

NanoSHIELD[®] SDC

Filter Capsules

Low Hold-Up Volumes and Superior Defect Reduction from Advanced Chemicals

NanoSHIELD SDC filter capsules deliver the highest flow rates and lowest hold-up volumes for advanced photoresists and ancillary chemicals applications. Utilizing Hollow Fiber Technology (HFT), NanoSHIELD filters are able to provide superior flow and minimal pressure drop, while maintaining the highest level of filter efficiency in a compact design.

Built to Perform

The hollow fiber polypropylene membrane in an all polyethylene construction provides low extractables and excellent chemical compatibility with most photo-chemicals. In addition, all filters are critically cleaned, integrity tested, and rinsed with high purity water to provide fast start-up times right out of the box. The small compact design of NanoSHIELD SDC filter capsules make them ideally suited for applications requiring low hold-up volume and high particle retention at 0.01, 0.02, 0.05, and 0.1 μm .

NanoSHIELD SDC filter capsules contain the same filter media as full size NanoSHIELD filter cartridges and capsules, ensuring full scale-up throughout your development process.

Features & Benefits

Hollow Fiber Technology.

- Increased surface area (up to 3 times) results in higher flow rates as compared to equivalent size pleated capsules.
- Provides both lower operating and differential pressure across the filter to minimize outgassing and micro-bubble formation.
- Minimal waste of expensive chemicals due to extremely low hold-up volume.
- Increased lifetime, throughput, and overall equipment effectiveness (OEE).

Polypropylene and Polyethylene Construction.

- Excellent chemical resistance to photoresists and ancillary chemical.
- No IPA pre-wetting and system flushing required – eliminates a potential source of contaminations and chemical interaction, while reducing downtime.

0.01 μm and 0.02 μm Retention Ratings.

- Superior removal of particles, gels, and micro-bubbles.
- Reduced micro-bridge and wafer level defects for 193 nm photoresists.

Quality Manufacturing.

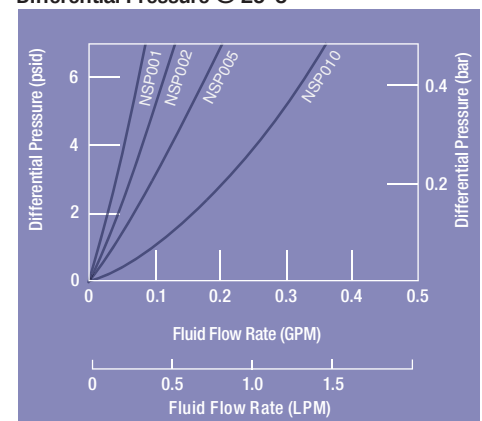
- Manufactured in a cleanroom to reduce particle adders and extractables.
- All filters are critically cleaned and tested in a cleanroom to ensure process repeatability.



Applications

193 nm Photoresists	Alcohols
ARC, BARC, TARC	Bases
Etchants/ Strippers	Developers
Polyimide	Solvents

Graph 1: Typical 1 cps Flow vs. Differential Pressure @ 25°C

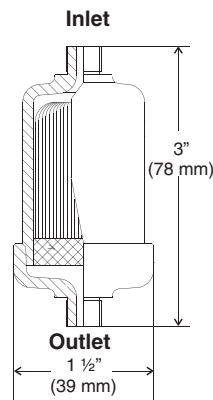


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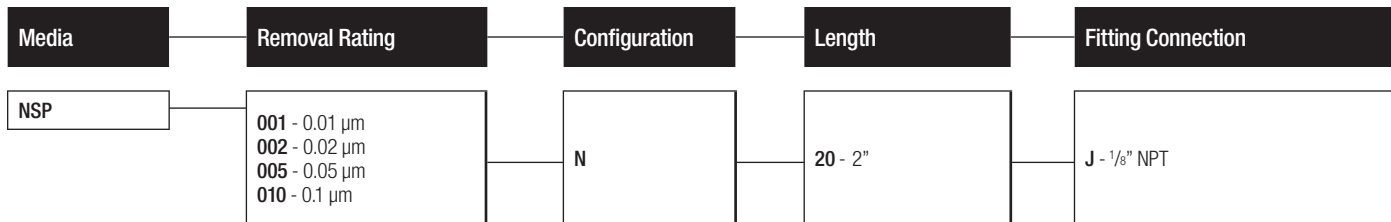
NanoSHIELD SDC Filter Capsules Specifications

Membrane Material	Hollow Fiber Polypropylene
Capsule Body	Polyethylene
Potting Material	Polyethylene
Filtration Surface Area	148.8 in ² (960 cm ²)
Maximum Operating Pressure	58 psig @ 77°F (4 bar @ 25°C)
Maximum Operating Temperature	104°F (40°C)
Absolute Removal Ratings (µm)	0.01, 0.02, 0.05, and 0.1
Maximum Differential Pressure	28 psid @ 77°F (1.9 bar @ 25°C)
Filter Capsule Integrity	100% Tested

Dimensions



Ordering Guide



Example – A 0.01 micron NanoSHIELD SDC Capsule with 1/8" NPT fittings would be NSP001N20J.

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CUNO Incorporated

400 Research Parkway
Meriden, CT 06450
U.S.A.
(800) 243-6894
(203) 237-5541
Fax (203) 630-4530
www.CUNO.com

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70-0201-8781-4
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