



# Filtration Products by 3M

Product Portfolio for Purification



## Our **Expertise** Engineering in **Filtration**

### **Expertise - Experience - Flexibility - Innovation**

3M Purification's Engineering department comprising of experienced engineers and technical specialists, is available to analyse every specification detail for designing customised solutions for each specific application.

## **Scientific** Application Support **Services**

The corner stone 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 system. 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.

| Fluid Process & HealthCare Product Overview | LifeASSURE™   |   |   |   |   |
|---|---|---|---|---|---|
|   | PFS & MFE Series  | BA, BNA & BDA Series  | ER & EF Series  | 020SA, 020SP, 045SP & 020ST Series  | BLA, PLA, EMC & IMC Series  |
|   | <ul style="list-style-type: none"> <li>Formerly known as Microfluor.</li> <li>PTFE pleated media</li> <li>Absolute ratings at 0.2 µm.</li> <li>Sterile filtration of air, gases and solvents.</li> <li>Filtration area from 0.17 to 4.08 m².</li> <li>Validation guide – DMF</li> <li>Available as capsules or cartridges.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as BevASSURE.</li> <li>LifeASSURE BA containing Nylon and LifeASSURE BNA &amp; BDA.</li> <li>Advanced Pleated Technology (APT).</li> <li>Available in 0.2 µm, 0.45 µm and 0.65 µm.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Electropor.</li> <li>Charged modified (or non) Nylon 6,6 technology and FlexN. Pleated media including Advanced Pleated Technology (APT).</li> <li>Ratings from 0.04 µm to 0.8 µm sterile filtration</li> <li>Filtration area from 0.11 to 4 m².</li> <li>Validation guides and DMF.</li> <li>Available as discs, capsules or cartridges.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Zetapor.</li> <li>Pleated media.</li> <li>Absolute ratings from 0.2 µm to 0.05 µm.</li> <li>Sterile filtration.</li> <li>Filtration area from 0.12 to 2.6 m².</li> <li>Validation guide – DMF.</li> <li>Available as discs, capsules or cartridges.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as LifeASSURE.</li> <li>New concept of multi-zone FlexN membrane combined with innovative Advanced Pleated Technology (APT).</li> <li>Exceptional performance of final Nylon 6,6 membranes.</li> <li>Extended life time.</li> <li>Filtration flexibility.</li> <li>Available in 0.2 µm, 0.45 µm, 0.65 µm and 0.8 µm.</li> </ul> |

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|-----------------------------|---|--|---|----------------|----------------------------------|
| <b>Electronics</b>          | LifeASSURE MFE<br>Grades 0.2, 0.1 & 0.05 µm<br>Acids, solvents, strippers, Ultra Pure Chemicals, Photoresists, Tank venting, Gas filtration |  | LifeASSURE EF<br>LifeASSURE ER<br>From 0.45 µm to 0.04 µm<br>Ultra Pure Water, Photoresists, Solvents |                | LifeASSURE EMC<br>Fine Chemicals |
| <b>Power Generation</b>     |   |  |   |                |                                  |
| <b>Chemicals</b>            | Polymers, Inorganic solutions, Corrosives products, Aggressive solvents, Tank venting   |  | LifeASSURE ER<br>Solvents and reagents  |                | LifeASSURE IMC<br>Fine Chemicals |
| <b>Oil &amp; Gas</b>        |   |  |   |                |                                  |
| <b>Paint &amp; Coatings</b> |   |  |   | Sterile fluids | LifeASSURE IMC<br>Jet Ink        |
| <b>General Industrial</b>   | Tank venting, Sterile gas filtration  |  |   | Sterile fluids | LifeASSURE IMC<br>Utilities      |

|                                       |   |   |  |                                    |  |
|---------------------------------------|---|---|--|------------------------------------|--|
| <b>Biotechnology</b>                  | Tank venting, Sterile compressed air & gases                          |   |  | LifeASSURE 020SP, 045 SP and 020ST | LifeASSURE PLA<br>Antibiotics, Diagnostics, Growth Media, Process Water, Vaccines, Blood fractionation         |
| <b>Fine Chemicals &amp; Cosmetics</b> | Tank venting, Sterile compressed air & gases, Solvents, Acids & bases |   |  | LifeASSURE 020SP, 045 SP and 020ST | LifeASSURE PLA<br>Solvents, Process Water  |
| <b>Pharmaceuticals</b>                | Tank venting, Sterile compressed air & gases                          |   |  | LifeASSURE 020SP, 045 SP and 020ST | LifeASSURE PLA<br>Ophthalmics, Parenterals (LVP, SVP), Process Water   |
| <b>Food &amp; Beverage</b>            | Tank venting, Sterile compressed air, Nitrogen filtration             | Final Filtration, Beer, Wine, Bottled Water, Water in Food processing |  |                                    | LifeASSURE BLA<br>Pre & Final Filtration, Wine, Beer, Bottled Water, Fruit Juice, Soft drinks, Other beverages |



