

Air Preparation Equipment Industrial Filters

Air Preparation Equipment

1 Indication of replacement of elements, inspection items P.242

2 Troubleshooting P.243

3 Details of replacement parts

AMJ	Drain Separator for Vacuum	P.244
AMG	Water Separator	P.245
AFF	Main Line Filter	P.246
AM	Mist Separator	P.247
AMD	Micro Mist Separator	P.248
AMH	Micro Mist Separator with Pre-filter	P.249
AME	Super Mist Separator	P.250
AMF	Odor Removal Filter	P.251

Industrial Filters

1 Indication of replacement of elements, inspection items P.253

2 How to arrange replacement element kit number selection

How to Select Element Order Number for Replacement	P.254
Standard Elements: Sintered Metal/Fiber	P.256
Standard Elements: Paper/Micromesh	P.257

3 Details of replacement parts

FGD	Industrial Filter: Vessel Series	P.258
FGE	Industrial Filter: Vessel Series	P.260
FGG	Industrial Filter: Vessel Series	P.262
FGA	Industrial Filter: Vessel Series	P.264
FGB	Industrial Filter: Vessel Series	P.265
FGC	Industrial Filter: Vessel Series	P.266
FGF	Bag Filter	P.267
FGH	High Precision Filter for Liquids	P.269
FQ1	Quick Change Filter	P.271
FN1	Low Maintenance Filter	P.273
FN4	Low Maintenance Filter	P.273

Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

Industrial Filters

Air Preparation Equipment

1 Indication of replacement of elements, inspection items

The following describes the general contents of the element replacement and regular check.

Main line filter/mist separator/micro mist separator replacement standards and inspection items

■ Replacement standards

<Element replacement timing>

a. For AFF2C to 22C, 37B, 75B, AM□150C to 550C, 650, and 850

The pressure drop reaches 0.1 MPa or two years have elapsed after operation start, whichever comes earlier. [The pressure drop can be checked using the equipment with the element service indicator (-T) or differential pressure gauge (made to order specifications).]

b. For AFF75A to 220A, AMD800 to AMD1000, AMD801, and 901

The pressure drop reaches 0.1 MPa or two years have elapsed after operation start, whichever comes earlier. Check the pressure drop using the pressure gauge. (Equipment with pressure gauge:-G)

c. For AME

If red spots appear on the element surface before the standards (a) shown above are satisfied, replace the element.

d. For AMF

If oil odor is found at the outlet before the standards (a) or (b) shown above are satisfied, replace the element.

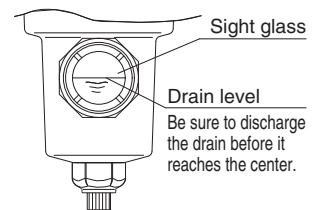
- When replacing the element, replace also the O-ring and gasket with new ones. For details about how to replace the O-ring and gasket, Refer to relevant pages that describe the replacement parts in detail.

■ Inspection items

① **If the element reaches the replacement timing, immediately replace the element with a new one. If the element is used continuously without replacement, the element may be damaged.**

② **Be sure to discharge the drain accumulated in the filter container.**

If the drain is not discharged, the accumulated drain flows to the outlet. When using the AFF2C to 22C, 37B, 75B, AM□150C to 550C, 650, or 850 with the drain cock, drain guide, or ball valve, discharge the drain before the drain level reaches the center of the sight glass. If the drain is not discharged, the drain flows to the outlet. Be sure to discharge the drain and check the discharge status while referring to the figure on the right.

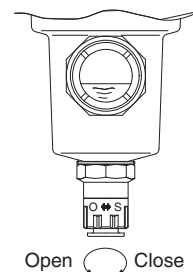


③ With auto drain

- This auto drain functions to discharge the drain when the drain level reaches the upper portion of the sight glass.
- For the AFF2C to 22C, 37B, AM□150C to 550C, and 650 with the auto drain, the drain is automatically discharged with the knob tightened to the "S" side during normal operation. Additionally, the drain can also be discharged manually.

<Manual operation procedure>

A manual knob is provided at the end of the auto drain. This knob is tightened to the "S" side during normal operation. When the knob is loosened to the "O" side, the drain can be discharged. (Note that the drain gushes from the drain port if the pressure remains inside the filter.)



■ Probable troubles (Reference)

Refer to the "Troubleshooting". (P.243)

2 Troubleshooting

The following describes the general contents of the troubleshooting.

Trouble (Symptom)	Cause	Corrective action
The pressure drop is large.	The flow rate is excessive.	Use the equipment at a flow rate that is lower than the maximum flow rate diagram stated on the catalog or review the filter size.
	The element is used continuously even after its service life has expired.	Replace the element.
Oily content or solid foreign object comes to the secondary side.	The flow rate is excessive.	Use the equipment at a flow rate that is lower than the maximum flow rate diagram stated on the catalog or review the filter size.
	The element is used continuously even after its service life has expired.	Replace the element.
	The drain discharge is faulty.	[Manual drain] Discharge the drain before it reaches the center of the sight glass. [Auto drain] Clean the inside or replace the auto drain.
	Oily content, such as grease flows out from the equipment installed on the secondary side of the filter.	Install the AM series at the end of the pipe.
	Ambient air is entangled. (When used for the air blow.)	Perform the air blow in a clean environment. The nozzle becomes negative pressure and the ambient air is entangled. This may cause oily content or solid foreign object to enter the blow air.
	The cleaning of the pipe on the secondary side is insufficient.	Clean the inside of the pipe on the secondary side.
The drain leaks outside.	The seat is faulty.	① Check the O-ring for foreign object sticking ② Check the O-ring for kink, flaw, crack, or deterioration.
The drain leaks from the float type auto drain.	The seat is faulty (foreign object is sticking).	Clean the inside or replace the auto drain.
	The operation is faulty.	Clean the inside or replace the auto drain.
	The supply pressure is insufficient.	Check the air supply capability. N.O. type 0.1 MPa N.C. type 0.15 Mpa

Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

Industrial Filters

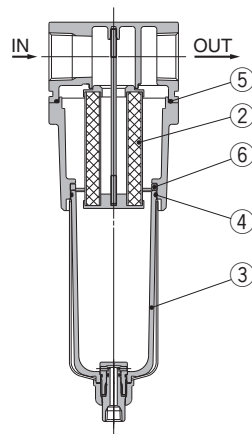
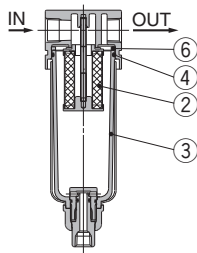
Drain Separator for Vacuum

Series AMJ

Construction

AMJ3000, 4000

AMJ5000



* The numbers are the same as the "Construction" of the Best Pneumatics No.4 Series AMJ.

Replacement Parts

No.	Description	Material	Part no.			Note
			AMJ3000	AMJ4000	AMJ5000	
2	Element assembly	—	AMJ-EL3000	AMJ-EL4000	AMJ-EL5000	
3	Bowl assembly ^{Note)}	—	AMJ-CA30-□	AMJ-CA40-□	AMJ-CA40-□	
4	O-ring	NBR	C3SFP-260S	C4SFP-260S	C4SFP-260S	
5	O-ring	NBR	—	—	111710	
6	Spacer	NBR	AMJ-SA001	AMJ-SA002	AMJ-SA003	

Note) The spacer ⑥ is not included in the bowl assembly.

Maintenance

⚠ Caution

1. Replace the element when one of followings occurs.

- Pressure drop reaches 0.02 Mpa.
- Element operates for 2 years.

Element model number: AMJ-EL****

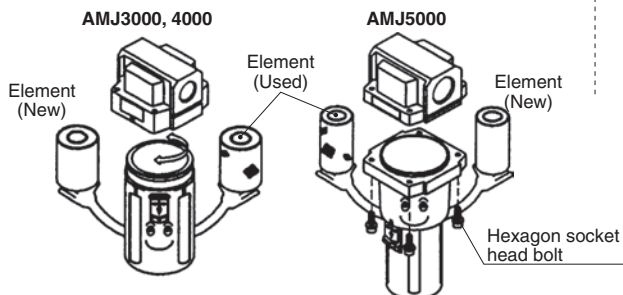
* **** is AMJ size symbol. (ex: AMJ-EL3000)

2. How to replace element assembly.

First, discharge the pressure in the case. (Make pressure 0 MPa)

- Remove case (housing).
- Replace element.
- Assemble case (housing).

* () for AMJ5000.



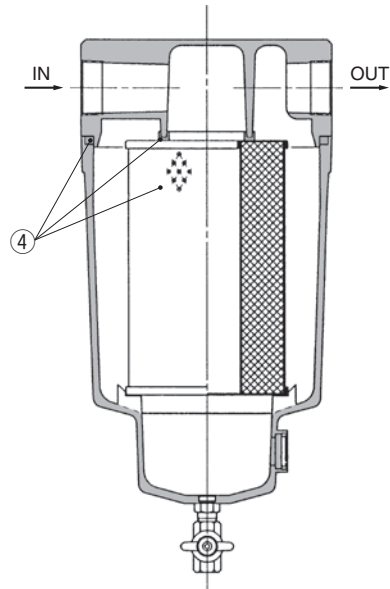
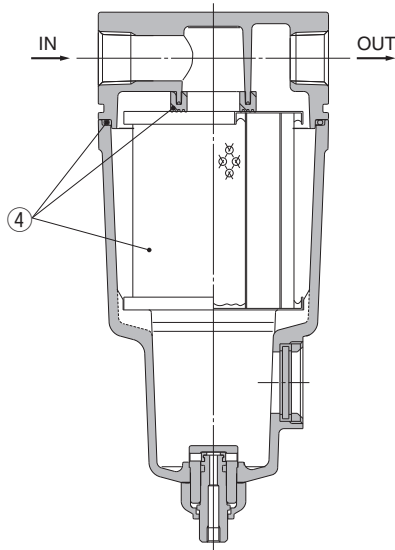
Water Separator

Series AMG

Construction

AMG150C to AMG550C, AMG650

AMG850



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AMG.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AMG150C	AMG250C	AMG350C	AMG450C	AMG550C	AMG650	AMG850
4	Element assembly	Resin,	Except option F	AMG-EL150	AMG-EL250	AMG-EL350	AMG-EL450	AMG-EL550	AMG-EL650	AMG-EL850
		others	For option F	AMG-EL150-F	AMG-EL250-F	AMG-EL350-F	AMG-EL450-F	AMG-EL550-F	—	—

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

1.Element replacement

extremely dirty air might cause clogging due to deteriorated oil or rust. Replacement is necessary regularly. (When pressure drop reach 0.1MPa or replace element with new one when element has been used for 2 years.)

Element (gasket, O-ring accessory) model number:

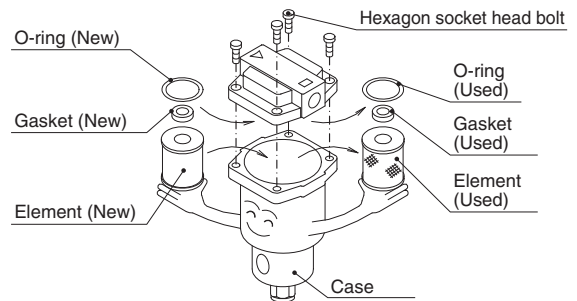
AMG-EL***

*** is AMG size symbol. (Ex: AMG-EL150)

2.How to replace element assembly

First, discharge the pressure in the body. (Make pressure 0 MPa)

- Remove four hexagon socket head bolt.
- Replace element, gasket, O-ring.
- Tighten hexagon socket head bolt.



Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

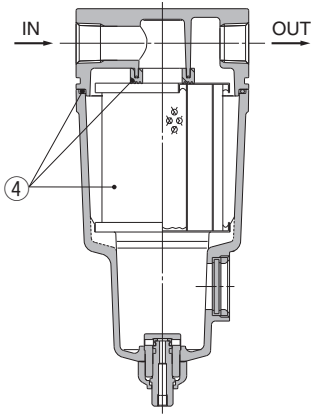
Industrial Filters

Main Line Filter

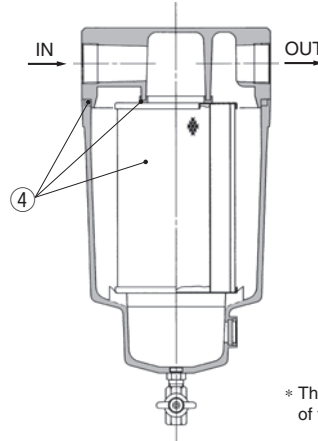
Series AFF

Construction

AFF2C to AFF22C, AFF37B



AFF75B



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AFF.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AFF2C	AFF4C	AFF8C	AFF11C	AFF22C	AFF37B	AFF75B
4	Element assembly	Cotton paper, others	Except option F	AFF-EL2B	AFF-EL4B	AFF-EL8B	AFF-EL11B	AFF-EL22B	AFF-EL37B	AFF-EL75B
			For option F	AFF-EL2B-F	AFF-EL4B-F	AFF-EL8B-F	AFF-EL11B-F	AFF-EL22B-F	—	—

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

1. Replace the element when one of followings occurs.

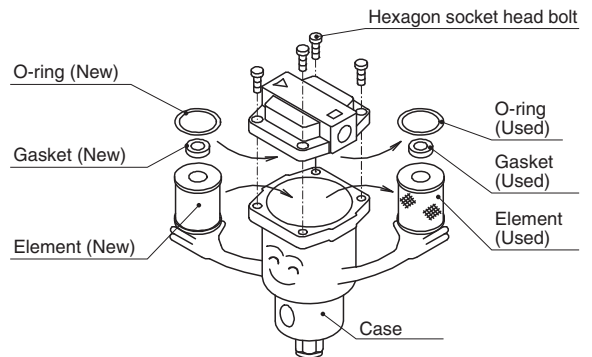
- Pressure drop reaches 0.1 MPa.
 - Element operates for 2 years.
- Element assembly (gasket, O-ring accessory) model number: AFF-EL***

* *** is AFF size symbol. (ex.: AFF-EL2B)

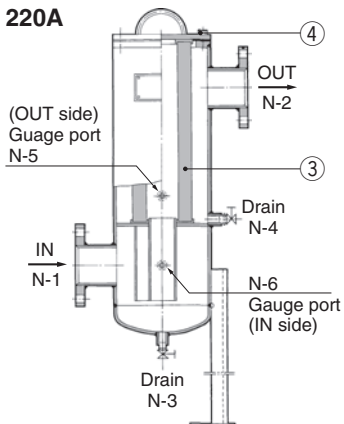
2. How to replace element assembly

First, discharge the pressure in the body. (Make pressure 0 MPa.)

- Remove four hexagon socket head bolt.
- Replace element, gasket, O-ring.
- Tighten hexagon socket head bolt.



AFF75A to 220A



Replacement Parts

No.	Description	Material	Qty.	Model		
				AFF75A	AFF125A	AFF150A
3	Element	—	1	EC700-003N	EC800-003N	EC900-003N
4	Seal	NBR	1	AL-33S	AL-34S	AL-35S

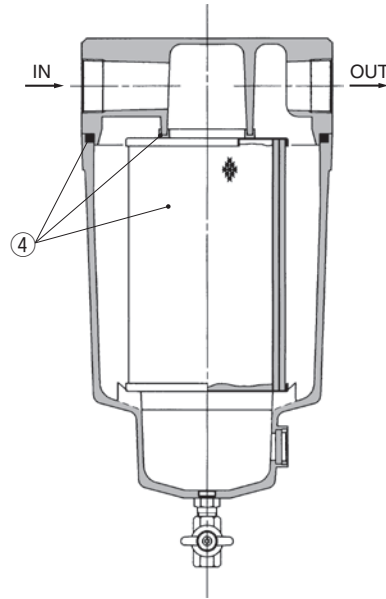
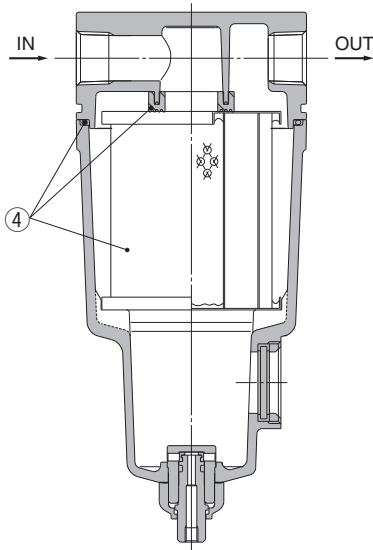
Mist Separator

Series AM

Construction

AM150C to AM550C, AM650

AM850



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AM.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AM150C	AM250C	AM350C	AM450C	AM550C	AM650	AM850
4	Element assembly	Glass fiber, others	Except option F For option F	AM-EL150	AM-EL250	AM-EL350	AM-EL450	AM-EL550	AM-EL650	AM-EL850
				AM-EL150-F	AM-EL250-F	AM-EL350-F	AM-EL450-F	AM-EL550-F	—	—

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

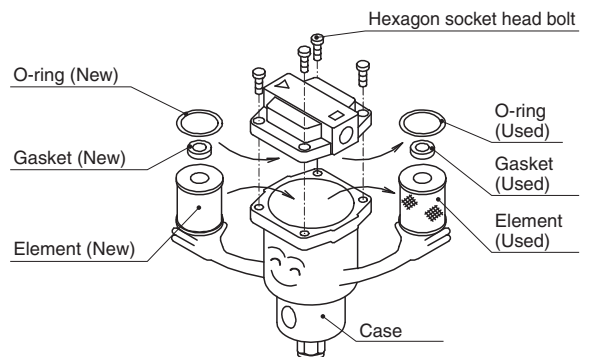
1. Replace the element when one of followings occurs.

- Pressure drop reaches 0.1 MPa.
 - Element operates for 2 years.
- Element assembly (gasket, O-ring accessory) model number: AM-EL***

* *** is AM size symbol. (ex.: AM-EL150)

2. How to replace element assembly

- First, discharge the pressure in the body. (Make pressure 0 MPa.)
- Remove four hexagon socket head bolt.
 - Replace element, gasket, O-ring.
 - Tighten hexagon socket head bolt.



Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

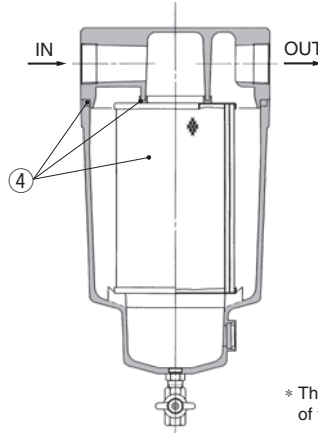
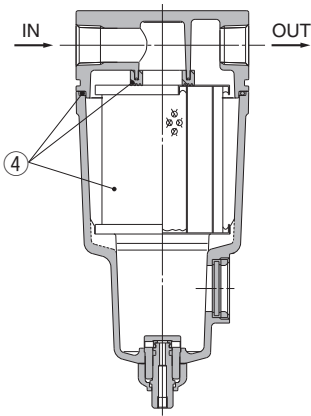
Industrial Filters

Series AMD

Construction

AMD150C to AMD550C, AMD650

AMD850



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AMD.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AMD150C	AMD250C	AMD350C	AMD450C	AMD550C	AMD650	AMD850
4	Element assembly	Glass fiber, others	Except option F For option F	AMD-EL150	AMD-EL250	AMD-EL350	AMD-EL450	AMD-EL550	AMD-EL650	AMD-EL850
				AMD-EL150-F	AMD-EL250-F	AMD-EL350-F	AMD-EL450-F	AMD-EL550-F	—	—

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

1. Replace the element when one of followings occurs.

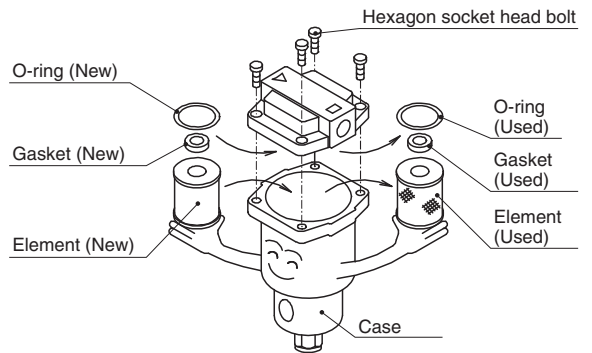
- Pressure drop reaches 0.1 MPa.
 - Element operates for 2 years.
- Element assembly (gasket, O-ring accessory) model number: AMD-EL***

* *** is AMD size symbol. (ex.: AMD-EL150)

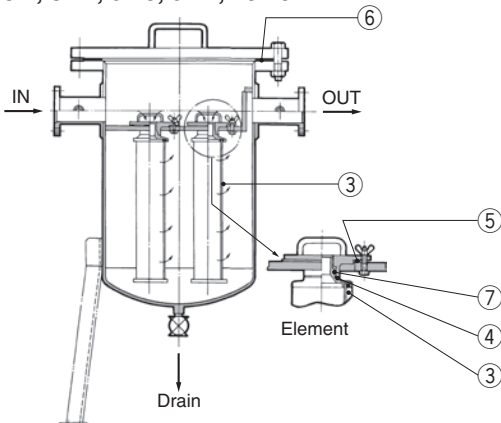
2. How to replace element assembly

First, discharge the pressure in the body. (Make pressure 0 MPa.)

- Remove four hexagon socket head bolt.
- Replace element, gasket, O-ring.
- Tighten hexagon socket head bolt.



AMD80□, 81□, 90□, 9□1, 10□□



Replacement Parts

Model applicable filter	③ Element		④ Seal (Material: NBR)		⑤ Seal (Material: NBR)		⑥ Gasket (Material: V#6500)		⑦ O-ring (Material: NBR)		
	Kit no.	Qty.	Kit no.	Qty.	Kit no.	Qty.	Kit no.	Qty.	Kit no. (Nominal)	Qty.	
AMD800	63174	1	63148	3	OD112XID90XT3	1	AL-61S	1	KA00061 (1A-G35)	3	
AMD810					—	—	—				
AMD801					1	—	—	AL-60S			1
AMD811					—	—	—	—			—
AMD900					3	3	OD112XID90XT3	3			AL-63S
AMD910	3	3	3	—	—	—	AL-62S	1			
AMD9111							—	—	—		
AMD1000							5	5	OD112XID90XT3	5	AL-31S
AMD1010	5	5	5	5	5	5	5	5			

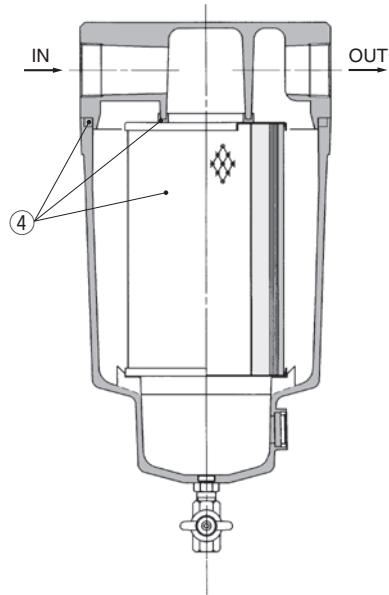
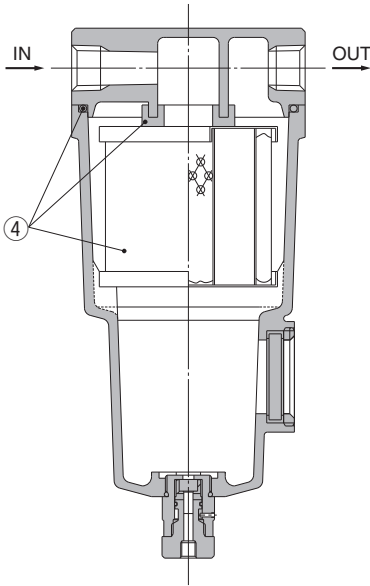
Micro Mist Separator with Pre-filter

Series AMH

Construction

AMH150C to AMH550C, AMH650

AMH850



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AMH.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AMH150C	AMH250C	AMH350C	AMH450C	AMH550C	AMH650	AMH850
4	Element assembly	Glass fiber, others	Except option F	AMH-EL150	AMH-EL250	AMH-EL350	AMH-EL450	AMH-EL550	AMH-EL650	AMH-EL850
			For option F	AMH-EL150-F	AMH-EL250-F	AMH-EL350-F	AMH-EL450-F	AMH-EL550-F	—	—

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

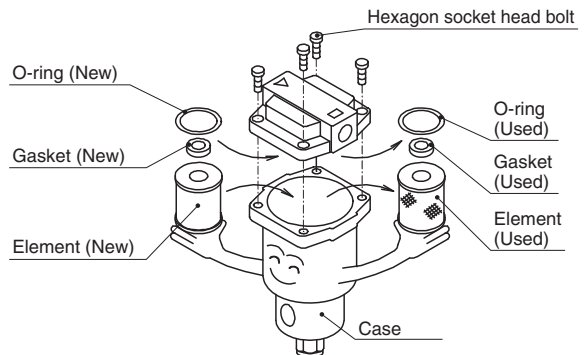
1. Replace the element when one of followings occurs.

