PISCO® NEWS
No, NP113-01e
PISCO®

Vacuum Generator VUL

Inline type



Introducing Low-vacuum, large-flow type.

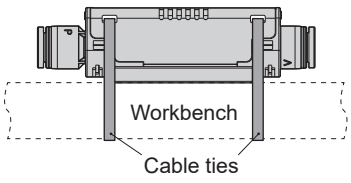
At a rated supply pressure of 0.3 MPa (a 40% pressure reduction*1), it delivers 1.1 times the suction flow rate of the Large-flow type*2. It is ideal for applications where high vacuum is not required (excluding the 2.0 mm nozzle bore).

*1. Value relative to the 0.5 MPa rated supply pressure of the Large-flow type.
*2. Comparison of suction flow rates between the Large-flow type and the Low-vacuum, large-flow type, measured with a 1.5 mm nozzle bore and a 10 mm vacuum port.

Tool-free maintenance.

Users can disassemble and clean the unit themselves to ensure long-term performance.

Can be secured to a workbench or equipment frame with cable ties.



Available with optional mounting brackets.

Model designation (Example)

V (1) UL (2) H (3) 15 (4) - 12 (5) 12 (6) A (7)

(1) Vacuum Generator

(2) Type

Code	UL
Type	Large-sized pipe type

(3) Vacuum characteristics

Code	H	L	E	B
Characteristics	High-vacuum type	Large-flow type	High-vacuum at Low air pressure supply type	Low-vacuum, large-flow type
Rated supply pressure (MPa)	0.5		0.35	0.3

(4) Nozzle bore

Code	Nozzle bore (mm)	H type				L type			
		Final vacuum (kPa)	Suction flow (L/min [ANR])		Air consumption (L/min [ANR])	Final vacuum (kPa)	Suction flow (L/min [ANR])		Air consumption (L/min [ANR])
			Vacuum port size (mm)				Vacuum port size (mm)		
			ø10 (ø3/8)	ø12 (ø1/2)			ø10 (ø3/8)	ø12 (ø1/2)	
15	ø1.5	-88	56.5	56.5	110	-62	85.5	95	110
20	ø2.0	-88	93.5	93.5	220	-62	149	157	220

Code	Nozzle bore (mm)	E type				B type					
		Final vacuum (kPa)	Suction flow (L/min [ANR])		Air consumption (L/min [ANR])	Final vacuum (kPa)	Suction flow (L/min [ANR])				Air consumption (L/min [ANR])
			Vacuum port size (mm)				Vacuum port size (mm)				
			ø10 (ø3/8)	ø12 (ø1/2)			ø6 (ø1/4)	ø8 (ø5/16)	ø10 (ø3/8)	ø12 (ø1/2)	
10	ø1.0	—	—	—	—	-17	36	43	—	—	36
12	ø1.2	—	—	—	—	-17	—	—	69	73	55
15	ø1.5	-87	37.5	37.5	77	-17	—	—	87	107	79
20	ø2.0	-87	73.5	73.5	165	—	—	—	—	—	—

*1. The values in the table are typical values. Suction flow can vary by vacuum port size of the product. Contact PISCO sales office near you for details.

*2. The performance of vacuum generators can be affected by atmospheric pressure or piping conditions. The values in the table are minimums under our specific measurement conditions. Actual vacuum performance may not meet these values indicated in the specifications depending on the atmospheric pressure or piping conditions.

(5) Vacuum port size (V)

	mm size (mm)				Inch size (in)			
Code	6	8	10	12	1/4	5/16	3/8	1/2
Tube O.D.	ø6	ø8	ø10	ø12	ø1/4	ø5/16	ø3/8	ø1/2

(6) Air supply port size (P) *Vacuum and air supply port sizes must be identical.

	mm size (mm)				Inch size (in)			
Code	6	8	10	12	1/4	5/16	3/8	1/2
Tube O.D.	ø6	ø8	ø10	ø12	ø1/4	ø5/16	ø3/8	ø1/2

(7) Exhaust spec.

