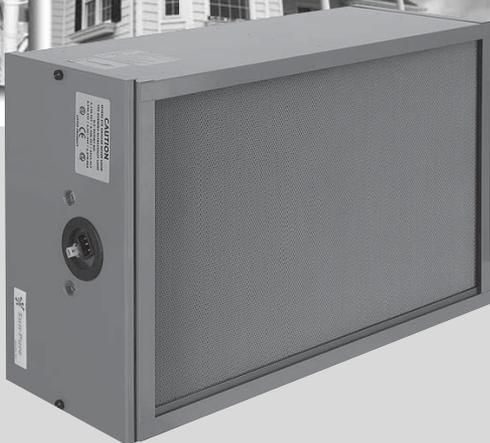




# *Installation & Maintenance Instructions*



## *CX3000GS Ducted Air Purifier*

# TABLE OF CONTENTS

	<u>PAGE</u>
INSTALLATION INSTRUCTIONS	
• BEFORE INSTALLATION	2
• INSTALLATION	2
• TYPICAL HORIZONTAL SYSTEM	4
• TYPICAL VERTICAL SYSTEM	4
• WIRING DIAGRAM	5
OPERATION	
• AIR PURIFICATION	6
• SAFETY INSTRUCTIONS	7
• COST OF OPERATION	7
• AIR CYCLES	7
PERFORMANCE DATA	
• AIRFLOW & RESISTANCE DATA	8
• PARTICLE SIZE EFFICIENCY GRAPH	8
• BACTERIA REDUCTION	9
• PARTICULATE FILTRATION	9
• PARTICLE REDUCTION	9
• REMOVAL EFFICIENCY OF TYPICAL ALLERGENS	9
• CARBON MONOXIDE REDUCTION	9
MAINTENANCE	
• SERVICE INTERVALS	10
• REPLACING LAMPS	10
• REPLACING FILTER	11
• RESETTING SERVICE LIGHTS	11
PRODUCT SPECIFICATIONS	
• SPECIFICATIONS	12
• REPLACEMENT PARTS	12
• PARTS LIST	13
LIMITED WARRANTY	

**READ AND SAVE THESE INSTRUCTIONS**

# INSTALLATION INSTRUCTIONS

## BEFORE INSTALLATION

1. Before installing the **CX3000GS Ducted Air Purifier**, inspect for any signs of damage.
2. During handling and installation, take care to protect the honeycomb core of the photo-catalytic module. The titanium-aluminum core is very fragile and easily damaged.
3. Do not install insulation within 3 inches (75 mm) of the ultraviolet UVC lamps.
4. Access for service is required when mounting the **CX3000GS** above ceilings or behind walls.
5. Do not install in such a manner that the interior photo-catalytic module may fall from an elevated position, and cause injury to people or equipment below.

## INSTALLATION

1. Unscrew the two locking knobs and remove the inner module from the outer case.
2. Take care not to bend or distort the outer metal enclosure.
3. Ensure the unit is positioned so that the inlet, or return, air enters the side containing the MERV-11 electrostatic filter. (Fig. 1)
4. Mount the outer case to the support plenum. CAUTION: Use a screw length that will not penetrate the inside module containing the photo-catalytic module and MERV-11 electrostatic filter. There is only 1/2 inch of clearance between the outer case and inner module.
5. In the event the foot print of the air handler is larger or smaller than the outer metal enclosure of the **CX3000GS** unit, suitable metal transitions should be fabricated from 18 ga. sheet metal. (Fig. 2)
6. Tape all seams between the air handler and the outlet side of the **CX3000GS** to ensure there can be no air bypassing the system.
7. Attach the air handler to the outlet side of the **CX3000GS** with #10 x 3/8 self-drilling sheet metal screws.
8. Slide the inner module into the outer case, and secure locking knobs finger tight only. Ensure the inner module can slide freely in and out of the outer case.
9. Plug the power cord into any 120 VAC outlet, and check both sight ports to ensure both lamps are illuminated. The ultraviolet lamps must remain on at all times.
10. Check the **CX3000GS** service panel. The LED service lights should flash in sequence for 15 seconds. The FILTER light should then turn flashing green, and the LAMP light a steady green.
11. Set the HVAC fan to operate for at least 30 minutes every hour. If air quality problems persist after one week, increase the fan operating time by 5 minute intervals, until suitable air quality is achieved.

