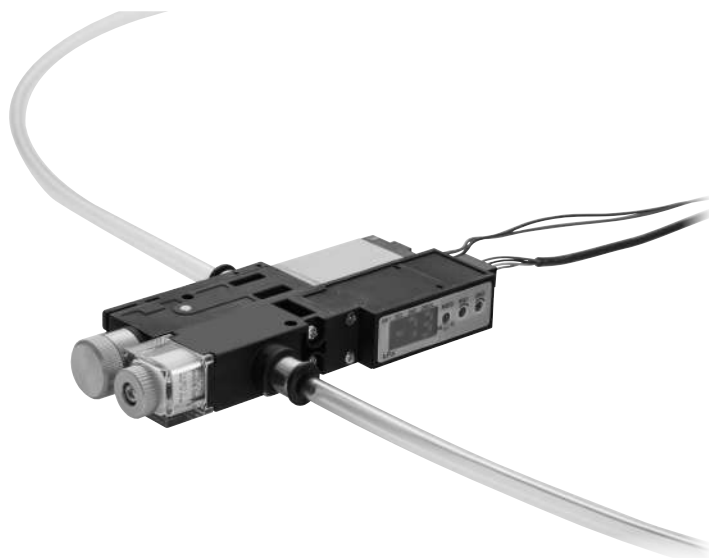
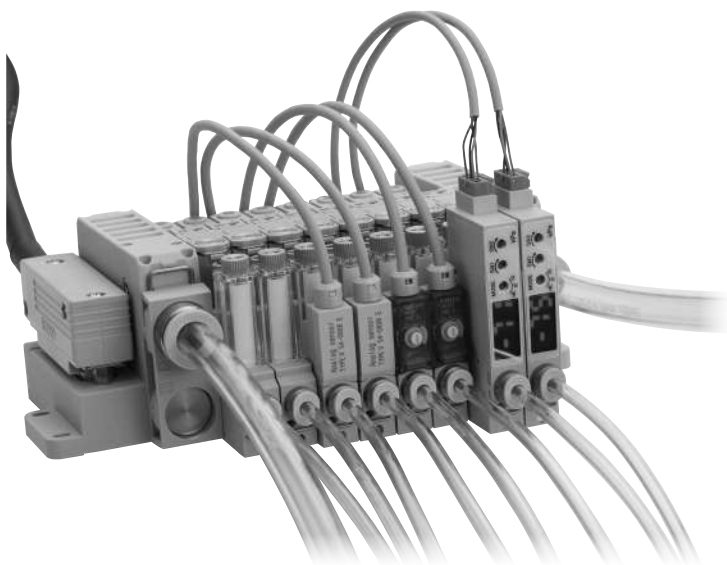




Vacuum

Vacuum equipment

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 Renewal product



● Vacuum Generator

Vacuum Generator

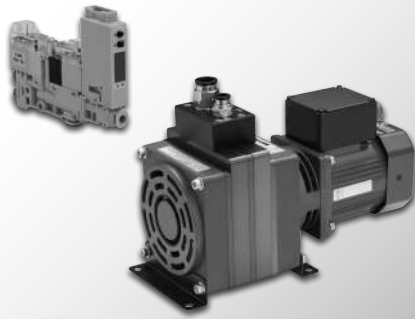
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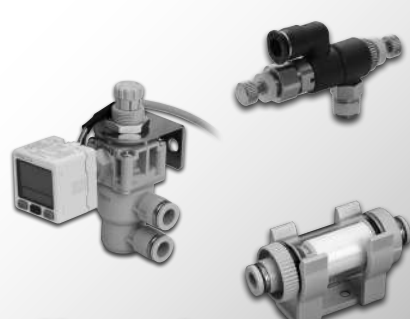
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Vacuum Pump

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● Vacuum Accessories

Controller for Blow-off Flow rate and Pressure

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Vacuum Generator Simple type

Simple type ejectors meet various piping conditions.

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

■ Model designation of VH & VS Type (Valve direct mounting Type) (Example)



(1) Vacuum Generator Simple type

(2) Type

Code	H	S
Type	Valve direct mounting type elbow	Valve direct mounting type straight

(3) Vacuum Characteristics

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

(4) Nozzle bore

Code	Bore (mm)	H type		L type		E type	
		Vacuum level	Suction flow	Vacuum level	Suction flow	Vacuum level	Suction flow
05	0.5	-90 kPa	7 ℓ/min (ANR)	-66 kPa	12 ℓ/min (ANR)	—	—
07	0.7	-93 kPa	13 ℓ/min (ANR)	-66 kPa	26 ℓ/min (ANR)	-92 kPa	10.5 ℓ/min (ANR)
10	1.0	-93 kPa	28 ℓ/min (ANR)	-66 kPa	42 ℓ/min (ANR)	-92 kPa	21 ℓ/min (ANR)
12	1.2	-93 kPa	38 ℓ/min (ANR)	—	—	-92 kPa	27 ℓ/min (ANR)
15	1.5	-93 kPa	63 ℓ/min (ANR)	-66 kPa	95 ℓ/min (ANR)	-92 kPa	42 ℓ/min (ANR)
20	2.0	-93 kPa	104 ℓ/min (ANR)	-66 kPa	174 ℓ/min (ANR)	-92 kPa	82 ℓ/min (ANR)

*1. Rated supply pressure (H & L type: 0.5 MPa, E type: 0.35 MPa) is applied.

*2. The suction flow in the table is representing value and varies by vacuum port size. For details, contact us.

(5) Vacuum port size (V)

Code	mm size (mm)					Inch size (inch)				
	4	6	8	10	12	5/32	1/4	5/16	3/8	1/2
Tube dia.	ø4	ø6	ø8	ø10	ø12	ø5/32	ø1/4	ø5/16	ø3/8	ø1/2

(6) Air supply port size (P)

Code	Metric thread	Taper pipe thread			UNF thread	National pipe thread tapered		
	M5	01	02	03	U10	N1	N2	N3
Thread size	M5×0.8	R1/8	R1/4	R3/8	10-32UNF	NPT1/8	NPT1/4	NPT3/8

(7) Exhaust spec.

Code	No code	J
Specification	Open to air (Silencer vent)	Tube exhaust spec.

(8) -S3 spec. (Metal option)

Code	No code	-S3 (*)
Metal material	Standard spec.	No copper-based metallic materials used in flow paths.
Seal rubber material	Standard spec.	HNBR or FKM
Release-ring color	Black	Dark blue

*S3 spec. only supports tube exhaust type.

(9) Wrench size spec.

Code	No code	U
Wrench size spec.	mm spec.	Inch spec.

Related Products



Solenoid Valve Series

► P.214 -

■ Features of VH & VS Type (Stand-alone Type)

■ Mountable directly to solenoid valve and manifold.

● -S3 spec. (Option)

■ No copper-based metallic materials used in flow paths.

■ HNBR or FKM with excellent ozone resistance is used for the seal rubber material.



VH

VS

Model designation of VU & VUM Type (In-Line/pipe Type) (Example)



(1) Vacuum Generator Simple type

(2) Type

Code	U	UM
Type	Pipe type	Small-sized pipe type

(3) Vacuum Characteristics

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

(4) Nozzle bore

Code	Bore (mm)	H type		L type		E type	
		Vacuum level	Suction flow	Vacuum level	Suction flow	Vacuum level	Suction flow
03 (*)	0.3	-90 kPa	2 ℓ/min (ANR)	-66 kPa	3 ℓ/min (ANR)	-88 kPa	1 ℓ/min (ANR)
04 (*)	0.4	-90 kPa	4 ℓ/min (ANR)	-66 kPa	7 ℓ/min (ANR)	-90 kPa	2 ℓ/min (ANR)
05	0.5	-90 kPa	7 ℓ/min (ANR)	-66 kPa	12 ℓ/min (ANR)	-90 kPa (*)	3 ℓ/min (ANR) (*)
07 (*)	0.7	-92 kPa	12.5 ℓ/min (ANR)	-66 kPa	22 ℓ/min (ANR)	-90 kPa	10 ℓ/min (ANR)

*1. Nozzle bore: 0.3 or 0.4 mm is available only for VUM.

*2. Nozzle bore: 0.7 mm is available only for VU Type.

*3. Nozzle bore: 0.5 mm of E type is available only for VUM.

*4. Rated supply pressure (H & L type: 0.5 MPa, E type: 0.35 MPa) is applied.

*5. The suction flow in the table is representing value and varies by vacuum port size. For details, contact us.

(5) Vacuum port size (V) (No code entry for adapter type)

■ Tube dia.

Code	mm size (mm)				Inch size (inch)	
	180 (*)	3 (*)	4	6 (*)	5/32	1/4 (*)
Tube dia.	ø1.8	ø3	ø4	ø6	ø5/32	ø1/4

*1. Tube dia. ø1.8 & ø3 mm are available only in VUM type.

*2. Tube dia. 6 mm and 1/4 inch are available only for VU Type.

■ Thread size

Code	Metric thread			Taper pipe thread	UNF thread	NPT thread
	M3 (*)	M5	M6 (*)	O1 (*)	U10 (*)	N1 (*)
Thread size	M3×0.5	M5×0.8	M6×1	R1/8	10-32UNF	NPT1/8

*1. Thread size: M3 and U10 are available only for VUM type.

*2. Thread size: M6, O1 and N1 are available only for VU type.

(6) Air supply port size (P)

■ Tube dia.

Code	mm size (mm)			Inch size (inch)	
	3 (*)	4	6 (*)	5/32	1/4 (*)
Tube dia.	ø3	ø4	ø6	ø5/32	ø1/4

*1. Applicable tube size: Tube dia. 3 mm is available only for VUM Type.

*2. Applicable tube size: Tube dia. 6 mm and 1/4 inch are available only for VU Type.

(7) Exhaust spec. (No code entry for VUM)

Code	A	J
Specification	Open to air (Silencer vent)	Tube exhaust spec.

*VUM is only for open to air (Silencer vent).

(8) -S3 spec. (Metal option)

Code	No code	-S3 (*)
Metal material	Standard spec.	No copper-based metallic materials used in flow paths.
Seal rubber material	Standard spec.	HNBR or FKM
Release-ring color	Black	Dark blue

*S3 spec. only supports tube exhaust type.

(9) Wrench size spec.

Code	No code	U
Wrench size spec.	mm spec.	Inch spec.

Features of VU & VUM Type (In-Line Type)

Conversion from compressed air to vacuum is possible in one line.

Easy installation and removal by use with the optional fixing holder (VUK).



● -S3 spec. (Option)

No copper-based metallic materials used in flow paths.

HNBR or FKM with excellent ozone resistance is used for the seal rubber material.

● VUM type

Super small-sized and light-weighted vacuum generator.

Outer diameter: ø8.5 mm. Weight: Min. 6.4 g.

It fits to request for less air consumption.

This type can be directly mounted on the small pad holder (VPMB).

Vacuum Generator Simple type

Model designation for VB Type (In-Line/boxed Type) (Example)

V (1) **B** (2) **H** (3) **07** (4) - **6** (5) **6** (6) (7)

(1) Vacuum Generator Simple type

(2) Type

Code	B
Type	Boxed Type

(3) Vacuum Characteristics

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

(4) Nozzle bore

Code	Bore (mm)	H type		L type		E type	
		Vacuum level	Suction flow	Vacuum level	Suction flow	Vacuum level	Suction flow
05	0.5	-90 kPa	7 ℓ/min (ANR)	-66 kPa	12 ℓ/min (ANR)	—	—
07	0.7	-93 kPa	13 ℓ/min (ANR)	-66 kPa	26 ℓ/min (ANR)	-92 kPa	10.5 ℓ/min (ANR)
10	1.0	-93 kPa	28 ℓ/min (ANR)	-66 kPa	42 ℓ/min (ANR)	-92 kPa	21 ℓ/min (ANR)
12	1.2	-93 kPa	38 ℓ/min (ANR)	—	—	-92 kPa	27 ℓ/min (ANR)

*1. Rated supply pressure (H & L type: 0.5 MPa, E type: 0.35 MPa) is applied.

*2. The suction flow in the table is representing value and varies by vacuum port size. For details, contact us.

(5) Vacuum port size (V)

Code	mm size (mm)		Inch size (inch)	
	4	6	5/32	1/4
Tube dia.	ø4	ø6	ø5/32	ø1/4

(6) Air supply port size (P)

Code	mm size (mm)		Inch size (inch)	
	4	6	5/32	1/4
Tube dia.	ø4	ø6	ø5/32	ø1/4

(7) Mechanical pressure sensor

Code	P	S
Pressure Sensor	Not Equipped	Equipped

Model designation for Mechanical Pressure Sensor for VB Type (Example)

VUSM10 (1) - **6** (2)

(1) Mechanical Pressure Sensor for vacuum generator VB

(2) Air supply port size (øD)

Code	mm size (mm)		Inch size (inch)	
	4	6	5/32	1/4
Tube dia.	ø4	ø6	ø5/32	ø1/4

Features of VB Type (Boxed type)

- Can be mounted in the middle of piping between the solenoid valve and the vacuum pad.
- A type integrated with a Mechanical Vacuum Sensor is also available.



Model designation for VC & VM Type (Direct Mounting Vacuum pad holder) (Example)



(1) Vacuum Generator Simple type

(2) Type

Code	C	M
Type	Vacuum pad Direct Mounting Type Straight	Vacuum pad Direct Mounting Type Elbow

(3) Vacuum Characteristics

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

(4) Nozzle bore

Code	Bore (mm)	H type		L type		E type	
		Vacuum level	Suction flow	Vacuum level	Suction flow	Vacuum level	Suction flow
03	0.3	-90 kPa	2 l/min (ANR)	-66 kPa	4 l/min (ANR)	—	—
04	0.4	-90 kPa	4 l/min (ANR)	-66 kPa	7.5 l/min (ANR)	—	—
05	0.5	-90 kPa	7 l/min (ANR)	-66 kPa	11 l/min (ANR)	—	—
07	0.7	-93 kPa	13 l/min (ANR)	-66 kPa	26 l/min (ANR)	-92 kPa	10.5 l/min (ANR)
10	1.0	-93 kPa	28 l/min (ANR)	-66 kPa	42 l/min (ANR)	-92 kPa	21 l/min (ANR)
12	1.2	-93 kPa	38 l/min (ANR)	—	—	-92 kPa	27 l/min (ANR)
15	1.5	-93 kPa	63 l/min (ANR)	-66 kPa	95 l/min (ANR)	-92 kPa	42 l/min (ANR)
20	2.0	-93 kPa	110 l/min (ANR)	-66 kPa	180 l/min (ANR)	-92 kPa	84 l/min (ANR)

*1. VM only has nozzle bore: 03, 04 and 05.

*2. Rated supply pressure (H & L type: 0.5 MPa, E type: 0.35 MPa) is applied.

*3. The suction flow in the table is representing value and varies by vacuum port size. For details, contact us.

(5) Vacuum port size (V)

Code	Metric thread		Taper pipe thread			UNF thread	National pipe thread tapered		
	M5 (*)	M6 (*)	01	02	03	U10 (*)	N1	N2	N3
Thread size	M5×0.8	M6×1	R1/8	R1/4	R3/8	10-32UNF	NPT1/8	NPT1/4	NPT3/8

*Applicable thread sizes: M5, M6 are only VC nozzle bore 0.3 mm, 0.4 mm and 0.5 mm Type and VM. Thread size: U10 is available only for VC and VM type with nozzle bore 0.5 mm.

(6) Air supply port size (P)

Code	Straight	mm size (mm)		Inch size (inch)	mm size (mm)			Inch size (inch)		
		3 (*)	4 (*)	5/32 (*)	6C	8C	10C	1/4C	5/16C	3/8C
	Elbow	—	—	—	6L	8L	10L	1/4L	5/16L	3/8L
Tube dia.		ø3	ø4	ø5/32	ø6	ø8	ø10	ø1/4	ø5/16	ø3/8

*Tube O.D. 3 and 4 mm are only VC nozzle bore 0.3 mm, 0.4 mm and 0.5 mm Type and VM. Tube O.D. 5/32 inch is available only for VC and VM type with nozzle bore 0.5 mm.

(7) Exhaust spec. (No code entry for VM)

Code	No code	J
Specification	Open to air (Silencer vent)	Tube exhaust spec.

*VM is only for open to air (Silencer vent).

(8) -S3 spec. (Metal option)

Code	No code	-S3 (*)
Metal material	Standard spec.	No copper-based metallic materials used in flow paths.
Seal rubber material	Standard spec.	HNBR or FKM
Release-ring color	Black	Dark blue

*S3 spec. only supports tube exhaust type.

(9) Wrench size spec.

Code	No code	U
Wrench size spec.	mm spec.	Inch spec.

Related Products



Vacuum Pad Series

► P.369 -

Features of VC & VM Type (for Direct Mounting Vacuum pad holder)

Mountable directly on the pad holder of the vacuum pad.

Small metering nozzle to meet the need for low flow consumption: nozzle bore 0.3 and 0.4 mm also available.

● -S3 spec. (Option)

No copper-based metallic materials used in flow paths.

HNBR or FKM with excellent ozone resistance is used for the seal rubber material.



VC



VM

Vacuum Generator Simple type



Model designation for VY Type (with Blow-Off Mechanism (Vacuum break function)) (Example)



(1) Vacuum Generator Simple type

(2) Type

Y: Blow-off mechanism equipped type

(3) Vacuum Characteristics

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

(4) Nozzle bore

Code	Bore (mm)	H type		L type		E type	
		Vacuum level	Suction flow	Vacuum level	Suction flow	Vacuum level	Suction flow
05	0.5	-90 kPa	7 l/min (ANR)	-66 kPa	12 l/min (ANR)	-90 kPa	3 l/min (ANR)
07	0.7	-92 kPa	12.5 l/min (ANR)	-66 kPa	18 l/min (ANR) (*1) 21 l/min (ANR) (*2)	-90 kPa	9 l/min (ANR)

*1. When the Tube dia. is 4 mm

*2. When the Tube dia. is 6 mm

*3. Rated supply pressure (H & L type: 0.5 MPa, E type: 0.35 MPa) is applied.

