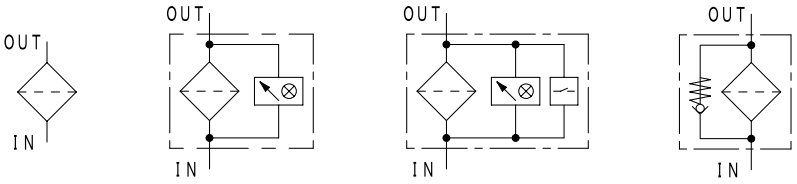
TLA model

Line Filter
1.6MPa, Standard Flow Rate : 130～400 ℓ/min

The Newest Low Pressure Line Filter

Characteristics

- **Lower pressure drop and higher flow rate model by CFD (computational fluid dynamics)**
- **The new "High flow" element is available**
- **Clogging indicator, relief valve, and companion flange are selectable as an option**
- **Light filter housing of aluminum alloy**



Oil filter | Visual type indicator | Electric contact type indicator | Relief valve

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

SPECIFICATION

Max working pressure	MPa	1.6
Repetition durability test		0～1.6MPa x10^7 times
Working temperature	Standard ℃	–10 ～ 90
	High temperature ＊1 ℃	–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		06	08	10	12
Standard flow rate ☆	Standard ℓ /min	130	170	320	340
	High flow ℓ /min	145	185	360	400
Main material	Body	ADC			
	Cover	ADC			
Coating	Body	Non-coating			
	Cover	Non-coating			
Weight ＊2 kg		2.4		3.8	

☆ Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm^2/s, filtration rating: 10U/10UF, 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 – TLA – 06 – 10UF – I V N
❶ ❷ ❸

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 IN	OUT
06	Rc3/4 (20A)	Rc1
08	Rc1 (25A)	
10	Rc1 1/4 (32A)	Rc1 1/2
12	Rc1 1/2 (40A)	

Code	Filtration rating
C-Fiber	
3C	3 μm
8C	8 μm
25C	25 μm
Paper	
10U	10 μm
20U ＊3	20 μm
40U ＊3	40 μm
High flow Paper	
10UF ＊3	10 μm
20UF ＊3	20 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
❶ Indicator	
Blank	Closing plug
I	Visual type
E	Electric contact type
D	Electric contact type (Micro capacity)
❷ Relief valve	
K	Non
V	Relief valve
❸ Companion flange	
-	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℃ , electric contact type : 90℃)
＊2 Weight without companion flange ＊3 Not available for water-glycol based oil and high water based fluid

FLOW RATE GRAPH

■ Condition

Fluid type：ISO VG32
Oil temperature：40℃
(Density: 0.86, Kinematic viscosity: 32mm²/s)

■ How to calculate of pressure drop

・Estimate pressure drop of filter assembly by following equation:

Pressure drop of filter assembly = ① Pressure drop of filter housing + ② Pressure drop of filter element

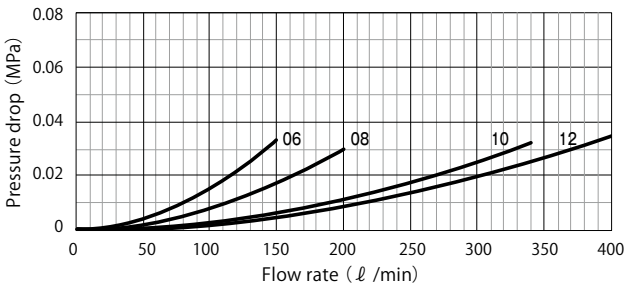
・Estimate pressure drop of filter assembly by following equation if required condition is different:

$$\text{Pressure drop of filter housing} = \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86}$$

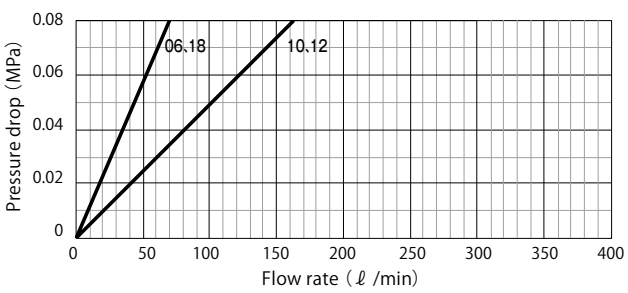
$$\text{Pressure drop of filter element} = \frac{\text{Fluid Density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure drop of filter element at density of 0.86,kinematic viscosity of 32}$$

