



SEPARATOR FILTER

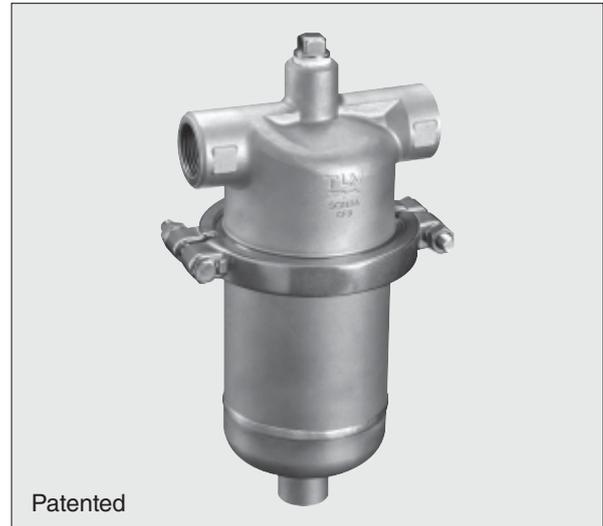
MODEL SF1

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



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		5-layer Sintered Wire Mesh		
Internal & External Finishing**		Acid Cleaning (lost-wax cast)		
Applicable Fluids***		Steam, Air		

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

1 MPa = 10.197 kg/cm²

*** 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



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	JIS	ASTM/AISI ¹⁾
①	Body	Cast Stainless Steel	—	A351 Gr.CF8
②	Separator	Cast Stainless Steel	SCS13	A351 Gr.CF8
③	Separator Body	15-25 mm	—	A351 Gr.CF8
		40, 50 mm	—/SUS304	A351 Gr.CF8/ AISI304
④	Separator Bottom	Cast Stainless Steel	—	A351 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 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	SUS304	AISI304
⑬	Clamp Nut ⁵⁾	Stainless Steel	SUS304	AISI304
⑭	Spring Washer ⁵⁾	Stainless Steel	SUS304	AISI304
⑮	Flange ⁶⁾	15-25 mm	—	A351 Gr.CF8
		40, 50 mm	SUS304	AISI304

¹⁾ Equivalent ²⁾ Material depends on filter rating

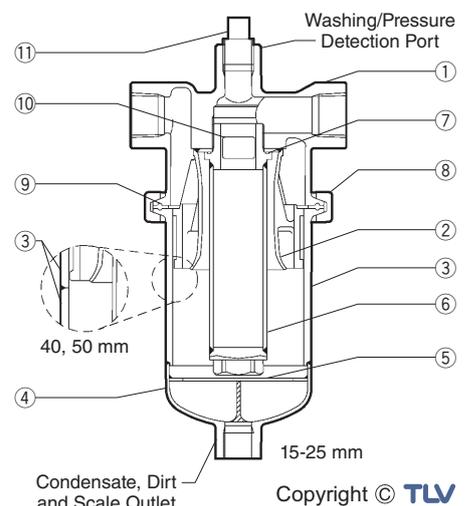
³⁾ Gaskets are GYLON BIO-PRO; complies with FDA/USP/EN standards. See table above-right for details.

GYLON BIO-PRO is a registered trademark of Garlock GmbH.

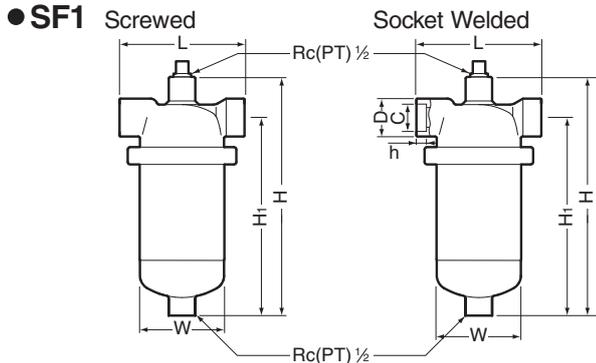
⁴⁾ Two-piece two-bolt clamp ⁵⁾ Not shown ⁶⁾ Shown on reverse

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

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



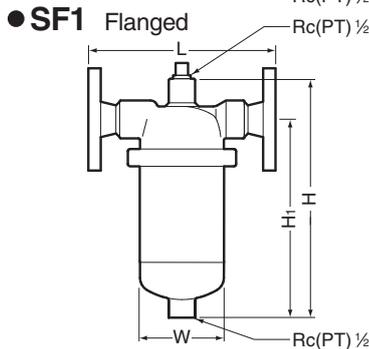
Dimensions



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								
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

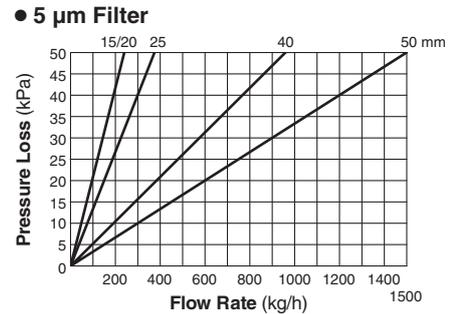
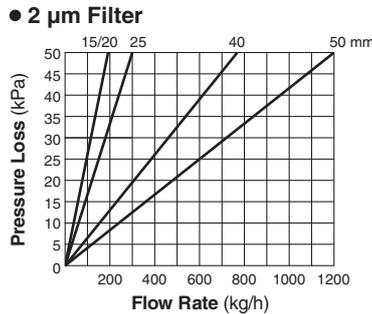
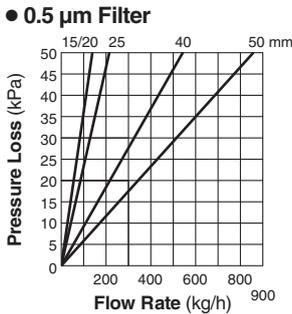


SF1 Flanged (mm)

Size	L		H	H ₁	φW	Weight (kg)
	ASME Class	150RF				
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

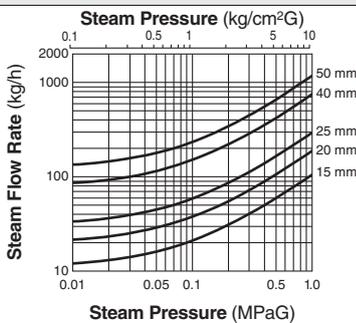
Steam Pressure Loss



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 velocities, calculate the flow rate as follows:

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

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

