MAUL FOSTER ALONGI

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March 31, 2021

Katie Eagleson
Lane Regional Air Protection Agency
1010 Main St, Springfield
Springfield, Oregon 97477

Re: The Willamette Valley Company – Cleaner Air Oregon Response Letter

Dear Ms. Eagleson:

Thank you for your responses to The Willamette Valley Company, LLC (WVC) Cleaner Air Oregon Emissions inventory, which were provided on February 11, 2021 (the request). Maul Foster & Alongi, Inc. (MFA) is submitting the following response document on behalf of WVC to address items identified in the February 11, 2021 request for additional information, which are organized in the same manner as presented in the request.

1) **(RAIL LOADOUT)** Please clarify the process for determining the daily or annual hours of operation for the "leaks" from the rail Loadout fugitive MDI source.
Upon further review of process information, WVC has determined that the railcar unloading process can take anywhere between 17 and 24 hours at a time. As a result of this updated information, MFA proposes to use the upper value of this range, 24 hours, to estimate 2018 and PTE daily emissions, and use an average of this range, 20.5 hours to estimate 2018 and PTE annual emissions. Historical operations records indicate that the typical number of railcars unloaded within a year is 8, while 24 is the upper end of the range.

2) **(PMDI BULK STORAGE)** Lacking information on the tank design, please include additional details such as, but not limited to:
Please see the attached summary (Table 1) with the requested tank data.
    - Roof type
    - Tank height
    - Tank diameter
    - Tank color
    - Vent settings
    - Access hatches
    - Tank temperature measurement method

3) **(PMDI BULK STORAGE)** Please provide justification for using 80% as the average percentage of the tank filled, as this greatly affects working losses.
80% represents the average maximum fill line of the storage tank. MFA reviewed historical storage fill data provided by WVC from January 2020 through February 2021. The average volume in the storage tank was 149,128 gallons or 54% of the capacity. As a result, the revised emissions inventory will use 54% as the average percentage of tank filled.

4) **(ALL BLENDING)** The duration of the batch in the "Blend" product worksheets, all listed as 24 hours, do not match the listed batch durations in Table 2 – Input Mixing Vessels. Please provide the reasoning behind setting batches to run 24 hours.

We are basing the PTE daily emissions rate on an operation time of 24-hours per day. To estimate the worst-case daily emissions rate, we are assuming that the maximum potential blending period could last 24-hours. Although product blending would not typically be done for a full 24-hours in a day, it is possible. Table 2 presents the approximate average time per batch required for blending. The blending time can vary widely based on the type of product, size of vessel, and mixture specifications.

5) **(PTE SUMMARY)** This worksheet does not include the emissions contributions from the Rail Loadout, PMDI Bulk Storage, Raytech Tank or PMDI Pump. Please address the reasoning behind this omission.
This is an error that will be corrected as part of the revised emissions inventory. Emission contributions from the Rail Loadout, PMDI Bulk Storage, Raytech Tank, and PMDI Pump will be added to the PTE summary.

6) **(OVERALL FUGIVITES)** The leaks associated with the valves, seals and open-ended lines have only been included for the rail loadout of MDI. Please verify there are no other valves, connectors, or other chemical pumps that may be sources of fugitive emissions.
WVC have reviewed other piping in the facility for components that could result in fugitive emission leaks and identified additional components that will be added to the revised emissions inventory.

7) **(OVERALL)** Solid-fill worksheets includes 99.9% removal efficiency for dust collectors, referencing manufacturer-provided information. Please provide a copy of this documentation.
Please see the Attachment 1, attached to this letter, which provides the manufacturer specification sheets for DC 586 and DC 660.

8) **(OVERALL)** The use of an average daily temperature of 17.4C for emissions calculations needs further explanation and justification.
The average daily high temperature for Eugene was used as the basis for the emissions estimates. The production buildings are not climate controlled, so the average daily temperature is a conservatively high value to assume for annual emissions. The average daily temperature should also represent emissions over a 24-hour period, which would include periods of lower temperatures during the evenings.

9) **(OVERALL)** Please provide a justification for neglecting to include emissions from cleaning parts, mixers, or tanks.
Cleaning of the mixers and tanks is performed to limit the potential for residual ingredients that could tarnish the next batch. The WVC cleaning processes are prescriptive and occur between batches (i.e., during scheduled outages). As a result, it is our understanding that these cleaning processes are considered categorically insignificant under Lane Regional Air Protection Agency Title 12, Section 12-005(GG).

(GG) Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking.

We did not include emissions from this categorically insignificant activity at the facility. If this is something LRAPA would like to discuss further, please let us know.

