



INSTALLATION PROCEDURE
WETTING PROCEDURE
CONTACT INFORMATION



XF CARTRIDGES

PLEATED POLYPROPYLENE MEMBRANE
ALL-POLYPROPYLENE HARDWARE AND SUPPORTS

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If you have a wet-packed XF cartridge, please go to section 5 and follow the installation procedure for a wet-packed cartridge

1. Procedure for installing a dry filter cartridge

1. Cut open the bag at the end by the O-rings. To reduce the risk of contamination, the bag should remain on the cartridge as a protective sleeve during installation.
2. If necessary, lubricate the O-rings with water or a chemical that is compatible with the application. This will reduce the potential for O-ring damage.
3. Insert the end fitting containing the O-rings into the housing using a smooth twisting motion. Avoid pushing the cartridge directly into the O-ring bore since this may cause the O-rings to move from their correct locations.
4. Once the cartridge is fully inserted, rotate the cartridge 90 degrees in either direction to relieve any installation stress from the O-ring.
5. Remove the bag completely and fit the housing.

2. CRITERIA FOR PRE-WETTING

XF filters use PTFE membrane. Due to its hydrophobic nature, PTFE membrane is not wet spontaneously by process fluids with surface tension above 32 dynes/cm.

1. For process fluids with surface tension less than 27 dynes/cm, you do not need to pre-wet the filter, simply follow the procedure for Dry Filter Cartridge Installation as for gas application in Section 1.
2. For process fluids with surface tension over 32 dynes/cm, XF filters must be pre-wetted with 100% IPA or 60/40 IPA/water. Please follow the procedures for pre-wetting and installation in Section 3.
3. For process fluids with surface tension between 28 and 32 dyne/cm, PTFE membrane may be wet with pressure intrusion. By increasing the pressure on the upstream of the membrane, the process fluid will be forced into the pores of the membrane. Alternatively, you may choose to pre-wet the filter by flowing the procedures in Section 3.

3. WETTING PROCEDURE

NOTE 1: It is recommended that the procedure be performed off-line using a flushing stand. It will avoid contamination in the process stream with the wetting solution.

Note 2: IPA solutions are flammable. Handle with extreme care in a well-ventilated area, away from flames and sparks while wearing protective clothing.

A. PROCEDURE FOR NON-WETTING STATION

1. Place the cartridge in a vertical container with sufficient height so the IPA can completely cover the cartridge.
2. Fill the container with 60/40 IPA/water or 100% IPA in the area outside the cartridge.
3. Slowly lower the cartridge (open end up; closed end down) into the wetting solution until the cartridge is completely immersed. This allows the membrane to wet from the outside to the inside and reduces the possibility of entrapping air in the membrane.
4. Let the cartridge soak in the wetting solution for at least 10 minutes.
5. Drain the filter and install it in the cartridge housing. Be aware that the cartridge will contain approximately 100ml per 10" filter of IPA into the installed system. If IPA will cause a problem in the system, the filter should be flushed with DI water before completing installation as per [Section 4](#).

B. Procedure for use with a wetting station

1. Wetting stations are remotely located from the final installation point to avoid problems associated with open alcohol contamination and minimize IPA disposal costs.
2. Wetting stations incorporate filter housings in which 60/40 IPA/water or 100% IPA is recirculated.
3. Let the wetting solution recirculate for 20 minutes to thoroughly wet the cartridge before being drained off.
4. Flush the filter with ultra-pure DI water for at least 30 minutes at 2gpm per 10" filter in order to flush out any residual IPA.
5. The cartridge is now ready for use. Use a plastic bag for transportation to the fab to prevent filter contamination and possible membrane de-wetting.
6. Follow the procedure to install a wetted filter in [Section 4](#).



4. INSTALLATION PROCEDURE FOR A WETTED CARTRIDGE (FOLLOWING SECTION 3)

1. Insert O-ring fitting into the housing bore with a smooth twisting motion. Pushing the O-ring fitting directly into the O-ring bore may cause damage to the O-ring. Excessive twisting in the middle of the cartridge may cause damage to the membrane.
2. Once the cartridge is fully inserted, rotate the cartridge 90 degrees in either direction to relieve O-ring installation stress.
3. Install filter bowl and open vents on housings
4. Slowly start the flow of DI water while venting air to prevent the cartridge from de-wetting. (Use process fluid if the filter has already been flushed with DI water in the wetting-station, skip step 5) and go to step 6) directly.) In some cases, process fluid is used to flush out IPA when it is not compatible with DI water. Please check the compatibility before you start this step.
5. Once the air is completely vented from the housing, flush filter with ultra-pure DI water for at least 10 minutes at 2gpm to eliminate IPA. Change feed to process fluid. (If a process fluid is used to flush off IPA, flush time and volume may vary depending on the chemical used. Make sure any residual IPA is eliminated completely.)
6. Continue to vent the housing until the process is operational fully.

** If flow is not as expected, repeat the wetting procedure. Low flow rate is very likely caused by membrane de-wetting from improper venting during installation. If the problem persists, please contact our Technical Applications Service team for assistance.

5. INSTALLATION PROCEDURE FOR WET- PACKED CARTRIDGES

XF filters are available as pre-wetted, flushed with ultra-pure DI water, and triple bagged in bacteria free ultra-pure DI water in a certified clean environment. Wet-packing eliminates the lengthy wetting procedure before installation and significantly reduces flushing time.

1. Carefully open the inflated bag and remove the cartridge. The cartridge is triple bagged. The outer bags can be removed as the cartridge is brought into successively cleaner operational areas.
2. Cut the final bag open close to the O-rings, dispose of the water, keep the bag in place on the filter for protection and install the filter within 20 minutes.
3. Make sure that both the O-rings and housing bore have been wetted with ultra-pure water and handle the filter using the inner bag for contamination protection.
4. Insert the O-ring fitting into the housing bore with a smooth twisting motion. CAUTION: pushing the O-ring fitting directly into the O-ring bore may cause O-rings damage; also, excessive twisting in the middle of the cartridge may damage the membrane.
5. Once the cartridge is fully inserted, rotate the cartridge 90 degrees in either direction to relieve any installation stress from the O-ring.
6. Install filter bowl and open vents on the housing.
7. Slowly start the flow of process fluid while venting air to prevent the filter membrane from de-wetting.
8. Continue venting until the air is completely vented and the process is running fully.

Occasionally, lower than expected flow may be experienced. Low flow is most likely caused by the membrane de-wetting due to inadequate venting during installation. Repeating the IPA re-wetting procedure will usually restore full flow. Please refer to the pre-wetting procedure for dry *XF* cartridges. If the problem persists, please contact our Technical Applications Service team for assistance.

6. INTEGRITY TESTING

Parker Hannifin tests every *XF* product in accordance with our Quality Assurance Program. If you wish to carry out your own in-house testing, please contact bwf.oxn.support@support.parker.com for details of the appropriate testing procedures.

