Donaldson
FILTRATION SOLUTIONS

PROCESS FILTRATION FROM PURE TO STERILE

LifeTec™ PES-BN 0.8

MAIN FEATURES & BENEFITS

- Effective removal of Saccharomyces cerevisiae and Brettanomyces bruxellensis at 0.8 µm
- Developed for effective filtration of highly colloidal beverages
- Increases stability in beverages
- Excellent throughput and flow rates
- Highly asymmetrical membrane design prolongs life of final filters

PRODUCT DESCRIPTION

The LifeTec™ PES-BN 0.8 filter element is a pleated high performance Polyethersulfone membrane filter. It provides the greatest assurance of filtration performance, stability and service life for sterile filtration and microbial stabilization of highly colloidal liquids.

The outstanding performance of the LifeTec™ PES-BN 0.8 filter element is based on its state-of-the-art filtration media. The Polyethersulfone membrane is inherently hydrophilic and distinguishes itself by having an asymmetrically designed pore structure. The pore size steadily decreases towards the centre of the medium resulting in a highly porous structure. This extremely durable design maintains consistent porosity and impurity retention throughout its service life without shedding or unloading contaminants.

All components meet the EU and USA requirements for food contact use in accordance with Code of Federal Regulations (CFR) Title 21 and Regulation (EC) No 1935/2004 and subsequent amendments.

The filter element has no migration of filter media and is thermally welded. During manufacturing the filter element is flushed with deionised water.

INDUSTRIES

- Breweries

- Wineries

- Ready-to-Drink Cocktails

- Cideries

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APPLICATIONS

The LifeTec™ PES-BN 0.8 membrane filter is designed and developed for the filtration of highly colloidal liquids:

Pre-filtration of:

- Beer
- Malt-based beverages
- Cider
- Wine
- Wine-based beverages
- Spirit-based beverages

Final filtration of:

- Beer
- Malt-based beverages
- Cider
- Spirits & spirit-based beverages

QUALITY TEST

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

- All 10" sterile filter modules are integrity tested to verify compliance with established quality and design specifications and to assure consistent and reliable performance.
- The traceability of each filter element according to Regulation (EC) No 1935/2004 is provided by serial number.
- All LifeTec™ PES-BN 0.8 filter elements are completely staged, assembled, integrity tested and packaged in an ISO 14644-1 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™ PES-BN 0.8 filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21:

Filter Materials		CFR Title 21
Membrane	Polyethersulfone	§ 177.2440
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™ PES-BN 0.8 filter element meets the guideline for food contact use as given in European Regulation (EC) No 1935/2004. All polymeric components (Polypropylene, Polyethersulfone) meet the requirements of Commission Regulation (EU) No 10/2011 relating to plastic materials and articles intended to come into contact with foodstuffs. Migration tests have been carried out in simulants (B, D1) after flushing or in flow conditions.

Regulation (EC) No. 1935/2004 Regulation (EU) No. 10/2011	
FDA Code of Federal Regulations Title 21	FDA
USP Class VI, <88>	USP
ISO 9001:2015	ISO 9001:2015
Regulation (EC) No. 1907/2006 (REACH)	REACH
Directive 2011/65/EU (RoHS)	RoHS

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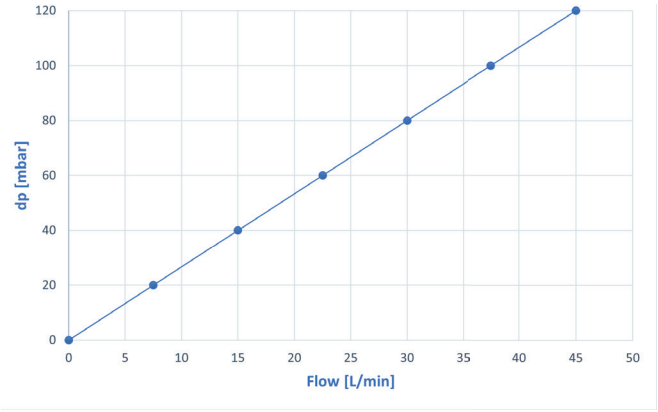
PRODUCT SPECIFICATIONS

Product Specifications				
Filter Grade	0.8 µm			
Filtration Surface	0.72 m² per 250 mm element (10")			
Maximum Differential Pressure	Operating temperature		Differential pressure	
	°C	°F	bar	psi
	38	100	> 10	> 145
	66	150	> 7.5	> 108
	82	180	> 5	> 72
Cumulative Steaming Time*	121 °C - 125 °C (250 °F - 257 °F) (30 minutes) saturated steam (forward flow) more than 100 cycles			

* 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.

FLOW CHARACTERISTICS



LifeTec™ PES-BN 0.8
10", Deionized water, 20 °C

RETENTION RATES (According to HIMA Challenge per ASTM)

Filter Grade	Microorganism	LRV / cm²
0.8 µm	Saccharomyces cerevisiae	> 7
0.8 µm	Brettanomyces bruxellensis	> 7

INTEGRITY TESTING

Bubble Point Test			Diffusive Test / Forward Flow Test	
Filter Grade	**Minimum Bubble Point**		**Filter Grade**	**Maximum Diffusion Values**
	bar	psi		
0.8 µm	1.25	18.1	0.8 µm	30 ml/min per 10" filter @ 1.0 bar (14.5 psi)

Connection	Description	
CODE 2 connection	2 x 226 o-rings, bayonet 2 locking tabs, flat end cap, integrated reinforcement ring	
CODE 3 connection	2 x 222 o-rings, plug connection, flat end cap, integrated reinforcement ring	
CODE 7 connection	2 x 226 o-rings, bayonet 2 locking tabs, locating fin, integrated reinforcement ring	
CODE 8 connection	2 x 222 o-rings, plug connection, locating fin, integrated reinforcement ring	
CODE 9 connection	2 x 222 o-rings, bayonet 3 locking tabs, locating fin, integrated reinforcement ring	
UF connection	2 x 226 o-rings, plug connection, flat end cap, integrated reinforcement ring	
DOE connection	Double open end with EPDM gaskets	

Other end cap configurations on request

- Integrity test was done with Diffusive Test/Forward Flow Test
- For information on test equipment or test services, please contact your Donaldson Sales Engineer and visit our website at **www.donaldson.com**

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Contact us