Driving the Future of Filtration
CUNO Incorporated, a 3M company, is a world leader in the design, manufacture, and marketing of filtration products for the separation, clarification, and purification of fluids and gasses. Its products are widely used throughout the global healthcare, industrial, and water markets to make customers more successful.

CUNO Today & Tomorrow
The name Cuno comes from the Company’s founder, Charles Cuno, who started the Company in 1912 in Meriden, Connecticut. The Company began as a supplier of mechanical parts to the automobile industry but began to develop metal and mechanical filters early in its existence. During the 1960’s it turned its attention solely to filtration and developed a line of resin bonded depth filters for the industrial market that are still in production today. Progressing to finer and more sophisticated filtration, CUNO’s engineers invented a cellulose based filter that was charge modified, permitting the filtration of sub-micron particles, smaller than the pores of the filter. Variations of this filter are used today in the blood fractionation and biopharmaceutical industries. CUNO was a pioneer in the development of microporous membranes, and the use of nylon 66 for the formation of filtration membrane. Finally, leveraging the technology developed for the industrial market over to the residential and commercial drinking water market, the Company launched a full line of products under the Aqua-Pure® brand name. CUNO’s unique carbon block process results in a product that reduces a wide variety of chemical contaminants in water while delivering high flow rates and low pressure drop.

In 2005 CUNO was acquired by 3M and now operates as a division within the Industrial and Transportation Business. The acquisition combined the innovation of 3M with the filtration application know-how of CUNO. The combined entity participates in virtually all the key markets for liquid filtration. CUNO has fully integrated into 3M’s international organization capitalizing on the growing market for cleaner fluids in industry and cleaner, better tasting water for people around the world.
Sustaining a culture of innovation and excellence

The people of 3M are the company's most valuable resource. Our culture has always emphasized integrity and fairness in conjunction with innovation and excellence, and we will continue to help employees develop their diverse talents.

Creating borderless customer success

Virtually anywhere you go, 3M technologies are at work – making life easier and better for people around the world. As a member of the 3M family, CUNO offers the customer the advantage of an extensive global sales and manufacturing network. Because nearly all our people were born and raised in the countries where they work, they have firsthand knowledge of the markets, culture, business practices and local industry trends. They have complete access to the ever-growing knowledge base at CUNO, understand the filtration applications, and are able to provide trusted and proven solutions to challenges faced by our customers. They are committed to your success and are the vital link to product development – anticipating your future needs to make your filtration application even easier and more effective. Whether you are a multinational company in Europe, or an emerging business in Asia, we are there with technical, sales, and service support.
CUNO Organization—Designed for Collaborative Solutions

CUNO is organized into business units, structured around our six key markets, intended to facilitate customer interaction and expedite response to the market’s needs. Each business unit can access the breadth of 3M’s technology and CUNO’s application know-how to provide our customers with the right solution to their filtration challenges.

A worldwide glance at 3M CUNO
Residential

The choice of the water professional.

CUNO has long been regarded as a leader in delivering quality filtration products for a variety of residential applications. Maintaining a customer focus has resulted in a complete line of water filtration and water treatment products to provide families with cleaner, clearer water for home use, and even some office and light industrial applications.

Our labs provide water testing free of charge to the end consumer to help better identify the problems faced in each home. Then, our network of water professionals have been trained to identify and install the best solution to meet that specific need. Different parts of the country face different water issues. For example, hard water is more predominant in Midwestern states than on the east coast; municipal users face higher chlorine/chloramine content than well users; and lead poses a threat in many communities.
Applications

Point-of-Use Systems filter the water for a specific use or location, such as kitchen and bath. In the kitchen, our undersink systems offer consumers customized filtration solutions that address simple aesthetic issues such as sediment and chlorine taste and odor to sophisticated Reverse Osmosis systems that offer the highest level of contaminant reduction. Drinking water systems typically offer higher levels of filtration and the water is delivered through a dedicated faucet. Other systems provide filtration for all of the water at the sink, again with varying levels of filtration.

