

# Ultrapolyplea® PP100

*Depth filter element for particle removal from aqueous solutions, water and gases with an absolute retention rate*

The Donaldson® Ultrapolyplea® PP100 depth filter element is a pleated all-polypropylene prefilter with an absolute retention rate between 0.45 µm and 40 µm.

All components meet the FDA requirements for the contact with food in accordance with CFR (Code of Federal Regulations) Title 21. Ultrapolyplea PP100 depth filter has passed the USP XX Class VI tests for plastics. The filter element is manufactured in accordance with cGMP requirements (current Good Manufacturer Practice), has no migration of filter media, is non-fiber releasing and is thermally welded without the use of binders or other chemical additives. The depth filter is prerinsed with 18 MΩ · cm water. This leads to extremely low extractables.

## Applications

The Donaldson Ultrapolyplea PP100 depth filter element is designed and developed for the following industries and applications:

- Particle removal from water
- Chemicals
- Solvents
- Etchants
- Biological liquids
- Pharmaceuticals
- Serums
- Cosmetics
- Food and beverage
- Syrup
- Paints and dyes
- Jet printer inks
- Photolithographical liquids
- Coatings
- Saltwater & seawater
- Coolants
- Isotonic salt solutions
- Inks and pigments
- Magnetic memory media
- Compressed air and other gases



**Ultrapolyplea PP100** high efficient absolute prefilter and final filter



**SEM of Ultrapolyplea PP100** depth filter element

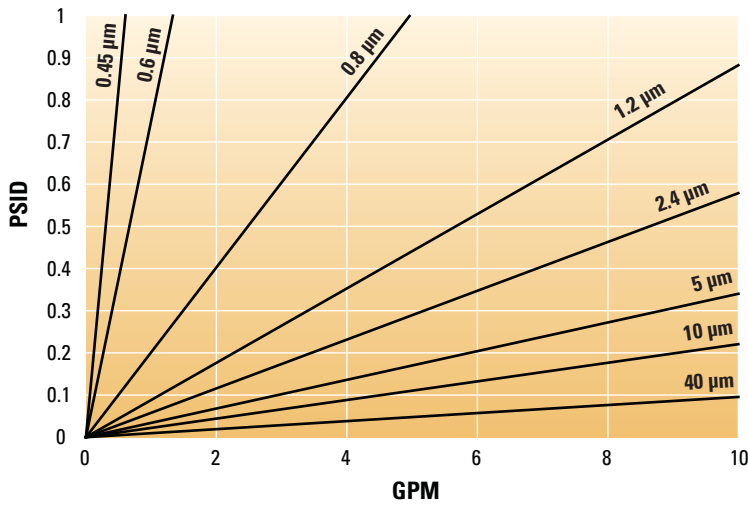
## Features

## Benefits

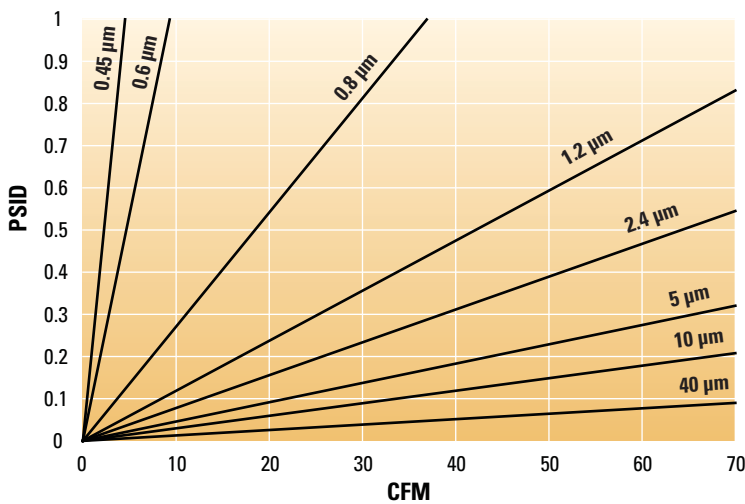
All-polypropylene construction	Wide chemical durability against numerous gases and liquids
Absolute particle removal from 0.45 µm to 40 µm	Precise particle retention at rated level, greater selection of optimum filter media
Tapered pore structure	Higher dirt holding capacity, larger throughputs, longer service life
Self-bonded filter media	Fixed pore structure, high containment of solid materials, no migration of filter media, non-fiber releasing
Contains no binders or adhesives	Wide solvent compatibility, extremely low extractables, immediately rinses to 18 MΩ · cm
Maximum effective surface area	Reduced pressure loss, high flow rates
Biologically inert and non-toxic	Meets FDA requirements for food contact, passed USP class VI biological tests for plastics

## Dimensions & Specifications

### PP100 Differential Pressure Per Ten Inch Equivalent (TIE) —Water



### PP100 Differential Pressure Per Ten Inch Equivalent (TIE) — Air



#### Dimensions

Diameter: 2.75"  
Length: 5", 10", 20", 30" or 40"

#### Materials

Filter Media:	Polypropylene
Upstream support:	Polypropylene
Downstream support:	Polypropylene
Outer guard:	Polypropylene
End Caps:	Polypropylene
O-Rings:	Silicone, Buna N, EPDM or Viton®

\*Viton is a registered trademark of E.I. du Pont de Nemours and Company.

#### Absolute Retention Rate

0.45  $\mu\text{m}$ , 0.6  $\mu\text{m}$ , 0.8  $\mu\text{m}$ , 1.2  $\mu\text{m}$ , 2.4  $\mu\text{m}$ , 5  $\mu\text{m}$ , 7  $\mu\text{m}$ , 10  $\mu\text{m}$ , 20  $\mu\text{m}$ , 30  $\mu\text{m}$ , 40  $\mu\text{m}$

#### Filtration Surface

0.5 ft<sup>2</sup> for 10" element (10/30)

#### Maximum Differential Pressure

Operating Temperature	Differential Pressure
100°F	80 psid
150°F	60 psid
180°F	30 psid

#### Sterilization

##### In-line sterilization with slow speed saturated steam

250-275°F for 30-60 minutes

##### Autoclave

260°F for 30-60 minutes

Ultrapolyplea PP100 depth filter elements are capable of repeated sterilization cycles

#### Particle Retention

PP100 $\mu\text{m}$	Percent Removal		
	100%	99%	90%
0.45	0.45	0.40	< 0.30
0.6	0.60	0.56	0.38
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
20	20.00	19.00	12.00
30	30.00	26.00	16.00
40	40.00	35.00	28.00



Donaldson Company, Inc.  
Process Filtration  
P.O. Box 1299  
Minneapolis, MN  
55440-1299 U.S.A.  
Tel 800.543.3634 (USA)  
Tel 800.343.3639 (within Mexico)  
processfilters@donaldson.com  
www.donaldson.com

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