

Vacuum filter compatible with various vacuum pipes
Vacuum filter

VSFB/VSFU/VSFJ Series

● Port size: M5, $\phi 4$, $\phi 6$, $\phi 8$, $\phi 10$, $\phi 12$

RoHS

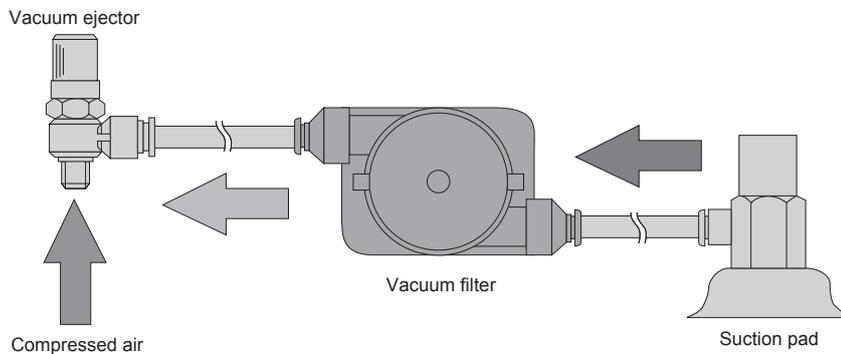
Features

Union type VSFB/VSFU

- Dust and water droplets suctioned by the vacuum ejector are removed by cyclone effect and element. (Large capacity union: VSFB)
- Since the dust case is large, maintenance frequency is reduced.
- Dust scattering is prevented because the entire dust case can be detached with one touch. (Large capacity union: VSFB)
- The small vacuum filter is ideal for applications where a high cycle vacuum system is required. (Compact union: VSFU)

Piping example

- Lay piping between the vacuum ejector and the suction pad to remove dust and dirt from the pad and prevent the vacuum ejector from malfunctioning.



Socket type VSFJ

- Since body and nipple are integrated and resin material is used, small size and light weight are realized.
- Now with filter function inside the socket.
- Ideal for single vacuum ejectors such as VSH that do not have a built-in filter.

Specifications

Descriptions	VSFB/VSFU/VSFJ
Working fluid	Air
Working pressure kPa	-100 to 0
Filtration rating μm	10
Operating ambient temperature $^{\circ}\text{C}$	0 to 60 (no freezing)

How to order

- Large capacity union

VSFB - 1010

Ⓐ Vacuum side port size - Pad side port size

Code	Content
Ⓐ Vacuum side port size - Pad side port size	
66	Push-in fitting ø6 - Push-in fitting ø6
88	Push-in fitting ø8 - Push-in fitting ø8
1010	Push-in fitting ø10 - Push-in fitting ø10
1212	Push-in fitting ø12 - Push-in fitting ø12

- Maintenance part model No.

· Filter element

VSFB-E

- Compact union

VSFU - 3 - 1010

Ⓐ Filter size

Ⓑ Vacuum side port size - Pad side port size

Code	Content
Ⓐ Filter size	
1S	Filtration area 2.8 cm ² (element length: 15 mm)
1L	Filtration area 4.7cm ² (element length: 25mm)
2	Filtration area 7.5 cm ²
3	Filtration area 12.5cm ²
Ⓑ Vacuum side port size - Pad side port size	
44	Push-in fitting ø4 - Push-in fitting ø4
66	Push-in fitting ø6 - Push-in fitting ø6
88	Push-in fitting ø8 - Push-in fitting ø8
1010	Push-in fitting ø10 - Push-in fitting ø10
M55	M5x0.8-M5x0.8

- Filter size - port size combination table

Port size Model No.	44	66	88	1010	M55
VSFU-1S	●	●			●
VSFU-1L	●	●			●
VSFU-2	●	●			
VSFU-3		●	●	●	

- Maintenance part model No.

