



Donaldson.
FILTRATION SOLUTIONS

Process Filtration From Pure to Sterile

PP-FC100

MAIN FEATURES & BENEFITS:

- Developed as pre-filter to protect membranes
- Also suitable for the cost-effective final filtration of liquids
- High dirt holding capacity at low differential pressure
- High flow rate
- Highly resistant construction



INDUSTRIES:



- Food & Beverage



- Chemical



- Engineering



- Industrial Water Supply



- Environmental

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Donaldson®
Ultrafilter

PRODUCT DESCRIPTION

The Donaldson PP-FC100 precision graded density filter elements are a further development of our already well proven nominal rated depth PP-FC filter, often used as water filters, chemical filters or trap filters. These high performance elements excel in dirt holding capacity and give extremely low clean pressure losses as a result of the strictly controlled manufacturing of the fibre matrix.

Polypropylene fibres are blown continuously on to the central moulded support core, with fibre diameters controlled to produce varying sizes through the extrusion process. All the layers are inter-linked to offer maximum support while ensuring that the high void volume is maintained, but with increasing fibre density towards the element centre core - therefore resulting in true depth filtration, ideal for use as water filters, chemical filters and trap filters.

The absolute rated PP-FC100 depth filter is designed and developed as pre-filter in front of membrane filters or as low cost alternative to membrane – based final filters.

Typical applications for PP-FC100 filter elements include:

Purification of Food and Beverage products

- Water
- Mineral Water
- Soft Drinks
- Beer
- Wine
- Spirits
- Syrups

Filtration of pharmaceutical products

- Ophthalmics
- Diagnostic reagents
- Serum Products
- Isotonic Salt Solutions

Purification of chemicals

- Acids
- Bases
- Complexing agents
- Alcohols, Aldehydes
- Etchants
- Chlorinated and fluorinated solvents
- Esters and Ketones
- Photolithographic Liquids

PRODUCT SPECIFICATIONS

Product Specifications

Absolute Retention Rates

- 0,5 µm, 1 µm, 3 µm, 5 µm, 10 µm, 20 µm

Nominal Retention Rates

- 30 µm, 50 µm, 70 µm, 90 µm, 120 µm, 150 µm, 180 µm

Recommended Filter Element Change

- 1,5 bar (Differential Pressure)

Maximum Differential Pressure (Forward Flow)

| Operating temperature [°C / °F] | Max. Differential Pressure [bar / psi] |
|---------------------------------|--|
| 20 / 68 | 4,0 / 58 |
| 30 / 86 | 3,5 / 50 |
| 40 / 104 | 2,5 / 36 |
| 50 / 122 | 1,5 / 22 |
| 70 / 158 | 0,5 / 7 |
| 80 / 176 | 0,25 / 3,5 |

Recommended Surface Load for Continuous Operation (10" element)

| Liquid: | Surface Load [hl/h]: |
|----------------|----------------------|
| Water | 8 |
| Fruit Juice | 6,5 |
| Beer | 5 |
| Wine | 5 |
| Sparkling Wine | 5 |

Recommended Surface Load for Temporary Operation (10" element)

| Liquid: | Surface Load [hl/h]: |
|----------------|----------------------|
| Water | Max. 20 |
| Fruit Juice | Max. 15 |
| Beer | Max. 12 |
| Wine | Max. 12 |
| Sparkling Wine | Max. 12 |

Cumulative Steaming Time *

- 121°C (250° F), Saturated Steam: > 20 cycles (30 minutes)

* 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 PP-FC100 filter element are FDA listed for food contact use in the **Code of Federal Regulations (CFR), Title 21**.

