

## RF Baghouse Dust Collectors



*Now with*

**DURA-LIFE™**  
Twice The Life Filter Bags

*Award-Winning  
Filter Media*

# RF Baghouse

## 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*” filter bags, 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.

### RF Offers:

- **New high-body inlet for abrasive or lighter dust**
- **Even-Air™ Flow Straightener reduces wear on filter bags**
- **Award winning Dura-Life™ “Twice the Life” Filter bags**
- **Oval shaped bags provide better snap for better bag cleaning**
- **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**

*High-Volume  
Performance*

*with*

Dura-Life “Twice The Life” Filter Bags



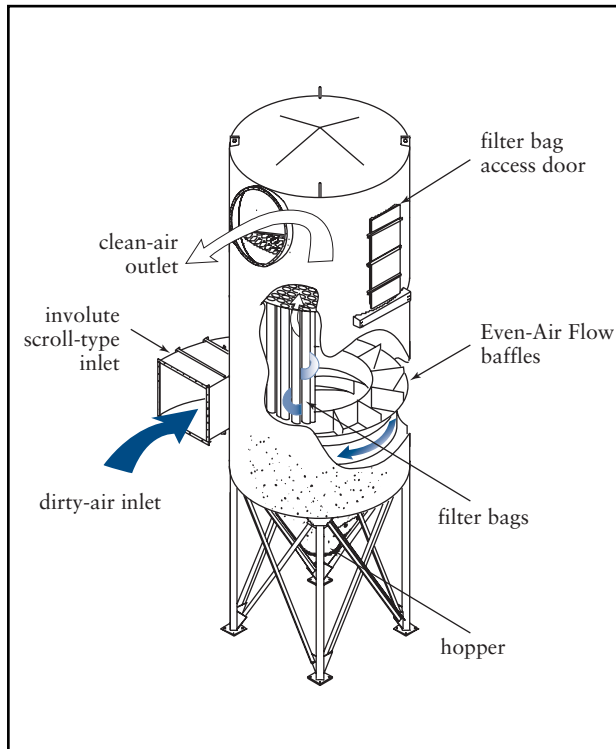
156RFW8

# RF Baghouse

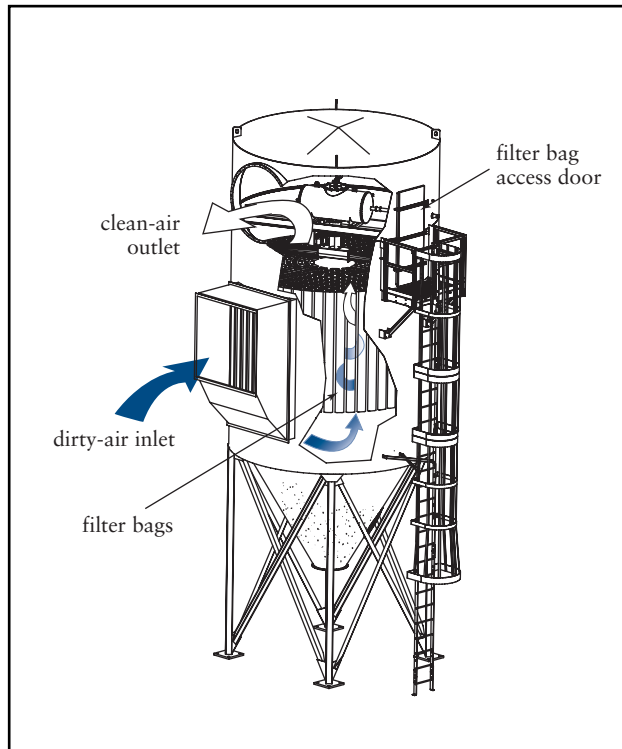
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## Operations & Features

