Vacuum Filter

Vacuum Filter for Various Vacuum Piping

Model Designation (Example) of VFU (union type)

VF	U	1	-	66	-	15	P		
(1)	(2)	(3)		(4)		(5)	(6)	(7)	(8)
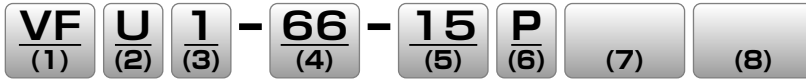
(1) Vacuum Filter

(2) Type
U: Union type

(3) Filter size

Code	0		1	2	3
Filter area (cm²)	1.4	2.8 (*1)	4.7 (*2)	7.5	12.5

*1. Filter area for element length: 15mm type
*2. Filter area for element length: 25mm type

(4) Connection type and size

	Tube O. D. (mm)						Tube O. D. (inch)				Female thread size	
Code	180180	33	44	66	88	1010	5/32-5/32	3/16-3-16	1/4-1/4	3/8-3/8	M3M3	55
Size	ø1.8	ø3	ø4	ø6	ø8	ø10	ø5/32	ø3/16	ø1/4	ø3/8	M3×0.5	M5×0.8

(5) Element length (Code entry for VFU 1only)

Code	15	25
Element length (mm)	15	25

(6) Body material (Code entry for VFU1, 2, 3)
P: Resin body type

(7) Holder

Code	No code	−NH
Holder	With holder	Without holder

(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	Light gray	Dark blue

*1. VFU0 type and connection size dia. 3mm are not available for -S3 spec.
*2. -S3 spec. is not available for inch size.

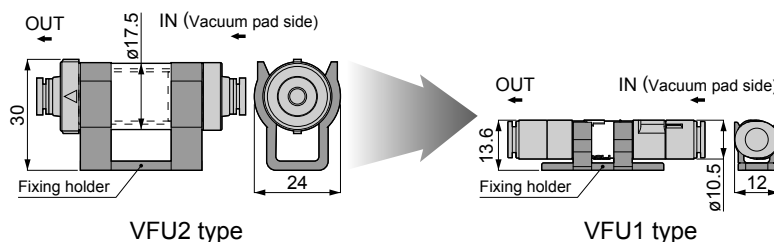## Characteristics of VFU type (union type)

● VFU2, 3 type

Easy installing in-line type. Pipe resistance is small and stable.

VFU

● VFU0, 1 type

Smallest footprint. Best suitable for applications where a high-cycle vacuum system is required.

As shown in the drawings below, VFU0, 1 types can be installed in narrow spaces.

OUT ø17.5 IN (Vacuum pad side)
30 Fixing holder 24
VFU2 type

OUT IN (Vacuum pad side)
13.6 Fixing holder ø10.5 12
VFU1 type

2 options (for VFU1 type only) of element size (Filter area)

Selectable from 2 types, depending on dust size or replacement timing of the element.

For IN and OUT side connection, Push-in fitting and female thread are selectable.

Piping with various items, especially with a Minimal fitting, can save installation space.

Example of connection with a Minimal fitting. ▶

● -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

Vacuum Filter

Model designation (Example) of VFB (large capacity: union type) and VFR (large capacity : bowl capacity 60 ㎥ type)

VF	B	20	–	6	–	6	
(1)	(2)	(3)		(4)		(5)	(6)

(1) Vacuum Filter

(2) Type

Code	B	R
Type	Large capacity union type	Large capacity (bowl capacity 60 ㎥) type

(3) Filter size
20: 20cm²

(4) IN side tube dia.

Code	6	8	10	12	16
Size	ø6	ø8	ø10	ø12	ø16

(5) OUT side tube dia.

