

Fulflo® Poly-Mate™ Filter Cartridges

Quality, Economical Filtration for Critical
Process Applications

Parker's Poly-Mate™ 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™ Pleated Cartridges are available in 0.5µm, 1µm, 5µm, 10µm, 30µm, and 60µm pore sizes (99% removal; $\beta = 100$).



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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™ Xtra Duty™ (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™ 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 Pre-filtration
- Plating Chemicals
- Fine Chemicals
- Process Water
- Deionized Water

Fulflo® Poly-Mate™ Filter Cartridges

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 - 35psid (2.4bar)

Maximum Temperature - 200°F (93°C)

Maximum Temperature @

35psid (2.4bar) - 125°F (52°C)

Maximum ΔP @ 70°F (21°C)

60psid (4.1bar)

Maximum DP @ 200°F (93°C)

10psid (0.7bar)

Poly-Mate Xtra-Duty Cartridges

Change Out ΔP - 35psid (2.4bar)

Maximum Temperature - 200°F (93°C)

Maximum Temperature @

35psid (2.4bar) - 200°F (93°C)

Maximum ΔP @ 70°F (21°C)

90psid (6.1bar)

Maximum DP @ 200°F (93°C)

35psid (2.4bar)

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 0.5 μ m, 1 μ m, 5 μ m, 10 μ m, 30 μ m, and 60 μ m pore sizes

Effective Filtration Area:

Up to 6.0 ft²/10 in (0.6m²/254 mm)

Recommended Maximum Flow Rate:

Maximum 10gpm 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) =

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

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

Performance determined per ASTM F-795-88. Single-Pass Test using AC test dust in water at a flow rate of 3.5gpm 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 DP from 10 in (single length) to required cartridge length.

Liquid Particle Retention Ratings (μ m) @ Removal Efficiency of:

Cartridge	$\beta=5000$ Absolute	$\beta=1000$ 99.98%	$\beta=100$ 99.9%	$\beta=50$ 98%	$\beta=20$ 95%	$\beta=10$ 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

Poly-Mate Flow Factors (psid/gpm @ 1 cks)

Rating (μ m)	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 Length Factors

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

Ordering Information

Cartridge Code		Pore Size		Nominal Length		Core		Seal Material		End Cap Configuration		Special Options	
CODE	DESCRIPTION	CODE	MICRON	CODE	INCHES (MM)	CODE	MATERIAL	CODE	MATERIAL	CODE	DESCRIPTION	CODE	DESCRIPTION
PM	Standard	005	0.5	9	9 3/4 (244)	A	Natural Polypropylene (PM core only)	P	Polyfoam (DOE gasket only)	AR	020 O-ring/Recessed cap	B	Bubble-point test
PXD	Xtra Duty	010	1.0	10	9 13/16 (249)	F	Glass-filled polypropylene (PXD core only)	E	EPR	DO	Double open end (DOE)	R	DI water rinse (5 minutes)
		050	5.0	19	19 5/8 (498)	N	304 stainless steel (core only)	N	Buna-N	DX	Double open end/extended core	Z6	Individual Poly bag only (PXD only)
		100	10.0	20	19 15/16 (506)	G	304 stainless steel (core only)	S	Silicone	LL	120/120 (Filterlite LMO & Nuclepore Polymeric Vessels)**	Z15	Individual Poly bag 15/ctn. (20", 30", 40") (PXD only)
		300	30.0	29	29 1/4 (743)	N	Natural Polypropylene (All support components)	T	PFA Encapsulated Viton® (222, 226 O-ring only)*	LR	120 O-ring/Recessed (Nuclepore)**	Z30	Individual Poly bag 30/ctn. (10") (PXD only)
		600	60.0	30	30 1/16 (764)			V	Viton®	PR	213 O-ring/Recessed cap (Ametek® & Parker LT Polymeric Vessels) **		
				40	40 (1016)			X	No seal material	TC	222 O-ring/Flat		
										TF	222 O-ring/Fin		
										SC	226 O-ring/Flat		
										SF	226 O-ring/Fin		

*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.
For User Responsibility Statement, see www.parker.com/safety

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