

# HELPING TO PROTECT WHAT MATTERS MOST.



**Donaldson**  
FILTRATION SOLUTIONS

**PROCESS FILTRATION**

# Protect your operation. Protect your reputation.

You promise your customers a precise level of purity in every product you produce. With Donaldson's advanced filtration technology, extensive product portfolio, and unrivaled pre- and post-sale support, we can help you keep that promise. With over 100 years of experience, our passion is optimizing filtration solutions that are energy efficient and cost-effective. Donaldson's mission is to be your first choice in process and product integrity.

## ADVANCED FILTRATION TECHNOLOGY

With Donaldson's advanced technology in place, it's possible to reduce your total cost of ownership by optimizing filter performance and improving energy efficiency. Our continual investment in research and development has led to some of the filtration industry's most important innovations, such as:

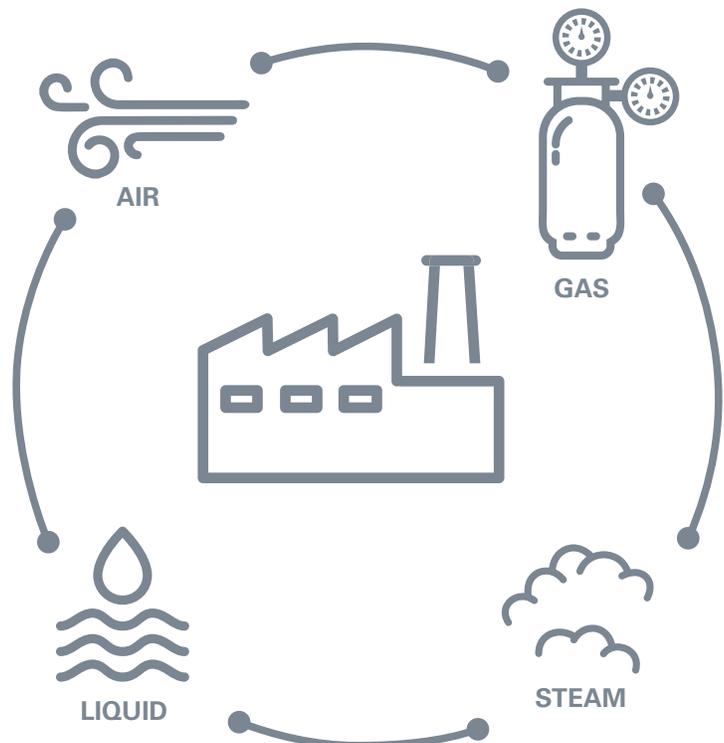
- » **LifeTec™** filters with a unique media configuration and proprietary cage design that substantially increases dirt-holding capacity, flow through, and strength
- » **Ultracac™ Smart** complete heat-less dryer system that combines a compact modular design with smart connectivity to produce clean dry air
- » **UltraPleat™** media technology that uses an innovative flow design and optimized pleat shape to reduce differential pressure and energy consumption
- » **Proprietary ePTFE membrane** developed and manufactured by Donaldson that strategically combines a high particulate capture rate with a high flow rate

## EXTENSIVE PRODUCT PORTFOLIO

Donaldson is your one-stop shop for all your filtration needs with extensive product offerings and solutions for pre-, mid-, and final filtration.

We stock thousands of elements, housings, and accessories for Donaldson filters as well as replacement elements for most other brands. Our elements and housings are engineered to help strengthen your food safety initiatives and protect your brand by meeting:

- FDA Code of Federal Regulations, Title 21
- GFSI sanitary guidelines such as SQF and BRC
- 3-A sanitary and hygienic guidelines
- ISO 8573-1:2010 for compressed air



## UNRIVALED SUPPORT AND EXPERTISE

Your business and brand reputation depend on cleanliness throughout your production process. That's why it's important to have a filtration partner who is experienced, reliable, and available when you need them.

<b>Live pre- and post-sale technical specialists</b>	Get solutions and best practices quickly
<b>Extensive filter analysis and troubleshooting</b>	The answers you need are always just a phone call away
<b>Product and application training</b>	Thorough system instruction and principles
<b>Complete facility assessments</b>	Optimize your process to help you meet the latest food safety standards
<b>Comprehensive product warranty</b>	Protects your bottom line against manufacturing defects

Donaldson's commitment to service delivers long-term value and keeps your processes running effectively.

