Poly-Mate X Filter Cartridges

Doc No.: UFUG-PMX

General Installation Procedure

Parker

Parker Hannifin Corporation
Bioscience & Water Filtration Division
2340 Eastman Avenue Oxnard, California, USA 93030
+1 877 784 2234 | www.parker.com/bioscience

Poly-Mate X Filter Cartridge
General Installation Procedure

O-Ring Cartridges

1. Wipe the plastic bag clean, then cut it open at the end nearest the O-Rings. Inspect O-Rings for damage.

   OPTIONAL: *Lubricate the O-Rings and housing bore with service fluid or other appropriate liquid.*

2. Insert the O-Ring fitting into the housing bore with a slight twisting motion. (Leave the bag on the filter cartridge for protection and grasp it as near as possible to the O-Ring fitting.)

   CAUTION: *Excessive twisting of or pushing on the pleated section of the filter cartridge may cause damage!*

3. Once the filter cartridge is seated in the housing bore, gently rotate the cartridge a few degrees in either direction to relax the O-rings. Keep the cartridge vertical to prevent damage to the O-rings.

   ATTENTION: *If the vessel has a bayonet type cartridge location, slightly turn the cartridge clockwise to locate the retaining lugs in the correct position.*

4. Remove the plastic bag from the filter cartridge and reassemble the housing.

Flat Gasket Cartridges

1. Verify that both gaskets are installed on each end of cartridge, ensuring that each lies flush against the face of the flat end cap.

2. Wipe the plastic bag clean and cut it open at one end.

3. Slide the cartridge over the post in the housing and align it with the sealing surfaces. Take care to ensure that the cartridge gaskets on both the housing and cartridge are centered over the housing knife edge seals at both ends before closing the vessel.

4. Remove the plastic bag from the cartridge and reassemble the housing.

Backwashing Guidelines

Backwashing can be carried out as part of rinsing or cleaning procedures. Backwash is usually only effective for prefiltration stages and recommended for pleated depth media filters due to the high chance of damaging membrane filters. The flow rate used during backwashing should be as high as possible without exceeding the maximum recommended conditions of the cartridge. This is often possible in small systems, but pump capacity may limit flow in larger systems. Rigid rules for backwash operation are impossible since applications vary. Please refer to the following guidelines to design your backwashing process.

Recommended Backwashing Conditions	
Temperature	70 °F (21 °C) Maximum
Flow Rate	1.5 -2 Times Operation Normal Forward Flow Rate
Differential Pressure	10 psid (0.7 bar) Maximum
Duration	5-10 Minutes

- Use with filter vessels and cartridges that have suitable endcap configuration for this process.

- Backwash water should be the same quality or better than the filtered product.

- Initiate a backwash cycle when the pressure drop rises about 3-4 psid (0.2 to 0.3 bar) above the initial value (1-5 psid [0.1 to 0.4 bar] for most systems) or on a timed cycle, e.g., daily or after batches.
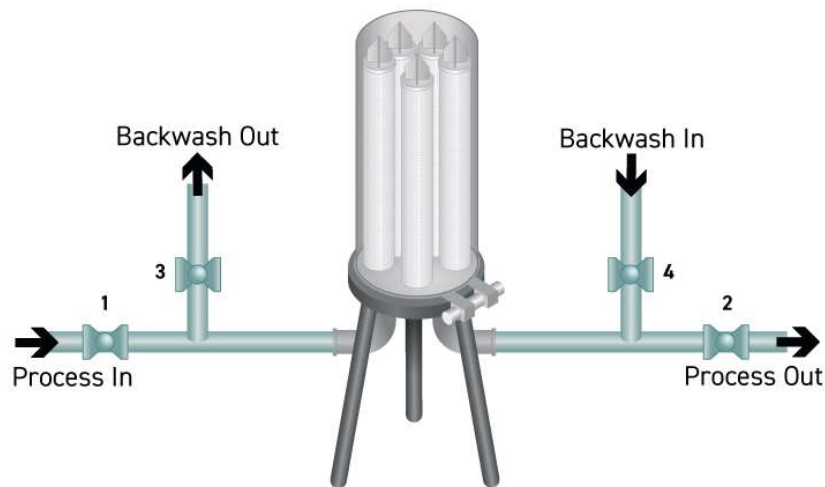
Backwash Schematic

Backwash Steps:

1. Close valves 1 and 2 to isolate the filter. Then open valves 3 and 4 to begin the backwash flow.
    a. Vent the entrapped air inside the vessel in the same way as done during normal flow filtration.
    b. Remember to not recirculate the flow coming from the drain port (valve 3) during backwashing.

2. Monitor the initial pressure drop and how it decreases during backwashing. Continue backwashing until the pressure drop through filter no longer decreases.
    a. Allow enough time to flush the contaminants out from the vessel.
    b. Flow pulsations during backwashing can increase the release of entrapped particles from the media surface.

3. Close valve 3 and 4 then let the filter vessel to drain empty. Then open valves 1 and 2 to resume normal filtration, and vent entrapped air as usual.

Doc No: UFUG-PMX