- Pressure drop reaches 0.1 MPa.
 - Element operates for 2 years.
- Element assembly (gasket, O-ring accessory) model number: AMH-EL***

* *** is AMH size symbol. (ex.: AMH-EL150)

2. How to replace element assembly

- First, discharge the pressure in the body. (Make pressure 0 MPa.)
- Remove four hexagon socket head bolt.
- Replace element, gasket, O-ring.
- Tighten hexagon socket head bolt.



Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

Industrial Filters

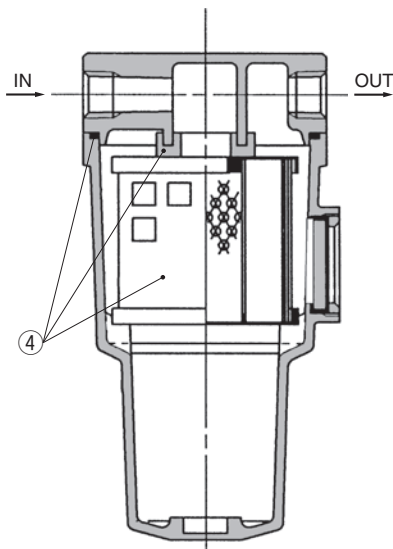
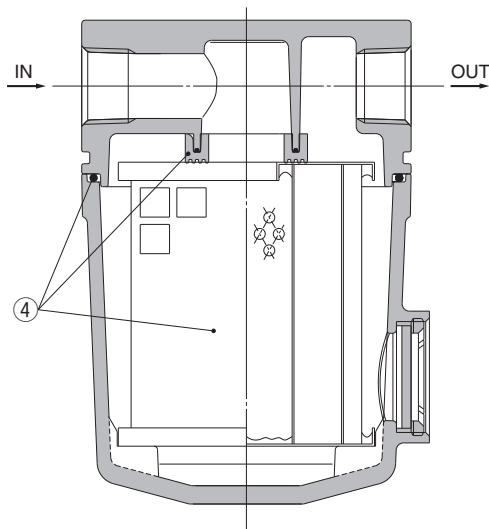
Super Mist Separator

Series AME

Construction

AME150C to AME550C

AME650, AME850



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AME.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AME150C	AME250C	AME350C	AME450C	AME550C	AME650	AME850
4	Element assembly	Glass fiber,	Except option F	AME-EL150	AME-EL250	AME-EL350	AME-EL450	AME-EL550	AME-EL650	AME-EL850
		others	For option F	AME-EL150-F	AME-EL250-F	AME-EL350-F	AME-EL450-F	AME-EL550-F	—	—

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

1. Replace the element when one of followings occurs.

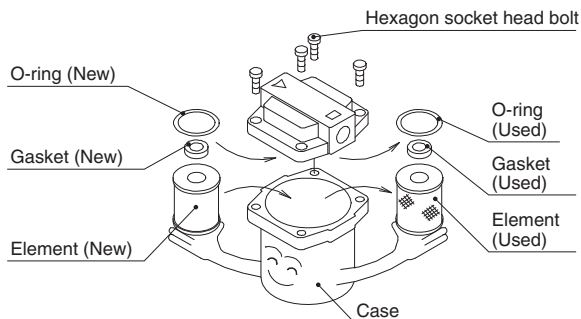
- Red spots appear on the element surface.
 - Operated for 2 years, or pressure drop reaches 0.1 MPa.
- Element assembly (gasket, O-ring accessory) model number: AME-EL***

* *** is AME size symbol. (ex.: AME-EL150)

2. How to replace element assembly

First, discharge the pressure in the body. (Make pressure 0 MPa.)

- Remove four hexagon socket head bolt.
- Replace element, gasket, O-ring.
- Tighten hexagon socket head bolt.

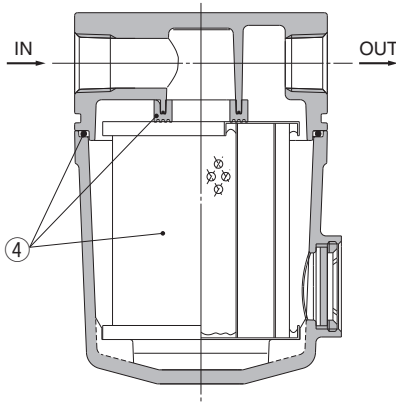


Odor Removal Filter

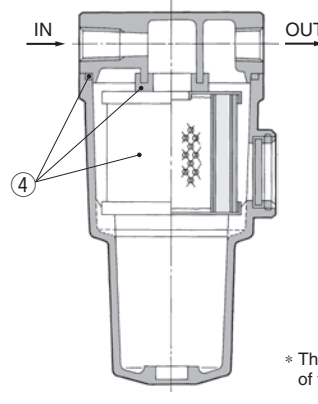
Series AMF

Construction

AMF150C to AMF550C



AMF650, AMF850



* The numbers are the same as the "Construction" of the Best Pneumatics No.5 Series AMF.

Replacement Parts

No.	Description*1	Material	Applicable model*2	Model						
				AMF150C	AMF250C	AMF350C	AMF450C	AMF550C	AMF650	AMF850
4	Element assembly	Glass fiber, others	Except option F For option F	AMF-EL150 AMF-EL150-F	AMF-EL250 AMF-EL250-F	AMF-EL350 AMF-EL350-F	AMF-EL450 AMF-EL450-F	AMF-EL550 AMF-EL550-F	AMF-EL650	AMF-EL850

*1) Element assembly: With gasket (1 pc.) and O-ring (1 pc.)

*2) F option, the rubber material: In the case of fluororubber

Maintenance

1. Element replacement

Since element life depend on odour concentration of compressed air, it can not be specified. Confirm deodorizing capacity remaining period, and replace the element periodically afterwards. However, replace element with new one when element has been used for 2 years, or when pressure drop reaches 0.1 MPa.

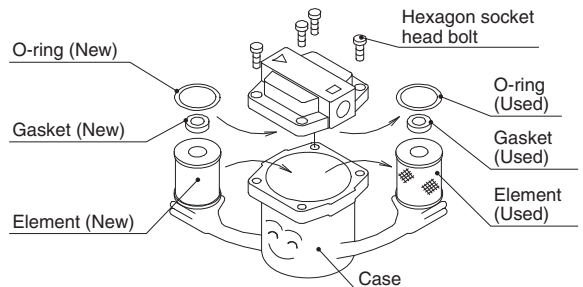
Element assembly (gasket, O-ring accessory) model number: AMF-EL***

* *** is AMF size symbol. (ex.: AMF-EL150)

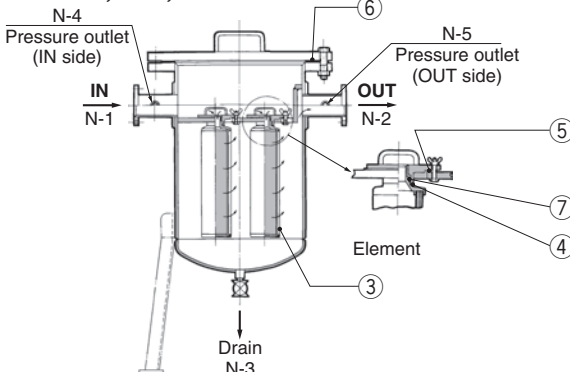
2. How to replace element assembly

First, discharge the pressure in the body. (Make pressure 0 MPa.)

- Remove four hexagon socket head bolt.
- Replace element, gasket, O-ring.
- Tighten hexagon socket head bolt.



AMF80□, 90□, 1000



Replacement Parts

Model applicable filter	③ Element		④ Seal (Material: NBR)		⑤ Seal (Material: NBR)		⑥ Gasket (Material: V#6500)		⑦ O-ring (Material: NBR)	
	Kit no.	Qty.	Kit no.	Qty.	Kit no.	Qty.	Kit no.	Qty.	Kit no. (Nominal)	Qty.
AMF800		1		1	OD112XID90XT3	1	AL-61S	1		1
AMF801		1		1	—	—	AL-60S	1		1
AMF900	63271	3	63148	3	OD112XID90XT3	3	AL-63S	1	KA00061	3
AMF901		3		3	—	—	AL-62S	1	1A-G35	3
AMF1000		5		5	OD112XID90XT3	5	AL-31S	1		5

Industrial Filters

1 Indication of replacement of elements, inspection items

■ Replacement standards

<Element replacement>

The differential pressure (pressure drop) between the primary side and secondary side reaches 0.1 MPa. Additionally, even if any differential pressure does not occur, replace the element once every two years.

■ Inspection items

Check each seal part for leak periodically.

Check the pressure/temperature periodically to make sure that the filter is within its operable range.

If the differential pressure reaches 0.1 MPa during operation, stop the operation and replace the element with a new one.

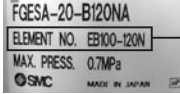
Remove the dust accumulated in the bowl periodically.

How to Select Element Order Number for Replacement



POINT

The element number for replacement is written on the nameplate.



Element number for replacement
Order the element no. written in here.

* If the information written on the nameplate cannot be confirmed, please specify the element number as described below.

Order Example

* Element number for FGGSB-20-B002NA

A Check the product number of the industrial filter. Confirm the items written on the right.

① Element length

* The element length is the total length of combined short elements.

② Element category

③ Nominal filtration accuracy

④ Element seal material

How to Order

FGG S B - 20 - B 002 N A -

Material		
Symbol	Body	O-ring
S	Stainless steel 304	NBR
L	Stainless steel 304	FKM

1

Symbol	Element length
B	L500 (L250 x 2)
C	L750 (L250 x 3)
D	L1000 (L250 x 4)

Port size		
Symbol	Port size Rc	Port size Rc
20		2

2

Element category		
Symbol	Element type	Material
B	Bronze	Bronze
S	Sintered metal	Stainless steel
T	Fiber (Honeycomb)	Polypropylene
G		Glass fiber
H		Cotton
P		Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316

Option

Symbol	Pressure gauge type
Nil	None (with plug)
G1	G46-10-02M (Brass at wetted parts)
G2	G46-10-02X3 (Stainless steel at wetted parts)

* Please use the applicable pressure gauge depending on the fluid used.

Element seal material ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

4

Note 1) Not used with fiber elements.

Note 2) Not possible with bronze elements.

Nominal filtration accuracy (µm)

Symbol	Nominal filtration accuracy (µm)
X50	0.5
001	1
002	2
005	5
010	10
020	20
040	40
050	50
070	70
074	74
075	75
100	100
105	105
120	120

3

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to pages 256 and 257.

B Select the Number and Size of Elements

* Please select accordingly from the following two selection types of numbers and sizes.

Specifications

5

Model		FGGSB ^{Note 1)}		FGGSC ^{Note 1)}		FGGSD ^{Note 1)}		FGGLB ^{Note 1)}		FGGLC ^{Note 1)}		FGGLD ^{Note 1)}	
Number of elements		7 ^{Note 2)} 14		7 ^{Note 2)} 21		7 ^{Note 2)} 28		7 ^{Note 2)} 14		7 ^{Note 2)} 21		7 ^{Note 2)} 28	
Element size		ø65 x L500 ø65 x L250		ø65 x L750 ø65 x L250		ø65 x L1000 ø65 x L250		ø65 x L500 ø65 x L250		ø65 x L750 ø65 x L250		ø65 x L1000 ø65 x L250	
Main materials	Cover	Stainless steel 304											
	Case	Stainless steel 304											
	O-ring	NBR						FKM					
	Legs	SS400 (Chromatic plating)											

Note 1) Cannot be used with gases.

Note 2) In the case of a sintered metal element or paper element.

There are various types of elements for replacement.
 Select respective element type according to the type of industrial filter you are using.

C Element Model Determination

Specify the element type by filling out the element number with the respective codes of the items selected in sections **A** and **B**.

* **As for the number of orders, specify it by item ⑤, “number of elements”, in section B.**
 The number of orders is 7 in this example.

