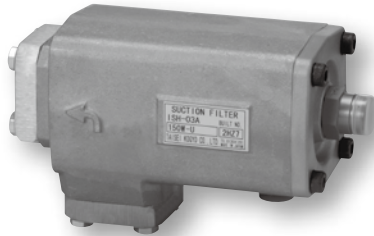
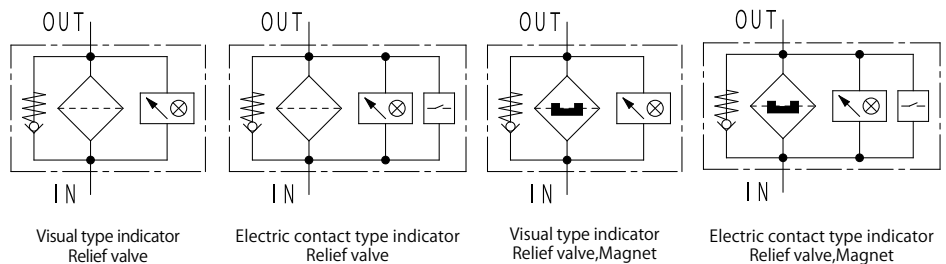


Horizontal installation L-type Suction Filter



Characteristics

- Special structure for horizontal installation enables to save space above
- Light filter housing of aluminum alloy
- Clogging indicator*1 and relief valve are included in standard model
- Magnet is installable for magnetic particle removal (option)
- Pipe connection type is "flange" for standard model
(option: Rc threaded type companion flange)



SPECIFICATION

Max working pressure	MPa	0.5
Working temperature	Standard	°C -10 ~ 90
	High temperature *2	°C -10 ~ 130
Indicator working pressure	MPa	0.02
Cracking pressure	MPa	0.023
Allowable differential pressure of filter element	MPa	0.15
Flow direction/Extract direction of filter element	OUT → IN / Horizontal extraction	

Inner diameter	03A	04A	06A	08A	10A	12A	16A	20A	24A	
Standard flow rate ☆	ℓ /min	16	27	44	92	130	150	210	420	475
Main material	Body	AC								
	Cover	ADC								
Coating	Non-coating									
Weight	kg	2.9	4.0	6.4	8.6	13.3				

☆ Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm²/s, filtration rating: 150W, 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 - **ISH** - **08A** - **100W** - **E M P**
① ② ③

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
03A	10A
04A	15A
06A	20A
08A	25A
10A	32A
12A	40A
16A	50A
20A	65A
24A	80A

Code	Filtration rating
Wire gauze	
60W	60Mesh
100W	100Mesh
150W	150Mesh
200W	200Mesh

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

Code	Option
① Indicator	
Blank	Closing plug
U	Visual type (Standard)
E	Electric contact type
D	Electric contact type (Micro capacity)
② Magnet	
Blank	Non
M	Magnet
③ Companion flange	
Blank	Weld type (Standard)
P	Rc threaded type

* 1 Visual type indicator is installed for standard model. Electric contact type indicator is selectable as an option.
* 2 Sealing parts: FKM, visual type indicator is available (Max oil temperature is electric contact type : 90°C)

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:

