



### 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

### 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.

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

### INDUSTRIES



- Food



- Dairies



- Pharmaceutical



- Chemical

**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 <sup>2</sup> |
|----------------------|----------------------|-----------------------|
| 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.

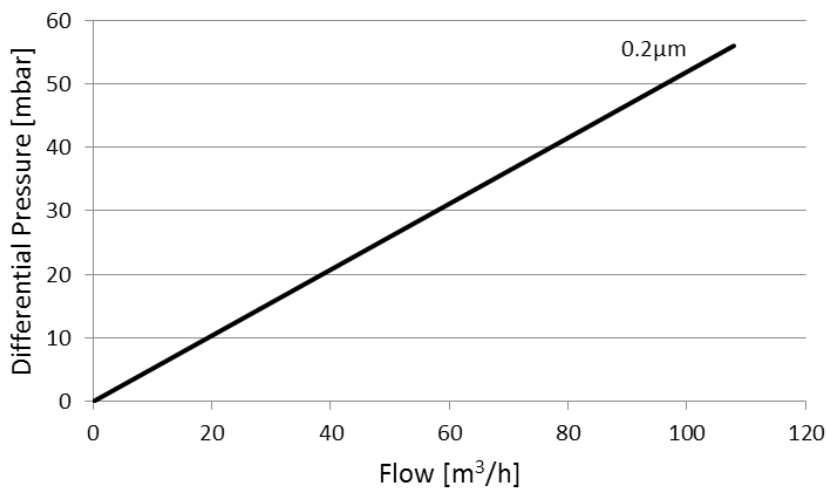
**PRODUCT SPECIFICATIONS**

| Product Specifications   |  |     |                       |      |
|--|--|-----|-----------------------|------|
| Retention Rate   | 0.2 µm (Retention Rates LRV ≥ 7 cm²)   |     |                       |      |
| Filtration Surface   | 0.85 m² per 250 mm element (10")   |     |                       |      |
| Maximum Differential Pressure<br>(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*<br>(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<br>(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    |

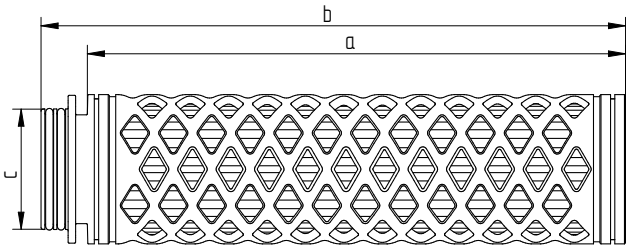
\* Figures are based on lab tests to evaluate steaming resistance. Filter elements need to be checked in actual use. Contact Donaldson for recommended autoclaving/steaming procedures.

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**

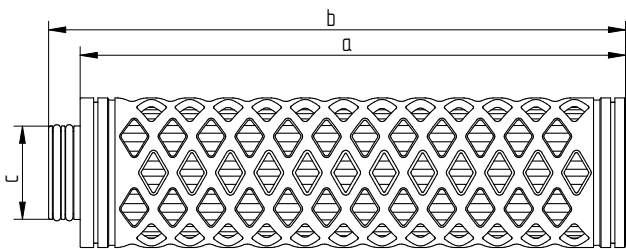


**LifeTec™ PT N**  
10", air, 25°C, 1 bar absolute



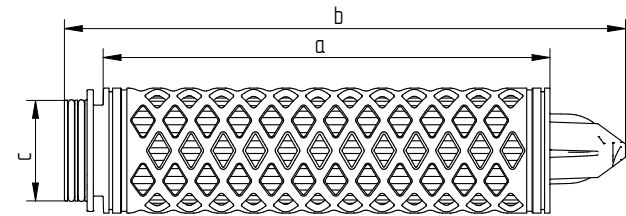
| Dimensions (CODE 2 connection) |     |      |      |      |    |      |
|--------------------------------|-----|------|------|------|----|------|
| Size                           | a   |      | b    |      | c  |      |
|                                | mm  | inch | mm   | inch | mm | inch |
| 10"                            | 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



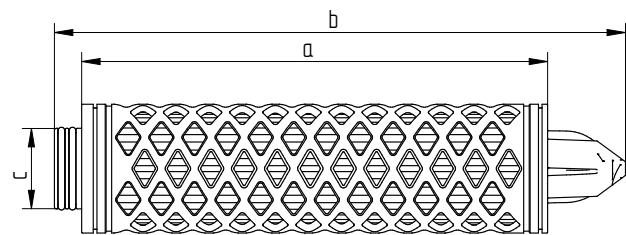
| Dimensions (CODE 3 connection) |     |      |     |      |    |      |
|--------------------------------|-----|------|-----|------|----|------|
| Size                           | a   |      | b   |      | c  |      |
|                                | mm  | inch | mm  | inch | mm | inch |
| 10"                            | 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



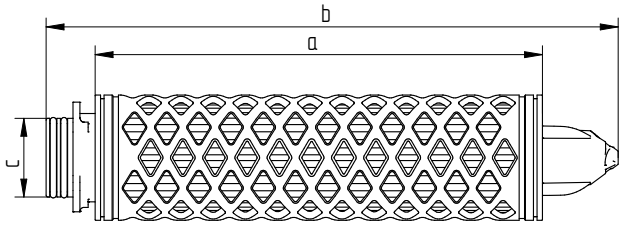
| Dimensions (CODE 7 connection) |     |      |      |      |    |      |
|--------------------------------|-----|------|------|------|----|------|
| Size                           | a   |      | b    |      | c  |      |
|                                | mm  | inch | mm   | inch | mm | inch |
| 10"                            | 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



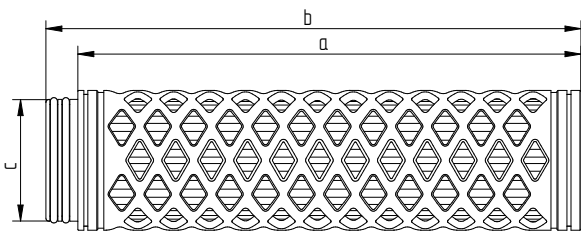
| Dimensions (CODE 8 connection) |     |      |      |      |    |      |
|--------------------------------|-----|------|------|------|----|------|
| Size                           | a   |      | b    |      | c  |      |
|                                | mm  | inch | mm   | inch | mm | inch |
| 10"                            | 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



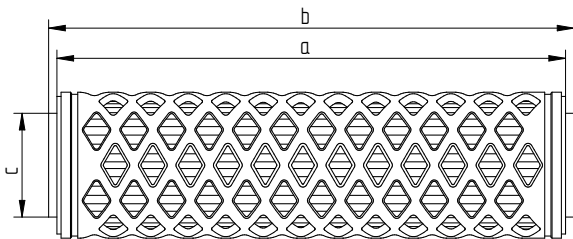
| Dimensions (CODE 9 connection) |     |      |      |      |    |      |
|--------------------------------|-----|------|------|------|----|------|
| Size                           | a   |      | b    |      | c  |      |
|                                | mm  | inch | mm   | inch | mm | inch |
| 10"                            | 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

**Other end cap configurations on request.**

- Integrity test to be done by Water Intrusion Test.
- For information on test equipment or test services, please contact your Donaldson Sales Engineer and visit our website at [www.donaldson.com](http://www.donaldson.com)!