SEPARATOR FILTER

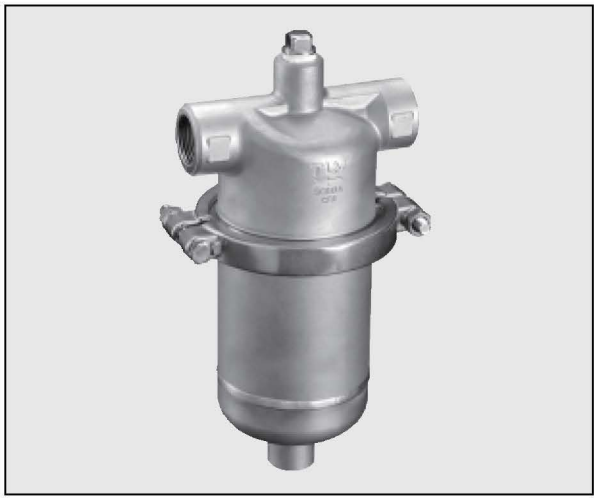
MODEL SF1

FILTER WITH BUILT IN CYCLONE SEPARATOR

Benefits

All stainless steel separator filter efficiently removes condensate and impurities from the flow medium. Suitable for applications requiring high-quality dry steam and air 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		
Connection		**Screwed**	Socket Weld	Flanged
Size (in)		**½, ¾, 1, 1½, 2**	½, ¾, 1, 1½, 2	
Washing/Pressure Detection Port Connection		½″ Screwed		
Condensate Outlet Connection		½″ Screwed		
Maximum Operating Pressure (psig)	PMO	150		
Maximum Operating Temperature (°F)	TMO	365		
Maximum Allowable Pressure (psig)	PMA	150		
Maximum Allowable Temperature (°F)	TMA	365		
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 **Connections and sizes in bold are standard**
*** Do not use for toxic, flammable or otherwise hazardous fluids

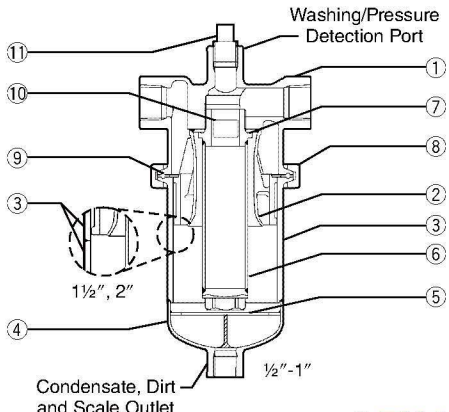
⚠ CAUTION To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description		Material	ASTM/AISI[1]	JIS
①	Body		Cast Stainless Steel	A351 Gr.CF8	—
②	Separator		Cast Stainless Steel	A351 Gr.CF8	SCS13
③	Separator	½″ – 1″	Cast Stainless Steel	A351 Gr.CF8	—
	Body	1½″, 2″	Cast Stainl. Steel/Stainl. Steel	A351 Gr.CF8/AISI304	– /SUS304
④	Separator Bottom		Cast Stainless Steel	A351 Gr.CF8	—
⑤	Baffle		Stainless Steel	AISI304	SUS304
⑥	Filter		Stainless Steel[2]	AISI304/316(L)	SUS304/316(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	AISI304	SUS304
⑪	Plug		Stainless Steel	AISI304	SUS304
⑫	Clamp Bolt[5]		Stainless Steel	AISI304	SUS304
⑬	Clamp Nut[5]		Stainless Steel	AISI304	SUS304
⑭	Spring Washer[5]		Stainless Steel	AISI304	SUS304
⑮	Flange[6]		Cast Stainl. Steel/Stainl. Steel	A351 Gr.CF8/AISI304	– /SUS304

[1] Equivalent [2] Material depends on filter grade or flange specifications
[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

