Saint-Gobain
Life Sciences –
Bioprocess Solutions

PureFlo® Z Series PES
Cartridges

PureFlo® Z Series PES cartridges are validated sterilizing grade filters with a robust design capable of withstanding multiple steam-in-place cycles. The hydrophilic, asymmetric polyethersulfone (PES) membrane demonstrates exceptional throughput capacity and flow performance in liquid applications. The materials and design were carefully selected to ensure quick and reliable pre-and post-use integrity testing in critical biopharmaceutical applications.

Membrane Configurations

PureFlo® Z Series PES capsules incorporate a final sterilizing grade 0.1 or 0.2 µm membrane as well as an optional built-in ZenFlo® highly asymmetric prefilter tailored to enhance filter performance and efficiency in a variety of biopharmaceutical processes.

Engineered Filtration Solutions

To meet the needs of an innovative and rapidly growing industry, and in addition to the standard product offering, Saint-Gobain Life Sciences offers a collaborative service with a dedicated team of engineers and subject matter experts to develop specialized filtration solutions that are tailored to achieve optimal performance. Please contact us for more information.

Features / Benefits

- Hydrophilic
- 100% Integrity Tested
- Optimal Flow
- Autoclavable
- Asymmetric
- Broad Chemical Compatibility
- Scalable
- Steam Sterilizable

Typical Applications

- Buffer
- Cell Culture Media
- Serum
- Opthalmics
- Reagents
- Biologics
- Final Drug Product

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FLS-5364B-10212024-BPS

Technical Summary

Materials	
Membrane	Polyethersulfone (PES)
Support Material	Polyester (PET)
Molded Components (cage, core, shell, end caps)	Polypropylene (PP) and Nylon
O-rings	Silicone
Adapter Insert (when present)	Stainless Steel (overmolded)

Membrane Configurations		
Membrane	**Description**	**Minimum Bubble Point (at 22°C)**
S010	0.1 µm	1.6 bar | 23 psi (in 60% isopropyl alcohol, 40% water)
S020	0.2 µm	3.5 bar | 50 psi (in water)
ZS010	0.1 µm PES membrane with built-in 0.2 µm ZenFlo PES prefilter	1.6 bar | 23 psi (in 60% isopropyl alcohol, 40% water)
ZS020	0.2 µm PES membrane with built-in 0.45 µm ZenFlo PES prefilter	3.5 bar | 50 psi (in water)
XS010	0.1 µm PES membrane with built-in 0.45 µm ZenFlo PES prefilter	1.6 bar | 23 psi (in 60% isopropyl alcohol, 40% water)
XS020	0.2 µm PES membrane with built-in 0.65 µm ZenFlo PES prefilter	3.5 bar | 50 psi (in water)

Measurements (nominal)			
Size	**Outside Diameter (mm)**	**Filtration Area (cm^2)**	
		Single Layer (S)	**ZenFlo (ZS/XS)**
Mini (MMZ)	56	730 - 2,600	650 - 2,300
Full (MZ)	70	6,400 - 27,000	5,700 - 23,000

Operating Conditions		
	Mid (SZV)	**Full (LZ)**
Maximum Temperature	80°C	80°C
Maximum Forward Differential Pressure (at 22°C)	3.1 bar | 45 psi	5 bar | 72.5 psi

Sterilization	
Steam-in-Place (SIP)	Up to 10 cycles at 135°C for 30 minutes (filters with stainless steel inserts only)
Gamma	Up to 50 kGy
Autoclave	Up to 10 cycles at 125°C for 30 minutes
Ethylene Oxide	Testing is recommended

Regulatory & Stewardship

Saint-Gobain Life Sciences' PureFlo® Z Series Cartridges were designed, manufactured, and qualified with an ISO 13485 certified Quality Management System. For more information, please refer to the Product Validation Guide and Regulatory Information Overview (RIO).

Category	Standard or Reference Test
Physiochemical	USP Oxidizable Substances USP <645> Conductivity USP <643> Non-volatile Residue Total Organic Carbon (TOC) Analysis
Cleanliness	USP <85> Bacterial Endotoxin Test USP <788> Particulate Matter 21 CFR sections 211.72 and 210.3 (b) (6)
Biocompatibility	ASTM F756-17 Hemolysis USP <88> Class VI, and/or USP <87>, and/or ISO 10993-5
Bacterial Retention	Quantitative Retention of 10^7 CFU/cm^2 *Brevundimonas Diminuta* per ASTM methodology
Shelf Life	Non-sterile products have a shelf life of 3 years after the date of manufacture.
Traceability	For traceability and easy identification: • A Certificate of Conformance is provided with each cartridge. • Each filter bag and box are labeled with the product part number, lot number, and identifying characteristics. • Each cartridge is engraved and labeled with the product part number, lot number, and identifying characteristics.

Lot Release Criteria

Each PureFlo® Z Series PES cartridge product lot is sampled and tested for conformity to the following criteria:

Criteria	Description
Integrity (membrane)	Each filter (100%) in a lot is integrity tested during the manufacturing process.
USP Bacterial Endotoxins	A representative sample from the lot is tested to confirm that an aqueous extraction of the product contains <0.25 EU/mL as determined by the Limulus Amebocyte Lysate (LAL) Test.

