Donaldson®
Torit®

PLEATED BAG FILTERS

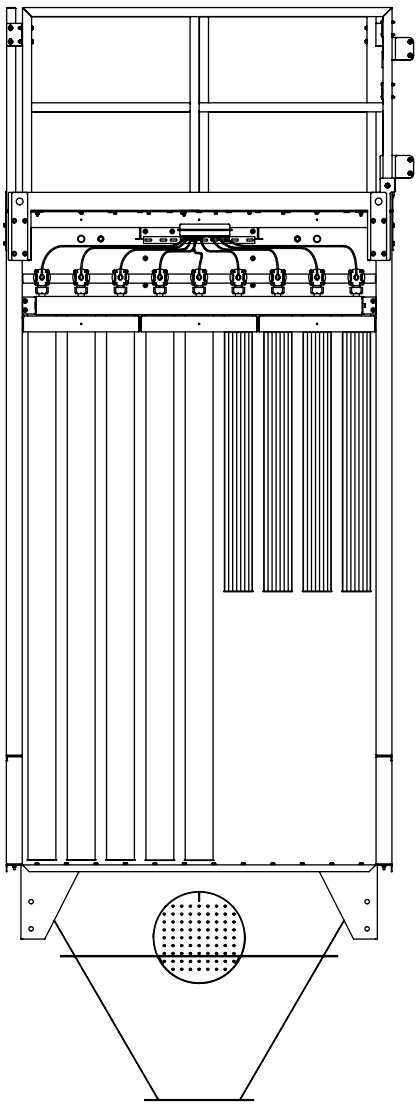
Air Separation
Technologies Inc.
905-821-8860 astcanada.ca

OUR ADVANTAGE IS YOUR SOLUTION

Donaldson is a trusted supplier of industrial air filtration, helping provide effective solutions for your applications. Our filtration expertise, wide breadth of product offerings, and unrivaled product support helps optimize filtration performance and reduce long-term cost of operation. We offer an extensive range of pleated bags to help keep your process running efficiently.

Why pleated bags? Because pleated bag filters are engineered to deliver solutions for most common baghouse problems.

PROBLEM	PLEATED BAG FILTER SOLUTION
Not Enough Filter Area	Pleated bag filters provide 2-3 times the filtration area in existing equipment due to the innovative pleat pack design.
High Pressure Drop	Increasing filter area causes the air to media ratio to decrease when the airflow stays the same. The pressure drop also decreases.
Abrasion	Pleated bag filters are shorter than the fabric bags they're replacing. This allows for a larger drop out area and less opportunity for bag abrasion.
Stack Discharge	Ultra-Web SB offers all the benefits of spunbond media, plus the superiority of fine fiber technology allowing for the capture of submicron particulate reducing stack emissions.
Short Life	Pleated bag filters offer up to 2-3 times the filter life over 16 oz. (453.6 g) polyester felt bags.



MAINTENANCE & OPERATION SAVINGS

Less down time

- Fewer change outs leading to reduced downtime costs
- Less worker exposure to confined spaces and harmful dust(s)

Decreased compressed air usage

- Energy cost savings
- Less wear and tear on compressed air supply systems / less upkeep and maintenance required

Operational savings

- Decreased pressure drop equating to less frequent pulsing

Smaller collectors (when ordered with new collector)

- Can reduce the collector size needed/Facility footprint constraints
- Smaller collectors can reduce shipping and installation costs, and you have fewer filters to buy and replace.

