

Industrial Filters Selection 1

1 Selecting the element

Narrow down the element types according to the operating environment, filtration level and element usage.

- | | |
|---|---|
| <ul style="list-style-type: none"> • Filtration level: Nominal filtration, absolute filtration • Element usage: | <p>Nominal filtration</p> <p>Absolute filtration</p> <p>Disposable: Element must be replaced after clogging.</p> <p>Reusable: Element can be cleaned after clogging for continuous usage.</p> |
|---|---|

Select element and seal types to meet necessary requirements, from the element selection list.

<Selection requirements>

- Applicable fluid: Select an applicable element according to "applicable fluid" / "material".
- Temperature: Select an element within the operative temperature range.
- Filtration accuracy: Select an element with the required filtration accuracy.

② Calculating the number of elements

- Check the recommended flow for the selected element from the element selection list.
- Determine the value for "required flow rate ÷ recommended flow rate".
- This value equals the number of elements required.

③ Selecting the housing

- Select a housing that can fit the number of elements determined in (2) from the housing selection list.
Check that the housing selected meets the necessary requirements.

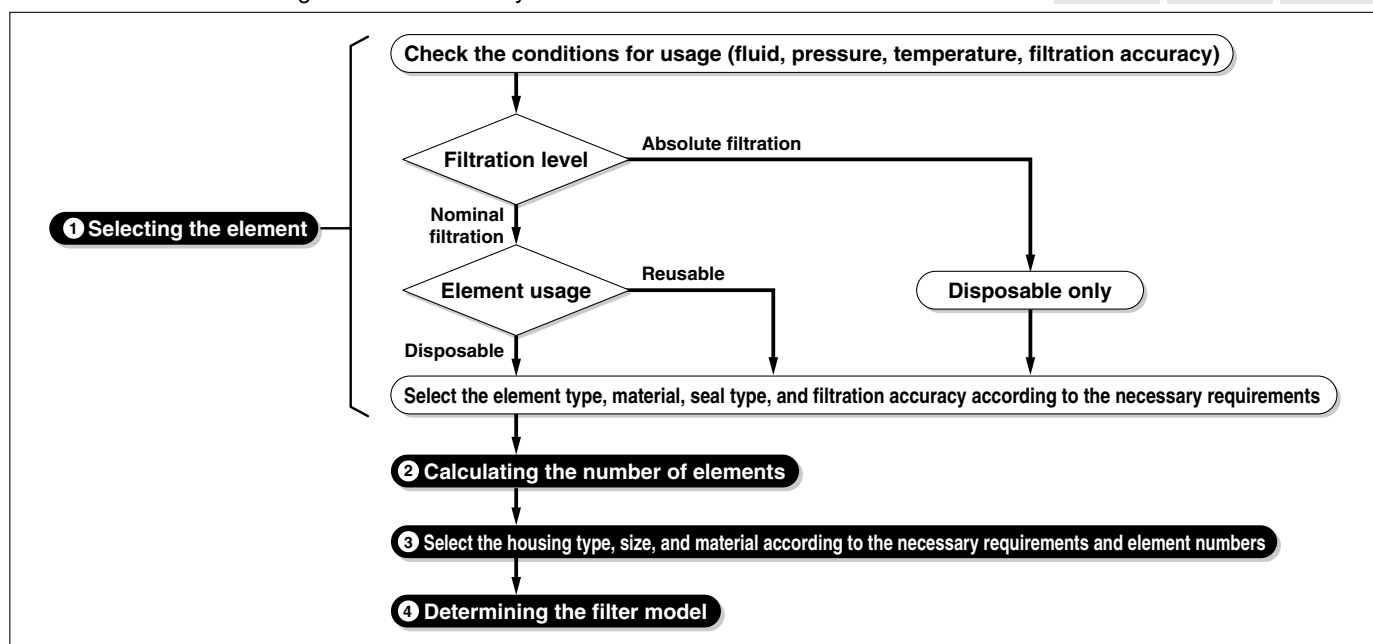
<Selection requirements>

- Applicable fluid: Select a housing with an applicable seal according to "applicable fluid" / "material".
- Temperature:
- Pressure:

④ Determining the filter model

- Select a model by incorporating the symbols for the element and housing selected in (1) and (3).

