



PES-WN

ABSOLUTE MEMBRANE FILTER ELEMENTS

fits Donaldson P-FG, PF-EG, PG-IL & P-PT housings

Process Filtration

The Donaldson LifeTec™ PES-WN filter element is a sterile grade, pleated high performance polyethersulfone membrane filter. The LifeTec™ PES-WN filter element provides sterile filtration and microbial stabilization of food ingredients and beverages.

The outstanding performance of the PES-WN filter element is based on its state-of-the-art filtration media. The hydrophilic polyethersulfone membrane distinguishes itself by having an asymmetrically designed pore structure. The pore size steadily decreases towards the center 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 CFR (Code of Federal Regulations) Title 21 and EC/1935/2004 and subsequent amendments.

The filter element is manufactured in accordance with the GMP requirements as defined in EC/2023/2006, has no migration of filter media, is non-fiber releasing and is thermally welded.

All materials used do not contain any Substances of Very High Concern (SVHC) as defined in EC/1907/2006 and EC/65/2011.



PES-WN

INDUSTRIES

- Bottled Water
- Brewery
- Dairy
- Distilled Spirits
- Juice
- Soft Drinks

APPLICATIONS

Clarification and Stabilization of:

- Alcoholic Beverages
- Bottled Water
- Ingredient Water
- Mineral Water
- Spring Water

FEATURES	BENEFITS
Sterile grade membrane filters with ratings of 0.2 µm, 0.45 µm & 0.6 µm	Excellent flow rate
Highly resistant materials	Extremely low adsorption of proteins
Approved for Food Contact Use according to CFR Title 21 & EC/1935/2004	High thermal stability, permanently hydrophilic

SPECIFICATIONS

QUALITY TEST

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

- All 254 mm (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 EC/1935/2004 is provided by serial number.
- All PES-WN 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 PES-WN filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21:

MATERIAL COMPLIANCE EU

The PES-WN filter element meets the guideline for Food Contact Use as given in European Regulation (EC) Number 1935/2004. All polymeric components (polypropylene, polyethersulfone, EPDM) 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 simulants (B, D1) after flushing or in flow conditions.

All materials used do not contain any Substances of Very High Concern (SVHC) as defined in EC/1907/2006 (REACH Guideline) and EC/65/2011 (RoHS Guideline) and are free of any latex-based components.

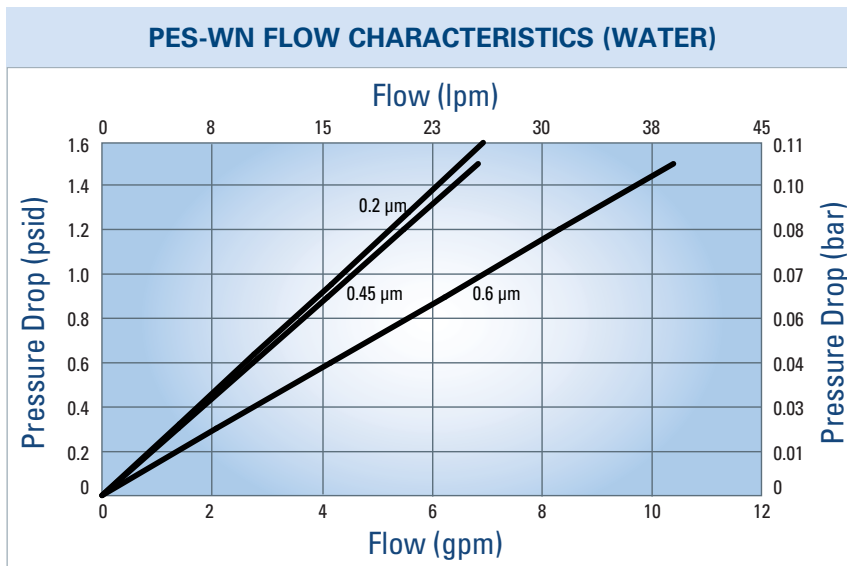
Furthermore the materials do not contain any Animal Derived Ingredient (ADI-free) and thus bear no risk of transmitting TSE and BSE.

