Industrial Filters

FGD/FGE Series

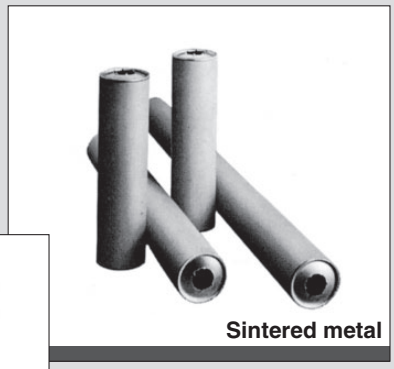
Vessel/Elements


FGD type

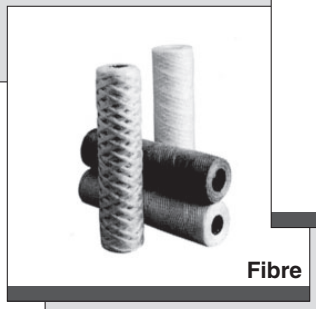
Vessel Series

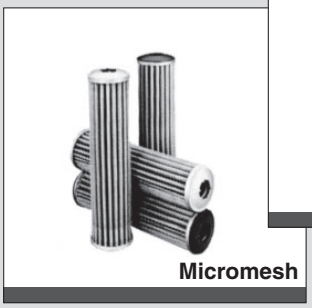

FGE type

Elements


Sintered metal


Paper


Fibre

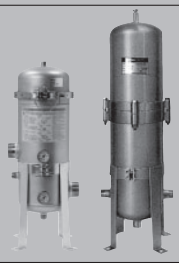

Micromesh

SMC industrial filters are

SMC

Elements can be incorporated
Please use by setting an element

Industrial Filters (FG□ Series)

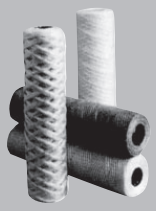
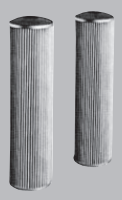
Series	Application/Specifications	Page
FGD Series ● Suitable for low flow rate, low pressure “filtration”. ● Can be used with a wide range of fluids. ● Antistatic specifications (FGDE, FGDF) 	• **Application:** Low flow rate filtration (Max. 60 l/min) • **Specifications:** Maximum operating pressure: 0.7, 1 MPa Port size: Rc3/8, 1/2, 3/4 Body materials: Cover: Aluminium, SCS14 Case: SPCD, Stainless steel 316	P.24
FGE Series ● Suitable for medium flow rate, low pressure “filtration”. ● Element replacement is easy with the V-band type. (with cover anti-scattering mechanism) ● Can be used with a wide range of fluids. 	• **Application:** Medium flow rate filtration (Max. 230 l/min) • **Specifications:** Maximum operating pressure: 0.7 MPa Port size: R1, 2 Body material: Stainless steel 304	P.27

active in all fields of industry.

Filters

into any type of vessel for SMC filters.
suited to the application in the vessel.

Elements

Element	Series	Material	Nominal filtration accuracy (μm)	Main applications	Page
Sintered metal 	**EB**	Bronze	1, 2, 5, 10 20, 40, 70 100, 120	All types of gases/liquids, General solvents, High-temperature fluids	P.30
	ES	Stainless steel 316	1, 2, 5, 10 20, 40, 70 100, 120		
Fibre (Honeycomb) 	**EH**	Cotton	0.5, 1, 5, 10 20, 50, 75, 100	General solvents, General neutral fluids	P.30
	EHM	Polypropylene	0.5, 1, 5, 10 20, 50, 75, 100	Plating fluids, General acids, Alkali fluids, Industrial water, Cooling water	
	EHK	Glass fibre	1, 5, 10, 20	General acids, High-temperature fluids	
Paper 	**EP**	Cotton, Phenol impregnated, (Epoxy adhesion)	5, 10, 20	Hydraulic oil, Lubricating oil, Fuel oil	P.31
Micromesh 	**EM100**	Stainless steel 304 (Epoxy adhesion)	5, 10, 20, 40 74, 105	All types of gases/liquids, High-temperature fluids	P.31
	EM500	Stainless steel 316	5, 10, 20, 40 74, 105		