*4. The suction flow in the table is representing value and varies by vacuum port size. For details, contact us.

(5) Vacuum port size (V)

Code	mm size (mm)		Inch size (inch)
	4	6	1/4
Tube dia.	ø4	ø6	ø1/4

*VY Type tube size can only be combined with all ports of the same dia.

(6) Air supply port size (P)

Code	mm size (mm)		Inch size (inch)
	4	6	1/4
Tube dia.	ø4	ø6	ø1/4

(7) Blow-off air supply port (PD)

Code	mm size (mm)		Inch size (inch)
	4	6	1/4
Tube dia.	ø4	ø6	ø1/4

(8) Exhaust spec.

Code	No code	J
Specification	Silencer vent	Tube exhaust (ø6 mm or ø1/4" Push-in fitting)

(9) Filter

Code	No code	F
Vacuum filter	Not equipped	Equipped

Model designation of Vacuum Filter for VY (Example)



(1) Vacuum filter for VY Type

(2) (3) Vacuum port size (øD1, øD2)

Code	mm size (mm)		Inch size (inch)
	4	6	1/4
Tube dia.	ø4	ø6	ø1/4

Model designation of Bracket for VY Type



(1) Bracket for VY Type

Features of VY Type (with Blow-Off Mechanism (Vacuum break function))

Blow-off mechanism is incorporated to ejector.

Switchover from vacuum generation to blow-off air is possible by applying or stopping supply air to ejector. This function ensures more reliable vacuum breaking compared to conventional vacuum generator unitasking types. (See next page for piping example.)

Greatly improved price compared to conventional vacuum generators with solenoid valve.

Small size and lightweight. Installation at the end of vacuum circuit is possible.

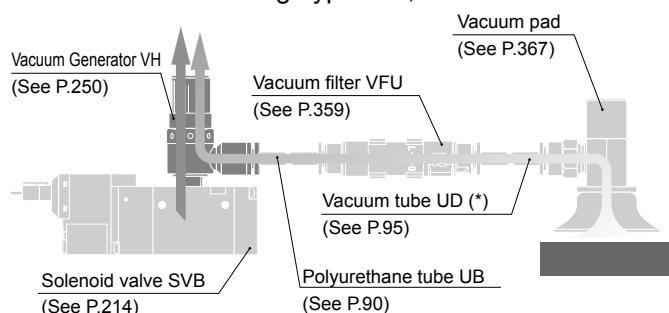
High cycle of suction and blow-off is realized by the equipped shut-off valve.



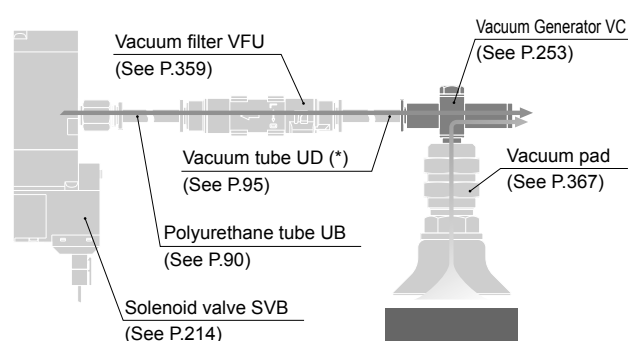
VY

Piping example

■ Valve Direct Mounting Type: VH, VS

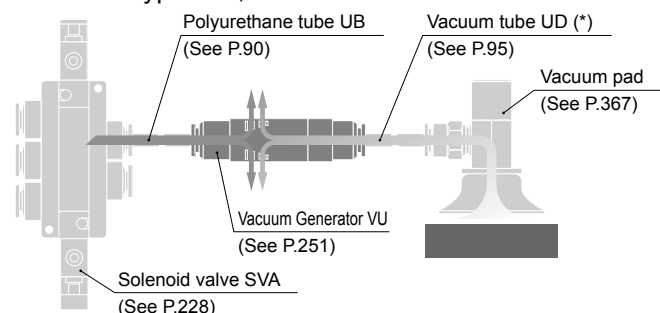


■ Vacuum pad Direct Mounting Type: VC, VM



*Be sure to place Insert Ring (WR) into the tube edge when using Vacuum tube UD.

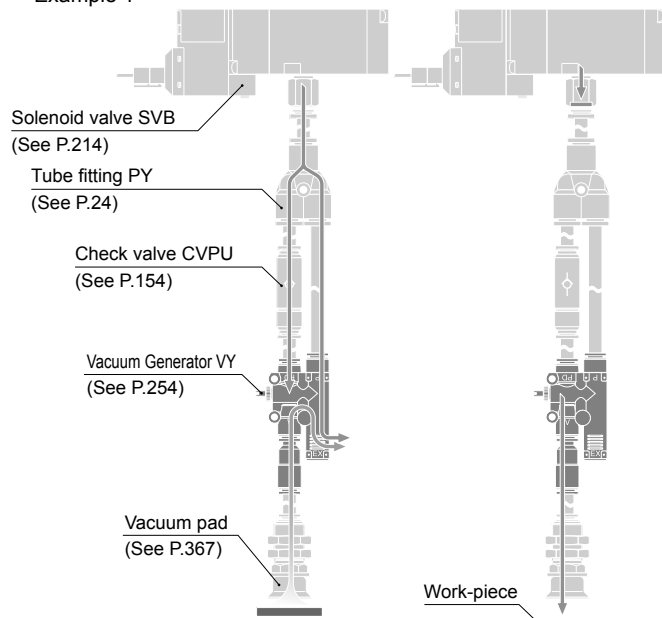
■ In-Line Type: VU, VUM



The Vacuum Generator, creating vacuum by use of compressed air, can be used to convey work-pieces in combination with a Vacuum Pad.

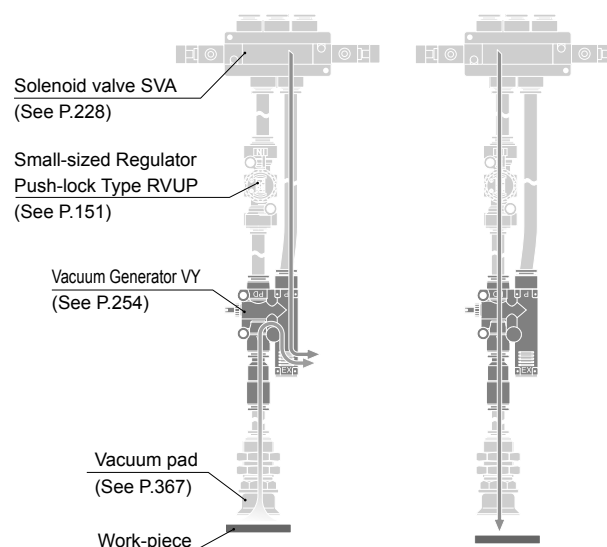
■ Blow-off mechanism equipped type: VY

Example 1



Connect P Port and PD Port with Check Valve (Purchase separately). The residual pressure between Check Valve and PD Port turns into a blow-off air. The flow rate of the blow-off air is adjusted by a release needle. Blow-off time can be controlled by the tube length between Check Valve and PD Port.

Example 2. Use with Twin 3-way solenoid valve (SVA21E)



Work-piece can be released instantly by adjusting a blow-off pressure and a flow rate. But it is necessary to pay attention not to blow away the work-piece. The above figure shows an example to arrange the different pressure supplies to vacuum generation side and Blow-Off Mechanism side when a blow-off pressure needs to be controlled low (Pressure to vacuum generation side $\geq$ Pressure to Blow-Off Mechanism side). A Blow-off air flow rate is adjusted by the release needle. Blow-off time is controlled by the solenoid valve.

Vacuum Generator Simple type

Specifications

■ VH, VS, VU, VUM, VB, VC, VM Type

Fluid medium	Air	
Operating pressure range	0.15 to 0.7 MPa	
Rated supply pressure	0.5 MPa: H, L Type	0.35 MPa: E Type
Operating temp. range	0 to 60°C (No freezing)	

■ Mechanical Pressure Sensor for VB

Pressure detection	Diaphragm to microswitch	
Fluid medium	Air	
Operating temp. range	0 to 60°C (No freezing)	
Microswitch rating	3 A 250 V	
Pressure setting range	-20 to -66 kPa	
Accuracy	±5 kPa	
Differential response	Max. 22 kPa	
Factory default pressure	Approx. -50 kPa	
Lead wire	Length: Approx. 300mm White: COMMON, Red: N.C., Black: N.O.	

■ VY Type

Fluid medium	Air	
Operating pressure range	0.3 to 0.7 MPa	
Rated supply pressure	0.5 MPa: H, L Type	0.35 MPa: E Type
Operating temp. range	5 to 50°C	
Lubrication	Not required	

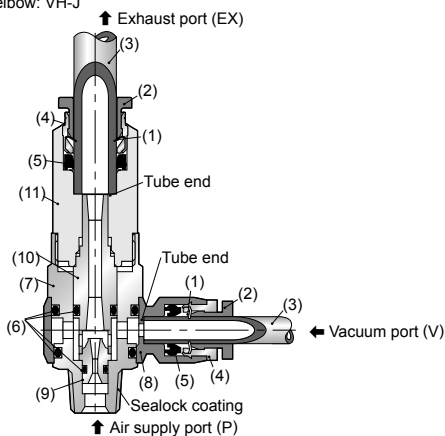
■ Vacuum filter for VY

Fluid medium	Air	
Operating pressure range	-100 to 0 kPa	
Filtering accuracy(*)	5 μm (Trapping efficiency: 95%)	
Operating temp. range	0 to 60°C (No freezing)	
Filter area	Joint size 44: 0.8 cm ² Joint size 66: 1.1 cm ²	

*Based on PISCO measuring condition.

Sectional drawing

Valve direct mounting type elbow: VH-J

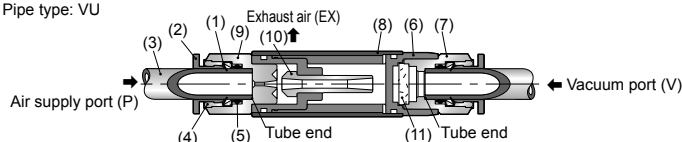


No.	Parts	Material	
		Standard spec.	-S3 spec. (Tube exhaust only)
(1)	Lock claws	Stainless steel	
(2)	Release-ring	POM	
(3)	Tube	Polyurethane, Nylon, etc	Fluororesin (PFA or FEP)
(4)	Guide ring	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(5)	Elastic sleeve	NBR	HNBR or FKM
(6)	O-ring	NBR	HNBR or FKM
(7)	Metallic body	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(8)	Resin body	PBT	
(9)	Nozzle	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(10)	Diffuser	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(11)	Exhaust body	Aluminum	

*1. For M5 and U10 thread, materials for Gasket are SUS304 + NBR or SPCC + NBR (POM is for only -S3 Spec.).

*2. The corrosive resistance is equivalent to SUS303.

Pipe type: VU

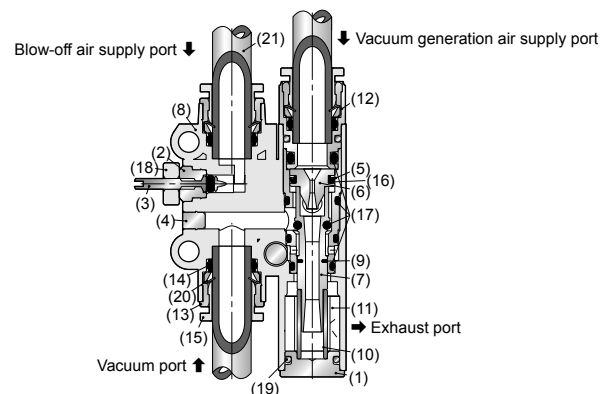


No.	Parts	Material	
		Standard spec.	-S3 spec. (Tube exhaust only)
(1)	Lock claws	Stainless steel	Stainless steel
(2)	Release-ring	POM	POM
(3)	Tube	Polyurethane, Nylon, etc	Polyurethane, Nylon, etc
(4)	Guide ring	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(5)	Elastic sleeve	NBR	HNBR
(6)	Resin body	POM	POM
(7)	Joint metal	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(8)	Cover	PBT	PBT
(9)	Nozzle	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(10)	Diffuser	Nickel-plated brass	Special stainless steel (Austenite or ferritic)* ²
(11)	Filter	PVF	PVF

*1. For metric and U10 thread, materials for Gasket are SUS304 + NBR or SPCC + NBR (POM is for only -S3 Spec.).

*2. The corrosive resistance is equivalent to SUS303.

Blow-Off Mechanism Equipped Type: VY



No.	Parts	Material	
		Standard spec.	-S3 spec. (Tube exhaust only)
(1)	End plug	Nickel-plated brass	
(2)	Upper stopper	Nickel-plated brass	
(3)	Release needle	Special stainless steel (Austenite or ferritic)*	
(4)	Plug	Nickel-plated brass	
(5)	Sleeve	Nickel-plated brass	
(6)	Nozzle piston	Nickel-plated brass	
(7)	Diffuser spool	Nickel-plated brass	
(8)	Resin body	15% glass contained PBT	
(9)	Spool packing	HNBR	
(10)	Diffuser spring	Stainless steel	
(11)	Silencer element	PVFM	
(12)	Cartridge	-	
(13)	Guide ring	Nickel-plated brass	
(14)	Elastic sleeve	NBR	
(15)	Release-ring	POM	
(16)	Y-packing	NBR	
(17)	O-ring	NBR	
(18)	Lock nut	Aluminum	
(19)	Spring pin	Stainless steel	
(20)	Lock claws	Stainless steel	
(21)	Tube	Polyurethane, Nylon, etc	

*The corrosive resistance is equivalent to SUS303.

RoHS2 (2011/65/EU+EU2015/863) compliant

Valve Direct Mounting Type

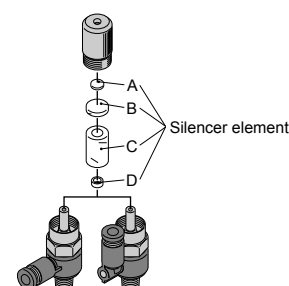
Type	Model code VH[3][4]-VPJ (8) (U)		Model code VH[3][4]-VPJ (8) (U)		Model code VH[3][4]-VPJ (8) (U)	
Elbow, Tube exhaust VH	High-vacuum type		Large-flow type		High-vacuum at Low air press. supply type	
	VHH05-4M5J[8]	VHH05-5/32U10JU	VHL05-4M5J[8]	VHL05-5/32U10JU	VHE07-601J[8]	VHE07-1/4N1JU
	VHH05-601J[8]	VHH05-1/4N1JU	VHL05-601J[8]	VHL05-1/4N1JU	VHE10-601J[8]	VHE10-1/4N1JU
	VHH07-601J[8]	VHH07-1/4N1JU	VHL07-601J[8]	VHL07-1/4N1JU	VHE10-801J[8]	VHE10-5/16N1JU
	VHH10-601J[8]	VHH10-1/4N1JU	VHL07-801J[8]	VHL07-5/16N1JU	VHE12-601J[8]	VHE12-1/4N1JU
	VHH10-801J[8]	VHH10-5/16N1JU	VHL10-601J[8]	VHL10-1/4N1JU	VHE12-801J[8]	VHE12-5/16N1JU
	VHH12-601J[8]	VHH12-1/4N1JU	VHL10-801J[8]	VHL10-5/16N1JU	VHE15-802J[8]	VHE15-5/16N2JU
	VHH12-801J[8]	VHH12-5/16N1JU	VHL15-802J[8]	VHL15-5/16N2JU	VHE15-1002J[8]	VHE15-3/8N2JU
	VHH15-802J[8]	VHH15-5/16N2JU	VHL15-1002J[8]	VHL15-3/8N2JU	VHE20-1002J[8]	
	VHH15-1002J[8]	VHH15-3/8N2JU	VHL15-1202J[8]	VHL15-1/2N2JU	VHE20-1003J[8]	
	VHH20-1002J[8]		VHL20-1002J[8]		VHE20-1202J[8]	
	VHH20-1003J[8]		VHL20-1003J[8]		VHE20-1203J[8]	
	VHH20-1202J[8]		VHL20-1202J[8]			
	VHH20-1203J[8]		VHL20-1203J[8]			
Type	Model code VS[3][4]-VPJ (8) (U)		Model code VS[3][4]-VPJ (8) (U)		Model code VS[3][4]-VPJ (8) (U)	
Straight, Tube exhaust VS	High-vacuum type		Large-flow type		High-vacuum at Low air press. supply type	
	VSH05-601J[8]	VSH05-1/4N1JU	VSL05-601J[8]	VSL05-1/4N1JU	VSE07-601J[8]	VSE07-1/4N1JU
	VSH07-601J[8]	VSH07-1/4N1JU	VSL07-601J[8]	VSL07-1/4N1JU	VSE10-601J[8]	VSE10-1/4N1JU
	VSH10-601J[8]	VSH10-1/4N1JU	VSL07-801J[8]	VSL07-5/16N1JU	VSE10-801J[8]	VSE10-5/16N1JU
	VSH10-801J[8]	VSH10-5/16N1JU	VSL10-601J[8]	VSL10-1/4N1JU	VSE12-601J[8]	VSE12-1/4N1JU
	VSH12-601J[8]	VSH12-1/4N1JU	VSL10-801J[8]	VSL10-5/16N1JU	VSE12-801J[8]	VSE12-5/16N1JU
	VSH12-801J[8]	VSH12-5/16N1JU	VSL15-802J[8]	VSL15-5/16N2JU	VSE15-802J[8]	VSE15-5/16N2JU
	VSH15-802J[8]	VSH15-5/16N2JU	VSL15-1002J[8]	VSL15-3/8N2JU	VSE15-1002J[8]	VSE15-3/8N2JU
	VSH15-1002J[8]	VSH15-3/8N2JU	VSL15-1202J[8]	VSL15-1/2N2JU	VSE20-1202J[8]	
	VSH20-1202J[8]		VSL20-1202J[8]		VSE20-1203J[8]	
	VSH20-1203J[8]		VSL20-1203J[8]			
Type	Model code VH[3][4]-VP (U)		Model code VH[3][4]-VP (U)		Model code VH[3][4]-VP (U)	
Elbow, Silencer vent VH	High-vacuum type		Large-flow type		High-vacuum at Low air press. supply type	
	VHH05-4M5	VHH05-5/32U10U	VHL05-4M5	VHL05-5/32U10U	VHE07-601	VHE07-1/4N1U
	VHH05-601	VHH05-1/4N1U	VHL05-601	VHL05-1/4N1U	VHE10-601	VHE10-1/4N1U
	VHH07-601	VHH07-1/4N1U	VHL07-601	VHL07-1/4N1U	VHE10-801	VHE10-5/16N1U
	VHH10-601	VHH10-1/4N1U	VHL07-801	VHL07-5/16N1U	VHE12-601	VHE12-1/4N1U
	VHH10-801	VHH10-5/16N1U	VHL10-601	VHL10-1/4N1U	VHE12-801	VHE12-5/16N1U
	VHH12-601	VHH12-1/4N1U	VHL10-801	VHL10-5/16N1U	VHE15-802	VHE15-5/16N2U
	VHH12-801	VHH12-5/16N1U	VHL15-802	VHL15-5/16N2U	VHE15-1002	VHE15-3/8N2U
	VHH15-802	VHH15-5/16N2U	VHL15-1002	VHL15-3/8N2U	VHE20-1002	
	VHH15-1002	VHH15-3/8N2U	VHL15-1202	VHL15-1/2N2U	VHE20-1003	
	VHH20-1002		VHL20-1002		VHE20-1202	
	VHH20-1003		VHL20-1003		VHE20-1203	
	VHH20-1202		VHL20-1202			
	VHH20-1203		VHL20-1203			
Type	Model code VS[3][4]-VP (U)		Model code VS[3][4]-VP (U)		Model code VS[3][4]-VP (U)	
Straight, Silencer vent VS	High-vacuum type		Large-flow type		High-vacuum at Low air press. supply type	
	VSH05-601	VSH05-1/4N1U	VSL05-601	VSL05-1/4N1U	VSE07-601	VSE07-1/4N1U
	VSH07-601	VSH07-1/4N1U	VSL07-601	VSL07-1/4N1U	VSE10-601	VSE10-1/4N1U
	VSH10-601	VSH10-1/4N1U	VSL07-801	VSL07-5/16N1U	VSE10-801	VSE10-5/16N1U
	VSH10-801	VSH10-5/16N1U	VSL10-601	VSL10-1/4N1U	VSE12-601	VSE12-1/4N1U
	VSH12-601	VSH12-1/4N1U	VSL10-801	VSL10-5/16N1U	VSE12-801	VSE12-5/16N1U
	VSH12-801	VSH12-5/16N1U	VSL15-802	VSL15-5/16N2U	VSE15-802	VSE15-5/16N2U
	VSH15-802	VSH15-5/16N2U	VSL15-1002	VSL15-3/8N2U	VSE15-1002	VSE15-3/8N2U
	VSH15-1002	VSH15-3/8N2U	VSL15-1202	VSL15-1/2N2U	VSE20-1202	
	VSH20-1202		VSL20-1202		VSE20-1203	
	VSH20-1203		VSL20-1203			

