Donaldson
FILTRATION SOLUTIONS

DUST COLLECTION FILTER TECHNOLOGIES UNFOLD

CEP-Holland
Capital Equipment Partners BV

www.cep-holland.com
Email: spares@cep-holland.com

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

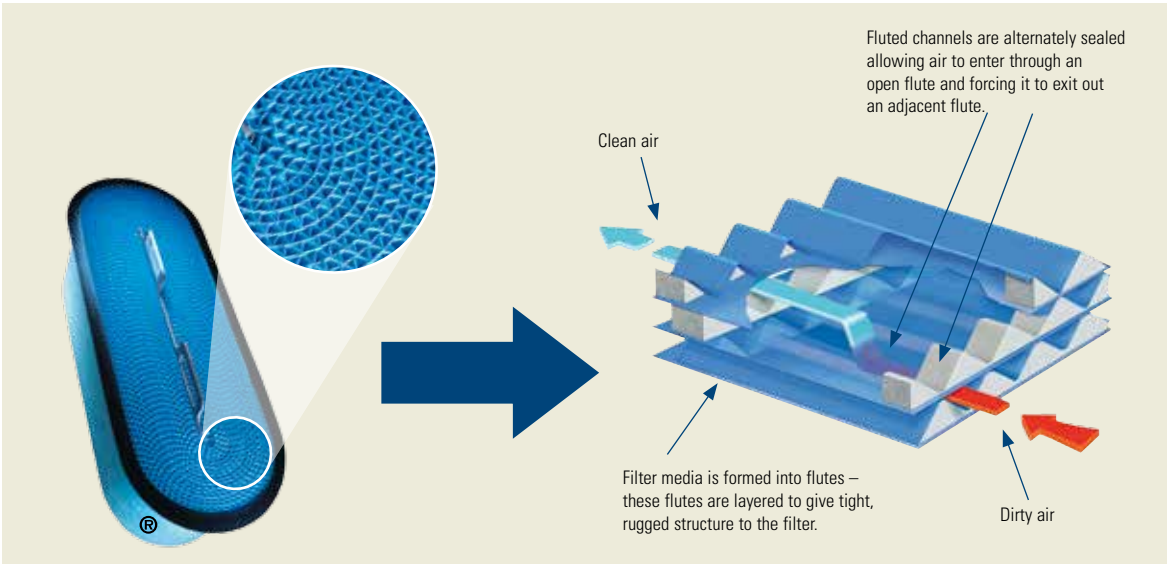
- Increased surface loading
- Capture of sub-micron contaminants
- Enhanced dust cake release
- Lower energy costs
- Better cleaning efficiency
- Lower cost per cubic metre of air per hour (m^3/h)

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.



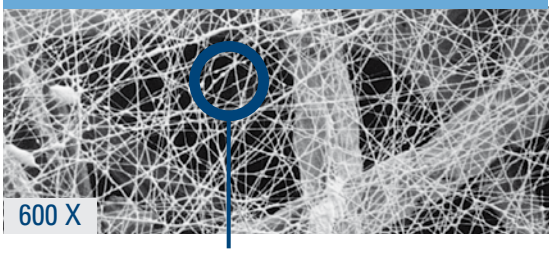
High Performance Filter Packs

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

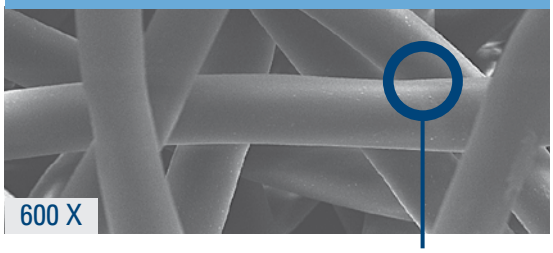
- Less floor space required and the mounting next to the application is possible
- Higher efficiency with an improved performance and less emissions
- Remarkably easy filter changeout
- Reduced transport and installation costs

