



DUST COLLECTION FILTER TECHNOLOGIES UNFOLD



Donaldson Filters have no Equal

Unparalleled Technology

The world of air filtration revolves around Donaldson. As world leader in filtration for over 90 years, we continually strive to engineer filters that outperform others. Our innovative products set the standard in bag and cartridge filter technology. Donaldson offers a full range of filters for almost any dust, fume and oil mist collection application and most other popular brands of dust collectors.

Donaldson Dust Filters Performance

Donaldson bag and cartridge filters, panels and filter packs keep dust collectors operating at peak performance, while providing significant energy cost savings. Especially our PowerCore® filter packs, Dura-Life® bag filters and our proprietary Ultra-Web® cartridge filters with nanofibre filter media outperform and outlast all others. When it comes to Donaldson Dura-Life® and Ultra-Web® filter media, there is no equal in performance and value.

Donaldson's high performance filter media last longer and are extremely efficient – that means buying and replacing less filters, with less costs over time.



Dryflo Mist Collector



Downflo® Oval Dust Collector



Modular Round Tubular Bag Filter

Donaldson Dust Collection Filters offer you

- Increased surface loading
- Capture of sub-micron contaminants
- Enhanced dust cake release
- Lower energy costs
- Better cleaning efficiency
- Lower cost per cubic metre of air per hour (m³/h)

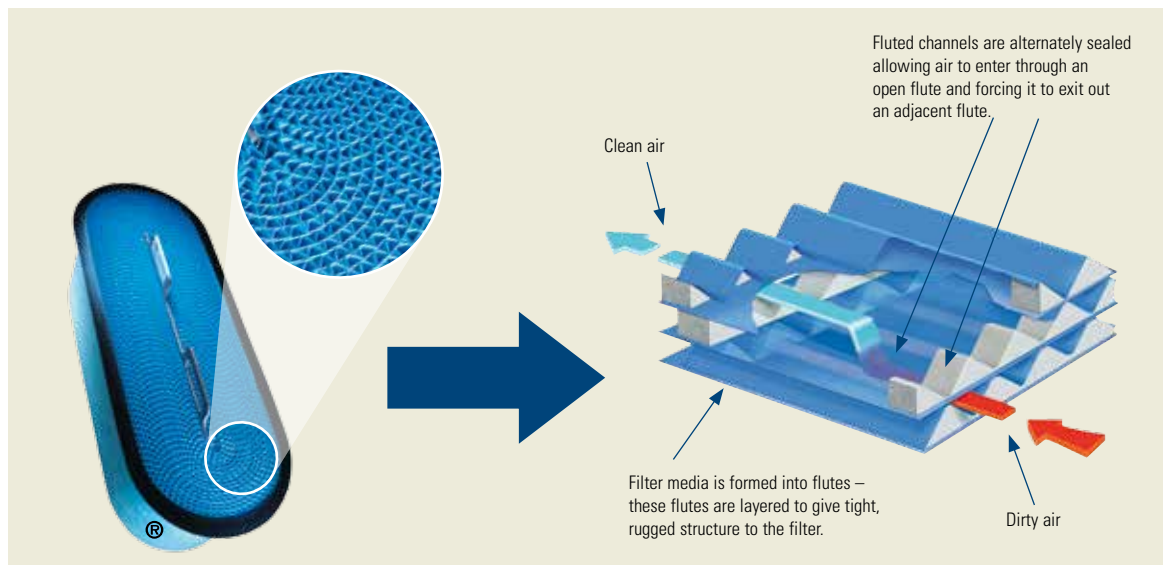
PowerCore® – Smaller and Smarter

Breakthrough Technology Unfolds

At the core is PowerCore® – The most innovative filtration technology from Donaldson. PowerCore® filter packs combine proprietary Ultra-Web® nanofibre technology with new media packaging expertise, creating a revolutionary filtration technology unlike anything else in the industrial filtration market.



Just one 178 mm deep PowerCore® filter pack replaces six 2.4 m long filter bags.



