

## Filter Data Sheet

### *PNM grade Nylon Membrane Media Filter Cartridges developed for the special needs of the pharmaceutical industry*

**Dist. by: H.R. Peterson Co. - 814 Prior Ave. No. - St. Paul, MN 55104**  
**Telephone: 651-646-4529 Toll Free: 1-800-646-4505 Fax: 651-646-8792**

PNM grade Nylon cartridges are designed to be used as sterilizing grade cartridges for the pharmaceutical industry. The higher quality nylon membrane utilized in these cartridges is optimized for retention so that it need not be double layered for extra security. Nylon cartridges see broad service in sterile fill applications in SVPs and as bio burden management filters in LVPs. Media and service liquid filtration are other common applications for this cartridge. Nylon is particularly suited for the filtration of solvents because of its broad compatibility and low level of extractables.

#### Flow Rate

The following table represents typical water flow at a one psi (69 mbar) pressure differential across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements and higher pressure drops is acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

Pore	0.03 µm	0.10 µm	0.22 µm	0.45 µm	0.65 µm
GPM	0.75	1.0	1.25	3.0	5.5

#### Dimensions

**Length:** .....10 to 40 inches (25.4 to 101.6 cm) nominal  
**Outside Diameter:** .....2.75 inches (7.0 cm) nominal

#### Maximum Differential Pressures

**Forward:** ..... 50 psi (3.4 bar) at 20°C.  
**Reverse:** ..... 40 psi (2.7 bar) at 20°C.

#### Ordering Information

The cartridge catalog number is made up of several variable characters i.e. pore size, length, O-ring material, and end cap code. For example: a 0.10 µm, 20 inch (50.8 cm) long cartridge with 2-222, Teflon® Encapsulated Viton O-rings, no spear (flat top) and no 316 SS Ring would be designated as: PNM\*10N0000?T5.

PNM     0000

<p style="text-align: center;"><u>Pore size code</u></p> <p><b>*03</b> = 0.03 µm  <b>*10</b> = 0.10 µm  <b>*20</b> = 0.22 µm  <b>*40</b> = 0.45 µm  <b>*60</b> = 0.65 µm</p>	<p style="text-align: center;"><u>316 SS Ring</u></p> <p><b>S</b> = Ring  <b>N</b> = No Ring</p>	<p style="text-align: center;"><u>Cartridge Length</u></p> <p><b>1</b> = 10 inches (25.4 cm)  <b>2</b> = 20 inches (50.8 cm)  <b>3</b> = 30 inches (76.2 cm)  <b>4</b> = 40 inches (101.6 cm)</p>	<p style="text-align: center;"><u>O-ring code</u></p> <p><b>S</b> - Silicone  <b>B</b> - Buna  <b>V</b> - Viton  <b>T</b> - Teflon® Encapsulated Viton  <b>E</b> - EPR  <b>R</b> - Teflon® Encapsulated Silicone</p>	<p style="text-align: center;"><u>End cap code</u></p> <p><b>0</b> - Flat Gasket, double open end  <b>5</b> - 2-222 O-ring  <b>7</b> - 020 O-ring  <b>8</b> - 2-222 O-ring with Spear  <b>9</b> - 2-226 O-ring with Spear</p>
--	--	---	--	---

#### Construction Materials<sup>1</sup>

**Filtration Media:** .....Nylon  
**Filtration Media Support:** .....Polypropylene  
**End Caps:** .....Polypropylene  
**Center Core:** .....Polypropylene  
**Outer support Cage:** .....Polypropylene  
**O-rings:** Buna, Viton, Silicone, EPR, Teflon® Encapsulated Silicone, Teflon® Encapsulated Viton

<sup>1</sup> All materials of construction are FDA accepted. Final assemblies have been validated to pass USP class 6 Toxicology extractable tests, oxidizable substances for plastics, endotoxin level and other quality tests.

#### Sterilization/Sanitization

**Filtered hot water:** .....90°C  
**Autoclave:** .....127°C, 30 min, multiple cycles  
**In-line Steam:** .....135°C, 30 min, multiple cycles

**Chemical Sanitization:**..... Industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite and other selected chemicals. Sanitization protocols designed to extend the useful life of PNM® cartridges are available from Critical Process Filtration®.

#### Integrity Test Specifications (per 10 inch length)

Pore Size	Air Diffusion Rate
<b>0.03 µm</b>	≤ 15 cc/min. at 60 psi (4137 mbar)
<b>0.1 µm</b>	≤ 15 cc/min. at 48 psi (3307 mbar)
<b>0.22 µm</b>	≤ 15 cc/min. at 35 psi (2412 mbar)
<b>0.45 µm</b>	≤ 15 cc/min. at 20 psi (1378 mbar)
<b>0.65 µm</b>	≤ 15 cc/min. at 15 psi (1034 mbar)