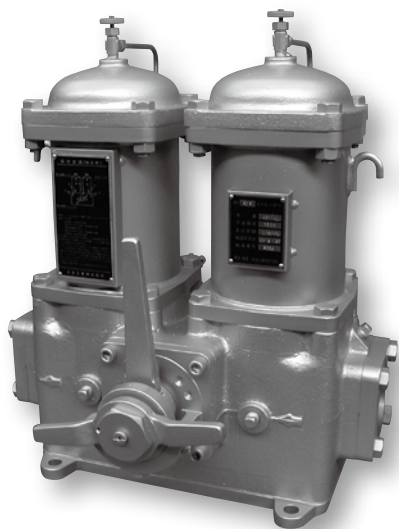
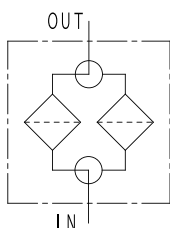


### Blow-off Duplex Filter for continuously operated lubrication system



#### Characteristics

- Element cleaning during operation is available by oil backflow
- Easy switching of filtration, cleaning, and shut by handle operation
- Flow direction is selectable
- Clogging indicator, magnet, and other special specification are available
- BOS: with blow-off function, BCS: without



Duplex Filter

#### SPECIFICATION

Max working pressure	MPa	0.5
Working temperature	Standard	°C -10 ~ 90
	High temperature *1	°C -10 ~ 150
Indicator working pressure	MPa	0.3
Cracking pressure	MPa	Non bypass
Allowable differential pressure of filter element	MPa	0.7
Flow direction/Extract direction of filter element		OUT → IN / Upward

\* Please ask us for compatibility of fluid other than mineral oil.

Inner diameter		08	10	12	16	20	24	40	48
Standard flow rate ☆	ℓ/min	140		320		510		1300	
Main material	Body	FC							
	Housing	SGP		STKM, SS		SGP, SS			
	Cover	FCD						SS	
	Cock	FCD							
Coating		Aqua blue							
Weight	kg	24.5	27.5	57	64	96.5	105.5	350	

☆Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm<sup>2</sup>/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>

**BOS** — **10** — **R** — **100K**

Code	Blow-off
BOS	Blow-off
BCS	Non

Code	Inner diameter
08	25A
10	32A
12	40A
16	50A
20	65A
24	80A
40	125A
48	150A

Code	Flow direction
R	Right → Left
L	Left → Right

(As seen from the handle side)

Code	Filtration rating	Code	Filtration rating
BOS*2/BCS		Only for BCS	
Notch wire (Dimple wire)		Paper	
50UK	50 μm	10U	10 μm
200K	200Mesh	20U*3	20 μm
150K	150Mesh	40U*3	40 μm
100K	100Mesh	Wire gauze	
60K	60Mesh	5UW	5 μm
		10UW	10 μm
		20UW	20 μm
		40UW	40 μm
		50UW	50 μm
		200W	200Mesh
		150W	150Mesh
		100W	100Mesh
		60W	60Mesh

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

# FLOW RATE GRAPH

## Condition

Fluid type : ISO VG32  
Oil temperature : 40°C

(Density: 0.86,  
Kinematic  
viscosity: 32mm<sup>2</sup>/s)

## How to calculate of pressure drop

Estimate pressure drop of filter assembly by following equation:

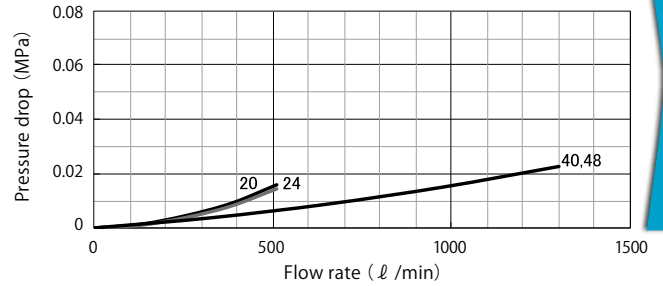
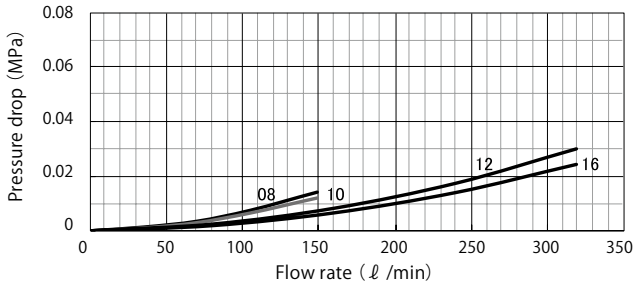
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

