size (mm)	ø15	N/A	N/A
	ø20	✓	✓
	ø25	N/A	N/A
	ø30	✓	✓
	ø40	✓	✓
	ø50	✓	✓

1.5 folds bellows

Durometer Shore A		20	40
		Pink/YS2	Blue/YS4
Coloring/code			
Cup size (mm)	ø15	N/A	✓
	ø20	✓	✓
	ø25	✓	✓
	ø30	✓	✓
	ø40	✓	✓
	ø50	✓	✓

Model Designation (Example) for Bellows Cup

VP 20 B YS2

① Vacuum cup

② Cup dia.

Code	15	20	25	30	40	50
Size (mm)	ø15	ø20	ø25	ø30	ø40	ø50
Folds	1.5(B)	(*)	✓	✓	✓	✓
	4.5(W)	N/A	✓	N/A	✓	✓
Connecting code	-M4	-M5, -M6, -U10				

*YS4(Blue)only

③ Folds of bellows

Code	B	W
Folds	1.5	4.5
Bellows		

④ Cup material · hardness

Code	YS2	YS4
Material	FDA compliant soft silicone	
Durometer/Shore A (°)	20	40
Color	 Pink	 Blue

*The durometer of regular silicone rubber is 50°

Model Designation (Example) for Bellows Cup + Fitting

VP 20 B YS2 -M6

① Vacuum cup

② Cup dia.

Code	15	20	25	30	40	50
Size (mm)	ø15	ø20	ø25	ø30	ø40	ø50
Folds	1.5(B)	(*)	✓	✓	✓	✓
	4.5(W)	N/A	✓	N/A	✓	✓
Connecting code	-M4	-M5, -M6, -U10				

*YS4 (Blue) only

③ Folds of bellows

Code	B	W
Folds	1.5	4.5
Bellows		

④ Cup material and hardness

Code	YS2	YS4
Material	FDA compliant soft silicone	
Durometer/Shore A (°)	20	40
Color	 Pink	 Blue

*The durometer of regular silicone rubber is 50°

⑤ Cup fitting

Code	-M4	-M5	-M6	-U10
Thread size	M4x0.7	M5x0.8	M6x1	10-32UNF
Cup dia. (mm)	ø15	ø20 ~ ø50		

⑥ -S3 Specification

Code	No entry	-S3
Spec.	Standard	Metal parts : No copper alloy Sealing material : FKM or HNBR

*Material of gasket - Standard/SUS304 + NBR, -S3/SUS316 + FKM

- ⚠ Caution**
- Carry out a suction test when selection a model because the silicone material is extremely soft.
 - The cup can be deformed by the weight of workpiece.
 - The lifespan is relatively short.
 - The material is sometimes sticky. The sidewalls of bellows stick each other.
 - When lifting a workpiece, start suctioning with the bellows cup being compressed. If not doing so, it can come to the suction failure or shorten the life of the product.
 - Pay attentions for storage of the products since they are extremely soft and easy to be deformed.

VACUUM PAD FOR PACKAGING BAG



2 selections for lip hardness to lift any food packaging

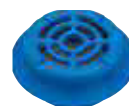


Pad size of $\varnothing 20$ mm and $\varnothing 25$ mm is newly added

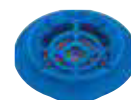


Stainless steel mesh filter is available as option

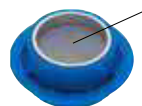
- To prevent the products from contamination
- The filltration of the mesh is 100 μ m (reference only)



