# Alipore® DHC High-Throughput Sterilizing-Grade Hydrophilic PES Filter

## Polyethersulfone（PES）

High Capacity

High Flux

Process Economics

## Product Introduction

Alioth Alipore® DHC filters are constructed with a double-layer asymmetric polyethersulfone (PES) membrane, which allow for various combinations of membrane pore sizes to meet the requirements for filtration precision in different applications. The filters are suitable for a variety of sterile filtration of process fluids.

Alipore® DHC filters are validated by strict filtration performance guarantees, with wide chemical compatibility, high flow rate and high capacity to optimize process efficiency and cost effectiveness.

## Key Features and Benefits

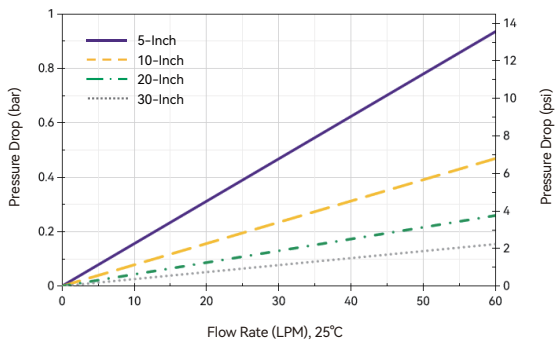
- Reliable bacterial retention performance
- High flux and high capacity
- 100% integrity test passed
- Consistent scale-up performance from lab to commercial manufacturing

## Typical Applications

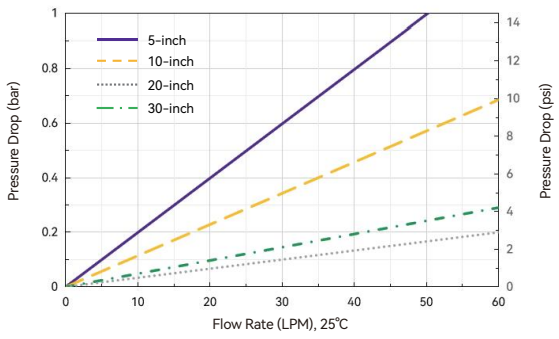
- Culture media filtration
- Buffer filtration
- Intermediate product filtration
- Final fill filtration

## Typical Flow Characteristics

Water Flow Rate and Pressure Drop-Alipore® DHC 0.45+0.2 μm Cartridge Filters




Water Flow Rate and Pressure Drop-Alipore® DHC 0.2+0.2 μm Cartridge Filters



# Alipore® DHC High-Throughput Sterilizing-Grade Hydrophilic Filter

## Product Specifications - Alidisk® Disc Filters

| | | |
|---|---|---|
| Product Specifications | Size (Diameter) | 50 mm |
| Materials of Construction | Membrane | Hydrophilic polyethersulfone (PES) |
| | Supporting Layer/ Housing | Polypropylene (PP) |
| Integrity Testing | Bubble Point | ≥ 3520 mbar（51 psi）(wetted with $H_2O$, 20℃, compressed air) |
| Working Characteristics | Maximum Differential Pressure | Forward: 5.0 bar（72.5 psi）@ 25℃ |
| | | Reverse: 1.0 bar（14.5 psi）@ 25℃ |
| | Sterilization Resistance | Autoclave(A&G): 125℃, 60 min, 30 cycles<br>Gamma-compatible (G): 25-45 kGy<br>*Presterilized disc filter(s) must not be re-sterilized |
| | Effective Filtration Area | 18 $cm^2$ |
| | Pore Size | 0.2+0.2 μm, 0.45+0.2 μm |
| | Bacterial Retention | >$10^7$ cfu/$cm^2$ B. *diminuta* ( ATCC® 19146™ ) |
| | Biological Safety | All construction components meet the biological safety requirements refering to USP<88> Class VI plastic and USP<87> |
| | Indirect Food Additive | All component materials meet the requirements of Indirect Food Additive cited in EU 1935/2004/EC and FDA 21 CFR 177-182 |
| | Cleanliness | Meets the requirements for a 'non-fiber releasing' filter defined in FDA 21 CFR 211.72 and 210.3 (b) (5) (6), and particulate matter meets the requirements of USP<788> |
| | Endotoxin | Endotoxin<0.25 EU/mL by LAL test method, which complies with the requirements of USP<85> |
| | TOC / Conductivity | TOC < 0.5 mg/L, Conductivity < 1.3 μS/cm |
| | Manufacturing Integrity | 100% integrity test passed |
| | Manufacturing Environment | Manufactured in conformance with cGMP |

## Ordering Information

| Format | Membrane material | Membrane series | Pore size | Length | Disc adaptor |
|---|---|---|---|---|---|
| D=Disc | E=PES | D=D series | 22=0.2+0.2 μm<br>52=0.45+0.2 μm | 5=Diameter 50 mm | B0=7-13 mm(1/4"-1/2")<br>Hose barb inlet and outlet |

| Package | Sterilization |
|---|---|
| 6=6/PK | A=Autoclavable<br>G=Gamma compatible<br>S=Sterile |

