

**CKD**

Anti-bacterial/Bacteria removing Filter

# SFC/SFS Series

To ensure the safety of your food



Odor removal filter added

**CKD Corporation**

CC-1311A<sup>5</sup>

# What is important for air is anti-bacterial and removing properties

Proprietary anti-bacterial filter

Non-woven fabric filter element

Using silver-based anti-bacterial agents

**Anti-bacterial power**

Proprietary bacteria removing filter

Hollow fiber membrane

Removal rate  
99.999999%

**Bacteria removing power**

**Bactericidal activity value 4 or more**

**Bacteria trapping performance**

**LRV $\geq$ 8**

# compressed bacteria

**FP**  
Food Process®



The background is a simulated image.

Videos available here



# Reliable anti-bacterial and bacteria removing power with a module type triple block design



**FDA**  
compatible materials  
Fluid passage section  
Resin/Rubber

**4 or more**  
Bactericidal  
activity value

**LRV8**  
or higher  
Bacteria trapping  
performance

Materials compatible  
with the Food  
Sanitation Act  
Fluid passage areas  
made of resin/rubber

Uses  
**NSF H1**  
food-grade  
grease

External parts  
**Anti-bacterial**  
material used



**Odor removal filter added**  
Uses fiber activated carbon.  
With a large activated carbon  
adsorption area, it realizes high  
suction performance and long life.



**SUS used for push ring**  
Risk of contamination is reduced,  
allowing for installation near the  
use point without worries.



## Maintenance .....

**Replaceable elements**  
Elements are easy to replace.

Equipped as standard with maintenance seal  
\*Attached with the product.  
The replacement period is clearly indicated.



\* The bactericidal activity value and bacterial trapping performance value are actual values based on predetermined conditions set by CKD.

# Anti-bacterial

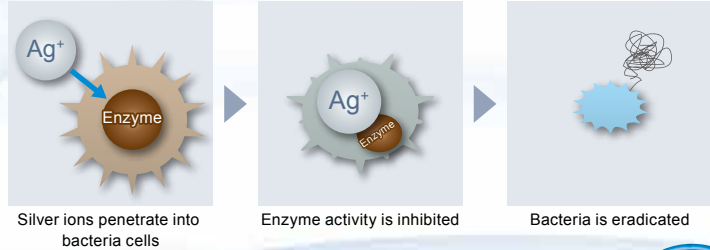
Proprietary anti-bacterial filter

Stops  growth!

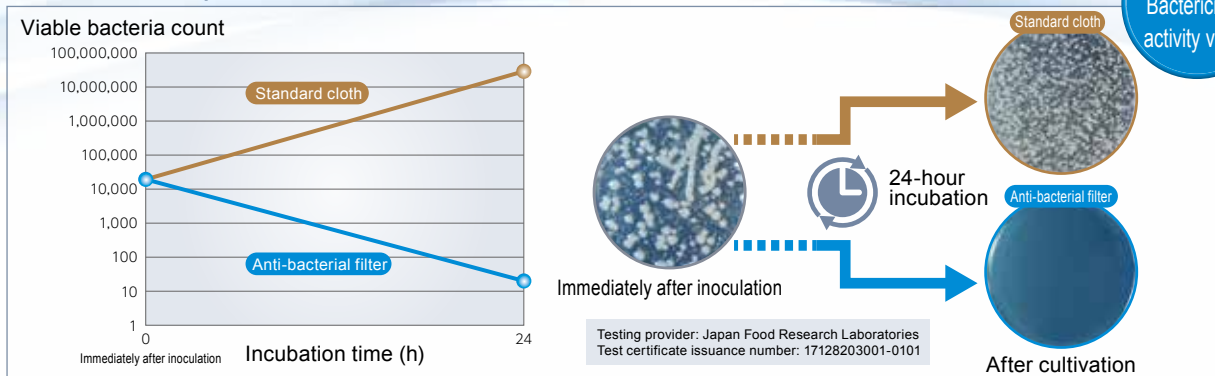
Non-woven fabric filter element that uses silver-based anti-bacterial agent

Non-woven fabric uses silver-based anti-bacterial agent

The silver ions included in the anti-bacterial filter are absorbed into the bacteria cells, the bacteria enzyme's actions are obstructed, and they die out.



## Anti-bacterial performance



Verification data from tests based on JIS L 1902:2015

# Bacteria Removal

Proprietary bacteria removing filter

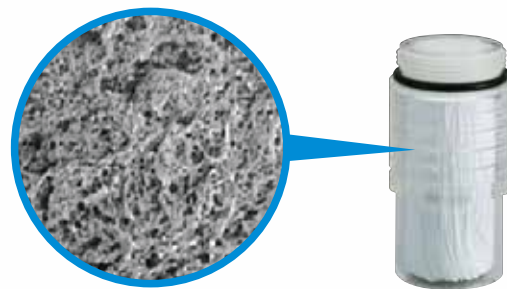
Removes  !

Removal rate 99.999999% hollow fiber membrane

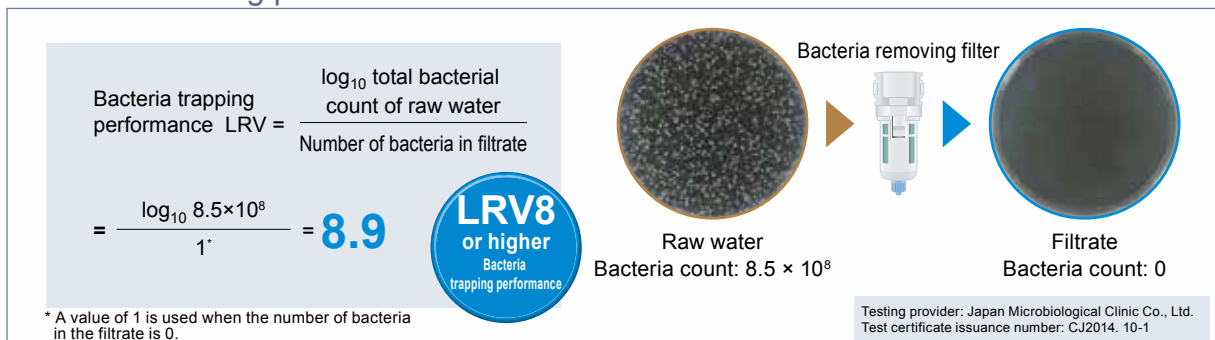
Hollow fiber membrane

The bacteria removing filter consists of a straw-shaped fiber membrane with a countless number of special slit-shaped ultrafine pores.

These pores trap bacteria when the compressed air passes through.



## Bacteria removing performance



Verification data from tests based on JIS K 3835

|   | Anti-bacterial/Bacteria removal combination                                       |        | Anti-bacterial/bacteria-removing/odor removal filter combination                   |        | Anti-bacterial combination  |        |        |
|---|---|--------|--|--------|---|--------|--------|
|   |  |        |  |        |  |        |        |
|   | SFC307  | SFC407 | SFC309   | SFC409 | SFC306  | SFC406 | SFC806 |
| Select from various options<br><b>Flow rate</b><br>Unit: L/min (ANR) Primary side pressure 0.7 MPa  | 300   | 500    | 300  | 500    | 360   | 700    | 2200   |
| Trap bacteria<br><b>Bacteria removing performance</b><br>Bacteria trapping performance LRV8 or higher   | ●   | ●      | ●  | ●      | —   | —      | —      |
| Stop bacteria growth<br><b>Anti-bacterial performance</b><br>Bactericidal activity value 4 or more  | ●   | ●      | ●  | ●      | ●   | ●      | ●      |
| Use suction to eliminate oil odors<br><b>Odor removing performance</b><br>Secondary side oil concentration 0.003 mg/m <sup>3</sup> or less  | —   | —      | ●  | ●      | —   | —      | —      |
| Safe to use<br><b>Materials compatible with the Food Sanitation Act</b><br><b>Materials compatible with FDA</b><br>Notification No.370 of Ministry of Health - Fluid passage areas made of resin/rubber | ●   | ●      | ●  | ●      | ●   | ●      | ●      |
| Safe to apply<br><b>Lubricant for food equipment</b><br>NSF H1 grease   | ●   | ●      | ●  | ●      | ●   | ●      | ●      |
| Easy to expand<br><b>Modular connection</b>   | ●   | ●      | ●  | ●      | ●   | ●      | ●      |

## Explanation of keywords

### Bactericidal activity value

This value is an assessment of the extent to which the growth of adherent bacteria is suppressed.

**F - G** **F:** Increase value on standard cloth

Common logarithm of the average number of living bacteria immediately after inoculation subtracted from the common logarithm of the average number of living bacteria 24 hours after culturing on standard cloth

**G:** Increase value on processed cloth

Common logarithm of the average number of living bacteria immediately after inoculation subtracted from the common logarithm of the average number of living bacteria 24 hours after culturing on processed cloth

\* The bactericidal activity value and bacterial trapping performance value are actual values based on predetermined conditions set by CKD.

### Bacteria trapping performance

This indicates the bacterial trapping performance of the filter using test bacteria as defined in JIS K 3835. It is expressed using a log reduction value (LRV).

### Odor removing performance

Evaluation conforms to JIS B 8392-5 "Compressed air - Test methods for oil vapour and organic solvent content". The quantity of oil vapor in the compressed air (hydrocarbons composed of 6 or more carbon atoms) is derived from quantitative analysis with a gas chromatograph.

| Anti-bacterial/odor removal filter combination                                   | Anti-bacterial Pre-filter   | Anti-bacterial High-performance filter  | Bacteria removing filter Single  | Odor removal filter   | Bacteria removing filter Inline   |
|--|---|---|--|---|---|
|  |  |  |  |  |  |
| SFC308 SFC408 SFC808   | SFC310 SFC410 SFC810  | SFC320 SFC420 SFC820  | SFC330 SFC430  | SFC340 SFC440 SFC840  | SFS10   |
| 360 700 2200   | 360 700 2200  | 360 700 2200  | 300 500  | 360 700 2200  | 300   |
| —  | —   | —   | ●  | —   | ●   |
| ●  | ●   | ●   | —  | —   | —   |
| ●  | —   | —   | —  | ●   | —   |
| ●  | ●   | ●   | ●  | ●   | ●   |
| ●  | ●   | ●   | ●  | ●   | —   |
| ●  | ●   | ●   | ●  | ●   | —   |

**Materials compatible with the Food Sanitation Act**

Materials used are compatible with the dissolution test for the Standards and criteria for food and food additives, etc. (Public Notice of the Ministry of Health, Labour and Welfare No. 370 of 1959), based on Article 18 of the Food Sanitation Act, which is used in regulations for tools, containers and packaging for the fluid passage section.

**Materials compatible with FDA**

Materials compatible with dissolution tests from FDA (the U.S. Food and Drug Administration) ordinance 21CFR §175 (Adhesives and Components of Coatings) and §177 (Polymers) are used in fluid passage section.

**FP mark**

This logo represents CKD's stance to provide you with safe components for supporting your food manufacturing processes.



# Anti-bacterial/Bacteria Removing Filter Applications

## Cool Cooling cooked rice

After cooking, rice is cooled over a short period using safe compressed air that has been filtrated with a bacteria removing filter to prevent bacteria growth.

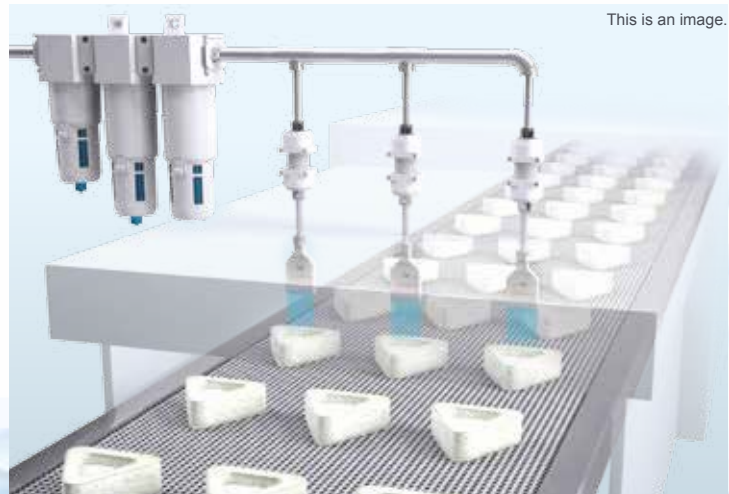
Large anti-bacterial/odor removal filter



Bacteria-removing filter/inline



Air nozzle flat type



## Send Bread processing

When removing freshly baked bread from the mold, safe compressed air that has been filtrated with a bacteria removing filter is inserted between the bread and the mold.

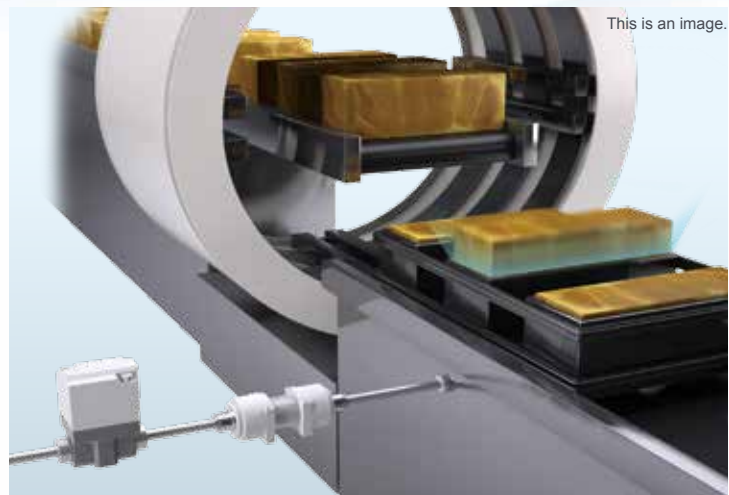
Bacteria-removing filter/inline



Diaphragm cylinder valve



Various FP components



## Mix Mixing while adding in air

In order to give food a smooth texture, safe compressed air that has been filtrated with an anti-bacterial/bacteria removing filter is mixed into the ingredients.

Anti-bacterial/bacteria-removing/odor removal filter



2-port solenoid valve



Various FP components





## Coat Spray coating food

In the process for keeping dough moist and coating it in oil, chocolate, or soy sauce, food products are liquid-coated with safe compressed air that has been filtrated with an anti-bacterial/bacteria removing filter.

This is an image.



Anti-bacterial/bacteria-removing/odor removal filter



Diaphragm cylinder valve



Various FP components



## Fill Nitrogen flushing in packaging machines

To prevent oxidization of food, packages are filled with safe nitrogen that has been filtrated with an anti-bacterial/bacteria removing filter in the nitrogen flushing line.

This is an image.