Code	A
Specification	Open to air (Silencer vent)

Model Designation of Bracket (Example)

VULK (1) – M (2)

(1) Bracket for VUL

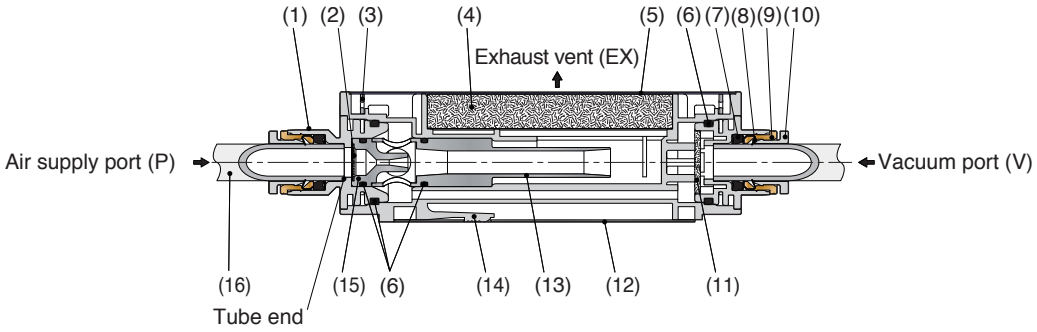
(2) Size

Code	M	L
Applicable VUL model code	VULB10	VULB12
		VUL□15
		VUL□20

Specifications

Fluid medium	Air		
Operating pressure range	0.15 to 0.7 MPa		
Rated supply pressure	0.5 MPa: H & L types	0.35 MPa: E type	0.3 MPa: B type
Operating temperature range	0 to 60°C (No freezing)		

Sectional drawing



No.	Parts	Material (treatment)
(1)	Fitting body	PBT
(2)	Stainless steel mesh	Stainless steel
(3)	Locking plate	Aluminum (Trivalent passivated)
(4)	Silencer Element	PVFM
(5)	Top cover	Aluminum (Anodized)
(6)	O-ring	NBR
(7)	Elastic sleeve	NBR
(8)	Lock claws	Stainless steel

No.	Parts	Material (treatment)
(9)	Guide ring	Nickel-plated brass
(10)	Release-ring	POM
(11)	Filter Element	PVFM
(12)	Bottom cover	Aluminum (Anodized)
(13)	Diffuser	Nickel-plated aluminum
(14)	Body	POM
(15)	Nozzle	Nickel-plated aluminum
(16)	Tube	Polyurethane, Nylon, etc.

⚠ Detailed safety instructions

Be sure to read the safety instructions before use. Please visit the PISCO website for “Safety instructions”, “Detailed safety instructions for the products listed” and “Common safety instructions for Vacuum series”.

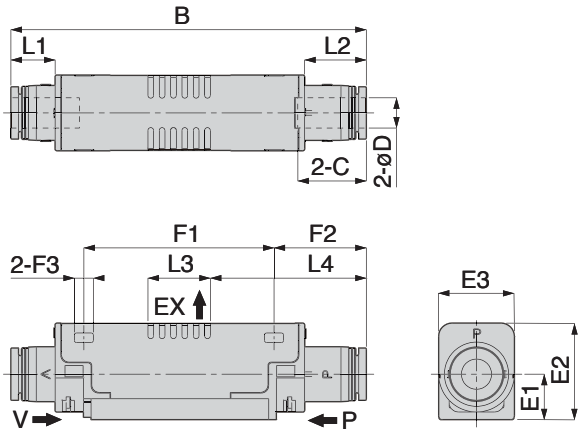
⚠ Caution

1. Do not operate the product without Silencer Element.
2. Do not operate the product in any manner other than described in the installation and maintenance procedures. Failure to do so may cause personal injury or product damage.