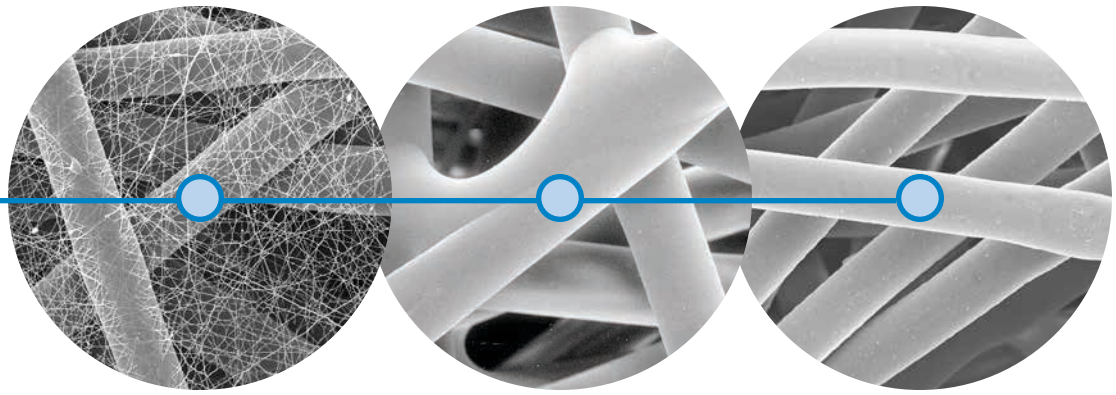
ULTRA-WEB SB: PERFORMANCE MEDIA

Donaldson's proprietary Ultra-Web technology is made with an electrospinning process that produces a very fine, continuous fiber of 0.2-0.3 micron in diameter. Ultra-Web fine fibers form a permanent web-like net with very fine interfiber spaces that trap dust on the surface of the media. Combining superior Ultra-Web technology with a sturdy spunbond polyester substrate, the Ultra-Web SB pleated bag filters deliver longer filter life, higher efficiency, and greater cost savings for baghouse collectors.

- Media is more efficient in capturing submicron dust particles (0.3 micron and larger)
- Longer filter life and better pulse cleaning due to surface loading technology
- Lower energy use with better pulse cleaning and lower operating pressure drop
- Cleaner air, longer filter life, and greater cost savings

10 micron

1 micron = 1/25,400 of an inch
(1/1,000 of a millimeter)



Ultra-Web SB
(600x)

Spunbond
(600x)

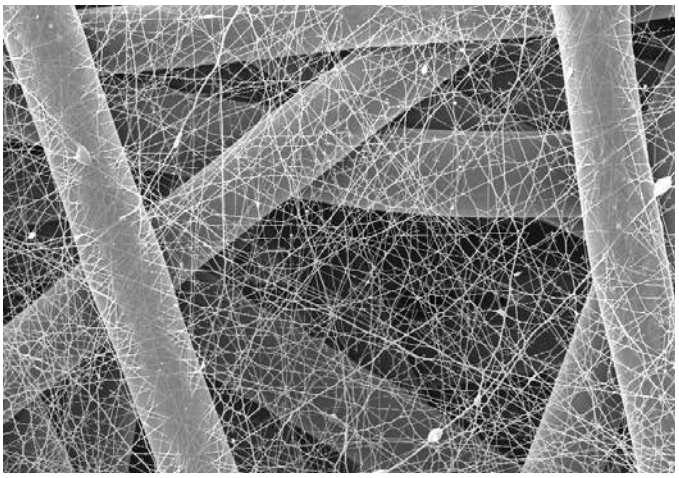
Standard 16 oz. Polyester
(600x)

PLEATED BAG FILTERS	3-10 MICRON	1-3 MICRON	0.3-1 MICRON
Ultra-Web SB Pleated Bag Filters MERV 15 Rating	Excellent	Excellent	Excellent
Spunbond Pleated Bag Filters	Excellent	Fair	Fair
16 oz. (453.6 g) Polyester Felt Bag Filters	Fair	Fair/Poor	Poor

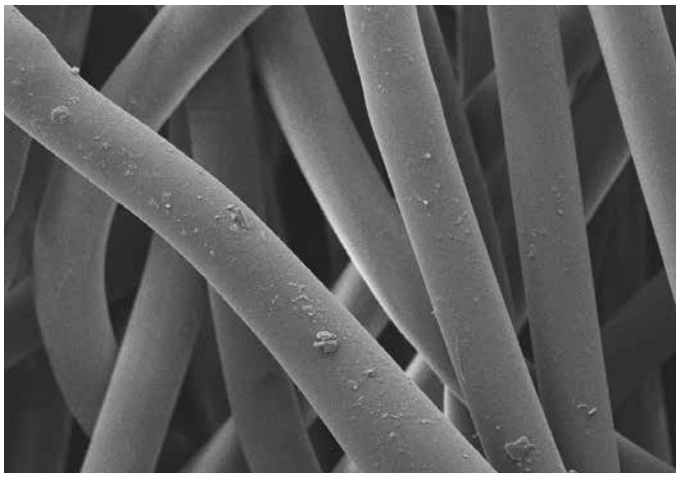
Standard spunbond and 16 oz. (453.6 g) polyester felt are not efficient enough to rate on submicron dust particles. Standard spunbond filters capture particulate at the 1-3 micron level, while 16 oz. (453.6 g) polyester felt only effectively captures at the 3-10 micron level.