| Fluid Process & HealthCare Product Overview | LifeASSURE™  |  |   | Zeta Plus™  |   |
|---|--|--|---|---|---|
|   | PDA Series   | PSA Series   | PSN Series  | C(P) & S(P), HT, U(2) & U(2)W, ZA & EC Series   | MH & EXT Series   |
|   | <ul style="list-style-type: none"> <li>Formerly known as BioASSURE.</li> <li>Combination of 2 hydrophilic asymmetric polyether sulfone membrane layers.</li> <li>Advanced Pleated Technology (APT).</li> <li>High throughput and fast flow applications.</li> <li>Validated 0.2 µm absolute rate.</li> <li>Available in Cartridge and Capsule format.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as SterASSURE.</li> <li>FlexN Multi-zone Membrane Design.</li> <li>Advanced Pleated Technology (APT).</li> <li>Available in 0.1 and 0.2 µm absolute rating in Cartridge, Mini Cartridge and Capsule format.</li> <li>Nylon 6,6 membrane in an all-polypropylene construction.</li> <li>Validated and DMF.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as PhotoSHIELD.</li> <li>Naturally hydrophilic Nylon 6,6 technology.</li> <li>Pleated media including Advanced Pleated Technology.</li> <li>High efficiency contaminant removal at 0.04 µm, 0.1 µm or 0.2 µm micron ratings.</li> <li>Filtration area from 0.16 m² to 1.04 m².</li> <li>Available as 50 mm capsules, capsules or cartridges.</li> </ul> | <ul style="list-style-type: none"> <li>Composite media</li> <li>Charged modified technology</li> <li>Graded density media.</li> <li>Multi-zones technology.</li> <li>Validation support for pharmaceutical grades -DMF</li> <li>Filtration area from 25 cm² to 3.5 m² per cartridge</li> <li>Available as discs, capsules or cartridges.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Maximizer.</li> <li>Charged modified technology.</li> <li>Graded density media.</li> <li>Lipid selective absorption.</li> <li>Filtration area from 25 cm² to 3.5 m² per cartridge.</li> <li>Available as discs, capsules or cartridges.</li> </ul> |

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| Electronics        |  |  | Photoresists, Ancillary Chemicals, Alcohols & Bases, Developers, Etchants & Strippers, Solvents | Zeta Plus HT, C, CP, S & SP<br>Pre Reverse Osmosis, Colloids retention, Metal ion removal, Cooling water - Waste water<br>Zeta Plus EC<br>Photoresists, Resins, Solvents |  |
| Power Generation   |  |  |   | Zeta Plus S & SP<br>Rinsing water, Radioactive effluents, Colloids retention<br>Waste water<br>Zeta-Plus U, U2, UW & U2W<br>Di-electric oils, Turbine Oils               |  |
| Chemicals          |  |  |   | Zeta Plus HT, C, CP, S & SP<br>Hydraulic oil<br>Silicone, lubricant, Additives, emulsions, Polyurethanes, resins, Effluent, waste water                                  |  |
| Oil & Gas          |  |  |   | Zeta-Plus U, U2, UW & U2W<br>Transformer Oil, Lube Oil, Machine Oil, Fuels, Quenching Oils   |  |
| Paint & Coatings   |  |  |   | Zeta Plus HT, C, CP, S & SP<br>Varnish, viscous resins, pigments, Can coating, Organic glass   |  |
| General Industrial |  |  |   | Zeta Plus HT<br>Process water, waste water, Agrochemicals, Pesticides, Additives, Galvanic baths   |  |

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|----------------------------|---|---|--|--|---|
| Biotechnology              | Biologicals, Cell Culture, Chromatography column protection, Vaccines, Media & Fermenter feed streams, High protein feed streams, Serum & Blood fractionation | Biologicals, Cell Culture, Chromatography column protection, Vaccines, Media & Fermenter feed streams, High protein feed streams, Serum & Blood fractionation |  | Zeta Plus ZA<br>Clarification of Cell Culture process fluids, of bacteria and yeast cells lysates, of colloidal and haze forming contaminants<br>Endotoxin & nucleic acid removal<br>Protection of downstream processing | EXT ZA & EXT SP<br>Vaccines, cell culture, Parenterals solutions, Blood fractionation, Virus reduction, Pyrogen removal - DNA retention, Water stations - Lipid retention, Chromatography column protection |
| Fine Chemicals & Cosmetics | Solvent filtration  | Solvent filtration  |  | Zeta Plus S & SP<br>Clarification of perfumes, carbon fines removal, precipitate removal, removal of residual catalysts, water systems   | EXT ZA & EXT SP<br>Clarification of perfumes, carbon fines removal, precipitate removal, removal of residual catalysts, water systems   |
| Pharmaceuticals            | Ophthalmics, Parenterals (LVP, SVP), Bulk pharmaceutical chemicals, High purity DI water & WFI systems, Orals & Topicals                                      | Ophthalmics, Parenterals (LVP, SVP), Reagents & Buffers, Bulk pharmaceutical chemicals, High purity DI water & WFI systems, Orals & Topicals                  |  | Zeta Plus S & SP<br>Clarification of oral liquids and syrups, prefiltration of parenteral products, water systems  | EXT ZA & EXT SP<br>Clarification of oral liquids and syrups, prefiltration of parenteral products, water systems  |
| Food & Beverage            |   |   |  | Zeta Plus C, CP, S & SP<br>Wine, Beer, Juices, Soft drinks, Cider, Liquor, Cognac, Vinegar, Syrup, Brines, Edible oil & Sugar<br>Zeta Plus HT<br>Beverage, Spirits, Food Products  | Zeta Plus MH<br>Wine, Beer, Bottled water, Brandy (Vodka, Cognac), Vinegar, fruit juice, Syrups, Edible oils, Water stations  |



