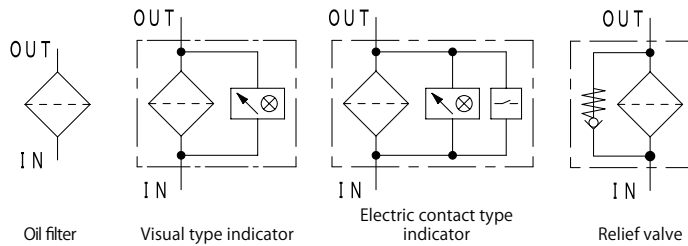


Signature Model of Manifold type Filter



Characteristics

- Applicable to 35MPa that is major for high pressure hydraulic system
- Directly installable on manifold block *1
- Element size is selectable depending on flow rate and contaminant amount
- Install position of clogging indicator (option) is selectable on left/right side
- Element of GC can be used in common with SH and 4201 model



★ 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 ⁷ times
Working temperature	Standard	°C -10 ~ 90
	High temperature *2	°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 / Upward

Inner diameter	12Z-3	12Z-4	12Z-5	12Z-6	
Standard flow rate ☆ ℓ /min	240	300	330	350	
Main material	Body	FCD			
	Case	Steel pipe			
	Upper cover	Carbon steel			
Coating	Protective film treatment				
Weight	kg	20	22	24	26

☆ Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm²/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 - **GC** - **12Z** - **5** - **3C** - **RE V P**

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*3
S	Fuel (Kerosene, Gas oil, Diesel oil)
B	Brake fluid

Code	Inner diameter
12Z	40A Equivalent

Code	Case length
	3
	4
	5
	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*4	20 μm		
40U*4	40 μm		

Code	Option
①	Indicator*5
Blank	Closing plug
RI	Visual type
LI	
RE	Electric contact type
LE	
RD	Electric contact type (Micro capacity)
LD	
②	Relief valve*6
K	Non
V	Relief valve
③	Knock pin
Blank	Non
P	Knock pin

* 1 Surface roughness of manifold should be lower than Ra1.6 * 2 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) * 3 Refrigerant should be specified * 4 Not available for water-glycol based oil and high water based fluid * 5 Indicator position: Right/Left is as seen from Inlet side * 6 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: 32mm²/s)

How to calculate of pressure drop

Estimate pressure drop of filter assembly by following equation:

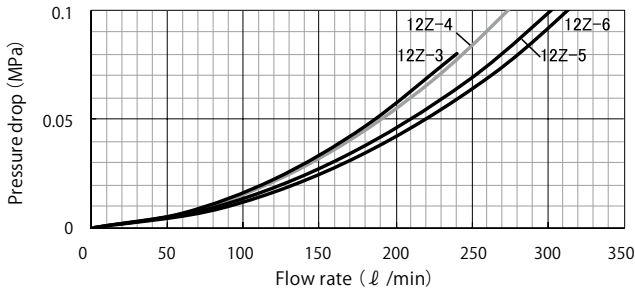
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

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

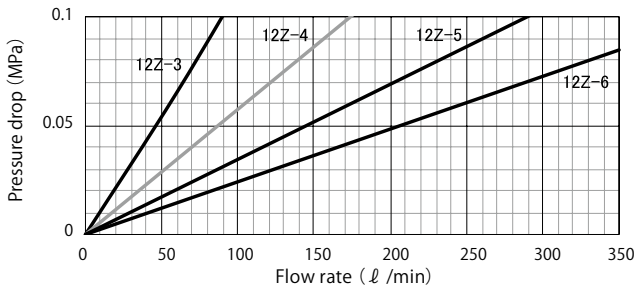
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure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