FILTRATION MEDIA TEST RESULTS

DONALDSON ULTRA-WEB® SPUNBOND MEDIA VERSUS DONALDSON 16 OZ. SINGED POLYESTER FELT MEDIA



Donaldson Ultra-Web Spunbond, Media (600x)



Donaldson 16 oz. Singed Polyester Felt, Media (600x)

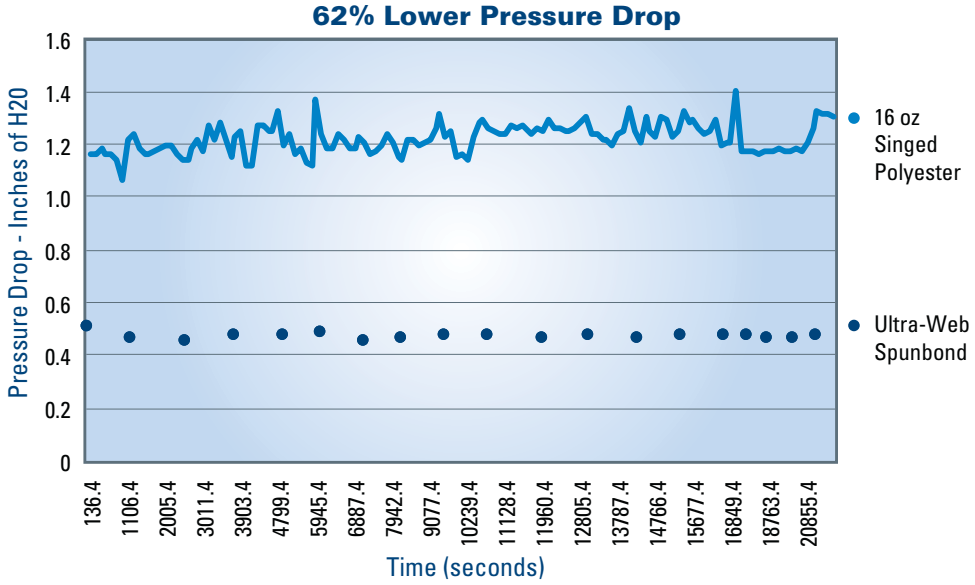
OVERVIEW:

Donaldson recently completed a test to compare the performance of its singed felt media, commonly used in baghouse applications, to the Ultra-Web® SB (Spunbond) media used in its pleated bags. Donaldson hired a an independent laboratory to conduct the test using American Society for Testing and Materials (ASTM) test D 6830-02. This is the same test method that was used by the U.S. EPA for their Environmental Technology Verification (ETV) program.

RESULTS:

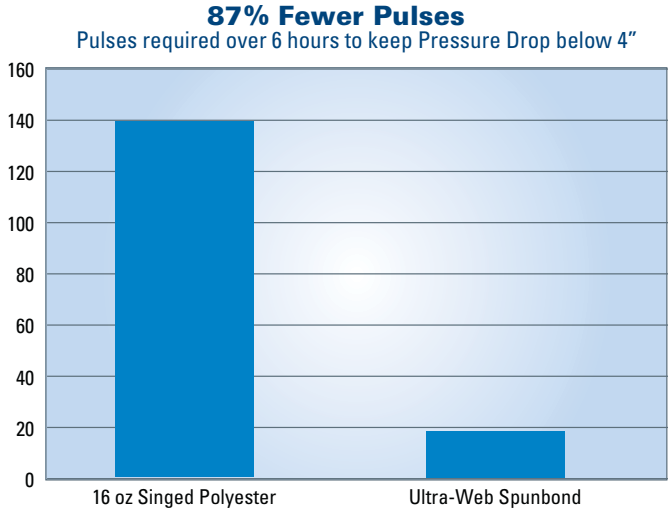
PRESSURE DROP

During the six hour performance phase of the test, Ultra-Web Spunbond ran at a lower pressure drop than the 16 oz polyester felt. The average pressure drop for Ultra-Web Spunbond was 62% lower than singed felt.