Outline dimensions

VUL Inline, Large-sized pipe type (Open to air)

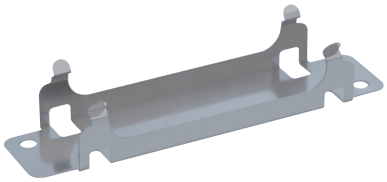


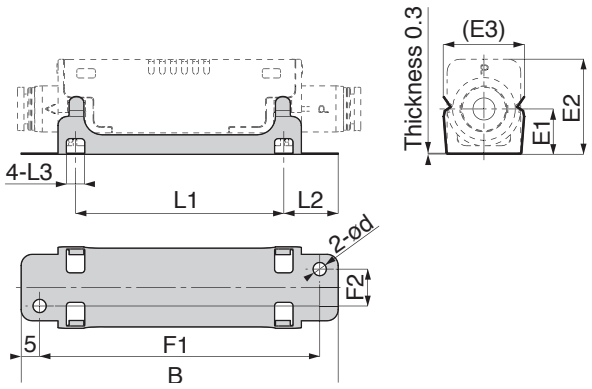


Unit: mm

Model code	Tube O.D. øD	B	L1	L2	L3	L4	Tube end C	E1	E2	E3	F1	F2	F3	Weight (g)	Nozzle bore (ø)	Rated supp. press. (MPa)	Final vacuum (-kPa)	Suction flow [L/min (ANR)]	Air consump. [L/min (ANR)]
VULB10-66A	6	93.2	11.1	16.2	16.5	41.1	17	12	25.5	20	50.3	24.3	5	31	1.0	0.3	17	36	36
VULB10-88A	8	94	11.7	16.3		41.3	18.1							33				43	
VULB 0A	10	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	81	1.2			69	55
VULB12-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		86				73	
VULB15-1010A	10	139.8	12.7	19.1		56.3	20.2					29.5		81	1.5			87	79
VULB15-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		86				107	
VULH15-1010A	10	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	83	1.5	0.5	88	56.5	110
VULH15-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		88					
VULH20-1010A	10	139.8	12.7	19.1		56.3	20.2					29.5		83	2.0			93.5	220
VULH20-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		88					
VULL15-1010A	10	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	83	1.5	0.5	62	85.5	110
VULL15-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		88				95	
VULL20-1010A	10	139.8	12.7	19.1		56.3	20.2					29.5		81	2.0			149	220
VULL20-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		86				157	
VULE15-1010A	10	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	83	1.5	0.35	87	37.5	77
VULE15-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		89					
VULE20-1010A	10	139.8	12.7	19.1		56.3	20.2					29.5		82	2.0			73.5	165
VULE20-1212A	12	143.5	14.2	21.3		58.5	23.4					31.7		88					
VULB10-1/4-1/4A	1/4	93.2	11.1	16.2	16.5	41.1	17	12	25.5	20	50.3	24.3	5	31	1.0	0.3	17	36	36
VULB10-5/16-5/16A	5/16	94	11.7	16.3		41.3	18.1							33				43	
VULB12-3/8-3/8A	3/8	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	81	1.2			69	55
VULB12-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		86				73	
VULB15-3/8-3/8A	3/8	139.8	12.7	19.1		56.3	20.2					29.5		81	1.5			87	79
VULB15-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		85				107	
VULH15-3/8-3/8A	3/8	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	83	1.5	0.5	88	56.5	110
VULH15-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		87					
VULH20-3/8-3/8A	3/8	139.8	12.7	19.1		56.3	20.2					29.5		83	2.0			93.5	220
VULH20-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		87					
VULL15-3/8-3/8A	3/8	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	83	1.5	0.5	62	85.5	110
VULL15-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		87				95	
VULL20-3/8-3/8A	3/8	139.8	12.7	19.1		56.3	20.2					29.5		81	2.0			149	220
VULL20-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		85				157	
VULE15-3/8-3/8A	3/8	139.8	12.7	19.1	30	56.3	20.2	16	35	28	87.8	29.5	5.5	84	1.5	0.35	87	37.5	77
VULE15-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		88					
VULE20-3/8-3/8A	3/8	139.8	12.7	19.1		56.3	20.2					29.5		83	2.0			73.5	165
VULE20-1/2-1/2A	1/2	143.5	14.2	21.3		58.5	23.7					31.7		87					

