

PROCESS FILTRATION FROM PURE TO STERILE

LifeTec™ PT N



PRODUCT DESCRIPTION

The LifeTec™ PT N filter element is a sterile grade, 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. 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.

MAIN FEATURES & BENEFITS

- Excellent material resistance towards aggressive media
- Inherently hydrophobic PTFE membrane
- Sterile grade at 0.2 µm (HIMA/ASTM)
- High flow rates
- Biologically inert
- Approved for food contact use acc. to CFR Title 21 & 1935/2004/EC

All LifeTec™ liquid elements are flushed with deionised water during manufacture.

INDUSTRIES



- Food



- Dairies



- Pharmaceutical



- Chemical

LIQUID
AIR
STEAM

APPLICATIONS

The sterile grade LifeTec™ PT N 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
- Photo-lithographic Liquids

Filtration of air and gases:

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

QUALITY TEST

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

- All sterile filters are integrity tested to verify compliance with established quality and design specifications and to assure consistent and reliable performance.
- All LifeTec™ PT N filter elements are completely staged, assembled, tested and packaged in Class 7 clean room facility, whose Quality Management System is approved by an accredited registering body to the appropriate ISO 9001 Quality Systems Standard.

MATERIAL COMPLIANCE USA

All components of the LifeTec™ PT N filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21

Filter Materials		CFR Title 21
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
	Silicone	§ 177.2600
Sealing Method	Thermal Bonding	

MATERIAL COMPLIANCE EU

The Donaldson LifeTec™ PT N 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 EC/10/2011 relating to plastic materials and articles intended to come into contact with foodstuffs. 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. The PP materials used for Cage & Core are treated acc. to EMA/410/01 Rev.03 and thus bear no risk of transmitting TSE and BSE.

RETENTION RATES (according to HIMA challenge per ASTM)

Filter Grade	Microorganism	LRV / cm ²
LifeTec™ PT N 0.2 µm	Serratia Marcescens	> 7
	Pseudomonas diminuta	> 7

INTEGRITY TESTING

Bubble-Point-Test*			Diffusionstest / Forward Flow Test*		Water Intrusion Test	
Filter Grade	Minimum Bubble Point		Filter Grade	Maximum Diffusion Value	Filter Grade	Maximum Diffusion Value
	bar	psi				
LifeTec™ PT N 0.2µm	1.0	14	LifeTec™ PT N 0.2µm	20 ml/min @ 0.8 bar (12 psi)	LifeTec™ PT N 0.2µm	1.0 ml/min per 10" element after 5 min @ 2.0 bar (29 psi)

* The values are based on a mixture of 60% IPA / 40% water as wetting fluid at 25°C.



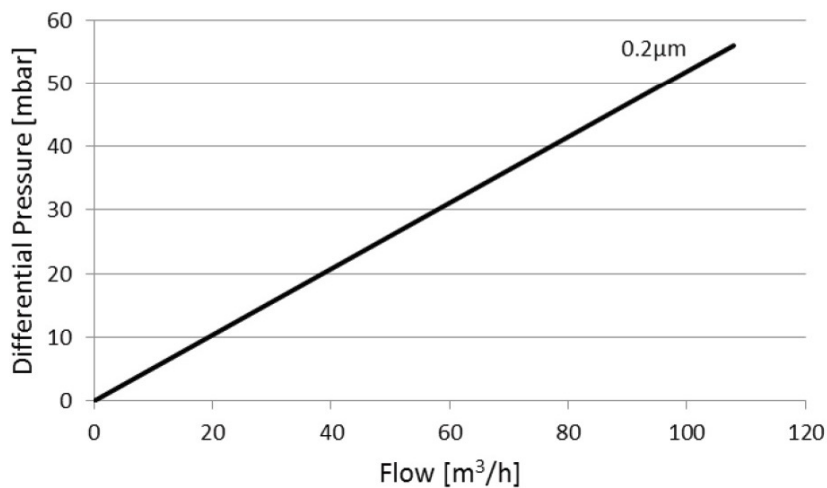
PRODUCT SPECIFICATIONS

Product Specifications				
Retention Rate	0.2 µm (Retention Rates LRV ≥ 7 cm ²)			
Filtration Surface	0.85 m ² per 250 mm element (10")			
Maximum Differential Pressure (Liquid in forward flow)	Operating temperature		Differential pressure	
	°C	°F	bar	psi
	38	100	5.5	80
	66	150	4.1	60
Cumulative Steaming Time* (independent of the flow direction)	121°C Saturated Steam for 30 minutes (Forward flow recommended) up to 150 cycles			
	134°C Saturated Steam for 20 minutes (Forward flow recommended) up to 150 cycles			
	141°C Saturated Steam for 10 minutes (Forward flow recommended) up to 150 cycles			
Maximum Differential Pressure (Steam / independent of the flow direction)	Operating temperature		Differential pressure	
	°C	°F	bar	psi
	121	249	1.5	22
	135	275	1	14.5
	141	285	0.5	7

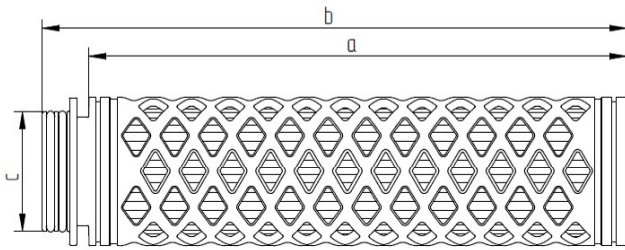
* Figures are based on lab tests to evaluate steaming resistance. Filter elements need to be checked in actual use. Contact Donaldson for recommended autoclaving/steaming procedures.