Notes

Exhaust port size (EX) Size List

Air supply port (P)	Exhaust port (EX)
M5 (U10)	ø6 mm (ø1/4")
01 (N1)	ø8 mm (ø5/16")
02, 03 (N2, N3)	ø12 mm (ø1/2")

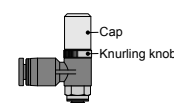
Replacement element

VH
VS

Vacuum generator model code	Silencer element Model code
VH ... M5 (U10U)	SEE0802 (Only B)
VH · VS ...01 (N1U)	SE01 (A, B & C set)
VH · VS ...02 (N2U)	SE02 (B, C & D set)

*1. Filter element of nozzle bore ø2.0 mm is the same as that of VC type (Element model code: VCSE20). (See page 261.)

*2. Hold the knurling knob (see below) to remove the cap, when replacing the element of M5 thread type.



CAD data is available
at PISCO website.

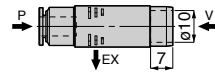
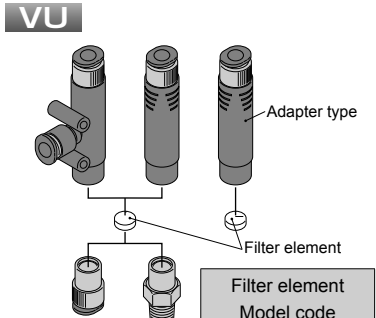
Packaging specifications
1 pc. /bag: Vacuum generator
10 pcs. /bag: Replacement element

Standard options
[8] : ~S3 ⇒ ~S3 spec.

Vacuum

Vacuum Generator Simple type

RoHS2 (2011/65/EU+EU2015/863) compliant

In-Line Type													
Type		Model code VU3[4]-VPJ (8) (U)		Type		Model code VU3[4]-VPA (U)		Type		Model code VU3[4]-PJ (8)			
Straight, Tube exhaust VU 		High-vacuum type		Straight, Silencer vent VU 		High-vacuum type		Adapter, Tube exhaust VU 		High-vacuum type			
		VUH05-M54J[8]	VUH05-U10- ⁵ / ₃₂ JU			VUH05-M54A	VUH05-U10- ⁵ / ₃₂ AU			VUH05-4J[8]	VUH05- ⁵ / ₃₂ J		
		VUH05-M56J[8]	VUH05-U10- ¹ / ₄ JU			VUH05-M56A	VUH05-U10- ¹ / ₄ AU			VUH05-6J[8]	VUH05- ¹ / ₄ J		
		VUH05-M64J[8]	VUH05-N1- ⁵ / ₃₂ JU			VUH05-M64A	VUH05-N1- ⁵ / ₃₂ AU			VUH07-4J[8]	VUH07- ⁵ / ₃₂ J		
		VUH05-M66J[8]	VUH05-N1- ¹ / ₄ JU			VUH05-M66A	VUH05-N1- ¹ / ₄ AU			VUH07-6J[8]	VUH07- ¹ / ₄ J		
		VUH05-014J[8]	VUH07-U10- ⁵ / ₃₂ JU			VUH05-014A	VUH07-U10- ⁵ / ₃₂ AU			Large-flow type			
		VUH05-016J[8]	VUH07-U10- ¹ / ₄ JU			VUH05-016A	VUH07-U10- ¹ / ₄ AU			VUL05-4J[8]	VUL05- ⁵ / ₃₂ J		
		VUH07-M54J[8]	VUH07-N1- ⁵ / ₃₂ JU			VUH07-M54A	VUH07-N1- ⁵ / ₃₂ AU			VUL05-6J[8]	VUL05- ¹ / ₄ J		
		VUH07-M56J[8]	VUH07-N1- ¹ / ₄ JU			VUH07-M56A	VUH07-N1- ¹ / ₄ AU			VUL07-4J[8]	VUL07- ⁵ / ₃₂ J		
		VUH07-M64J[8]				VUH07-M64A				VUL07-6J[8]	VUL07- ¹ / ₄ J		
		VUH07-M66J[8]				VUH07-M66A				High-vacuum at Low air press. supply type			
		VUH07-014J[8]				VUH07-014A				VUE07-4J[8]	VUE07- ⁵ / ₃₂ J		
		VUH07-016J[8]				VUH07-016A				VUE07-6J[8]	VUE07- ¹ / ₄ J		
		Large-flow type				Large-flow type				Adapter, Silencer vent VU 		Model code VU3[4]-PA	
		VUL05-M54J[8]	VUL05-U10- ⁵ / ₃₂ JU			VUL05-M54A	VUL05-U10- ⁵ / ₃₂ AU					High-vacuum type	
		VUL05-M56J[8]	VUL05-U10- ¹ / ₄ JU			VUL05-M56A	VUL05-U10- ¹ / ₄ AU					VUH05-4A	VUH05- ⁵ / ₃₂ A
		VUL05-M64J[8]	VUL05-N1- ⁵ / ₃₂ JU			VUL05-M64A	VUL05-N1- ⁵ / ₃₂ AU					VUH05-6A	VUH05- ¹ / ₄ A
		VUL05-M66J[8]	VUL05-N1- ¹ / ₄ JU			VUL05-M66A	VUL05-N1- ¹ / ₄ AU					VUH07-4A	VUH07- ⁵ / ₃₂ A
		VUL05-014J[8]	VUL07-U10- ⁵ / ₃₂ JU			VUL05-014A	VUL07-U10- ⁵ / ₃₂ AU					VUH07-6A	VUH07- ¹ / ₄ A
		VUL05-016J[8]	VUL07-U10- ¹ / ₄ JU			VUL05-016A	VUL07-U10- ¹ / ₄ AU					Large-flow type	
		VUL07-M54J[8]	VUL07-N1- ⁵ / ₃₂ JU			VUL07-M54A	VUL07-N1- ⁵ / ₃₂ AU					VUL05-4A	VUL05- ⁵ / ₃₂ A
		VUL07-M56J[8]	VUL07-N1- ¹ / ₄ JU			VUL07-M56A	VUL07-N1- ¹ / ₄ AU					VUL05-6A	VUL05- ¹ / ₄ A
		VUL07-M64J[8]				VUL07-M64A						VUL07-4A	VUL07- ⁵ / ₃₂ A
		VUL07-M66J[8]				VUL07-M66A						VUL07-6A	VUL07- ¹ / ₄ A
		VUL07-014J[8]				VUL07-014A						High-vacuum at Low air press. supply type	
		VUL07-016J[8]				VUL07-016A						VUE07-4A	VUE07- ⁵ / ₃₂ A
		High-vacuum at Low air press. supply type				High-vacuum at Low air press. supply type				VUE07-6A	VUE07- ¹ / ₄ A		
		VUE07-M54J[8]	VUE07-U10- ⁵ / ₃₂ JU			VUE07-M54A	VUE07-U10- ⁵ / ₃₂ AU			Type Model code VUK[4]			
		VUE07-M56J[8]	VUE07-U10- ¹ / ₄ JU			VUE07-M56A	VUE07-U10- ¹ / ₄ AU						
		VUE07-M64J[8]	VUE07-N1- ⁵ / ₃₂ JU			VUE07-M64A	VUE07-N1- ⁵ / ₃₂ AU						
		VUE07-M66J[8]	VUE07-N1- ¹ / ₄ JU			VUE07-M66A	VUE07-N1- ¹ / ₄ AU						
		VUE07-014J[8]				VUE07-014A							
		VUE07-016J[8]				VUE07-016A				Fixing holder for VU VUK 			
				*See below for the VUK model code selection. VUK05 for Nozzle dia. : ø0.5 mm VUK07 for Nozzle dia. : ø0.7 mm									
				Type Model code VUK[4]									
				*The adapter type does not have a Push-in fitting on the vacuum port (V). The tip parts are designed exclusively by the customer. Refer to the figure below for mounting dimensions. 									
				Replacement element VU 									

CAD data is available at PISCO website.

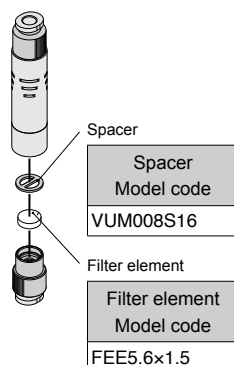
Packaging specifications
1 pc. /bag: Vacuum generator
10 pcs. /bag: Replacement element

Standard options
Option 8 : -S3 ⇒ -S3 spec.

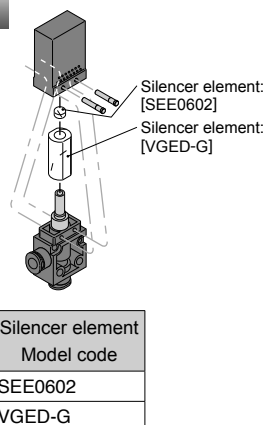
Small-sized In-Line Type						In-Line Type for Boxed Type				
Type	Model code VUM ³ ₄ -VP		Model code VUM ³ ₄ -VP		Model code VUM ³ ₄ -VP		Type	Model code VB ³ ₄ -VPP		
Union Straight, Silencer vent VUM 	High-vacuum type		Large-flow type		High-vacuum at Low air press. supply type		Union, Silencer vent VB 	High-vacuum type		
	VUMH03-1803	VUMH03- ⁵ / ₃₂ - ⁵ / ₃₂	VUML03-1803	VUML03- ⁵ / ₃₂ - ⁵ / ₃₂	VUME03-1803	VUME03- ⁵ / ₃₂ - ⁵ / ₃₂		VBH05-44P	VBH05- ⁵ / ₃₂ - ⁵ / ₃₂	
	VUMH03-1804	VUMH04- ⁵ / ₃₂ - ⁵ / ₃₂	VUML03-1804	VUML04- ⁵ / ₃₂ - ⁵ / ₃₂	VUME03-1804	VUME04- ⁵ / ₃₂ - ⁵ / ₃₂		VBH07-66P	VBH07- ¹ / ₄ - ¹ / ₄ P	
	VUMH03-33	VUMH05- ⁵ / ₃₂ - ⁵ / ₃₂	VUML03-33	VUML05- ⁵ / ₃₂ - ⁵ / ₃₂	VUME03-33	VUME05- ⁵ / ₃₂ - ⁵ / ₃₂		VBH10-66P	VBH10- ¹ / ₄ - ¹ / ₄ P	
	VUMH03-34		VUML03-34		VUME03-34			VBH12-66P	VBH12- ¹ / ₄ - ¹ / ₄ P	
	VUMH03-43		VUML03-43		VUME03-43			Large-flow type		
	VUMH03-44		VUML03-44		VUME03-44			VL05-44P	VL05- ⁵ / ₃₂ - ⁵ / ₃₂	
	VUMH04-1803		VUML04-1803		VUME04-1803			VL07-66P	VL07- ¹ / ₄ - ¹ / ₄ P	
	VUMH04-1804		VUML04-1804		VUME04-1804			VL10-66P	VL10- ¹ / ₄ - ¹ / ₄ P	
	VUMH04-33		VUML04-33		VUME04-33			High-vacuum at Low air press. supply type		
	VUMH04-34		VUML04-34		VUME04-34			VBE07-66P	VBE07- ¹ / ₄ - ¹ / ₄ P	
	VUMH04-43		VUML04-43		VUME04-43			VBE10-66P	VBE10- ¹ / ₄ - ¹ / ₄ P	
	VUMH04-44		VUML04-44		VUME04-44			VBE12-66P	VBE12- ¹ / ₄ - ¹ / ₄ P	
	VUMH05-1803		VUML05-33		VUME05-1803					
	VUMH05-1804		VUML05-34		VUME05-1804					
	VUMH05-33		VUML05-43		VUME05-33					
	VUMH05-34		VUML05-44		VUME05-34					
	VUMH05-43				VUME05-43					
	VUMH05-44				VUME05-44					
	Type	Model code VUM ³ ₄ -VP		Model code VUM ³ ₄ -VP		Model code VUM ³ ₄ -VP		Type	Model code VB ³ ₄ -VPS	
Straight, Silencer vent VUM 	High-vacuum type		Large-flow type		High-vacuum at Low air press. supply type		Union with Pressure sensor, Silencer vent VB 	High-vacuum type		
	VUMH03-M33	VUMH03-U10- ⁵ / ₃₂	VUML03-M33	VUML03-U10- ⁵ / ₃₂	VUME03-M33	VUME03-U10- ⁵ / ₃₂		VBH05-44S	VBH05- ⁵ / ₃₂ - ⁵ / ₃₂ S	
	VUMH03-M34	VUMH04-U10- ⁵ / ₃₂	VUML03-M34	VUML04-U10- ⁵ / ₃₂	VUME03-M34	VUME04-U10- ⁵ / ₃₂		VBH07-66S	VBH07- ¹ / ₄ - ¹ / ₄ S	
	VUMH03-M53	VUMH05-U10- ⁵ / ₃₂	VUML03-M53	VUML05-U10- ⁵ / ₃₂	VUME03-M53	VUME05-U10- ⁵ / ₃₂		VBH10-66S	VBH10- ¹ / ₄ - ¹ / ₄ S	
	VUMH03-M54		VUML03-M54		VUME03-M54			VBH12-66S	VBH12- ¹ / ₄ - ¹ / ₄ S	
	VUMH04-M33		VUML04-M33		VUME04-M33			Large-flow type		
	VUMH04-M34		VUML04-M34		VUME04-M34			VL05-44S	VL05- ⁵ / ₃₂ - ⁵ / ₃₂ S	
	VUMH04-M53		VUML04-M53		VUME04-M53			VL07-66S	VL07- ¹ / ₄ - ¹ / ₄ S	
	VUMH04-M54		VUML04-M54		VUME04-M54			VL10-66S	VL10- ¹ / ₄ - ¹ / ₄ S	
	VUMH05-M33		VUML05-M33		VUME05-M33			High-vacuum at Low air press. supply type		
	VUMH05-M34		VUML05-M34		VUME05-M34			VBE07-66S	VBE07- ¹ / ₄ - ¹ / ₄ S	
	VUMH05-M53		VUML05-M53		VUME05-M53			VBE10-66S	VBE10- ¹ / ₄ - ¹ / ₄ S	
	VUMH05-M54		VUML05-M54		VUME05-M54			VBE12-66S	VBE12- ¹ / ₄ - ¹ / ₄ S	
	Type	Model code VUSM10-øD		Model code VUSM10-øD		Model code VUSM10-øD		Type	Model code VUSM10-øD	
	Mechanical pressure sensor VUSM 	VUSM10-4		VUSM10-5/32		VUSM10-5/32			VUSM10-4	
		VUSM10-6		VUSM10-1/4		VUSM10-1/4			VUSM10-6	
	Type	Model code VUK ⁴		Model code VUK ⁴		Model code VUK ⁴				
Fixing holder for VUM VUK 	VUK04		VUK04		VUK04					

Replacement element

VUM



VB



CAD data is available
at PISCO website.

