



# Sentry™ Pleated, Absolute Polypropylene



Sentry's Pleated, Absolute Rated Polypropylene filters provide high efficiency, high purity filtration for even the most critical applications. The proprietary melt blown media are rigidly controlled for consistent performance. Sentry polypropylene cartridges are produced without adhesives that can potentially contaminate process fluids.

Absolute rated pleated cartridges are available in 0.2µm, 0.45µm, 1µm, 2µm, 5µm, 10µm, 20µm, 40µm, and 70µm pore sizes.

## The Sentry Solution for Liquid/Process Filtration

### Industry Uses & Applications

- Plating Solutions
- Membrane Prefilter
- Food & Beverages
- Pharmaceuticals
- High Purity Chemicals
- DI Water
- Precious Metal Recovery
- Catalyst Recovery
- Pulp & Paper Processing

### Features & Benefits

- Absolute ratings for consistent and reliable performance (99.98%;  $\beta = 5,000$ )
- All-polypropylene construction offers wide chemical compatibility with most chemicals, acids, bases, and solvents
- Sentry polypropylene cartridges are non-fiber releasing and contain minimal extractables
- One-piece construction eliminates bypass concerns on multilength cartridges
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Fused construction and continuous lengths eliminate the need for adhesives and allow accurate bubble point integrity testing
- Cartridge design allows backwashing to extend filter service life

### Biological Safety

- Meets USP XXI Class VI requirements for plastics
- Nontoxic per WI-38 Human Cell Cytotoxicity Test

### Product Purity

- Non-fiber releasing, non-photosensitive
- Water extractables: <0.001% by weight
- Low total organic carbon (TOC) extractables



# Sentry™ Pleated Absolute Polypropylene

## Absolute Filtration Ratings

- 99.98% removal efficiency at 0.2µm, 0.45µm, 1µm, 2µm, 5µm, 10µm, 20µm, 40µm, and 70µm pore sizes

## Materials of Construction

- Filter media & support layers: polypropylene
- Bonding polymer: none, completely fusion-sealed
- Cartridge core: glass-filled polypropylene
- Cartridge cage: polypropylene
- End caps: polypropylene

## Recommended Operating Conditions

- Change out ΔP: 35 psi (2.4 bar)
- Maximum temperature: 200°F (93°C)
- Maximum temperature @ 35 psid (2.4 bar): 200°F (93°C)
- Maximum ? P @ 70°F (21°C): 90 psid (6 bar)
- Maximum ? P @ 200°F (93°C): 35 psid (2.4 bar)

## Cartridge Dimensions

- Cartridge outside diameter: 2 1/2 in. (63.5 mm.)
- Cartridge inside diameter:  
DOE - 1 1/16 in. (27 mm.)  
SOE - 1 in. (25.4 mm.)

## Notes

- Clean DP** is psi differential at start.
- Viscosity** is measured in centistokes (cks). Use conversion tables for other units.
- Flow Factor** is ΔP /gpm at 1 cks per 10 in. length.
- Length Factor** convert flow or ΔP from 10 in.

## Flow Rate and Pressure Drop Calculations

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

## Liquid Particle Retention Ratings @ Removal Efficiency

Beta Ratio Efficiency	β=5000 Absolute	β=1000 99.9%	β=100 99.0%	β=50 98.0%
0002	0.2	<0.2	<0.2	<0.2
0004	0.45	0.4	0.2	<0.2
001	1	0.8	0.4	<0.2
002	2	1.9	0.8	<0.2
005	5	3.8	1.4	0.4
010	10	7	2	0.5
020	20	13	4	1.8
040	40	22	7	3.2
070	70	52	22	15

## Pleated Absolute Polypropylene Flow Factors

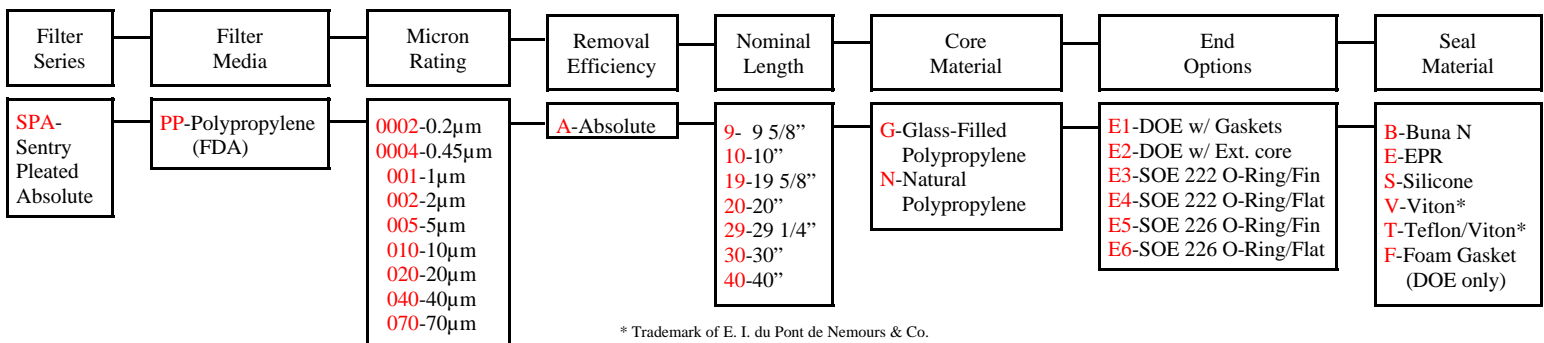
Rating (µm)	Flow Factors
0.20	1.90
0.45	1.00
1	0.75
2	0.50
5	0.13
10	0.03
20	0.02
40	0.01
70	<0.01

Beta Ratio (β) =  $\frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$

$$\text{Percent Removal Efficiency} = \left( \frac{\beta - 1}{\beta} \right) \times 100$$

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 2.5 gpm per 10 in (9.5 lpm per 254 mm).

## Ordering Information



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S.F.E. Dlostar/Abs/Dolmro-1200