

NanoSHIELD™ LDC Filter Capsules

Superior Defect Reduction from Advanced Photoresists and Chemicals

NanoSHIELD LDC filter capsules have been specially designed to combine the highest level of particle retention with superior flow rates and minimal pressure drop for demanding high viscosity chemical applications. Utilizing Hollow Fiber Technology (HFT), NanoSHIELD filters are able to deliver superior flow with minimal pressure drop, while maintaining the highest level of filter efficiency in a small disposable design.



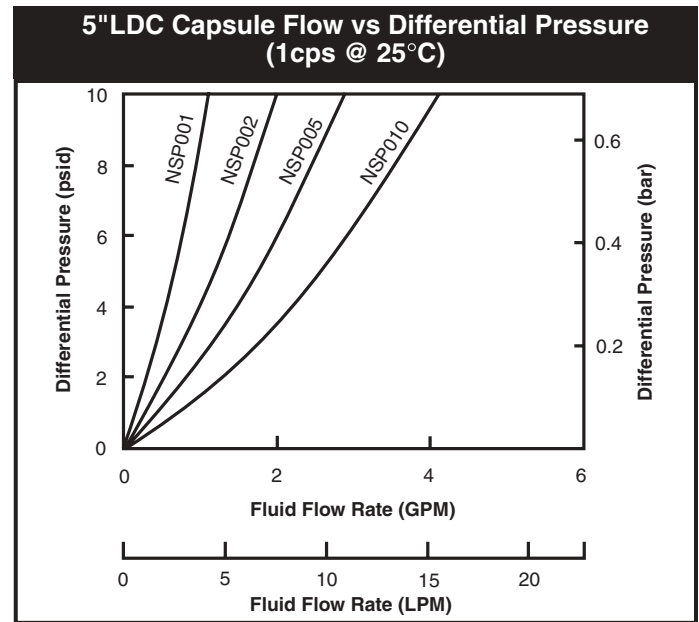
All filters are critically cleaned, integrity tested, and rinsed with high purity water to provide fast start-up times and low extractables right out of the box. The small compact design of NanoSHIELD LDC filter capsules make them ideally suited for critical applications requiring low hold-up volume with superior flow rates and high particle retention at 0.01, 0.02, 0.05, and 0.1 μm .

NanoSHIELD Capsule Construction

The filters polypropylene and polyethylene materials of construction combined with quality manufacturing ensure that ionic, organic, and metallic contaminants are not being added back into the process fluid. Ionic, organic, and metallic contaminants can

extract from surface modified and or improperly manufactured filters, which may reduce shelf life and or change the photo-speed, viscosity, or molecular weight of the photo-chemical.

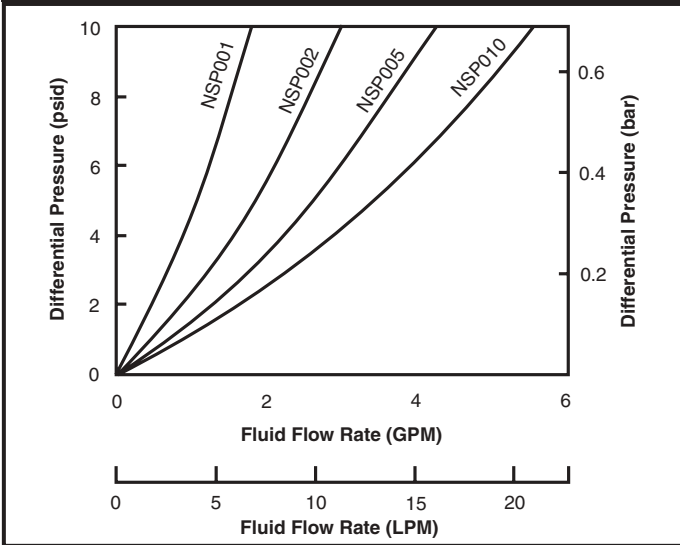
Applications	
■ 193nm Photoresists	■ Alcohols
■ ARC, BARC, TARC	■ Bases
■ Etchants / Strippers	■ Developers
■ Polyimide	■ Solvents