Flat type



Spherical type



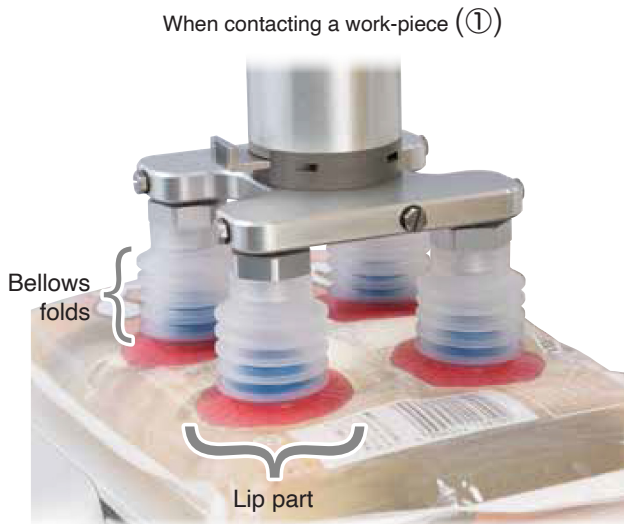
Reverse side

Stainless steel mesh

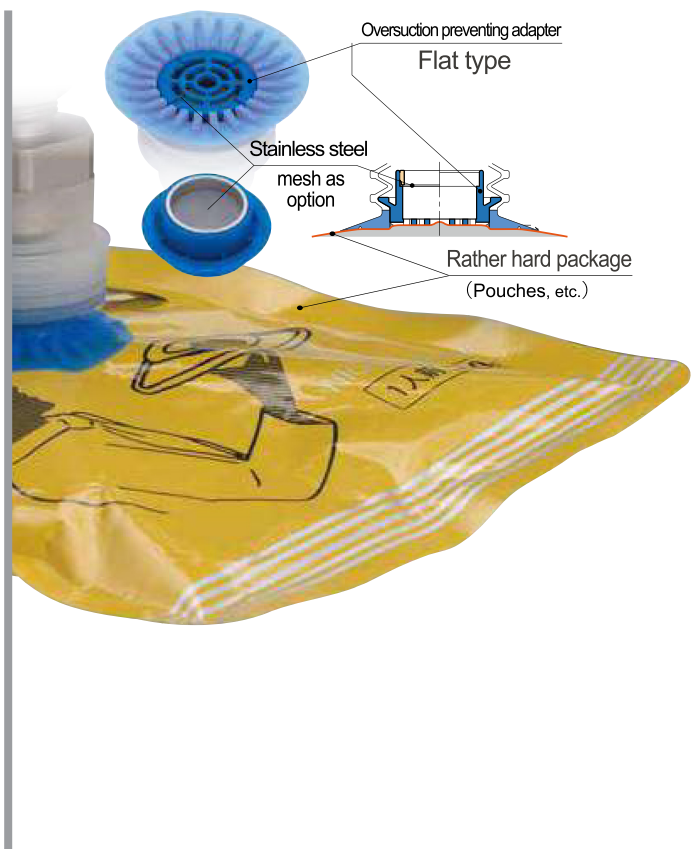
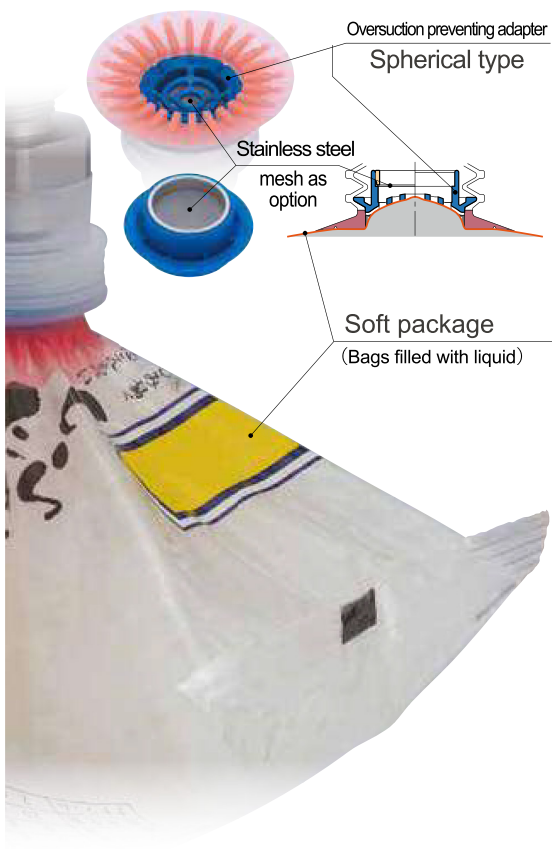
Feature

Three features realize followability to speedy and precise movement of conveyance robot.

