



ETM Filters

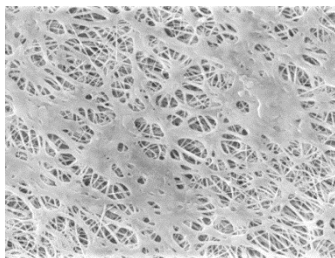
PTFE Membrane



ETM cartridge and capsule filters consist of a single layer Polytetrafluoroethylene (PTFE) membrane. Designed to meet the needs of the electronics and high-purity chemical industries, ETM products are resistant to virtually all chemicals making them very effective in removing particles in gas and non-aqueous liquid filtration. They are most often used as final filters at the point-of-use, such as at tools. The ETM can also be ordered pre-wetted with water for use in aqueous solutions. Pore sizes range from 0.05 to 5.0 μm and the filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

The ETM filters are very low in extractables and handle elevated process temperatures in compatible fluids. ETM filters are pulse power flushed until the rinse effluent reaches 18+ Megohm-cm and less than 3ppb TOC. Each filter is individually tested to ensure integrity.

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.



ETM filters are recommended for:

- Compressed Air
- Pressurized Gases
- Non-Aqueous Chemicals
- Solvents
- Tank Ventilation

Particle Filtration

Tank Vent & Process Gas



CARTRIDGES – Nominal Dimensions

Length: 5 to 40 in. (12.7 to 101.6 cm)

Outside Diameter: 2.75 in. (7.0cm)



CAPSULES – Nominal Dimensions

Length: 2 to 30 in. (5.1 to 76.2 cm)

Outside Diameter: 3.50 in. (8.9 cm)

Maximum Operating Parameters

	CARTRIDGES	CAPSULES
Liquid Operational Pressure	N/A	80 psi at 68 °F (5.51 bard at 20 °C)
Gases Operational Pressure	N/A	60 psi at 68 °F (4.13 bar at 20 °C)
Operating Temperature (water)	180 °F at 30 psid (82 °C at 2.06 bard)	110 °F at 30 psid (43 °C at 2.06 bard)
Forward Differential Pressure	80 psid at 68 °F (5.51 bard at 20 °C) (Liquid and Gas)	Liquid - 80 psid at 68 °F (5.51 bard at 20 °C) Gas - 60 psi at 68 °F (4.13 bar at 20 °C)
Reverse Differential Pressure	50 psid at 68 °F (3.44 bard at 20 °C)	50 psid at 68 °F (3.44 bard at 20 °C)
Recommended Changeout Pressure	35 psid (2.41 bard)	35 psid (2.41 bard)

Sanitization & Sterilization

Filtered Hot Water*	90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow	N/A
Inline Steam*	275 °F (135 °C), 30 min, 25+ cycles	N/A
Autoclave*	250 °F (121 °C), 30 min, 25+ cycles	250 °F (121 °C), 30 min, 25+ cycles
Chemical Sanitization	Performed using industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.	

*Cartridge Filters – For all elevated temperature procedures above, a stainless-steel support ring is required.

Filtration Area

Length	CAPSULES	CARTRIDGES AND CAPSULES				CARTRIDGES
	2"	5"	10"	20"	30"	40"
	5.08cm	12.7cm	25.4cm	50.8cm	76.2cm	101.6cm
Area	1.0 ft ²	3.0 ft ²	7.0 ft ²	14.0 ft ²	21.0 ft ²	28.0 ft ²
	0.10m ²	0.28m ²	0.65m ²	1.30m ²	1.95m ²	2.60m ²

Integrity Testing

PORE SIZE	BUBBLE POINT MINIMUM*	
	PSIG	BARG
µm		
0.05	43	3.0
0.10	22	1.5
0.22	15	1.0
0.45	9	0.62
1.0	6	0.41
3.0	2	0.14
5.0	1	0.07

* Bubble Point for membrane wetted with 60% IPA / 40% water solution.