Bacteria removing filter/inline



2-port solenoid valve for dry air



Compact flow rate sensor



## Remove Cleaning food deposits

Compressed air that has been filtrated with an anti-bacterial/bacteria removing filter is used to remove food deposits, water drops, and crumbs.

This is an image.



Anti-bacterial/odor removal filter



2-port solenoid valve

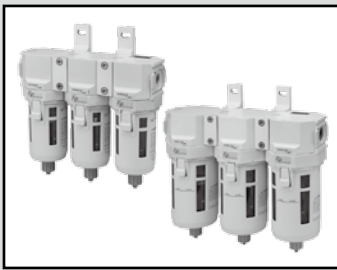


Air nozzle flat type



Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Anti-bacterial/Bacteria removing combination

# SFC307/SFC407-FP2 Series

● Port size: 1/4 to 1/2



## Specifications

| Descriptions                    |  | SFC307  | SFC407        |
|---------------------------------|--|---|---------------|
| Components                      | (1) Anti-bacterial pre-filter              | SFC310  | SFC410        |
|                                 | (2) High-performance anti-bacterial filter | SFC320  | SFC420        |
|                                 | (3) Bacteria removing Filter               | SFC330  | SFC430        |
| Working fluid                   |  | Compressed air, Nitrogen gas (N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |
| Working pressure range          | MPa  | 0.1 to 1.0  |               |
| Proof pressure                  | MPa  | 1.5   |               |
| Differential pressure-resistant | MPa  | 0.5   |               |
| Ambient/fluid temperatures      | °C   | 5 to 45   |               |
| Filtration                      | μm   | 0.01 (removal efficiency 99.99%)  |               |
| Max. processing flow rate *1    | l/min (ANR)                                | 300   | 500           |
| Port size                       | Rc, NPT, G                                 | 1/4, 3/8  | 1/4, 3/8, 1/2 |
| Weight                          | Kg   | 0.96  | 1.61          |
| Standard accessories            |  | Maintenance label (attachment)  |               |
| Element replacement             |  | 1 year (6000 hours) or pressure drop 0.1 MPa                                      |               |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

## How to order

**SFC307 - 10 - X1 - FP2**

SFC307 - 
 10 - 
 X1 - 
 **FP2**

**A** Model No.      **B** Port size      **C** Port thread      **D** Flow direction

| Code                    |                              | Content |   | A Model No. |        |
|-------------------------|------------------------------|---------|---|-------------|--------|
|                         |                              |         |   | SFC307      | SFC407 |
| <b>B Port size</b>      |                              |         |   |             |        |
| <b>8</b>                | 1/4                          | ●       | ● |             |        |
| <b>10</b>               | 3/8                          | ●       | ● |             |        |
| <b>15</b>               | 1/2                          |         | ● |             |        |
| <b>C Port thread</b>    |                              |         |   |             |        |
| <b>Blank</b>            | Rc Thread                    | ●       | ● |             |        |
| <b>N</b>                | NPT Thread                   | ●       | ● |             |        |
| <b>G</b>                | G Thread                     | ●       | ● |             |        |
| <b>D Flow direction</b> |                              |         |   |             |        |
| <b>Blank</b>            | Standard flow (left → right) | ●       | ● |             |        |
| <b>X1</b>               | Reverse flow (right → left)  | ●       | ● |             |        |

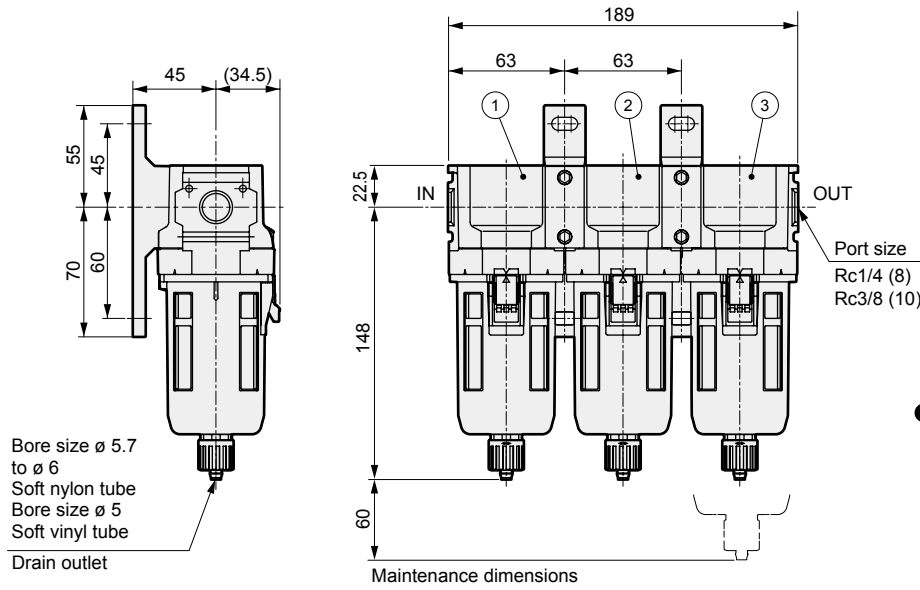
● Replacement element single unit model number

| Element model No. | Anti-bacterial pre-filter element | High-performance anti-bacterial filter element | Bacteria removing Filter element |
|-------------------|-----------------------------------|--|----------------------------------|
| SFC307            | SFC310-ELEMENT                    | SFC320-ELEMENT                                 | SFC330-ELEMENT                   |
| SFC407            | SFC410-ELEMENT                    | SFC420-ELEMENT                                 | SFC430-ELEMENT                   |

## Dimensions

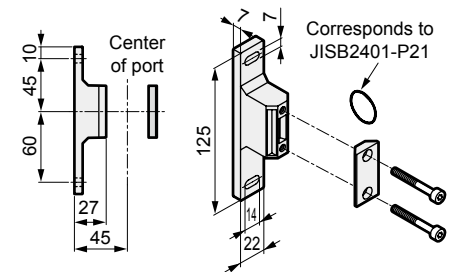


● SFC307



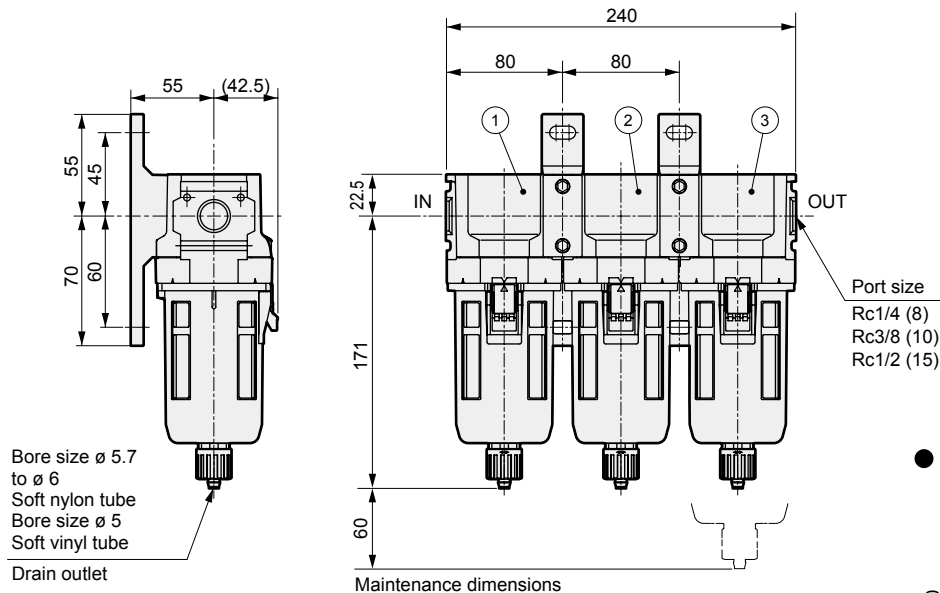
| No. | Series                                 |
|-----|--|
| (1) | Anti-bacterial pre-filter              |
| (2) | High-performance anti-bacterial filter |
| (3) | Bacteria removing Filter               |

● Attachment  
T bracket  
Model No.: SFB310-FP2



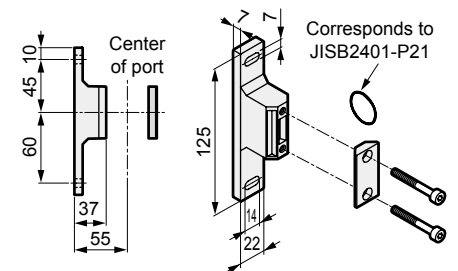
Material: Aluminum die-casting  
Mounting screw with stainless steel

● SFC407



| No. | Series                                 |
|-----|--|
| (1) | Anti-bacterial pre-filter              |
| (2) | High-performance anti-bacterial filter |
| (3) | Bacteria removing Filter               |

● Attachment  
T bracket  
Model No.: SFB410-FP2



Material: Aluminum die-casting  
Mounting screw with stainless steel



Materials compatible with the Food Sanitation Act

Materials compatible with FDA

Anti-bacterial/bacteria-removing/odor removal filter combination

# SFC309・SFC409-FP2 Series

● Port size: 1/4 to 1/2



## Specifications

| Descriptions                     |  | SFC309   | SFC409        |
|----------------------------------|--|--|---------------|
| Components                       | (1) Anti-bacterial pre-filter              | SFC310   | SFC410        |
|                                  | (2) High-performance anti-bacterial filter | SFC320   | SFC420        |
|                                  | (3) Odor removal filter                    | SFC340   | SFC440        |
|                                  | (4) Anti-bacterial filter                  | SFC330   | SFC430        |
| Working fluid                    |  | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |
| Working pressure range           | MPa  | 0.1 to 1.0   |               |
| Proof pressure                   | MPa  | 1.5  |               |
| Differential pressure-resistant  | MPa  | 0.5  |               |
| Ambient/fluid temperatures       | °C   | 5 to 45  |               |
| Filtration                       | μm   | 0.01 (removal efficiency 99% and over)   |               |
| Secondary side oil concentration | mg/m <sup>3</sup>                          | 0.003 or less *2   |               |
| Max. processing flow rate *1     | l/min (ANR)                                | 300  | 500           |
| Port size                        | Rc, NPT, G                                 | 1/4, 3/8   | 1/4, 3/8, 1/2 |
| Weight                           | Kg   | 1.24   | 2.13          |
| Standard accessories             |  | Maintenance label (attachment)   |               |
| Element replacement              |  | 1 year (6000 hours) or pressure drop 0.1 MPa *3                                  |               |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

\*2: When an oil mist filter (M Series M type) is installed on the primary side. Be sure to install an air dryer and oil mist filter on the primary side.

\*3: The replacement time is not a guaranteed value. The replacement time may be reduced depending on the product's working environment, usage conditions, etc.

## How to order

|  |                    |                         |                              |
|--|--------------------|-------------------------|------------------------------|
| <b>SFC309</b> - <b>10</b> - <b>X1</b> - <b>FP2</b> |                    | <b>A Model No.</b>      |                              |
| <b>A Model No.</b>                                 | <b>B Port size</b> | <b>SFC309</b>           | <b>SFC409</b>                |
| <b>C Port thread</b>                               |                    | <b>Code</b>             | <b>Content</b>               |
| <b>D Flow direction</b>                            |                    | <b>B Port size</b>      |                              |
|  |                    | <b>8</b>                | 1/4                          |
|  |                    | <b>10</b>               | 3/8                          |
|  |                    | <b>15</b>               | 1/2                          |
|  |                    | <b>C Port thread</b>    |                              |
|  |                    | <b>Blank</b>            | Rc Thread                    |
|  |                    | <b>N</b>                | NPT Thread                   |
|  |                    | <b>G</b>                | G Thread                     |
|  |                    | <b>D Flow direction</b> |                              |
|  |                    | <b>Blank</b>            | Standard flow (left → right) |
|  |                    | <b>X1</b>               | Reverse flow (right → left)  |

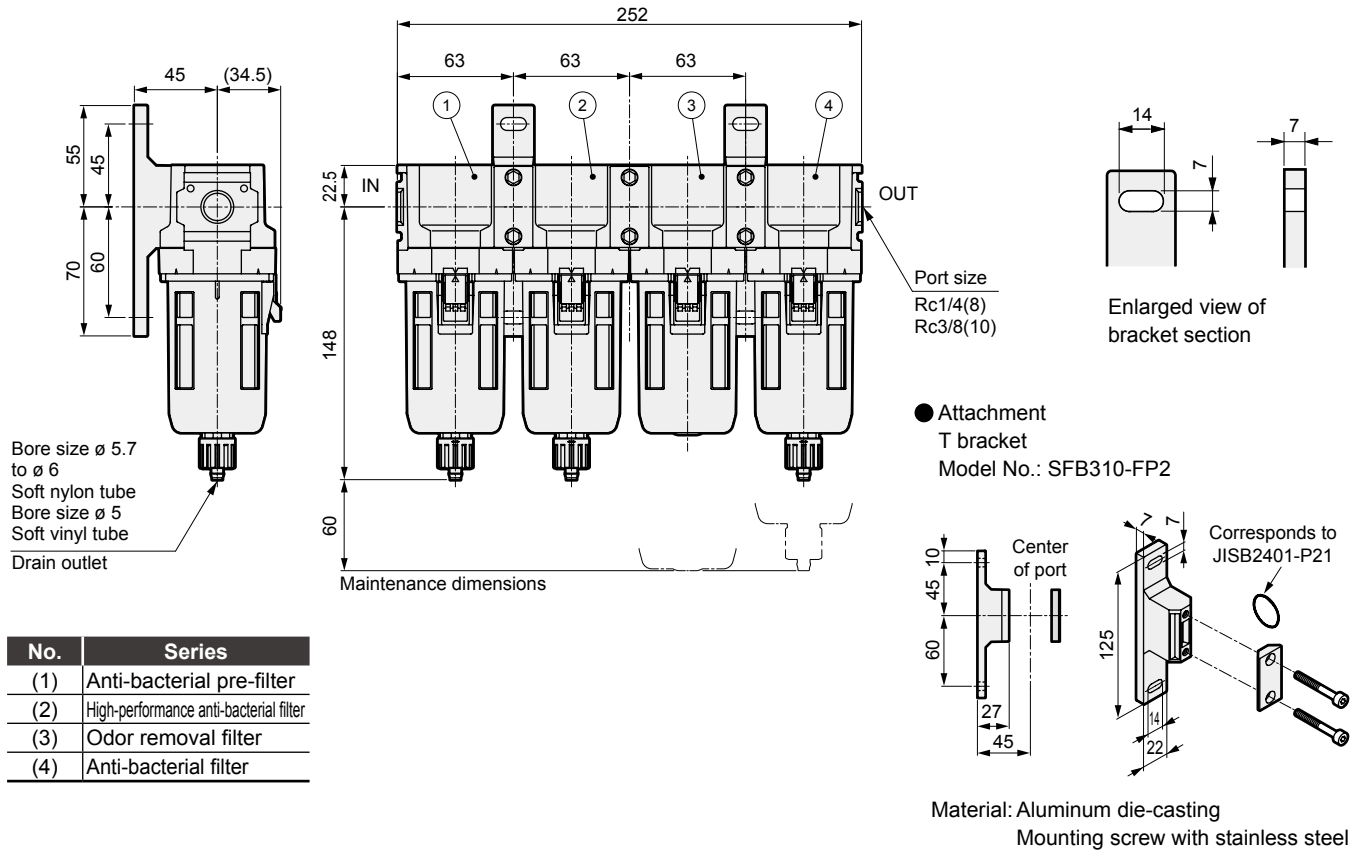
## ● Replacement element single unit model number

| Element model No. | Anti-bacterial pre-filter element | High-performance anti-bacterial filter element | Bacteria-removing filter element | Odor removal filter element |
|-------------------|-----------------------------------|--|----------------------------------|-----------------------------|
| SFC309            | SFC310-ELEMENT                    | SFC320-ELEMENT                                 | SFC330-ELEMENT                   | SFC340-ELEMENT              |
| SFC409            | SFC410-ELEMENT                    | SFC420-ELEMENT                                 | SFC430-ELEMENT                   | SFC440-ELEMENT              |

