2.5"~3" length compact In-Line Filter

Positive-Negative Pressure 5 Micron

Copper alloy free Available

- *Keeping the same usability with vacuum filter "VFU Series" and usable with positive pressure.*
- *Suitable as pre-filter in positive pressure system.*
- *Element can be replaced without any tool, easy maintenance*
- *Positive-Negative Pressure Union Filter of Copper alloy free specification is available for the field requiring "No copper alloy" and "Low level ozone resistance".*

Model Designation (Example)

SFU 1 - 1/4-1/4 - ( ) - ( )

- SFU: Positive-Negative Pressure In-Line Filter
- ① Filter Size
- ② IN & OUT Tube Dia.
- ③ Holder
- ④ Material Option

① Filter Size

Code	1	2	3
Filter Area	.73 in² (4.7cm²)	1.16 in² (7.5cm²)	1.97 in² (12.7cm²)

② IN & OUT Tube Dia.

	Inch tubing O.D. (inch)				Metric tubing O.D. (mm)			
Code	5/32-5/32	1/4-1/4	5/16-5/16	3/8-3/8	44	66	88	1010
Tubing O.D.	5/32"	1/4"	5/16"	3/8"	ø4	ø6	ø8	ø10
Applied Filter Size	1, 2		3		1, 2		3	

③ Holder

No Code : With Holder

-NH : With No Holder

④ Material Option

No Code : Standard specification

-S3 : Copper alloy free specification

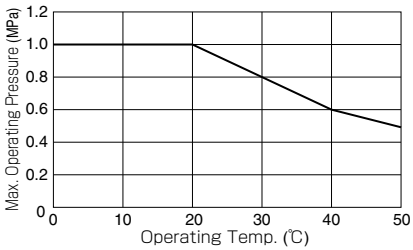
⑤ Specifications

Type	SFU1	SFU2	SFU3
Fluid Medium	Air		
Max. Operating Pressure	145psi (1MPa (at 20℃) (※ 1))		
Vacuum Operating Pressure	29.5 inHg (-100kPa)		
Pressure Resistance	217psi (1.5MPa)		
Filtering Accuracy	5μm		
Operating Temp. Range	32~122℉ (0~50℃) (No freezing)		
Filter Area	.73 in² (4.7cm²)	1.16 in² (7.5cm²)	1.97 in² (12.7cm²)

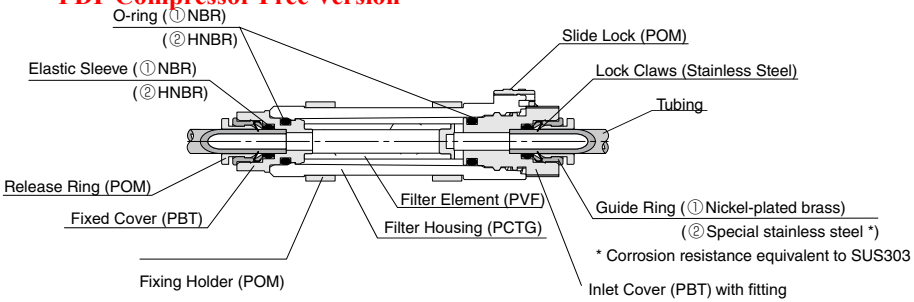
*1. Max. operating pressure represents the value at 68°F &20℃). When the product is used in other temperature range, refer to "Chart of Operating Temperature & Max. Operating Pressure" below.

*2. When the filter is operated under a high temperature due to an adiabatic compression, refer to "Chart of Operating Temperature & Max. Operating Pressure" and use the product under the condition where the environmental and product temperature shall not be exceeded operating temperature.

Chart of Operating Temperature & Max. Operating Pressure



Construction



①Standard specification ②Copper alloy free specification.

⚠ Detailed Safety Instructions

Before using PISCO products, be sure to read “Safety Instructions” and “Safety Instruction Manual” and Common Safety Instructions for In-line Filter”.

