



Donaldson.  
FILTRATION SOLUTIONS

# Process Filtration From Pure to Sterile

(P)-BE

## MAIN FEATURES & BENEFITS:

- High mechanical and thermal stability
- Excellent flow rate
- Integrity testable according to HIMA
- Thermal stability up to 200°C



## INDUSTRIES:



- Dairy



- Fermentation



- Food & Beverage



- Health Care



- Biotech

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Donaldson.  
**Ultrafilter**

## PRODUCT DESCRIPTION

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The (P)-BE filter is a wounded depth filter with inner and outer guard end caps made from stainless steel. The retention rate is 99,999 % related to 0,2 µm. 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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Based on the patented binder free micro fibre medium made of borosilicate, this depth type filter realises high particle holding capacity and long service life. Based on the low differential pressure of the (P)-BE filter elements a use in Tank ventilation applications is recommended.

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The depth filter medium is non-fibre releasing and complies to the FDA requirements (Food and Drug Administration 21CFR 211.72 latest edition). 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)-BE sterile filter elements guarantee a safe and reproducible production.

**The wounded ventilation depth filter (P)-BE is designed and developed for the following applications:**

### Filtration of air and gases

- Tank Ventilation
- Compressed Air
- Carbon Dioxide
- Fermentation Air
- 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>• 99,999 % at <math>\leq 0,2 \mu\text{m}</math></li> </ul>
<b>Filtration Surface</b>	<ul style="list-style-type: none"> <li>• 0,05 m<sup>2</sup> per 250 mm element (10")</li> </ul>
<b>Temperature Range</b>	<ul style="list-style-type: none"> <li>• -20°C (-4°F) to 200°C (400°F) ; &gt; 150°C (300°F) 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>• 121°C (250° F), Saturated Steam: &gt; 100 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.



## MATERIAL COMPLIANCE

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

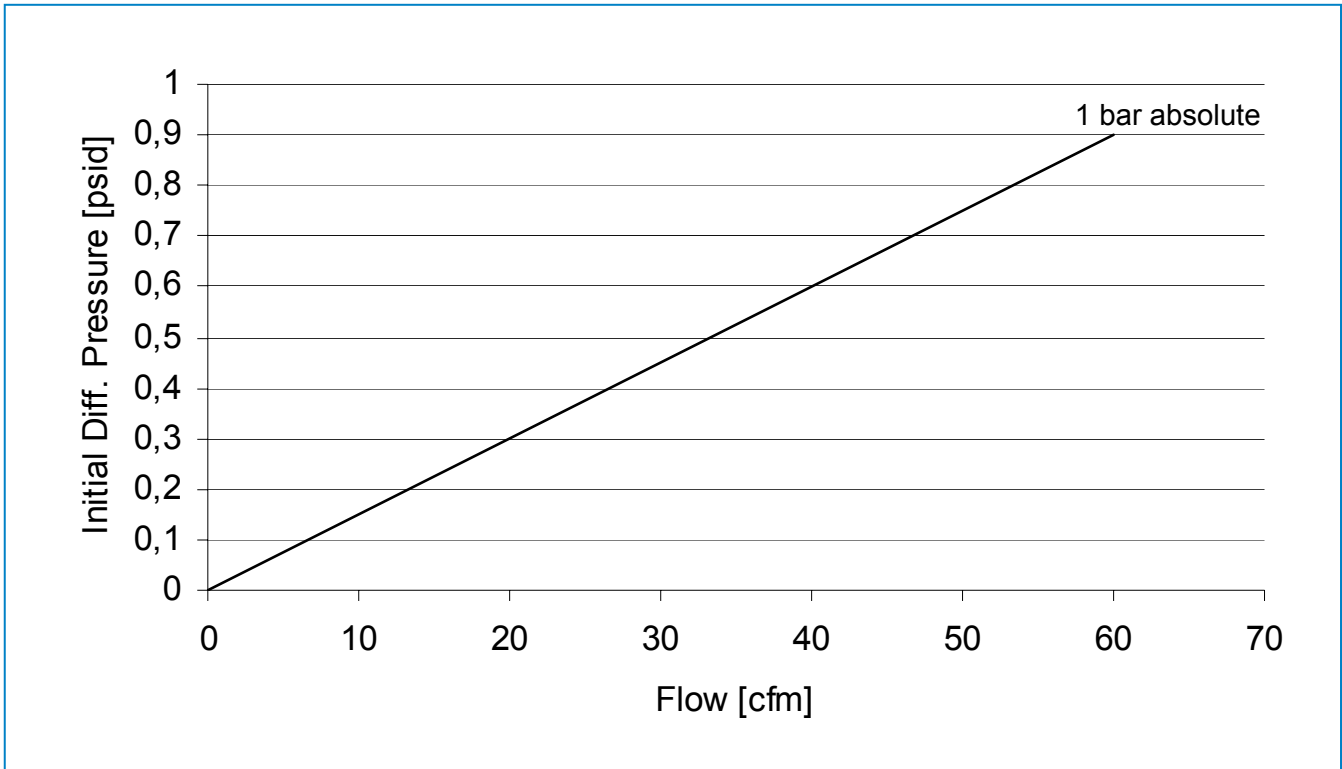
Filter Materials	CFR Title
<b>Filter Matrix:</b>	Borosilicate 177.2260
<b>Upstream Support:</b>	Aramide 177.2600
<b>Downstream Support:</b>	Aramide 177.2600
<b>Outer Guard:</b>	Stainless Steel 1.4301 211.65
<b>Inner Guard:</b>	Stainless Steel 1.4301 211.65
<b>End Caps:</b>	Stainless Steel 1.4301 211.65
<b>Bonding Materials</b>	Silicone 177.2600
<b>O-Rings:</b>	Silicone 177.2600
<b>Alternatively:</b>	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:

- All filters are fabricated without the use of binders, adhesives, additives or surface-active agents.
- All filter components based on plastics are non-toxic and are certified bio-safe in accordance with current USP Class VI Tests for Plastic.
- All filter elements 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)-BE, 10/30, air, 25°C, 1 bar absolute

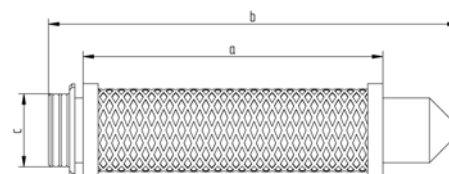


## AVAILABLE END CAP TYPES

## Dimensions (CODE 7 connection):

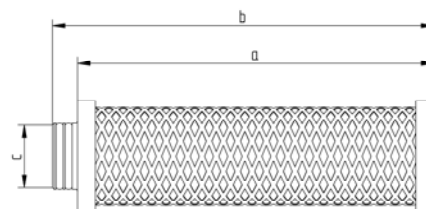
CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
5"	125	4,92	190	7,48	56,5	2,22
10"	250	9,84	315	12,40	56,5	2,22
20"	500	19,68	585	22,24	56,5	2,22
30"	750	29,53	815	32,08	56,5	2,22

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
05/25	128	5,04	142	5,59	37	1,46	0,32
05/30	128	5,04	144	5,67	61	2,40	0,46
10/30	254	10	270	10,63	61	2,40	1,00
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	5,3



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

\*\* Correction Factor Filtration Surface & Flow Rate

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)!