# Donaldson.

## RF BAGHOUSE DUST COLLECTORS



## **ULTRA-WEB**

High Efficiency Fine Fiber Filters Built to Last





## **ENERGY EFFICIENT, HIGH VOLUME DUST COLLECTOR**

The rugged Donaldson® Torit® RF baghouse collector handles heavy dust loads and large volumes of air more effectively than any collector on the market.

The small footprint of the RF combines a cyclone precleaner and a baghouse into one unit. It features a powerful yet energy-efficient cleaning system, eliminating the need for compressed air to clean the bags. Combined with the revolutionary Dura-Life" "Twice the Life" bag filters, or our new Ultra-Web SB pleated bag filter offering, the award-winning RF gets the job done while using much less energy than competitor collectors.

Side by side, no other baghouse provides more performance than the Donaldson Torit RF baghouse collector.

### THE RF FEATURES:

- High-Body inlet option for abrasive dust
- Even-Air<sup>™</sup> Flow Straightener reduces wear on bag filters
- Award winning Dura-Life<sup>™</sup> "Twice the Life" bag filters
- Oval shaped bags provide better snap for better bag cleaning
- Ultra-Web SB Pleated Bag Option
- Clean-air bag access for easier bag service
- Single inlet, outlet and hopper reduces duct and hopper outlet costs
- 60° conical hopper reduces dust build-up
- Requires less energy than comparable sized units
- RF cleaning system requires no compressed air
- 10-year warranty

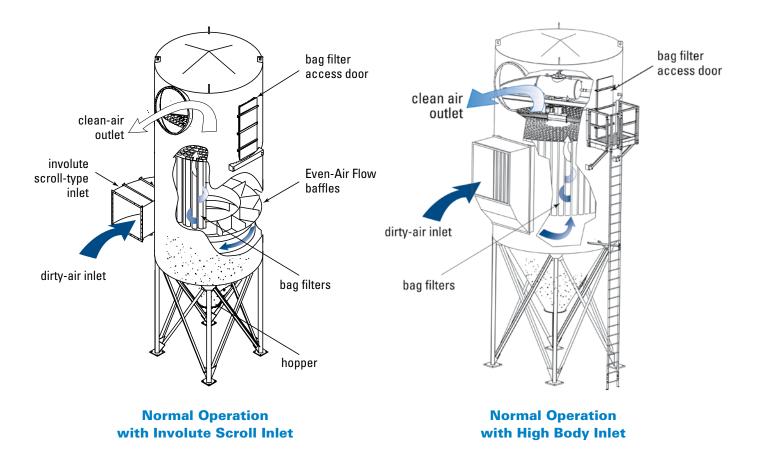


156RFW8

### **ICUE**<sup>™</sup> CONNECTED FILTRATION SERVICE

Now available with the option of Donaldson's iCue connected filtration service, an IoT enabled service designed to prompt timely maintenance, helping improve production uptime and reduce operating costs.

## **OPERATIONS & FEATURES**



### **BAGHOUSE OPERATIONS THAT WORK**

The RF collector works so well that many competitors strive to copy its award winning design, but no one has been able to duplicate the RF's performance.

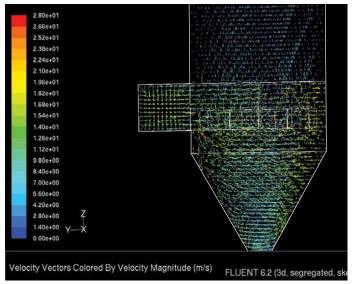
An involute scroll inlet puts dust into a cyclonic spin allowing for heavier particles to fall into the hopper, thus eliminating the need for a cyclone precleaner (for some applications with abrasive dusts, the optional high body inlet may be preferred). The remaining dust is then collected on oval shaped filter bags that provide greater snap during pulsing resulting in better bag cleaning. Rather than using expensive compressed air, the RF comes complete with a pump that provides a medium pressure/high volume pulse of air to a rotating cleaning arm timed to clean non-adjacent bag filters, thus reducing dust re-entrainment.