VULK Bracket for Inline type





Unit: mm

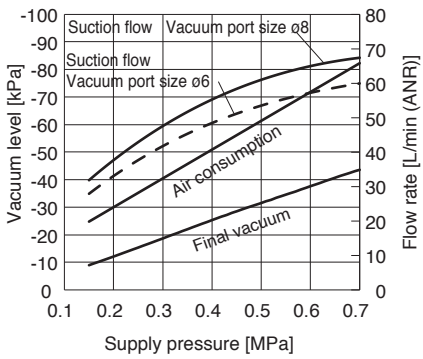
Model code	B	L1	L2	L3	E1	E2	E3	ød	F1	F2	Weight (g)	Applicable VUL model code
VULK-M	86	56.5	14.75	5	12.3	25.8	22.1	3.6	76	10	5.7	VULB10
VULK-L	128	95.5	16.25	8	16.3	35.3	30.9	4.6	118	16	13	VULB12
												VUL□15
												VUL□20

*Material: SUS304

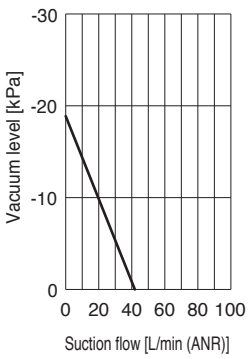
Characteristics

VULB10

Vacuum characteristics

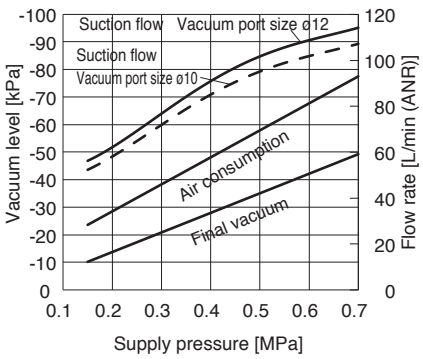


Flow characteristics

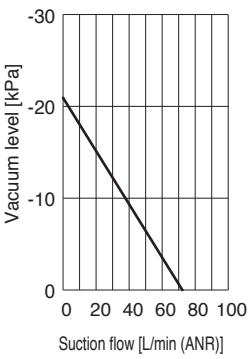


VULB12

Vacuum characteristics

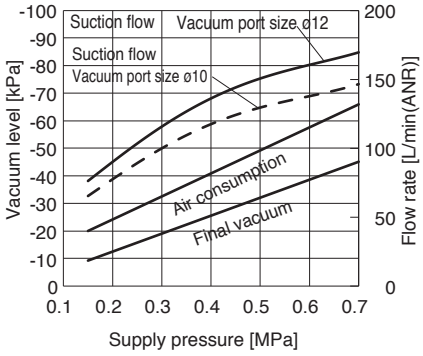


Flow characteristics

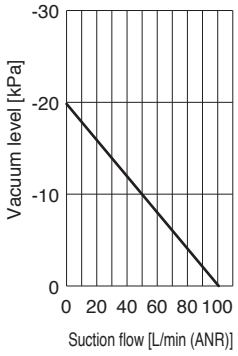


VULB15

Vacuum characteristics

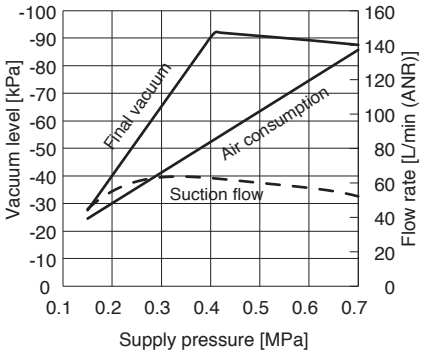


Flow characteristics

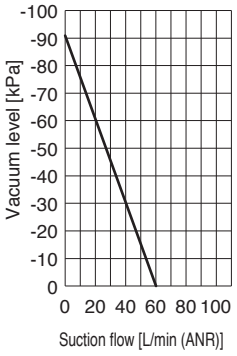


VULH15

