



Donaldson.  
FILTRATION SOLUTIONS

# Process Filtration From Pure to Sterile

## (P)-SRF

### MAIN FEATURES & BENEFITS:

- Highly robust and mechanically stable
- Very durable design
- Integrity testable according to HIMA
- Thermal stability up to 200°C
- Approved for Food Contact Use acc. to CFR Title 21 & EEC/1935/2004



### INDUSTRIES:



- Dairy



- Brewery



- Food Processing



- Pharmaceutical



- Chemical



- Packaging

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Donaldson<sup>®</sup>  
Ultrafilter

## PRODUCT DESCRIPTION

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The (P)-SRF filter is a wrapped depth filter with inner and outer guard and end caps made from stainless steel. The retention rate is  $\geq 99,99998$  % related to  $\leq 0,2$   $\mu\text{m}$ . The binder-free, three dimensional borosilicate depth media has a large void volume of 95 %. This ensures a high dirt containment capacity at a low differential pressure and a high flow rate. The filter media is inherently hydrophobic.

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The (P)-SRF was developed for the safe sterile filtration of compressed air and other process gases. The filter element fulfils the high requirements in food (breweries, dairies, soft drinks) and pharmaceutical industries and works reliable even under extreme operating conditions. Based on the binder free micro fibre medium made of borosilicate, this depth type filter realises high particle holding capacity and long service life.

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All components meet the EU and USA requirements for Food Contact Use in accordance with CFR (Code of Federal Regulations) Title 21 and EEC/1935/2004. Several layers of the glass fibre medium are embedded in stainless steel supports and bound to stainless steel end caps. The sturdy stainless steel construction permits one hundred (100) possible sterilisation cycles at specified conditions and withstands high differential pressures in both flow directions. (P)-SRF sterile filter elements guarantee a safe and reproducible production.

**The wrapped sterile depth filter (P)-SRF is designed and developed for the following applications:**

### Filtration of air and gases

- Compressed Air
- Carbon Dioxide
- Fermentation Air
- Tank Ventilation
- Technical Gases

### Application areas

- Chemical industry
- Pharmaceutical industry
- Biotechnology
- Breweries
- Dairies
- Aseptic packaging
- Food industry
- Hospitals

