



SEPARATOR FILTER

MODEL SF1 STAINLESS STEEL

FILTER WITH BUILT-IN CYCLONE SEPARATOR

Features

All stainless steel separator filter efficiently removes condensate and impurities from the flow medium. Suitable for applications requiring high-quality dry steam, and non-hazardous gas mains.

1. Built-in cyclone separator eliminates condensate, dirt and scale before filtering, extending filter maintenance cycle.
2. Separator achieves condensate separation efficiency as high as 98%.
3. Easy-to-clean 5-layer sintered wire mesh filter maintains extremely low pressure drop for extended periods.
4. Compact and lightweight.
5. Ferrule joint clamp facilitates cleaning and disassembling, reducing maintenance costs.



Specifications

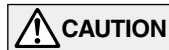
Model		SF1	
Type		6 barg Type	10 barg Type
Connection		Screwed, Socket Welded, Flanged	
Size		1/2", 3/4", 1", 1 1/2", 2" / DN 15, 20, 25, 40, 50	
Washing/Pressure Detection Port Connection		1/2" Screwed	
Condensate Outlet Connection		1/2" Screwed	
Maximum Operating Pressure (barg)	PMO	6	10
Maximum Operating Temperature (°C)	TMO	165	185
Filter Grade* (µm)		0.5, 2, 5	
Filter Construction		5-layer Sintered Wire Mesh	
Internal & External Finishing**		Acid Cleaning (lost-wax cast)	
Applicable Fluids***		Steam, Air	

* Consult TLV for other available filter grades ** Optional electro-polishing (lost-wax cast) available on request

1 bar = 0.1 MPa

*** Do not use for toxic, flammable or otherwise hazardous fluids

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 6 (6 barg Type); 10 (10 barg Type)
Maximum Allowable Temperature (°C) TMA: 165 (6 barg Type); 185 (10 barg Type)

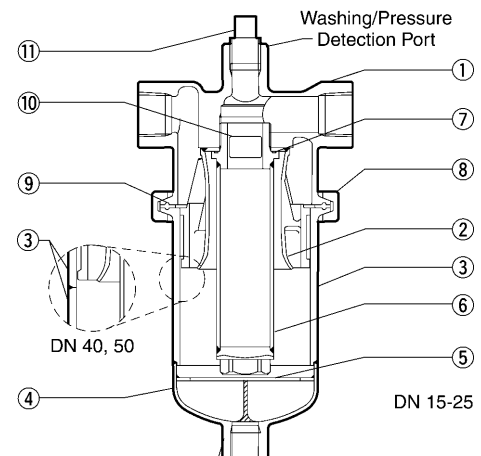


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	DIN ¹⁾	ASTM/AISI ¹⁾	
①	Body	Cast Stainl. Steel A351 Gr.CF8	1.4312	—	
②	Separator	Cast Stainless Steel SCS13	1.4308	A351 Gr.CF8	
③	Separator Body	15-25 mm	Cast Stainl. Steel A351 Gr.CF8	1.4312	—
		40, 50 mm	Cast Stainl. Steel A351 Gr.CF8/ Stainless Steel SUS304	1.4312/1.4301	—/AISI304
④	Separator Bottom	Cast Stainl. Steel A351 Gr.CF8	1.4312	—	
⑤	Baffle	Stainless Steel SUS304	1.4301	AISI304	
⑥	Filter	Stainless Steel SUS304/316/ 316L ²⁾	1.4301/1.4401/ 1.4404	AISI304/316/ 316L	
⑦	Filter Gasket	Fluorine Resin PTFE	PTFE	PTFE	
⑧	Body Clamp ³⁾	Cast Stainless Steel SCS13/ Stainless Steel SUS304	1.4308/1.4301	A351 Gr.CF8 /AISI304	
⑨	Body Gasket	Fluorine Resin PTFE	PTFE	PTFE	
⑩	Nameplate	Stainless Steel SUS304	1.4301	AISI304	
⑪	Plug	Stainless Steel SUS304	1.4301	AISI304	
⑫	Flange ⁴⁾	Cast Stainl. Steel A351 Gr.CF8 ²⁾ / Stainless Steel SUS304	1.4312/1.4301	—/AISI304	

¹⁾ Equivalent materials ²⁾ Material depends on filter grade or flange specifications

³⁾ 6 barg Type (1/2"–1 1/2"/DN15 - 40): three-piece wing nut clamp; 6 barg Type (2"/DN50), 10 barg Type (all sizes): two-piece two-bolt clamp ⁴⁾ Shown on reverse

