

AIR-CURE



AC Filter



276AC10

- ✓ **Wood Dust**
- ✓ **Insulation**
- ✓ **Metals**
- ✓ **Grain Dust**
- ✓ **Hard Rock Mining**
- ✓ **Plastics**
- ✓ **Resource Recovery**
- ✓ **Food Processing**

AirCure Inc., a leading environmental dust-collector supplier, has applied the latest technological innovations from a variety of fields to create an advanced AC pulse-jet fabric filter. The new AC is currently used in every application from wood dust, insulation, and metals, to plastics, resource recovery, and food processing. The AC filter operates at lower costs, reduces servicing and maintenance costs and provides greater efficiency than conventional pulse-jet filters. With AirCure you are not limited to standard-sized products. AirCure offers custom engineering services to achieve the precise custom needs of every job.

We'll work with your specifications—from filters to systems, including fans, ductwork, hoods, dust collectors, and auxiliaries—to ensure that you have the environmental dust collection system your facility requires. It's the service you expect from AirCure, a leading supplier of baghouse filters and systems. AC filter features includes...

- Low Pressure Technology**
- Oval Snap-in Filter Bags**
- Snap-Joint Frames**
- Flexibility in Design**
- Component Improvements**
- Advanced Diaphragm Valve**
- Random Sequence Timer**



Body panels

*cover design: Four AC filters handling wood dust, with skirt supports.
this page: (top left) Two 276AC6 filters with special bag spacing handling cellulose insulation material.
 (middle left) Sectionalized filter panels ready for shipment in export containers for gold mining project.
 (middle right) 676AC10 handling wood dust, mounted 100 feet above grade.*



676AC10

AC Filter

Low Pressure Pulse Technology

The low pressure pulse technology used in the AC filter delivers considerably more cleaning energy to the filter bags than conventional High Pressure pulse jets or continuous reverse air. The result is more efficient bag cleaning. Low-Pressure technology provides a lower differential pressure across the filter bags. The effect is the number of cleaning cycles is reduced, which lowers your overall operating expenses and extends the life of your filter bags. AC filter cleaning systems require only 7-8 psi air pressure. The low pressure pulse is further enhanced by the use of oval bag frames.

The AC filter bags are oval shaped, with flat sides causing them to flex more during the pulse cycle, enhancing dust cake release for a lower differential pressure across the bags.

Moreover, each bag has a specially designed, heavy-duty frame to support the filter bags. The frames are manufactured from 9 GA galvanized steel instead of industry-standard 11 GA. The heavier wire reduces fatiguing of bag fibers extending bag life.

Oval Snap-in Filter Frames

The AC filter bags snap into place, so no tools are needed to install or remove them. Installation, inspection, and replacement is faster, providing not only lower initial equipment cost, but also lower installation costs. The special metal band sewn into the bag in conjunction with the extended top frame collar assures a positive seal to the tubesheet, without a metal contact.

Also available is a flange top which is attached to the tube sheet by two machine bolts; this insures a positive ground connection is always maintained with bags and frames during operation. No straps or wires are required. With two grounding bolts providing an inherent ground there is no problem with thick paint on the tube sheet or loose straps during maintenance.

Snap-Joint Frames

The new split frame offers a unique patent pending snap-joint allowing two shorter frames to be connected while inserting the frame into the bag. This provides multiple advantages.

Two piece frames have been manufactured by AirCure for years with over one hundred thousand in operation. The new snap-joint eliminates clips and loose parts used by previous two piece frames, making the assembly very simple and fast, just snap the two halves together as the frame is inserted into the bag.

The two piece feature is especially convenient when using 12,16 or 20 foot long frames, or in smaller filters where the frame is longer than the diameter of the casing. Also, the shorter frame pieces are more convenient to handle through the access door. Trying to fit 10 to 12 foot long or longer frames through a six foot access door can be challenging. The two piece frame eliminates this problem without special tools.

Another advantage is the reduction of plenum height needed for installing the bags. Besides the cost savings, the lower silhouette reduces support requirements and makes onsite assembly easier, and improves the aesthetics. The reduced filter casing volume and profile, from the reduction in height, also assist greatly in achieving the latest pressure venting code requirements. This means fewer pressure vents and associated maintenance for additional cost savings.