MATERIALS		CFR TITLE 21
Membrane	Polyethersulfone	177.2240
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	

INTEGRITY TESTING

BACTERIA RETENTION RATES (ACCORDING TO HIMA CHALLENGE PER ASTM)				
Filter Grade	Microorganism	LRV / cm ²		
PES-WN 0.6 μm	Saccharomyces cerevisiae	> 7		
PES-WN 0.45 μm	Saccharomyces cerevisiae	> 7		
	Serratia Marcescens	> 7		
PES-WN 0.2 μm	Saccharomyces cerevisiae	> 7		
	Serratia Marcescens	> 7		
	Brevundimonas diminuta	> 7		
Filter Grade	0.2 μm, 0.45 μm , 0.6 μm (Retention Rates LRV >= 7 cm ²)			
Filtration Surface	0.77 m ² per 254 mm (10") element			
Maximum Differential Pressure	Operating Temperature		Differential Pressure	
	38° C	100° F	5.52 bar	80 psi
	66° C	150° F	4.14 bar	60 psi
	82° C	180° F	2.07 bar	30 psi
Cumulative Steaming Time*	121° C - 125° C (249.8° F - 257° F) for 30 minutes Saturated Steam (Forward Flow) up to 100 cycles			

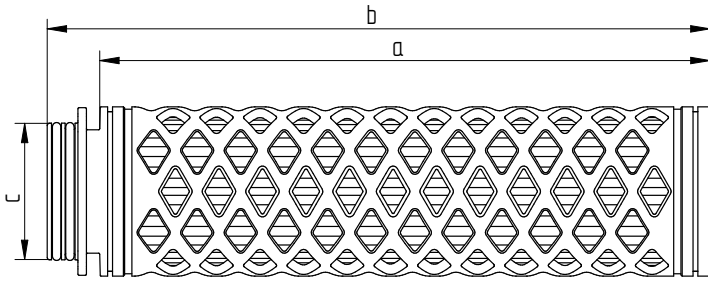
* Figures are based on lab tests to evaluate steaming resistance. Filter elements need to be checked in actual use. Contact Donaldson for recommended Autoclaving/Steaming procedures.



Filter Grade	Minimum Bubble Point		Maximum Diffusion Values	
	bar	psi	@ bar	@ psi
0.6 μm	1.24	18	20 ml/min @ 0.69 bar	20 ml/min @ 10 psi
0.45 μm	2.21	32	30 ml/min @ 1.73 bar	30 ml/min @ 25 psi
0.2 μm	3.04	44	35 ml/min @ 2.42 bar	35 ml/min @ 35 psi

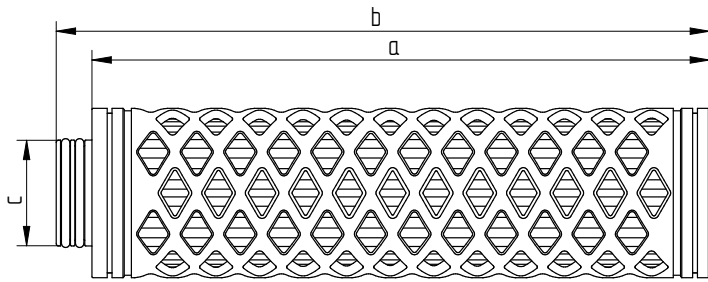
Integrity test to be done by Bubble Point or Forward Flow Test. For information on test equipment or test services, please contact your Donaldson Sales Engineer and visit our website at www.donaldsonprocessfilters.com.

DIMENSIONS



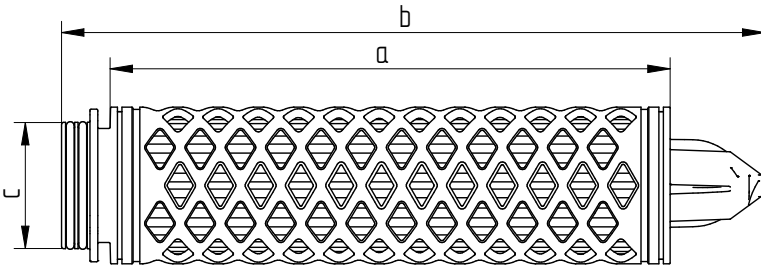
CODE 2 Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	254	10.0	274	10.8	56	2.2
508	20	495	19.5	516	20.3	56	2.2
762	30	737	29.0	757	29.8	56	2.2
1016	40	978	38.5	1001	39.4	56	2.2

Code 2: 2 x 226 O-Rings, bayonet 2 locking tabs, flat end cap, integrated reinforcement ring