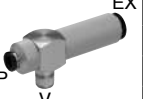


Packaging specifications
1 pc. /bag: Vacuum generator
10 pcs. /bag: Replacement element

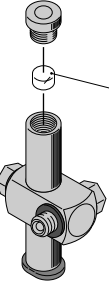
Vacuum

Vacuum Generator Simple type

RoHS2 (2011/65/EU+EU2015/863) compliant

Vacuum pad holder Direct Mounting Type (small dia. nozzle type)			For Vacuum pad Direct Mounting					
Type	Model code VM③④-VP (U)		Type	Model code VC③④-VPLJ (⑧)		Type	Model code VC③④-VPCJ (⑧)	
Elbow, Silencer vent VM 	High-vacuum type		Air supply port: Elbow Tube exhaust VC 	High-vacuum type		Air supply port: Straight Tube exhaust VC 	High-vacuum type	
	VMH03-M53	VMH05-U10- ⁵ / ₃₂ U		VCH07-016LJ⑧	VCH07-N1- ¹ / ₄ LJ		VCH07-016CJ⑧	VCH07-N1- ¹ / ₄ CJ
	VMH03-M54			VCH07-018LJ⑧	VCH07-N1- ⁵ / ₁₆ LJ		VCH07-018CJ⑧	VCH07-N1- ⁵ / ₁₆ CJ
	VMH04-M53			VCH10-016LJ⑧	VCH10-N1- ¹ / ₄ LJ		VCH10-016CJ⑧	VCH10-N1- ¹ / ₄ CJ
	VMH04-M54			VCH10-018LJ⑧	VCH10-N1- ⁵ / ₁₆ LJ		VCH10-018CJ⑧	VCH10-N1- ⁵ / ₁₆ CJ
	VMH05-M54			VCH12-016LJ⑧	VCH12-N1- ¹ / ₄ LJ		VCH12-016CJ⑧	VCH12-N1- ¹ / ₄ CJ
	VMH05-M64			VCH12-018LJ⑧	VCH12-N1- ⁵ / ₁₆ LJ		VCH12-018CJ⑧	VCH12-N1- ⁵ / ₁₆ CJ
	Large-flow type			VCH15-028LJ⑧	VCH15-N2- ⁵ / ₁₆ LJ		VCH15-028CJ⑧	VCH15-N2- ⁵ / ₁₆ CJ
	VML03-M53	VML05-U10- ⁵ / ₃₂ U		VCH15-038LJ⑧	VCH15-N3- ⁵ / ₁₆ LJ		VCH15-038CJ⑧	VCH15-N3- ⁵ / ₁₆ CJ
	VML03-M54			VCH15-0210LJ⑧	VCH15-N2- ³ / ₈ LJ		VCH15-0210CJ⑧	VCH15-N2- ³ / ₈ CJ
	VML04-M53			VCH15-0310LJ⑧	VCH15-N3- ³ / ₈ LJ		VCH15-0310CJ⑧	VCH15-N3- ³ / ₈ CJ
	VML04-M54			VCH20-028LJ⑧	VCH20-N2- ⁵ / ₁₆ LJ		VCH20-028CJ⑧	VCH20-N2- ⁵ / ₁₆ CJ
	VML05-M54			VCH20-038LJ⑧	VCH20-N3- ⁵ / ₁₆ LJ		VCH20-038CJ⑧	VCH20-N3- ⁵ / ₁₆ CJ
	VML05-M64			VCH20-0210LJ⑧	VCH20-N2- ³ / ₈ LJ		VCH20-0210CJ⑧	VCH20-N2- ³ / ₈ CJ
				VCH20-0310LJ⑧	VCH20-N3- ³ / ₈ LJ		VCH20-0310CJ⑧	VCH20-N3- ³ / ₈ CJ
		Large-flow type		Large-flow type				
		VCL07-016LJ⑧	VCL07-N1- ¹ / ₄ LJ	VCL07-016CJ⑧	VCL07-N1- ¹ / ₄ CJ			
		VCL07-018LJ⑧	VCL07-N1- ⁵ / ₁₆ LJ	VCL07-018CJ⑧	VCL07-N1- ⁵ / ₁₆ CJ			
		VCL10-016LJ⑧	VCL10-N1- ¹ / ₄ LJ	VCL10-016CJ⑧	VCL10-N1- ¹ / ₄ CJ			
		VCL10-018LJ⑧	VCL10-N1- ⁵ / ₁₆ LJ	VCL10-018CJ⑧	VCL10-N1- ⁵ / ₁₆ CJ			
		VCL15-028LJ⑧	VCL15-N2- ⁵ / ₁₆ LJ	VCL15-028CJ⑧	VCL15-N2- ⁵ / ₁₆ CJ			
		VCL15-038LJ⑧	VCL15-N3- ⁵ / ₁₆ LJ	VCL15-038CJ⑧	VCL15-N3- ⁵ / ₁₆ CJ			
		VCL15-0210LJ⑧	VCL15-N2- ³ / ₈ LJ	VCL15-0210CJ⑧	VCL15-N2- ³ / ₈ CJ			
		VCL15-0310LJ⑧	VCL15-N3- ³ / ₈ LJ	VCL15-0310CJ⑧	VCL15-N3- ³ / ₈ CJ			
		VCL20-028LJ⑧	VCL20-N2- ⁵ / ₁₆ LJ	VCL20-028CJ⑧	VCL20-N2- ⁵ / ₁₆ CJ			
		VCL20-038LJ⑧	VCL20-N3- ⁵ / ₁₆ LJ	VCL20-038CJ⑧	VCL20-N3- ⁵ / ₁₆ CJ			
		VCL20-0210LJ⑧	VCL20-N2- ³ / ₈ LJ	VCL20-0210CJ⑧	VCL20-N2- ³ / ₈ CJ			
		VCL20-0310LJ⑧	VCL20-N3- ³ / ₈ LJ	VCL20-0310CJ⑧	VCL20-N3- ³ / ₈ CJ			
		High-vacuum at Low air press. supply type		High-vacuum at Low air press. supply type				
		VCE07-016LJ⑧	VCE07-N1- ¹ / ₄ LJ	VCE07-016CJ⑧	VCE07-N1- ¹ / ₄ CJ			
		VCE07-018LJ⑧	VCE07-N1- ⁵ / ₁₆ LJ	VCE07-018CJ⑧	VCE07-N1- ⁵ / ₁₆ CJ			
		VCE10-016LJ⑧	VCE10-N1- ¹ / ₄ LJ	VCE10-016CJ⑧	VCE10-N1- ¹ / ₄ CJ			
		VCE10-018LJ⑧	VCE10-N1- ⁵ / ₁₆ LJ	VCE10-018CJ⑧	VCE10-N1- ⁵ / ₁₆ CJ			
		VCE12-016LJ⑧	VCE12-N1- ¹ / ₄ LJ	VCE12-016CJ⑧	VCE12-N1- ¹ / ₄ CJ			
		VCE12-018LJ⑧	VCE12-N1- ⁵ / ₁₆ LJ	VCE12-018CJ⑧	VCE12-N1- ⁵ / ₁₆ CJ			
		VCE15-028LJ⑧	VCE15-N2- ⁵ / ₁₆ LJ	VCE15-028CJ⑧	VCE15-N2- ⁵ / ₁₆ CJ			
		VCE15-038LJ⑧	VCE15-N3- ⁵ / ₁₆ LJ	VCE15-038CJ⑧	VCE15-N3- ⁵ / ₁₆ CJ			
		VCE15-0210LJ⑧	VCE15-N2- ³ / ₈ LJ	VCE15-0210CJ⑧	VCE15-N2- ³ / ₈ CJ			
		VCE15-0310LJ⑧	VCE15-N3- ³ / ₈ LJ	VCE15-0310CJ⑧	VCE15-N3- ³ / ₈ CJ			
		VCE20-028LJ⑧	VCE20-N2- ⁵ / ₁₆ LJ	VCE20-028CJ⑧	VCE20-N2- ⁵ / ₁₆ CJ			
		VCE20-038LJ⑧	VCE20-N3- ⁵ / ₁₆ LJ	VCE20-038CJ⑧	VCE20-N3- ⁵ / ₁₆ CJ			
		VCE20-0210LJ⑧	VCE20-N2- ³ / ₈ LJ	VCE20-0210CJ⑧	VCE20-N2- ³ / ₈ CJ			
		VCE20-0310LJ⑧	VCE20-N3- ³ / ₈ LJ	VCE20-0310CJ⑧	VCE20-N3- ³ / ₈ CJ			

Replacement element

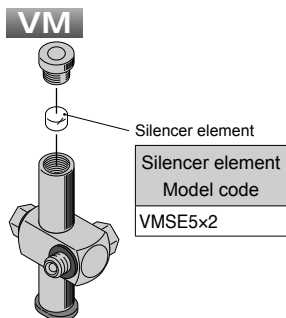
VM

Silencer element

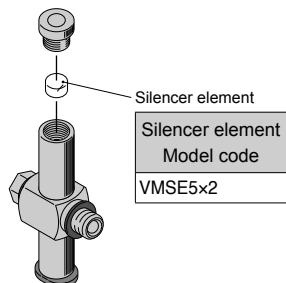
Silencer element
Model code

VMSE5x2

Replacement element



VC VC □ 03, 04, 05 Type



Notes	
Exhaust port size (EX) Size List	
Vacuum port (V)	Exhaust port (EX)
01 (N1)	ø8 mm (ø5/16")
02, 03 (N2, N3)	ø12 mm (ø1/2")

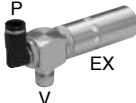
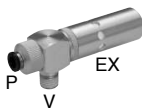
CAD CAD data is available
at PISCO website.

Package Packaging specifications
1 pc. /bag: Vacuum generator
10 pcs. /bag: Replacement element

Option Standard options
[8] : -S3 ⇒ -S3 spec.

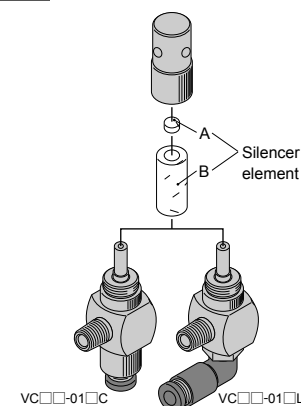
RoHS2 (2011/65/EU+EU2015/863) compliant

For Vacuum pad Direct Mounting

Type	Model code VC③④-VPL		Type	Model code VC③④-VPC	
Air supply port : Elbow Silencer vent VC 	High-vacuum type		Air supply port : Straight Silencer vent VC 	High-vacuum type	
	VCH07-016L	VCH07-N1-1/4L		VCH07-016C	VCH07-N1-1/4C
	VCH07-018L	VCH07-N1-5/16L		VCH07-018C	VCH07-N1-5/16C
	VCH10-016L	VCH10-N1-1/4L		VCH10-016C	VCH10-N1-1/4C
	VCH10-018L	VCH10-N1-5/16L		VCH10-018C	VCH10-N1-5/16C
	VCH12-016L	VCH12-N1-1/4L		VCH12-016C	VCH12-N1-1/4C
	VCH12-018L	VCH12-N1-5/16L		VCH12-018C	VCH12-N1-5/16C
	VCH15-028L	VCH15-N2-5/16L		VCH15-028C	VCH15-N2-5/16C
	VCH15-038L	VCH15-N3-5/16L		VCH15-038C	VCH15-N3-5/16C
	VCH15-0210L	VCH15-N2-3/8L		VCH15-0210C	VCH15-N2-3/8C
	VCH15-0310L	VCH15-N3-3/8L		VCH15-0310C	VCH15-N3-3/8C
	VCH20-028L	VCH20-N2-5/16L		VCH20-028C	VCH20-N2-5/16C
	VCH20-038L	VCH20-N3-5/16L		VCH20-038C	VCH20-N3-5/16C
	VCH20-0210L	VCH20-N2-3/8L		VCH20-0210C	VCH20-N2-3/8C
	VCH20-0310L	VCH20-N3-3/8L		VCH20-0310C	VCH20-N3-3/8C
	Large-flow type			Large-flow type	
	VCL07-016L	VCL07-N1-1/4L		VCL07-016C	VCL07-N1-1/4C
	VCL07-018L	VCL07-N1-5/16L		VCL07-018C	VCL07-N1-5/16C
	VCL10-016L	VCL10-N1-1/4L		VCL10-016C	VCL10-N1-1/4C
	VCL10-018L	VCL10-N1-5/16L		VCL10-018C	VCL10-N1-5/16C
	VCL15-028L	VCL15-N2-5/16L		VCL15-028C	VCL15-N2-5/16C
	VCL15-038L	VCL15-N3-5/16L		VCL15-038C	VCL15-N3-5/16C
	VCL15-0210L	VCL15-N2-3/8L		VCL15-0210C	VCL15-N2-3/8C
	VCL15-0310L	VCL15-N3-3/8L		VCL15-0310C	VCL15-N3-3/8C
	VCL20-028L	VCL20-N2-5/16L		VCL20-028C	VCL20-N2-5/16C
	VCL20-038L	VCL20-N3-5/16L		VCL20-038C	VCL20-N3-5/16C
	VCL20-0210L	VCL20-N2-3/8L		VCL20-0210C	VCL20-N2-3/8C
	VCL20-0310L	VCL20-N3-3/8L		VCL20-0310C	VCL20-N3-3/8C
	High-vacuum at Low air press. supply type			High-vacuum at Low air press. supply type	
	VCE07-016L	VCE07-N1-1/4L		VCE07-016C	VCE07-N1-1/4C
	VCE07-018L	VCE07-N1-5/16L		VCE07-018C	VCE07-N1-5/16C
	VCE10-016L	VCE10-N1-1/4L		VCE10-016C	VCE10-N1-1/4C
	VCE10-018L	VCE10-N1-5/16L		VCE10-018C	VCE10-N1-5/16C
	VCE12-016L	VCE12-N1-1/4L		VCE12-016C	VCE12-N1-1/4C
VCE12-018L	VCE12-N1-5/16L	VCE12-018C	VCE12-N1-5/16C		
VCE15-028L	VCE15-N2-5/16L	VCE15-028C	VCE15-N2-5/16C		
VCE15-038L	VCE15-N3-5/16L	VCE15-038C	VCE15-N3-5/16C		
VCE15-0210L	VCE15-N2-3/8L	VCE15-0210C	VCE15-N2-3/8C		
VCE15-0310L	VCE15-N3-3/8L	VCE15-0310C	VCE15-N3-3/8C		
VCE20-028L	VCE20-N2-5/16L	VCE20-028C	VCE20-N2-5/16C		
VCE20-038L	VCE20-N3-5/16L	VCE20-038C	VCE20-N3-5/16C		
VCE20-0210L	VCE20-N2-3/8L	VCE20-0210C	VCE20-N2-3/8C		
VCE20-0310L	VCE20-N3-3/8L	VCE20-0310C	VCE20-N3-3/8C		

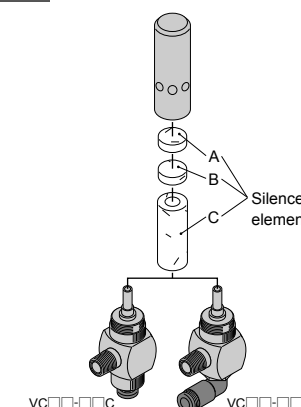
Replacement element

VC VC □ 07, 10, 12 Type



Vacuum generator model code	Silencer element Model code
VC□07-01(N1) □ C (L)	VCSE12 (A & B set)
VC□10-01(N1) □ C (L)	
VC□12-01(N1) □ C (L)	

VC VC □ 15, 20 Type



Vacuum generator model code	Silencer element Model code
VC□15-028(N2-5/16)C(L)	VCSE15 (A, B & C set)
VC□15-038(N3-5/16)C(L)	
VC□15-0210(N2-3/8)C(L)	
VC□15-0310(N3-3/8)C(L)	
VC□20-028(N2-5/16)C(L)	VCSE20 (A, B & C set)
VC□20-038(N3-5/16)C(L)	
VC□20-0210(N2-3/8)C(L)	
VC□20-0310(N3-3/8)C(L)	

 CAD data is available
at PISCO website.

 Packaging specifications
1 pc. /bag: Vacuum generator
10 pcs. /bag: Replacement element

Vacuum Generator Simple type

2in1
Product

RoHS2 (2011/65/EU+EU2015/863) compliant

Blow-off mechanism equipped type															
Type		Model code VY[3][4]-V-P-PD		Type		Model code VY[3][4]-V-P-PD-J		Type		Model code VYFøD ₁ ·øD ₂ M					
Silencer vent VY  V PD EX		High-vacuum type		Tube exhaust VY  V PD EX (ø6)		High-vacuum type		Vacuum filter for VY VYF  øD ₁ øD ₂		VYF44M		VYF ¹ / ₄ - ¹ / ₄ M			
		VYH05-444				VYH05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄	VYH05-444J			VYH05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ J	VYF66M				
		VYH05-666				VYH07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄	VYH05-666J			VYH07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ J					
		VYH07-444					VYH07-444J								
		VYH07-666					VYH07-666J								
		Large-flow type				Large-flow type									
		VYL05-444				VYL05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄	VYL05-444J			VYL05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ J	Type		Model code		
		VYL05-666				VYL07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄	VYL05-666J			VYL07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ J	Bracket for VY		VYB11		
		VYL07-444					VYL07-444J				VYB 				
		VYL07-666					VYL07-666J								
		High-vacuum at Low air press. supply type				High-vacuum at Low air press. supply type									
		VYE05-444				VYE05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄	VYE05-444J			VYE05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ J					
		VYE05-666				VYE07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄	VYE05-666J			VYE07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ J					
		VYE07-444					VYE07-444J								
		VYE07-666					VYE07-666J								
Type		Model code VY[3][4]-V-P-PD-F		Type		Model code VY[3][4]-V-P-PD-J-F									
Silencer vent with Vacuum filter VY  V PD EX		High-vacuum type		Tube exhaust with Vacuum filter VY  V PD EX (ø6)		High-vacuum type									
		VYH05-444F				VYH05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ F	VYH05-444JF		VYH05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ JF						
		VYH05-666F				VYH07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ F	VYH05-666JF		VYH07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ JF						
		VYH07-444F					VYH07-444JF								
		VYH07-666F					VYH07-666JF								
		Large-flow type				Large-flow type									
		VYL05-444F				VYL05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ F	VYL05-444JF		VYL05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ JF						
		VYL05-666F				VYL07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ F	VYL05-666JF		VYL07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ JF						
		VYL07-444F					VYL07-444JF								
		VYL07-666F					VYL07-666JF								
		High-vacuum at Low air press. supply type				High-vacuum at Low air press. supply type									
		VYE05-444F				VYE05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ F	VYE05-444JF		VYE05- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ JF						
		VYE05-666F				VYE07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ F	VYE05-666JF		VYE07- ¹ / ₄ - ¹ / ₄ - ¹ / ₄ JF						
		VYE07-444F					VYE07-444JF								
		VYE07-666F					VYE07-666JF								

 CAD data is available
at PISCO website.