Extractables

ETM filters typically exhibit low levels of non-volatile residues.

TOC and Conductivity

ETM filter water effluent conforms with the TOC and water conductivity standards of SEMI Standard F63 after an appropriate flush with ultrapure water.

Non-Fiber Releasing

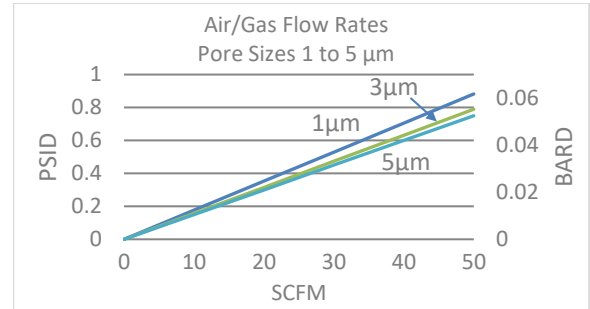
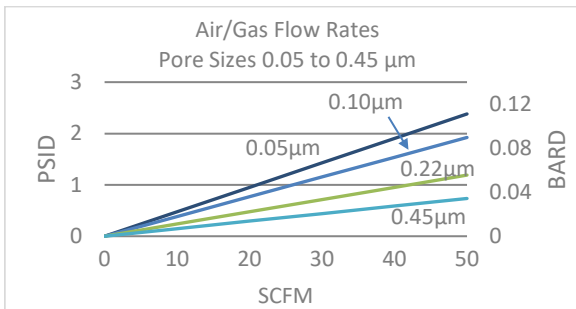
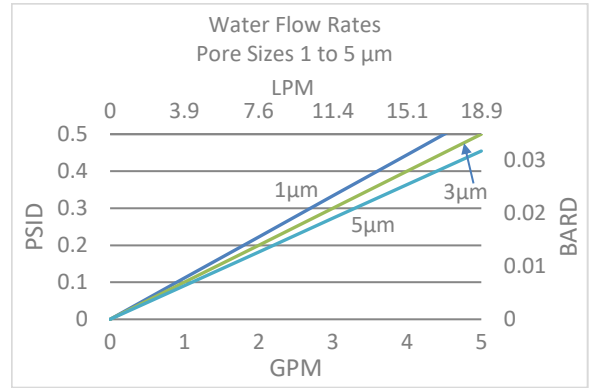
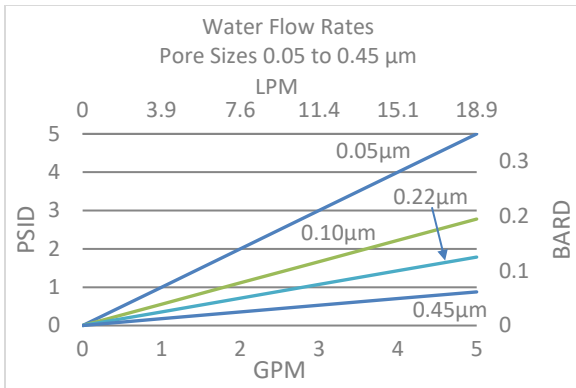
ETM filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

Construction Materials

Filtration Media	Polytetrafluoroethylene (PTFE) Membrane
Media Support	Polypropylene
End Caps, Center Core, Outer Support Cage, Capsule Housing	Polypropylene
Sealing Method	Thermal Bonding
O-Rings/Gaskets Cartridges only	Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)

