PCO3
Healthy Climate®
PureAir™ Air Purification System - 60 Hz

RESIDENTIAL
PRODUCT SPECIFICATIONS

MODEL NUMBER IDENTIFICATION

Unit Type
PCO = Photocatalytic Oxidation System

Generation
3 = 3rd Generation

14 - 16

PCO 3

MERV Filter Rating
16 = MERV 16

Nominal Airflow Capacity
14 = 1400 cfm
16 = 1600 cfm
20 = 2000 cfm
FEATURES HIGHLIGHTS

1. MERV 16 Carbon Clean 16® Media Air Filter
2. UVA Lamp
3. PureAir™ Cartridge
4. Heavy Gauge Steel Cabinet
5. Front Panel Access
6. Control Box Assembly

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APPROVALS AND WARRANTY

APPROVALS
• ETL safety listing report 3061144A
• Conforms to UL STD 1598
• Certified to CSA STD C22.2 no. 250.0

WARRANTY
• All covered components:
  • Limited five years warranty in residential applications
  • Limited one-year in non-residential applications

NOTE - The UVA Lamp / PureAir Cartridge, and pleated MERV 16 Carbon Clean 16® media filters are routine maintenance items and are not covered under the warranty.

NOTE - Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.
**OPERATION**

- Return air first passes through the MERV 16 Carbon Clean 16® media filter.
- The filter removes more than 95% of the particles and bioaerosols (dander, pollen, bacteria, molds, spores, etc.) as they flow through the PCO3.
- The filtered air then passes through the UVA Lamp / PureAir Cartridge.
- The UVA lamp activates the catalyst on the cartridge that captures and destroys odors and chemical vapors as they flow through the system.
- The adsorbed pollutants (accumulated gases, liquids, or solids) on the surface of the catalyst are oxidized to carbon dioxide and water.
- Rather than just absorbing gaseous pollutants (as in carbon systems), the PCO3 provides a reduction of absolute toxicity.
- Contaminants are destroyed rather than transferred.
- The PureAir Cartridge is self-cleaning with respect to the organic material adsorbed on the catalyst surface.
- No toxic chemicals are used in the PCO3.

**APPLICATIONS**

- The PureAir™ Air Purification System combines multiple air purification technologies into a single, state-of-the-art, air purifier.
- The system’s primary function is to improve the indoor air quality by:
  - **Filtration** - The MERV 16 Carbon Clean 16® media filter captures more than 95% of particles 0.3 microns and larger and more than 90% of particles 0.01 microns and larger.
  - **Photocatalytic Oxidation** - The UVA lamp activates the photocatalyst on the PureAir Cartridge that captures and destroys odors and chemical vapors as they flow through the PCO3.
- The system reduces the toxicity of the treated air stream.
- The PCO3 is a multi-position unit that can be installed in the return air side of all types of HVAC whole-house systems.
- The unit easily adapts to upflow, downflow or horizontal unit applications.
- No ozone is produced by the PCO3; in fact, ozone is reduced by the PCO3.
- Only requires annual maintenance.

**FEATURES**

- The PCO3 should be installed in a horizontal position with the access panel facing to the front or rear.
- The PCO3 must be connected to either a 120V or 230V power receptacle.
- If 230V power supply is used, an optional 230V power cord must be ordered separately.
- See Optional Accessories table.
- Unit must be powered continuously (the lamp is always on) for destruction of contaminants adsorbed on the catalyst surface and for extended lamp life.
- It is recommended that the air handler be set to run continuously, except during periods of high humidity (more than 50%).
- If used in conjunction with an optional UV germicidal light, the following guidelines must be followed:
  - When a germicidal light is used with the PCO3 in direct line of sight, maintain a minimum distance of 6 ft. from the PCO3.
  - If duct system has a 90° bend or turn in the duct between the PCO3 and germicidal light, a minimum distance of 3 ft. from the PCO should be maintained.
- NOTE - Refer to the Installation Instructions for additional information.

**COMPONENTS**

1. **MERV 16 Carbon Clean 16® Media Air Filter (1)**
   - Disposable pleated MERV 16 filter (Minimum Efficiency Reporting Value based on ASHRAE 52.2).
   - 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 annually to prevent excess pressure drop and for maximum efficiency.
   - More frequent filter changes may be required in situations with high dust or dirt loads.
   - Particles and bioaerosols are captured on the filter.
   - Recommended annual replacement.

2. **UVA Lamp / PureAir Cartridge**
   - 55 watt florescent, low power consumption, UVA output.
   - Recommended annual replacement.
   - Lamp is packaged separately for field installation.
   - Thumbscrews on lampholder allow quick and easy access for servicing.