### Dimensions

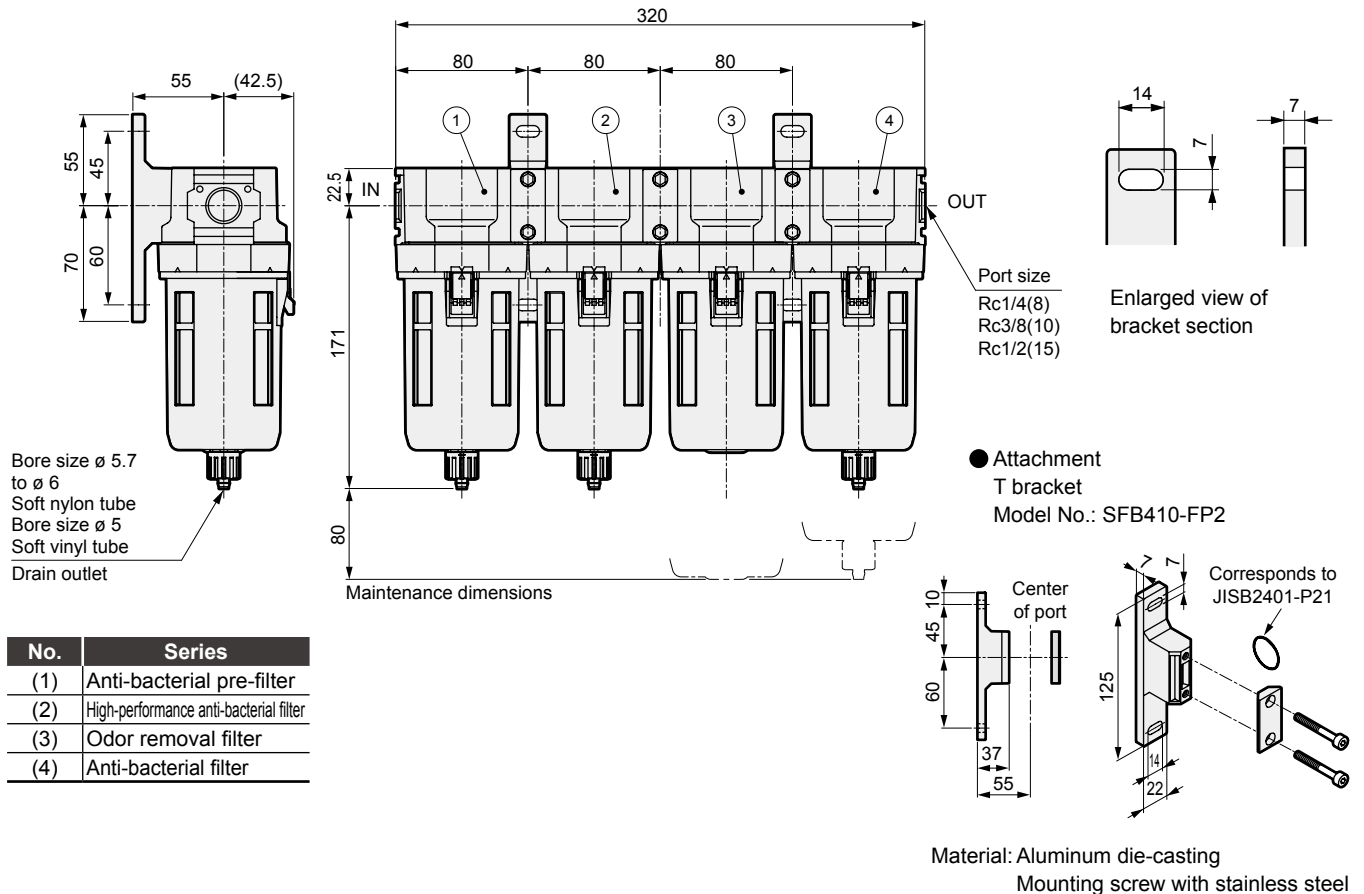


● SFC309



| No. | Series                                 |
|-----|--|
| (1) | Anti-bacterial pre-filter              |
| (2) | High-performance anti-bacterial filter |
| (3) | Odor removal filter                    |
| (4) | Anti-bacterial filter                  |

● SFC409



| No. | Series                                 |
|-----|--|
| (1) | Anti-bacterial pre-filter              |
| (2) | High-performance anti-bacterial filter |
| (3) | Odor removal filter                    |
| (4) | Anti-bacterial filter                  |

Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Anti-bacterial combination

# SFC306/SFC406/SFC806-FP2 Series

● Port size: 1/4 to 1



## Specifications

| Descriptions                 |  | SFC306   | SFC406        | SFC806 |
|------------------------------|--|--|---------------|--------|
| Components                   | (1) Anti-bacterial pre-filter              | SFC310   | SFC410        | SFC810 |
|                              | (2) High-performance anti-bacterial filter | SFC320   | SFC420        | SFC820 |
| Working fluid                |  | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |        |
| Working pressure range       | MPa  | 0.1 to 1.0   |               |        |
| Proof pressure               | MPa  | 1.5  |               |        |
| Ambient/fluid temperatures   | °C   | 5 to 45  |               |        |
| Filtration                   | μm   | 0.1 (removal efficiency 99% and over)  |               |        |
| Max. processing flow rate *1 | l/min (ANR)                                | 360  | 700           | 2200   |
| Port size                    | Rc, NPT, G                                 | 1/4, 3/8   | 1/4, 3/8, 1/2 | 3/4, 1 |
| Weight                       | Kg   | 0.62   | 1.06          | 2.7    |
| Standard accessories         |  | Maintenance label (attachment)   |               |        |
| Element replacement          |  | 1 year (6000 hours) or pressure drop 0.1 MPa                                     |               |        |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

## How to order

**SFC306** - **10** - **X1** - **FP2**

A Model No.

B Port size

C Port thread

D Flow direction

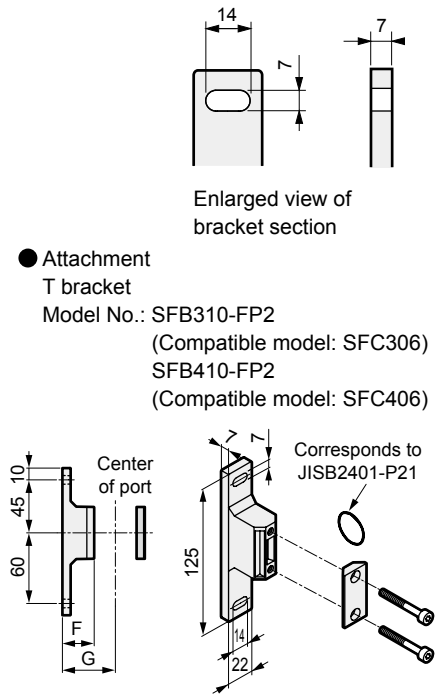
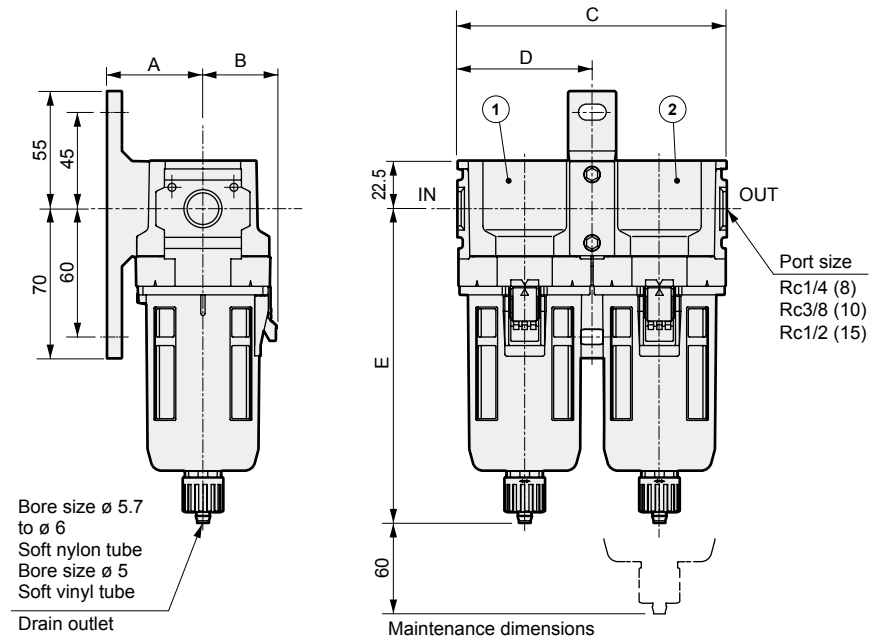
|                  |                              | A Model No. |        |        |
|------------------|------------------------------|-------------|--------|--------|
|                  |                              | SFC306      | SFC406 | SFC806 |
| Code             | Content                      |             |        |        |
| B Port size      |                              |             |        |        |
| 8                | 1/4                          | ●           | ●      |        |
| 10               | 3/8                          | ●           | ●      |        |
| 15               | 1/2                          |             | ●      |        |
| 20               | 3/4                          |             |        | ●      |
| 25               | 1                            |             |        | ●      |
| C Port thread    |                              |             |        |        |
| Blank            | Rc Thread                    | ●           | ●      | ●      |
| N                | NPT Thread                   | ●           | ●      | ●      |
| G                | G Thread                     | ●           | ●      | ●      |
| D Flow direction |                              |             |        |        |
| Blank            | Standard flow (left → right) | ●           | ●      | ●      |
| X1               | Reverse flow (right → left)  | ●           | ●      | ●      |

● Replacement element single unit model number

| Element model No. | Anti-bacterial pre-filter element | High-performance anti-bacterial filter element |
|-------------------|-----------------------------------|--|
| SFC306            | SFC310-ELEMENT                    | SFC320-ELEMENT                                 |
| SFC406            | SFC410-ELEMENT                    | SFC420-ELEMENT                                 |
| SFC806            | SFC810-ELEMENT                    | SFC820-ELEMENT                                 |

Dimensions 

● SFC306/SFC406

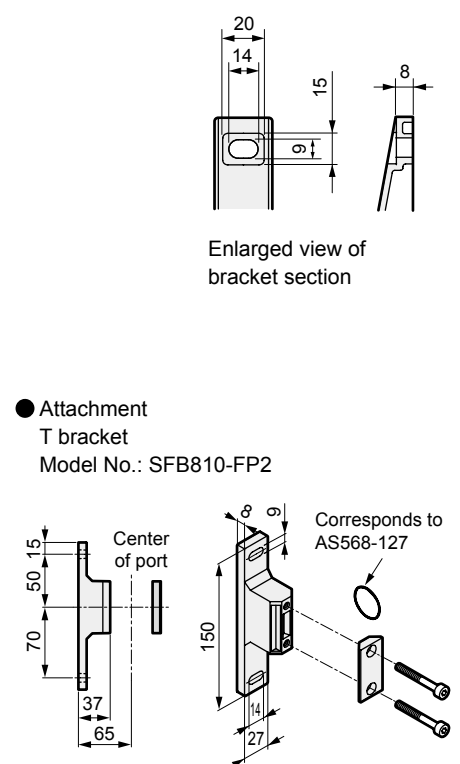
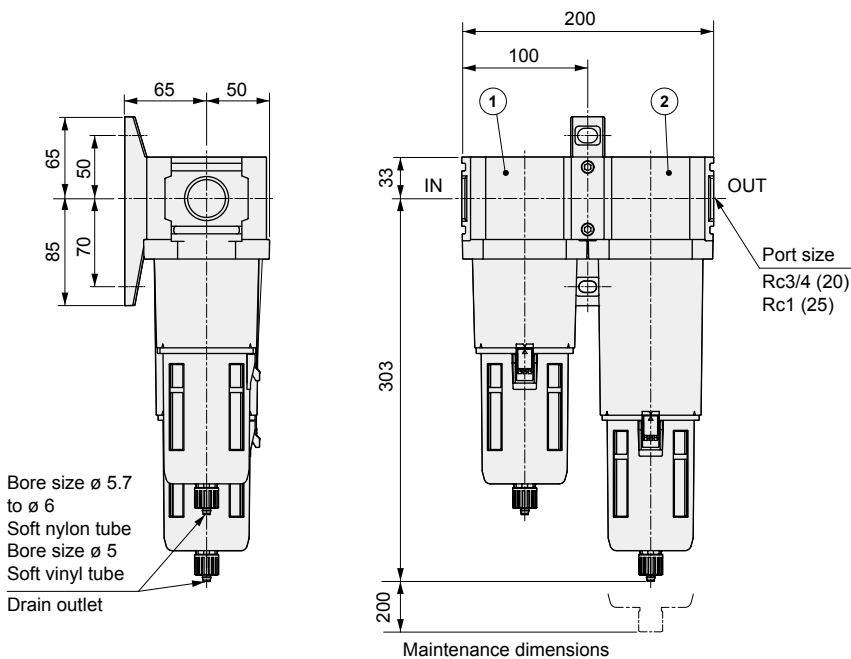


| No. | Series                                 |
|-----|--|
| (1) | Anti-bacterial pre-filter              |
| (2) | High-performance anti-bacterial filter |

| Model No. | A  | B    | C   | D  | E   | F  | G  |
|-----------|----|------|-----|----|-----|----|----|
| SFC306    | 45 | 34.5 | 126 | 63 | 148 | 27 | 45 |
| SFC406    | 55 | 42.5 | 160 | 80 | 171 | 37 | 55 |

Material: Aluminum die-casting  
 Mounting screw with stainless steel

● SFC806



| No. | Series                                 |
|-----|--|
| (1) | Anti-bacterial pre-filter              |
| (2) | High-performance anti-bacterial filter |

Material: Aluminum die-casting  
 Mounting screw with stainless steel

Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Anti-bacterial/odor removal filter combination

# SFC308·SFC408·SFC808-FP2 Series

● Port size: 1/4 to 1



## Specifications

| Descriptions                     |  | SFC308   | SFC408        | SFC808 |
|----------------------------------|--|--|---------------|--------|
| Components                       | (1) Anti-bacterial pre-filter              | SFC310   | SFC410        | SFC810 |
|                                  | (2) High-performance anti-bacterial filter | SFC320   | SFC420        | SFC820 |
|                                  | (3) Odor removal filter                    | SFC340   | SFC440        | SFC840 |
| Working fluid                    |  | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |        |
| Working pressure range           |  | MPa 0.1 to 1.0   |               |        |
| Proof pressure                   |  | MPa 1.5  |               |        |
| Ambient/fluid temperatures       |  | °C 5 to 45   |               |        |
| Filtration                       |  | μm 0.1 (removal efficiency 99% or higher)  |               |        |
| Secondary side oil concentration |  | mg/m <sup>3</sup> 0.003 or less *2   |               |        |
| Max. processing flow rate *1     |  | l/min (ANR) 360  | 700           | 2200   |
| Port size                        |  | Rc, NPT, G 1/4, 3/8  | 1/4, 3/8, 1/2 | 3/4, 1 |
| Weight                           |  | Kg 0.96  | 1.61          | 4.2    |
| Standard accessories             |  | Maintenance label (attachment)   |               |        |
| Element replacement              |  | 1 year (6000 hours) or pressure drop 0.1 MPa *3                                  |               |        |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

\*2: When an oil mist filter (M Series M type) is installed on the primary side. Be sure to install an air dryer and oil mist filter on the primary side.

