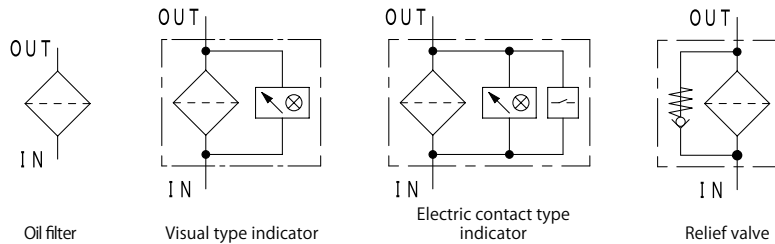


### Self-standing type High Flow Filter



#### Characteristics

- Lubricant oil filter with inner diameter 40A ~ 200A
- Easy pipe connection since height of In/Outlet nozzle is same
- Pipe connection flange is JIS 10K SOP FF
- Clogging indicator (with connecting tube) and relief valve are selectable as an option



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

#### SPECIFICATION

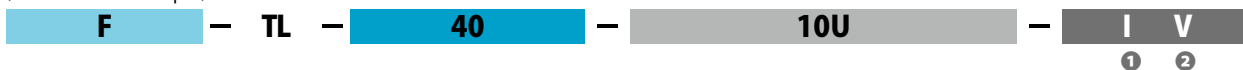
Max working pressure	MPa	1.0
Working temperature	Standard	°C -10 ~ 90
	High temperature *1	°C -10 ~ 150
Indicator working pressure	MPa	0.3
Cracking pressure	MPa	0.35
Allowable differential pressure of filter element	MPa	0.7
Flow direction/Extract direction of filter element		OUT → IN / Upward

Inner diameter	40	50	80	100	150	200	
Standard flow rate ☆	ℓ /min	300	450	800	1500	2500	3000
Main material	Body	STKM, SGP, SS					
	Cover	SS					
Coating	Aqua blue						
Weight	kg	approx. 70	approx. 80	approx. 106	approx. 139	approx. 225	approx. 330

☆ 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)



Code	Fluid type
Blank	Mineral oil
F	Phosphate ester fluid
G	Water glycol fluid
C	Fatty ester fluid
W	High water base fluid
R	Refrigerant oil *2
S	Fuel (Kerosene, Gas oil, Diesel oil)
B	Brake fluid

Code	Inner diameter
40	JIS10K-40A. SOP. FF
50	JIS10K-50A. SOP. FF
80	JIS10K-80A. SOP. FF
100	JIS10K-100A. SOP. FF
150	JIS10K-150A. SOP. FF
200	JIS10K-200A. SOP. FF

Code	Filtration rating
C-Fiber	
8C	8 μm
25C	25 μm
Paper	
10U	10 μm
20U *3	20 μm
40U *3	40 μm

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

Code	Filtration rating
Wire gauze	
5UW	5 μm
10UW	10 μm
20UW	20 μm
40UW	40 μm
50UW	50 μm
200W	200Mesh
150W	150Mesh
100W	100Mesh
60W	60Mesh

Code	Option
① Indicator	
Blank	Non
I	Visual type
E	Electric contact type
D	Electric contact type (Micro capacity)
② Relief valve	
K	Non
V	Relief valve

\* 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 Refrigerant should be specified \* 3 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:

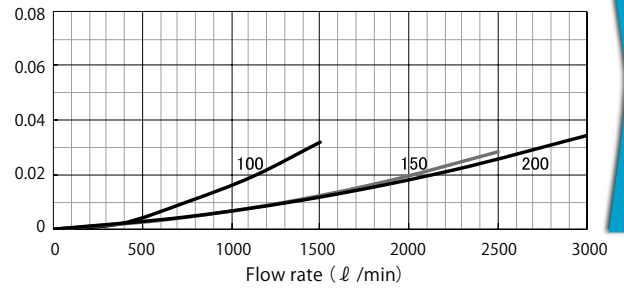
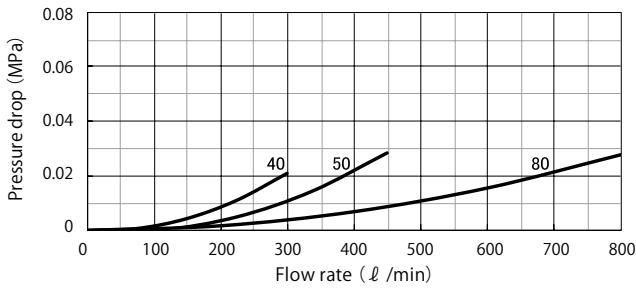
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