How to Order Standard Elements

Model Determination → **E B 200 - 002 N**

Element symbol •

Element material •

Element size •

Element seal material/Operating temperature range •

Nominal filtration accuracy (µm) •

Symbol	Element material
A - 2	B Bronze
	S Stainless steel 316

Symbol	Element size
A - 1	100 ø65 x L250
B - 5	200 ø65 x L500
	300 ø65 x L750
	400 ø65 x L1000

Symbol	Element seal material	Operating temperature range(°C)
A - 4	A (Note)	0 to 150
	T Fluororesin	0 to 120
	N NBR	0 to 80
	V FKM	0 to 120

Note) Not possible with bronze elements.

Symbol	Nominal filtration accuracy (µm)
A - 3	001 1
	002 2
	005 5
	010 10
	020 20
	040 40
	070 70
	100 100
	120 120

Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

Industrial Filters

Elements Sintered Metal/Fiber

Sintered Metal Filter Elements

- Outstanding mechanical strength, heat resistance and chemical resistance.
- Formed by sintering finely powdered metal, so a high filtration accuracy can be obtained.
- Even if clogging progresses, the element can be reused by cleaning.
- Main applications

Ideal as a check filter for keeping fluid clean. All types of gases, fluids, general solvents and high-temperature fluids



Caution

Bronze element, but may have been discolored by moisture in the atmosphere, the characteristics are not affected.

Specifications

Material	Bronze	Stainless steel 316
Operating temperature (C°) ^{Note 2)}	0 to 150	0 to 150
Nominal filtration accuracy (μm)	1, 2, 5, 10, 20, 40, 70, 100, 120	
Max. differential pressure resistance	0.7 MPa	
Element replacement differential pressure	0.1 MPa	
Chemical resistance	Acid	Cannot be used.
	Alkali	Can be used depending on conditions.
Element category of How to Order	B	S

Note 1) Cannot be used with hydrochloric acid, hydrofluoric acid or phosphoric acid.

Note 2) Varies depending on the seal material used.

How to Order Standard Elements

E B 200 - 005 N

Element symbol

Element material

Symbol	Element material
B	Bronze
S	Stainless steel 316

Element size

Symbol	Element size
100	ø65 x L250
200	ø65 x L500
300	ø65 x L750
400	ø65 x L1000

Nominal filtration accuracy (μm)

Symbol	Nominal filtration accuracy (μm)
001	1
002	2
005	5
010	10
020	20
040	40
070	70
100	100
120	120

Element seal material/Operating temperature range

Symbol	Element seal material	Operating temperature range(C°)
A ^{Note)}	Non-asbestos	0 to 150
T	Fluororesin	0 to 120
N	NBR	0 to 80
V	FKM	0 to 120

Note) Not possible with bronze elements.

Replacement Seal

Symbol	part no.	Quantity
A	AL-7S	2
T	AL-6S	
N	AL-8S	
V	AL-9S	

Fiber Elements

- Four types of materials with different characteristics are available so the filters are applicable to any application.
- Elements are economical because particle capturing capacity is excellent, and element life is long.
- Elements are disposable so maintenance and replacement are easy.
- Main applications

Cotton	Cleaning water, General neutral fluids, General solvents, Dry air
Polypropylene	Plating fluids, General acids, Alkali fluids, Industrial water, Cooling water
Glass fiber	Acid fluids, High-temperature fluids



Specifications

Material	Core material	Operating temperature (°C)	Nominal filtration accuracy (μm)	Differential pressure resistance (Max.)	Element replacement differential pressure
Cotton	Stainless steel 304	-20 to 100	0.5, 1, 5, 10, 20, 50, 75, 100	0.2 MPa	0.1 MPa
Polypropylene	Polypropylene	0 to 60	0.5, 1, 5, 10, 20, 50, 75, 100		
Glass fiber	Stainless steel 316	0 to 400	1, 5, 10, 20		

Note) Size for all is ø65 x L250.

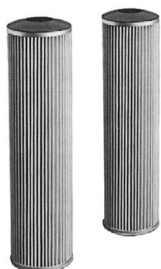
How to Order Standard Elements

Element material	Cotton	Polypropylene	Glass fiber
Core material	Stainless steel 304	Polypropylene	Stainless steel 316
Nominal filtration accuracy (μm)	0.5	EH10G	EHM10A
	1	EH39R10GV	EHM39R10AY
	5	EH23R10GV	EHM23R10AY
	10	EH19R10GV	EHM19R10AY
	20	EH15R10G	EHM15R10A
	50	EH11R10G	EHM11R10A
	75	EH10R10G	EHM10R10A
Element category of How to Order	100	EH8R10G	EHM8R10A
		H	T

Standard Elements Paper/Micromesh

Paper Elements

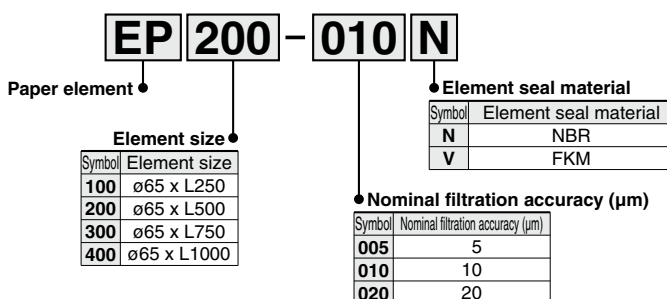
- Cartridges are pleated for a large filtration area, and elements are economical due to their long service life.
- Main applications
Ideal for filtration of hydraulic oil, lubricating oil, fuel oil, oils for the liquid gas industry, dry inert gases, and dry air.



Specifications

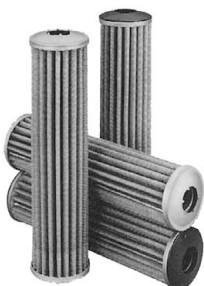
Material	Filter paper (Cotton, Phenol resin impregnated paper)
Operating temperature (C°)	0 to 80
Nominal filtration accuracy (µm)	5, 10, 20
Max. differential pressure resistance	0.6 MPa
Adhesive used	Epoxy resin
Element replacement differential pressure	0.1 MPa
Element category of How to Order	P

How to Order Standard Elements



Micromesh Elements

- Stainless steel metal mesh has high filtration accuracy.
- Outstanding heat and chemical resistance. Applicable to a wide range of applications.
- Pleated type has 3 times the filtration area of a cylinder.
- Filters are economical because they can be cleaned and repeatedly used.
- Main applications
Please use 40 microns or less as a high-precision filter, and 74 microns or higher as a high-grade strainer. All types of gases and fluids, high-temperature fluids.

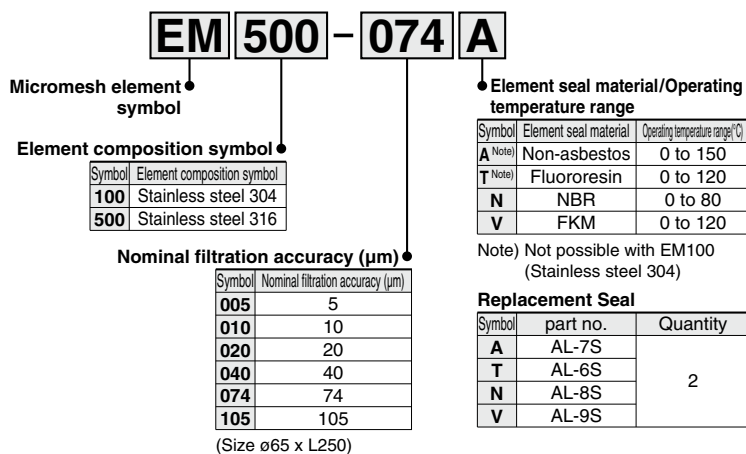


Specifications

Model	EM100	EM500
Materials	Stainless steel 304	Stainless steel 316
Jointing material	Epoxy resin	—
Operating temperature (C°) ^{Note 2)}	-5 to 100	-180 to 300
Nominal filtration accuracy (µm)	5, 10, 20, 40, 74, 105	
Max. differential pressure resistance	0.7 MPa	
Element replacement differential pressure	0.1 MPa	
Chemical resistance	Acid	Cannot be used.
	Alkali	Can be used.
Element category of How to Order	M	L

Note 1) Cannot be used with hydrochloric acid, hydrofluoric acid or phosphoric acid.
Note 2) Varies depending on the seal material used.

How to Order Standard Elements



Series FGD 1



Replacement Parts and Seal List

How to Order

FGD **C** **A** - **03** - **B** **002** **N** - **B**

Element length

Symbol	Element length
A	L250
B	L500 (L250 x 2)

Port size

Symbol	Port size Rc
03	3/8
04	1/2
06	3/4

Element category

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fiber (Honeycomb)	Polypropylene
G		Glass fiber
H		Cotton
P	Paper	Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316

Material

Symbol	Cover	Case	Gasket/O-ring	Seal
C	Aluminum	SPCD	NBR	Nylon
E	Aluminum	SPCD	NBR	Nylon/Fluororesin
T	SCS14	Stainless steel 316	Fluororesin	Fluororesin
F	SCS14	Stainless steel 316	Fluororesin	Fluororesin (Antistatic specifications)

Made to Order

Symbol	Description
Nil	None
X77	With differential pressure indicator
X78	With differential pressure indication switch

Accessory

Symbol	Accessory
Nil	None
B	Bracket

Element seal material ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note 1) Not used with fiber elements.

Note 2) Not possible with bronze elements.

Nominal filtration accuracy (µm) ^{Notes)}

Symbol	Nominal filtration accuracy (µm)	Symbol	Nominal filtration accuracy (µm)
X50	0.5	050	50
001	1	070	70
002	2	074	74
005	5	075	75
010	10	100	100
020	20	105	105
040	40	120	120

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to Best Pneumatics No.7.

Specifications

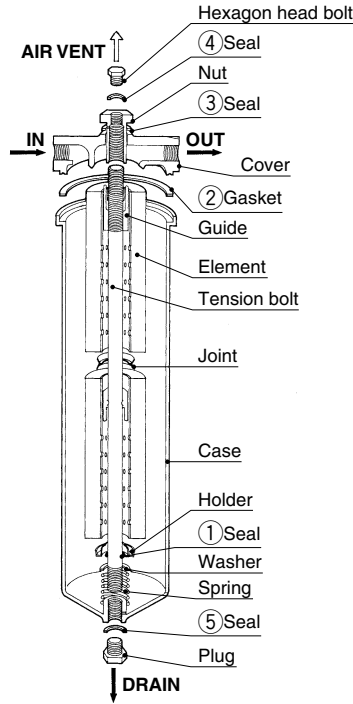
Model	FGDCA	FGDCB	FGDEA	FGDEB	FGDTA	FGDTB	FGDFA	FGDFB	
Number of elements	1	2 ^{Note)}	1	2 ^{Note)}	1	2 ^{Note)}	1	2 ^{Note)}	
Element size	ø65 x L250	ø65 x L500 (L250 x 2)	ø65 x L250	ø65 x L500 (L250 x 2)	ø65 x L250	ø65 x L500 (L250 x 2)	ø65 x L250	ø65 x L500 (L250 x 2)	
Main materials	Cover	Aluminum		Aluminum		SCS14		SCS14	
	Case	SPCD		SPCD		Stainless steel 316		Stainless steel 316	
	Gasket/O-ring	NBR		NBR		Fluororesin		Fluororesin	
	Seal	Nylon		Nylon/Fluororesin		Fluororesin		Fluororesin	

Note) 1 element (ø65 x L500) in the case of a sintered metal element or paper element.

Series FGD ②

Replacement Procedure is p.460

Replacement Parts and Seal List



Replacement Parts

No.	Description	Material	Size
①	Seal	NBR	ø10 x t1
		JIS B 2401.P12	
②	Gasket	NBR	ø101 x t2
		Fluororesin	ø98 x t5
③	Seal ^{Note 3)}	Nylon	ø23 x t1
		Fluororesin	
		Fluororesin (Antistatic specifications)	
④	Seal	Nylon	ø10 x t1
		Fluororesin	
⑤	Seal	Nylon	ø20 x t1
		Fluororesin	

Note 1) The quantity used for 1 filter is 1 each for the following seals, gaskets and O-rings.

Note 2) Replacement seal kit part no.: KT-FGD□

For □, fill in the material symbol in "How to Order" (Refer to page 258).