PureFlo® Z Series PES
Full Size Cartidges

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PRODUCT TECH SNAPSHOT: (Values are nominal. Please see Technical Summary for additional information).

Filter Size	Body Diameter (mm)	Filtration Area (m^2)	Filtration Area (m^2)
		Single Layer (S)	ZenFlo® (ZS/XS)
5″	70	0.32	0.29
10″	70	0.64	0.57
20″	70	1.28	1.14
30″	70	1.92	1.71
40″	70	2.56	2.28

Typical pressure drop in water (22 °C) at 20 LPM is approximately 2 psid per 10" cartridge*

Ordering Guide

PART NUMBER:

M	Z	[1]	[2]	[3]	S	1	[4]

[4] Optional
-5 = Stainless Steel Insert for steam-in-place (0, 5, 6, and 7 adaptors only)

[1] Filter Membrane
S10 = 0.1 µm (single-layer)
S20 = 0.2 µm (single-layer)
ZS10 = ZenFlo 0.2/0.1 µm
ZS20 = ZenFlo 0.45/0.2 µm
XS10 = ZenFlo 0.45/0.1 µm
XS20 = ZenFlo 0.65/0.2 µm

[2] End Modification
0 = 2-222 O-rings, Flat
5 = 2-222 O-rings, Spear
6 = 2-226 O-rings with Tabs
7 = 2-226 O-rings with Tabs, Spear
F = DOE, Flat gasket

[3] Length
5 = 5″
1 = 10″
2 = 20″
3 = 30″
4 = 40″

Don't see what you're looking for?
Please let us know! We're here to help.

*IMPORTANT: The flow performance of a filter is dependent on several variables including the process fluid characteristics, operating conditions, filter surface area, pore size, and fittings. The above values are approximate for example part numbers and provided for reference only. Actual values may vary. For application guidance and flow performance information for a specific part number please contact your local Saint-Gobain Life Sciences representative.

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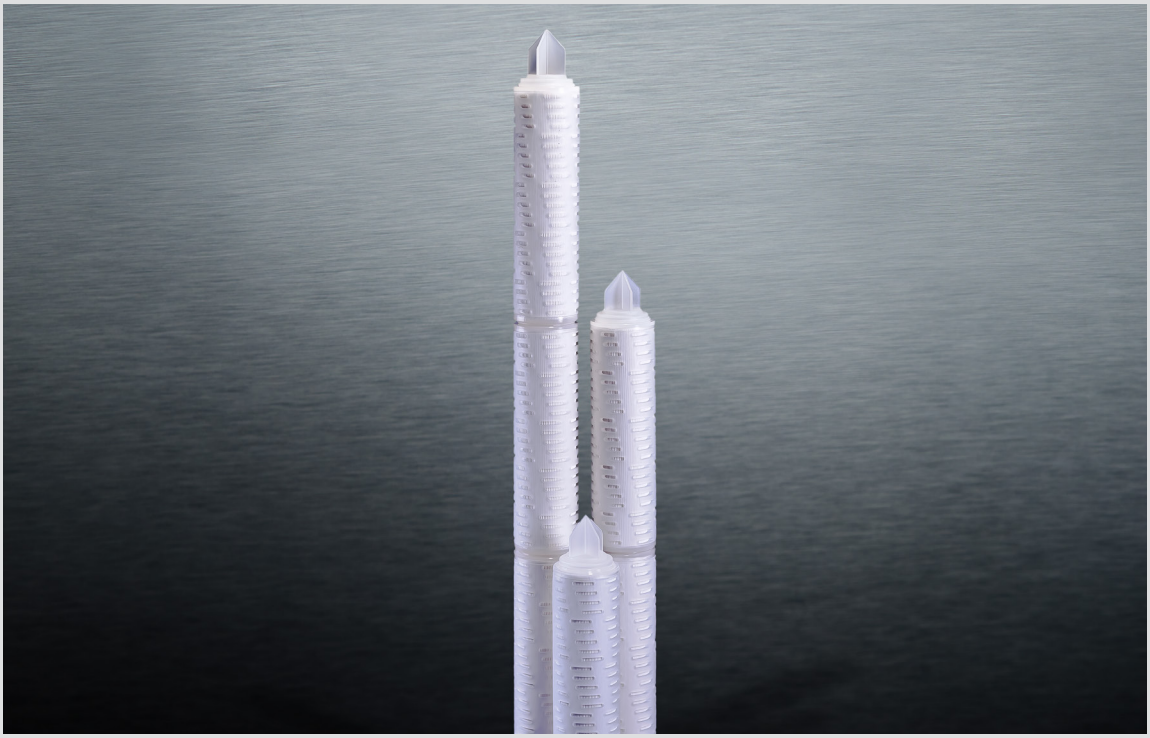

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Consultations • Samples • Quotes • Orders

For registered access to Saint-Gobain Product Validation Summaries, CLICK HERE

IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Life Sciences products for all intended uses and that the materials to be used comply with all applicable medical regulatory requirements. Saint-Gobain Life Sciences assumes no responsibility for any product failures that occur due to misuse of the materials it provides arising out of the design, fabrication, or application of the products into which the materials are incorporated.
WARRANTY: For a period of 12 months from the date of first sale, Saint-Gobain Life Sciences warrants this product to be free of defects in materials and workmanship. Our only obligation will be to replace any portion proving defective, or at our option, to refund the purchase price there of.
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