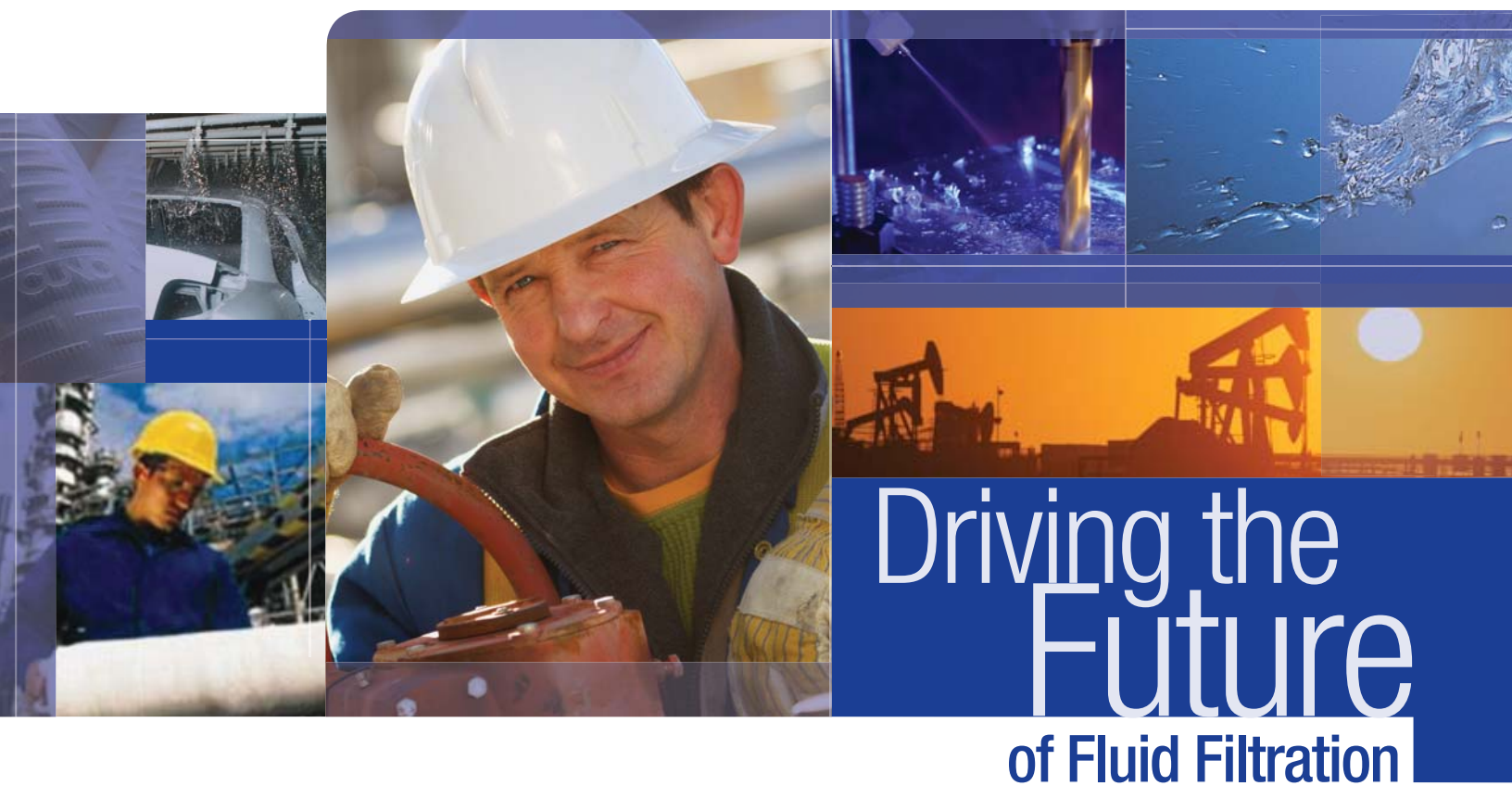




## Industrial Filtration Solutions



A complete line of filtration products from a single source

- High Performance Products
- Sustainable Designs
- Engineering and Technical Support
- User Friendly Features
- 3M CUNO Support



# CUNO Filtration Technologies

CUNO Incorporated provides filtration and separation solutions for a wide range of industrial processes including:



Paint & Coatings



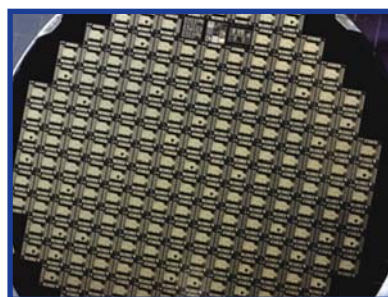
Oil & Gas Processing



Petrochemical/Chemical



General Industrial



Electronics

Whether the application is process water clarification, high purity water filtration for semiconductor manufacturing, fine ink pigment classification, or the removal of contaminants in petroleum, CUNO has the application knowledge and products to provide solutions to the most challenging of requirements. From cost effective, coarse filtration using filter bags, to the finest particle removal using membrane filters, customers depend on CUNO for filtration solutions.