# Alipore® DHC High-Throughput Sterilizing-Grade Hydrophilic Filter

## Product Specifications - Alicap® Capsule Filters

| | | L300 | L600 | L02 | L04 | L3 | L5 | L10 | L20 | L30 | T10 | T20 | T30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Product Specifications | Body Diameter | 67 mm | 67 mm | 72 mm | 72 mm | 97 mm | 92 mm | 92 mm | 92 mm | 92 mm | 92 mm | 92 mm | 92 mm |
| | Maximum Width | 75 mm | 75 mm | 97 mm | 97 mm | 128 mm | 132 mm | 132 mm | 132 mm | 132 mm | 132 mm | 132 mm | 132 mm |
| | Maximum Length | 98.5 mm | 120 mm | 161 mm | 214 mm | 170 mm | 211 mm | 330 mm | 575 mm | 830 mm | 350 mm | 596 mm | 851 mm |
| Materials of Construction | Membrane | Hydrophilic polyethersulfone (PES) | | | | | | | | | | | |
| | Supporting Layer | Polypropylene (PP) | | | | | | | | | | | |
| | O-rings | Silicone | | | | | | | | | | | |
| | Core/Cage/End caps/Housing | Polypropylene (PP) | | | | | | | | | | | |
| Integrity Testing | Bubble Point | ≥3800 mbar (55.1 psi) (wetted with $H_2O$, 20℃, compressed air) (0.2+0.2 μm) | | | | | | | | | | | |
| | | ≥3520 mbar (51 psi) (wetted with $H_2O$, 20℃, compressed air) (0.45+0.2 μm) | | | | | | | | | | | |
| | Diffusion Flow | Test pressure 3000 mbar (43.5 psi) (20℃, compressed air), ≤25 mL/min @10 inch (0.2+0.2 μm) | | | | | | | | | | | |
| | | Test pressure 2760 mbar (40 psi) (20℃, compressed air), ≤25 mL/min @10 inch (0.45+0.2 μm) | | | | | | | | | | | |
| Working Characteristics | Maximum Differential Pressure | Forward: 5.0 bar (72.5 psi) @ 25℃/3.0 bar (43.5 psi) @ 80℃ | | | | | | | | | | | |
| | | Reverse: 3.0 bar (43.5 psi) @ 25℃/1.0 bar (14.5 psi) @ 80℃ | | | | | | | | | | | |
| | Sterilization Resistance | Autoclave(A&G): 131℃, 30 min, 10 cycles<br>Gamma-compatible (G): 25-45 kGy<br>*Capsule filters can't be sterilized by SIP, sterile type capsule filters can't be sterilized again | | | | | | | | | | | |
| | Effective Filtration Area | 230 $cm^2$ | 430 $cm^2$ | 0.11 $m^2$ | 0.19 $m^2$ | 0.18 $m^2$ | 0.28 $m^2$ | 0.55 $m^2$ | 1.1 $m^2$ | 1.65 $m^2$ | 0.55 $m^2$ | 1.1 $m^2$ | 1.65 $m^2$ |
| | Pore Size | 0.2+0.2 μm, 0.45+0.2 μm | | | | | | | | | | | |
| | Bacterial Retention | >$10^7$ cfu/$cm^2$ B. *diminuta* ( ATCC® 19146™ ) | | | | | | | | | | | |
| | Biological Safety | All construction components meet the biological safety requirements refering to USP<88> Class VI plastic and USP<87> | | | | | | | | | | | |
| | Indirect Food Additive | All component materials meet the requirements of Indirect Food Additive cited in EU 1935/2004/EC and FDA 21 CFR 177-182 | | | | | | | | | | | |
| | Cleanliness | Meets the requirements for a 'non-fiber releasing' filter defined in FDA 21 CFR 211.72 and 210.3 (b) (5) (6), and particulate matter meets the requirements of USP<788> | | | | | | | | | | | |
| | Endotoxin | Endotoxin<0.25 EU/mL by LAL test method, which complies with the requirements of USP<85> | | | | | | | | | | | |
| | TOC/Conductivity | TOC<0.5 mg/L, Conductivity<1.3 μS/cm | | | | | | | | | | | |
| | Manufacturing Integrity | 100% integrity test passed | | | | | | | | | | | |
| | Manufacturing Environment | Manufactured in conformance with cGMP | | | | | | | | | | | |

