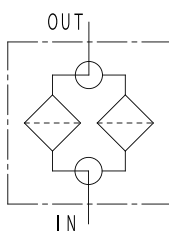


Light and Compact Blow-off Duplex Filter



Characteristics

- Element cleaning during operation is available by oil backflow
- Easy switching of filtration, cleaning, and shut by handle operation
- In/Outlet is on the downward side for standard model (Oil pan for adjusting from vertical flow direction to horizontal is available as an option)
- Filtration area is larger than BOS model and enables longer service life of element
- BDV: with blow-off cleaning function, BCV: without



Duplex Filter

SPECIFICATION

Max working pressure	MPa	0.6
Working temperature	Standard	℃ -10 ~ 90
	High temperature*1	℃ -10 ~ 150
Indicator working pressure	MPa	Non bypass
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	03	04	06	08	10	12	16	Oil pan				
Standard flow rate ☆	ℓ /min							06	08	10	12	16
Main material	Body	FC										
	Cock	FCD										
	Case	SS										
Coating	Aqua blue											
Weight	kg	8	11	21	40	16	26	58				

☆Standard flow rate is estimated by the condition of density: 0.86, kinematic viscosity: 32mm²/s, filtration rating: U10, 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)

BDV — **08** — **SO-R** — **200K**
BCV

Code	Blow-off
BDV	Blow-off
BCV	Non

Code	Inner diameter
03	10A
04	15A
06	20A
08	25A
10	32A
12	40A
16	50A

Code	Oil pan*2 (Flow direction*)
Blank	Non
SO-R	Oil pan (Right → Left)
SO-L	Oil pan (Left → Right)

* Flow direction of oil pan as seen from the handle side.

Code	Filtration rating	Code	Filtration rating
BDV*3/BCV		Only for BCV	
Notch wire (Dimple wire)		Paper	
50UK	50 μm	10U	10 μm
200K	200Mesh	20U*4	20 μm
150K	150Mesh	40U*4	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.

* 1 Sealing parts: FKM, only for wire gauze element * 2 Oil pan for inner diameter of 03 and 04 is no longer manufactured.
* 3 Notch wire element should be selected for BDV model. * 4 Not available for water-glycol based oil and high water based fluid

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:

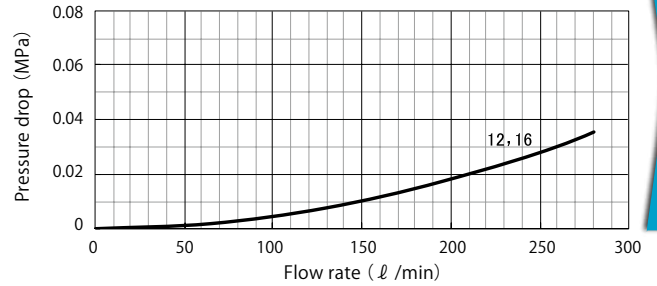
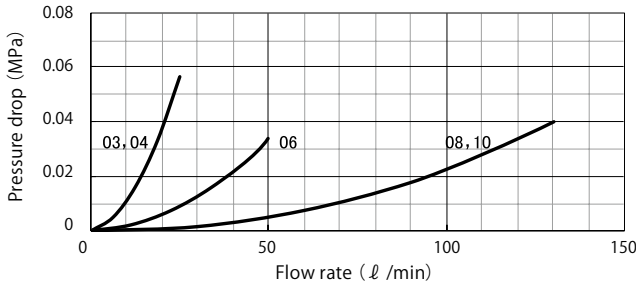
$$\text{Pressure drop of filter assembly} = \text{① Pressure drop of filter housing} + \text{② Pressure drop of filter element}$$