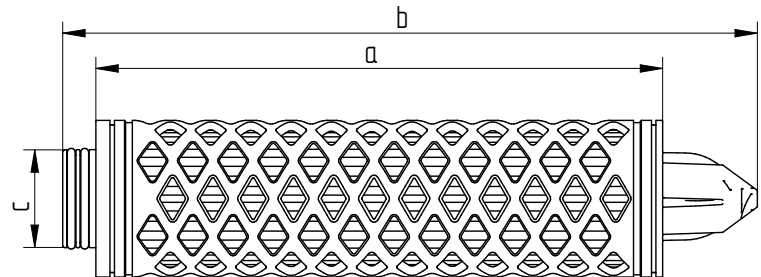
CODE 3 Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	257	10.1	272	10.7	43	1.7
508	20	498	19.6	513	20.2	43	1.7
762	30	739	29.1	754	29.7	43	1.7
1016	40	983	38.7	998	39.3	43	1.7

Code 3: 2 x 222 O-Rings, plug connection, flat end cap, integrated reinforcement ring



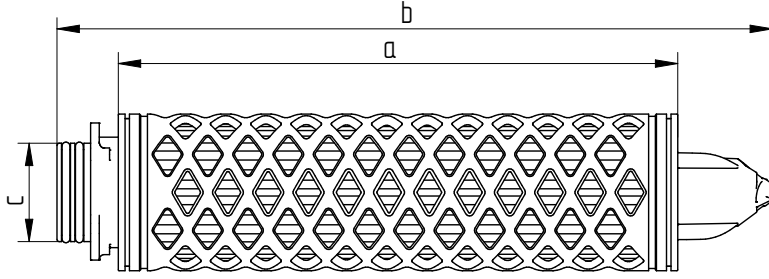
CODE 7 Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	251	9.9	315	12.4	56	2.2
508	20	493	19.4	556	21.9	56	2.2
762	30	734	28.9	800	31.5	56	2.2
1016	40	978	38.5	1041	41.0	56	2.2

Code 7: 2 x 226 O-Rings, bayonet 2 locking tabs, locating fin, integrated reinforcement ring



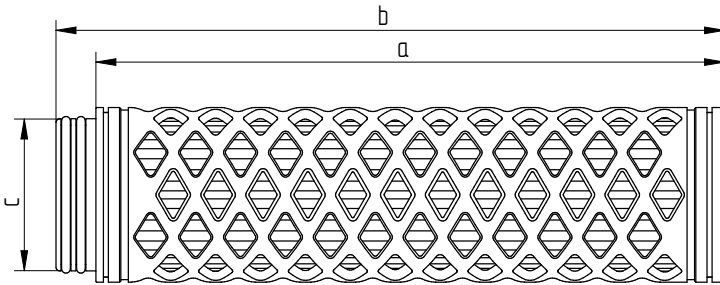
CODE 8 Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	254	10.0	310	12.2	43	1.7
508	20	495	19.5	554	21.8	43	1.7
762	30	739	29.1	795	31.3	43	1.7
1016	40	980	38.6	1036	40.8	43	1.7

Code 8: 2 x 222 O-Rings, plug connection, locating fin, integrated reinforcement ring



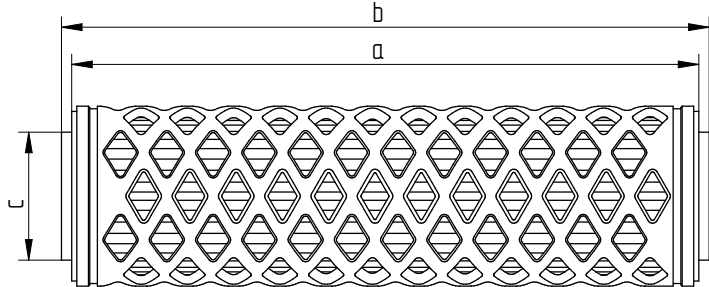
CODE 9 Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	249	9.8	320	12.6	43	1.7
508	20	493	19.4	561	22.1	43	1.7
762	30	734	28.9	805	31.7	43	1.7
1016	40	975	38.4	1046	41.2	43	1.7

Code 9: 2 x 222 O-Rings, bayonet 3 locking tabs, locating fin, integrated reinforcement ring



UF Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	251	9.9	269	10.6	61	2.4
508	20	493	19.4	511	20.1	61	2.4
762	30	737	29.0	752	29.6	61	2.4

Code UF: 2 x 226 O-Rings, plug connection, flat end cap, integrated reinforcement ring



DOE Connection							
Filter Size		Dimensions					
		a		b		c	
mm	in.	mm	in.	mm	in.	mm	in.
254	10	244	9.6	249	9.8	51	2.0
508	20	500	19.7	505	19.9	51	2.0
762	30	754	29.7	759	29.9	51	2.0
1016	40	1008	39.7	1013	39.9	51	2.0

DOE: Double open end with EPDM gaskets



Important Notice:

Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the user's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country.



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