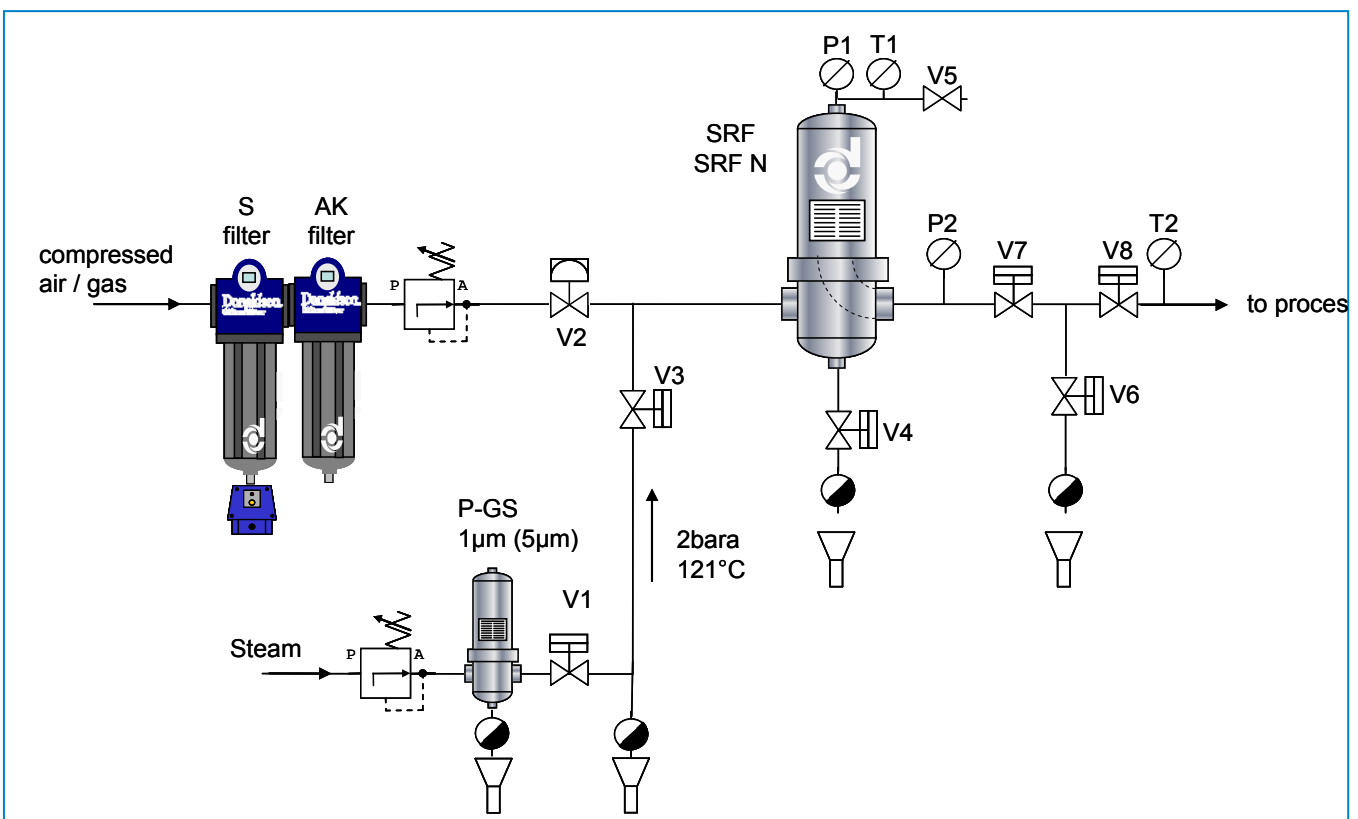
## PRODUCT SPECIFICATIONS

## Product Specifications

<b>Retention Rate</b>	<ul style="list-style-type: none"> <li>• <math>\geq 99,99998\%</math> at <math>\leq 0,2\ \mu\text{m}</math></li> </ul>
<b>Filtration Surface</b>	<ul style="list-style-type: none"> <li>• <math>0,05\ \text{m}^2</math> per 250 mm element (10")</li> </ul>
<b>Temperature Range</b>	<ul style="list-style-type: none"> <li>• <math>-20^\circ\text{C}</math> (<math>-4^\circ\text{F}</math>) to <math>200^\circ\text{C}</math> (<math>400^\circ\text{F}</math>)</li> <li>• <math>&gt; 150^\circ\text{C}</math> (<math>300^\circ\text{F}</math>) only for dry air</li> </ul>
<b>Maximum Differential Pressure</b>	<ul style="list-style-type: none"> <li>• 5 bar (75 psid), independent of the system pressure or the flow direction</li> </ul>
<b>Typical Continuous Air Service Life time</b>	<ul style="list-style-type: none"> <li>• 12 months</li> </ul>
<b>Typical Vent Service Life Time</b>	<ul style="list-style-type: none"> <li>• 6 months</li> </ul>
<b>Cumulative Steaming Time*</b>	<ul style="list-style-type: none"> <li>• <math>121^\circ\text{C}</math> (<math>250^\circ\text{F}</math>), Saturated Steam: <math>&gt; 100</math> cycles (30 minutes)</li> </ul>

\* Figures are based on lab tests to evaluate steaming resistance. Filter elements need to be checked in actual use. Contact Donaldson for recommended Autoclaving/Steaming procedures.