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

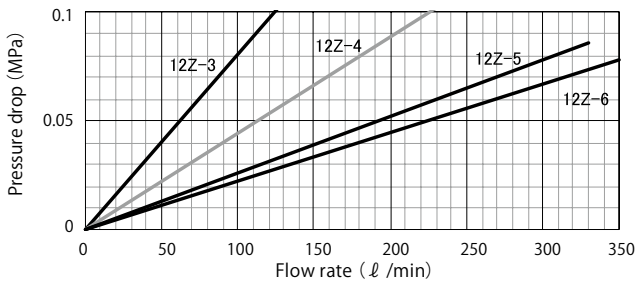
① Pressure drop of filter housing



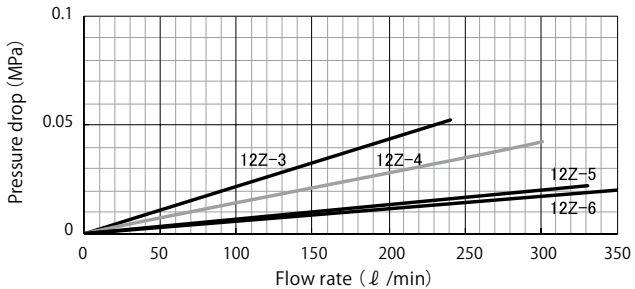
② Pressure drop of filter element



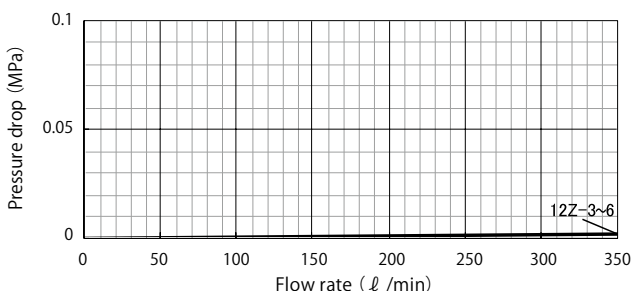
3C
3 μm



8C
8 μm



10U
10 μm

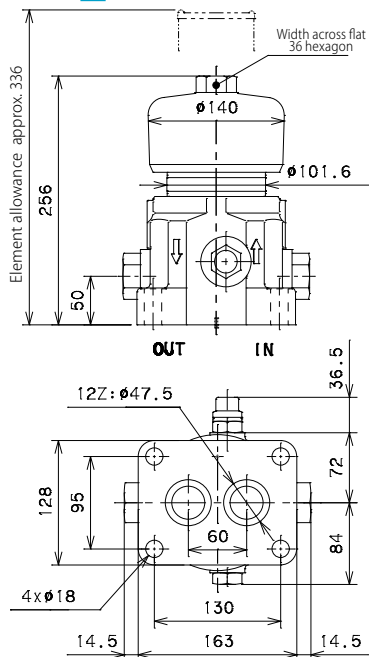


150W
150 Mesh*

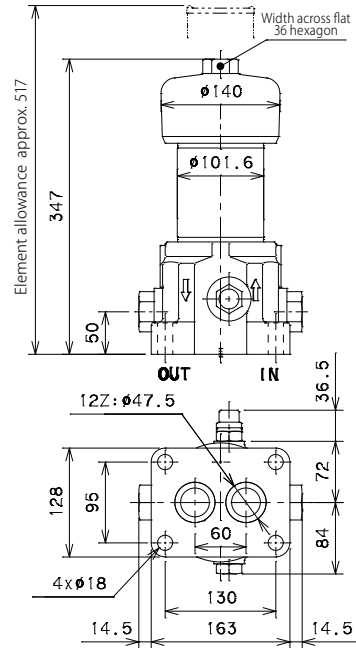
* 1 Pressure drop of wire gauze element is described with one line since the value is low and there is no difference at each filter size.