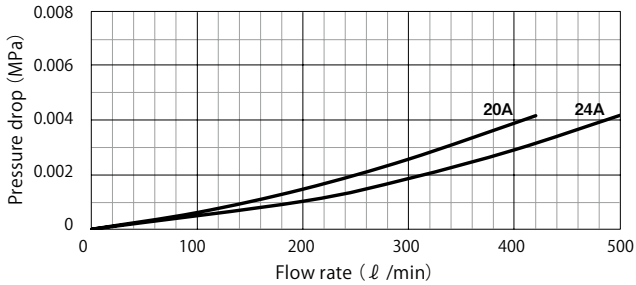
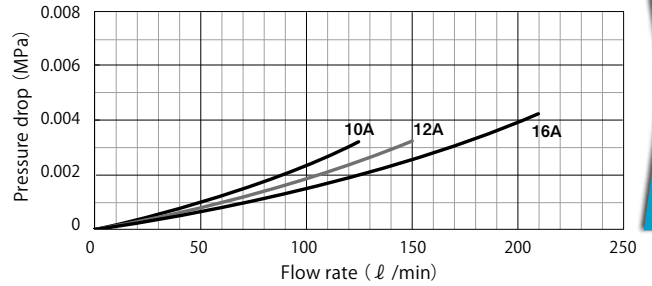
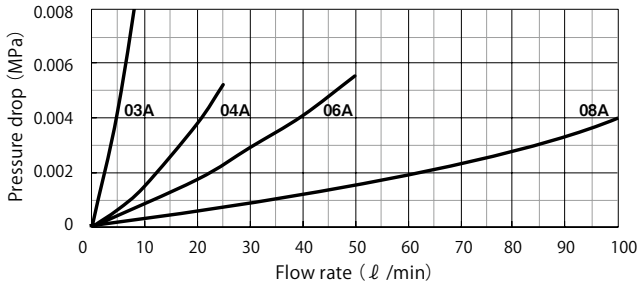
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

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

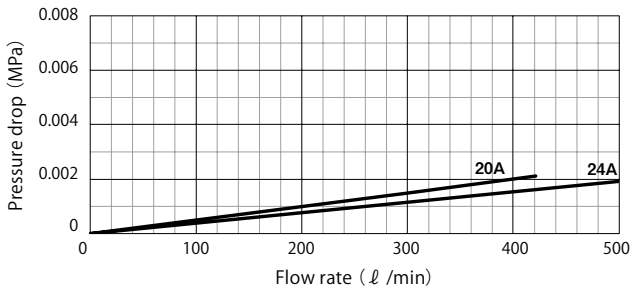
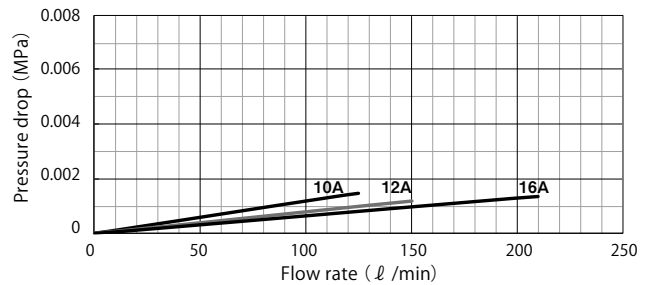
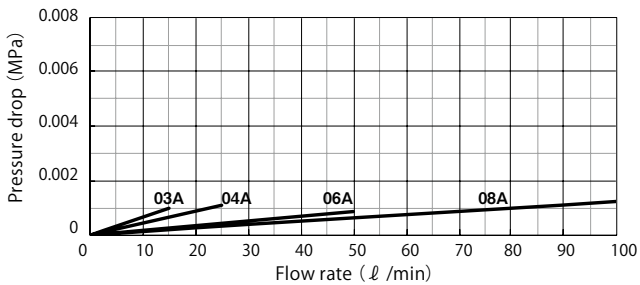
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid Density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure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