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

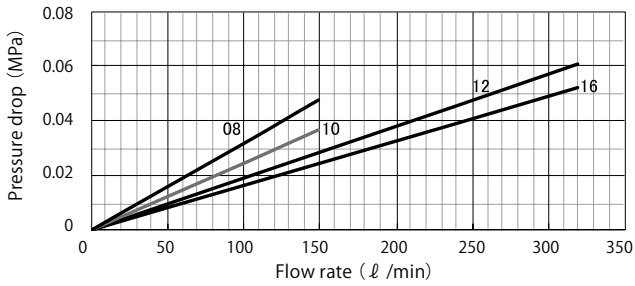
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure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

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

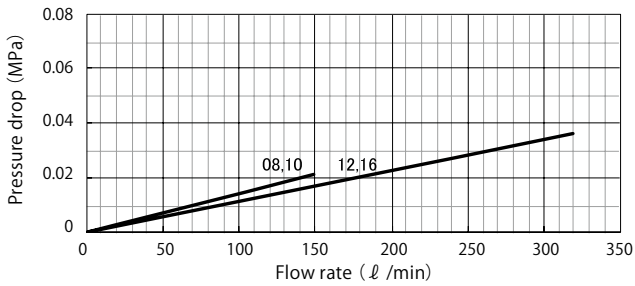
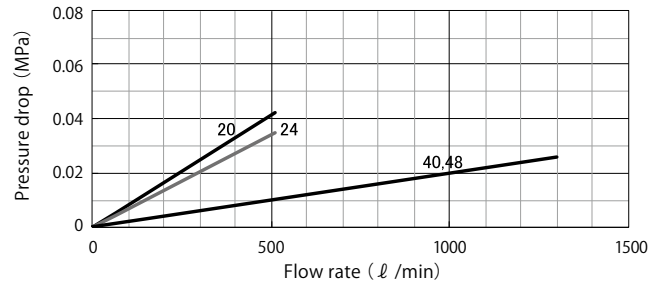
### ① Pressure drop of filter housing



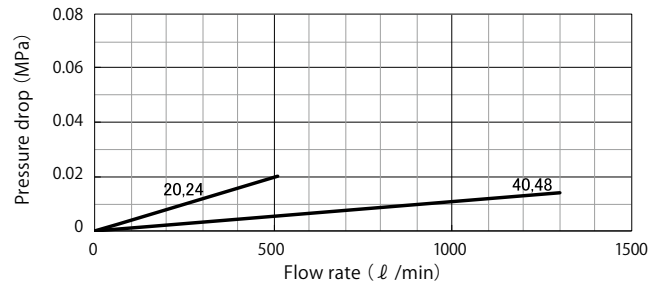
### ② Pressure drop of filter element



**10U**  
10µm

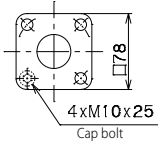
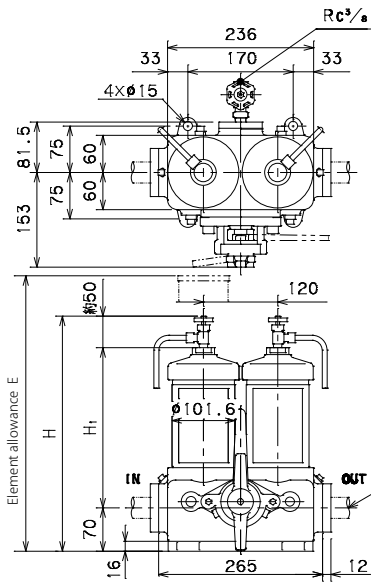