Warning

1. Implement periodic maintenances for the filter element. There is a risk of impairing the performance or causing troubles by the clogging. Thoroughly read and understand the instructions of replacing elements or removing dust in this catalog. Make sure to release the residual pressure completely in the system before the maintenance.
2. Avoid a tensile strength, twisting, bending, falling and an excessive force on products. Otherwise, there is a risk of damaging the products.
3. The filter's clear housing is made of PCTG. Avoid using the product under the environment where the following chemical substance is contained in the ambient air, or either felt in the air or the chemical substance can attach to the filter itself.

● Table Chemical list

Chemical Name	
Thinner	Cyclohexane
Carbon tetrachloride	Trichloroethylene
Chloroform	Sulfuric acid
Acetate ester	Lactic acid
Aniline	Soluble cutting oil (alkaline)

* There can be other chemicals that cannot be used in the same environment. For specific applications and/or chemical(s), it is recommended to contact our sales representative.

4. Make sure the slide lock is in the lock position before operation. If a fitting part is rotated or an excessive force is applied on the slide lock during the lock is on, there is a risk to damage the slide lock which may result in separating the fitting part and the filter housing and causing injuries.
5. The max. operation pressure of the filter differs according to the operating temperature (operating ambient temperature). Make sure to check “Chart of Operating Temperature & Max. Operating Pressure” and operate the product within the limits.

Caution

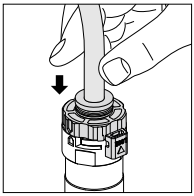
1. When installing the filter, make sure the direction of arrow marked on it matches the flow direction of the fluid. Otherwise, the specified performance cannot be attained.
2. Make sure that the housing is properly locked with the inlet cover and there is no leak whenever dust is removed from the housing and/or the element is replaced.
3. When used in a circuit where the vacuum and the blow off air is alternately applied, be aware there is a possibility the dust captured by the filter element back flows.
4. Make sure that the O-ring is not damaged whenever maintenance is performed. Using a damaged O-ring can cause leak and/or other function failure.

How to install and disconnect

1. How to install and disconnect tubings

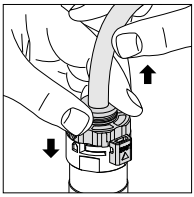
① Tubing installation

For Positive-Negative Pressure In-line Filter (Filter with a built-in tube fittings at both ends), insert a tubing into the fitting until it touches to the tube end which makes the lock-claws bite the tubing and the elastic sleeve seal around the tubing. Refer to "2. Instructions for Tubing Installation" under "Common Safety Instructions for Fittings" when installing a tube fitting.



② Tubing disconnection

The tubing is disconnected by pushing the release-ring which releases the lock-claws. Make sure to stop air supply before the tubing disconnection.

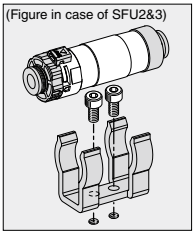


2. How to tighten screw

① Tightening screw

Use two fixing holes on the holder and the following screws to fix the product. (Refer to the dimensional drawings of the hole pitch)

Fixing screws for SFU1: M3 countersunk screw and for ▶M4 screw

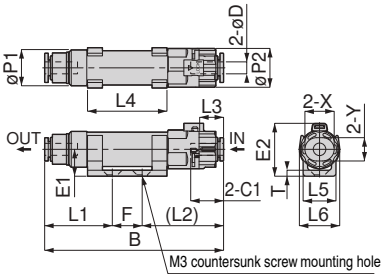


SFU Positive-Negative Pressure In-Line Filter

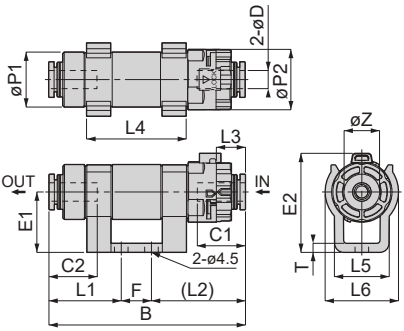
RoHS compliant

Inch O.D.