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

FLOW CHARACTERISTICS

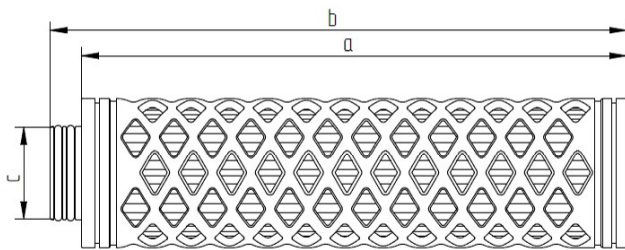


LifeTec™ PT N
10" air, 25°C, 1 bar absolute



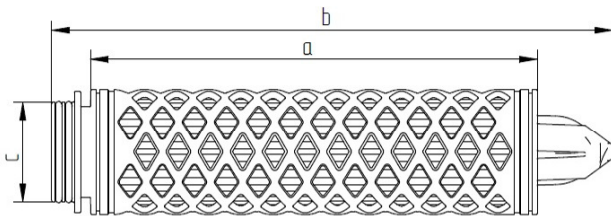
Dimensions (CODE 2 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	253	10.0	274	10.8	56	2.2
20"	495	19.5	516	20.3	56	2.2
30"	737	29.0	758	29.8	56	2.2
40"	979	38.5	1000	39.4	56	2.2

CODE 2: 2 x 226 o-rings, bayonet 2 locking tabs, flat end cap, integrated reinforcement ring



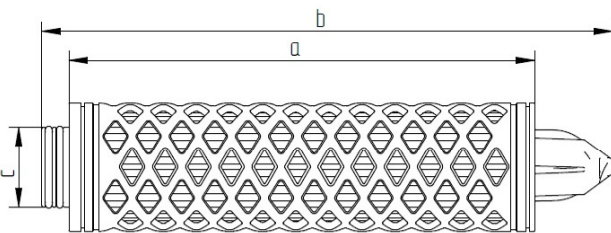
Dimensions (CODE 3 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	256	10.1	271	10.7	44	1.7
20"	498	19.6	513	20.2	44	1.7
30"	740	29.1	755	29.7	44	1.7
40"	982	38.7	997	39.3	44	1.7

CODE 3: 2 x 222 o-rings, plug connection, flat end cap, integrated reinforcement ring



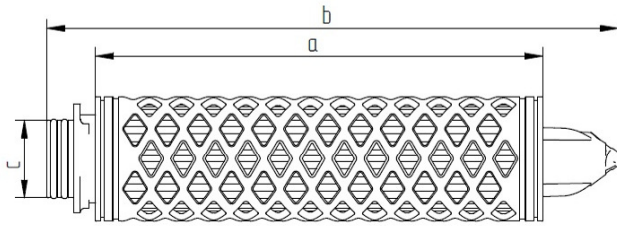
Dimensions (CODE 7 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	251	9.9	315	12.4	56	2.2
20"	493	19.4	557	21.9	56	2.2
30"	735	28.9	799	31.5	56	2.2
40"	977	38.5	1041	41.0	56	2.2

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



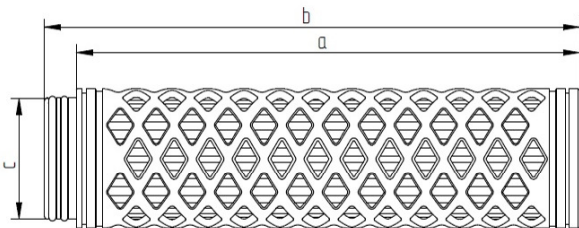
Dimensions (CODE 8 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	254	10.0	311	12.2	44	1.7
20"	496	19.5	553	21.8	44	1.7
30"	738	29.1	795	31.3	44	1.7
40"	980	38.6	1037	40.8	44	1.7

CODE 8: 2 x 222 o-rings, plug connection, locating fin, integrated reinforcement ring



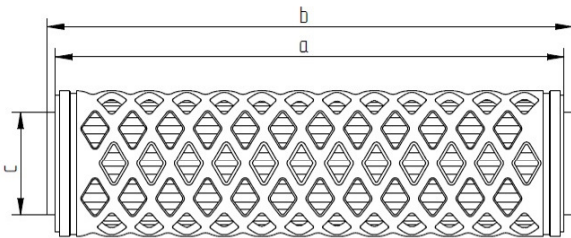
Dimensions (CODE 9 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	250	9.8	320	12.6	44	1.7
20"	492	19.4	562	22.1	44	1.7
30"	734	28.9	804	31.7	44	1.7
40"	976	38.4	1046	41.2	44	1.7

CODE 9: 2 x 222 o-rings, bayonet 3 locking tabs, locating fin, integrated reinforcement ring



Dimensions (UF connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	252	9.9	268	10.6	61	2.4
20"	494	19.4	510	20.1	61	2.4
30"	736	29.0	752	29.6	61	2.4

CODE UF: 2 x 226 o-rings, plug connection, flat end cap, integrated reinforcement ring



Dimensions (DOE connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	244	9.6	250	9.8	50	2.0
20"	500	19.7	506	19.9	50	2.0
30"	754	29.7	760	29.9	50	2.0
40"	1008	39.7	1014	39.9	50	2.0

DOE: Double open end with EPDM gaskets