## PROCESS FILTRATION MARKETS

Here are some of the many industries we serve, helping to protect and improve their processes and products:



**Non-alcoholic Beverages**



**Alcoholic Beverages**



**Dairy Products**



**Packaged Foods**



**Food Ingredients**

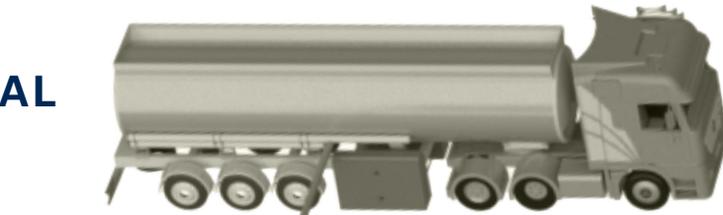


**Pet Food**

# Donaldson Has You Covered

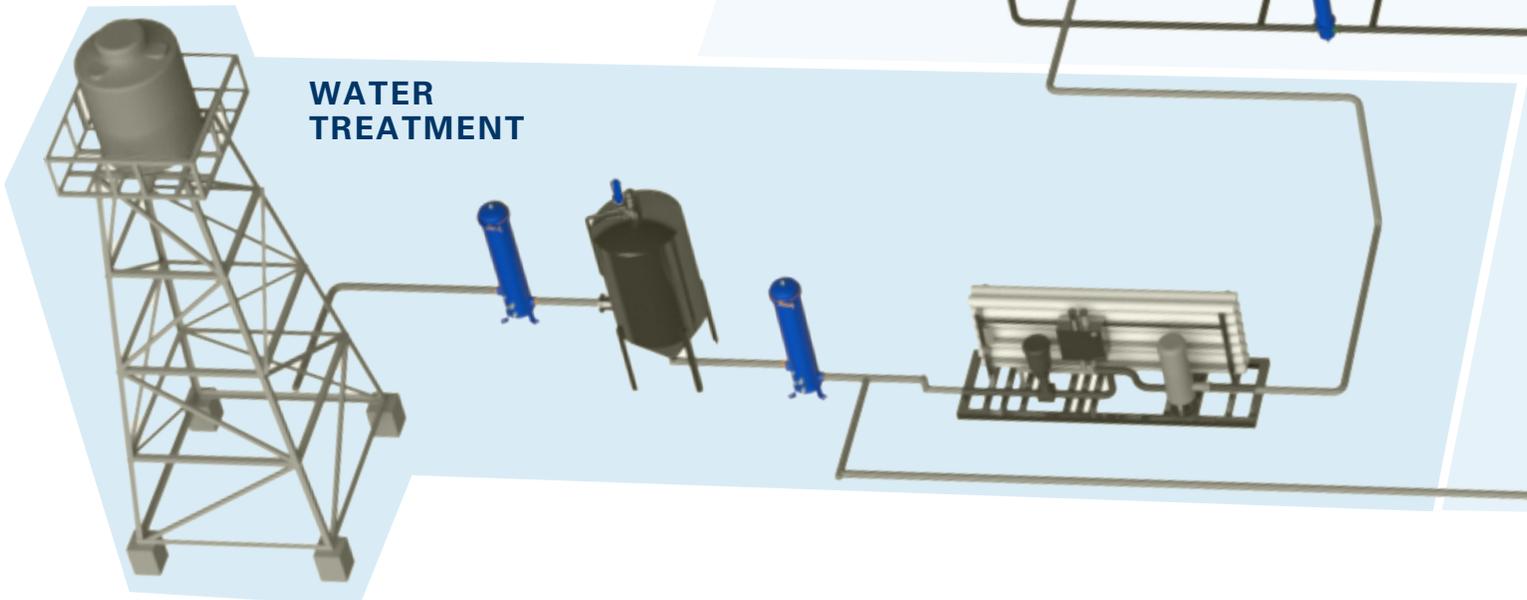
Maintaining a clean or sterile environment is a continuous process. Donaldson has the application expertise and filtration solutions to help you effectively manage your end-to-end filtration process.