Filter Selection by Main Application
FGD/FGE type

FGD type FGE type

Applications and Applicable Element

●: Recommended ○: Can be used X: Cannot be used

Fluid name	Applicable element type, material	Nominal filtration accuracy (μm)	Applicable filter model						
			FGDC	FGDE	FGDT	FGDF	FGES	FGEL	FGET
Industrial water	Fibre element Polypropylene	10	×	×	●	○	●	○	○
Water for cleaning	Fibre element Polypropylene	20	×	×	●	○	●	○	○
Water	Fibre element Polypropylene	20	×	×	●	○	●	○	○
Fragrances	Fibre element Cotton	10	×	×	●	○	●	○	○
Hot water	Micromesh element Stainless steel 316	10	×	×	●	○	●	○	○
General solvents	Micromesh element Stainless steel 316	40	×	×	○	●	×	×	●
Grinding fluid (Grinding machines)	Fibre element Polypropylene	10	○	●	○	●	●	○	○
Grinding fluid (Oilstone)	Fibre element Polypropylene	10	○	●	○	●	●	○	○
Lubricating oil	Fibre element Polypropylene	10	○	●	○	●	●	○	○
Cooling water	Fibre element Polypropylene	50	×	×	●	○	●	○	○
Cleaning water	Fibre element Polypropylene	10	×	×	●	○	●	○	○
Developing fluid	Fibre element Polypropylene	10	×	×	●	○	●	○	○
Lacquer	Fibre element Cotton	50	×	×	○	●	×	×	×
Nitrogen gas	Fibre element Cotton	10	●	○	●	○	×	×	×
Carbon dioxide	Fibre element Cotton	10	●	○	●	○	×	×	×
Air (Dry)	Fibre element Cotton	0.5 to 10	●	○	●	○	×	×	×

Note) Please refer to “How to Order” for each series when a filter vessel is combined with an element.

●How to read the chart

Example)
- Application: Scale removal in water for cleaning
- Treatment flow rate: 170 l/min
- Nominal filtration accuracy: Left up to the manufacturer
- Port size: 2

For the above specifications, first see “Applications and Applicable Element”. The applicable element for water for cleaning is polypropylene, with a nominal filtration accuracy of 20 μm, and the applicable filter model are all models except FGDC and DGDE.
Next, see "Applicable Filter and Treatment Flow Rate". Follow the item where the fluid name is water for cleaning to the bottom, and at the point where the specifications are 170 l/min or more, see the left. The filter models FGESA, FGELA and FGETA are the applicable filter models.

Therefore, the selected filter model and element are:

Filter model = FGESA-20

Element = Polypropylene 20 μm (EHM15R10A)

Applicable Filter and Treatment Flow Rate

*Indicates the flow rate (l/min) when the initial pressure drop (including vessel resistance) is 0.0015 MPa (for gas) or 0.015 MPa (for fluid).

Fluid name / Applicable element / Nominal filtration accuracy (μm) / Applicable filter model		Air (Dry)		Industrial water				Lubricating oil (20 mm²/s)	Fragrances (1 mm²/s)
		Cotton		Polypropylene				Paper	Micromesh
		0.5 Note 1)	10 Note 1)	1	5	10	20	10	5
FGDCA FGDEA FGDTA FGDFA	03	110	550	11	21	23	26	22	29
	04	110	750	12	27	30	36	28	42
	06	110	1000	13	32	36	46	32	57
FGDCB FGDEB FGDTB FGDFB	03	200	600	17	25	26	28	26	30
	04	200	840	21	35	37	41	38	44
	06	210	1200	23	46	50	56	50	63
FGESA Note 2) FGELA Note 2) FGETA Note 2)	10	410	3000	45	90	120	140	100	160
	20	410	3600	50	120	140	170	110	210
FGESB Note 2) FGELB Note 2) FGETB Note 2)	10	800	3300	70	140	150	160	120	170
	20	800	4200	90	170	180	210	140	230

Note 1) Indicates flow rate in l/min under atmospheric pressure (ANR) (at 0.5 MPa).
Note 2) Gases cannot be used.
Note 3) Please consult SMC for high flow rates other than the above.