All of these systems are installed out-of-sight, under the sink, with only a faucet to potentially affect the décor of the kitchen. To address higher end kitchens, we also offer decorative faucets in a variety of finishes.

To further address water concerns in the kitchen, we offer a series of in-line filtration products to filter the water for refrigerator ice makers and water distributors.

In the bath, shower filter systems help protect from the effects of breathing steamy chlorine fumes. In addition, reducing the amount of chlorine in the water helps prevent dry skin and hair. Undersink systems can also be installed in the bath to filter the water at the sink.

In the basement, point-of-use scale inhibition cartridges help protect water heaters.

At the office and in the kitchen, in-line and cooler systems filter the drinking water in tankless water coolers, drinking water faucets, and coffee machines.

Point-of-Entry Systems address all of the water entering the home. Again, a variety of options address the specific needs of each home.

Simple Filtration  We offer filtration systems that address sediment, as well as chlorine taste and odor, in all of the water entering the home. We recently introduced a new innovation: Sanitary Quick Change in a whole house filter system. Gone is the cumbersome, time consuming cartridge change experience. Just a quarter turn removes the old cartridge. Another quarter turn installs the new. The homeowner’s hands never touch the dirty filter media.

Water Treatment  For more complex situations, we make water treatment products that address heavy sediment content, high acid content, arsenic, and lead, to name a few. Other point-of-entry systems include water treatment systems for commercial and light industrial applications that are found in workplaces around the world.

Specialty Engineered Products  CUNO also works with filter integration for appliances and other private label solutions. For more information about CUNO OMA products, please contact us.
Food Service

The new 3M Water Filtration products bring a long-term commitment to meet the special needs of the foodservice industry. We have the expertise, product quality, maintenance savings, distribution and service that CUNO customers have relied on for decades. With our new name, we also have the full weight and synergy of a global brand that resonates as a proven and trusted leader in developing technologies that are better, safer and healthier.
Applications

Recipe Quality Water™ Water is the main ingredient in many recipes and beverages. As such, water affects the quality, consistency and appearance of any product. It may be pleasant to drink, but certain constituents in the water can cause the end product to appear cloudy, look oily, or taste differently from day to day.

For example, the consumption of specialty coffees, coffee based beverages and specialty teas is on the rise. Approximately 98% of coffee is water. Any off-taste from chlorine can change the taste of the coffee, tea or espresso, which can drive customers to seek a better tasting location.

Post-Mix machines present similar challenges. Excess chlorine residual can cause unpleasant tasting beverages. High turbidity can cause the beverages to appear cloudy and unappealing.

Appearance is Everything When a customer sits down to a meal, but the dishes and silverware are spotted with hard water spots, it ruins the atmosphere. Warewashing equipment can be protected by water softeners, which will reduce the spotting on dishes, as well as helping to protect the equipment itself.

Helps Protect Equipment Water can also affect the equipment in which products are made: Sediment particles can clog fine spray nozzles; chlorine and chlorine by-products can cause corrosion; calcium and magnesium can form hard scale on coffee brewer heating coils and evaporator plates. Scale build-up also causes an increase in energy consumption and a decrease in the efficiency of the equipment.

Installing equipment that helps protect water-using equipment can lead to reduced service calls and reduced downtime increase the bottom line profitability.

To address all of these issues, restaurants and convenience stores use 3M Water Filtration Products to help improve the quality of the water they use to cook with, as well as to help protect their water-using equipment like coffee and tea brewers, steamers, steam tables and ice machines.
Healthcare

Exceeding expectations by collaborating with customers to define the solution is the goal of the business unit and what our customers expect. Through a combination of product engineering and a solid understanding of the critical nature of the industry, CUNO is able to design filtration solutions specific to our customers’ requirements. From pre-filtration to final sterile filtration, from the bench-top to full scale production, the solution may be just a conversation away.