Bolt-down frames

Bolt-down frames are available in AirCure AC filters for static grounding with explosive dusts.



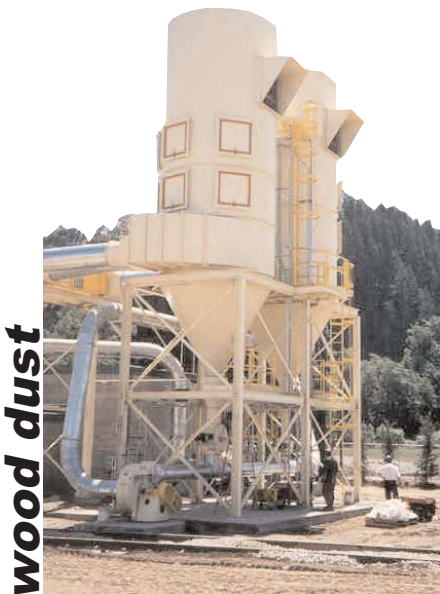
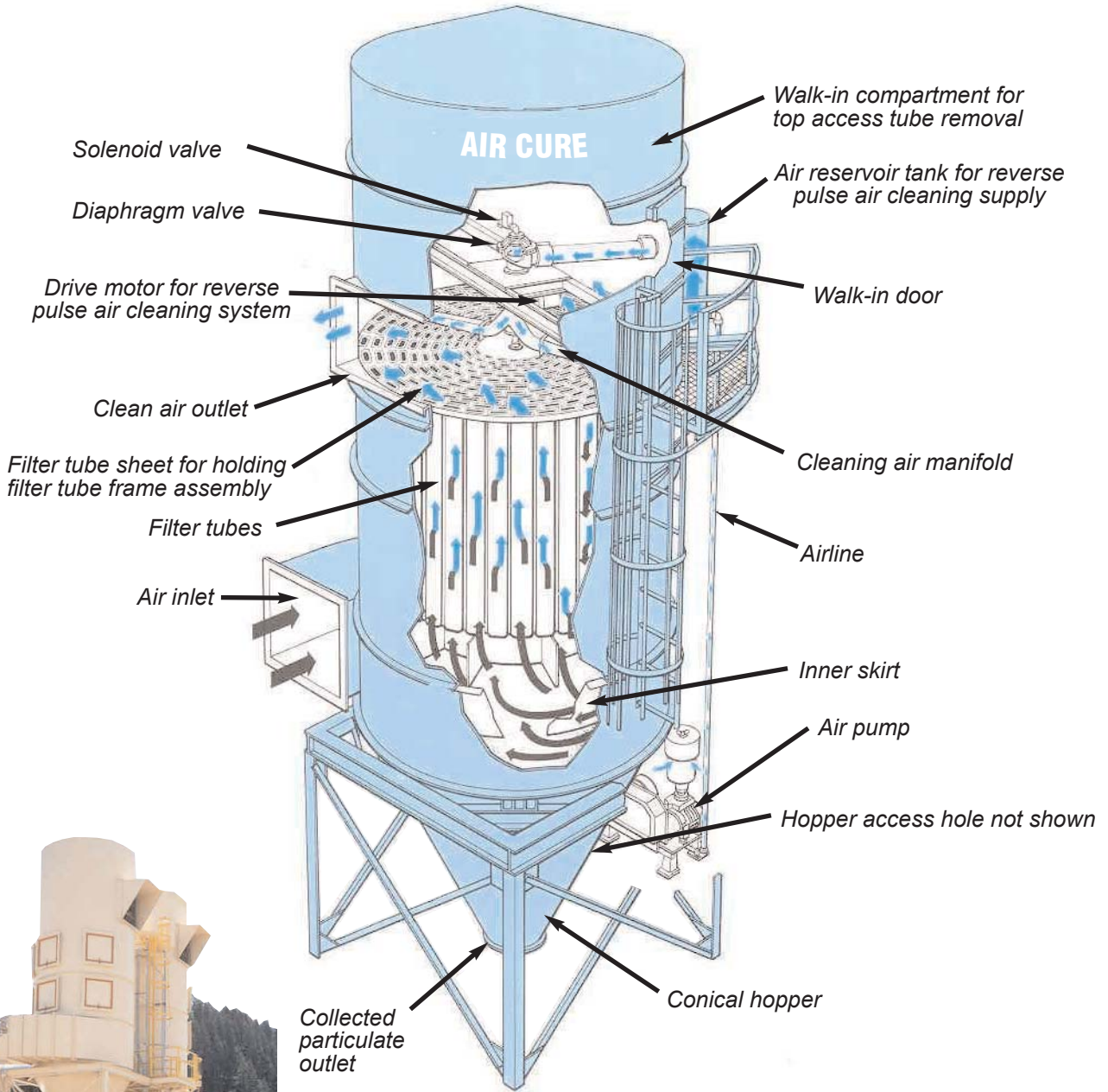
Installation of the snap-in filter bags. No tools are required reducing installation and replacement time.



