# POLY-MATE™ X FILTER CARTRIDGE

## Economical, backwashable filtration for critical process applications

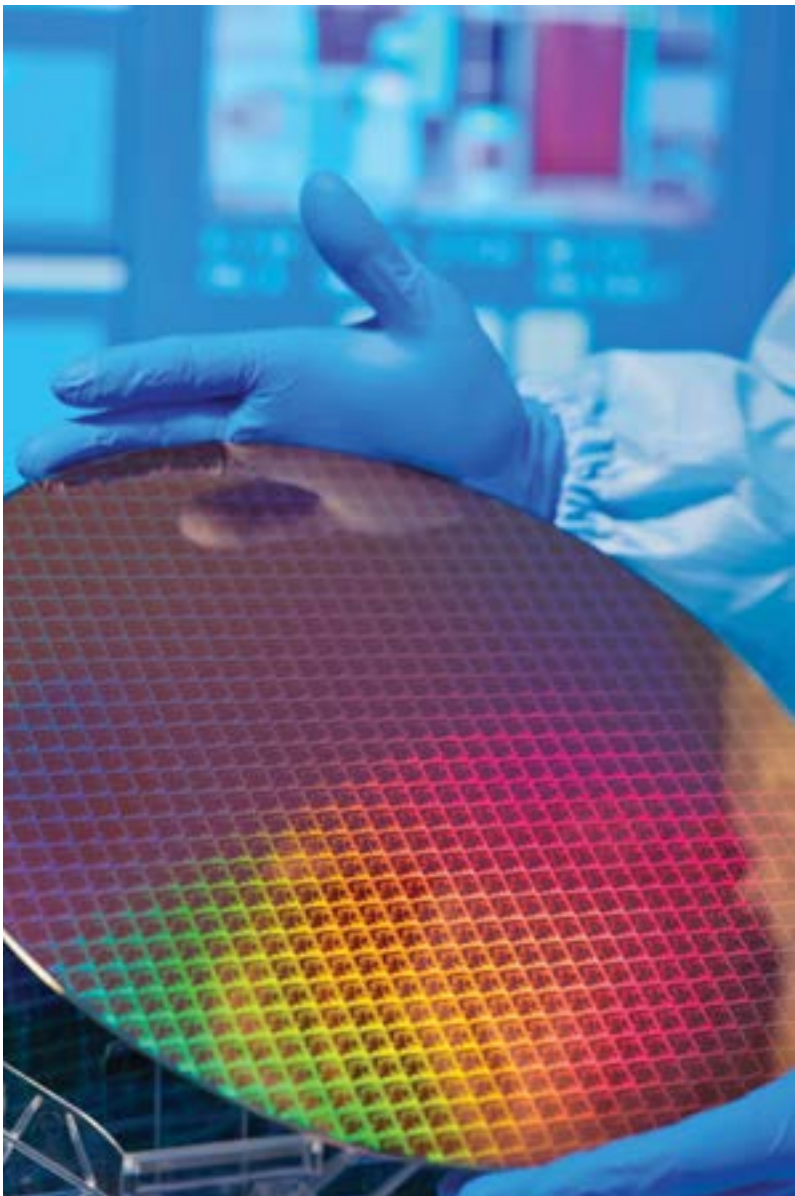
Parker Poly-Mate X Cartridges incorporate a unique combination of polypropylene melt blown and spunbonded media to provide high surface area, finish-free and non-fiber releasing filtration. All-polypropylene construction with a robust extruded cage design maximizes chemical resistance to acids, bases,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

### 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



# POLY-MATE X™ FILTER CARTRIDGE

## 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)

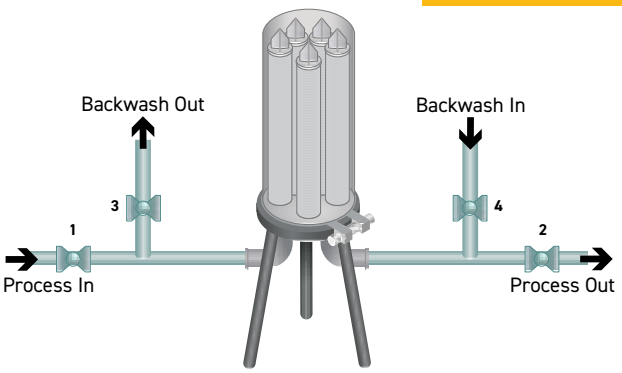
**Filtration Rating:** 99% at stated micron rating

**Effective Filtration Area:** Up to 6.0 ft²/10 in (0.6m²/254mm

**Flow Rate and Pressure Drop Formulas**

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

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




**Backwash Schematic**

- 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.

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) |

## Ordering Information

**PMX** – ▢ ▢ ▢ ▢ – ▢

| Pore Size | |
|---|---|
| CODE | MICRON |
| 005[1] | 0.5 |
| 010 | 1.0 |
| 050 | 5.0 |
| 100 | 10.0 |
| 300 | 30.0 |
| 600 | 60.0 |

| Nominal Length | |
|---|---|
| CODE | INCHES \| MM |
| 10 | 9 5/8 (244) |
| 20 | 19 ¾ (502) |
| 30 | 29 7/8 (758) |
| 40 | 39 ¾ (1010) |

| Core Material | |
|---|---|
| CODE | MATERIAL |
| A | Natural Polypropylene |
| F | Glass-filled polypropylene |
| G | 304 stainless steel |

| Seal Material | |
|---|---|
| CODE | MATERIAL |
| P | Polyfoam (DOE gasket only) |
| E | EPR |
| N | Buna-N |
| S | Silicone |
| T[2] | PFA Encapsulated Viton® for 222/226 O-rings or Expanded PTFE for DOE |
| V[2] | Viton® |
| X | No seal material |

| End Cap Configuration | |
|---|---|
| CODE | DESCRIPTION |
| DO | Double open end (DOE) |
| DX | Double open end/ extended core |
| TC | 222 O-ring/Flat |
| TF | 222 O-ring/Fin |
| TX | 222 O-ring/Flex Fin |
| SC | 226 O-ring/Flat |
| 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.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