

# 3M™ LifeASSURE™ PSN Series Nylon Membrane Filter Cartridges and Capsules

3M™ LifeASSURE™ PSN Series Filter Cartridges and Capsules are nylon membrane filters designed to meet the exacting requirements of photoresist and ancillary chemical applications.

3M LifeASSURE PSN Series Filter Cartridges utilize 3M's Advanced Pleat Technology (APT). The naturally hydrophilic Nylon 6,6 pleated membrane in an all high density polyethylene (HDPE) construction, provides low extractables, high flow rates with low pressure drop. LifeASSURE PSN Series nylon filter cartridges and capsules are ideally suited for photoresist and ancillary chemical applications where high efficiency contaminant reduction at 0.04µm, 0.1µm or 0.2µm is required.



## Features & Benefits

### Advanced Pleat Technology

- Provides increased membrane area
- Provides a low operating and differential pressure
- Superior reduction of gel particles for reduced defectivity

### Naturally Hydrophilic Nylon 6,6 Membrane

- Reduces chemical usage since no prewetting or flushing is required
- Reduces potential for microbubble formation by not de-wetting in outgassing fluids

### Low Cartridge Extractables

- No change to photospeed, viscosity, and molecular weight, unlike other filter materials which may extract ionic, organic, and metallic contaminants

### Technical Support From 3M Application Engineering

- Application specific engineering expertise for end users

## Applications

- 157nm Photoresists
- 193nm Photoresists
- 248nm Photoresists
- I-line Photoresists
- G-line Photoresists
- Alcohols
- Bases
- Developers
- Etchants/Strippers
- Solvents

Figure 1. Typical Cartridge Pressure Drop vs. Water Flow

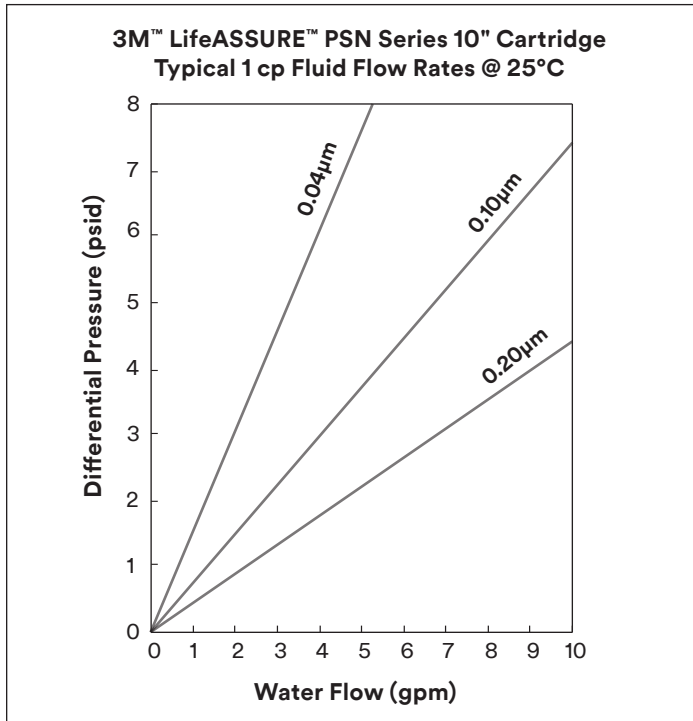
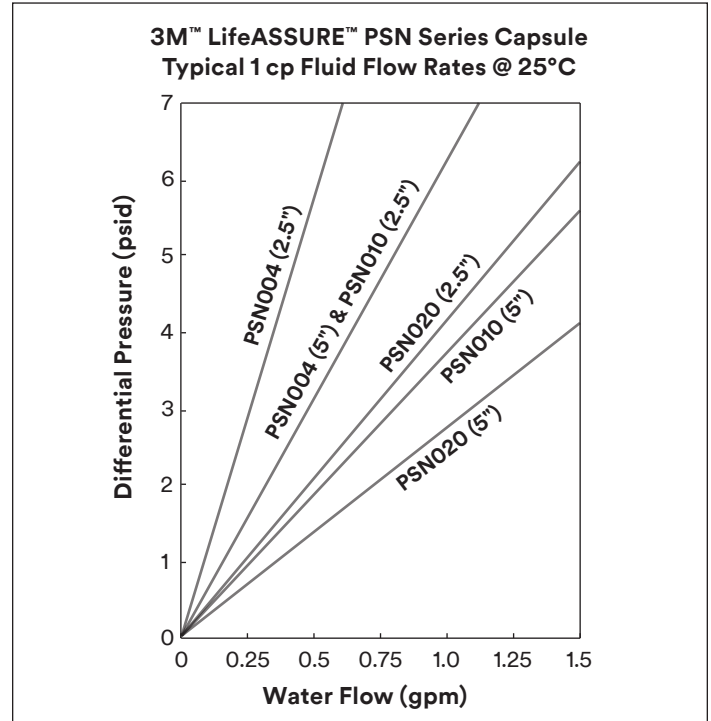