A seal kit contains 1 each of seal/gasket No. 1 to 5.

Note 3) With antistatic specifications (FGDE, FGDF), this will be fluororesin (Antistatic specifications).

Seal Kit Number

Kit no.	Applicable model	Contents
KT-FGDC	FGDC□	Replacement parts A 1 kit for each of each one of seals ① to ⑤ and gasket.
KT-FGDE	FGDE□	
KT-FGDT	FGDT□	
KT-FGDF	FGDF□	

• Refer to pages 254 and 255 for selection.
• Refer to pages 256 and 257 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGD.

Actuators
Modular F.R.L.
Pressure Control Equipment
Air Preparation Equipment
Industrial Filters
Replacement Procedure
Actuators
Modular F.R.L.
Pressure Control Equipment
Industrial Filters

Series FGE 1

Replacement Procedure is P.461, 463

Replacement Parts and Seal List

How to Order

FGES/FGEL type (V-band type) FGE **S** **A** - **10** - **B** **002** **N** **A** -

Material

Symbol	Body	Gasket/O-ring
S	Stainless steel 304	NBR
L		FKM

Option

Symbol	Pressure gauge type
Nil	None (with plug)
G1	G46-10-02M (Brass at wetted parts)
G2	G46-10-02X3 (Stainless steel at wetted parts)

* Please use the applicable pressure gauge depending on the fluid used.

FGET type (Bolt tightening type) FGE **T** **A** - **10** - **B** **002** **N**

Material

Symbol	Body	Gasket/O-ring
T	Stainless steel 304	Fluororesin

Element length

Symbol	Element length
A	L250
B	L500 (L250 x 2)
C	L750 (L250 x 3)

Port size

Symbol	Port size R
10	1
20	2

Element seal material ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note 1) Not used with fiber elements.
Note 2) Not possible with bronze elements.

Nominal filtration accuracy (µm) ^{Note)}

Symbol	Nominal filtration accuracy (µm)	Symbol	Nominal filtration accuracy (µm)
X50	0.5	050	50
001	1	070	70
002	2	074	74
005	5	075	75
010	10	100	100
020	20	105	105
040	40	120	120

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to Best Pneumatics No.7.

Element category

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fiber	Polypropylene
G		Glass fiber
H		Cotton
P		Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316

Specifications

Model	FGESA ^{Note 1)}	FGESB ^{Note 1)}	FGESC ^{Note 1)}	FGELA ^{Note 1)}	FGELB ^{Note 1)}	FGELC ^{Note 1)}	FGETA	FGETB	FGETC					
Number of elements	4	4 ^{Note 2)}	8	4 ^{Note 2)}	12	4	4	4 ^{Note 2)}	8	4 ^{Note 2)}	12			
Element size	ø65 to 70 x L250	ø65 to 70 x L500	ø65 to 70 x L250	ø65 to 70 x L750	ø65 to 70 x L250	ø65 to 70 x L500	ø65 to 70 x L250	ø65 to 70 x L750	ø65 to 70 x L250	ø65 x L250	ø65 x L500	ø65 x L250	ø65 x L750	ø65 x L250
Main materials	Cover	Stainless steel 304												
	Case	Stainless steel 304												
	Gasket	—	—	—	—	—	—	Fluororesin	Fluororesin	Fluororesin	—	—	—	
	O-ring	NBR					FKM					—		
	Legs	SS400 (Chromatic plating)												

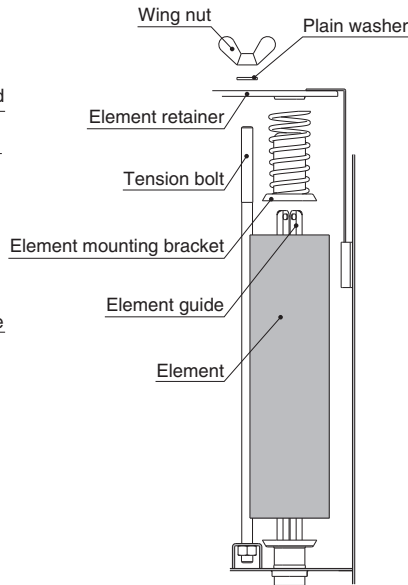
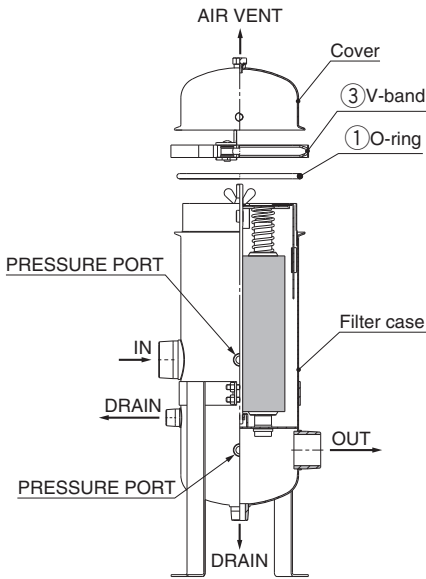
Note 1) Cannot be used with gases.
Note 2) In the case of a sintered metal element or paper element.

Series FGE ②

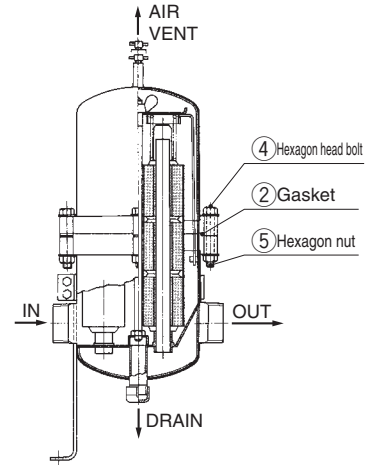
Replacement Procedure is P.461, 463

Replacement Parts and Seal List

FGES/FGEL type (V-band type)



FGET type (Bolt tightening type)



Replacement Part

Applicable filter	① O-ring Kit no. (Nominal)	② Gasket Kit no.	③ V-band Kit no. (Nominal)	④ Hexagon head bolt Kit no. (Nominal)	⑤ Hexagon nut Kit no. (Nominal)
FGES	KA00822 (1A-P185)	—	FGE-BA001	—	—
FGEL	KA00711 (4D-P185)	—		—	—
FGET	—	AL-19S	—	CB00021 (M12 x 1.75 x L95)	DA00110 (M12 x 1.75)

Note) The quantity used for 1 filter is 1 each of the above O-ring and gasket etc. Four hexagonal bolts are used for 1 filter.

- Refer to pages 254 and 255 for selection.
- Refer to pages 256 and 257 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGE.

Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

Industrial Filters

Series **FGG** ①



Replacement Parts and Seal List

How to Order

FGG **S** **B** - **20** - **B** **002** **N** **A** -

Material

Symbol	Body	O-ring
S	Stainless steel 304	NBR
L	Stainless steel 304	FKM

Element length

Symbol	Element length
B	L500 (L250 x 2)
C	L750 (L250 x 3)
D	L1000 (L250 x 4)

Port size

Symbol	Port size Rc
20	2

Element category

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fiber	Polypropylene
G		Glass fiber
H	Paper	Cotton
P		Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316

Option

Symbol	Pressure gauge type
Nil	None (with plug)
G1	G46-10-02M (Brass at wetted parts)
G2	G46-10-02X3 (Stainless steel at wetted parts)

* Please use the applicable pressure gauge depending on the fluid used.

Element seal material ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note 1) Not used with fiber elements.

Note 2) Not possible with bronze elements.

Nominal filtration accuracy (µm) ^{Note)}

Symbol	Nominal filtration accuracy (µm)	Symbol	Nominal filtration accuracy (µm)
X50	0.5	050	50
001	1	070	70
002	2	074	74
005	5	075	75
010	10	100	100
020	20	105	105
040	40	120	120

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to Best Pneumatics No.7.

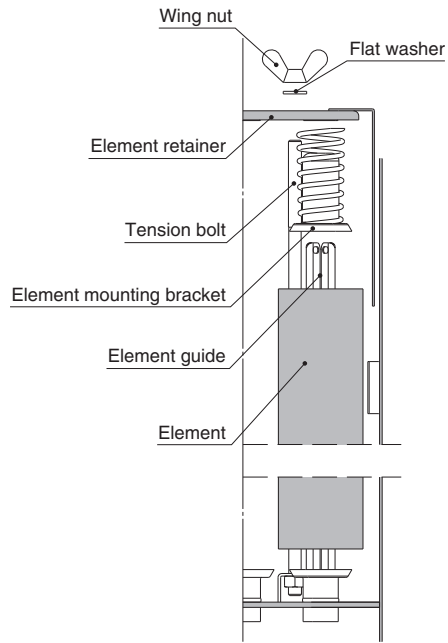
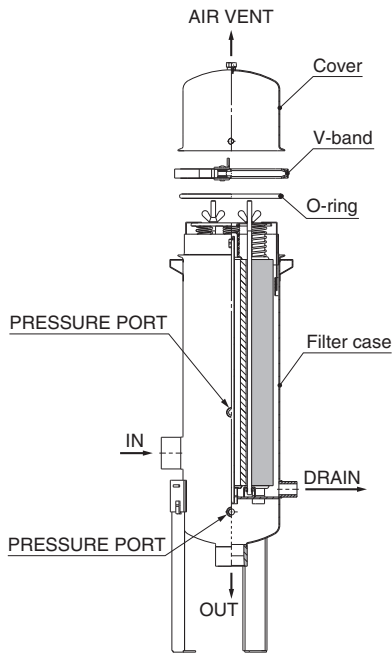
Specifications

Model		FGGSB ^{Note 1)}		FGGSC ^{Note 1)}		FGGSD ^{Note 1)}		FGGLB ^{Note 1)}		FGGLC ^{Note 1)}		FGGLD ^{Note 1)}	
Number of elements		7 ^{Note2)}	14	7 ^{Note2)}	21	7 ^{Note2)}	28	7 ^{Note2)}	14	7 ^{Note2)}	21	7 ^{Note2)}	28
Element size		ø65 x L500	ø65 x L250	ø65 x L750	ø65 x L250	ø65 x L1000	ø65 x L250	ø65 x L500	ø65 x L250	ø65 x L750	ø65 x L250	ø65 x L1000	ø65 x L250
Main materials	Cover	Stainless steel 304											
	Case	Stainless steel 304											
	O-ring	NBR						FKM					
	Legs	SS400 (Chromatic plating)											

Note 1) Cannot be used with gases.

Note 2) In the case of a sintered metal element or paper element.

Replacement Parts and Seal List



Replacement Parts

No.	Description	Material	
		FGGS	FGGL
1	O-ring	NBR (Part no.: AL-25S)	FKM (Part no.: AL-22S)
—	Case fastening parts	V-band coupling (Part no.: CY-27S)	

Note) The quantity used for 1 filter is 1 each of the above O-ring etc.

• Refer to pages 254 and 255 for selection.
 • Refer to pages 256 and 257 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGG.

Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation Equipment

Industrial Filters

Replacement Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

Industrial Filters

Series FGA

Replacement
Procedure is
P.468

Replacement Parts and Seal List

How to Order

FGA C 04 A - 10 - B 002 N

• **Vessel material (wetted parts)**

Symbol	Vessel material (wetted parts)
C	SS400
S	Stainless steel 304

• **Number of arranged elements**

Symbol	Number of arranged elements	Symbol	Number of arranged elements
04	4	29	29
07	7	34	34
09	9	37	37
18	18	53	53
22	22	83	83

• **Element length**

Symbol	Element length
A	L250
B	L500 (L250 x 2)
C	L750 (L250 x 3)
D	L1000 (L250 x 4)

• **Element seal material** ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note 1) Not used with fiber elements.
Note 2) Not possible with bronze elements.

• **Nominal filtration accuracy (μm)** ^{Note)}

Symbol	Nominal filtration accuracy (μm)	Symbol	Nominal filtration accuracy (μm)
X50	0.5	050	50
001	1	070	70
002	2	074	74
005	5	075	75
010	10	100	100
020	20	105	105
040	40	120	120

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to Best Pneumatics No.7.