 Packaging specifications
1 pc. /bag

Vacuum Generator VLS

Stand-alone Type Ejector of Boxed Type Aluminum Body

PISCO®

>>> <https://www.pisco.co.jp/en/>

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)

VLS (1) **H** (2) **20** (3) - **04** (4) **04** (5) - **G** (6)

(1) Vacuum Generator VLS

(2) Vacuum Characteristics

H: High-vacuum type

(3) Nozzle bore

Code	Nozzle bore (mm)	Final Vacuum (kPa)	Suction flow (l/min [ANR])	Consumption flow (l/min [ANR])
20	ø2.0	-91	100	230
25	ø2.5		150	345
28	ø2.8		200	410

*Rated supply pressure (H & L type: 0.5 MPa, E type: 0.35 MPa) is applied.

(4) Vacuum port size

04: Rc1/2

(5) Air supply port size

04: Rc1/2

(6) Pressure indicator

Code	Pressure indicator spec.		
No code	Without pressure indicator (Rc1/8 female thread)		
G	Digital pressure gauge		
NV	Pressure Sensor with Large Digital Display	NPN	2 points SW output & Analog output
N2		Open collector	2 points SW output & Copy function
PV		PNP	2 points SW output & Analog output
P2		Open collector	2 points SW output & Copy function

Model code of Silencer

VLSR06
(1)

(1) Silencer for Vacuum Generator VLS

Characteristics

The nozzle bore comes in three types: dia. 2.0, 2.5 and 2.8 mm.

Suction flow rate is max. 200 L/min [ANR].

*For the nozzle bore is dia. 2.8 mm and the rated supply pressure is 0.5 MPa.

Boxed type Aluminum body

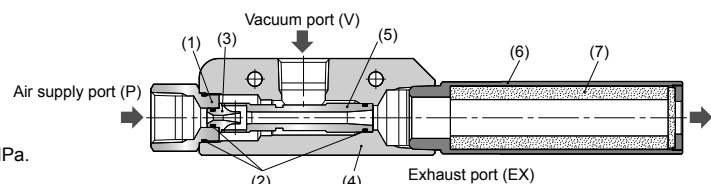
Quiet operation with the cylinder type muffler

Pressure gauge and sensor can be installed.

Specifications

Fluid medium	Air, Inert gas
Operating pressure range	0.15 to 0.7 MPa
Rated supply pressure	0.5 MPa
Operating temp. range	0 to 60°C (No freezing)

Sectional drawing



No.	Parts	Material
(1)	Nozzle holder	Nickel-plated brass
(2)	O-ring	NBR
(3)	Nozzle	Nickel-plated brass*1
(4)	Metallic body	Aluminum (anodized)
(5)	Diffuser	Brass
(6)	Silencer	PBT
(7)	Silencer element	PVFM

*1. The nozzle dia. 2.8 mm is not electroless nickel-plated.

*2. The plug attached to the connecting port of pressure indicator is made of iron (Chrome-plated).

RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code VLSH[3]-RcRc	Type	Model code VLSH[3]-RcRc-G	Type	Model code VLSH[3]-RcRc-[6]
Without Pressure indicator VLS	VLSH20-0404 VLSH25-0404 VLSH28-0404	With Digital Pressure Gauge VLS	VLSH20-0404-G VLSH25-0404-G VLSH28-0404-G	Pressure Sensor with Large Digital Display VLS	VLSH20-0404-[6] VLSH25-0404-[6] VLSH28-0404-[6]
Attachment parts		Optional parts			
Type	Model code	Type	Model code	Type	Model code
Silencer VLSR	VLSR06	Digital Pressure Gauge for negative pressure GPD	GPD-V-01	Compound type of Pressure sensor with Large Digital Display VUS	VUS-32R-NV-01 VUS-32R-N2-01 VUS-32R-PV-01 VUS-32R-P2-01



Notes

* In [6] in the Model Designation, please select and fill in the pressure indicator type from the above in Model Designation (Example).



CAD data is available at PISCO website.



Packaging specifications
1 pc. / bag

Vacuum

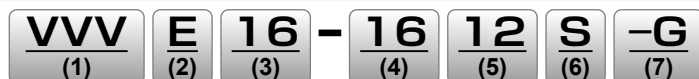
Vacuum Generator VVV

Multi-stage nozzle ejector with large suction flow rate.

Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)



(1) Vacuum Generator VVV

(2) Vacuum Characteristics

E: High-vacuum at Low air pressure supply type

(3) Nozzle bore

Code	Nozzle bore (mm)	Final Vacuum (kPa)	Suction flow (l/min [ANR])	Consumption flow (l/min [ANR])
16	ø1.6	-90	180	105
25	ø2.5	-94	430	270
27	ø2.7	-94	500	315

*Rated supply pressure: 0.35 MPa

(4) Vacuum port size (V)

Port type	Push-in straight fitting and plug (mm)		Taper pipe thread (Female)
Code	12	16	04
Size	ø12	ø16	Rc1/2
Note	Tube fitting: PC12-04 (3 pcs) and Plug: PP12 (2 pcs) are included.		Without fitting

(5) Air supply port size (P)

Port type	Push-in straight fitting (mm)			Taper pipe thread (Female)
Code	08	10	12	02
Size	ø8	ø10	ø12	Rc1/4
Note	PC8-02	PC10-02	PC12-02	Without fitting

(6) Exhaust port type (EX)

Code	No code	S
Type	Taper pipe thread (Female) : Rc3/4	With silencer

*Silencer type comes with elbow adapter block

(7) Digital pressure gauge

Code	No code	-G
Digital pressure gauge	No gauge (Plugging)	With gauge
Thread size	Rc1/8	

Model code of Silencer

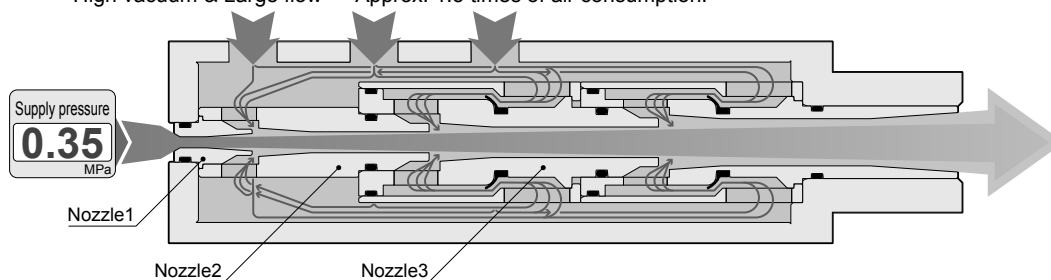
VVVSRO6L
(1)

(1) Silencer for Vacuum Generator VVV

Characteristics

Ensuring high vacuum pressure & high vacuum flow by low (0.35 MPa) air supply.

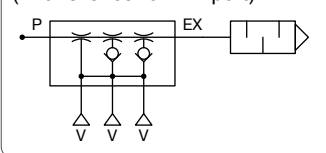
High vacuum & Large flow ⇒ Approx. 1.5 times of air consumption.



3 vacuum ports enable easy distribution.

See a pneumatic symbol on the right.

Pneumatic Symbol
(With silencer on EX port)



Vacuum port direction can be changed.

Depending on the installation site, exhaust direction can be selected from straight or elbow.

Elbow adapter block comes with a silencer, so exhaust direction can be either straight or elbow.



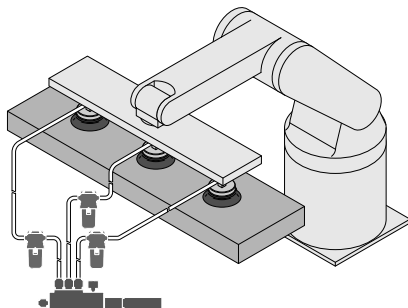
Easy maintenance and long life

Optional digital pressure gauge to check the pressure.

Applications

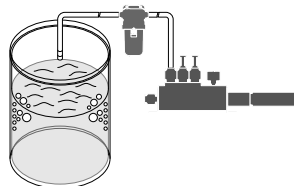
◆ Suction Conveyance

Best suited for large and heavy or porous work-piece in automobile industry and packaging industry, etc.



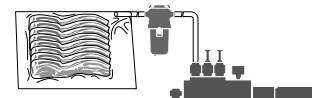
◆ Defoaming·Deaeration

Bubble and air contained in adhesive, cosmetics (cream) and distilled water can be removed.



◆ Vacuum packing

Can be used for vacuum packing of food or the like, removing air from the package.



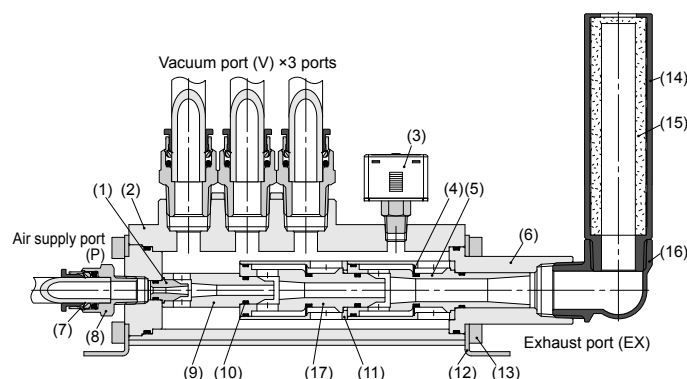
◆ Other applications

[Filtering time savings], [Collection of welding fume], [Dust collection], [Vacuum source for vacuum casting], etc.

Specifications

Fluid medium	Air
Operating pressure range	0.3 to 0.7 MPa
Rated supply pressure	0.35 MPa
Operating temp. range	5 to 50°C (No freezing)

Sectional drawing



No.	Parts	Material
(1)	Nozzle1	Nickel-plated brass
(2)	Body	Aluminum
(3)	Digital pressure gauge	—
(4)	One-way rubber seal	NBR
(5)	Diffuser	Aluminum
(6)	Exhaust cover	Aluminum
(7)	Fitting Ass'y	—
(8)	Fitting metallic body	Nickel-plated brass
(9)	Nozzle2	Aluminum
(10)	O-ring	NBR
(11)	Nozzle cover	Aluminum
(12)	Bracket	SPCC(Nickel-plated)
(13)	Fixing bolt	Iron (Nickel-plated)
(14)	Silencer unit	PBT
(15)	Element	PVFM
(16)	Elbow adapter block	PBT
(17)	Nozzle3	Aluminum

RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code
	VVVE3-4567
Multi-stage nozzle ejector	VVVE3-040267
	VVVE3-040867
	VVVE3-041067
	VVVE3-041267
	VVVE3-120267
	VVVE3-120867
	VVVE3-121067
	VVVE3-121267
	VVVE3-160267
	VVVE3-160867
	VVVE3-161067
	VVVE3-161267

*The product image above is with silencer and digital pressure gauge (optional).

Optional parts

Type	Model code
Silencer	VVVS06L
Digital Pressure Gauge for negative pressure	GPD-V-01



Notes

*For [3] in model code, please select a code for nozzle bore, code for exhaust port type for [6], and code for digital pressure gauge for [7], referring to Model designation (Example).



CAD data is available at PISCO website.



Packaging specifications
1 pc. /bag

Vacuum Generator VLM

Multi-stage nozzle ejector with multi-layer structure achieves suction flow rate of up to 1,110 liters

Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)



(1) Vacuum Generator VLM

(2) Vacuum characteristic

H: High-vacuum type

(3) Nozzle specification

Code	161	162	163	164	165	166
Layer	Single layer		Double layer		Triple layer	
Nozzle quantity	1 pc.	2 pcs.	3 pcs.	4 pcs.	5 pcs.	6 pcs.
Suction flow (ℓ/min [ANR])	290	550	760	890	1,020	1,110
Air consumption (ℓ/min [ANR])	110	220	330	440	550	660
Final vacuum (kPa)	-94					
Nozzle bore (mm)	ø1.6					

*Rated supply pressure (0.5 MPa) is applied.

(4) Vacuum port size

Code	06	08
Taper pipe female thread	Rc3/4	Rc1

(5) Air supply port size

Code	02
Taper pipe female thread	Rc1/4

(6) Exhaust port (Connection type: Taper pipe female thread, Size: Rc3/4)

Code	161, 162 (Layer: Single layer)	163, 164 (Layer: Double layer)	165, 166 (Layer: Triple layer)
No code	 No silencer, End cap 1 pc.	 No silencer, End cap 1 pc.	 No silencer, End cap 1 pc.
S1	 Silencer 1 pc., End cap 1 pc.	 Silencer 2 pcs, End cap 1 pc.	 Silencer 3 pcs, End cap 1 pc.
S2	 Silencer 1 pc., Rotate joint 1 pc., End cap 2 pcs	 Silencer 2 pcs, Rotate joint 2 pcs, End cap 3 pcs	 Silencer 3 pcs, Rotate joint 3 pcs, End cap 4 pcs

*All types contain 2 pcs of bracket for VLM installation and plug for pressure gauge port.

Model Designation of Attachment parts (Example)

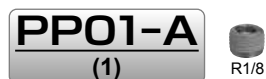


(1) Large Flow Vacuum Generator VLM

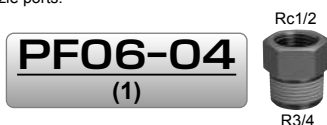
(2) Parts name

Code	R	E	B	D
Parts	Rotate joint Rc3/4 	End cap Rc3/4 	Bracket (2 pcs/set) 	Dummy plug (2 pcs/set (*))

*Dummy plug is needed to plug unnecessary nozzle ports.



(1) Plug for Sensor port



(1) Bush

(For connecting Push-in fitting (Thread size: R1/2) to vacuum port (Rc3/4))



(1) Silencer

(For direct mounting to body or attaching to rotate joint)



(1) Nozzle set

- Diffuser (O-ring),
- Nozzle 3 (O-ring+One-way rubber seal+Cover),
- Nozzle 2 (O-ring+One-way rubber seal+Cover),
- Nozzle 1 (O-ring)

Characteristics

Securing high vacuum and large flow rate.

By adoption of multi-stage nozzle and multi-layer structure, suction flow can be secured approx. 2.2 times (on average) larger than air consumption.

Supply pressure	0.5 MPa					
Final vacuum	-94 kPa					
Average	About 2.2 times					
Suction flow	Air consumption					
	290 ℓ	110 ℓ	550 ℓ	220 ℓ	760 ℓ	330 ℓ
Nozzle code	161	162	163	164	165	166
Layer	1 Layer		2 Layer		3 Layer	
Nozzle quantity	1 pc.	2 pcs.	3 pcs.	4 pcs.	5 pcs.	6 pcs.
						

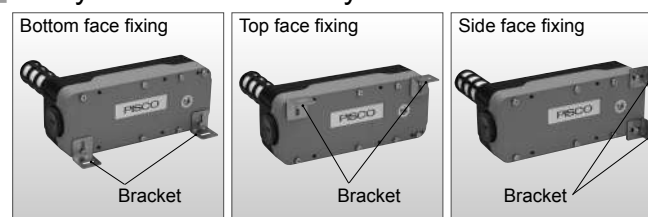
Excellent in ozone resistance.

Silencer installing direction is selectable.

Selectable from three directions; Side, Front, and With rotary joint, depending on the installation space.



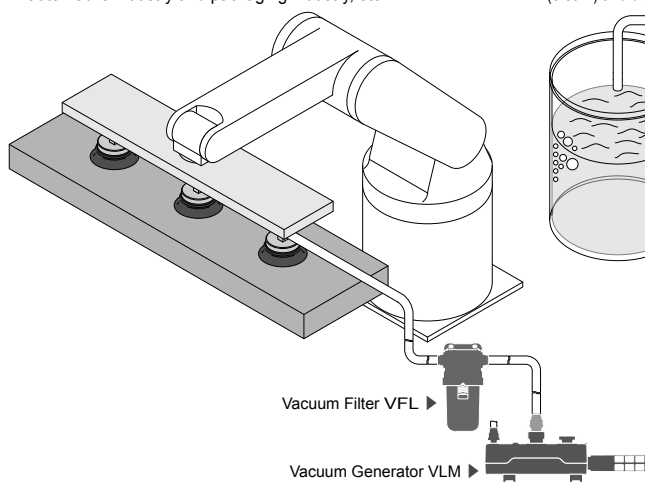
Body can be fixed freely with two brackets.



Applications

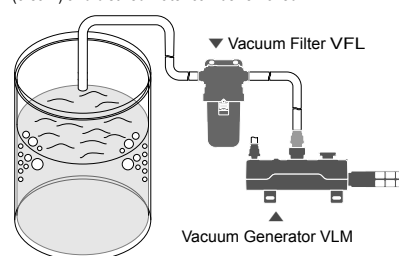
◆ Suction Conveyance

Best suited for large and heavy or porous work-piece in automobile industry and packaging industry, etc.