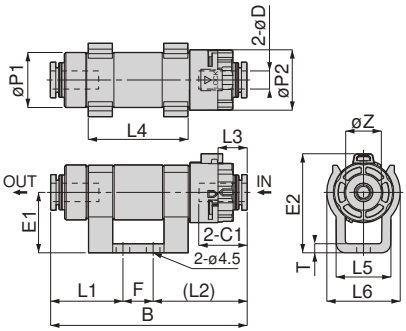
Copper alloy free
Selectable



SFU1



SFU2



SFU3

Unit：mm

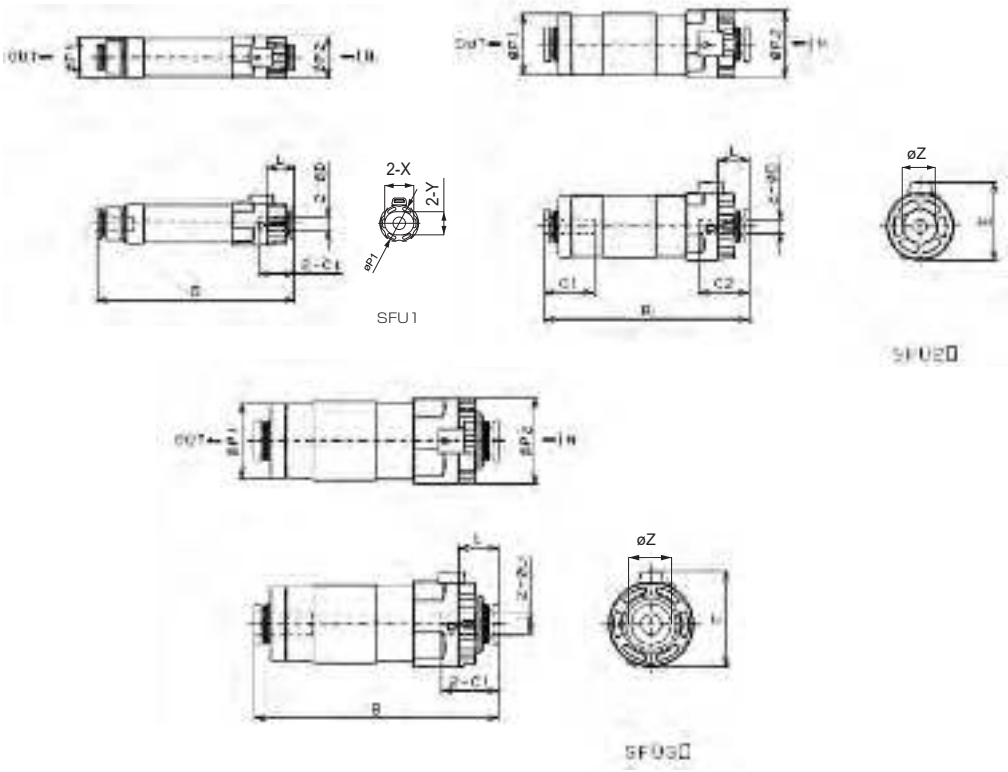
Model Code	Tubing O.D. øD	B	L1	(L2)	L3	L4	L5	L6	øP1	øP2	C1	C2	E1	E2	F	T	øZ	X	Y	Filter Area (cm²)	Weight (g)
SFU1-5/32-5/32③④	5/32"	60.1	22.65	27.45	8.2	26.6	11	13.5	12	13	11	–	9	18	10	2	–	9.8	7.8	4.7	8.8
SFU1-1/4-1/4③④	1/4"	64.8	25.25	29.55	10.3	26.6	11	13.5	12	13	11.4	–	9	18	10	2	–	11.8	9.8		8.2
SFU2-5/32-5/32③④	5/32"	61.1	20.3	30.8	9.2	33	18	24	18.2	20	14.9	14.9	20	33.1	10	3	9.9	–	–	7.5	21
SFU2-1/4-1/4③④	1/4"	65.5	24.15	31.35	9.8	33	18	24	18.2	20	16	17	20	33.1	10	3	11.8	–	–		22
SFU3-1/4-1/4③④	1/4"	71.9	19.5	38.4	11.8	39.5	20	28	21.8	25	17	–	24	39.6	14	3	11.8	–	–	12.7	35
SFU3-5/16-5/16③④	5/16"	71.1	20.75	36.35	9.7	39.5	20	28	21.8	25	18.1	–	24	39.6	14	3	13.8	–	–		34
SFU3-3/8-3/8③④	3/8"	77.3	26.65	36.65	10	39.5	20	28	21.8	25	19.2	–	24	39.6	14	3	16.8	–	–		40

*1. Fill in Code③ with "NH" for "With No Holder".
*2. Fill in Code④ with "-S3" for "Copper alloy free specification".
*3. CAD file name is the same as the model code.