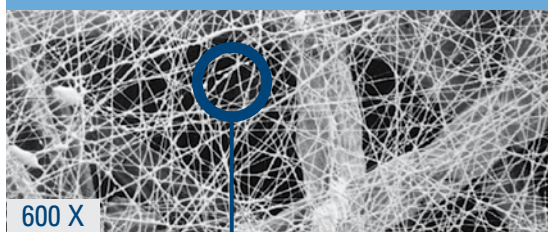
High Performance Filter Packs

A dramatic departure from traditional filter bags, PowerCore® filter packs obround shape, in conjunction with Donaldson proprietary Ultra-Web® media, trap more dust on the surface of the media flutes – down to submicron in size – than conventional filter bag materials such as depth-loading 540 g/m² polyester. Surface loading greatly promotes filter cleaning. Better pulse cleaning lowers pressure drop and energy use.

PowerCore® offers you

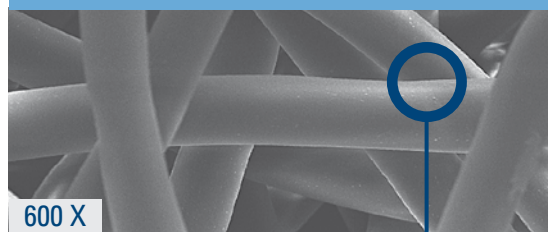
- Less floor space required and the mounting next to the application is possible
- Higher efficiency with an improved performance and less emissions
- Remarkably easy filter changeout
- Reduced transport and installation costs

Ultra-Web® Nanofibre Technology



10 Micron Particulate

540 g/m² Polyester



10 Micron Particulate

Breakthroughs in Filter Technology

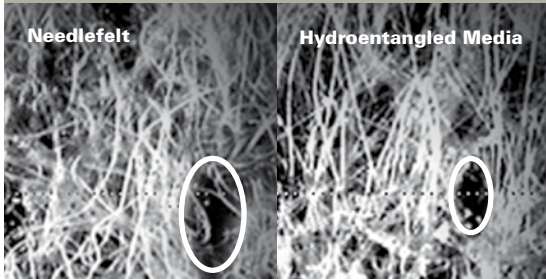
Dura-Life® – A Breakthrough in Bag Filter Technology

- Advanced hydroentanglement technology extends bag life
- Maintenance costs are reduced with longer bag life
- Energy savings result from lower pressure drop
- Smaller particles are captured with greater efficiency
- 99.9 % efficiency helps provide a cleaner, safer environment
- Lasts up to 2–3 times longer than standard polyester bags

DURA-LIFE
Twice The Life Filter Bags



DURA-LIFE® TECHNOLOGY



Ordinary Polyester bags are woven with a needling process that creates larger pores where dust can be embedded into the fabric inhibiting cleaning and reducing bag life. Dura-Life® filter bags are engineered with a unique hydroentanglement process that uses water to blend the fibres, thus creating smaller pores enhancing cleaning and filter life.

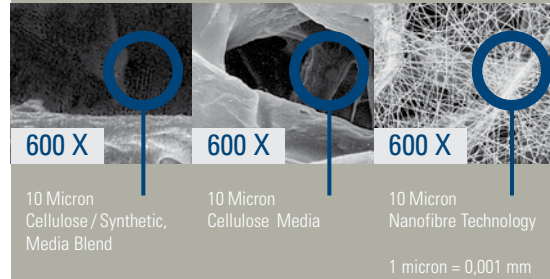
Ultra-Web® – A Breakthrough in Cartridge Filter Technology

- Advanced media that captures submicron and larger dust particles
- A media that traps dust on the surface and promotes self-cleaning
- Better pulse cleaning and lower stabilised pressure drop
- Lasts up to 2 times longer than commodity filters
- Cleaner air, longer filter life, and greater cost savings

ULTRA-WEB®



ULTRA-WEB® TECHNOLOGY



The distinguishing factor in our Ultra-Web® cartridges is nanofibre filtration technology. It uses a layer of fibres 0.2 to 0.3 microns in diameter to capture contaminants less than one micron in size. With nanofibre media, dust particles rapidly accumulate on the filter surface to build a thin, permeable dust-stopping cake. As a result, Ultra-Web cartridges offer the highest filtration efficiency by eliminating premature media plugging and allowing the dust cake's release during the collector's cleaning cycle.

