

Pharmsteri™ PES Cartridge Filter

Provides economical filtration for pharmaceutical applications

Pharmsteri PES cartridge filters join our portfolio of filtration solutions that help ensure reliable product processing. Constructed of polypropylene components and hydrophilic polyethersulfone (PES) membrane, Pharmsteri PES cartridge filters are 100% integrity tested during manufacturing to guarantee high quality for bioburden reduction and sterility assurance.

Filters with single-layer 0.45 µm PES membrane are typically utilized for bioburden reduction to protect downstream filters or columns while single-layer 0.22 µm filters are normally utilized for sterile filtration with superior flow rate. Dual-layer filters with 0.45/0.22 µm membrane configuration will be good choice for fouling solutions requiring better throughput and high standard sterility assurance.

APPLICATIONS

Pharmaceutical

- Bioburden reduction of LVP/SVP
- Sterile filtration for LVP/SVP/API
- Buffers
- Culture medium
- Intermediates

FEATURES & BENEFITS

Various fitting sizes and types available	Fits most stainless-steel housings, providing design flexibility and versatility in a broad range of applications
Optimized form factor	Allows high flow and low pressure drop, lowering cost of ownership
Meet USP <88> Class VI Plastic Test and USP<87> Biological Reactivity Test'	Provides biocompatibility insurance and global regulatory compliance



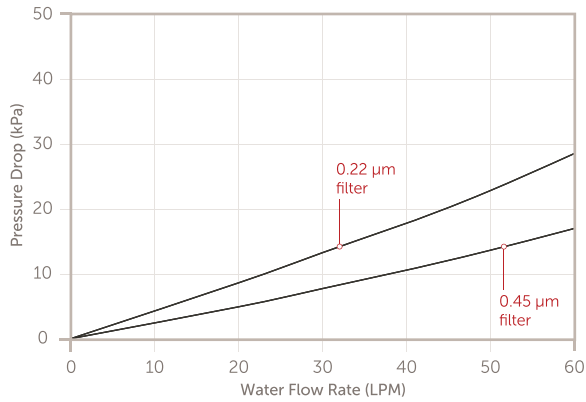
Allows high flow and low pressure drop, lowering cost of ownership.

SPECIFICATIONS

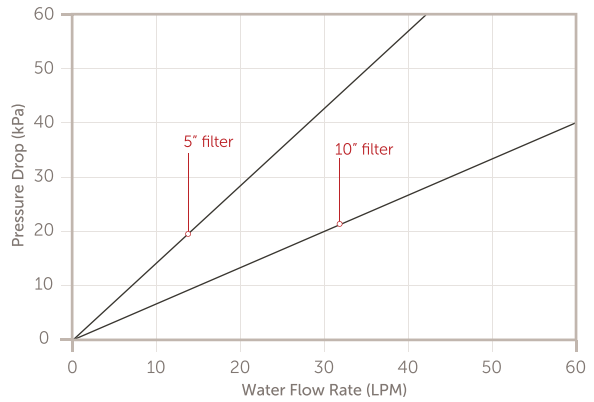
Retention rating	Single-layer	0.22, 0.45 µm
	Dual-layer	0.45/0.22 µm
Materials	Membrane	Polyethersulfone (PES)
	Support	Polypropylene
	Sleeve, core, top, and end caps	Polypropylene
	O-ring	Silicone
Sealing technology	Thermal bonding without adhesives	
Normal effective filtration area	Single-layer	0.6 m ² /10" cartridge
	Dual-layer	0.53 m ² /10" cartridge
Integrity test (0.22µm,0.45/0.22µm)	Minimum bubble point at 25°C (77°F)	≥50.7 psi (3500 mbar)
	Maximum diffusion flow at 40.6 psi(2800 mbar) at 25°C (77°F)	5" cartridge: ≤15 mL/min
		10" cartridge ≤30 mL/min
Maximum operating conditions	Maximum forward differential pressure	60.9 psi (4.2 bar) @ 25°C (77°F), 29.0 psi (2.0 bar) @ 80°C (176°F)
	Maximum operating temperature	80°C (176°F)
Multiple sterilization cycles	20 cycles of steam-in-place (SIP) sterilization or autoclave, 30 min at 127°C (261°F)	
Endotoxin releasing	<0.25 EU/mL as determined by the LAL test	
TOC	<0.5 mg/L after a water flush of 11 L/10" cartridge	
Conductivity	≤1.3 µS/cm after water flush of 11 L/10" cartridge	
Particle release	Meets the requirements of WFI set by USP	
Non-fiber releasing	Meets the criteria for a non-fiber releasing filter defined in 21 CFR 210.3(b)(6)	
Extractables	Tested according to USP<665>. Report is available upon request	
Material toxicity	All components meet the requirements of the USP <88> Reactivity Test for Class VI Plastics Filters meet the requirements of USP <87> Biological Reactivity Tests in Vitro Cytotoxicity	
Bacterial challenge test	Filters with the claim passed the bacterial challenge testing using <i>Brevundimonas diminuta</i> (ATCC 19146) at a minimum challenge concentration 1x10 ⁷ CFU/cm ² (0.22 µm) per ASTM methodology.	
Indirect food additive	Meets the FDA Indirect Food Additive requirements cited in 21 CFR 177-182	
Food contact material	(EU) No. 1935/2004, (EU) No. 10/2011	
Quality	Manufactured in accordance with ISO 9001 and ISO 13485 certified quality management system	