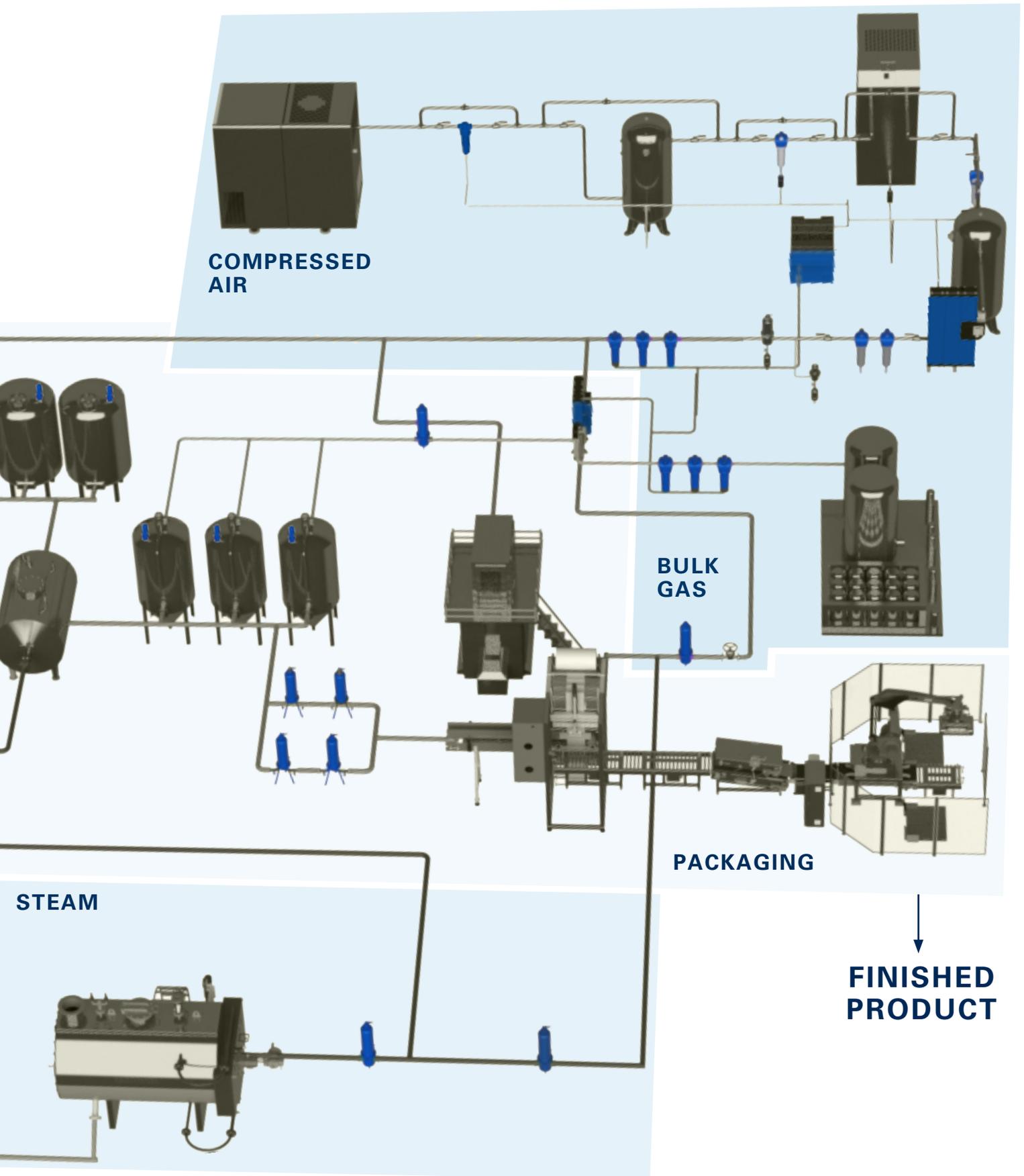
**RAW  
MATERIAL**



**PRODUCTION**

**WATER  
TREATMENT**





# Liquid Filtration

Producing a processed food and beverage product that is free of dirt, rust, living bacteria, microorganisms, and other contaminants is one of the most important aspects of your job. Proper filtration is the best way to ensure protection against such contaminants. This involves multiple phases, including coarse and final filtration of ingredients and finished products.



## PHASES OF LIQUID FILTRATION

### Water Sources

Water coming from a well or municipal source should be passed through a coarse filter when entering your plant.

### Clean in Place Solutions

Filtered feed water for CIP systems helps ensure the longevity and effectiveness of the equipment needed for critical cleaning cycles.

### Process Liquid

Any liquid that has indirect contact with the product and direct contact with surfaces that touch product, such as water used for rinsing, cleaning, heating or cooling equipment.

### Ingredient Liquid

Any liquid that is part of the final product, and any other non-ingredient liquids that become part of the final product, like water used for washing, conveying, or recovering product.

