

**EAC12-14 AND EAC12-20
ELECTRONIC AIR CLEANER**

EAC12

Bulletin #210119

June 1997

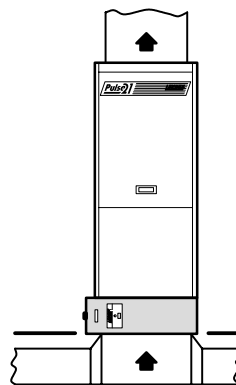
Supersedes #480113 July 1992



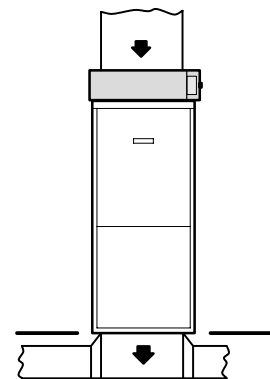
LISTED



The EAC12 electronic air cleaner is designed for installation in the return air side of a forced air heating or heating-cooling system. The versatile air cleaner is applicable to all types of central units — up-flow, lo-boy, horizontal or down-flow models and may be installed in a vertical or horizontal position adjacent to the unit or remote in the duct. Air cleaner is compact enough for easy installation yet rugged enough to support the weight of most up-flow furnaces. Equipped with two matched aluminum and stainless steel cells. Each lightweight cell is easy to handle making cleaning quick and simple. Integral air flow monitor automatically cycles unit on and off with system blower. Removable power supply/access door allows easy and quick access to cell area of air cleaner cabinet. The electronic air cleaner is many times more efficient in the removal of dirt, lint, pollen, etc. from the air than conventional mechanical air filters. The electronic air cleaner will remove up to 90% of all airborne particles passing through it as opposed to about 10% efficiency of the ordinary filter. The electronic air cleaner accomplishes this high degree of cleaning without excessive pressure drop. Air cleaners are rated according to ASHRAE Standard 52-76. Air cleaners are shipped completely factory assembled and wired.

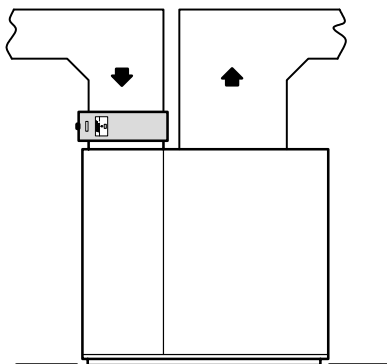


Up-Flo

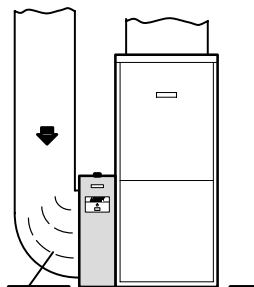


Down-Flo

NOTE — Due to flue location on down-flow furnaces, front of air cleaner (with controls and access panel) must be installed to side or rear of furnace cabinet. If installed in a confined space, service clearance may be restricted.

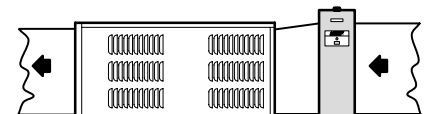


Lo-Boy



**Up-Flo
(Side Installation)**

NOTE — At sharp turns, turning vanes are recommended, installed before the air cleaner.



Horizontal

FEATURES

Application — Lennox recommends a 40° F to 85° F entering air temperature range limit for air cleaner installations. The air cleaner should not be installed in the supply air duct downstream from the heating source where high temperatures would be encountered. Nor should 100% outdoor air be permitted to pass through the air cleaner. Whenever possible the air cleaner should be installed upstream from the humidifier as high humidity drastically effects the efficiency of the air cleaner operation. Constant blower operation will achieve the best air cleaning results. This will result in temperatures remaining balanced throughout the conditioned area, and a continuous flow of dirt laden air to be cleaned by the air cleaner.

Warranty — Air cleaner has a two year limited warranty. Refer to complete statement of warranty included with unit.