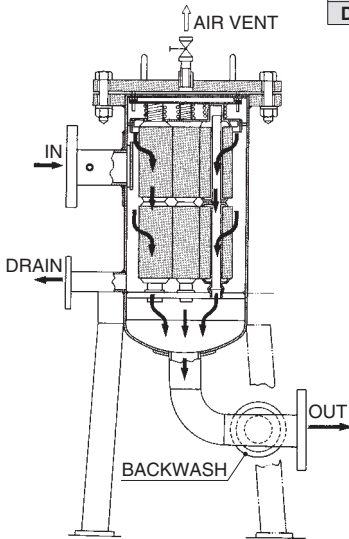
• **Port size**

Symbol	Port size
10	25 (1 ^B)
14	40 (1 1/2 ^B)
20	50 (2 ^B)
24	65 (2 1/2 ^B)
30	80 (3 ^B)
40	100 (4 ^B)
60	150 (6 ^B)

Note) The connection method is JIS 10KFF flange connection.

• **Element category**

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fiber	Polypropylene
G		Glass fiber
H		Cotton
P	Paper	Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316



Element mounting figure

Applicable Element Specifications

Description	Material	Nominal filtration accuracy (μm)	Size
Sintered metal	Bronze	1, 2, 5, 10, 20, 40 70, 100, 120	ø65 x L250 ø65 x L500 ø65 x L750 ø65 x L1000
	Stainless steel 316		
Paper	Cotton (Phenol)	5, 10, 20	ø65 x L250 ø65 x L500 ø65 x L750 ø65 x L1000
Fiber	Cotton	0.5, 1, 5, 10, 20 50, 75, 100	ø65 x L250
	Polypropylene		
	Glass fiber		
Micromesh	Stainless steel 304	5, 10, 20, 40 74, 105	ø65 x L250
	Stainless steel 316		

• Refer to pages 256 and 257 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGA.

Series FGB

Replacement Procedure is P.472

Replacement Parts and Seal List

How to Order

FGB C 04 A - 10 - B 002 N

• **Vessel material (wetted parts)**

Symbol	Vessel material (wetted parts)
C	SS400
S	Stainless steel 304

• **Number of arranged elements**

Symbol	Number of arranged elements	Symbol	Number of arranged elements
04	4	30	30
07	7	36	36
13	13	55	55
19	19	83	83

• **Element length**

Symbol	Element length
A	L250
B	L500 (L250 x 2)
C	L750 (L250 x 3)
D	L1000 (L250 x 4)

• **Port size**

Symbol	Port size
10	25 (1 ^B)
14	40 (1 1/2 ^B)
20	50 (2 ^B)
24	65 (2 1/2 ^B)
30	80 (3 ^B)
40	100 (4 ^B)
60	150 (6 ^B)

Note) The connection method is JIS 10KFF flange connection.

• **Element seal material** ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note 1) Not used with fiber elements.

Note 2) Not possible with bronze elements.

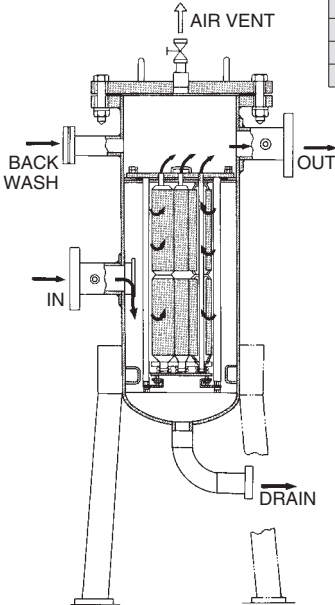
• **Nominal filtration accuracy (μm)** ^{Note)}

Symbol	Nominal filtration accuracy (μm)	Symbol	Nominal filtration accuracy (μm)
X50	0.5	050	50
001	1	070	70
002	2	074	74
005	5	075	75
010	10	100	100
020	20	105	105
040	40	120	120

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to Best Pneumatics No.7.

• **Element category**

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fiber	Polypropylene
G		Glass fiber
H		Cotton
P	Paper	Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316



Element mounting figure

Applicable Element Specifications

Description	Material	Nominal filtration accuracy (μm)	Size
Sintered metal	Bronze	1, 2, 5, 10, 20, 40, 70, 100, 120	ø65 x L250 ø65 x L500 ø65 x L750 ø65 x L1000
	Stainless steel 316		
Paper	Cotton (Phenol)	5, 10, 20	ø65 x L250 ø65 x L500 ø65 x L750 ø65 x L1000
Fiber	Cotton	0.5, 1, 5, 10, 20, 50, 75, 100	ø65 x L250
	Polypropylene		
	Glass fiber		
Micromesh	Stainless steel 304	5, 10, 20, 40, 74, 105	ø65 x L250
	Stainless steel 316		

• Refer to pages 256 and 257 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGB.

Series FGC



Replacement Parts and Seal List

How to Order

FGC 1 C A - 04 - B 002 N

• **Maximum operating pressure**

Symbol	Maximum operating pressure
1	1 MPa
2	2 MPa
4	4 MPa

• **Vessel material (wetted parts)**

Symbol	Vessel material (wetted parts)
C	SGP
S	Stainless steel 304

• **Element length**

Symbol	Element length
A	L250
B	L500 (L250 x 2)

• **Port size**

Symbol	Port size
04	15 (1/2 ^B)
06	20 (3/4 ^B)
10	25 (1 ^B)

Note) The connection method is flange connection, as indicated below.

FGC1: JIS 10KFF flange connection
 FGC2: JPI300^{Lb}RF flange connection
 FGC4: JPI600^{Lb}RF flange connection

• **Element seal material** ^{Note 1)}

Symbol	Element seal material
A ^{Note 2)}	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note 1) Not used with fiber elements.

Note 2) Not possible with bronze elements.

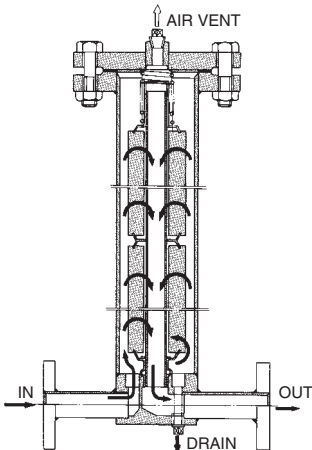
• **Nominal filtration accuracy (μm)** ^{Note)}

Symbol	Nominal filtration accuracy (μm)	Symbol	Nominal filtration accuracy (μm)
X50	0.5	050	50
001	1	070	70
002	2	074	74
005	5	075	75
010	10	100	100
020	20	105	105
040	40	120	120

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to Best Pneumatics No.7.

• **Element category**

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fiber	Polypropylene
G		Glass fiber
H		Cotton
P	Paper	Cotton
M	Micromesh	Stainless steel 316/Epoxy
L		Stainless steel 316



Element mounting figure

Applicable Element Specifications

Description	Material	Nominal filtration accuracy (μm)	Size
Sintered metal	Bronze	1, 2, 5, 10, 20, 40	ø65 x L250
	Stainless steel 316	70, 100, 120	ø65 x L500
Paper	Cotton (Phenol)	5, 10, 20	ø65 x L250 ø65 x L500
Fiber	Cotton	0.5, 1, 5, 10, 20	ø65 x L250
	Polypropylene	50, 75, 100	
	Glass fiber	1, 5, 10, 20	
Micromesh	Stainless steel 304	5, 10, 20, 40	ø65 x L250
	Stainless steel 316	74, 105	

• Refer to pages 256 and 257 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGC.

Series FGF 1

Replacement Procedure is p.478

Replacement Parts and Seal List

How to Order

One element included FGF S 1 A - 20 - E 005 B - [] D

Three, five elements included FGF S 3 A - 40 - E 005 [] D

Bag filter • Material •

Symbol	Vessel material	Seal material	Applicable model		
			FGF□1	FGF□3	FGF□5
S	Stainless steel	NBR	●	●	●
C	Carbon steel		—	—	—
L	Stainless steel	FKM	●	●	●
R	Carbon steel		—	●	●

Number of elements •

Symbol	Number of elements
1	1 pc included (FGF□1)
3	3 pcs included (FGF□3)
5	5 pcs included (FGF□5)

Element size •

Symbol	Element size
A	ø190 x L440
B	ø190 x L770

Option •

Symbol	Option*	Applicable model		
		FGF□1	FGF□3	FGF□5
Nil	None	●	●	●
D	Davit for hanging an element	●	●	●
F	Companion flange	—	●	●
L	Foundation bolt (3 pcs)	●	●	●

* In the case of multiple options, indicate symbols in alphabetical order.

Pressure gauge

Symbol	Pressure gauge
Nil	Without pressure gauge (with plug)
G	With pressure gauge (1 MPa. Brass for wetted parts)

Element material (Polyester)


Symbol	Port size	Applicable model
20	Rc2	FGF□1
40	4 ^B JIS10 ^B FF	FGF□3
60	6 ^B JIS10 ^B FF	FGF□5

Port size

Symbol	Nominal filtration accuracy (Note)
005	5
010	10
025	25
050	50
100	100

Note) Nominal filtration accuracy refers to the filtration accuracy according to SMC criteria, and serves as a guideline for the particulates that can be filtered out. It does not mean that 100% of the particulates of the diameter shown can be filtered out.

Part number of element for replacement



EJ 501S - 005

• Element symbol

• Element size

Symbol	Element size	Applicable model
501S	ø190 x L440	For FGF□□A
601S	ø190 x L770	For FGF□□B

Specifications

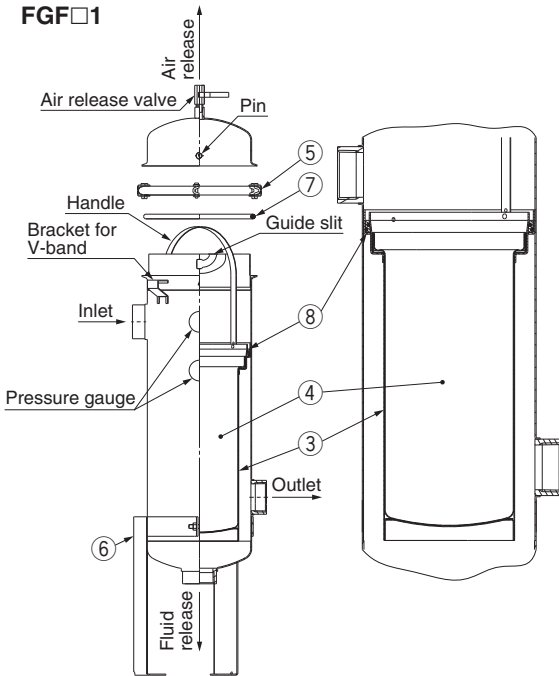
Model		FGF□1A-20	FGF□1B-20	FGF□3A-40	FGF□3B-40	FGF□5A-60	FGF□5B-60
Element	Material	Polyester					
	Nominal filtration accuracy	5, 10, 25, 50, 100 μm					
	Element replacement differential pressure	Differential pressure 0.1 MPa					
	Number of elements	1 element included		3 elements included		5 elements included	
	Size	ø190 x L440	ø190 x L770	ø190 x L440	ø190 x L770	ø190 x L440	ø190 x L770
	Filtration area	1800 cm ²	3400 cm ²	5400 cm ²	10200 cm ²	9000 cm ²	17000 cm ²

Series FGF ②

Replacement Procedure is p.478

Replacement Parts and Seal List

FGF□1

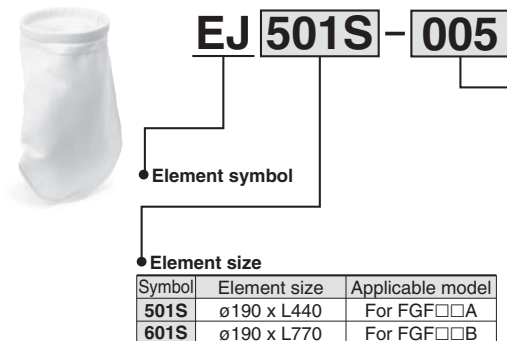


Replacement Parts

No.	Description	Part No.	Material	Qty.	Applicable model ^{Note)}
3	Basket	FGF-BT01	Stainless steel 304	1	FGF□1A
		FGF-BT02		1	FGF□1B
4	Element	EJ501S-□	Polyester	1	FGF□1A
		EJ601S-□		1	FGF□1B
5	V-band	FGF-BA01	Stainless steel	1	FGF□1□
6	Legs assembly (with bolt, nut, flat washer)	FGF-OP01 (Set)	Carbon steel	1	FGF□1□
7	O-ring	FGF-KT01	NBR	1	FGFS1□
		FGF-KT02	FKM	1	FGFL1□
8	Holder assembly (with O-ring)	FGF-KT03 (Set)	Polypropylene/NBR	1	FGFS1□
		FGF-KT04 (Set)	Polypropylene/FKM	1	FGFL1□

Note) Refer to "How to Order" on page 267 for the □ part of the model number.