# INSTALLATION INSTRUCTIONS

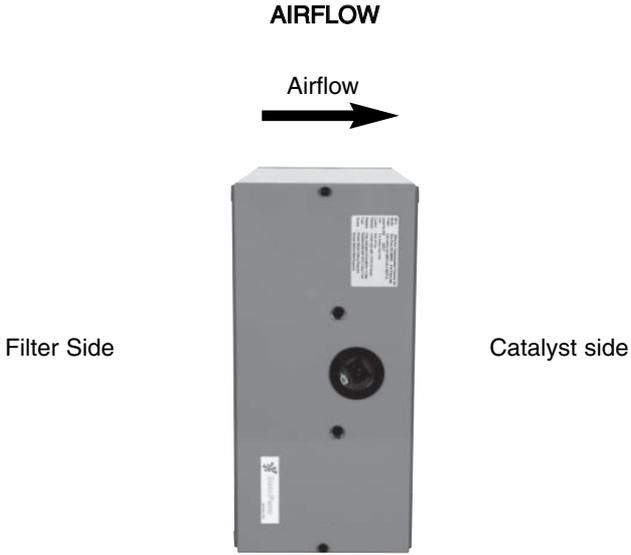


Fig. 1

## TRANSITIONS FOR IN-DUCT MOUNTING

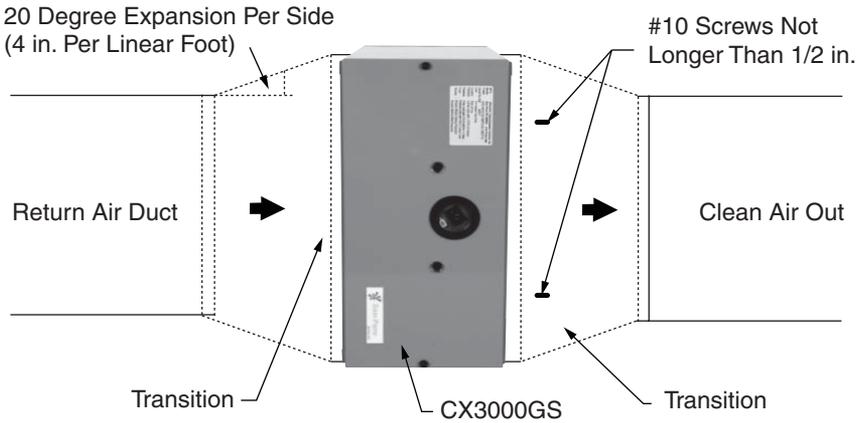
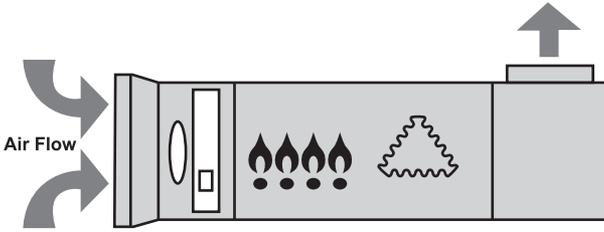