## HIGH-VOLUME PERFORMANCE WITH DURA-LIFE™ "TWICE THE LIFE" BAG FILTERS OR OUR **NEW** ULTRA-WEB SB PLEATED BAGS

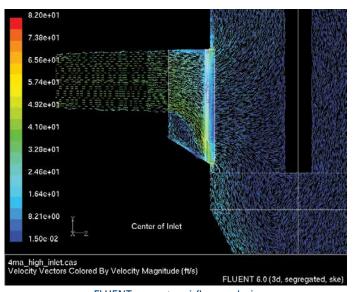
## **OPERATIONS & FEATURES**

### **EVEN AIRFLOW DISTRIBUTION**

To prevent bag filter wear and abrasion that can occur in other collectors, the RF baghouse collector comes standard with our proprietary Even-Air Flow Straightener or high body inlet. Designed using sophisticated FLUENT\*\* computer airflow analysis, the RF provides the most uniform airflow possible resulting in reduced bag abrasion, longer filter bag life and lower maintenance costs.



FLUENT computer airflow analysis showing airflow with involute scroll inlet and Even-Air Flow Straightener.

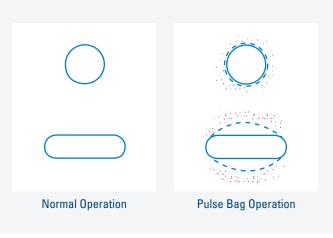


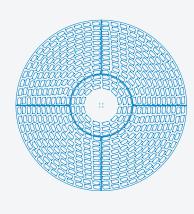
FLUENT computer airflow analysis showing airflow with high body inlet.

### BENEFITS OF THE OVAL-SHAPED BAG

Oval shaped bag filters provide better snap during cleaning as compared to round bags - allowing the dust to be more easily knocked off the bags. This results in lower pressure drop and longer bag filter life.

Oval shaped bag filters increase the amount of bag material that can fit in a given area, thus increasing collector capacity.





## **OPERATING ADVANTAGES**

The RF cleaning system uses much less energy when compared to compressed air cleaning systems. The charts below illustrate the energy savings that can be realized for various annual operation scenarios.

## RF CLEANING SYSTEM USES LESS ENERGY THAN COMPRESSED AIR CLEANING SYSTEMS

	Annual Cleaning System vs. Compressed Air System Costs							
Weekly Operation	Operating Hours	RF Cleaning System Operating Costs	Competitor Compressed Air Operating Costs	Savings with RF	Annual Savings			
8 hrs. per day 5 days per week	2080	\$885	\$2,342	\$1,457	62%			
16 hrs. per day 5 days per week	4160	\$1,771	\$4,685	\$2,914	62%			
24 hrs. per day 5 days per week	6240	\$2,656	\$7,027	\$4,371	62%			

Assumes the use of a 484 RF compared to a similar size collector with compressed air cleaning system. Assumes U.S. Energy Average Cost of 6.68 cents per kilowatt hour and a Baldor motor that is operating at full-load amps. Your savings may vary based on your costs per kilowatt hour and the efficiency of your motor.





## RF WITH ULTRA-WEB SB PLEATED BAGS RUNS AT A **LOWER PRESSURE DROP SAVING FAN ENERGY**

	Annual RF Fan vs. Competitor Fan Operating Costs							
Weekly Operation	Operating Hours	RF Fan Operating Costs	Competitor Fan Operating Costs	Savings with RF	Annual Savings			
8 hrs. per day 5 days per week	2080	\$2,237	\$4,474	\$2,237	50%			
16 hrs. per day 5 days per week	4160	\$4,474	\$8,984	\$4,474	50%			
24 hrs. per day 5 days per week	6240	\$6,711	\$13,442	\$6,711	50%			

Assumes the use of a 484 RF running 50,000 cfm (84,933 m³/h) at a 2" (50.8 mm) pressure drop versus a competitor collector running at a 4" (101.6 mm) pressure drop. Assumes the use of a variable frequency drive, a fan efficiency of 81%, 0.746 watts of energy per horsepower and a 90% electrical transmission efficiency. Assumes U.S. Energy Average Cost of 6.68 cents per kilowatt hour and a Baldor motor that is operating at full-load amps. Your savings may vary based on your costs per kilowatt hour and the efficiency of your motor.