- ① 5.5-folded bellows absorb the shock when contacting a workpiece and follow the inclined surface.
(3.5-folded and 5.5-folded can be selected according to a workpiece angle and conveyance speed.)
- ② Lip part follows the surface of a workpiece. (Two selections for lip hardness according to workpieces)
- ③ Folded bellows contract and help the posture stability of a workpiece in conveyance.



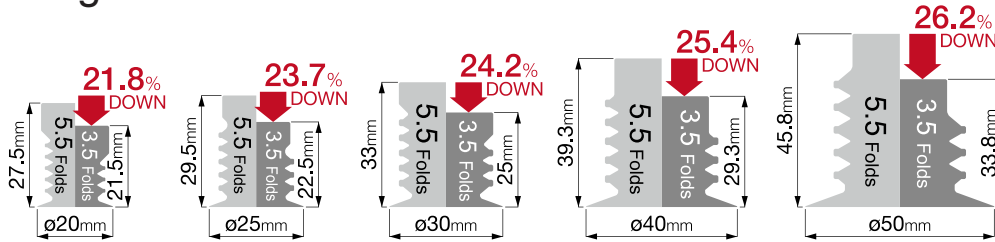
4 types of oversuction preventing adapters are provided. Select one depending on the packaging material/environment.



3.5-folds type has advantages of space-saving and high-speed conveyance by a robot hand.



The heights are about 24.3% shorter.



Less the number of folds, more stable transportation posture



Lip part is made of FDA compliance silicone rubber.

Select a bellows pad from the wide range of combinations.

		Pad diameter										← 5 Sizes
		ø20mm		ø25mm		ø30mm		ø40mm		ø50mm		
Bellows folds		5.5	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5	3.5	← 2 3.5 and 5.5 folds
Lip durometer												← 2 Durometers
		20°	40°	20°	40°	20°	40°	20°	40°	20°	40°	

Oversuction preventing adapter /Spherical type		Oversuction preventing adapter /Flat type		← 4 Types
with stainless steel mesh		with stainless steel mesh		
Bottom side	Reverse side	Bottom side	Reverse side	



Components

■ Gasket(coming with Fitting)

■ Direct mount type

Model	Fitting Thread size	Connect code
VPE-PB8-M5	M5x0.8	PB8
VPE-PB8-M6	M6x1	
VPE-PB15-M5	M5x0.8	PB15
VPE-PB15-M6	M6x1	

*The model includes a gasket

■ O-ring (spare parts)

Model	Fitting Thread size
9x2(VMQ)	M8x1
15x2(VMQ)	M14x1
10x2(VMQ)	G1/8A
14x2(VMQ)	G1/4A
17x2(VMQ)	G3/8A
21x2(VMQ)	G1/2A

■ Panel mount type

Model	Tubing O.D. (ømm)	Connect code
VPA-PB8-4J	4	PB8
VPA-PB8-6J	6	
VPA-PB8-8J	8	
VPA-PB15-6J	6	PB15
VPA-PB15-8J	8	
VPA-PB15-10J	10	
VPA-PB15-12J	12	

■ Direct mount type

Model	Fitting Thread size	Connect code
VPE-PB8-M8	M8x1	PB8
VPE-PB8-G1	G1/8A	
VPE-PB15-M8	M8x1	PB15
VPE-PB15-M14	M14x1	
VPE-PB15-G1	G1/8A	
VPE-PB15-G2	G1/4A	
VPE-PB15-G3	G3/8A	
VPE-PB15-G4	G1/2A	

