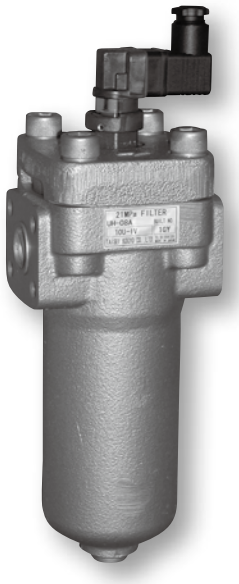
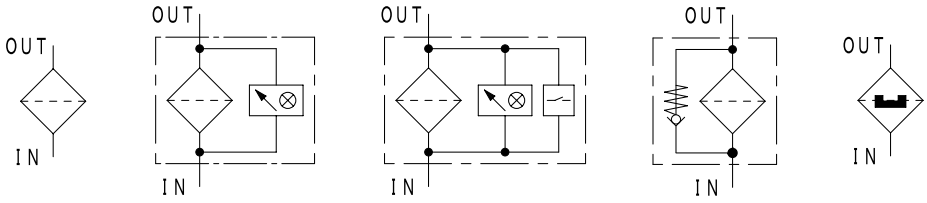
High Pressure Model of Best-selling "U" series



Characteristics

- **High pressure element of allowable differential pressure 21MPa is available (standard: 0.7MPa)**
- **Exchange of In/Outlet is available by changing of cover direction**
- **Easy element replacement by only removing 4 bolts**
- **Clogging indicator, magnet, relief valve, and companion flange are selectable as an option**
- **Element of "U" series (UL, UM, UH) can be used in common**



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

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

SPECIFICATION

Max working pressure		MPa	21.0
Repetition durability test			0~21.0MPa x10^{7}times
Working temperature	Standard	℃	–10 ~ 90
	High temperature ＊1	℃	–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		03A	04A	06A	08A	10A	12A	16A
Standard flow rate ☆ ℓ /min		35	60	110	125	280	380	480
Main material	Body	FCD						
	Cover	FCD						
	Inlet	ADC						
Coating		Aqua blue						
Weight ＊2 kg		10.0		12.2		25.4		36.6

☆ 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 – UH – 08A – 10U – I V N M – L

❶ ❷ ❸ ❹

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	Rc 3/8 (10A)
04A	Rc 1/2 (15A)
06A	Rc 3/4 (20A)
08A	Rc1 (25A)
10A	Rc1 1/4 (32A)
12A	Rc1 1/2 (40A)
16A	Rc2 (50A)

Code	Filtration rating
C-Fiber	
3C	3 μm
8C	8 μm
25C	25 μm
High pressure C-Fiber	
3CH	3 μm
8CH	8 μm
25CH	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
Notch wire (Dimple wire)	
50UK	50 μm
200K	200Mesh
150K	150Mesh
100K	100Mesh
60K	60Mesh

Code	Option
❶ Indicator	
Blank	Closing plug
I	Visual type
E	Electric contact type
D	Electric contact type (Micro capacity)
❷ Relief valve ＊4	
K	Non
V	Relief valve
❸ Companion flange	
Blank	Non
N	Companion flange
❹ Magnet	
Blank	Non
M	Magnet

Code	Flow direction of fluid
Blank	Left → Right
L	Right → Left

＊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 ＊4 Relief valve is not available if selecting high pressure element

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:

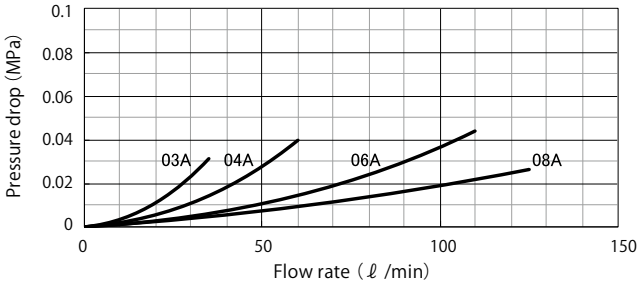
$$\text{Pressure drop of filter housing} = \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86}$$

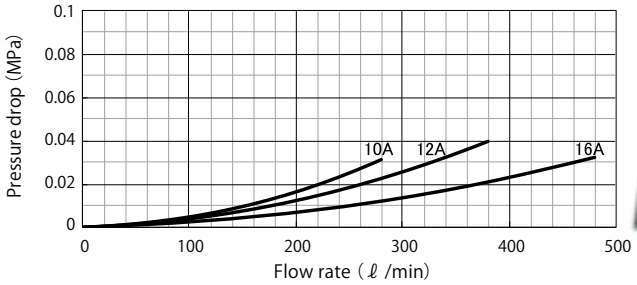
$$\text{Pressure drop of filter element} = \frac{\text{Fluid density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure drop of filter element at density of 0.86,kinematic viscosity of 32}$$

