

PROPOR HC sterilizing grade filters have been specifically designed for the effective and economical processing of difficult to filter solutions.

The optimised PROPOR HC PES membrane configuration features a highly asymmetric membrane prefilter layer, which significantly extends throughput and prevents the problems associated with premature filter blockage with complex solutions.

PROPOR HC filters are high capacity and fast flowing. The PES membrane is inherently low binding, which minimizes product loss due to protein or preservative adsorption. The filters have low extractable levels and broad chemical compatibility.

Features and Benefits

- Optimized membrane configuration allows up to ten times the throughput compared to single layer membrane products
- Integral prefilter layer can condense filter trains for greater processing economy
- Incorporates a fully validated and integrity testable 0.2 micron membrane for assurance of sterility
- Low binding for minimal product loss

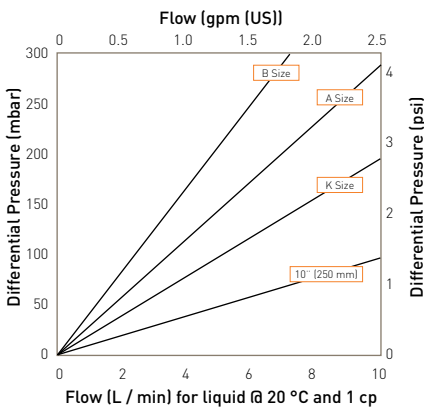
PROPOR HC Filter Cartridges

- liquid filters
- polyethersulphone

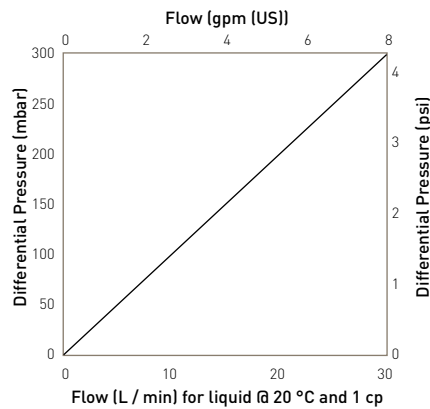


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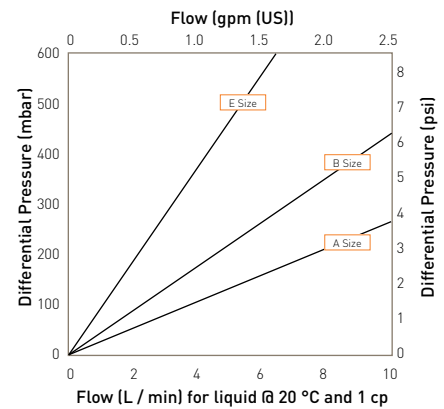
Performance Characteristics



Cartridge flow rates



MURUS flow rates (10" Size (250 mm))



DEMICAP flow rates

Specifications

Materials of Construction

- Filtration Membrane: Polyethersulphone
- Prefilter Membrane: Polyethersulphone
- Upstream Support: Polyester
- Downstream Support: Polyester

Filter Cartridges

- Inner Support Core: Polypropylene
- Outer Protection Cage: Polypropylene
- End Caps: Nylon
- End Caps Insert: 316L Stainless Steel

MURUS Disposable Filter Capsules

- Core: Polypropylene
- Sleeve: Polypropylene
- End Caps Insert: 316L Stainless Steel
- Standard o-rings/gaskets: Silicone
- Capsule Body: Polypropylene
- Capsules Vent Seals: Silicone

DEMICAP Filter Capsules

- Core: Polypropylene
- Sleeve: Polypropylene
- End Caps: Nylon
- Capsule Body: Nylon
- Capsules Vent Seals: Silicone
- Filling Bell: Polycarbonate

Syringe Filters

- Body: Polypropylene

Recommended Operating Conditions

Filter Cartridges

Up to 70 °C (158 °F) continuous operating temperature and higher short-term temperatures during CIP to the following limits:

| Temperature | | Max. Forward dP | |
|-------------|-----|-----------------|-------|
| °C | °F | (bar) | (psi) |
| 20 | 68 | 5.0 | 72.5 |
| 40 | 104 | 4.0 | 58.0 |
| 60 | 140 | 3.0 | 43.5 |
| 80 | 176 | 2.0 | 29.0 |
| 90 | 194 | 1.7 | 24.6 |