Applications

Pharmaceutical  CUNO’s core filtration technologies address the most demanding applications in pharmaceutical processing for small molecule and active pharmaceutical ingredient (API) applications. Regulatory requirements demand the highest quality product standards along with documented evidence of manufacturing processes. CUNO products in the pharmaceutical industry meet the demands of regulatory agencies throughout the world and are used by the largest and most respected pharmaceutical manufacturers in the industry. Pharmaceutical industry product applications addressed by CUNO include filters for liquid raw materials, process vents, adsorptive technologies for pharmaceutical intermediates and sterilizing grade filters for validated production.

Bioprocessing  CUNO is a world leader in advanced depth filtration systems and membrane-based separations, offering a range of high performance and high quality products to meet a variety of processing challenges facing today’s bioprocess industry. CUNO’s innovation filtration products are used by major biotech companies around the world to produce therapeutics that bring cures to millions of patients everyday. From cell culture clarification, to soluble impurity removal, to final sterilizing filtration, CUNO technologies deliver an economical, robust solution for your processing needs.
Biologics  CUNO has been servicing the biologics industry for more than 30 years, providing a complete range of innovative and cost-effective filtration solutions to meet the increasing demands for product safety and production efficiency. Zeta Plus™ depth filtration technology, in cartridge systems and sheets, play an important role in the clarification of plasma-derived protein products in virtually every blood fractionation plant around the world. CUNO’s focus in this area has led to the development of several specialty grades of Zeta Plus that aid in the processing of plasma fractions by removing lipoproteins, cholesterol, and triglycerides that lead to product instability and tend to block downstream filters. With a wide range of innovative pleated pre-filter and sterilizing grade filters, CUNO filtration technologies provide lower processing costs through improved performance throughout your production process.

Specialty Membrane  CUNO provides standard and customized micro-porous filter media and membranes to users and manufacturers of laboratory, diagnostic kit and medical filtration products. The filter media are available with a variety of options to tailor fit the media to the application, ensuring optimal cost and performance benefits. Applications include: lab filtration devices, disk filters, medical and dialysis filters, roll-stock, cartridge filters and diagnostics.

CUNO offers a full range of converting services for rolls, widths, sheets, custom cuts, labeling and packaging.
Food & Beverage

CUNO is a global manufacturer of innovative filtration solutions with engineers, scientists, and filtration specialists serving Food and Beverage customers’ needs worldwide. A dedicated staff of market specialists provides engineered filtration solutions to accommodate a wide range of contamination control problems.

Pursuit of innovation has yielded advances in filtration technology and resulted in a multitude of engineered contamination control solutions for a variety of applications. Such innovation is responsible for the development of many filtration products for a wide range of applications. These products dramatically improve process fluid purity, enabling customers to achieve increased process efficiency, process protection, and reduced manufacturing costs.

CUNO 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. From beer to wine, bottled water to soft drinks, CUNO supplies innovative, cost effective filtration and separation solutions for tough food and beverage challenges.

Applications

Wine  Tradition blended with innovation…Fruit cultivated with exacting detail…aged oak barrels…complex flavors and aromas…winemaking skills passed down from generation to generation…the key ingredients in award winning wines. CUNO 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. CUNO takes a systems approach to helping winemakers optimize their filtration. Just as a fine wine is more than the sum of its parts, CUNO 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  We’re brewing success from local hand-crafted microbrews to the world’s largest breweries, CUNO has decades of experience supplying reliable, cost effective separation solutions. CUNO 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 non-pasteurized beer. CUNO systems increase reliability while helping brewers to drive down processing costs.