LRAPA also identified the following list of errors in the emissions inventory file that will need to be addressed and/or corrected:

10) **(RAIL LOADOUT)** The equation constant (b) for the liquid light valves should be 0.787 rather than 0.797.
In this case, the guidebook, which references "1995 Protocol for Equipment Leak Emission Estimate" - EPA-453/R-95-017" for the equations and constants, lists the incorrect constant. The constant factor b in the EPA document is 0.797, which matches the emissions inventory.

11) **(RAIL LOADOUT)** The equation used to determine the modified correction factor is incorrect. The equation should be a*SV^b rather than a*b*SV.
This error will be corrected as part of the revised emissions inventory.

12) **(PMDI BULK STORAGE)** The daily working loss for the requested PTE is incorrect. It is a copy and paste of the 2018 actual working loss.

This error will be corrected as part of the revised emissions inventory.

13) **(PMDI PUMP)** Total throughput for 2018 Actual and Requested PTE are exactly the same in ft3/day (410) but are different in gal/day (3,065 vs. 9,195).
This is an error that will be corrected as part of the revised emissions inventory.

14) **(PMDI PUMP)** The number of totes filled (daily/annual) does not line up with the total throughput in gallons. It appears that all throughputs should be multiples of 435 gallons.
This is an error that will be corrected as part of the revised emissions inventory.

15) **(COATINGS-FILL)** Although reference (9) states how the vapor pressure of ammonia was derived, throughout the spreadsheet the vapor pressure is listed as "0."
This is an error that will be corrected as part of the revised emissions inventory.

16) **(COATINGS-BLEND)** Daily average high temperature is listed as 37.8C.
This is an error that will be corrected as part of the revised emissions inventory.

17) **(2018-SUMMARY)** TAC summations for "Coatings" are incorrect. The values do not match the 2018 total emissions listed for Coatings in the "COATINGS-2018 SUM" worksheet.
This is an error that will be corrected as part of the revised emissions inventory.

18) **(INPUT/ALL)** It was noted during review of Table 1 – Input Process Rates and Parameters that the requested PTE for certain products were listed in lower quantities than the amounts reported for 2018. Specifically, the daily PTE requested for Coatings, Epoxies, Patch SF-ISO and Spikefast Resin and the annual PTE requested for Patch SF-ISO. LRAPA would like to clarify if it is the intent of the facility to place production limits on manufacturing as a part of this risk assessment process. The hourly production rate was also increased to 24 hours a day for the requested PTE, for which LRAPA would like an explanation if this is a feasible operating scenario or if an 8-hour operating day is more reasonable for predicting daily emissions.
The intent of the proposed methodology is to assess the "worst case" production on a toxicity-weighted basis. Ideally, the facility would be regulated based on overall risk, and not on production. The number of raw materials used, and the recipes created at the facility regularly change, and there may be different chemicals in use in the future. Therefore, the facility will likely request that the risk-weighted ranking method become a component of the ongoing compliance demonstration.

19) **(ALL)** Finally, we understand the need to protect the CBI nature of the information provided to LRAPA, but as a final check on the emissions inventory LRAPA is requesting submission of an Emissions Inventory Excel file that has the in-cell calculation equations visible and verifiable.
MFA is working to prepare a version of the emissions inventory that can be submitted for your review. Please ensure that the Excel version of the inventory is only used internally by LRAPA for review purposes, and that it is not released publicly. As a result of the number of tabs and the size of the emissions inventory, it will take a little time to compile the documents into a suitable format for delivery to LRAPA. If it is acceptable to LRAPA, MFA proposes to provide an electronic version of the emissions inventory in Excel format within 2 weeks of approval from LRAPA for successfully addressing the comments submitted on February 11, 2021.

Please contact me, Andrew Rogers, at 503-407-6406 if you have any questions about the responses provided above.

Sincerely,

Maul Foster & Alongi, Inc.

Andrew Rogers
Project Meteorologist

Brian Eagle
Senior Environmental Scientist

Attachments: Table 1 - PMDI Bulk Storage Tank Parameters
Attachment A - Dust Collector Specification Sheets

cc: Sarah France, Willamette Valley Company
Meagan Tkach, Willamette Valley Company

TABLE

Table 1 - MDI Bulk Storage Tank Parameters
WVC - Eugene, Oregon

Parameter	Value
Roof Type	Steel Cone
Tank Height	32 (ft)
Tank Diameter	12 (ft)
Tank Color	White
Vent Settings	3.14 (ft^2)
Access Hatches	Manway Access on bottom side
Tank Temperature	Ambient
Tank Temp. Measurement Method	n/a

ATTACHMENT A

DUST COLLECTOR SPECIFICATION SHEETS

Donaldson®
Torit®

BAG FILTERS

JOIN THE DURA-LIFE™ REVOLUTION

Donaldson® Torit® continually raises the bar in bag filter technology. Providing the widest range of bag filters for any baghouse collector, Donaldson Torit offers Dura-Life™ bags. Award-winning Dura-Life bag filters last two to three times longer than standard polyester bags when replacing due to excessive pressure drop, improving the performance, efficiency and bottom line of your baghouse dust collector.