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

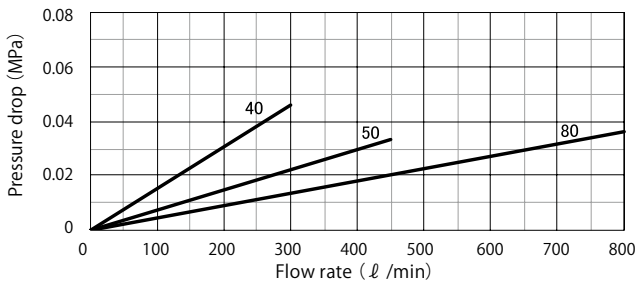
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid Density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure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

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

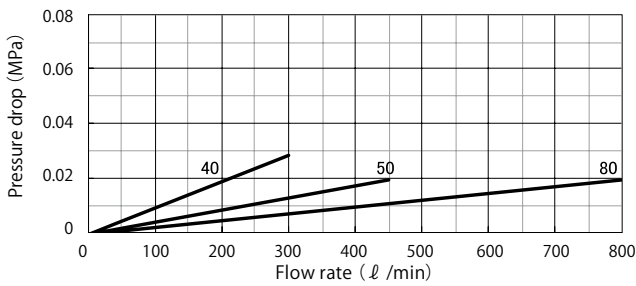
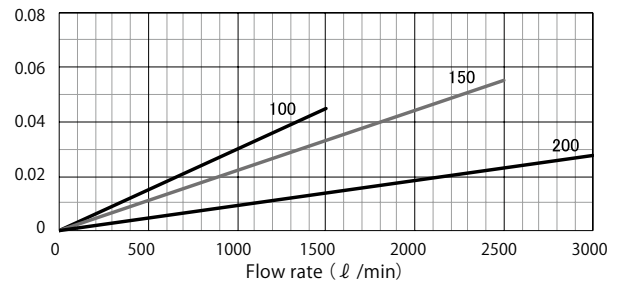
### ① Pressure drop of filter housing



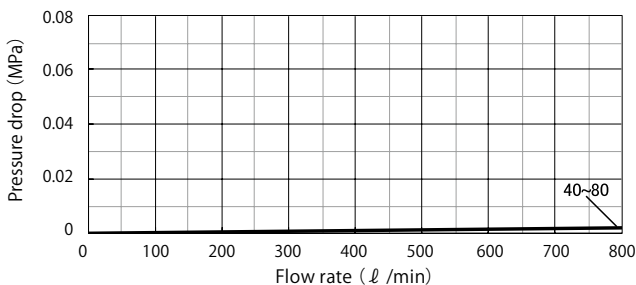
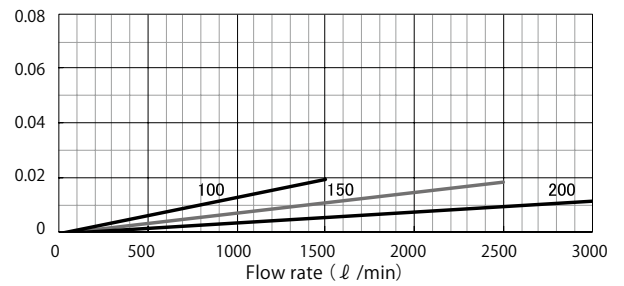
### ② Pressure drop of filter element



