

# PROCESS FILTRATION FROM PURE TO STERILE

## LifeTec PP N



### PRODUCT DESCRIPTION

Donaldson LifeTec PP N filters are nominal rated depth type filters constructed of 100 % Polypropylene. They contain an asymmetrical Polypropylene microfiber filter medium that provides a graded pore structure. LifeTec PP N filters deliver outstanding flow rates and high throughput, with nominal submicron particulate retention and high dirt holding capacity. Their all-Polypropylene construction provides broad chemical compatibility and low extractable levels in a wide range of fluids and applications.

The LifeTec PP N filter's Polypropylene media is made from a process which produces a self-bonded structure comprised of multiple layers of successively finer fibres and smaller pores. This state-of-the-art design results in a highly porous, tapered pore structure consistent of a controlled absolute rated inner layer and several outer prefilter layers which substantially increase the dirt holding capacity.

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

### MAIN FEATURES & BENEFITS

- Extremely durable Polypropylene construction
- Outstanding flow rate
- Extremely high dirt holding capacity
- Asymmetrical filter matrix for longer service life
- Approved for Food Contact Use acc. to CFR Title 21 & EC/1935/2004

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-fibre 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.

### INDUSTRIES



- Food



- Beverages



- Chemical



- Pharmaceutical



- Environmental

## APPLICATIONS

The nominal rated LifeTec PP N depth filter is designed and developed as prefilter for coarse contaminations and as cost effective final filter. Typical applications for LifeTec PP N filter elements include:

### Purification of Food and Beverage products:

- Bottled Water
- Soft Drinks
- Beer
- Wine
- Spirits
- Syrups

### Purification and Filtration of:

- Cosmetics
- Oils
- Lubricants
- Paints and dyes
- Jet Printer Inks

### Purification of Chemicals:

- Acids
- Bases
- Alcohols, Aldehydes
- Esters and Ketones
- Photolithographic Liquids

## QUALITY TEST

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

- All final filter elements 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 Lot number and Serial number.
- All filters show no migration of the filter medium and are non-fibre releasing.
- All LifeTec PP 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 PP N filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21:

Filter Materials	CFR Title 21	
Filter Material	Polypropylene	§ 177.1520
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 PP N filter element meets the guideline for Food Contact Use as given in European Regulation (EC) Number 1935/2004. All polymeric components (Polypropylene) 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. 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**

Retention Rate	Percent Removal		
	98 %	90%	80%
0.4	0.5 µm		
1	1 µm	0.5 µm	
3	3 µm	2 µm	1 µm
5	5 µm	3 µm	2 µm
10	10 µm	5 µm	3 µm
30	30 µm	20 - 30 µm	10 - 20 µm

The removal ratings given in this chart represent actual dynamic measurements obtained from a controlled laboratory tests using ISO FTD (5 mg/l) in deionised water at a flow rate of 1 lpm per 95 cm<sup>2</sup> of the filter matrix.

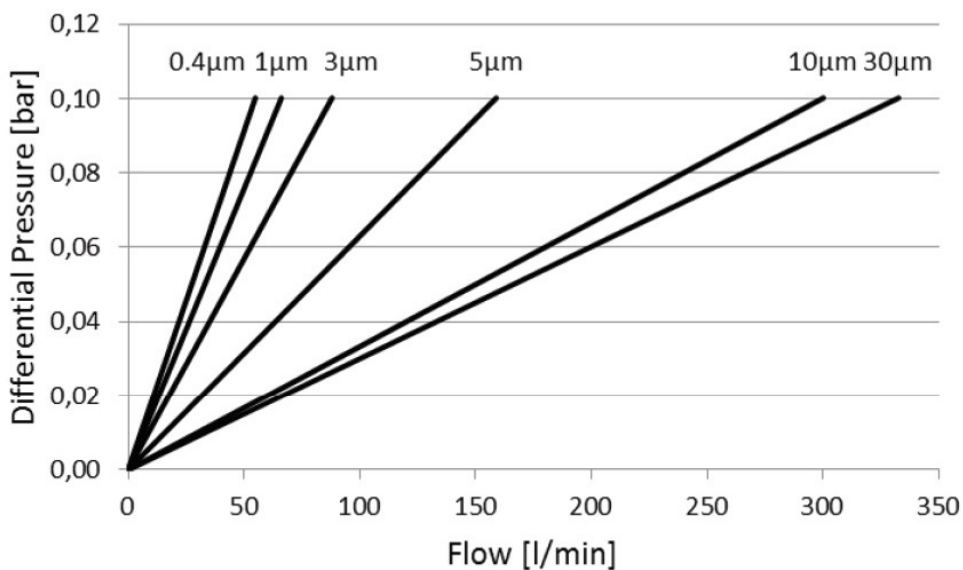
The particle retention efficiencies were determined with a state-of-the-art liquid particle counter that can accurately measure particles down to 0.5 µm.