Industrial Filter
FGD Series

How to Order

FGD C A – 03 – B 002 N

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

Accessory

Symbol	Accessory
—	None
-B	Bracket

Element category

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fibre (Honeycomb)	Polypropylene
G		Glass fibre
H		Cotton
P	Paper	Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316
J	HEPO Ⅱ	Polyester/Polypropylene

Element seal material Note)

Symbol	Element seal material
A	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note) Refer to the below table for the element seal material types by the element category.

Material

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

Note) If there is a static charge, select a product with an antistatic specification.

Element/Element Seal Material Combinations

Element material \ Element seal material		— (Without seal)	Non-asbestos	PTFE	NBR	FKM
			A	**T**	**N**	**V**
B	Bronze			○	○	○
S	Stainless steel		○	○	○	○
T	Polypropylene	○				
G	Glass fibre	○				
H	Cotton (Fibre)	○				
P	Cotton (Paper)				○	○
M	Stainless steel 304/Epoxy				○	○
L	Stainless steel 316		○	○	○	○
J	Polyester/PP			○	○	○

Nominal filtration accuracy (μm) Note)

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

Note) For a comparison with the nominal filtration accuracy according to the element category, refer to pages 30 and 31.

FGDT, F

FGDC, E

- **Suitable for low flow rate, low pressure "filtration."**
- **Can be used with a wide range of fluids.**
- **Antistatic specifications (FGDE, FGDF)**

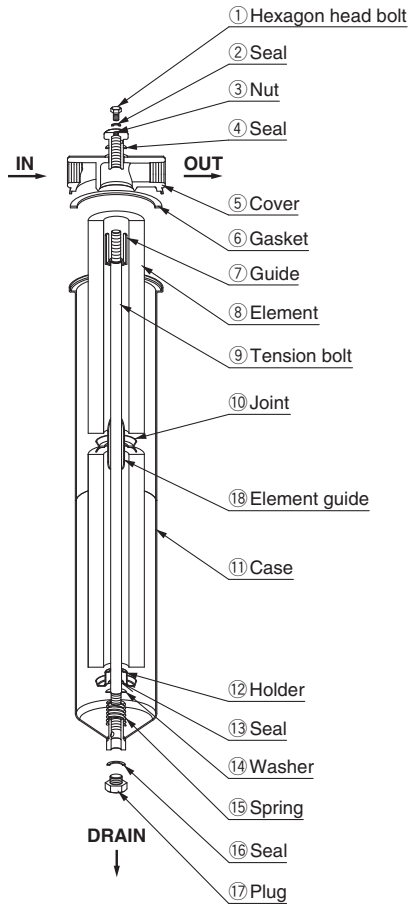
Note 1) The industrial filter described in this catalogue are products in which an element is incorporated into a vessel.
Note 2) To order only an element (replacement part), refer to "How to Order" on pages 30 and 31.
Note 3) When ordering only a vessel (replacement part), delete each symbol for "Element category", "Nominal filtration accuracy (μm)" and "Element seal material" from the above "How to Order."
Note 4) Please use industrial filters in combination with parts made by SMC (vessels, elements etc.)

Specifications

Model		FGDCA	FGDCB	FGDEA	FGDEB	FGDTA	FGDTB	FGDFA	FGDFB
Port size (Rc)		3/8, 1/2, 3/4							
Max. operating pressure (MPa) Note 1)		0.7				1			
Operating temperature (°C)		0 to 80							
Number of elements		1	2 Note 2)	1	2 Note 2)	1	2 Note 2)	1	2 Note 2)
Element size		Ø 65 to 70 x L250	Ø 65 to 70 x L500 (L250 x 2)	Ø 65 to 70 x L250	Ø 65 to 70 x L500 (L250 x 2)	Ø 65 to 70 x L250	Ø 65 to 70 x L500 (L250 x 2)	Ø 65 to 70 x L250	Ø 65 to 70 x L500 (L250 x 2)
Note 3) **Main materials**	**Cover**	Aluminium				SCS14			
	Case	SPCE				Stainless steel 316			
	Gasket/O-ring	NBR				Fluororesin			
	Seal	Nylon		Nylon/Fluororesin		Fluororesin			
Weight (kg)		1.3	2.2	1.3	2.2	2.3	3.8	2.3	3.8
Internal capacity (L)		1.7	3.4	1.7	3.4	1.7	3.4	1.7	3.4