Snap-joint frames

Snap-in frames

Filter Features

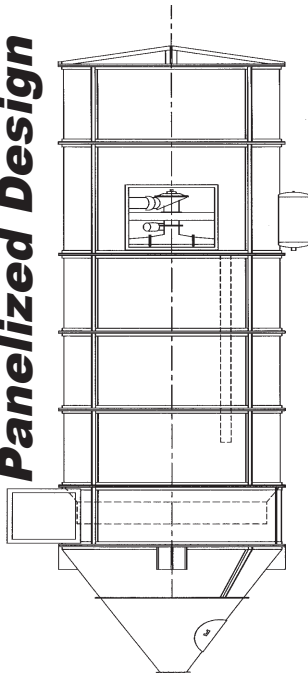


wood dust

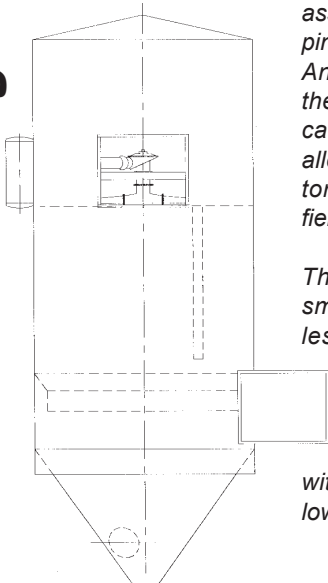
- ✓ Modular, split-housing or knocked-down panels type construction
- ✓ On-line continuous, differential pressure and off-line cleaning
- ✓ 5000 ACFM to more than 270,000 ACFM
- ✓ For high temperature applications, above 140 degrees fahrenheit, special designs are available for temperatures up to 400 degrees fahrenheit.

AC Filter

Panelized Design



All-welded Design



Two 1064AC12 filtering gold ore dust.

gold dust

Detail of panel stacking arrangement.



Flexibility in Design

The AC filter panelized design involves the filter casing composed of panels, which are flanged for bolted assembly at the plant site. Each panel is formed in a common precision jig to assure similarity, making panels interchangeable within each filter assembly. Each panel is then tagged and marked to an assembly drawing to ease field assembly. Critical panels are preassembled in the factory to further insure ease of assembly.

This construction must be used for 824 and larger diameter filters because of shipping dimension restrictions, depending on the site.

However, smaller units are available in panelized design because of the low cost, ease of assembly where all welded casings cannot be set with cranes, or for packaging into shipping containers for export. In all situations it offers the lowest cost freight transportation. Another benefit is the ability to change the location of inlets and outlets by relocating the interchangeable panels. This allows the installer to arrange the collector to the optimum arrangement in the field, without extensive pre-engineering.

The all-welded design is practical in smaller filters where the advantage is less field labor therefore lower cost of field assembly. Specialty features such as full factory insulation can be performed to the all-welded design. Larger all-welded filters are shipped with bolt-on inlet scrolls as shown in the lower right image.



Two 1064AC12 attached to the transfer tower handles 40 tons of dust per day.

1064AC12



Panels stacked on truck awaiting shipment.



All-welded filter loaded on double drop trailer with bolt-on inlet scroll.

plastic



376AC12 Filter handling fibers, epoxy resin from composite fiberglass manufacturing process.