Supporting CUNO's filtration offering is a dedicated multi-disciplinary team providing a vital link between CUNO's filtration knowledge base and customer needs. Using CUNO's extensive field and laboratory capabilities, this team is expertly equipped to identify filtration solutions using either the broad array of existing CUNO filter products or by working with research & Development to design a custom solution for the application.

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

# Depth Filter Cartridges

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

## Nominally Rated:

- **Micro-Klean™ III:** Graded-density resin bonded cartridges ideal for coatings and general industrial applications.
- **PolyKLEAN™:** Rigid polypropylene cartridges providing cost effective filtration for water based and other industrial fluid applications.
- **Micro-Wynd™ II:** Blanket wrapped cartridges incorporating a unique filter media blanket in a wound support structure.
- **MPF II:** String wound cartridges using single strand winding for uniform performance.



## Absolute Rated:

- **Beta-Klean™:** Absolute rated version of Micro-Klean III for more demanding applications.
- **Petro-Klean™:** Absolute rated resin bonded cartridges designed specifically for Oil & Gas applications.
- **Betapure™:** Rigid cartridges manufactured from thermally bonded polyolefin fibers. An exceptional classification filter for coatings and specialty chemical applications.
- **PolyNet™:** Polypropylene cartridges featuring innovative design resulting in superior flow characteristics.
- **Optima CMP:** Graded porosity, all polypropylene cartridges for classification applications (slurries...).



# Surface Filter Cartridges

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

## Polypropylene:

- **Betafine™ D:** All Polypropylene cartridges providing cost effective absolute rated filtration for demanding applications.
- **Betafine XL:** Unique pleat pattern version of Betafine D resulting in improved pleat utilization and extended filter life.
- **PolyPro™:** Graded density polypropylene cartridges providing cost effective absolute rated filtration and optimum contaminant capture.
- **PolyPro™ XL:** Unique pleat pattern version of PolyPro resulting in improved pleat utilization and extended filter life.



## Membrane:

- **LifeASSURE™ IMC:** Nylon membrane cartridges featuring multi-zone structure for critical industrial filtration applications.
- **LifeASSURE EMC:** Rinsed version of LifeAssure IMC for high purity filtration in the electronics industry.
- **Electropor™:** Charged, rinsed nylon membrane cartridges specifically designed for critical high purity filtration in the electronics industry.
- **Microfluor™:** PTFE cartridges offering compatibility with aggressive fluids. Also designed for vent and process gas filtration.



# Charge Modified Filter Cartridges

CUNO offers a full line of charge modified depth cartridges (Zeta Plus™ Series) composed of cellulose and diatomaceous earth materials, trapping contaminants smaller than the rated pore size via electrokinetic adsorption.

- **Zeta Plus A Series:** Designed for general industrial and utility applications requiring efficient filtration in the 1 - 20µm range.
- **Zeta Plus Activated Carbon Series:** Carbon containing cartridges capable of removing trace organics without the cleanup problems associated with bulk activated carbon.
- **Zeta Plus U Series:** Designed for high efficiency and cost effective filtration of resins.
- **Zeta Plus U2 & UW Utility Series:** Designed for removal of particle contaminants and moisture from dielectric oils. Commonly used in the power generation industry.





# Large Diameter Cartridges, Bag Filters and Specialty Systems

CUNO offers the following large diameter cartridges, bag filters, and specialty products.

## Large Diameter Cartridge Systems:



- **740 Series:** 7" diameter, 30" & 40" length cartridges containing high efficiency polypropylene or polyester microfiber media in a unique radial pleat configuration. High dirt holding capabilities designed for use in high contaminant applications (amine, coolant...). Utilizes specially designed housings available in a variety of sizes, materials, and configurations.
- **High Flow:** 7" diameter cartridges containing high efficiency polypropylene microfiber media in a unique radial pleat configuration. Available in 10", 40", and 60" lengths. High flow capability (up to 500 gpm for 60" cartridge) makes it ideal for large flow, low contaminant applications (pre-RO, process water...). Utilizes specially designed housings available in a variety of sizes, materials, and configurations. High flow cartridge capability reduces required housing size for a given flow rate optimizing housing foot print and capital costs.



## Bag Products:



- **NB Series:** Polypropylene & Polyester felt and Nylon Monofilament nominally rated filter bags providing cost effective filtration for industrial applications.
- **DuoFLO™ Series:** Graded porosity polypropylene & polyester felt media in a unique two cylinder design providing for higher dirt holding capacities and up to five times the life of conventional nominally rated bags. Easily retrofitable for use in bag housing systems.
- **100 Series:** Single layer high efficiency polypropylene microfiber media in a bag configuration. Ideal for oil contamination removal.
- **500 Series:** Multi layer high efficiency polypropylene microfiber media in a unique wrapped bag configuration. High dirt holding capacity allows for much longer life than conventional bags.



