Process Filtration
From Pure to Sterile

(P)-PF-PT

MAIN FEATURES & BENEFITS:

- Excellent material resistance towards all aggressive media
- Inherently hydrophobic PTFE membrane
- Absolute rating at 0,2 µm (HIMA/ASTM)
- High flow rates
- Biologically inert
- Approved for Food Contact Use acc. to CFR Title 21 & 1935/2004/EC

INDUSTRIES:

- Dairy

- Food & Beverage

- Fermentation

- Chemical

- Pharmaceutical

PRODUCT DESCRIPTION

The (P)-PF-PT filter element is an absolute rated, pleated high performance PTFE membrane filter. It provides the greatest assurance of filtration performance, stability and durability against chemicals even under severe process conditions.

The PTFE filter medium is inherently hydrophobic with a highly porous membrane structure. This ensures high flow rates and a high absorption of particles during the entire service life time. The end caps and the PTFE membrane are thermally welded without the use of binders. This results in an integral filter cartridge which provides maximum durability range against chemicals with minimal extractables.

This extremely durable design maintains consistent porosity and impurity retention throughout its service life without shedding or unloading contaminations.

All components meet the EU and USA requirements for Food Contact Use in accordance with **CFR (Code of Federal Regulations) Title 21** and **1935/2004/EC**. (P)-PF-PT has passed the USP Class VI tests for plastics. The filter element is manufactured in accordance with the manufacturing requirements, has no migration of filter media, is non-fibre releasing and is thermally welded without the use of binders or other chemical additives.

The absolute rated (P)-PF-PT membrane filter is designed and developed for the following applications:

Purification of chemicals

- Highly concentrated Acids
- Highly concentrated Bases
- Oxidizing reagents
- Complexing agents
- Alcohols, Aldehydes
- Etchants
- Chlorinated and fluorinated solvents
- Esters and Ketones
- Photolithographic Liquids

Filtration of air and gases

- Compressed Air
- Fermentation Air
- Tank Ventilation
- Technical Gases

PRODUCT SPECIFICATIONS

Product Specifications	
Absolute Retention Rate	• 0,2 µm
Filtration Surface	• 0,6 m^2 per 250 mm element (10”)
Maximum Differential Pressure	Operating temperature [°C / °F]: 38 / 100; 66 / 150; 82 / 180 — Differential pressure [bar / psi]: 5,5 / 80; 4,1 / 60; 2,1 / 30
Cumulative Steaming Time*	• 121°C (250° F), Saturated Steam: > 100 cycles (30 minutes)

**Figures are based on lab tests to evaluate steaming resistance. Filter elements need to be checked in actual use. Contact Donaldson for recommended Autoclaving/Steaming procedures.*

For the filtration of aqueous solutions the (P)-PF-PT membrane filter has to be pre-wetted with a suitable liquid of low surface tension (e.g. IPA).

MATERIAL COMPLIANCE EU

The Donaldson (P)-PF-PT filter element meets the guideline for Food Contact Use as given in **European Regulation (EC) Number 1935/2004**. All polymeric components (Polypropylene, PTFE) meet the requirements of EU Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with foodstuffs (excluding O-rings).

Migration tests have been carried out in simulant after flushing or in flow conditions.

For specific details on the O-rings, please contact your Donaldson Sales Engineer.

MATERIAL COMPLIANCE USA

All components of the (P)-PF-PT filter element are FDA listed for food contact use in the **Code of Federal Regulations (CFR), Title 21**

Filter Materials		CFR Title
Membrane:	PTFE	177.1550
Upstream Support:	Polypropylene	177.1520
Downstream Support:	Polypropylene	177.1520
Outer Guard:	Polypropylene	177.1520
Core:	Polypropylene	177.1520
End Caps:	Polypropylene	177.1520
O-Rings:	EPDM	177.2600
Alternatively:	Silicone	177.2600
	Buna N	177.2600
	PTFE over silicone	177.1550
	PTFE over viton	177.1550
Sealing Method:	Thermal Bonding	

All products have been inspected and released by Quality Assurance as having met the following requirements:

- All filters are fabricated without the use of binders, adhesives, additives or surface-active agents.
- All filter components based on plastics are non-toxic and are certified bio-safe in accordance with current USP Class VI Tests for Plastic.
- All sterile filters are integrity tested to verify compliance with established quality and design specifications and to assure consistent and reliable performance.
- Bacterial endotoxin levels in aqueous extracts of (P)-PF-PT filter cartridges are less than 0,5 EU/ml, as determined using the limulus amebocyte lysate (LAL) test.