## TWO BREAKTHROUGH FILTER OPTIONS FOR YOUR RF

## **DURA-LIFE FILTER BAGS PROVIDE TWICE THE LIFE OVER** STANDARD 16 OZ POLYESTER BAGS

Traditional 16 oz polyester bags are produced via a needling process that creates larger pores where dust can embed into the fabric, inhibiting cleaning and reducing bag life. Dura-Life bags are engineered with a unique hydroentanglement process that uses water jets to blend the fibers. This process creates a felt with smaller pores which keeps more dust on the surface of the filter resulting in better pulse cleaning and longer bag life.

### **DURA-LIFE BENEFITS**

- Up to two times longer bag life
- Energy savings due to lower pressure drop
- Reduced replacement bag and maintenance costs due to longer bag life



## PLEATED BAGS WITH ULTRA-WEB SB PROVIDE LONGER LIFE AND REDUCED EMISSIONS

For more than two decades, Donaldson Torit has advanced the proven Ultra-Web fine fiber technology. Ultra-Web provides a very fine, continuous fiber of 0.2-0.3 micron in diameter to form a web-like net that traps dust on the surface of the media. Combining Ultra-Web technology with a sturdy spunbond polyester substrate, Ultra-Web SB pleated bag filters provide longer life, reduced downtime and reduced emissions.

### **ULTRA-WEB SB PLEATED BAG BENEFITS**

- Up to two times longer filter life
- Energy savings due to lower pressure drop
- Reduced maintenance and downtime costs
- Reduced emissions





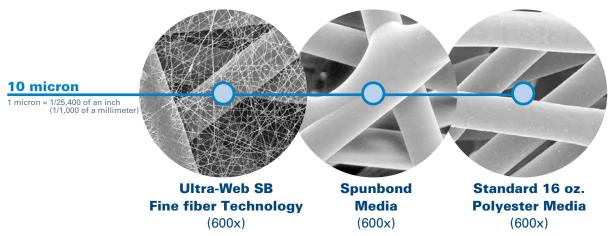


Snap-In

Fully Synthetic Snap-In

**Bolt Safe** 

- Snap-in design for tool free installation
- Fully synthetic snap-in design eliminates the need to provide bonding points