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

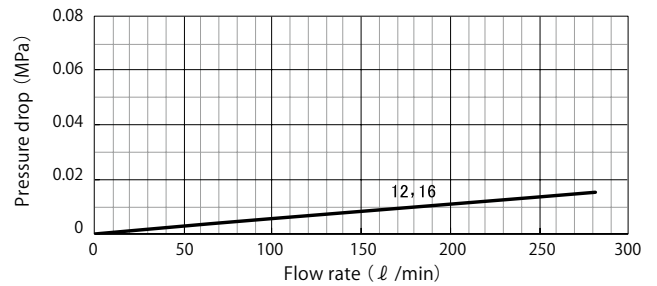
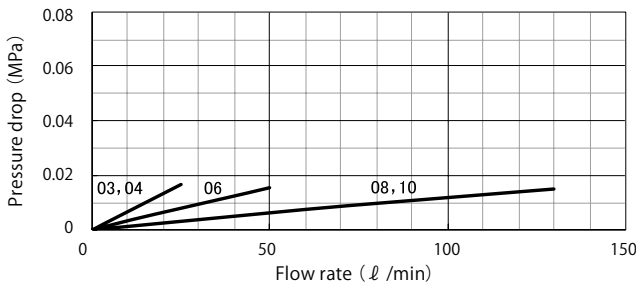
$$\begin{aligned} \text{Pressure drop of filter housing} &= \frac{\text{Fluid density}}{0.86} \times \text{Pressure drop of filter housing at density of 0.86} \\ \text{Pressure drop of filter element} &= \frac{\text{Fluid density}}{0.86} \times \frac{\text{Kinematic viscosity}}{32} \times \text{Pressure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

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

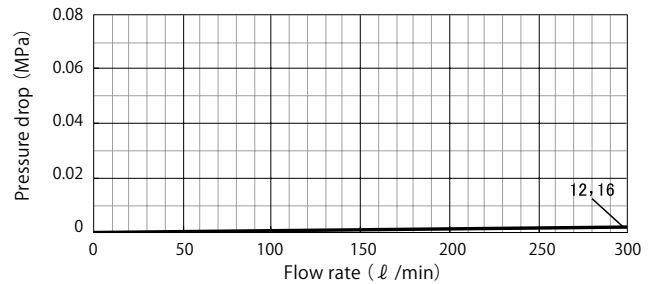
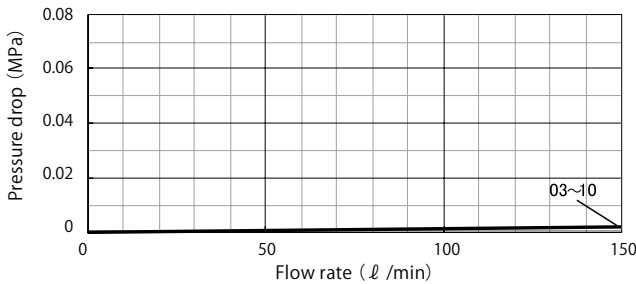
① Pressure drop of filter housing