Cartridge and Oil Mist Filters Upgrade

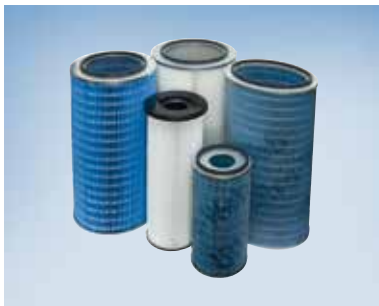
Higher Performance with Replacement Filters from Donaldson

Donaldson filters are engineered with proprietary, higher performance industrial air filter media that improves efficiency, saves energy and extends filter life. Our filters are available for Donaldson Torit® DCE® and most other popular brands of dust collectors. Besides our available filter range, we can also design specific elements to meet your personal requirements.

Types of Cartridges

Donaldson cartridges are manufactured to meet high standards for media efficiency and overall manufacturing quality. By purchasing Donaldson cartridges, you can be sure that your collector provides the highest levels of worker safety, environmental protection and regulatory compliance.

An extensive range of media is provided, including our Ultra-Web® cartridge filters engineered with nanofibre technology. Donaldson proprietary nanofibre technology provides the highest operating efficiencies particles on the surface of the media while allowing efficient dust release and prolonging filter life.



DIN Cartridges and Siloair



Quick Fix Cartridges



Other Cartridges with special End-caps

Types of Oil Mist Cartridges

Uncollected coolant and machining oil mist can cause slippery floors and collect on machines, walls and ceilings, creating an unpleasant, high-maintenance working environment. That's why Donaldson developed a broad range of mist collection products that remove submicron contaminants. The WSO oil mist cartridges are engineered with revolutionary Synteq® XP filter media for superior draining, resulting in lower pressure drop and longer filter life.



Bag Filters Upgrade

Types of Bag Filters

Donaldson provides a variety of fabric bags, each bag consisting of the most carefully selected materials and manufactured to the highest tolerances. Dura-Life hydroentangled polyester, Nomex media and ePTFE laminated fabrics are offered for long filter life.



Types of Pleated Bags

Proven and proprietary Ultra-Web® technology is now available for your baghouse collector. Combining the superior performance of Ultra-Web® nanofibre technology with a sturdy spunbond polyester substrate, replacement Ultra-Web® SB pleated bags provide higher efficiency, longer filter life, and greater cost savings. Upgrade from fabric style filter bags or bags with ordinary spunbonded media to Ultra-Web® SB pleated replacement bags. Ultra-Web® SB is the only spunbond media that captures submicron particles and provides cleaner air.



Panel and Secondary Safety Filters Upgrade

Types of Panels

Donaldson provides a variety of panel filters and spunbonded media. Spunbonded polyester media come with nanofibre or ePTFE membrane technologies and it provides three times the surface filtration area when compared to other conventional fabric filters.



Types of Sintered Elements

Sintamatic elements are manufactured from a carefully controlled blend of granulated polyethylene polymers and then sintered at microprocessor-controlled temperatures to provide a rigid, porous structure. Uniquely constructed, sintered polyethylene filters provide three times the surface filtration area than other conventional fabric filters.



Types of Secondary Safety Filters

Use versatile Donaldson Secondary safety filter or HEPA filters as afterfilters for heavy dust, fume, and mist collection, as primary filters in less severe applications, or as final filters in industrial applications, where indoor air quality is a concern. HEPA filters provide the high filtration of 99.97 % at 0.3 microns.