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

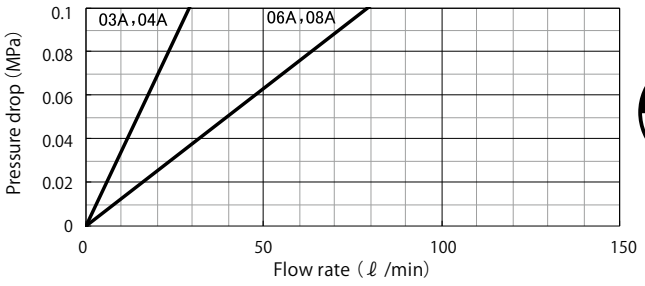
UH

① Pressure drop of filter housing

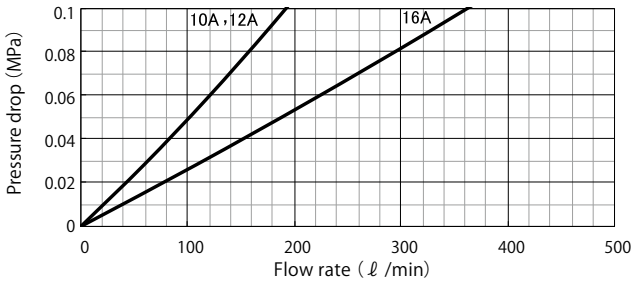


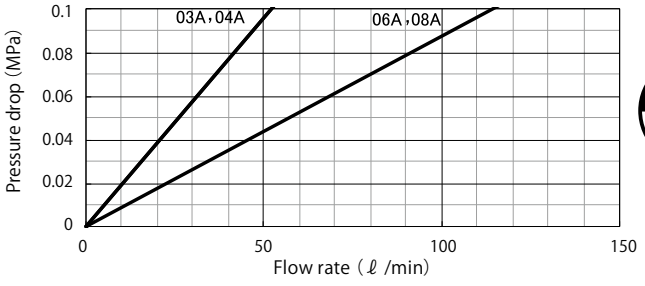


② Pressure drop of filter element

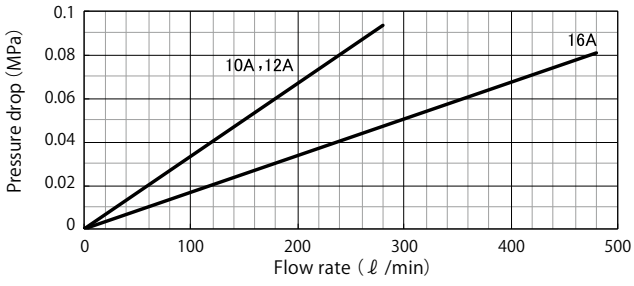


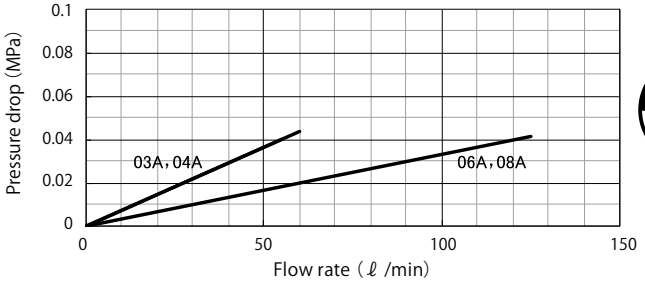
3C
3μm



