



Filter Solutions for Life Science Processes

PHARMACEUTICAL / BIOPHARMACEUTICAL / CELL CULTURE / SERUM & PLASMA

Production processes for pharmaceuticals, cell-derivative biologics and process water all require filtration efficiency and performance that is achieved through multi-filter systems. Likewise, products used for therapeutics, diagnostics and research share an equal demand for reliable filter performance to protect patient and staff health, as well as product efficacy and brand.

Critical Process manufactures filters that leading companies in the Life Sciences industries have trusted for years. Filter certification and validation assure that your critical filtration goals are met. We offer a full product line that includes disc filters for lab work, mini-capsules for bench scale, standard capsules for pilot production through single-use, and cartridges for dedicated systems. All are made using the same materials and media for scalable performance. Our highly configurable products, application-specific media, expert technical consulting and unrivaled delivery times are sure to fuel your operation's success.

Sterilizing Filters

Offered in a variety of media, each with characteristics that target a specific process need, our pharmaceutical grade filters are validated to ASTM F838 for ≥ 7 log reduction of bacteria.

Bioburden Control Filters

Engineered to reduce the number of organisms in a stream, these biopharmaceutical grade filters guard against bacteria entering the system, and protect downstream processes and critical sterilizing filters.

Clarification & Prefiltration Filters

Prefiltration filters remove particles from ingredients as they enter the plant, and capture unwanted crystals formed during a chemical process. Clarification filters are designed to remove fine particles and organisms that contribute to high turbidity in raw ingredients, intermediates, and final products. Both filters improve final product quality and protect downstream filters and purification processes.

Tank Vent & Process Gas Filters

Tank vent filters protect ingredients, intermediates, water and final products stored in tanks from environmental contaminants such as bacteria, mold spores and other particles that enter through the air as the tanks are emptied. These filters also prevent particles and organisms carried by compressed gases from reaching intermediates or products.

Pharmaceutical Water Filters

Critical Process filters work in conjunction with Reverse Osmosis, Distillation, and UV Light set ups. By employing prefiltration, particles are removed before reaching the RO/DI systems. By utilizing final sterilizing filters after the UV Light, any cell debris left behind is captured. Implementing these filters will protect expensive RO filters, reduce cleaning time, insure bacteria removal and improve overall efficiency.



All devices are made with the same material and available in any media.

Cartridge Filters

SUITABLE FOR FULL SCALE OPERATIONS & DEDICATED SYSTEMS

- Direct replacement for existing filters/systems/housings
- Layering can be customized
- High area and high temperature configurations
- Choose from a variety of end connections and O-ring options
- Sizes range from 5 to 40 inches in length



Capsule Filters

SUITABLE FOR PROCESS DEVELOPMENT, PILOT-SCALE, AND SMALL TO MEDIUM APPLICATIONS

- Suitable for single-use applications, easy disposal
- Standard cartridge encapsulated in a dedicated polypropylene housing, minimizes exposure to process fluids
- Multiple connection options
- Available pre-sterilized
- Suitable for autoclave sterilization and chemical sanitization
- Sizes range from 2 to 30 inches in length



Laboratory Filters

SUITABLE FOR SMALL VOLUME APPLICATIONS, SUCH AS SAMPLE PREP, VENTING, AND PROCESS DEVELOPMENT

- Manufactured to the highest standards and packaged in a certified clean room
- A wide range of pore sizes and the same media used in our capsules and cartridges
- Mini Capsules: 2.95" diameter, 2.85" body length, choice of inlet/outlet and vent
- Cut discs in 13 mm through 142 mm



Housings

PROVEN DESIGN SUITED FOR LIFE SCIENCES APPLICATIONS

- Single and multi-cartridge sanitary housings (CSH)
- Designed for high purity and critical applications
- T-style or Inline configurations.



Call us today to learn more. (603) 880-4420

Filters are designed by application to meet industry requirements, and optimized to meet yours.

Validation

Sterilizing filters are validated to ASTM F838 for ≥ 7 log reduction of bacteria. Our Technical Services team can further validate our filters with your fluids to assure filter performance in your environment.