# PROVEN PERFORMANCE ON HUNDREDS OF APPLICATIONS



776RF at Wood Furniture Plant



**156RF on Grain Processing** 



356RF on Wood Dust with High Inlet & Custom Color



**124RF on Quarrying** 



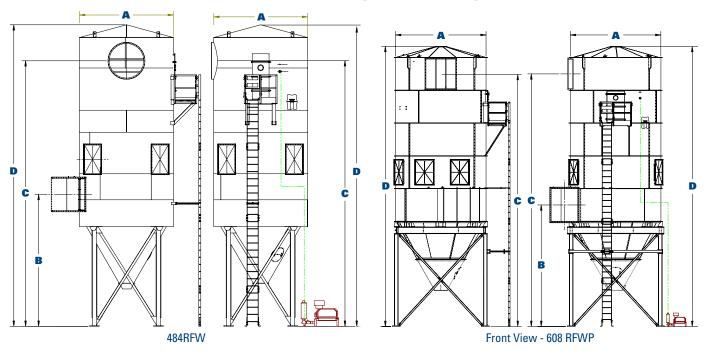
**376RF at Cabinet Shop** 



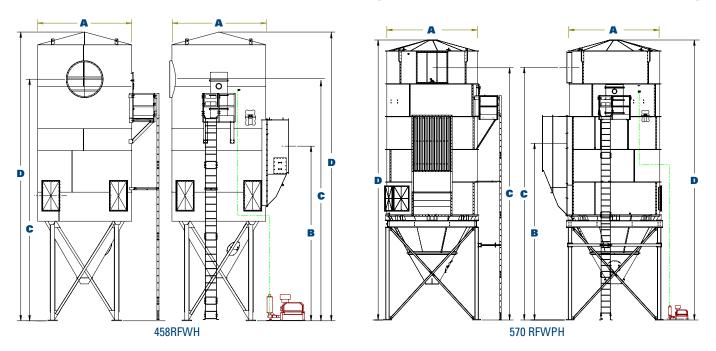
484RF - Two High Temperature Collectors on Secondary Aluminum Processing

## **DIMENSIONS & SPECIFICATIONS**

## **MODEL 484RFW & 608RFWP (WALK-IN)**



## **MODEL 458RFWH & 570RFWPH (WALK-IN HIGH BODY INLET)**



First number denotes the number of bags and last number denotes the bag length in feet. W = walk-in plenum for sheltered bag removal; H = high body inlet; P = panelized construction for field assembly.

				RFW Din	nensions				
Model*	Į.	A		В	С		D		
	in	mm	in	mm	in	mm	in	mm	
118RFWH8	96.0	2,438.4	228.0	5,791.2	321.0	8,153.4	366.0	9,296.4	
118RFWH10	96.0	2,438.4	254.0	6,451.6	351.0	8,915.4	420.0	10,668.0	
124RF8	96.0	2,438.4	156.0	3,962.4	343.0	8,712.2	388.0	9,855.2	
124RF10	96.0	2,438.4	156.0	3,962.4	367.0	9,321.8	436.0	11,074.4	
146RFWH8	96.0	2,438.4	228.0	5,791.2	321.0	8,153.4	366.0	9,296.4	
146RFWH10	96.0	2,438.4	254.0	6,451.6	351.0	8,915.4	420.0	10,668.0	
156RF8	96.0	2,438.4	156.0	3,962.4	343.0	8,712.2	388.0	9,855.2	
156RF10	96.0	2,438.4	156.0	3,962.4	367.0	9,321.8	436.0	11,074.4	
226RFWH8	123.0	3,124.2	239.4	6,080.8	344.4	8,747.8	395.1	10,035.5	
226RFWH10	123.0	3,124.2	257.4	6,538.0	374.4	9,509.8	449.1	11,407.1	
226RFWH12	123.0	3,124.2	275.4	6,995.2	404.4	10,271.8	503.1	12,778.7	
232RF8	123.0	3,124.2	184.8	4,693.9	378.4	9,611.4	429.1	10,899.1	
232RF10	123.0	3,124.2	184.8	4,693.9	402.4	10,221.0	477.1	12,118.3	
232RF12	123.0	3,124.2	184.8	4,693.9	426.4	10,830.6	525.1	13,337.5	
266RFWH8	123.0	3,124.2	239.4	6,080.8	344.4	8,747.8	395.1	10,035.5	
266RFWH10	123.0	3,124.2	257.4	6,538.0	374.4	9,509.8	449.1	11,407.1	
