

# Duredunty® Filter Cartridges

Double-layer PES Membrane · Sterilizing Grade



Cobetter **Duredunty**® Filter Cartridges use a unique double layer PES membrane. They are designed for the filtration of a broad range of pharmaceutical products and particles, cysts, oocysts and bacteria in water filtration application, while providing superior flow rates and high particle removal efficiency when compared to other sterilizing grade filter cartridges.

### Features and Benefits

- Double-layered membrane provides excellent reliability of sterilization.
- Built in Asymmetric pre-filter layer for longer life and lower filtration costs.
- Broad Chemical Compatibility (pH1-14)
- Provides 10x normal safety compared to normal PES filters.
- Design allows for multiple autoclave cycles(up to 50x) and extended use.

### Quality Standards

- Tested with B.diminuta (ATCC 19146) at  $10^7$ - $10^{10}$ /cm<sup>2</sup> (>99.99999%)
- Each individual element is integrity tested (bubble point & diffusion flow)
- Each individual element is tracked by series number
- Manufactured under a quality management system certified to ISO 9001: 2000

### Typical Applications

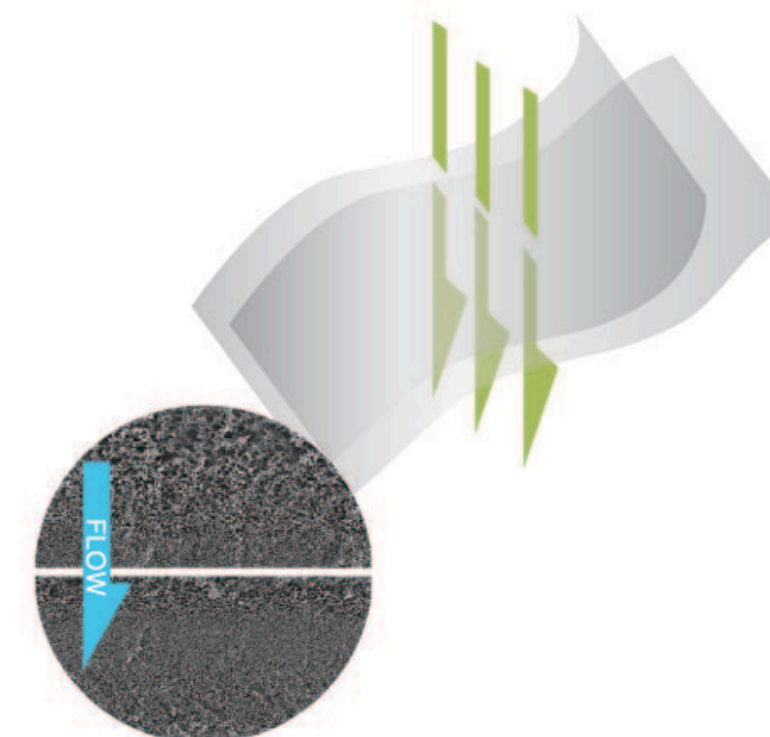
- Herbal Injection
- Sterile API
- Biological Vaccine
- Blood Products
- Ophthalmics
- Liquid (LVP / SVP)
- Lyophilization
- Freeze-dried Powder

### Materials of Construction

Filter Medium	Double Layer PES Membrane
Support	Polypropylene
Core/Cage/End Caps	Polypropylene
Internal Adaptor Reinforcing Ring	PBT(Polybutylene Terephthalate) / Stainless Steel
Effective Filter Area	1.28m <sup>2</sup> / Φ69-10 inch

### Operating Conditions

Maximum Temperature	90°C
Max. Differential Pressure	4bar / 21°C 2.4bar / 90°C
Steaming Sterilize(Autoclave)	121°C / 30min up to 50 cycles
Inline Steaming Sterilize	121°C / 30min up to 20 cycles
Hot Water Sterilize	85°C / 30min



### Integrity Test Parameters

	2210	2222	4522	4545	6545
	=0.22+0.1µm	=0.22+0.22µm	=0.45+0.22µm	=0.45+0.45µm	=0.65+0.45µm
Diffusion Flow (10"Cartridge @23°C)	≤25ml/min @3000mbar	≤20ml/min @2750mbar	≤25ml/min @2750mbar	≤15ml/min @1600mbar	≤25ml/min @1600mbar
Bubble Point (in water@ 23°C)	≥ 3.8 bar	≥ 3.4 bar	≥ 3.4 bar	≥ 2.0 bar	≥ 2.0 bar

The Integrity test is a non-destructive test that can be performed by the user to ensure the filter is installed correctly and ready for operation.

### Biological Safety

Extractable(NVR)	<30mg/10" ( Test Procedure:Steaming sterilized for 30min at 121°C, then soaked in the purified water for 24 hours )
Oxidability	Meets FDA for Oxide Test ( Test Procedure: Steaming sterilized for 30min at 121°C, then take the sample after purified water washing )
Endotoxin	<0.25Eu/ml , according to LAL Test
Material Safety	Meets USP<88>, for class VI-121°C plastics

### Ordering Information

DPS	Removal Ratings	End Cap	Nominal Length	Seal Material	-P
	2210=0.22µm+0.1µm	DOE=Double Open End	05=5"	S=Silicone	
	2222=0.22µm+0.22µm	HTC=222 /Flat (PBT Insert)	10=10"	E=EPDM	
	4522=0.45µm+0.22µm	HTF=222 /Fin (PBT Insert)	20=20"	V=Viton	
	4545=0.45µm+0.45µm	HSF=226 /Fin (PBT Insert)	30=30"		
	6545=0.65µm+0.45µm	HSCA=226 /Flat (PBT Insert)	40=40"		

Highest Retention Efficiency  
& Longer Service Life