· Bracket

VSFU - 3 - B

Ⓐ Size

Code	Content
Ⓐ Size	
1	Filter size 1S, 1L common
2	For filter size 2
3	For filter size 3

· Filter element

VSFU - 3 - E

Ⓐ Filter size

Code	Content
Ⓐ Filter size	
1S	Filtration area 2.8 cm ² (element length: 15 mm)
1L	Filtration area 4.7 cm ² (element length: 25 mm)
2	Filtration area 7.5 cm ²
3	Filtration area 12.5cm ²

- Socket

VSFJ - 44

Ⓐ Port size

Code	Content
Ⓐ Port size	
44	ø4 push-in fitting
66	ø6 push-in fitting

Vacuum-related products

VSECV

VSRVV

VSLF

VSFB/VSFU
VSFJ

FSL

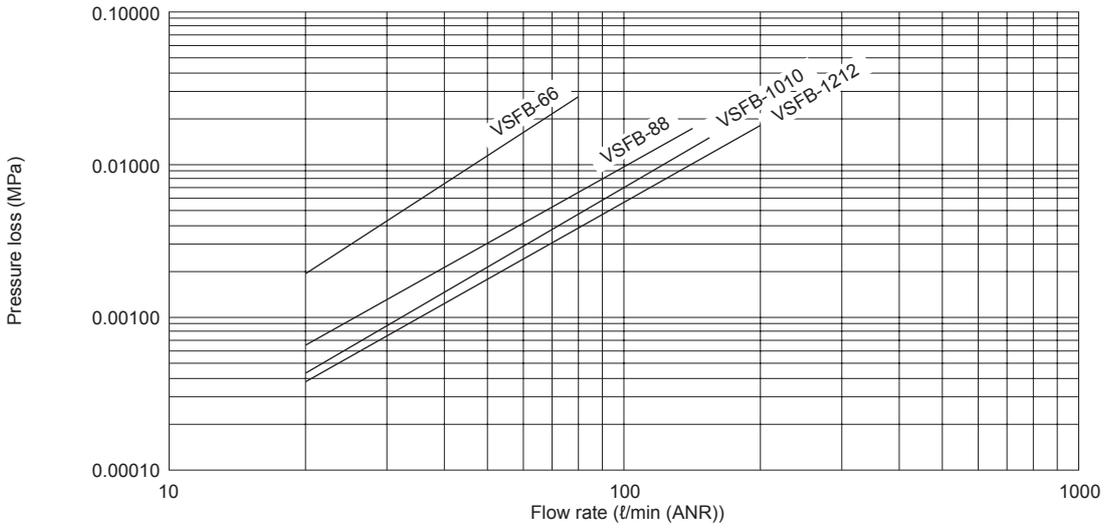
VSUS

VST

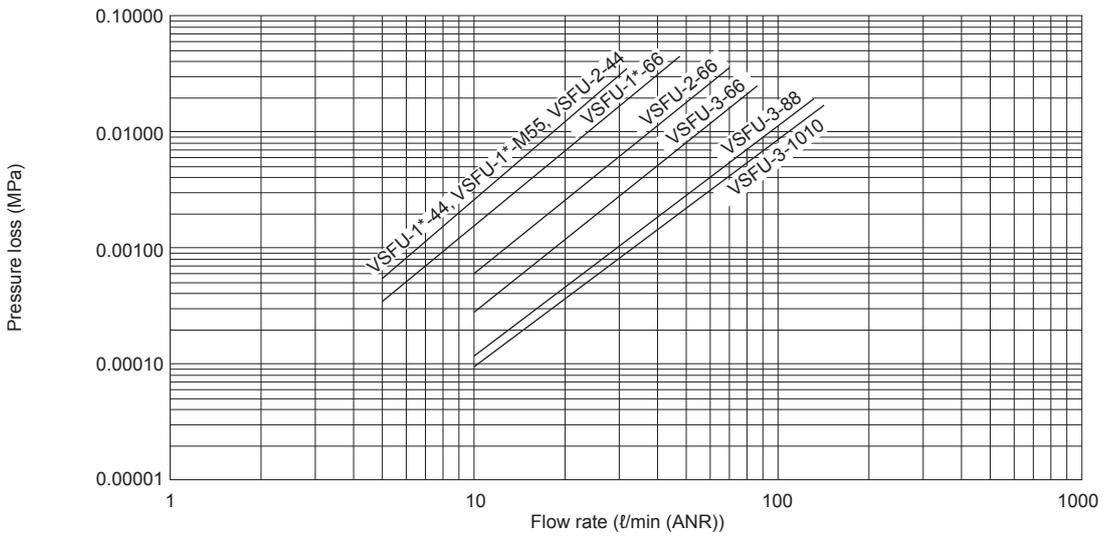
VSFB/VSFU/VSFJ Series

Pressure loss

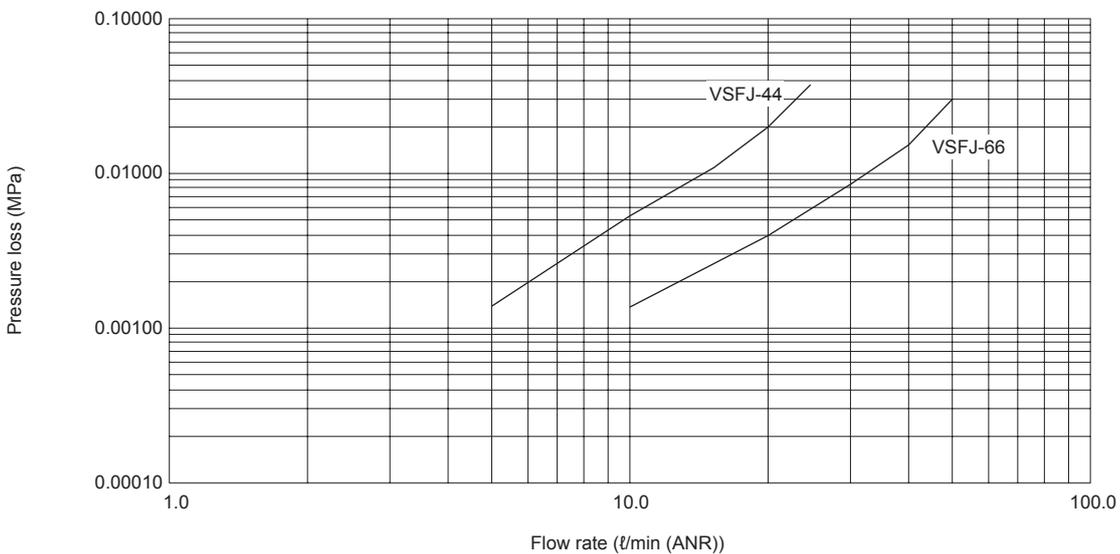
● Large capacity union VSFB



● Compact union VSFU



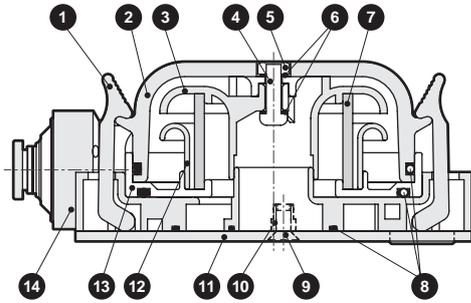
● Socket VSFJ



* This data is actual measured values and not guaranteed values.

Internal structure and parts list

● Large capacity union VSFB



Model No.	Part name	Material	Remarks
1	Fastener	Acetal resin	
2	Case	Polycarbonate	
3	Air guide	Acetal resin	
4	Pan head machine screw		
5	Hexagon nut		
6	Gasket	Stainless steel + nitrile rubber	
7	Filter element	PVF resin	
8	O-ring	Nitrile rubber	
9	Flat head machine screw		
10	Socket	Brass	Electroless nickel plating
11	Base plate	Brass	Electroless nickel plating
12	Dust guide	Acetal resin	
13	Case cover	ABS resin	
14	Resin body		

