



# International Filter Products

*Revolutionary systems for your industry*

## MCS Series Single Layer PES Filter Capsules

The MCS Series Pharmaceutical Grade Cartridges are designed for product sterility. The all-polypropylene construction provides excellent chemical compatibility and superior flow per unit area as compared to other membrane cartridges. MCS Series Pharmaceutical Grade Cartridges have been designed for final filtration in biopharmaceutical applications. The hydrophilic PES membrane does not require pre-wetting agents, thereby eliminating a potential source of contamination. Also, the PES membrane has low protein binding characteristics to maximize yields. No adhesives, binders, or surfactants are used in the manufacturing process. All cartridges are rinsed with pyrogen-free water to reduce extractables and downtime. All filter cartridges are 100% integrity tested to ensure filter performance and quality. MCS Series Pharmaceutical Grade Cartridges are well-suited for critical applications where superior flow and bacterial retention is required.

### Application

- Buffers and Media
- LVP (Large Volume Parenteral)
- Vaccines
- Scale up processing
- Product Sterilization
- Fine Chemicals
- Biologics
- Ultrapure Water
- Fermentation Broths
- Pharmaceuticals
- Antibiotics
- Serums

**Part Number: MCS2071S1-PH**



MCS- Series PES Cartridge  
– 226 O-Rings with Spear  
End Connection



## Technical Data Sheet

### Popular Configuration:

Catalog Number	Micron Rating	Length	End Modification	O-Ring Material	Sterilization
MCS2071S1-PH-ETO	0.2 µm (Single Layer)	10-inch	Single Open Ended – 226 O-Rings with Spear	Silicone (Standard)	Ethylene Oxide Sterilization Add “-ETO” with the original Part Number
<ul style="list-style-type: none"> <li>❖ Find the complete list of available standard inlet and outlet fittings in page 5.</li> <li>❖ Add “-5” with the original Part Number for Stainless Steel Insert</li> </ul>					

### Micron Rating:

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

### Effective Filtration Area:

10-Inch; 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

O-Rings: Silicone (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



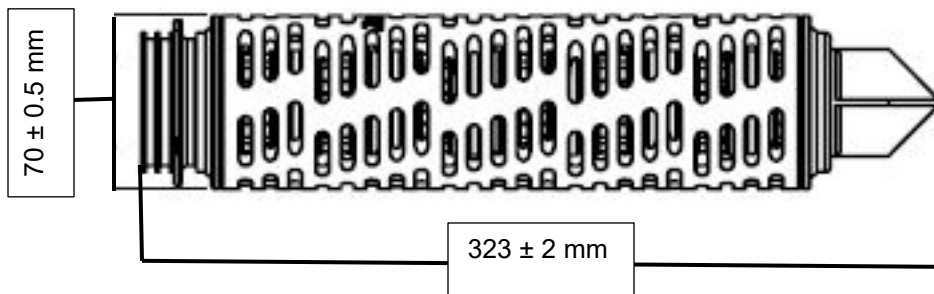


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## Nominal Dimension:

**Part Number:** MCS2071S1-PH



## Typical Filtered Volume:

100.0L – 400.0L

## Filter Integrity:

The finished product was sampled and shown to exhibit a minimum bubble point of  $\geq 18$  psi (1.2 bar) in 60%IPA / 40% water and  $\geq 50$  psi (3.5 bar) in DI Water ( at 22°C ).

## Sterilization:

**Autoclave:** The filters can be sterilized by autoclaving for up to 50 cycles at 125 °C (257 °F) for 30 minutes.

**Steam-In-Place:** The filters can also be sterilized by steam-in-place procedure up to 30 cycles at 135 °C (275 °F) for 30 minutes at less than 0.3 bar differential pressure.

**Sanitization:** The filters can also be sanitized by hot water or common chemicals that are compatible with filter components.

## Regulatory Compliance:

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 Test for Plastic.



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## **USP 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 Conductivity:**

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

## **Bacterial Retention:**

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

## **ISO 10993-5 Cytotoxicity:**

Extract from this product is non-Cytotoxic

## **ASTM Hemolysis:**

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 MCS Cartridges have a shelf life of 3 years from the date of manufacture





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## MCS - Series PES Cartridge

(Pharmaceutical Grade)

### Ordering Guide



[1]	[2]	[3]	[4]	[5]	[6]	[7]
Micron Rating	End Modification	Length	O-Ring/Gasket Material	Optional	Pre-Filter	Sterilization
<ul style="list-style-type: none"> <li>04 : 0.04 µm</li> <li>10 : 0.10 µm</li> <li>20 : 0.20 µm</li> <li>50 : 0.45 µm</li> <li>65 : 0.65 µm</li> <li>80 : 0.80 µm</li> <li>1X : 1.20 µm</li> </ul> <p>Note: All final membranes are sterilizing grade.</p>	<ul style="list-style-type: none"> <li>0 : 222 O-Ring Flat</li> <li>5 : 222 O-Ring Spear</li> <li>6 : 226 O-Ring Flat</li> <li>7 : 226 O-Ring Spear</li> <li>F : DOE Flat Gasket</li> <li>S : SOE Flat Gasket</li> </ul>	<ul style="list-style-type: none"> <li>1 : 10-Inch</li> <li>2 : 20-Inch</li> <li>3 : 30-Inch</li> <li>4 : 40-Inch</li> <li>5 : 5-Inch</li> </ul>	<ul style="list-style-type: none"> <li>S : Silicone</li> <li>E : EPDM</li> <li>N : Buna-N</li> <li>P : Peroxide Cured EPDM</li> <li>Q : Platinum Cured Silicon</li> <li>T : TEV or FEP Gasket</li> <li>V : Viton</li> </ul>	<ul style="list-style-type: none"> <li>-5 : SS Insert</li> <li>-RI : RFID Chip</li> </ul>	<ul style="list-style-type: none"> <li>DS065 : Highly Asymmetric 0.65µm</li> <li>DS045 : Highly Asymmetric 0.45µm</li> <li>S080 : 0.8µm</li> </ul>	<ul style="list-style-type: none"> <li>-ETO: Ethylene Oxide Sterilization</li> </ul> <p>Note: Only available for 5-in &amp; 10-in Cartridges</p>

#### Example:

**MCS2071S-5-DS065-PH-ETO**

PureFlo MCS Series Cartridge, Highly Asymmetric Dual Layer PES 0.65µm / 0.2µm PES membrane (Sterilizing Grade), 10.0-inch Long, Filtration Area 0.7 m<sup>2</sup>, 226 O-Rings with Spear, Silicone Double O-Rings, Stainless Steel Insert, ETO Sterilized (Factory Sterilized)

Part Number

Description

### Special Configuration:





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## Layer Option:

- Single Layer
- Dual Layer

## Micron Rating Option:

- 0.04 Micron
- 0.1 Micron
- 0.2 Micron
- 0.45 Micron
- 0.65 Micron
- 0.8 Micron
- 1.2 Micron

## End Modification Option:

- 0 : 222 O-Ring Flat
- 3 : 222 O-Ring w /tabs Spear
- 5 : 222 O-Ring Spear
- 6 : 226 O-Ring Flat
- 7 : 226 O-Ring Spear
- 8: 223 O-Ring Flat
- F : DOE Flat Gasket
- S : SOE Flat Gasket

## O-Ring/Gasket Material Option:

- S : Silicone
- E : EPDM
- N : Buna-N
- P : Peroxide Cured EPDM
- Q : Platinum Cured Silicon
- T : TEV or FEP Gasket
- V : Viton