Normal Operation with Involute Scroll Inlet



Normal Operation with High Body Inlet



**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.

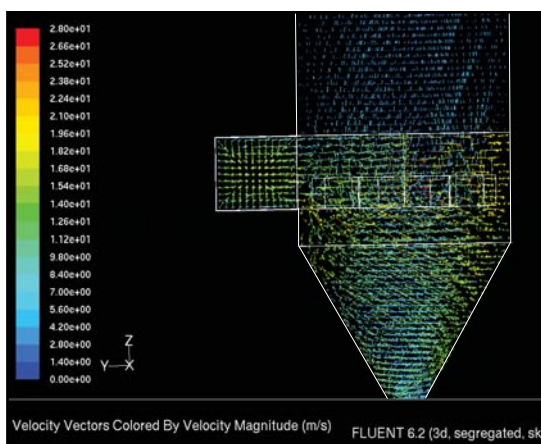
An involute scroll inlet puts dust into a cyclonic spin allowing for heavier particles to fall into the hopper, thus eliminating the need for a cyclone precleaner (for some applications with abrasive or light, fluffy dusts, the optional high body inlet may be preferred). The remaining dust is then collected on oval shaped 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 bags, thus reducing dust re-entrainment.

# Donaldson®

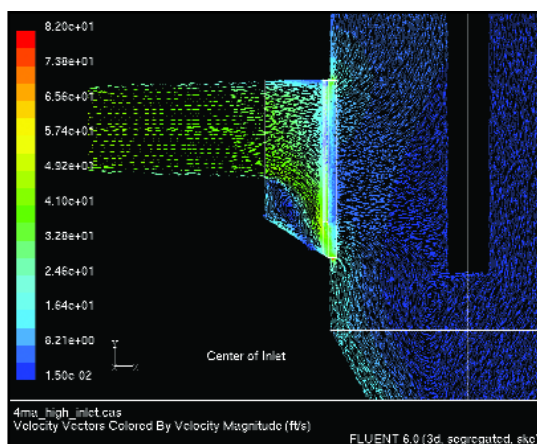
# RF Baghouse

## Operations & Features

**Even Airflow Distribution** To prevent filter bag 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 bag life and lower maintenance costs.



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

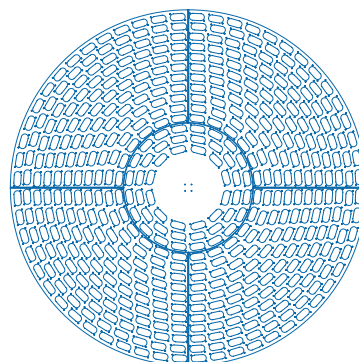
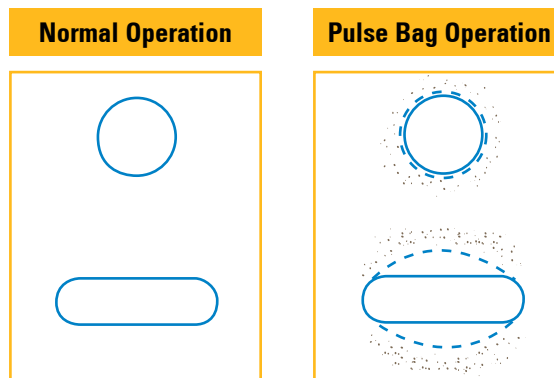


FLUENT computer airflow analysis showing airflow with high body inlet.

## Benefits of the Oval-Shaped Bag

Oval shaped bags 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 life.

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



\* FLUENT is a registered trademark of Fluent, Inc.



## 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

**62%  
Less  
Energy**

Weekly Operation	Annual Cleaning System vs. Compressed Air System Costs				
	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 Dura-Life filter bags runs at a lower pressure drop saving fan energy

**50%  
Energy  
Savings**

Weekly Operation	Annual RF Fan vs. Competitor Fan Operating Costs				
	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 at a 2" pressure drop versus a competitor collector running at a 4" 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.



