



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
- Approved for Food Contact Use acc. to CFR Title 21 & EEC/1935/2004



INDUSTRIES:



- Dairy



- Fermentation



- Food & Beverage



- Health Care



- Biotechnology

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Donaldson[®]
Ultrafilter

Web: www.donaldson.com

PRODUCT DESCRIPTION

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 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

Based on the 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.

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 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

| | |
|---|---|
| Retention Rate | <ul style="list-style-type: none"> • $\geq 99,999\%$ at $\leq 0,2\ \mu\text{m}$ |
| Filtration Surface | <ul style="list-style-type: none"> • $0,05\ \text{m}^2$ per 250 mm element (10") |
| Temperature Range | <ul style="list-style-type: none"> • -20°C (-4°F) to 200°C (400°F) ; $> 150^\circ\text{C}$ (300°F) only for dry air |
| Maximum Differential Pressure | <ul style="list-style-type: none"> • 5 bar (75 psid), independent of the system pressure or the flow direction |
| Typical Continuous Air Service Life Time | <ul style="list-style-type: none"> • 12 months |
| Typical Vent Service Life Time | <ul style="list-style-type: none"> • 6 months |
| Cumulative Steaming Time* | <ul style="list-style-type: none"> • 141°C (286°F), Saturated Steam, 10 minutes, several cycles |

* 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**

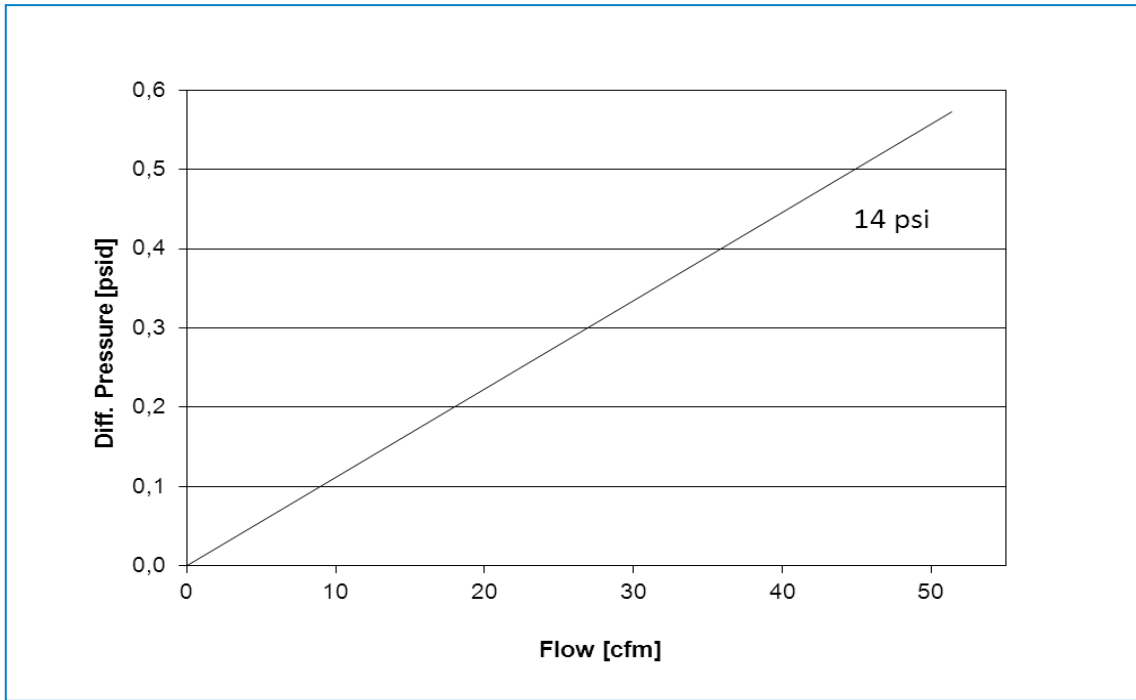
| Filter Materials | CFR Title |
|----------------------------|----------------------------------|
| Filter Matrix: | Borosilicate 177.2260 |
| Upstream Support: | PTFE 177.1550 |
| Downstream Support: | PTFE 177.1550 |
| Outer Guard: | Stainless Steel 1.4301 211.65 |
| Inner Guard: | Stainless Steel 1.4301 211.65 |
| End Caps: | Stainless Steel 1.4301 211.65 |
| Bonding Materials | Silicone 177.2600 |
| O-Rings: | Silicone 177.2600 |
| Alternatively: | 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-BE 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 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