Exclusive Bag Cleaning Design

The exclusive pulsing technique in the bag cleaning system prevents re-entrainment of dust particles on a previously cleaned bag. No adjacent or neighboring bag is cleaned in sequence; time delay prevents redeposition of dust. This is accomplished without complex indexing electronics or mechanisms. This results in a uniform airflow and less turbulence, longer bag life and more effective dust collection.



truck dump



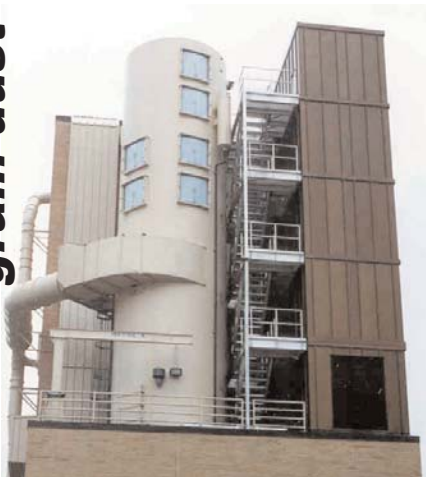
The 276AC10 filters can be mounted for truck dumping.

Capacity Table

Filter Size	Cloth Area		Air to Media Ratio				Air Pump	Drive
	Ft. ²	M ²	5	90	10	180	HP	HP
			CFM	M ³ /HR	CFM	M ³ /HR		
124AC6	950	88.3	4,750	7,950	9,500	15,900	2	1
124AC8	1,265	117.5	6,325	10,600	12,650	21,200	2	1
124AC10	1,580	146.8	7,900	13,200	15,800	26,400	3	1
124AC12	1,900	176.5	9,500	15,885	19,000	31,770	3	1
124AC16	2,535	235.5	12,675	21,195	-	-	5	1
156AC6	1,200	111.5	6,000	10,000	12,000	20,000	2	1
156AC8	1,600	148.6	8,000	13,400	16,000	26,800	3	1
156AC10	2,000	185.8	10,000	16,700	20,000	33,400	3	1
156AC12	2,390	222.0	11,950	19,980	23,900	39,960	5	1
156AC16	3,190	296.4	15,950	26,676	-	-	5	1
232AC6	1,775	164.9	8,875	14,850	17,750	29,700	3	1
232AC8	2,370	220.1	11,850	19,800	23,700	39,600	3	1
232AC10	2,960	275.0	14,800	24,750	29,600	49,500	5	1
232AC12	3,555	330.3	29,727	17,775	35,550	59,454	5	1
232AC16	4,740	440.4	36,636	23,700	-	-	5	1
276AC6	2,115	196.5	10,575	17,700	21,150	35,400	3	1
276AC8	2,820	262.0	14,100	23,600	28,200	42,700	5	1
276AC10	3,520	327.0	17,600	29,400	35,200	58,800	5	1
276AC12	4,230	393.0	21,140	35,370	42,280	70,735	5	1
276AC16	5,640	524.0	28,200	47,160	-	-	7.5	1
376AC8	3,840	356.7	19,200	32,100	38,400	64,200	5	1
376AC10	4,800	446.0	24,000	40,100	48,000	80,200	5	1
376AC12	5,760	535.1	28,800	48,150	57,600	96,300	7.5	1
376AC16	7,680	713.5	38,400	64,215	-	-	10	1
484AC10	6,180	574.1	31,000	51,700	62,000	103,400	7.5	1
484AC12	7,415	688.9	37,100	62,000	74,200	124,000	10	1
484AC16	9,885	918.3	49,450	82,650	-	-	10	1
544AC10	6,945	645.2	34,725	58,050	69,450	116,100	10	1
544AC12	8,335	774.3	41,675	69,700	83,350	139,400	10	1
544AC16	11,110	1032.2	55,550	92,898	-	-	15	1
676AC10	8,630	801.8	43,150	72,150	86,300	144,300	10	1
676AC12	10,360	962.5	51,800	86,600	103,600	173,200	15	1
676AC16	13,810	1283.0	69,050	115,470	-	-	15	1
824AC10	10,520	977.5	52,600	88,000	105,200	176,000	15	1
824AC12	12,623	1172.8	63,115	105,500	126,230	211,000	15	1
824AC16	16,830	1563.6	84,150	140,724	-	-	20	1
984AC12	15,100	1403.0	75,500	126,000	151,000	252,000	15	1
984AC16	20,100	1867.4	100,500	168,050	201,000	336,100	20	1
1064AC10	13,583	1262.0	67,915	113,550	135,830	227,100	15	1
1064AC12	16,300	1514.4	81,500	136,250	163,000	272,500	15	1
1064AC16	21,735	2019.0	108,675	181,710	-	-	20	1