Code	6	8	10	12	16	3/16	1/4	5/16	3/8	1/2	No code
Tube O.D.	ø6mm	ø8mm	ø10mm	ø12mm	ø16mm	ø3/16"	ø1/4"	ø5/16"	ø3/8"	ø1/2"	Open to air (VFR only) type

(6) Body color

Code	No code	–W
Body color	Black	Light gray

Characteristics of VFB (large capacity: union type) and VFR (large capacity : bowl capacity 60m² type)

● VFB (Union) type

| Easy detachment of dust case prevents scattering of dust.

| To be used in the vacuum circuit, between vacuum generator and vacuum pad, or between vacuum pump and matched device.
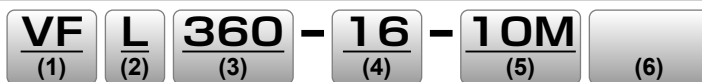
VFB

● VFR (bowl capacity 60m²) type

| Removing dust and water droplets sucked in by vacuum generator or vacuum pump by cyclone effect and element.

| Large dust case reduces maintenance frequency.

| Filter for vacuum generator exhaust port is also available.

VFR

Model Designation (Example) of VFL (large capacity: bowl capacity 90m² type)

VF	L	360	–	16	–	10M	
(1)	(2)	(3)		(4)		(5)	(6)

(1) Vacuum Filter

(2) Type
L: Large capacity (bowl capacity 90m²) type

(3) Processing flow rate
360: 360ℓ / min〔ANR〕

(4) Connection type and size

	Push-in fitting			Taper pipe female thread			Parallel pipe female thread		
Code	10	12	16	03	04	06	G3	G4	G6
Size	ø10	ø12	ø16	R3/8	R1/2	R3/4	G3/8	G1/2	G3/4

(5) Filtering accuracy

Code	1M	5M	10M	200M
Filtering accuracy (㎛)	1	5	10	200

(6) Bracket

Code	No code	–NB
Bracket	With bracket	Without bracket

Characteristics of VFL (large capacity: bowl capacity 90m²) type

| Flow rate: 360ℓ/min [ANR]. Large capacity ensures large flow rate.

| Four types of filtration accuracy can be selected according to applications.
Filtration accuracy: 1µm, 5µm, 10µm, 200µm

| Various types of connections.
Taper pipe female thread, Parallel pipe female thread and Push-in fitting are available.

VFL

Model Designation (Example) of VFJ (Plug-in type)

VF	J	44
(1)	(2)	(3)

(1) Vacuum Filter

(2) Type
J: Plug-in type

(3) Joint size

Code	33M	44	66	1/8-1/8M	1/4-1/4
Size	ø3mm	ø4mm	ø6mm	ø1/8"	ø1/4"

Characteristics of VFJ (Plug-in type)

▎Suitable for vacuum generator stand-alone type without built-in filter.

VFJ

▎Plug-in type with filter. PP material achieves a low price.

▎Built-in filter inside.

Piping example

Union type (VFU), Large capacity union type (VFB)

Place a vacuum filter between vacuum generator and vacuum pad, or between vacuum pump and matched device to filter out dust and prevent damage to vacuum generator or vacuum pump.

Union type (VFU)
Vacuum generator
Compressed air
Dust Vacuum pad
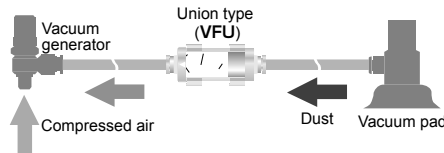
Large capacity type (bowl capacity 60m²) Open to air exhaust (VFR)

Open to air exhaust "VFR" is to be installed on the exhaust side of Vacuum Generator VRL for transferring tiny work-pieces like particles and powder.
* Contact us for particle transferring application.

Dust
Vacuum generator VRL
Compressed air
Open to air VFR
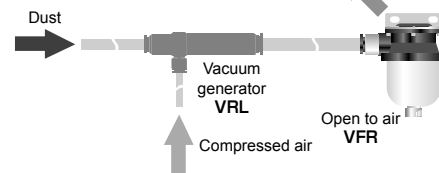
Large capacity type (bowl capacity 90m²) (VFL)

Large capacity vacuum filter, by being installed close to the large flow vacuum generator or the vacuum pump, would remove dust particles and prevent their mechanical failure.

