



Donaldson[®]
Filtration Solutions



Filter Cartridges



Ultra-Web® Filter Cartridges Have No Equal

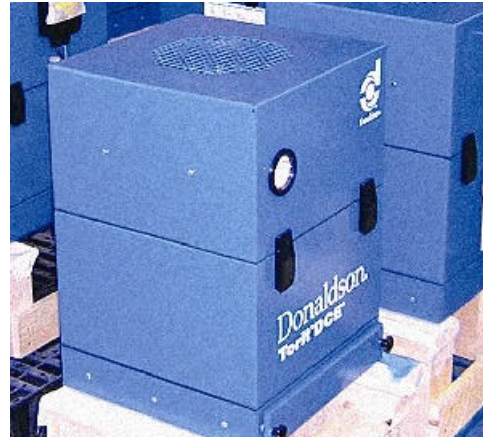
Ultra-Web® Filter Cartridges Have No Equal

▶ Donaldson® filter cartridges keep dust collectors operating at peak performance. Offered for a full range of dust, fume and mist collection applications, Donaldson filter cartridges - especially our patented Ultra-Web® media - outperform and outlast our competitors. When it comes to Donaldson Ultra-Web media, there is no equal in performance and value.

All cartridges are not alike. Equip a dust collector with a generic replacement filter cartridge and expect the performance of that collection system to decline. What's worse, generic replacement filter cartridges selected for their initial lower purchase price often waste manufacturers' time, productivity and money in the long run.

Features and Benefits:

- Higher performance
- Increased efficiency
- Longer filter life
- Greater value



Dryflo® Mist Collector



Downflo® Oval 1™ Dust Collector



Environmental Control Booth

Cartridge Filter Breakthroughs

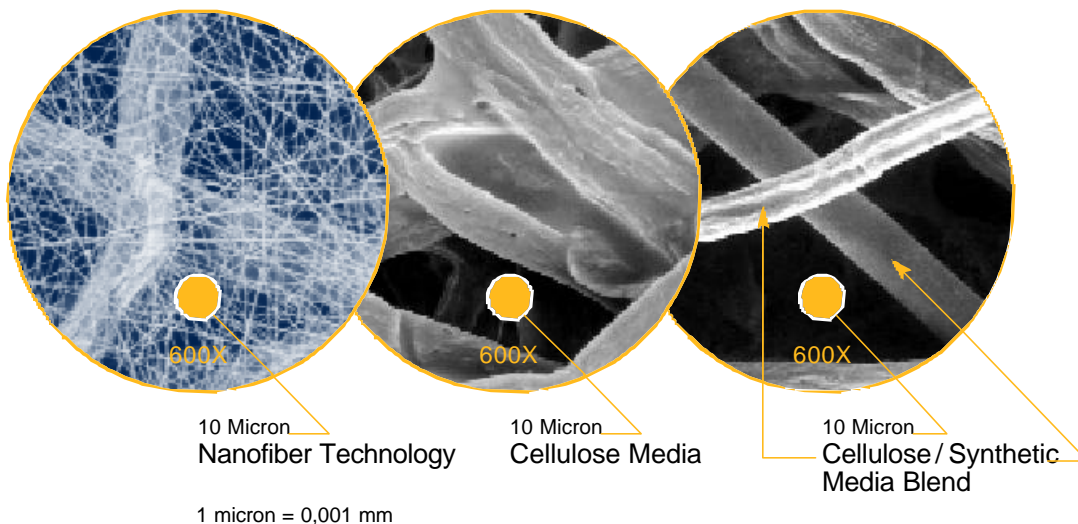
Unparalleled Technology

▶ As the world leader in air filtration for nearly 90 years, Donaldson Company continually strives to engineer filter cartridges that outperform all others. Donaldson Company set the standard in cartridge filter technology with innovations like our proprietary Ultra-Web® filters with nanofiber filter media.

Nanofiber media is the most efficient and cost-effective choice available for most dust, fume and mist collection processes. Donaldson offers a full range of high performance cartridges for almost any application.

Experience the Nanofiber Advantage

- ▶ Increases surface loading
- ▶ Captures sub-micron contaminants
- ▶ Enhances dust cake release
- ▶ Provides better cleaning efficiency
- ▶ Lowers cost per cubic metre per hour of air (m³/h)
- ▶ Lowers energy cost



Nanofiber Filter Media

▶ The distinguishing factor in our Ultra-Web and Fibra-Web™ cartridges is nanofiber filtration technology. It uses a layer of fibers 0.2 to 0.3 microns in diameter to capture contaminants less than one micron in size. With nanofiber media, dust particles rapidly accumulate on the filter surface to build

a thin, permeable dust-stopping cake. As a result, Ultra-Web and Fibra-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.