| ZetaCarbon   | MKCA  | Micro-Klean™   |   |   |  |
|--|---|--|---|---|--|
| ZetaCarbon Series  | MKCA Series   | G Series   | D Series  | RT, RT-CSW & RW Series  | RP Series  |
| <ul style="list-style-type: none"> <li>Activated carbon &amp; charged modified technology.</li> <li>Different standard carbons or "à la carte" formulations.</li> <li>Filtration area from 25 cm<sup>2</sup> to 3.5 m<sup>2</sup> per cartridge.</li> <li>Available in discs, capsules or cartridges.</li> <li>Can replace bulk activated carbon.</li> </ul> | <ul style="list-style-type: none"> <li>Cartridge canister including granular activated carbon.</li> <li>About 400 ml of activated carbon.</li> <li>Pre and post filtration, including a Micro-Klean G or U Series cartridge.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Micro-Klean.</li> <li>Acrylic/cellulose fibres &amp; Phenolic/melamine resin.</li> <li>True grade porosity filters.</li> <li>Grooved depth media cartridges.</li> <li>Nominal rating from 1 to 125 µm.</li> <li>Available in cartridges from 10" to 40".</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Micro-Wynd.</li> <li>Polypropylene (or cotton) media.</li> <li>Depth filtration media.</li> <li>Exclusive process which combines blanket media and wound matrix (yarn).</li> <li>Available in cartridges from 10" to 40".</li> <li>High temp. resistance (up to 121 °C).</li> <li>Nominal ratings from 1 to 125 µm.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as PolyKlean.</li> <li>All propylene depth filter.</li> <li>Rigid Extrusion Bonded technology.</li> <li>Nominal rating from 1 to 75 µm.</li> <li>Available in cartridges from 9 ¼" to 40".</li> </ul> | <ul style="list-style-type: none"> <li>Rigid all propylene depth filter.</li> <li>Advanced graded porosity design.</li> <li>Grooved cartridge with extended surface area.</li> <li>Coreless filter structure.</li> <li>Nominal rating are 5 µm, 25 µm and 50 µm.</li> <li>Continuous integral length filter element (up to 40" length).</li> </ul> |

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|--|---------------------------------------|--|--|---|--|
| R51S range<br>Dechlorination,<br>Process water,<br>Waste water | Potable water,<br>Dechlorination      | Galvanic bath,<br>pre-filtration<br>(PCB)  | Electrolytic baths,<br>Waste water,<br>First water prefiltration | PCBs,<br>CMP Slurry Manufacturing,<br>FPD, TFT-LCD,<br>Pre-RO,<br>CD/DVD  |  |
|  |                                       | Cooling water,<br>Lubricant fluids   | Waste water  | Condensate water<br>treatment   |  |
| R53S range<br>Silicone oils,<br>Lubricating oils,<br>Resins    |                                       | Chemicals pre-filtration,<br>Fatty acids,<br>Organic solvents,<br>Raw Materials  | Acids prefiltration,<br>Process water,<br>Alcohols, solvents     | PE-PP,<br>Intermediate grade,<br>Chemicals,<br>PVC-VCM,<br>Herbicides, Pesticides   |  |
|  |                                       | Hydrocarbons, Fuels,<br>Waxes,<br>Process water,<br>Waste water                  | Refined products<br>prefiltration,<br>Aggressive solvents        | Amine & Glycol,<br>Prefiltration in waterflood,<br>Process cooling water,<br>Completion fluids  |  |
|  |                                       | Paint or varnish<br>pre-filtration,<br>Solvent recovery,<br>Resin pre-filtration |  | Resin manufacturers<br>(water & solvents),<br>Trade & architectural paints,<br>Ink  |  |
| R51S range<br>Dechlorination,<br>Process water,<br>Waste water | Dechlorination,<br>Effluent treatment | Cutting oils,<br>Hydraulic fluids,<br>Waste water,<br>Detergents, Grease         | Metallisation bath,<br>Waste water                               | Plating,<br>De-salination Plants,<br>Pulp & Paper, Additives,<br>Process cooling water,<br>Parts washing, Peroxide,<br>Mechanical Seals |  |