# Donaldson®

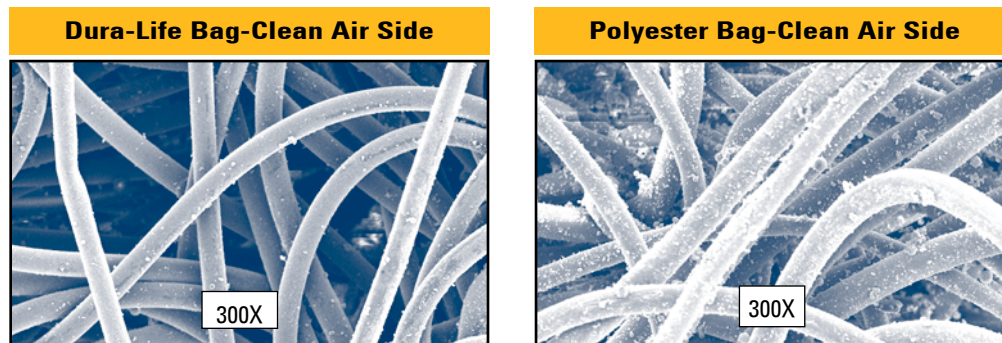
# RF Baghouse

## Dura-Life™ Filter Bag Technology

*Standard in All Donaldson Torit  
RF Baghouse Collectors*

### **Dura-Life — A technology breakthrough for bag users.**

Polyester bags are produced with 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 to blend the fibers. This process provides a more uniform material with smaller pores, better surface loading, and better cleaning. These advantages provide twice the operating life before bags need to be replaced due to high pressure drop. Longer life from Dura-Life bags lowers maintenance and operating costs and raises baghouse dust collection to a whole new level.



*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 was 6 in. on polyester bags and 2 in. on Dura-Life.*

### **Dura-Life bags provide big benefits!**

Dura-Life technology provides better surface loading and better pulse cleaning, offering:

- **Two to three times longer bag life**
- **Energy savings due to lower pressure drop**
- **Reduced replacement bag costs due to fewer bag changeouts**
- **Reduced maintenance and operating costs due to fewer bag changeouts**
- **30% fewer emissions based on EPA tests**



\* Dura-Life bags are made with Durapex® filter media manufactured by Polymer Group, Inc.

# RF Baghouse

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## Proven Performance on Hundreds of Applications