Solid-State Power Supply/Access Door — Access door can be easily removed from the air cleaner for servicing as required. Equipped with "On-Off" switch with performance indicator light for easy check of unit operation. When the control switch is in the "On" position, light will glow indicating proper electrical operation. "Red" performance indicator light shows there is high voltage output to the collecting cells. If the light is not on when system blower is on and access door is securely in place, that could indicate that the access door is not secured, the cells need cleaning or that the power supply or the cells are defective and service is required. Integral solid-state air flow monitor switch automatically cycles the unit on/off with the system blower. "Snap-in" solid-state power supply is mounted internal to the access door and is easily removed for service. All high voltage components are self-enclosed for added protection. Electrical components are potted in dielectric epoxy resin to protect them from breakdown caused by heat and humidity. Service features include: built-in protection against arcing, short circuit or open circuit conditions, surge resistor to protect internal components, color coded wiring and push-on terminal connections.

Wiring Junction Box — Junction box is located on top of air cleaner. Electrical inlets are located on both sides and back. Box is constructed of heavy gauge steel.

Cabinet — Thin profile design allows installation in minimum space. Cabinet can be installed in vertical or horizontal position. One-piece cabinet is constructed of heavy gauge cold-rolled steel with a durable baked epoxy powder coating paint finish. Predrilled mounting holes and bendable tabs on each side of cabinet simplifies flush mounting to unit or duct work. When cells are inserted into the cabinet, connections are made securely and positively. Removal of power supply/access door automatically disconnects power to the cells eliminating the possibility of electrical shock when servicing. When selecting a location allow a minimum of 15 in. (381 mm) clearance in front of access door and 12 in. (305 mm) clear space above wiring junction box for service access.

Twin Collecting Cells — Long life tungsten wires carry high voltage DC to set up a solid ionizing screen which places a positive charge on all particles entering the cells. The particles then pass into the collection plate section where alternately charged plates attract and hold them until they are removed by cleaning. Dual cells are of lightweight aluminum and stainless steel construction. Cells are five inches deep with wide plate spacing to minimize arcing and provide greater dirt holding capacity. Spring loaded contacts between cells and power supply assure positive power connection. Glazed porcelain insulators are practically out of the air stream to prevent dirt build-up and make cleaning easier. Twin cells are lightweight and easily removed for cleaning.

Protective Dual Pre-Filters — Lightweight aluminum metal mesh serves as a protective screen in stopping large amounts of dust, animal hair, insects and lint from entering electronic cell, thereby preventing clogging and minimizing arcing. Pre-filters are easily removed for periodic cleaning. Pre-filters must always be installed upstream from the electronic cells.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Charcoal Filters (Optional) — Optional charcoal filters are available to filter out disagreeable odors such as cigarette and cigar smoke, cooking odors, etc. Charcoal filters are installed on the opposite side of the unit from the pre-filters for maximum efficiency. See Specifications table.

SPECIFICATIONS

Model No.	EAC12-14	EAC12-20
Electronic cell no. & size – in. (mm)	(2) 13 x 16 x 5 (330 x 406 x 127)	(2) 13 x 20 x 5 (330 x 508 x 127)
Cell weight	9 lbs. (4 kg) each	11 lbs (5 kg) each
Pre-filter no. & size – in. (mm)	(2) 13 x 16 x 5/16 (330 x 406 x 8)	(2) 13 x 20 x 5/16 (330 x 508 x 8)
Shipping weight – lbs. (kg) 1 pkg	44 (20)	48 (22)
Electrical characteristics	120v – 60 hertz – 1 phase	
Power consumption	40 watts maximum	
*Optional Charcoal Filters	69H98	72H09

*Two filters are required and furnished per catalog number.

AIR RESISTANCE

Air Volume		Total Resistance			
		EAC12-14		EAC12-20	
cfm	L/s	in. wg.	Pa	in. wg.	Pa
800	380	.02	5	----	----
1000	470	.05	12	----	----
1200	565	.07	17	----	----
1400	660	.09	22	.03	7
1600	755	.12	30	.05	12
1800	850	----	----	.07	17
2000	945	----	----	.08	20
2200	1040	----	----	.10	25

NOTE — Standard central system filter is removed and not included in table.