GC-12Z-3-□□-LI□□

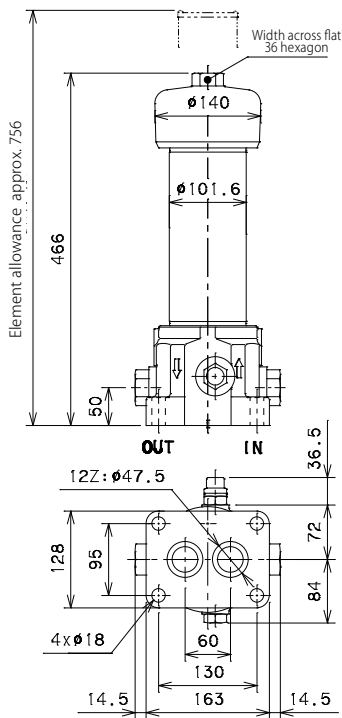
I : Visual type indicator



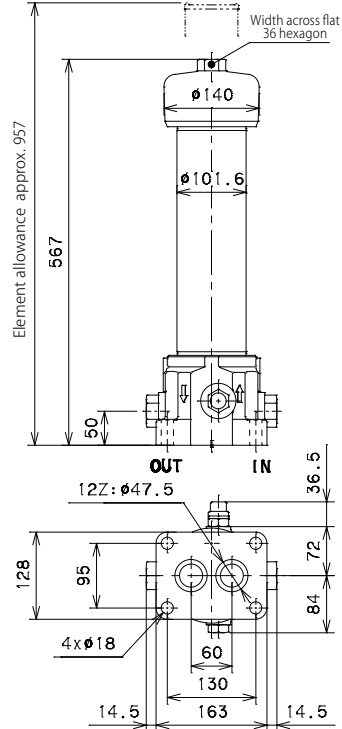
GC-12Z-4-□□-LI□□



GC-12Z-5-□□-LI□□

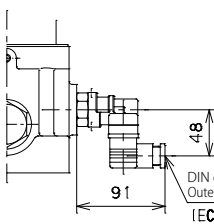


GC-12Z-6-□□-LI□□

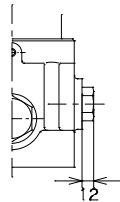


Differential pressure type indicator part

* Common at all size



E,D: Electric contact type indicator
GC-12Z-□-□□-□ED□□



Closing plug
GC-12Z-□-□□-□□

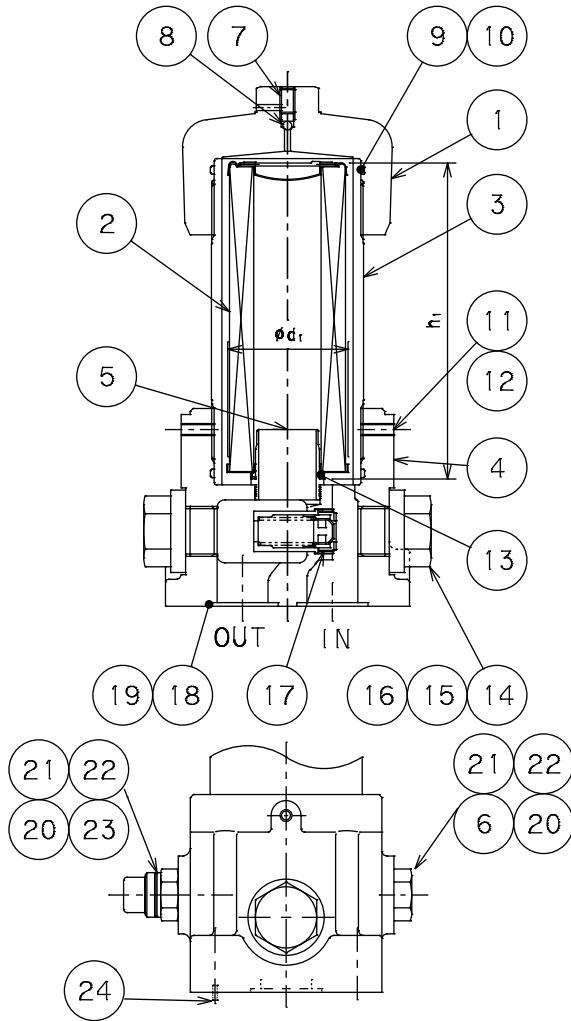
Model code	Working pressure(MPa)		
	Visual observation signal		Electric signal
	Caution	Clogging	
IH-3	0.2	0.3	/
IH-7		0.7	
EH-3		0.3	0.3
EH-3D		0.3	
EH-7		0.7	
EH-7D		0.7	

