3M Purification
Food & Beverage Filtration Solutions

Tradition blended with innovation

A complete line of filtration products from a single source
- High Performance Products
- Sustainable Designs
- Engineering and Technical Support
- User Friendly Features
- 3M Purification Support
We’re making your process a partnership

Quality, reliability, productivity and profitability are key factors in the success of a business. With a complex knowledge of the Food and Beverage Industry, 3M Purification understands you need to benefit your own customers with high quality drinks and food products, through optimising the costs of filtration, reducing the cost and time of maintenance.

Because you expect guarantees in matter of process, standards and security, 3M Purification is committed to provide you with solutions, expertise and quality of products and service perfectly adapted to the specificity of your needs.

Precise and powerful, 3M Purification offers you real, competitive advantages.

Performance
3M Purification systems deliver ECONOMICAL answers to the filtration needs of the Food and Beverage processor.

- Longer filter life and highest throughputs
- Reduced labour and change-out time
- Exceptional contaminant holding capacity
- Filter cartridges designed for regeneration and reuse
- Consistent, reliable quality

Convenience
3M Purification filter systems offer CONVENIENCE and ease-of-use.

- Easy filter installation and rapid change-out for minimal downtime
- User friendly housing designs
- Wide range of products to match all process flow rates
- Leak-free, totally enclosed filter housings

Quality
3M Purification filter systems deliver worldwide QUALITY for consistent operation.

- ISO9001 quality systems
- Worldwide manufacturing and distribution
- Rigorous in-house testing and validation

3M Purification is a wholly owned subsidiary of 3M Company. The combination of 3M’s history of innovation with 3M Purification’s filtration application knowledge provides for unmatched capabilities for customers’ current and future filtration needs.

Scientific Applications Support Services (SASS)

The cornerstone of 3M Purification’s philosophy is service to customers, not only in product quality and prompt delivery, but also in validation, application support and in the sharing of scientific information.

3M Purification’s Scientific Applications Support Services works closely with customers to solve difficult filtration challenges and to recommend the most efficient, economical filter systems. SASS specialists can perform on-site testing and utilise filtration applications expertise to partner with customers. 3M Purification resolves filtration problems promptly and efficiently in a cost-effective, confidential manner with a commercial support group consisting of 3M Purification’s in-house customer service staff, application specialists and engineering services. 3M Purification’s broad distributor base and sales offices provide worldwide customer service, local inventory and field support in virtually every major center of manufacturing.
3M Purification Filtration Technologies

3M Purification provides filtration and separation solutions for a wide range of Food and Beverage processes including:

Wine Filtration Products
Wine Tradition blended with innovation…Fruit cultivated with exacting detail…aged oak barrels…complex flavours and aromas…winemaking skills passed down from generation to generation…the key ingredients in award winning wines. 3M Purification understands the demanding and complex nature of creating the best wines in the world.

We’ve worked for decades with winemakers around the world providing the filtration expertise required for absolute clarity and stability of fine wines. 3M Purification takes a systems approach to helping winemakers optimise their filtration. Just as a fine wine is more than the sum of its parts, 3M Purification works individually with the winemaker to design the optimum system for clarification, prefiltration and final filtration. This results in integrated filtration systems that reduce overall filtration costs while maintaining efficiency and reliability.

Beer Filtration Products
We’re brewing success from local hand-crafted microbrews to the world’s largest breweries, 3M Purification has decades of experience supplying reliable, cost effective separation solutions. 3M Purification filters are used in many critical steps in beer production including water processing, clarification, control of particulates, sterile air and gas service and microorganism control in nonpasteurised beer. 3M Purification systems increase reliability while helping brewers to drive down processing costs.

Bottled Water Filtration Products
3M Purification Filter Systems – the choice is clear for bottled water producers. Consumer demand for increased water quality compels bottlers to vigilantly maintain high operating standards. 3M Purification satisfies this demand with filtration systems that meet or exceed industry quality standards. 3M Purification filter systems are used to control particles from the spring or source water, to help protect processing equipment and for microbiological control at the bottling line. Our flexible systems are designed for flow rates as low at 19 LPM to as high as 3780 LPM or greater. Advances by 3M Purification include the high flow filter cartridge which replaces up to 18 conventional 2.5 inch pleated cartridges with a single filter element.