AIR CLEANING EFFICIENCY

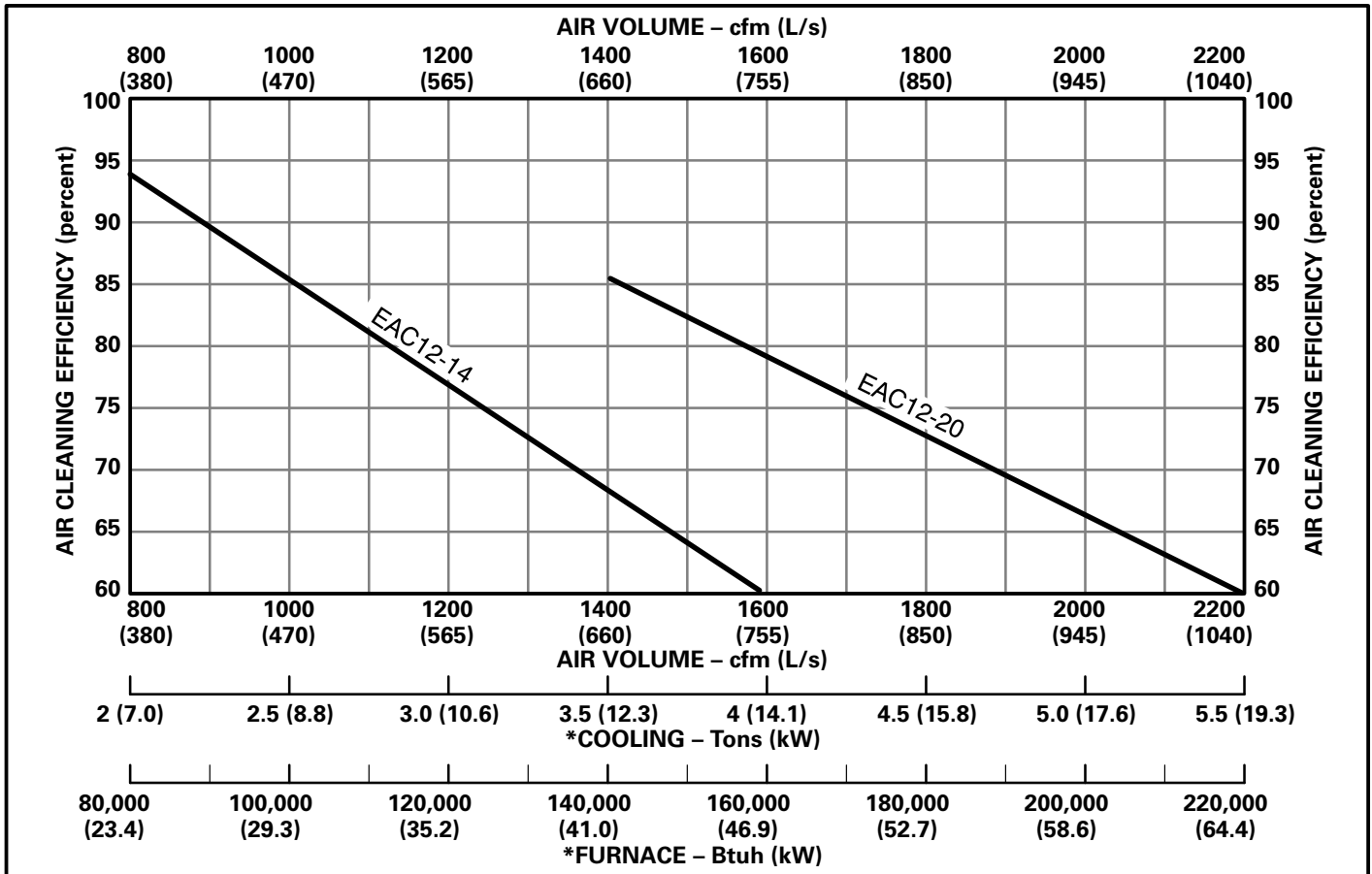
On the average, an electronic air cleaner will remove fifteen (15) times as much dust, dirt, lint and mold spores from the air as an ordinary furnace filter. And, on smaller particles, the percentage removed vs. standard filters is significantly greater.

An electronic air cleaner will remove airborne particles as small as 0.01 microns in diameter. The chart below lists sizes of common airborne particles trapped and removed from recirculated air by electronic air cleaners.