Dust
Compressed air
Large capacity vacuum filter VFL
Vacuum generator VLM
Vacuum generator VVV

Dust
Large capacity vacuum filter VFL
Rotary Vacuum Pump RPV
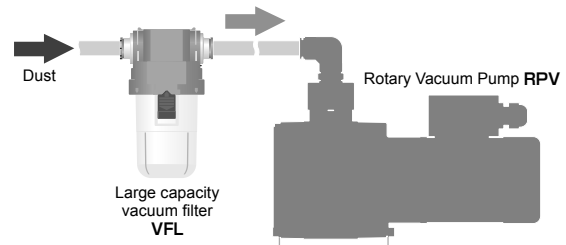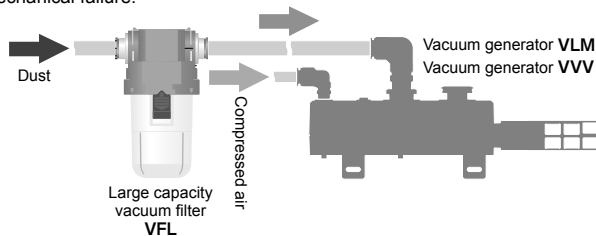
Vacuum

Specifications

■ VFU type

Type	VFU0	VFU1	VFU2	VFU3
Fluid medium	Air			
Operating pressure range	-100 to 0 kPa			
Filtering accuracy (*1)	5 µm (Trapping efficiency : 95%)			
Operating temp. range	0 to 60 ºC (No freezing)			
Filter area	1.4cm²	2.8cm² (*2) / 4.7cm² (*3)	7.5cm²	12.5cm²

*1. Based on PISCO measuring condition.
*2. Filter area for element length: 15mm type
*3. Filter area for element length: 25mm type

■ VFR, VFB type

Type	VFR	VFB
Fluid medium	Air	
Operating pressure range	-100 to 0 kPa	
Filtering accuracy (*)	10 µm	
Operating temp. range	0 to 60 ºC (No freezing)	
Filter area	20 cm²	

* Based on PISCO measuring condition.

■ VFL type

Type	
Fluid medium	Air
Operating pressure range	-101 to 0 kPa
Filtering accuracy (*1)	1, 5, 10, 200 µm (Trapping efficiency : 95%)
Operating temp. range	0 to 60 ºC (No freezing)
Filter area	64.4 cm²
Processing flow rate (*2)	360 ℓ/min〔ANR〕
Bowl capacity	90 cm³
Blow-off pressure (*3)	0.1 MPa max

*1. Based on PISCO measuring condition.
*2. Processing flow rate with the condition under which the filtration accuracy is 5 µm and the pressure loss is 3 kPa of a representative filter.
*3. Allowable internal pressure when a momentary positive pressure is applied for blow-off purpose.

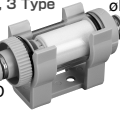### ■ VFJ type

Type	
Fluid medium	Air
Operating pressure range	-100 to 0 kPa
Filtering accuracy (*1)	5 µm (Trapping efficiency : 95%)
Operating temp. range	0 to 60ºC (No freezing)
Filter area	Joint size 33M, 44, 1/8-1/8M: 0.8cm² Joint size 66 1/4-1/4 : 1.1cm²

*1. Based on PISCO measuring condition.
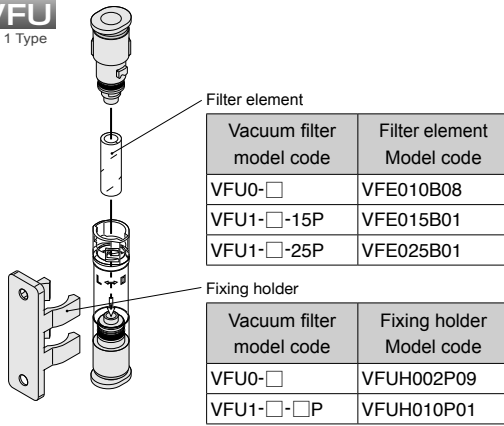*2. Proof pressure is 0.2MPa (29psi) max. when blow-off pressure is applied.
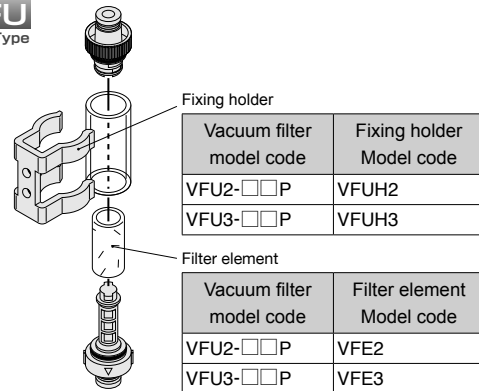
Vacuum Filter