Filter model: Housing model + element symbol



Industrial Filters

Selection 2

Selecting the Element

Element category		Element type			Applicable fluid check										Element material	
Filtration level	Disposal/Reusable	Element description	Element model	Element symbol	Fluid applicability								Filter media	Core		
					Pure water	Industrial water	Cleaning fluid		Solutions			Cutting oil			Grinding oil	
							Alkali-based	Acid	Petroleum	Fluorine	Alcohol					
Nominal filtration	Disposable	Fiber element	EH	H	×	⊙	○	×	⊙	⊙	○	⊙	Cotton	Stainless steel 304		
			EHM	T	×	⊙	⊙	⊙	○	×	⊙	○	Polypropylene	Polypropylene		
			EHK	G	×	○	×	⊙	○	○	○	○	Glass fiber	Stainless steel 316		
		P.P. depth element	EJ	W	○	⊙	⊙	⊙	○	×	⊙	○	Polypropylene Polyethylene	Polypropylene		
		Paper element	EP	P	×	×	×	×	○	×	○	⊙	Cotton	Polypropylene		
		Bag element	EJ	E	×	⊙	○	○	○	○	⊙	⊙	Polyester	—		
	Reusable	Micromesh element	EM	M	×	○	○	○	○	○	○	⊙	⊙	Stainless steel 304 (Epoxy parts)	Stainless steel 304	
			L	×	⊙	⊙	⊙	⊙	⊙	⊙	⊙	Stainless steel 316	Stainless steel 316			
		Sintered metal element	EB	B	×	×	×	×	○	○	×	○	Bronze	—		
			ES	S	×	⊙	⊙	⊙	⊙	⊙	⊙	⊙	Stainless steel 316	—		
	Filter plate laminated element	END	S	×	⊙	○	○	○	×	○	⊙	Stainless steel 304	—			

⊙: Optimal ○: Applicable △: Caution ×: Not applicable

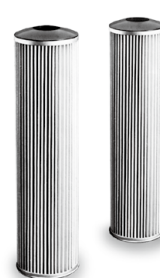
○: Optimal ○: Applicable △: Caution ×: Not applicable



EH/EHM/EHK



EJ



EP

Selection

Note) Operating temperature given per element. For actual usage, consider the operating temperature for seal and filter body.

Operating temperature			Element seal (Symbol)				Applicable housing models														
Operating temperature (Note)	Nominal filtration accuracy	Recommended flow rate (per element) (L250)	NBR (N)	FKM (V)	PTFE (T)	Non- asbestos (A)	FGA	FGC	FGD	FGE	FGG	FQ	FGH	FGF	FN						
-20 to 100°C	0.5 μm	3 L/min	N/A				⊙	⊙	⊙	⊙	⊙	⊙	×	×	×						
	1 μm	10 L/min																			
	5 μm																				
	10 μm																				
0 to 50°C	20 μm	15 L/min					⊙	⊙	⊙	⊙	⊙	⊙	×	×	×						
	50 μm	20 L/min																			
	75 μm																				
	100 μm																				
0 to 400°C	1 μm	10 L/min					N/A				⊙	⊙	⊙	⊙	⊙	×	×	×			
	5 μm																				
	10 μm																				
	20 μm	15 L/min																			
0 to 60°C	1 μm	30 L/min	N/A								△	△	△	△	△	×	×	×			
	3 μm																				
	5 μm																				
	10 μm																				
	25 μm																				
	50 μm																				
75 μm																					
0 to 80°C	5 μm	10 L/min									●	●	—	—	⊙	⊙	⊙	⊙	⊙	⊙	×
	10 μm	15 L/min									⊙	⊙	⊙	⊙	⊙	⊙	×	×	×		
	20 μm																				
0 to 80°C	5 μm	400 L/min					N/A				×	×	×	×	×	×	×	⊙	×		
	10 μm																				
	25 μm																				
	50 μm																				
	100 μm																				
0 to 100°C	5 μm	15 L/min	●	●	—	—					⊙	⊙	⊙	⊙	⊙	⊙	×	×	×		
	10 μm																				
	20 μm																				
	40 μm																				
0 to 150°C	74 μm	15 L/min	●	●	●	●					⊙	⊙	⊙	⊙	⊙	⊙	×	×	×		
	105 μm																				
0 to 120°C	2 μm	10 L/min	●	●	●	—	⊙	⊙	⊙	⊙	⊙	⊙	×	×	×						
	5 μm																				
	10 μm																				
	20 μm																				
0 to 150°C	40 μm	15 L/min	●	●	●	●	⊙	⊙	⊙	⊙	⊙	⊙	×	×	×						
	70 μm																				
	100 μm																				
	120 μm																				
0 to 80°C	5 μm	40 L/min	●	●	—	—	×	×	×	×	×	×	×	×	⊙						
	20 μm																				

These values

●: Compatible seal ⊙: Standard △: Made to Order specification ×: Cannot be incorporated

These values are for water
(The flow rates will differ if the fluids are of other, higher viscosity types.)