Positive-Negative Pressure In-Line Filter - No Holder

RoHS compliant | Copper Alloy Free Selectable

Inch O.D.



Unit：mm

Model Code	Tubing O.D. øD	B	L	øP1	øP2	C1	C2	E	øZ	X	Y	Filtering Area (cm^2)	Weight (g)
SFU1-5/32-5/32-NH④	5/32"	60.1	8.2	12	13	11	–	15.5	–	9.8	7.8	4.7	7.8
SFU1-1/4-1/4-NH④	1/4"	64.8	10.3	12	13	11.4	–	15.5	–	11.8	9.8		7.2
SFU2-5/32-5/32-NH④	5/32"	61.1	9.2	18.2	20	14.9	14.9	23.1	9.9	–	–	7.5	16
SFU2-1/4-1/4-NH④	1/4"	65.5	9.8	18.2	20	16	17	23.1	11.8	–	–		17
SFU3-1/4-1/4-NH④	1/4"	71.9	11.8	21.8	25	17	–	28.1	11.8	–	–	12.7	27
SFU3-5/16-5/16-NH④	5/16"	71.1	9.7	21.8	25	18.1	–	28.1	13.8	–	–		27
SFU3-3/8-3/8-NH④	3/8"	77.3	10	21.8	25	19.2	–	28.1	16.8	–	–		32

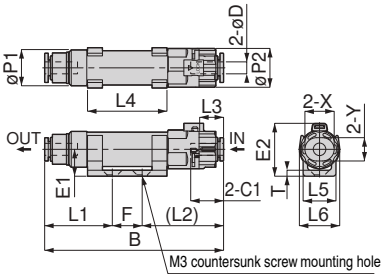
*1. Fill in Code ④ with "-S3" for "Copper alloy free specification".
*2. CAD file name is the same as the model code.

SFU Positive-Negative Pressure In-Line Filter

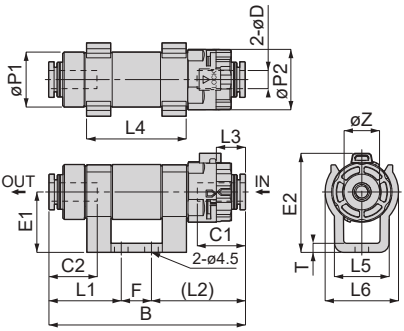
RoHS compliant

Copper alloy free
Selectable

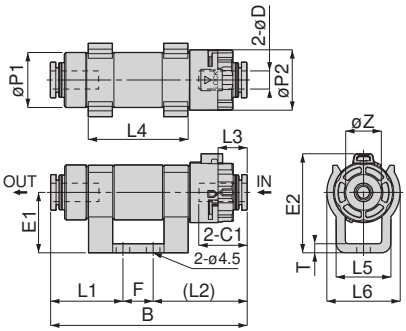
Metric O.D.