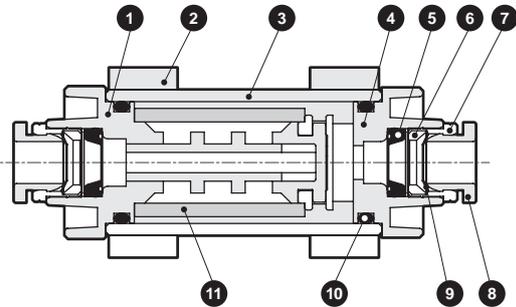
Vacuum-related products

VSECV

VSRRV

VSLF

● Compact union VSFU



Model No.	Part name	Material	Remarks
1	Resin body A	PBT resin	
2	Holder	Acetal resin	
3	Cover	Polyamide resin	
4	Resin body B	PBT resin	
5	Elastic sleeve	Nitrile rubber	
6	Lock ring	Brass	Electroless nickel plating
7	Guide ring	Brass	Electroless nickel plating
8	Release ring	Acetal resin	
9	Lock claw	Stainless steel	
10	O-ring	Nitrile rubber	
11	Filter element	PVF resin	

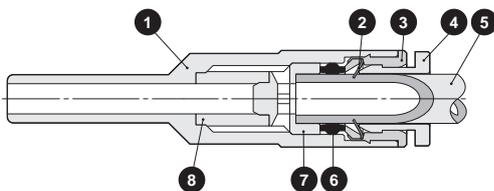
VSFB/VSFU
VSFJ

FSL

VSUS

VST

● Socket VSFJ

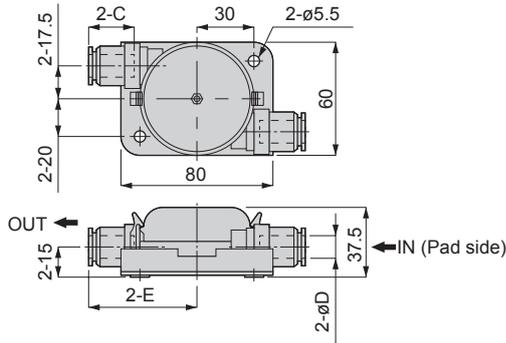


Model No.	Part name	Material
1	Resin body	Polypropylene
2	Lock claw	Stainless steel
3	Guide ring	Brass, electroless nickeling
4	Release ring	Acetal resin
5	Tube	Urethane or nylon
6	Elastic sleeve	Nitrile rubber
7	Element holder	Acetal resin
8	Filter element	PVF

VSFB/VSFU/VSFJ Series

Dimensions

● Large capacity union VSFB



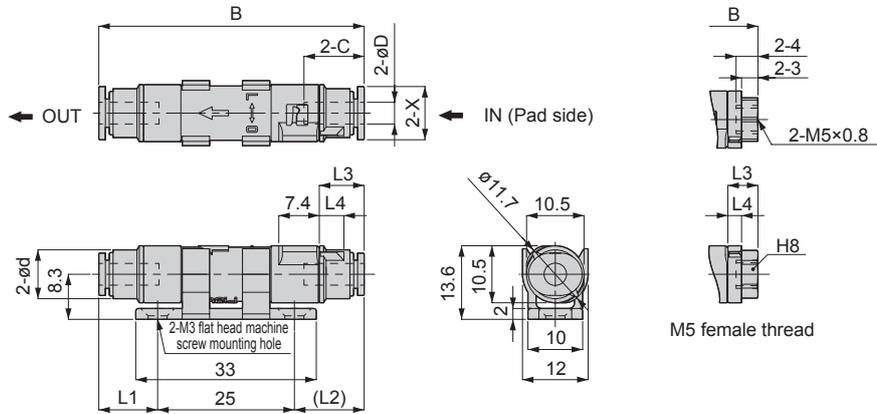
Unit: mm

Model No.	Tube O.D.øD	C	E	Filtration area (cm ²)	Weight (g)
VSFB-66	6	17	52.6	20	208
VSFB-88	8	18.2	53.9		207
VSFB-1010	10	20.7	54.8		201
VSFB-1212	12	23.3	57.4		198

