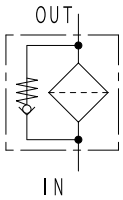
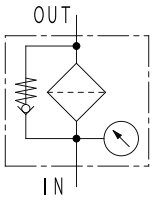
Tank-top Return Filter with Air Breather

Characteristics

- **Double role with built-in air breather (60 mesh)**
- **Light filter housing of aluminum alloy, ADC**
- **Relief valve is included in standard model**
- **Pressure gauge for clogging check is selectable as an option**
- **Pipe connection type is "Rc threaded"**



Relief valve



Primary pressure gauge
Relief valve

SPECIFICATION

Max working pressure		MPa	1.0
Working temperature	Standard	℃	–10 ~ 90
	High temperature *1	℃	–10 ~ 150
Measurable pressure range		MPa	0 ~ 1.0
Cracking pressure		MPa	0.25
Allowable differential pressure of filter element		MPa	0.7
Flow direction/Extract direction of filter element			OUT → IN / Upward

		03	04
Inner diameter			
Standard flow rate ☆	ℓ /min	30	40
Main material	Body	ADC	
	Cover	ADC	
Coating		Non-coating	
Weight	kg	0.75	

☆ Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm^2/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 – TR – 04 – 10U – P

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
03	Rc 3/8
04	Rc 1/2

Code	Filtration rating
C-Fiber	
3C	3 μm
8C	8 μm
25C	25 μm
Paper	
10U	10 μm
20U *2	20 μm
40U *2	40 μm

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
40W	40Mesh

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

Code	Option
Blank	Non
P	Pressure gauge

＊1 Sealing parts: FKM, only for wire gauze element, pressure gauge and relief valve are not available (Max oil temperature is pressure gauge : 90℃) ＊2 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

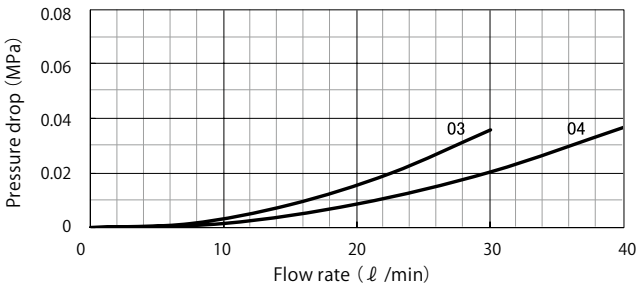
・Estimate pressure drop of filter assembly by following equation if required condition is different:

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

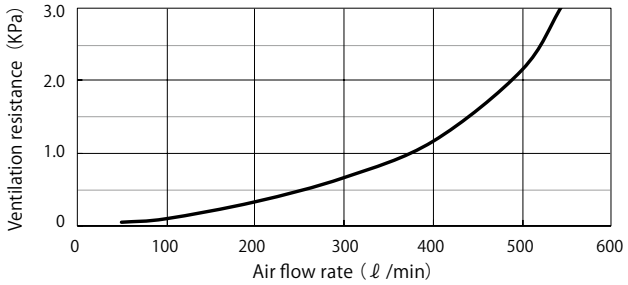
$$\text{Pressure drop of filter element} = \frac{\text{Fluid Density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure drop of filter element at density of 0.86,kinematic viscosity of 32}$$