Breathe easier with bag filters from the worldwide leader in dust collection. From Dura-Life high performance bags to specialty bags, no one can match Donaldson Torit's breadth and expertise. For the best bag filters that keep any brand of baghouse dust collector operating at its peak, rely on Donaldson Torit.

DONALDSON TORIT BAG FILTERS OFFER:

- Dura-Life "Twice the Life" filter media
- Extensive selection to fit any collector
- A wide range of media to cover most applications
- Improved efficiency
- Greater performance
- Best value

IRD Dust Collector

RF Dust Collector

DURA-LIFE™
Twice The Life Filter Bags

Modular Baghouse Collector

Dalamatic® Dust Collector

INNOVATION IS OUR BAG

BREAKTHROUGH TECHNOLOGY

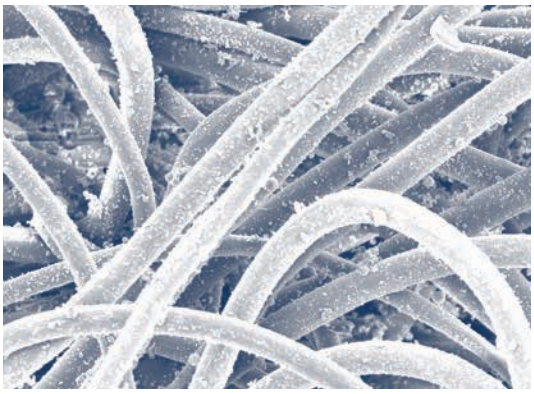
As the global leader in filtration for over 90 years, Donaldson Torit continually engineers new baghouse dust collection technology that improves efficiency, raises performance and increases value. Dura-Life bag filters are the latest bag breakthrough, giving manufacturers a more cost-effective, high performance alternative to conventional polyester and other bag filters.

THE PROVEN PERFORMANCE OF DURA-LIFE:

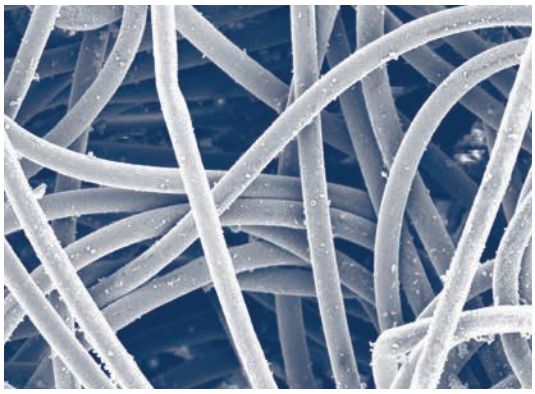
- Twice the bag life*
- Better surface loading of dust
- Improved pulse cleaning
- Lower pressure drop
- FDA compliant versions available
- Reduced maintenance costs
- 99.9% efficiency**
- Energy savings
- Best value

DURA-LIFE FILTER MEDIA

Dura-Life bag filters are engineered with a unique hydro-entanglement process that uses water to blend the bag fibers, creating a more uniform material with smaller pore size that provides better surface loading of dust and prevents penetration deep into the media. In contrast, conventional polyester bags are manufactured with a needling process that creates larger pores where dust can embed into the fabric, inhibiting cleaning and reducing bag life. With better surface loading, Dura-Life bags provide improved pulse cleaning and a lower pressure drop, which results in extended bag life, less maintenance time and cost, energy savings and greater filtration efficiency.



Needled Polyester Bag
Clean Air Side
(300X)



Dura-Life Bag
Clean Air Side
(300X)

These photos were taken with a scanning electron microscope of bag media used in a collector that was filtering fly ash. The bags were removed after 2,700 hours of use. Air-to-media ratio was 4.5 to 1. Pressure drop after 2700 hours of operation was 6 in. (152.4 mm) on polyester bags and 2 in. (50.8 mm) on Dura-Life.