Note 1) For gases, 0.5 MPa.
Note 2) 1 element (Ø 65 x L500) in the case of a sintered metal element or paper element.
Note 3) The sealing performance of nylon and fluororesin seals may decrease over time. Periodically check the tightening torque specified in the operation manual.

Replacement Parts and Seal List



Parts descriptions and functions

(Figure shows the product with two FGD□B elements.)

Note) There is no compatibility between the FGDT/F and FGDC/E as the seal structure on the gasket portion is different. Use the cover and case of the same model.

Parts Descriptions and Functions

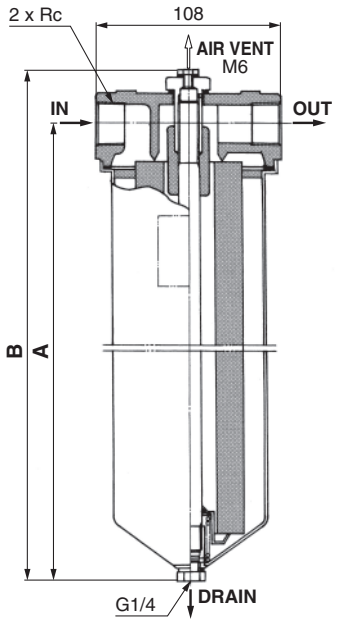
No.	Description	Material	Function
1	**Hexagon head bolt**	Stainless steel or iron	Plug to release air in the housing
2	**Seal**	Resin	
3	**Nut**	Stainless steel or iron	Tightens the cover.
4	**Seal**	Resin	
5	**Cover**	Stainless steel or Aluminium	The lid of the filter body
6	**Gasket**	Resin or rubber	
7	**Guide**	Stainless steel	Seals the gap between the element and tension bolt.
8	**Element**	Depends on the element type.	The mounted element collects residue.
9	**Tension bolt**	Stainless steel or iron	Connects the case and cover.
10	**Joint**	Stainless steel	Seals the area between elements. (when two FGD□B elements are used)
11	**Case**	Stainless steel or iron	Filter body
12	**Holder**	Stainless steel	Seals the elements.
13	**Seal**	Resin or rubber	
14	**Washer**	Stainless steel	
15	**Spring**	Stainless steel	Stabilizes the element.
16	**Seal**	Resin	
17	**Plug**	Stainless steel or iron	Drainage discharging plug
18	**Element guide**	Stainless steel or iron	