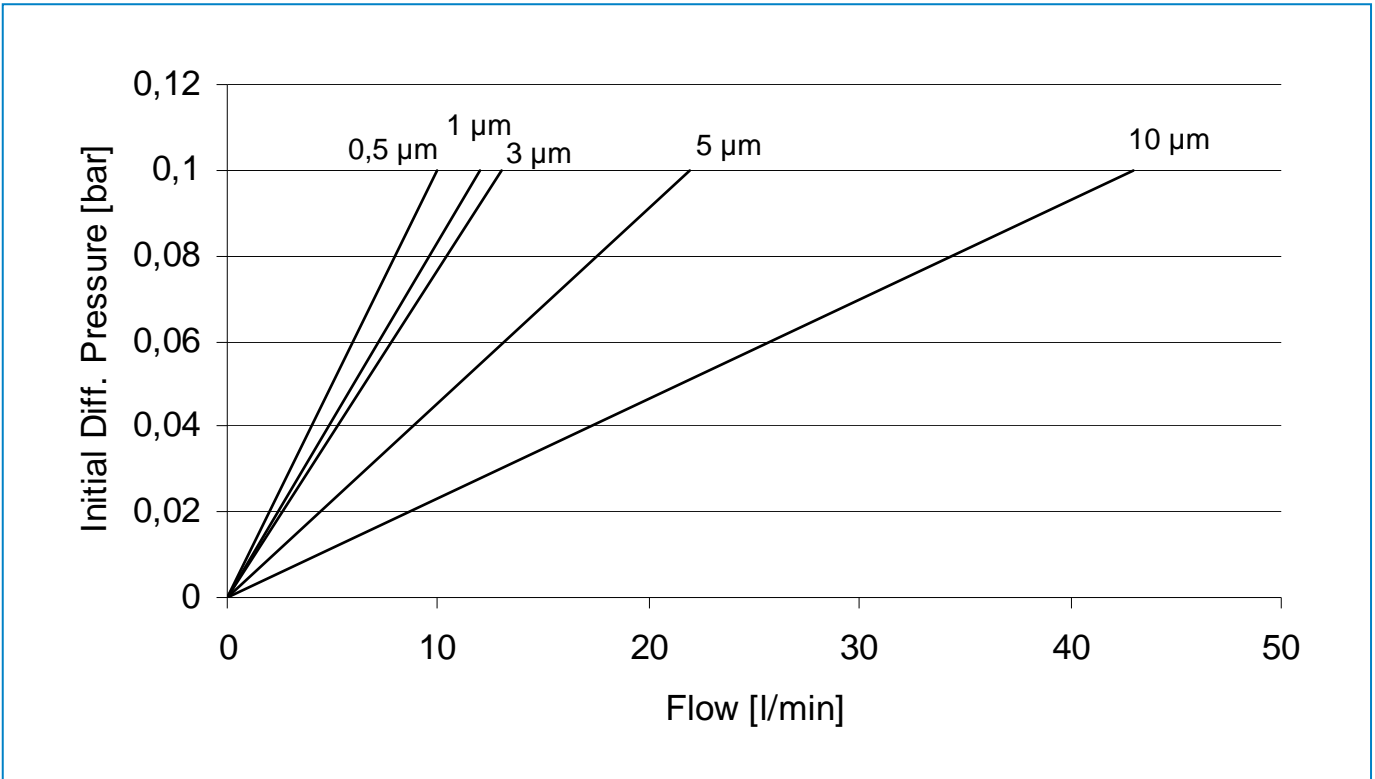
| Filter Materials | CFR Title |
|----------------------------|--------------------------------|
| Filter Matrix: | Polypropylene 177.1520 |
| Upstream Support: | Polypropylene 177.1520 |
| Downstream Support: | Polypropylene 177.1520 |
| Outer Guard: | Polypropylene 177.1520 |
| Core: | Polypropylene 177.1520 |
| End Caps: | Polypropylene 177.1520 |
| O-Rings: | EPDM 177.2600 |
| Alternatively: | Silicone 177.2600 |
| | Buna N 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 filters show no migration of filter medium and is non-fibre releasing.
- Samples of the components of Donaldson PP-FC100 element filters have been tested by an independent laboratory and were shown to meet all the requirements of current USP Class VI Plastics Test.

FLOW CHARACTERISTICS

PP-FC100, 10", Deionised water, 20°C



RETENTION RATES

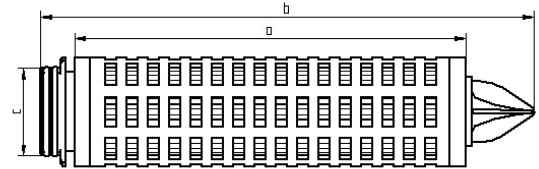
| Particle Retention | |
|--------------------------|----------------------------|
| Removal Efficiency | |
| 100 % ($\beta > 5000$) | < 100 % ($\beta < 5000$) |
| 0,5 | 30 |
| 1 | 50 |
| 3 | 70 |
| 5 | 90 |
| 7 | 120 |
| 10 | 150 |
| 20 | 180 |

Donaldson PP-FC100 element filter samples have been tested for filtration efficiency using a modified single pass test methodology with standard test dust, and have achieved the above given β -values at their respective micron ratings.

AVAILABLE END CAP CONFIGURATIONS

Dimensions (CODE 7 connection):

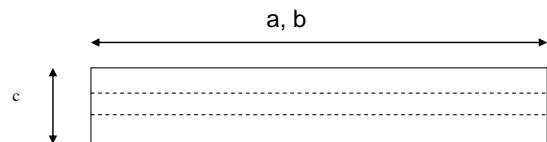
| CODE 7 | | | | | | |
|--------|------|-------|------|-------|------|------|
| Size | a | | b | | c | |
| 10" | 252 | 9,92 | 320 | 12,59 | 56,5 | 2,22 |
| 20" | 509 | 20,04 | 577 | 22,71 | 56,5 | 2,22 |
| 30" | 763 | 30,04 | 831 | 32,71 | 56,5 | 2,22 |
| 40" | 1017 | 40,04 | 1085 | 42,71 | 56,5 | 2,22 |



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

Dimensions (DOE connection):

| DOE | | | | | | |
|------|------|-------|------|-------|----|------|
| Size | a | | b | | c | |
| 10" | 251 | 9,88 | 251 | 9,88 | 64 | 2,52 |
| 20" | 508 | 20,00 | 508 | 20,00 | 64 | 2,52 |
| 30" | 762 | 30,00 | 762 | 30,00 | 64 | 2,52 |
| 40" | 1016 | 40,00 | 1016 | 40,00 | 64 | 2,52 |



No end caps, no gaskets

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!

(Rev01 – 07/10)