* Based on pressure drop

** By mass

BAG FILTER OPTIONS

	 Dura-Life Polyester	 Dura-Life Anti-Static	 Dura-Life Oleophobic	 Dura-Life Anti-Static Oleophobic
WEIGHT	10.5 oz/yd^2 (355.9 g/m^2)	10.0 oz/yd^2 (339.0 g/m^2)	10.0 oz/yd^2 (339.0 g/m^2)	10.0 oz/yd^2 (339.0 g/m^2)
THICKNESS	0.058-0.068 in. (1.47-1.72 mm)	0.058-0.068 in. (1.47-1.72 mm)	0.058-0.068 in. (1.47-1.72 mm)	0.058-0.068 in. (1.47-1.72 mm)
AIR PERMEABILITY	35-40 cfm @ 0.5" wg (59-68 m^3/h @ 1.25 mbar)	43-51 cfm @ 0.5" wg (73-87 m^3/h @ 1.25 mbar)	35-40 cfm @ 0.5" wg (59-68 m^3/h @ 1.25 mbar)	43-51 cfm @ 0.5" wg (73-87 m^3/h @ 1.25 mbar)
MAXIMUM OPERATING TEMPERATURE	275°F (135°C)	275°F (135°C)	275°F (135°C)	275°F (135°C)
MAXIMUM SURGE TEMPERATURE	300°F (149°C)	300°F (149°C)	300°F (149°C)	300°F (149°C)
ABRASION RESISTANCE	Good	Good	Good	Good
ALKALIES RESISTANCE	Good	Good	Good	Good
CHEMICAL RESISTANCE	Fair	Fair	Fair	Fair
ELECTRICAL RESISTANCE (ASTM IST 40.1)	NA	<1x08 ohms2	NA	<1x08 ohms2
SUBJECT TO HYDROLYSIS	Yes	Yes	Yes	Yes
OLEOPHOBICITY DROP TEST RATING	NA	NA	5.5 minimum	5.5 minimum
AVAILABLE FOR DONALDSON TORIT BAGHOUSE COLLECTORS	DLMC, DLMV, DU, DY, FS, FT, HPB, HP, IRD, LP, MB, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, DU, DY, FS, FT, HPB, HP, LP, MB, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, DU, DY, FS, FT, HPB, HP, LP, MB, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, DU, DY, FS, FT, HPB, HP, LP, MB, PJ, PJD, RF, RJ, RSD, TJ

Donaldson Torit bag filters are available for all other brands of baghouse collectors (see listing on page 5).

COLOR CHART		
Dura-Life Media	Specialized Media	Standard Media

						
Aramid	PTFE® Tetratex®	P84®	Ryton®	Polypropylene	Polyester Felt Singed	Polyester Felt Glazed
14.0 oz/yd² (474.6 g/m²)	16.0 oz/yd² (542.4 g/m²)	16.0 oz/yd² (542.4 g/m²)	16.0 oz/yd² (542.4 g/m²)	16.0 oz/yd² (542.4 g/m²)	16.0 oz/yd² (542.4 g/m²)	16.0 oz/yd² (542.4 g/m²)
0.080-0.100 in. (2.0-2.5 mm)	0.060-0.080 in. (1.5-2.0 mm)	0.090-0.110 in. (2.28-2.79 mm)	0.060-0.080 in. (1.5-2.0 mm)	0.085-0.100 in. (2.2-2.5 mm)	0.060-0.080 in. (1.5-2.0 mm)	0.060-0.080 in. (1.5-2.0 mm)
35-45 cfm @ 0.5" wg (59-76 m³/h @ 1.25 mbar)	10-12 cfm @ 0.5" wg (17-20 m³/h @ 1.25 mbar)	20-40 cfm @ 0.5" wg (34-68 m³/h @ 1.25 mbar)	25-45 cfm @ 0.5" wg (42-76 m³/h @ 1.25 mbar)	25-35 cfm @ 0.5" wg (42-59 m³/h @ 1.25 mbar)	25-35 cfm @ 0.5" wg (42-59 m³/h @ 1.25 mbar)	25-35 cfm @ 0.5" wg (42-59 m3/h @ 1.25 mbar)
400°F (204°C)	275°F (135°C)	460°F (238°C)	375°F (191°C)	200°F (93°C)	275°F (135°C)	275°F (135°C)
425°F (218°C)	350°F (177°C)	500°F (260°C)	375°F (191°C)	200°F (93°C)	300°F (149°C)	300°F (149°C)
Good	Excellent	Good	Good	Good	Good	Good
Good	Excellent	Poor	Excellent	Excellent	Good	Good
Fair	Excellent	Poor	Excellent	Excellent	Good	Good
NA	NA	NA	NA	NA	NA	NA
Yes	No	Yes	No	No	Yes	Yes
NA	NA	NA	NA	NA	NA	NA
DLMC, DLMV, DU, DY, FS, FT, HP, LP, MB, PJ, PJD, RF, RSD, TJ	DLMC, DLMV, DU, FS, FT, HP, LP, MB, MTJ, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, DU, FS, FT, HP, LP, MB, MTJ, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, DU, FS, FT, HP, LP, MB, MTJ, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, DU, FS, FT, HP, LP, MB, MTJ, PJ, PJD, RF, RJ, RSD, TJ	DLMC, DLMV, FS, FT, HPB, HP, LP, MB, MTJ, PJ, PJD, RF, RJ, RSD, TJ	FS, FT, HPB, HP, LP, MB, MTJ, PJ, PJD, RF, RJ, RSD, TJ