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

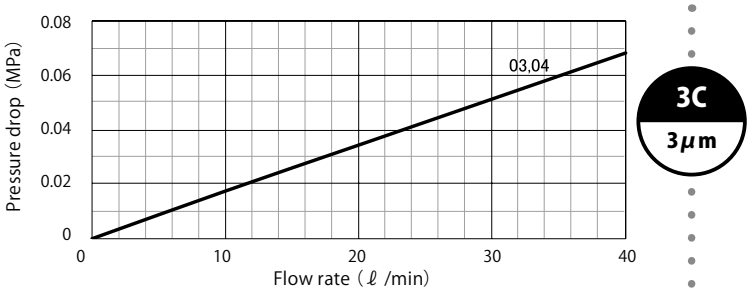
① Pressure drop of filter housing

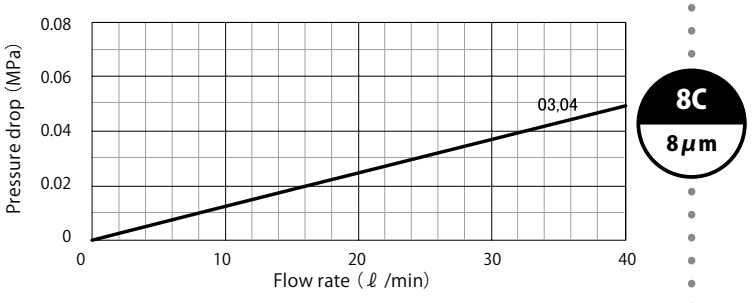


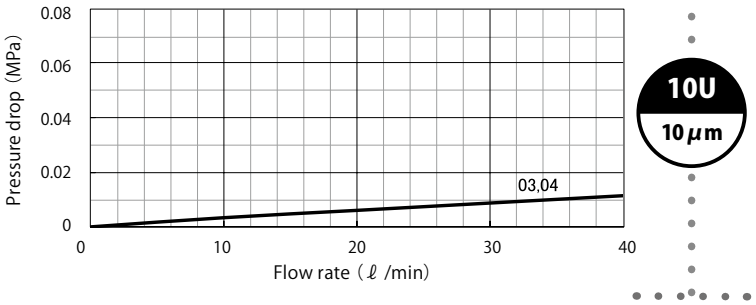
③ Air breather Ventilation resistance：60Mesh