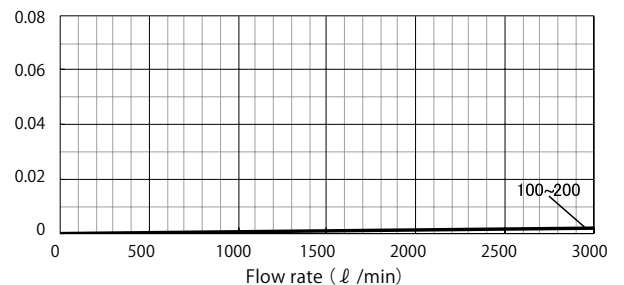
8C  
8µm



10U  
10µm

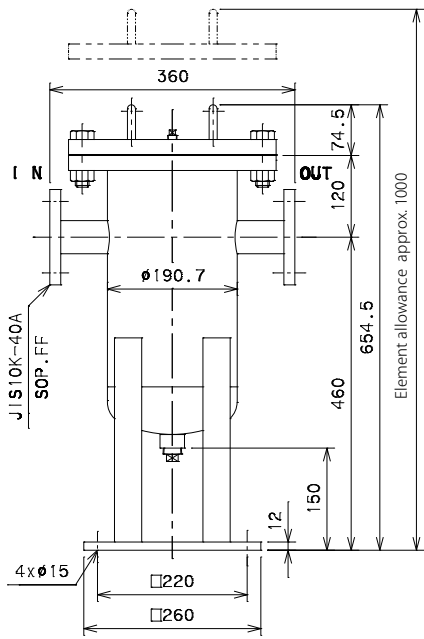


150W  
150Mesh\*1

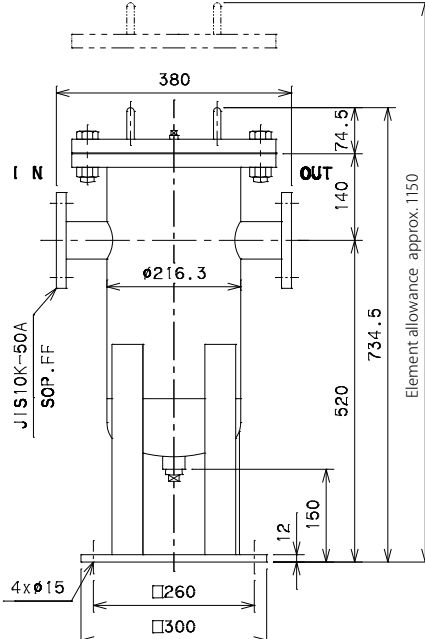


\* 1 Pressure drop of wire gauze element is described with one line since the value is low and there is no difference at each filter size.

