Donaldson
Filtration Solutions

PROCESS FILTERS

Ultrapolyplea® PP100

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

Product Description

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

Features

All components meet the FDA requirements for the contact with food in accordance with CFR (Code of Federal Regulations) Title 21. Ultrapolyplea® 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 filter element is pre-rinsed with 18 MΩ · cm water. This leads to extremely low extractables.

Ultrapolyplea® PP100 high efficient absolute pre- and after filter

SEM of Ultrapolyplea® depthfilter

Applications

The Ultrapolyplea® depth filter is designed and developed for:

- Particle removal from water
- Chemicals
- Solvents
- Etchants
- Biological liquids
- Pharmaceutics
- 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

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 compatability, 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

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

Particle retention

PP100	Percent removal		
µm	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

Materials

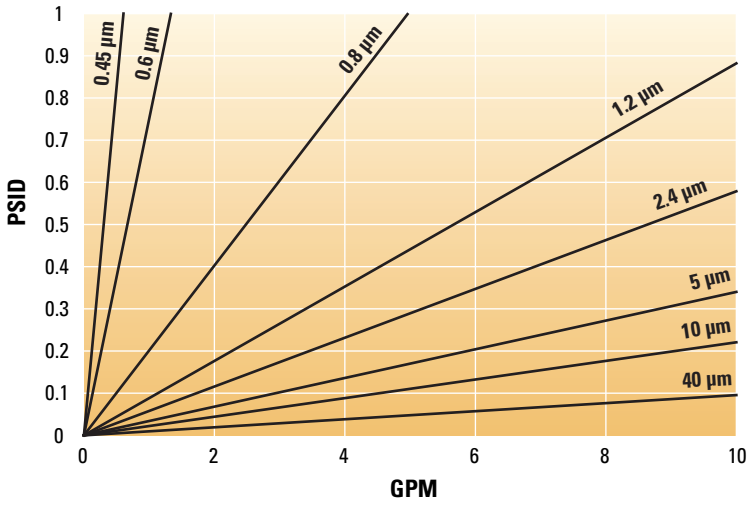
Filter medium:	Polypropylene
Upstream support:	Polypropylene
Downstream support:	Polypropylene
Outer guard:	Polypropylene
End caps:	Polypropylene
O-Rings:	Silicone, Buna N, EPDM or Viton®

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

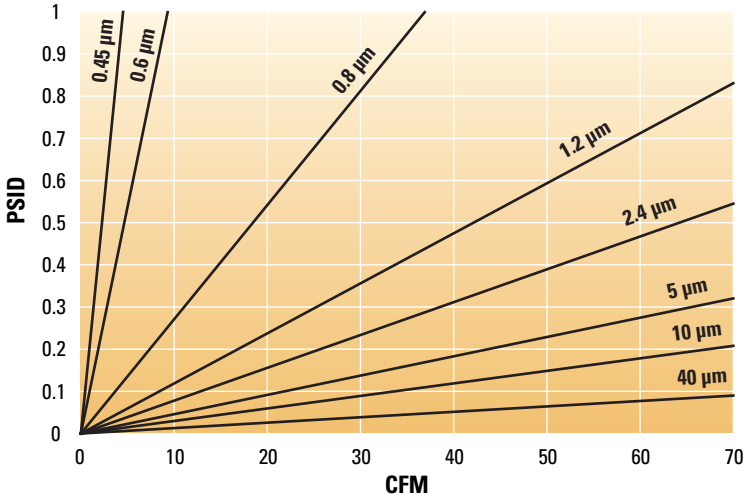
Absolute retention rate

0.45 µm, 0.6 µm, 0.8 µm, 1.2 µm, 2.4 µm, 5 µm, 7 µm, 10 µm, 20 µm, 30 µm, 40 µm

Water



Air



Filtration surface

5.4 ft² for 10” element (10/30)

Maximum differential pressure

Operating temp.	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® filter elements are capable of repeated sterilization cycles

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