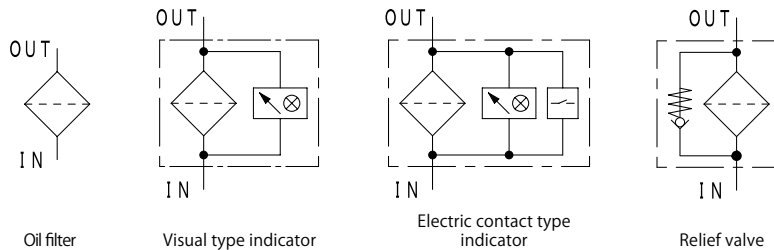


### T-type Base Filter for high pressure line



#### Characteristics

- Element size is selectable depending on flow rate and contaminant amount
- Clogging indicator and relief valve are selectable as an option
- High pressure element of allowable differential pressure 21MPa is available (standard: 0.7MPa)
- Element of SH can be used in common with GC model.
- Pipe connection type is "G Thread" and "Flange" (option: companion flange)



★ Refer to P.222 for hydraulic graphic symbol of other combination of optional equipment.

### SPECIFICATION

Max working pressure	MPa	35.0
Repetition durability test		0~35.0MPa x10 <sup>7</sup> times
Working temperature	Standard	°C -10 ~ 90
	High temperature*1	°C -10 ~ 150
Indicator working pressure	Standard	MPa 0.3
	High pressure	MPa 0.7
Cracking pressure	Standard	MPa 0.35
	High pressure	MPa Non bypass
Allowable differential pressure of filter element	Standard	MPa 0.7
	High pressure	MPa 21.0
Flow direction/Extract direction of filter element		OUT → IN / Downward

Inner diameter	08Z-3	08Z-4	08Z-6	12Z-3	12Z-4	12Z-6
Standard flow rate ☆	ℓ /min 193	225	250	260	335	400
Main material	Body	FCD				
	Lower case	Steel pipe				
Coating	Protective film treatment					
Weight*2	kg 13	15	20	13	15	20

☆ Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm<sup>2</sup>/s, filtration rating: 10U, pressure drop: lower than 0.05MPa.  
(Since it is adjusted by characteristic of each product, value can be different in some cases.)

### MODEL CODE

<Model code example>

**F** - **SH** - **08Z** - **6** - **3C** - **E** **V** **N**

①      ②      ③

Code	Fluid type
Blank	Mineral oil
F	Phosphate ester fluid
G	Water glycol fluid
C	Fatty ester fluid
W	High water base fluid
S	Fuel (Kerosene, Gas oil, Diesel oil)
B	Brake fluid

Code	Inner diameter
08Z	G1 (25A)
12Z	G1 1/2 (40A)

Case length
Code 3
Code 4
Code 6

Code	Filtration rating	Code	Filtration rating
C-Fiber		Wire gauze	
3C	3 μm	5UW	5 μm
8C	8 μm	10UW	10 μm
25C	25 μm	20UW	20 μm
High pressure C-Fiber		40UW	40 μm
3CH	3 μm	50UW	50 μm
8CH	8 μm	200W	200Mesh
25CH	25 μm	150W	150Mesh
Paper		100W	100Mesh
10U	10 μm	60W	60Mesh
20U*3	20 μm		
40U*3	40 μm		

Refer to P.15 -16 for detail information of filter element.

Code	Option
①	Indicator
Blank	Closing plug
I	Visual type
E	Electric contact type
D	Electric contact type (Micro capacity)
②	Relief valve*4
K	Non
V	Relief valve
③	Companion flange
Blank	Non
N	Companion flange

\* 1 Sealing parts: FKM, only for wire gauze element, indicator and relief valve are not available (Max oil temperature is visual type: 130°C, electric contact type: 90°C)

\* 2 Weight without companion flange \* 3 Not available for water-glycol based oil and high water based fluid \* 4 Relief valve is not available if selecting high pressure element

# FLOW RATE GRAPH

## Condition

Fluid type : ISO VG32  
Oil temperature : 40°C

(Density: 0.86,  
Kinematic  
viscosity: 32mm<sup>2</sup>/s)

