

**3M Purification Inc.**  
**Industrial Filtration Solutions**



## Depth Filter Cartridges

3M Purification Inc. 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™ RB Series Filters:** Graded-porosity resin bonded cartridges ideal for coatings and general industrial applications.
- **Micro-Klean™ RT Series Filters:** Rigid polypropylene cartridges providing cost effective filtration for water based and other industrial fluid applications.
- **Micro-Klean™ D Series Filters:** Blanket wrapped cartridges incorporating a unique filter media blanket in a wound support structure.
- **Micro-Klean™ CS Series Filters:** String wound cartridges using single strand winding for uniform performance.



### Absolute Rated:

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



## 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.

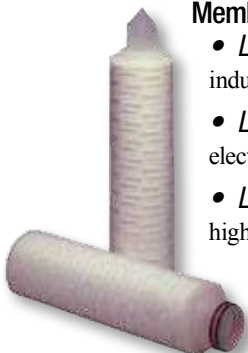
### Polypropylene: Betafine™ Series Filters

- **Betafine™ DP Series Filters:** All Polypropylene cartridges providing cost effective absolute rated filtration for demanding applications.
- **Betafine™ XL Series Filter:** Unique pleat pattern version of Betafine™ DP resulting in improved pleat utilization and extended filter life.
- **Betafine™ PP & PG Series Filters:** Graded-porosity polypropylene cartridges providing cost effective absolute rated filtration and optimum contaminant capture.
- **Betafine™ PEG Series Filters:** Unique pleat pattern version resulting in improved pleat utilization and extended filter life.



### Membrane: LifeASSURE™ Series Filters:

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



## Charge Modified Filter Cartridges

3M Purification offers a full line of charge modified depth cartridges (Zeta Plus™ Series Filters) composed of cellulose and diatomaceous earth materials, trapping contaminants smaller than the rated pore size via electrokinetic adsorption.

- **Zeta Plus™ A Series Filters:** Designed for general industrial and utility applications requiring efficient filtration in the 1 - 20 µm range.
- **Zeta Plus™ Activated Carbon Series Filters:** Carbon containing cartridges capable of reducing trace organics without the cleanup problems associated with bulk activated carbon.
- **Zeta Plus™ U Series Filters:** Designed for high efficiency and cost effective filtration of resins.
- **Zeta Plus™ U2W & UW Utility Series Filters:** Designed for reduction of particle contaminants and moisture from dielectric oils. Commonly used in the power generation industry.



## Large Diameter Cartridges, Bag Filters and Specialty Systems

3M Purification offers the following large diameter cartridges, bag filters, and specialty products.



### Large Diameter Cartridge Systems:

- **3M™ 740 Series Filters:** 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.
- **3M™ High Flow Series Filters:** 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:

- **3M™ Series NB Filter Bags:** Polypropylene & Polyester felt and Nylon Monofilament nominally rated filter bags providing cost effective filtration for industrial applications.
- **3M™ DF Series Filters:** 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.
- **3M™ 100 Series Filters:** Single layer high efficiency polypropylene microfiber media in a bag configuration. Ideal for oil contamination reduction.
- **3M™ 500 Series Filters:** 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™ Hollow Fiber Series Filters:** Hollow fiber polypropylene media, polyethylene potted cartridge filters designed for critical applications in the electronics industries.
- **CUNO™ CTG-Klean Systems:** Sealed filter pack system that reduces 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 reduction of trace organics in industrial applications.



## Metal Cartridges

For those applications where use of reusable metal based cartridge is preferred, 3M Purification offers the below products:



- **CUNO™ EF Series Self Cleaning Metal Filter:** 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. CUNO EF series self cleaning metal filters cleaned by turning a handle, resulting in solids reduction and full flow restoration. Larger capacity CUNO EF series self cleaning metal filters available with self cleaning capabilities. Two-stage filtration version of CUNO EF series self cleaning metal filters available capable of reducing particles down to 37 micron (nominal).
- **CUNO™ Metal Screen Filters:** Stainless steel screen mesh elements ideal for corrosive fluids and other fluids that cannot be filtered by fiber type media.
- **CUNO™ Sintered Metal Filters:** 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

3M Purification 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, 3M Purification provides housings capable of meeting even the most stringent process requirements.