Replacement Parts

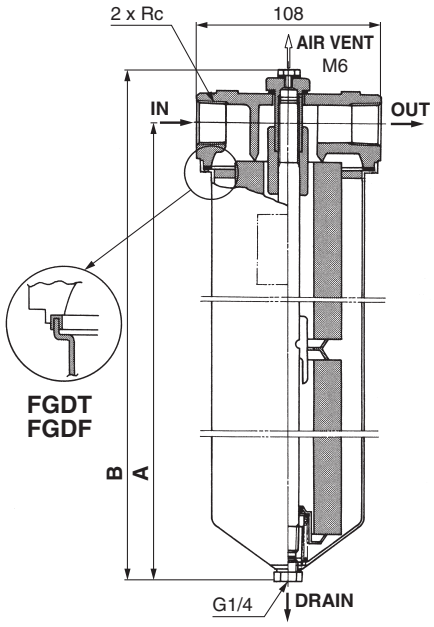
Description	Part no.	Applicable model	Part no. (Kit contents)
Nut kit	**FGD-KT001**	FGDC	①, ②, ③, ④: 1 pc. each
	FGD-KT002	FGDE	
	FGD-KT003	FGDT	
	FGD-KT004	FGDF	
Replacement cover	**FGD-CV005-**$^{03}_{04}_{06}$	FGDT/F	⑤
	FGD-CV006-$^{03}_{04}_{06}$	FGDC/E	
Joint	**FGD-OP001**	FGDI	⑩
Seal kit	**KT-FGDC**	FGDC	②, ④, ⑥, ⑬, ⑯: 1 pc. each
	KT-FGDE	FGDE	
	KT-FGDT	FGDT	
	KT-FGDF	FGDF	
Replacement case assembly	**FGD-CA002**	FGDT/F(L250)	⑦, ⑨, ⑪, ⑫, ⑬, ⑭, ⑮, ⑯, ⑰ : 1 pc. each Note) Only the FGD-CA003 and CA005 includes ⑱ element guide in the set.
	FGD-CA003	FGDT/F(L500)	
	FGD-CA004	FGDC/E(L250)	
	FGD-CA005	FGDC/E(L500)	

Dimensions

FGD□A (1 element)



FGD□B (2 elements)

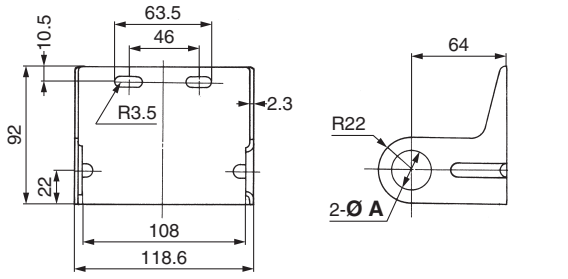


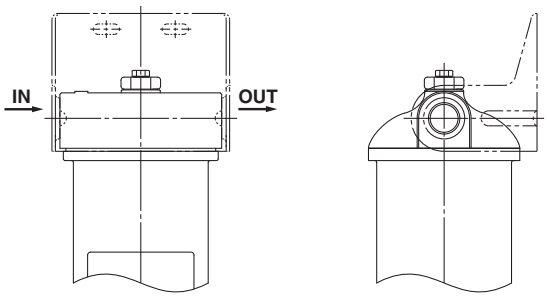
∗ Element removal dimension: 50 mm

(mm)

Model	Element length	A	B	Port size Rc
FGDC **FGDE**	A (L250)	314	346	3/8, 1/2, 3/4
	B (L500)	574	606	
FGDT **FGDF**	A (L250)	314	349	
	B (L500)	574	608	

Accessory/Bracket





Mounting position

(mm)

Part no.	Ø A	Port size Rc	Material	Surface treatment
BP-1S	17.5	3/8	SPCC	Zinc chromated
BP-2S	22	1/2		
BP-3S	27.5	3/4		

Note) Secure the filter with steel piping.
Use this bracket for piping support.
(Flexible piping cannot be used to secure the filter.)

Industrial Filter
FGE Series

How to Order

FGES/FGEL type (V-band type) **FGE S A – 10 – B 002 N A – G1**

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

Material

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

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

Option

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

∗ Please use the applicable pressure gauge depending on the fluid used.
Control the differential pressure even when none pressure gauge is selected.

Element seal material Note)

Symbol	Element seal material
A	Non-asbestos
T	Fluororesin
N	NBR
V	FKM

Note) Refer to the below table for the element seal material types by the element category.

Element length

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

Port size

Symbol	Port size R
10	1
20	2

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 pages 30 and 31.