Food & Beverage Products
3M Purification is a world leader in the design, manufacture and marketing of a comprehensive line of filtration products for the separation, clarification and purification of Food and Beverage products. 3M Purification supplies innovative, cost effective filtration and separation solutions for tough food and beverage challenges.
Depth Filter Cartridges

3M Purification offers a full line of cartridges in a cylindrical depth filter construction in various materials, configurations and grades designed to meet the application needs.

Nominal Rated:

- **Micro-Klean™ RT Series Filters**: Rigid polypropylene cartridges providing cost effective filtration for water based applications.
- **Micro-Klean™ D Series Filters**: Combines an enhanced open wind process with an internal media blanket, the Micro-Klean™ D Series provides superior flow rates, greater filtration efficiency and consistent filtration characteristics from cartridge to cartridge. This winding pattern creates much larger diamond shaped contaminant holding chamber.

Absolute Rated:

- **Betapure™ NT-T Series Filters**: 3M Purification designed the Betapure™ NT-T series cartridge to provide significantly superior service life while maintaining consistent filtration efficiency. Betapure NT-T series filters achieve this through an innovative cartridge design that allows uniform distribution of fluid flow and contaminant throughout the entire depth of the cartridge.

Surface Filter Cartridges

For those applications where use of surface filter cartridges is advantageous, 3M Purification offers an extensive line of absolute rated cartridges in various materials of construction, configurations and grades designed to meet the applications needs.

- **Betafine™ DP Series Filters**: All Polypropylene pleated cartridges providing cost effective absolute rated filtration for demanding applications.

Sterile Vent and Gas Filter

- **LifeAssure™ PFS Series Filters**: PTFE cartridges offering compatibility with aggressive fluids. Also designed for sterile vent and process gas filtration.

Clarification Filters

- **Zeta Plus™ H Series Filters**: Cartridges are a 3M innovation, charge modified depth filter constructed with high tensile strength media. The ZETA PLUS™ H Series Filter media was specifically designed to meet the rigorous challenges of the winery environment. The H series media formulation is optimised to withstand repetitive hot water sanitation cycles while maintaining media strength and efficiency superior to that of other filter media. This media formulation, combined with the rugged cartridge structure results in superior filter life and optimum process economies. The Zeta Plus H Series Filters are available in 8”, 12” and 16” diameter cartridges, with the 12” providing the additional benefit of lifting handles for ease of handling.
- **Zeta Plus™ H Series & Zeta Plus™ J Sheet Series Filters**: Available in a wide range of cut discs and squares to accommodate almost any filter press requirements.
Prefiltration

- **LifeAssure™ BLA Series Filters**: A unique prefilter providing unmatched protection of final membrane filters as well as exceptionally long service life. LifeASSURE™ BLA incorporates 3M Purification’s FlexN membrane technology creating a dual zone membrane that offers maximum contaminant holding capacity. In addition LifeASSURE™ BLA utilises Advanced Pleat Technology which maximises the useful surface area while maintaining the correct flow paths between the pleats. By utilising up to 50% more useful surface area than competitor cartridges the LifeASSURE™ BLA provides lower pressure drops, longer service life and lower overall filtration costs. Constructed with Nylon 6.6 membrane in all polypropylene cartridge construction the LifeASSURE™ BLA is ideally suited for bottling line prefiltration applications in the wine industry.

Final Filtration

- **LifeAssure™ BNA Series Filters**: 3M Purification’s latest advance in membrane technology. Combining a highly asymmetrical PES membrane with the proprietary Advanced Pleat Technology (APT) construction, this produces a membrane optimised for excellent spoilage microorganism retention, ease of cleaning, low initial differential pressure and long service life leading to lower overall operational costs.
- **LifeAssure™ BA Series Filters**: A membrane combined with an advanced cartridge construction to provide enhanced mechanical and thermal resistance. This superior construction permits continuous service, even under demanding process conditions.
- **LifeAssure™ BDA Series Filters**: Helps bottled water and other beverage processors meet the highest standards for microorganism control. Combined with 3M Purification’s range of particle control and prefiltration filter cartridges, LifeASSURE™ BDA Series final filters offer bottlers a complete solution for rigorous contaminant control while maintaining long service life and low operating costs. Membrane and cartridge design innovations result in a highly durable filter, capable of secure operation through numerous cycles of hot water sanitisation, steam sterilization and chemical based cleaning and sanitation.