\*3: The replacement time is not a guaranteed value. The replacement time may be reduced depending on the product's working environment, usage conditions, etc.

## How to order

**SFC308 - 10 - X1 - FP2**

**A Model No.**

**B Port size**

**C Port thread**

**D Flow direction**

|                  |                              | A Model No. |        |        |
|------------------|------------------------------|-------------|--------|--------|
|                  |                              | SFC308      | SFC408 | SFC808 |
| Code             | Content                      |             |        |        |
| B Port size      |                              |             |        |        |
| 8                | 1/4                          | ●           | ●      |        |
| 10               | 3/8                          | ●           | ●      |        |
| 15               | 1/2                          |             | ●      |        |
| 20               | 3/4                          |             |        | ●      |
| 25               | 1                            |             |        | ●      |
| C Port thread    |                              |             |        |        |
| Blank            | Rc Thread                    | ●           | ●      | ●      |
| N                | NPT Thread                   | ●           | ●      | ●      |
| G                | G Thread                     | ●           | ●      | ●      |
| D Flow direction |                              |             |        |        |
| Blank            | Standard flow (left → right) | ●           | ●      | ●      |
| X1               | Reverse flow (right → left)  | ●           | ●      | ●      |

● Replacement element single unit model number

| Element model No. | Anti-bacterial pre-filter element | High-performance anti-bacterial filter element | Odor removal filter element |
|-------------------|-----------------------------------|--|-----------------------------|
| SFC308            | SFC310-ELEMENT                    | SFC320-ELEMENT                                 | SFC340-ELEMENT              |
| SFC408            | SFC410-ELEMENT                    | SFC420-ELEMENT                                 | SFC440-ELEMENT              |
| SFC808            | SFC810-ELEMENT                    | SFC820-ELEMENT                                 | SFC840-ELEMENT              |





Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Anti-bacterial pre-filter

# SFC310/SFC410/SFC810-FP2 Series

● Port size: 1/4 to 1



## Specifications

| Descriptions                             | SFC310   | SFC410        | SFC810 |
|--|--|---------------|--------|
| Working fluid                            | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |        |
| Working pressure range MPa               | 0.1 to 1.0   |               |        |
| Proof pressure MPa                       | 1.5  |               |        |
| Ambient/fluid temperatures °C            | 5 to 45  |               |        |
| Filtration μm                            | 5 (removal efficiency 90% and over)  |               |        |
| Max. processing flow rate *1 l/min (ANR) | 360  | 700           | 2200   |
| Port size Rc, NPT, G                     | 1/4, 3/8   | 1/4, 3/8, 1/2 | 3/4, 1 |
| Weight Kg                                | 0.28   | 0.52          | 1.16   |
| Standard accessories                     | Maintenance label (attachment)   |               |        |
| Element replacement                      | 1 year (6000 hours) or pressure drop 0.1 MPa                                     |               |        |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

## How to order

**SFC310** - **10** - **X1** - **FP2**

● A Model No.

● B Port size


● C Port thread

● D Flow direction

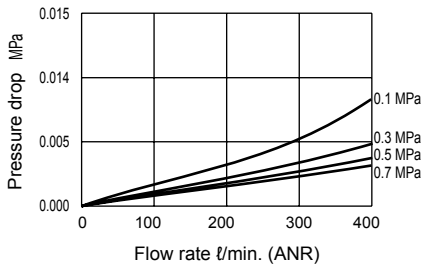
|                  |                              | A Model No. |        |        |
|------------------|------------------------------|-------------|--------|--------|
|                  |                              | SFC310      | SFC410 | SFC810 |
| Code             | Content                      |             |        |        |
| B Port size      |                              |             |        |        |
| 8                | 1/4                          | ●           | ●      |        |
| 10               | 3/8                          | ●           | ●      |        |
| 15               | 1/2                          |             | ●      |        |
| 20               | 3/4                          |             |        | ●      |
| 25               | 1                            |             |        | ●      |
| C Port thread    |                              |             |        |        |
| Blank            | Rc Thread                    | ●           | ●      | ●      |
| N                | NPT Thread                   | ●           | ●      | ●      |
| G                | G Thread                     | ●           | ●      | ●      |
| D Flow direction |                              |             |        |        |
| Blank            | Standard flow (left → right) | ●           | ●      | ●      |
| X1               | Reverse flow (right → left)  | ●           | ●      | ●      |

● Replacement element single unit model number

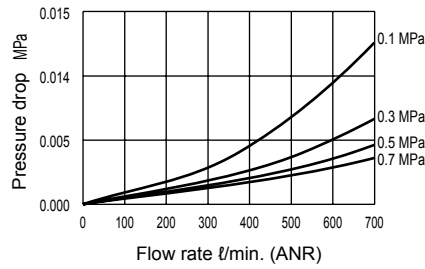
| Element model No. | Anti-bacterial pre-filter element |
|-------------------|-----------------------------------|
| SFC310            | SFC310-ELEMENT                    |
| SFC410            | SFC410-ELEMENT                    |
| SFC810            | SFC810-ELEMENT                    |

Flow characteristics 

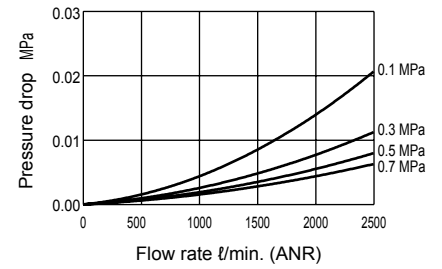
● SFC310



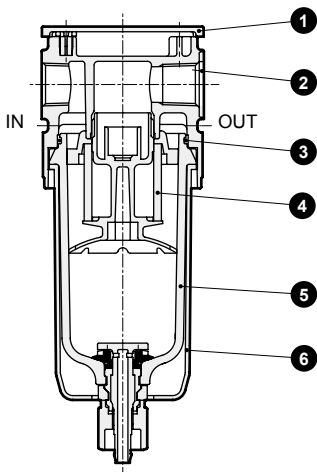
● SFC410



● SFC810



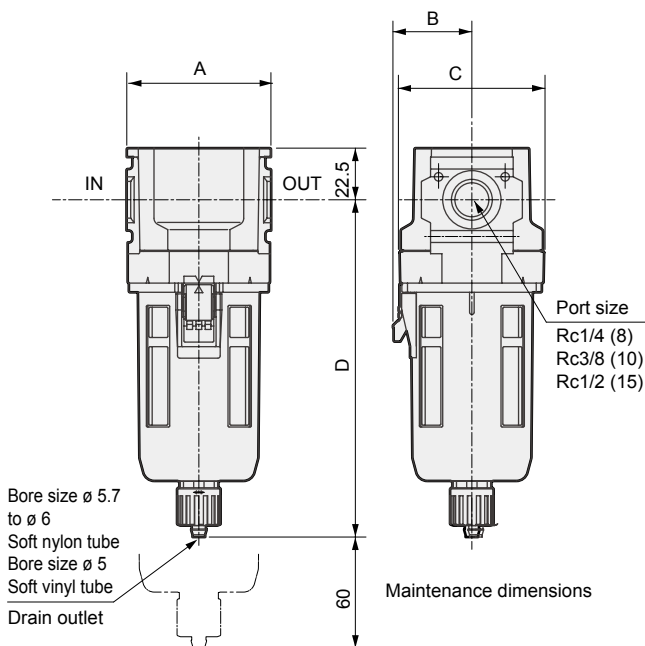
Internal structure and parts list



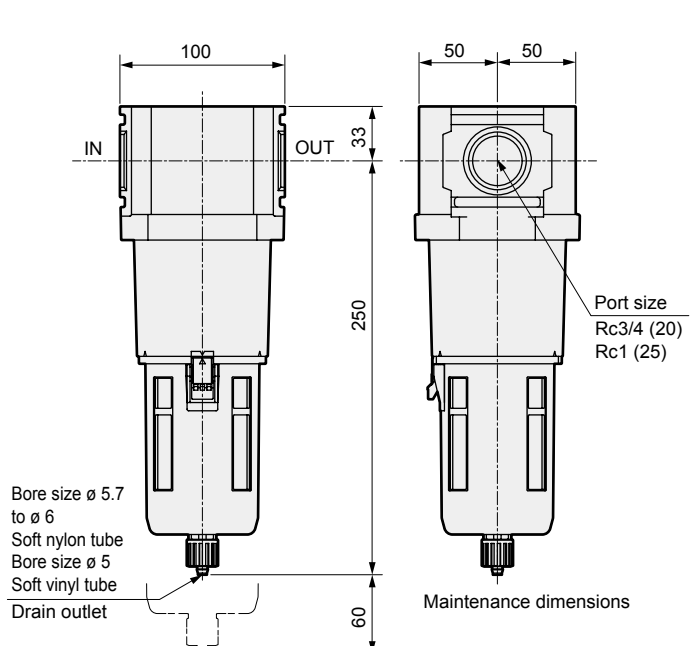
| No. | Part name   | Material                          |        |        |
|-----|-------------|-----------------------------------|--------|--------|
|     |             | SFC310                            | SFC410 | SFC810 |
| 1   | Plate cover | ABS Resin                         |        |        |
| 2   | Body        | Aluminum alloy die-casting        |        |        |
| 3   | O-ring      | Fluoro rubber                     |        |        |
| 4   | Element     | Polyethylene, polypropylene, etc. |        |        |
| 5   | Bowl        | Polyamide resin                   |        |        |
| 6   | Bowl guard  | Polyamide resin                   |        |        |
| 7   | Drain cock  | Polyacetal resin, polyester       |        |        |

Dimensions 

● SFC310, SFC410



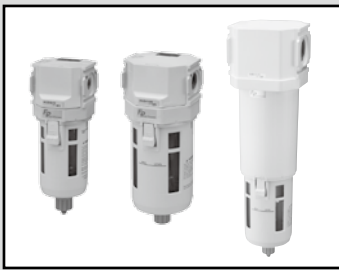
● SFC810



| Model No. | A  | B    | C  | D   |
|-----------|----|------|----|-----|
| SFC310    | 63 | 34.5 | 63 | 148 |
| SFC410    | 80 | 42.5 | 79 | 171 |

Materials compatible with the Food Sanitation Act

Materials compatible with FDA



High-performance anti-bacterial filter

# SFC320/SFC420/SFC820-FP2 Series

● Port size: 1/4 to 1



## Specifications

| Descriptions                             | SFC320   | SFC420        | SFC820 |
|--|--|---------------|--------|
| Working fluid                            | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |        |
| Working pressure range MPa               | 0.1 to 1.0   |               |        |
| Proof pressure MPa                       | 1.5  |               |        |
| Ambient/fluid temperatures °C            | 5 to 45  |               |        |
| Filtration μm                            | 0.1 (removal efficiency 99% and over)  |               |        |
| Max. processing flow rate *1 l/min (ANR) | 360  | 700           | 2200   |
| Port size Rc, NPT, G                     | 1/4, 3/8   | 1/4, 3/8, 1/2 | 3/4, 1 |
| Weight Kg                                | 0.28   | 0.52          | 1.35   |
| Standard accessories                     | Maintenance label (attachment)   |               |        |
| Element replacement                      | 1 year (6000 hours) or pressure drop 0.1 MPa                                     |               |        |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

## How to order

**SFC320** - **10** - **X1** - **FP2**

● A Model No.