**376RF**  
*on wood dust*



**124RF**  
*on quarrying*



**156RF**  
*on grain processing*



**484RF**  
*four RF collectors on wood dust*



**484RF**  
*on wood dust*

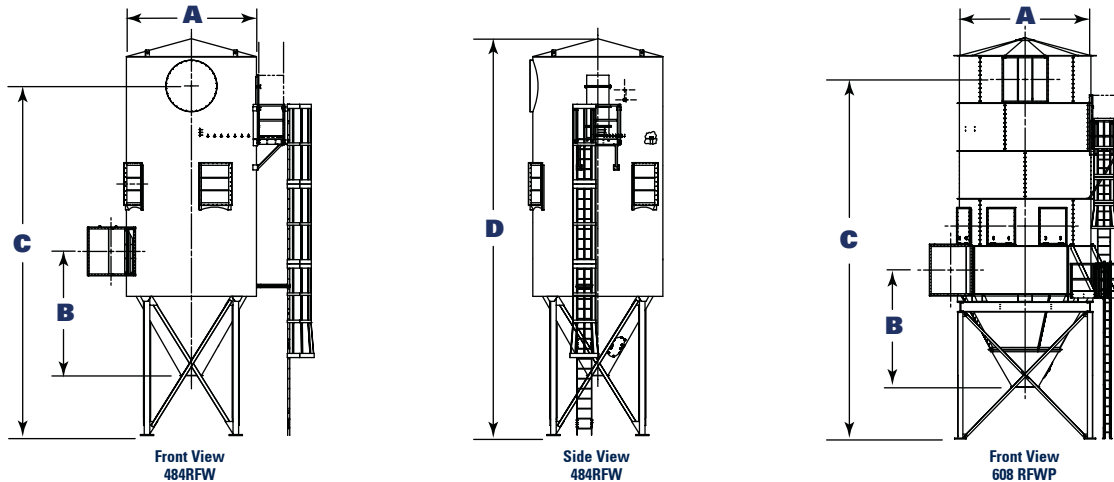


**484RF**  
*two high temperature collectors  
on secondary aluminum processing*

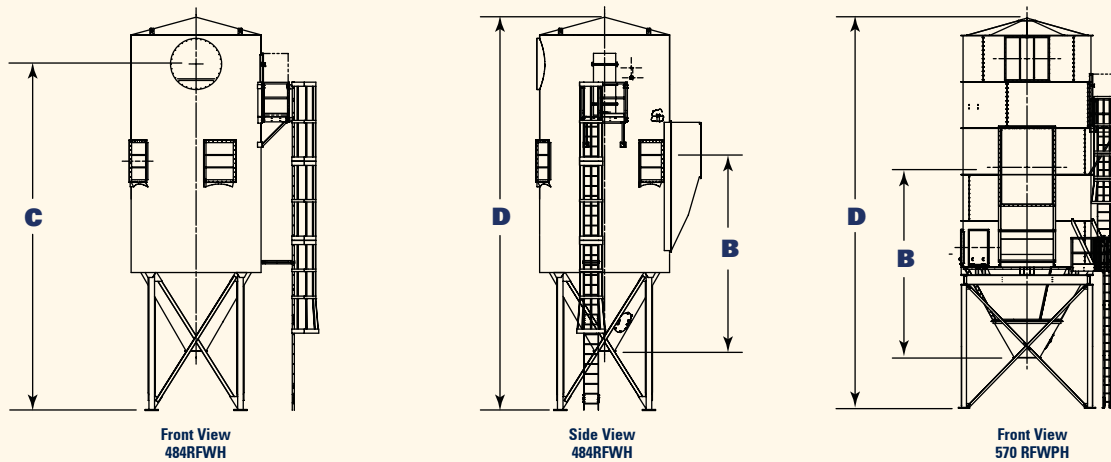
# RF Baghouse

## Dimensions & Specifications

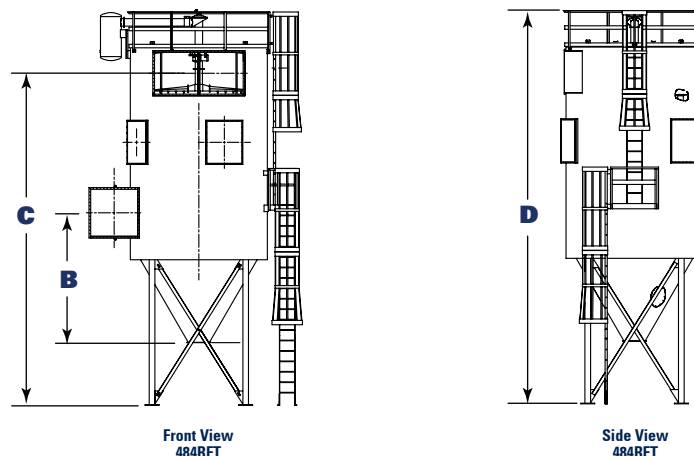
### Model 484RFW & 608RFP (Walk-In)



### Model 484RFWH & 570RFP (Walk-In with High Body Inlet)



### Model 484RFT (Walk-On)



**RF Model Nomenclature:** First number denotes the number of bags and last number denotes the bag length in feet. **W** = walk-in plenum for sheltered bag removal; **T** = walk-on the top of the collector to replace bags; **H** = high body inlet; **P** = panelized construction for field assembly.



# RF Baghouse

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## Dimensions & Specifications