*The model includes an O-ring

■ 3.5 folds bellows pad for packaging (lip duro : 40°)

Model	Pad size (ømm)	Connect code
VP20PBS43	20	PB8
VP25PBS43	25	
VP30PBS43	30	PB15
VP40PBS43	40	
VP50PBS43	50	

■ 3.5 folds bellows pad for packaging (lip duro : 20°)

Model	Pad size (ømm)	Connect code
VP20PBS23	20	PB8
VP25PBS23	25	
VP30PBS23	30	PB15
VP40PBS23	40	
VP50PBS23	50	

■ 5.5 folds bellows pad for packaging (lip duro : 40°)

Model	Pad size (ømm)	Connect code
VP20PBS45	20	PB8
VP25PBS45	25	
VP30PBS45	30	PB15
VP40PBS45	40	
VP50PBS45	50	

■ 5.5 folds bellows pad for packaging (lip duro : 20°)

Model	Pad size (ømm)	Connect code
VP20PBS25	20	PB8
VP25PBS25	25	
VP30PBS25	30	PB15
VP40PBS25	40	
VP50PBS25	50	

■ Oversuction preventing adapter Flat type with stainless steel mesh filter

Model	Pad size (ømm)
VP20PB-MF	20
VP25PB-MF	25
VP30PB-MF	30
VP40PB-MF	40
VP50PB-MF	50

■ Oversuction preventing adapter Spherical type

Model	Pad size (ømm)
VP20PB-FS	20
VP25PB-FS	25
VP30PB-FS	30
VP40PB-FS	40
VP50PB-FS	50

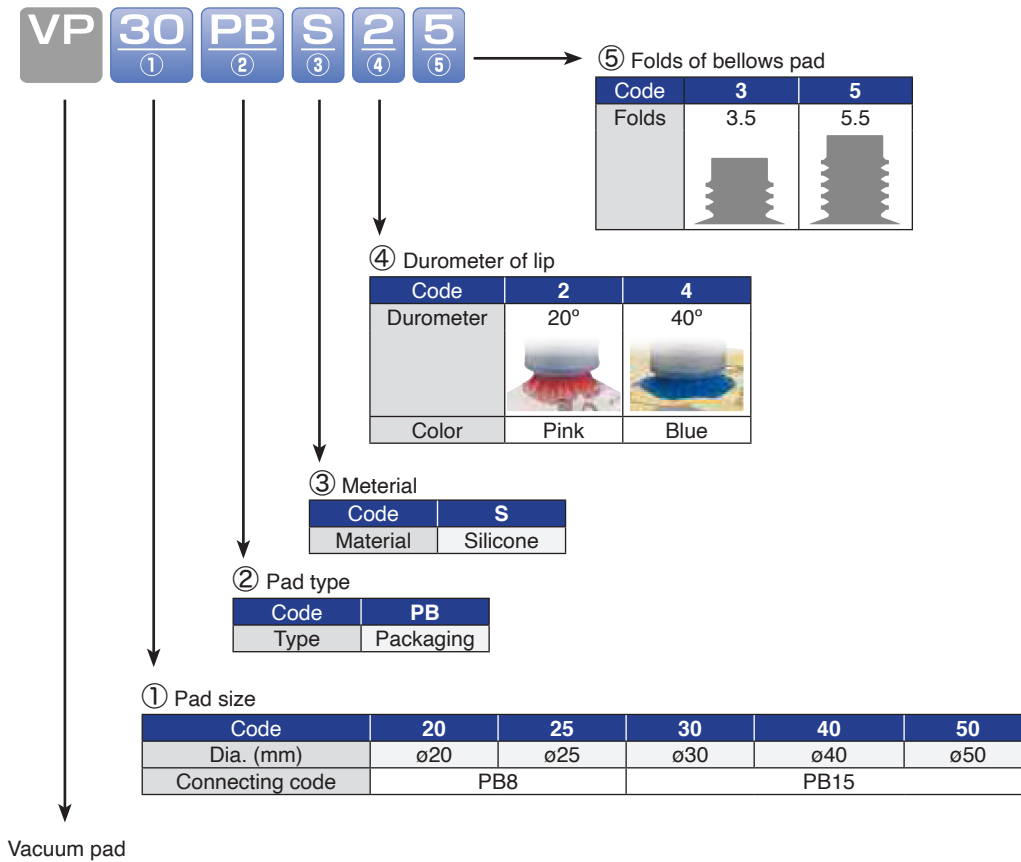
■ Oversuction preventing adapter Spherical type with stainless steel mesh filter