Vacuum characteristics

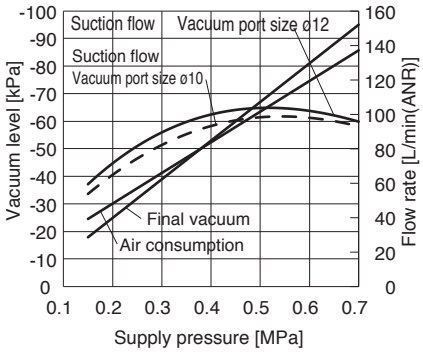


Flow characteristics

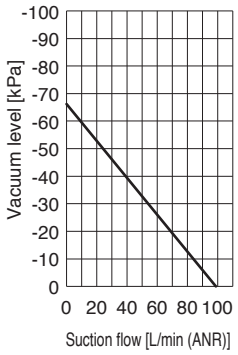


VULL15

Vacuum characteristics

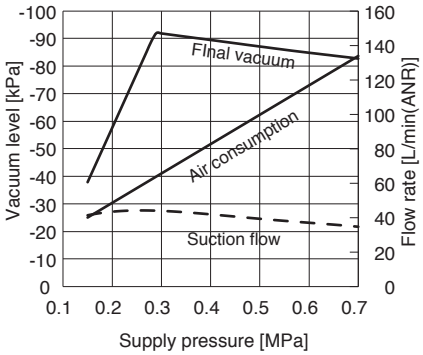


Flow characteristics

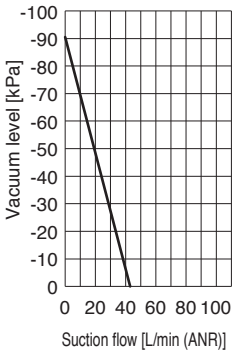


VULE15

Vacuum characteristics

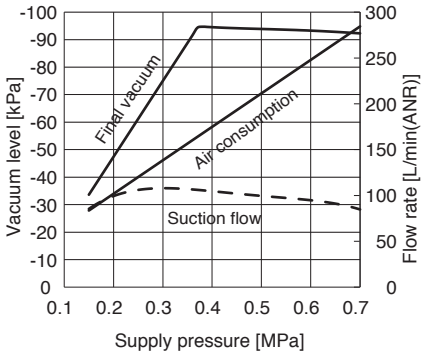


Flow characteristics

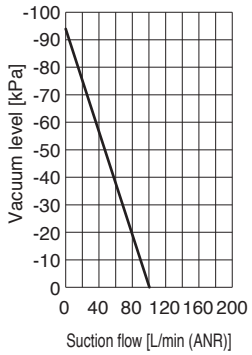


VULH20

Vacuum characteristics

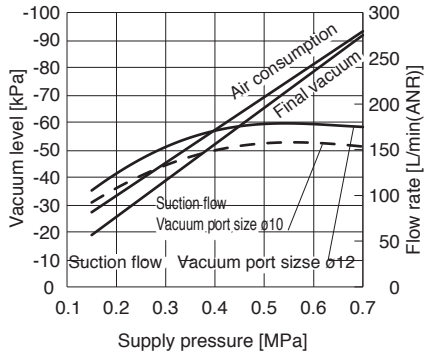


Flow characteristics

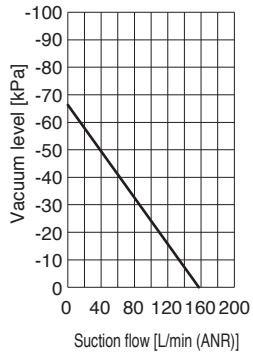


VULL20

Vacuum characteristics

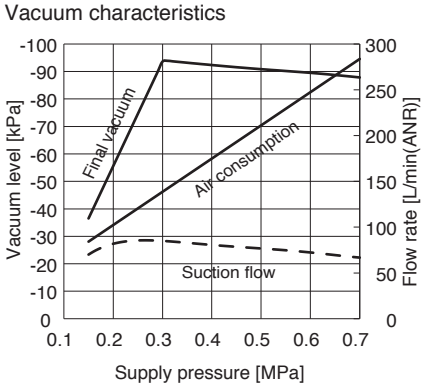


Flow characteristics

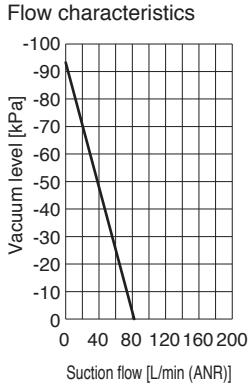


VULE20

Vacuum characteristics



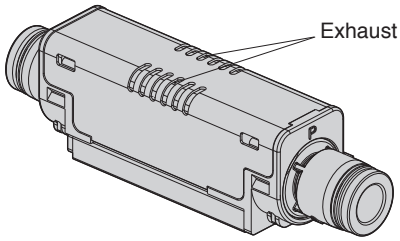
Flow characteristics



Installation procedure

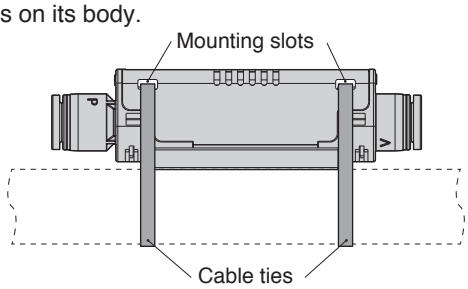