Model*	Dimensions (inches)					
	A	B	RFT		RFW	D
48RF8	68.0	54.8	258.3	308.8	316.8	365.5
48RF10	68.0	54.8	282.3	332.8	340.8	413.5
48RFWH8	68.0	95.8	—	—	295.8	352.5
48RFWH10	68.0	126.9	—	—	326.8	407.5
72RF8	68.0	54.8	258.3	308.8	316.8	365.5
72RF10	68.0	54.8	282.3	332.8	340.8	413.5
72RFWH8	68.0	95.8	—	—	295.8	352.5
72RFWH10	68.0	126.9	—	—	326.8	407.5
124RF8	96.0	84.0	292.5	343.0	351.0	388.0
124RF10	96.0	84.0	316.5	367.0	375.5	436.0
124RFWH8	96.0	123.1	—	—	321.0	366.0
124RFWH10	96.0	141.1	—	—	351.0	420.0
156RF8	96.0	84.0	292.5	343.0	351.0	388.0
156RF10	96.0	84.0	316.5	367.0	375.0	436.0
156RFWH8	96.0	123.1	—	—	321.0	366.0
156RFWH10	96.0	141.1	—	—	351.0	420.0
232RF8	123.0	113.4	333.9	378.4	398.4	429.1
232RF10	123.0	113.4	357.9	402.4	422.4	477.1
232RF12	123.0	113.4	381.9	426.4	446.4	525.1
232RFWH8	123.0	153.8	—	—	344.4	395.1
232RFWH10	123.0	172.2	—	—	374.4	449.1
232RFWH12	123.0	189.8	—	—	404.4	503.1
276RF8	123.0	113.4	353.9	378.4	398.4	429.1
276RF10	123.0	113.4	357.9	402.4	422.4	477.1
276RF12	123.0	113.4	381.9	426.4	446.4	525.1
276RFWH8	123.0	153.7	—	—	344.4	395.1
276RFWH10	123.0	172.2	—	—	374.4	449.1
276RFWH12	123.0	189.8	—	—	404.4	503.1
376RF8	139.6	130.8	357.3	398.8	424.8	453.1
376RF10	139.6	130.8	381.3	422.8	448.8	501.1
376RF2	139.6	130.8	405.3	446.8	472.8	549.1
376RFWH8	139.6	176.6	—	—	358.8	413.1
376RFWH10	139.6	194.3	—	—	388.8	467.1
376RFWH12	139.6	212.6	—	—	418.8	521.1
484RF8	157.6	149.4	381.9	420.4	452.4	477.1
484RF10	157.6	149.4	405.9	444.4	476.4	525.1
484RF12	157.6	149.4	429.9	468.4	500.4	573.1
484RFWH8	157.6	176.6	—	—	358.8	431.4
484RFWH10	157.6	194.3	—	—	388.8	485.1
484RFWH12	157.6	212.6	—	—	418.8	539.1
570RFWPH10	188.0	273.0	—	—	498.5	556.3
570RFWPH12	188.0	273.0	—	—	498.5	580.3
608RFP10	188.0	162.2	—	—	498.5	556.3
608RFP12	188.0	162.2	—	—	522.5	604.3
776RFWPH10	228.5	308.4	—	—	533.8	596.9
776RFWPH12	228.5	308.4	—	—	533.8	620.9
825RFP10	228.5	197.6	—	—	533.8	596.9
825RFP12	228.5	197.6	—	—	557.8	644.9
851RFWPH10	228.5	308.4	—	—	533.8	596.9
851RFWPH12	228.5	308.4	—	—	533.8	620.9
905RFP10	228.5	197.6	—	—	533.8	596.9
905RFP12	228.5	197.6	—	—	557.8	644.9

\* All units 570 and larger are of panelized construction and dimension "B" is from center of the inlet to bottom of the 36-in. hopper outlet.