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

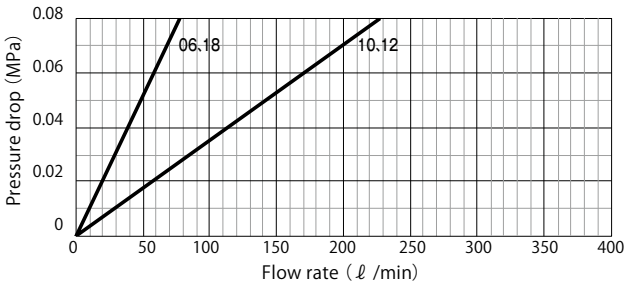
① Pressure drop of filter housing



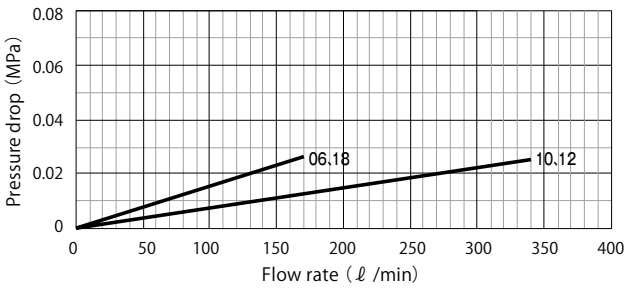
② Pressure drop of filter element



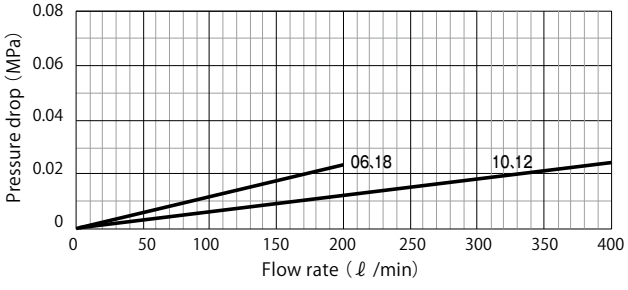
3C
3μm



8C
8μm



10U
10μm

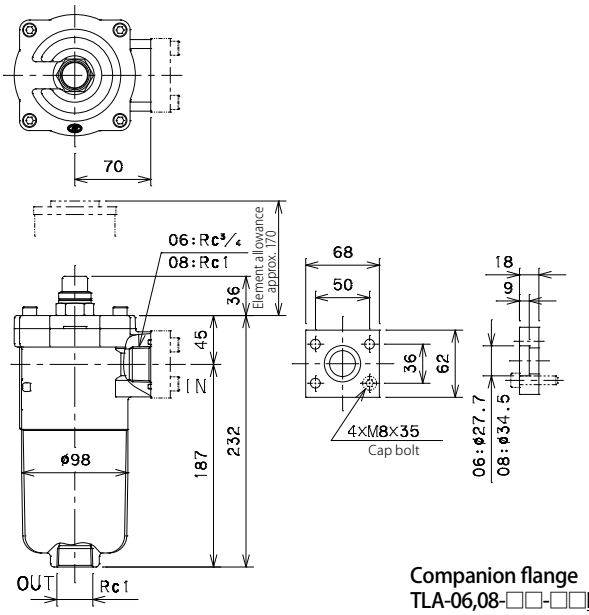


10UF
10μm Hi

＊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.

