# 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

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

- Ophtalmics
- 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**.

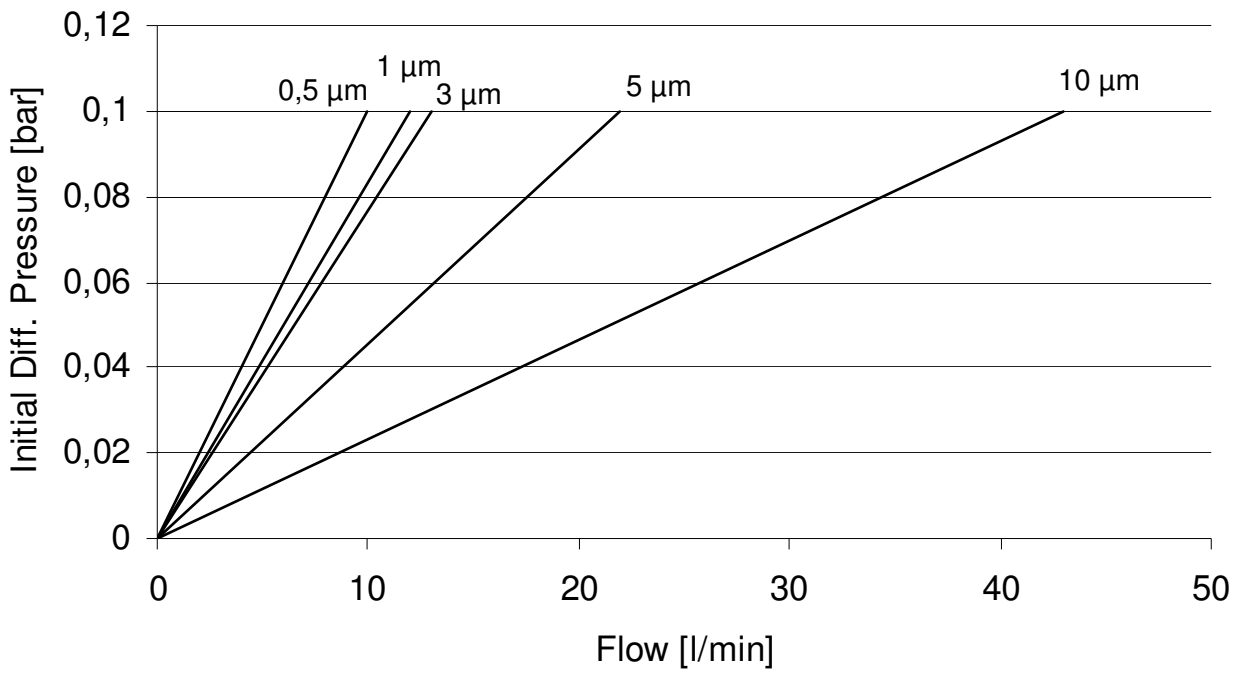
| Filter Materials | | CFR Title |
|---|---|---|
| **Filter Matrix:** | Polypropylene | 177.1520 |
| **Upstream Support:** | Polypropylene | 177.1520 |
| **Downstream Support:** | Polypropylene | 177.1520 |
| **Outer Guard:** | Polypropylene | 177.1520 |
| **Core:** | Polypropylene | 177.1520 |
| **End 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**

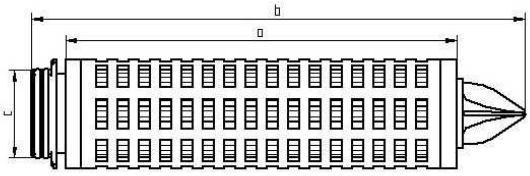
| Removal Efficiency | |
|---|---|
| 100 % (ß > 5000) | < 100 % (ß < 5000) |
| 0,5 | 30 |
| 1 | 50 |
| 3 | 70 |
| 5 | 90 |
| 7 | 120 |
| 10 | 150 |
| 20 | 180 |

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 ß-values at their respective micron ratings.

## AVAILABLE END CAP CONFIGURATIONS

### Dimensions (CODE 7 connection):

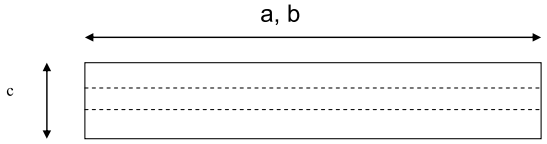
| CODE 7 | | | | | | |
|---|---|---|---|---|---|---|
| Size | a | | b | | c | |
| 10” | 252 | 9,92 | 320 | 12,59 | 56,5 | 2,22 |
| 20” | 509 | 20,04 | 577 | 22,71 | 56,5 | 2,22 |
| 30” | 763 | 30,04 | 831 | 32,71 | 56,5 | 2,22 |
| 40” | 1017 | 40,04 | 1085 | 42,71 | 56,5 | 2,22 |




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



- **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**