



PROCLEAR PP+ Filters

- liquid filters
- polypropylene

PROCLEAR PP+ filters are designed to provide excellent retention and dirt holding capacity in pharmaceutical prefiltration applications.

Polypropylene filtration media utilizing optimized depth construction provides excellent retention and dirt holding characteristics, whilst ensuring broad-spectrum chemical compatibility.

Meltblown polypropylene depth filter media offers low extractable levels in comparison to glass fibre or cellulosic materials while maintaining similar retention performance.

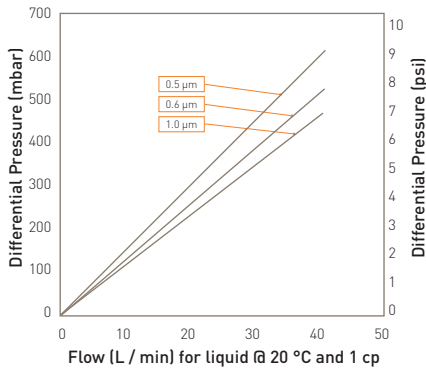
Features and Benefits

- Optimized depth construction for high retention and high capacity in biological feed solutions
- All polypropylene construction
- MURUS products can be gamma-irradiation and autoclave



Note: PROCLEAR is a registered trademark of Parker Hannifin Corporation.

Performance Characteristics



Clean Water Flow Characteristics for 10 inch PROCLEAR PP+ Cartridges

10" size (250 mm) Cartridge and MURUS

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

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.

Effective Filtration Area (EFA)

10" (250 mm): 0.5 m² (5.4 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)	-	-

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 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 1000 ml flush of purified water.

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 <15 mg.

Pharmaceutical Validation

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

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.

Ordering Information

Cartridges

PCPL [] - [] [] - P []

Code	Length (Nominal)	Code	Micron	Code	Endcap (10")	Code	Variant	Code	O-rings
1	10" (250 mm)	95	0.5 µm	C	Fin / 226 Bayonet	P	Pharmaceutical	E	EPDM
2	20" (500 mm)	96	0.6 µm	D	Fin / 222			S	Silicone
3	30" (750 mm)	01	1.0 µm	E	Flat Top / 222			V	Viton™
4	40" (1000 mm)			G	Recess / 222				
				R	Fin / 222 Bayonet				

Large Scale MURUS Capsules

PLPL [] - [] [] [] - [] [] [] - []

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	T	1" Tri-Clamp	T	1" Tri-Clamp	P	Pharmaceutical	N	Non-sterile	L	In-Line	E	EPDM
1	10" (250 mm)	96	0.6 µm	A	3/4" Tri-Clamp	A	3/4" Tri-Clamp			S	Pre-sterilized γ (>25 kGy)	T*	T-Port	S	Silicone
2	20" (500 mm)	01	1.0 µm	B	1 1/2" Tri-Clamp	B	1 1/2" Tri-Clamp					M**	Streamline Valves	V	Viton™
3	30" (750 mm)			D	1" Hosebarb	D	1" Hosebarb								
				H	1/2" Hosebarb	H	1/2" Hosebarb								

* Only available with a 1" Tri-Clamp
** Not available with a 1" or 1.5" Tri-Clamp fittings