**PRODUCT SPECIFICATIONS**

Product Specifications				
Nominal Retention Rates	0.45 µm, 1 µm, 3 µm, 5 µm, 10 µm, 30 µm			
Filtration Surface	> 0.6 m <sup>2</sup> per 250 mm element (10")			
Maximum Differential Pressure	Operating temperature		Differential pressure	
	°C	°F	bar	psi
	38	100	5.5	80
	66	150	4.1	60
	82	180	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.

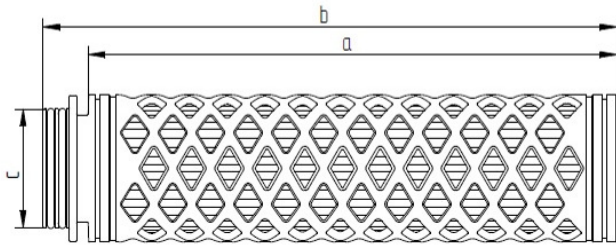
**FLOW CHARACTERISTICS**



**LifeTec PP N**  
10", Deionised water, 20°C

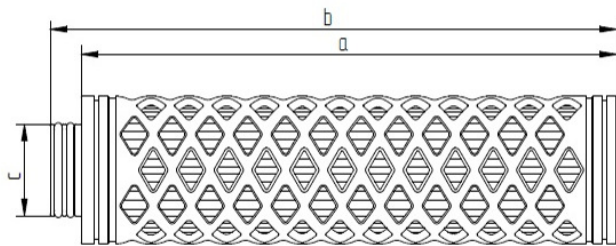






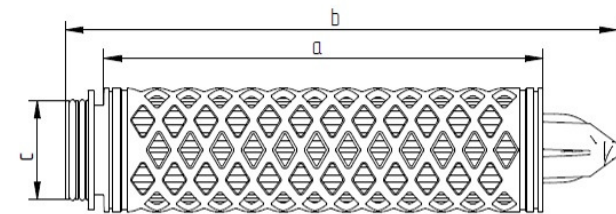
Dimensions (CODE 2 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	253	10.0	274	10.8	56	2.2
20"	495	19.5	516	20.3	56	2.2
30"	737	29.0	758	29.8	56	2.2
40"	979	38.5	1000	39.4	56	2.2

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



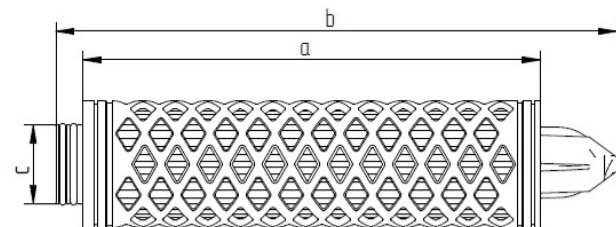
Dimensions (CODE 3 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	256	10.1	271	10.7	44	1.7
20"	498	19.6	513	20.2	44	1.7
30"	740	29.1	755	29.7	44	1.7
40"	982	38.7	997	39.3	44	1.7

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



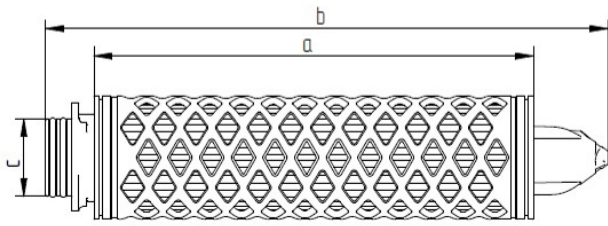
Dimensions (CODE 7 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	251	9.9	315	12.4	56	2.2
20"	493	19.4	557	21.9	56	2.2
30"	735	28.9	799	31.5	56	2.2
40"	977	38.5	1041	41.0	56	2.2

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



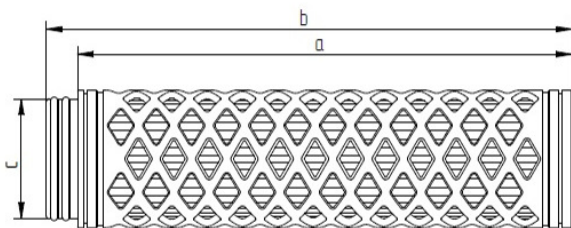
Dimensions (CODE 8 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	254	10.0	311	12.2	44	1.7
20"	496	19.5	553	21.8	44	1.7
30"	738	29.1	795	31.3	44	1.7
40"	980	38.6	1037	40.8	44	1.7

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



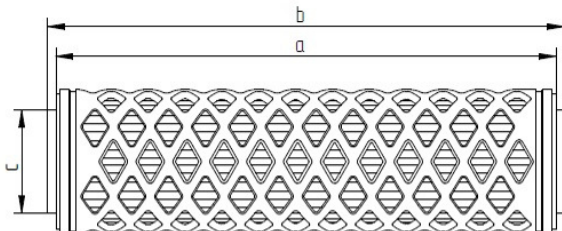
Dimensions (CODE 9 connection)						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	250	9.8	320	12.6	44	1.7
20"	492	19.4	562	22.1	44	1.7
30"	734	28.9	804	31.7	44	1.7
40"	976	38.4	1046	41.2	44	1.7

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.**