★ 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

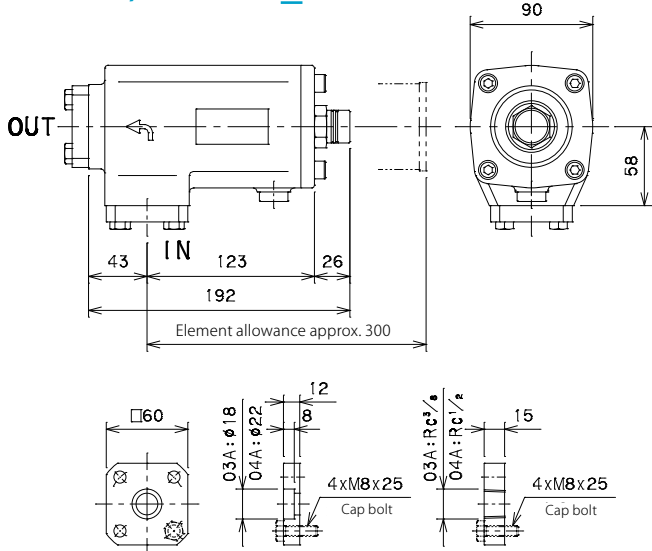


② Pressure drop of filter element



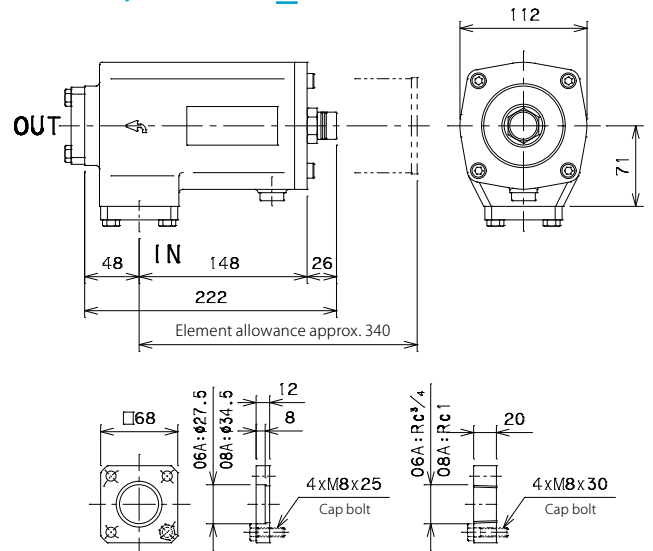
150W
150Mesh

ISH-03A,04A-□□-U□□ U: Visual type indicator



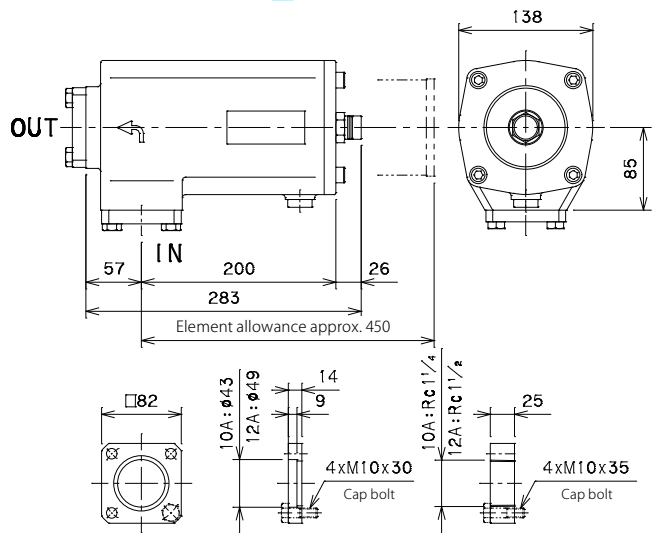
Welded type companion flange ISH-03A,04A-□□-□□
Rc threaded type companion flange ISH-03A,04A-□□-□□P

ISH-06A,08A-□□-U□□



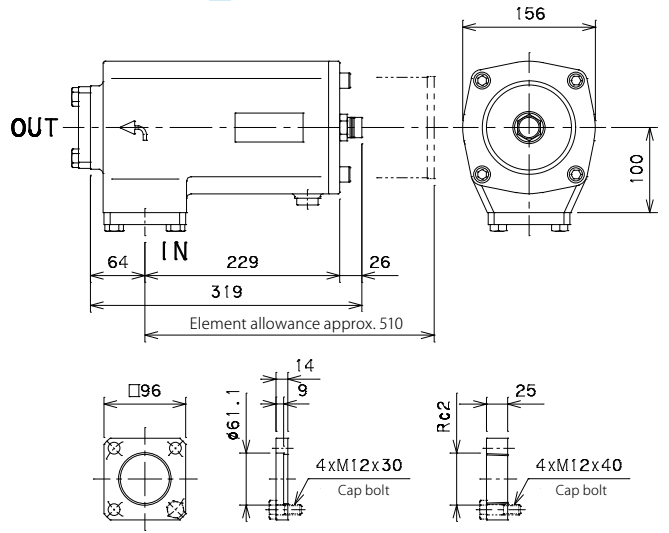
Welded type companion flange ISH-06A,08A-□□-□□
Rc threaded type companion flange ISH-06A,08A-□□-□□P