MURUS Disposable Filter Capsules

Up to 25 °C (77 °F) @ 5.5 barg (79.7 psig)

Up to 60 °C (140 °F) @ 2.8 barg (40.6 psig)

Parker Hannifin certify that this product complies with the European Council Pressure Equipment Directive (PED) 97/23/EC Article 3, Paragraph 3 - Sound Engineering Practice (SEP). This product is intended for use with Group 1 & 2 Dangerous and Harmless Liquids and Group 2 Harmless Gases at the operating conditions stated in this document : In compliance with PED Article 3, Paragraph 3, SEP, this product does not bear the CE mark.

DEMICAP Filter Capsules

Up to 40 °C (104 °F) at line pressures up to 5.0 barg (72 psig).

Effective Filtration Area (EFA)

| | | |
|-----------------|-----------------------|-------------------------|
| 10" (250 mm): | 0.55 m ² | (5.92 ft ²) |
| K Size: | 0.26 m ² | (2.79 ft ²) |
| A Size: | 0.20 m ² | (2.15 ft ²) |
| B Size: | 0.10 m ² | (1.07 ft ²) |
| E Size: | 0.05 m ² | (0.53 ft ²) |
| Syringe ø50 mm: | 14.50 cm ² | (2.25 in ²) |

Sterilization

| | Autoclave | | Steam-in-Place | |
|------------|-----------|-----------------|----------------|-----------------|
| | Cycles | Temp | Cycles | Temp |
| Cartridges | 10 | 130 °C (266 °F) | 30 | 130 °C (266 °F) |
| MURUS | 5 | 130 °C (266 °F) | - | - |
| DEMICAP | 10 | 130 °C (266 °F) | - | - |
| Syringe | 1 | 130 °C (266 °F) | - | - |

PROPOR HC filter cartridges can be sanitized with hot water at up to 90 °C (194 °F) and are compatible with a wide range of chemicals.

For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.

Food and Biological Safety

Materials conform to the relevant requirements of 21CFR Part 177 and current USP Plastics Class VI - 121 °C and ISO10993 equivalents.

Quality Standards

Pharmaceutical grade products are manufactured in accordance with cGMP, 100% flushed with pharmaceutical grade purified water and integrity tested prior to despatch. A sample of each lot is tested to demonstrate conformity to validated claims.

Gamma-Irradiation

PROPOR HC MURUS & DEMICAP disposable filters can be gamma-irradiated up to a maximum dosage of 40 kGy.

Performance Characteristics

TOC / Conductivity

The filtrate quality from a 10" (250 mm) PROPOR HC conforms to the requirements of current USP <643> (TOC) and USP <645> (conductivity) within the first 200 ml flush of purified water.

Endotoxins

Aqueous extracts from the 10" (250 mm) PROPOR HC contain < 0.25 EU / ml when tested in accordance with the Limulus Amoebocyte Lysate test.

Non-Volatile Extractables (NVE)

Total NVEs extracted in the first 5 litre flush of purified water for a 10" (250 mm) cartridge are <10 mg.

Total NVEs extracted in the first 5 litre flush of purified water for an A size 7.9" (200 mm) DEMICAP capsule are <5 mg.

Pharmaceutical Validation

A full validation guide is available upon request from Laboratory Services Group (LSG).

Oxidizable Substances

PROPOR HC filter cartridges meet current USP and EP quality standards for sterile purified water for oxidizable substances following a <1 litre water flush.

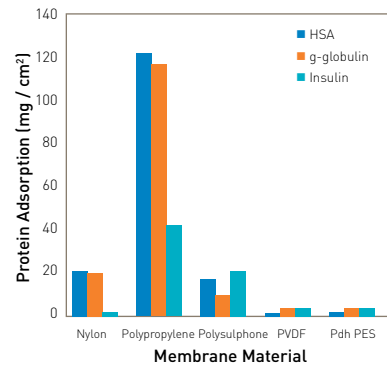
Integrity Test Data

All filters are integrity testable to the following limits when wet with water and using air as the test gas.