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| Decolourisation,<br>Impurity removal                                       | Dechlorination |  |  | Clarification & membrane<br>protection for growth<br>media, vaccines, cell<br>culture & Blood<br>fractionation     |   |
| Decolourisation,<br>Alcohol decolourisation,<br>catalyst removal           | Dechlorination |  |  | Carbon fines removal,<br>precipitate removal,<br>clarification of perfumes,<br>solvent filtration,<br>water system |   |
| Decolourisation,<br>Impurity removal                                       | Dechlorination |  |  | Oral liquids and syrups,<br>Clarification and membrane<br>protection, water systems                                | Pre-Reverse Osmosis,<br>Bulk Chemicals,<br>Rinse Water,<br>Active Pharmaceutical<br>Ingredients                       |
| Decolourisation,<br>Taste & Odour removal from<br>spirits,<br>Liquid Sugar |                |  | Beverage prefiltration,<br>Process water | Soft drinks,<br>Bottled water,<br>Ready-to-drink beverages,<br>Juice   | Bottled Water,<br>Ready-to-Drink Beverages,<br>Dairy Products,<br>Juices,<br>Soft Drinks,<br>Process & Blending Water |



| Fluid Process & HealthCare Product Overview | Betapure™   |   |   |   | Betafine™   |
|---|---|---|---|---|---|
|   | AU Series   | NT-P & NT-T Series  | BK-Z8 & BK-Z2 Series  | P Series  | DP & XL Series  |
|   | <ul style="list-style-type: none"> <li>Formerly known as Betapure.</li> <li>Polypropylene (or polyester) media.</li> <li>Bi-component fibre technology.</li> <li>Depth filtration.</li> <li>Micron rating from 2 µm absolute to 200 µm nominal.</li> <li>Classification effect.</li> <li>Available in cartridges from 10" to 40" integral length and capsules.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as PolyNet.</li> <li>Polypropylene depth media.</li> <li>High flow rates &amp; dirt holding capacity.</li> <li>0.5 to 70 µm absolute rating.</li> <li>Validation support DMF n° for the Pharma grade.</li> <li>Available in 10 to 40 inch cartridges integral length and capsules.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Beta-Klean.</li> <li>Acrylic/cellulose fibres &amp; Phenolic/melamine resin.</li> <li>True grade porosity filters.</li> <li>Depth media.</li> <li>Absolute rating from 10 to 70 µm.</li> <li>Available in cartridges from 10" to 40".</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Petro-Klean.</li> <li>True grade porosity filters.</li> <li>Cellulose fibres &amp; melamine resin.</li> <li>Depth media.</li> <li>Absolute rating from 10 to 60 µm.</li> <li>Available in cartridges from 10" to 40".</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Betafine and Betafine XL.</li> <li>Polypropylene pleated media.</li> <li>XL Series with APT pleat technology.</li> <li>Long service life and high flow rates.</li> <li>Rating from 0.2 to 70 µm absolute.</li> <li>Available in cartridges from 9 ¾" to 40" integral length and capsules.</li> </ul> |

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|-----------------------------|--|--|---|---|---|
| <b>Electronics</b>          | <b>Polyolefin range</b><br>Demineralised water, Solvents, Effluents  | <b>NT-T Grade</b><br>UPW per RO, CMP slurries, emulsions, Etching baths, metallisation baths, Acids, cooling water       | Pre Reverse osmosis, Etching bath                                       |   | CD & hard disks, Printed Circuit Boards, Flat screens, Ultra Pure Water                                 |
| <b>Power Generation</b>     | <b>Polyolefin range</b><br>Process water<br>Equipment protection   | <b>NT-T Grade</b><br>Stator cooling water, Waste water, Effluents, Condensate water                                      | Cooling water, Condensate water   |   |   |
| <b>Chemicals</b>            | <b>Polyester range</b><br>Aggressive solvents  | <b>NT-T Grade</b><br>High Purity Chemicals, Acids, bleach, Polymers (PP,PE,...), Process water                           | Acids, Caustic solutions, Solvents, Final Product                       | Monomers, Polymers, Solvents  | Intermediate product clarification, Various acid & caustic solutions, Solvents, polymers, Rinsing water |
| <b>Oil &amp; Gas</b>        |  | <b>NT-T Grade</b><br>Amines, glycols, Refined products   | Refined products, Jet fuel, Waxes                                       | Amine sweetening, Glycol dehydration, Refined products, Solvents, Process water, Gas Filtration |   |
| <b>Paint &amp; Coatings</b> | <b>Polyolefin &amp; Polyester range</b><br>Waterborne or solvent paints, Car paints - Varnish, top coat, metallics, mica - Can & coil coatings, Inks, special papers | <b>NT-T Grade</b><br>Special coatings (paper, film), Magnetic media, Can & coil coating, High quality inks, Lens coating | Paint or varnish pre-filtration, Solvent recovery, Resin pre-filtration |   | Photographic films, Special inks, Special papers  |
| <b>General Industrial</b>   | <b>Polyolefin &amp; Polyester range</b><br>Cooling water, Solvent recovery   | <b>NT-T Grade</b><br>Cutting oils, lubricants, Detergents, pulp & paper, Textiles, metallisation bath, Process Water     | Inks pre-filtration, Paints, Solvents, Metal rolling mills              |   | Process water, Galvanic baths, Cutting emulsion, Detergents<br><b>DP Range</b><br>General Industrial    |

