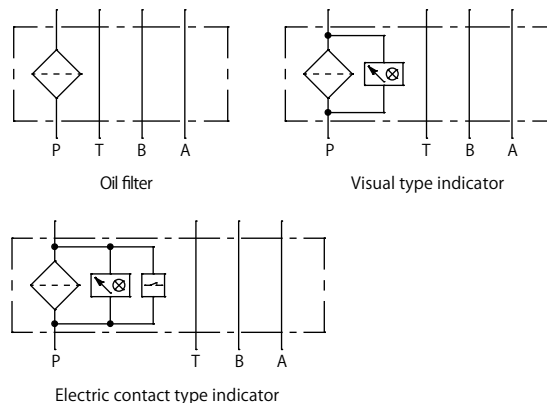


### High Performance Compact Filter for modular valve

#### Characteristics

- Modular type filter enables downsizing of hydraulic system
- Filter is installed in P-port
- Regulation of installation surface
  - MVF-01 : ISO 4401-AB-03-4-A • MVF-03 : ISO 4401-AC-05-4-A
- Clogging indicator (visual type / electric contact type) is selectable as an option



#### 諸元表

Max working pressure	MPa	25.0
Repetition durability test		0~25.0MPa x10 <sup>7</sup> times
Working temperature	Standard	°C -10 ~ 90
	High temperature *1	°C -10 ~ 150
Indicator working pressure	MPa	0.3
Cracking pressure	MPa	Not available
Allowable differential pressure of filter element	MPa	0.7
Flow direction/Extract direction of filter element		OUT → IN / Horizontal extraction

Inner diameter		01	03
Standard flow rate ☆	ℓ / min	10	20
Main material	Base	FCD	
	Body	SSC	
	Cover	SS	
	Case		SS
Coating		Protective film treatment	
Weight *1	kg	1.5	3.8

☆ 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〉

**G** - **MVF** - **01** - **10U** - **I**

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
01	ISO4401 AB-03-4-A
03	ISO4401 AC-05-4-A

Code	Filtration rating
C-Fiber	
3C	3 μm
8C	8 μm
25C	25 μm
Paper	
10U	10 μm
20U*2	20 μm
Wire gauze	
150W	150Mesh

Code	Option
Blank	Closing plug
I	Visual type indicator
E	Electric contact type indicator
D	Electric contact type indicator (Micro capacity)

Refer to P15 -16 for detail information of filter element.

\* 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 Not available for water-glycol based oil and high water based fluid

# 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:

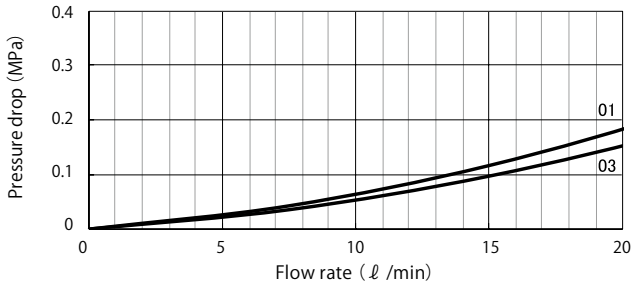
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

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

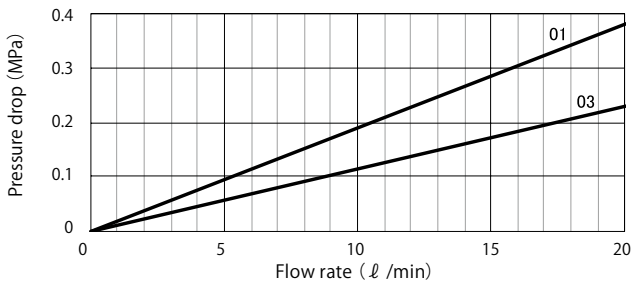
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid Density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure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