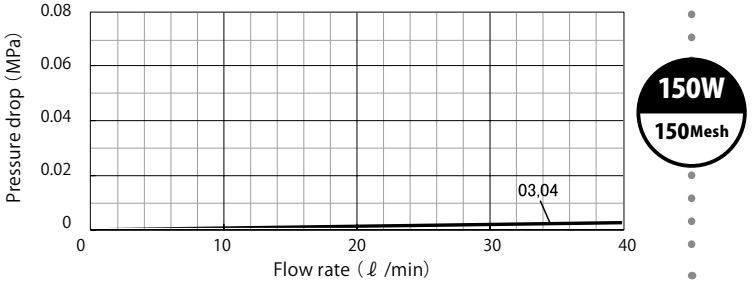


② Pressure drop of filter element





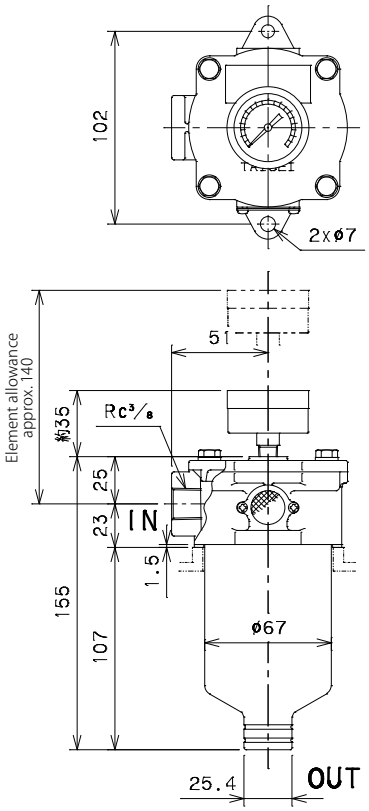




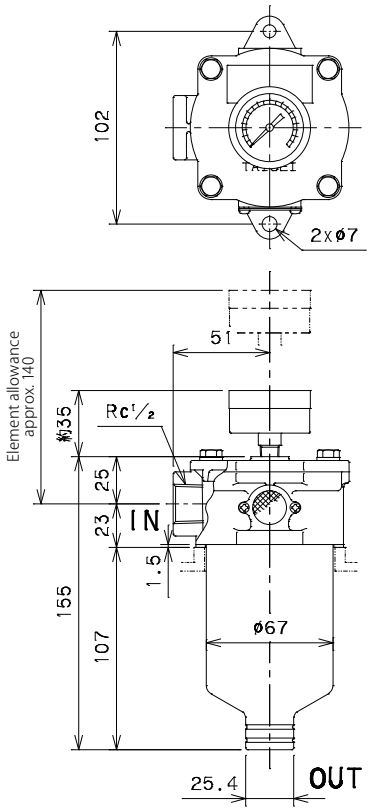
TR

TR-03-□□-P

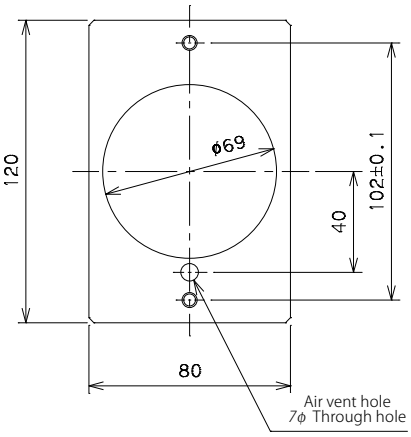
P : Pressure gauge



TR-04-□□-P

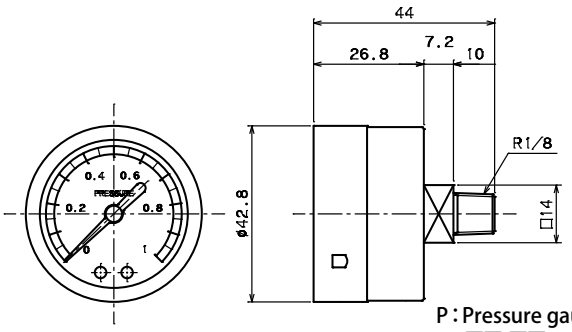


Recommended installation dimensions



Primary pressure type indicator part

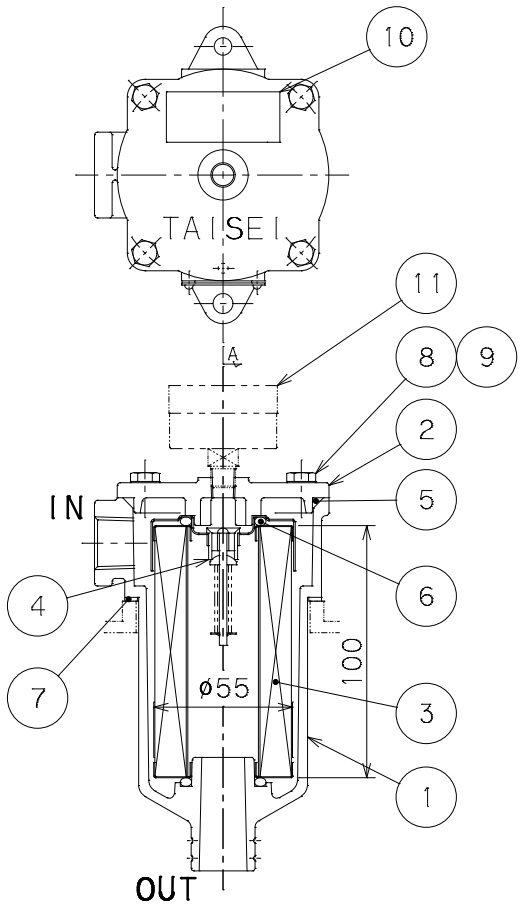
＊ Common at all size

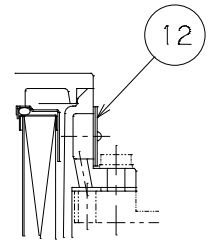


P : Pressure gauge
TR-□□-□□-P

Model code	Pressure range (MPa)
	Visual observation signal
UT-1	0～1 (Min. scale : 0.05)

CROSS SECTION





A Cross section

PARTS LIST

部番	名称	数量
1	Body	1
2	Cover	1
3	Element	1
4	Relief valve	1
5	O-ring	1
6	O-ring	2
7	Packing	1
8	Hex bolt	4
9	Washer	4
10	Nameplate	1
11	Pressure gauge	1
12	Air breather	1

ELEMENT SIZE

Element Model code	Size(mm)		Weight*1 (kg)
	ϕd_1	h_1	
P-TR-03,04	55	100	0.14

SEALING PARTS LIST

No.	5	6	7	Item code of sealing parts set *3		
Standard *2 / Model code	JIS B2401 1A	JIS B2401 1A	Special packing	Materia	SP No.:5,6	SA No.:5～7
TR-03,04	G70	P25	t1.5x(118x78)/ϕ68	NBR	SSF000175	SSF000174
				FKM	SSF000530	SSF000529

MODEL CODE OF SPARE PARTS

Replacement element 〈Model code example〉

P	–	G	–	TR	–	03,04	–	10U
("P" represents filter element)		Fluid type				Inner diameter		Filtration rating

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

Sealing parts set 〈Model code example〉

SA	–	G	–	TR	–	03,04
		Fluid type				Inner diameter

Code	Sealing parts set
SP	For element replacement
SA	For overhaul

＊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.