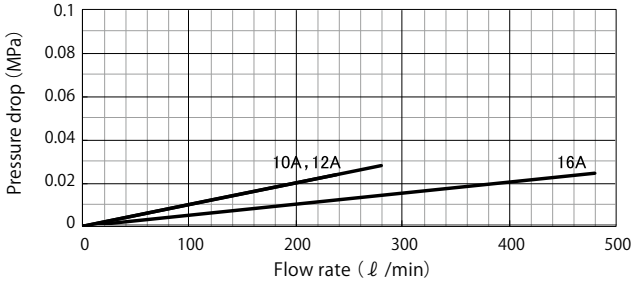


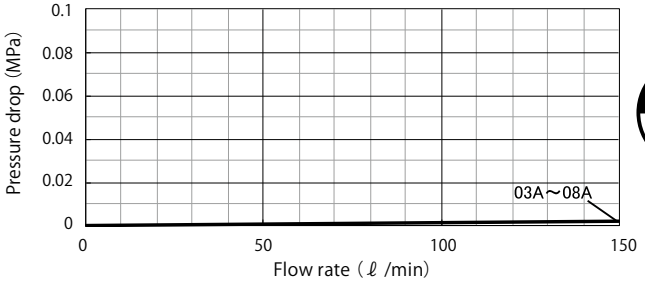
8C
8μm



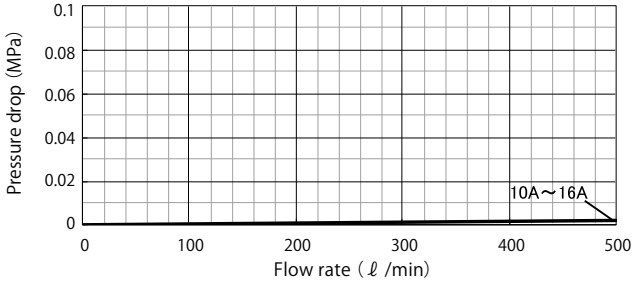


10U
10μm



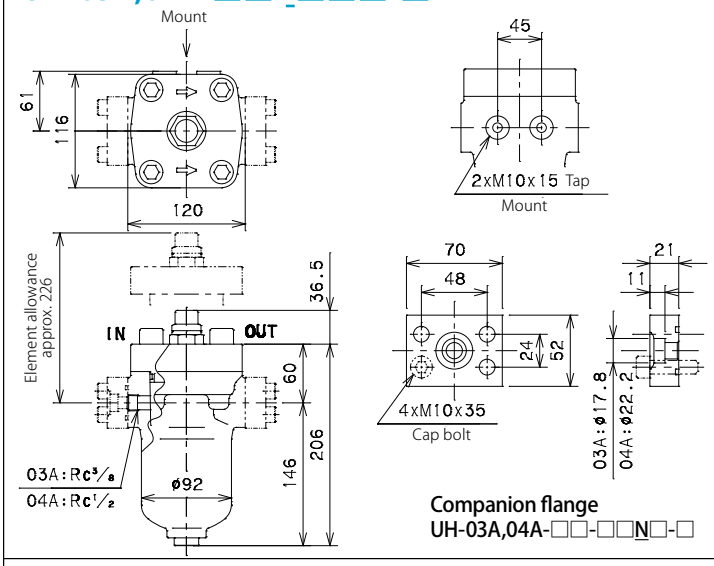


150W
150Mesh*1



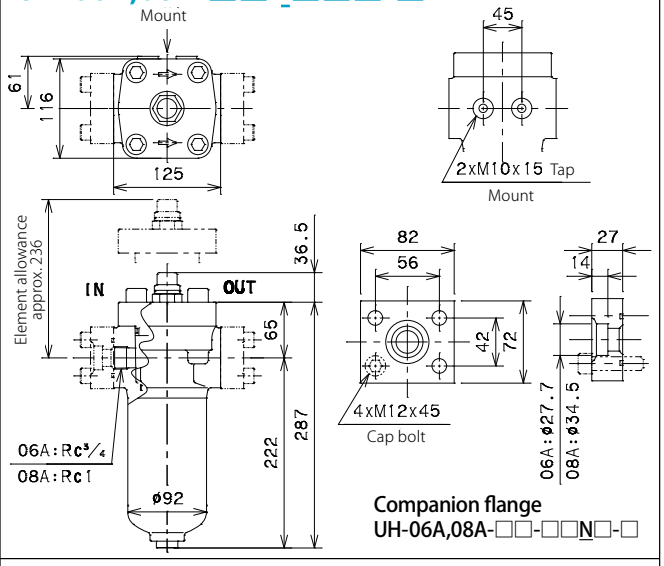
＊1 Pressure drop of wire gauze element is described with one line since the value is low and there is no difference at each filter size.