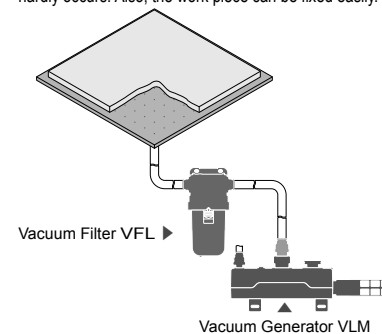
◆ Defoaming·Deaeration

Bubble and air contained in adhesive, cosmetics (cream) and distilled water can be removed.



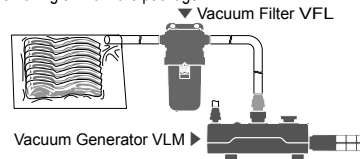
◆ Vacuum chuck

The processing accuracy can be stabilized because the distortion and thermal deformation of the work-piece hardly occurs. Also, the work piece can be fixed easily.



◆ Vacuum packing

Can be used for vacuum packing of food or the like, removing air from the package.



Related Products



Main Block (Large nozzle dia. Type)

▶ P.74

Vacuum Filter VFL

▶ P.360

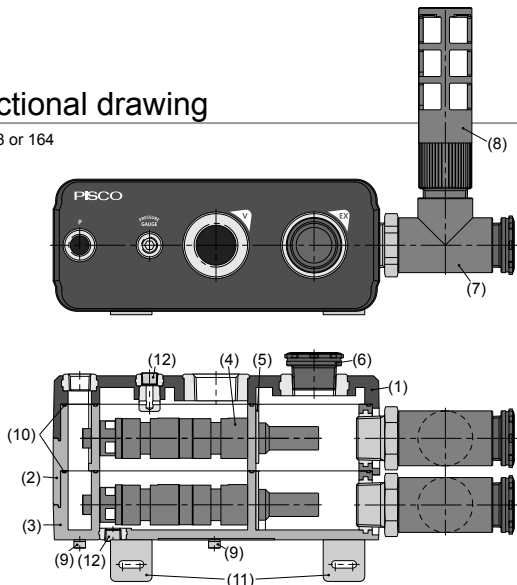
Vacuum Generator VLM

Specifications

Fluid medium	Air
Operating pressure range	0.3 to 0.7 MPa
Rated supply pressure	0.5 MPa
Operating temp. range	5 to 50°C (No freezing)

Sectional drawing

VLMH163 or 164



No.	Parts	Material
(1)	Top case	Brass, PA, Aluminum
(2)	Middle case	PA, Aluminum
(3)	Bottom case	PA, Aluminum
(4)	Nozzle Ass'y	PA, HNBR
(5)	Nozzle clip	Nickel-plated iron
(6)	End cap	PBT
(7)	Rotate joint	Aluminum, PBT
(8)	Silencer	Nickel-plated brass
(9)	Hexagon socket head bolt	Nickel-plated iron
(10)	Case packing	FKM
(11)	Bracket	Nickel-plated iron
(12)	Plug for pressure gauge port	Nickel-plated iron

RoHS2 (2011/65/EU+EU2015/863) compliant

Single layer, Nozzle 1 pc. or 2 pcs.		Double layers, Nozzle 3 pcs. or 4 pcs.		Triple layers, Nozzle 5 pcs. or 6 pcs.	
Type	Model code VLMH[3]-[4]02	Type	Model code VLMH[3]-[4]02	Type	Model code VLMH[3]-[4]02
Without Silencer VLM	VLMH161-[4]02 VLMH162-[4]02	Without Silencer VLM	VLMH163-[4]02 VLMH164-[4]02	Without Silencer VLM	VLMH165-[4]02 VLMH166-[4]02
					
Type	Model code VLMH[3]-[4]02-S1	Type	Model code VLMH[3]-[4]02-S1	Type	Model code VLMH[3]-[4]02-S1
With Silencer VLM	VLMH161-[4]02-S1 VLMH162-[4]02-S1	With Silencer VLM	VLMH163-[4]02-S1 VLMH164-[4]02-S1	With Silencer VLM	VLMH165-[4]02-S1 VLMH166-[4]02-S1
					
Type	Model code VLMH[3]-[4]02-S2	Type	Model code VLMH[3]-[4]02-S2	Type	Model code VLMH[3]-[4]02-S2
Silencer with rotate joint VLM	VLMH161-[4]02-S2 VLMH162-[4]02-S2	Silencer with rotate joint VLM	VLMH163-[4]02-S2 VLMH164-[4]02-S2	Silencer with rotate joint VLM	VLMH165-[4]02-S2 VLMH166-[4]02-S2
					



Notes

*For [4] in model code, please select a code for vacuum port size, referring to Model designation (Example).



CAD data is available
at PISCO website.



Packaging specifications
1 pc. /bag

RoHS2 (2011/65/EU+EU2015/863) compliant

Attachment parts					
Type	Model code	Type	Model code	Type	Model code
Bracket VLM 	VLM-B	Rotate joint VLM Rc3/4 	VLM-R	End cap VLM R3/4 	VLM-E
Type	Model code	Type	Model code	Type	Model code
Dummy plug VLM 	VLM-D	Nozzle set VLM 	VLMH16-NS	Silencer VVV R3/4 	VVVS06
Type	Model code	Type	Model code		
Bush PF Rc1/2 	PF06-04	Plug for Sensor port PP R1/8 	PP01-A		



CAD data is available
at PISCO website.



Packaging specifications
1 pc. /bag: Vacuum generator
1 Set (2 pcs). /bag: Bracket & Dummy plug

Vacuum Generator VRL

Ring blow type ejector for conveying particles, powder and fibers

Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)



(1) Vacuum Generator VRL

(2) Vacuum characteristic

Code	Suction flow (l/min [ANR])	Final vacuum (kPa)	Min. dia. of flow paths (mm)
50	50	-53	ø2.8
100	100	-53	ø4.1
200	200	-53	ø6
300	300	-53	ø7.5

*Rated supply pressure (0.5 MPa) is applied.

(3) Vacuum (Suction) port size (V)

■ Tube dia.

Code	mm size (mm)				
	06	08	10	12	16
Tube dia.	ø6	ø8	ø10	ø12	ø16

■ Thread size

Code	Taper pipe thread				NPT thread (Nipple B type only)			
	01	02	03	04	N1	N2	N3	N4
Thread size	R1/8	R1/4	R3/8	R1/2	NPT1/8	NPT1/4	NPT3/8	NPT1/2

(4) Air supply port size (P)

■ Tube dia.

Code	mm size (mm)		
	06	08	10
Tube dia.	ø6	ø8	ø10

■ Thread size

Code	Taper pipe thread		NPT thread (Nipple B type only)	
	01	02	N1	N2
Thread size	R1/8	R1/4	NPT1/8	NPT1/4

(5) Exhaust port size (EX)

■ Tube dia.

Code	mm size (mm)		
	08	12	16
Tube dia.	ø8	ø12	ø16 (Tube I.D. is over ø12 mm)

■ Thread size (Taper pipe thread)

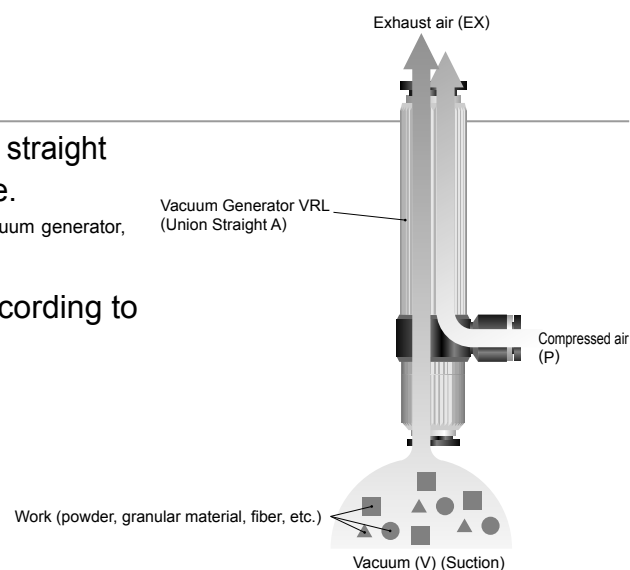
Code	Taper pipe thread			NPT thread (Nipple B type only)		
	01	02	04	N1	N2	N4
Thread size	R1/8	R1/4	R1/2	NPT1/8	NPT1/4	NPT1/2

Characteristics

The suction port and the exhaust port are located in straight line which make it possible to carry works in one line.

The works are sucked in from the suction port and pass through the inside of vacuum generator, which enables conveyance of works through a tube.

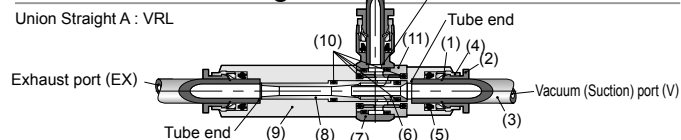
An optimal vacuum generator can be selected according to the work size.



Specifications

Fluid medium	Air, Inert gas
Operating pressure range	0 to 0.9 MPa
Rated supply pressure	0.5 MPa
Operating temp. range	0 to 60°C (No freezing)

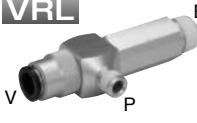
Sectional drawing



No.	Parts	Material
(1)	Lock claws	Stainless steel
(2)	Release-ring	POM
(3)	Tube	Polyurethane, Nylon, etc
(4)	Guide ring	Nickel-plated brass
(5)	Elastic sleeve	NBR
(6)	NozzleA	Special stainless steel*
(7)	Resin body	PBT
(8)	NozzleB	Nickel-plated brass
(9)	Fitting body	Aluminum
(10)	O-ring	NBR
(11)	Metallic body	Nickel-plated brass

* Corrosion resistance of special stainless steel is equivalent to SUS303.

RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code VRL[2]-V-P-EX	Type	Model code VRL[2]-V-P-EX	Type	Model code VRL[2]-V-P-EX
Straight A VRL 	EX	Straight B VRL 		Straight C VRL 	
	V				EX
	P				

 CAD data is available
at PISCO website.

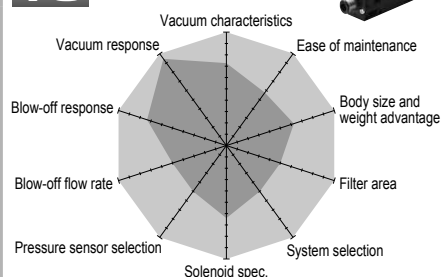
 Packaging specifications
1 pc. /bag

Quick Selection Guide for Vacuum Generator Complex Type

Vacuum Generator Complex type comes in a wide variety of models to meet a wide range of needs in vacuum systems.

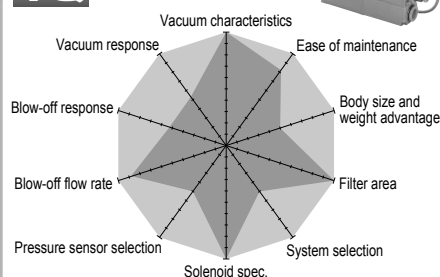
Focusing on basic performance.

VG >>>P.273



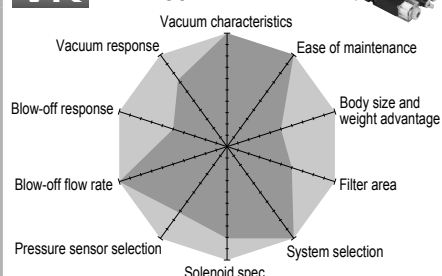
Vacuum unit with large flow rate, best suitable for large work-piece or work-piece with large leakage.

VQ >>>P.276



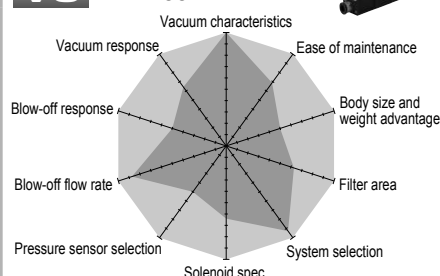
A wide variety of Modularized units to cater for various applications.

VK >>>P.280



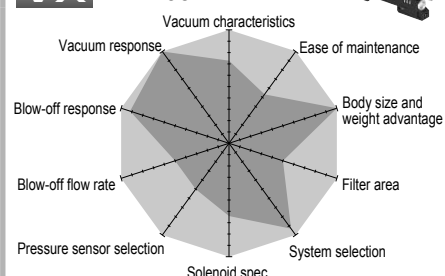
Vacuum unit with blow-off pressure and flow rate adjusting function.

VJ >>>P.288



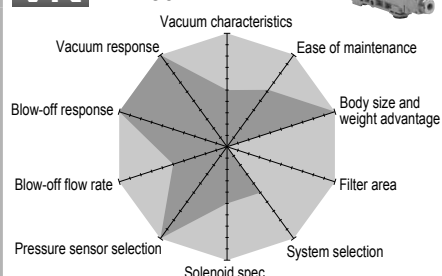
Good for high cycle operation. Compact, lightweight, and high speed response vacuum unit suitable for small work-piece.

VX >>>P.293



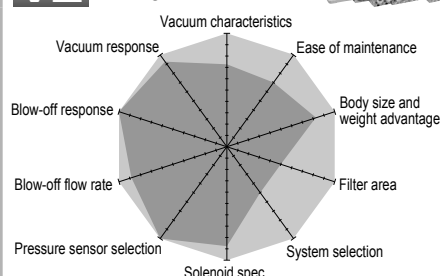
High speed and stable response.

VN >>>P.302

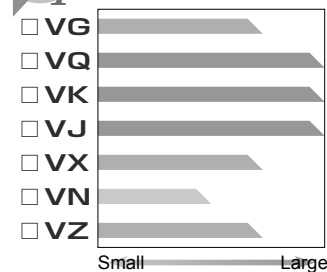


For blow-off time saving. Vacuum unit dedicated to manifold mount, suitable for small work-piece.

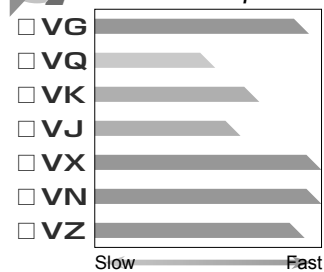
VZ >>>P.311



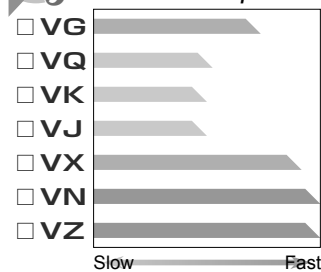
Step 1 Vacuum characteristic selection



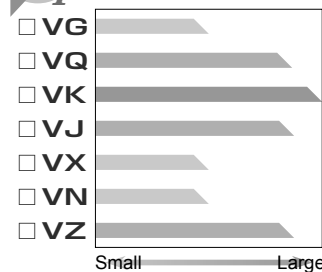
Step 2 Vacuum response



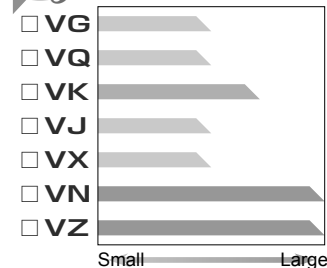
Step 3 Blow-off response



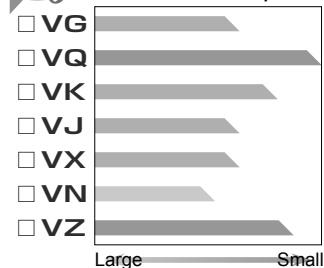
Step 4 Blow-off flow rate



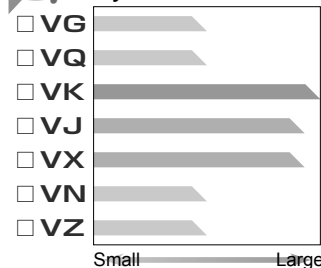
Step 5 Pressure sensor selection



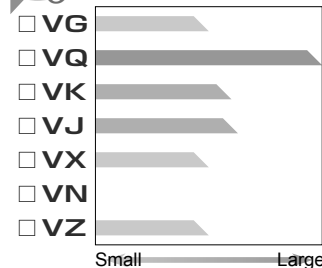
Step 6 Power consumption



Step 7 System selection



Step 8 Filter area



How to use the chart
[Selection guide]

Check the box of Vacuum Generator type that meets your requirement for each function (Step 1 to Step 8). The Vacuum Generator with the most checks is the best suitable one for your application.

Vacuum Generator Complex Type VG

PISCO®

>>> <https://www.pisco.co.jp/en/>

20 mm wide multi-functional type ejector (stand-alone type)

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)

VG	H	07	F	-	6	6	-	DC24	S	-	A
(1)	(2)	(3)	(4)		(5)	(6)		(7)	(8)		(9)

(1) Vacuum Generator Complex type VG

(2) Vacuum characteristics

Code	H	L	E
Charact.	High-vacuum type (Rated supply pressure: 0.5 MPa)	Large-flow type (Rated supply pressure: 0.5 MPa)	High-vacuum at Low air supply pressure type (Rated air supply pressure: 0.35 MPa)

(3) Nozzle bore

Code	Nozzle bore (mm)	H Type			L Type			E Type		
		Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])
05	0.5	-90	7 [7]	11.5	-66	12 [12]	11.5	—	—	—
07	0.7	-93	13 [13]	23	-66	23 [26]	23	-90	10.5 [10.5]	17
10	1.0	-93	26 [27]	46	-66	34 [40]	46	-90	21 [21]	34

*1. Values are when rated pressure is applied. (H and L type: 0.5 MPa, E type: 0.35 MPa.)

*2. Suction flow values on the left represent those of vacuum port dia. 4 mm or 5/32", and those in [] are of vacuum port dia. 6 mm or 1/4".

*3. The values in the table are representative values. Suction flow can vary by vacuum port dia. and tube length.

(4) Combination of units (○: Equipped)

Code	A	B	E	F
Filter	○	○	○	○
Pressure sensor		○		○
Suction valve			○	○
Blow-off valve			○	○

*Power Supply of Pressure Sensors is 12 to 24 VDC.

