

EPS Capsule Filters

Symmetric Polyethersulfone (PES) Membrane



Excellent flow rates with precise retention ratings

Final filtration of UPDI Water, acids, bases, resists, solvents

Very low extractables and rinses to high purity very quickly

Applications

- ◆ UP DI Water
- ◆ Acids & Bases
- ◆ Etch Baths
- ◆ Photo Processing Chemicals
- ◆ Solvents
- ◆ Plating Solutions

EPS Capsules are hydrophilic and manufactured with the highest quality symmetric polyethersulfone (PES) membrane. PES membrane exhibits excellent flow rates with precise retention ratings. EPS capsules are used for critical applications in contamination control.

EPS capsule filters are used for final filtration of ultrapure DI water, low to moderate temperature final filtration of acids and bases, solvents, alcohols, copper plating solutions, photo resists and other liquids. Electronics grade PS capsules are most often applied for final filtration in tools at the point of dispensing.

Polyethersulfone has high flow rates and very low extractables and rinses to high purity very quickly. It is particularly suited for the filtration of water and aqueous solutions used in the production of the latest low nanometer geometry products.

EPS Capsule Filters - Filtration Area

Media	Capsule Length				
	2"	5"	10"	20"	30"
PES Membrane	1.0 ft ² (930cm ²)	3.0 ft ² (2788cm ²)	7.0 ft ² (6503cm ²)	14.0 ft ² (13006cm ²)	21.0 ft ² (19509cm ²)

Flow Rate / Filtration Area

The following table represents typical water flow at a one psi (69 mbar) pressure differential across a single 2 inch capsule with 1.0 ft² (930 cm²) of media with 1/2" FNPT ports. The test fluid is water at ambient temperature. Higher pressure drops are acceptable, but as flows increase the pressure drop of the housing becomes more apparent..

Pore Size	0.03 μm	0.10 μm	0.22 μm	0.45 μm
GPM	0.21	0.36	0.64	1.0
LPM	0.79	1.36	2.42	3.79

* For approximate flow rates for 5" through 30" capsules, refer to the appropriate cartridge data sheet

Construction Materials

Housing	Polypropylene
Filtration Media	Symmetric Polyethersulfone (PES) Membrane
Media Support	Polypropylene
End Caps	Polypropylene
Center Core	Polypropylene
Outer Support Cage	Polypropylene
Sealing Method	Thermal Bonding

Maximum Operating Parameters

Liquid Operational Pressure	80 psi (5.5 bar) at 20 °C (68 °F)
Gases Operational Pressure	60 psi (4.1 bar) at 20 °C (68 °F)
Operating Temperature	43 °C (110 °F) at 30 psi (2.1 bar) in water
Forward Differential Pressure	50 psid (3.4 bard) at 20 °C (68 °F)
Reverse Differential Pressure	40 psid (2.7 bard) at 20 °C (68 °F)
Recommended Changeout Pressure	35 psid (2.4 bard)

Integrity Test Specifications

Pore Size	Test Pressure (psi)	Max Diffusion Rate (cc/min -water wetted membrane)				
		2"	5"	10"	20"	30"
0.03	60	4.3	12.9	30	60	90
0.10	48	4.3	12.9	30	60	90
0.22	35	4.3	12.9	30	60	90
0.45	20	4.3	12.9	30	60	90

Sanitization/Sterilization

Autoclave 250° F (121° C), 30 min, multiple cycles

Chemical Sanitization Industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite and other selected chemicals.

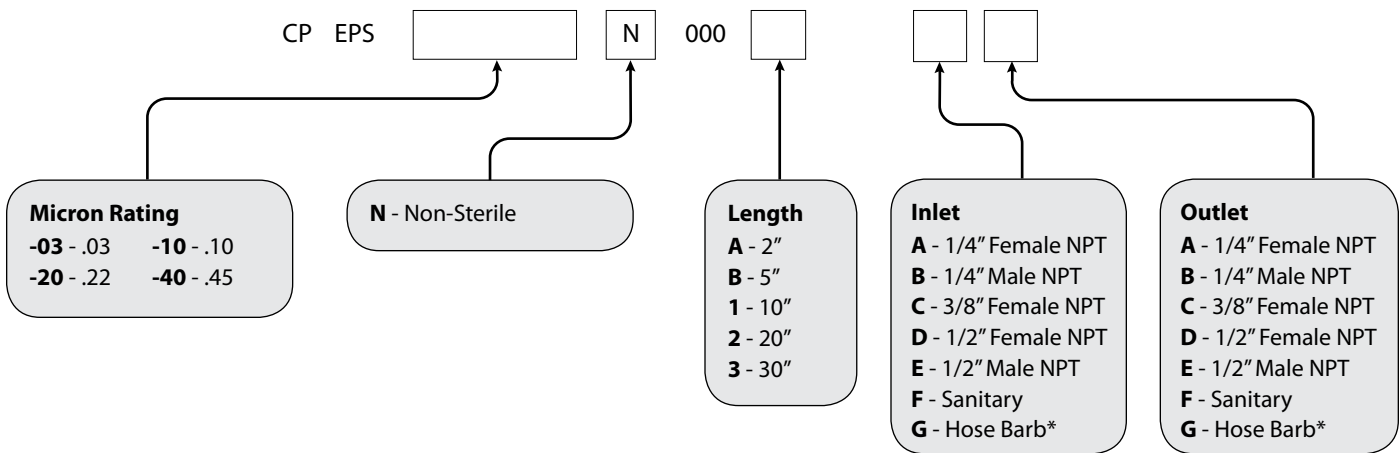
Note EPS capsules are not to be used in steam.

Extractables

The levels of extractables in aqueous extracts from electronics grade capsule filters are below 3ppb of TOC after product rinse during manufacturing. Electronics grade filters typically exhibit very low levels of extractables during startup.

Ordering Information

Capsule order number example: Electronics Grade Symmetric PES Membrane, 0.10 Micron Rating, Non-Sterile, 10" Length, Sanitary Inlet, Sanitary Outlet = CPEPS-10N0001FF.



Hose Barb Diameter Ranges*

	Minimum	Maximum
Outer Diameters	11/32" (8.6mm)	9/16" (14.0mm)
Inner Diameters	5/32" (4.0mm)	13/32" (10.5mm)

Quality Assurance and Standards

Critical Process Filtration uses state of the art computer controlled equipment to consistently produce high quality products as well as significantly reduce hand operations that can compromise quality. All manufacturing and testing is continuously monitored in real time so that data can be quickly and easily analyzed to facilitate improvements in both quality and cost.

The Critical Process Filtration manufacturing and quality systems meet rigorous ISO 9001:2008 standards. Each operation, including assembly, testing, cleaning, drying and packaging, is done in an appropriately rated clean room. Manufacturing is controlled using a sophisticated manufacturing system that networks work stations, manufacturing centers and inspection points. During the manufacturing and inspection processes, data is collected in real time to allow continuous quality monitoring and full traceability of all materials and processes.

Each capsule filter assembly is integrity tested before release.

Total Performance

Critical Process Filtration, 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.

Request a **QUOTE** from your area representative



Critical Process Filtration, Inc.

One Chestnut Street • Nashua, NH 03060

Tel: 603.880.4420 • Fax: 603.880.4536

criticalprocess.com • sales@criticalprocess.com

The information contained herein is subject to change without notice.

The Critical Process Filtration logo is a trademark of Critical Process Filtration, Inc.

Viton is a trademark of DuPont Performance Elastomers L.L.C.

© 2011-2014 Critical Process Filtration, Inc. • All Rights Reserved • Data Sheet CPEPSDS1011 Rev-