



FPS Micro Capsule Filters

Single Layer PES Membrane

FPS Micro Capsule filters consist of a validated, single layer Polyethersulfone (PES) membrane and are used for the sterilizing of aqueous liquids. FPS Micro Capsules have been designed to comply with all FDA requirements for the food industry. Pore sizes range from 0.03 to 1.2 μm and the filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

The FPS Micro Capsule filters have low protein binding characteristics making them a good choice for fermented beverage filtration. These filters deliver high throughput and handle cleaning and sanitization protocols well.

These products are 100% integrity tested. FPS Micro Capsule filters are flushed to remove manufacturing debris and reduce extractables.

Critical Process provides unrivaled delivery times, technical consulting before purchasing, and very competitively priced high-performance products. Our comprehensive testing & analysis and validation services support your team whenever they need it. Your process experts partnering with our filtration experts is how we deliver your company's solution right the first time.

Bacteria/Yeast/Mold Removal

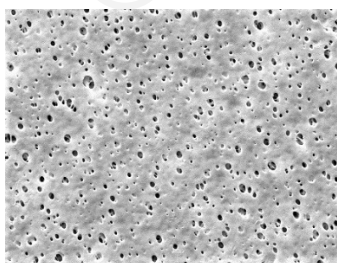


MICRO CAPSULES – Nominal Dimensions

Body Length: 1.9 in. (4.8 cm)

Overall Length: 2.8 to 3.8 in. (7.1 to 9.7 cm)

Outside Diameter: 2.6 in. (6.6 cm)



FPS Micro Capsule filters are recommended for:

- Wine
- Beer
- Clear Juices
- Aseptically Packaged Liquids
- Bottled Water
- Process Water

Maximum Operating Parameters

MICRO CAPSULES	
Liquid Operational Pressure	80 psi at 68 °F (5.52 bard at 20 °C)
Gases Operational Pressure	60 psi at 68 °F (4.14 bar at 20 °C)
Operating Temperature (water)	110 °F at 30 psid (43 °C at 2.07 bard)
Forward Differential Pressure	50 psid at 68 °F (3.45 bard at 20 °C)
Reverse Differential Pressure	40 psid at 68 °F (2.76 bard at 20 °C)
Recommended Changeout Pressure	35 psid (2.41 bard)

Sanitization & Sterilization

Autoclave	250 °F (121 °C), 30 min, 5+ cycles
Chemical Sanitization	Performed using industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals

Filtration Area

Area	0.575 ft ²
	533 cm ²

Validation

FPS Micro Capsule filters are validated using test procedures that comply with ASTM F 838-15(ae1) protocols for the determination of bacterial retention in filters used for liquid filtration. The filters are challenged with the organisms listed below.

0.03µm: *Acholeplasma laidlawii*
 0.10µm: *Brevundimonas diminuta*
 0.22µm: *Brevundimonas diminuta*
 0.45µm: *Serratia marcescens*
 0.65µm: *Saccharomyces cerevisiae*

Extractables

FPS Micro Capsule filters typically exhibit low levels of non-volatile residues.

Non-Fiber Releasing

The FPS Micro Capsule filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

FDA and EC Compliance

Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable. All materials used to make the filters are listed in European Commission Regulation EU/10/2011, Annex 1.

Construction Materials

Filtration Media	PES membrane
Media Support	Polypropylene
End Caps, Center Core, Outer Support Cage, Micro Capsule Housing	Polypropylene
Sealing Method	Thermal Bonding