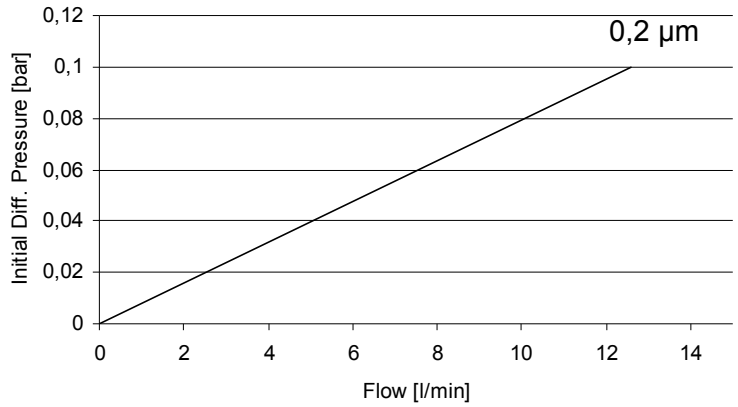
RETENTION (HIMA CHALLENGE PER ASTM)

Filter Grade	Microorganism	LRV / cm²
(P)-PF-PT, 0,2 µm	*Serratia marcescens*	> 7
	Pseudomonas diminuta	> 7

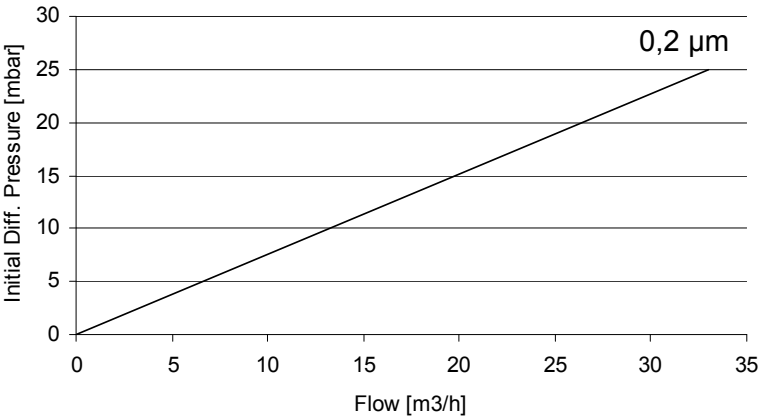
INTEGRITY TESTING

Water Intrusion Test	
Filter Grade	**Maximum Diffusion Values [ml / min]**
(P)-PF-PT, 0,2 µm	0,60 ml/min per 10" element after 10 min @ 2,48 bar (36 psi)

FLOW CHARACTERISTICS



(P)-PF-PT, 10",
Deionised water, 25°C

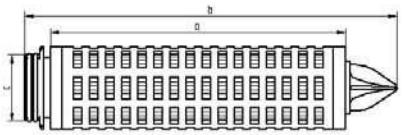


(P)-PF-PT, 10", air, 25°C,
1 bar absolute

AVAILABLE END CAP CONFIGURATIONS

Dimensions (CODE 7 connection) :

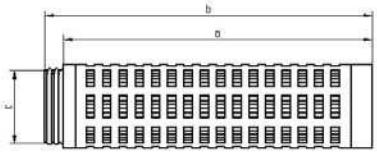
CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	Inch
10”	250	9,84	315	12,40	56,5	2,22
20”	500	19,68	565	22,24	56,5	2,22
30”	750	29,53	815	32,08	56,5	2,22



CODE 7: 2 x 226 o-rings, bayonet 2 locking tabs, locating fin

Dimensions (uf plug connection):

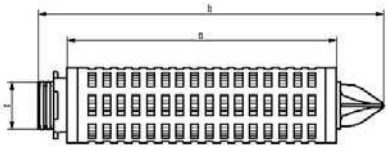
uf-plug connection						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10/30	254	10	270	10,63	61	2,40
20/30	510	20	526	20,63	61	2,40
30/30	764	30	780	30,63	61	2,40



uf: plug connection with integrated reinforcement metal ring and flat end cap.

Dimensions (P9 connection):

CODE 9						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10”	250	9,84	320	12,59	44	1,73
20”	500	19,68	570	22,44	44	1,73
30”	750	29,53	820	32,28	44	1,73



P9: 2 x 222 o-rings, bayonet 3 locking tabs, locating fin.

Other end cap configurations on request.

- **Integrity test of this element to be done by Water Intrusion Test.**
- **For information on test equipment or test services, please contact your Donaldson Sales Engineer**

(Rev03 – 07/10)