## How to calculate of pressure drop

- Estimate pressure drop of filter assembly by following equation:

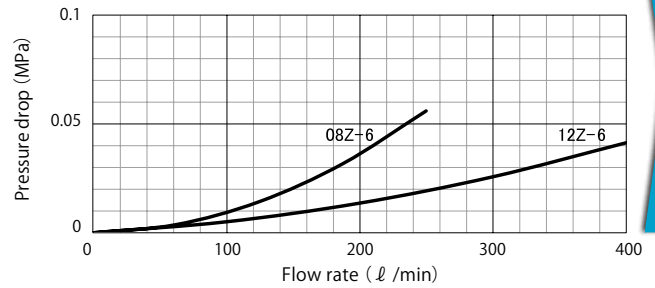
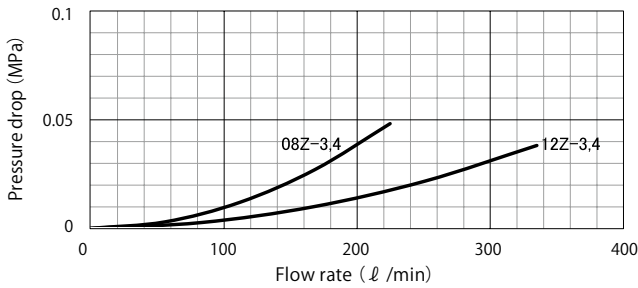
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

- Estimate pressure drop of filter assembly by following equation if required condition is different:

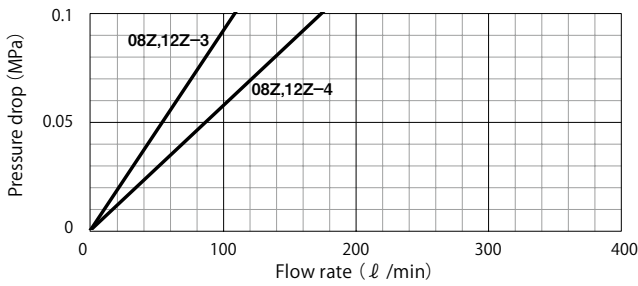
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure drop of filter element at density of 0.86, kinematic viscosity of 32} \end{aligned}$$

★ Pressure drop of filter housing is proportional to fluid density, and pressure drop of filter element is proportional to fluid density and kinematic viscosity.

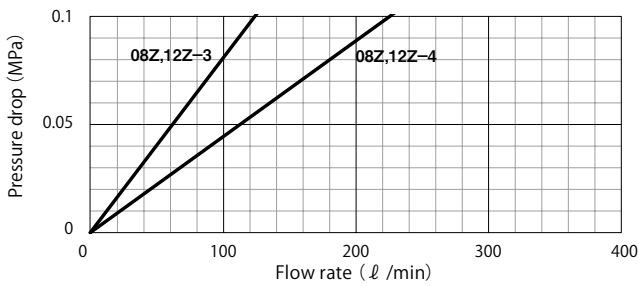
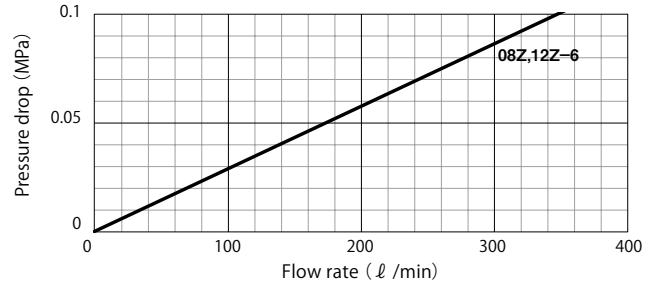
### ① Pressure drop of filter housing