Filter Media Options for Cartri

| | Ultra-Web® | Fibra-Web | Ultra-Web® Spunbond | Torit-Tex | Kevlar*/Nomex* |
|---|---|---|---|---|---|
| Composition | Cellulose | Synthetic / Glass | Spunbond polyester | Spunbond polyester | Synthetic |
| Superior particle release | Nanofibre ^{a)} | Nanofibre ^{a)} | Nanofibre ^{a)} | Tetratex® Extreme ePTFE membrane ^{b)} | - |
| BIA classification ¹⁾ | M | M | M | M | - |
| Maximum operating temperature media** | 82 °C / 180 °F | 82 °C / 180 °F | 121 °C / 250 °F | 120 °C / 248 °F | 177 °C / 350 °F |
| Optional flame retardant media (FR) | Yes | - | - | - | - |
| Optional antistatic media ²⁾ | - | - | Yes | Yes | - |
| Resistance to abrasion | Good | Excellent | Excellent | Excellent | Excellent |
| Resistance to hydrolysis | N/A | N/A | N/A | N/A | Good |
| Resistance to acids | Poor | Good | Good | Good | Very good |
| Resistance to alkalis | Fair | Good | Good | Good | Very good |
| Resistance to oxidising agents | Poor | Fair | Good | Good | Very good |
| Resistance to organic solvents | Fair | Good | Good | Good | Excellent |
| Special cartridge characteristics | Premium performance on ambient, extremely fine and non-fibrous dust and some abrasive dust; high filtration efficiency on very fine particulate of < 1 micron | Wide pleat spacing provides thorough pulse cleaning of fibrous and agglomerative particles; excellent performance on combination fibrous and non-fibrous dust, and/or agglomerative dust; high filtration efficiency on very fine particulate of < 1 micron | Wide pleat spacing provides excellent particle release; highly recommended for chemical, food and industrial processing when product contamination must be minimized; excellent performance on moist, hygroscopic or agglomerative dust; high filtration efficiency on very fine particulate < 1 micron | Wide pleat spacing and smooth, hydrophobic, state-of-the-art ePTFE membrane, provides excellent particle release; highly recommended for chemical, food and industrial processing when product contamination must be minimized; excellent performance on moist, hygroscopic or agglomerative dust | Special gaskets and adhesives assure structural integrity and airtight sealing characteristics; higher temperature applications up to 177 °C / 350 °F |
| Applications | Metallisation, laser cutting, pharmaceutical, thermal spray, welding | Composite grinding, food processing, grain handling, metal buffing, pharmaceutical, textiles, wood | Chemical processing, food processing, general industry | Chemical processing, food processing, general industry | Metallurgical, chemical and industrial processing |

■ Nanofibre Filters ■ Speciality Filters ■ Standard Filters

Note:

^{a)} Nanofibre technology provides a filtration efficiency of up to 10 times greater than conventional media by utilising a unique layer of submicron fibres on the media's surface.

^{b)} Tetratex® Extreme ePTFE membrane is comprised of millions of small, randomly connected fibres that create extremely small pore sizes to repel water while allowing air and moisture vapour to pass.

* Kevlar/Nomex are registered trademarks of E.I. DuPont de Nemours & Co., Inc.

** Temperature limitations are for the media only and do not take other filter components into account.

Edges, Panels and Pleated Bags

| Thermo-Tek | | | Dryflo | | | Synteq® XP | | | Cellulex | | | Bondura | | | Sintered | | |
|---|--|--|--|--|--|--|--|--|---|--|--|---|--|--|---|--|--|
| Synthetic / Glass | | | Synthetic / Glass | | | Polyester / Glass | | | Cellulose | | | Spunbond polyester | | | Sintered polyethylene | | |
| - | | | - | | | Excellent coalescent properties | | | - | | | - | | | PTFE emulsion coating | | |
| L | | | - | | | - | | | L | | | M | | | M | | |
| 135 °C / 275 °F | | | 65 °C / 149 °F | | | 5 - 60 °C / 41 °F - 140 °F | | | 82 °C / 180 °F | | | 121 °C / 250 °F | | | 60 °C / 140 °F | | |
| - | | | - | | | - | | | Yes | | | - | | | - | | |
| - | | | - | | | - | | | - | | | Yes | | | Yes | | |
| Excellent | | | Poor | | | - | | | Good | | | Excellent | | | Excellent | | |
| Poor | | | Poor | | | Good | | | N/A | | | N/A | | | Excellent | | |
| Good | | | Good | | | Good | | | Poor | | | Good | | | Very good | | |
| Good | | | Good | | | Fair | | | Fair | | | Good | | | Very good | | |
| Good | | | Good | | | Excellent | | | Poor | | | Good | | | Good | | |
| Good | | | Good | | | Good | | | Fair | | | Good | | | Good | | |
| Excellent chemical tolerance – Higher temperature applications | | | Prefilter coalesces smaller droplets into larger droplets; excellent performance on water soluble straight oils, semi-synthetic and synthetic coolants | | | Proprietary bonding system stabilises pore structure for optimum performance; designed for oily smoke/thermally generated mist | | | Enhanced performance due to a unique combination of fibre sizes and a more uniform fibre distribution; retrofit, superior to felts, fabrics, cotton, cloths and similar media | | | Wide pleat spacing provides excellent particle release; highly recommended for chemical, food and industrial processing when product contamination must be minimized; excellent performance on moist, hygroscopic or agglomerative dust | | | Flat panel with pleated construction; exceptionally strong construction and high efficiency; good chemical resistance | | |
| Cement processing, chemical processing, metallurgical, pharmaceutical | | | Metalworking, wet machining, drilling, cutting, etc. | | | Metal cutting, grinding, forming | | | Metal working, shot-blasting | | | Chemical processing, food processing, general industry | | | Chemical and pharmaceutical industries | | |