### 3M™ Bag Housings:

- **3M™ BHN Series Bag Housings:** Economical stainless steel single round bag housings available for those applications not requiring ASME code design.
- **3M™ BH Series Bag Housings:** ASME code design carbon steel and stainless steel single round bag housings available in top and side entry configurations.
- **3M™ DF Series Bag Housings:** ASME code design stainless steel single round housings for use with 3M™ DF series elements.
- **3M™ ME Series Bag Housings:** 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.



## 3M™ Filter Housings – Single Cartridge:

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



## 3M™ Filter Housings – Multi Cartridge:

- **3M™ 1BD Series Filter Housings:** All metal duplex cartridge housings featuring two sumps, common head and changeover valve.
- **3M™ AL Series Filter Housings:** Cost effective cast iron and steel three piece multi cartridge housings featuring centerpost construction and stainless steel internal components.
- **3M™ VC Series Filter Housings:** All polyvinyl chloride (PVC) five cartridge housings for use with corrosive fluids (sea water, chemicals, photographic, plating...).
- **3M™ PC Series Filter Housings:** All metal ASME code designed seven cartridge housings incorporating a removable cartridge pack for rapid changeout.
- **3M™ P Series Filter Housings:** 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).
- **3M™ DC & SS Series Filter Housings:** Economical stainless steel multi cartridge housings available in a wide variety of sizes for those applications not requiring ASME code design.
- **3M™ ES Series Filter Housings:** ASME Code multi cartridge designs housing available in a wide variety of sizes, materials, pressure ratings, and choice of cartridge diaphragms.



## 3M Purification Filtration Technologies

3M Purification 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 reduction of contaminants in petroleum, 3M Purification 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 reduction using membrane filters, customers depend on 3M Purification for filtration solutions.

Supporting 3M Purification's filtration offering is a dedicated multi-disciplinary team providing a vital link between 3M Purification's filtration knowledge base and customer needs. Using 3M Purification's extensive field and laboratory capabilities, this team is expertly equipped to identify filtration solutions using either the broad array of existing 3M Purification filter products or by working with research & development to design a custom solution for the application.

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.

## 3M Sustainability

3M 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 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 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.

### Important Notice

The information described in this literature is accurate to the best of our knowledge. A variety of factors, however, can affect the performance of the Product(s) in a particular application, some of which are uniquely within your knowledge and control. **INFORMATION IS SUPPLIED UPON THE CONDITION THAT THE PERSONS RECEIVING THE SAME WILL MAKE THEIR OWN DETERMINATION AS TO ITS SUITABILITY FOR THEIR USE. IN NO EVENT WILL 3M PURIFICATION INC. BE RESPONSIBLE FOR DAMAGES OF ANY NATURE WHATSOEVER RESULTING FROM THE USE OF OR RELIANCE UPON INFORMATION.**

It is your responsibility to determine if additional testing or information is required and if this product is fit for a particular purpose and suitable in your specific application.

**3M PURIFICATION INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.**

### Limitation of Liability

3M Purification Inc. will not be liable for any loss or damage arising from the use of the Product(s), whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.



**3M Purification Inc.**  
400 Research Parkway  
Meriden, CT 06450  
U.S.A.  
Phone (800) 243-6894  
(203) 237-5541  
Fax (203) 630-4530  
[www.3mpurification.com](http://www.3mpurification.com)

3M is a trademark of 3M Company.  
Micro-Klean, Betapure, Betafine, CUNO,  
LifeASSURE, NanoSHIELD and Zeta Plus are trademarks  
of 3M Company used under license.  
© 3M 2011. All rights reserved.

70-0202-3872-4 REV 1011b

Your Local Distributor:



**Lim Kim Hai Electric Co (S) Pte Ltd**  
Lim Kim Hai Building,  
53 Kallang Place, Singapore 339177  
**T** (+65) 6292 3711 • (+65) 6490 5000  
**F** (+65) 6297 0078  
**E** [customerservice@limkimhai.com.sg](mailto:customerservice@limkimhai.com.sg)  
**W** [www.limkimhai.com.sg](http://www.limkimhai.com.sg)