|                                       |  |   |  |  |  |
|---------------------------------------|--|---|--|--|--|
| <b>Biotechnology</b>                  |  | <b>NT-P Grade</b><br>Clarification & membrane protection for growth media, vaccines, cell culture & Blood fractionation     |  |  | Clarification & membrane protection for growth media, vaccines, cell culture & Blood fractionation     |
| <b>Fine Chemicals &amp; Cosmetics</b> |  | <b>NT-P Grade</b><br>carbon fines removal, precipitate removal, clarification of perfumes, solvent filtration, water system |  |  | Carbon fines removal, precipitate removal, clarification of perfumes, solvent filtration, water system |
| <b>Pharmaceuticals</b>                |  | <b>NT-P Grade</b><br>Oral liquids and syrups, Clarification and membrane protection, water systems                          |  |  | Oral liquids and syrups, Clarification and membrane protection, water systems                          |
| <b>Food &amp; Beverage</b>            |  | <b>NT-T Grade</b><br>Wine, Beer, Bottled water, Spirits (vodka, cognac,...), Edible oils, Process water                     |  |  | Pre Filtration, Wine, Beer, Bottled water, Process water   |



| Betafine™   |  |  | CUNO™   |  |  |
|---|--|--|---|--|--|
| PBG, PEG & PPG Series   | T Series   | CMP Series   | DF System Series  | High Flow Series   | CTG System Series  |
| <ul style="list-style-type: none"> <li>Formerly known as Polypro XL.</li> <li>Polypropylene pleated media.</li> <li>APT pleat technology.</li> <li>Rating from 0.2 to 10 µm absolute.</li> <li>Available in cartridges from 10" to 40" integral length and capsules.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as TSM.</li> <li>Durable and versatile pleated media cartridge offering the ultimate sub-micron filtration.</li> <li>Tighter chemical resistance.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Optima.</li> <li>All polypropylene filter.</li> <li>High capacity depth filter.</li> <li>Multi-zone graded-porosity design.</li> <li>Absolute rating from 0.3 to 50 µm.</li> <li>Available from 4" to 30" as cartridge or capsule.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as DuoFLO.</li> <li>True grade porosity &amp; depth Filter media.</li> <li>Available in Polypropylene and Polyester.</li> <li>Nominal rating from 1 to 200 µm.</li> <li>Available in length 1 &amp; 2.</li> </ul> | <ul style="list-style-type: none"> <li>Radial Pleat Design.</li> <li>Blown microfibre, all polypropylene construction.</li> <li>High flow capacity.</li> <li>Absolute rating from 1 µm to 70 µm.</li> <li>Available in 40" and 60".</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as CTG-Klean.</li> <li>This unique system consists in a pack including CTG cartridges. Fluid is isolated from the housing.</li> <li>Ease of use.</li> <li>Labour cost reduction.</li> <li>No cross contamination.</li> <li>Environment/Worker protection.</li> </ul> |

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| PEG range<br>High Purity Chemicals pre-filtration,<br>Nickel sulphamate baths,<br>Multi layer PCB |  | Di-electrics, STI, ILD,<br>Polysilicon, Tungsten,<br>Copper, Magnetic heads,<br>Nickel & Glass substrates,<br>Optical Fibre, LED | Etching Baths, Process<br>Water/RO pre-filtration,<br>CDs & DVDs,<br>Photochemicals, Solvents,<br>Printed Circuit Manufacturing  | RO Pre-filtration,<br>Process Water  | CMP slurries  |
|   |  |  | Process Water,<br>Cooling Water,<br>Waste Water,   | Process Water  | Contaminated water,<br>Radioactive effluents  |
| Hydrogen Peroxide   |  |  | Acids, Chemicals, Process<br>Water, Alcohols, Glycols,<br>Fuels, Resins, Alkalines,<br>Catalyst Recovery, Esters,<br>Silicones, Aerosol Products<br>Mineral Oil, Waxes, Solvents | Quench water,<br>Aqueous Salt Solutions,<br>Final Products   | Toxic/hazardous<br>products,<br>Solvents, Oils,<br>Acids, caustic solutions   |
|   |  |  | Fuel Additives,<br>Glycols, Lube Oils,<br>Distillation, Enhanced Oil<br>Recovery, Amines, Fuels,<br>Injection Fluids   | Waterflood,<br>Produced water,<br>Enhanced Oil Recovery,<br>Completion fluids,<br>Final Products                   |   |
|   |  |  | Electrodeposition,<br>Trade Paint, Can Coatings,<br>Dispersions, Adhesives,<br>Paper Coatings, Automotive<br>Plants, Architectural Paint,<br>Resins, Coil Coatings, Printing Ink | Water Treatment  | Industrial or car paints<br>(Solvent, waterborne),<br>Resins, varnish, solvents,<br>Inks, adhesives,<br>Can & coil coating,<br>Magnetic media |
|   |  |  | Parts Washing,<br>Pulp & Paper,<br>Cooling Water, Lubricants,<br>Ground Water, Waste Water,<br>Hydraulic Fluids, Machine Tool<br>Coolants, Transformer Oil                       | Municipal water,<br>RO pre-filtration,<br>Reclaimed water,<br>Coolants,<br>Nozzle protection,<br>Boiler condensate | Agrochemicals,<br>Dispersions,<br>Pigments  |

