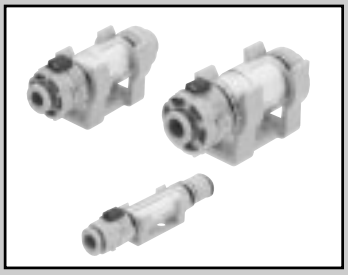


Inline filter

FSL Series

● Port size: ø4 to ø10

JIS symbol 

CAD RoHS

Features

● Compact, lightweight and space saving inline type
The resin body realizes a light and compact filter.

● Diverse range of model variations
Select the flow rate from 100, 200 or 500, and the port size from ø4, ø6, ø8 or ø10.

● Use either positive or negative pressure
Use a positive pressure in the same manner as a conventional vacuum inline filter

● Easy maintenance
Replacing the element is easy as the main body can be removed and attached without tools.

Specifications

Model no. / Descriptions	FSL100		FSL200		FSL500		
Port size mm	ø4	ø6	ø4	ø6	ø6	ø8	ø10
Working fluid	Air						
Ambient temperature range ˚C	0 to 50 (no freezing)						
Max. working pressure MPa	0.8 (Note 1)						
Vacuum working pressure kPa	-100						
Withstanding pressure MPa	1.2						
Nominal filtration rate µm	10 (Collection effeciency 95%)						
Filtration area cm^2	4.7		7.5		12.7		
Recommended processing flow rate (Note 2) L/min (ANR)	10		15	20	25	50	60
Weight g	8	8.5	20.5	21.5	34.5	33.5	39

Note 1: The maxmum working pressure is the value at 20˚C.
When using in other temperature ranges, refer to the “Relation of working temperature and maximum working pressre.
Note 2: Initial flow rate at initial pressure loss 3kPa or less under negative pressure. When using with a positive pressure, refer to the “Flow characteristics” on page 611.

How to order

● Inline filter

FSL **500** - **1010** - **B**

Ⓐ Series
Ⓑ Vacuum side port size
Pad side port size
Ⓒ Attached options

Symbol	Descriptions
Ⓐ Series	
100	FSL100 Series
200	FSL200 Series
500	FSL500 Series
Ⓑ Vacuum side port size-Pad side port size	
44	ø4 push-in joint - ø4 push-in joint
66	ø6 push-in joint - ø6 push-in joint
88	ø8 push-in joint - ø8 push-in joint
1010	ø10 push-in joint - ø10 push-in joint
Ⓒ Attached options	
Blank	None
B	Bracket

◆ Series port size combination table

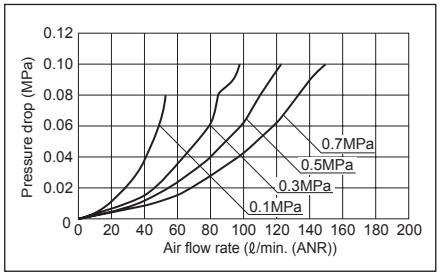
Model no. / Port size	44	66	88	1010
FSL100	●	●		
FSL200	●	●		
FSL500		●	●	●

not available.

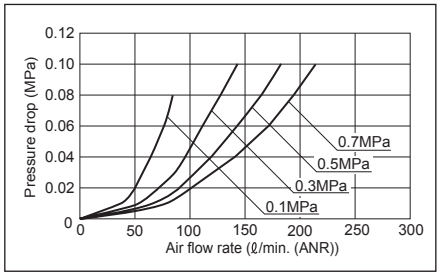
Flow characteristics

*The flow characteristics graph gives reference values, and does not guarantee the values.

