HPPP
Filter Cartridges

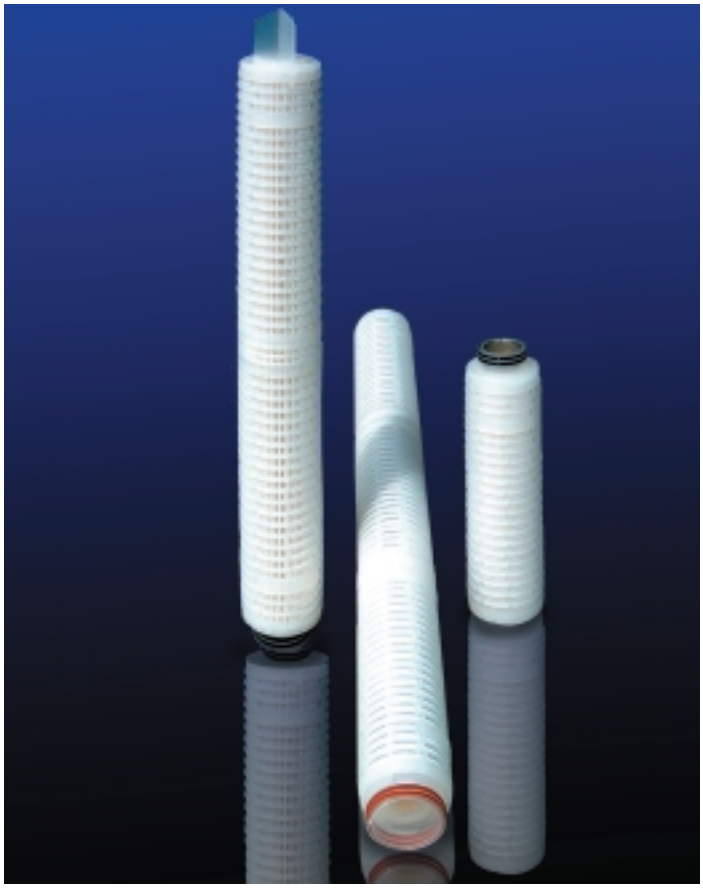
■ **Polypropylene**

Hi-Pure Pleated Series

Absolute Rated High Efficiency From All-Polypropylene Pleated Cartridges

Hi-Pure Cartridges, made of pleated polypropylene microfiber, provide high efficiency and high purity filtration. The high submicron efficiency of the Hi-Pure line makes it an ideal membrane prefilter or cost-effective alternative to membrane cartridges in a wide range of applications.

Hi-Pure Pleated 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; ß = 10,000).



Applications

- Chemicals
- Electronic
- Food & Beverage
- Magnetic Media
- Pharmaceuticals
- Cosmetics
- Medical
- Photographic

Features and Benefits

- All-polypropylene media and construction meet a broad range of performance requirements.
- One-piece fused construction is 100% bonded for maximum cartridge integrity.
- High surface area design provides superior flow rates and extended service life.
- All media and structural components comply with biological, USP XXI Class VI requirements for plastic and are nontoxic per WI-38 Human Cell Cytotoxicity Test.
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21.
- Fixed pore construction provides ultimate particle retention efficiency.
- Major end seal options are available to fit most vessel requirements.
- Advantage cartridges are non-fiber releasing.

Specifications

Filtration Ratings:

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

Materials of Construction:

- Type of Construction: integrally sealed, all-polypropylene pleated media supported by all-polypropylene construction
- Filter Media: composite, spunbonded/melt blown continuous polypropylene microfiber matrix
- Pleat Support Layer (Upstream): polypropylene
- Pleat Drainage Layer (Downstream): polypropylene
- Media Support Core: high-strength polypropylene
- Media Protective Cage: molded polypropylene
- Pleat Pack Side Seal: fused polypropylene
- DOE Caps: polypropylene
- SOE Caps/O-Ring Adaptors: polypropylene
- Gaskets (DOE Style): Buna-N, FDA grade (standard)
- O-Rings (SOE Style): silicone, FDA grade (standard)
- Optional Gasket Materials: (non-FDA): EPR, Viton*, silicone
- Optional O-Ring Materials: (non-FDA): EPR, Viton*, Buna-N, PFA encapsulted Viton*

