

# Installation and Operation Instructions

## 3M™ LifeASSURE™ EPF, EMZ, PSN, EMC and MFE Series Filter Cartridges

### Safety Information

Please read, understand, and follow all safety information contained in these instructions prior to the use of any 3M™ LifeASSURE™ Series Filter Cartridge. Retain these instructions for future reference.

#### Intended Use

3M LifeASSURE EPF, EMZ, PSN, EMC and MFE Series Filter Cartridges are used for filtering fluids for the purpose of reducing particulate from fluids used in electronics processes, such as: ultrapure water, solvents and photolithography chemistries. It is expected that all users be fully trained in the safe operation of these 3M LifeASSURE Series Filter Cartridges. Use of these cartridges in applications that have not been evaluated by 3M may lead to unsafe conditions.

3M LifeASSURE EPF, EMZ, PSN, EMC and MFE Series Filter Cartridges are intended for filtration of process water, ultrapure water and Aqueous based chemical applications. These 3M LifeASSURE Series Filter Cartridges are not intended for filtration of potable water, food & beverage, or bioprocessing & pharmaceutical applications.

### CAUTION

- **To reduce the risks associated with chemical exposure which, if not avoided, could result in minor or moderate injury:**
  - Always use appropriate personal protective equipment (PPE), including eye and face protection, protective gloves during filter change out and startup.
  - Do not use a cartridge that has been damaged or has damaged components.
  - Do not modify the cartridge or its components.
- **To reduce the risks associated with environmental contamination which, if not avoided, could result in minor or moderate injury:**
  - At the end of usable life, dispose of cartridge in accordance with applicable local, state, and federal regulations or laws.

### Filter Packaging

3M Purification Inc. membrane filters are double-bagged for cleanroom service and should remain packaged until installation. Inspect, but do not remove the filter from the protective bags unless you are in a clean environment. Contact your 3M Purification Inc. Representative or Technical Support with any concerns.

### WARNING

- **To reduce the risk associated with personal injury due to system failure:**
  - **Depressurize** the system prior to installation and prior to removal.

### Installation

1. Remove the filter from the box and carry the filter into a designated gray area of the cleanroom.
2. Remove the outer protective bag and discard.
3. Carefully cut the inner protective bag near the O-ring base and slide back to just expose the O-rings.
4. Note: DO NOT remove the filter cartridge from the inner bag.
5. Wet the cartridge O-rings and housing receptor with the process fluid.
6. Note: Nylon filters DO NOT require pre-wetting.
7. Grasp the filter with both hands, place the open end of the filter into the housing receptor and press straight into place while twisting.
8. Remove bag and inspect cartridge for proper seating in housing receptor. Repeat these steps until all filters are installed.
9. Close the housing and verify all connections are leak tight.
10. Start the fluid flow and fill the filter housing.
11. Vent the upstream side of the filter housing.
12. After all trapped air has been removed, close vent and the filter is ready for use.

## Removal & Disposal

1. Isolate the housing by closing all inlet and outlet valves.
2. Depressurize the housing by opening the drain valve. Open the vent valve if that is available on the housing.
3. Allow the fluid to drain from the housing.
4. Open the housing.
5. Remove filter, and dispose of used filters in accordance with federal, state, and local laws and regulations.

## Operating Parameters & Specifications

	EMC	EMZ	EPF	PSN	MFE
<b>Cartridge Component</b>					
<b>Membrane</b>	Nylon 6,6	Charge Modified Nylon 6,6	PES	Nylon 6,6	Hydrophobic PTFE
<b>Cage, Core, End Caps, Membrane Support Layers</b>	Polypropylene	Polypropylene	Polypropylene	High Density Polyethylene (HDPE)	Polypropylene
<b>Cartridge Dimensions</b>					
<b>Filtration Surface Area</b>	11.0 ft. <sup>2</sup> (1.0 m <sup>2</sup> )	11.0 ft. <sup>2</sup> (1.0 m <sup>2</sup> )	8.6 ft. <sup>2</sup> (0.8 m <sup>2</sup> )	11.22 ft. <sup>2</sup> (1.04 m <sup>2</sup> )	11.0 ft. <sup>2</sup> (1.0 m <sup>2</sup> )
<b>Nominal Outside Diameter</b>	2.75 in. (7 cm)	2.75 in. (7 cm)	2.75 in. (7 cm)	2.75 in. (7 cm)	2.75 in. (7 cm)
<b>Nominal Length</b>	5, 10, 20, 30 and 40 in. (12.7, 25.4, 50.8, 76.2 and 101.6 cm)	10, 20, 30 and 40 in. (25.4, 50.8, 76.2 and 101.6 cm)	10, 20, 30 and 40 in. (25.4, 50.8, 76.2 and 101.6 cm)	10, 20 and 30 in. (25.4, 50.8 and 76.2 cm)	5, 10 and 20 in. (12.7, 25.4 and 50.8 cm)
<b>Operating Parameters</b>					
<b>Maximum Operation Temperature</b>	176 °F (80 °C) for 30 minutes	176 °F (80 °C) for 30 minutes	176 °F (80 °C)	122 °F (50 °C)	176 °F (80 °C)
<b>Maximum Differential Forward Pressure</b>	80 psid @ 77 °F (5.5 bar @ 25 °C) 35 psid @ 176 °F (2.4 bar @ 80 °C)	80 psid @ 77 °F (5.5 bar @ 25 °C) 35 psid @ 176 °F (2.4 bar @ 80 °C)	60 psid @ 77 °F (4.1 bar @ 25 °C) 25 psid @ 176 °F (1.7 bar @ 80 °C)	60 psid @ 77 °F (4.1 bar @ 25 °C)	80 psid @ 77 °F (5.5 bar @ 25 °C) 25 psid @ 176 °F (1.7 bar @ 80 °C)
<b>Filtration Rating</b>	0.1, 0.2, 0.45, 0.65, 0.80 microns	0.04, 0.1, 0.2, 0.45 microns	0.04, 0.2 microns	0.04, 0.1, 0.2 microns	0.1 microns

### Product Selection and Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

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