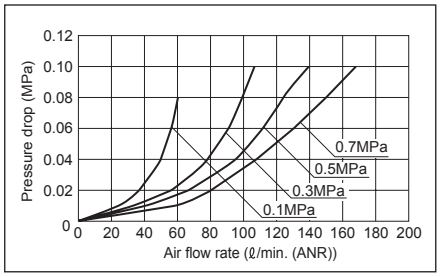
●FSL100-44



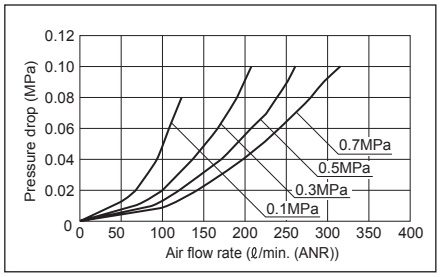
●FSL100-66



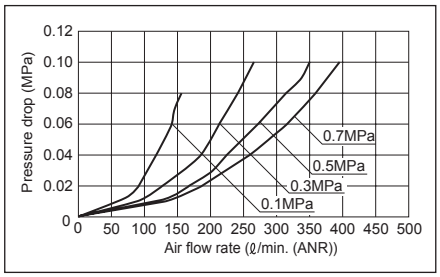
●FSL200-44



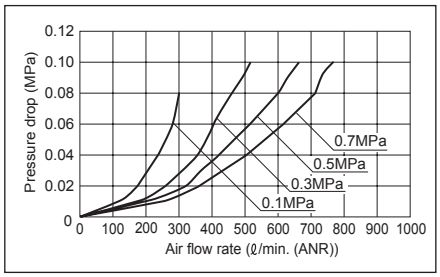
●FSL200-66



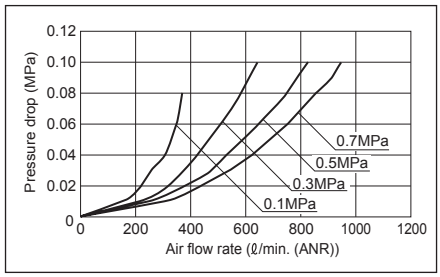
●FSL500-66



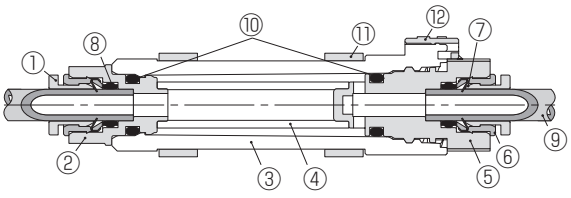
●FSL500-88



●FSL500-1010



Internal structure and parts list



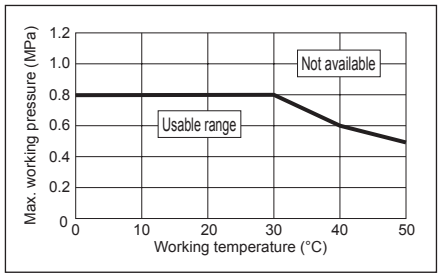
No.	Parts name	Material
①	Release ring	Acetal resin
②	Resin body A cover	PBT resin
③	Guard	Special polyester resin
④	Filter element	Polyvinyl formal resin
⑤	Resin body B	PBT
⑥	Guide ring	Brass, electroless nickel plating
⑦	Lock jaw	Stainless steel
⑧	Rubber sleeve	Nitrile rubber
⑨	Tube	—
⑩	O ring	Nitrile rubber
⑪	Bracket	Acetal resin
⑫	Slide lock	Acetal resin

●Maintenance part

·Filter element (part No.4)

Filter element model no.	Applicable model no.	Element size
VSFU-1L-E	FSL100	ø6×ø4×L25
FSL200-E	FSL200	ø11×ø7×L22
FSL500-E	FSL500	ø15×ø11×L27

Relation of working temperature and maximum working pressure

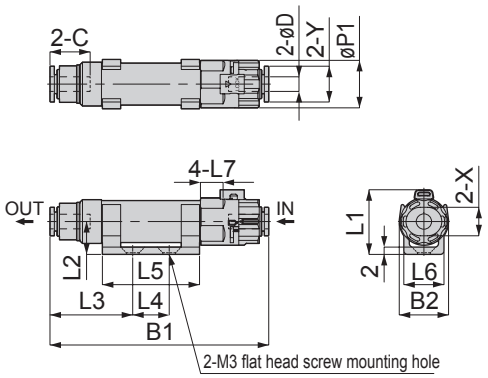


Dimensions

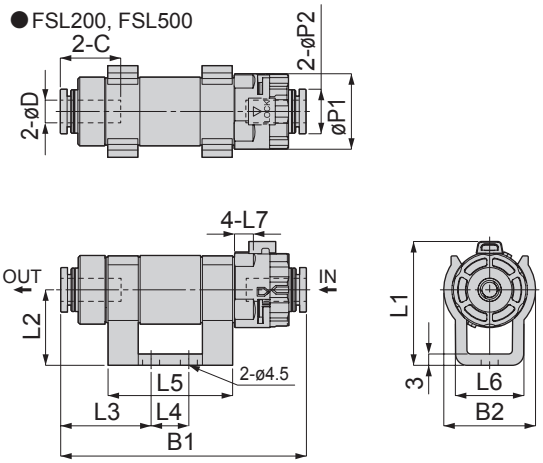
CAD

* The following outline drawing shows the state with the enclosed optional bracket mounted.

