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

» Ultrapac™ 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
**UNRIVALLED 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.

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

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.
Liquid Filtration

Producing a liquid-based 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.

**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.
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. They are available in a broad range of configurations for nearly every application and technological trend in the food and beverage industry, including sterilization and critical final filtration.

- Depth and membrane filters for coarse, fine, and sterile filtration of liquids and gases
- Retention rates from 0.2 to 50 microns
- High dirt holding capacity of filter media
- Polyethersulfone (PES), polypropylene (PP), and polytetrafluoroethylene (PTFE) media options
- Lengths available in 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 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.

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

Any compressed air that comes in contact with the food or beverages during the manufacturing process must be sterile. This includes air that touches equipment used to make the food or beverage. Donaldson offers a filter 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 unique 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**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Competitor P</th>
<th>Competitor DH</th>
<th>PT N</th>
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<tbody>
<tr>
<td>Max Operating Temperature (F)</td>
<td>140</td>
<td>140</td>
<td>180</td>
</tr>
<tr>
<td>Sterilization Cycles</td>
<td>165 hours*</td>
<td>120</td>
<td>150</td>
</tr>
<tr>
<td>Retention Efficiency LRV (0.2 microns)</td>
<td>&gt;7</td>
<td>&gt;7</td>
<td>&gt;7</td>
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<tr>
<td>De-wetting Time (s)*</td>
<td>250</td>
<td>95</td>
<td>30</td>
</tr>
<tr>
<td>Outer Construction</td>
<td>Polypropylene</td>
<td>Polypropylene</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>VPHP Resistance</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ozone Resistance</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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

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**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.
SUPERIOR FILTRATION. MAXIMUM PROTECTION.

**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

**Unrivaled 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

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, product specifications, availability and data are subject to change without notice, and may vary by region or country.