

EPM Cartridge Filters

Polypropylene Membrane



EPM Membrane Filter Cartridges are designed to meet the special needs of the electronics and high purity chemical industries. Materials of construction were chosen for their compatibility with chemicals and solvents used in electronics manufacturing. The cartridges produce minimal extractables when exposed to typical process chemicals and solvents. Each cartridge module is pulse power flushed until the rinse effluent reaches 18+ Megohm-cm and less than 3 ppb TOC. Each cartridge module is also individually tested to ensure it is integral. These membrane cartridges should be used when high performance filtration is essential for high process yields.

Construction Materials

Filtration Media	Polypropylene Membrane
Media Support	Polypropylene
End Caps	Polypropylene
Center Core	Polypropylene
Outer Support Cage	Polypropylene
Sealing Method	Thermal Bonding
O-rings	Buna, Viton® (or FKM), EP, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)

Total Performance

CriticalProcessFiltration, Inc. is a vertically integrated manufacturer of filtration products to industries in which filtration is considered a critical part of the manufacturing process. We supply a complete line of products and services to help you cost effectively satisfy all your filtration requirements from a single source.

Applications

- ◆ Etchants
- ◆ Tank Vents
- ◆ Solvents
- ◆ Acids and Bases
- ◆ Gases
- ◆ Compressed Air
- ◆ Chemicals

Dimensions

Length	5 to 40 in. (12.7 to 101.6 cm) nominal
Outside Diameter	2.75 in. (7.0 cm) nominal
Filtration Area	7.0 ft ² (0.65 m ²) per 10 in. length

Integrity Test Specifications

Per 10-in. length, 60/40 IPA/water wetted membrane

Pore Size	Air Diffusion Rate
0.10 µm	< 30 cc/min at 40 psig (2.8 barg)
0.22 µm	< 30 cc/min at 35 psig (2.4 barg)

Maximum Operating Parameters

Differential Pressure	
• Forward	50 psid (3.4 barg) at 20 °C (68 °F)
• Reverse	40 psid (2.7 barg) at 20 °C (68 °F)
Operating Temperature	82 °C (180 °F) at 10 psid (0.69 barg) in water
Recommended Changeout Pressure	35 psid (2.4 barg)

Sanitization/Sterilization

Autoclave	121 °C (250 °F), 30 min, multiple cycles
In-line Steam	135 °C (275 °F), 30 min, multiple cycles

For all elevated temperature procedures above, a stainless steel support ring is required.

Chemical Sanitization

Performed using industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite, and other selected chemicals.

Quality Assurance and Standards

Our goal is to ensure our customers the greatest possible value for their filtration dollar. Our state of the art manufacturing facility and quality management system both meet ISO 9001:2008 standards. Each operation from assembly and test to cleaning, drying, and packaging is done in appropriately rated clean rooms. A sophisticated MRP system collects and processes real time data from manufacturing centers and inspection points. This allows variable and attribute data to be quickly and easily analyzed driving constant improvements in both quality and cost.

Extractables

The levels of extractables in aqueous extracts from E-grade filters are below 3ppb of TOC after product rinse during manufacturing. E-grade filters typically exhibit very low levels of non-volatile residues during startup.

Flow Rate

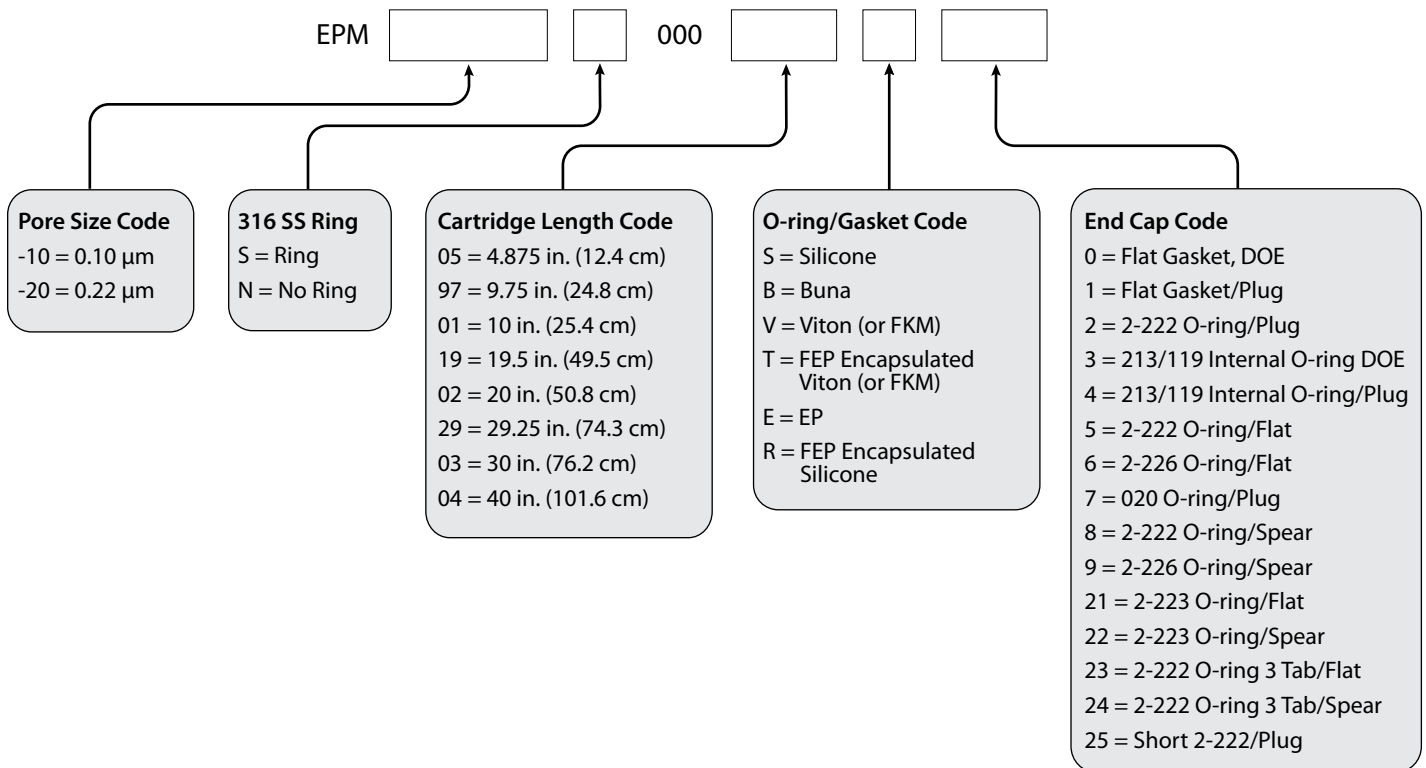
The Typical Flow Rates table represents typical water and air flows at ambient temperature and 1 psid (69 mbard) pressure differential across a single 10 in. cartridge element. Extrapolation for housings with multiple elements and higher pressure drops is acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

Typical Flow Rates

Pore Size Rating	0.1 μm	0.2 μm
Liquid Flow Rates (gpm)	0.75	2.75
Air/Gas Flow Rates (scfm)	> 20	> 30

Ordering Information

Cartridge order numbers have several variables from pore size to end cap type. For example, Electronics Grade Polypropylene Membrane, 0.10 Micron Rating, No SS Support Ring, 20" Length, FEP Encapsulated Viton (or FKM) O-Rings, 2-222/Flat End Cap Configuration = EPM-10N00002T5.



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