SEPARATOR FILTER

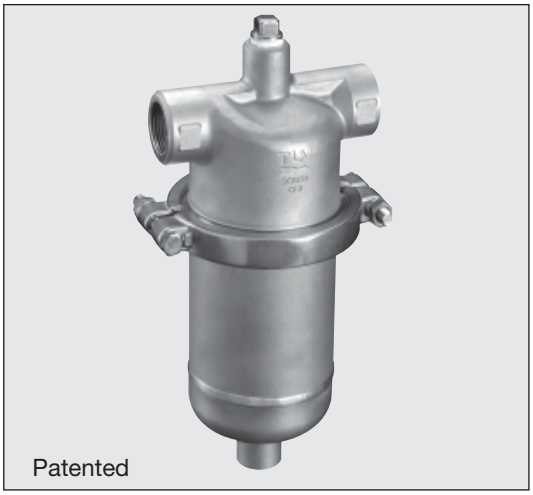
MODEL SF1

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 five-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.
6. Conforms to the recommendations for production of culinary steam to 3-A Accepted Practice No. 609-03. (0.5 µm filter element only)


Patented

Specifications

Model	SF1		
Connection	Screwed	Socket Welded	Flanged
Size (mm)	15, 20, 25, 40, 50		
Washing/Pressure Detection Port Connection	15 mm Screwed		
Condensate Outlet Connection	15 mm Screwed		
Maximum Operating Pressure (MPaG) PMO	1.0		
Maximum Operating Temperature (°C) TMO	185		
Nominal Filter Rating* (µm)	0.5, 2, 5		
Filter Construction	Five-layer Sintered Wire Mesh		
Applicable Fluids**	Steam, Air		

* Consult TLV for other available filter ratings
1 MPa = 10.197 kg/cm^2
** Do not use for toxic, flammable or otherwise hazardous fluids
PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 1.0
Maximum Allowable Temperature (°C) TMA: 185

⚠ CAUTION

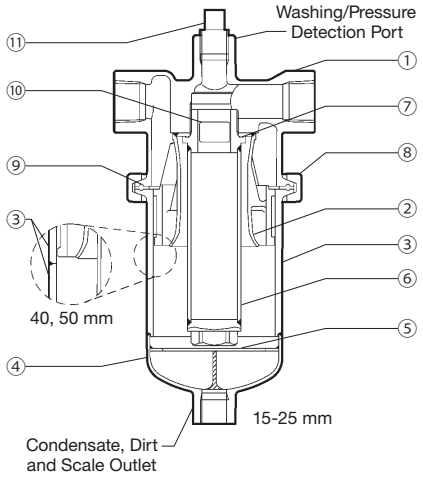
To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

Parts with USP/FDA/EC Compliant Materials			Standard		
			USP	FDA*	EC
⑦	Filter Gasket	High-performance Fluorine Resin	Class VI	A	1935/2004
⑨	Body Gasket				
⑪	Seal Tape for Plug	Fluorine Resin	—	B	—

* FDA: A: 21 CFR 177.1550, B: 21 CFR 177.1615

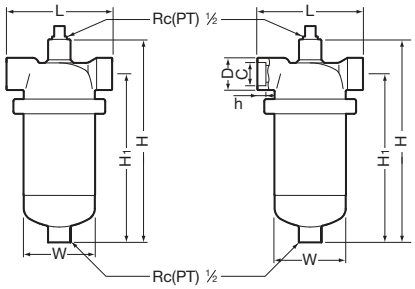
No.	Description		Material	JIS	ASTM/AISI[1]
①	Body		Cast Stainless Steel	—	A351/A351M Gr.CF8
②	Separator		Cast Stainless Steel	—	A351/A351M Gr.CF8
③	Separator Body	15-25 mm	Cast Stainless Steel	—	A351/A351M Gr.CF8
		40, 50 mm	Cast Stainless Steel/ Stainless Steel	– /SUS304	A351/A351M Gr.CF8/ AISI304
④	Separator Bottom		Cast Stainless Steel	—	A351/A351M Gr.CF8
⑤	Baffle		Stainless Steel	SUS304	AISI304
⑥	Filter		Stainless Steel[2]	SUS304/316(L)	AISI304/316(L)
⑦	Filter Gasket[3]		High-performance Fluorine Resin	—	—
⑧	Body Clamp[4]		Cast Stainless Steel	—	A351/A351M Gr.CF8
⑨	Body Gasket[3]		High-performance Fluorine Resin	—	—
⑩	Nameplate		Stainless Steel	SUS304	AISI304
⑪	Plug		Stainless Steel	SUS304	AISI304
⑫	Clamp Bolt[5]		Stainless Steel	—	—
⑬	Clamp Nut[5]		Stainless Steel	—	—
⑭	Spring Washer[5]		Stainless Steel	—	—
⑮	Flange[6]	15-25 mm	Cast Stainless Steel	—	A351/A351M Gr.CF8
		40, 50 mm	Stainless Steel	SUS304	AISI304

