

# PureFlo® Biological Reduction Grade

# ZenPure

## Capsules High performance encapsulated PES membrane filter

The PureFlo® Biological Reduction Grade filter capsule in its all-polypropylene construction, provides excellent chemical compatibility and superior flow per surface area as compared to other membrane capsules. PureFlo® Biological grade capsules have been designed for bioreduction in pharmaceutical applications. Its hydrophilic PES membrane does not require pre-wetting agents, thereby eliminating a potential source of contamination. The PES membrane is low protein-binding.

The capsules were designed for simple and efficient filtration of small volumes used in low-flow application, laboratory, and pilot runs. No adhesives, binders, or surfactants are used in the manufacturing process of these capsules. They are rinsed with pyrogen-free water to reduce extractables and downtime. All filter capsules are 100% integrity tested to ensure filter performance each and every time out of the package. PureFlo PES filter capsules are well-suited for pharmaceutical applications where superior flow and bacterial retention is required.



### SPECIFICATIONS

#### Regulatory Compliance

Manufactured from materials that conform to the requirements of 21CFR Part 177 of the U.S. Code of Federal Regulations and USP Class VI Biological Test for Plastics

#### Autoclavable & Sanitizable

Capsules can be autoclaved up to six times at 126°C for 60 minutes or chemically sanitized in situ using common sanitizing agents such as hot water at 90°C for a limited time (dependent on time and temperature).

#### Water Bubble Point Specification

0.1um : 23psi (IPA)  
0.2um : 47psi  
0.45um: 33psi

#### Bacterial Endotoxin

Effluent is non-pyrogenic per USP Bacterial Endotoxin (0.25 EU/ml), determined using Limulus Amebocyte Lysate (LAL) Test.

### Applications

<u>Applications</u>	
Culture media	Fermentation Broths
Serums	SVP (Small volume parenterals)
Vaccines	Bio Reduction
Reagents & Buffers	Biologics
Antibiotics	Beverages
WFI-POU	Scale-up processes

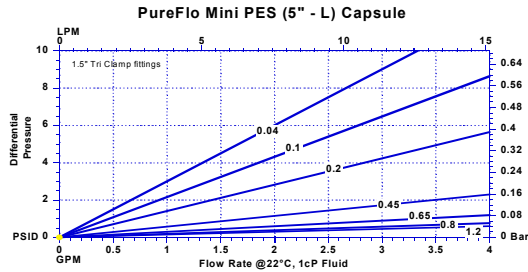
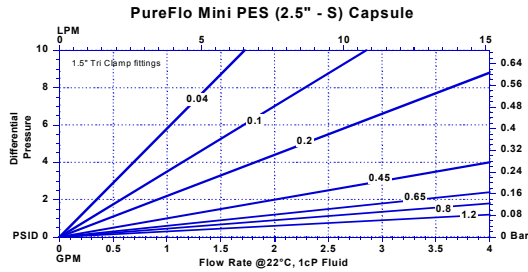
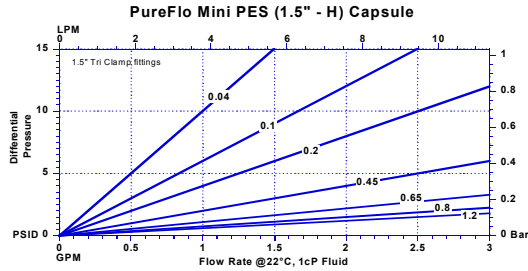
### Features

- Hydrophilic PES Membrane
- Small Compact Design
- Low Filter Extractables

### Benefits

- Inherently hydrophilic for cleaner filtrates
- High flow rate reduces processing time
- Low protein-binding membrane maximizing yields
- Biologically inert membrane
- Bacterial retentive to produce sterile solutions
- Simple, quick, and efficient filtration
- Low hold-up volume reduces product waste
- No adhesives, binders, or surfactants are used during manufacturing resulting in superior downstream cleanliness
- All capsules are rinsed with pyrogen-free water

## PureFlo® Biological Reduction Grade Capsules



Note - Graphs based on Sanitary fittings.