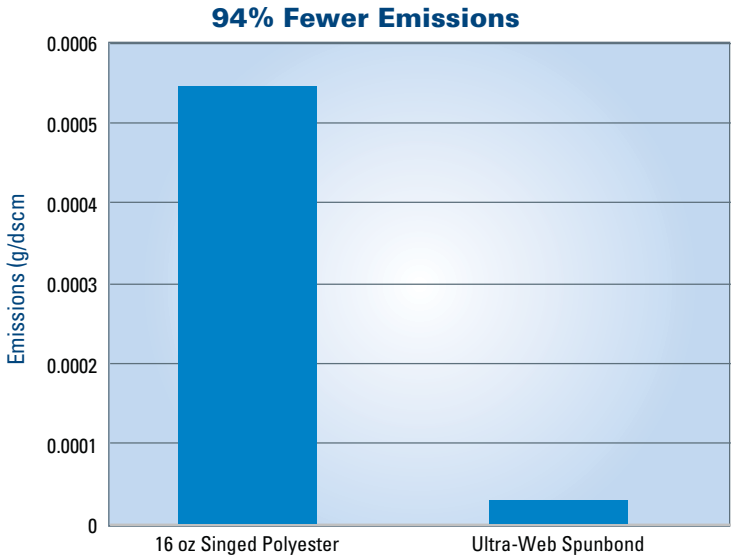
PULSES REQUIRED TO KEEP PRESSURE DROP BELOW 4"

During the six hour performance phase of the test, the Ultra-Web Spunbond media only required 18 pulses to keep the pressure drop below 4". Meanwhile, the 16 oz polyester felt required 139 pulses to keep the pressure drop below 4". This is a 87% reduction of pulses required to keep the pressure drop below 4".



EMISSIONS

This test shows that during the final phase of the test, the Ultra-Web® Spunbond had 94% fewer emissions than the 16 oz polyester bag material.



TEST PROCEDURE:

ASTM test D 6830-02 is a flat sheet media test that consists of three phases.

- The first phase is a conditioning phase consisting of 10,000 filtration cycles (pulse cycles) to simulate long term operation.
- The second phase consists of 30 normal filtration cycles to allow the media to recover from the conditioning period.
- The final phase of the test is the performance phase. This phase lasts 6 hours with normal filtration cycles. During this phase, whenever the pressure drop reaches 4", the media is pulsed. The number of pulses required to keep the pressure drop under 4" over this 6 hour period is recorded along with the pressure drop 3 seconds after each pulse.

Note: For the 16 oz. polyester felt sample, the normal filtration test velocity of 6.6 feet per minute was used. Since Ultra-Web Spunbond media is used in pleated bags which provide twice as much media as 16 oz felt bags, the Ultra-Web Spunbond media was tested at a modified filtration velocity of 3.5 feet per minute to simulate the final product assembly.

TAKE A CLOSER LOOK AT OUR PLEATED BAG FILTERS

Features for all styles of pleated bags:

- One pleated bag replaces one filter and cage
- Banding with superior urethane attachment method
- Pleat Packs-pleated media increases effective area compared to felt bags. Consistent pleat spacing to enhance cleaning
- Faster, easier filter installation and removal

STANDARD ROUND TOP LOAD PLEATED BAG OPTIONS

Available in standard and mid-temperature options

iSeal gasket made of soft, gray EPDM ensures easy and secure fit

Unique, one piece molded design eliminates potential leakage point at tubesheet.

High flow nozzle with built in venturi for top load collectors provides direct airflow, improved pulse energy and decreased pressure drop over the life of the filter.

Fully molded top boot made from soft polyurethane

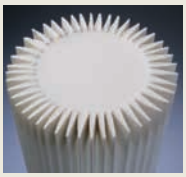
Stainless steel snap ring for easy installation

STANDARD R LOAD PLEAT

Soft polyurethane boot installs easily on bottom load applications

ROUND BOTTOM ED BAG OPTIONS

Long boot design for ease of installation on wide mouthed/longer venturis



Ledgeless/Star bottom for use in applications where complete residual dust release is desired