Model	Pad size (ømm)
VP20PB-MS	20
VP25PB-MS	25
VP30PB-MS	30
VP40PB-MS	40
VP50PB-MS	50

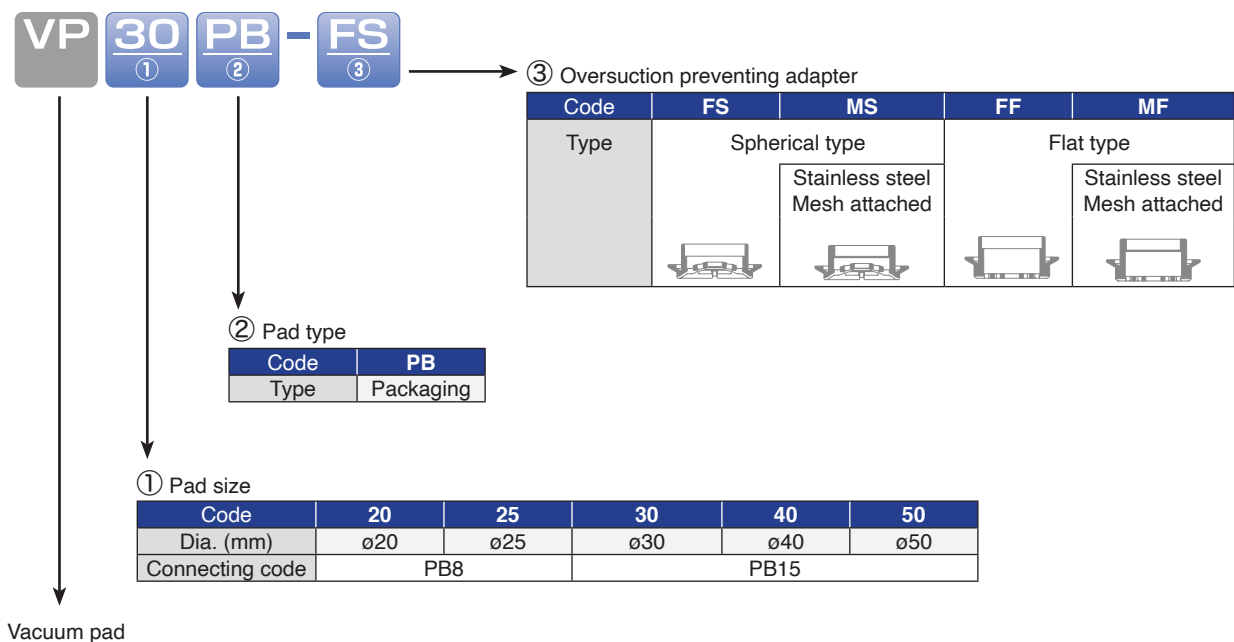
■ Oversuction preventing adapter Flat type

Model	Pad size (ømm)
VP20PB-FF	20
VP25PB-FF	25
VP30PB-FF	30
VP40PB-FF	40
VP50PB-FF	50

Model Designation for Vacuum Pad (Example)



Model Designation for Oversuction Preventing Adapter (Example)