[1] Equivalent [2] Material depends on filter rating
[3] Gaskets are GYLON BIO-PRO; complies with FDA/USP/EC standards. See table above-right for details. GYLON BIO-PRO is a registered trademark of Garlock GmbH.
[4] Two-piece two-bolt clamp [5] Not shown [6] See "Dimensions"



Dimensions

● **SF1** Screwed / Socket Welded

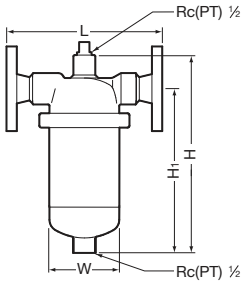


SF1 Screwed*/Socket Welded (mm)

Size	L	H	H_1	ϕW	ϕD	ϕC	h	Weight (kg)
15	130	255	210	89	36	22.2	13	4.5
20						27.7		
25	150	290	240	101	44	34.5		6.0
40	170	460	405	115	59	49.1		11
50	220	565	505	165	72	61.1	16	22

* Rc(PT), other standards available

● **SF1** Flanged



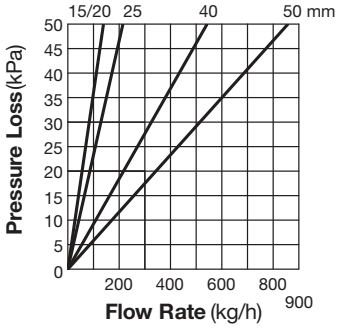
SF1 Flanged (mm)

Size	L ASME Class 150RF	H	H_1	ϕW	Weight (kg)
15	191	255	210	89	5.6
20					5.9
25	227	290	240	101	8.0
40	251	460	405	115	15
50	331	565	505	165	28

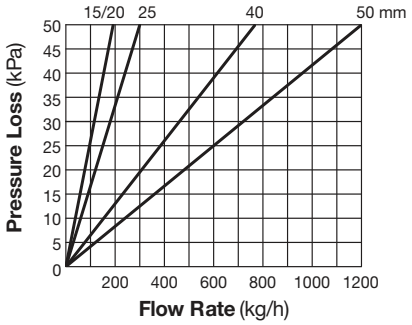
Other standards available, but length and weight may vary

Steam Pressure Loss

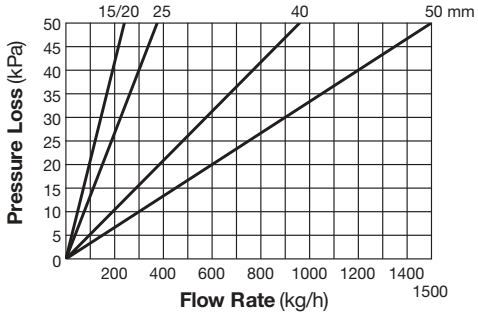
● **0.5 µm Filter**



● **2 µm Filter**



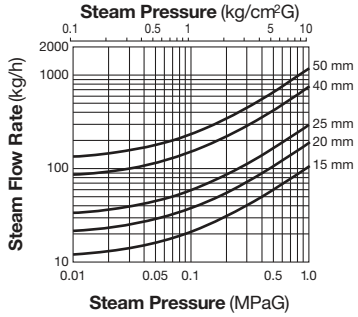
● **5 µm Filter**



These pressure loss charts are based on a steam pressure of 0.1 MPaG. 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 (MPaG)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
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/s. For other cases, use the equation below and replace "v" with your steam velocity:

$$\text{Effective flow rate} = \text{Flow Rate}_{30\ \text{m/s}} \times \frac{V}{30}$$

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

Note: For pressure loss and flow rate of air contact TLV.

Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd, to ISO 9001/14001

ISO 9001
ISO 14001

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