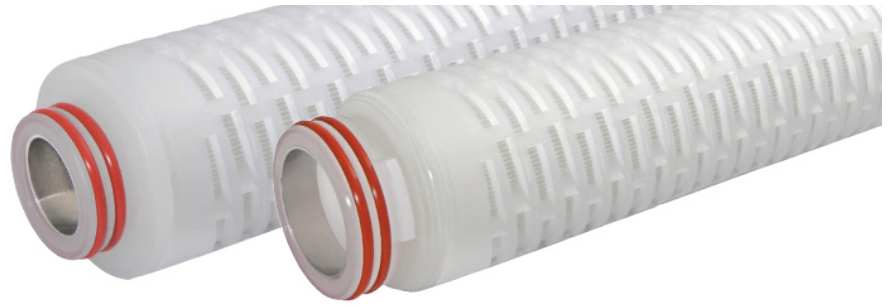


## GD PES-Series DuoGrade™ Serial Layer Polyethersulfone

### GD PES-Series DuoGrade™ Serial Layer

Polyethersulfone Filter Cartridges deliver extended life and excellent retention. Featuring a Microglass prefiltration layer, this serial construction makes the GD PES an ideal choice for clarification of particulate-heavy solutions in a variety of food/ beverage, pharmaceutical, biological, and chemical applications. With excellent flowrates, low pressure drops, and superior throughput volumes, GD PES cartridges can be used as final filters or to protect downstream sterilizing grade cartridges. Each cartridge is flushed with 18 megaohm High Purity deionized water and is integrity tested to ensure the delivery of clean effluent with low extractables. Designed to tolerate repeated hot water sanitization and *in-situ* steam sterilization cycles for maximum service life.

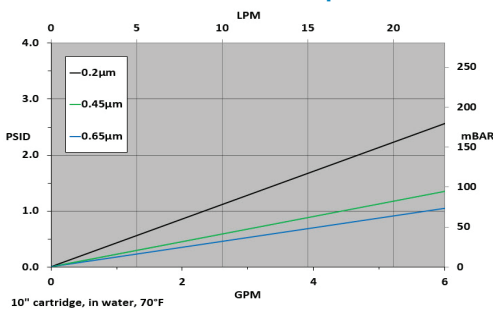


### Microbial Retention Performance

Rating	Challenge Microbe	Log Reduction Value (LRV)
0.2μ	<i>Brevundimonas diminuta</i>	7.6
0.45μ	<i>Serratia marcescens</i>	6.6
0.65μ	<i>Saccharomyces cerevisiae</i>	4.8

\* Independently tested in accordance with ASTM F838.

### Flow Rate vs Pressure Drop



### Typical Applications

- Wine, Beer, & Spirits
- Bottled Water, Juices, Soft Drinks
- Cell Culture Media
- Large Volume Parenterals
- Bulk Pharmaceutical Solutions

### Construction Materials

**Membrane**..... Polyethersulfone  
**Support Media**..... Microglass  
**End Caps**..... Polypropylene  
**Center Core**..... Polypropylene  
**Outer Support Cage**..... Polypropylene  
**O-Rings/Gaskets**..... Buna, EPDM, Silicone, Teflon® Encapsulated Viton®, Viton®, Teflon® Encapsulated Silicone

### Sanitization/Sterilization

**Filtered Hot Water**..... 80°C for 30 min.  
**Steam Sterilization**..... 121°C for 30 min., multiple cycles  
**Chemicals:** Cartridges are compatible with most chemical sanitizing agents.  
**Note:** Stainless steel insert option required for all cartridges being hot water sanitized or steam sterilized.

### Dimensions

**Length:**  
 10 to 40 inches (25.4 to 101.6 cm) nominal  
**Outside Diameter:**  
 2.70 inches (7.0 cm) nominal

### Operating Conditions

**Change Out ΔP (recommended)**..... 35 PSID  
**Temperature (max)**..... 176°F (80°C)  
**Differential Pressure (max)**..... 50 PSID (3.4 bar) at 68°F (20°C)

### Toxicity

All polypropylene components meet the specifications for biological safety per USP Class VI – 121°C for plastics.

### Food Safety Compliance

Materials of construction comply with FDA regulations for food and beverage contact use as detailed in the US Code of Federal Regulations, 21CFR. Materials used to produce filter media and hardware are deemed safe for use in contact with foodstuffs in accordance with EU Directives 2002/72/EC, 1935/2004, and/or 10/2011.

### Ordering Information

GD PES	Rating (μ)	A	Length	C	End Cap Style	O-Rings/Gaskets	-	Adders
	0.2		10" (25.4 cm)		2 = DOE Flat Gasket	B = Buna		CS = 316SS Compression Spring
	0.45		20" (50.8 cm)		3 = 222 w/ Fin	E = EPDM		I = Stainless Steel Insert
	0.65		30" (76.2 cm)		4 = 222 w/ Flat Cap	S = Silicone		
			40" (101.6 cm)		6 = 226 w/ Flat Cap	T = Teflon® Encapsulated Viton®		
					7 = 226 w/ Fin	V = Viton®		
					16 = 213 Internal O-Ring	Z = Teflon® Encapsulated Silicone		
					28 = 222 3-tabs w/ Fin			

DISCLAIMER: Filtration data presented is representative of performance observed in controlled laboratory testing. It is not given as a warranty, specification or statement of fitness for use. Specific performance can vary widely depending on contaminant type, fluid properties, flow rates and environmental conditions. It is recommended that users conduct thorough qualification testing to assure the product functions as required. For additional technical support, a product Performance Guide is available upon request.

DS\_GDPES\_190918