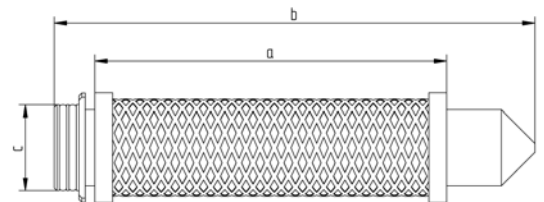
(P)-BE, 10/30, air, 25°C, 14 psi



AVAILABLE END CAP TYPES

Dimensions (CODE 7 connection):

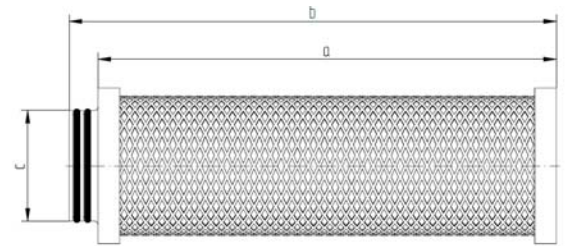
| CODE 7 | | | | | | |
|--------|-----|------|-----|-------|------|------|
| Size | a | | b | | c | |
| | mm | inch | mm | inch | mm | inch |
| 5" | 125 | 5 | 190 | 7,48 | 56,5 | 2,22 |
| 10" | 250 | 10 | 315 | 12,40 | 56,5 | 2,22 |
| 20" | 500 | 20 | 585 | 22,24 | 56,5 | 2,22 |
| 30" | 750 | 30 | 815 | 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 | | |
| 03/10 | 76 | 3 | 87 | 3,42 | 3/4"P | 0,12 |
| 04/10 | 104 | 4 | 118 | 4,64 | 3/4"P | 0,17 |
| 04/20 | 104 | 4 | 118 | 4,64 | 1"P | 0,19 |
| 05/20 | 128 | 5 | 142 | 5,59 | 1"P | 0,25 |
| 05/25 | 128 | 5 | 142 | 5,59 | 1"P | 0,32 |
| 07/25 | 180 | 7 | 194 | 7,64 | 1"P | 0,47 |
| 05/30 | 128 | 5 | 144 | 5,67 | 2"P | 0,46 |
| 07/30 | 180 | 7 | 196 | 7,71 | 2"P | 0,68 |
| 10/30 | 254 | 10 | 270 | 10,63 | 2"P | 1,00 |
| 15/30 | 381 | 15 | 397 | 15,63 | 2"P | 1,55 |
| 20/30 | 510 | 20 | 526 | 20,63 | 2"P | 2,10 |
| 30/30 | 764 | 30 | 780 | 30,63 | 2"P | 3,28 |
| 30/50 | 764 | 30 | 780 | 30,63 | 3"P | 5,89 |

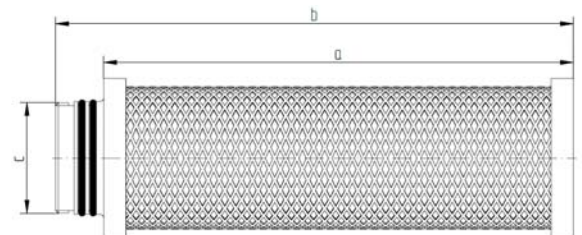


* Plug-type connection with double-o-ring

** Correction Factor Filtration Surface & Flow Rate

Dimensions (thread connection):

| thread connection | | | | | |
|-------------------|-----|------|-----|-------|------|
| Size | a | | b | | c |
| | mm | inch | mm | inch | inch |
| 03/10 | 76 | 3 | 39 | 1,53 | G3/4 |
| 07/30 | 180 | 7 | 206 | 8,11 | G2 |
| 10/30 | 254 | 10 | 281 | 11,06 | G2 |
| 15/30 | 381 | 15 | 407 | 16,02 | G2 |
| 20/30 | 508 | 20 | 534 | 21,02 | G2 |
| 30/30 | 762 | 30 | 788 | 31,02 | G2 |
| 30/50 | 762 | 30 | 788 | 31,02 | G3 |



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!

(Rev04 – 07/14)