UH-03A,04A-□□-I□□□-□ I : Visual type indicator



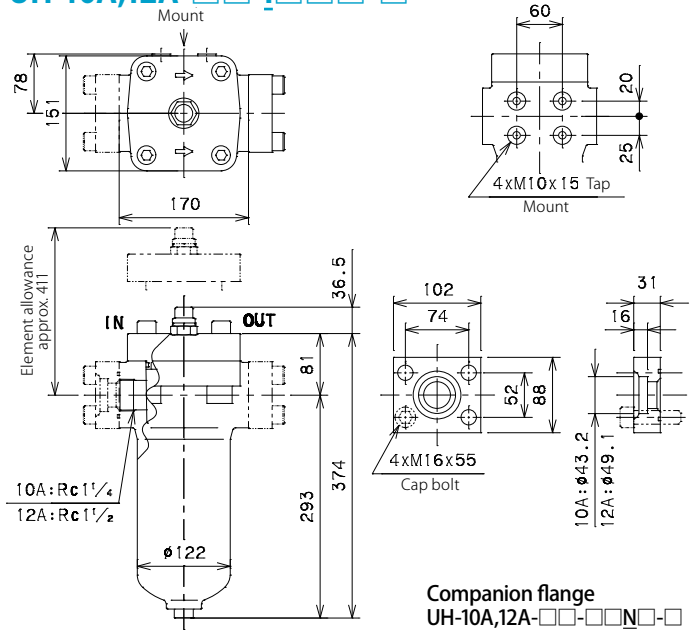
Companion flange
UH-03A,04A-□□-□□N□-□

UH-06A,08A-□□-I□□□-□



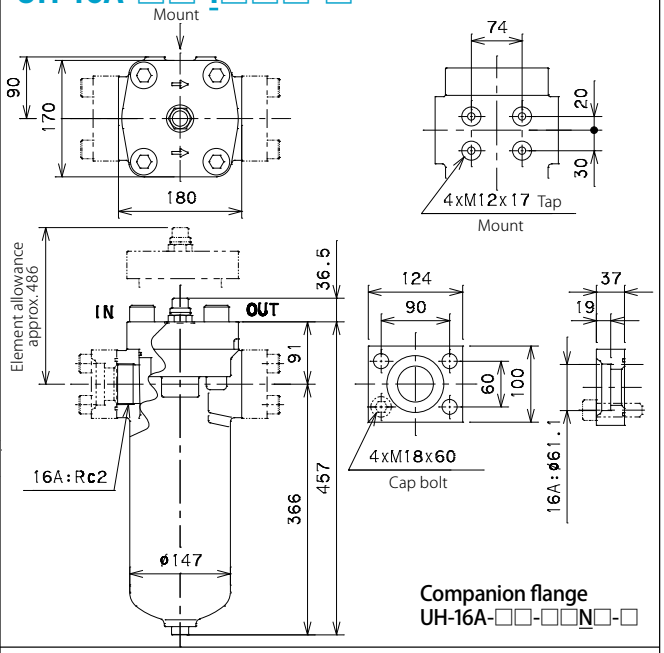
Companion flange
UH-06A,08A-□□-□□N□-□

UH-10A,12A-□□-I□□□-□



Companion flange
UH-10A,12A-□□-□□N□-□

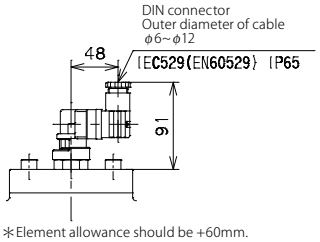
UH-16A-□□-I□□□-□



Companion flange
UH-16A-□□-□□N□-□

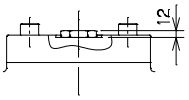
Differential pressure type indicator part

＊Common at all size



＊Element allowance should be +60mm.

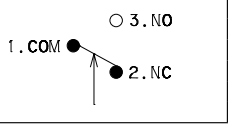
E,D : Electric contact type indicator
UH-□□-□□-E,D□□□-□



Closing plug
UH-□□-□□- _□□□-□

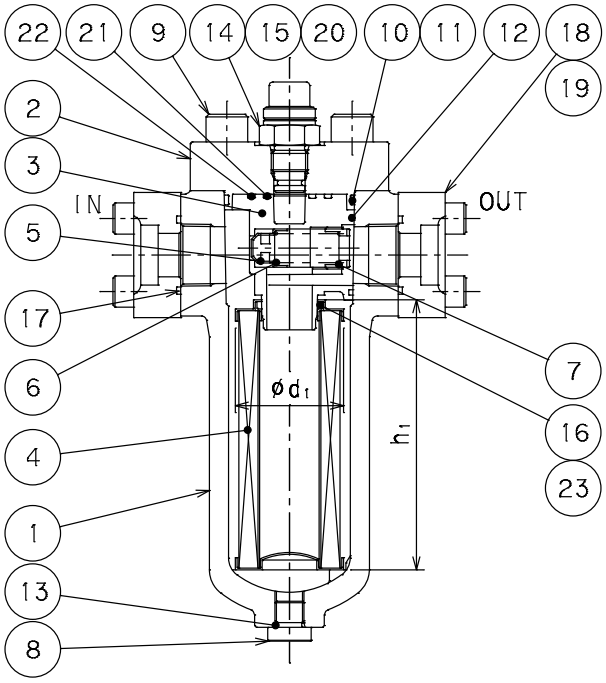
Model code	Working pressure(MPa)		
	Visual observation signal		Electric signal
	Caution	Clogging	
IF-3	0.2	0.3	
IF-7		0.7	
EF-3		0.3	0.3
EF-3D			
EF-7		0.7	0.7
EF-7D			