PERFORMANCE DATA

10" Single-layer Cartridge Filter Water Flow

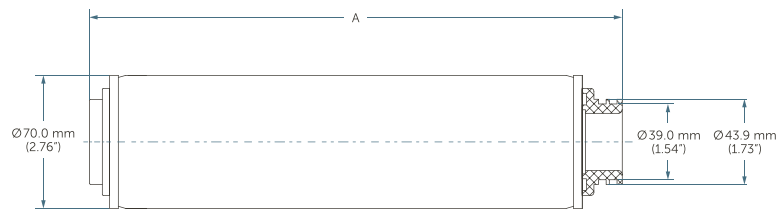


Dual-layer 0.45/0.22µm Cartridge Filter Water Flow



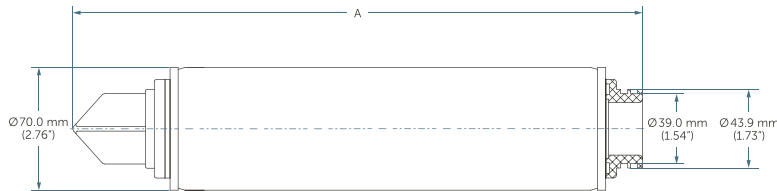
DIMENSIONS

Code 0



Length	Code 0 Dimension A
5"	148.0 mm (5.8")
10"	273.0 mm (10.7")
20"	517.5 mm (20.4")
30"	762.0 mm (30.0")
40"	1006.5 mm (39.6")

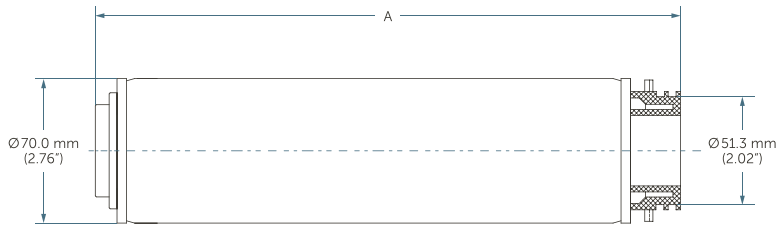
Code 5



Length	Code 5 Dimension A
5"	-
10"	314.0 mm (12.4")
20"	558.5 mm (22.0")
30"	803.0 mm (31.6")
40"	1047.5 mm (41.2")