3. **PureAir™ Cartridge**
   - Titanium dioxide coated.
   - Cartridge is packaged separately.
   - Recommended annual replacement.
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model No.</th>
<th>PCO3-14-16</th>
<th>PCO3-16-16</th>
<th>PCO3-20-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal airflow capacity - cfm</td>
<td>1400</td>
<td>1600</td>
<td>2000</td>
</tr>
<tr>
<td>Pressure drop (new unit) - in. w.g.</td>
<td>0.25</td>
<td>0.31</td>
<td>0.31</td>
</tr>
<tr>
<td>Pressure drop (end of recommended life) - in. w.g.</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
</tr>
<tr>
<td>Ethanol destruction rate - mg/min. (single pass rated flow destruction rate @ 500 µg/m³ ethanol)</td>
<td>2.5</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Number of lamps</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Filter size - H x D x W - in.</td>
<td>20 x 21 x 5</td>
<td>16 x 26 x 5</td>
<td>20 x 26 x 5</td>
</tr>
<tr>
<td>Filter life</td>
<td>Up to 12 months</td>
<td>Up to 12 months</td>
<td>Up to 12 months</td>
</tr>
<tr>
<td>Shipping Weight - lbs.</td>
<td>27</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>Electrical Data</td>
<td>120 Volt 58</td>
<td>120 Volt 58</td>
<td>120 Volt 58</td>
</tr>
<tr>
<td></td>
<td>1 230 Volt 58</td>
<td>1 230 Volt 58</td>
<td>1 230 Volt 58</td>
</tr>
</tbody>
</table>

### SAFETY FEATURES

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

### MAINTENANCE SUPPLIES - ORDER SEPARATELY

#### Annual Maintenance Kit
- A maintenance kit is available for the PCO3-14-16, PCO3-16-16 and PCO3-20-16.
- Each kit consists of:
  - Carbon Clean 16® (MERV 16) Media Air Filter (1)
  - Replacement UVA Lamp (1)
  - Replacement PureAir™ Cartridge (1)

#### MERV 16 Carbon Clean 16® Media Air Filter
- Recommended annual replacement of the filter.

### OPTIONAL ACCESSORIES - ORDER SEPARATELY

#### Power Cord for 230 Volt Operation
- Six foot power cord with NEMA 620P male plug on one end and IEC 320 receptacle on other end.
- Allows 230 volt operation without any additional modifications.

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1. Optional 230V power cord is required and must be ordered extra.
### AIR RESISTANCE

<table>
<thead>
<tr>
<th>Air Volume cfm</th>
<th>PCO3-14-16 in. w.g.</th>
<th>PCO3-16-16 in. w.g.</th>
<th>PCO3-20-16 in. w.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>0.05</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>600</td>
<td>0.07</td>
<td>0.07</td>
<td>0.06</td>
</tr>
<tr>
<td>800</td>
<td>0.11</td>
<td>0.11</td>
<td>0.08</td>
</tr>
<tr>
<td>1000</td>
<td>0.15</td>
<td>0.15</td>
<td>0.11</td>
</tr>
<tr>
<td>1200</td>
<td>0.20</td>
<td>0.20</td>
<td>0.15</td>
</tr>
<tr>
<td>1400</td>
<td>0.25</td>
<td>0.25</td>
<td>0.18</td>
</tr>
<tr>
<td>1600</td>
<td>- - -</td>
<td>0.31</td>
<td>0.22</td>
</tr>
<tr>
<td>1800</td>
<td>- - -</td>
<td>- - -</td>
<td>0.27</td>
</tr>
<tr>
<td>2000</td>
<td>- - -</td>
<td>- - -</td>
<td>0.31</td>
</tr>
</tbody>
</table>

### MINIMUM FILTER EFFICIENCY

<table>
<thead>
<tr>
<th>MERV Rating</th>
<th>E1 (0.3 to 1.0 microns)</th>
<th>E2 (1.0 to 3.0 microns)</th>
<th>E3 (3.0 to 10.0 microns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERV 16</td>
<td>95%</td>
<td>99%</td>
<td>99%</td>
</tr>
</tbody>
</table>

1 Values are based on lab tests conducted with conditions included in ASHRAE Standard 52.2.

### DIMENSIONS

**NOTE** - Air flow may be reversed by rotating the unit top for bottom.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
</tr>
<tr>
<td>PCO3-14-16</td>
<td>23-3/4</td>
<td>603</td>
<td>23</td>
<td>584</td>
<td>20-1/4</td>
</tr>
<tr>
<td>PCO3-16-16</td>
<td>26-1/2</td>
<td>673</td>
<td>25-3/4</td>
<td>654</td>
<td>23</td>
</tr>
<tr>
<td>PCO3-20-16</td>
<td>26-1/2</td>
<td>673</td>
<td>25-3/4</td>
<td>654</td>
<td>23</td>
</tr>
</tbody>
</table>
### CABINET MATCH-UPS - PCO3 WITH FURNACE / AIR HANDLER