266RFWH12	123.0	3,124.2	275.4	6,995.2	404.4	10,271.8	503.1	12,778.7	
276RF8	123.0	3,124.2	184.8	4,693.9	378.4	9,611.4	429.1	10,899.1	
276RF10	123.0	3,124.2	184.8	4,693.9	402.4	10,221.0	477.1	12,118.3	
276RF12	123.0	3,124.2	184.8	4,693.9	426.4	10,830.6	525.1	13,337.5	
356RFWH8	139.6	3,545.8	253.8	6,446.5	358.8	9,113.5	413.1	10,492.7	
356RFWH10	139.6	3,545.8	271.8	6,903.7	388.8	9,875.5	467.1	11,864.3	
356RFWH12	139.6	3,545.8	289.8	7,360.9	418.8	10,637.5	521.1	13,235.9	
376RF8	139.6	3,545.8	202.8	5,151.1	398.8	10,129.5	453.1	11,508.7	
376RF10	139.6	3,545.8	202.8	5,151.1	423.1	10,746.7	501.1	12,727.9	
376RF2	139.6	3,545.8	202.8	5,151.1	446.8	11,348.7	549.1	13,947.1	
458RFWH8	157.6	4,003.0	269.4	6,842.8	374.6	9,514.8	431.4	10,957.6	
458RFWH10	157.6	4,003.0	288.4	7,325.4	404.4	10,271.8	485.1	12,321.5	
458RFWH12	157.6	4,003.0	305.4	7,757.2	434.4	11,033.8	539.1	13,693.1	
484RF8	157.6	4,003.0	221.4	5,623.6	420.4	10,678.2	477.1	12,118.3	
484RF10	157.6	4,003.0	221.4	5,623.6	444.4	11,287.8	525.1	13,337.5	
484RF12	157.6	4,003.0	221.4	5,623.6	468.4	11,897.4	573.1	14,556.7	
570RFWPH10	188.0	4,775.2	345.1	8,765.5	498.5	12,661.9	553.5	14,058.9	
570RFWPH12	188.0	4,775.2	345.1	8,765.5	498.5	12,661.9	577.5	14,668.5	
608RFWP10	188.0	4,775.2	234.2	5,948.7	498.5	12,661.9	553.3	14,053.8	
608RFWP12	188.0	4,775.2	234.2	5,948.7	522.5	13,271.5	601.3	15,273.0	
776RFWPH10	228.5	5,803.9	380.4	9,662.2	533.8	13,558.5	594.3	15,095.2	
776RFWPH12	228.5	5,803.9	380.4	9,662.2	533.8	13,558.5	618.3	15,704.8	
825RFWP10	228.5	5,803.9	269.6	6,847.8	533.8	13,558.5	594.3	15,095.2	
825RFWP12	228.5	5,803.9	269.6	6,847.8	557.8	14,168.1	642.3	16,314.4	
851RFWPH10	228.5	5,803.9	380.4	9,662.2	533.8	13,558.5	594.3	15,095.2	
851RFWPH12	228.5	5,803.9	380.4	9,662.2	533.8	13,558.5	642.3	16,314.4	
905RFWP10	228.5	5,803.9	269.6	6,847.8	533.8	13,558.5	594.3	15,095.2	
905RFWP12	228.5	5,803.9	269.6	6,847.8	557.8	14,168.1	642.3	16,314.4	