STERILIZING		
Filtration Need	Filter	Media
Most Stringent and Critical Applications	<u>PPS</u> Double layered asymmetric 0.03 μm - 0.45 μm	PES
Validated Retention with High Flow Rates	<u>SPS</u> Single layer asymmetric 0.03 μm - 0.45 μm	
High Flow Rate and High Particle Load	<u>HPPS</u> Dual layers: prefilter and final filter 0.03 μm - 0.45 μm	
Non-aqueous Liquids and Aggressive Solvents	<u>PTM</u> Hydrophobic optimized for longer life. 0.03 μm - 0.45 μm	PTFE
Broad Chemical Compatibility	<u>PNM</u> Single layer 0.10 μm - 0.45 μm	Nylon 6,6

BIOBURDEN CONTROL		
Filtration Need	Filter	Media
High Capacity	<u>BPS</u> Single or dual layered asymmetric 0.03 μm - 1.2 μm	PES
Gases and Non-aqueous Liquids	<u>BTM</u> Single layer asymmetric 0.10 μm - 5 μm	PTFE
Broad Chemical Compatibility	<u>BNM</u> Single layer 0.10 μm - 0.65 μm	Nylon 6,6

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CLARIFICATION & PREFILTRATION

Filtration Need	Filter	Media
Fluids with High Proteins and Preservatives	BPS Single or dual layered asymmetric 0.03 µm - 1.2 µm	PES
High Flow Rate and High Contaminant Holding Capacity	BCWPS Single or double layered 0.2 µm - 1.0 µm	PES
High Contaminant Holding	PGD Single layer 0.22 µm - 5 µm	Fiberglass
Broad Chemical Compatibility	BNM Single layer 0.10 µm - 0.65 µm	Nylon 6,6
Critical Applications and High Retention Prefilter	PPD Pleated depth 0.10 µm - 5 µm	Polypropylene
Broad Chemical Compatibility Prefilter	GDMB Melt blown 1 µm - 100 µm	Polypropylene
High Retention and Dirt Holding for High Value Liquids	NSPD Nano spun, dense construction 0.50 µm - 50 µm	Polypropylene

TANK VENT & PROCESS GAS

Filtration Need	Filter	Media
Sterilizing for the Most Stringent Gas Filtration Applications	PTM Hydrophobic, individually tested 0.10 µm - 5 µm	PTFE
High Flow Rates and Sterilizing	PTR Hydrophobic, individually tested 0.22 µm	PTFE
Bioburden Control for Gas Filtration and Tank Vent	BTM Hydrophobic, individually tested 0.10 µm - 5 µm	PTFE

WATER PURIFICATION

Filtration Need	Filter
Remove bacteria contamination with sterilizing final filters that insure the final product.	<ul style="list-style-type: none"> • PPS • SPS • HPPS • PNM
Bioburden control for WFI and bulk water systems to meet USP requirements.	<ul style="list-style-type: none"> • BPS • BNM • PPD
Prefiltration that protects RO filters by removing particles, carbon fines, and traps resins.	<ul style="list-style-type: none"> • GDMB • NSPD • PPD
Vent filters that protect purified water stored in tanks.	<ul style="list-style-type: none"> • PTM • BTM • PTR

Technical Consulting and On-going Support

Critical Process provides presales technical consulting and validation assistance to ensure a best fit solution for your operation. We continue to partner with your team during and after installation with technical support and services for the life of the process.

Fast Delivery - Products typically ship within 5 business days of receiving your order

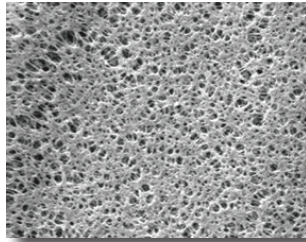
Never be caught short again. Fast delivery allows you to respond to low inventory for batch reruns and gives you flexibility for new opportunities.

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Filter Media is available in all filter types.

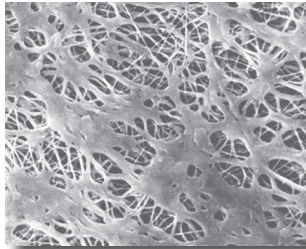
Polyethersulfone (PES)

Filters made with hydrophilic Polyethersulfone are well suited for sterile fill applications and other products containing preservatives and proteins which can adsorb to some media. They serve a range of functions from bioburden removal and control to clarification and prefiltration. Available in symmetric, asymmetric and high capacity configurations, these membranes capture a large amount of different size particles and microorganisms, allow for high flows and have low binding characteristics. PES filters are absolute rated and pore sizes range from 0.03 μm to 1.2 μm . They are available in single, double, and dual layer (prefilter and final filter) models.



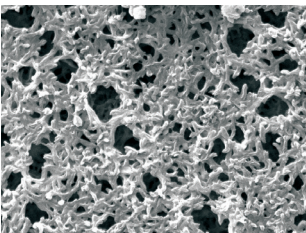
Polytetrafluoroethylene (PTFE) Filters

Polytetrafluoroethylene (PTFE) is a highly hydrophobic fluoropolymer. Filter membranes made using this material are ideal for filtering non-aqueous chemicals and solvents, purifying process air and gases, and protecting tank contents via tank vent filtration. PTFE filters are available pre-wetted for use in aqueous applications. The media surface area, core design, pleat configuration and pleat pack density have been optimized to provide long filter life. PTFE filters are absolute rated and pore sizes range from 0.10 μm to 1.2 μm .