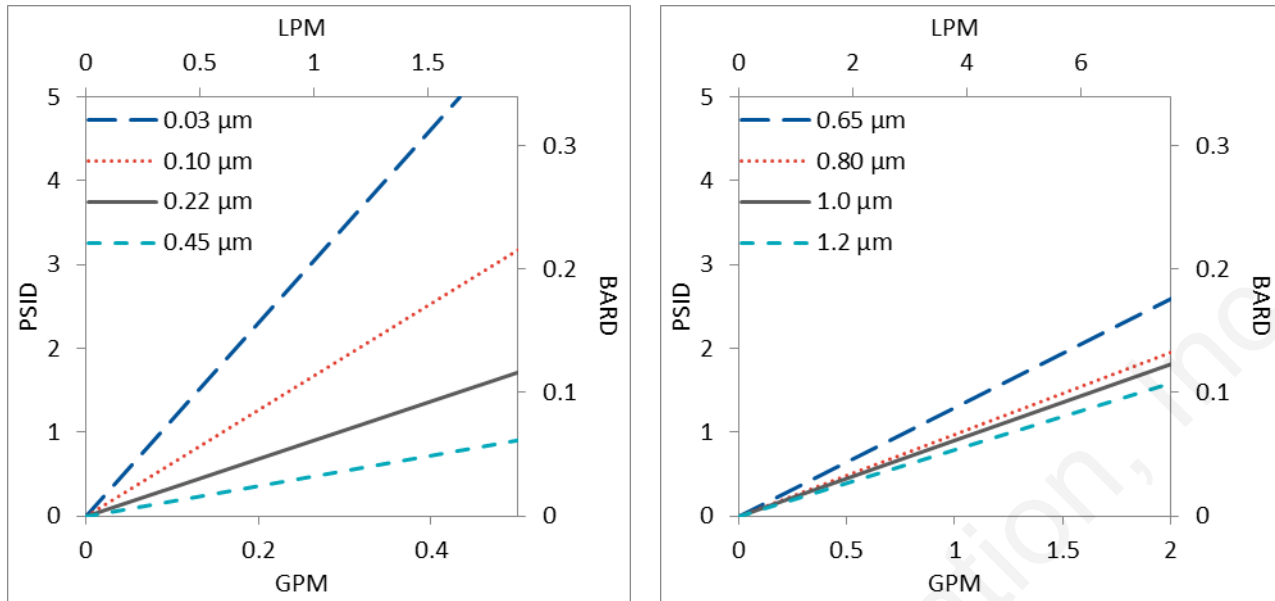
Integrity Testing

PORE SIZE	BUBBLE POINT MINIMUM*	
	PSIG	BARG
µm		
0.03	**	**
0.10	**	**
0.22	50	3.4
0.45	25	1.7
0.65	19	1.3
0.80	15	1.0
1.0	10	0.7
1.2	8	0.6

* For water wetted membrane

** Test pressure exceeds operational limits of Micro capsule filters.

Flow Rates for FPS Micro Capsules by Pore Size



Flow rates for Micro Capsule filters are per filter. The test fluid is water at ambient temperature. Flows are tested using a Micro capsule filter with 1/2" Sanitary inlet and outlet ports. Rates will vary based on end configuration of the Micro capsule.

FPS Micro Capsule Filters Ordering Information

All Critical Process filters are configurable to meet customer specifications.
Fill in the corresponding codes in the boxes below to build your Part Number.

To consult with one of our technical team members, request a quote or place an order:
call (603) 880-4420 or [contact us here](#)

Micro Capsule Filters

MIC FPS N 000 -

Pore Size Code

-03 = 0.03 μ m
-10 = 0.10 μ m
-20 = 0.22 μ m
-40 = 0.45 μ m
-60 = 0.65 μ m
-80 = 0.80 μ m
1-0 = 1.0 μ m
1-2 = 1.2 μ m

Inlet

1 = 1/8" Hose Barb
2 = 1/4" Hose Barb
3 = 1/2" Hose Barb
4 = Luer Lock
5 = 1/2" Sanitary*
6 = 1/4" MNPT

Inlet Vent Port

1 = 1/8" Hose Barb
2 = 1/4" Hose Barb
3 = 1/2" Hose Barb
4 = Luer Lock
6 = 1/4" MNPT
7 = Side Bleed Valve

Outlet

1 = 1/8" Hose Barb
2 = 1/4" Hose Barb
3 = 1/2" Hose Barb
3B = 1/2" Hose Barb
with Filling Bell
4 = Luer Lock
5 = 1/2" Sanitary*
6 = 1/4" MNPT

Outlet Vent Port

1 = 1/8" Hose Barb
2 = 1/4" Hose Barb
3 = 1/2" Hose Barb
4 = Luer Lock
6 = 1/4" MNPT
7 = Side Bleed Valve

Side Vent O-Ring**

B = Buna
E = EP
S = Silicone
V = Viton (or FKM)
K = FFKM

*When choosing the Sanitary Inlet/Outlet, the Luer Lock or bleed valve option is required for the Vent Port

** O-Ring is only available on Bleed Valve



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