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|---|---|--|--|--|---|
| PPG & PTG Versions<br>Clarification & membrane<br>protection for growth media,<br>vaccines, cell culture & Blood<br>fractionation           |   |  | Biomass,<br>Precipitate removal  |  | General clarification,<br>Catalyst recovery   |
| PPG, PTG or PEG Versions<br>carbon fines removal,<br>precipitate removal,<br>clarification of perfumes,<br>solvent filtration, water system | Perfumes & aftershave lotions,<br>assuring stability & shelf life<br>through removal of colloidal<br>haze & bacteria., solvent<br>filtration, water systems,<br>removal of carbon fines |  | Activated carbon,<br>Solids removal  |  |   |
| PPG & PTG Versions<br>Oral liquids and syrups,<br>Clarification and membrane<br>protection, water systems                                   | Membrane prefiltration &<br>clarification, water systems,<br>Prefiltration of many parenteral<br>products   |  | Bulk solids,<br>Precipitate removal  | Process water  |   |
| PBG Version<br>Pre Filtration,<br>Wine, Beer, Bottled water,<br>Spirits (vodka, cognac, ...),<br>Edible oils, Process water                 | Yeast removal,<br>Clarification of wine,<br>Final polishing of distilled spirits  |  | Vegetable and edible oil,<br>Syrups, honey, Wine, Beer,<br>Other high viscous drinks | Bottled Water,<br>Beer Trap Filtration,<br>Process water | Artificial flavours,<br>Colouring,<br>Food where you wish to avoid<br>cross contamination |



| Fluid Process & HealthCare Product Overview | CUNO™  |  | Nominal Bags  | High Efficiency Bags  | High Capacity   |
|---|--|--|---|---|---|
|   | MS Series Cleanable Filters  | DDS, EG, EGS, G, GH & GP Series Cleanable Filters  | Nominal Bag Series  | 100 & 500 Series  | 700 Series  |
|   | <ul style="list-style-type: none"> <li>Formerly known as Micro-Screen</li> <li>MS &amp; Super MS cleanable metallic filters.</li> <li>Depth or surface media.</li> <li>Usable under severe process conditions (up to 480°C)</li> <li>ΔP max = 14 bar.</li> <li>Ratings from 3 to 1000 µm.</li> </ul> | <ul style="list-style-type: none"> <li>Formerly known as Turno-Klean.</li> <li>Self cleaning metallic filters.</li> <li>Manual or motorised purges.</li> <li>Usable up to 260°C.</li> <li>Micron ratings from 35 to 750 µm.</li> </ul> | <ul style="list-style-type: none"> <li>Polypropylene and polyester felt and nylon monofilament materials.</li> <li>Specially designed plastic sealing collar.</li> <li>Nominal ratings in Polypro &amp; Polyester from 1 µm to 200 µm and in nylon from 25 to 1200 µm.</li> <li>Available in size 1 and 2.</li> </ul> | <ul style="list-style-type: none"> <li>All meltblown polypropylene microfibre filter media.</li> <li>Ratings are nominal: the 100 Series from 1.5 to 34 µm and the 500 Series from 2.5 to 48 µm.</li> </ul> | <ul style="list-style-type: none"> <li>All meltblown polypropylene microfibre filter media except PERP-740 KF range which is polyester microfibre filter media.</li> <li>Ratings are: 740B, 740B30 and 740 KF Series</li> <li>from 1 to 70 µm.</li> <li>ERP-740KF Series</li> <li>available in 20 &amp; 60 µm.</li> </ul> |

|                    |   |  |   |   |   |
|--------------------|---|--|---|---|---|
| Electronics        | Gas filtration (High pressure cryogenic)                              |  | Magnetic media, Organic solvents, Photo chemicals, Plating solutions, RO membranes              | Magnetic media, Organic solvents, Photo chemicals, Plating solutions, RO membranes              | Magnetic media, Organic solvents, Photo chemicals, Plating solutions, RO membranes                |
| Power Generation   | Seal protection, Pressurized gases                                    | Fuel Oil   | Water & Effluent Treatment  | Water & Effluent Treatment  | Water Treatment   |
| Chemicals          | Fatty acids, Aggressive products (acids, etc. . . ), Polymers, Vapour | Fatty acids, Waxes, Glues                                  | Acids, Bases, Glycol, Desalination  | Acids, Bases, Glycol, Desalination  | Acids, Bases, Glycol, Desalination  |
| Oil & Gas          | Waxes, Grease   | Viscous oils, Grease, Asphalt, Fuel, Instrument Protection | Amines, Completion fluids, Deep wells, Glycol   | Amines, Completion fluids, Deep wells, Glycol   | Amines, Completion fluids, Deep wells, Glycol   |
| Paint & Coatings   | Galvanic solutions, Hydraulic fluids                                  | Varnish, Resins  | Prefiltration, Batch processing, Tanker loading   | Prefiltration, Batch processing, Oil removal  |   |
| General Industrial | Vapour filtration, Aggressive products                                | Enamels, High viscosity products, Waste Oil Treatment      | DI resins, Ground water clean-up, Machine coolants, Waste water, Workover fluids, Parts Washing | DI resins, Ground water clean-up, Machine coolants, Waste water, Workover fluids, Parts Washing | DI resins, Ground water clean-up, Machine coolants, Waste water, Workover fluids, Municipal Water |