Maximum Recommended Operating Conditions:

- Temperature: 200°F (93°C)
- Temperature @ 35 psid: 160°F (71°C)
- Change Out ΔP: 35 psi (2.4 bar)
- ΔP @ Ambient 70°F (21°C): 70 psi (4.8 bar)
- ΔP @ 200°F (93°C): 20 psi (1.4 bar)
- Flow Rate: 10 gpm (38 lpm) per 10 in length

Dimensions:

- Overall Length: See Bulletin A-700 SOE fits standard Hi-Pure vessels with dual sump seats.
- Cartridge Outside Diameter: 2-11/16 in
- Cartridge Inside Diameter:
  DOE: 1-1/16 in
  SOE: 1-5/32 in

Hi-Pure Length Factors

Length *(in)*	Length Factor
10	1.0
20	2.0
30	3.0
40	4.0

Notes:

1. **Clean ΔP** is PSI differential at start.
2. **Viscosity** is centistokes. Use Conversion Tables for other units.
3. **Flow Factor** is ΔP/GPM at 1 cks for 10 in (or single).
4. **Length Factors** convert flow or ΔP from 10 in (single length) to required cartridge length.

Hi-Pure Cartridge Flow Factors (psid/gpm @ 1 cks)

Rating Flow *(µm)*	*Factor*
0.3	1.600
0.6	0.900
1.2	0.770
2.5	0.300
5	0.120
10	0.020
20	0.020
40	0.010
70	0.008

Flow Rate and Pressure Drop Formulas:

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

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

Liquid Particle Retention Ratings *(µm)* @ Removal Efficiency of:

Cartridge	ß=10000 Absolute	ß=1000 99.9%	ß=100 99%	ß=50 98%	ß=20 95%	ß=10 90%
HPPP 003	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
HPPP 006	0.6	0.5	<0.3	<0.3	<0.3	<0.3
HPPP 012	1.2	1	0.6	0.4	<0.3	<0.3
HPPP 025	2.5	2.1	1	0.6	<0.3	<0.3
HPPP 050	5	3.8	1.4	0.8	0.4	<0.3
HPPP 100	10	6.6	2	1.1	0.5	<0.5
HPPP 200	20	12.7	3.1	1.8	0.8	<0.5
HPPP 400	40	22	5.8	3.2	1.2	0.6
HPPP 700	70	50	22	15	8	5.2

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

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

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 3.5 gpm per 10 in (13.2 lpm per 254 mm) cartridge.

Ordering Information

HPPP	025	10	A	E	DO	B
Cartridge Code	Particle Removal Rating	Nominal Length	Support Construction	Seal Material	End Cap Configuration	Special Options
HPPP = Polypropylene	003 = 0.3µm 006 = 0.6µm 012 = 1.2µm 025 = 2.5µm 050 = 5µm 100 = 10µm 200 = 20µm 400 = 40µm 700 = 70µm	10 = 9-13/16" 20 = 19-15/16" 30 = 30-1/16" 40 = 40"	A = Heavy-Wall Polypropylene	E = EPR N = Buna-N S = Silicone T = PFA Encapsulated Viton (O-Ring only) V = Viton	AR = 020 O-Ring/Recessed DO = Double Open End (DOE) DX = DOE with Core Extender LL = 120 O-Ring/120 O-Ring LR = 120 O-Ring/Recessed Cap PR = 213 O-Ring Recessed Cap SC = 226 O-Ring/Cap SF = 226 O-Ring/Fin TC = 222 O-Ring/Cap TF = 222 O-Ring/Fin	No Symbol = No Option B = Bubble-Point Test R = DI Water Rinse (5 mins) Z6 = Individual Poly bag only

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