Dimensions for Vacuum Pad

Unit : mm

Bellows pad 3.5 folds				
VP20PBS \square 3	VP25PBS \square 3	VP30PBS \square 3	VP40PBS \square 3	VP50PBS \square 3
Weight : 2.8g	Weight : 3.1g	Weight : 4.8g	Weight : 7.2g	Weight : 9.5g
Connecting code : -PB8			Connecting code : -PB15	

Unit : mm

Bellows pad 5.5 folds				
VP20PBS \square 5	VP25PBS \square 5	VP30PBS \square 5	VP40PBS \square 5	VP50PBS \square 5
Weight : 3.1g	Weight : 3.6g	Weight : 5.7g	Weight : 8.8g	Weight : 12g
Connecting code : -PB8			Connecting code : -PB15	

Pad Mounting Area Dimensions

Pad connecting code : -PB8	Pad connecting code : -PB15

Model Designation for Fitting (Example)



③ Connecting size and type

■ VPE type

Thread		G thread - parallel piping thread			
Code		G1	G2	G3	G4
Thread size		G1/8A	G1/4A	G3/8A	G1/2A
Connect code	PB8	✓			
	PB15	✓	✓	✓	✓

Thread		Metric thread			
Code		M5	M6	M8	M14
Thread size		M5x0.8	M6x1	M8x1	M14x1
Connect code	PB8	✓	✓	✓	
	PB15	✓	✓	✓	✓

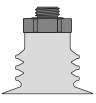

■ VPA type

Joint		Push-in fitting				
Code		4J	6J	8J	10J	12J
O.D. (mm)		ø4	ø6	ø8	ø10	ø12
Connect code	PB8	✓	✓	✓		
	PB15		✓	✓	✓	✓

② Pad connecting code

Code		-PB8	-PB15
Installation		Snap-on	
Pad size (mm)	ø20	✓	
	ø25	✓	
	ø30		✓
	ø40		✓
	ø50		✓

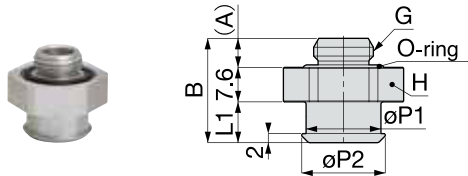
① Fitting type

Code	E	A
type	Direct-mount type	Panel-mount type
		

Vacuum pad

Dimensions for Fitting of Vacuum Pad

VPE Direct-mount type (Connection : G thread - parallel piping thread)

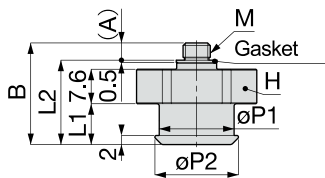


Unit : mm

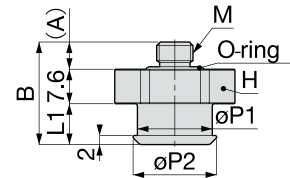
Model	G	A	B	L1	øP1	øP2	Hex.H	Weight(g)	Connecting Code
VPE-PB8-G1	G1/8A	5.3	20.9	8	9	10.9	17	5.7	-PB8
VPE-PB15-G1	G1/8A	5.3	21.9	9	16.5	18.4	24	12	-PB15
VPE-PB15-G2	G1/4A	6.4	23						
VPE-PB15-G3	G3/8A	7.9	24.5						
VPE-PB15-G4	G1/2A	8.4	25				27	16	

VPE Direct-mount type (Connection : Metric thread)