<sup>\*</sup> All units 570 and larger are of panelized construction and dimension "B" is from center of the inlet to bottom of the 36-in (914.4 mm) hopper outlet.

	Bag Cloth Area		Pleated Bag Media Area								No.	Λir	Shipping Weight	
Model*			30" UW		40" l	JW	60" UW		80" SB		of	Air Pump	RFW	
	ft²	m²	ft²	m²	ft²	m²	ft²	m²	ft²	m²	Bags	(hp)	lb	kg
118RFH8	1228	114	1,569	146	2,053	191	3,139	292	4,118	383	118	3.0	10,000	4,535.9
118RFH10	1535	143	1,569	146	2,053	191	3,139	292	4,118	383	118	3.0	10,900	4,944.2
124RF8	1290	120	1,649	153	2,158	200	3,298	306	4,328	402	124	3.0	10,048	4,557.7
124RF10	1613	150	1,649	153	2,158	200	3,298	306	4,328	402	124	3.0	10,910	4,948.7
146RFH8	1519	141	1,942	180	2,540	236	3,883	361	5,095	473	146	3.0	10,300	4,672.0
146RFH10	1899	176	1,942	180	2,540	236	3,883	361	5,095	473	146	3.0	11,200	5,080.2
156RF8	1623	151	2,075	193	2,714	252	4,149	385	5,444	506	156	3.0	10,298	4,671.1
156RF10	2029	189	2,075	193	2,714	252	4,149	385	5,444	506	156	3.0	11,217	5,087.9
226RFH8	2352	218	3,006	279	3,932	365	6,011	558	7,887	733	226	5.0	15,300	6,940.0
226RFH10	2940	273	3,006	279	3,932	365	6,011	558	7,887	733	226	5.0	16,600	7,529.6
226RFH12	3528	328	3,006	279	3,932	365	6,011	558	7,887	733	226	5.0	17,800	8,073.9
232RF8	2414	224	3,086	287	4,037	375	6,171	573	8,097	752	232	5.0	15,304	6,941.8
232RF10	3018	280	3,086	287	4,037	375	6,171	573	8,097	752	232	5.0	16,591	7,525.6
232RF12	3621	336	3,086	287	4,037	375	6,171	573	8,097	752	232	5.0	17,825	8,085.3
266RFH8	2768	257	3,538	329	4,628	430	7,075	657	9,283	862	266	5.0	15,600	7,076.0
266RFH10	3460	321	3,538	329	4,628	430	7,075	657	9,283	862	266	5.0	17,000	7,711.1
266RFH12	4152	386	3,538	329	4,628	430	7,075	657	9,283	862	266	5.0	18,300	8,300.7
276RF8	2872	267	3,671	341	4,802	446	7,341	682	9,632	895	276	5.0	15,614	7,082.4
276RF10	3590	334	3,671	341	4,802	446	7,341	682	9,632	895	276	5.0	16,975	7,699.7
276RF12	4308	400	3,671	341	4,802	446	7,341	682	9,632	895	276	5.0	18,290	8,296.2
356RFH8	3705	344	4,735	440	6,194	575	9,469	880	12,424	1,154	356	7.5	19,600	8,890.4
356RFH10	4631	430	4,735	440	6,194	575	9,469	880	12,424	1,154	356	7.5	21,200	9,616.2
356RFH12	5557	516	4,735	440	6,194	575	9,469	880	12,424	1,154	356	7.5	22,900	10,387.3
376RF8	3913	364	5,001	465	6,542	608	10,001	929	13,122	1,219	376	7.5	19,617	8,898.1
376RF10	4891	454	5,001	465	6,542	608	10,001	929	13,122	1,219	376	7.5	21,248	9,637.9
376RF12	5869	545	5,001	465	6,542	608	10,001	929	13,122	1,219	376	7.5	22,868	10,372.8
458RFH8	4766	443	6,091	566	7,969	740	12,182	1,132	15,984	1,485	458	7.5	25,400	11,521.2
458RFH10	5958	553	6,091	566	7,969	740	12,182	1,132	15,984	1,485	458	7.5	27,800	12,609.9
458RFH12	7149	664	6,091	566	7,969	740	12,182	1,132	15,984	1,485	458	7.5	30,100	13,653.1
484RF8	5037	468	6,437	598	8,422	782	12,874	1,196	16,892	1,569	484	7.5	25,458	11,547.6
484RF10	6296	585	6,437	598	8,422	782	12,874	1,196	16,892	1,569	484	7.5	27,796	12,608.1
484RF12	7555	702	6,437	598	8,422	782	12,874	1,196	16,892	1,569	484	7.5	30,115	13,659.9
570RFH10	7415	689	7,581	704	9,918	921	15,161	1,409	19,893	1,848	570	15.0	40,049	18,165.9
570RFH12	8897	827	7,581	704	9,918	921	15,161	1,409	19,893	1,848	570	15.0	42,029	19,064.0
608RF10	7909	735	8,086	751	10,579	983	16,172	1,502	21,219	1,971	608	15.0	41,505	18,826.4
608RF12	9491	882	8,086	751	10,579	983	16,172	1,502	21,219	1,971	608	15.0	44,278	20,084.2
776RFH10	10094	938	10,321	959	13,502	1,254	20,641	1,918	27,082	2,516	776	20.0	50,792	23,038.9
776RFH12	12113	1125	10,321	959	13,502	1,254	20,641	1,918	27,082	2,516	776	20.0	53,220	24,140.2
825RF10	10732	997	10,973	1,019	14,355	1,334	21,944	2,039	28,793	2,675	825	20.0	53,446	24,242.7
825RF12	12878	1196	10,973	1,019	14,355	1,334	21,944	2,039	28,793	2,675	825	20.0	56,969	25,840.7
851RFH10	11070	1028	11,318	1,052	14,807	1,376	22,636	2,103	29,700	2,759	851	20.0	51,544	23,380.0
851RFH12	13284	1234	11,318	1,052	14,807	1,376	22,636	2,103	29,700	2,759	851	20.0	54,095	24,537.1
905RF10	11772	1094	12,037	1,118	15,747	1,463	24,072	2,236	31,585	2,934	905	20.0	54,255	24,609.7
905RF12	14127	1312	12,037	1,118	15,747	1,463	24,072	2,236	31,585	2,934	905	20.0	57,909	26,267.1