## SAMPLE INSTALLATION (REVERSE FLOW STERILISATION)



## MATERIAL COMPLIANCE

All components of the (P)-SRF filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21

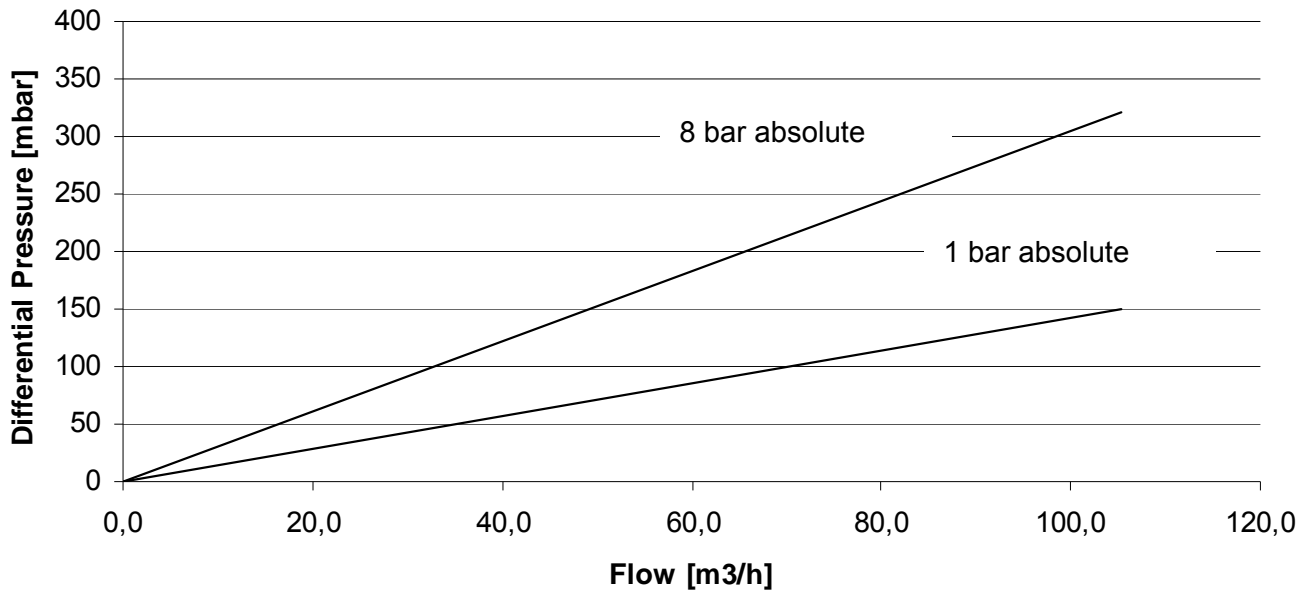
Filter Materials	CFR Title
<b>Filter Matrix:</b>	Borosilicate 177.2260
<b>Upstream Support:</b>	PTFE 177.1550
<b>Downstream Support:</b>	PTFE 177.1550
<b>Outer Guard:</b>	Stainless Steel 1.4301 211.65
<b>Inner Guard:</b>	Stainless Steel 1.4301 211.65
<b>End Caps:</b>	Stainless Steel 1.4301 211.65
<b>Bonding Materials:</b>	Silicone 177.2600
<b>O-Rings:</b>	Silicone 177.2600
<b>Alternatively:</b>	Buna 177.2600
	EPDM 177.2600
	PTFE over silicone 177.1550
	PTFE over viton 177.1550

**All products have been inspected and released by Quality Assurance as having met the following requirements:**

- Donaldson Filtration Deutschland GmbH confirms that all materials used for the P-SRF element meet regulatory and legislative requirements and guidelines for food contact as detailed in European Regulation (EC) Number 1935/2004. These articles are intended for indirect food use in filtration of gases, therefore migration testing has been limited to an atmospheric and watery environment.
- All sterile filters are integrity tested according to ASTM D 2986-91 and DIN EN 1822. to verify compliance with established quality and design specifications and to assure consistent and reliable performance.
- On request a Factory Test Certificate according to DIN EN 10204 is available.