② Pressure drop of filter element



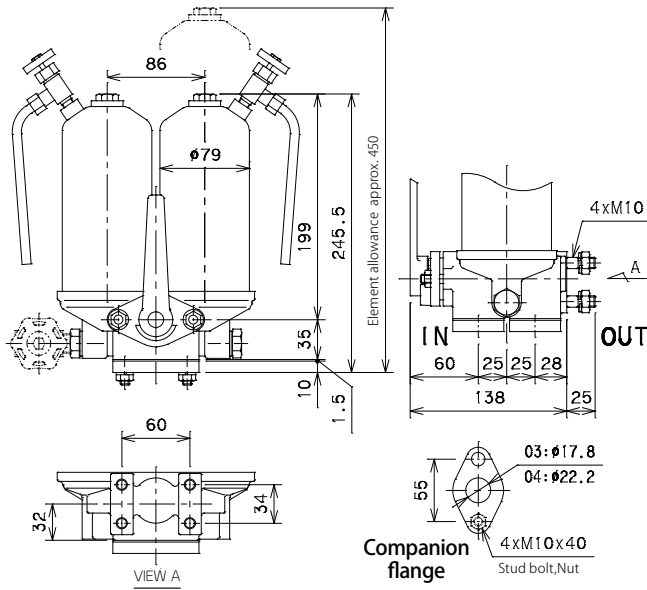
10U
10µm



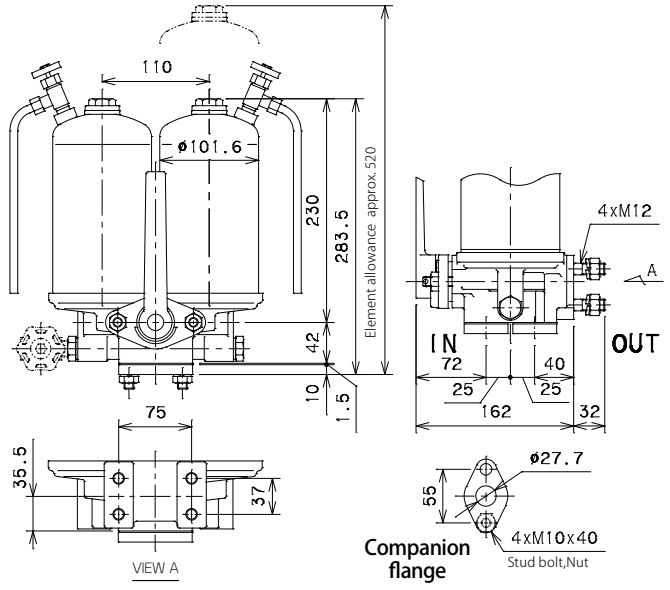
150K
150Mesh

BDV/BCV

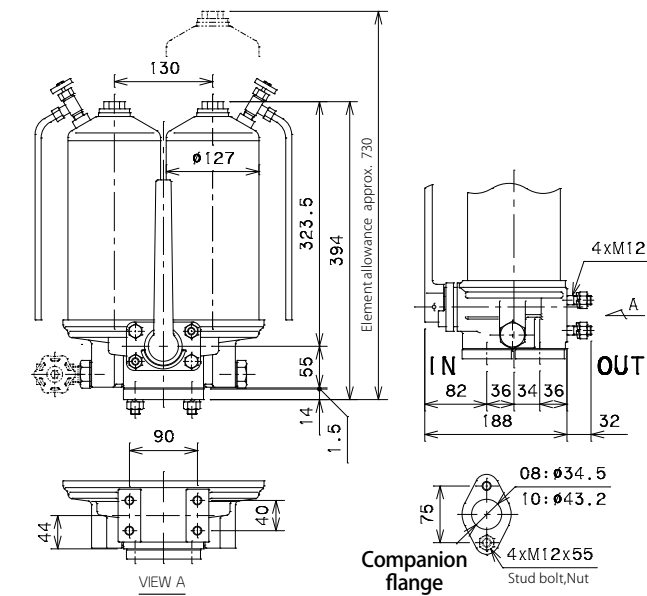
BDV,BCV-03,04-□□



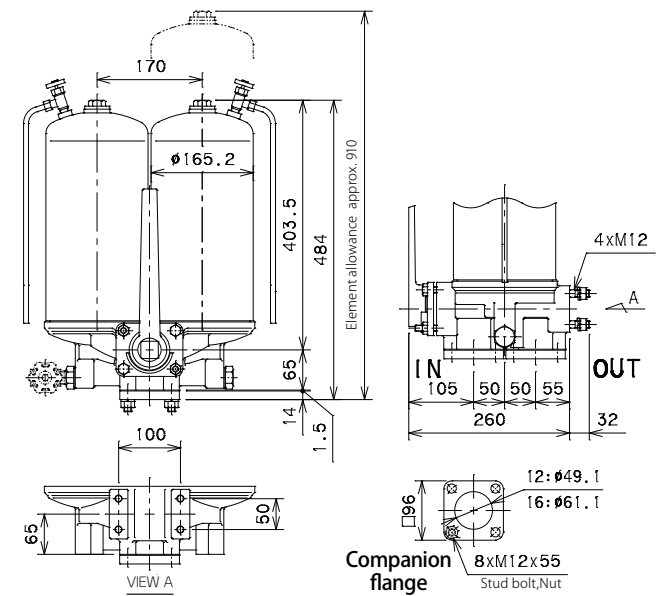
BDV,BCV-06-□□



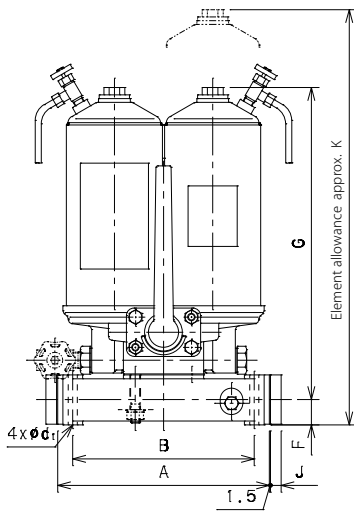
BDV,BCV-08,10-□□



BDV,BCV-12,16-□□



BDV,BCV-06~16-SO-R,L-□□

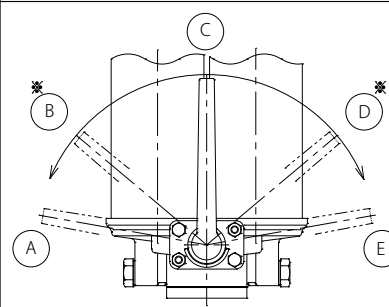


Flow direction
R : Right → Left
L : Left → Right

Mark	d	A	B	C	D	E	F	G	J	K	nx d_1
BDV,BCV-06	27.7	240	200	80	65	50	25	297	10	570	4x $\phi 12$