RF STYLE OVAL PLEATED BAG OPTIONS

SNAP-IN

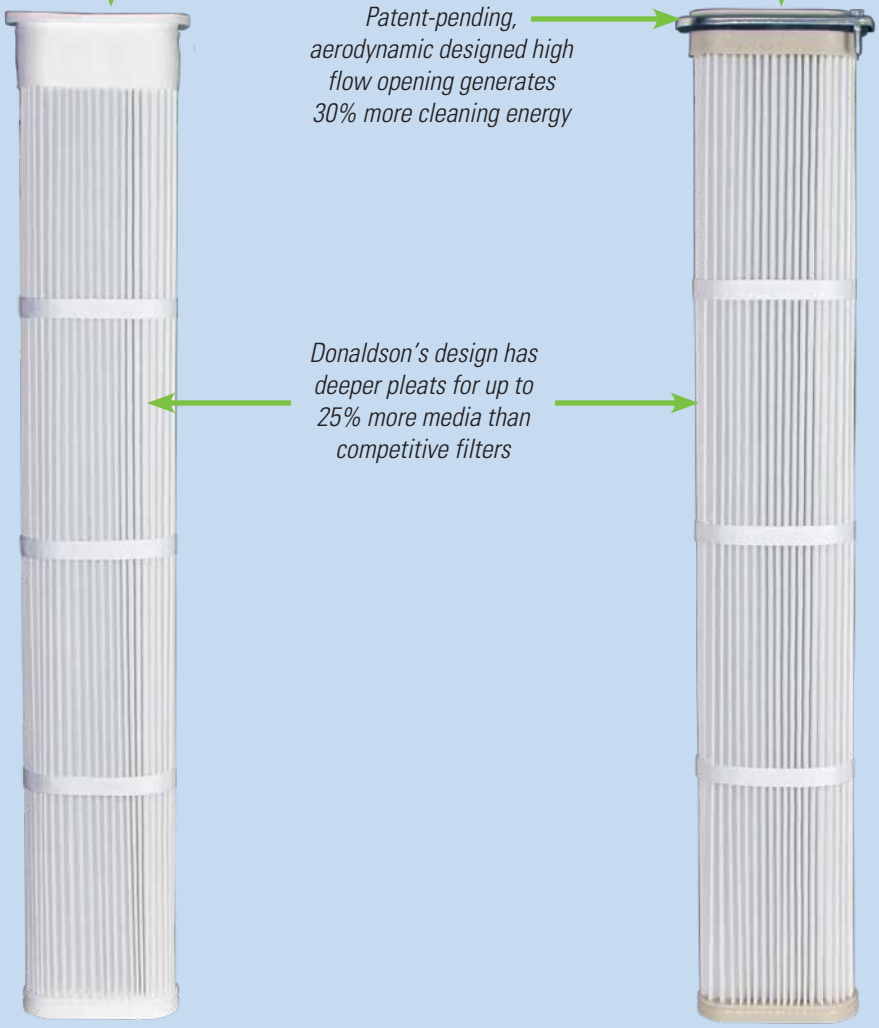
Snap-in molded soft urethane with stainless steel snap ring for easy installation

BOLT IN

RF bolt-in metal top with hardware, intrinsically grounded

Patent-pending, aerodynamic designed high flow opening generates 30% more cleaning energy

Donaldson's design has deeper pleats for up to 25% more media than competitive filters



PLEATED BAG FILTER OPTIONS

FILTER TYPE	FINE FIBER	SPECIALIZED	
BRAND	ULTRA-WEB® SB	TORIT-TEX™	CONDUCTIVE GRID WITH PTFE
BASE MEDIA	Spunbond polyester with Fine Fiber	Spunbond polyester with Tetratex® PTFE membrane	PTFE membrane laminated to a point-bonded, 100% supporting layer printed with conductive ink strip
U.S. EFFICIENCY RATING (MERV)	15	16	16
INNER CORE OPTIONS	Polypropylene, Perforated Metal (Galvanized and Stainless Steel Options)	Polypropylene, Perforated Metal (Galvanized and Stainless Steel Options)	Perforated Metal (Galvanized and Stainless Steel Options)
TEMPERATURE OPTIONS	180° F	180° F	225° F
	225° F	225° F	250° F
	250° F	250° F	
ABRASION RESISTANCE	Excellent	Excellent	Excellent
OPTIONAL HYDROPHOBIC OLEOPHOBIC	Yes	No	No