● B Port size

● C Port thread

● D Flow direction

|                  |                              | A Model No. |        |        |
|------------------|------------------------------|-------------|--------|--------|
|                  |                              | SFC320      | SFC420 | SFC820 |
| Code             | Content                      |             |        |        |
| B Port size      |                              |             |        |        |
| 8                | 1/4                          | ●           | ●      |        |
| 10               | 3/8                          | ●           | ●      |        |
| 15               | 1/2                          |             | ●      |        |
| 20               | 3/4                          |             |        | ●      |
| 25               | 1                            |             |        | ●      |
| C Port thread    |                              |             |        |        |
| Blank            | Rc Thread                    | ●           | ●      | ●      |
| N                | NPT Thread                   | ●           | ●      | ●      |
| G                | G Thread                     | ●           | ●      | ●      |
| D Flow direction |                              |             |        |        |
| Blank            | Standard flow (left → right) | ●           | ●      | ●      |
| X1               | Reverse flow (right → left)  | ●           | ●      | ●      |

● Replacement element single unit model number

| Element model No. | High-performance anti-bacterial filter element |
|-------------------|--|
| SFC320            | SFC320-ELEMENT                                 |
| SFC420            | SFC420-ELEMENT                                 |
| SFC820            | SFC820-ELEMENT                                 |

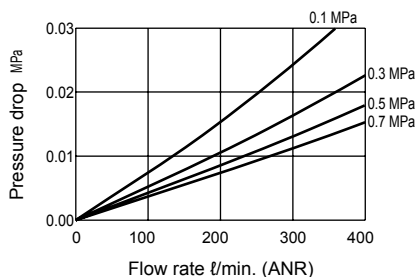
# SFC<sup>348</sup>20-FP2 Series

## Flow characteristics/Internal structure and parts list/Dimensions

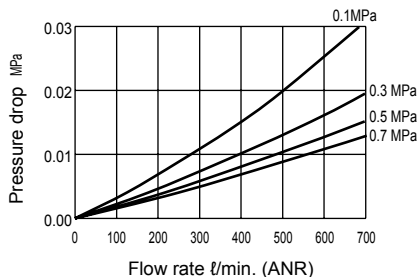
### Flow characteristics



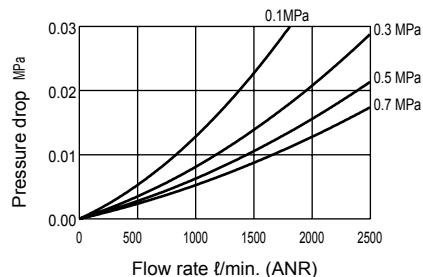
● SFC320



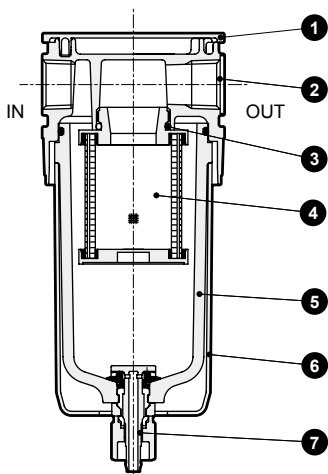
● SFC420



● SFC820



### Internal structure and parts list



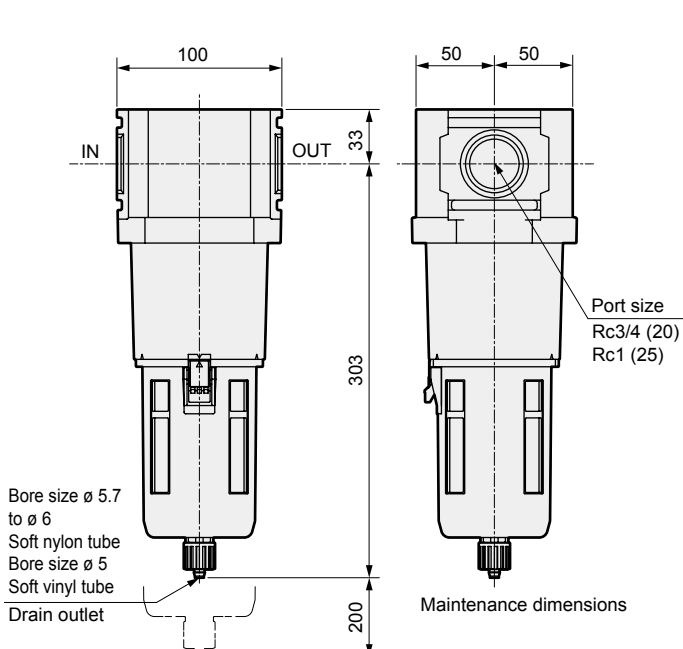
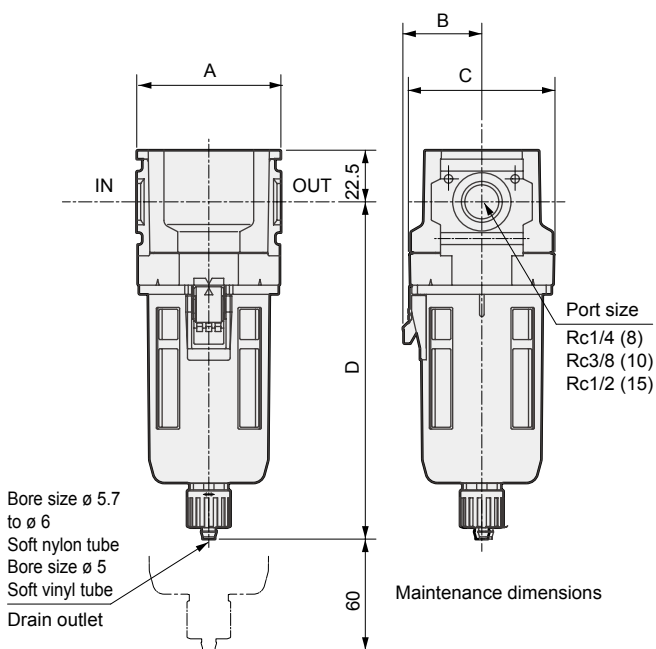
| No. | Part name   | Material                    |        |                         |
|-----|-------------|-----------------------------|--------|-------------------------|
|     |             | SFC320                      | SFC420 | SFC820                  |
| 1   | Plate cover | ABS Resin                   |        |                         |
| 2   | Body        | Aluminum alloy die-casting  |        |                         |
| 3   | O-ring      | Fluoro rubber               |        |                         |
| 4   | Element     | Glass fibers, polypropylene |        | Glass fibers, PET, etc. |
| 5   | Bowl        | Polyamide resin             |        |                         |
| 6   | Bowl guard  | Polyamide resin             |        |                         |
| 7   | Drain cock  | Polyacetal resin, polyester |        |                         |

### Dimensions



● SFC320, SFC420

● SFC820



| Model No. | A  | B    | C  | D   |
|-----------|----|------|----|-----|
| SFC320    | 63 | 34.5 | 63 | 148 |
| SFC420    | 80 | 42.5 | 79 | 171 |

Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Bacteria Removing Filter

# SFC330/SFC430-FP2 Series

● Port size: 1/4 to 1/2



## Specifications

| Descriptions                             | SFC330   | SFC430        |
|--|--|---------------|
| Working fluid                            | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |
| Working pressure range MPa               | 0.1 to 1.0   |               |
| Proof pressure MPa                       | 1.5  |               |
| Differential pressure-resistant MPa      | 0.5  |               |
| Ambient/fluid temperatures °C            | 5 to 45  |               |
| Filtration μm                            | 0.01 (removal efficiency 99.99%)   |               |
| Max. processing flow rate *1 ℓ/min (ANR) | 300  | 500           |
| Port size Rc, NPT, G                     | 1/4, 3/8   | 1/4, 3/8, 1/2 |
| Weight Kg                                | 0.28   | 0.52          |
| Standard accessories                     | Maintenance label (attachment)   |               |
| Element replacement                      | 1 year (6000 hours) or pressure drop 0.1 MPa                                     |               |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

## How to order

**SFC330 - 10 - X1 - FP2**

SFC330 - 
 10 - 
 X1 - 
 **FP2**

**A** Model No. (SFC330)  
**B** Port size (10)  
**C** Port thread (X1)  
**D** Flow direction (FP2)

|                  |                              | A Model No. |        |
|------------------|------------------------------|-------------|--------|
|                  |                              | SFC330      | SFC430 |
| Code             | Content                      |             |        |
| B Port size      |                              |             |        |
| 8                | Rc1/4                        | ●           | ●      |
| 10               | Rc3/8                        | ●           | ●      |
| 15               | Rc1/2                        | ●           | ●      |
| C Port thread    |                              |             |        |
| Blank            | Rc Thread                    | ●           | ●      |
| N                | NPT Thread                   | ●           | ●      |
| G                | G Thread                     | ●           | ●      |
| D Flow direction |                              |             |        |
| Blank            | Standard flow (left → right) | ●           | ●      |
| X1               | Reverse flow (right → left)  | ●           | ●      |

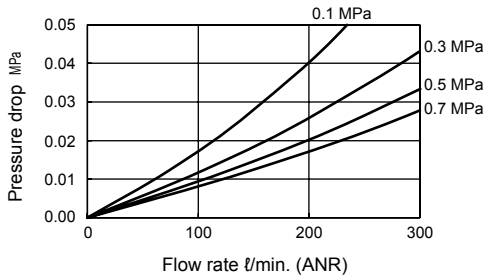
● Replacement element single unit model number

| Element model No. | Bacteria removing filter element |
|-------------------|----------------------------------|
| SFC330            | SFC330-ELEMENT                   |
| SFC430            | SFC430-ELEMENT                   |

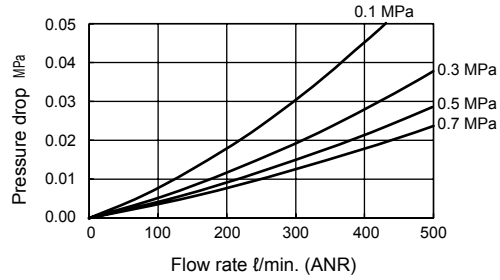
Flow characteristics



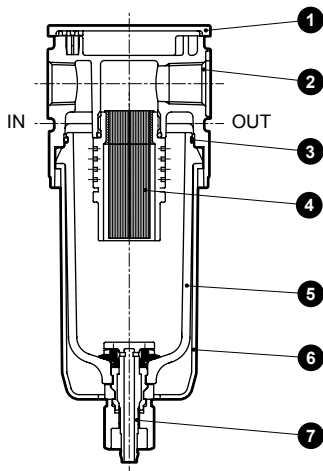
● SFC330



● SFC430



Internal structure and parts list

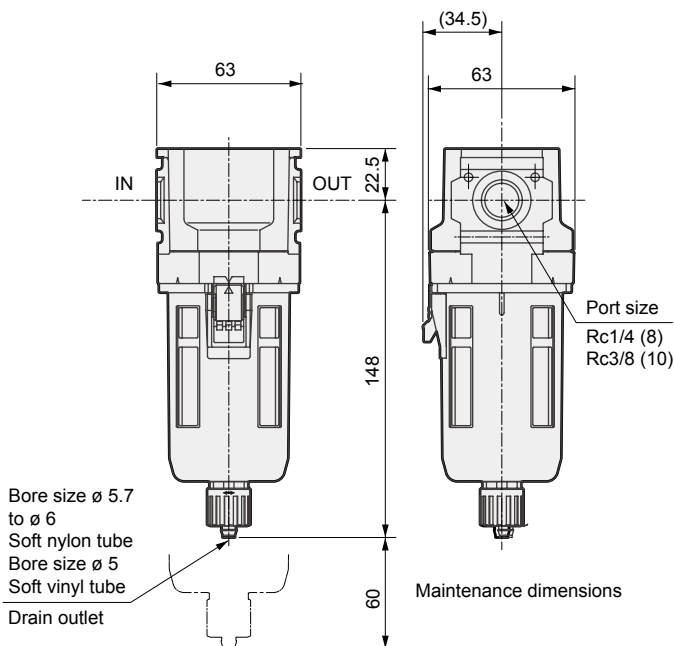


| No. | Part name   | Material   |        |
|-----|-------------|--|--------|
|     |             | SFC330   | SFC430 |
| 1   | Plate cover | ABS Resin  |        |
| 2   | Body        | Aluminum alloy die-casting                           |        |
| 3   | O-ring      | Fluoro rubber  |        |
| 4   | Element     | Polypropylene, urethane resin, clear polyamide resin |        |
| 5   | Bowl        | Polyamide resin                                      |        |
| 6   | Bowl guard  | Polyamide resin                                      |        |
| 7   | Drain cock  | Polyacetal resin, polyester                          |        |

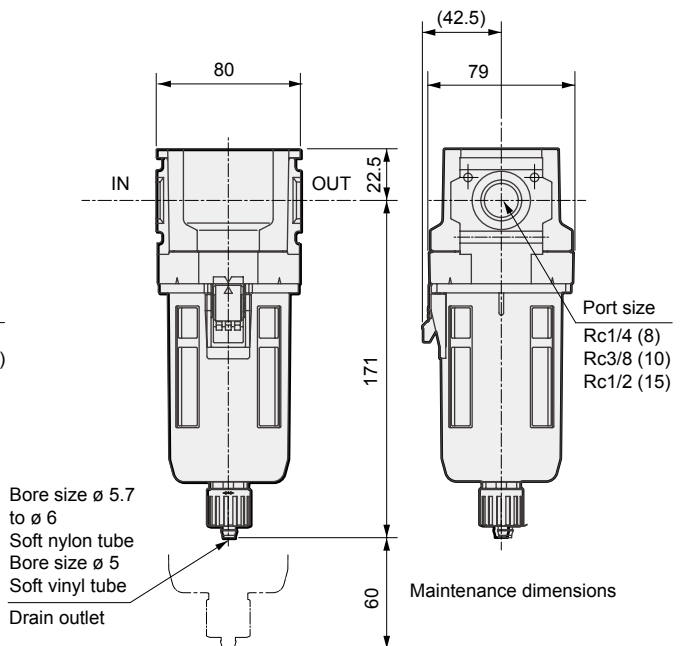
Dimensions



● SFC330



● SFC430



Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Odor removal filter

# SFC340·SFC440·SFC840-FP2 Series

● Port size: 1/4 to 1



## Specifications

| Descriptions                                       | SFC340   | SFC440        | SFC840 |
|--|--|---------------|--------|
| Working fluid                                      | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |               |        |
| Working pressure range MPa                         | 0.1 to 1.0   |               |        |
| Proof pressure MPa                                 | 1.5  |               |        |
| Ambient/fluid temperatures °C                      | 5 to 45  |               |        |
| Secondary side oil concentration mg/m <sup>3</sup> | 0.003 or less *2   |               |        |
| Max. processing flow rate *1 l/min (ANR)           | 360  | 700           | 2200   |
| Port size Rc, NPT, G                               | 1/4, 3/8   | 1/4, 3/8, 1/2 | 3/4, 1 |
| Weight Kg  | 0.28   | 0.52          | 1.35   |
| Standard accessories                               | Maintenance label (attachment)   |               |        |
| Element replacement                                | 1 year (6000 hours) or pressure drop 0.1 MPa *3                                  |               |        |

\*1: Use within the max. processing flow rate. This is the value when primary pressure is 0.7 MPa.

\*2: When an oil mist filter (M Series M type) is installed on the primary side. Be sure to install an air dryer and oil mist filter on the primary side.

\*3: The replacement time is not a guaranteed value. The replacement time may be reduced depending on the product's working environment, usage conditions, etc.

## How to order

**SFC340** - **10** - **X1** - **FP2**

● A Model No.