〈Micro switch specification〉

Model code	Rated capacity		Contact diagram : 1C
EF-3 EF-7	Resistance load	3A,250V AC	
		3A,30V DC	
	Inductive load	2A,250V AC	
		2A,30V DC	
EF-3D EF-7D	Micro capacity	100mA,125V AC	
		100mA,30V DC	

★ IF-7 and EF-7(D) are for High pressure element.

CROSS SECTION



PARTS LIST

No.	Item	Qty
1	Body	1
2	Cover	1
3	Inlet	1
4	Element	1
5	Relief valve	1
6	Spring	1
7	Spring holder	1
8	Drain plug	1
9	Cap bolt	4
10	O-ring	1
11	Backup ring	1
12	O-ring	1
13	O-ring	1
14	O-ring	1
15	O-ring	1
16	O-ring	1
17	O-ring	2
18	Companion flange	2
19	Cap bolt	8
20	Indicator	1
21	O-ring	1
22	O-ring	1
23	Backup ring	1

ELEMENT SIZE

Element Model code	Size(mm)			Weight*1 (kg)
	ϕ d1	High pressure	h1	
P-UH-03A,04A	62.2	64.0	85.3	0.66
P-UH-06A,08A			155.3	0.89
P-UH-10A,12A	82.2	81.0	204.5	1.62
P-UH-16A	102.2	102.0	254.5	2.70

＊ Common to UL,UM,UH

SEALING PARTS LIST

No.	10	11	12		13	14	15	16	17	21	22	23
Standard*2 / Model code	JIS B2401 1B	JIS B2407 T3	JIS B2401 1A	High pressure element AS568	JIS B2401 1B		JIS B2401 1A		JIS B2401 1B	JIS B2401 1A		High pressure element JIS B2407 T3
UH-03A,04A	G70	For G70	G30	123	P14	P18	P14	P32	G30	G25	G40	For P32
UH-06A,08A			G40	130					G40			
UH-10A,12A	G95	For G95	G55	139	P18			G45	G55		G45	For G45
UH-16A	G110	For G110	G65	145				G60	G70			For G60

Item code of sealing parts set *3							
Model code	Material	SP No.: 10～13, 16	SP-H No.: 10～13, 16,23	SA No.: 10～16, 21～22	SA-N No.: 10～17, 21～22	SA-H No.: 10～16, 21～22	SA-HN No.: 10～17, 21～23
UH-03A,04A	NBR	SSF000538	SSF000095	SSF000531	SSF000535	SSF000087	SSF000091
	FKM	SSF000560	SSF000462	SSF000553	SSF000557	SSF000454	SSF000458
UH-06A,08A	NBR	SSF000539	SSF000096	SSF000532	SSF000536	SSF000088	SSF000092
	FKM	SSF000561	SSF000463	SSF000554	SSF000558	SSF000455	SSF000459
UH-10A,12A	NBR	SSF000540	SSF000097	SSF000533	SSF000537	SSF000089	SSF000093
	FKM	SSF000562	SSF000464	SSF000555	SSF000559	SSF000456	SSF000460
UH-16A	NBR	SSF000541	SSF000098	SSF000534	SSF000082	SSF000090	SSF000094
	FKM	SSF000563	SSF000465	SSF000556	SSF000449	SSF000457	SSF000461

MODEL CODE OF SPARE PARTS

Replacement element 〈**Model code example**〉

P – **F** – **UH** – **08A** – **3CH**

("P" represents filter element)

F: Fluid type
08A: Inner diameter
3CH: Filtration rating

★ 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.

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

SA – **F** – **UH** – **08A** – **H** – **N**

F: Fluid type
08A: Inner diameter

Code	Sealing parts set
SP	For element replacement
SA	For overhaul

Code	Filtration rating
Blank	All models except below
H	3CH, 8CH, 25CH

Code	Companion flange
Blank	Non
N	Companion flange (Only for SA)

＊1 Weight of "Paper" element. Refer to the pages of UM and UH model for element weight with other material. 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.