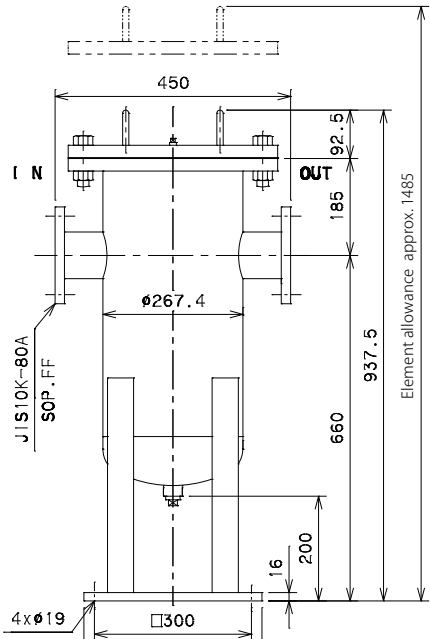
TL-40-□□-□□



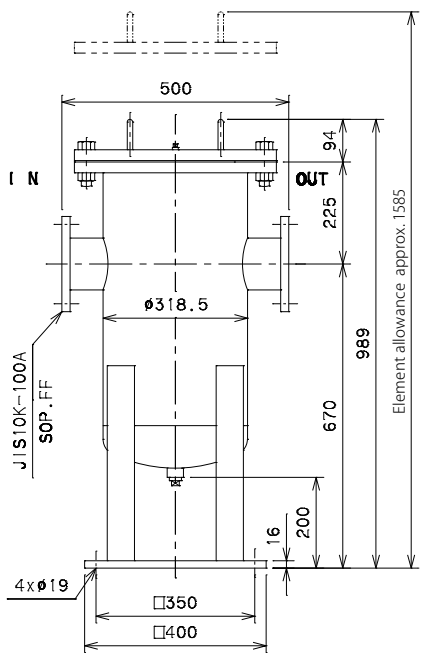
TL-50-□□-□□



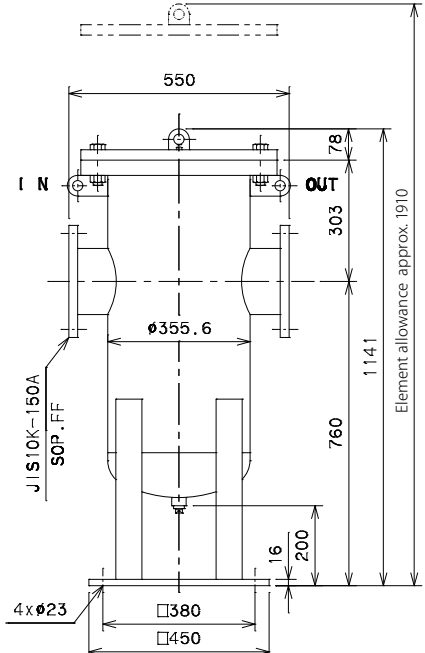
TL-80-□□-□□



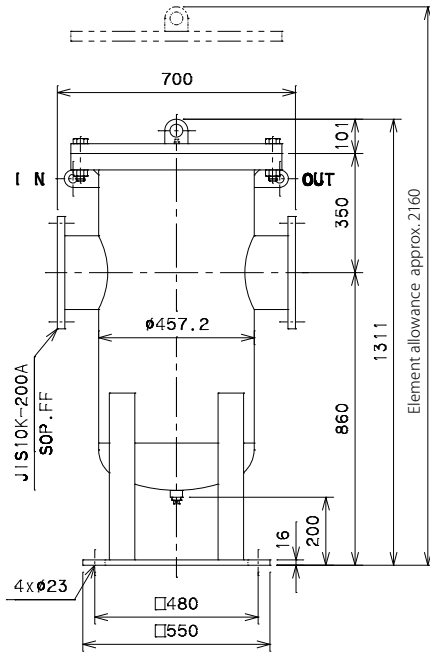
TL-100-□□-□□



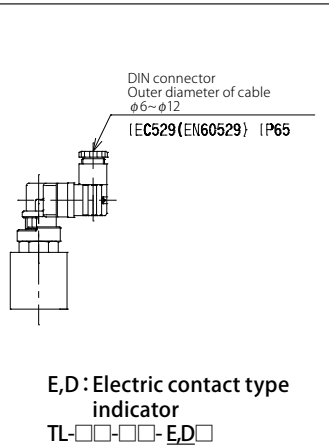
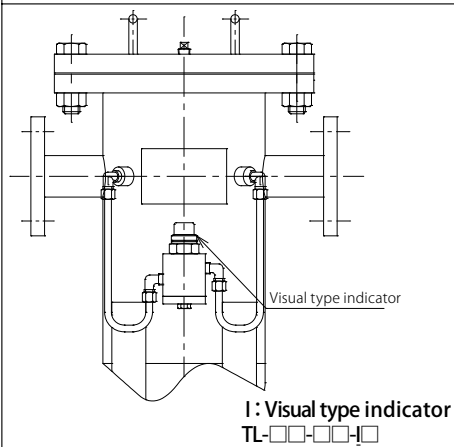
TL-150-□□-□□



