



ENGINEERING DATA

INDOOR AIR QUALITY

PCO UNCASSED

DAVE LENNOX SIGNATURE™ COLLECTION

PureAir™ Air Purification System

For Installation in Existing

Lennox PMAC, Aprilaire® and Space-Gard® Filter Cabinets

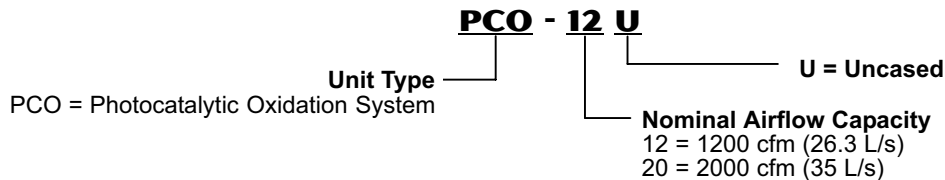
Bulletin No. 210375

September 2004

Supersedes February 2003



MODEL NUMBER IDENTIFICATION



FEATURES

CONTENTS

Dimensions Page 4

Features Pages 2-3

Filter Air Resistance Page 2

Filter Efficiency Page 3

Model Number Identification Page 1

Specifications Page 3

APPROVALS

ETL Listed

WARRANTY

All covered components have a limited warranty for five years in residential applications, one year in non-residential applications. Lamps, pleated filters and PCOU metal inserts are routine maintenance items and are not covered under the warranty. Refer to the Lennox Limited Warranty certificate included with the unit for additional details.

OPERATION

The UVA lights activate the catalyst on the PCO metal insert that captures and destroys chemicals as they flow through the system, turning them into carbon dioxide and water vapor. The system uses light, which reacts with a titanium dioxide-based chemical catalyst as air passes through it. The result is oxidation.

Contaminants are destroyed rather than transferred. No toxic chemicals are used.

Pollutants are adsorbed (accumulated gases, liquids, or solids on the surface of a solid or liquid) on the surface of the catalyst and oxidized to carbon dioxide (CO₂) and water (H₂O).

Small amounts of moisture are catalytically split into hydroxyl radicals (OH⁻) that oxidize chemicals on the surface of the catalyst.

Rather than just absorbing gaseous pollutants (as in carbon systems), PCO provides a reduction of absolute toxicity as the gaseous products from the complete photocatalytic oxidation of volatile organic compounds are carbon dioxide and water.

Visit us at www.lennox.com

For the latest technical information, www.davenet.com

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.

FEATURES

APPLICATIONS

Combines multiple air purification technologies into a single, state-of-the-art, air purifier.

Uncased model replaces Lennox PMAC, Aprilaire® and Space-Gard® air cleaner standard filter media. See Specifications table for usage.

Simply remove the existing filter media and door, slide the PCO uncased unit into the existing cabinet and connect furnished power cord. Install the furnished door/adaptor assembly on front of existing cabinet,

Door with view port (for verifying lamp operation) furnished.

The PureAir system operates with a MERV 8 filter, UVA lights, and a PCO metal insert that contains a catalyst for elimination of odors and chemicals.

Particles and bioaerosols are captured on the filter. The UVA lights activate the catalyst on the PCO metal insert that captures and destroys chemicals as they flow through the system turning them into carbon dioxide and water vapor.

Self-cleaning process does not reintroduce toxic, post-process residue into the air.

The toxicity of the treated air stream is reduced, allowing the photocatalytic reactor to operate as a self-cleaning filter relative to organic material on the catalyst surface.

Will remove a portion of Total Volatile Organic Compounds (TVOC), bioaerosols (dander, pollen, molds, spores, etc.), bacteria, and fungi.

The use of ultra-violet (UVA) radiation combined with a titanium dioxide catalytic surface has shown overall reduction of TVOC in the air.

Low maintenance cost.

No toxic chemicals.

No ozone is produced.

The PureAir system works by:

Filtration - media filter stops particles from passing through the filter.