Element category

Symbol	Element type	Material
B	Sintered metal	Bronze
S		Stainless steel
T	Fibre	Polypropylene
G		Glass fibre
H		Cotton
P	Paper	Cotton
M	Micromesh	Stainless steel 304/Epoxy
L		Stainless steel 316
J	HEPO II	Polyester/Polypropylene

Element/Element Seal Material Combinations

Element material \ Element seal material		— (Without seal)	Non-asbestos	PTFE	NBR	FKM
			A	T	N	V
B	Bronze			○	○	○
S	Stainless steel		○	○	○	○
T	Polypropylene	○				
G	Glass fibre	○				
H	Cotton (Fibre)	○				
P	Cotton (Paper)				○	○
M	Stainless steel 304/Epoxy				○	○
L	Stainless steel 316		○	○	○	○
J	Polyester/PP			○	○	○

FGES/FGEL type
(V-band type)

FGET type
(Bolt tightening type)

- **Suitable for medium flow rate, low pressure "filtration."**
- **Element replacement is easy with the V-band type. (with cover anti-scattering mechanism)**
- **Can be used with a wide range of fluids**

Note 1) The industrial filter described in this catalogue are products in which an element is incorporated into a vessel.
Note 2) To order only an element (replacement part), refer to "How to Order" on pages 30 and 31.
Note 3) When ordering only a vessel (replacement part), delete each symbol for "Element category", "Nominal filtration accuracy (μm)" and "Element seal material" from the above model indication method.
Note 4) Please use industrial filters in combination with parts made by SMC (vessels, elements etc.)
Note 5) Do not use the V-band type for gases.

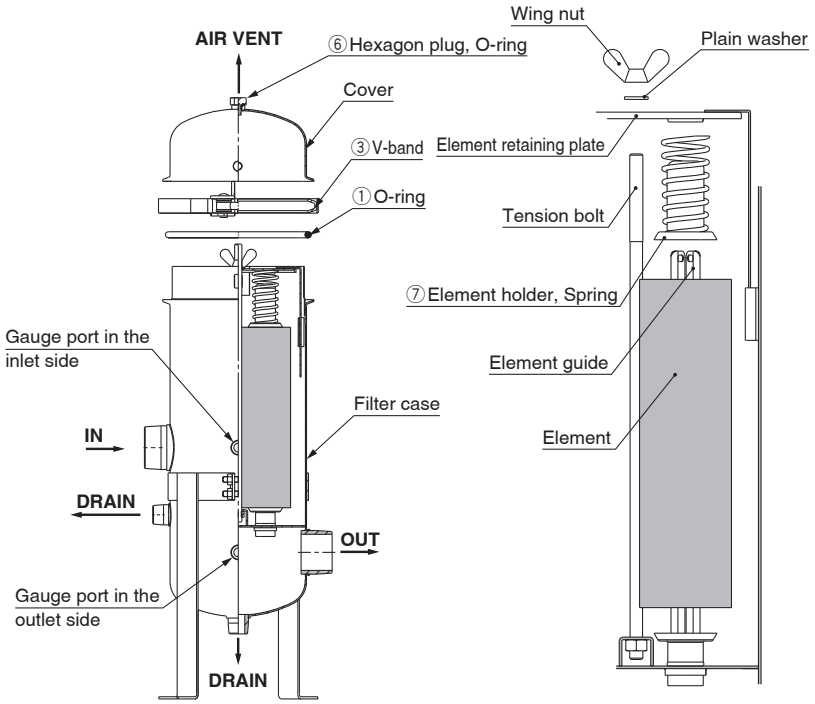
Specifications

Model		FGESA Note 1)	FGESB Note 1)		FGELA Note 1)	FGELB Note 1)		FGETA Note 1)	FGETB Note 1)	
Port size (R)		1, 2								
Max. operating pressure (MPa)		0.7								
Operating temperature (°C)		0 to 80 (60 with pressure gauge)								
Number of elements		4	4 Note 2)	8	4	4 Note 2)	8	4	4 Note 2)	8
Element size		O 65 to 70 x L250	O 65 to 70 x L500	O 65 to 70 x L250	O 65 to 70 x L250	O 65 to 70 x L500	O 65 to 70 x L250	O 65 x L250	O 65 x L500	O 65 x L250
Main materials	Cover	Stainless steel 304								
	Case	Stainless steel 304								
	Gasket	—	—		—	—		Fluororesin	Fluororesin	
	O-ring	NBR			FKM			—		
	Legs	SS400 (Chromatic plating)								
Weight (kg)		10	13		10	13		12	15	
Internal capacity (L)		14	21		14	21		11.5	18.5	