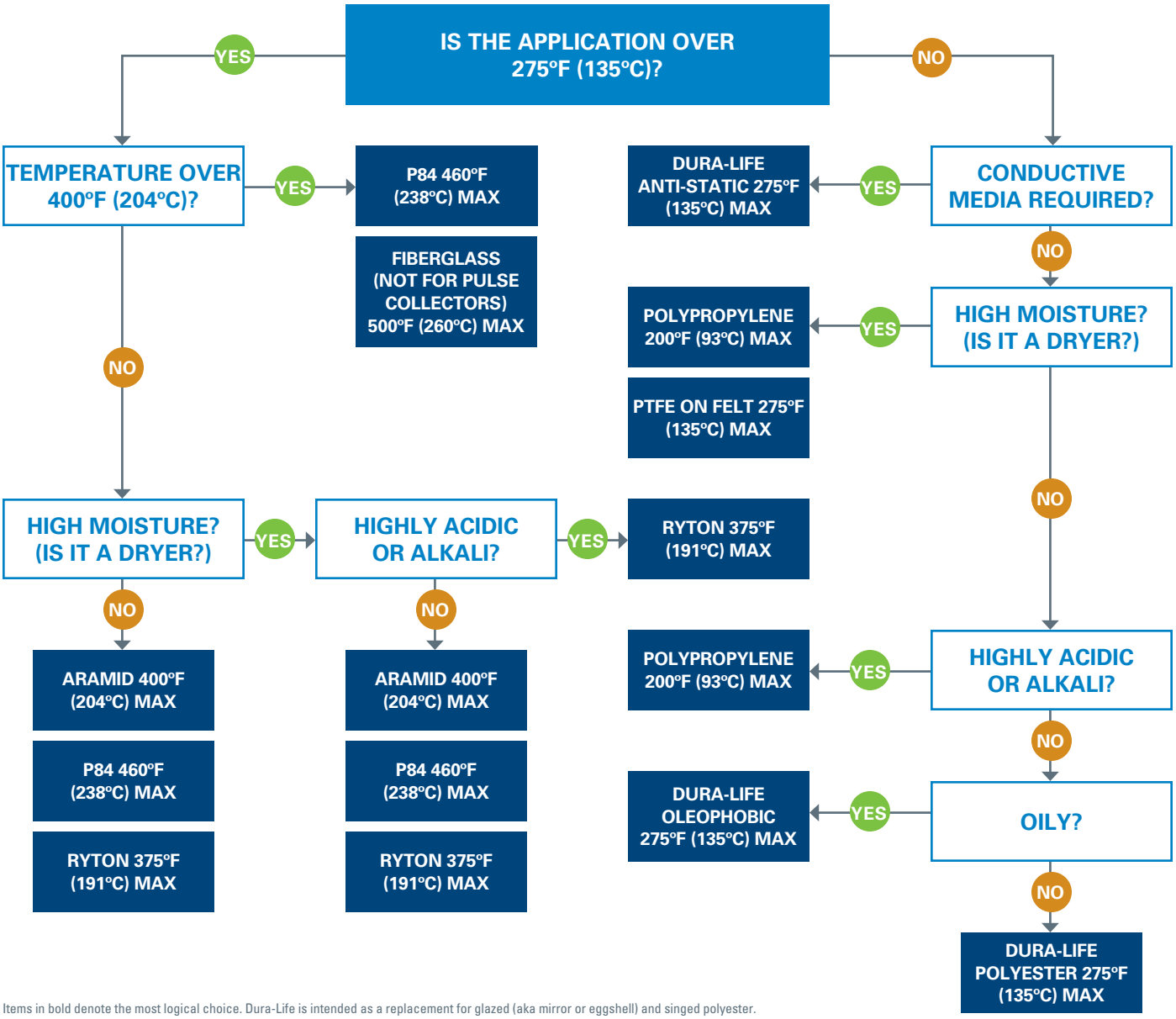
BAGHOUSE ACRONYM	BAGHOUSE NAME	BAGHOUSE ACRONYM	BAGHOUSE NAME
DLMC	Dalamatic Cased	MB, MB, MBT, MBW	Modular Baghouse
DLMV	Dalamatic Insertable	MTJ	MTJ
DU	Dalamatic Unit	PJ	PJ
DY	DAYNAMIC	PJD	PJD
FS	FS	RF	RFT, RFW, RA
FT	FTD, FTP	RJ	RJ
HPB	HPB	RSD	RSD
HP	HPT, HPW, HPH	TJ	TJ
IRD	IRD		
LP	LP		