¹⁾ BIA M guarantees a maximum degree of penetration of 0.1 % on particles between 0.2 and 2 µm. BIA L guarantees a maximum degree of penetration of 1.0 % on particles between 0.2 and 2 µm.

²⁾ Antistatic media (an electrical resistance less than 10⁸ ohm) can be used for dust with MIE < 3 mJ.

| | Dura-Life® | Nomex | Tetratex® | Standard Polyester | Polypropylene |
|---|---|--|--|--|---|
| Composition | Polyester | Aramid | Polyester | Polyester | Polypropylene |
| Construction | Hydroentangled felt | Scrim supported needlefelt | Tetratex® Extreme ePTFE membrane | Scrim supported needlefelt | Scrim supported needlefelt |
| BIA classification ¹⁾ | - | - | M | M | L |
| Maximum operating temperature (dry) | 135 °C / 275 °F | 195 °C / 383 °F | up to 130 °C / 266 °F | 135 °C / 275 °F | 100 °C / 212 °F |
| Optional singed finish | - | - | - | Yes | Yes |
| Optional antistatic media ²⁾ | Yes | - | Yes | Yes | Yes |
| Optional oleophobic treatment | Yes | - | - | Yes | - |
| Resistance to abrasion | Very good | Excellent | Excellent | Excellent | Very good |
| Resistance to hydrolysis | Poor | Good | Poor | Poor | Excellent |
| Resistance to acids | Good | Very good | Good | Good | Excellent |
| Resistance to alkalies | Good | Very good | Good | Good | Excellent |
| Resistance to oxidising agents | Very good | Very good | Very good | Very good | Moderate |
| Resistance to organic solvents | Very good | Excellent | Very good | Very good | Good |
| Special characteristics | Premium performance media for the vast majority of bag house and venting applications offering improved efficiency, lower operating delta p and improved bag life | High temperature filtration up to 195 °C under dry heat conditions; applications up to 150 °C where moisture may be present, ie drying | The microporous ptfe membrane gives improved filtration properties over conventional needlefelts, resulting in improved efficiencies and lower operating pressure drop, particularly when handling very fine or free flowing and searching dusts | Ambient filtration, nuisance dust applications | Low temperature filtration with high concentrations of acids and alkali's |
| Applications | Extensive market range incl. ambient filtration in food, pharmaceutical, metal working, foundries, minerals and plastic etc. | Mineral, cement and product drying | Pharmaceutical, food industry, pigments and dyes, metals oxides and cement plants | Agrofood, cereals, wood industries | Chemical, agrochemicals, galvanizing |

■ Hydroentangled media ■ Speciality Filters ■ Standard Filters

Note:

¹⁾ BIA M guarantees a maximum degree of penetration of 0.1 % on particles between 0.2 and 2 µm. BIA L guarantees a maximum degree of penetration of 1.0 % on particles between 0.2 and 2 µm.