Bottled Water  CUNO Filter Systems – the choice is clear for bottled water producers. Consumer demand for increased water quality compels bottlers to vigilantly maintain high operating standards. CUNO satisfies this demand with filtration systems that meet or exceed industry quality standards. CUNO 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 5 GPM to as high as 1000 GPM or even greater. Advances by CUNO include the high flow filter cartridge which replaces up to 18 conventional 2.5 inch pleated cartridges with a single filter element.
Cuno’s Industrial business unit provides filtration and separation solutions to a wide range of markets including electronics, paint & coatings, petrochemical/chemical, oil & gas processing, and general industrial. Whether the application is process water clarification, fine ink pigment classification, or the removal of contaminants in petroleum, CUNO has the applications knowledge and products to provide a solution to even the most challenging of requirements.

Applications

Resins, Paints & Coatings  Increasing demand for specialty coatings, and more uniform coatings and resins has compelled suppliers to consistently manufacture and deliver higher quality products to a broad application base. CUNO meets the demand with filtration systems that improve product quality, increase yield, and minimize or eliminate product rework. Utilizing CUNO’s filtration technology in the manufacturing process can reduce total filtration costs significantly. Typical applications include: electrodeposition paints, automotive top coats, and inks.

Oil & Gas  CUNO focuses on liquid filtration in critical upstream and downstream processes, including: amine sweetening, hydrotreating, and glycol dehydration.

Chemical & Petrochemical  CUNO provides filtration products used in commodity and specialty chemical manufacturing processes, including: polycarbonate, hydrogen peroxide, and vinyl chloride monomer.
General Industrial & Utilities  The filtration needs for the General Industrial & Utilities markets are as diverse as the operations (beverage can, paper mills, electric utilities, machine tool) within these markets. Some of the more common filtration applications include: machine coolants, lubricating oils, and pre-filtration to reverse osmosis membranes.

Proper filtration is critical to ensuring desired fluid quality and to help protect key process equipment through minimizing associated downtime and repairs. CUNO has a long and successful history of providing solutions for industrial filtration applications, including: self cleaning filters designed for use on lubricating oils, nominal and high efficiency bags for machining and parts washing systems, and disposable filter cartridges for process water, pre-RO applications.

In addition, CUNO offers an extensive line of filter cartridge and bag vessels in various configurations and materials of construction.

Electronics  CUNO has maintained its leadership in fluid filtration and purification by continually providing superior, innovative products and technical support. CUNO technology is used for a wide range of applications, including: ultrapure water, photolithography, and chemical mechanical planarization (CMP).

The chemicals used in these applications demand the ultimate in purity and quality and for that reason CUNO filters are the products of choice in labs worldwide. CUNO filtration and purification solutions are used in the manufacture of semiconductors, printed circuit boards, and organic thin film photovoltaic cells.
Scientific Applications Support Services (SASS)

Providing the key to customer collaboration, the global CUNO SASS organization is a team of multi-disciplinary scientists and engineers that provide the vital link between CUNO’s filtration knowledge base and customer needs. With complete access to CUNO technology and its research and development, members of the SASS group provide on-site bench-scale tests and assist with customer scale-up to the full manufacturing process. When unique processing requirements are encountered, SASS is expertly equipped to identify filtration solutions using either the broad array of existing CUNO filter products or by working with CUNO R&D to design a custom solution for the application.

Assisting with Regulatory Requirements  CUNO understands the exacting nature of the regulatory environment and the demands on today’s pharmaceutical and bioprocess 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 prefilter. CUNO helped pioneer prefilter validation, an emerging industry trend, with our Zeta Plus line of pharmaceutical grade prefilter.

Filter Integrity Testing  Water-wet integrity test values are supplied with all sterilizing grade CUNO membrane filters. However, many filtration applications are in solutions other than water. The properties of these solutions (surface tension, wetting angle, etc.) may alter the integrity test value of the filter under consideration. SASS can execute the appropriate method to determine the fluid specific integrity test parameters to answer this critical question.

Bacterial Retention  This evaluation supports the ability of a given filter to quantitatively retain a test organism when maximally challenged. The appropriate test organism is typically suspended in the drug product or fluid of choice, at a concentration that will yield a complete “challenge” to all areas of the membrane’s surface.