Figure 2. Typical Capsule Pressure Drop vs. Water Flow



**Filter Cartridge Specifications**

<b>Outer Cage, Inner Core, End Cap, Adapters and Membrane Support Layers</b>	High Density Polyethylene (HDPE)
<b>Membrane</b>	Naturally Hydrophilic Nylon 6,6
<b>Outside Diameter (Nominal)</b>	2.75 in. (7cm)
<b>Length (Nominal)</b>	10 in. (25.4cm), 20 in. (50.8cm)
<b>Filtration Surface Area</b>	11.22 ft. <sup>2</sup> (1.04m <sup>2</sup> ) per 10 in. cartridge

**Filter Cartridge Operating Parameters**

<b>Max. Operation Temperature</b>	122°F (50°C)
<b>Max. Forward Differential Pressure</b>	60 psid @ 77°F (4.1 bar @ 25°C)
<b>Reduction Ratings</b>	0.04µm, 0.1µm, 0.2µm

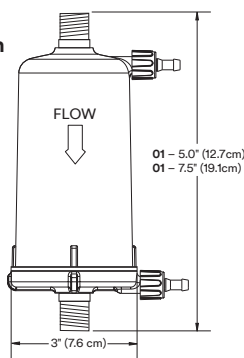
**Filter Capsule Specifications**

<b>Membrane</b>	Naturally Hydrophilic Nylon 6,6
<b>Membrane Support Layers</b>	High Density Polyethylene (HDPE)
<b>Outer Cage, Inner Core, End Caps and Shell</b>	Polypropylene
<b>Outside Diameter (Nominal)</b>	3.0 in. (7.6cm)
<b>Overall Length (Nominal)</b>	C01 style: 5.0 in. (12.7cm) C02 style: 7.5 in. (19.1cm)
<b>Filtration Surface Area</b>	C01 style: 1.7 ft. <sup>2</sup> (0.16m <sup>2</sup> ) C02 style: 3.6 ft. <sup>2</sup> (0.33m <sup>2</sup> )

**Filter Capsule Operating Parameters**

<b>Max. Operation Temperature</b>	104°F (40°C)
<b>Max. Operating Pressure</b>	75 psid (5.2 bar) @ 104°F (40°C)
<b>Max. Forward Differential Pressure</b>	60 psid (4.2 bar) @ 104°F (40°C)
<b>Reduction Ratings</b>	0.04µm, 0.1µm, 0.2µm

Figure 3. Dimensions of C Style End Modification



## 3M™ LifeASSURE™ PSN Series Filter Cartridges Ordering Guide

Model Number	3M ID	Global ID	Description		
			Length	Grade	End Treatments
PSN004F01CK	70-0200-7384-0	7010379655	10 in.	0.04µm	222/SPEAR PTFE
PSN004F01FK	70-0200-0512-3	7010338650	10 in.	0.04µm	222/FLAT CAP PTFE
PSN004F02CC	70-0202-5524-9	7010338745	20 in.	0.04µm	222/SPEAR EPR
PSN004F02CK	70-0200-7385-7	7010303121	20 in.	0.04µm	222/SPEAR PTFE
PSN004F02FK	70-0201-5868-2	7100074299	20 in.	0.04µm	222/FLAT CAP PTFE
PSN010F01CK	70-0203-4672-5	7100158442	10 in.	0.1µm	222/SPEAR PTFE
PSN010F01FK	70-0200-0573-5	7010296344	10 in.	0.1µm	222/FLAT CAP PTFE
PSN010F02FK	70-0203-0151-4	7010340318	20 in.	0.1µm	222/FLAT CAP PTFE
PSN020F01CK	70-0203-4673-3	7100166963	10 in.	0.2µm	222/SPEAR PTFE
PSN020F02FK	70-0203-5171-7	7100212354	20 in.	0.2µm	222/FLAT CAP PTFE

## 3M™ LifeASSURE™ PSN Series Filter Capsules Ordering Guide

Model Number	3M ID	Global ID	Description		
			Length	Grade	In/Out Connection
PSN004C01CC01	70-0200-1203-8	7010412762	2.5 in.	0.04µm	0.25 in. MNPT EPR
PSN004C02CC01	70-0201-1703-5	7100186397	5 in.	0.04µm	0.25 in. MNPT EPR
PSN010C01CC01	70-0200-1205-3	7010337865	2.5 in.	0.1µm	0.25 in. MNPT EPR
PSN010C02CC01	70-0201-6241-1	7100169694	5 in.	0.1µm	0.25 in. MNPT EPR
PSN020C01CB01	70-0202-0414-8	7010380457	2.5 in.	0.2µm	0.25 in. MNPT FLRCBN
PSN020C01CC01	70-0200-1207-9	7100151171	2.5 in.	0.2µm	0.25 in. MNPT EPR
PSN020C02CC01	70-0203-4798-8	7100179910	5 in.	0.2µm	0.25 in. MNPT EPR

**Intended Use and Product Selection:** 3M™ LifeASSURE™ PSN Series Filter cartridges are intended for use in industrial and high purity chemical filtration applications of aqueous fluids in accordance with the applicable product instructions and specifications. 3M LifeASSURE PSN Series Filter cartridges are also intended for use with non-aqueous fluids where materials of construction are compatible. Since there are many factors that can affect a product's use, the customer and user remain responsible for determining whether the 3M product is suitable and appropriate for the user's specific application, including user conducting an appropriate risk assessment and evaluating the 3M product in user's application.

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3M™ LifeASSURE™ PSN Series Filter cartridges products are not for use in food contact applications.

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