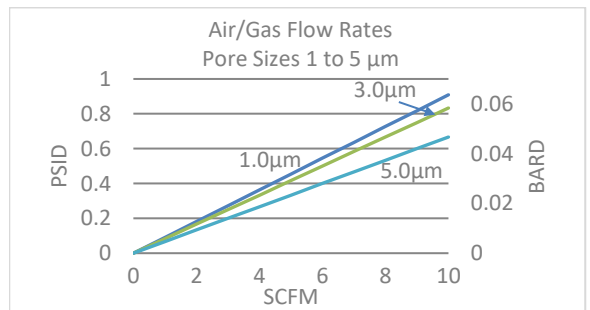
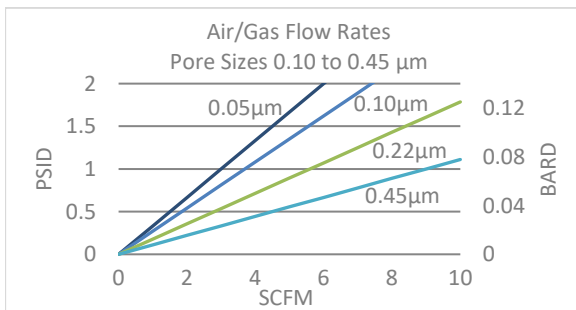
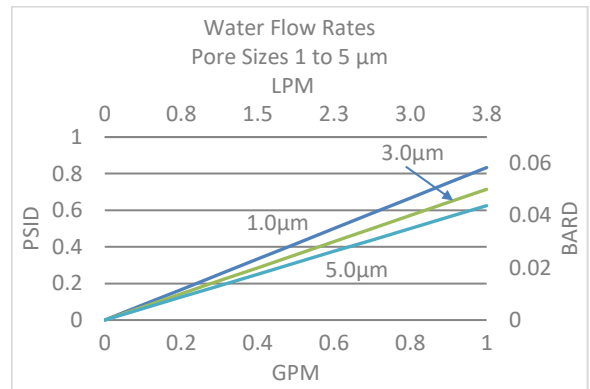
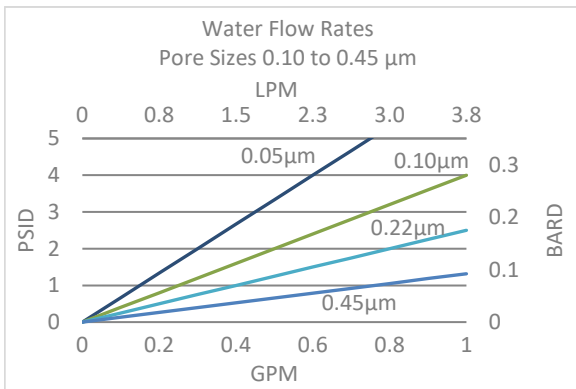
High Temperature cartridge configuration is available.

Flow Rates for ETM Cartridges



Flow rates for Cartridge filters are per 10-inch length. The test fluid is water or compressed air at ambient temperature.