Part number of element for replacement

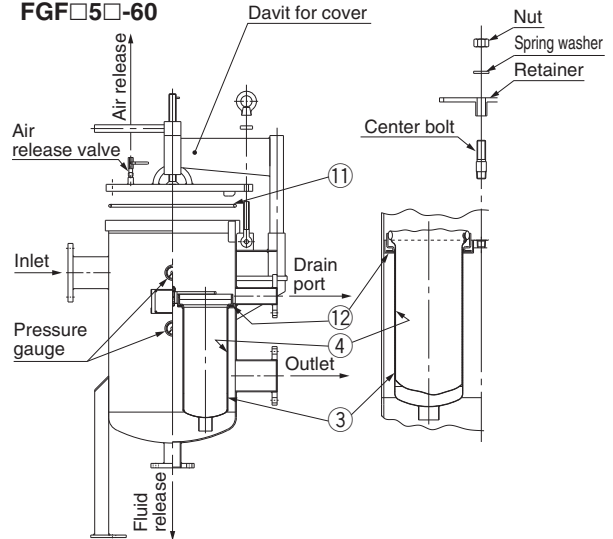


• Nominal filtration accuracy^{Note)}

Symbol	Nominal filtration accuracy (μm)
005	5
010	10
025	25
050	50
100	100

Note) Nominal filtration accuracy refers to the filtration accuracy according to SMC criteria, and serves as a guideline for the particulates that can be filtered out. It does not mean that 100% of the particulates of the diameter shown can be filtered out.

FGF□3□-40 FGF□5□-60



Replacement Parts

No.	Description	Part No.	Material	Qty.	Applicable model ^{Note)}
3	Basket	BT-3S	Stainless steel 304	3	FGF□3A-40
				5	FGF□5A-60
		BT-4S	Stainless steel 304	3	FGF□3B-40
				5	FGF□5B-60
4	Element	Refer to "How to Order".	Polyester	3	FGF□3□-40
				5	FGF□5□-60
11	O-ring	AL-26S	NBR	1	FGFS3□-40
				1	FGFC3□-40
		AL-27S	FKM	1	FGFS5□-60
				1	FGFC5□-60
12	Gasket	AL-23S	FKM	1	FGFL3□-40
				1	FGFR3□-40
		AL-24S	NBR	1	FGFL5□-60
				1	FGFR5□-60
12	Gasket	AL-20S	NBR	3	FGFS3□-40
				5	FGFC3□-40
		AL-21S	FKM	3	FGFS5□-60
				5	FGFC5□-60

Note) Refer to "How to Order" on page 267 for the □ part of the model number.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGF.

Series FGH ①

Replacement Procedure is P.480

Replacement Parts and Seal List

How to Order

FGH 100 - 03 - J002T

High precision filter for liquids

Body size

Symbol	Element length	Applicable element
100	L117	EJ701S
200	L246	EJ801S, ED801S
300	L496	EJ901S, ED901S

* The membrane element cannot be selected for FGH100.

Port size

03	Rc3/8
04	Rc1/2
06	Rc3/4
10	Rc1

Built-in elements

Symbol	Filtration accuracy	Element classification	Applicable body
J002T	2 μm	Filtration efficiency 99%	HEPO II Series EJ
J004T	4 μm		
J006T	6 μm		
J013T	13 μm	Membrane Series ED	FGH200 FGH300
DX20T	0.2 μm		
DX40T	0.4 μm		

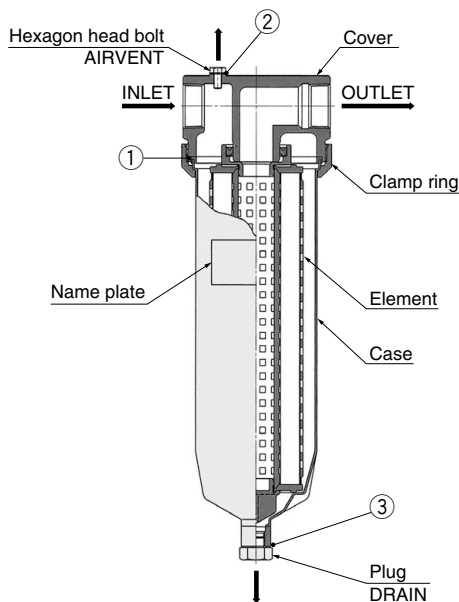
* Refer to Best Pneumatics No.7 for details about specifications, models, dimensions, etc. regarding the elements.

* When ordering only a vessel, it is not necessary to enter the symbol for built-in elements.

Since this product uses PTFE for gasket material, a large torque is required to tighten a clamp ring. The FKM specification with the clamp ring tightening torque reduced is also available. If the fluid conforms to FKM, use this specification.

Specifications

Model	FGH100	FGH200	FGH300
Number of built-in elements (element length) (mm)	1 (125)	1 (250)	1 (500)



Replacement Parts

No.	Description	Part number		
		FGH100	FGH200	FGH300
1	Gasket	AL-58S#1		
2	Seal	AL-43S		
3	Seal	AL-53S		

* Use each one of the above parts for each filter unit.

* Use a commercially available belt wrench etc. for mounting and removing clamp rings.

• Refer to page 270 for the replacement element type.

* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FGH.

High Precision Filter for Liquids

Series *FGH* ②

Replacement
Procedure is
P.480

HEPO II Element for Series FGH Series *EJ*

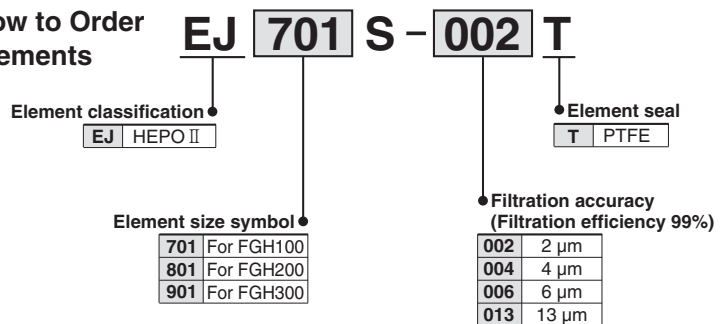


Specifications

Model		EJ□S-002	EJ□S-004	EJ□S-006	EJ□S-013
Filtration accuracy(Filtration efficiency 99%)		2	4	6	13
Filtration area (cm ²)	Length	117 mm	1890	2310	2090
		246 mm	4250	5200	4700
		496 mm	8500	10400	9400
Heat resistant temperature (°C)		80			
Material	Filter media	Polyester			
	Reinforcement material	Polypropylene			
	Others	Polypropylene			
Pressure resistance		0.5 MPa at 20°C, 0.125 MPa at 80°C			

Note) See "How to Order" below for items represented by □.

How to Order Elements



Membrane Element for Series FGH Series *ED*



Specifications

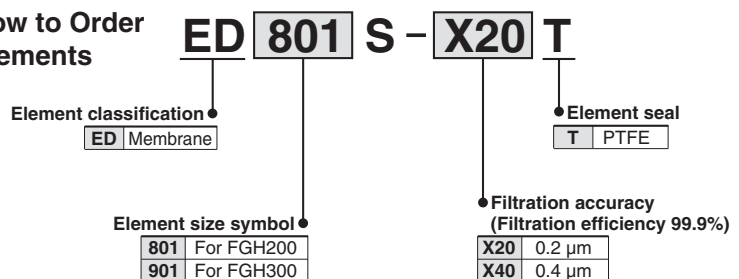
Model		ED□S-X20	ED□S-X40
Filtration accuracy(Filtration efficiency 99.9%) ^{Note 1)}		0.2	0.4
Filtration area (cm ²)	Length	247 mm	6,200
		495 mm	12,400
Heat resistant temperature (°C)		80	
Material	Filter media	Polyether sulfone	Cellulose acetate & polyester
	Reinforcement material	Polypropylene	Polyester
	Others	Polypropylene	Polypropylene
Pressure resistance		0.5 MPa at 20°C, 0.125 MPa at 80°C	
Resistivity recovery ^{Note 2)}		60 min at 10 L/m	—
Others		100 L/4000 cm ² Pure water cleaning	—

Note 1) Filtration accuracy: tested with ultrapure water, flow rate at ΔP = 0.01 MPa.

Note 2) Resistivity recovery: time taken to recover to 18 MΩ·cm with ultrapure water.

Note 3) See "How to Order" below for items represented by □.

How to Order Elements



* Cannot be used for FGH100.

Quick Change Filter

Series FQ1 1

RoHS

* When combined with sintered elements (bronze), it is no longer compliant with RoHS.

Replacement Procedure is P.482

Replacement Parts and Seal List

How to Order

FQ1 0 1 0 N - 04 - M005N - B

Model symbol (In-line filters)

Housing material

Symbol	Cover	Case
0	Stainless steel 304	Stainless steel 304

Element sealing method

1	Flat gasket (Double/Open/End)
---	-------------------------------

Element size

Symbol	Element size
0	L125
1	L250
2	L500 (L250 x 2)

Housing O-ring material

Symbol	Material
N	NBR
V	FKM

Made to order specifications

Nil	Note
X19	Without V-band support
X68	Chemical resistant type

* For other made to order specifications, refer to Best Pneumatics No.7.

Options

Nil	N/A
-B	Bracket

Element type

Select from tables below.

Port size

Symbol	Port size	Applicable model		
		FQ1010	FQ1011	FQ1012
04	Rc1/2	●	●	
06	Rc3/4	●	●	●
10	Rc1		●	●



FQ1010 □

FQ1011 □

FQ1012 □

Specifications

Model	FQ1010	FQ1011	FQ1012
No. of built-in elements (L : Element length in mm)	1 (L 125)	1 (L 250)	2 (L 250 x 2)

Element

1. Fiber element (P.P.)

Dimensions	Element symbol	Nominal filtration accuracy (µm)	Part number
ø65 x L250	TX50	0.5	EHM10A
	T001	1	EHM39R10AY
	T005	5	EHM23R10AY
	T010	10	EHM19R10AY
	T020	20	EHM15R10A
	T050	50	EHM11R10A
	T075	75	EHM10R10A
	T100	100	EHM8R10A

2. Fiber element (Cotton)

Dimensions	Element symbol	Nominal filtration accuracy (µm)	Part number
ø65 x L250	HX50	0.5	EH10G
	H001	1	EH39R10GV
	H005	5	EH23R10GV
	H010	10	EH19R10GV
	H020	20	EH15R10G
	H050	50	EH11R10G
	H075	75	EH10R10G
	H100	100	EH8R10G

3. Micromesh element (Stainless steel 304) Bonding material: Epoxy resin

Dimensions	Element symbol	Nominal filtration accuracy (µm)	Part number
ø65 x L250	M005 □	5	EM100-005 □
	M010 □	10	EM100-010 □
	M020 □	20	EM100-020 □
	M040 □	40	EM100-040 □
	M074 □	74	EM100-074 □
	M105 □	105	EM100-105 □
	ø65 x L125	M005 □	5
M010 □		10	EM200-010 □X4
M020 □		20	EM200-020 □X4
M040 □		40	EM200-040 □X4
M074 □		74	EM200-074 □X4
	M105 □	105	EM200-105 □X4

Note) Specify seal material in place of "□" (N for NBR or V for FKM).

4. Micromesh element (Stainless steel 316)

Dimensions	Element symbol	Nominal filtration accuracy (µm)	Part number
ø65 x L250	L005 □	5	EM500-005 □
	L010 □	10	EM500-010 □
	L020 □	20	EM500-020 □
	L040 □	40	EM500-040 □
	L074 □	74	EM500-074 □
	L105 □	105	EM500-105 □
	ø65 x L125	L005 □	5
L010 □		10	EM600-010 □X4
L020 □		20	EM600-020 □X4
L040 □		40	EM600-040 □X4
L074 □		74	EM600-074 □X4
	L105 □	105	EM600-105 □X4

Note) Specify seal material in place of "□" (N for NBR or V for FKM).