* Replacement element: VSFB-E

● Compact union

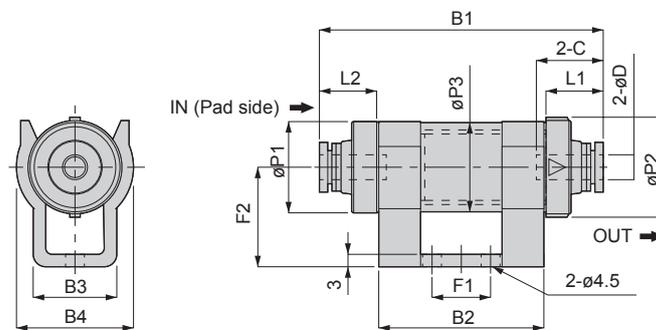
- VSFU-1*



Unit: mm

Model No.	Tube O.D.øD	B	C	L1	(L2)	L3	L4	ød	X	Element length	Filtration area (cm ²)	Weight (g)
VSFU-1S-44	4	49.1	11.3	11.1	13.0	8.5	4	10.5	9.8	15	2.8	5.1
VSFU-1L-44		59.1		17.1	17.0					25	4.7	5.4
VSFU-1S-66	6	53.8	11.8	13.4	15.4	10.8	4.5	10.5	11.8	15	2.8	6
VSFU-1L-66		63.8		19.4	19.4					25	4.7	6.4
VSFU-1S-M55	-	40.6	-	5.6	10	5.5	2.5	10.5	-	15	2.8	7.6
VSFU-1L-M55		50.6		11.6	14					25	4.7	8

- VSFU- $\frac{2}{3}$

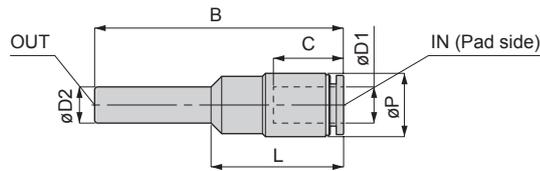


Unit: mm

Model No.	Tube O.D.øD	B1	B2	B3	B4	L1	L2	øP1	øP2	øP3	C	F1	F2	Filtration area (cm ²)	Weight (g)
VSFU-2-44	4	58	33	18	24	11.9	11.9	18.2	20	17.5	14.9	10	20	7.5	18
VSFU-2-66	6	60				13	13				16				19
VSFU-3-66	6	67.7	39.5	20	28	13.5	13.8	22.1	24	21.5	16.5	14	24	12.5	27
VSFU-3-88	8	70.1				14.9	14.7				17.9				29
VSFU-3-1010	10	72.7				16.2	16.0				19.2				32

Dimensions

● Socket VSFJ



Model No.	Tube O.D. øD1	Tube O.D. øD2	B	L	C	øP	Weight (g)	Filtration area (cm ²)
VSFJ-44	4	4	38.9	21.8	11.3	8	1.5	0.8
VSFJ-66	6	6	41.2	22	11.8	10.5	2.5	1.1

Safety precautions

Union type VSFB/VSFU

⚠ WARNING

- Large capacity union type: Never apply positive pressure for vacuum burst to the VSFB vacuum filter. It is not an explosion-proof structure. Due to low pressure resistance, damage to the product body may cause injuries.
- Compact union type, union type: VSFU is a vacuum filter. Avoid use in locations where pressure is continuously applied. Since it is not an explosion-proof structure, damage to the product body may cause injuries.
- Regularly perform maintenance and inspection for the filter element of the vacuum filter. A clogged element could decrease performance and cause other problems. Before replacing the element, read and understand the section on dust removal method and vacuum filter replacement element, change the internal pressure of the filter to the atmospheric pressure state and check the safety.

⚠ CAUTION

- Check the ⚠ safety precautions on Intro Page 17 for more information on the operating environment of the vacuum filter.
- Connect piping after checking the catalog or the IN or OUT on the body. The filter functions will not be satisfied if the pipes are connected in reverse.
- After removing the dust and replacing the element, securely fix the case and confirm that there is no vacuum leak.