Ultra-Web® Nanofibre Technology



10 Micron Particulate

540 g/m² Polyester



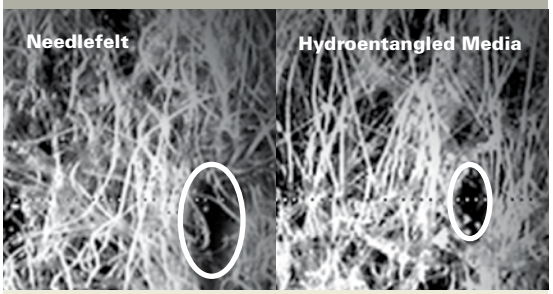
10 Micron Particulate

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

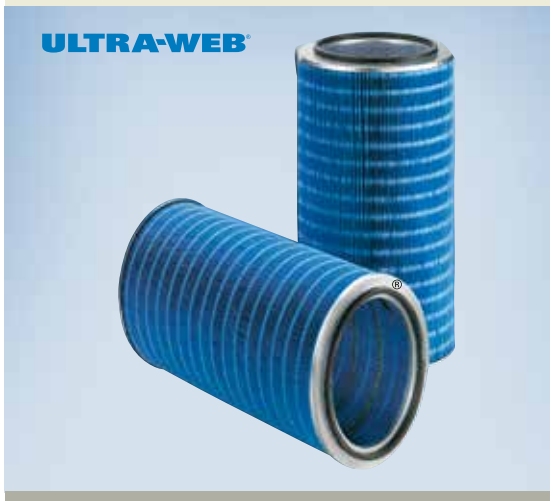
DURA-LIFE® TECHNOLOGY



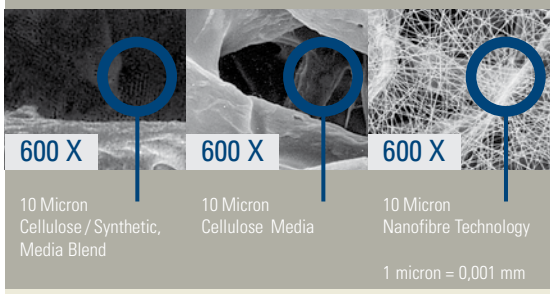
Ordinary Polyester bags are woven with a needling process that creates larger pores where dust can be embedded into the fabric inhibiting cleaning and reducing bag life. Dura-Life® filter bags are engineered with a unique hydroentanglement process that uses water to blend the fibres, thus creating smaller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

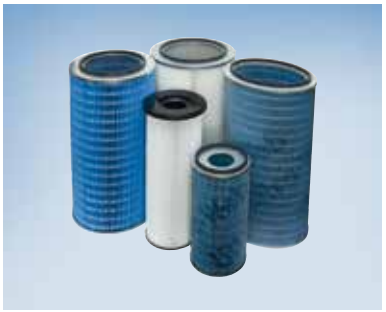
Higher Performance with Replacement Filters from Donaldson

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.

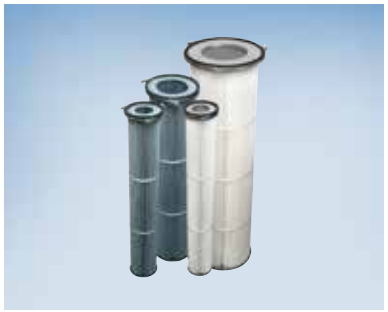
Types of Cartridges

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.

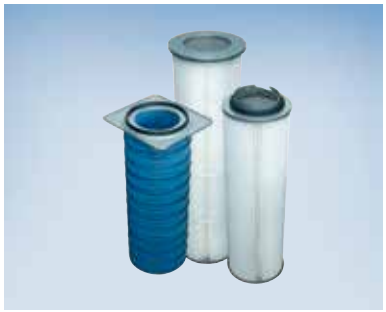
An extensive range of media is provided, including our Ultra-Web® cartridge filters engineered with nanofibre technology. Donaldson proprietary nanofibre technology provides the highest operating efficiencies particles on the surface of the media while allowing efficient dust release and prolonging filter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

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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.

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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.

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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.

dges, Panels and Pleated Bags

Thermo-Tek	Dryflo	Synteq® XP	Cellulex	Bondura	Sintered
Synthetic / Glass	Synthetic / Glass	Polyester / Glass	Cellulose	Spunbond polyester	Sintered polyethylene
-	-	Excellent coallescent 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 10^8 ohm) can be used for dust with MIE < 3 mJ.

Filter Media Opti

	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 micropourous 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 10^8 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 filtrati-on, 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.

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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 $1x10^8$ 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

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