Filter Options

	Ultra-Web™	Fibra-Web™	Ultra-Web® Spunbond	Torit-Tex™	Torit-Tex™ HCD
Base media	Cellulose	Synthetic	Calendered, Spun-bonded Polyester	Calendered, Spunbond polyester	Carbon impregnated, Calendered, Spun-bond polyester
Superior particle release	Nanofiber ¹	Nanofiber	Nanofiber	Tetratex® PTFE Membrane ²	Tetratex® PTFE Membrane ²
BIA Classification (3)	M	M	M	M	M
Operating efficiency	99.999% on 0.5 micron	99.999% on 0.5 micron	99.999% on 0.5 micron	99.999% on 0.5 micron	99.999% on 0.5 micron
Washable	1 time	Up to 3 times	1 time	Several times	Several times
Maximum operating temperature	180°F / 82°C	180°F / 82°C	150°F / 65°C	200°F / 93°C	275°F / 135°C
Abrasion resistance	Good	Excellent	Excellent	Excellent	Excellent
Chemical tolerance	Fair	Good	Excellent	Excellent	Excellent
Optional flame retardant media (FR)	Yes	Yes	No	No	No
Conductive (1)	No (2)	No (2)	No (2)	No	Yes
Special characteristics	Highest efficiency similar to membrane products at a much lower price.	Wide pleat spacing provides thorough pulse cleaning of fibrous and agglomerative particles.	Wide pleat spacing provides thorough pulse cleaning of fibrous agglomerative dusts. High efficiency similar to membrane products at a much lower price. Antistatic version available with resistivity of <math><10_4\text{ ohm}</math>.	Wide pleat spacing and smooth, hydrophobic, state-of-the-art PTFE membrane provides excellent particle release.	Anti-static media with certified resistivity level of 10^4 OHM.
Markets	Metalizing, Pharmaceutical, Thermal Spray, Welding	Composite grinding, Food processing, Grain handling, Metal buffing, Pharmaceutical, Textiles, Wood.	Shot-blasting, grinding, and polishing, powder coating.	Chemical processing, Food processing, General industrial	Chemical processing, General industrial, Pharmaceutical, Pulp and paper
Applications	Premium performance on ambient, extremely fine and non-fibrous dust and some abrasive dust.. High filtration efficiency on very fine particulate of <math><1\text{ micron}</math>.	Excellent performance on combination fibrous and non-fibrous dust, and/or agglomerative dust.	Premium performance in ambient, extremely fine, fibrous and agglomerative dust. High filtration efficiency on very fine particulate of <math><1\text{ micron}</math>.	Highly recommended for chemical, food, and industrial processing when product contamination must be minimized. Excellent performance on moist, hygroscopic, or agglomerative dust.	Applications where electrostatic charges can be dangerous and with higher temperatures up to 275°F / 135°C.
Dust types	Fumed silica, Metallic fume, Metallurgical powders, Weld fume	Ceramics, Cotton, Fiberglass, Tobacco	Carbon black, colour pigments, dyes, chemical additives, plastic.	Dextrose, Flour, Starch, Sugar, Whey	Coal, Plastics, Powdered materials, Prepared food







Color Chart		
Nanofiber Filters	Specialty Filters	Standard Filters

1) According to Directive BGR132 issued by the Hauptverband der gewerblichen Berufsgenossenschaften edition March 2003, filter materials are classified as dissipative as long as they do not exceed a limit of 10^8 ohm (compliant with ATEX regulations).

2) Yes, if the dust that is filtered is conductive, as test have proven that the media during seasoning will become conductive.

3) BIA M guarantees a max degree of penetration of 0,1% on particles between 0,2 and $2\mu\text{m}$.

Filter Options

  			 		
Synthetic	Synthetic	Synthetic	Cellulose	Cellulose	Calendered, Spunbond polyester
-	L	-	L	L	M
99.99% on 1-10 micron	99.99% on 1 micron	98% on 1.8 micron	99.99% on 0.5 micron	99.99% on 0.5 micron	4
None	Up to 3 times	None	None	None	None
350°F / 177°C	275°F / 135°C	150°F / 65°C	150°F / 65°C	150°F / 65°C	150°F / 65°C
Excellent	Excellent	N/A	Good	Good	Excellent
Good	Excellent	Fair	Fair	Fair	Excellent
No	No	No	No	Yes	No
No	No (2)	No	No	No (2)	
Special gaskets and adhesives assure structural integrity and airtight sealing characteristics.	Excellent chemical tolerance—stainless steel option only.	Pre-filter coalesces smaller droplets into larger droplets.	Pre-filter sieves larger particulate.	Enhanced performance due to a unique combination of fiber sizes and a more uniform fiber distribution.	Excellent moisture resistance and dust release properties.
Chemical processing, General industrial	Cement processing, Chemical processing, Metallurgical, Pharmaceutical	Metalworking	Grinding and polishing, Bag dumping	Retrofit, superior to felts, fabrics, cotton, cloths and similar media	Shot-blasting, grinding and polishing, power coating.
Metallurgical, Chemical, and Industrial processes. Higher temperature applications up to 350°F / 177°C.	Metallurgical, Chemical, and Industrial applications. Higher temperature applications.	Wet machining	Higher efficiency and easier maintenance for applications where envelop filters are typically used. Intermittent duty applications and machining.	Applications with dry, coarse particulate. Economical choice for operations with forced or cyclical filter replacement (independent of pressure drop).	Very good performance on surface treatment applications and abrasive dust. Very good in high moisture and on agglomerative dust.
Cement, Coal/Coke, Ink, Paint pigment	Carbon, Cement, Foundry shakeout, Metal powders, Shot blast, Silica gel drying	Water soluble straight oils, Semi-synthetic and synthetic coolants	Metal grinding, Carbon dust, Graphite dust.	Various	Metal grinding, powder coating, shot-blasting.