Socket type VSFJ

⚠ WARNING

- Compact socket type: VSFJ is a vacuum filter. Avoid use in locations where pressure is continuously applied. Since it is not an explosion-proof structure, damage to the product body may cause injuries.
- Compact socket type: Periodically check the filter element. A clogged element could decrease performance and cause other problems. When replacing, the element cannot be replaced as a single unit, so replace the vacuum filter with a new one.
- Since the filter body material is PP, the resin may deteriorate due to direct sunlight or ultraviolet rays. When using in an atmosphere containing chemicals or in a place where chemicals could make contact, refer to CKD's chemical resistance data and check whether there is any impact on the material before use.

⚠ CAUTION

- Compact socket type: For piping connection, the nipple side is the vacuum ejector side port, and the fitting side is the workpiece side port. Reverse connection can be used, but the filter surface area will decrease. As well, element clogging will not be confirmable.

Vacuum-related products

VSECV

VSRVV

VSLF

VSFB/VSFU
VSFJ

FSL

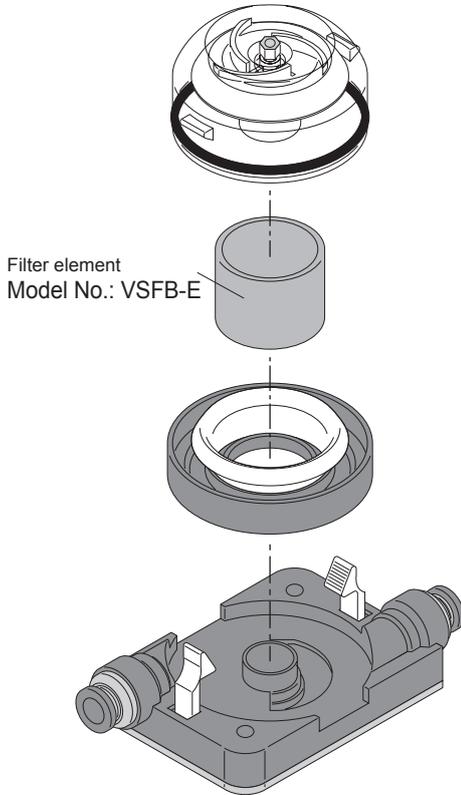
VSUS

VST

Usage methods

Vacuum filter replacement element

● Large capacity union type VSFB



Vacuum-related products

VSECV

VSRVV

VSLF

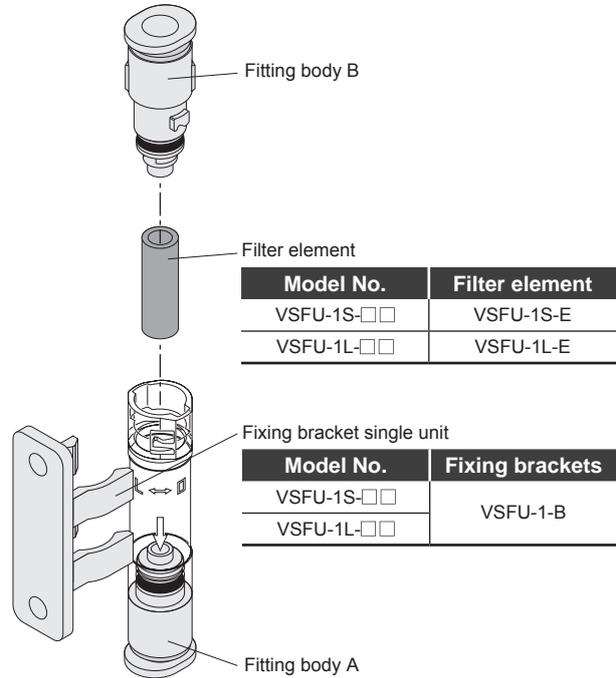
VSFB/VSFU
VSFJ

FSL

VSUS

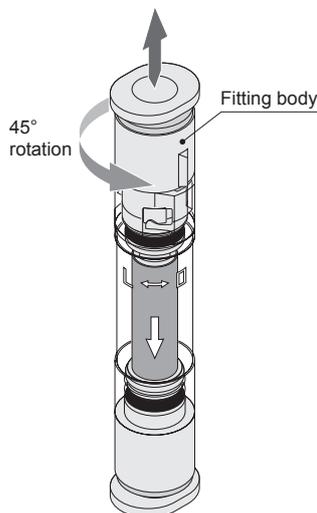
VST

● Compact union type VSFU-1*



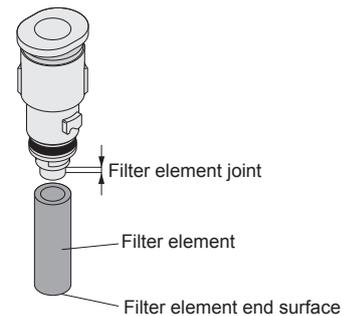
How to replace compact union type element