● B Port size

● C Port thread

● D Flow direction

|                         |                              | A Model No. |        |        |
|-------------------------|------------------------------|-------------|--------|--------|
|                         |                              | SFC340      | SFC440 | SFC840 |
| Code                    | Content                      |             |        |        |
| <b>B Port size</b>      |                              |             |        |        |
| 8                       | 1/4                          | ●           | ●      |        |
| 10                      | 3/8                          | ●           | ●      |        |
| 15                      | 1/2                          |             | ●      |        |
| 20                      | 3/4                          |             |        | ●      |
| 25                      | 1                            |             |        | ●      |
| <b>C Port thread</b>    |                              |             |        |        |
| Blank                   | Rc Thread                    | ●           | ●      | ●      |
| N                       | NPT Thread                   | ●           | ●      | ●      |
| G                       | G Thread                     | ●           | ●      | ●      |
| <b>D Flow direction</b> |                              |             |        |        |
| Blank                   | Standard flow (left → right) | ●           | ●      | ●      |
| X1                      | Reverse flow (right → left)  | ●           | ●      | ●      |

● Replacement element single unit model number

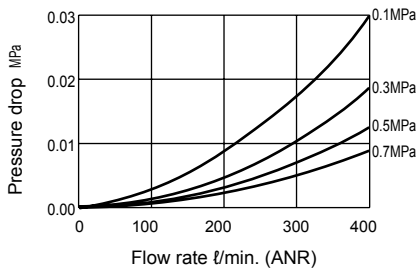
| Element model No. | Odor removal filter element |
|-------------------|-----------------------------|
| SFC340            | SFC340-ELEMENT              |
| SFC440            | SFC440-ELEMENT              |
| SFC840            | SFC840-ELEMENT              |



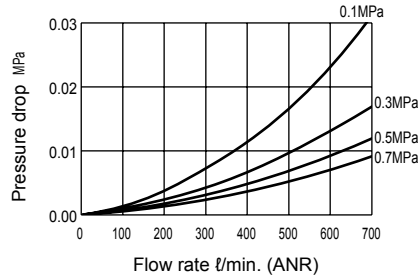
Flow characteristics



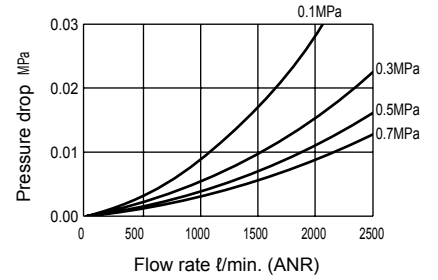
● SFC340



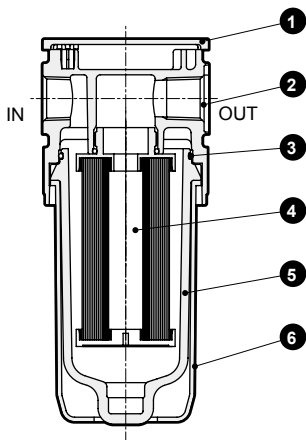
● SFC440



● SFC840



Internal structure and parts list

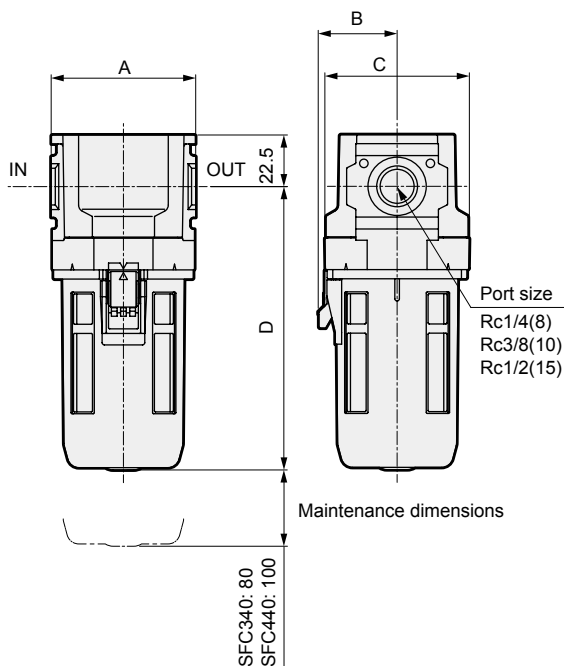


| No. | Part name   | Material                    |        |        |
|-----|-------------|-----------------------------|--------|--------|
|     |             | SFC340                      | SFC440 | SFC840 |
| 1   | Plate cover | ABS Resin                   |        |        |
| 2   | Body        | Aluminum alloy die-casting  |        |        |
| 3   | O-ring      | Fluoro rubber               |        |        |
| 4   | Element     | Fiber activated carbon, PET |        |        |
| 5   | Bowl        | Polyamide resin             |        |        |
| 6   | Bowl guard  | Polyamide resin             |        |        |

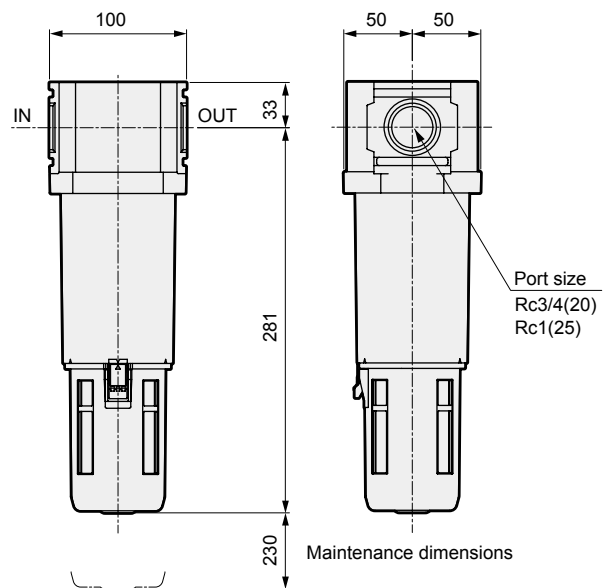
Dimensions



● SFC340/SFC440



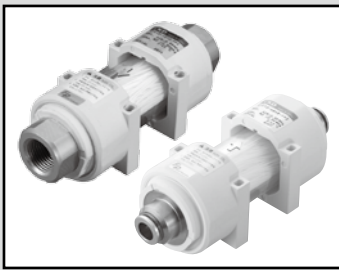
● SFC840



| Model No. | A  | B    | C  | D     |
|-----------|----|------|----|-------|
| SFC340    | 63 | 34.5 | 63 | 123.5 |
| SFC440    | 80 | 42.5 | 79 | 149   |

Materials compatible with the Food Sanitation Act

Materials compatible with FDA



Bacteria removing filter/inline

# SFS10-FP2 Series

● Port size: Rc1/4, Rc3/8

Push-in fitting  $\phi$  8,  $\phi$  10,  $\phi$  12



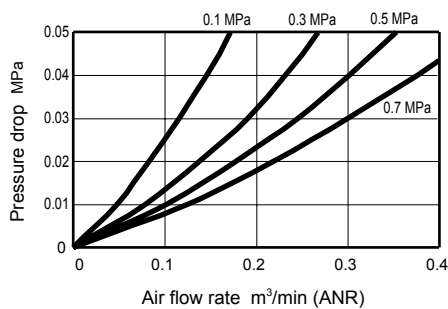
## Specifications

| Descriptions                           | Resin  |        | Stainless steel  |  |
|--|--|--------|--|--|
|  | SFS10- (*1) (*2)   |        | SFS10- (*1) (*2) -M  |  |
| Working fluid                          | Compressed air, Nitrogen gas(N <sub>2</sub> ), Carbon dioxide (CO <sub>2</sub> ) |        |  |  |
| IN side bore size (*1)                 | Push-in fitting $\phi$ 8, $\phi$ 10, $\phi$ 12,                                  |        | Select from Rc1/4 and Rc3/8  |  |
| OUT side bore size (*2)                | Select from Rc1/4 and Rc3/8  |        |  |  |
| Proof pressure MPa                     | 1.5  |        | 2.25 (Compressed air), 1.5 (N <sub>2</sub> , CO <sub>2</sub> )                     |  |
| Differential pressure-resistant MPa    | 0.5  |        |  |  |
| Working pressure MPa                   | -0.095 to 0.99   |        | -0.095 to 1.5 (Compressed air), -0.095 to 0.99 (N <sub>2</sub> , CO <sub>2</sub> ) |  |
| Ambient/fluid temperatures °C          | 5 to 45  |        |  |  |
| Filtration $\mu$ m                     | 0.01 (removal efficiency 99.99%)   |        |  |  |
| Processing flow rate $\ell$ /min (ANR) | 300 to 400 Note 1  |        |  |  |
| Weight kg                              | Push-in fitting  | Thread | 0.5  |  |
|  | 0.15   | 0.11   |  |  |
| Assembling/inspection/packaging        | Integrated production in cleanroom   |        |  |  |
| Cleaning                               | Degreasing   |        |  |  |
| Element replacement                    | 1 year (6000 hours) or pressure drop 0.1 MPa                                     |        |  |  |

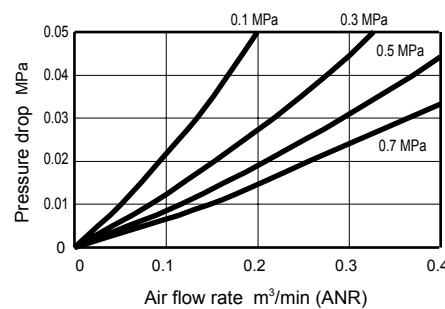
Note 1: Initial flow rate at primary pressure 0.7 MPa and pressure drop 0.03 MPa. (Differs according to port size.)

## Flow characteristics

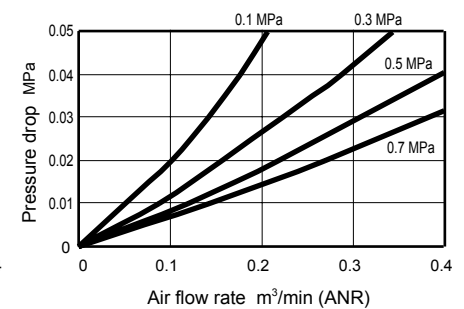
● SFS10-H8H8



● SFS10-H10H10  
● SFS10-88



● SFS10-H12H12  
● SFS10-1010



## How to order

● Resin

**SFS10 - H8 H8 - FP2**

Model No.

**A** IN side port size

**B** OUT side port size

| A IN side port size  |           |
|----------------------|-----------|
| H8                   | $\phi$ 8  |
| H10                  | $\phi$ 10 |
| H12                  | $\phi$ 12 |
| 8                    | Rc1/4     |
| 10                   | Rc3/8     |
| B OUT side port size |           |
| H8                   | $\phi$ 8  |
| H10                  | $\phi$ 10 |
| H12                  | $\phi$ 12 |
| 8                    | Rc1/4     |
| 10                   | Rc3/8     |

● Stainless steel (custom order)

**SFS10 - 8 8 - M - FP2**

Model No.

**A** IN side port size

**B** OUT side port size

| A IN side port size  |       |
|----------------------|-------|
| 8                    | Rc1/4 |
| 10                   | Rc3/8 |
| B OUT side port size |       |
| 8                    | Rc1/4 |
| 10                   | Rc3/8 |

\*1: Two mounting screws (M3  $\times$  40), two plain washers, and two spring washers are attached with the product.

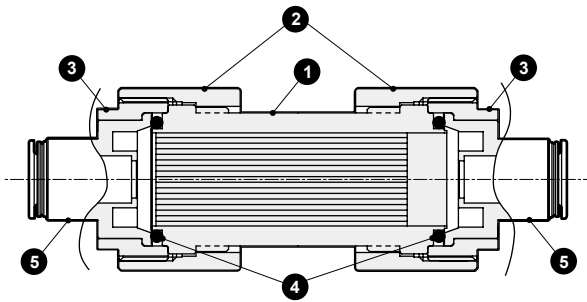
● Single unit model number for replacement element (1 element, 2 O-rings)

• For resin type: **SFS10-E**

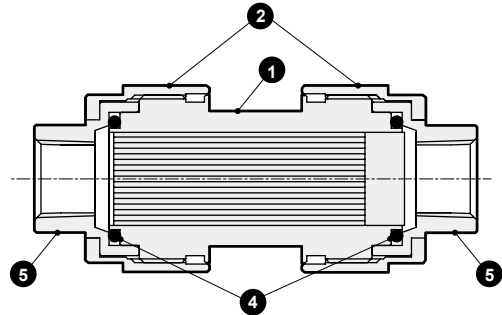
• Stainless steel type: **SFS10-E-M**

Internal structure and parts list

● Resin



● Stainless steel



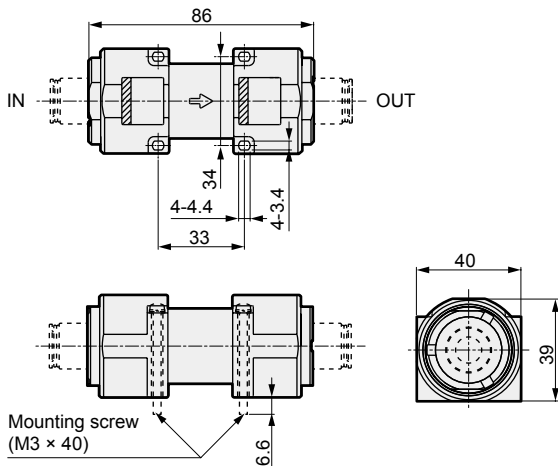
● Parts list

| No. | Part name  | Resin   | Stainless steel |
|-----|--|---|-----------------|
| 1   | Housing  | Clear polyamide   | Stainless steel |
|     | Filter   | Polypropylene   |                 |
|     | Filler material  | Urethane rubber resin   |                 |
| 2   | Body   | Polyamide resin   | Stainless steel |
| 3   | Plug   | Polyamide resin   | -               |
| 4   | O-ring   | Fluoro rubber   | Fluoro rubber   |
| 5   | Cartridge fitting<br>(Port size $\phi 8$ , $\phi 10$ , $\phi 12$ ) | Copper alloy (nickeling)<br>Fluoro rubber<br>Push ring: stainless steel | -               |
|     | Adaptor<br>(Port size Rc1/4, Rc3/8)                                | Aluminum<br>(Alumite treatment)   | Stainless steel |

Dimensions

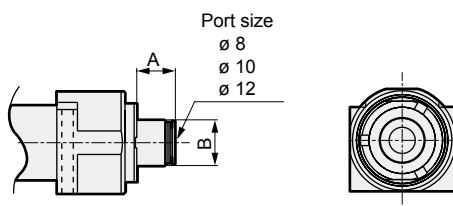


● Resin

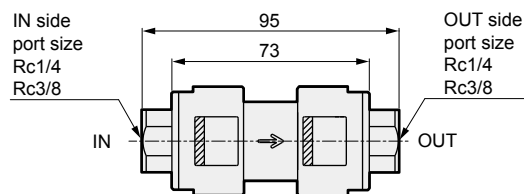


| Connection model No. | Port size                 | A    | B           |
|----------------------|---------------------------|------|-------------|
| H8                   | $\phi 8$ Push-in fitting  | 12   | $\phi 17.5$ |
| H10                  | $\phi 10$ Push-in fitting | 14.5 | $\phi 17.5$ |
| H12                  | $\phi 12$ Push-in fitting | 16   | $\phi 19.5$ |
| 8                    | Rc1/4                     | 11   | -           |
| 10                   | Rc3/8                     | 11   | -           |

