



Donaldson.  
FILTRATION SOLUTIONS

# Process Filtration From Pure to Sterile

## (P)-PP100

### MAIN FEATURES & BENEFITS:

- Absolute particle removal
- Tapered pore structure for longer service life
- Highly durable Polypropylene construction
- Excellent flow rate
- Approved for Food Contact Use acc. to CFR Title 21 & 1935/2004/EC



### INDUSTRIES:



- Breweries



- Wineries



- Mineral Water & Soft Drinks



- Chemical



- Environmental

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Donaldson.  
**Ultrafilter**

## PRODUCT DESCRIPTION

Donaldson (P)-PP100 filters are absolute rated depth type filters constructed of 100 % Polypropylene. They contain a graded density Polypropylene microfiber filter medium that provides a tapered pore structure. (P)-PP100 filters deliver superior flow rates and high throughput, with absolute submicron particulate retention and high dirt holding capacity. Their all-Polypropylene construction provides broad chemical compatibility and low extractable levels in a wide range of fluids and applications.

The (P)-PP100 filter's Polypropylene media is made from a process which produces a self-bonded structure comprised of multiple layers of successively finer fibres and smaller pores. This state-of-the-art design results in a highly porous, tapered pore structure consistent of a controlled absolute rated inner layer and several outer prefilter layers which substantially increase the dirt holding capacity.

All components meet the EU and USA requirements for Food Contact Use in accordance with **CFR (Code of Federal Regulations) Title 21** and **1935/2004/EC**. (P)-PP100 has passed the USP Class VI tests for plastics. The filter element is manufactured in accordance with the manufacturing requirements, has no migration of filter media, is non-fibre releasing and is thermally welded without the use of binders or other chemical additives.

**The absolute rated (P)-PP100 depth filter is designed and developed as prefilter in front of membrane filters or as low cost alternative to membrane – based final filters. Typical applications for (P)-PP100 filter elements include:**

### Purification of Food and Beverage products

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

### 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**

- 0,8 µm, 1,2 µm, 2,4 µm, 5 µm, 10 µm

**Filtration Surface**

- 0,5 m<sup>2</sup> per 250 mm element (10")

**Maximum Differential Pressure**

Operating temperature [°C / °F]	Differential pressure [bar / psi]
38 / 100	5,5 / 80
66 / 150	4,1 / 60
82 / 180	2,1 / 30

**Cumulative Steaming Time\***

- 121°C (250° F), Saturated Steam: > 100 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 EU

The Donaldson (P)-PP100 filter element meets the guideline for Food Contact Use as given in **European Regulation (EC) Number 1935/2004**. All polymeric components (Polypropylene) meet the requirements of EU Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with foodstuffs (excluding O-rings).

Migration tests have been carried out in simulants after flushing or in flow conditions.

For specific details on the O-rings, please contact your Donaldson Sales Engineer.

**MATERIAL COMPLIANCE USA**

All components of the (P)-PP100 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>	Polypropylene 177.1520
<b>Upstream Support:</b>	Polypropylene 177.1520
<b>Downstream Support:</b>	Polypropylene 177.1520
<b>Outer Guard:</b>	Polypropylene 177.1520
<b>Core:</b>	Polypropylene 177.1520
<b>End Caps:</b>	Polypropylene 177.1520
<b>O-Rings:</b>	EPDM 177.2600
<b>Alternatively:</b>	Silicone 177.2600
	Buna N 177.2600
	PTFE over silicone 177.1550
	PTFE over viton 177.1550
<b>Sealing Method:</b>	Thermal Bonding

**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 the filter medium and are non-fibre releasing.
- All filter components based on plastics are non-toxic and are certified bio-safe in accordance with current USP Class VI Tests for Plastic.
- Bacterial endotoxin levels in aqueous extracts of (P)-PP100 filter elements are less than 0,5 EU/ml, as determined using the limulus amebocyte lysate (LAL) test.