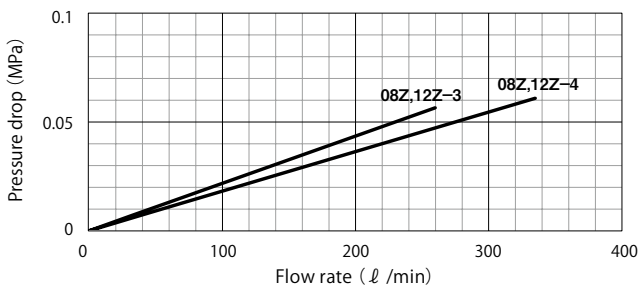
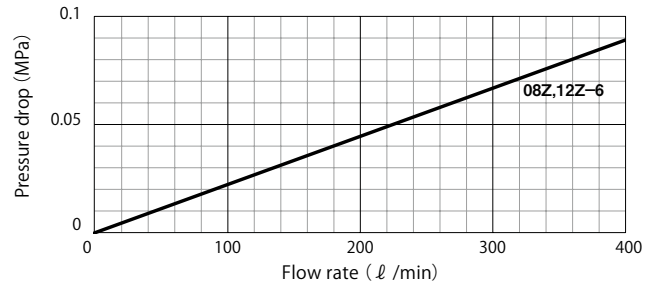
### ② Pressure drop of filter element



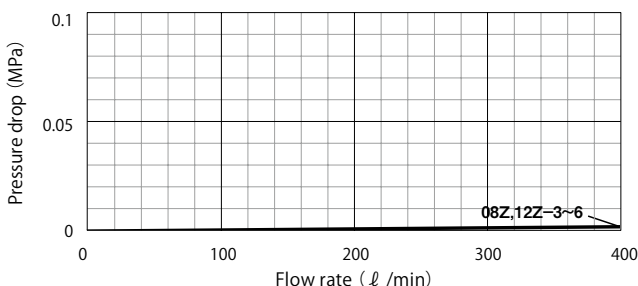
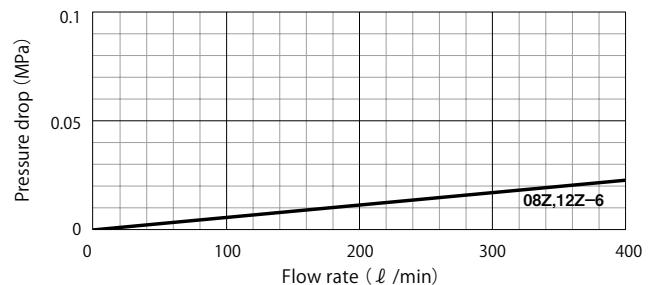
3C  
3μm



8C  
8μm



10U  
10μm

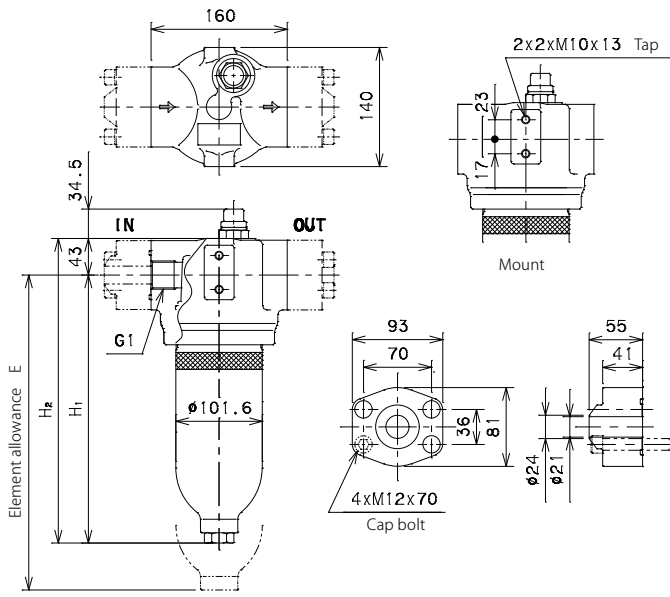


150W  
150Mesh\*1

\* 1 Pressure drop of wire gauze element is described with one line since the value is low and there is no difference at each filter size.