				STANDARD
ARAMID	**ARAMID WITH PTFE**	**PPS/RYTON**	**PPS/RYTON WITH PTFE**	**SPUNBOND POLYESTER**
Self-Supported pleatable aramid needlefelt	Self-Supported pleatable aramid needlefelt with PTFE membrane	Self-Supported pleatable PPS (polyphehylene sulphide) needlefelt	Self-Supported pleatable PPS (polyphehylene sulphide) needlefelt with PTFE membrane	Spunbond polyester
10	16	10	16	10
Perforated Metal (Galvanized and Stainless Steel Options)	Perforated Metal (Galvanized and Stainless Steel Options)	Perforated Metal (Galvanized and Stainless Steel Options)	Perforated Metal (Galvanized and Stainless Steel Options)	Polypropylene, Perforated Metal (Galvanized and Stainless Steel Options)
375° F	375° F	325° F	325° F	180° F
				225° F
				250° F
Excellent	Excellent	Excellent	Excellent	Excellent
No	No	No	No	Yes

CASE STUDY

Time Period: 2015-2018

DONALDSON HELPS TO SOLVE ABRASIVE DUST CHALLENGE IN MILLWORK

PLEATED FILTER BAGS LAST OVER 3 YEARS!

Dust produced by woodworking operations is abrasive and poses a challenge for industrial ventilation. Millwork 360, a large millwork company in the southeastern United States had serious downtime and emissions problems due to abrasive dust—and helped solve them with the right filter technology.

A major producer of custom interior and exterior doors and moldings, Millwork 360's shop generates wood dust from a number of planers, sanders, saws, and shapers. Fine sawdust mixes with chips and shavings to create an extremely dusty environment that can be difficult, if not harmful, to work in.

The company had a large, properly sized baghouse dust collector, but noticed that dust was often bypassing the filter and exiting the stack outside the building. On closer investigation, operators discovered that filter bags near the collector's high inlet were abrading due to perpetual contact with coarse dust. The abrasion problem occurred so regularly that compliance with emissions standards became a concern. The torn filter bags required frequent replacement, causing unplanned downtime which incurred heavy costs in terms of lost production, new filters and filter servicing.

Donaldson's range of pleated baghouse filters

Donaldson Company recommended that the facility replace 25 standard felt bags and cages near the inlet with pleated filters made of sturdy spunbond polyester. The 80 inch pleated filter bag contains 2.5 times more media area than the 120 inch standard filter bag. The shorter length of the pleated filter means that the filter bag is not directly exposed to the abrasive dust at the inlet, and it doesn't extend into the dust laden drop out zone of the collector. As an added bonus, the short length and cage-free design of the pleated filter bags equate to quick and easy filter installation.

The solution worked. Inlet dust does not abrade the shorter, pleated filter bags and the shop's uptime improved dramatically. The facility has transitioned another 125 standard filter bags and cages to pleated filter bags for a total of 150 in the 276-element dust collector.

Recently, with a boom in the construction industry, the company expanded and added a new Donaldson Torit RF baghouse to their dust collection system. The new baghouse was delivered with pleated filter bags which increased the available filter area by 235% over standard filter bags. This additional media area reduces the air to cloth ratio which in turn, reduces system pressure drop across the filter and therefore, increases filter life. The 356 pleated filter bags in the Torit RF have been in use for three years without abrasion issues or replacement.

According to the plant manager, the air is visibly cleaner since the move to pleated filter bags, and the mill has been able to take on new business without expensive, unplanned downtime. The high costs associated with premature wear of standard filter bags and cages have been eliminated.

SUCCESSFUL APPLICATIONS USING PLEATED BAGS

- Soda Ash
- Food (General)
- Mining
- Coal Transfer
- Foundry
- Ceramic
- Tobacco
- Cement
- Laminate and Particle Board
- Paper Trim
- Metals
- Powder Paint and Pigment Dust
- Mineral
- Corn
- Welding Fume
- Potash
- Starch
- Wood/Paper Fines
- Frac Sand
- Grain