## Specialty Products:



- **NANOSHIELD™ Series:** Hollow fiber polypropylene media, polyethylene potted cartridge filters designed for critical applications in the electronics industries.
- **CTG-KLEAN Systems:** Sealed filter pack system that eliminates direct contact of contaminated filter reducing system clean-up requirements and operator exposure. Available in many filter types and sizes.
- **Activated Carbon:** Polyethylene cartridges containing an activated carbon bed for removal of trace organics in industrial applications.



## Metal Cartridges

For those applications where use of reusable metal based cartridge is preferred, CUNO offers the below products:

- **Auto-Klean™ Series:** Metal edge filters capable of filtering highly viscous fluids. Spacing between two metal surfaces determines the degree of filtration. Typical applications include lubricating oils, fuel oils, hydraulic fluids, and greases. Auto-Klean filters cleaned by turning a handle, resulting in solids removal and full flow restoration. Larger capacity Auto-Klean filters available with self cleaning capabilities. Two-stage filtration version of Auto-Klean filters available capable of removing particles down to 37 micron (nominal).
- **Model Micro-Screen™:** Stainless steel screen mesh elements ideal for corrosive fluids and other fluids that cannot be filtered by fiber type media.
- **Model Poro-Klean™:** Stainless steel filter elements formed from porous sheets of sintered powdered metal, ideal for high temperature liquids and gases and corrosive fluids.



# Industrial Filter Housings

CUNO carries a complete line of filter housings for use in industrial applications offering superior quality, ease of use, flexibility, and economy. From single cartridge housings to large multi cartridge housings designed to handle flow rates in the thousands of gallons per minute, CUNO provides housings capable of meeting even the most stringent process requirements.

## Bag Housings:



- **Model BHN:** Economical stainless steel single round bag housings available for those applications not requiring ASME code design.
- **Model BH:** ASME code design carbon steel and stainless steel single round bag housings available in top and side entry configurations.
- **Model DuoFLO:** ASME code design stainless steel single round housings for use with DuoFLO elements.
- **Model ME:** ASME code design carbon steel and stainless steel multi bag housings available in a wide range of sizes (3 – 12 bags). Available in swing bolt and quick open/close closures.



## Filter Housings - Single Cartridge:



- **Model 1A:** Aluminum two piece single cartridge housing featuring centerpost construction used with 3 3/4" length cartridges.
- **Model 1B:** All metal three piece single cartridge housings featuring centerpost construction.
- **Model 1M:** Single cartridge housings constructed from plastic providing broad chemical compatibility and durability.
- **Model 1H:** An all-welded, high pressure design single cartridge housing with bolt-on type head suitable for compressed air & gas applications as well as liquids.
- **Model GP101:** Single cartridge housing with threaded-style sump, designed for in-line high pressure applications.
- **Model CT:** Stainless steel three piece single cartridge housings with ring nut closure available in 1, 2, and 3 high configurations.



## Filter Housings - Multi Cartridge:

- **Model 1BD:** All metal duplex cartridge housings featuring two sumps, common head and changeover valve.
- **Model AL:** Cost effective cast iron and steel three piece multi cartridge housings featuring centerpost construction and stainless steel internal components.
- **Model VC:** All polyvinyl chloride (PVC) five cartridge housings for use with corrosive fluids (sea water, chemicals, photographic, plating...).
- **Model PC:** All metal ASME code designed seven cartridge housings incorporating a removable cartridge pack for rapid changeout.
- **Model P:** All metal housings for use with Zeta Plus cartridges available in wide range of sizes. Available as separate units or cart mounted for mobile use (ideal for transformer oil filtration).
- **Model DC & Model SS:** Economical stainless steel multi cartridge housings available in a wide variety of sizes for those applications not requiring ASME code design.
- **Model ES:** ASME Code multi cartridge designs housing available in a wide variety of sizes, materials, pressure ratings, and choice of cartridge diaphragms.



Product data sheets are available for all CUNO products. For additional information, please visit [www.cuno.com](http://www.cuno.com) or contact your local CUNO representative.

## 3M & CUNO Sustainability

3M & CUNO have 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 recognize 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 recognize that only by continuing to be a viable and successful enterprise can we continue to be a positive contributor to sustainable development.

## 3M & CUNO Corporate Values

- Act with uncompromising honesty and integrity in everything we do.
- Satisfy our customers with innovative technology and superior quality, value and service.
- Provide our investors an attractive return through sustainable, global growth.
- Respect our social and physical environment around the world.
- Value and develop our employees' diverse talents, initiative and leadership.
- Earn the trust and admiration of all those associated with 3M worldwide.



*a 3M company*

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