### Materials of Construction

Membrane: Hydrophilic Polyethersulfone  
 Membrane Supports: Polypropylene, or PET  
 Cage, Core, End Caps: Polypropylene, or Polyethylene option

### Fitting Connections

NPT, Sanitary Flange, Hose Barb, Couplings  
 Vent/Drain - Luer Lock with Cap

### Dimensions (nominal)

Length: 1.5 in (100 mm)  
 Length: 2.5 in (125 mm)  
 Length: 5.0 in (220 mm)  
 Length: 10 in (340mm)  
 Diameter: 2.75 in (70 mm)

### Effective Filtration Area

1.5 in - 0.77 ft<sup>2</sup> (720 cm<sup>2</sup>)  
 2.5 in - 1.48 ft<sup>2</sup> (1380 cm<sup>2</sup>)  
 5.0 in - 2.8 ft<sup>2</sup> (2600 cm<sup>2</sup>)  
 10 in - 5.6 ft<sup>2</sup> (5200 cm<sup>2</sup>)

### Operating Conditions

Maximum Forward Differential Pressure:  
 73 psid (5.0 bar) at 20°C  
 36 psid (2.5 bar) at 50°C  
 17 psid (1.2 bar) at 80°C  
 Maximum Reverse Differential Pressure:  
 44 psid (3.0 bar) at 20°C  
 Maximum Operating Temperature: 80°C

## PureFlo PES Filter Capsule (Biological Grade) Ordering Guide

PureFlo Capsule Filters	Filter Media	Pore size (Micron)	Length	Input Fitting	Output Fitting	Option
SKL	S = PES	004 = 0.04um	H = 1.5"	1H = 1/8" Hose barbs	1H = 1/8" Hose barbs	-B = Biological reduction grade
		010 = 0.1um	S = 2.5"	1NF = 1/8" FNPT	1NF = 1/8" FNPT	-E = Polyethylene Shell and PET media support for Gamma Sterilization
		020 = 0.2um	L = 5"	1QF = 1/8" Female Quick Coupling with Metal latch	1QF = 1/8" Female Quick Coupling with Metal latch	-GP = Gamma stable polypropylene shell
		050 = 0.45um	K = 10"	2H = 1/4" to 1/2" Hose barbs	2H = 1/4" to 1/2" Hose barbs	-N = No vent or drain fittings
		065 = 0.65um		2HS = 1/4" to 3/8" Hose barbs	2HS = 1/4" to 3/8" Hose barbs	-NI = No vent or drain inlet fitting
		080 = 0.8um		2LF = Large Female Luer Lock fitting	2LF = Large Female Luer Lock fitting	-NO = NO vent or drain Outlet fitting
		120 = 1.2um		2N = 1/4" MNPT	2N = 1/4" MNPT	-FB = Filling bell
				2NF = 1/4" FNPT	2NF = 1/4" FNPT	
				2Q = 1/4" Male Quick Coupling for Metal latch	2Q = 1/4" Male Quick Coupling for Metal latch	
				2QF = 1/4" Female Quick Coupling with Metal latch	2QF = 1/4" Female Quick Coupling with Metal latch	
				2QFP = 1/4" Female Quick Coupling with Plastic latch	2QFP = 1/4" Female Quick Coupling with Plastic latch	
				2QP = 1/4" Male Quick Coupling for Plastic latch	2QP = 1/4" Male Quick Coupling for Plastic latch	
	3H = 3/8" Hose Barb	3H = 3/8" Hose Barb				
	3HE = 3/8" Hose Barb Elbow	3HE = 3/8" Hose Barb Elbow				
	3NF = 3/8" FNPT	3NF = 3/8" FNPT				
	4H = 1/2" Hose Barb	4H = 1/2" Hose Barb				
	4N = 1/2" MNPT	4N = 1/2" MNPT				
	4QP = 1/2" Male Quick Coupling for Plastic latch	4QP = 1/2" Male Quick Coupling for Plastic latch				
	MT = 1/2" Tri clamps	MT = 1/2" Tri clamps				
	TC = 1-1/2" Tri clamp	TC = 1-1/2" Tri clamp				
<p><b>Example - 2.5", 0.22 micron PES Capsule, Pharma Grade, with 1.5" Tri-Clamp fittings would be SKLS020STCTC-PH</b></p> <p>Male Quick Couplings are molded. Female Quick Coupling with Plastic latch will be threaded on, compatible with CPC (Colder), LinkTech and other compatible couplings.</p>						

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