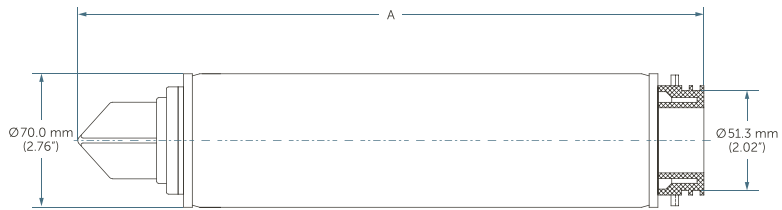
DIMENSIONS

Code 6



Length	Code 6 Dimension A
5"	150.5 mm (5.9")
10"	276.0 mm (10.9")
20"	520.0 mm (20.5")
30"	764.5 mm (30.1")
40"	1009.0 mm (39.7")

Code 7



Length	Code 7 Dimension A
5"	–
10"	316.5 mm (12.5")
20"	561.0 mm (22.1")
30"	805.5 mm (31.7")
40"	1050.0 mm (41.3")

ORDERING INFORMATION

PART NUMBER	CONNECTION	LENGTH	O-RING	RETENTION RATING
PSTS022005S1	Code 0	5"	Silicone	0.22 µm
PSTS022010S1	Code 0	10"	Silicone	0.22 µm
PSTS022020S1	Code 0	20"	Silicone	0.22 µm
PSTS022030S1	Code 0	30"	Silicone	0.22 µm
PSTS022040S1	Code 0	40"	Silicone	0.22 µm

ORDERING INFORMATION

PART NUMBER	CONNECTION	LENGTH	O-RING	RETENTION RATING
PSTS022510S1	Code 5	10"	Silicone	0.22 µm
PSTS022520S1	Code 5	20"	Silicone	0.22 µm
PSTS022530S1	Code 5	30"	Silicone	0.22 µm
PSTS022540S1	Code 5	40"	Silicone	0.22 µm
PSTS022605S1	Code 6	5"	Silicone	0.22 µm
PSTS022610S1	Code 6	10"	Silicone	0.22 µm
PSTS022620S1	Code 6	20"	Silicone	0.22 µm
PSTS022630S1	Code 6	30"	Silicone	0.22 µm
PSTS022640S1	Code 6	40"	Silicone	0.22 µm
PSTS022710S1	Code 7	10"	Silicone	0.22 µm
PSTS022720S1	Code 7	20"	Silicone	0.22 µm
PSTS022730S1	Code 7	30"	Silicone	0.22 µm
PSTS022740S1	Code 7	40"	Silicone	0.22 µm
PSTS045005S1	Code 0	5"	Silicone	0.45 µm
PSTS045010S1	Code 0	10"	Silicone	0.45 µm
PSTS045020S1	Code 0	20"	Silicone	0.45 µm
PSTS045030S1	Code 0	30"	Silicone	0.45 µm
PSTS045040S1	Code 0	40"	Silicone	0.45 µm
PSTS045510S1	Code 5	10"	Silicone	0.45 µm
PSTS045520S1	Code 5	20"	Silicone	0.45 µm
PSTS045530S1	Code 5	30"	Silicone	0.45 µm
PSTS045540S1	Code 5	40"	Silicone	0.45 µm
PSTS045605S1	Code 6	5"	Silicone	0.45 µm
PSTS045610S1	Code 6	10"	Silicone	0.45 µm
PSTS045620S1	Code 6	20"	Silicone	0.45 µm
PSTS045630S1	Code 6	30"	Silicone	0.45 µm

ORDERING INFORMATION

PART NUMBER	CONNECTION	LENGTH	O-RING	RETENTION RATING
PSTS045640S1	Code 6	40"	Silicone	0.45 µm
PSTS045710S1	Code 7	10"	Silicone	0.45 µm
PSTS045720S1	Code 7	20"	Silicone	0.45 µm
PSTS045730S1	Code 7	30"	Silicone	0.45 µm
PSTS045740S1	Code 7	40"	Silicone	0.45 µm
PSTSD42605S1	Code 6	5"	Silicone	0.45 + 0.22 µm
PSTSD42710S1	Code 7	10"	Silicone	0.45 + 0.22 µm
PSTSD42720S1	Code 7	20"	Silicone	0.45 + 0.22 µm
PSTSD42730S1	Code 7	30"	Silicone	0.45 + 0.22 µm

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](https://www.entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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