Photocatalytic Oxidation - small amounts of moisture are catalytically split into hydroxyl radicals (OH-) that oxidize chemicals on the surface of the catalyst.

Must be installed in the return air duct, allow 30 in. (762 mm) service access in front of the unit. 120V power receptacle must be available.

Unit must stay on continuously (lamps are always on) for destruction of contaminants adsorbed on the catalyst surface and for extended lamp life. It is recommended that the thermostat be set to continuous fan mode.

COMPONENTS

PCO Metal Insert

Titanium dioxide coated PCO metal insert.

Insert is vacuum packaged.

PCO metal insert should be replaced every two years.

MERV 8 Pleated Filter

Disposable pleated MERV 8 filter (Minimum Efficiency Reporting Value based on ASHRAE 52.2).

Filter is packaged in vapor barrier material.

MERV (Minimum Efficiency Reporting Value) is a rating by ASHRAE that measures the removal of airborne contaminants.

The MERV rating of a filter describes the size of the holes in the filter that allow air to pass through. The higher the MERV rating, the smaller the holes in the filter providing enhanced filtration.

The dirtier the filter, the better the filtration, however, the filters need to be replaced every 6 months to prevent excess pressure drop and for maximum efficiency.

Particles and bioaerosols are captured on the filter.

Lamps

17 watt florescent, low power consumption, UVA output.

4 bulbs in PCO-12U, 6 bulbs in PCO-20U.

Recommended replacement every two years.

Electrical

Three-prong, detachable 6-foot (1.8 m) power cord for plug-in 120V electrical connection.

SAFETY FEATURES

Power cord must be completely removed from the front of the unit before the cover can be removed.

MAINTENANCE SUPPLIES - MUST BE ORDERED EXTRA

Replacement MERV 8 Pleated Air Filter

Recommended semi-annual replacement of the filter.

Replacement Lamp

Recommended two year replacement of the lamps.

Replacement PCO Metal Insert

Recommended two year replacement of the insert.

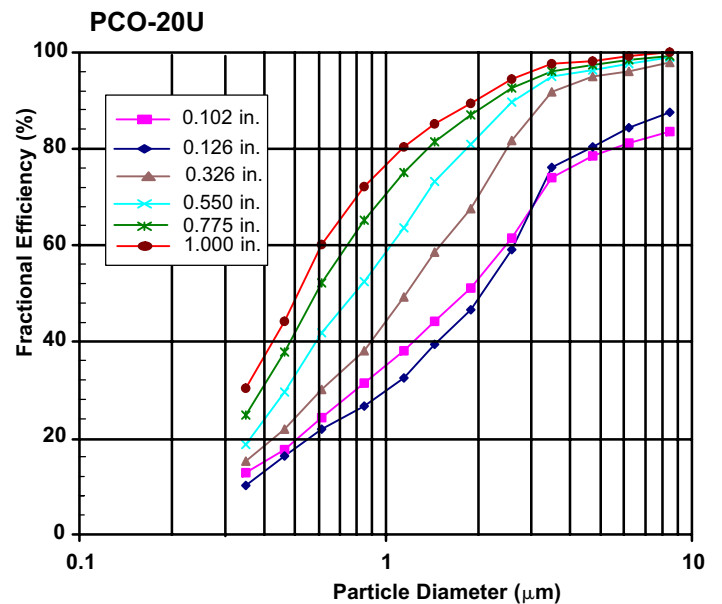
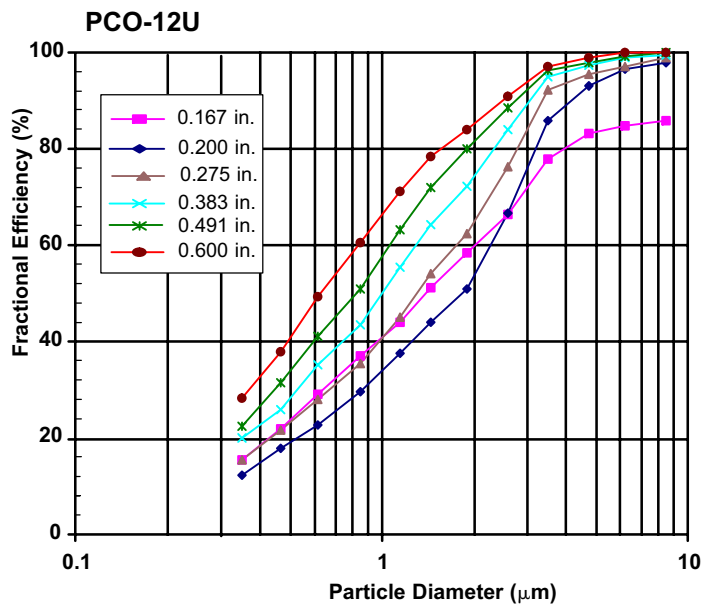
AIR RESISTANCE