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

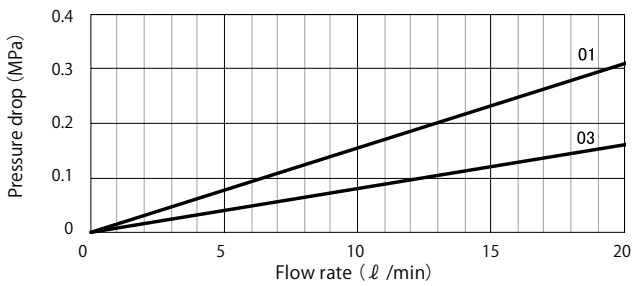
### ① Pressure drop of filter housing



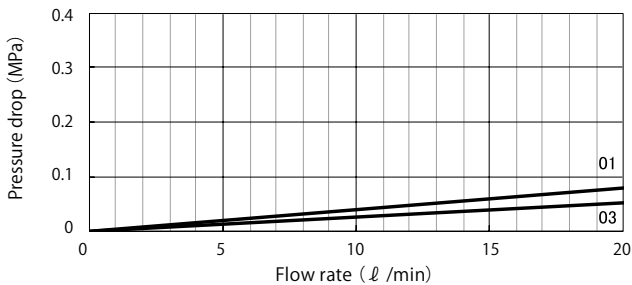
### ② Pressure drop of filter element



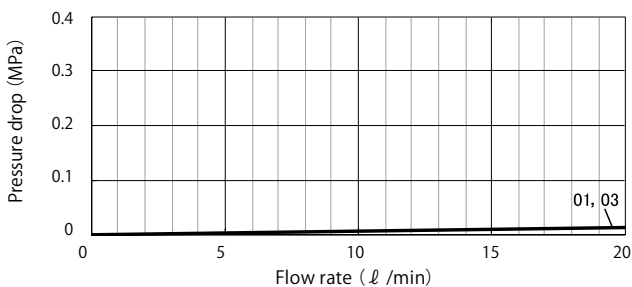
**3C**  
3 μm



**8C**  
8 μm



**10U**  
10 μm

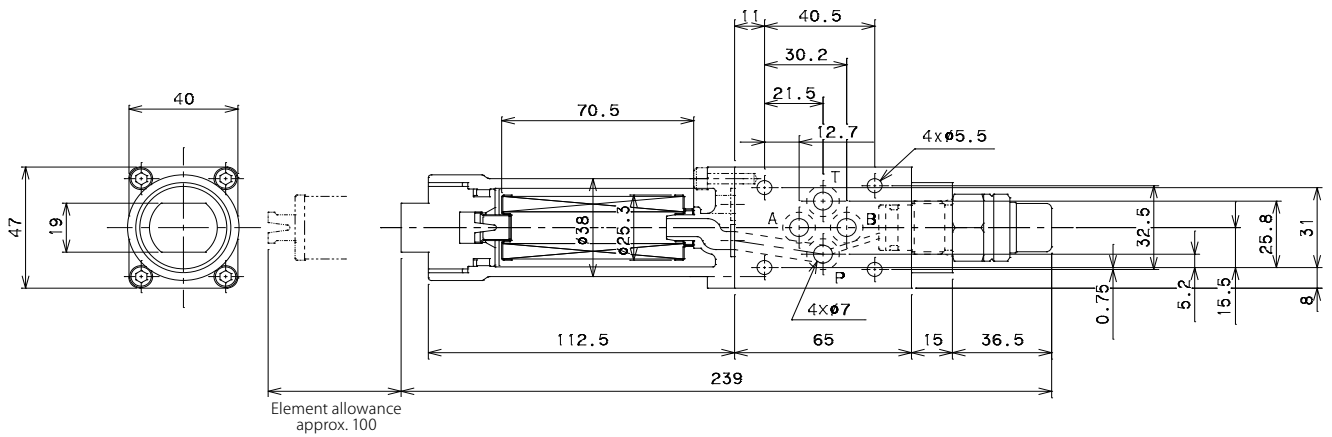


**150W**  
150 Mesh\*

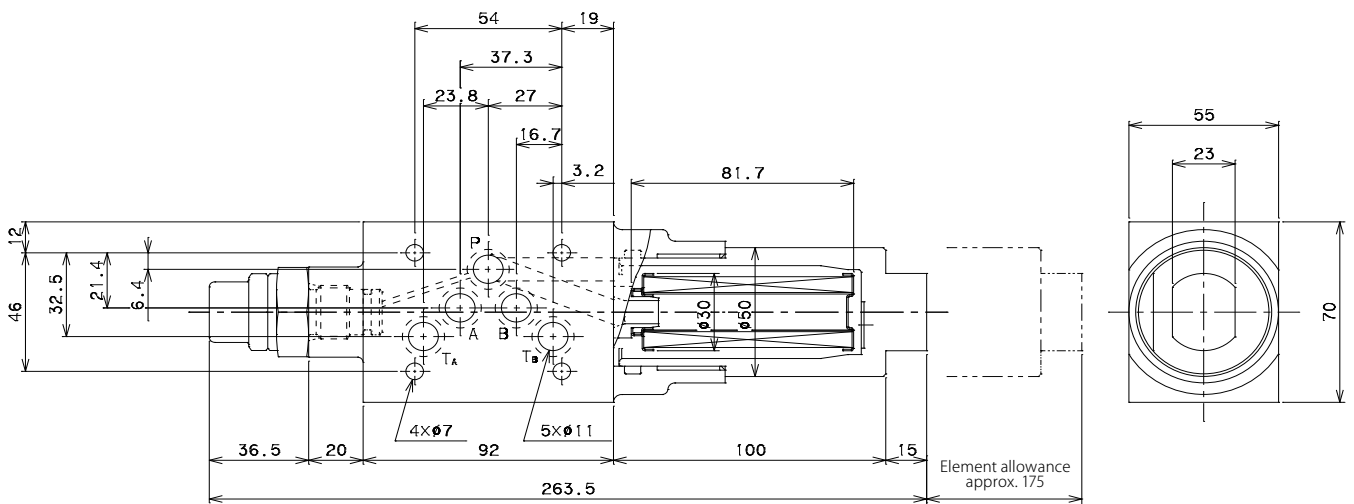
\* 1 Pressure drop of wire gauze element is described with one line since the value is low and there is no difference at each filter size.