## FLOW CHARACTERISTICS

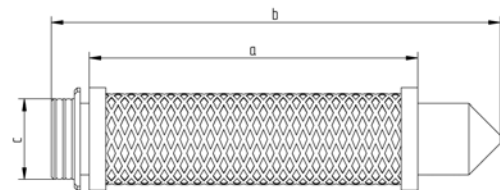
(P)-SRF, 10/30, air, 25°C, 1 bar absolute &amp; 8 bar absolute



## AVAILABLE END CAP CONFIGURATIONS

Dimensions (CODE 7 connection) :

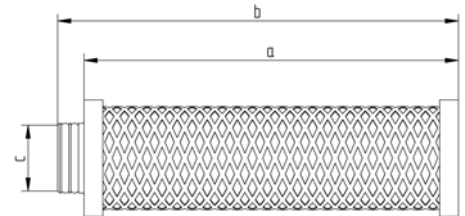
CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
5"	125	4,92	190	7,48	56,5	2,22
10"	250	9,84	315	12,40	56,5	2,22
20"	500	19,68	585	22,24	56,5	2,22
30"	750	29,53	815	32,08	56,5	2,22



CODE 7: 2 x 226 o-rings, bayonet 2 locking tabs, locating fin.

Dimensions (uf plug connection):

uf – plug Connection							
Size	a		b		C*		CF**
	mm	inch	mm	inch	mm	inch	
03/10	76	2,99	87	3,42	30	1,18	0,12
04/10	104	4,09	118	4,64	30	1,18	0,17
04/20	104	4,09	118	4,64	37	1,46	0,19
05/20	128	5,04	142	5,59	37	1,46	0,25
05/25	128	5,04	142	5,59	37	1,46	0,32
07/25	180	7,08	194	7,64	37	1,46	0,47
05/30	128	5,04	144	5,67	61	2,40	0,46
07/30	180	7,08	196	7,71	61	2,40	0,68
10/30	254	10	270	10,63	61	2,40	1,00
15/30	381	15	397	15,63	61	2,40	1,55
20/30	510	20	526	20,63	61	2,40	2,10
30/30	764	30	780	30,63	61	2,40	3,28
30/50	764	30	780	30,63	89	3,50	5,89

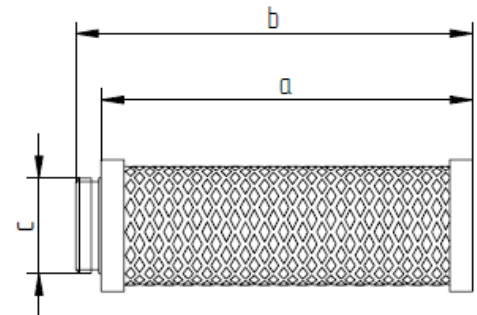


\* Plug- type connection with double-o-ring

\*\* Correction Factor Filtration Surface & Flow Rate

Dimensions (thread connection):

thread connection					
Size	a		b		c
	mm	inch	mm	inch	
2/1,5	66	2,598	76	2,992	1½ x1 1/16" m
3/1,5	76	2,992	86	3,386	1½ x1 1/16" m
4/1,5	112	4,409	122	4,803	1½ x1 1/16" m
4/2,5	103	4,055	127	5,000	R1"
5/2,5	127	5	151	5,945	R1"
5/3	127	5	149	5,866	R1"
10/3	254	10	376	10,866	R1"
15/3	381	15	407	16,024	R2"
20/3	508	20	537	21,142	R2"
30/3	762	30	788	31,024	R2"
30/5	762	30	782	30,787	R3"



Other end cap configurations on request.

Technical alterations reserved 04/2009

- Integrity test of this element to be done by DOP Test.
- For information on test equipment or test services, please contact your Donaldson Sales Engineer and visit our website at [www.donaldson.com](http://www.donaldson.com)!

(Rev 04 – 09/10)