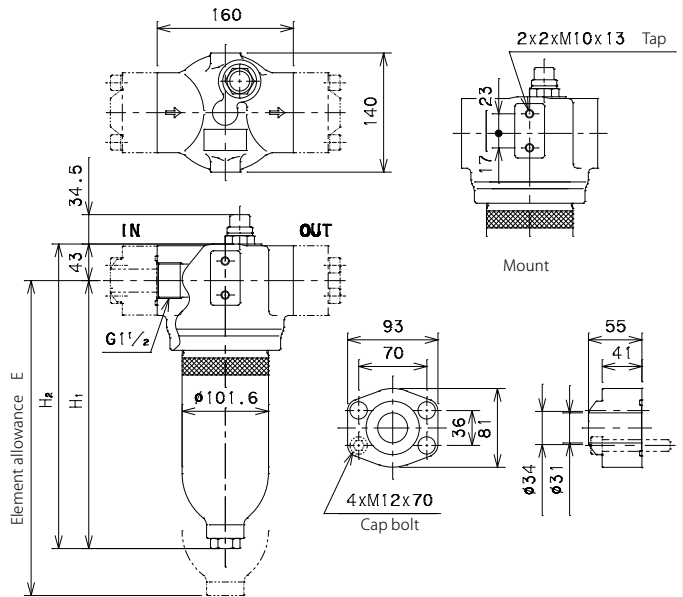
SH-08Z-□-□□-□□□

I : Visual type indicator



Companion flange  
SH-08Z-□-□□-□□N

SH-12Z-□-□□-□□□



Companion flange  
SH-12Z-□-□□-□□N

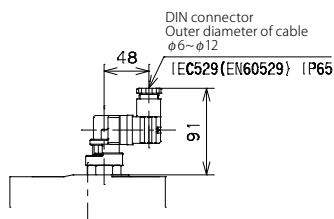
SH-08Z,12Z-□-□□-□□□

<Dimension>

Model code	H <sub>1</sub>	H <sub>2</sub>	E
SH-08Z,12Z-3	224	267	360
SH-08Z,12Z-4	315	358	540
SH-08Z,12Z-6	535	578	980

Differential pressure type indicator part

\* Common at all size



E,D : Electric contact type  
indicator  
SH-□□Z-□-□□-ED□□



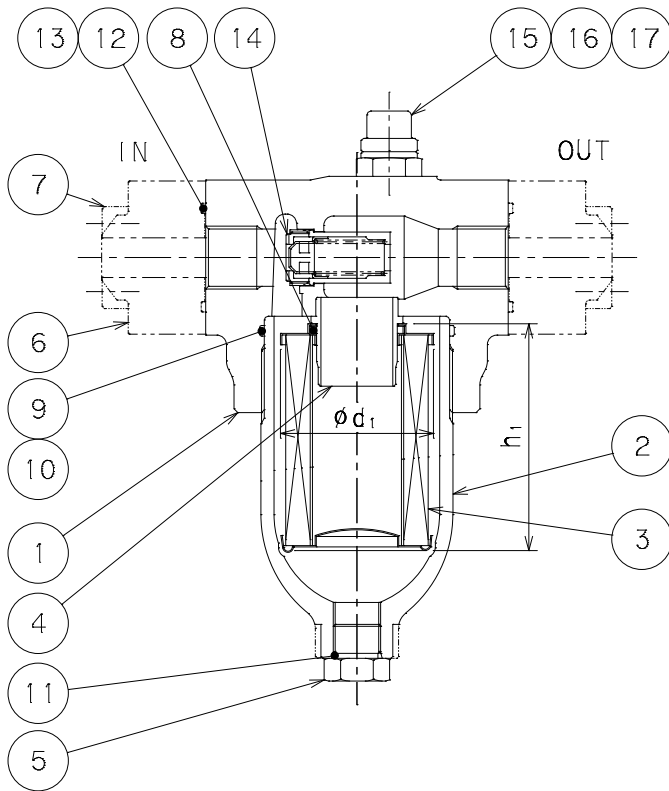
Closing plug  
SH-□□Z-□-□□-□□

Model code	Working pressure(MPa)		
	Visual observation signal		Electric signal
	Caution	Clogging	
IF-3	0.2	0.3	/
IF-7		0.7	
EF-3		0.3	0.3
EF-3D		0.7	0.7
EF-7			
EF-7D			

<Micro switch specification>

Model code	Rated capacity		Contact diagram : 1C
	Resistance load	Inductive load	
EF-3 EF-7	3A,250V AC	2A,250V AC	
	3A,30V DC	2A,30V DC	
EF-3D EF-7D	100mA,125V AC	100mA,30V DC	
	100mA,30V DC		

\* IF-7 and EF-7(D) are for High pressure element.



