



Sentry™ Pleated High Purity Polypropylene



Sentry High Purity Cartridges, made of pleated polypropylene microfiber, provide high efficiency and high purity filtration. The high efficiency of the all-polypropylene filter makes it an ideal membrane prefilter or cost-effective alternative to membrane cartridges in a wide range of demanding applications.

Sentry High Purity Cartridges are available in 0.3µm, 0.6µm, 1.2µm, 2.5µm, 5µm, 10µm, 20µm, 40µm, and 70µm absolute rated pore sizes (99.99% removal; $\beta = 10,000$).

The Sentry Solution for Liquid/Process Filtration

Industry Uses & Applications

- High Purity Chemicals & Solvents
- Electronics Manufacturing
- Food & Beverages
- Magnetic Media
- Pharmaceuticals & Parenterals
- Cosmetics Manufacturing
- Medical & Diagnostics

Features & Benefits

- All-polypropylene media and cartridge components satisfy a broad range of application requirements
- Controlled pore construction provides high efficiency particle removal efficiency (99.99% removal, $\beta = 10,000$)
- One-piece fused construction is 100% bonded for maximum cartridge integrity
- High surface area design provides superior flow capacity and prolonged filter life
- All media and cartridge components are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- All materials of construction comply with biological, USP XXI Class VI requirements for plastic and are nontoxic per WI-38 Human Cell Cytotoxicity Test
- Standard end seal options are available to fit most vessel requirements
- High purity cartridges are non-fiber releasing



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Removal Ratings

- 99.99% at 0.3µm, 0.6µm, 1.2µm, 2.5µm, 5µm, 10µm, 20µm, 40µm, and 70µm pore sizes

Materials of Construction

- Media: continuous polypropylene microfiber matrix
- Support/drainage: polypropylene
- Core, cage, end caps: polypropylene
- Side seal: fused polypropylene

Recommended Operating Conditions

- Maximum temperature: 200°F (93°C)
- Maximum temperature @ 35 psid: 160°F (71°C)
- Change out ΔP: 35 psi (2.4 bar)
- Maximum ΔP @ Ambient 70°F (21°C): 70 psi (4.8 bar)
- Maximum ΔP @ 200°F (93°C): 20 psi (1.4 bar)
- Flow Rate: 3.5 gpm/10" length

Dimensions

- Cartridge outside diameter: 2.7 in.
- Cartridge inside diameter:
DOE: 1.06 in.
SOE: 0.78 in.

Pleated High Purity Polypropylene Flow Factors

| Rating (µm) | Flow Factor |
|-------------|-------------|
| 0.3 | 1.60 |
| 0.6 | 0.90 |
| 1.2 | 0.77 |
| 2.5 | 0.30 |
| 5 | 0.12 |
| 10 | 0.02 |
| 20 | 0.02 |
| 40 | 0.01 |
| 70 | <0.01 |

Flow Rate & Pressure Drop Formulas

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

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

Notes

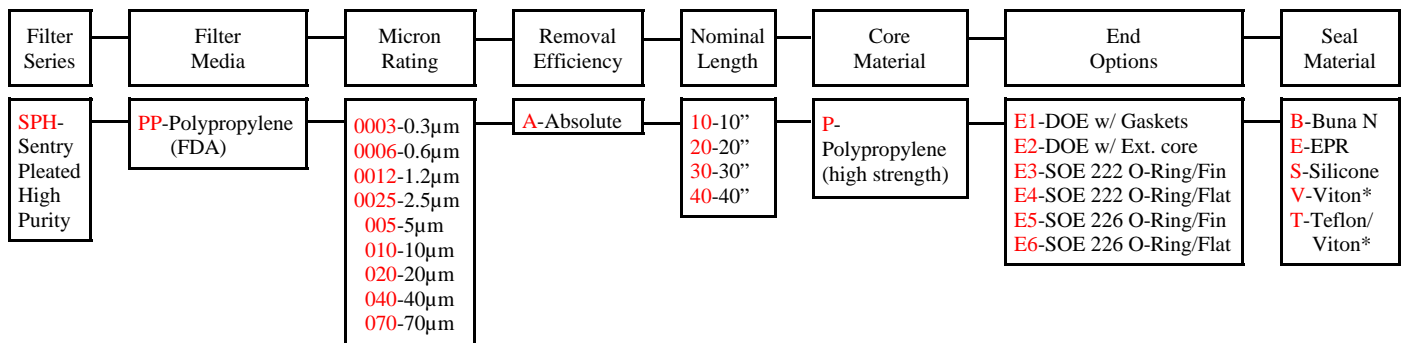
1. **Clean DP** is psi differential at start.
2. **Viscosity** is measured in centistokes (cks). Use conversion tables for other units.
3. **Flow Factor** is ΔP / gpm at 1 cks per 10 in. length.
4. **Length Factor** convert flow or ΔP from 10 in. length to required cartridge length, 10" = 1, 20" = 2, 30" = 3, 40" = 4

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

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

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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