ALSO SEE ILLUSTRATIONS ON NEXT PAGE FOR ADDITIONAL DETAILS

<table>
<thead>
<tr>
<th>Furnaces</th>
<th>Filter Cabinet</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PCO3-14-16</strong></td>
<td>PCO3-16-16</td>
<td>PCO3-20-16</td>
</tr>
<tr>
<td>“A” Width Furnace with Side Return Air</td>
<td>•</td>
<td>No duct transition required.</td>
</tr>
<tr>
<td>“A” Width Furnace with Bottom Return Air</td>
<td>•</td>
<td>28-1/2” x 3” side seal strip or duct transition needed.</td>
</tr>
<tr>
<td>“B” Width Furnace with Side Return Air</td>
<td>•</td>
<td>No duct transition required.</td>
</tr>
<tr>
<td>“B” Width Furnace with Bottom Return Air</td>
<td>•</td>
<td>No duct transition required.</td>
</tr>
<tr>
<td>“C” Width Furnace with Side Return Air (up to 4 ton)</td>
<td>•</td>
<td>No duct transition required, for high system static application use PCO3-20-16.</td>
</tr>
<tr>
<td>“C” Width Furnace with Side Return Air (5 ton)</td>
<td>•</td>
<td>Option 1 - No duct transition required, use Return Air Base (98M58). Option 2 - Overcut top edge of side return opening by 1 in. to make opening 15 in. x 23 in. (H x W).</td>
</tr>
<tr>
<td>“C” Width Furnace with Bottom Return Air</td>
<td>•</td>
<td>No duct transition required.</td>
</tr>
<tr>
<td>“D” Width Furnace with Side Return Air</td>
<td>•</td>
<td>Option 1 - No duct transition required, use Return Air Base (98M59). Option 2 - Overcut top edge of side return opening by 1 in. to make opening 15 in. x 23 in. (H x W).</td>
</tr>
<tr>
<td>“D” Width Furnace with Bottom Return Air</td>
<td>•</td>
<td>26-1/2” x 3 1/2” side seal strip or duct transition needed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air Handlers</th>
<th>PCO3-14-16</th>
<th>PCO3-16-16</th>
<th>PCO3-20-16</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Handler (W x D) - 18-1/2 x 22 in. CBA25UH(V)-018-024-030</td>
<td>•</td>
<td></td>
<td>22 x 2 in. side seal strip or duct transition needed.</td>
<td></td>
</tr>
<tr>
<td>Air Handler (W x D) - 21-1/2 x 22 in. CBA25UHV-036-042-048-060</td>
<td>•</td>
<td></td>
<td>No duct transition required.</td>
<td></td>
</tr>
<tr>
<td>Air Handler (W x D) - 21-1/4 x 20-5/8” CBA27UHE-018 CBA27UHE-024 CBA38MV-018/024</td>
<td>•</td>
<td></td>
<td>No duct transition required.</td>
<td></td>
</tr>
<tr>
<td>Air Handler (W x D) - 21-1/4 x 22-5/8” CBA27UHE-030 CBA27UHE-036 CBA38MV-030-036</td>
<td>•</td>
<td></td>
<td>No duct transition required.</td>
<td></td>
</tr>
<tr>
<td>Air Handler (W x D) - 21-1/4 x 24-5/8” CBA27UHE-042 CBA27UHE-048 CBA27UHE-060 CBA38MV-042-048-060</td>
<td>•</td>
<td></td>
<td>21” x 3” side seal strip or duct transition needed.</td>
<td></td>
</tr>
</tbody>
</table>
**UPFLOW FURNACE/AIR HANDLER**
(Bottom Return Air)

**DOWNFLOW FURNACE/AIR HANDLER**

**HORIZONTAL FURNACE/AIR HANDLER**

**UPFLOW FURNACE**
(Side Return Air – up to 4 ton)

**UPFLOW FURNACE**
(Option 1 – Side Return Air – 5 ton)
(With Optional RAB Return Air Base)

**UPFLOW FURNACE**
(Option 2 – Side Return Air – 5 ton)
(Modified Return Air Opening)

RETURN DUCT
SUPPLY DUCT
FURNACE OR
AIR HANDLER
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE OR
AIR HANDLER
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE OR
AIR HANDLER
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE OR
AIR HANDLER
PCO3

SUPPLY DUCT
DUCT TRANSITION
(Field Furnished)
RETURN DUCT
FURNACE OR
AIR HANDLER
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE
PCO3

RETURN DUCT
SUPPLY DUCT
FURNACE
PCO3

23 in.
15 in.
<table>
<thead>
<tr>
<th>Sections</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Furnace Match-Ups</td>
<td>Updated to include latest Air Handler models.</td>
</tr>
</tbody>
</table>

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.

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Contact us at 1-800-4-LENNOX

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