## **STANDARD FEATURES** & AVAILABLE OPTIONS

Collector Design	Std	Opt
All-Welded or Panelized Construction	X	
Heavy-Duty 1/4-in (6.4 mm) Tubesheet Construction	X	
Air Pump (TEFC Motor Drive) for Cleaning System	X	
1/3 HP TEFC Motor for Manifold Drive	X	
Involute Scroll Inlet	X	
Round Outlet for RFW	X	
Rectangular Outlet for RFP	X	
Rectangular Outlet for RFW		X
High Body Inlet		X
Ladders & Platform Assemblies		X
Stainless Steel Construction		X
Internal Service Light		X
Bags & Cages		
Dura-Life Twice the Life Polyester Felt Oval-Shaped Bag Filters	X	
Galvanized Grounded Bag Filter Cages with Positive Seal Boltsafe™ Hardware	X	
Ultra-Web® SB Pleated Bags with Boltsafe Hardware		X
Ultra-Web® SB Fully Synthetic Snap-In Pleated Bags		X
Variety of Bag Filter and Pleated Bag Media Options		X
Hopper Design		
60° Conical Hoppers	X	
Hopper Manhole	X	
Outlet Transitions		X
Hopper Service Port		X
Hopper Level Indicators		X
3" (76.2 mm) Hopper Water Overflow Check Valve		X

Support Structure <sup>†</sup>	Std	Opt
Steel Support Legs		X
Electrical Controls, Gauges and Enclosures		
Magnehelic®** Gauge	X	
Pulse Solenoid Valve in NEMA 9 Enclosure	X	
Solid-State Timer in Type (NEMA/UL) 4 Enclosure	X	
Photohelic®*** Gauge		X
RF Electrical Control Panel		X
iCue <sup>™</sup> Connected Filtration Service		X
Safety Features		
Sprinkler Taps		X
Explosion Vents		X
Ladder Safety System		X
Paint System		
Prime Coated Interior	X	
Textured Multi-Coat Paint Finish with 2,000-Hour Salt Spray Performance	X	
Premium Duty Finish		X
Custom Colors		X
Ceramic Insulation Finish		X
Warranty		
10-Year Warranty	X	

<sup>\*</sup> All 60 Hz motors 1 HP and above are EISA compliant and considered NEMA Premium® per Table 12-12. NEMA Premium is a registered trademark of National Electrical Manufacturers Association.

<sup>\*\*</sup> Magnehelic and Photohelic are registered trademarks of Dwyer Instruments, Inc.

 $<sup>\</sup>verb|^{\dagger} Donaldson Torit equipment| is designed to IBC guidelines for specific wind speed exposure and$ seismic spectral acceleration at grade level. Contact your Donaldson Torit representative for detailed information available on the equipment's Spec Control drawings. Equipment may be customized to meet unique, customer-specified site requirements.

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