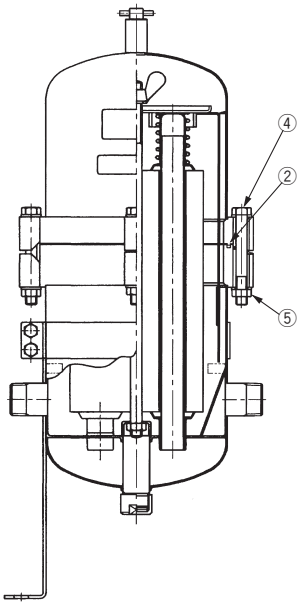
Note 1) Cannot be used with gases.
Note 2) In the case of a sintered metal element or paper element.

Replacement Parts and Seal List

FGES/FGEL type (V-band type)



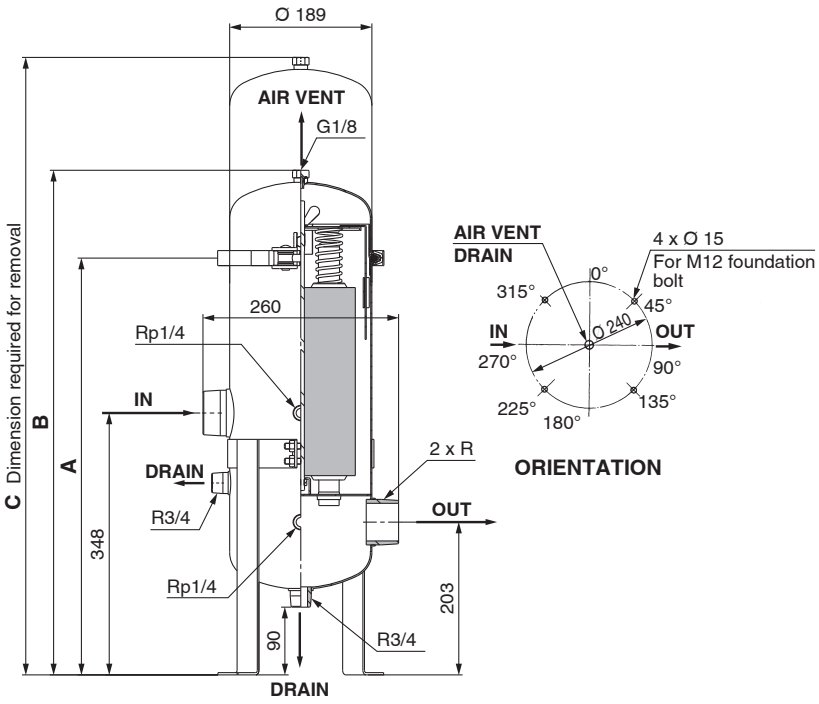
FGET type (Bolt tightening type)



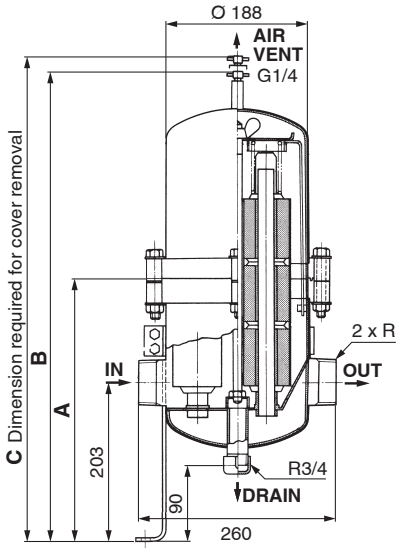
No.	Description	Qty.	Applicable model		
			FGES	FGEL	FGET
1	O-ring	1	FGE-KT001	FGE-KT002	—
2	Gasket	1	—	—	AL-19S
3	V-band	1	CY-24S		—
4	Hexagon head bolt	4	—	—	CB00021
5	Hexagon nut	4	—	—	DA00110
6	Hexagon plug	1	FGE-OP007	FGE-OP008	—
	O-ring	1			
7	Spring	4	FGE-OP005		
	Element holder	4			