MVF-01-□□-I

I : Visual type indicator

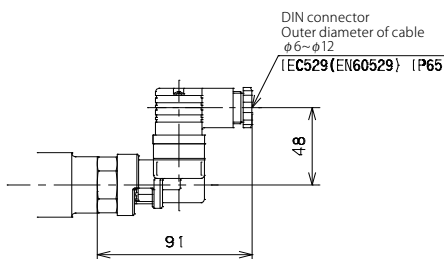


MVF-03-□□-I

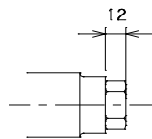


Differential pressure type indicator part

\* Common at MVF-01,03



E,D : Electric contact type indicator  
MVF-□□-□□-E,D



Closing plug  
MVF-□□-□□-

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

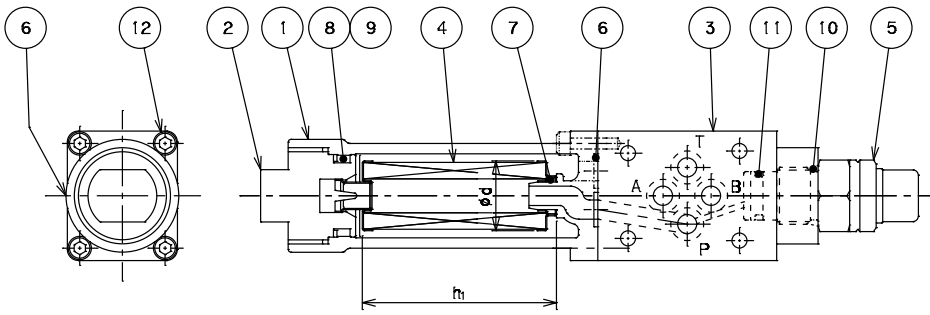
<Micro switch specification>

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

CROSS SECTION

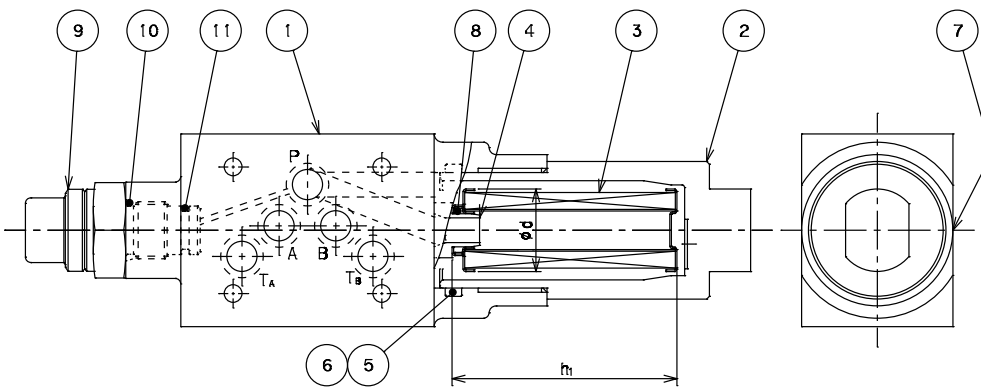
PARTS LIST

MVF-01-□□-I



No.	Item	Qty
1	Body	1
2	Cover	1
3	Base	1
4	Element	1
5	Indicator	1
6	O-ring	6
7	O-ring	1
8	O-ring	1
9	Backup ring	1
10	O-ring	1
11	O-ring	1
12	Cap bolt	4

MVF-03-□□-I



No.	Item	Qty
1	Base	1
2	Case	1
3	Element	1
4	Coupling	1
5	Backup ring	1
6	O-ring	1
7	O-ring	5
8	O-ring	1
9	Indicator	1
10	O-ring	1
11	O-ring	1

ELEMENT SIZE

Element Model code	Size(mm)		Weight*1 (kg)
	$\phi d_1$	$h_1$	
P-MVF-01	25.3	70.5	0.03
P-MVF-03	30.0	81.7	

SEALING PARTS LIST

No.	5	6	7	8	9	10	11	Item code of sealing parts set*3		
Standard*2	JIS B2407 T2	JIS B2401 01 : 1B 03 : 1A	JIS B2401 1A		JIS B2407 T2	JIS B2401 1B	JIS B2401 1A	Material	SP 01 : 7~9 03 : 5,6,8	SA 01 : 6~11 03 : 5~8,10,11
MVF-01		P9	P10	P25	For P25	P18	P14	NBR	SSF000142	SSF000140
								FKM	SSF000509	SSF000507
MVF-03	For P42	P42	AS568(Hs90) 014	P12				NBR	SSF000143	SSF000141
								FKM	SSF000510	SSF000508

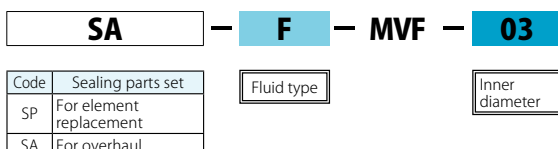
MODEL CODE OF SPARE PARTS

Replacement element (Model code example)



★ 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 Sealing parts are available as "Sealing parts set" only. We do not provide single part individually.