

## PROCLEAR GP Filters

- 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 maximized 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.

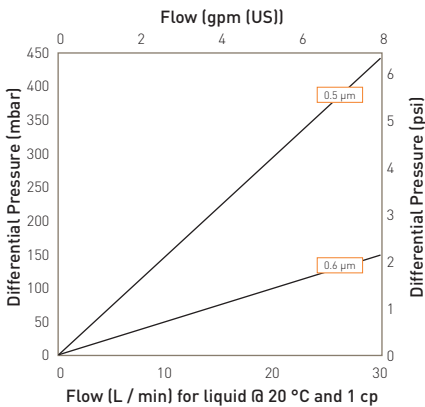
### Features and Benefits

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

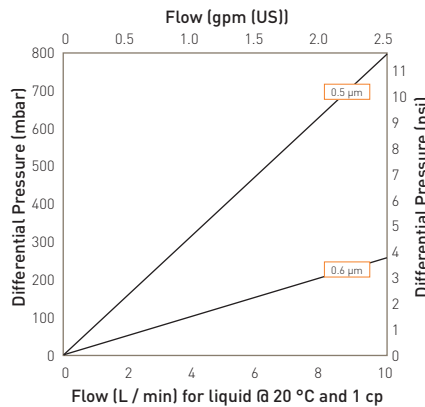


Note: PROCLEAR and DEMICAP are registered trademarks of Parker Hannifin Corporation.

### 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 (65 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
- End Caps Insert: 316L Stainless Steel

*\*Not available in B & L endcap variants*

#### 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)	(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	1.5	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 current European Council Pressure Equipment Directive (PED) - 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. The Pressure Equipment Directive mandates that category SEP product cannot 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> )

### Sterilization

	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 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.

### 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.

### 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.

### Oxidizable Substances

PROCLEAR GP filter cartridges meet current USP and EP quality standards for sterile purified water for oxidizable 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

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Code	Length (Nominal)	Code	Micron	Code	Endcap (10")	Code	Variant	Code	O-rings
B*	2.5" (65 mm)	95	0.5 µm	B*	dh DOE	P	Pharmaceutical	E	EPDM
A*	5" (125 mm)	96	0.6 µm	C	BF / 226 Bayonet			P	PTFE Encapsulated Silicone
K	5" (125 mm)			D	Fin / 222			S	Silicone
1	10" (250 mm)			E	Flat Top / 222			V	Viton
2	20" (500 mm)			G	Recess / 222				
3	30" (750 mm)			H	UF Retrofit				
4	40" (1000 mm)			J	SOE (no o-ring)				
				L*	dh DOE				
				N	Internal 213				
				R	BF / 222 Bayonet				

### MURUS Capsules

PLGP				-				-								
Code   Length [Nominal]			Code   Micron		Code   Inlet Connection		Code   Outlet Connection		Code   Variant		Code   Grade		Code   Design		Code   O-rings	
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
1	10"	(250 mm)	96	0.6 μm	B	1 1/2" Tri-Clamp	B	1 1/2" Tri-Clamp			S	Pre-sterilized γ (>25 kGy)	T*	T-Port	P	PTFE
2	20"	(500 mm)			D	1" Hosebarb	D	1" Hosebarb					M**	Streamline Valves		Encapsulated Silicone
3	30"	(750 mm)			T	1" Tri-Clamp	T	1" Tri-Clamp							S	Silicone
					H	1/2" Hosebarb	H	1/2" Hosebarb							V	Viton
			Ratings based on efficiencies of > or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993													
					*Only available with a 1" Tri-Clamp ** Not available with a 1" or 1.5" Tri-Clamp fittings											

### DEMICAP Capsules

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

### Syringe Filters

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