**150K**  
150Mesh



**BOS,BCS-08,10-L-□□**

L : Flow direction  
Left → Right \*1

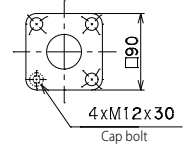
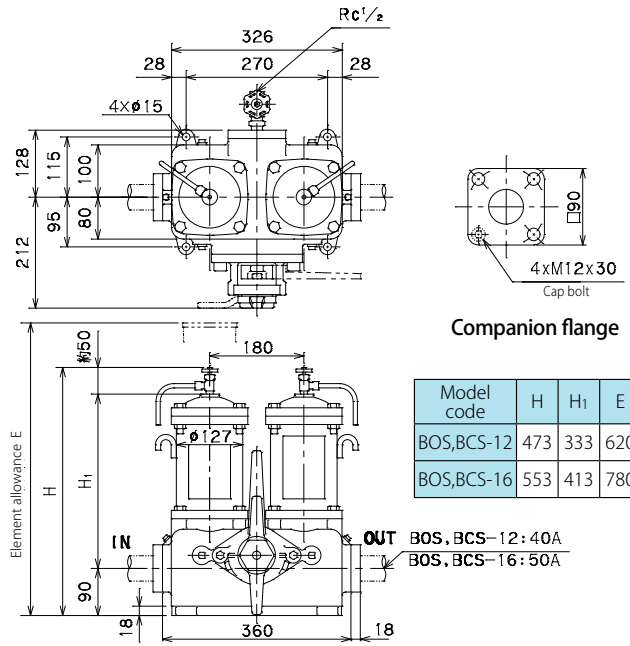


Companion flange

Model code	H	H <sub>1</sub>	E
BOS,BCS-08	379	259	470
BOS,BCS-10	419	299	550

BOS, BCS-08 : 25A  
BOS, BCS-10 : 32A

**BOS,BCS-12,16-L-□□**

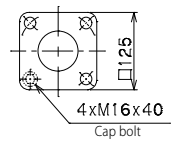
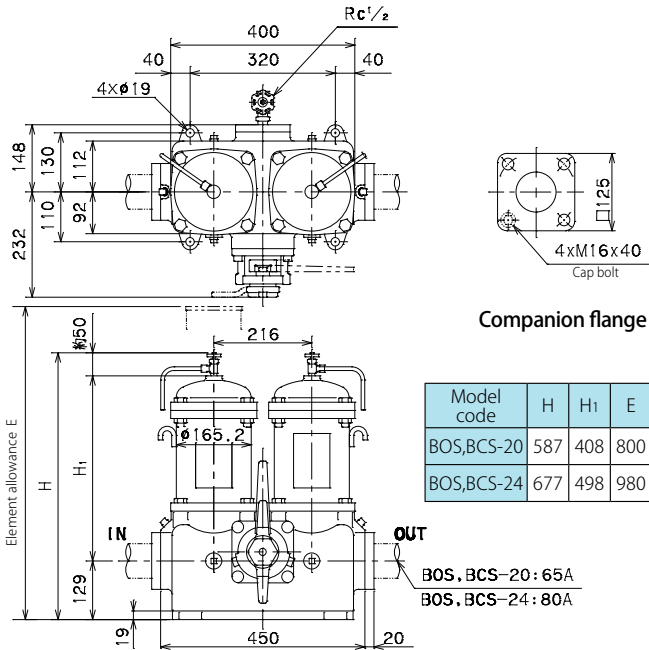


Companion flange

Model code	H	H <sub>1</sub>	E
BOS,BCS-12	473	333	620
BOS,BCS-16	553	413	780

BOS, BCS-12 : 40A  
BOS, BCS-16 : 50A

**BOS,BCS-20,24-L-□□**

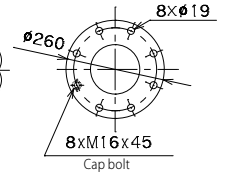
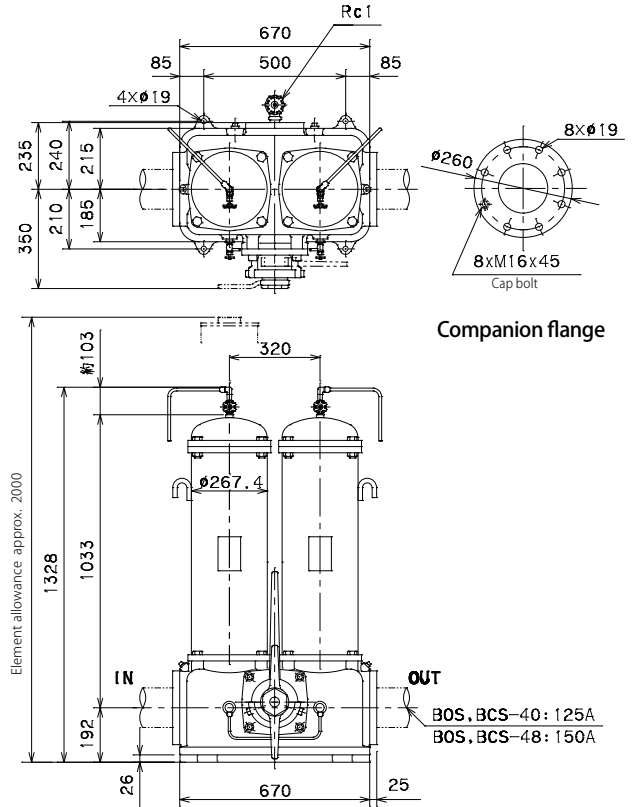