Dimensions

FGES/FGEL type (V-band type)



FGET type (Bolt tightening type)



FGES type (V-band type) (mm)

Model	A	B	C	Port size R
FGESA	554	671	850	1, 2
FGESB		931	1350	

FGEL type (V-band type) (mm)

Model	A	B	C	Port size R
FGELA	554	671	850	1, 2
FGELB		931	1325	

FGET type (Bolt tightening type) (mm)

Model	A	B	C	Port size R
FGETA	366	612	910	1, 2
FGETB	516	871	1225	

Elements
Sintered Metal/Fibre

Nonstandard elements of the FQ1 series can also be used commonly.

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**

  The bronze element may be discoloured by the moisture included in the atmosphere, but this does not affect the characteristics.

Specifications

Material		Bronze	Stainless steel 316
Operating temperature (C°) Note 2)		0 to 150	0 to 150
Nominal filtration accuracy (μm) Note 3)		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.	Can be used. Note 1)
	Alkali	Cannot be used.	Can be used.
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.
Note 3) The name is for distinguishing the raw material, and is different from the actual filtration rating.

How to Order 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	Ø 65 x L250
200	Ø 65 x L500
300	Ø 65 x L750

Seal material/Operating temperature range

Symbol	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.

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

Fibre 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 fibre	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 fibre	Stainless steel 316	0 to 400	1, 5, 10, 20		

Note) Size for all is Ø 65 x L250. Different lengths are available as a special order up to 750 mm, only for cotton and polypropylene.

Elements Part No. List

Element material		Cotton	Polypropylene	Glass fibre
Core material		Stainless steel 304	Polypropylene	Stainless steel 316
Nominal filtration accuracy (μm)	0.5	**EH10G**	**EHM10A**	—
	1	**EH39R10GV**	**EHM39R10AY**	**EHK27R10S**
	5	**EH23R10GV**	**EHM23R10AY**	**EHK19R10S**
	10	**EH19R10GV**	**EHM19R10AY**	**EHK15R10S**
	20	**EH15R10G**	**EHM15R10A**	**EHK10R10S**
	50	**EH11R10G**	**EHM11R10A**	—
	75	**EH10R10G**	**EHM10R10A**	—
	100	**EH8R10G**	**EHM8R10A**	—
Element category of How to Order		H	T	G

Note) Element seals are not used for fibre elements.

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
Jointing material	Epoxy resin
Element replacement differential pressure	0.1 MPa
Element category of How to Order	P

How to Order Elements

EP 200 – 010 N

Paper element

Element size

Symbol	Element size
100	Ø 65 x L250
200	Ø 65 x L500
300	Ø 65 x L750

Seal material

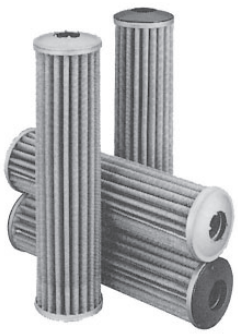
Symbol	Seal material
N	NBR
V	FKM

Nominal filtration accuracy (μm)

Symbol	Nominal filtration accuracy (μm)
005	5
010	10
020	20

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)		0 to 100	0 to 150
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.	Can be used. Note 1)
	Alkali	Can be used.	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 Elements

EM 500 – 074 A

Micromesh element symbol

Group symbol

Symbol	Group symbol
100	Stainless steel 304
500	Stainless steel 316

Nominal filtration accuracy (μm)

Symbol	Nominal filtration accuracy (μm)
005	5
010	10
020	20
040	40
074	74
105	105

(Size Ø 65 x L250)

Seal material/Operating temperaturerange

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

Note) Not possible with EM100 (Stainless steel 304)

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC) [1], and other safety regulations.

⚠ **Caution:**	**Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
⚠ **Warning:**	**Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
⚠ **Danger:**	**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.
Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalogue.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.
The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first. [2] Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

2) Vacuum pads are excluded from this 1 year warranty.
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Caution

SMC products are not intended for use as instruments for legal metrology.
Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country.
Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

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