⚠ Caution

1. Do not block the exhaust vents.



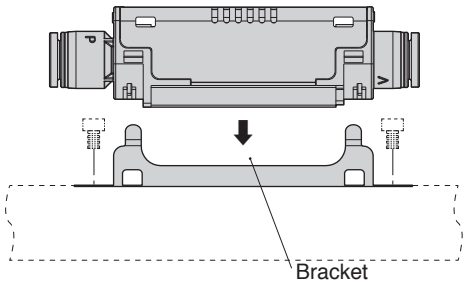
■ Securing with cable ties

Install VUL by pas sing the cable ties through the mounting slots on its body.

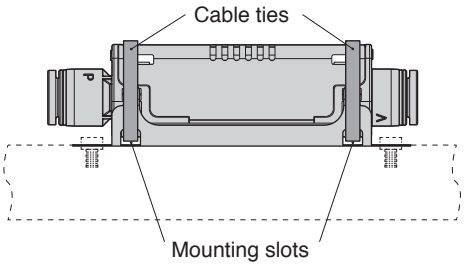


■ Using optional bracket

First, secure the bracket to the equipment or designated surface, and then install VUL.

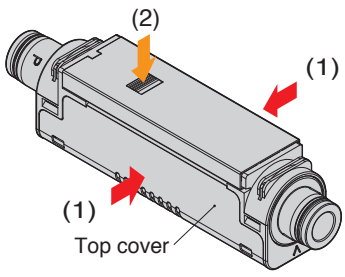


If equipment vibration, impact, or piping conditions could cause VUL to get detached, secure it using cable ties passed through the mounting slots on the bracket.

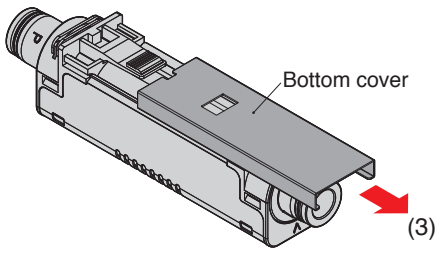


Maintenance procedure

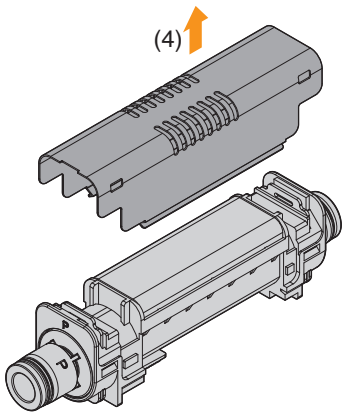
■ Disassembly sequence



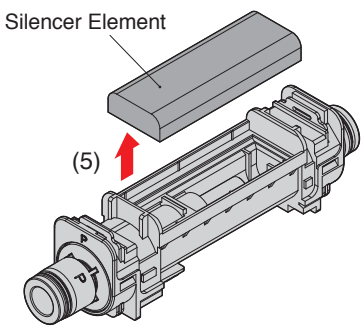
(1) Lightly press both sides of the top cover.
(2) Lightly press the snap-fit.