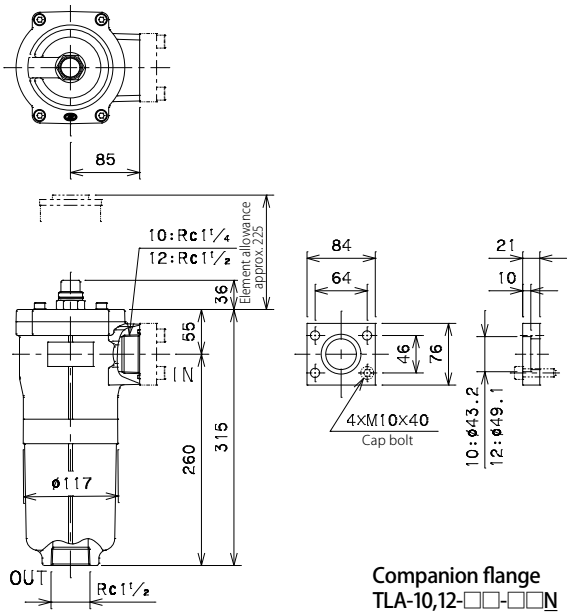
TLA-06,08-□□-I□□

I : Visual type indicator



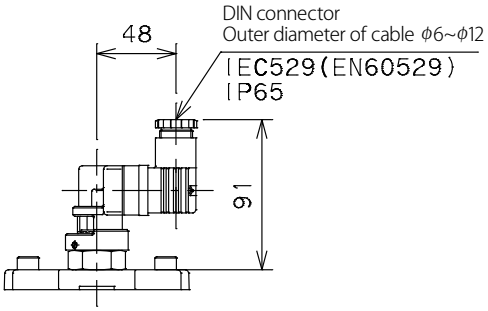
Companion flange
TLA-06,08-□□-□□N

TLA-10,12-□□-I□□

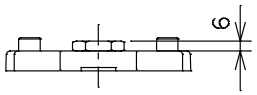


Companion flange
TLA-10,12-□□-□□N

Differential pressure type indicator part ＊Common at all size



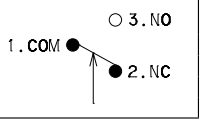
E,D:Electric contact type
TLA-□□-□□-E,D□□



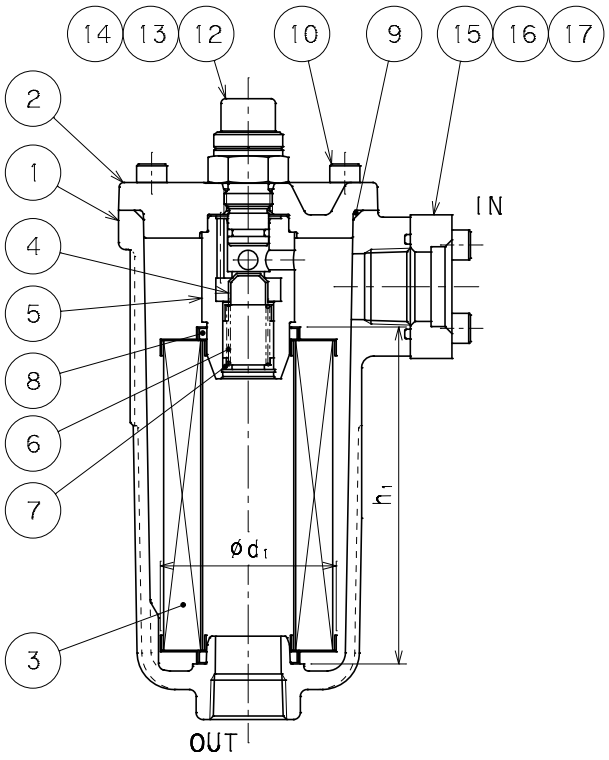
Closing plug
TLA-□□-□□-_□□

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

〈Micro switch specification〉

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

CROSS SECTION



PARTS LIST

No.	Item	Qty
1	Body	1
2	Cover	1
3	Element	1
4	Relief valve	1
5	Valve seat	1
6	Spring	1
7	Spring holder	1
8	O-ring	2
9	O-ring	1
10	Cap bolt	4
11	———	—
12	O-ring	1
13	O-ring	1
14	Indicator	1
15	Companion flange	1
16	Cap bolt	4
17	O-ring	1

ELEMENT SIZE

Element Model code	Size(mm)		Weight*1 (kg)
	ϕ d_1	h_1	
P-TLA-06,08	76	145.6	0.32
P-TLA-10,12	92	209	0.59

＊ Common to TRF,TRA,TLA

SEALING PARTS LIST

No.	8	9	12	13	17	Item code of sealing parts set *3			
Standard*2 / Model code	JIS B2401 1A					Material	SP No.：8, 9	SA No.：8, 9, 12, 13	SA-N No.：8, 9, 12, 13, 17
TLA-06,08	P36	G90	P18	P14	G40	NBR	SSF001922	SSF001920	SSF001921
						FKM	SSF001931	SSF001929	SSF001930
TLA-10,12	G50	G115			G55	NBR	SSF002025	SSF002019	SSF002020
						FKM	SSF002026	SSF002021	SSF002022

MODEL CODE OF SPARE PARTS

Replacement element 〈**Model code example**〉

P	–	F	–	TLA	–	06	–	10U
("P" represents filter element)		Fluid type				Inner diameter		Filtration rating

Sealing parts set 〈**Model code example**〉

SA	–	F	–	TLA	–	06	–	N
		Fluid type				Inner diameter		

Code	Sealing parts set
SP	For element replacement
SA	For overhaul

Code	Companion flange
Blank	Non
N	Companion flange

★ 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.

＊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.