Companion flange

Model code	H	H <sub>1</sub>	E
BOS,BCS-20	587	408	800
BOS,BCS-24	677	498	980

BOS, BCS-20 : 65A  
BOS, BCS-24 : 80A

**BOS,BCS-40,48-L-□□**

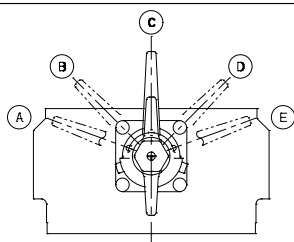


Companion flange

Element allowance approx. 2000

BOS, BCS-40 : 125A  
BOS, BCS-48 : 150A

**Handle position and operating condition**



※ Position of ⓐ and ⓑ is only for BOS model.

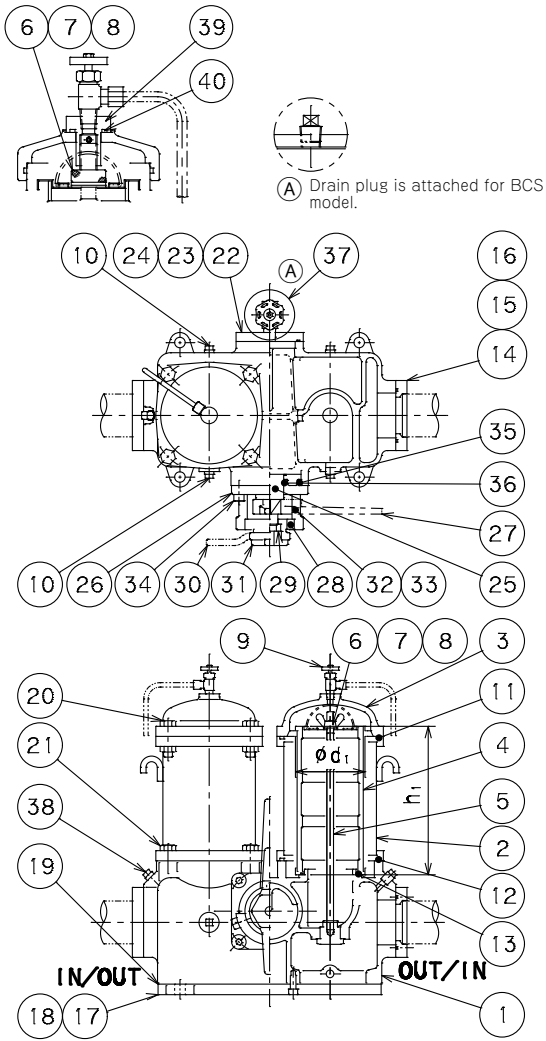
☆ At position shown in the left

Mark	Left filter	Right filter
Ⓐ	Closed	Filtration
Ⓑ	Cleaning	Filtration
Ⓒ	Filtration	
Ⓓ	Filtration	Cleaning
Ⓔ	Filtration	Closed

\* 1 In case of flow direction of Right → Left (CODER), In/Outlet is opposite from the above figure.

## CROSS SECTION

Inner diameter : 08,10

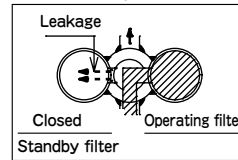


## PARTS LIST

No.	Item	Qty
1	Body	1
2	Housing	2
3	Cover	2
4	Element	2
5	Spindle	2
6	Nut	2
7	Washer	2
8	Packing	2
9	Air vent plug	2
10	Plug (Inner diameter08~24)	4
	Equalizer valve (Inner diameter28~48)	1 set
11	O-ring	2
12	O-ring	2
13	O-ring	2
	Packing	2
14	Companion flange	2
15	Hex bolt	2
16	O-ring	2
	Packing	2
17	Blank flange	1
18	Cap bolt	1 set
19	Packing	1