|                            |  |   |   |   |                                  |
|----------------------------|--|---|---|---|----------------------------------|
| Biotechnology              | Steam filtration, Acid / caustic solutions |   | Biomass, Precipitate removal              | Biomass, Precipitate removal              | Biomass, Precipitate removal     |
| Fine Chemicals & Cosmetics | Steam filtration, Acid / caustic solutions |   |   | Activated carbon, Solids removal          | Activated carbon, Solids removal |
| Pharmaceuticals            | Steam filtration, Acid / caustic solutions | Lotions & Soap, Tooth paste                   | Bulk solids, Precipitate removal          | Bulk solids, Precipitate removal          | Bulk solids, Precipitate removal |
| Food & Beverage            | Oils, Syrups, Steam                        | Chocolate, Vegetable oils, Edible fats, Honey | General Food Applications including water | General Food Applications including water | General Food Applications        |



| NanoSHIELD™   | Housing Ranges  |  |   |  |  |
|---|---|--|---|--|--|
| NanoSHIELD Series   | Plastic Housing Series  | Sanitary Housing Series  | High Flow Housing Series  | Stainless Steel Housing Series   | Special Housing Series   |
| <ul style="list-style-type: none"> <li>Hollow Fibre Technology (HFT). Polypropylene and Polyethylene construction.</li> <li>Superior flow with minimal pressure drop and highest level of filter efficiency in compact design. Available in Capsules and Cartridges.</li> </ul> | <ul style="list-style-type: none"> <li>Core Line Example: 1N Series Range.</li> <li>Manufactured from a high impact plastic for added strength and specifically designed to meet most industrial application requirements for liquid filtration.</li> </ul> | <ul style="list-style-type: none"> <li>Core Line Examples: IP and IW Series Range.</li> <li>Housings in 316 L stainless steel with seals from a variety of elastomeric materials.</li> <li>Compatible with most process applications (also for CIP and SIP procedures).</li> <li>Interior &amp; exterior polished &amp; crevice-free internal finish.</li> <li>Fully CE according to PED.</li> </ul> | <ul style="list-style-type: none"> <li>Core Line Example: HF Series Range.</li> <li>Stainless steel, external surfaces glassbead blasted.</li> <li>Code stamped according to ATEX Group II, Category 3, T5 &amp; PED 97/23/EC rated Category I.</li> <li>Available in 40" and 60", horizontal or vertical configurations. Compact design with High flow.</li> </ul> | <ul style="list-style-type: none"> <li>Core Line Examples: CT, CH, DS, HC, ME, WTC and WTB Series Range.</li> <li>Manufactured standard filter housings in 316L or 304L Stainless Steel.</li> <li>Also electropolishing possible.</li> </ul> | <ul style="list-style-type: none"> <li>In-house design and fabrication services deliver standard or customized versions of housing products in standard or exotic materials to the exacting standards required by the customer.</li> </ul> |

|  |  |                |  |   |  |
|--|--|----------------|--|---|--|
| Photoresist, Etchants & strippers, Alcohols, Bases, Developers, Solvents |  | Fine Chemicals | RO Pre-filtration, Process Water   | General chemicals, Utilities  | Bespoke High Quality finished vessels                          |
|  |  |                | Process Water  | Coolant Water, Lube Oils  | Large, Heavy duty vessels for condensate treatment             |
| Fine Chemicals   |  |                | Quench water, Aqueous Salt Solutions, Final Products   | Final Products, Raw Materials, Effluent Treatment                             | Lined Vessels for aggressive chemicals                         |
|  |  |                | Waterflood, Produced water, Enhanced Oil Recovery, Completion fluids, Amine Sweetening, Final Products | Final Products, Amine, Glycols  | Heavy Duty Carbon Steel for onshore and offshore installations |
|  |  |                | Water Treatment  | Production and formulation processes, Application systems                     | Specialised cleanable vessels                                  |
|  | Plating, Galavanic processing, Parts washing, Machine coolants |                | Municipal water, RO pre-filtration, Reclaimed water, Coolants, Nozzle protection, Boiler condensate    | Tanker Loading, Parts Washing, Raw Materials, Gas Treatment, Water Processing | Capital Expenditure Projects requiring bespoke solutions       |

|  |   |   |  |   |   |
|--|---|---|--|---|---|
|  |   | Critical Applications   |  |   |   |
|  |   | Critical Applications   |  |   |   |
|  |   | Critical Applications   | Process water  |   |   |
|  |   | Critical Applications   | Bottled Water, Beer Trap Filtration, Process water                                   |   |   |
|  |  |  |  |  |  |

| 3M Water Filtration Product Overview | RESIDENTIAL and LEISURE  |   |   |   |
|--------------------------------------|--|---|---|---|
|                                      | Drinking Water Systems   | Whole House Filtration  | Softeners   | Reverse Osmosis   |
|                                      | <ul style="list-style-type: none"> <li>Systems to treat tap water for drinking including chlorine taste and odour reduction and scale inhibition.</li> </ul> | <ul style="list-style-type: none"> <li>Systems to treat all the water coming into the house or vehicle/vessel for chlorine taste and odour sediment and optional scale inhibition.</li> </ul> | <ul style="list-style-type: none"> <li>Small commercial / residential systems for softening water by ion exchange.</li> </ul> | <ul style="list-style-type: none"> <li>Reverse Osmosis units to fit under your sink.</li> </ul> |