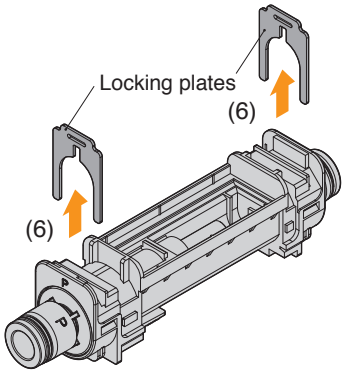
(3) While pressi ng both (1) and (2), slide out the bottom cover.



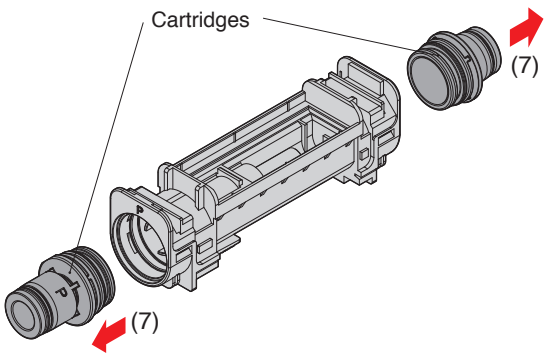
(4) Remove the top cover.



(5) Remove Silencer Element.



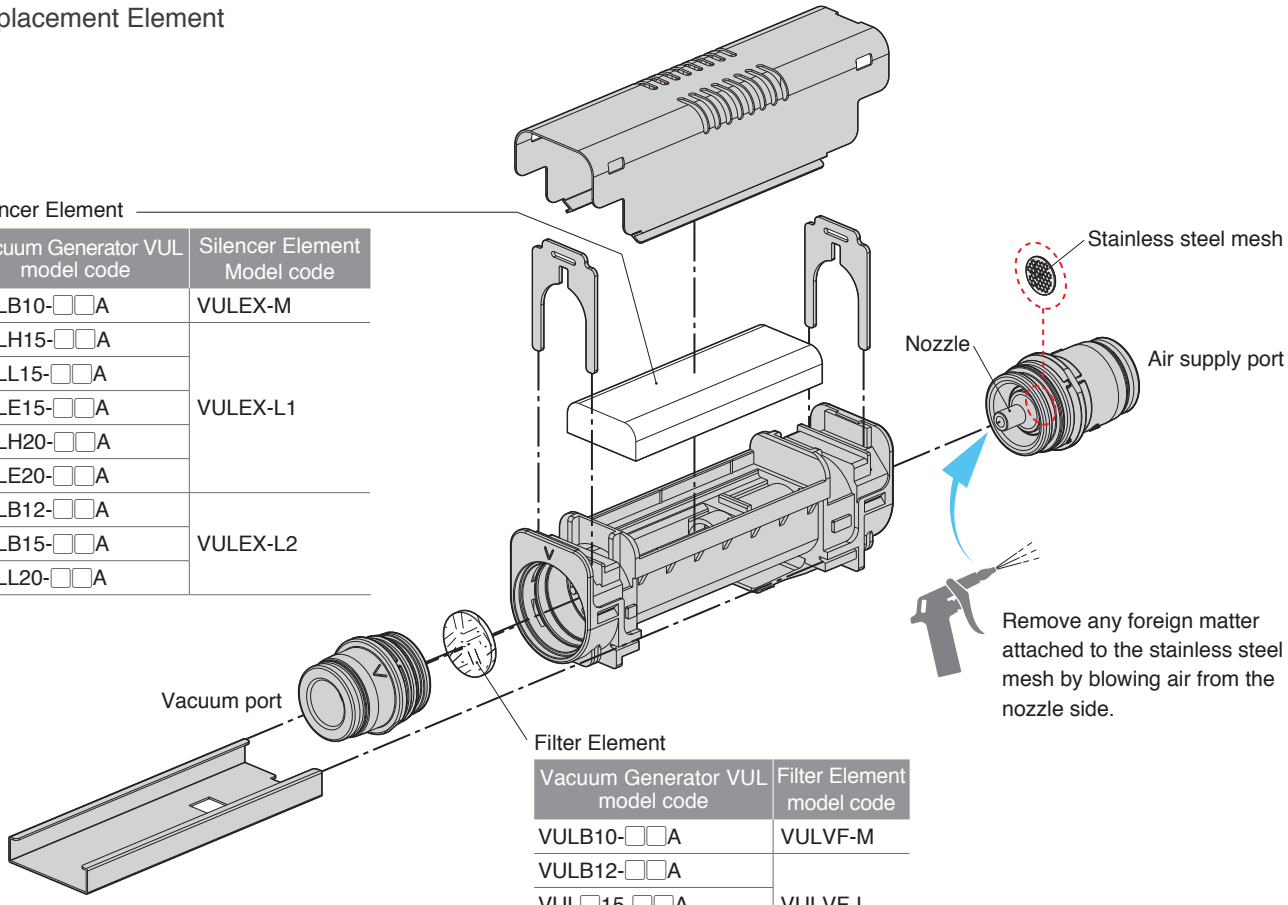
(6) Remove the locking plates .