●: Compatible seal

⊙: Standard △: Made to Order specification ×: Cannot be incorporated



EJ



EM

Element seal



EB/ES



END
12

Industrial Filters Selection 3

Selecting the Element

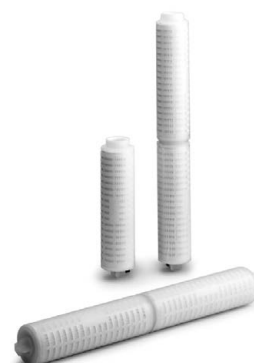
Element category		Element type			Applicable fluid check											
Filtration level	Disposable Reusable	Element name	Element model	Element symbol	Fluid applicability								Element material			
					Pure water	Industrial water	Cleaning fluid		Solutions			Cutting oil Grinding oil	Filter media	Core		
							Alkali-based	Acid	Petroleum	Fluorine	Alcohol					
High filtration accuracy	Disposable	HEPO II element	EJ	J	◎	○	×	×	◎	○	◎	◎	Polyester	Polypropylene Stainless steel 316		
		P.P. HEPO II element	EJ102S	R	○	○	○	○	○	△	○	○	Polypropylene	Polypropylene		
		Membrane element	ED	D	◎	○	○	○	○	○	○	×	Polyether Sulphone (0.2 μm)	Polypropylene		
					◎	○	×	×	○	×	○	×			Cellulose acetate (0.4 μm)	
		Membrane P.P. element	ED102S	U	○	○	○	○	○	○	△	○	×	Polypropylene	Polypropylene	
Membrane CA element	ED111S	D	○	○	×	×	◎	×	◎	×	×	Polyester	Polypropylene			
◎: Optimal ○: Applicable △: Caution ×: Not applicable																



EJ



EJ102S



ED

Operating temperature

Operating temperature	Filtration accuracy (Filtration efficiency 99% or more)	Recommended flow rate	Element seal (Symbol)				Applicable housing models								
			NBR (N)	FKM (V)	PTFE (T)	Non-asbestos (A)	FGA	FGC	FGD	FGE	FGG	FQ	FGH	FGF	FN
0 to 80℃	2 μm	20 L/min	●	●	●	—	△	△	◎	◎	×	◎	×	×	×
	4 μm														
	6 μm														
	13 μm														
0 to 80℃	2 μm	20 L/min	●	●	●	—	△	△	△	△	×	◎	×	×	×
	4 μm														
	6 μm														
	13 μm														
0 to 80℃	0.2 μm	5 L/min	●	●	●	—	△	△	△	△	×	△	×	×	×
	0.4 μm														
0 to 70℃	0.2 μm	5 L/min	●	●	●	—	△	△	△	△	×	△	×	×	×
	0.4 μm														
0 to 80℃	0.2 μm	5 L/min	●	●	●	—	△	△	△	△	×	△	×	×	×
	0.4 μm														

These values are for water
(The flow rates will differ if the fluids are of other, higher viscosity types.)

●: Compatible seal

◎: Standard △: Made to Order specification ×: Cannot be incorporated



ED102S



ED111S

Industrial Filters

Selection 4

Selecting the Element Seal

		Applicable fluid check								Operating temperature
		Fluid applicability								Operating temperature
Seal material	Symbol	Pure water	Industrial water	Cleaning fluid		Solutions			Cutting oil Grinding oil	
				Alkali-based	Acid	Petroleum	Fluorine	Alcohol		
NBR	N	○	◎	×	△	×	×	×	○	0 to 80°C
FKM	V	○	○	○	○	△	△	×	○	0 to 120°C
Fluororesin	T	○	○	○	○	◎	◎	◎	○	0 to 120°C
Non-asbestos	A	○	○	△	△	△	○	○	○	0 to 150°C

◎: Optimal ○: Applicable △: Caution ×: Not applicable

Applicable housing models

FGA	FGC	FGD	FGE	FGG	FQ	FGH	FGF	FN
—	—	◎	◎	◎	◎	—	◎	◎
—	—	—	◎	◎	◎	—	◎	◎
—	—	◎	◎	—	—	◎	—	—
◎	◎	—	—	—	—	—	—	—

◎ : Standard

Applicable element symbols

H	T	G	W	P	E	M	L	B	S	J	R	D	U	D
N/A	N/A	N/A	N/A	●	N/A	●	●	●	●	●	●	▲	●	●
N/A	N/A	N/A	N/A	●	N/A	●	●	●	●	●	●	▲	●	●
N/A	N/A	N/A	N/A	—	N/A	—	●	●	●	▲	—	●	—	●
N/A	N/A	N/A	N/A	—	N/A	—	●	—	●	—	—	—	—	—