Types of Airborne Particles	Particle Size (*Microns)
Pollen	10.0 to 100.0
Tobacco Smoke	0.01 to 1.0
Cooking Smoke	0.02 to 1.0
Household Dust	0.01 to 300.0
Mold Spores	10.0 to 30.0
Atmospheric Dust	0.01 to 1.0
Insecticide Dust	0.40 to 10.0
Coal Dust (Soot)	1.0 to 100.0

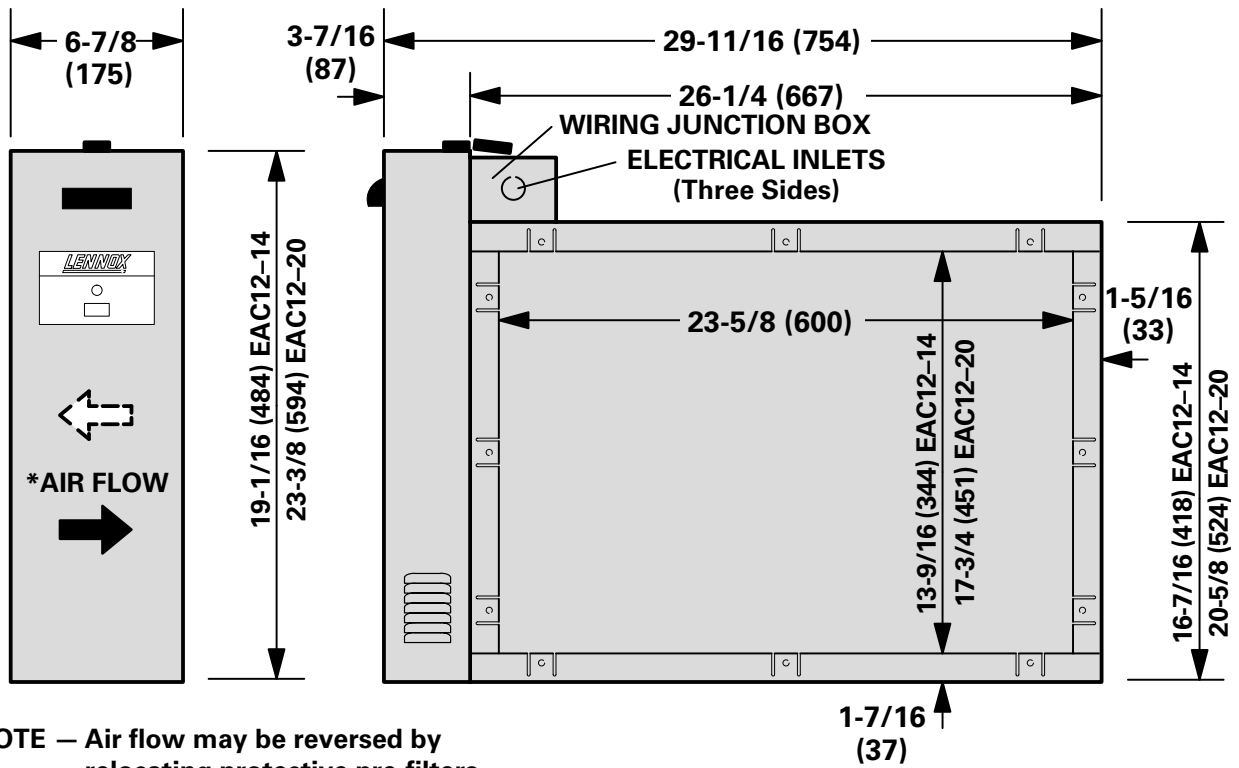
*One micron = 1/25,400th of an inch.
 Particles 10 microns and larger are visible to the naked eye.
 Particles 10 to 0.1 microns are visible with microscope.
 Particles below 0.1 microns are visible with electron microscope.

EFFICIENCY DATA



*Ratings based on methods prescribed by American Society of Heating, Refrigerating, and Air Conditioning Engineers – (ASHRAE) standard 52-76 using atmospheric air without the addition of artificial dust.

DIMENSIONS – inches (mm)



***NOTE** — Air flow may be reversed by relocating protective pre-filters and electronic cells.