



PROCLEAR PP Filter Cartridges

- liquid filters
- polypropylene

PROCLEAR PP filters are designed for a wide range of prefiltration duties within the production of pharmaceuticals and are particularly suited to applications where chemical compatibility is an issue.

The optimum pleat configuration and graded density polypropylene media used in PROCLEAR PP filters ensure the filters have the highest possible throughput to blockage resulting in long service life.

The PROCLEAR PP range of filters are fully supported by a comprehensive validation guide to simplify its specification into new and existing processes.

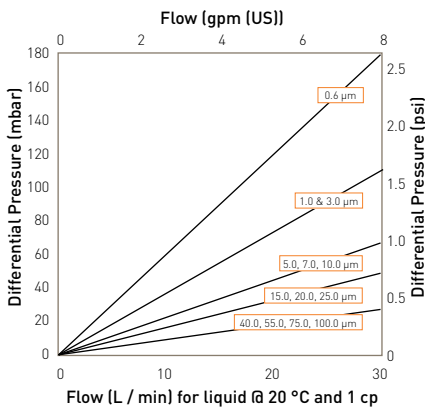
Features and Benefits

- Graded density polypropylene media for high capacity
- Extremely robust to withstand aggressive conditions
- All polypropylene construction
- MURUS and DEMICAP's can be gamma-irradiated and autoclaved

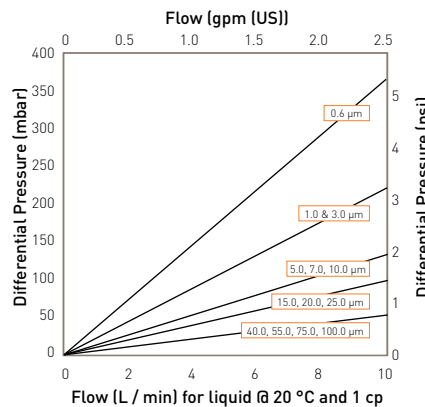


Note: PROCLEAR and DEMICAP are registered trademarks of Parker domnick hunter

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 (65 mm) Cartridge and Capsule

Specifications

Materials of Construction

- Filtration Membrane: 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
- 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
- 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 °C	Temperature °F	Max. Forward dP (bar)	Max. Forward dP (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):	0.57 m ²	(6.1 ft ²)
K Size:	0.28 m ²	(3.0 ft ²)
A Size:	0.20 m ²	(2.2 ft ²)
B Size:	0.10 m ²	(1.1 ft ²)
E Size:	0.05 m ²	(0.6 ft ²)
Syringe ø50 mm:	14.50 cm ²	(2.25 in ²)

Sterilisation

	Autoclave		Steam-in-Place	
	Cycles	Temp	Cycles	Temp
			(30 min.)	
Cartridges	10	130 °C (266 °F)	30	135 °C (275 °F)
MURUS	5	130 °C (266 °F)	-	-
DEMICAP	10	130 °C (266 °F)	-	-
Syringe	1	130 °C (266 °F)	-	-

PROCLEAR PP 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 PP 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 PP 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 PP 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 PP 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

PCPP - -

Code Length (Nominal)	Code Micron	Code Endcap (10")	Code Variant	Code O-rings ¹
B 2.5" (65 mm)	96 0.6 µm	B dh DOE	P Pharmaceutical	E EPDM ²
A 5" (125 mm)	01 1.0 µm	C BF / 226 Bayonet		S Silicone
K 5" (125 mm)	03 3.0 µm	G Recess / 222		V Viton
1 10" (250 mm)	05 5.0 µm	R BF / 222 Bayonet		
2 20" (500 mm)	07 7.0 µm			
3 30" (750 mm)	10 10.0 µm			
4 40" (1000 mm)	15 15.0 µm			
	20 20.0 µm			
	25 25.0 µm			
	40 40.0 µm			
	55 55.0 µm			
	75 75.0 µm			
	100* 100.0 µm			

Code | Endcap (Demi)

MD	Retrofit
SK	Retrofit
T	TRUESEAL
Y	Demi Stub
Z	Demi A & B Std

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

Ratings based on efficiencies of > or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993

*Not available with A & B Size formats

MURUS Capsules

PLPP - - - -

Code Length (Nominal)	Code Micron	Code Inlet Connection	Code Outlet Connection	Code Variant	Code Grade	Code Design	Code O-rings ¹
K 5" (125 mm)	96 0.6 µm	A 3/4" Tri-Clamp	A 3/4" Tri-Clamp	P Pharmaceutical	N Non-sterile	L In-Line	E EPDM ²
1 10" (250 mm)	01 1.0 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)	03 3.0 µm	D 1" Hosebarb	D 1" Hosebarb		γ (>25 kGy)		V Viton
3 30" (750 mm)	05 5.0 µm	T 1" Tri-Clamp	T 1" Tri-Clamp				
	07 7.0 µm						
	10 10.0 µm						
	15 15.0 µm						
	20 20.0 µm						
	25 25.0 µm						
	40 40.0 µm						
	55 55.0 µm						
	75 75.0 µm						
	100 100.0 µm						

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

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

DEMICAP Capsules

PEPP - - -

Code Length (Nominal)	Code Micron	Code Inlet Connection	Code Outlet Connection	Code Variant	Code Grade	Code Pack N°
E 4.4" (113 mm)	96 0.6 µm	T 1" Tri-Clamp	T 1" Tri-Clamp	P Pharmaceutical	N Non-sterile	3 Pack of 3
B 5.5" (140 mm)	01 1.0 µm	N 1/2" NPT Male	N 1/2" NPT Male		S Pre-sterilised	
A 7.9" (200 mm)	03 3.0 µm	H 1/2" Hosebarb	H 1/2" Hosebarb		γ (>25 kGy)	
	05 5.0 µm	G Stepped Hosebarb	G Stepped Hosebarb			
	07 7.0 µm	M 1/4" NPT Male	M 1/4" NPT Male			
	10 10.0 µm	Q Walther QC	Q Walther QC			
	15 15.0 µm	R Grommel / QC	R Grommel / QC			
	20 20.0 µm	V 3/8" NPT Female	V 3/8" NPT Female			
	25 25.0 µm					
	40 40.0 µm					
	55 55.0 µm					
	75 75.0 µm					

Ratings based on efficiencies of > or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993

Syringe Filters

ZSP - -

Code Diameter	Code Micron	Code Inlet / Outlet Connection	Code Variant	Code Grade	Code Options	Code Pack N°
050 50 mm	96 0.6 µm	F Female Luer Lock	P Pharmaceutical	N Non-sterile	S Standard	025 25 per box
	01 1.0 µm	G Stepped Hosebarb				
	03 3.0 µm					
	05 5.0 µm					
	07 7.0 µm					
	10 10.0 µm					
	15 15.0 µm					
	20 20.0 µm					
	25 25.0 µm					
	40 40.0 µm					
	55 55.0 µm					
	75 75.0 µm					
	100 100.0 µm					

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