●: Applicable ▲: Partially applicable

Industrial Filters Selection 5

Selecting the Housing

Filter type	Series	Model	Product specification		Material		
			Maximum operating pressure	Operating temperature	Housing	Seal	□1
Cartridge	FGH	FGH□2-□3-1*2	1.0 MPa	0 to 80°C	Stainless steel 316	Fluoropolymer	—
	FQ	FQ101□2□1-□3-1*2	1.0 MPa	0 to 80°C	Stainless steel 304	NBR	N
						FKM	V
	FGD	FGD□1□2-□3-1*2	0.7 MPa	0 to 80°C	Aluminum SPCD	NBR	C
			1.0 MPa		SCS14 Stainless steel 316L	Fluoropolymer	T
	FGE	FGE□1□2-□3-1*2	0.7 MPa	0 to 80°C	Stainless steel 304	NBR	S
						FKM	L
						Fluoropolymer	T
	FGG	FGG□1□2-□3-1*2	0.7 MPa	0 to 80°C	Stainless steel 304	NBR	S
						FKM	L

□1: Housing/seal material
 □2: Number of elements
 □3: Port size
 * 1: Element symbol
 * 2: Element seal



FGH



FQ



FGD

Number of elements				Port size		Applicable element																																			
Element placement	Element levels	Number of elements	□2	Port size	□3	*1																																			
						H	T	G	P	M	L	W	B	S	J	R	D	U																							
1 line	×	0.5	0.5	100	Rc 3/8	03	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}																	
		1	1	200	Rc 1/2	04																			×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
		2	2	300	Rc 3/4	06																			×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
1 line	×	0.5	0.5	0	Rc 1/2	04	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}																	
		1	1	1	Rc 3/4	06																			⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
		2	2	2	Rc 1	10																			⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
1 line	×	1	1	A	Rc 3/8	03	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}																	
		2	2	B	Rc 1/2	04																			⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
4 lines	×	1	4	A	R 1	10	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}																	
		2	8	B	R 2	20																			⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙		
		3	12	C																					⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
7 lines	×	2	14	B	Rc 2	20	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}	}																	
		3	21	C																					⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
		4	28	D																					⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙



FGE



FGG

Industrial Filters Selection 6

Selecting the Housing

Filter type	Series	Model	Product specification		Material		
			Maximum operating pressure	Operating temperature	Housing	Seal	□1
Cartridge	FGA	FGA□1□2-□3-*1*2	1.0 MPa	0 to 80°C	Stainless steel 304	Non-asbestos	S
					SS400		C
	FGC	FGC□1□2-□3-*1*2	1.0 MPa 2.0 MPa 4.0 MPa	0 to 80°C	Stainless steel 304	Non-asbestos	S
					SS400		C
Bag	FGF	FGF□1□2-□3-*1*2	0.5 MPa	0 to 80°C	Stainless steel 304	NBR	S
						FKM	L
			0.5 MPa	0 to 80°C	Stainless steel 304	NBR	S
					SS400		C
					Stainless steel 304	FKM	L
					SS400		R
Back-flushing type	FN	FN□2□1-□3-*1*2	1.0 MPa	0 to 80°C	Stainless steel 304	NBR	N
						FKM	V

□1: Housing/seal material
 □2: Number of elements
 □3: Port size
 *1: Element symbol
 *2: Element seal



Number of elements				Port size		Applicable element																															
Element placement	Element level	Number of elements	□2	Port size	□3	*1																															
						H	T	G	P	M	L	W	B	S	J	R	D	U																			
4 to 83 lines	×	1 to 4	=	4 to 332	Refer to p. 38	1B to 6B	Refer to p. 38	⊙	⊙	⊙	⊙	⊙	⊙	△ X29	⊙	⊙	△ X80	△ X151	△ X94	△ X30																	
1 line	×	1	=	1	A	1/2B	04	⊙	⊙	⊙	⊙	⊙	⊙	△ X29	⊙	⊙	△ X80	△ X151	△ X94	△ X30																	
		2	B	3/4B	06																																
Bag element	ø190 x L440	1 L440	1A	Rc2	20	Bag element																															
	ø190 x L770	1 L770	1B																	1B	10																
Bag element	ø190 x L440	3 L440	3A	4B	40															Back-flushing element																	
		3 L770	3B																															3B	06		
	ø190 x L770	5 L440	5A																															6B	60	1B	10
		5 L770	5B																																	1B	10
Back-flushing element	Element type · Cylindrical · Multilevel type	Cylindrical 1 L250	1101	Rc1	10	Back-flushing element																															
		Multilevel 1 L250	1111																															1B	10		
	Element length · L250 · L500	Cylindrical 1 L500	1102																	Rc2	20	1B	10														
		Multilevel 1 L500	1112																			1B	10														
		Cylindrical 4 L500	4102	1B	10																																
				1B	10																																

For L250

For L250



FGF



FN