

Poly-Mate X™ Filter Cartridges

Economical, backwashable filtration for critical process applications

Parker Poly-Mate X Cartridges incorporate a unique combination of polypropylene melt blown and spunbonded media to provide high surface area, finish-free and non-fiber releasing filtration. All-polypropylene construction with a robust extruded cage design maximizes chemical resistance to acids, bases, salts, and most organic solvents. Poly-Mate X Pleated Cartridges are available in 0.5µm, 1µm, 5µm, 10µm, 30µm, and 60µm pore sizes.



Contact Information

Parker-Hannifin Corporation
Bioscience & Water Filtration Division
2340 Eastman Avenue
Oxnard, California, USA 93030

toll free +1 877 784 2234
phone +1 805 604 3400
fax +1 805 604 3401
bioscience.na@parker.com

www.parker.com/bioscience

Benefits

- High efficiency rated for critical process applications (99% at stated micron rating)
- High pleated surface area for extended service life, low pressure drop and high flow capacity
- Available with glass-filled polypropylene or stainless-steel cores for high temperature and high pressure applications
- Rigid outer cage design supports media for backwashable applications to extend filter life and reduce maintenance costs
- Optional stainless-steel O-ring adapter inserts provide added strength for in situ steam sterilization
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21

- Certified to NSF/ANSI/CAN 61
- Conforms to NSF/ANSI 53
- Continuous length up to 40 inches
- All thermally welded construction assures product quality and process compatibility

Applications

- Plating
- Photographic Chemicals
- Fine Chemicals
- High-Technology Coatings
- Process Water
- Deionized Water
- R.O. Membrane Pre-filtration
- Beverages



ENGINEERING YOUR SUCCESS.

Poly-Mate X™ Filter Cartridges

SPECIFICATIONS

Materials of Construction

Filter media and support layers:

Polypropylene

Surface treatment:

None (fusion-sealed), chemically neutral

Outer cage: Extruded Polypropylene

Inner core options:

- Extruded Polypropylene
- Glass-filled Polypropylene
- 304 Stainless Steel

Pleat pack side seal:

Thermally-welded polypropylene

End caps: Polypropylene

Seals: Buna-N, EPR, Silicone, Viton®, PFA encapsulated Viton®, Polyethylene foam gaskets

Recommended Operating Conditions

Change-out ΔP: 35 psid (2.4 bar)

Maximum Temperature: 200°F (93°C)

Maximum Flow Rate: 10 gpm per
10 in. length

Performance Attributes

Dimensions

Cartridge Outside Diameter:

2 ½ in. (63.5 mm)

Cartridge Inside Diameter:

1 in. (25.4 mm)

Filtration Rating

99% at stated micron rating

Effective Filtration Area

Up to 6.0 ft²/10 in (0.6m²/254mm)

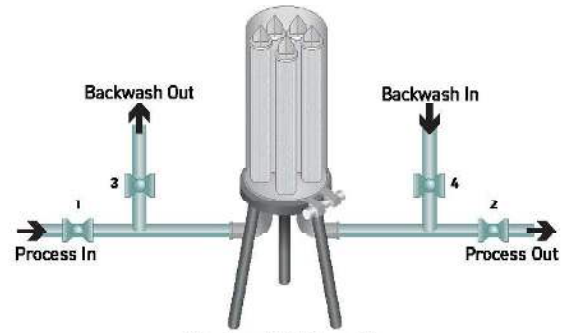
Flow Rate and Pressure Drop Formulas

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

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

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.



Backwash Schematic

Backwash Guidelines

- Initiate a backwash cycle when the pressure drop rises about 3-4 psid (0.2 to 0.3 bar) above the initial value or alternately on a timed cycle, e.g., daily or after batches.
- Backwash flow rate should be 1.5 to 2 times the process flow rate without exceeding a maximum ΔP of 10 psid (0.7 bar).
- Backwash steps:
 1. Close valves 1 and 2 to isolate the filter. Then open valves 3 and 4 to begin backwash flow.
 2. Monitor the decrease in pressure drop and continue backwash until the it no longer decreases.
 3. Close valves 3 and 4 and open valves 1 and 2 to resume normal filtration.

Notes:

Allow enough time to flush the contaminant out from the vessel. Flow pulsations helps to release entrapped particles. Maximum Temperature 70°F (21°C).

Inner Core	Maximum Δ Pressure		
	@ 70°F (21°C)	@ 125°F (50°C)	@ 200°F (93°C)
Polypropylene (A)	60 psid (4.1 bar)	35 psid (2.4 bar)	10 psid (0.7 bar)

Flow Factors (psid/gpm @ 1 cks)

Rating (µm)	Flow Factor
0.5	0.0900
1.0	0.0530
5.0	0.0290
10.0	0.0142
30.0	0.0085
60.0	0.0049

Length Factors

Inches	Factor
10	1
20	2
30	3
40	4

Ordering Information

PMX

Pore Size		Nominal Length		Core		Seal Material		End Cap Configuration	
CODE	MICRON	CODE	INCHES (MM)	CODE	MATERIAL	CODE	MATERIAL	CODE	DESCRIPTION
005 ¹	0.5	10	9 5/8 (244)	A	Natural Polypropylene	P	Polyfoam (DOE gasket only)	DO	Double open end (DOE)
010	1.0	20	19 3/4 (502)	F	Glass-filled polypropylene	E	EPR	DX	Double open end/extended core
050	5.0	30	29 7/8 (758)	G	304 stainless steel	N	Buna-N	TC	222 O-ring/Flat
100	10.0	40	39 3/4 (1010)			S	Silicone	TF	222 O-ring/Fin
300	30.0					T ²	PFA Encapsulated Viton® for 222/226 O-rings or Expanded PTFE for DOE	TX	222 O-ring/Flex Fin
600	60.0					V ²	Viton®	SC	226 O-Ring/Flat
						X	No seal material	SF	226 O-ring/Fin
								STC	S.S. Inserted 222 O Ring/Flat
								STF	S.S. Inserted 222 O ring/Fin
								SSC	S.S. Inserted 226 O Ring/Flat
								SSF	S.S. Inserted 226 O ring/Fin

¹ Reduces Giardia and Cryptosporidium to NSF/ANSI 53 standard as verified by third party laboratory. Documentation provided upon request.

² T and V seal material codes do not conform to NSF/ANSI/CAN 61.

Specifications are subject to change without notification. For User Responsibility Statement, see www.parker.com/safety

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DS_IP_Poly-Mate X Rev. B