

C-2040

# Fulflo<sup>®</sup> Poly-Mate<sup>™</sup> Filter Cartridges

## Quality, Economical Filtration for Critical Process Applications

Parker's Poly-Mate<sup>™</sup> Cartridges incorporate a unique combination of polypropylene melt blown and spun-bonded media to provide high surface area, finish-free and non-fiber releasing filtration. All-polypropylene construction maximizes chemical resistance to acids, bases, salts, and most organic solvents.

Poly-Mate<sup>™</sup> Pleated Cartridges are available in 0.5µm, 1µm, 5µm, 10µm, 30µm, and 60µm pore sizes (99% removal; β = 100).

## Benefits

- High efficiency rated for critical process applications (99% efficiency)
- High pleated surface area for extended service life, low pressure drop and high flow capacity
- Poly-Mate<sup>™</sup> Xtra Duty<sup>™</sup> (PXD) cartridge features glass-filled polypropylene core for high temperature and high pressure use with rigid outer cage supporting pleated media in backwash applications
- Optional stainless steel O-ring adapter inserts provide added strength for *in situ* sterilization



- Poly-Mate<sup>™</sup> Xtra Duty cartridges are available with backwashable construction, reducing replacement maintenance and cartridge disposal costs
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- One piece, continuous to 40 in length, integrally sealed pleated filter media

## Applications

- Disposal Wells
- Photographic
- Wastewater
- High-Technology Coatings
- R.O. Membrane Prefiltration
- Plating Chemicals
- Fine Chemicals
- Process Water
- Deionized Water



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## Specifications

### Materials of Construction:

- Filter media and support layers: polypropylene
- Surface treatment: none (fusion-sealed), chemically inert and neutral
- Media protection: PM – polypropylene netting; PXD – polypropylene cage
- Pleat pack side seal: fused polypropylene
- End caps: polypropylene
- Seals: Buna-N, EPR, silicone, Viton,\* PFA encapsulated Viton\* O-rings, polyethylene foam gaskets

### Recommended Operating Conditions:

#### Poly-mate Cartridges

- Change Out ΔP: 35 psid (2.4 bar)
- Maximum Temperature: 200°F (93°C)
- Maximum Temperature @ 35 psid (2.4 bar): 125°F (52°C)
- Maximum ΔP @ 70°F (21°C): 60 psid (4.1 bar)
- Maximum DP @ 200°F (93°C): 10 psid (0.7 bar)

#### Poly-mate Xtra-Duty Cartridges

- Change Out ΔP: 35 psid (2.4 bar)
- Maximum Temperature: 200°F (93°C)
- Maximum Temperature @ 35 psid (2.4 bar): 200°F (93°C)
- Maximum ΔP @ 70°F (21°C): 90 psid (6.1 bar)
- Maximum DP @ 200°F (93°C): 35 psid (2.4 bar)

## Performance Attributes

### 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)

### Filtration Ratings:

- 99% at 0.5μm, 1μm, 5μm, 10μm, 30μm, and 60μm pore sizes

### Effective Filtration Area:

- Up to 6.0 ft<sup>2</sup>/10 in (0.6m<sup>2</sup>/254 mm)

### Recommended Maximum Flow Rate:

- Maximum 10 gpm per 10 in length

## Flow Rate and Pressure Drop Formulas

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

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

### Beta Ratio (β) =

$$\frac{\text{Upstream Particle Count @ Specified Particle Size and Larger}}{\text{Downstream Particle Count @ Specified Particle Size and Larger}}$$

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

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.

### 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.

### Poly-Mate/PXD Flow Factor (psid/gpm @ 1 cks)

Rating (μm)	Flow Factor
0.5	0.0900
1.0	0.0530
5.0	0.0290
10.0	0.0068
30.0	0.0048
60.0	0.0030

### Poly-Mate/PXD Length Factor

Length in	Length Factor
9	1
10	1
19	2
20	2
24	3
30	3
39	4
40	4

## Liquid Particle Retention Ratings (μm) @ Removal Efficiencies of:

Cartridge	β = 5000 Absolute	β = 1000 99.9%	β = 100 99%	β = 50 98%	β = 20 95%	β = 10 90%
PM / PXD005	3	3	0.5	.25	<0.1	<0.1
PM / PXD010	5	4.5	1.0	0.5	0.2	<0.1
PM / PXD050	15	10	4	2.0	0.7	0.25
PM / PXD100	30	28	10	6	3	1.2
PM / PXD300	45	43	30	18	8	4.5
PM / PXD600	95	90	50	40	20	12



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## Ordering Information

Cartridge	Micron Code (µm)	Nominal Length (code) (in) (mm)	Core	Seal Material	End Cap Configurations	Special Options
PM = Standard PXD = Xtra Duty	005 = 0.5 010 = 1.0 050 = 5.0 100 = 10.0 300 = 30.0 600 = 60.0	9 9-5/8 244 10 9-13/16 249 19 19-5/8 498 20 19-15/16 506 29 29-1/4 743 30 30-1/16 764 40 40 1016	A = Natural Polypropylene (PM core only) F = Glass-filled Polypropylene (PXD core only) G = 304 Stainless Steel (core only) N = Natural Polypropylene (All support components)	P = Poly Foam (DOE Gasket Only) E = EPR N = Buna-N S = Silicone T = PFA Encapsulated Viton* (222, 226 O-ring only) V = Viton* X = No Seal Material	AR = 020 O-Ring/Recessed (Gelman) DO = Double-Open-End (DOE) DX = DOE With Core Extender LL = 120/120 (Filterite LMO and Nuclepore Polymeric Vessels)** LR = 120 O-Ring/Recessed (Nuclepore)** OB = Std. Open End/Polypro Spring Closed End PR = 213 O-Ring/Recessed (Ametek and Parker)LT Polymeric Vessels)** SC = 226 O-Ring/Cap SF = 226 O-Ring/Fin SSC = SS Inserted 226 O-ring/Closed SSF = SS Inserted 226 O-ring/Fin TC = 222 O-Ring/Cap TF = 222 O-Ring/Fin STC = SS 222 Inserted O-ring/Closed STF = SS 222 Inserted O-ring/Fin TX = 222 O-Ring/Flex Fin XB = Ex. Core Open End / Polypro Spring Closed End	B = Bubble Point Test R = Rinse with DI Water (5 minutes) Z6 = Individual Poly bag only (PXD only) Z15 = Individual poly bag 15/ctn. (20", 30", 40") (PXD only) Z30 = Individual poly bag 30/ctn. (10") (PXD only)

\* PFA/Viton is O-ring only, T is expanded PTFE gaskets  
\*\* Available only in 9 5/8 (-9) and 19 5/8 (-10) lengths

Specifications are subject to change without notification.  
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