Features	Benefits
<ul style="list-style-type: none"> ■ Hollow Fiber Technology 	<ul style="list-style-type: none"> ■ Up to 3 times more surface area as compared to equivalent sized capsules ■ Provides both lower operating and differential pressure across the filter to minimize outgassing and micro-bubble formation ■ Reduces hold-up volume and "dead space" by eliminating the filter core ■ Increased lifetime, throughput, and overall equipment effectiveness (OEE)
<ul style="list-style-type: none"> ■ Polypropylene and Polyethylene Construction 	<ul style="list-style-type: none"> ■ Excellent chemical resistance to photoresists and ancillary chemicals ■ No IPA pre-wetting and system flushing required – eliminates a potential source of contamination and chemical interaction, while reducing downtime
<ul style="list-style-type: none"> ■ 0.01 μm and 0.02 μm Retention Ratings 	<ul style="list-style-type: none"> ■ Superior removal of particles, gels, and micro-bubbles ■ Reduced micro-bridge and wafer level defects for 193nm photoresists
<ul style="list-style-type: none"> ■ Superior Flow Rates 	<ul style="list-style-type: none"> ■ Flow rates 3 – 8 times higher as compared to competitive pleated capsules while not sacrificing particle removal efficiency
<ul style="list-style-type: none"> ■ Quality Manufacturing 	<ul style="list-style-type: none"> ■ Manufactured in a cleanroom to reduce particle adders and extractables ■ All filters are critically cleaned and integrity tested to ensure process repeatability

NEW

10" LDC Capsule Flow vs Differential Pressure (1cps @ 25°C)

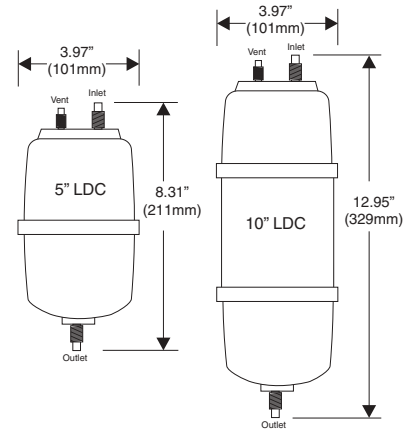


Specifications

Membrane Material	Hollow Fiber Polypropylene
Capsule Body	Polypropylene
O-Ring Material	Fluorocarbon Encapsulated PTFE
Potting Material	Polyethylene
Filtration Surface Area	5" Capsule 10.8 ft ² (1.0 m ²)
	10" Capsule 23.7 ft ² (2.2 m 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

NanoSHIELD™ LDC Filter Capsule Ordering Guide

Media	Removal Rating	Configuration	Length	Fitting Connection
NSP	001 - 0.01 µm 002 - 0.02 µm 005 - 0.05 µm 010 - 0.1 µm	S - LDC	50 - 5" 01 - 10"	KH - 1/2" Flowell 60 Inlet/Outlet Fittings with 1/4" Flowell 60 Vent Fitting



WARRANTY

Seller warrants its equipment against defects in workmanship and material for a period of 12 months from date of shipment from the factory under normal use and service and otherwise when such equipment is used in accordance with instructions furnished by Seller and for purposes disclosed in writing at the time of purchase, if any. Any unauthorized alteration or modification of the equipment by Buyer will void this warranty. Seller's liability under this warranty shall be limited to the replacement or repair, F.O.B. point of manufacture, of any defective equipment or part which, having been returned to the factory, transportation charges prepaid, has been inspected and determined by the Seller to be defective. THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR USE, OR ANY OTHER MATTER. Under no circumstances shall Seller be liable to Buyer or any third party for any loss of profits or other direct or indirect costs, expenses, losses or consequential damages arising out of or as a result of any defects in or failure of its products or any part or parts thereof or arising out of or as a result of parts or components incorporated in Seller's equipment but not supplied by the Seller.

Your Local CUNO Distributor:



a 3M company

CUNO Filtration Asia Pte Ltd
2A Tuas Avenue 12
Singapore 693023

CUNO Pacific Pty Ltd
140 Sunnyholt Road
Blacktown, NSW 2148
Australia

CUNO Latina Ltda
Rua Amf Do Brasil 251
18120 Mairinque-Sp
Brazil

Cuno Filtration Shanghai Co, Ltd
No. 2 Xin Miao San Rd,
Xin Miao Town,
Song Jiang District,
Shanghai, China. 201612

CUNO K.K.
Hodogaya Station
Building 6F
1-7 Iwai-cho, Hodogaya-ku
Yokohama 240 Japan

CUNO Ltd
21 Woking Business Park
Albert Drive
Woking, Surrey GU215JY
United Kingdom

Cuno Incorporated

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