DURA-LIFE DELIVERS MORE BAG FOR THE BUCK

Don't be fooled by the initial lower purchase price of competitive replacement bag filters. Dura-Life bags last longer than conventional polyester, reducing bag changeouts, replacement bag costs, downtime and maintenance time and expense.

Unique Dura-Life technology traps dust on the surface of the bag, allowing dust to be easily pulsed off during cleaning, which results in lower pressure drop and annual energy savings. Standard in all Donaldson Torit baghouses and available as replacement bags for all other brands of baghouses, Dura-Life delivers the best value to your bottom line.

REPLACEMENT MEDIA SELECTION FOR PULSED BAGS



Items in bold denote the most logical choice. Dura-Life is intended as a replacement for glazed (aka mirror or eggshell) and singed polyester.

UNPARALLELED SERVICE & SUPPORT

HERE TO SERVE YOU

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

FILTER SELECTION

With the most extensive variety to choose from, Donaldson Torit offers the broadest selection of bag filters designed to meet the performance demands of specific applications

DURA-LIFE AVAILABILITY

Dura-Life bags are now standard in all Donaldson Torit baghouse collectors. Dura-Life replacement bags are available for our baghouse collectors as well as other brands of collectors

KNOWLEDGEABLE SUPPORT

Donaldson Torit aftermarket sales representatives help customers select the best bag filters for their application needs

EASY ACCESS

For all types of bag filters, call Donaldson Torit customer service at **800-365-1331**

QUICK DELIVERY

All in-stock Donaldson Torit made filters are shipped within 24 hours of order placement

DURA-LIFE™
for baghouse collectors

- AZO®
- Buhler
- Carter Day
- DCE
- Flex-Kleen
- Golfetto
- Kice
- MAC
- MikroPul
- Murphy
- Pneumafil
- Steelcraft®
- Wheelabrator
- + Many others

READY 2 SHIP

To learn more about Dura-Life bag filters,
Call 800-365-1331 or visit DonaldsonTorit.com

Industry-Leading Technology

- Advanced filtration technology for optimal performance
- Reduced energy consumption and cost of ownership
- Advanced design and testing capabilities

The Most Filters and Parts

- For every brand and style of collector
- Wide range of filtration media for any application
- 90,000 filters and parts in stock and ready to ship

Unparalleled Support

- Live technical specialists
- Comprehensive pre- and post-sale support
- 40 manufacturing plants and 14 distribution centers worldwide

Significantly improve the performance of your collector with genuine Donaldson Torit replacement filters and parts. **Call Donaldson Torit at 800-365-1331.**

Donaldson.

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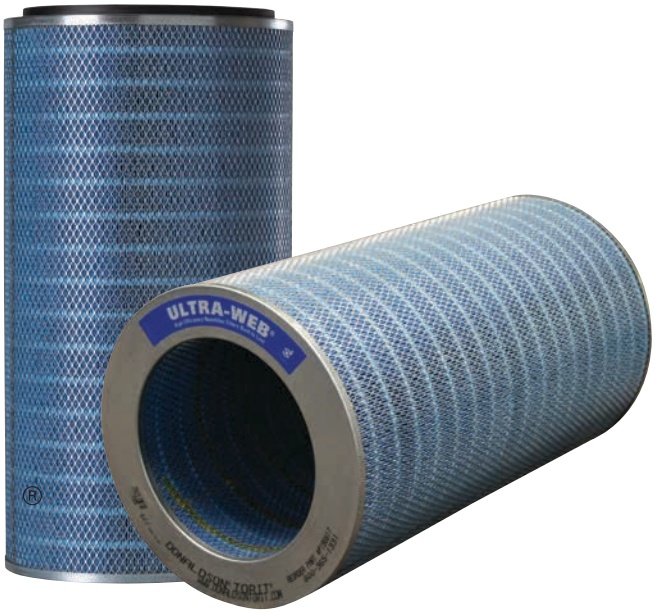
F118001 ENG (02/20) Bag Filter Overview

