# 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 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)



## **Specifications**

Model		SF1				
Connection		Screwed	Socket Welded	Flanged		
Size (in)		1⁄2, 3⁄4, 1, 11⁄2, 2	1/2, 3/4, 1	1, 1½, 2		
Washing/Pressure Detection Port Connect	ction	1⁄2" Screwed				
Condensate Outlet Connection		1⁄2" 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				
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

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



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/AISI1)	JIS
1	Body		Cast Stainless Steel	A351/A351M Gr.CF8	—
2	Separator		Cast Stainless Steel	A351/A351M Gr.CF8	—
		1⁄2" - 1"	Cast Stainless Steel	A351/A351M Gr.CF8	_
3	Separator Body	11⁄2", 2"	Cast Stainless Steel/ Stainless Steel	A351/A351M Gr.CF8/ AISI304	- /SUS304
4	Separator	Bottom	Cast Stainless Steel	A351/A351M Gr.CF8	—
5	Baffle		Stainless Steel	AISI304	SUS304
6	Filter		Stainless Steel <sup>2)</sup>	AISI304/316(L)	SUS304/316(L
0	Filter Gasket <sup>3)</sup>		High-performance Fluorine Resin	_	_
8	Body Clamp <sup>4)</sup>		Cast Stainless Steel	A351/A351M Gr.CF8	—
9	Body Gasket <sup>3)</sup>		High-performance Fluorine Resin	_	_
10	Nameplate		Stainless Steel	AISI304	SUS304
11	Plug		Stainless Steel	AISI304	SUS304
(12)	Clamp Bolt <sup>5)</sup>		Stainless Steel	_	—
(13)	Clamp Nut <sup>5)</sup>		Stainless Steel	_	—
(14)	Spring Wa	Isher <sup>5)</sup>	Stainless Steel	_	—
10	Elongo <sup>6)</sup>	1⁄2" - 1"	Cast Stainless Steel	A351/A351M Gr.CF8	—
(15)	riange"	11/2".2"	Stainless Steel	AISI304	SUS304

<sup>1)</sup> Equivalent <sup>2)</sup> Material depends on filter rating or flange specifications

<sup>3)</sup> Gaskets are GYLON BIO-PRO; complies with FDA/USP/EC standards. See table above-right for details. <sup>4)</sup> GYLON BIO-PRO is a registered trademark of Garlock GmbH. Two-piece two-bolt clamp <sup>5)</sup> Not shown <sup>6)</sup> Shown on reverse

#### Connections and sizes in bold are standard

Parts with US	Standard					
Compliant	USP	FDA*	EC			
⑦ Filter Gasket	High-performance	Class	^	1025/2004		
9 Body Gasket	Fluorine Resin	VI A		1355/2004		
1 Seal Tape for Plug	Fluorine Resin	—	В	—		

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



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## Dimensions

TLV



SF1 Screwed*/Socket Welded**								(in)	
Size	L	Н	H <sub>1</sub>	φW	φD	φC	h	Weight (lb)	
1⁄2	51/8	<sup>1</sup> /2 E1/2	10	01/.	21/	17/10	0.855		10
3⁄4		10	074	3/2	I'/16	1.065	1⁄2	10	
1	57/8	113/8	<b>9</b> <sup>7</sup> / <sub>16</sub>	4	1¾	1.330		13	
1½	611/16	18 <sup>1</sup> /8	16	41⁄2	25/16	1.915		24	
2	811/16	221⁄4	20	6½	213/16	2.406	5/8	49	
* NPT, other standards available									

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

• SF1 Flanged



SF1	Flanged				(in)
Size	L Connects to ASME Class 150RF	Н	H₁	φW	Weight (lb)
1/2 3/4	71⁄2	10	8¼	3½	12 13
1	815/16	11 <sup>3</sup> /8	<b>9</b> <sup>7</sup> / <sub>16</sub>	4	18
1½	97/8	18 <sup>1</sup> /8	16	41⁄2	33
2	13	221⁄4	20	6½	62

Other standards available, but length and weight may vary



## **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/s. For other cases, use the equation below and replace "v" with your steam velocity:

Effective flow rate = Flow Rate 
$$_{100 \text{ ft/s}} \times \frac{\text{V}}{100}$$

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.

## ORPORAT

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



ISO 9001

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