Union type			Large capacity type (bowl capacity 60m²)						
Type	**Model code VFU③-M-⑤P⑦⑧**		**Type**	**Model code VFR20-øD-øD⑥**	**Model code VFR20-øD-øD**	**Type**	**Model code VFR20-øD⑥**	**Model code VFR20-øD**	
Union type Female thread **VFU** 0, 1 Type	VFU0-M3M3⑦		Union type **VFR** øD øD	VFR20-6-6⑥	VFR20-³/16-³/16	Open to air type **VFR** øD	VFR20-6⑥	VFR20-³/16	
	VFU1-55-15P⑦⑧			VFR20-8-8⑥	VFR20-¹/4-¹/4		VFR20-8⑥	VFR20-¹/4	
	VFU1-55-25P⑦⑧			VFR20-10-10⑥	VFR20-⁵/16-⁵/16		VFR20-10⑥	VFR20-⁵/16	
	* The picture shows the product with Holder.			VFR20-12-12⑥	VFR20-³/8-³/8		VFR20-12⑥	VFR20-³/8	
				VFR20-16-16⑥	VFR20-¹/2-¹/2		VFR20-16⑥	VFR20-¹/2	
				* The picture shows the product with a black body.			* The picture shows the product with a black body.		

Type	Model code VFU③-øD-⑤P⑦⑧	Model code VFU③-øDP⑦
Union type **VFU** 0, 1 Type øD / 2, 3 Type øD	VFU0-180180⑦	VFU2-⁵/32-⁵/32P⑦
	VFU0-33⑦	VFU2-³/16-³/16P⑦
	VFU1-33-15P⑦	VFU2-¹/4-¹/4P⑦
	VFU1-33-25P⑦	VFU3-³/16-³/16P⑦
	VFU1-44-15P⑦⑧	VFU3-¹/4-¹/4P⑦
	VFU1-44-25P⑦⑧	VFU3-⁵/16-⁵/16P⑦
	VFU1-66-15P⑦⑧	VFU3-³/8-³/8P⑦
	VFU1-66-25P⑦⑧	
	VFU2-44P⑦⑧	
	VFU2-66P⑦⑧	
	VFU3-66P⑦⑧	
	VFU3-88P⑦⑧	
	VFU3-1010P⑦⑧	

* The picture shows the product with Holder.

Large capacity union type

Type	Model code VFB20-øD-øD⑥	Model code VFB20-øD-øD
Union type **VFB** øD øD	VFB20-6-6⑥	VFB20-³/16-³/16
	VFB20-8-8⑥	VFB20-¹/4-¹/4
	VFB20-10-10⑥	VFB20-⁵/16-⁵/16
	VFB20-12-12⑥	VFB20-³/8-³/8
	VFB20-16-16⑥	VFB20-¹/2-¹/2

* The picture shows the product with a black body.

▌Replacement element

VFU 0, 1 Type

Filter element

Vacuum filter model code	Filter element Model code
VFU0-☐	VFE010B08
VFU1-☐-15P	VFE015B01
VFU1-☐-25P	VFE025B01

Fixing holder

Vacuum filter model code	Fixing holder Model code
VFU0-☐	VFUH002P09
VFU1-☐-☐P	VFUH010P01

VFU 2, 3 Type

Fixing holder

Vacuum filter model code	Fixing holder Model code
VFU2-☐☐P	VFUH2
VFU3-☐☐P	VFUH3

Filter element

Vacuum filter model code	Filter element Model code
VFU2-☐☐P	VFE2
VFU3-☐☐P	VFE3

VFB

Filter element

Filter element Model code
VFE20

VFR

Filter element

Filter element Model code
VFE20

O-ring

O-ring Model code
S55

CAD 2D 3D CAD data is available at PISCO website.