BDV,BCV-08	34.5	280	240	102	82	66	33.5	414	14	795	4x $\phi 12$
BDV,BCV-10	43.2	360	320	140	120	100	60	520	14	1010	4x $\phi 14$
BDV,BCV-12	49.1	360	320	140	120	100	60	520	14	1010	4x $\phi 14$
BDV,BCV-16	61.1	360	320	140	120	100	60	520	14	1010	4x $\phi 14$

* No oil pan option for BDV,BCV-03,04.

Handle position and operating condition

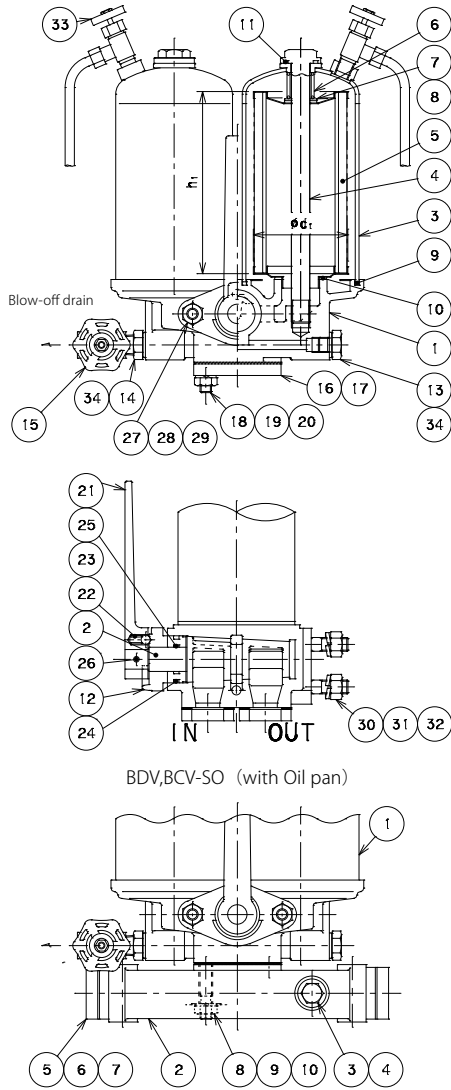


☆ At position shown in the left

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

* Position of \odot and \ominus is only for BDV model.