Note: Optional stainless steel construction available on all cartridges.

1. Nanofiber technology provides an initial filtration efficiency of up to 10 times greater than conventional media by utilizing a unique layer of submicron fibers on the media's surface.
2. Tetratex® PTFE membrane is comprised of millions of small, randomly connected fibers that create extremely small pore sizes to repel water while allowing air and moisture vapor to pass.

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

Operating Advantages

Donaldson Filter Cartridges Perform

▶ The world of air filtration revolves around Donaldson. We are the world leader in filtration solution science and technology. We cover a wide range of industrial air filtration

applications with a variety of filter cartridge models that provide the highest levels of performance on all types of dust, fume and mist.

Particle Size Range of Common Contaminants

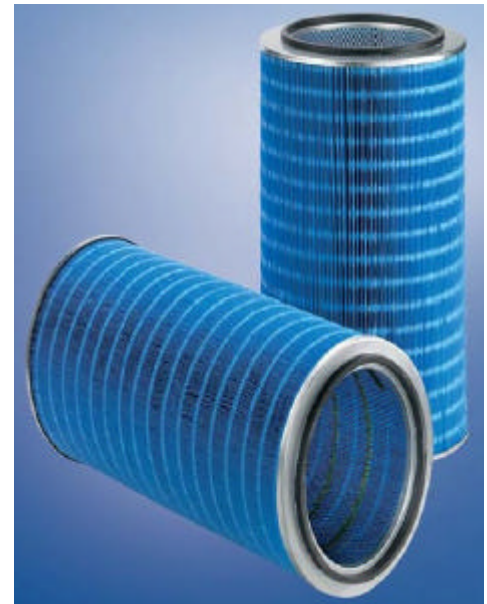
Micron Scale		0.1	1.0	10.0	100	1000
CAN BE SEEN BY:		SCANNING ELECTRON MICROSCOPE	OPTICAL MICROSCOPE		VISIBLE TO THE NAKED EYE	
Typical Particles & Gas Dispersoids	Carbon Black	[Bar from 0.1 to ~0.5]				
	Cement Dust			[Bar from ~2 to 100]		
	Clay	[Bar from 0.1 to ~0.5]				
	Fertilizer, Lime Stone			[Bar from ~2 to 100]		
	Flour		[Bar from 1.0 to ~5]			
	Fly Ash			[Bar from ~2 to 100]		
	Insecticide Dust	[Bar from ~0.5 to 10]				
	Lung Damaging Dust	[Bar from 0.1 to ~0.5]				
	Oil Smoke	[Bar from 0.1 to ~0.5]				
	Oily Weld Fume	[Bar from 0.1 to ~0.5]				
	Paint Pigments	[Bar from 0.1 to ~0.5]				
	Pulverized Coal			[Bar from ~2 to 100]		
	Zinc Oxide Fume	[Bar from 0.1 to ~0.5]				

1. Ultra-Web and Fibra-Web filter cartridges use nanofiber technology to provide an initial filtration efficiency of up to 10 times greater than conventional media.

2. Torit-Tex filter cartridges use Tetratex® PTFE membrane, which repels water while allowing air and moisture vapor to pass through the membrane's extremely small pores.

The Ultra-Web advantage is cleaner air

- ▶ 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
- ▶ Cleaner air, longer filter life, and greater cost savings



Donaldson. *And everything just got better.*

Total Filtration Management

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

Compressed Air Filtration, Sterile Filtration, Process Filtration, Refrigerant Drying, Adsorption Drying, Condensate Drains, Condensate Purification Systems, Water Chillers, Air / Oil Separation, Dust and Fume Removal, Process Air and Gas Processing, Oil Mist Separation

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.

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