



# International Filter Products

*Revolutionary systems for your industry*

## L Series PES – Dual Layer Full Size Filter Capsules

PureFlo® L-Series Full-size Capsule Filters feature an asymmetric hydrophilic PES membrane that demonstrates the exceptional capacity and flow performance in liquid applications. The L-Series Full-size Capsule filters offer full-scale filtration in various applications in the biopharmaceutical industry. The L-Series product family has been designed for easy pre- and post-use integrity testing, assuring easy wetting for quick and accurate integrity test results. The 0.65 um / 0.2 um configuration has a state-of-the-art, highly asymmetrical DPES 0.65 um pre-filter, which yields 15%-20% more filtration volume than usual. The compact design and available inlet and outlet fittings allow efficient integration of L-Series Full-size Capsule Filters into a wide range of systems. L-Series Full-size Capsule Filters provide biopharmaceutical manufacturers with a filtration solution configured to meet their process needs.

### Application

- Buffers and Media
- SVP (Small Volume Parenteral)
- Vaccines
- Scale up processing
- Product Sterilization
- Bio Bags
- Biologics
- Ultrapure Water
- Fermentation Broths
- Pharmaceuticals
- Antibiotics
- Serums

**Part Number: LI1DS065S020GTCTC-ETO**



L-Series Full-Size Capsule with 1.5" Tri-Clamp Inlet and Outlet Connection



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## Technical Data Sheet

### Popular Configuration:

Catalog Number	Micron Rating	Style	Inlet/Outlet Connection	Vent Connection	Sterilization
LI1DS065S020GTCTC-ETO	0.65 µm / 0.2 µm (Dual Layer)	In-Line	1.5" Tri-Clamp	Bleed Valve with 1/4" Hose Barb	ETO Sterilized
❖ Find the complete list of available standard inlet and outlet fittings in page 5.					

### Micron Rating:

**Final Media:** 0.2 µm PES [Sterilizing Grade Membrane]

**Pre-Filter:** Highly Asymmetric 0.65 µm PES

### Effective Filtration Area:

10-inch long; 7.5 ft<sup>2</sup> (0.7 m<sup>2</sup>)

### Materials of Construction:

Membrane: Pharmaceutical Grade PES (Polyethersulfone) Sterilizing Grade

Membrane Feature: Hydrophilic, Low Protein Binding, High Flow Rate

Media Supports: Polypropylene

Shell, Cage, Core, End Caps: Polypropylene

Valve O-Rings: Silicon (Standard)

Sealing: Thermally Bonded

### Operating Conditions:

Maximum Forward Differential Pressure: **Liquid:** 5.5 bar (80psi) at 77°F/25°C

**Gas:** 4.1 bar (60psi) at 77°F/25°C

Minimum Burst Pressure: 8.3 bar (120psi) at 77°F/25°C

Maximum Reverse Differential Pressure: 3.0 bar (44psi) at 68°F/20°C

Maximum Operating Temperature: 176°F/80°C

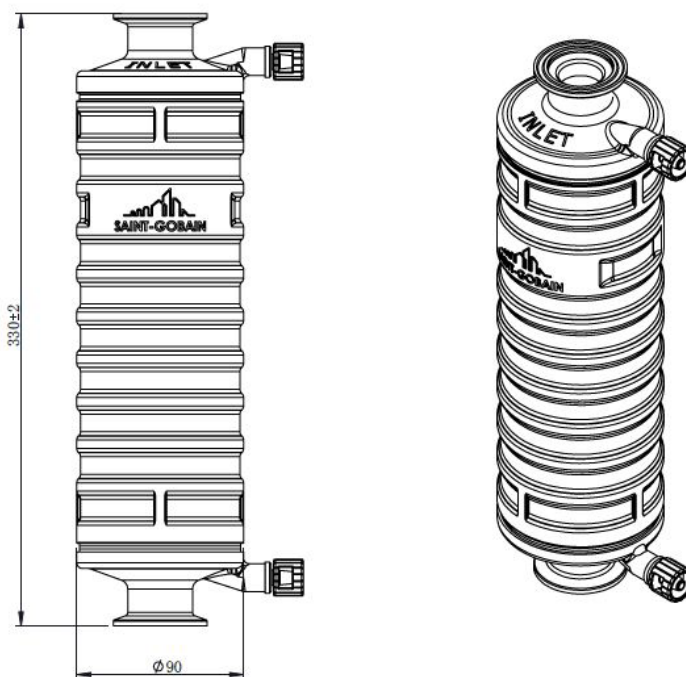


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**Nominal Dimension:** All dimensions are in Millimeter

**Part Number:** LI1DS065S020GTCTC-ETO



**Hold-Up Volume (Approx.):**

Upstream Volume: 916 ml

Downstream Volume: 127 ml

**Typical Filtered Volume:**

100.0L – 400.0L

**Sterilization:**

Capsules can be autoclaved 25 times at 125 °C (257°F) for 30 minutes or chemically sanitized in situ using common sanitizing agents or hot water at 90 °C (194°F) for a limited time (dependent on time and temperature).

*Warning:* The filters cannot be sterilized by steam-in-place (SIP)



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## **Regulatory Compliance 21CFR Part 177 & USP <88>:**

The filters are constructed with polypropylene resins and filtration media in compliance with 21CFR Part 177 of the US Code of Federal Regulations and USP Class VI Biological USP <88>Test for Plastic.