Flow Rates for ETM Capsules

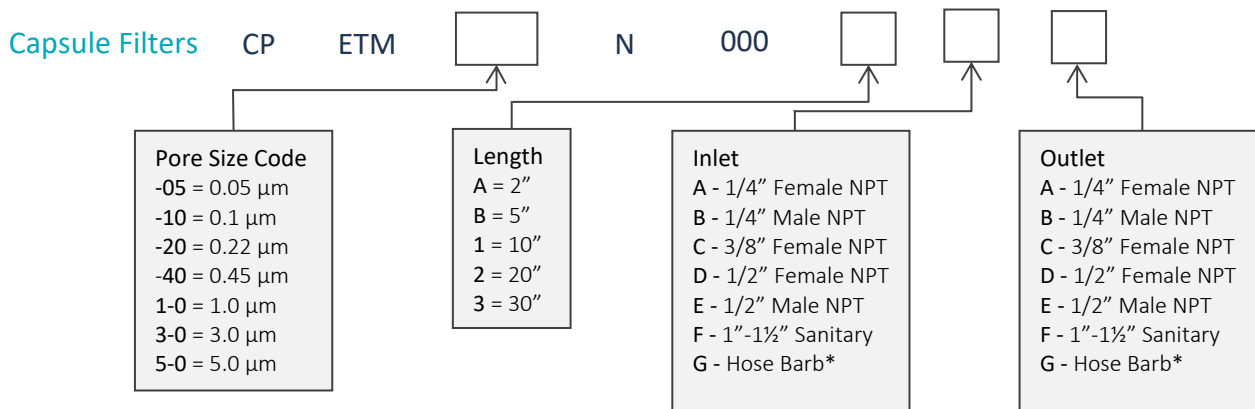
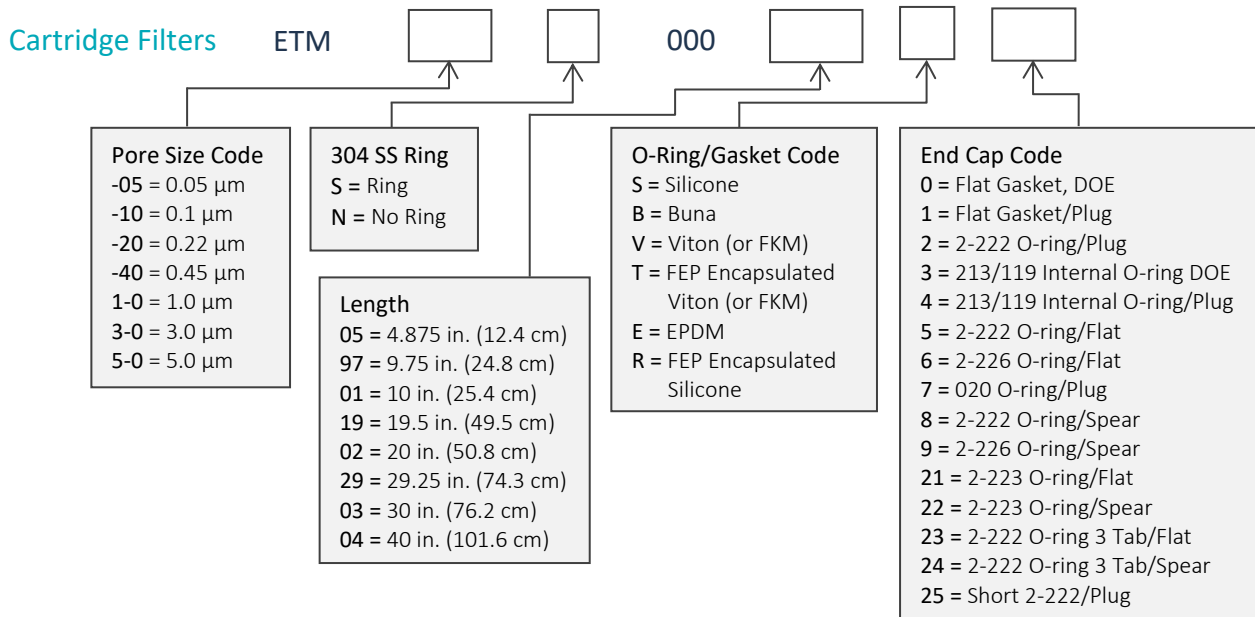


Flow rates for Capsule filters are per square foot of membrane area. The test fluid is water or compressed air at ambient temperature. Flows are tested using a 2" capsule filter with 1/2" FNPT inlet and outlet ports. Rates will vary based on end configuration of the capsule.

ETM Filters Ordering Information

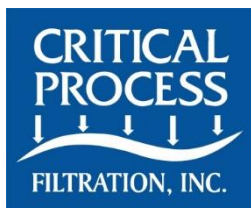
All Critical Process filters are configurable to meet customer specifications.
Fill in the corresponding codes in the boxes below to build your Part Number.

To consult with one of our technical team members, request a quote or place an order:
call (603) 880-4220 Ext. 106, or send an email to sales@criticalprocess.com



Housings

CPF offers Model CSH sanitary housings in Single-Round (Inline and T-Style) and Multi-Round (3, 6, 8, 12 and 21-round) configurations.



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