(5) Vacuum port size (V)

Code	mm size (mm)		inch size (inch)	
	4	6	5/32	1/4
Tube O.D.	ø4	ø6	ø5/32	ø1/4

(6) Air supply port size (P)

Code	mm size (mm)		inch size (inch)	
	4	6	5/32	1/4
Tube O.D.	ø4	ø6	ø5/32	ø1/4

(7) Solenoid valve specifications (Unit: E and F type only)

Code	DC24	AC100
Voltage	24 VDC	100 VAC

(8) Wire lead-out direction (Unit: E and F type only)

Code	S	L
Direction	Side	Top

(9) Pressure sensor (Unit: B and F type only)

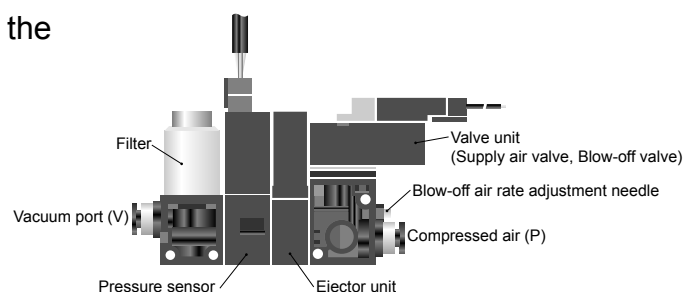
Code	Type
NW	2 switch outputs
NA	1 analog output and 1 switch output
A	1 analog output

Characteristics

Pressure sensor, blow-off valve, ejector and the like are unitized.

Select the best combination in accordance with your applications.

Three types of pressure sensors.



Vacuum Generator Complex type VG

Specifications

Fluid medium	Air (JIS B 8392-1: Compliant with [Class 1.2.1 to 2.4.3])	
Operating press. range	0.25 to 0.7 MPa	
Operating temp. range	5 to 50°C (No freezing)	
Operating humid. range	35 to 85%RH (No dew condensation)	
Vibration resist./Shock resist.	50 m/s ² max. /150m/s ² max.	
Protective structure	IEC standard IP40 equiv.	
Lubrication	Not required	
Proof pressure	Air supply circuit	1.05 MPa
	Vac. circuit	0.2 MPa

*Proof pressure is the level of pressure at which the product would not be damaged. It does not mean the pressure where the product works normally.

Solenoid valve specifications

Rated voltage	24 VDC ±10%	100 VAC ±10%
Power consumption	1.2 W (with LED)	1.5 VA (with LED)
Surge protection	Varistor	Bridge diode
Operation indicator	Current application: Red LED ON	
Manual override	Push button (non-lock)	

Suction main valve specifications

Operation type	Indirect operation by pilot valve	
Valve type	Normally closed	
Response time	OFF→ON	24VDC Specification: 12 msec
		100VAC Specification: 15 msec
	ON→OFF	24VDC Specification: 20 msec
		100VAC Specification: 27 msec

*The response time at rated supply air pressure of 0.5 MPa and rated voltage (100%).

Blow-off main valve specifications

Operation type	Direct operating poppet	
Valve type	Normally closed	
Response time	OFF→ON	24 VDC Specification: 3.5 msec
		100 VAC Specification: 8 msec
	ON→OFF	24 VDC Specification: 3 msec
		100 VAC Specification: 14 msec

*The response time at rated supply air pressure of 0.5 MPa and rated voltage (100%).

Vacuum Filter specifications

Element material	PVFM (Polyvinyl formal)
Filtering accuracy (*)	5 μm
Filter area	1,130 mm ²

*Based on PISCO measuring condition.

Blow-off function

Blow-off air rate	0 to 7 ℓ/min [ANR] (Supply pressure: 0.5 MPa)
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*Blow-off air rate varies according to the vacuum port dia. and tube length (piping resistance and others) on vacuum side.

Pressure sensor (without pressure display) specifications

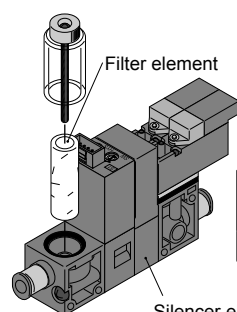
	-NW	-NA	-A
Pressure sensor code	2 switch outputs	1 switch output, 1 analog output	1 analog output
Power requirement	12 to 24 VDC ± 10% Ripple (P-P) 10% max.		
Current consumption	25 mA	17 mA	15 mA
Pressure detection	Diffused metaloxide semiconductive pressure sensor		
Proof pressure	0.2 MPa		
Switch output	Switch output	NPN open collector (30 V 80 mA max/Residual voltage 0.8 V max.)	
	No. of pressure setting	2	1
	Pressure setting range	0 to -100 kPa	
	Operating accuracy	±3%F.S. (Standard temp. at 25°C)	
	Hysteresis	2%F.S. (Fixed)	Variable (About 1 to 15% of set value)
	Operation indicator	SW1: Red LED turns ON, when the switch output is ON SW2: Green LED turns ON, when the switch output is ON	Red LED turns ON, when the switch output is ON.
Analog output	Output voltage	1 to 5 V	
	Zero-point voltage	1 ±0.1 V	
	Span voltage	4 ±0.1 V	
	Output current	1 mA max.	
	Temp. charact. (Zero point)	±0.1 %F.S./°C (Standard temp. at 25°C)	
	Temp. charact. (Span)	±0.1 %F.S./°C (Standard temp. at 25°C)	
	Linearity	±0.5%F.S. max.	

*Allowable range of the variation of "Zero point voltage" and "Pressure setting value" caused by repeated voltage application is ±3%F.S.

RoHS2 (2011/65/EU+EU2015/863) compliant

Without Pressure sensor			With Pressure sensor					
			Analog output			2 switch outputs/1 switch + 1 analog output		
Type	Model code VG[2][3]A-VP		Type	Model code VG[2][3]B-VP-A		Type	Model code VG[2][3]B-VP-[9]	
Filter built-in VG 	VGH05A-44	VGH05A- ⁵ / ₃₂ - ⁵ / ₃₂	Filter built-in VG 	VGH05B-44-A	VGH05B- ⁵ / ₃₂ - ⁵ / ₃₂ -A	Filter built-in VG 	VGH05B-44-[9]	VGH05B- ⁵ / ₃₂ - ⁵ / ₃₂ -[9]
	VGH07A-66	VGH07A- ¹ / ₄ - ¹ / ₄		VGH07B-66-A	VGH07B- ¹ / ₄ - ¹ / ₄ -A		VGH07B-66-[9]	VGH07B- ¹ / ₄ - ¹ / ₄ -[9]
	VGH10A-66	VGH10A- ¹ / ₄ - ¹ / ₄		VGH10B-66-A	VGH10B- ¹ / ₄ - ¹ / ₄ -A		VGH10B-66-[9]	VGH10B- ¹ / ₄ - ¹ / ₄ -[9]
	VGL05A-44	VGL05A- ⁵ / ₃₂ - ⁵ / ₃₂		VGL05B-44-A	VGL05B- ⁵ / ₃₂ - ⁵ / ₃₂ -A		VGL05B-44-[9]	VGL05B- ⁵ / ₃₂ - ⁵ / ₃₂ -[9]
	VGL07A-66	VGL07A- ¹ / ₄ - ¹ / ₄		VGL07B-66-A	VGL07B- ¹ / ₄ - ¹ / ₄ -A		VGL07B-66-[9]	VGL07B- ¹ / ₄ - ¹ / ₄ -[9]
	VGL10A-66	VGL10A- ¹ / ₄ - ¹ / ₄		VGL10B-66-A	VGL10B- ¹ / ₄ - ¹ / ₄ -A		VGL10B-66-[9]	VGL10B- ¹ / ₄ - ¹ / ₄ -[9]
	VGE07A-66	VGE07A- ¹ / ₄ - ¹ / ₄		VGE07B-66-A	VGE07B- ¹ / ₄ - ¹ / ₄ -A		VGE07B-66-[9]	VGE07B- ¹ / ₄ - ¹ / ₄ -[9]
	VGE10A-66	VGE10A- ¹ / ₄ - ¹ / ₄		VGE10B-66-A	VGE10B- ¹ / ₄ - ¹ / ₄ -A		VGE10B-66-[9]	VGE10B- ¹ / ₄ - ¹ / ₄ -[9]
Type	Model code VG[2][3]E-VP-[7]L		Type	Model code VG[2][3]F-VP-[7]L-A		Type	Model code VG[2][3]F-VP-[7]L-[9]	
Suction valve, Blow-off valve, Filter, Lead-out: TOP VG 	VGH05E-44-[7]L	VGH05E- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]L	Suction valve, Blow-off valve, Filter, Lead-out: TOP VG 	VGH05F-44-[7]L-A	VGH05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]L-A	Suction valve, Blow-off valve, Filter, Lead-out: TOP VG 	VGH05F-44-[7]L-[9]	VGH05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]L-[9]
	VGH07E-66-[7]L	VGH07E- ¹ / ₄ - ¹ / ₄ -[7]L		VGH07F-66-[7]L-A	VGH07F- ¹ / ₄ - ¹ / ₄ -[7]L-A		VGH07F-66-[7]L-[9]	VGH07F- ¹ / ₄ - ¹ / ₄ -[7]L-[9]
	VGH10E-66-[7]L	VGH10E- ¹ / ₄ - ¹ / ₄ -[7]L		VGH10F-66-[7]L-A	VGH10F- ¹ / ₄ - ¹ / ₄ -[7]L-A		VGH10F-66-[7]L-[9]	VGH10F- ¹ / ₄ - ¹ / ₄ -[7]L-[9]
	VGL05E-44-[7]L	VGL05E- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]L		VGL05F-44-[7]L-A	VGL05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]L-A		VGL05F-44-[7]L-[9]	VGL05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]L-[9]
	VGL07E-66-[7]L	VGL07E- ¹ / ₄ - ¹ / ₄ -[7]L		VGL07F-66-[7]L-A	VGL07F- ¹ / ₄ - ¹ / ₄ -[7]L-A		VGL07F-66-[7]L-[9]	VGL07F- ¹ / ₄ - ¹ / ₄ -[7]L-[9]
	VGL10E-66-[7]L	VGL10E- ¹ / ₄ - ¹ / ₄ -[7]L		VGL10F-66-[7]L-A	VGL10F- ¹ / ₄ - ¹ / ₄ -[7]L-A		VGL10F-66-[7]L-[9]	VGL10F- ¹ / ₄ - ¹ / ₄ -[7]L-[9]
	VGE07E-66-[7]L	VGE07E- ¹ / ₄ - ¹ / ₄ -[7]L		VGE07F-66-[7]L-A	VGE07F- ¹ / ₄ - ¹ / ₄ -[7]L-A		VGE07F-66-[7]L-[9]	VGE07F- ¹ / ₄ - ¹ / ₄ -[7]L-[9]
	VGE10E-66-[7]L	VGE10E- ¹ / ₄ - ¹ / ₄ -[7]L		VGE10F-66-[7]L-A	VGE10F- ¹ / ₄ - ¹ / ₄ -[7]L-A		VGE10F-66-[7]L-[9]	VGE10F- ¹ / ₄ - ¹ / ₄ -[7]L-[9]
Type	Model code VG[2][3]E-VP-[7]S		Type	Model code VG[2][3]F-VP-[7]S-A		Type	Model code VG[2][3]F-VP-[7]S-[9]	
Suction valve, Blow-off valve, Filter, Lead-out: SIDE VG 	VGH05E-44-[7]S	VGH05E- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]S	Suction valve, Blow-off valve, Filter, Lead-out: SIDE VG 	VGH05F-44-[7]S-A	VGH05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]S-A	Suction valve, Blow-off valve, Filter, Lead-out: SIDE VG 	VGH05F-44-[7]S-[9]	VGH05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]S-[9]
	VGH07E-66-[7]S	VGH07E- ¹ / ₄ - ¹ / ₄ -[7]S		VGH07F-66-[7]S-A	VGH07F- ¹ / ₄ - ¹ / ₄ -[7]S-A		VGH07F-66-[7]S-[9]	VGH07F- ¹ / ₄ - ¹ / ₄ -[7]S-[9]
	VGH10E-66-[7]S	VGH10E- ¹ / ₄ - ¹ / ₄ -[7]S		VGH10F-66-[7]S-A	VGH10F- ¹ / ₄ - ¹ / ₄ -[7]S-A		VGH10F-66-[7]S-[9]	VGH10F- ¹ / ₄ - ¹ / ₄ -[7]S-[9]
	VGL05E-44-[7]S	VGL05E- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]S		VGL05F-44-[7]S-A	VGL05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]S-A		VGL05F-44-[7]S-[9]	VGL05F- ⁵ / ₃₂ - ⁵ / ₃₂ -[7]S-[9]
	VGL07E-66-[7]S	VGL07E- ¹ / ₄ - ¹ / ₄ -[7]S		VGL07F-66-[7]S-A	VGL07F- ¹ / ₄ - ¹ / ₄ -[7]S-A		VGL07F-66-[7]S-[9]	VGL07F- ¹ / ₄ - ¹ / ₄ -[7]S-[9]
	VGL10E-66-[7]S	VGL10E- ¹ / ₄ - ¹ / ₄ -[7]S		VGL10F-66-[7]S-A	VGL10F- ¹ / ₄ - ¹ / ₄ -[7]S-A		VGL10F-66-[7]S-[9]	VGL10F- ¹ / ₄ - ¹ / ₄ -[7]S-[9]
	VGE07E-66-[7]S	VGE07E- ¹ / ₄ - ¹ / ₄ -[7]S		VGE07F-66-[7]S-A	VGE07F- ¹ / ₄ - ¹ / ₄ -[7]S-A		VGE07F-66-[7]S-[9]	VGE07F- ¹ / ₄ - ¹ / ₄ -[7]S-[9]
	VGE10E-66-[7]S	VGE10E- ¹ / ₄ - ¹ / ₄ -[7]S		VGE10F-66-[7]S-A	VGE10F- ¹ / ₄ - ¹ / ₄ -[7]S-A		VGE10F-66-[7]S-[9]	VGE10F- ¹ / ₄ - ¹ / ₄ -[7]S-[9]

Replacement element



Filter element Model code
VGFE10

Silencer element (*)

* The silencer element is the same as one for vacuum generator Box type (VB). Please refer to page 259.



Notes

* Please select each code referring to the example of model designation.
[7]: Code for solenoid valve specification, and [9]: Pressure sensor code



CAD data is available
at PISCO website.



Packaging specifications

1 pc. /bag: Vacuum generator
10 pcs /bag: Replacement element

Vacuum Generator Complex Type VQ

31.5 mm wide Vacuum Generator Complex Type for the control of large vacuum flow (Stand-alone type)



Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)

VQ (1)	T15 (2)	C (3)	-	O (4)	O (5)	S (6)	-	D24 (7)	-	NW (8)	 (9)
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(1) Vacuum Generator Complex Type VQ

(2) Nozzle bore

Code	Vacuum characteristics		Nozzle bore (mm)	Supply pressure (MPa)	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])
H15	Single nozzle type	High-vacuum type	1.5	0.5	-93	63 [63]	100
L15		Large-flow type			-66	95 [95]	
E15		High-vacuum at Low air supply pressure type		0.35	-92	42 [42]	70
H20	Single nozzle type	High-vacuum type	2.0	0.5	-93	96 [97.5]	200
L20		Large-flow type			-66	143 [160]	
E20		High-vacuum at Low air supply pressure type		0.35	-92	70 [70]	150
T15	Twin nozzle type		0.7	0.5	-93	24 [24]	23
			1.5			40 [40]	100
T20			1.0			36 [36]	46
			2.0			70 [70]	200
D07	Two-stage nozzle type		0.7	0.5	-93	52 [52]	23
D10			1.0			75 [75]	46
D12			1.2			85 [85]	70

*1. Suction flow values on the left represent those of vacuum port dia. 8 mm and those in [] are of vacuum port dia. 10 mm.

*2. The values in the table are representative values. Suction flow can vary by vacuum port dia. and tube length.

*3. Twin nozzle type is not CE marked.

(3) Suction valve type

Code	C	O	D
Valve type	Normally closed (N.C.)	Normally open (N.O.)	Double-piloted (Self-holding function)

*1. Normally-closed (code: C) only when a twin-nozzle type is selected in (2).

*2. Normally-closed (code: C) or Normally-open (code: O) only when a 2-stage nozzle type is selected in (2).

(4) Vacuum port size (V)

Code	8	O
Tube O.D. (mm)	ø8	ø10

(5) Air supply port size (PS)

Code	6	8	O
Tube O.D. (mm)	ø6	ø8	ø10

* Dia. 6 mm tube fitting is selectable only when 2-stage nozzle type is selected in (2).

(6) Exhaust port (EX)

Code	S	J
Exhaust port	Open to air (Silencer vent)	Tube exhaust (ø12 mm Push-in fitting)

(7) Solenoid valve specification

Code	D24	D24MC	A100
Voltage	24 VDC	24 VDC (Minus Common)	100VAC

*1. For twin nozzle type, only 24 VDC can be selected.

*2. 100VAC type is not CE marked.

(8) Pressure sensor

Code	Specifications
No code	Without Pressure sensor
NW	□30x30 mm square display, 2 points SW output, NPN open collector
PW	□30x30 mm square display, 2 points SW output, PNP open collector

(9) -S3 spec. (Metal option)

Code	No code	-S3(*)
Metal material	Standard spec.	No copper-based metallic materials used in flow paths.
Seal rubber material	Standard spec.	HNBR or FKM
Release-ring color	Black	Dark blue

*-S3 specification is only for tube exhaust type (for air flow) and is not available for electronic components and electric wires.

* Exhaust port of pilot valve: dia. 6 mm Push-in fitting

Characteristics

Exhaust noise of Silencer vent type is 78 dB [A]. (Measured by representative models.)

31.5 -mm wide vacuum unit suitable for the control of large vacuum flows.

3 types of nozzles, each of which has unique features, are offered.

- Nozzle bore for Single nozzle type (1.5, 2.0 mm)
- Nozzle bore for Two-stage nozzle type (0.7, 1.0, 1.2 mm)
- Nozzle bore for Twin nozzle type (1.5, 2.0 mm)

Various valve types.