VPE-PB \square -M5
VPE-PB \square -M6



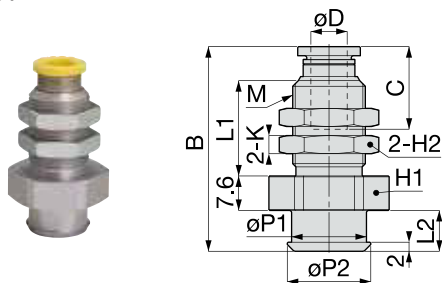
VPE-PB \square -M8
VPE-PB15-M14



Unit : mm

Model	M	A	B	L1	L2	øP1	øP2	Hex.H	Weight(g)	Connecting Code	
VPE-PB8-M5	M5x0.8	2.8	20.4	8	17.6	9	10.9	17	6.3	-PB8	
VPE-PB8-M6	M6x1	3.8	21.4		-						5.7
VPE-PB8-M8	M8x1	6	21.6		-						-
VPE-PB15-M5	M5x0.8	2.8	21.4	9	18.6	16.5	18.4	24	12	-PB15	
VPE-PB15-M6	M6x1	3.8	22.4								
VPE-PB15-M8	M8x1	6	22.6		-						
VPE-PB15-M14	M14x1	8	24.6		-						

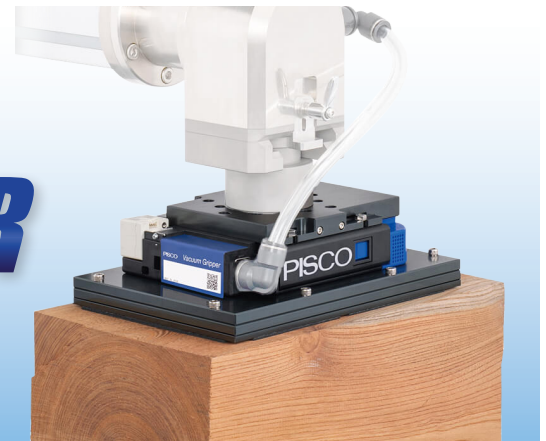
VPA Panel-mount type



Unit : mm

Model	Tubing O.D.	M	B	L1	L2	øP1	øP2	Tube end	Hex.	Hex.	K	Weight(g)	Connecting Code
	øD							C	H1	H2			
VPA-PB8-4J	4	M12x1	38.6	16.5	8	9	10.9	14.9	17	14	4	15	-PB8
VPA-PB8-6J	6	M14x1	42.6	20.5				17		17		20	
VPA-PB8-8J	8	M16x1	44.1	21				18.2		19		23	
VPA-PB15-6J	6	M14x1	43.6	20.5	9	16.5	18.4	17	24	17	4	25	-PB15
VPA-PB15-8J	8	M16x1	45.1	21				18.2		19		28	
VPA-PB15-10J	10	M20x1	48	22.5				20.7		24		40	
VPA-PB15-12J	12	M22x1	52.3	25.5				23.3		27		55	

VACUUM GRIPPER



- High-vacuum type. Vacuum gripper suitable for conveyance of large work-piece. Max.suction flow rate: 760 L / min(The value of the three vacuum generators included creates).
- Value of built-in vacuum generator and vacuum pump compatible type is available.
- Large-flow vacuum generator is built-in. Can be directly connected to EOAT of P.C.D. 31.5,40,56,80,100.
- Once the flange mounting plate is attached to the robot arm, slide it in for easy installation. Improve operability and safety.
- 3 types of gripper are available : sponge type (O - shaped and full sponge) and hexagonally - arranged vacuum pads type. Can be used for various types of work - piece.



VRG series [O-shaped sponge]

- Work with irregularities such as bags and PET boggles.
- Theoretical max. clamping force : 1512.7 N
- Medium : Air, Vacuum
- Operating pressure : 0.3 ~ 0.7 MPa
- Final vacuum : - 94 kPa



VMG series [Full sponge]

- Work with irregularities such as wood and exterior wall materials.
- Theoretical max. clamping force : 1546.4 N
- Medium : Air, Vacuum
- Operating pressure : 0.3 ~ 0.7 MPa
- Final vacuum : - 94 kPa



VMG series [Hexagonally - arranged]

- Cardboard and bags
- Theoretical max. clamping force : 2369.5 N
- Medium : Air, Vacuum
- Operating pressure : 0.3 ~ 0.7 MPa
- Final vacuum : - 94 kPa