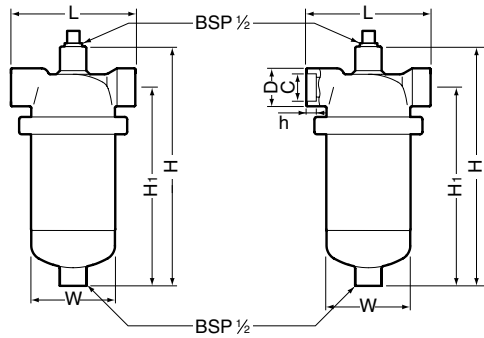


Condensate, Dirt
and Scale Outlet

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Dimensions

● **SF1** Screwed

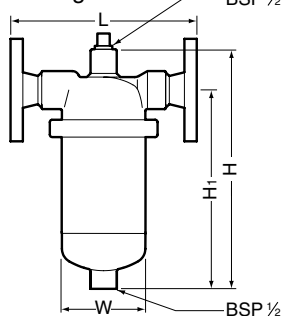


SF1 Screwed*/Socket Welded** (mm)

Size	DN	L	H	H ₁	φW	φD	φC	h	Weight (kg)
1/2"	15	130	255	210	89	36	21.8	13	4.5
3/4"	20								
1"	25	150	290	240	101	44	33.9		6.0
1 1/2"	40	170	460	405	115	59	48.8	16	11
2"	50	220	565	505	165	72	61.2		22

* BSP DIN 2999, other standards available
 ** ASME B16.11-2005, other standards available

● **SF1** Flanged



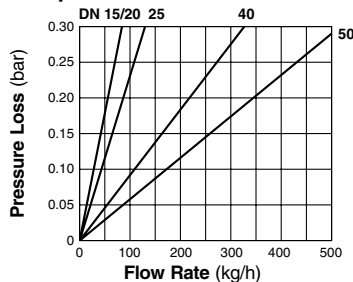
SF1 Flanged (mm)

DN	L		H	H ₁	φW	Weight* (kg)
	DIN 2501	ASME Class				
	PN25/40	150RF				
15	202	191	255	210	89	6.2
20						6.8
25	232	227	290	240	101	8.7
40	252	251	460	405	115	16
50	310	331	565	505	165	28

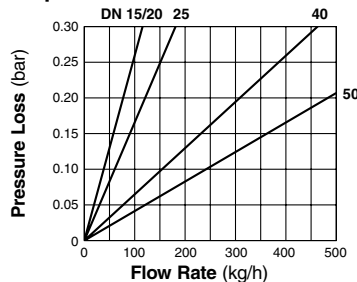
Other standards available, but length and weight may vary
 * Weight is for DIN PN 25/40

Steam Pressure Loss

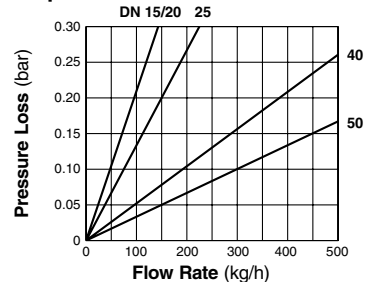
● **0.5 μm Filter**



● **2 μm Filter**



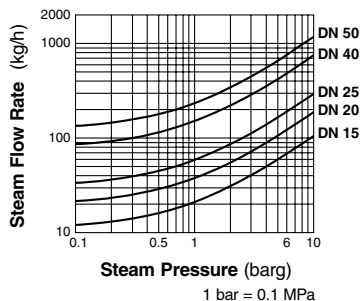
● **5 μm Filter**



These pressure loss charts are based on a steam pressure of 1 barg. For other pressures, multiply the steam flow rate by the correction factor given in the table right. Use the result on the pressure loss chart.

Pressure (barg)	1	2	3	4	5	6	7	8	9	10
Flow Rate Correction Factor	1.0	0.83	0.72	0.65	0.60	0.56	0.52	0.49	0.47	0.45

Steam Flow Rate



The chart to the left is used to determine the steam flow rate through the SF1 separator-filter. It is based on a steam velocity in the piping of 30 m/sec. For other velocities, calculate the flow rate as follows:

$$\text{Flow rate at } v \text{ m/sec} = \text{Flow Rate (at 30 m/sec)} \times \frac{v}{30}$$

It is recommended that steam velocities not exceed 30 m/s.

Note: For pressure loss and flow rate of air and non-hazardous gases, contact TLV.

Manufacturer

ISO 9001/ISO 14001