|                  |   |   |   |   |
|------------------|---|---|---|---|
| Under sink       | Scalegard® Pro<br>Tastemaster Plus<br>Aqua Pure Easy range                        |   |   | SQC3, SQC4<br>SQC Pro 40, SQC Pro80   |
| Point of Entry   |   | Aqua Pure drop in - 9.75"<br>Aqua Pure Jumbo drop in                              | CWS075ME<br>CWS100ME<br>CWS150ME<br>(Middle East only)                              |   |
| Caravan & Marine | US-E1 Chlorine taste and odour reduction<br>US-E2 Microbial reduction             | WV-B3-S Microbial reduction and scale inhibition                                  |   |   |
|                  |  |  |  |  |

| FOODSERVICE   |  |   |  |
|---|--|---|--|
| HF Range  | European POU Range   | Reverse Osmosis   | UV   |
| <ul style="list-style-type: none"> <li>Range of systems with carbon block and carbon block with membrane using IMPACT technology.</li> <li>Also resin-based scale reduction range Scalegard® Pro</li> </ul> | <ul style="list-style-type: none"> <li>3 ranges of Point-of-Use water cooler systems to meet size, capacity, claim set and ease of change out requirements.</li> </ul> | <ul style="list-style-type: none"> <li>Foodservice Reverse Osmosis systems for coffee machines, vending machines and steamers and combi ovens.</li> </ul> | <ul style="list-style-type: none"> <li>Range of 220V Ultra Violet light systems and accessories for commercial use.</li> </ul> |

|                          |   |   |   |   |
|--------------------------|---|---|---|---|
| Coffee                   | BREW HF range<br>OCS Range<br>Scalegard® Pro range                                  |   |   | UV range  |
| Espresso and Vending     | Scalegard® Pro range  |   | SGLP-RO<br>TFS300<br>BEV150   |   |
| POU Water Coolers        |   | AP1 range<br>AP2 range<br>AP3 range   |   | UV range  |
| Post Mix machines        | BEV HF range<br>CFS8000/9000 ranges   |   |   |   |
| Ice machines             | ICE HF range<br>CFS9000 range   |   |   |   |
| Steamers and Combi Ovens | Scalegard® Pro range  |   | SGLP-RO   | SGLP-RO   |
|                          |  |  |  |  |

# Efficient & Economic filtration Solution from a **World Leader** in **Purification**

## 3M Purification Core technologies:

Membranes, Depth filters, Cleanable Filters, Housings, Engineered Filtration System

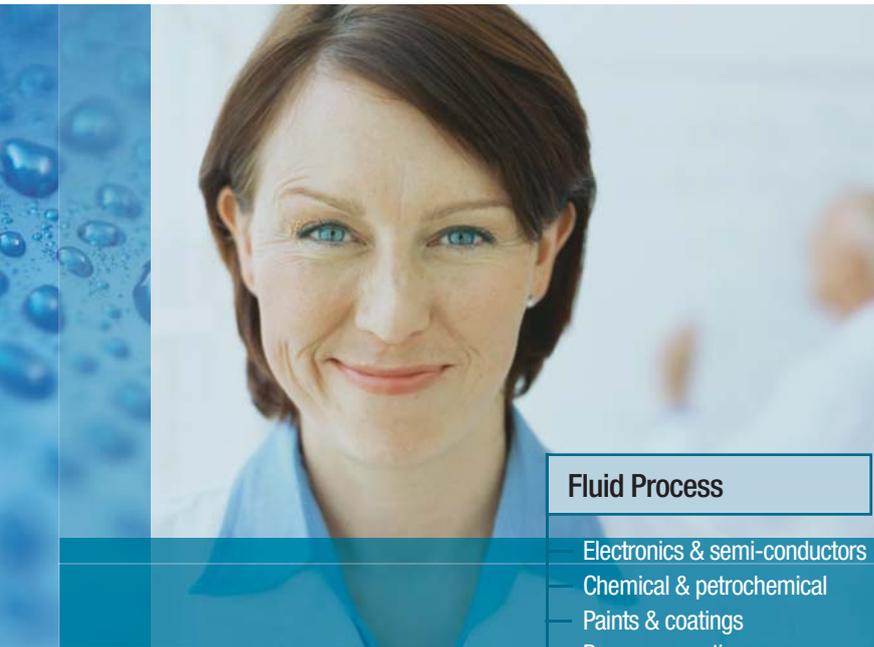
## 3M Purification Service Worldwide:

Branch offices and approved distributors, SASS : Application support group for each market

## 3M Purification Worldwide operations:

ISO certified plants





**Fluid Process**

- Electronics & semi-conductors
- Chemical & petrochemical
- Paints & coatings
- Power generation
- General Industry

**HealthCare**

- Pharmaceutical
- Biological
- Biotechnology
- Diagnostics
- Food & beverage

**3M Water Filtration**

- Residential
- Leisure
- Food Service & Vending

For more information, contact your local 3M Purification representative or distributor.

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