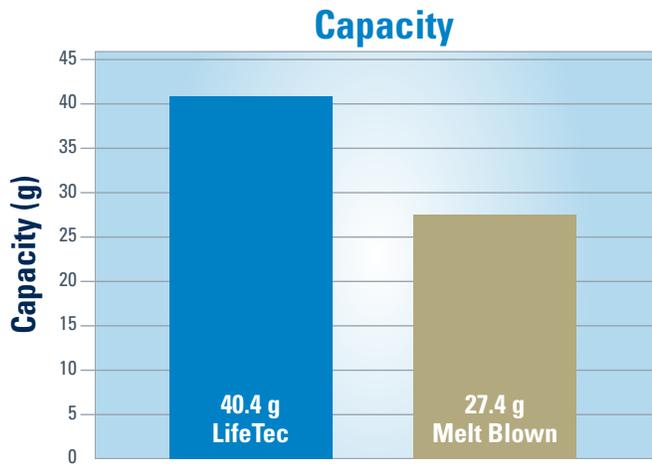
### Final Product

Most beverages, such as beer, wine, juice, and bottled water require a final filtering before being bottled to ensure higher quality, longer shelf life, and consistent flavor.

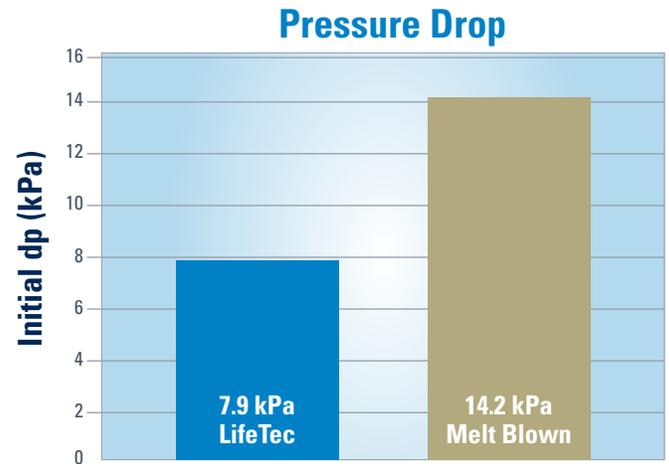
## LIFETEC™ FILTER ELEMENTS

Donaldson's groundbreaking line of LifeTec process filtration products are stronger, longer-lasting, and have higher flow rates than most products on the market today. Donaldson's new process filters are available in a broad range of configurations for nearly every application and technological trend in the processed food and beverage industry, including bioburden reduction of ingredient water, beer, wine and bottled water.

- Depth filters for pre- and fine filtration of inorganic particulate
- Membrane filters for final filtration of processed food ingredients and processed food products
- Retention rates from 0.2 to 50 microns
- High dirt holding capacity of filter media
- Polyethersulfone (PES), polypropylene (PP), and polytetrafluorethylene (PTFE) media options
- Lengths available in 254, 508, 762, 1016 mm (10, 20, 30 and 40 inches)



**LIFETEC SHOWS  
47% MORE DIRT  
HOLDING CAPACITY  
THAN MELT BLOWN**



**LIFETEC EXPERIENCES  
44% LESS  
PRESSURE DROP  
THAN MELT BLOWN**



**FEWER  
CHANGEOUTS  
SAVE ENERGY,  
MAINTENANCE  
AND FILTER COSTS**

**LIFETEC CUTS  
OPERATING COSTS  
BY 27%**

Maintenance and filter replacement calculations are based on a comparison of LifeTec PP-TF and melt blown cartridges. Melt blown filters are replaced after four months. LifeTec PP-TF filters provide a 50% increase in life compared to traditional melt blown. Melt blown filters are priced at \$9.50 each, LifeTec PP-TF filters are \$50 each. Labor rate equals \$20 per four filters and are replaced on a timed schedule.

# Steam Filtration

While steam is nearly sterile because of its high temperature, removing inert and particulate matter can help protect equipment and increase equipment efficiency. Donaldson steam filters can save you money by maintaining food quality, reducing energy usage, and preventing unexpected downtime due to inspections and repairs.