Water Filtration

3M Purification offers a wide range of water filtration products to suit every application in your plant. Whether it is high volume process water or sterile filtration for rinsers 3M purification can offer a complete solution.

- **3M™ High Flow Series Filters**: The 3M™ High Flow filtration system features a revolutionary design that efficiently arranges filter media in a compact filter cartridge. In addition, it uses a 3M innovative ergonomic handle that makes installation and removal easy during change-outs. Its new “twist to lock” locking mechanism makes it easier to determine whether the filter is securely in place, reducing leakage. The result is a maximum capacity filter that is easy to use, saving time, money and space. The 6.5” (165mm) diameter cartridges manufactured from absolute rated polypropylene microfibre media in a unique radial pleat configuration. It is available in 10”, 40” and 60” lengths. High flow capacity (up to 114m³/hr for a single 60” cartridge) makes it ideal for large flow, low contaminant applications (for example pre-PR, process water, etc.). High Flow utilises specially designed housings available in a wide variety of sizes, materials and configurations. When compared to conventional cartridge systems, High Flow provides a compact design with lower capital costs and is designed for ease of use in mind.
Filter Housings & Engineered Systems
3M Purification offers an extensive range of cartridge filter housings to meet almost any process flow requirement. Designed for the production environment, 3M Purification offers a wide range of general purpose and sanitary housings to suit our comprehensive range of cartridges.

Lenticular Style Zeta Plus™ Depth Filter Housings
These housings are designed to accommodate our line of Zeta Plus™ lenticular depth range of housings includes:

- **Model ZP**: Housings accept from one to four 8", 12" or 16" diameter standard Zeta Plus filter cartridges

3M™ Series Filter Housings
These housings are designed to accommodate our full range of filter cartridge products:

- **3M™ ZS series Mini-cartridge**: small volume, critical filtration and sterile filtration applications.
- **3M™ ZV series (in line) and ZS ("T" line)**: Designed to accept a single 10", 20", 30" or 40" filter cartridge.
- **3M™ ZW series**: Multi-cartridge housings designed for three, five, seven or 12 cartridges in 10", 20", 30" and 40" lengths.

Full Engineering Department
3M Purification’s capabilities include a full-service Engineering Department that provides custom engineered filter housings. Custom engineered filter housings can be provided with pumps, gauges, piping, optional feed loops and other options to meet your specific needs. Complete skid mounted configurations are available upon request.
Introducing the 3M™ Clean-Trace™ Hygiene Monitoring System

With the 3M™ Clean-Trace™ Hygiene Monitoring System, you can be confident that you’ll see clean. Our easy-to-use handheld device and three-step process make testing simple. When combined with our cutting-edge software, it’s a complete system you can rely on. Our adaptable software provides unprecedented capabilities to track trends, create reports, and identify immediate and long-term issues to protect your business in a competitive global marketplace.

See beyond the surface

For the Food and Beverage industry, the goal is to deliver a safe, high-quality product. In a marketplace where food-borne illness can make or break your reputation, cleaning and sanitation are critical to protecting your business. But you can’t always see every health hazard. To verify cleanliness, you need more than an assessment with the naked eye. Microbiological tests are an option but require waiting 18 hours or more for lab results. You need a reliable, complete system to help you manage your hygiene monitoring process without the wait.

Microbes and product residue contain Adenosine Triphosphate (ATP), an indicator of biological residues that can be easily detected to measure cleanliness quickly. ATP testing meets all criteria for your peace of mind.

See the trends

Precise measurements impact both immediate cleanliness evaluations and long-term decisions. When combined with our 3M™ Clean-Trace™ Data Trending Software, the numerical data can be optimized to identify workplace trends.

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Microbes and product residue contain Adenosine Triphosphate (ATP), an indicator of biological residues that can be easily detected to measure cleanliness quickly. ATP testing meets all criteria for your peace of mind.

See the point of origin. Trending software helps you identify where the issue begins, so you can solve it quickly before it affects your product.

See employee effectiveness. This chart helped assess and improve the effectiveness of the weekend sanitation team.
**3M™ Petrifilm™ Products**

Productivity maximized, with products you can count on. The range of Petrifilm™ count plates designed to give fast, simple and reliable results, proven and certified. Ready to use, easy to interpret 3M™ Petrifilm™ Count plates will improve your product quality, plant productivity and overall profitability.

