

PENTAIR ENGINEERED FILTRATION OVERVIEW



ENGINEERED FILTRATION



PENTAIR Overview

Pentair Engineered Filtration designs a wide variety of elements and systems for Industrial and Life Sciences applications. Our systems produce more efficient processes for our customers in advanced technologies that rely on effluent quality. Since the hallmark of Industrial and Life Sciences, OEM depend on stable and reliable filtration systems for effectiveness and excellence, Pentair engineers offer both customized and off-the-shelf solutions.

As a global leader of OEM provider solutions in these industries, we are customer focused and backed by a team of engineers. Our staff of PhDs and scientists specializes in complex gas and liquids separations and run Scientific Testing and Research Laboratories known as S.T.A.R. We have earned dual ISO certifications and are a FDA Registered Facility with clean rooms.

The majority of Pentair's Engineered Filtration is produced in St. Paul, Minnesota and Conroe, Texas with additional manufacturing facilities located around the globe. Our capabilities include hollow fiber a patented process designed for both humidification and dehumidification, glass microfiber media, media pleating, filter assembly and testing, and CNC machining. In addition, we conduct blood reservoir foam manufacturing and coating processing that includes foam slitting, welding and die cutting.

PENTAIR Applications

Compressed Air & Gas – Dirt, water, and oil present in the air stream will deposit on the inner surfaces of pipes and fittings, causing an increase in pressure drop in the line. Pentair engineers systems with the loss of pressure in mind. Ultimately, the loss of pressure results in a loss of the energy used to compress the air and reduces pressure at the point of use, decreasing performance efficiency. More importantly, dirt and oil may contaminate sensitive pneumatic equipment and control surfaces, while water may cause corrosion of these components. All of this can lead to expensive repairs of vital equipment.

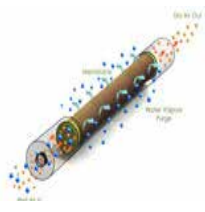


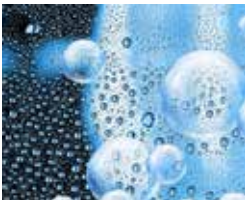

Ink – Contamination of ink can happen during any stage of the production process from many types of sources—fibers, solids, and semi-solids, complicating overall production. Pentair technology reduces blockage, increases productivity, and decreases maintenance.

Respiratory - Providing infection control against bacteria and viruses, promoting patient comfort by maintaining ideal heat and humidity conditions, optimizing pneumatic and overall device performance, or extending device service life, Pentair excels at designing solutions to help our customers address these challenges.

Blood – Pentair's state-of-the-art blood defoaming solution provides consistent, even coating with medical anti-foam agents, along with proprietary high performance felt.

Laboratory - Filtration solutions for a wide range of applications including vital experiment sample testing, laboratory device optimization, and assisting in executing complex separations of gases and liquids in virtually any laboratory process.

PENTAIR Featured Technologies

| TECHNOLOGY | DESCRIPTION |
|---|---|
| <p>Membrane Air Dryers</p>  | <p>The compression of ambient air increases the dew point leading to the condensation of water vapor. Pentair membrane dryers effectively remove moisture from air using our industry leading hollow fiber technology.</p> |
| <p>Membrane Humidification</p>  | <p>Certain air applications require humidity control. Pentair membrane humidifiers draw moisture from the ambient air for a silent, nearly invisible, and maintenance free operation.</p> |
| <p>Pre-Bypass Filters / Sterile Fluid Filtration</p>  | <p>Preferred choice of perfusionists during critical operations, Pentair offers high efficiency capsules and devices which provide bacteria-free air, gas, and fluid delivery to patients to help promote a complication-free recovery. These devices effectively reduce microemboli and other potentially harmful particles.</p> |
| <p>Coalescing Filters</p>  | <p>Fine aerosols tend to stay entrained within air streams and can be challenging to remove. Coalescing filters remove fine aerosols down to the submicron level.</p> |
| <p>Blood Defoaming and Filtration</p>  | <p>Pentair's blood defoaming and filtration solutions improve patient outcomes during surgery with state-of-the-art blood defoaming solutions.</p> |



PENTAIR At a Glance

- ISO 9001:2008
- ISO 13485:2003
- FDA Registered Facility
- GMP (Good Manufacturing Practice)
- Lean Manufacturing
- Staff of PhDs specializing in separations technology as applied to gases and liquids
- Staff of Automation Experts



APPLICATION SPECIFIC CUSTOMIZATION

The Pentair Application Specific Customization™ Process

Pentair integrates its proprietary ASC (Application Specific Customization) process in to all the solutions we offer. ASC is an interactive process where a team of our research and development specialists work with key customer personnel to develop a customized filtration or separation solution specifically designed to meet their device requirements. We begin by evaluating the problem statement to be addressed by a filtration or

separation solution, and proceed further to investigate and evaluate other factors such as aftermarket capture, user interface, final packaging and installation requirements that must to be incorporated in to the final design. Far beyond simply providing a component, Pentair helps define and develop a solution that achieves both device functionality and consumable revenue capture for our customer partners.

For more information on Pentair Engineered Filtration, please contact us at EFCustomerService@pentair.com



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