



# PROCLEAR GP Filter Cartridges

- liquid filters
- glass microfibre / polypropylene

PROCLEAR GP filters combine glass microfibre and polypropylene media to provide maximum protection to downstream filter membranes and equipment.

Dirt holding capacity is maximised through use of a graded density media making PROCLEAR GP cartridge filters an economical and reliable choice for prefiltration.

PROCLEAR GP filters have low extractable levels and are suitable for bioburden reduction and fine prefiltration of pharmaceutical fluids and are ideal for high contamination applications.

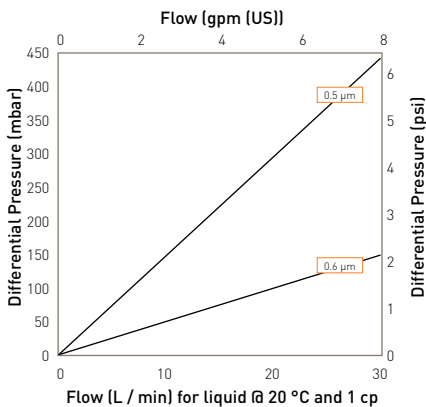
## Features and Benefits

- Dual layer media or increased capacity and assurance
- Maximises retention for protection of downstream membranes
- Ideal for difficult to filter solutions
- MURUS and DEMICAP's can be gamma-irradiated and autoclaved

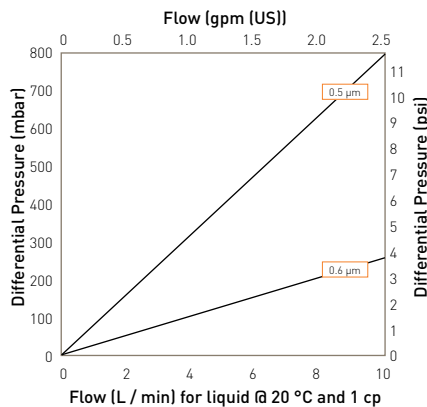


Note: PROCLEAR and DEMICAP are registered trademarks of Parker domnick hunter

## Performance Characteristics



For K size for a given flow rate multiply 10" size differential pressure by 2



For A size for a given flow rate divide B size differential pressure by 2  
For E size for a given flow rate multiply B size differential pressure by 2

10" size (250 mm) Cartridge

B size (125 mm) Cartridge and Capsule

## Specifications

### Materials of Construction

- Filtration Media: Glass Microfibre / Polypropylene
- Upstream Support: Polypropylene
- Downstream Support: Polypropylene

### Filter Cartridges

- Inner Support Core: Polypropylene
- Outer Protection Cage: Polypropylene
- End Caps: Polypropylene
- Standard o-rings/gaskets: Silicone

### 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
- Capsule Body: Polypropylene
- Capsules Vent Seals: Silicone

### 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]           | [psig] |
| 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 | 1.5             | 21.7   |

#### 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):   | 0.34 m <sup>2</sup>   | (3.7 ft <sup>2</sup> )  |
| K Size:         | 0.16 m <sup>2</sup>   | (1.7 ft <sup>2</sup> )  |
| A Size:         | 0.12 m <sup>2</sup>   | (1.3 ft <sup>2</sup> )  |
| B Size:         | 0.06 m <sup>2</sup>   | (0.6 ft <sup>2</sup> )  |
| E Size:         | 0.03 m <sup>2</sup>   | (0.3 ft <sup>2</sup> )  |
| Syringe ø50 mm: | 14.50 cm <sup>2</sup> | (2.25 in <sup>2</sup> ) |

### Sterilisation

|            | Autoclave |                 | Steam-in-Place |                   |
|------------|-----------|-----------------|----------------|-------------------|
|            | Cycles    | Temp            | Cycles         | Temp              |
|            |           |                 | (30 min.)      |                   |
| Cartridges | 10        | 130 °C (266 °F) | 10             | 121 °C (249.8 °F) |
| MURUS      | 5         | 130 °C (266 °F) | -              | -                 |
| DEMICAP    | 10        | 130 °C (266 °F) | -              | -                 |
| Syringe    | 1         | 130 °C (266 °F) | -              | -                 |

PROCLEAR GP filter cartridges can be sanitised 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 sterilisation, 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 purified water and integrity tested prior to despatch. A sample of each lot is tested to demonstrate conformity to validated claims.

### Gamma-Irradiation

PROCLEAR GP 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) PROCLEAR GP conforms to the requirements of current USP <643> (TOC) and USP <645> (conductivity) within the first 200 ml flush of purified water.

### Oxidisable Substances

PROCLEAR GP filter cartridges meet current USP and EP quality standards for sterile purified water for oxidisable substances following a <1 litre water flush.

### Endotoxins

Aqueous extracts from the 10" (250 mm) PROCLEAR GP 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).