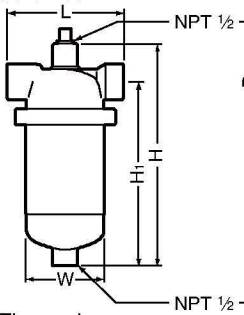
Parts with USP/FDA/EN Compliant Materials			Standard		
			USP	FDA*	EN
⑦ Filter Gasket	High-performance Fluorine Resin		Class VI	A	1935
⑨ Body Gasket					
⑪ Seal Tape for Plug	Fluorine Resin		—	B	—

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

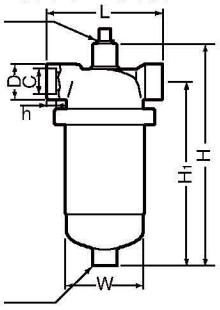


Dimensions

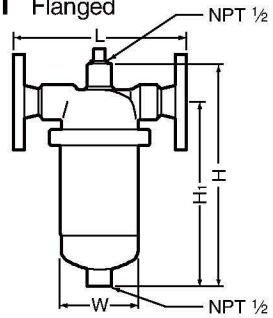
● **SF1** Screwed



Socket Welded



● **SF1** Flanged



SF1 Screwed*/Socket Weld** (in)

Size	L	H	H1	ϕW	ϕD	ϕC	h	Weight (lb)
½	5⅛	10	8¼	3½	1 7/16	0.855	½	10
¾						1.065		
1	5⅞	11⅜	9 7/16	4	1¾	1.330		13
1½	6 1/16	18⅛	16	4½	2 5/16	1.915		24
2	8 1/16	22¼	20	6½	2 13/16	2.406	⅝	49

NPT, other standards available
** ASME B16.11-2005, other standards available

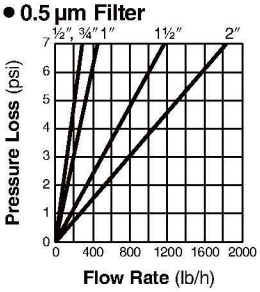
SF1 Flanged (in)

Size	L Connects to ASME Class 150RF	H	H1	ϕW	Weight (lb)
½	7½	10	8¼	3½	12
¾					13
1	8 15/16	11⅜	9 7/16	4	18
1½	9⅞	18⅛	16	4½	33
2	13	22¼	20	6½	62

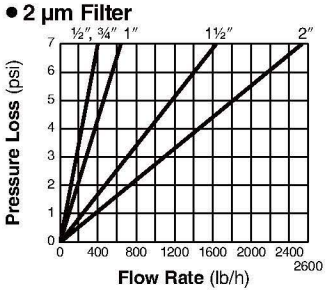
Other standards available, but length and weight may vary

Steam Pressure Loss

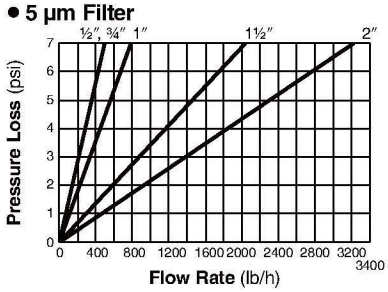
● **0.5 µm Filter**



● **2 µm Filter**



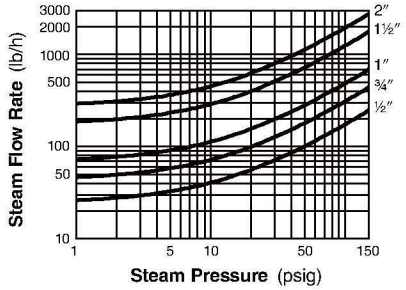
● **5 µm Filter**



These pressure loss charts are based on a steam pressure of 15 psig. 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 (psig)	10	15	20	40	60	80	100	120	140	150
Flow Rate Correction Factor	1.14	1.0	0.91	0.73	0.64	0.58	0.52	0.49	0.46	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 100 ft/sec. For other velocities, calculate the flow rate as follows

$$\text{Flow rate at v ft/sec} = \text{Flow Rate (at 100 ft/sec)} \times \frac{v}{100}$$

It is recommended that steam velocities not exceed 100 ft/s.

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

⚠ CAUTION DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE.
Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Member of FCI Fluid Controls Institute, Inc.

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

ISO 9001/ISO 14001