Chemical Compatibility Testing  This evaluation provides evidence that the CUNO filter selected for the particular application is chemically and physically compatible with the fluid to be filtered, as well as the operating conditions in which the filter is expected to perform.

Extractable Testing  Evaluation of what is extracted from the filter materials is critical in many applications. After all, it is important to understand what a filter can add to a process as well as what it can remove. The testing, in the customers’ specific fluid, is used to identify the material and amount extracted. Additionally, SASS can recommend the appropriate filter combinations to reduce the number of extractable components to simplify validation issues.

CUNO Filtration Technologies

CUNO’s core technologies, filtration media and delivery systems, provide solutions for filtration challenges in a wide range of applications. From cost effective, coarse filtration using filter bags, to the finest particle removal using hollow-fibers, our customers depend on CUNO to develop solutions.

Depth Media  Utilizing various platforms, CUNO provides depth filtration products in a variety of forms. Rigid cylindrical elements, such as the Micro-Klean™ product family, are manufactured to meet the requirements of a range of applications. These filters are usually constructed
using either resin or thermal bonded fibers, or are multi-layer, spiral wrapped design, to provide cost effective particle retention to industry and consumers alike. The Zeta Plus family of filters uses a unique felting process to create a depth filter pad which is delivered to customers in sheet, cartridge, and capsule formats.

Prefiltration Pleated Membranes Available in materials from non-woven polypropylene to cast nylon and polyethersulfone, these filters provide the filtration surface area required to retain large amounts of unwanted material, usually in the micron or submicron size range. Typically, prefilters are used to protect final sterilizing membranes, reverse osmosis membranes, or other downstream equipment and processes.

Sterilizing and Diagnostic Membranes These cast membranes with absolute removal ratings of 0.20 microns, the size required to retain bacteria, are used extensively in the pharmaceutical and other healthcare or food & beverage processing/manufacturing. In fact, CUNO is constantly collaborating with industry leading drug researchers to provide the necessary filtration solution as early as possible in the pharmaceutical development process. Diagnostic membranes, used in devices to test for specific medical conditions including pregnancy and blood sugar, are finding even more applications in medical testing as advances technology (gene identification and biotechnology) move forward by leaps and bounds.

Metal Filters and Filter Housings CUNO’s engineering experience in metal goods is extensive. The first to offer metal edge type filters, where the space between two metal surfaces determines the degree of filtration, CUNO has offered this method of retaining particles contaminating fluids for over 50 years – in fact, some of the earliest installations are still in operation. This expertise extends to the design and manufacture of a wide range of pressure vessels to house the filter elements. From single cartridge housings with flow rates of 28 gallons per minute, to large industrial housings featuring flow rates measured in the thousands of gallons per minute, CUNO can provide vessels capable of exceeding even the most stringent customer requirements.

Filter Systems Combining both filter media and housings in an innovative way, a fusion of media and housing design, has produced filter systems used in diverse applications. CUNO’s High Flow Filter system utilizes a filter element – capable of fluid flow in excess of 150 gallons per minute through a single element – and a smaller than typical filter housing to provide a solution for customers having high volume filtration requirements and critically limited space, such as off-shore oil rigs. Other customers, such as global food service outlets, use CUNO filter systems for their ease of use and the water quality consistency so that the cup of coffee made in a diner in New York tastes the same as the one made in Tokyo.
A global, diversified technology company

3M is fundamentally a science-based company. As a member of the 3M family, we create imaginative solutions, and we are a leading filtration provider in a wide range of markets, from the coarsest industrial filtration to the finest DNA separation. We provide the trusted solutions that our customers demand and expect. Our success is built on our ability to apply our technologies and expertise to an endless array of real-world customer needs. Virtually anywhere you go, 3M CUNO technologies are at work – making life easier and better for people around the world.