(7) Remove the cartridges.

Maitenance

Replacement Element

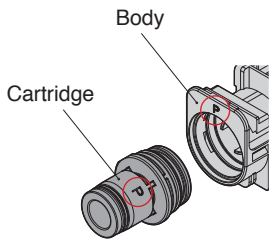


Vacuum Generator VUL model code	Silencer Element Model code
VULB10-□□A	VULEX-M
VULH15-□□A	VULEX-L1
VULL15-□□A	
VULE15-□□A	
VULH20-□□A	
VULE20-□□A	
VULB12-□□A	VULEX-L2
VULB15-□□A	
VULL20-□□A	

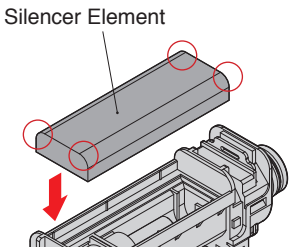
Vacuum Generator VUL model code	Filter Element model code
VULB10-□□A	VULVF-M
VULB12-□□A	VULVF-L
VUL□15-□□A	
VUL□20-□□A	

Assembly sequence

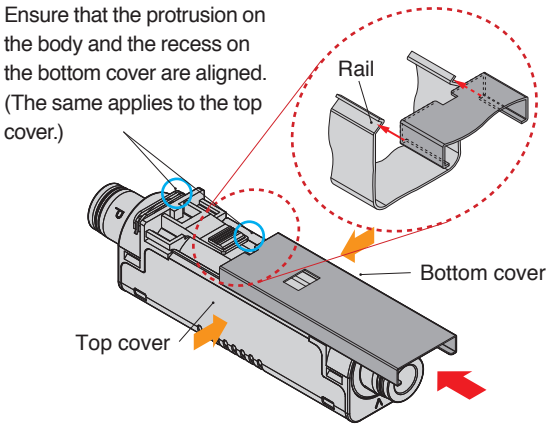
Assemble in the reverse order of the disassembly sequence, from steps (7) to (3).
Please pay special attention to the following points for steps (7), (5), and (3).



(7) Match the P and V markings of the body and the cartridge.



(5) When placing Silencer Element, orient the rounded corners outward.



(3) While lightly pressing both sides of the top cover, slide the bottom cover along the rails of the top cover until it settles into place.

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