CROSS SECTION



PARTS LIST

No.	Item	Qty
1	Body	1
2	Cock	1
3	Case	2
4	Center rod	2
5	Element	2
6	Spring	2
7	Washer	2
8	Packing	2
9	Packing	2
10	Packing	2
11	O-ring	2
12	Gland flange	1
13	Plug	1 set
14	Nipple (Only for BDV)	1
15	Drain valve(Only for BDV)	1
16	Companion flange	2
17	Packing	2
18	Stud bolt	1 set
19	Nut	1 set
20	Spring washer	1 set
21	Handle	1
22	Spring	1
23	Steel ball	1
24	O-ring	1

No.	Item	Qty
25	O-ring	1
26	Spring Pin	1
27	Stud bolt	2
28	Nut	2
29	Bolt (Inner diameter 08 ~ 16)	2
30	Stud bolt	4
31	Nut	4
32	Spring washer	4
33	Air vent plug	2
34	Packing	2

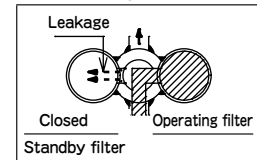
ELEMENT SIZE

Element Model code	Size(mm)		Weight ^{*1} (kg)
	φ d ₁	h ₁	
P-BDV,BCV-03,04	62	135	0.23
P-BDV,BCV-06	82	158	0.38
P-BDV,BCV-08,10	102	230	0.95
P-BDV,BCV-12,16	125	300	1.69

BDV,BCV-SO (with Oil pan)

No.	Item	Qty
1	Filter	1
2	Oil pan	1
3	Drain plug	2
4	Packing	2
5	Companion flange	2
6	Packing	2
7	Hex bolt	1 set
8	Stud bol	1 set
9	Hex nut	1 set
10	Spring washer	1 set

Cock leakage



Model code	Leakage (cc/min)	Conditions
BDV,BCV-03,04,06	MAX.30	0.6MPa
BDV,BCV-08,10	MAX.50	Kinematic viscosity
BDV,BCV-12,16	MAX.100	35mm ² /s

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

SEALING PARTS LIST

No.	8	9	10	11	17	24	25	34	Oil pan		Item code of sealing parts set ^{*3}				
									4	6	Material	SP No.: 8 ~ 11	SA No.: 8~11,17, 24,25,34	SA-SO No.: 8,11,17, 24,25,34 For Oil pan : 4,6	
Standard ^{*2}	Special packing NBR			JIS B2401 1A	Special packing non asbestos	JIS B2401 1A		Special packing non asbestos							
Model code	Special packing NBR			JIS B2401 1A	Special packing non asbestos	JIS B2401 1A		Special packing non asbestos							
BDV BCV -03,04	t2xφ20/ φ10	t4xφ80.7/ φ74.3	t2xφ46/ φ38	P20	t1.5xφ76/ φ28.5	P30	P18	t2xφ22/ φ13.5				NBR	SSF000184	SSF000176	-
BDV BCV -06	t2xφ28/ φ16	t3xφ101.6/ φ94.3	t2xφ45/ φ32.5	G25		P35	P21		t1.5xφ76/ φ28.5			NBR	SSF000185	SSF000177	SSF000181
BDV BCV -08,10	t2xφ38/ φ16	t3xφ123/ φ115.5	t2xφ50/ φ37.5	G30	t1.5xφ105/ φ44	P46	P28			t1.5xφ105/ φ44		NBR	SSF000186	SSF000178	SSF000182
BDV BCV -12,16	t2xφ42φ 19.5	t3xφ162.5/ φ153.5	t2xφ70/ φ60	G30	t1.5xφ□96/ φ63	G65	G40	t2xφ32/ φ24			t1.5xφ□96/ φ63	NBR	SSF000187	SSF000179	SSF000183
												FKM	SSF001382	SSF001621	SSF001624
												NBR	SSF000187	SSF000179	SSF000183
												FKM	SSF001365	SSF001622	SSF001625

MODEL CODE OF SPARE PARTS

Replacement element (Model code example)

P	-	BDV BCV	-	08	-	200K
----------	---	--------------------	---	-----------	---	-------------

("P" represents filter element)

Inner diameter	Filtration rating
----------------	-------------------

Sealing parts set (Model code example)

SA	-	BDV BCV	-	08	-	SO
-----------	---	--------------------	---	-----------	---	-----------

Code	Sealing parts set	Inner diameter	Code	Oil pan
SP	For element replacement		Blank	Non
SA	For overhaul		SO	Oil pan

* 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 Weight of "Notch wire" 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.