No.	Item	Qty
1	Body	1
2	Lower case	1
3	Element	1
4	Inlet	1
5	Drain plug	1
6	Companion flange	2
7	Cap bolt	8
8	O-ring	1
9	O-ring	1
10	Backup ring	1
11	O-ring	1
12	O-ring	2
13	Backup ring	2
14	Relief valve	1
15	Indicator	1
16	O-ring	1
17	O-ring	1

SH

ELEMENT SIZE

Element Model code	Size(mm)			Weight*1 (kg)	
	ø d <sub>1</sub>	h <sub>1</sub>			
		High mesh *	High pressure		
P-SH-3	81	120	115	119	0.33
P-SH-4		211	206	208	0.52
P-SH-5		330	325	329	0.76
P-SH-6		431	426	428	1.16

\* Filtration rating : 5UW, 10UW, 20UW \* Common to SH, GC, 4201

SEALING PARTS LIST

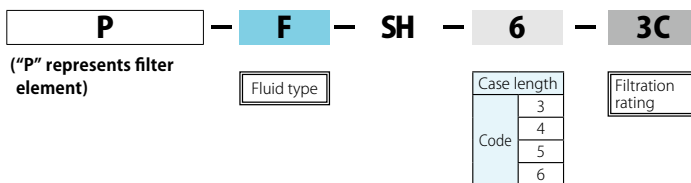
No.	8		9	10	11	12	13	16	17	
	Model code/Standard*2		JIS B2401 1A	JIS B2401 1B		JIS B2401 1B	SUN-4B	JIS B2401 1B	JIS B2401 1A	
SH-08Z,10Z,12Z	O-ring	131	P42*3	G100		P22	G50		P18	P14
	Backup ring	t1.25xø47.2/ø42.9*4			t1.5xø103/ø98			G50用		

Model code	Item code of sealing parts set*5									
	Material	SP No.: 8~11	SP-H No.: 8~11	SP-UW No.: 8~11	SA No.: 8~11, 16,17	SA-N No.: 8~13, 16,17	SA-H No.: 8~11, 16,17	SA-HN No.: 8~13, 16,17	SA-UW No.: 8~11, 16,17	SA-UWN No.: 8~13, 16,17
SH-08Z,10Z,12Z	NBR	SSF000112	SSF000115	SSF000118	SSF000110	SSF000111	SSF000113	SSF000114	SSF000116	SSF000117
	FKM	SSF000479	SSF000482	SSF000485	SSF000477	SSF000478	SSF000480	SSF000481	SSF000483	SSF000484

MODEL CODE OF SPARE PARTS

Replacement element (Model code example)



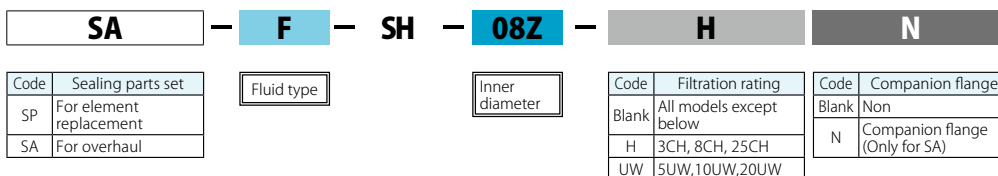
★ Model code of replacement element exists two types: "Individual code" and "Common code", however it represents same product.

"Individual code": Used in drawings and nameplate as shown in <Model code example>.

"Common code": Used in vouchers and tag Refer to [Spare Element List] on P.152 for "Common code".

★ Refer to the [MODEL CODE] table on the previous page for code selection.

Sealing parts set (Model code example)



\* 1 Weight of "Paper" element \* 2 Standard for NBR. For other material, conform to the standard.  
 \* 3 O-ring is different if selecting an element: 5UW, 10UW, 20UW \* 4 Backup ring is attached for high pressure element  
 \* 5 Sealing parts are available as "Sealing parts set" only. We do not provide single part individually.