Donaldson
Torit®

ULTRA-WEB® CARTRIDGE

ENGINEERED FOR DUST COLLECTION

- Fine fiber technology ensures longer filter life at a significantly lower pressure drop
- Substrate media features increased rigidity, higher durability, and superior cleanability
- MERV* 15 filtration efficiency rating per ASHRAE 52.2-2007
- Superior particle release due to surface filtration
- Lower pressure drop saves energy
- Longer filter life reduces replacement and maintenance costs
- Lightweight and easy to install
- Flame retardant media available
- Stainless steel construction available



Ultra-Web Cartridge

APPLICATIONS

- Premium performance on extremely fine, dry, and nonfibrous dust
- Durable for more abrasive dust
- Outer liner available for most applications
- Outer liner removed for agglomerative dust applications

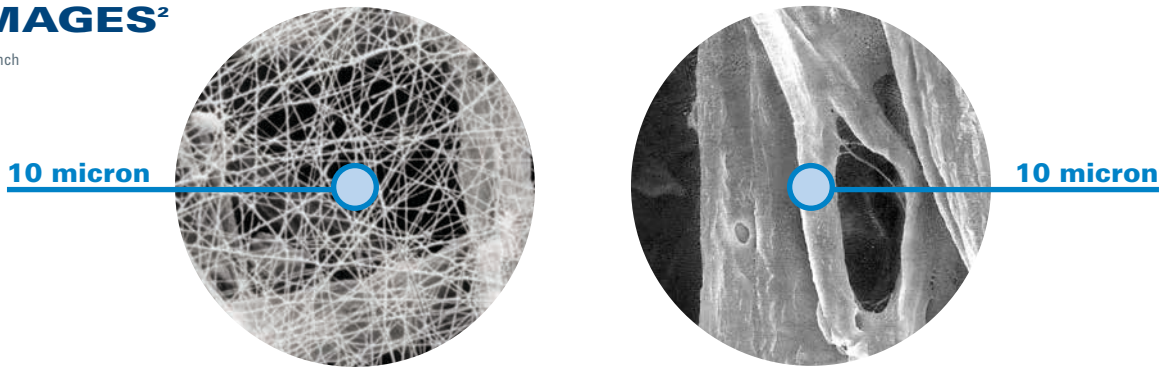
THE ULTRA-WEB ADVANTAGE IS CLEANER AIR

Ultra-Web® is proprietary and made with an electrospinning process that produces a very fine, continuous, resilient fiber of 0.2-0.3 micron in diameter to form a permanent web-like net. This fine fiber “web” with its very fine interfiber spaces is constructed onto tough cellulose substrate media, resulting in:

- A more robust media that captures even submicron dust on the surface
- Better pulse cleaning and lower pressure drop
- Cleaner air, longer filter life, and greater cost savings

SEM IMAGES[2]

1 micron = 1/25,400 of an inch
(1/1000 of a millimeter)



Ultra-Web (600x)
Fine Fiber Media

Cellulose Media (600x)

* Refer to Minimum Efficiency Reporting Value on page 4.

SPECIFICATIONS

MEDIA COMPOSITION

Fine Fiber Technology	Durable proprietary synthetic filter media fibers and polymer Mean fiber diameter of 0.2 µm
Substrate	Proprietary blend of cellulose fibers Flame retardant version per UL® Standard 558, TAPPI Standard T 461om-94, and DIN 53438 Part 3

CARTRIDGE CONSTRUCTION

Standard Construction	Galvanized metal end caps Galvanized expanded metal liner 72% open area Urethane gasket
Options	Stainless steel liner and end caps No outer liner version EPDM gasket

MEDIA COMPATIBILITY DATA

Temperature Resistance	180°F / 82°C	
Moisture Absorption*	Maximum 14% @ 70°F (21°C) and 65% RH	
Chemical Tolerance*	Acids→Poor Bases→Fair	Oxidants→Poor Solvents→Fair
Abrasion Resistance	Good per TAPPI 476 (Taber Method)	

MEDIA EFFICIENCY

U.S. Efficiency Rating	MERV* 15 per ASHRAE 52.2-2007

* Refer to Minimum Efficiency Reporting Value on page 2.
† Scanning Electron Microscope