ISH-10A,12A-□□-U□□



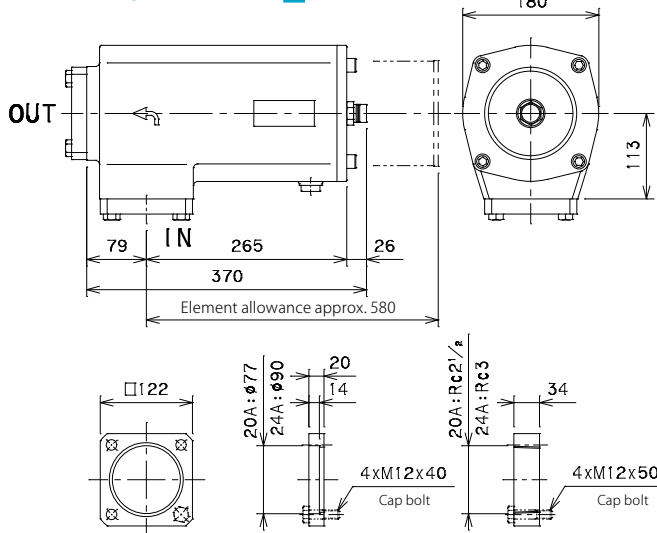
Welded type companion flange ISH-10A,12A-□□-□□
Rc threaded type companion flange ISH-10A,12A-□□-□□P

ISH-16A-□□-U□□



Welded type companion flange ISH-16A-□□-□□
Rc threaded type companion flange ISH-16A-□□-□□P

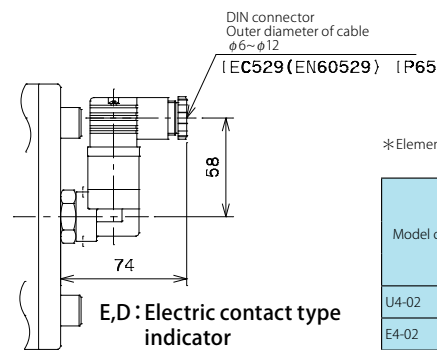
ISH-20A,24A-□□-U□□



Welded type companion flange ISH-20A,24A-□□-□□
Rc threaded type companion flange ISH-20A,24A-□□-□□P

Differential pressure type indicator part

* Common at all size



* Element allowance should be +50mm.

Model code	Working pressure (MPa)		Electric signal
	Visual observation signal		
	Cauting	Clogging	
U4-02	—	0.02	0.02
E4-02	—	0.02	
E4-02D	—	0.02	