SFU1



SFU2



SFU3

Unit：mm

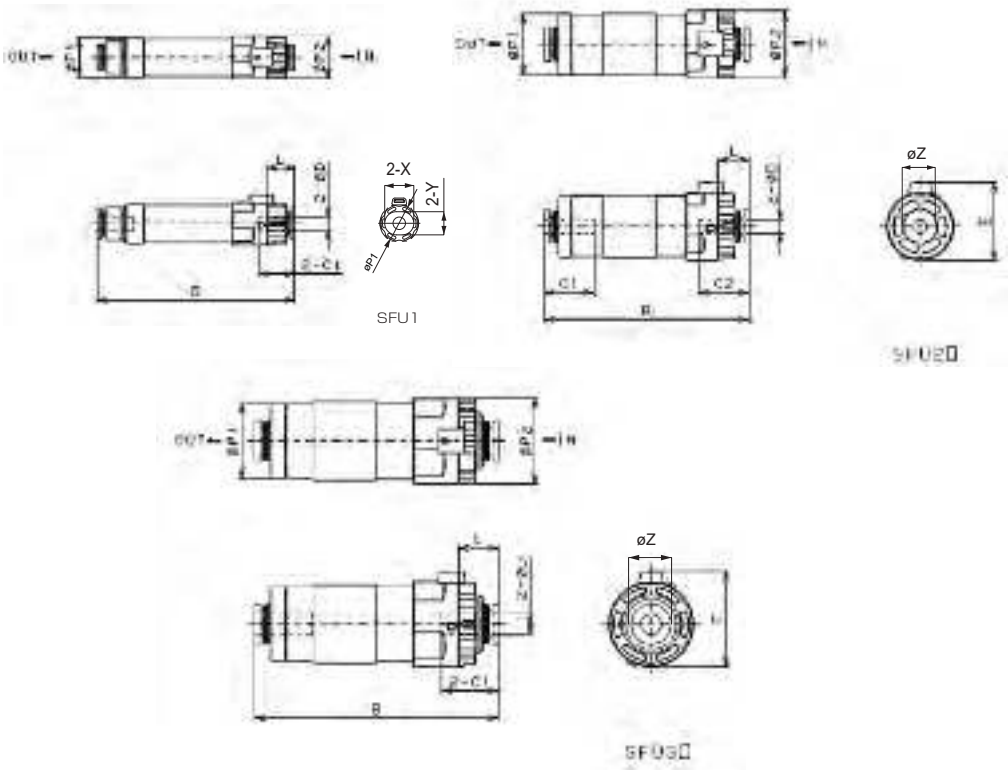
Model Code	Tubing O.D. øD	B	L1	(L2)	L3	L4	L5	L6	øP1	øP2	C1	C2	E1	E2	F	T	øZ	X	Y	Filter Area (cm^2)	Weight (g)
SFU1-44③④	4	60.1	22.65	27.45	8.2	26.6	11	13.5	12	13	11	–	9	18	10	2	–	9.8	7.8	4.7	8.8
SFU1-66③④	6	64.4	25.05	29.35	10.1	26.6	11	13.5	12	13	11.6	–	9	18	10	2	–	11.8	9.8		8.5
SFU2-44③④	4	61.1	20.3	30.8	9.2	33	18	24	18.2	20	14.9	14.9	20	33.1	10	3	9.9	–	–	7.5	21
SFU2-66③④	6	65.5	24.15	31.35	9.8	33	18	24	18.2	20	16	17	20	33.1	10	3	11.8	–	–		22
SFU3-66③④	6	71.9	19.5	38.4	11.8	39.5	20	28	21.8	25	17	–	24	39.6	14	3	11.8	–	–	12.7	35
SFU3-88③④	8	71.1	20.75	36.35	9.7	39.5	20	28	21.8	25	18.1	–	24	39.6	14	3	13.8	–	–		34
SFU3-1010③④	10	77.3	26.65	36.65	10	39.5	20	28	21.8	25	19.2	–	24	39.6	14	3	16.8	–	–		40

*1. Fill in Code③ with "NH" for "With No Holder".
*2. Fill in Code④ with "-S3" for "Copper alloy free specification".
*3. CAD file name is the same as the model code.

