LHPVHBR FILTER CARTRIDGES

POSITIVE-CHARGED ZETA PVDF MEMBRANE STERILE LIQUID FILTERS

LHPVHBR Filter Cartridges feature a positive-charged Zeta membrane that removes a significant level of particles and endotoxins. They are suitable for the sterilized filtration of pharmaceutical liquids, including ophthalmic liquids, biological, and other diluted preservative solutions. These filters are available as single-layer and double-layer hydrophilic construction.

FEATURE	BENEFIT
Modified PVDF membrane with positive-charged Zeta particles with polypropylene construction (supports)	Low extractables with low protein binding
	Positive-charged Zeta particles absorb small particles and endotoxins
	Hydrophilic membrane with broad chemical compatibility and temperature resistance
	Excellent durability, proven by testing forward/reverse pulses up to 100x

QUALITY STANDARDS	
Bacterial Retention	Retention of 10^7 CFU/cm^2 Brevundimonas Diminuta (ATCC 19146) according to ASTM F838 methodology
Quality Assurance	These products are manufactured in a facility which adheres to ISO 9001 Practices. 100% Integrity tested and traceable with unique serial number.
TOC / Conductivity at 25°C	Autoclaved filter effluent meets the USP <643> for Total Organic Carbon and USP <645> for Water Conductivity per WFI requirements after a UPW flush of specified volume.
Particle Shedding	Autoclaved filter effluent meets the requirements in USP <788> for large volume injections
Non-Fiber Releasing	Component materials meet the criteria for a "Non-fiber-releasing filter" as defined in 21 CFR 210.3 (b) (6)
Bacterial Endotoxin	Aqueous extraction of autoclaved filter contains < 0.25 EU/mL as determined by Limulus; Amebocyte Lysate (LAL), USP <85>.
USP <87> Cytotoxicity	Meet the requirement of USP <87> In Vitro Cytotoxicity Test
USP <88> Biological Toxicity	Meet the criteria of the USP <88> Biological Reactivity Test for Class VI-121°C plastics.
Indirect Food Additive	All component materials meet the FDA Indirect Food Additive requirements cited in 21 CFR 177–182, and EU framework regulation [1935/2004/EC].

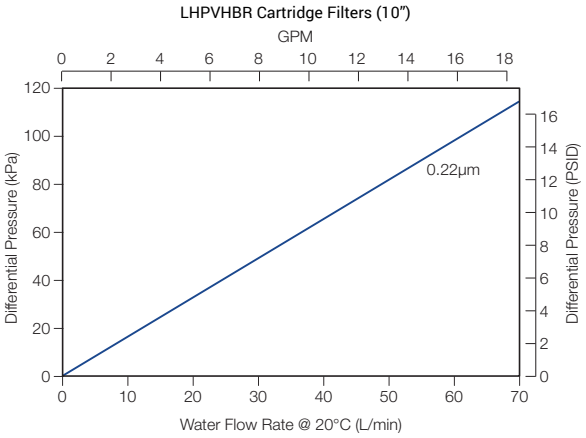
SPECIFICATIONS	
Filter media	LHPVHBR: Single-layer, positive-charged Zeta PVDF membrane (Hydrophilic) DLHPVHBR: Double-layer, positive-charged Zeta PVDF membrane (Hydrophilic)
Supports/core/cage/end caps	Polypropylene
Effective filtration area	0.58 m^2 (6.2 ft^2)/ ф69-10 inch

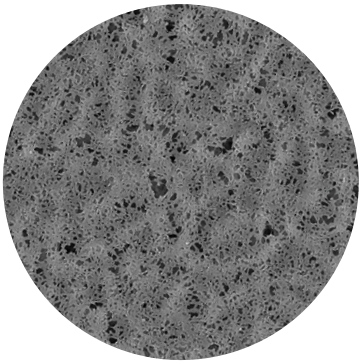
Typical Applications

- Antibiotics
- Aggressive Solvents
- Biological Agents
- Blood Products
- Chemicals
- Cold and Hot WFI
- Ophthalmic Solutions
- Sanitizing Agents

O-rings	Silicone, EPDM, FKM, FEP/PFA encapsulated FKM
O-ring internal insert	PBT
Cartridge diameter	69 mm (2.7 in.)
Max. Operating pressure	0.69 MPa (6.9 bar, 100 psi) at 25°C 0.40 MPa (4.0 bar, 58 psi) at 60°C 0.24 MPa (2.4 bar, 35 psi) at 80°C
Max. Differential pressure	Forward: 0.69 MPa (6.9 bar, 100 psi) at 25°C 0.40 MPa (4.0 bar, 58 psi) at 60°C 0.24 MPa (2.4 bar, 35 psi) at 80°C Reverse: 0.3 MPa (3.0 bar, 44 psi) at 25°C 0.1 MPa (1.0 bar, 15 psi) at 80°C
Steam sterilization	up to 100 forward cycles and 50 reverse cycles for 30 minutes at 135°C at Max. Differential Pressure of 0.3 bar (4.3 psi)
Autoclave sterilization	up to 400 cycles for 30 minutes at 130°C per cycle
Bubble Point	≥0.32 Mpa (water), 0.22 µm (LHPVHBR)
Diffusion Flow	≥20 ml/min/10"cartridge, 0.22 µm (LHPVHBR)

FLOW RATES





PVDF MEMBRANE

ORDERING INFORMATION

EXAMPLE: **LHPVHBR0022HSF10S-P** = Single layer, 0.22µm, 226/Fin, 10" length filter with Silicone seals

Layers
LHPVHBR = Single Layer
DLHPVHBR = Dual-Layer

Removal Rating

Single-Layer
Sterilizing Grade
0010 = 0.1 µm
0022 = 0.22 µm
Bio-reduction Grade
0045 = 0.45 µm
0065 = 0.65 µm

Dual-Layer
Sterilizing Grade
2222 = 0.22 µm + 0.22 µm
Bio-reduction Grade
2245 = 0.22 µm + 0.45 µm
6545 = 0.65 µm + 0.45 µm

Connection
DOE = Double Open End, Flat Gasket
HTC = 222 O-ring/Flat (PBT insert)
HTF = 222 O-ring/Fin (PBT insert)
HSC = 226 O-ring/Flat (PBT insert)
HSF = 226 O-ring/Fin (PBT insert)

Nominal Length
05 = 5"
10 = 10"
20 = 20"
30 = 30"
40 = 40"

-P

Seal Material
S = Silicone
E = EPDM
V = FKM
P = E-FKM (FEP/PFA encapsulated FKM)

BannerIndustries

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