



BNM Micro Capsule Filters

Nylon 6,6 Membrane

The BNM Micro Capsule filters are made with Nylon 6,6 membrane. These long-proven filters are used for bioburden control in water, solvents and aqueous solutions. Pore sizes range from 0.10 to 0.65 μm .

BNM Micro Capsule filters have broad chemical compatibility making them well suited for the filtration of solvents and other harsh chemicals. They are used to prevent bacteria contamination and remove microbials before final sterilizing filters.

The BNM Micro Capsule filters have high retention and throughput. They are flushed to remove manufacturing debris and reduce extractables. Products are 100% integrity tested, and are available pre-sterilized.

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.

Bioburden Control

Clarification & Prefiltration

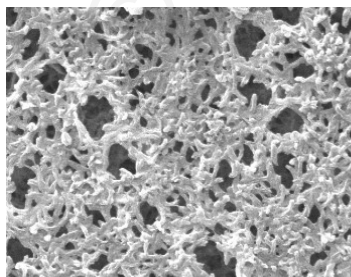


MICRO CAPSULES – Nominal Dimensions

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)



BNM Micro Capsule bioburden control filters are recommended for:

- SVPs & LVPs
- Diagnostics
- Buffers
- WFI, Water Purification
- Non-protein Solutions
- Chemicals

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	80 psid at 68 °F (5.52 bard at 20 °C)
Reverse Differential Pressure	50 psid at 68 °F (3.45 bard at 20 °C)
Recommended Changeout Pressure	35 psid (2.41 bard)

Sanitization & Sterilization

Autoclave	250 °F (121 °C), 30 min, 25+ cycles
Chemical Sanitization	Performed using industry standard concentrations of hydrogen peroxide, peracetic acid, and other selected chemicals.

Integrity Testing

PORE SIZE	BUBBLE POINT MINIMUM*	
	PSIG	BARG
μm		
0.10	**	**
0.22	50	3.4
0.45	25	1.7
0.65	19	1.3

* All specifications are for water wetted membrane

** Test pressure exceeds operational limits of capsule filters.
Use the Diffusion Test method.

Filtration Area (Nominal)

Area	0.58 ft ²
	539 cm ²

Construction Materials

Filtration Media	Nylon 6,6 Membrane with polyester support
Media Support	Polypropylene
End Caps, Center Core, Outer Support Cage, Micro Capsule Housing	Polypropylene
Sealing Method	Thermal Bonding

Validation

BNM 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.

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

Endotoxins

The levels of bacterial endotoxins in aqueous extracts from BNM Micro Capsule filters are below current USP limits as specified for water for injection.

Extractables

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

TOC and Conductivity

BNM Micro Capsule filters conform with TOC standards of USP <643> and the water conductivity standards of USP <645> after an appropriate flush with purified water.

Toxicity Compliance

The materials used to construct BNM Micro Capsule filters are non-toxic and meet the requirements for the MEM Elution Cytotoxicity Test and the requirements for Biological Reactivity Tests in the current version of the United States Pharmacopeia (USP) for Class VI - 121 °C Plastics.

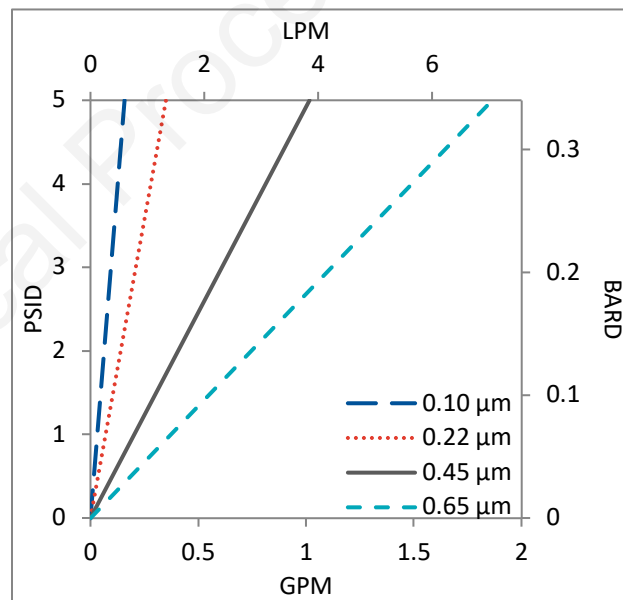
Non-Fiber Releasing

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

FDA 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.

Flow Rates for BNM 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 ½" Sanitary inlet and outlet ports. Rates will vary based on end configuration of the Micro capsule.

BNM 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 BNM

Pore Size Code	Pre-Sterilized or Not	Inlet	Inlet Vent Port	Outlet	Outlet Vent Port	Side Vent O-Ring**
-10 = 0.10 μm -20 = 0.22 μm -40 = 0.45 μm -60 = 0.65 μm	S = Pre-Sterilized N = Not Sterilized	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	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	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	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	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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Data Sheet BNM Micro DS Rev -