**Three simple steps to improved analysis with 3M™ Petrifilm™ Plates.**

1. **Inoculate**
   Petrifilm™ Plates are easily inoculated. No media preparation is required.

2. **Incubate**
   Petrifilm™ Plates can be incubated in a smaller incubator.

3. **Interpret**
   Simply count colonies. Indicator dyes facilitate interpretation.

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**3M™ Petrifilm™ Plate Reader ...**

... automated reading you can rely on

Easy and fast to use, only 4 seconds from the plate insertion in the reader to data stored into a Microsoft® Excel worksheet or database. Mapping capability enables transfer of specific data into new or existing Microsoft® Excel spreadsheets to create customised reports.

**Fast, automated reading and recording of Petrifilm count plate results**

- Reads Petrifilm count plates in only 4 seconds
- Automatically transfers data into Microsoft® Excel worksheets or LIMS reduces possibility of transcription errors.
- Software automatically calculates counts based on the dilution
- Ability to read bar code labels eliminates transcription errors
Introducing the 3M™ Molecular Detection System

The 3M Molecular Detection System is powered by an innovative combination of unique technologies — Isothermal DNA Amplification and Bioluminescence Detection — to provide a solution that is fast, accurate, easy-to-use and affordable. It’s pathogen testing made pure and simple.

Pure
The 3M Molecular Detection System uses multiple, specific primers targeting distinct regions of the genome, combined with real-time detection of the amplification, to deliver sensitive and specific results. Continuous amplification by a unique, high-fidelity DNA polymerase makes our system less prone to matrix interference. This was designed to help you perform fewer repeat tests and make critical decisions faster.

Simple
Our system makes testing easy, increasing technician productivity and efficiency. All you need is an enriched sample, a laptop and the 3M Molecular Detection System. Using a DNA polymerase that is tolerant to low-quality DNA samples allows for a simple assay set-up with fewer steps. Your lab can even test and display results for multiple organisms in a single run. The simplicity and robustness of our technology combine to deliver a low-cost instrument with minimal maintenance requirements and less downtime for your lab.

1. Set it up
Power up the system and your computer, then launch the software and enter the data for your test. Transfer enriched samples to the pre-filled lysis tubes and mix.

2. Run the test
Put the lysis tube rack on the heating block, then the cooling block. Mix again, and tap the rack to remove bubbles from the tubes. Let the tubes settle. Add the samples to the pre-loaded reagent tubes, and transfer reagent tubes to the instrument using the speedloader tray.

3. Get results
Press start and walk away. Monitor the real-time results and view reports as quickly as pathogen DNA is detected.
3M Purification Over 90 Years of Solutions

When looking for a solution to challenging Food and Beverage filtration, the industry has turned to 3M Purification for performance. 3M Purification has achieved a leadership position by striving to be the best supplier of high quality products designed to provide cost effective solutions.

Some filter manufacturers offer a limited range or a single filter option. 3M Purification however, understands that each application is unique and there is always an alternative. 3M Purification has both the experience and the breadth of products to provide quality improvements and dramatic cost savings for the customer.

The 3M Purification Commitment

3M Purification understands that the best solutions begin with a thorough awareness of the problem and recognises that each customer’s manufacturing process is unique. The goal is to understand both customer objectives and process requirements and to recommend solutions to meet customer needs.

Assisting with Regulatory Requirements.

3M Purification understands the exacting nature of the regulatory environment and the demands on today’s Food and Beverage industries. In response to these ever increasing demands, SASS has developed a Validation Support Services program designed to streamline filter regulatory compliance. These services extend beyond the validation of sterilizing grade membrane filters to the support and validation of prefilters. 3M Purification helped pioneer prefILTER validation, an emerging industry trend, with our Zeta Plus line of pharmaceutical grade prefilters.

3M Purification Sustainability

3M Purification has a long standing commitment to sustainable development through environmental protection, social responsibility and economic progress. To us, that means meeting the needs of society today, while respecting the ability of future generations to meet their needs. We recognise that the company’s long term success springs from adopting and implementing the principles of sustainable development: stewardship to the environment, contributions to society and to the creation of economic value and worth. At the same time, we recognise that only by continuing to be a viable and successful enterprise can we continue to be a positive contributor to sustainable development.
3M Technologies for Food & Beverage

Diverse Portfolio of Solutions