● FSL100



● FSL200, FSL500



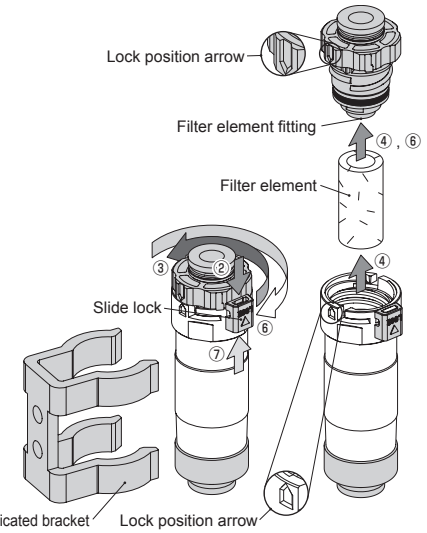
Unit: mm

Type	Tube Outer diameter øD	C	B1	B2	L1	L2	L3	L4	L5	L6	L7	øP1	øP2	X	Y
FSL100-44-*	4	11.3	60.7	13.5	18	9	23	10	26.6	11	6.2	13	–	7.8	9.8
FSL100-66-*	6	11.8	64.8	13.5	18	9	25.3	10	26.6	11	6.2	13	–	9.8	11.8
FSL200-44-*	4	14.9	61.1	24.3	33	20	20.3	10	33	18.2	5	20	9.9	–	–
FSL200-66-*	6	16	65.5	24.3	33	20	24.2	10	33	18.2	5	20	11.8	–	–
FSL500-66-*	6	17	72	28.3	39.6	24	19.6	14	39.5	20.2	8.5	25	11.8	–	–
FSL500-88-*	8	18.1	71.2	28.3	39.6	24	20.9	14	39.5	20.2	8.5	25	13.8	–	–
FSL500-1010-*	10	19.2	77.4	28.3	39.6	24	26.8	14	39.5	20.2	8.5	25	16.8	–	–

Usage methods

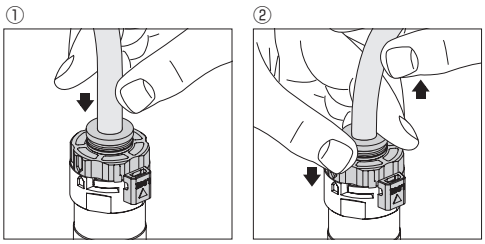
1. Replacing the filter element

(1) Release the filter's inner pressure to the atmosphere.
(2) Release the red slide lock. (In opposite direction of LOCK arrow)
(3) Turn the joint body 180° counterclockwise.
(4) Remove the turned joint body from the filter cover, and replace the filter element.
(5) If necessary, remove the dust accumulated in the filter cover using compressed air, etc.
(6) Mount the element into the filter element fitting, insert into the main body, and turn the joint body clockwise until it stops.
(7) In the tightened state, confirm that the lock position arrow on the joint body and the lock position arrow on the filter cover are aligned, and then lift the slide lock up (toward the LOCK arrow). Confirm that it is properly locked.



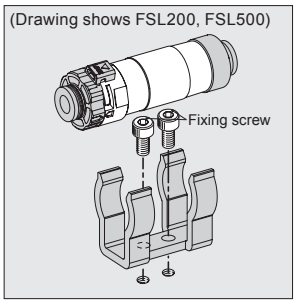
Usage methods

2. Removing and attaching the connection



1. Removing and attaching the tube
   (1) Mounting the tube
   With the inline filter FSL (filter with push-in joint) the locking hooks are fixed when the tube is inserted into the end of the tube. The elastic sleeve seals the periphery of the tube.
   (2) Removing the tube
   To remove the tube, press the release ring. The locking hooks will open and the tube can be pulled off.
   Always stop the air before removing the tube.

2. Tightening the screw
   (1) Tightening the screw
   Use the fixing hole on the dedicated bracket, and fix with the following screws.
   (Refer to the outline drawings for the fixing hole pitch.)
   Fixing screw ►FSL100: M3 flat head screw, FSL200, FSL500: M4 screw



Safety precautions

⚠ WARNING

■ Design & Selection
- The filter's clear cover is made of special polyester resin. Avoid using in an atmosphere containing chemicals (see right) or where these chemicals could come in contact as there is a risk of damage.

■ Installation & Adjustment
- Do not apply a load by pulling, twisting or bending the body. Do not drop or apply excessive impact. The product could break or come apart.

■ During Use & Maintenance
- Always lock the slide lock during use.

●Table of Chemical names

Chemical name
All alcohols
Thinner
Carbon tetrachloride
Chloroform
Acetic ester
Aniline
Cyclohexane
Trichloroethylene
Sulfuric acid
Lactic acid
Water-soluble cutting oil (alkaline)

* There are other chemicals which cannot be used. Contact CKD for information.

⚠ CAUTION

■ Design & Selection
- Do not use where ultraviolet rays come in direct contact.
- When using in a circuit where vacuum and vacuum break air are alternately applied, the dust removed by the element could be discharged by the break air.

■ Installation & Adjustment
- Check the arrows indicating the air flow on the body before piping the pipes. 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 are no leaks.

■ During Use & Maintenance
- Periodically maintenance and inspect the unit. A clogged element could cause the performance to drop and other trouble to occur.
- When disassembling or assembling the unit for maintenance, make sure that the O ring is not damaged. Use of a damage O ring could result in problems such as leaks.
- When rotating the joint body for disassembly or assembly, take care to not apply excessive force with the tools, etc. The unit could break.