Positive-Negative Pressure In-Line Filter - No Holder

RoHS compliant | Copper alloy free Selectable

Metric

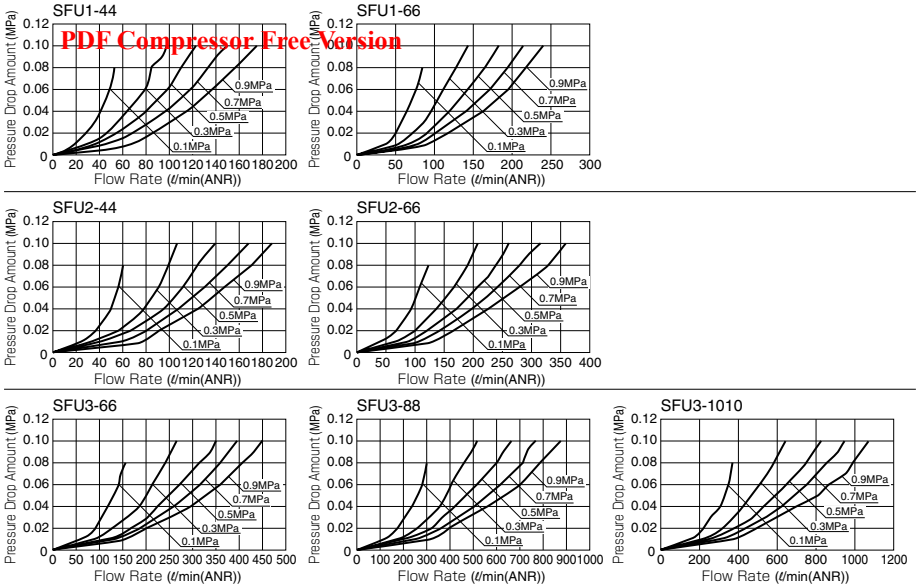


Unit：mm

Model Code	Tubing O.D. øD	B	L	øP1	øP2	C1	C2	E	øZ	X	Y	Filtering Area (cm^2)	Weight (g)
SFU1-44-NH④	4	60.1	8.2	12	13	11	–	15.5	–	9.8	7.8	4.7	7.8
SFU1-66-NH④	6	64.4	10.1	12	13	11.6	–	15.5	–	11.8	9.8		7.5
SFU2-44-NH④	4	61.1	9.2	18.2	20	14.9	14.9	23.1	9.9	–	–	7.5	16
SFU2-66-NH④	6	65.5	9.8	18.2	20	16	17	23.1	11.8	–	–		17
SFU3-66-NH④	6	71.9	11.8	21.8	25	17	–	28.1	11.8	–	–	12.7	27
SFU3-88-NH④	8	71.1	9.7	21.8	25	18.1	–	28.1	13.8	–	–		27
SFU3-1010-NH④	10	77.3	10	21.8	25	19.2	–	28.1	16.8	–	–		32

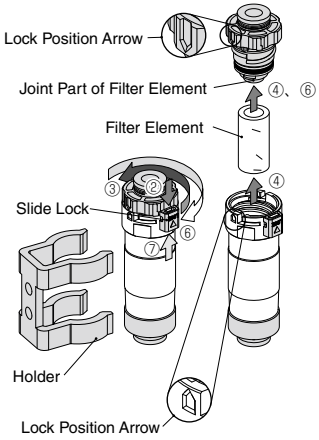
*1. Fill in Code ④ with "-S3" for "Copper alloy free specification".
*2. CAD file name is the same as the model code.

Chart of Pressure Loss Characteristics



Replacement of Filter Element

① Release the residual pressure inside the filter and make the inside pressure at the atmospheric pressure level.
② Unlock the red slide lock by moving it to the opposite direction of the lock arrow mark.
③ Turn the fitting part 180˚ counteclockwise.
④ Take off the fitting part from the filter cover and replace elements.
⑤ Remove dust inside of the filter cover by air blowing.
⑥ Place a filter on the joint part of filter element. Insert the fitting part and turn it clockwise until it stops.
⑦ Make sure the lock position arrow on the fitting part and that on the filter cover meet face to face, then push up the slide lock to the arrowed direction. Check if the fitting part is fixed on the filter cover properly.



Model designation of Replacement Parts

■ Filter Element

Code of Positive-Negative Pressure Union Filter	Code of Filter Element
SFU1-□□-□	VFE025B01
SFU2-□□-□	SFE2
SFU3-□□-□	SFE3

■ Holder

Code of Positive-Negative Pressure Union Filter	Code of Holder
SFU1-□□-□	SFUH010P01
SFU2-□□-□	VFUH2
SFU3-□□-□	VFUH3