<Micro switch specification>

Model code	Rated capacity	Contact diagram : 1C
EH-3 EH-7	Resistance load	
EH-3D EH-7D	Inductive load	
EH-3D EH-7D	Micro capacity	

★ IH-7 and EH-7(D) are for High pressure element.

CROSS SECTION



PARTS LIST

No.	Item	Qty	No.	Item	Qty
1	Upper cover	1	13	O-ring	1
2	Element	1	14	Plug	2
3	Case	1	15	O-ring	2
4	Body	1	16	Backup ring	2
5	Guide	1	17	Relief valve	1
6	Plug (Indicator/Non)	1/2	18	O-ring	2
7	Air vent plug	1	19	Backup ring	2
8	Steel ball	1	20	O-ring	2
9	O-ring	2	21	Backup ring	2
10	Backup ring	2	22	O-ring	2
11	Set screw	2	23	Indicator	1
12	Piece	2	24	Spring pin	1

ELEMENT SIZE

Element Model code	Size(mm)			Weight*1 (kg)	
	ϕd_1	h_1			
		High mesh*	High pressure		
P-GC-3	81	120	115	119	0.41
P-GC-4		211	206	208	0.74
P-GC-5		330	325	329	1.14
P-GC-6		431	426	428	1.47

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

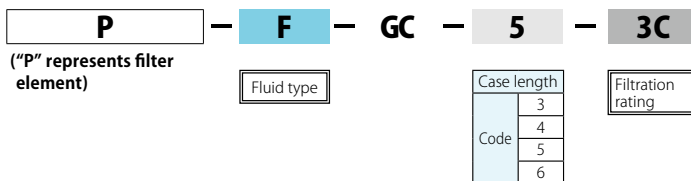
SEALING PARTS LIST

No.	9	10	13	15,18	16,19	20	21	22	
Model code	Standard*2		A5568	JIS B2401 1A	JIS B2401 1B	SUN-4B	JIS B2401 1B	JIS B2407 T2	JIS B2401 1A
GC-12Z	O-ring	G100	131	P42*3	G40		P22		P16
	Backup ring	t1.5x ϕ 103/ ϕ 98	t1.25x ϕ 47.2/ ϕ 42.9*4		For G40		For P22		

Model code	Item code of sealing parts set*5						
	Material	SP*6 No.: 9, 10, 13, 15, 16	SP-H*6 No.: 9, 10, 13, 15, 16	SP-UW*6 No.: 9, 10, 13, 15, 16, 18~22	SA No.: 9, 10, 13, 15, 16, 18~22	SA-H No.: 9, 10, 13, 15, 16, 18~22	SA-UW No.: 9, 10, 13, 15, 16, 18~22
GC-12Z	NBR	SSF000131	SSF000132	SSF000133	SSF000128	SSF000129	SSF000130
	FKM	SSF000498	SSF000499	SSF000500	SSF000495	SSF000496	SSF000497

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".

Sealing parts set (Model code example)



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

* 1 Weight of "C-Fiber" element * 2 Standard for NBR. For other material, conform to the standard. * 3 Spec of O-ring is different for High mesh element (Filtration rating: 5UW, 10UW, 20UW). * 4 Backup ring is attached for high pressure element Filtration rating : 3CH, 8CH, 25CH * 5 Sealing parts are available as "Sealing parts set" only. We do not provide single part individually. * 6 Part #9 and #10 are only for the cover side.