Package Packaging specifications
1 pc. /bag
10 pcs /bag : Filter element

Option Option
VFU type
⑦: −HN ⇒ Without holder
⑧: −S3 ⇒ -S3 spec.
VFB VFR type
⑥: −W ⇒ Light gray

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

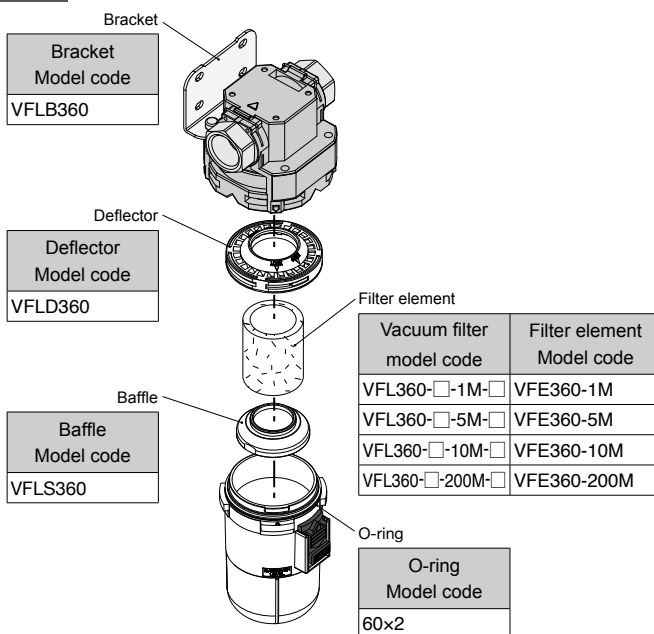### Large capacity type (bowl capacity 90m²)

Type	Model code VFL360-øD-⑤⑥	Type	Model code VFL360-R-⑤⑥ Taper pipe female thread	Model code VFL360-R-⑤⑥ Parallel pipe female thread
Push-in fitting type **VFL**	VFL360-10-1M⑥	Female thread type **VFL**		
	VFL360-10-5M⑥		VFL360-03-1M⑥	VFL360-G3-1M⑥
	VFL360-10-10M⑥		VFL360-03-5M⑥	VFL360-G3-5M⑥
	VFL360-10-200M⑥		VFL360-03-10M⑥	VFL360-G3-10M⑥
	VFL360-12-1M⑥		VFL360-03-200M⑥	VFL360-G3-200M⑥
	VFL360-12-5M⑥		VFL360-04-1M⑥	VFL360-G4-1M⑥
	VFL360-12-10M⑥		VFL360-04-5M⑥	VFL360-G4-5M⑥
	VFL360-12-200M⑥		VFL360-04-10M⑥	VFL360-G4-10M⑥
	VFL360-16-1M⑥		VFL360-04-200M⑥	VFL360-G4-200M⑥
	VFL360-16-5M⑥		VFL360-06-1M⑥	VFL360-G6-1M⑥
	VFL360-16-10M⑥		VFL360-06-5M⑥	VFL360-G6-5M⑥
* The picture shows the product with Bracket.	VFL360-16-200M⑥	* The picture shows the product with Bracket.	VFL360-06-10M⑥	VFL360-G6-10M⑥
			VFL360-06-200M⑥	VFL360-G6-200M⑥

Plug-in Type

Type	Model code VFJøDøD
Plug-in Type **VFJ**	VFJ33M
	VFJ44
	VFJ66
	VFJ¹/₈-¹/₈M
	VFJ¹/₄-¹/₄

Option
⑥: -NB ⇒ No bracket

▌Replacement element

VFL

Bracket Model code
VFLB360

Bracket

Deflector Model code
VFLD360

Deflector

Filter element

Vacuum filter model code	Filter element Model code
VFL360-□-1M-□	VFE360-1M
VFL360-□-5M-□	VFE360-5M
VFL360-□-10M-□	VFE360-10M
VFL360-□-200M-□	VFE360-200M

Baffle Model code
VFLS360

Baffle

O-ring

O-ring Model code
60×2

CAD 2D 3D
CAD data is available at PISCO website.

Package
Packaging specifications
1 pc. /bag

Vacuum