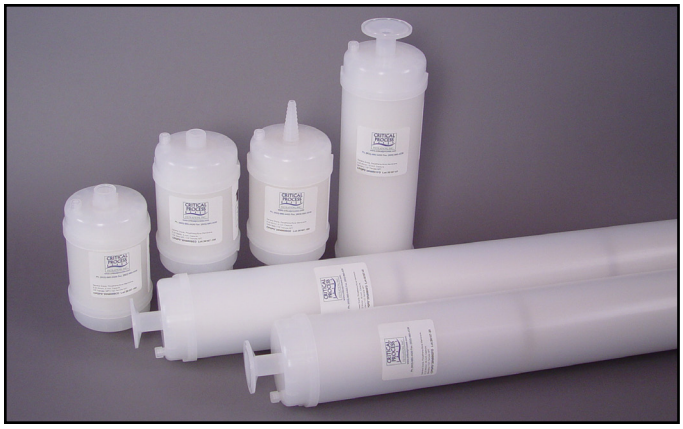
ENM Capsule Filters

Nylon 6,6 Membrane

CRITICAL PROCESS FILTRATION, INC.



High efficiency retention ratings with broad chemical compatibility

Final filtration of UPDI water, resists, solvents

Very low extractables; rinses to high purity very quickly

Applications

- UP DI Water
- Chemicals
- Photoresists
- Developers
- Solvents

ENM Capsules are hydrophilic and manufactured with the highest quality Nylon 6,6 membrane. The Nylon 6,6 is capable of removing particles below the rated micron size, and exhibits broad chemical compatibility.

ENM capsules are used for critical applications in contamination control such as final filtration of ultrapure DI water in the water loop or at the point of use. They are also used for final filtration of solvents, alcohols, photoresists and other liquids in distribution systems or in tools.

Nylon has very low extractables and rinses to high purity very quickly. It is particularly suited for the filtration of solvents used in the production of low nanometer geometry products.

Electronics Grade

ENM Capsule Filters - Filtration Area

Media	Capsule Length				
	2″	5″	10″	20″	30″
Nylon 6,6 Membrane	1.0 ft^2 (0.093m^2)	3.0 ft^2 (0.279m^2)	7.0 ft^2 (0.650m^2)	14.0 ft^2 (1.301m^2)	21.0 ft^2 (1.951m^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 ft^2 (0.093 m^2) 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	0.10 µm	0.22 µm	0.45 µm	0.65 µm
GPM	0.14	0.25	0.43	0.60
LPM	0.53	0.95	1.63	2.27

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

Construction Materials

Housing	Polypropylene
Filtration Media	Nylon 6,6 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"
0.10	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
0.65	15	4.3	12.9	30	60	90

Sanitization/Sterilization

Autoclave.....250° F (121° C), 30 min, 5+ cycles
Chemical Sanitization.....Nylon does not tolerate aggressive chemical sanitization protocols. Nylon membrane cartridges are best sanitized with 1% hydrogen peroxide or 1% hydrogen peroxide and peracetic acid. Follow the manufacturers instructions for use on nylon filter devices.
Note.....ENM capsules are not to be used in steam.

Extractables

The levels of extractables in aqueous extracts from E-grade capsule 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.

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 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.

Ordering Information

Capsule order number example: Electronics Grade Nylon 6,6 Membrane, 0.10 Micron Rating, Non-Sterile, 10" Length, Sanitary Inlet, Sanitary Outlet = CPENM-10N0001FF

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Micron Rating
-10 - .10 **-40** - .45
-20 - .22 **-60** - .65

N - Non-Sterile

Length
A - 2"
B - 5"
1 - 10"
2 - 20"
3 - 30"

Inlet
A - 1/4" Female NPT
B - 1/4" Male NPT
C - 3/8" Female NPT
D - 1/2" Female NPT
E - 1/2" Male NPT
F - 1"-1½" Sanitary
G - Hose Barb*

Outlet
A - 1/4" Female NPT
B - 1/4" Male NPT
C - 3/8" Female NPT
D - 1/2" Female NPT
E - 1/2" Male NPT
F - 1"-1½" Sanitary
G - Hose Barb*

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)

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