## PROCESS STEAM



Process Steam is most commonly used to:

- Cook with indirect heat
- Control temperature
- Generate heat for heat exchange system

## CULINARY STEAM



Donaldson products can help you meet the standard for 3-A culinary steam. Culinary steam or “clean steam” is commonly used for:

- Sterilization of filters and plant equipment
- Direct inject cooking and pasteurization
- High temperature blanching
- Sterilization of final product

# Industrial Air

Industrial air is compressed air that is used to power pneumatic tools and other mechanical processes—it never comes directly in contact with the food or beverage product. Industrial air can still benefit from filtration to keep equipment working properly and efficiently. Applications include:

- Instrumentation
- Pneumatic tools
- Controls
- Painting
- Lasers
- Sterile air pre-filtration



Donaldson offers an extensive catalog of industrial air filtration products:

- Coalescing elements
- High temperature resistant elements
- Activated carbon elements
- Particulate elements
- Chemical resistant elements
- Housings for high pressure bulk air filtration
- Housings for particle and coalescing filtration
- Heatless regenerative dryers

## NEXT GENERATION TECHNOLOGY

A complete and compact purification package, the Ultrapac™ Smart heatless regenerated adsorption dryer is equipped with UltraPleat™ technology for pre- and post-filtration.

UltraPleat technology removes water/oil aerosols and solid particulates from compressed air and gases at a low differential pressure.



# Sterile Air and Gas

Compressed air that comes in direct contact with the food or beverages during the manufacturing process must be sterile. Donaldson offers filters to protect your finished product through these processes:

- Plastic (PET) Blow Molding/Cleaning
- Tank Blanketing
- Food Fillings
- Drying
- Packaging
- Air Knives
- Mixing Tanks



Donaldson sterile air components deliver exceptional performance at a lower total cost of ownership. Features include:

- Polypropylene or polycarbonate and stainless steel cages
- PTFE and borosilicate media
- Robust design for extreme conditions
- Low differential pressure
- Exceptional filtration efficiency
- Superior number of sterilization cycles

## TETRATEX® ePTFE FILTER MEDIA

Donaldson’s proprietary Tetratex ePTFE membrane has a unique microporous structure. It comprises small randomly connected fibrils that render an effective pore size many times smaller than can be seen by the naked eye. It offers the highest flow rate due to its permeability and also delivers the highest number of sterilization cycles. Its longer filter life translates into cost savings for your operation.

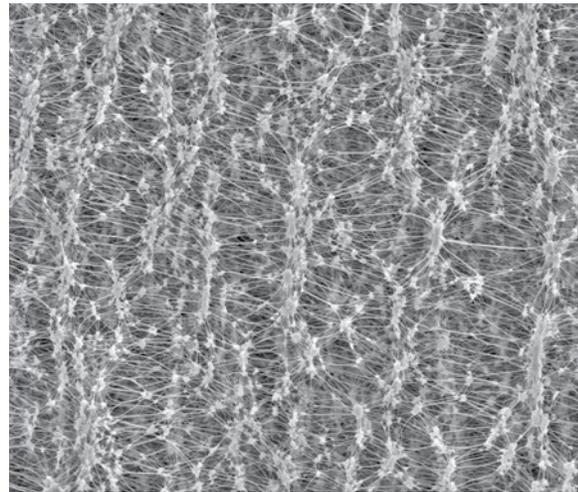
### Donaldson Tetratex ePTFE Elements Competitor Comparison

Parameter	Competitor P	Competitor DH	PT N
Max Operating Temperature °C (°F)	60 (140)	60 (140)	82.2 (180)
Sterilization Cycles	165 hours*	120	150
Retention Efficiency LRV (0.2 microns)	>7	>7	>7
De-wetting Time (s)*	250	95	30
Outer Construction	Polypropylene	Polypropylene	Polypropylene
VPHP Resistance	No	No	No
Ozone Resistance	No	No	No

\* De-wetting time for 254 mm (10") [sec] @ 140 m³/h, 2 bar abs



**Donaldson LifeTec PT N**



**ePTFE Media**

## PURSUE THE PROCESS

No one knows more than you, how critical it is to maintain the safety and integrity of your products. The costs associated with contamination—both financial and to your reputation—are difficult for any organization to bear. Consult with a Donaldson engineer today to help ensure your filtration solutions are optimized for protection, energy efficiency, and cost-effectiveness.

# SUPPORTING PROCESS AND PRODUCT INTEGRITY

## Extensive Product Portfolio

- Process air, steam and liquid filtration products
- Performance engineered to sanitary guidelines
- Wide range of filtration media for any application
- Housings, elements, and parts in-stock, ready to ship

## Advanced Technology

- Optimized filtration performance and efficiency
- Extensive research and development capabilities
- Advanced design and testing capabilities
- Over 1,000 engineers and scientists worldwide

## Unrivalled Support and Expertise

- Expert technical specialists available as resource
- Comprehensive pre- and post-sale support
- Extensive filter analysis and trouble-shooting
- 100 years of successful global manufacturing



Registered



Standard No. 10-04\*



Member of



Member of



Member of



### 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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