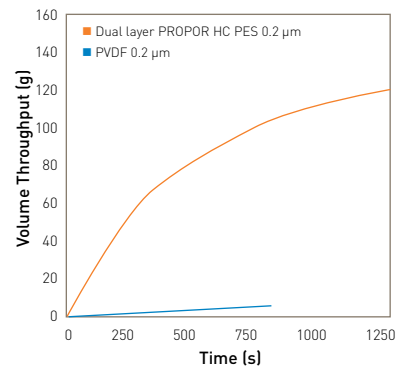
| Micron Rating | | 0.2 |
|--|--------|------|
| Filter Cartridges / MURUS / DEMICAP / Syringe Filters | | |
| Min. Bubble Point (barg) | | 3.4 |
| | (psig) | 49.0 |
| Filter Cartridges / MURUS / DEMICAP / Syringe Filters | | |
| Diffusional Flow (barg) | | 2.8 |
| Test Pressure (psig) | | 40.6 |
| Filter Cartridges / MURUS / DEMICAP / Syringe Filters | | |
| Max. Diffusional Flow (10") | | 18.0 |
| (ml / min) | (K) | 8.4 |
| | (A) | 6.7 |
| | (B) | 3.2 |
| | (E) | 1.4 |

Retention Characteristics

PROPOR HC filter cartridges are validated by bacterial challenge testing with *Brevundimonas diminuta* to current ASTM F838-05 methodology (10⁷ organisms / cm² EFA minimum) with typical in-house challenge levels being 10¹¹ organisms per 10" (250 mm) filter cartridge.



Protein binding on membrane materials



Total volume throughput (g) vs time (s) for an insulin intermediate solution

Ordering Information

Cartridges

ZCHC - -

| Code Length (Nominal) | Code Micron | Code Endcap (10") | Code Variant | Code O-rings |
|-------------------------|---------------|---------------------|------------------|----------------|
| B* 2.5" (65 mm) | 620 0.20 µm | C BF / 226 Bayonet | P Pharmaceutical | E EPDM |
| A* 5" (125 mm) | | D Fin / 222 | | S Silicone |
| K 5" (125 mm) | | E Flat Top / 222 | | V Viton |
| 1 10" (250 mm) | | G Recess / 222 | | |
| 2 20" (500 mm) | | R BF / 222 Bayonet | | |
| 3 30" (750 mm) | | | | |
| 4 40" (1000 mm) | | | | |

* Supplied in packs of 3.

| Code Endcap (Demi) |
|----------------------|
| T TRUESEAL |
| Y Demi Stub |
| Z Demi A & B Std |

MURUS Capsules

ZLHC - - - -

| Code Length (Nominal) | Code Micron | Code Inlet Connection | Code Outlet Connection | Code Variant | Code Grade | Code Design | Code O-rings |
|-------------------------|---------------|-------------------------|--------------------------|------------------|--|------------------------|----------------------------------|
| K 5" (125 mm) | 620 0.2 µm | A 3/4" Tri-Clamp | A 3/4" Tri-Clamp | P Pharmaceutical | N Non-sterile S Pre-sterilized γ (>25 kGy) | L In-Line T* T-Port | E EPDM S* Silicone V Viton |
| 1 10" (250 mm) | | B 1 1/2" Tri-Clamp | B 1 1/2" Tri-Clamp | | | | |
| 2 20" (500 mm) | | D 1" Hosebarb | D 1" Hosebarb | | | | |
| 3 30" (750 mm) | | T 1" Tri-Clamp | T 1" Tri-Clamp | | | | |

* Only available with a 1" Tri-Clamp.

* Silicone o-ring supplied as standard without having to specify the 'S' code.