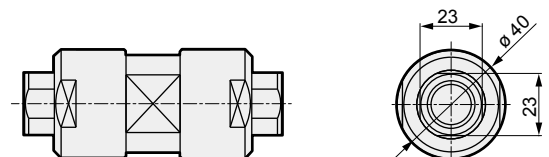
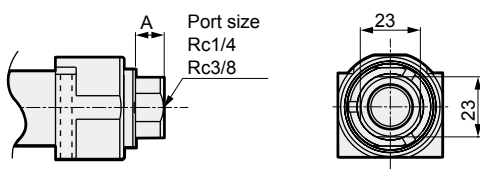
• Push-in fitting ( $\phi 8$ ,  $\phi 10$ ,  $\phi 12$ )



● Stainless steel



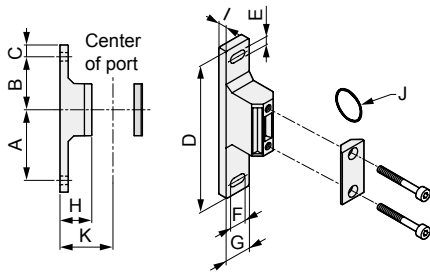
• Rc Thread (Rc1/4, Rc3/8)



# Anti-bacterial/Bacteria Removing Filter

## T-bracket set

● Model No.: SFB310-FP2/SFB410-FP2/SFB810-FP2

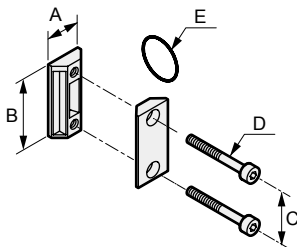


| Model No.  | Compatibility | A  | B  | C  | D   | E | F  | G  | H  | I | J            | K  | Weight (kg) |
|------------|---------------|----|----|----|-----|---|----|----|----|---|--------------|----|-------------|
| SFB310-FP2 | SFC3 **Series | 60 | 45 | 10 | 125 | 7 | 14 | 22 | 27 | 7 | JISB2401-P21 | 45 | 0.086       |
| SFB410-FP2 | SFC4 **Series | 60 | 45 | 10 | 125 | 7 | 14 | 22 | 37 | 7 | JISB2401-P21 | 55 | 0.094       |
| SFB810-FP2 | SFC8 **Series | 70 | 50 | 15 | 150 | 9 | 14 | 27 | 37 | 8 | AS568-127    | 65 | 0.169       |

• Material: Aluminum alloy die-casting  
Mounting screw with stainless steel

## Joiner set

● Model No.: SFJ400-FP2  
SFJ800-FP2



| Model No.  | Compatibility                  | A  | B  | C  | D  | E                            | Weight (kg) |
|------------|--------------------------------|----|----|----|----|------------------------------|-------------|
| SFJ400-FP2 | SFC3 **Series<br>SFC4 **Series | 21 | 44 | 32 | M5 | Corresponds to JIS B2401-P21 | 0.036       |
| SFJ800-FP2 | SFC8 **Series                  | 26 | 65 | 50 | M6 | Corresponds to AS568-127     | 0.094       |

Material: Aluminum die-casting  
Mounting screw with stainless steel

## Distributor

How to order

**SFD401** - 00 - **8** - **B31** - FP2

**A** Model No.

**B** Port size

**C** Port thread

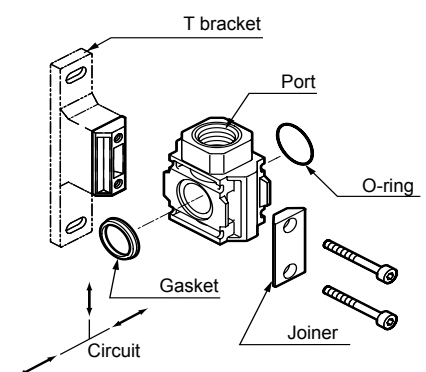
**D** T bracket

**⚠** Precautions for model No. selection

\*1: The joiner set (joiner, bolt, O-ring) and one gasket are attached as standard.  
\*2: Contact CKD regarding 2-way branch.

| Code                 | Content                                |
|----------------------|--|
| <b>A Model No.</b>   |  |
| <b>SFD401</b>        | For SFC3 **Series<br>For SFC4 **Series |
| <b>SFD801</b>        | For SFC8 **Series                      |
| <b>B Port size</b>   |  |
|                      | <b>SFD401</b> <b>SFD801</b>            |
| <b>8</b>             | ●                                      |
| <b>10</b>            | ●                                      |
| <b>15</b>            | ●                                      |
| <b>20</b>            | ●                                      |
| <b>25</b>            | ●                                      |
| <b>C Port thread</b> |  |
| <b>Blank</b>         | Rc Thread                              |
| <b>N</b>             | NPT Thread                             |
| <b>G</b>             | G Thread                               |
| <b>D T bracket</b>   |  |
| <b>Blank</b>         | None                                   |
| <b>B31</b>           | SFC3 **Series                          |
| <b>B41</b>           | SFC4 **Series                          |
| <b>B81</b>           | SFC8 **Series                          |

## Assembly method



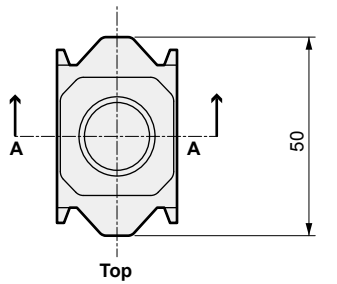
\*1: Insert the O-ring when mounting on the primary side, and the gasket when mounting on the secondary side for the air flow.  
\*2: When inserting the O-ring and gasket during assembly, the O-ring and gasket must not be bent.

Material: Aluminum die-casting  
Mounting screw with stainless steel

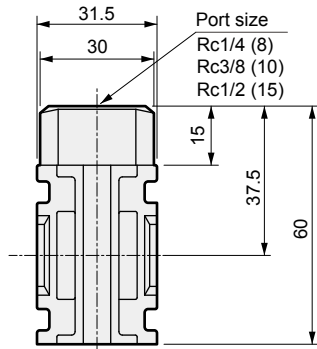
# Anti-bacterial/Bacteria Removing Filter

## Dimensions

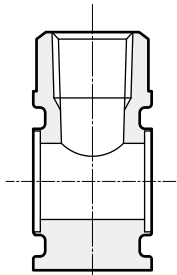
● SFD401-00-\*\*-FP2



Top

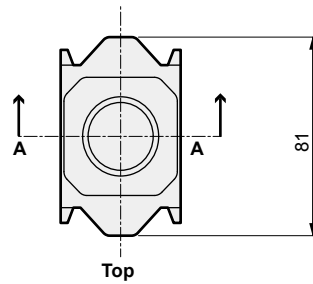


Front

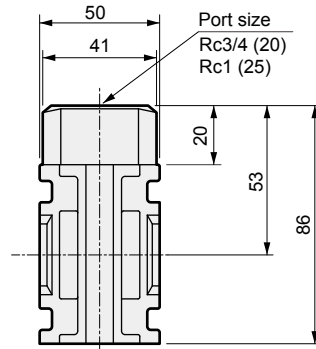


Cross section A-A

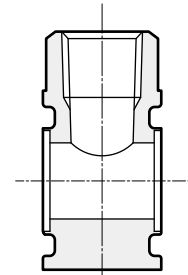
● SFD801-00-\*\*-FP2



Top



Front

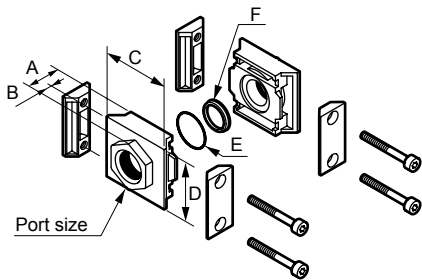


Cross section A-A

## Dimensions and applications

### Pipe adaptor set

● Model No.: SFA400-\*\*-FP2  
SFA800-\*\*-FP2



Material: Aluminum die-casting  
Mounting screw with stainless steel

| Model No.     | Port size | A          | B          | C  | D  | E (O-ring)                            | F (Gasket) | Weight (kg) |
|---------------|-----------|------------|------------|----|----|---------------------------------------|------------|-------------|
| SFA400-8-FP2  | 1/4       | 20         | 6          | 50 | 45 | Corresponds to JIS B2401-P21<br>1 pc. | 1 pc.      | 0.16        |
| SFA400-10-FP2 | 3/8       |            |            |    |    |                                       |            |             |
| SFA400-15-FP2 | 1/2       |            |            |    |    |                                       |            |             |
| SFA800-20-FP2 | 3/4       | 35<br>(38) | 15<br>(18) | 81 | 66 | Corresponds to AS568-127<br>1 pc.     | 1 pc.      | 0.53        |
| SFA800-25-FP2 | 1         |            |            |    |    |                                       |            |             |
| SFA800-32-FP2 | 1 1/4     |            |            |    |    |                                       |            |             |

\* Numbers in ( ) are for 1 1/4.



## Anti-bacterial/bacteria-removing/odor removal filter

# Safety Precautions

Always read this section before use.

Refer to "Pneumatic, vacuum and auxiliary components No. CB-024SA" and "Pneumatic Valves (CB-023SA)" for general precautions.

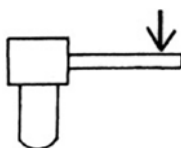
In the full line catalog it is stated that this product cannot be used with devices or applications that make direct contact with foods or beverages. However, the FP2 Series can be used for these applications as long as they are within the limits of the product specifications.

## Design/selection

### ⚠ WARNING

- The anti-bacterial filter has an anti-bacterial effect on bacteria attached to internal filter elements, suppressing bacteria growth. The working fluid itself has no bacteria-reducing effects. Anti-bacterial activity value, which represents the anti-bacterial effect, is an actual value from CKD's prescribed conditions.
- The bacteria removing filter removes and reduces the bacteria in the working fluid, but it does not kill all bacteria. It also does not remove viruses. LRV, which represents bacteria removing effect, is an actual value from CKD's prescribed conditions.
- This product is designed for industrial use. Do not use in any equipment or circuit that concerns human life.
- This product tolerates a small amount of leakage which does not affect performance.
- For use with nitrogen gas (N<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>), provide sufficient ventilation.
- This filter traps waste and bacteria in the working fluid and provides clean working fluid to the secondary side. It does not add anti-bacterial or sterilizing functions to the working fluid itself.
- It cannot be used in environments containing sodium hypochlorite, synthetic oil, organic solvents, chemicals, cutting oil, screw locking agent, leak detection solutions, or hot water, etc., or where these substances may come in contact with the product. Refer to page 24 for details on plastic bowl and transparent case chemical resistance.
- Piping load torque  
Avoid piping fixed with a single support, as this can result in excessive force and lead to damage.  
[Combination, module type]  
Make sure that no piping load or torque is applied to the body or pipes.

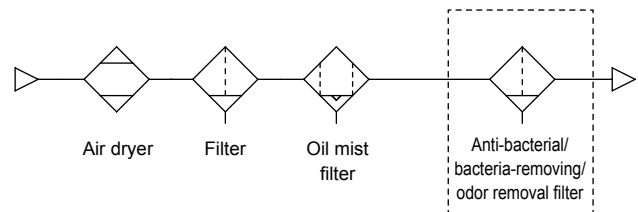
| Series             | SFC3** | SFC4** | SFC8** |
|--------------------|--------|--------|--------|
| Max. torque<br>N·m | 50     | 50     | 100    |



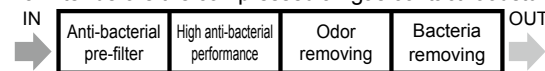
- Use this product after properly checking compatibility of the material with its use conditions and environment.

### ⚠ CAUTION

- Check the working circuit and working fluid.  
To prevent drop in filter performance, install dryer, air filter and oil mist filter on the primary side, and remove water or oil.



- Installation order for anti-bacterial/bacteria-removing/odor removal filter  
We recommend the use of the bacteria-removing unit as the final filter before the compressed air/gas contact foodstuffs.



- Do not exceed max. working or differential pressure.  
Not observing this could damage the product or element.
- Do not flow over the max. flow rate.  
Doing so may degrade the filtration accuracy and damage the element.
- This device cannot be used as an absolute filter.
- Do not use where IN and OUT side pressure difference exceeds 0.1 MPa.  
Suddenly supplying fluid to the filter by blowing fluid with secondary side released to atmospheric pressure, etc., could make removal inefficient. In this case, install a restriction valve on the filter's IN side to keep the pressure difference to 0.1 MPa or less.  
Consult with CKD about attaching differential pressure gauge GA400.
- High moisture levels  
Install the air dryer and drain separator before the anti-bacterial/bacteria removing filter.  
If there is a large drainage from the compressor, hot and highly humid air could shorten the device's life or result in corrosion.
- Water-lubricated compressor circuit  
Take measures to prevent chlorine-based substances from entering the compressed air.
- The odor removal filter uses activated carbon to apply suction to oil vapor.  
Be sure to install an oil mist filter (M Series M type) on the primary side, and remove oil mist in advance.
- The odor removal filter uses suction to remove the oil vapor in compressed air (nitrogen gas, carbon dioxide).  
Activated carbon suction is not equally effective with all substances, so that it will not completely eliminate all odors.
- The odor removal filter does not have anti-bacterial or bacteria-removing functions.

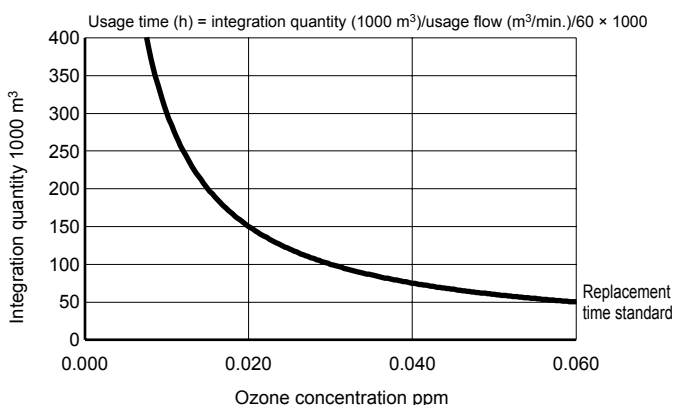
# Anti-bacterial/Bacteria removing filter

## Mounting, installation and adjustment

### ⚠ WARNING

- Prevent the generated ozone from passing through the filter. Otherwise the filter element may be degraded. Take care especially when using an ozone generator (e.g., ionizer) together.
  - (1) Do not install in the upstream portion of the filter.
  - (2) When installing downstream of the filter, stop air while static electricity is neutralized since generated ozone may flow back.
- Avoid installing this product where it is subject to direct ultraviolet.
- If the hollow fiber membrane in the bacteria removing filter suffers oxidative degradation from ozone or ultraviolet in the fluid, it may be damaged and allow flow over to the secondary side. Implement periodic inspections and exchange. Consult the graph below for standard replacement times.