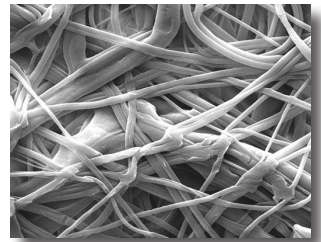
Nylon 6, 6

Nylon 6,6 hydrophilic membranes are well suited for the filtration of solvents. Used in diagnostics, LVP/SVPs, WFI Water, buffers and other media, and bulk pharmaceutical chemicals, these membranes filter fluids that are not compatible with other membranes. Nylon 6,6 filters are absolute rated and pore sizes range from 0.10 μm to 5.0 μm . They come in a single layer configuration.



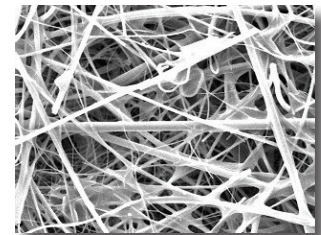
Polypropylene

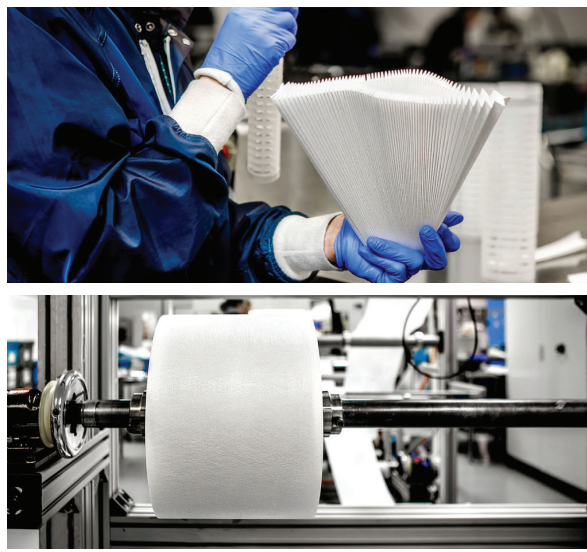
Polypropylene filters come in three types - Pleated Depth, Nano-Spun and Melt-Blown. Each is designed with different levels of particulate capture to protect and improve the efficiency of downstream filters. Pleated Depth filters are used as pre-filters in critical pharmaceutical systems. Special attention was given in the design of these cartridges to ensure long life as well as superior retention. They are available in pore sizes from 0.10 μm to 100 μm , are nominally rated at 99.9% retention at the indicated pore size. Nano-Spun filters are created by laying down graded density fibers on a spinning core, resulting in high throughput with excellent retention. They are available in pore sizes from 0.5 μm to 50 μm and are nominally rated at 99% retention at the indicated pore size. Melt-Blown filters are manufactured by spun-bonded technology and provide wide chemical compatibility and extremely low extractables. Designed for general filtration applications, they are available in pore sizes from 1.0 μm to 100 μm .



Fiberglass

Filters made with Fiberglass media are designed to meet FDA requirements for fiber-free effluent. Fiberglass filters offer high flow rates, high contaminant holding capacity as well as excellent retention. They are rated at 99% retention at the indicated pore size. These high capacity membranes are used in pre-filter applications as well as final filter applications where the goal is bioburden reduction and not sterile product. Pore sizes range from 0.03 μm to 5.0 μm and come in a single layer configuration.





We Make Filters. We Sell Solutions.

Critical Process Filtration has been manufacturing filtration products for over 20 years and is a preferred vendor for major corporations in the Life Science industries. We make high quality PES and PVDF membranes in our ISO 9001:2015 certified manufacturing facility and source other proprietary media and membrane materials using strict specifications. All products are assembled and packaged in a clean-room environment.

Our proven filters meet performance and budget requirements of Life Science processes and typically ship within one week from receiving an order.

CPF Application Engineers partner with your process team from initial inquiry through the life of the products. Our early stage technical consulting and testing insures post installation success for your operation.

As a Made in the USA manufacturer, we employ talent that prides themselves on designing, constructing, assembling, testing and delivering quality products faster than other suppliers. Integrity in workmanship, delivering on promises, company-wide collaboration and loyal customers have made us the organization we are today.



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