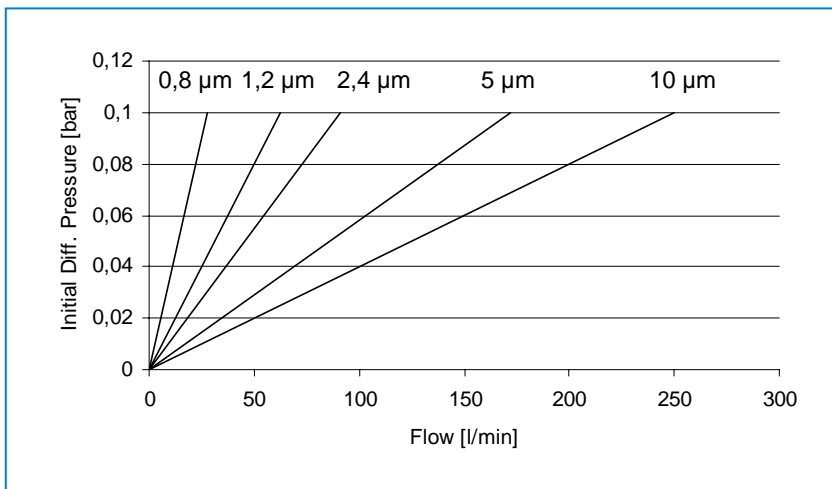
RETENTION

Particle Retention			
Retention Grade	Percent Removal		
	100 %	99 %	90 %
0,8	0,80	0,72	0,50
1,2	1,20	1,10	0,70
2,4	2,40	2,30	2,00
5	5,00	4,50	3,00
7	7,00	6,50	5,00
10	10,00	9,50	7,50

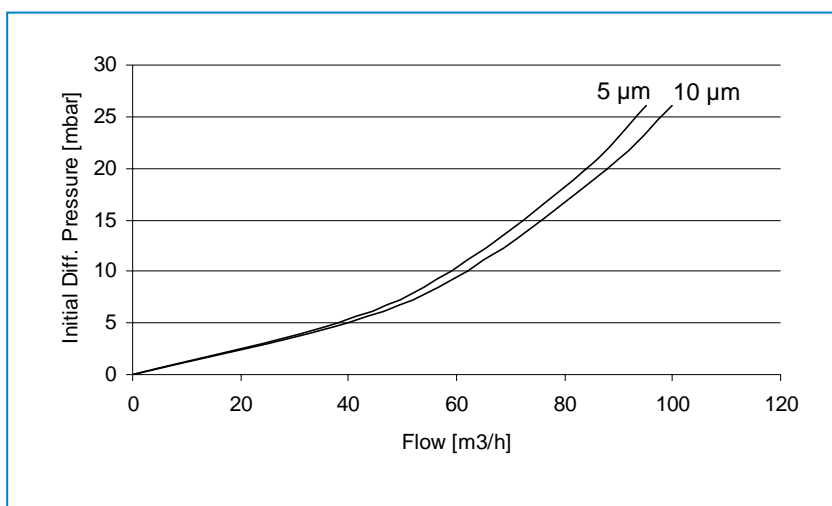
The removal ratings given in this chart represent actual dynamic measurements obtained from a controlled laboratory tests using latex spheres in deionised water at a flow rate of 7,6 l/m (2 gpm) per 10" element.

The particle retention efficiencies were determined with a state-of-the-art liquid particle counter that can accurately measure particles down to 0,3 µm.

FLOW CHARACTERISTICS



(P)-PP100, 10",  
Deionised water, 25°C



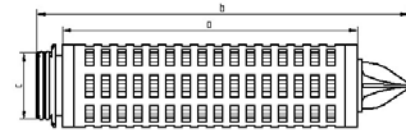
(P)-PP100, 10", air, 25°C,  
1 bar absolute

AVAILABLE END CAP CONFIGURATIONS

Dimensions (CODE 7 connection):

CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	Inch
10"	250	9,84	315	12,40	56,5	2,22
20"	500	19,68	565	22,24	56,5	2,22
30"	750	29,53	815	32,08	56,5	2,22

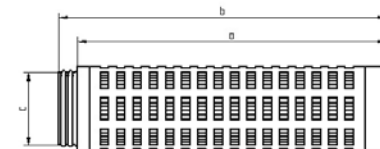
CODE 7: 2 x 226 o-rings, bayonet 2 locking tabs, locating fin.



Dimensions (uf plug connection):

uf-plug connection						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10/30	254	10	270	10,63	61	2,40
20/30	510	20	526	20,63	61	2,40
30/30	764	30	780	30,63	61	2,40

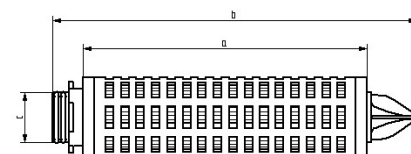
uf: plug connection with integrated reinforcement metal ring and flat end cap.



Dimensions (P9 connection):

CODE 9						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	250	9,84	320	12,59	44	1,73
20"	500	19,68	570	22,44	44	1,73
30"	750	29,53	820	32,28	44	1,73

P9: 2 x 222 o-rings, bayonet 3 locking tabs, locating fin.



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)!