## Ordering Information

### Cartridges

**PCGP**  -   -

| Code   Length (Nominal) | Code   Micron  | Code   Endcap (10")  | Code   Variant   | Code   O-rings <sup>1</sup> |
|-------------------------|--|--|------------------|-----------------------------|
| B 2.5" (65 mm)          | 95 0.5 µm  | B dh DOE   | P Pharmaceutical | E EPDM <sup>2</sup>         |
| A 5" (125 mm)           | 96 0.6 µm  | C BF / 226 Bayonet   |                  | S Silicone                  |
| K 5" (125 mm)           |  | G Recess / 222   |                  | V Viton                     |
| 1 10" (250 mm)          | <small>Ratings based on efficiencies of &gt; or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993</small> | R BF / 222 Bayonet   |                  |                             |
| 2 20" (500 mm)          |  | <b>Code   Endcap (Demi)</b><br>MD Retrofit<br>SK Retrofit<br>T TRUESEAL<br>Y Demi Stub<br>Z Demi A & B Std |                  |                             |
| 3 30" (750 mm)          |  |  |                  |                             |
| 4 40" (1000 mm)         |  |  |                  |                             |

<sup>1</sup> Silicone o-ring supplied as standard without having to specify the 'S' code  
<sup>2</sup> EPDM - Ethylene Propylene Diene Monomer Rubber

### MURUS Capsules

**PLGP**  -   -   -   -

| Code   Length (Nominal) | Code   Micron  | Code   Inlet Connection | Code   Outlet Connection | Code   Variant   | Code   Grade     | Code   Design | Code   O-rings <sup>1</sup> |
|-------------------------|--|-------------------------|--------------------------|------------------|------------------|---------------|-----------------------------|
| K 5" (125 mm)           | 95 0.5 µm  | A 3/4" Tri-Clamp        | A 3/4" Tri-Clamp         | P Pharmaceutical | N Non-sterile    | L In-Line     | E EPDM <sup>2</sup>         |
| 1 10" (250 mm)          | 96 0.6 µm  | B 1 1/2" Tri-Clamp      | B 1 1/2" Tri-Clamp       |                  | S Pre-sterilised | T T-Port      | S Silicone                  |
| 2 20" (500 mm)          | <small>Ratings based on efficiencies of &gt; or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993</small> | D 1" Hosebarb           | D 1" Hosebarb            |                  | γ (>25 kGy)      |               | V Viton                     |
| 3 30" (750 mm)          |  | T 1" Tri-Clamp          | T 1" Tri-Clamp           |                  |                  |               |                             |

<sup>1</sup> Silicone o-ring supplied as standard without having to specify the 'S' code  
<sup>2</sup> EPDM - Ethylene Propylene Diene Monomer Rubber

### DEMICAP Capsules

**PEGF**  -   -   -

| Code   Length (Nominal) | Code   Micron  | Code   Inlet Connection | Code   Outlet Connection | Code   Variant   | Code   Grade     | Code   Pack N° |
|-------------------------|--|-------------------------|--------------------------|------------------|------------------|----------------|
| E 4.4" (113 mm)         | 95 0.5 µm  | T 1" Tri-Clamp          | T 1" Tri-Clamp           | P Pharmaceutical | N Non-sterile    | 3 Pack of 3    |
| B 5.5" (140 mm)         | 96 0.6 µm  | N 1/2" NPT Male         | N 1/2" NPT Male          |                  | S Pre-sterilised |                |
| A 7.9" (200 mm)         | <small>Ratings based on efficiencies of &gt; or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993</small> | H 1/2" Hosebarb         | H 1/2" Hosebarb          |                  | γ (>25 kGy)      |                |
|                         |  | G Stepped Hosebarb      | G Stepped Hosebarb       |                  |                  |                |
|                         |  | M 1/4" NPT Male         | M 1/4" NPT Male          |                  |                  |                |
|                         |  | V 3/8" NPT Male         | V 3/8" NPT Male          |                  |                  |                |

### Syringe Filters

**ZSGP**  -   -

| Code   Diameter | Code   Micron | Code   Inlet / Outlet Connection | Code   Variant   | Code   Grade  | Code   Options | Code   Pack N° |
|-----------------|---------------|----------------------------------|------------------|---------------|----------------|----------------|
| 050 50 mm       | 95 0.5 µm     | F Female Luer Lock               | P Pharmaceutical | N Non-sterile | S Standard     | 025 25 per box |
|                 | 96 0.6 µm     | G Stepped Hosebarb               |                  |               |                |                |

Parker domnick hunter has a continuous policy of product development and although the Company reserves the right to change specifications, it attempts to keep customers informed of any alterations. This publication is for general information only and customers are requested to contact our Process Filtration Sales Department for detailed information and advice on a products suitability for specific applications. All products are sold subject to the company's Standard conditions of sale.