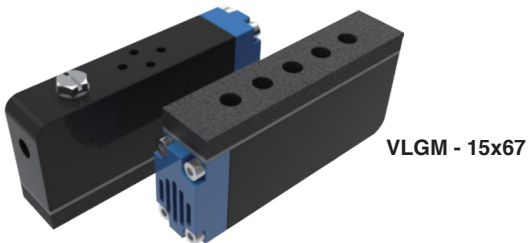
VLG series [Full sponge] [Hexagonally - arranged]

- Mounting plate is provided to attach to the P.C.D. 31.5 robot arm.
- Built-in large flow vacuum generator. Ensure maximum suction flow : 890 L /min.
- By installing a drop prevention valve or a check valve, workpieces can be sucked even if there are unsuctioned parts.
- Theoretical max. clamping force : 118.1 N
- Medium : Air
- Operating pressure : 0.3 ~ 0.7 MPa
- Final vacuum : - 94 kPa

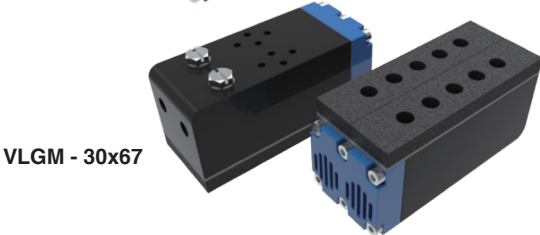


VLG series [Long - hole type]

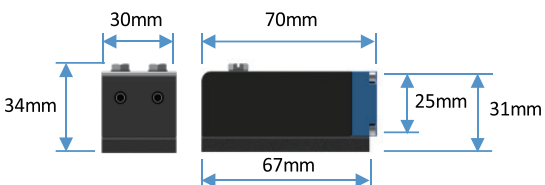
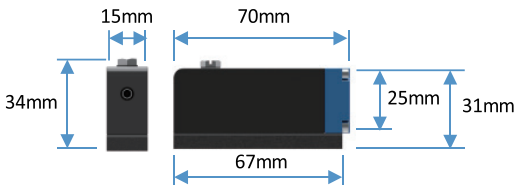
- 200% Theoretical suction force compared to standard type
- Increased high - weight lift stability



VLGM - 15x67



VLGM - 30x67



VLGM series [Mini vacuum gripper]

- Miniaturization and weight reduction.
- Easy maintenance as easy structure.
- Single nozzle (15size) × Stroke 67mm
Single nozzle (30size) × Stroke 67mm
(VK series nozzle is compatible with these models)
- It is possible to lift products in the form of irregularities such as PCB substrates, products with various forms, and porous products.

Nozzle size	H Type Vacuum level, Suction flow rate	L Type Vacuum level, Suction flow rate	E Type Vacuum level, Suction flow rate	Consumption flow
1.0mm	- 93kPa 27L /min [ANR]	- 67kPa 40L /min [ANR]	- 91kPa 21L /min [ANR]	46 L /min [ANR] (34L /min [ANR])

*VK series nozzle is compatible
*The value of 0 in consumption flow is for type E.

Pad O.D.(ømm)	5
Pad Area(cm)	0.196
The number of hole	5EA
The thickness of a pad	5T
Theoretical suction force - 90kPa	9N

*The value is for 15x67. In case of 30x67, nozzles are operated separately.

PISCO



บริษัท นานตีอินเตอร์เทรด จำกัด
NANDEE INTER-TRADE CO., LTD.

314, 316, 318, 320, 322 ซอยจันทน์ 32 ถนนจันทน์ แขวงทุ่งวัดดอน เขตสาทร กทม. 10120

-  : 0-2675-8239
-  : @nandeeintertrade
-  : nandeeintertrade
-  : www.nandee.co.th
-  : marketing@nandee.co.th
sales@nandee.co.th