Quick Change Filter

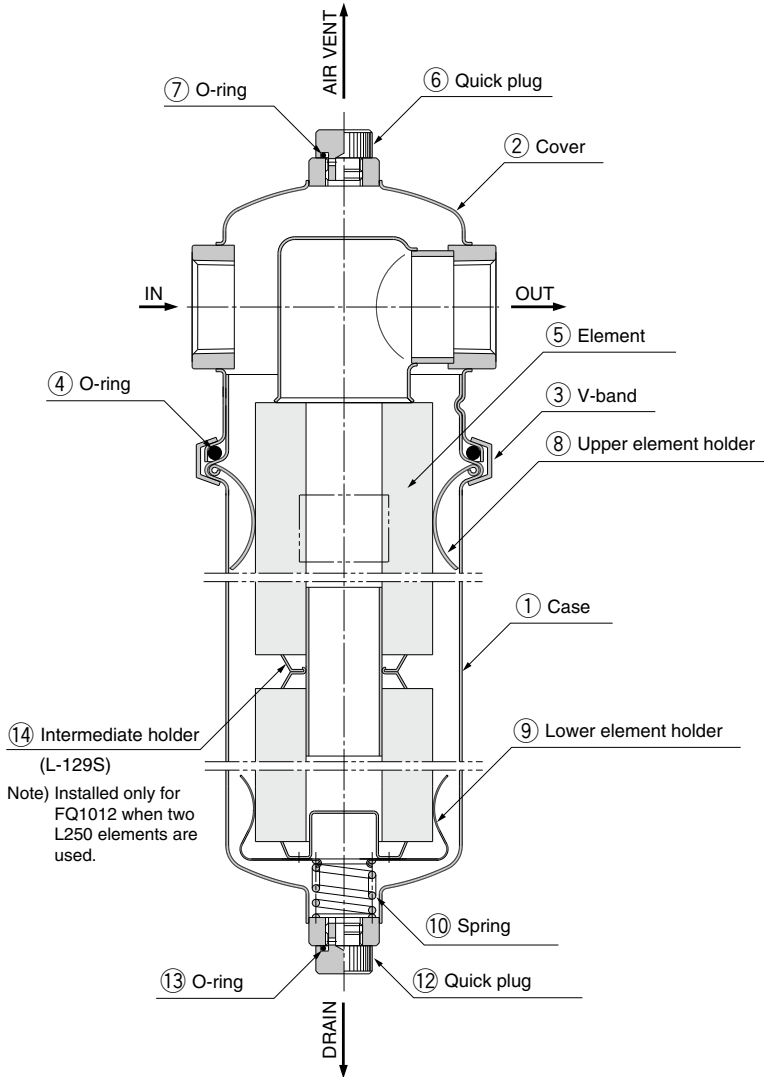
Series FQ1 ②

RoHS

* When combined with sintered elements (bronze), it is no longer compliant with RoHS.

Replacement Procedure is p.482

Replacement Parts and Seal List



Replacement Parts

No.	Description	Part number	Material	Note
3	V band for replacement	FQ-BA001	Stainless steel 304	
4	O-ring	KT-FQ1-N	NBR	OR NBR-70-1 P85-N
7, 13	O-ring			OR NBR-70-1 P11-N
4	O-ring			OR FKM-70 P85-N
7, 13	O-ring			OR FKM-70 P11-N
6, 12	Quick plug	AG-9S	Stainless steel 303	
8	Upper element holder	L-131S	Stainless steel 304	
9	Lower element holder	L-135S	Stainless steel 304	
14	Intermediate holder	FQ-OP001	Stainless steel 304	
	Bracket	BP-13S	Stainless steel 304	For port size Rc 1
		BP-14S		For port size Rc 3/4
		BP-15S		For port size Rc 1/2
1, 8	Case assembly	FQ1-CA001	Stainless steel 304	FQ1010
9, 12		FQ1-CA002		FQ1011
13		FQ1-CA003		FQ1012 (With intermediate holder)

Series FN1/FN4 1

Replacement Procedure is p.483

Replacement Parts and Seal List

How to Order

With single element

FN1 1 0 1 N - 10 - S 020

With four elements

FN4 1 0 2 N - 20 - S 020

Housing material

Symbol	Housing material
1	Stainless steel 304

Element type (Note)

Symbol	Element type	Applicable model
0	Cylindrical type (5 µm, 20 µm)	FN1, FN4
1	Step type (5 µm)	FN1

Note) Refer to Best Pneumatics No.7 for detailed element type.

Element length

Symbol	Element length	Applicable model
1	L250 mm	FN1
2	L500 mm	FN1, FN4

Seal material

Symbol	Seal material
N	NBR
V	FKM

Pressure gauge

Symbol	Pressure gauge
Nil	None (With plug)
G <small>Note 1)</small>	With pressure gauge <small>Note 2)</small> (Wetted part: Brass)

Note 1) Contact SMC for the pressure gauge specification for stainless steel wetted parts.

Note 2) The FN4 series is equipped with two pressure gauges.

Element material

Symbol	Element material
S	Stainless steel 304

Nominal filtration rating

Symbol	Nominal filtration rating
005	5 µm (Cylindrical type, Step type)
020	20 µm (Cylindrical type)

Port size

Symbol	Port size	Applicable model
10	Rc1	FN1
20	Rc2	FN4

Specifications

Model		FN1101	FN1111	FN1102	FN1112	FN4102
Element dimension		ø65 x 250L			ø65 x 500L	
Element	Material	Stainless steel 304				
	Construction	Cylindrical type	Step type	Cylindrical type	Step type	Cylindrical type
	Nominal filtration rating	5 µm, 20 µm	5 µm	5 µm, 20 µm	5 µm	5 µm, 20 µm
	Differential pressure proof	0.6 MPa				

Actuators

Modular F.R.L.
Pressure Control Equipment

Air Preparation
Equipment

Industrial Filters

Replacement
Procedure

Actuators

Modular F.R.L.
Pressure Control Equipment

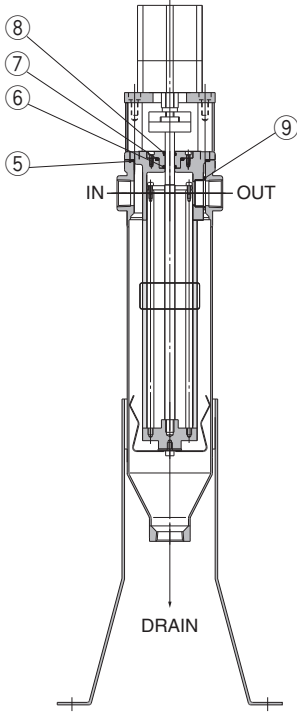
Industrial Filters

Series FN1/FN4 ②

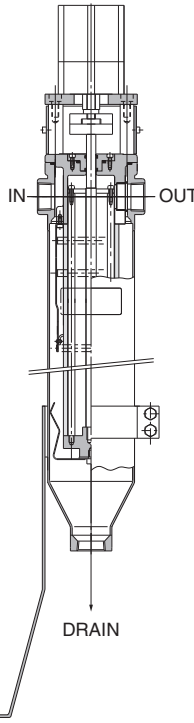
Replacement Procedure is p.483

Replacement Parts and Seal List

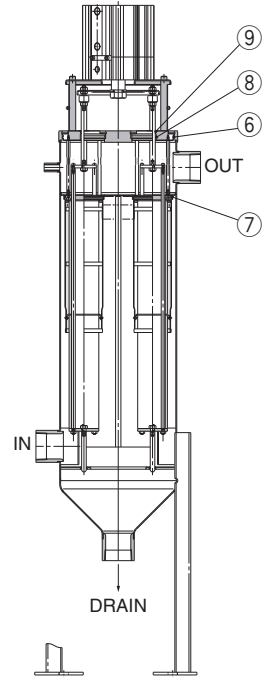
FN11□1□-10-S□□□□



FN11□2□-10-S□□□□



FN4102□-20-S□



* Number is the same as the Replacement Seal List of the Best Pneumatics No.7 Series FN1/FN4.

Replacement Parts

No.	Description	Quantity	Material
⑤	O-ring	1	NBR or FPM
⑥	Penta seal	1	
⑦	O-ring	1	
⑧	Scraper	1	
⑨	O-ring	1	

Replacement Parts: Seal Kit

Model	Order no.	Material	Note
FN11□□N	KT-FN11N	NBR	Items ⑤ through ⑨ from the above chart, 1 pc. each
FN11□□V	KT-FN11V	FPM	

Replacement Element

Model	Order no.	Quantity	Note
FN11□1□	END100-005	1	5 μm, Cylindrical type
	END100-020	1	20 μm, Cylindrical type
	END110-005	1	5 μm, Step type
FN11□2□	END200-005	1	5 μm, Cylindrical type
	END200-020	1	20 μm, Cylindrical type
	END210-005	1	5 μm, Step type

Replacement Parts

No.	Description	Quantity	Material
⑥	O-ring	1	NBR or FPM
⑦	O-ring	1	
⑧	Penta seal	1	
⑨	Scraper	1	

Replacement Parts: Seal Kit

Model	Order no.	Material	Note
FN4102N	KT-FN41N	NBR	Items ⑥ through ⑨ from the above chart, 1 pc. each
FN4102V	KT-FN41V	FPM	

Replacement Element

Model	Order no.	Quantity	Note
FN4102□	END400-005	1	5 μm, Cylindrical type
	END400-020	1	20 μm, Cylindrical type

Series FN1/FN4 ③

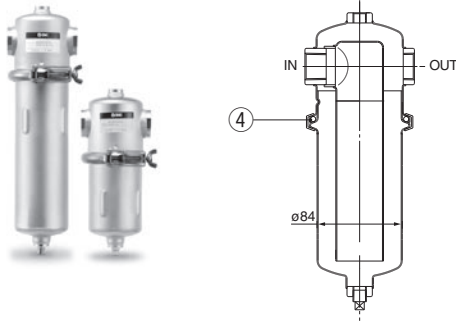
Replacement Procedure is p.483

Options (Sold separately)

Reservoir tank: Series FNR

This tank is used to store sufficient fluid for back-flushing (For the FN1 series).

* Not required for the FN4, which has a built-in tank.



How to Order FNR10 0 N - 10

Symbol	Capacity	Applicable model
0	1.1L	FN11□1
1	1.8L	FN11□2

Port size	
Symbol	Port size
10	Rc1

Seal material	
Symbol	Material
N	NBR
V	FKM

Replacement Parts

No.	Description	Kit No.	Material	Quantity	Note
4	O-ring	KA00809	NBR	1	1A-P85
		KA00725	FKM	1	4D-P85

* O-ring standard: JIS B 2401

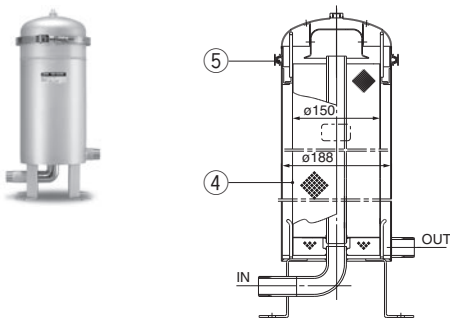
Specifications

Model	FNR100N-10	FNR100V-10	FNR101N-10	FNR101V-10
Tank capacity	1.1 L		1.8 L	
Port size	Rc1			
Material	Stainless steel 304			
Bowl & Cover O-ring	NBR	FKM	NBR	FKM
Weight	1.5 kg		1.9 kg	
Applicable filter	FN11□1□ (Element L 250)		FN11□2□ (Element L 500)	

Dust recovery filter (Produced upon receipt of order)

This filter is for recovering dust from fluid after element back-flushing.

It enables re-use of the element (Gold mesh).



How to Order

FND100 N - 10 - M149 X0

Seal material	
Symbol	Material
N	NBR
V	FKM

Nominal filtration rating	
Symbol	Nominal filtration rating
149	149 µm

Port size	
Symbol	Port size
10	R1

Element type	
Symbol	Type
M	Gold mesh

Replacement Parts

No.	Description	Kit No.	Material	Quantity	Note
4	Element	EZH710AS-149	Stainless steel 304	1	
5	O-ring	KA00822	NBR	1	1A-P185
		KA00711	FKM	1	4D-P185

* O-ring standard: JIS B 2401

Specifications

Model	FND100N-10-M149X0	FND100V-10-M149X0
Port size	R1	
Material	Stainless steel 304	
Bowl & Cover O-ring	NBR	FKM
Element	Stainless steel 304	
Element nominal filtration rating	149 µm	
Weight	7.5 kg	

Note) Produced upon receipt of order.