# RF Baghouse

## Dimensions & Specifications

Model*	Nominal Airflow			Shipping Weight			
	Range**		Cloth Area (ft²)	No. of Bags	Air Pump (hp)	(lbs)	
	(cfm)					RFT	RFW
48RF8	2495 -	7485	499	48	2.0	6109	7388
48RF10	3120 -	9360	624	48	2.0	6434	8105
48RFWH8	2340 -	7020	468	45	2.0	—	7300
48RFWH10	2925 -	8775	585	45	2.0	—	8100
72RF8	3745 -	11,235	749	72	2.0	6302	7554
72RF10	4685 -	14,055	937	72	2.0	6668	8306
72RFWH8	3485 -	10,455	697	67	2.0	—	7500
72RFWH10	4360 -	13,080	872	67	2.0	—	8300
124RF8	6450 -	19,350	1290	124	2.0	8677	10,048
124RF10	8065 -	24,195	1613	124	3.0	9214	10,910
124RFWH8	6295 -	18,885	1259	121	3.0	—	10,000
124RFWH10	7870 -	23,610	1574	121	3.0	—	10,900
156RF8	8110 -	24,330	1622	156	3.0	8933	10,298
156RF10	10,150 -	30,450	2030	156	3.0	9527	11,217
156RFWH8	7695 -	23,085	1539	148	3.0	—	10,300
156RFWH10	9630 -	28,890	1926	148	3.0	—	11,200
232RF8	12,065 -	36,195	2413	232	3.0	13,656	15,304
232RF10	15,090 -	45,270	3018	232	5.0	14,577	16,591
232RF12	18,110 -	54,330	3622	232	5.0	15,395	17,825
232RFWH8	11,805 -	35,415	2361	227	5.0	—	15,300
232RFWH10	14,765 -	44,295	2953	227	5.0	—	16,600
232RFWH12	17,720 -	53,160	3544	227	5.0	14,014	17,800
276RF8	14,350 -	43,050	2870	276	5.0	15,010	15,614
276RF10	17,955 -	53,865	3591	276	5.0	15,908	16,975
276RF12	21,540 -	64,620	4308	276	5.0	—	18,290
276RFWH8	13,830 -	41,490	2766	266	5.0	—	15,600
276RFWH10	17,305 -	51,915	3461	266	5.0	—	17,000
276RFWH12	20,760 -	62,280	4152	266	5.0	—	18,300
376RF8	19,550 -	58,650	3910	376	7.5	18,341	19,617
376RF10	24,460 -	73,380	4892	376	7.5	19,463	21,248
376RF12	29,345 -	88,035	5869	376	7.5	20,610	22,868
376RFWH8	18,405 -	55,215	3681	354	7.5	—	19,600
376RFWH10	23,030 -	69,090	4606	354	7.5	—	21,200
376RFWH12	27,630 -	82,890	5526	354	7.5	—	22,900
484RF8	25,170 -	75,510	5034	484	7.5	23,273	25,458
484RF10	31,485 -	94,455	6297	484	7.5	24,830	27,796
484RF12	37,775 -	113,325	7555	484	7.5	26,425	30,115
484RFWH8	24,495 -	73,485	4899	471	7.5	—	25,400
484RFWH10	30,640 -	91,920	6128	471	7.5	—	27,800
484RFWH12	36,760 -	110,280	7352	471	7.5	—	30,100
570RFWPH10	37,000 -	111,150	7410	570	20.0	—	40,049
570RFWPH12	44,460 -	133,380	8892	570	20.0	—	42,029
608RFWP10	39,520 -	118,560	7904	608	20.0	—	41,505
608RFWP12	47,420 -	142,270	9485	608	20.0	—	44,278
776RFWPH10	50,440 -	151,320	10,088	776	20.0	—	50,792
776RFWPH12	60,520 -	181,580	12,106	776	20.0	—	53,220
825RFWP10	53,620 -	160,870	10,725	825	20.0	—	53,446
825RFWP12	64,350 -	193,050	12,870	825	20.0	—	56,969
851RFWPH10	55,310 -	165,940	11,063	851	20.0	—	51,544
851RFWPH12	66,370 -	199,130	13,276	851	20.0	—	54,095
905RFWP10	58,820 -	176,470	11,765	905	20.0	—	54,255
905RFWP12	70,590 -	211,770	14,118	905	20.0	—	57,909

\* All units 570 and larger are of panelized construction.

\*\* Based on clean filters.

# RF Baghouse

## Standard Features & Equipment Options

	Standard	Optional
<b>Collector Design</b>		
All-Welded, Knock-Down or Panelized Construction	X	
Heavy-Duty 1/4-in 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 RFT and RFP	X	
Round Outlet for RFT		X
Rectangular Outlet for RFW		X
High Body Inlet		X
Ladders, Cages & Platform Assemblies (OSHA Compliant)		X
Stainless Steel Construction		X
Internal Service Light		X
<b>Bags &amp; Cages</b>		
Dura-Life Twice the Life Polyester Felt Oval-Shaped Bags	X	
Galvanized Bag Cages	X	
Positive Seal Boltsafe™ Hardware	X	
Grounded Bag and Cage System	X	
Snap-In Bags (8' & 10' Only)		X
Variety of Bag Media Options		X
<b>Hopper Design</b>		
60° Conical Hoppers	X	
Hopper Manhole	X	
Outlet Transitions		X
Hopper Service Port		X
Hopper Level Indicators		X
3" Hopper Water Overflow Check Valve		X

	Standard	Optional
<b>Support Structure</b>		
Steel Support Legs		X
<b>Electrical Controls, Gauges and Enclosures</b>		
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
<b>Safety Features</b>		
Top Handrail for RFT	X	
Sprinkler Taps		X
Explosion Vents		X
<b>Paint System</b>		
Prime Coated Interior	X	
Blue Exterior Finish Coating Meets 250-Hour Salt Spray Corrosion Protection Test	X	
Hostile Environment Paint		X
Custom Colors		X
Ceramic Insulation Finish		X
<b>Warranty</b>		
10-Year Warranty	X	

\* Magnehelic and Photohelic are registered trademarks of Dwyer Instruments, Inc.

U.S. Patent No. 7,015,158

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