* "Filter size" also indicates number of filter bags and bag lengths: 124AC6 = 124 bags - 6 feet long. Contact factory on 16 foot bag length applications; requires split frames. Specifications subject to change without notice or obligation. Contact representative of AirCure for certification.

grain dust



484AC12 Filter handling wheat / grain dust.

AC Filter

Component Improvements: New "Air Chamber" bearing design.

Manufactured from lightweight aluminum housing. Bronze bearing surface inserts reduces friction.

Scroll-type Inlet:

An integral part of the assembled unit. Internal distribution and baffling devices improve dust distribution and decrease high-velocity zones and turbulence. "Cyclonic" configuration separates dust from the gas stream more effectively reducing dust concentration to the bags. The inlet brings particulate air into the filter to be purified and sent back into the atmosphere.



Scroll-type Inlet

Rotating Manifold:

A special low-carbon steel manifold provides cleaning air to the filter bags. No blowpipes to disassemble to gain access to the filter bags.



Rotating Manifold

Rotary Positive Displacement Blower:

Could reduce energy consumption by up to 75% with comparable-sized high pressure filters by eliminating the compressor system and you don't need to add expensive auxiliary equipment to remove moisture, or insulation to your piping system to prevent moisture from forming.



Rotary Positive Displacement Blower

woodworking



Here are two 544RF12 filters at a woodworking plant in Wisconsin.

Additional Options...

1. Stainless steel construction
2. Variety of filter media selection
3. Special filter bag spacing
4. Spray systems with internal piping
5. Chemical injection systems
6. CO monitoring
7. RJ Filter retrofits
8. Deluge valve system
9. Differential pressure cleaning
10. Custom Hopper design
11. Hopper level detectors
12. Hopper discharge valves
13. Hopper overflow drain
14. Design to NFPA 68 and 77
15. Skirt Type supports
16. Custom structural supports
17. Circular stairway system
18. Access platform and Ladder
19. Shop insulation
20. Custom color selection

Advanced Diaphragm Valve Operation

AC filters require only one diaphragm and solenoid per filter. That makes inspection and service easier than filters with multiple assemblies. In addition, the new diaphragm is designed to expel gases faster and improve the flow characteristic within the valve better than its predecessors. Faster response of the diaphragm valve results in more effective bag cleaning, lowering operating expense.

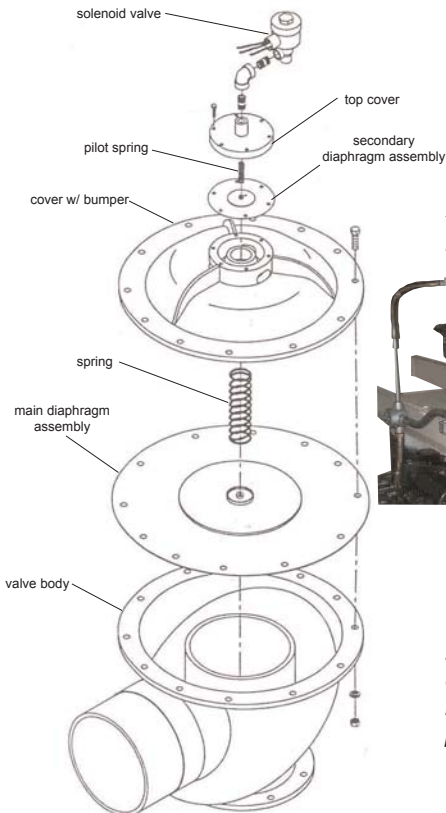


(left) Diaphragm and solenoid assembly.

Random Sequence Timer

The timer provides a completely random sequence. Adjacent or opposite bags are never cleaned simultaneously. This innovation reduces re-entrainment of dust to bags already cleaned – providing for a more efficient cleaning process.

(right) New AC digital microprocessor timer controls the pulse cycle for cleaning air system with new pressure gauge.





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