Relation between ozone concentration and integration quantity  
Filter element replacement time



### ⚠ CAUTION

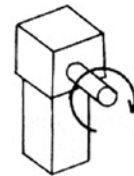
- Check the flow direction with arrow and connect correctly.
- Securing of maintenance space  
Secure sufficient space for maintenance and inspection.
- After attaching the pipes, flush and clean them before use.  
Dirt or foreign materials in piping will lower product performance.
- Check that foreign materials do not enter when tightening pipes or fittings.  
When screwing in piping or fittings, check that swarf from port threads or sealant does not get inside. Dirt or foreign matter remaining in the piping will deteriorate product performance. In particular, if swarf from the OUT side port thread on the last-installed unit is produced, that swarf will be blown through too.  
During piping, tighten at or below the torque determined in the catalogue, and then flush thoroughly before use.
- Install the drain cock downward vertically.

### ■ Piping screw-in torque

[Combination, module type]

Make sure that excessive torque is not applied on the body and pipe when piping.

| Series          | SFC3** | SFC4** | SFC8** |
|-----------------|--------|--------|--------|
| Max. torque N·m | 30     | 30     | 70     |



[Inline type]

| Port thread | Tightening torque N·m |
|-------------|-----------------------|
| Rc1/4       | 6 to 8                |
| Rc3/8       | 13 to 15              |

### ■ Drain piping

- The drain piping for the plastic bowl has a barbed nipple, and can be directly installed. However, confirm that the drain cock is closed before inserting the tube.  
Pipe so that no lateral load applies on the bowl.  
Do not fix the tube connected to the drain outlet with a lateral load applied. If drainage is performed with a lateral load applied, external leakage may occur.

### ■ Tightening torque of drain cock

- The maximum tightening torque of the drain cock of the plastic bowl is 0.5 N·m.

### ■ Pipe so no excessive force is applied to the product.

When piping or installing, do not apply tension, pressure, bending or external force from tube, etc.

### ■ When supplying working fluid after connecting pipes, do not apply high pressure suddenly.

Connected piping could be dislocated and tubing could fly off.

### ■ Select the appropriate piping tube.

### ■ Securely insert a tube into the push-in fitting before use.

### ■ Use width across flats of the connection part when piping.

[Inline type]

In the case of Rc thread piping, apply the wrench to the tang of the connection part. Do not apply it to any other part when tightening.

### ■ Attach the maintenance label to this product to make maintenance periods clear.

### ■ Storage

Do not store this product in a hot, humid atmosphere or atmospheric conditions outside of the specified range for a prolonged period of time. Resin or rubber parts could deteriorate, and the resin element housing could become discolored. Contact CKD when storing products exceeding specifications.

# Anti-bacterial/Bacteria removing filter

## Use & maintenance

### ⚠ WARNING

- Perform a periodic inspection once every six months or less to check for any cracks, scratches, and other damage to the plastic bowl and transparent housing. Replace the bowl with a new one or another product if you find any damages.

- Check the plastic bowl periodically for contamination.

- If parts are heavily contaminated or if transparency has decreased, replace with a new bowl.
- Use water and household detergent to wash parts. Rinse them out well with clean water afterward.

- Removing the cup

Stop the working fluid supply. Release the pressure in the bowls completely and make sure that there is no residual pressure before removing the bowls.

- Remove air filter drain.

Components could malfunction if drainage flows into the secondary side.

- Do not disinfect or clean using alcohol. It may deteriorate or damage the plastic part.

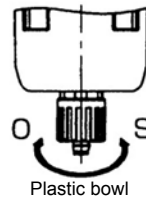
### ⚠ CAUTION

- Anti-bacterial and bacteria removing effects lessen when there are dirt or oil deposits in the filter element. Periodically implement inspections and replacements. Contact CKD for maintenance details.

- Do not modify the product.

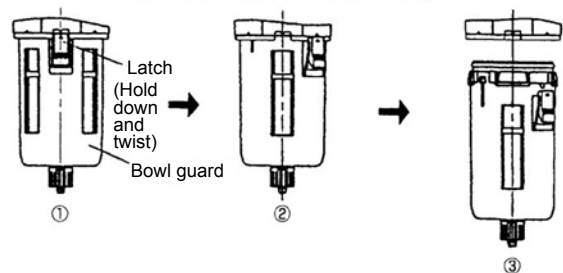
- Read the instructions and precautions attached with the product before use or maintenance. When attaching new elements, do so after washing your hands.

#### How to release drainage



- Drainage starts when the cock is turned to O side, and the discharge stops when the cock is turned in S direction. Tighten by hand in the S direction.

#### Detaching the resin bowl



- This filter cannot be flushed with air, water, etc., and be reused. When 1 year (6000 hours) has passed or the pressure drops to 0.1 MPa, replace the element with a new one.

- We ask that customers perform element replacement maintenance by themselves.
- During element replacement, take consideration that bacteria, waste, or foreign matter deposits in the primary side do not flow into the secondary side.

- While operating, do not apply vibration, impact, or other external force from tube.



### Chemical resistance of plastic



#### WARNING

- The chemical resistance of plastic parts is shown below.
- Avoid using products in an atmosphere where chemicals are contained in working fluid, the atmosphere, or where they could adhere to parts.
- Use in the above state could lead to bowl damage and accidents.

#### Chemical resistance of plastic bowl and clear housing

Consult CKD when using in environments filled with the following chemicals.  
Check whether the testing solutions, sealants and adhesives contain the following chemicals.

| Types of chemicals  | Categories of chemicals  | Main products of chemicals   | General applications  | Nylon |
|---------------------|--|--|---|-------|
| Inorganic chemicals | Acids  | Sodium hypochlorite, hydrochloric acid, sulfuric acid, hydrofluoric acid, phosphoric acid, chromic acid, etc.                      | Sterilization, acid washing of metals, acidic degreasing solutions, coating treatment solutions, etc. | ×     |
|                     | Alkalines  | Caustic soda, caustic potash, calcium hydroxide, aqueous ammonia, Alkalis such as sodium carbonate                                 | Alkaline degreasing solution for metals<br>Soluble cutting oil, leakage detection agent               | ○     |
|                     | Inorganic salts  | Sodium sulfide, sodium nitrate, potassium bichromate, sulfate of soda, etc.  |   | ○     |
| Organic chemicals   | Aromatic hydrocarbons  | Benzene, toluene, xylene, ethyl benzene, styrene, etc.   | Contained in paint thinner (benzene, toluene, and xylene)   | ×     |
|                     | Chlorinated aliphatic hydrocarbons                               | Methyl chloride, ethylene chloride, methylene chloride, acetylene chloride, chloroform, trichlene, perchlene, carbon tetrachloride | Organic solvent-based washing solution for metals (trichlene, perchlene, carbon tetrachloride, etc.)  | ○     |
|                     | Chlorinated aromatic hydrocarbons                                | Chlorobenzene, dichlorobenzene, benzene hexachloride (B/H/C), etc.   | Agricultural chemicals  | ○     |
|                     | Petroleum components   | Solvent naphtha, gasoline, kerosene  |   | ○     |
|                     | Alcohols   | Methyl alcohol, ethyl alcohol, cyclohexanol, benzyl alcohol  | Used as antifreezing agent<br>Leakage detection agent   | ×     |
|                     | Phenol   | Carbolic acid, cresol, naphthol, etc.  | Disinfectant solution   | ×     |
|                     | Ethers   | Methyl ether, methyl ethyl ether, ethyl ether  | Additive of brake oil   | ○     |
|                     | Ketones  | Acetone, methyl ethyl ketone, cyclohexanone, acetophenone, etc.  |   | ×     |
|                     | Carboxylic acids   | Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc.   | Dyes/oxalic acid for aluminum processing, phthalic acid for paint base and leakage detection agents   | ×     |
|                     | Esters   | Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP)                                | Lubricant, synthetic oil, rust preventing agent additive plasticizer for synthetic resin              | ○     |
|                     | Oxyacids   | Glycol acid, lactic acid, malic acid, citric acid, tartaric acid   |   | ×     |
|                     | Nitro compounds  | Nitromethane, nitroethane, nitroethylene, nitrobenzene, etc.   |   | ○     |
|                     | Amines   | Methylamine, diethylamine, ethylamine, aniline, acetoacetanilide, etc.   | Additive of brake oil   | ×     |
| Nitriles            | Acetonitrile, acrylonitrile, benzonitrile, acetoisonitrile, etc. | Raw material for nitrile rubber  | ○   |       |

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MEMO

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# Anti-bacterial/Bacteria removing filter

## Related products

### FP Series for food management processes

- An extensive lineup of everything from air filters to actuators allows for secure and safe use in food processing.
- In order to eliminate fears of contamination from lubricants, the FP1 Series uses food-grade (NSF H1) lubricants.
- In addition to FP1, the FP2 Series uses resin and rubber materials that are compliant with the Food Sanitation Act

### Compact flow rate sensor RAPIFLOW® FSM3 Series

Compact flow rate sensor 3 series for various applications

- Five types of gases can be measured with just one unit
- Reduction of pressure loss
- High precision/high-speed response
- Bi-directional fluid measurement
- Rotatable LCD display
- Abundant fitting variations

### Nitrogen gas purification unit NS Series

#### ■ Installable anywhere

With system components provided, design and piping are easy.

With no power supply required, it is usable even in explosion-proof atmospheres, different voltage areas, etc.

#### ■ Low cost

The only required maintenance cost is electricity for the air compressor. Troublesome cylinder remaining amount management or replacement work is not required.

#### ■ Easy maintenance

Component replacement is possible without disassembling the piping. High Pressure Gas Safety Act is not applicable

#### ■ Inline oxygen monitor

### Air blow nozzle BN\* Series

#### ■ Wide variation

Line of various models to match industries and applications.

#### ■ Energy saving

Employs a special structure that sucks in the surrounding air and amplifies it. Blows air strongly even with little air consumption.

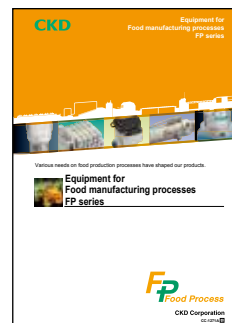
#### ■ Uniformity

Employs a special structure that injects air to a more uniformly directed spot. Achieves stable work quality.

#### ■ Low noise

A work environment-friendly silent design that suppresses air turbulence, with flat and round types for various uses.

Catalog No. CC-1271A



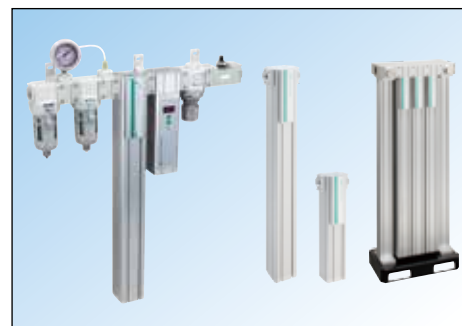
Videos available here



Catalog No. CC-1235A



Catalog No. CC-1355A

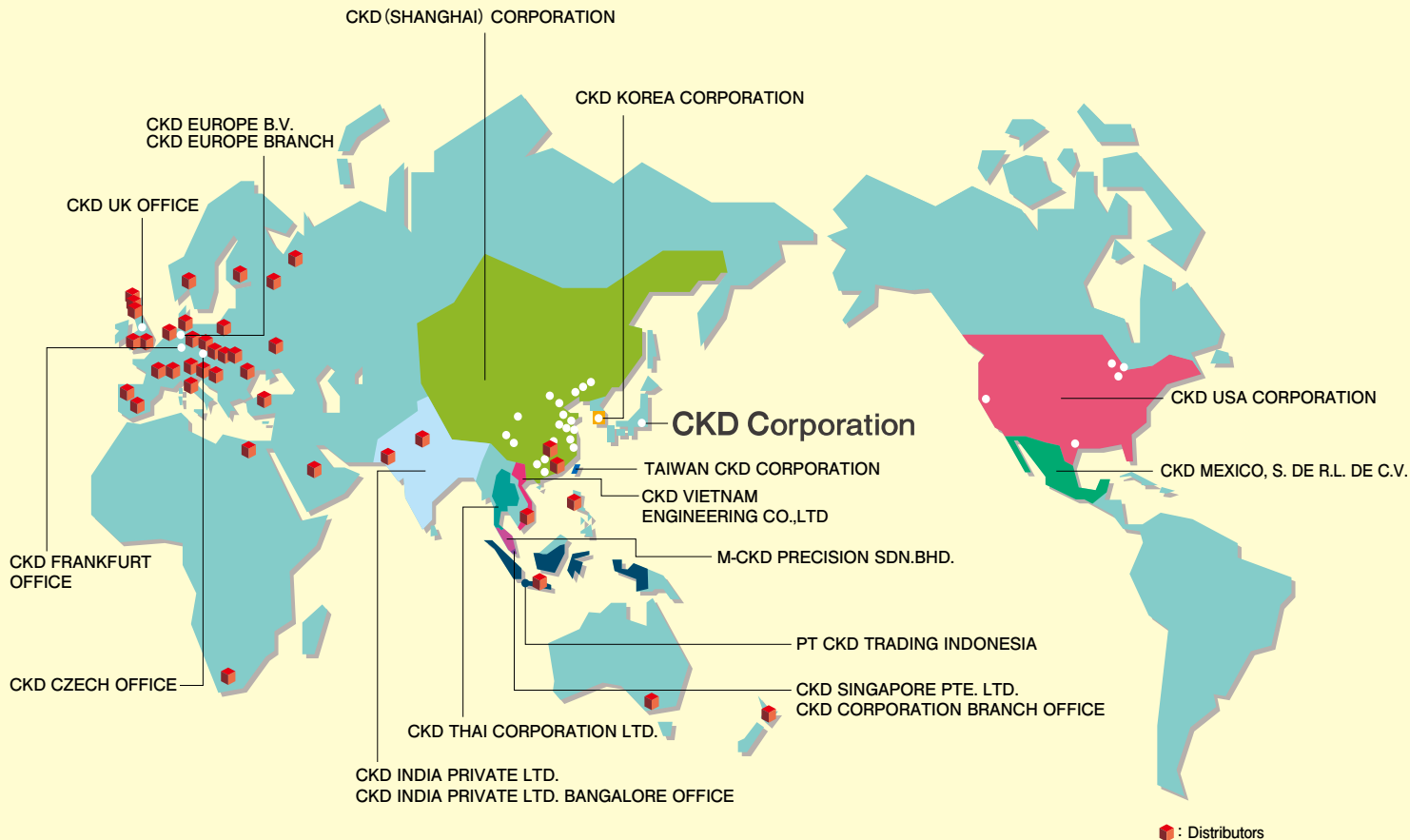


Videos available here



Catalog No. CC-1347A





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