E,D: Electric contact type indicator

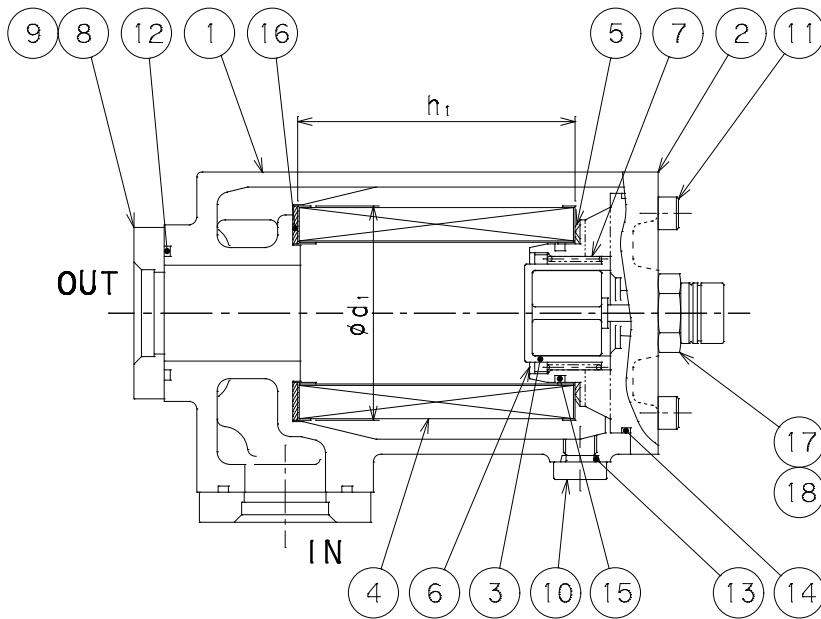
ISH-□□-□□-E,D□□

<Micro switch specification>

Model code	Rated capacity	Contact diagram : 1C
E4-02*1	Resistance load	
	inductive load	
E4-02D	Micro capacity	
	100mA,125V AC 100mA,30V DC	

* 1 Visual type indicator (U4-02) is manual reset type. Please reset clogging signal after indicator activation.

CROSS SECTION



PARTS LIST

No.	Item	Qty
1	Body	1
2	Cover	1
3	Relief valve	1
4	Element	1
5	Wave washer	1
6	Stop ring	1
7	Spring	1
8	Companion flange	2
9	Bolt	8
10	Drain plug	1
11	Cap bolt	4
12	O-ring	2
13	O-ring	1
14	O-ring	1
15	O-ring	1
16	Packing	1
17	Indicator	1
18	O-ring	1

ELEMENT SIZE

Element Model code	Size(mm)		Weight (kg)
	ϕd_1	h_1	
P-ISH-03A,04A	65	90	0.15
P-ISH-06A,08A	85	110	0.31
P-ISH-10A,12A	100	160	0.39
P-ISH-16A	120	180	0.65
P-ISH-20A,24A	140	200	0.74

SEALING PARTS LIST

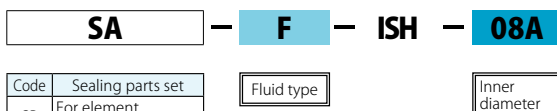
No.	12	13	14	15	16	18	Item code of sealing parts set *2		
							Material	SP No. : 13 ~ 16	SA No. : 12 ~ 16, 18
Standard *1	JIS B2401 1A			Special packing		JIS B2401 1A			
Model code									
ISH-03A,04A	G30	P11	G65	G35	t2x ϕ 65/ ϕ 40	P18	NBR	SSF000024	SSF000019
ISH-06A,08A	G45		G90	G50	t2x ϕ 85/ ϕ 55		FKM	SSF000391	SSF000386
ISH-10A,12A	G55	P14	G100	G65	t2x ϕ 100/ ϕ 70		NBR	SSF000025	SSF000020
ISH-16A	G70		G125	G80	t2x ϕ 120/ ϕ 85		FKM	SSF000392	SSF000387
ISH-20A,24A	G95		G145	G100	t2x ϕ 140/ ϕ 105		NBR	SSF000026	SSF000021
							FKM	SSF000393	SSF000388
						NBR	SSF000027	SSF000022	
						FKM	SSF000394	SSF000389	
						NBR	SSF000028	SSF000023	
						FKM	SSF000395	SSF000390	

MODEL CODE OF SPARE PARTS

Replacement element (Model code example)



Sealing parts set (Model code example)



Code	Sealing parts set
SP	For element replacement
SA	For overhaul

★ 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 Standard for NBR. For other material, conform to the standard.

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