No.	Item	Qty
20	Bolt	8
21	Bolt	8
22	Cover	1
23	Bolt	4
24	O-ring	1
25	Packing	1
26	Cock	1
27	Gland flange	1
28	Handle	1
29	Round nut (Large)	1
30	Round nut (Small)	1
31	Cock clamping handle	1
32	Round nut holder	1 set
33	Stopper	1
34	Spring	1
35	Cap bolt	1
36	O-ring	1
37	O-ring	1
	Drain valve (BOS)	1
	Drain plug (BCS)	1
38	Plug	2
39	Cap nut	2
40	O-ring	2

### Cock leakage



Model code	Leakage (cc/min)	Conditions
BOS,BCS-08,10	MAX . 30	0.5MPa
BOS,BCS-12,16	MAX . 60	Kinematic viscosity
BOS,BCS-20,24	MAX . 80	
BOS,BCS-40,48	MAX . 150	35mm <sup>2</sup> /s

☆Leakage from the operating filter to the standby filter through cock clearance is estimated in the table.

### ELEMENT SIZE

Element Model code	Size(mm)	
	φ di	h <sub>1</sub>
P-BOS,BCS-08	83	152
P-BOS,BCS-10		192
P-BOS,BCS-12	104	200
P-BOS,BCS-16		280
P-BOS,BCS-20	124	260 (265)
P-BOS,BCS-24		350 (355)
P-BOS,BCS-28	148	550 (551)
P-BOS,BCS-32		800 (801)
P-BOS,BCS-40	203	800 (802)
P-BOS,BCS-48		

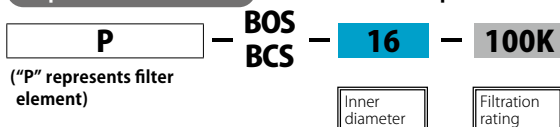
\*In case of Notch wire element, size is in ( ).

## SEALING PARTS LIST

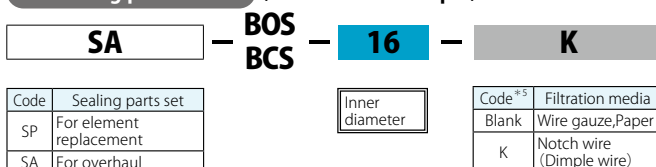
No.	8	11	12	13 <sup>*2</sup>		16 <sup>*3</sup>	19	24	35	36	40	Item code of sealing parts set <sup>*4</sup>				
				Special packing non asbestos	Notch wire element							JIS B2401 1A	Special packing non asbestos	JIS B2401 1A	Special packing non asbestos	JIS B2401 1A
BOS BCS -08	t1.5xφ28/φ14	G100	G100	t1.5xφ55/φ48		t1.5x□78/φ35	t2x118x234	t1.5x□70/φ46 Non asbestos	G50	G35	G25	NBR	SSF000564		SSF000870	
BOS BCS -10	t1.5xφ28/φ14	G100	G100	t1.5xφ55/φ48		t1.5x□78/φ43						FKM	SSF001556		SSF001562	
BOS BCS -12,16	t1.5xφ21/φ10	G130	G130	t1.5xφ71/φ63			t2x178x324	G85	G85	G50		NBR	SSF000201		SSF000193	
BOS BCS -20,24	t1.5xφ24/φ12	G170	G170	t1.5xφ122/φ94	AS568-241	G90	t2x202x398	G100	G105	G50		FKM	SSF001557		SSF001564	
BOS BCS -40,48	t2xφ73φ16	G270	G270	t2xφ200/φ172	JIS B2401 1A P180	G175	t2x398x668	G180	G190	G85		NBR	SSF000202	SSF000198	SSF000194	SSF000190
												FKM	SSF001558	SSF000801	SSF001515	SSF000797
												NBR	SSF000204	SSF000200	SSF000196	SSF000192
												FKM	SSF000816	SSF001561	SSF001566	SSF001568

## MODEL CODE OF SPARE PARTS

### Replacement element (Model code example)



### Sealing parts set (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".

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

★ Sealing parts set for element replacement (CODE:SP) is for 1 filter case. 2 sets are required for 1 duplex filter assembly.

\*1 Standard for NBR. For other material, conform to the standard. \*2 Material of #13 Packing is nitrile cork for BCS-40, 48. \*3 Material of #16 Packing is non asbestos for BOS, BCS-08,10. \*4 Sealing parts are available as "Sealing parts set" only. We do not provide single part individually. \*5 Specify the CODE since sealing parts set for BOS,BCS-20~48 is different depending on filtration rating (element material). No need to specify the CODE when selecting BOS,BCS-08~16 since sealing parts set is common.