

LifeASSURE™ EF Series Electronic Grade Filter Cartridges

The 3M Purification LifeASSURE™ EF series .04 µm and 0.1 µm rated cartridge filters deliver superior performance in ultra high purity water systems. Optimized cartridge filter design and further advances in 3M Purification's hydrophilic, charge modified Nylon membranes are incorporated into an all polypropylene cartridge filter, yielding an efficient, ultra-retentive filtration device. 3M Purification's charge modification technology remains the most effective deterrent to contamination in ultra pure water generation. The LifeASSURE EF series cartridge filter has increased membrane area (over 11 ft²) and the highest flow rate of any comparably rated microfiltration cartridge in the industry. Lower pressure drops reduce operating costs and increase cartridge filter effectiveness.

All LifeASSURE EF series cartridge filters are preflushed with high purity water to minimize system recovery times at installation. Stringent manufacturing protocols in an ISO 9002 certified facility are followed to ensure consistent cartridge filter operation throughout the service life of the filter. End users can rely on the Scientific Applications Support Services (SASS) group which offers technical oversight for 3M Purification's large installed customer base. Unmatched cartridge filter performance and product support are the keystones of 3M Purification's commitment to the industry. Customers call on 3M Purification to be their process partner.

Features & Benefits

Charge modified Nylon membrane

Mechanical and electrokinetic contaminant removal delivers extremely low particle counts.

High flow rates — low pressure drops

New water systems can be optimized, decreasing capital costs; existing systems can deliver desired flows at lower pressure drops, resulting in lower cost of ownership.

Increased membrane area

Reduced particle loading extends filter life, curtailing downtime and operator expense.

Technical support from 3M Purification SASS personnel

Application specific engineering expertise on demand for end user issues.



The LifeASSURE EF series cartridge filter is extremely durable, and features all polypropylene molded components that withstand arduous operating conditions.

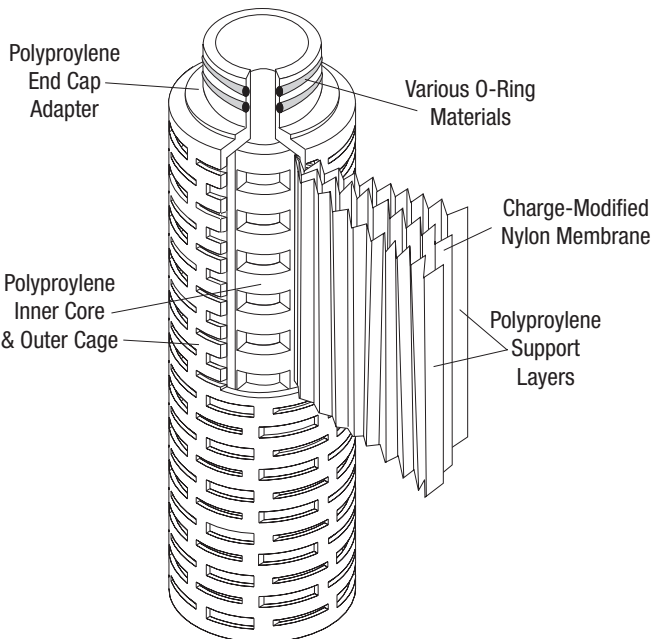
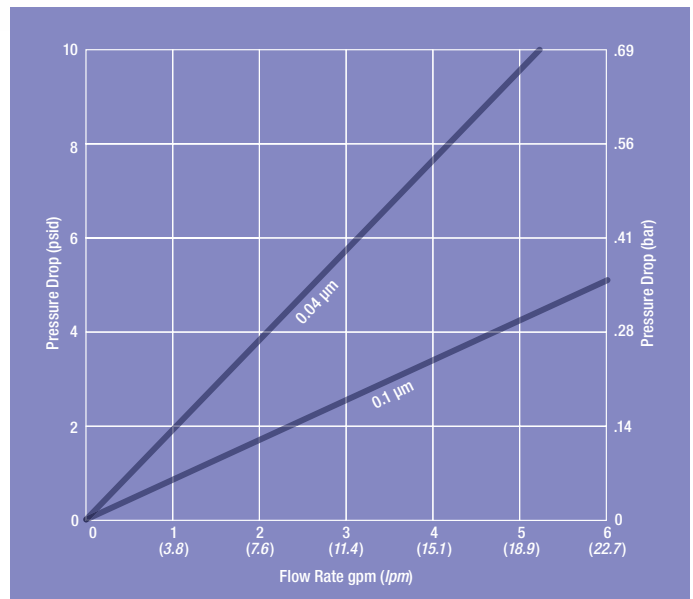


Figure 1. Water Flow Rate vs. Differential Pressure*



* Flow rate/pressure drop is for a 10" element in 25 °C water.

Operating Parameters & Specifications

Materials of Construction	
Membrane	Charge-Modified Nylon
Membrane support layers	Polypropylene
Inner core, outer cage, end cap adapters	Polypropylene
O-Rings	Fluorocarbon, silicone and PTFE-encapsulated fluorocarbon
Dimensions	
Filtration surface area	11 ft ² (1 m ²)*
Cartridge diameter (nominal)	2.75" (7 cm)
Cartridge length (nominal)	10", 20", 30" & 40"
Cartridge configurations	see ordering guide below
Operating Conditions	
Standard operating temperature	77 °F (25 °C)
Maximum forward differential pressure:	60 psid (4.2 bar) @ 77 °F (25 °C)
Maximum reverse differential pressure:	40 psid (2.8 bar) @ 122 °F (50 °C)
Integrity Test Values — Air Diffusion	
.04 µm water wet cartridge	≤15 cc/min @ 45 psid (3.5 bar)
0.1 µm water wet cartridge	≤15 cc/min @ 35 psid (2.8 bar)

* per 10" element

LifeASSURE™ EF Series Cartridge Ordering Guide

Grade Designation	Configuration	Length (Inches)	End Modification	O-Ring Material
EF004 (.04 µm) EF010 (0.1 µm)	A	01 - 10 02 - 20 03 - 30 04 - 40	B - 226 Locking O-ring & spear C - 222 O-ring & spear F - 222 O-ring & flat cap	B - Fluorocarbon H - Clear silicone K - PTFE-encapsulated fluorocarbon*

* Available with C & F end modifications only.

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