

PROCLEAR PP Filters

- 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.

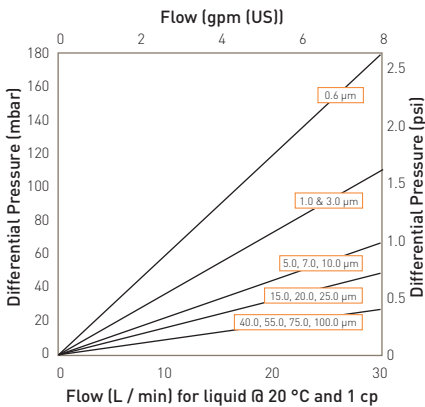
Features and Benefits

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

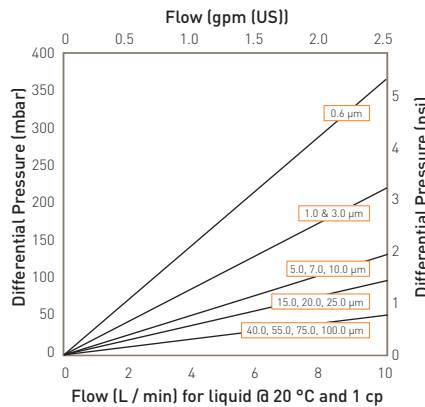


Note: PROCLEAR and DEMICAP are registered trademarks of Parker Hannifin Corporation.

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: 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
- 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	1.5	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) up to 0.79m² (8.5 ft²)

Sterilization

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

	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)	-	-

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 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.

Oxidizable Substances

PROCLEAR PP 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 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).

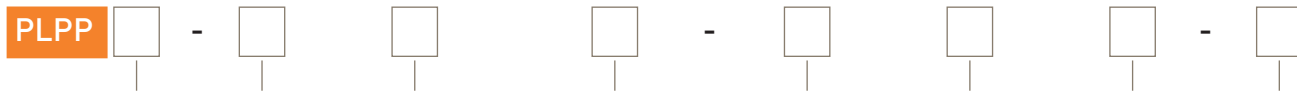
Ordering Information

Cartridges



Code	Length (Nominal)	Code	Micron	Code	Endcap (10")	Code	Variant	Code	O-rings
B*	2.5" (65 mm)	96	0.6 µm	B*	dh DOE	P	Pharmaceutical	E	EPDM
A*	5" (125 mm)	01	1.0 µm	C	BF / 226 Bayonet			P	PTFE Encapsulated Silicone
K	5" (125 mm)	03	3.0 µm	D	Fin / 222			S	Silicone
1	10" (250 mm)	05	5.0 µm	E	Flat Top / 222			V	Viton
2	20" (500 mm)	07	7.0 µm	G	Recess / 222				
3	30" (750 mm)	10	10.0 µm	H	UF Retrofit				
4	40" (1000 mm)	15	15.0 µm	J	SOE (no o-ring)				
		20	20.0 µm	L*	dh DOE				
		25	25.0 µm	N	Internal 213				
		40	40.0 µm	R	BF / 222 Bayonet				
		55	55.0 µm						
		75	75.0 µm						
		100*	100.0 µm						
* Supplied in packs of 3.									
Ratings based on efficiencies of > or = 99.98% using internal test procedure SOP018 based on ASTM F795-88 1993									
*Not available with A and B Size formats									
* EPDM gaskets supplied as standard									
				Code	Endcap (Demi)				
				T	TRUESEAL				
				Y	Demi Stub				
				Z	Demi A & B Std				

MURUS Capsules



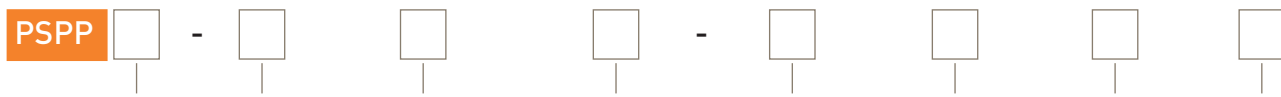
Code	Length (Nominal)	Code	Micron	Code	Inlet Connection	Code	Outlet Connection	Code	Variant	Code	Grade	Code	Design	Code	O-rings
K	5" (125 mm)	96	0.6 µm	A	3/4" Tri-Clamp	A	3/4" Tri-Clamp	P	Pharmaceutical	N	Non-sterile	L	In-Line	E	EPDM
1	10" (250 mm)	01	1.0 µm	B	1 1/2" Tri-Clamp	B	1 1/2" Tri-Clamp	S		S	Pre-sterilized γ (>25 kGy)	T*	T-Port	P	PTFE
2	20" (500 mm)	03	3.0 µm	D	1" Hosebarb	D	1" Hosebarb					M**	Streamline Valves		Encapsulated Silicone
3	30" (750 mm)	05	5.0 µm	T	1" Tri-Clamp	T	1" Tri-Clamp							S	Silicone
		07	7.0 µm	H	1/2" Hosebarb	H	1/2" Hosebarb							V	Viton
		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												
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



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)	96	0.6 µm	T	1" Tri-Clamp	T	1" Tri-Clamp	P	Pharmaceutical	N	Non-sterile	3	Pack of 3	FB	Filling Bell
B	5.5" (140 mm)	01	1.0 µm	N	1/2" NPT Male	N	1/2" NPT Male			S	Pre-sterilized γ (>25 kGy)				
A	7.9" (200 mm)	03	3.0 µm	H	1/2" Hosebarb	H	1/2" Hosebarb								
		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															
E & B-Size G & H connections only															

Syringe Filters



Code	Diameter	Code	Micron	Code	Inlet Connection	Code	Outlet Connection	Code	Variant	Code	Grade	Code	Options	Code	Pack N°
050	50 mm	96	0.6 µm	F	Female Luer Lock	F	Female Luer Lock	P	Pharmaceutical	N	Non-sterile	S	Standard	025	25 per box
		01	1.0 µm	G	Stepped Hosebarb	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												

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