DEMICALP Capsules

ZEHC - - - -

| Code Length (Nominal) | Code Micron | Code Inlet Connection | Code Outlet Connection | Code Variant | Code Grade | Code Pack N° | Code Accessory |
|-------------------------|-----------------|-------------------------|--------------------------|------------------|--|----------------|------------------|
| E 4.4" (113 mm) | 620 0.2 µm | T 1" Tri-Clamp | T 1" Tri-Clamp | P Pharmaceutical | N Non-sterile S Pre-sterilized γ (>25 kGy) | 3 Pack of 3 | FB Filling Bell |
| B 5.5" (140 mm) | | N 1/2" NPT Male | N 1/2" NPT Male | | | | |
| A 7.9" (200 mm) | | H 1/2" Hosebarb | H 1/2" Hosebarb | | | | |
| | | G Stepped Hosebarb | G Stepped Hosebarb | | | | |
| | M 1/4" NPT Male | M 1/4" NPT Male | | | | | |
| | Q Walther QC | Q Walther QC | | | | | |
| | R Grommel / QC | R Grommel / QC | | | | | |

G & H connections only

Syringe Filters

ZSHC - - -

| Code Diameter | Code Micron | Code Inlet Connection | Code Outlet Connection | Code Variant | Code Grade | Code Options | Code Pack N° |
|-----------------|---------------|--|--|------------------|---------------|----------------|----------------|
| 050 50 mm | 620 0.2 µm | F Female Luer Lock G Stepped Hosebarb | F Female Luer Lock G Stepped Hosebarb | P Pharmaceutical | N Non-sterile | S Standard | 025 25 per box |

The below Parker PROPOR-series cartridge filters are all the models that are potentially possible in all variations.
 Please note that not all models are actually produced or on stock and some model numbers and names have become obsolete.
 Nevertheless this should help as cross reference table chart for Cuno filters nomenclature.

PROPOR

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|
| ZCHCB-620C | ZCHCA-620C | ZCHCK-620C | ZCHC1-620C | ZCHC2-620C | ZCHC3-620C | ZCHC4-620C |
| ZCHCB-620D | ZCHCA-620D | ZCHCK-620D | ZCHC1-620D | ZCHC2-620D | ZCHC3-620D | ZCHC4-620D |
| ZCHCB-620E | ZCHCA-620E | ZCHCK-620E | ZCHC1-620E | ZCHC2-620E | ZCHC3-620E | ZCHC4-620E |
| ZCHCB-620G | ZCHCA-620G | ZCHCK-620G | ZCHC1-620G | ZCHC2-620G | ZCHC3-620G | ZCHC4-620G |
| ZCHCB-620R | ZCHCA-620R | ZCHCK-620R | ZCHC1-620R | ZCHC2-620R | ZCHC3-620R | ZCHC4-620R |
| ZCHCB-620T | ZCHCA-620T | ZCHCK-620T | ZCHC1-620T | ZCHC2-620T | ZCHC3-620T | ZCHC4-620T |
| ZCHCB-620Y | ZCHCA-620Y | ZCHCK-620Y | ZCHC1-620Y | ZCHC2-620Y | ZCHC3-620Y | ZCHC4-620Y |
| ZCHCB-620Z | ZCHCA-620Z | ZCHCK-620Z | ZCHC1-620Z | ZCHC2-620Z | ZCHC3-620Z | ZCHC4-620Z |

| | | | |
|------------|------------|------------|------------|
| ZLHCK-620A | ZLHC1-620A | ZLHC2-620A | ZLHC3-620A |
| ZLHCK-620B | ZLHC1-620B | ZLHC2-620B | ZLHC3-620B |
| ZLHCK-620D | ZLHC1-620D | ZLHC2-620D | ZLHC3-620D |
| ZLHCK-620T | ZLHC1-620T | ZLHC2-620T | ZLHC3-620T |

| | | | |
|------------|------------|------------|--------------|
| ZEHCE-620T | ZEHCB-620T | ZEHCA-620T | ZSHC050-620Q |
| ZEHCE-620N | ZEHCB-620N | ZEHCA-620N | ZSHC050-620R |
| ZEHCE-620H | ZEHCB-620H | ZEHCA-620H | |
| ZEHCE-620G | ZEHCB-620G | ZEHCA-620G | |
| ZEHCE-620M | ZEHCB-620M | ZEHCA-620M | |
| ZEHCE-620Q | ZEHCB-620Q | ZEHCA-620Q | |
| ZEHCE-620R | ZEHCB-620R | ZEHCA-620R | |