RF - Soy Processing

FS - Wood

Modular Baghouse - Glass

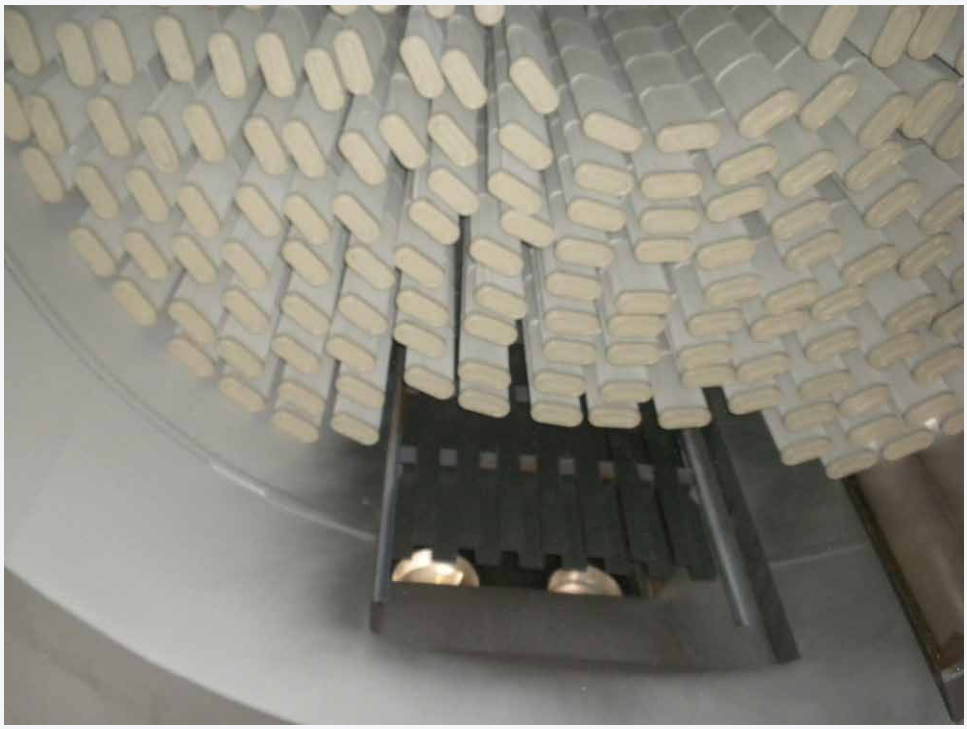
RF - Frac Sand Processing

MAKE A CHANGE TO THE BETTER

Can't think of a good reason to change your brand of pleated bags? Donaldson Torit has the answer: pleated bag filters with Ultra-Web® SB fine fiber technology available for all popular brands of baghouse collectors.

AVAILABLE FOR ALL

POPULAR BAGHOUSE COLLECTORS



FS

FT

Modular Baghouse

RF

UNPARALLELED SERVICE AND SUPPORT

HERE TO SERVE YOU

Providing technically advanced filters with the longest filtration life is just one of Donaldson's distinctions. When it comes to customer support, no other filter manufacturer can match our technical expertise and commitment. Donaldson is 100% committed to meeting your replacement filter and part needs. Knowledgeable support staff are just a phone call away. Rely on us to help you choose the best filters for your applications.

FULL-LINE PLEATED BAG FILTER OFFERING

Donaldson Torit offers the broadest selection of pleated bag filters for all popular makes and models of baghouse collectors.

KNOWLEDGEABLE SUPPORT

Donaldson offers expert engineering and design support for your application. Donaldson Torit aftermarket sales representatives and parts specialists help customers select the best filters for their application needs.

QUICK DELIVERY

We have more than 90,000 filters and parts in stock and ready to ship within 24 hours.

PRODUCT SUPPORT

Donaldson's comprehensive warranty and dedicated customer service staff have you covered. With 14 distribution centers and facilities in 37 countries, Donaldson has the global reach and local knowledge to deliver unparalleled service around the globe. You can count on Donaldson to be there for you now, through the life of your product and beyond.

EASY ACCESS

For more information or to order call AST Canada 905-821-8860 or visit astcanada.ca

Pleated bag filters are available for all popular collectors.

- AAF
- Buhler
- Camcorp
- CP Environmental
- Flex-Kleen
- Fuller
- Griffin
- Hoffman
- IAC
- Kice
- MAC
- MikroPul
- Murphy Rogers
- Pneumafil
- Seneca
- Steelcraft
- Wheelabrator
- + Many others

READY 2 SHIP

Donaldson.

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