(1) Turn the fitting body 45° in the direction of "0". (After replacing, turn the fitting body until it locks in "L" direction.)



(2) Remove the turned fitting body from the filter cover and replace the filter element. When replacing, insert the filter element halfway into the filter element fitting and insert into the fitting body A so as not to crush the filter element end surface.

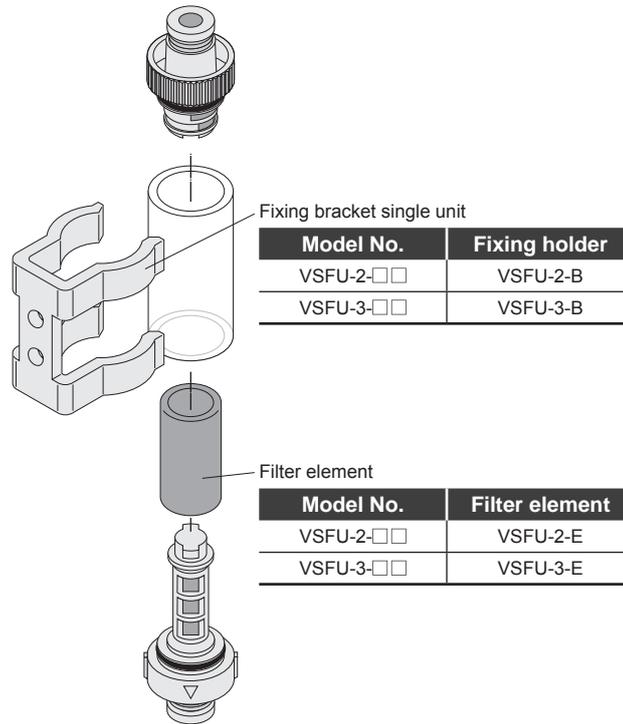
- *1: There are two types of replacement elements, 15 mm and 25 mm, so be sure to check before replacing.
- *2: After replacement is completed, install in the reverse order to above and securely lock the fitting body.



Usage methods

Vacuum filter replacement element

● Union type VSFU- $\frac{2}{3}$



Vacuum-related products

VSECV

VSRRV

VSLF

VSFB/VSFU VSFU

FSL

VSUS

VST

Body removal and locking method for union type element replacement

■ How to remove

- (1) Turn the plastic body B clockwise by 45 degrees.
- (2) Pull out the plastic body B.

* When turning the plastic body B, never turn by more than 45 degrees. There is a risk of damage to the body of the product.

■ Locking method

- (1) Push in the convex part of the plastic body A aligned to the key groove of the plastic body B until it hits the end.
- (2) Turn the plastic body B clockwise by 45 degrees^{*1} and lock.
 - *1. When turning the plastic body B, never turn by more than 45 degrees. There is a risk of damage to the body of the product.
 - *2. When locking, make sure that the convex part of the plastic body A comes to the center part of the hole of the plastic body B as shown in the figure below.