TL-200-□□-□□



Differential pressure type indicator part \* Common at all size

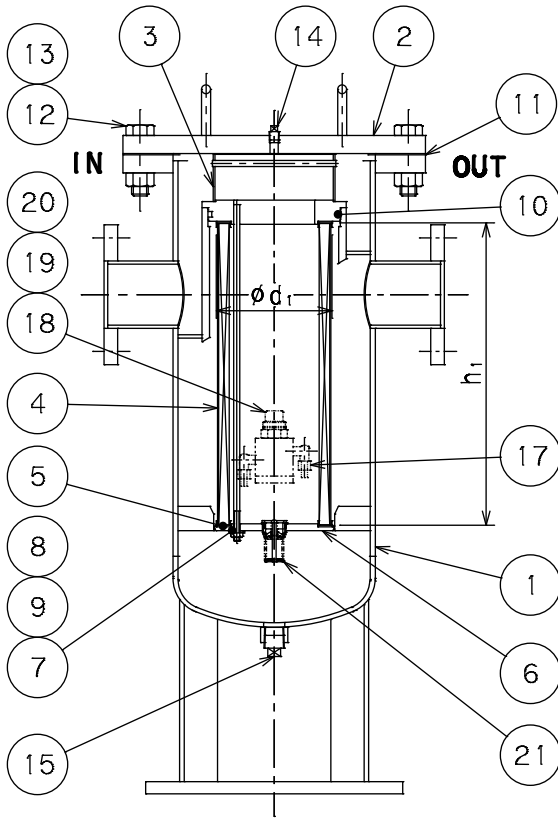


Model code	Working pressure(MPa)		
	Visual observation signal		Electric signal
	Caution	Clogging	
IA-3	0.2	0.3	/
EA-3	0.2	0.3	
EA-3D	0.2	0.3	0.3

(Micro switch specification)

Model code	Rated capacity	Contact diagram : 1C
EA-3	Resistance load	
	Inductive load	
EA-3D	Micro capacity	

## CROSS SECTION



## PARTS LIST

No.	Item	Qty
1	Body	1
2	Cover	1
3	Cartridge	1
4	Element	1
5	Packing	2
6	Element holder	1
7	Packing	1 TL-40,50
	Seal washer	4 TL-80,100
7	Seal washer	4 TL-150,200
	Seal washer	4 TL-150,200
8	Washer	1 set
9	Nut	1set
10	O-ring	1
11	Packing	1
12	Bolt	1set
13	Nut	1set
14	Air vent plug	1
15	Drain plug	1
17	Guidance pipe	1
18	Indicator	1
19	O-ring	1
20	O-ring	1
21	Relief valve	1set

## ELEMENT SIZE

Element Model code	Size(mm)		Weight*1 (kg)
	φ d <sub>1</sub>	h <sub>1</sub>	
P-TL-40	102.2	250	0.93
P-TL-50	124	300	1.40
P-TL-80	153	400	2.44
P-TL-100	165		4.00
P-TL-150	210	500	5.20
P-TL-200	260	600	6.00

## SEALING PARTS LIST

No.	5	7	10	11	19	20	Item code of sealing parts set*3		
Standard*2	Special packing	TL-40 ~ 100 : Special packing TL-150,200 : Seal washer	JIS B2401 1A	TL-40 ~ 100 : Non asbestos TL-150,200 : JIS B2401 1A	JIS B2401 1B	JIS B2401 1A	Material	SA No. : 5, 7, 10, 11	SA-I,E,D No. : 5, 7, 10, 11, 19, 20
TL-40	t8xφ73.5/φ61	t2xφ20/φ10	G115	JIS10K-175A, For FF	P18	P14	NBR	SSF000144	SFL001648
TL-50	t8xφ93/φ80		G140	JIS10K-200A, For FF			FKM	SSF001550	SFL001654
TL-80	t2xφ153/φ116	t2xφ17/φ8.5	G165	JIS10K-250A, For FF			NBR	SSF000145	SFL001649
TL-100	t2φ165/φ124		G190	JIS10K-300A, For FF			FKM	SSF001551	SFL001655
TL-150	t2xφ210/φ165	For M12	G240	P375			NBR	SSF000146	SFL001650
TL-200	t2xφ260/φ208	For M16	G290	P505	FKM	SSF001552	SFL001656		
							NBR	SSF000147	SFL001651
							FKM	SSF001553	SFL001657
							NBR	SSF000148	SFL001652
							FKM	SSF001554	SFL001658
							NBR	SSF000148	SFL001653
							FKM	SSF001555	SFL001659

## MODEL CODE OF SPARE PARTS

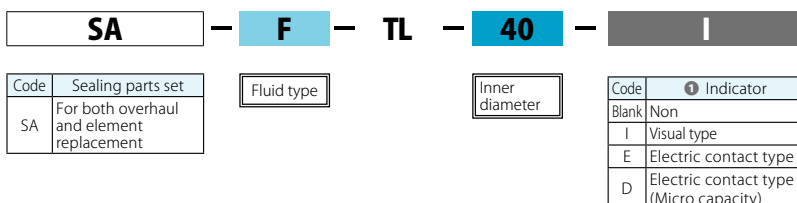
### Replacement element (Model code example)



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

★ Sealing parts set is available for both overhaul and element replacement. Model code is represented as "SA".

### 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.