Air Volume		PCO-12U		PCO-20U	
cfm	L/s	in. w.g.	Pa	in. w.g.	Pa
800	375	0.10	25	0.06	15
1000	470	0.15	37	0.10	25
1200	565	0.20	50	0.12	30
1400	660	Not Recommended		0.15	37
1600	755	Not Recommended		0.19	47
1800	850	Not Recommended		0.23	57
2000	945	Not Recommended		0.26	65

SPECIFICATIONS

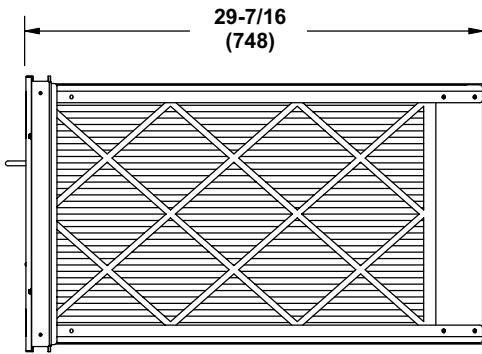
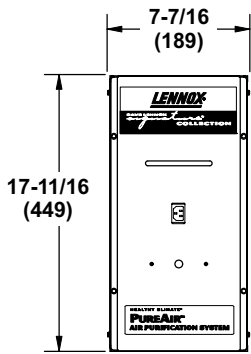
Model No.	PCO-12U	PCO-20U	
Replaces standard filter media in:	Lennox PMAC-12C Aprilaire® 2400 Space-Gard® 2400	Lennox PMAC-20C Aprilaire® 2200 Space-Gard® 2200	
Maximum air flow - cfm (L/s)	1200 (565)	2000 (945)	
Acetone destruction rate (rated destruction tested between 40 and 5 PPM of acetone)	1.6 mg/min.	3.0 mg/min.	
Number of lamps	4	6	
Weight Gain of Filter [at rated flow and end of filter life @ 0.30 in. wg (75Pa)]	46 g	11.6 g	
Shipping Weight - lbs. (kg)	40 (18)	50 (23)	
Electrical Data	120V - 1 phase - 60 hz	120V - 1 phase - 60 hz	
Power consumption	96 watts	144 watts	
MAINTENANCE SUPPLIES - MUST BE ORDERED EXTRA			
MERV 8 Pleated Filter	Catalog Number Size - H x D x W - in. (mm)	X1180 15-5/8 x 26 x 3 (397 x 660 x 76)	X1184 20 x 26 x 3 (508 x 660 x 76)
UVA Lamps	Catalog Number Number of lamps required	10M35 4	10M35 6
PCO Metal Insert	Catalog Number Size - H x D x W - in. (mm)	75X73 16-5/8 x 26 x 2 (422 x 660 x 51)	75X66 21 x 26 x 2 (533 x 660 x 51)

FILTER EFFICIENCY



DIMENSIONS - INCHES (MM)

PCO-12U



PCO-20U