## Ordering Information

| Format | Membrane material | Membrane series | Pore size | Length | Capsule connector |
|---|---|---|---|---|---|
| K=L-type Capsule<br>T=T-type Capsule | E=PES | D=D series | 22=0.2+0.2 μm<br>52=0.45+0.2 μm | S2: Alicap® L300<br>S3: Alicap® L600<br>M1: Alicap® L02<br>M3: Alicap® L04<br>L3: Alicap® L3<br>5: Alicap® L5<br>1: Alicap® L10<br>2: Alicap® L20<br>3: Alicap® L30 | T1: 38 mm(1 1/2") Sanitary flange inlet and outlet<br>T3: 19 mm(3/4") Sanitary flange inlet and outlet<br>B4: 13 mm(1/2") Single-stage hose inlet and outlet<br>B5: 9.6 mm(3/8") Multistage hose inlet and outlet<br>B6: 7-13 mm(1/4"-1/2") Hose barb inlet and outlet<br>B7: 6 mm(1/4") Multistage hose inlet and outlet |

| O-ring | Package | Sterilization |
|---|---|---|
| S=Silicone | 1=1/PK | A=Autoclavable<br>G=Gamma compatible<br>S=Sterile |

- **Connector:**

Alicap® L300/L600, available with B6 Connector; Alicap® L02/L04, available with T1, T3, B5, B7 Connector; Alicap® L3/L5/L10/L20/L30, available with B4, T1 Connector; Alicap® T10/T20/T30, available with T1 Connector.

# Alipore® DHC High-Throughput Sterilizing-Grade Hydrophilic Filter

## Product Specifications - Cartridge Filters

| | | | | | |
|---|---|---|---|---|---|
| Product Specifications | | 5 inch | 10 inch | 20 inch | 30 inch |
| | Diameter | 69 mm | 69 mm | 69 mm | 69 mm |
| | Maximum Length | 155 mm | 318 mm | 566 mm | 813 mm |
| Materials of Construction | Membrane | Hydrophilic polyethersulfone (PES) | | | |
| | Supporting Layer | Polypropylene (PP) | | | |
| | O-rings | Silicone, Ethylene propylene diene monomer(EPDM), FEP/PFA encapsulated O-rings | | | |
| | Core/Cage/End caps/Adaptor | Polypropylene (PP) | | | |
| Integrity Testing | Bubble Point | ≥3800 mbar (55.1 psi) (wetted with $H_2O$, 20℃, compressed air) (0.2+0.2 μm) | | | |
| | | ≥3520 mbar (51 psi) (wetted with $H_2O$, 20℃, compressed air) (0.45+0.2 μm) | | | |
| | Diffusion Flow | Test pressure 3000 mbar (43.5 psi) (20℃, compressed air), ≤25 mL/min @10 inch (0.2+0.2 μm) | | | |
| | | Test pressure 2760 mbar (40 psi) (20℃, compressed air), ≤25 mL/min @10 inch (0.45+0.2 μm) | | | |
| Working Characteristics | Maximum Differential Pressure | Forward: 7.0 bar (101.5 psi) @ 25℃/3.0 bar (43.5 psi) @ 80℃ | | | |
| | | Reverse: 3.0 bar (43.5psi) @ 25℃/1.0 bar (14.5 psi) @ 80℃ | | | |
| | Sterilization Resistance | Steam-In-Place: 135℃, 30 min, 50 cycles | | | |
| | | Autoclave: 135℃, 30 min, 50 cycles | | | |
| | Effective Filtration Area | 0.28 $m^2$ | 0.55 $m^2$ | 1.1 $m^2$ | 1.65 $m^2$ |
| | Pore Size | 0.2+0.2 μm, 0.45+0.2 μm | | | |
| | Bacterial Retention | >$10^7$ cfu/$cm^2$ B. *diminuta* ( ATCC® 19146™ ) | | | |
| | Biological Safety | All construction components meet the biological safety requirements refering to USP<88> Class VI plastic and USP<87> | | | |
| | Indirect Food Additive | All component materials meet the requirements of Indirect Food Additive cited in EU 1935/2004/EC and FDA 21 CFR 177-182 | | | |
| | Cleanliness | Meets the requirements for a 'non-fiber releasing' filter defined in FDA 21 CFR 211.72 and 210.3 (b) (5) (6), and particulate matter meets the requirements of USP<788> | | | |
| | Endotoxin | Endotoxin<0.25 EU/mL by LAL test method, which complies with the requirements of USP<85> | | | |
| | TOC/Conductivity | TOC<0.5 mg/L, Conductivity<1.3 μS/cm | | | |
| | Manufacturing Integrity | 100% integrity test passed | | | |
| | Manufacturing Environment | Manufactured in conformance with cGMP | | | |

## Ordering Information

**Format**
C=Cartridge

**Membrane material**
E=PES

**Membrane series**
D=D series

**Pore size**
22=0.2+0.2 μm
52=0.45+0.2 μm

**Length**
5=5 inch
1=10 inch
2=20 inch
3=30 inch

**Catridge adaptor**
7=226, Spearhead with fins
2=226, Flat end with fins(5 inch)

**O-ring**
S=Silicone
T=EPDM
B=FEP/PFA encapsulated O-rings

**Package**
1=1/PK
3=3/PK(20&30 inch)