## **USP <85> Bacterial Endotoxins:**

The filters were tested to confirm that an aqueous extraction of this product contains <0.25 EU/ml as determined by the Limulus Amebocyte Lysate (LAL) Test

## **USP <645> Conductivity USP:**

Effluent is tested during the manufacturing process and shown to meet the requirements for USP Sterile Water for Injection for conductivity.

## **Bacterial Retention ASTM F838-05:**

The filters are quantitatively retentive towards *Brevundimonas diminuta* (ATCC #19146) at a minimum challenge level of  $10^7$  CFU per  $cm^2$  of filtration area, consistent with ASTM F838-05

## **USP <87> / ISO 10993-5 Cytotoxicity:**

Extract from this product is non-Cytotoxic

## **Hemolysis ASTM F756-17:**

Extract from this product is non-Hemolytic

## **Human and Veterinarian Use:**

The product is safe for Human and Veterinarian use. CGMP CFR part 210 & 211, additional requirement of 21 CFR part 600 and 21 CFR part 680 are applicable to the aseptic manufacturing process.

## **Animal-Derived Components & TSE/BSE Risk:**

No animal-derived material is intentionally added or used during the manufacture of this product.

## **Shelf Life:**

The L-Series capsules have a shelf life of 3 years from the date of sterilization.





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## L - Series PES Full-Size Capsules

### Ordering Guide



[1]	[2]	[3]	[4]	[5] Inlet [6] Outlet	[7]
Filter Configuration	Filter Size Code [Filtration Area]	Micron Rating [Pre-Filter /Final Filter]	Vent/Drain	Inlet and Outlet Connection	Sterilization
<ul style="list-style-type: none"> <li>I : I-Line</li> <li>T : T-Line</li> </ul>	<ul style="list-style-type: none"> <li>1 : 10-Inch [Filtration Area: 0.7 m<sup>2</sup>]</li> <li>2 : 20-Inch [Filtration Area: 1.4 m<sup>2</sup>]</li> <li>3 : 30-Inch [Filtration Area: 2.1 m<sup>2</sup>]</li> <li>4 : 40-Inch [Filtration Area: 2.8 m<sup>2</sup>]</li> </ul>	<ul style="list-style-type: none"> <li>S020 : 0.2 μm</li> <li>DS065S020 : Highly Asymmetric 0.65/0.2 μm</li> <li>DS045S020 : Highly Asymmetric 0.45/0.2 μm</li> <li>DS045S010 : Highly Asymmetric 0.45/0.1 μm</li> <li>S080020 : 0.8/0.2 μm</li> <li>S020010 : 0.2/0.1 μm</li> </ul>	<ul style="list-style-type: none"> <li>G : 1/4" bleed valve vent and drain</li> <li>J : 1/4" bleed valve vent (1) only</li> <li>A : 1/4" bleed valve drain (2) only</li> </ul>	<ul style="list-style-type: none"> <li>1H : 1/8" Hose Barb</li> <li>2H : 1/4" Hose Barb</li> <li>3H : 3/8" Hose Barb</li> <li>4H : 1/2" Hose Barb</li> <li>5H : 9/16" Hose Barb</li> <li>MT : 1/2" Tri-Clamp</li> <li>TC : 1-1/2" Tri-Clamp</li> </ul>	<ul style="list-style-type: none"> <li>-ETO</li> <li>Ethylene Oxide</li> <li>Sterilization</li> <li>[Only Available for 10-Inch]</li> </ul>

#### Example:

**LI1DS065S020GTCTC-ETO**

PureFlo L Series In-Line Full-Size Capsule, Highly Asymmetric Dual Layer PES 0.65μm / 0.2μm PES [Sterilizing Grade Membrane] Final Filter, 10.0", Filtration Area 0.7 m<sup>2</sup>, 1/4" bleed valve vent and drain, 1.5" Tri-Clamp (Inlet/Outlet), ETO Sterilized (Factory Sterilized)

Part Number

Description



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## Special Configuration:

### Layer Option:

- Single Layer
- Dual Layer

### Micron Rating Option:

- S020 : 0.2  $\mu\text{m}$
- DS065S020 : Highly Asymmetric 0.65/0.2  $\mu\text{m}$
- DS045S020 : Highly Asymmetric 0.45/0.2  $\mu\text{m}$
- DS045S010 : Highly Asymmetric 0.45/0.1  $\mu\text{m}$
- S080020 : 0.8/0.2  $\mu\text{m}$
- S020010: 0.2/0.1  $\mu\text{m}$

### Vent/Drain Option:

- G : 1/4" bleed valve vent and drain
- J : 1/4" bleed valve vent (1) only
- A : 1/4" bleed valve drain (2) only

### Inlet Fitting Option:

- 1H = 1/8" Hose Barb
- 2H = 1/4" Hose Barbs
- 3H = 3/8" Hose Barb
- 4H = 1/2" Hose Barb
- 5H = 5/8" Hose Barb
- MT = 1/2" Tri clamps
- TC = 1-1/2" Tri clamp

### Outlet Fitting Option:

- 1H = 1/8" Hose Barb
- 2H = 1/4" Hose Barbs
- 3H = 3/8" Hose Barb
- 4H = 1/2" Hose Barb
- 5H = 5/8" Hose Barb
- MT = 1/2" Tri clamps
- TC = 1-1/2" Tri clamp