²⁾ Antistatic media (an electrical resistance less than 10⁸ ohm) can be used for dust with MIE < 3 mJ.

ons for Bag Filters

| Homopolymer Acrylic (Dralon) | Polyimide (P84) | PPS (Ryton) |
|--|--|--|
| Homopolymer acrylic | Polyimide | Polyphenylene sulphide |
| Scrim supported needlefelt | Scrim supported needlefelt | Scrim supported needlefelt |
| - | - | - |
| 140 °C / 284 °F | 260 °C / 500 °F | 190 °C / 374 °F |
| Yes | Yes | Yes |
| Yes | - | - |
| Yes | - | - |
| Good | Very good | Good |
| Good | Very good | Excellent |
| Good | Very good | Excellent |
| Very good | Good | Very good |
| Very good | Very good | Poor |
| Very good | Very good | Excellent |
| Temperature range 90 to 125 °C in humid, mild acid conditions where polyester would fail due to hydrolysis | High temperature filtration, including hot flue gas applications | High temperature filtration in the presence of acids, alkalis and moisture; excellent resistance to hydrolysis |
| Drying, low temperature flue gas applications | Industrial and municipal waste incineration, coal or wood fired boilers, metal smelting etc. | Industrial and municipal waste incineration, coal or wood fired boilers, metal smelting etc. |

Tetratex® Extreme ePTFE Membranes

Tetratex® Extreme ePTFE membrane's unique micro-structure comprises of millions of small randomly connected fibres that render an effective pore size many times smaller than can be seen by the naked eye. The result: Tetratex® repels water and collects very fine particles whilst allowing air and static charge to freely permeate the membrane.

Tetratex® Extreme is a surface filtration ePTFE membrane, laminated to woven material and needlefelts. It acts as a primary dustcake requiring no precoat before or during operation. By limiting fine particle penetration Tetratex® Extreme preserves the filter substrate's integrity, whilst maintaining optimum airflow at a reduced pressure drop.

Epitropic Antistatic

Epitropic fibres are polyester fibres impregnated with a conductive carbon outer surface coating. When blended with standard polyester fibres provide a level of electrical resistance of below 1×10^8 ohm. This satisfies the ATEX requirements of an antistatic material. Epitropic polyester has the same heat and chemical resistance as standard polyester.

Oleophobic Treatment

Oleophobic treatment has a particular use where the dust is of an oily nature or when moisture may be present in the dust. The use of these treatments can in many instances significantly improve the dustcake release and prevent premature blinding, thus increasing media life as well as maintaining lower pressure drops across the filter.

These treatments can be applied to polyester and Dralon needlefelts and also where the media contains antistatic fibres. They can also be used in conjunction with a mechanical surface finish.

Excursions through dewpoints and washing in warm water does not degrade the treatments characteristics and permeability remains unaffected.

Total Filtration Service

Here to serve you

Providing technically advanced filter media with the longest filtration life is just one of Donaldson's distinctions. When it comes to customer support, no other filter manufacturer can match Donaldson's technical expertise and commitment. Rely on Donaldson to help you choose the best filter media for your applications.

Filter Selection

With hundreds of varieties to choose from, Donaldson offers the broadest selection of filter media, each designed for specific applications.

Knowledgeable Support

Local Donaldson aftermarket sales representatives and service specialists help customers select the filter media for their application needs and assure a quick delivery.

Product Support

Donaldson filters are stocked and distributed quickly. Our distribution centers ensure that they arrive promptly at their destinations.

Easy Access Call

Contact Donaldson customer service for assistance or visit us at www.donaldson.com.

OTHER SERVICES

- Inspection and maintenance
- Emission measurements
- Leakage detection
- Filter and air audit



Donaldson
Torit® DCE®

Dust and Fume Removal · Oil Mist Separation



Donaldson
FILTRATION SOLUTIONS

Total Filtration Management

Donaldson offers a wide variety of solutions to reduce your energy costs, improve your productivity, guarantee production quality and help protect the environment.

Total Filtration Service

A comprehensive range of services especially designed to keep your production at peak performance and at the lowest total cost of ownership.

Please contact us:

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