- Single-nozzle type: Normally open, Normally closed, Double-piloted type
- Two-stage nozzle type: Normally open, Normally closed type
- Twin-nozzle type: Normally closed type

3 -color LCD dual display with high visibility.

Power-save mode can reduce power consumption by 30%.

Minus common spec. is selectable.

Suitable for applications where negative side of power supply is used as common reference potential.

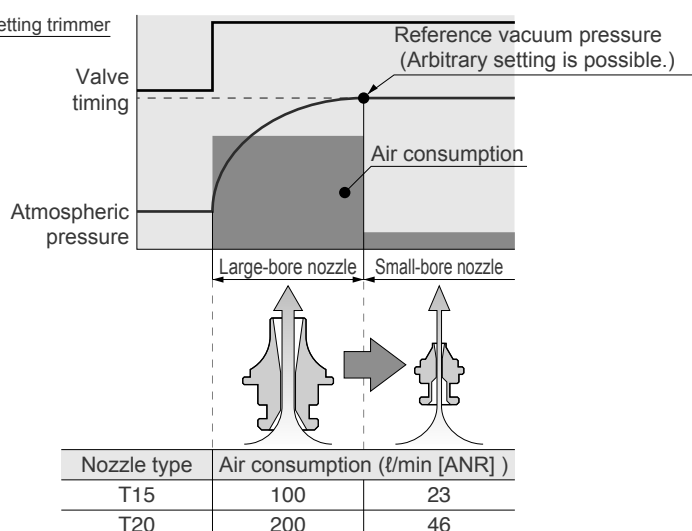
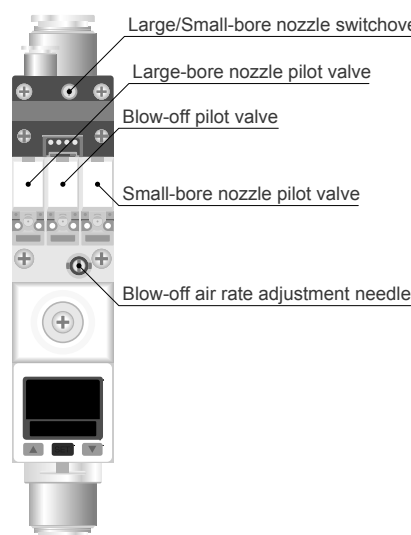


● Twin nozzle type



Twin nozzle type is suitable for applications with long suction time and conveyance time.

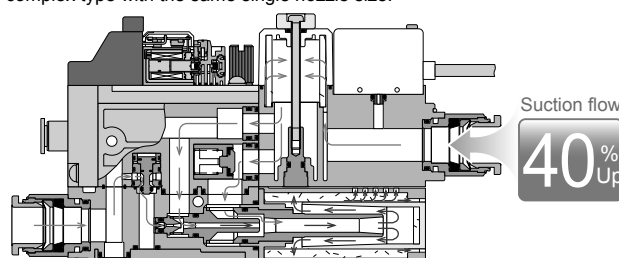
- The large-bore nozzle controls vacuum generation from the start to a prescribed reference vacuum pressure level, followed by the small-bore nozzle for maintaining a vacuum level. This combination allows for energy saving by reducing substantial air consumption.
- One signal controls vacuum generation just like the conventional models.



● Two-stage nozzle type

The two-stage nozzle type's vacuum suction rate has been increased by approximately 40% compared to conventional single nozzle type.

40% increase in suction flow when compared to PISCO Vacuum Generator complex type with the same single nozzle size.



● -S3 spec (Metal option)

No copper-based metallic materials used in flow paths.

Seal rubber material is HNBR or FKM, both of which have good ozone resistance.

Vacuum Generator Complex Type VQ

Specifications

Fluid medium	Air (JIS B 8392-1 : Compliant with [Class 1.2.1 to 2.4.3])	
Operating press. range	0.3 to 0.7 MPa	
Operating temp. range	5 to 50°C (No freezing)	
Operating humid. range	35 to 85 %RH (No dew condensation)	
Vibration resist./Shock resist.	50 m/s ² max / 150 m/s ² max	
Protective structure	IEC standard IP40 equiv.	
Lubrication	Not required	
Proof pressure	Air supply circuit	1.05 MPa
	Vac. circuit	0.2 MPa

* Proof pressure is the level of pressure at which the product would not be damaged. It does not mean the pressure where the product works normally.

Solenoid valve specifications

Rated voltage	24 VDC ±10%	100 VAC ±10%
Power consumption	0.55 W (with LED)	1.0 VA (with LED)
Surge protection	Varistor	Bridge diode
Operation indicator	Current application: Red LED ON	
Manual override	Push-turn locking	

Suction main valve specifications

Single nozzle type

Operation type		Indirect operation by pilot valve		
Valve type		Normally closed	Normally open	Double-piloted (*1)
Response time (Standard)	OFF→ON	24 VDC: 15 msec	24 VDC: 15 msec	24 VDC: 10 msec
		100 VAC: 15 msec	100 VAC: 15 msec	100 VAC: 12 msec
	ON→OFF	24 VDC: 18 msec	24 VDC: 10 msec	—
		100 VAC: 24 msec	100 VAC: 16 msec	—
Response time (Metal option)	OFF→ON	24 VDC: 20 msec	24 VDC: 20 msec	24 VDC: 18 msec
		100 VAC: 20 msec	100 VAC: 20 msec	100 VAC: 20 msec
	ON→OFF	24 VDC: 25 msec	24 VDC: 15 msec	—
		100 VAC: 31 msec	100 VAC: 21 msec	—

*1. Excitation time of the solenoid must be 50 msec or more.

*2. The response time at supply air of 0.5 MPa with rated voltage (100%)

Two-stage nozzle type

Operation type		Indirect operation by pilot valve	
Valve type		Normally closed	Normally open
Response time (Standard)	OFF→ON	24 VDC: 10 msec	24 VDC: 18 msec
		100 VAC: 10 msec	100 VAC: 18 msec
	ON→OFF	24 VDC: 10 msec	24 VDC: 10 msec
		100 VAC: 16 msec	100 VAC: 16 msec
Response time (-S3 spec.)	OFF→ON	24 VDC: 15 msec	24 VDC: 35 msec
		100 VAC: 15 msec	100 VAC: 35 msec
	ON→OFF	24 VDC: 15 msec	24 VDC: 15 msec
		100 VAC: 21 msec	100 VAC: 21 msec

* The response time at supply air is when 0.5 MPa with rated voltage (100%).

Twin nozzle type

Operation type		Indirect operation by pilot valve	
Valve type		Normally closed	
Response time (Standard)	OFF→ON	24 VDC: 15 msec	
Response time (Metal option)	OFF→ON	24 VDC: 20 msec	

* The response time at supply air of 0.5 MPa with rated voltage (100%)

Vacuum filter specifications

Element material	PVFM (Polyvinyl formal)
Filtrating accuracy (*)	5 µm
Filter area	1,507 mm ²

* Based on PISCO measuring condition.

Blow-off main valve specifications

Operation type		Indirect operation by pilot valve	
Valve type		Normally closed	
Response time (Standard)	OFF→ON	24 VDC: 10 msec	100 VAC: 10 msec
		24 VDC: 10 msec	100 VAC: 16 msec
	ON→OFF	24 VDC: 12 msec	100 VAC: 12 msec
		24 VDC: 10 msec	100 VAC: 16 msec

*2 The response time at supply air of 0.5 MPa with rated voltage (100%)

Valve lead wire color

24 VDC Specifications	Black	Gray	Blue	Brown
Twin nozzle type	Suction (—)	Blow-off (—)	Minus (—)	24 VDC (+common)
Two-stage nozzle type	Suction (—)	Blow-off (—)		24 VDC (+common)
Single nozzle type	Suction (—)	Blow-off (—)		24 VDC (+common)
24 VDC (Minus Common)	Black	Gray	Blue	Brown
Two-stage nozzle type	Suction (+)	Blow-off (+)		0V (-common)
Single nozzle type	Suction (+)	Blow-off (+)		0V (-common)
100 VAC Specifications	Black	Gray	Blue	Brown
Two-stage nozzle type	Suction (~)	Blow-off (~)		common (~)
Single nozzle type	Suction (~)	Blow-off (~)		common (~)

Blow-off function

Blow-off air rate	0 to 50 l/min [ANR] (Supply pressure: 0.5MPa)
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* Blow-off air rate varies according to the vacuum port dia. and tube length (piping resistance and others) on vacuum side.

Pressure sensor

Model		VUS-33R-N2	VUS-33R-P2
Pressure range		Compound pressure	
Rated pressure range		-100 kPa to 100 kPa	
Proof pressure		500 kPa	
Fluid medium		Air, non-corrosive gas, incombustible gas	
Power requirement		12 to 24 VDC (Ripple ± 10% max.)	
Current consumption		40 mA max. (At no load)	
Switch output	Switch output	NPN open collector	PNP open collector
	No. of press. setting	2 points output (SW 1, SW 2)	
	Max. load current	125 mA	
	Max. supply voltage	30 VDC	24 VDC
Repeatability		±0.2%F.S. ±1 digit max	
Hysteresis	One point set mode	Adjustable	
	Hysteresis mode		
	Window comparator mode		
Response time		Selectable from 50 ms, 250 ms, 500 ms, 1,000 ms, 2,000 ms, 3,000 ms	
Output short circuit protection		Incorporated	
Digital display		Main display: 3 colors (Red, Green, Orange) Sampling rate: 1, 2 or 5 times/sec. (Adjustable)	
Indication accuracy		±2%F.S. ±1 digit max (Ambient temperature: 25 ±3°C)	
Operation indicator		Orange (1 & 2 indicator) OUT 1, OUT 2	
Weatherability	Protective structure	IEC standard IP40 equiv.	
	Ambient temp. range	Operation: 0 to 50°C, Storage: -10 to 60°C (No dew condensation or freezing)	
	Ambient humidity range	Operation/Storage: 35 to 85%RH (No dew condensation)	
	Withstand voltage	1000 VAC 1 min. (between case and lead wire)	
	Insulation resistance	50 MΩ min. (500 VDC) (between case and lead wire)	
	Vibration resist.	Total amplitude 1.5 mm or 100 m/s ² 10 Hz-150 Hz-10 Hz scan for 1 min., 2 hours in each direction of X, Y, and Z.	
Shock resist.		100 m/s ² , 3 times in each direction of X, Y, and Z.	
Temp. charact.		±2%F.S. max (Standard temp. at 25°C, Range: 0 to +50°C)	
Lead wire		Oil-resistance cable (0.15 mm ²)	

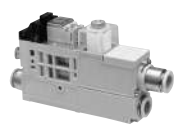
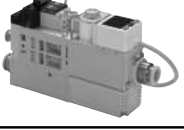
RoHS2 (2011/65/EU+EU2015/863) compliant



Single nozzle type

Type	Model code	Type	Model code
Without Pressure sensor, Silencer vent VQ 	VQ23-45S-7	Without Pressure sensor, Tube exhaust VQ 	VQ23-45J-79
Type	Model code	Type	Model code
2 switch outputs Pressure sensor, Silencer vent VQ 	VQ23-45S-7-8	2 switch outputs Pressure sensor, Tube exhaust VQ 	VQ23-45J-7-89

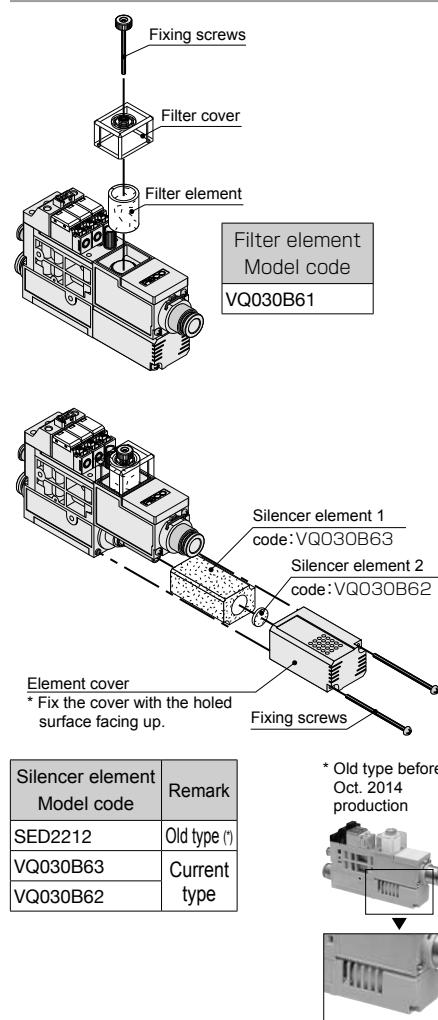
Two-stage nozzle type

Type	Model code	Type	Model code
Without Pressure sensor, Silencer vent VQD 	VQD23-45S-7	Without Pressure sensor, Tube exhaust VQD 	VQD23-45J-79
Type	Model code	Type	Model code
2 switch outputs Pressure sensor, Silencer vent VQD 	VQD23-45S-7-8	2 switch outputs Pressure sensor, Tube exhaust VQD 	VQD23-45J-7-89

Twin nozzle type

Type	Model code	Type	Model code
Without Pressure senso, Silencer vent VQT 	VQT2C-45S-D24	Without Pressure sensor, Tube exhaust VQT 	VQT2C-45J-D249
Type	Model code	Type	Model code
2 switch outputs Pressure sensor, Silencer vent VQT 	VQT2C-45S-D24-8	2 switch outputs Pressure sensor, Tube exhaust VQT 	VQT2C-45J-D24-89

Replacement element



Notes

*1. Please select each code referring to the example of model designation. ②: Code of vacuum characteristics and nozzle bore, ③: Suction valve type code, ④: Vacuum port size code, ⑤: Supply air port size code, ⑦: Solenoid valve spec. code, and ⑧: Pressure sensor code.

*2. 100 VAC type and twin nozzle type are not CE marked.



CAD data is available at PISCO website.



Packaging specifications
1 pc. / bag



Options

⑨ : -S3 ⇒ -S3 spec. (Metal option)

Vacuum Generator Complex Type VK

16 mm wide complex type allows variety of unit combinations (Stand-alone and manifold types)

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)



(1) Vacuum Generator Complex Type VK

(2) Port position

Code	A	B	M
Port position	Stand-alone type with ports on 2 sides	Stand-alone type with ports on 1 side	Manifold type

(3) Vacuum characteristics

Code	H	L	E	No code
Charact.	High-vacuum type (Rated supply pressure: 0.5 MPa)	Large-flow type (Rated supply pressure: 0.5 MPa)	High-vacuum at Low air supply pressure type (Rated air supply pressure: 0.35 MPa)	Manifold-base alone

(4) Nozzle bore

Applicable unit combination code: For A, C, E, G, J, L, P, Q, R, S, T, W

Code	Nozzle bore (mm)	H type			Lt type			E type		
		Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])
05	0.5	-91	7 [7] <7>	11.5	-67	12 [12] <12>	11.5	—	—	—
07	0.7	-93	13 [13] <13>	23	-67	24 [26] <26>	23	-91	10.5 [10.5] <10.5>	17
10	1.0	-93	27 [27] <27>	46	-67	37 [40] <40>	46	-91	21 [21] <21>	34
12	1.2	-93	32 [38] <38>	70	-67	37 [50] <50>	70	-91	27 [27] <27>	47
No code		Manifold-base alone								

Applicable unit combination code: For B, D, F, H, K, M

Code	Nozzle bore (mm)	H type			L type			E type		
		Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])
05	0.5	-86.5	5.4 [5.4] <5.4>	11.5	-66.5	10 [10] <10>	11.5	—	—	—
07	0.7	-90.5	11 [11] <11>	23	-66.5	19 [19] <19>	23	-86.5	8.4 [8.4] <8.4>	17
10	1.0	-90.5	19 [19] <19>	46	-66.5	24 [24] <24>	46	-86.5	15.4 [15.4] <15.4>	34
12	1.2	-90.5	24 [24] <24>	70	-66.5	24 [27] <27>	70	-90.5	19 [19] <19>	47
No code		Manifold-base alone								

*1. Values are when rated pressure is applied. (H and L type: 0.5 MPa, E type: 0.35 MPa.)

*2. Suction flow values on the left represent those of vacuum port dia. 4 mm or ø5/32", those in [] are of vacuum port dia. of 6 mm or 1/4", and those in < > are of vacuum port dia. of 8mm or 5/16".

*3. The values in the table are representative values. Suction flow can vary by vacuum port dia. and tube length.

(5) Combination of units (18 types) * ○ : Equipped

Code	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	T	W	No code
Filter	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Suction solenoid valve	—	—	—	—	—	—	○	○	○	○	○	○	○	○	○	○	○	○	
Check valve (Vacuum retention func.)	—	○	—	○	—	○	—	○	—	○	—	○	—	—	—	—	—	—	
Mechanical pressure sensor	—	—	○	○	—	—	—	—	○	○	—	—	—	○	—	—	○	—	
Pressure sensor with LED display	—	—	—	—	○	○	—	—	—	—	○	○	—	—	○	—	—	○	
Air timer type blow-off valve	—	—	—	—	—	—	—	—	—	—	—	—	○	○	○	—	—	—	
Solenoid valve type blow-off valve	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	○	○	

Manifold-base alone

(6) Vacuum port size (V)

■ Stand-alone type

Code	mm size (mm)			inch size (inch)		
	04	06	08	5/32	1/4	5/16
Tube O.D.	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16

■ Manifold type (VKM)

Port position	Side (Straight)							Top (Straight)					
	mm size (mm)			inch size (inch)				mm size (mm)			inch size (inch)		
Code	S4	S6	S8	S5/32	S1/4	S5/16	PP	T4	T6	T8	T5/32	T1/4	T5/16
Tube O.D.	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16	Plug	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16
Code	OO												

Applicable to a manifold installation top-mounting unit alone with the vacuum port on the side, or to manifold-base alone with any vacuum port in different size.

* See "Manifold Type (reference)" on page 283 to confirm the port position.