CONFIGURATIONS

Collector Models		Filter Area		Pleat Height		Dimensions		Ultra-Web				
		ft²	m²	in	mm	in	mm	Standard	FR	NL	SS	Beaded
AerBooth		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
Ambient Air Tubesheets	Cylindrical	226	21.0	2.0	50.8	12.74 x 26	323.6 x 660.4	•	•			
	Coned	260	24	2.0	50.8	12.74 x 15.9 x 26	322.6 x 403.9 x 660.4	•	•	•		
Bin Vent (TBV)		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
CF Series		226	21.0	2.0	50.8	12.74 x 26	323.6 x 660.4		•			
CX Series		191 254	17.7 23.6	1.5 2.0	38.1 50.8	12.84 x 26 13.84 x 26	326.1 x 660.4 351.5 x 660.4	• •	• •	• •		• •
Downdraft Bench (DB)		191 254	17.7 23.6	1.5 2.0	38.1 50.8	12.84 x 26 13.84 x 26	326.1 x 660.4 351.5 x 660.4	• •	• •	• •		• •
Torit Downdraft Bench (TDDB)		226	21.0	2.0	50.8	12.74 x 26	323.6 x 660.4		•			
Downflo®(DF)		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
Downflo II (DFT)		191 254	17.7 23.6	1.5 2.0	38.1 50.8	12.84 x 26 13.84 x 26	326.1 x 660.4 351.5 x 660.4	• •	• •	 •	 •	 •
Downflo Containment System (DCS)		190	17.7	1.5	38.1	11.4 x 14.4 x 26	289.6 x 365.8 x 660.4	•	•	•	•	
Downflo Oval (DFO)		190	17.7	1.5	38.1	11.4 x 14.4 x 26	289.6 x 365.8 x 660.4	•	•	•	•	
Downflo Evolution (DFE)		254	23.6	2	50.8	13.74 x 13.74 x 26	348.9 x 348.9 x 660.4	•	•	•	•	•
Downflo (SDF)		103	9.6	1.5	38.1	9.2 x 22.3	233.7 x 566.4	•	•			
Downflo WorkStation (DWS)		190	17.7	1.5	38.1	11.4 x 14.4 x 26	289.6 x 365.8 x 660.4	•	•	•	•	
Easy-Trunk™		103	9.6	1.5	38.1	9.2 x 22.3	233.7 x 566.4		•			
Environmental Control Booth™(ECB)		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
Mini-Trunk™		72	6.7	1.5	38.1	9.2 x 16	233.7 x 406.4		•			
MTD		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
Porta-Trunk™		220	20.4	2.0	50.8	17.6 x 18	447.0 x 457.2		•			
ProBooth™		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
TD Large		170 226	15.8 21.0	1.5 2.0	38.1 50.8	11.74 x 26 12.74 x 26	298.2 x 660.4 323.6 x 660.4	• •	• •	 •	 •	 •
TD Small		45 60	4.2 5.5	1.5 2.0	38.1 50.8	7.9 x 16 7.9 x 16	200.7 x 406.4 200.7 x 406.4	• •	• •	 •	 •	
Trunk 2000 (T-2000)		212	19.7	2.0	50.8	13.84 x 22	351.5 x 558.8		•			
WeldAir		103 220	9.6 20.4	2.0 2.0	50.8 50.8	9.2 x 22.3 17.6 x 18	233.7 x 566.4 447.0 x 457.2		• •			
Weld Bench		254	23.6	2.0	50.8	13.84 x 26	351.5 x 660.4		•			

MINIMUM EFFICIENCY REPORTING (MERV)

The Minimum Efficiency Reporting Value (MERV) of this filter cartridge has been determined through independent laboratory testing using ASHRAE 52.2 (2007) test standards. The MERV rating was determined at a face velocity of 118 feet per minute (36.0 meters per minute) and loading up to four inches (101.6 millimeters) water gauge. Actual efficiency of any filter cartridge will vary according to the specific application parameters. Dust concentration, airflow, particle characteristics, and pulse cleaning methods all affect filtration efficiency.

MOISTURE ABSORPTION

Environmental conditions involving combinations of high temperature, corrosive material, and moisture can reduce media strength. Reduction in media strength may compromise cartridge integrity and performance.

CHEMICAL TOLERANCE

A combination of chemicals may alter fiber resistance to the specified performance level. Chemical attack may compromise cartridge integrity and performance.

Significantly improve the performance of your collector with genuine Donaldson Torit replacement filters and parts. **Call Donaldson Torit at 800-365-1331.**

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