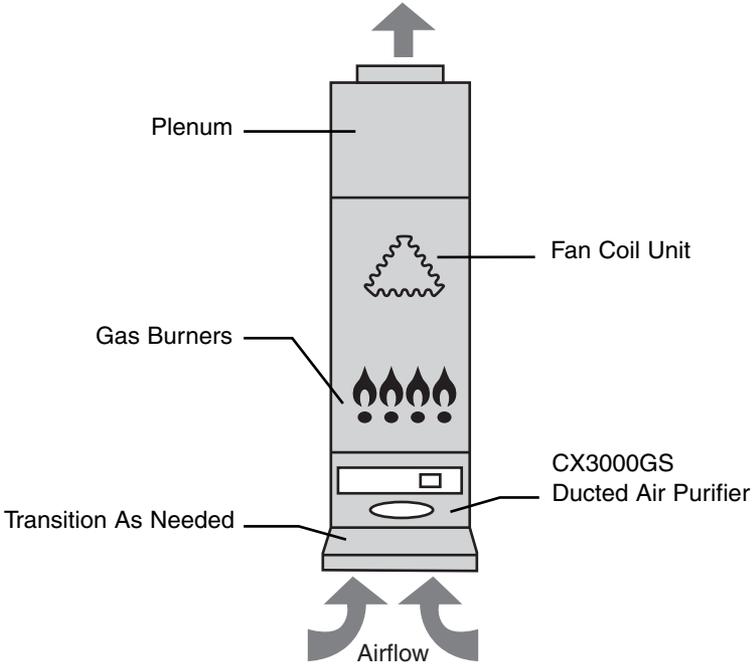
Fig. 2

# INSTALLATION INSTRUCTIONS

## TYPICAL HORIZONTAL SYSTEM

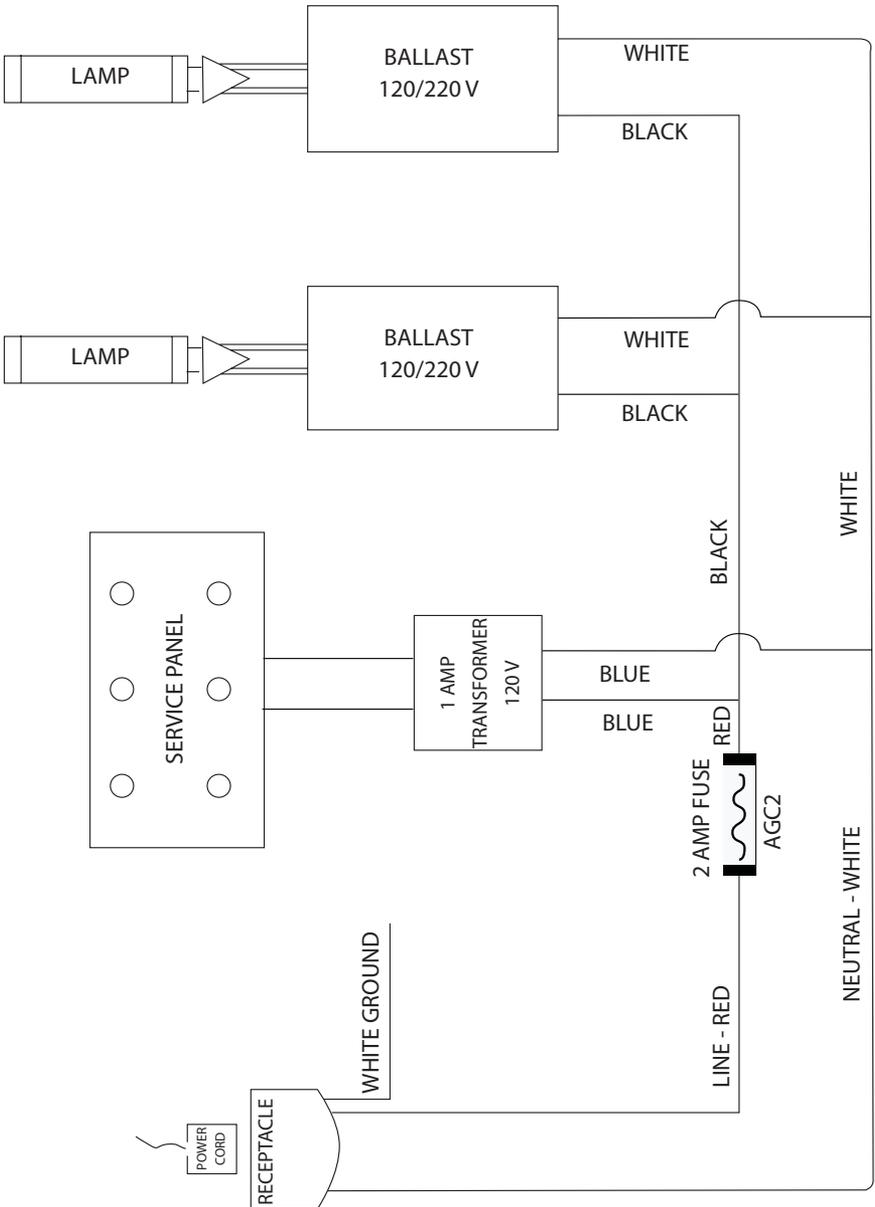


## TYPICAL VERTICAL SYSTEM



# INSTALLATION INSTRUCTIONS

## WIRING DIAGRAM



# OPERATION

## AIR PURIFICATION

The **CX3000GS Ducted Air Purifier** is designed to operate with any heating or air-conditioning system, up to five tons in size. It is rated for use at standard ambient air temperatures during heating and air-conditioning functions. It is not rated for operation at elevated air temperatures in excess of 125 F.

The **CX3000GS** uses a four-stage process to purify indoor air:

1. Electrostatic MERV-11 Filter - removes 0.3 micron allergens and dust
2. Reactive Catalyst - destroys VOC's, toxic chemicals and odors
3. UVC Germicidal Light - kills germs, viruses and bacteria on contact
4. Negative Ions and Activated Oxygen - keep air fresh and clean

Air purification and sterilization occur whenever the HVAC system fan is operating. The ultraviolet UVC lamps are always on. They continuously clean and reactivate the catalyst by burning off surface impurities during periods of non-use, or no airflow.

Do not attempt to clean the photo-catalytic honeycomb core with cleaning solutions.

It is recommended that the **CX3000GS** operate at least 30 minutes per hour, 24 hours per day, to remove toxic materials from an indoor environment. For individuals who may be sensitive to mold spores, dust mites or chemicals, or have respiratory problems such as asthma, emphysema and chronic allergies, the operating time should be extended to 40 minutes or more per hour. The actual time of operation depends on many factors, including the level of ambient pollution or pollen levels, and individual sensitivity to allergens.

It is recommended that a programmable thermostat be used. These can be set to provide continuous air circulation, and thus air purification, even when the HVAC system is not calling for heating or cooling.

In the event an existing thermostat does not have the capability to operate the fan independently, it is recommended that an AirCycler be installed. An AirCycler is a device that is wired in parallel with existing thermostat wiring, and can be programmed to turn on the HVAC system fan for any desired time interval. A built-in memory chip tracks the time that a fan operates every hour, and energizes the fan only if normal requirements for heating and air conditioning have not cycled the fan unit long enough to meet pre-determined air purification requirements.

An AirCycler may be purchased from the following sources:

- Your local HVAC wholesaler or contractor
- Shelter Supply, Lakeville, MN (1-800-762-8399)
- [www.AirCycler.com](http://www.AirCycler.com)

# OPERATION

## SAFETY INSTRUCTIONS

1. Never look into a burning ultraviolet lamp without proper eye protection, as severe eye damage may result.
2. Always unplug the power cord from the unit when changing the filter or ultraviolet UVC lamps.
3. Do not attempt to clean the photo-catalytic honeycomb core with cleaning solutions. The catalyst is constantly radiated by short wave ultraviolet UVC light during operation, and is self-cleaning.

## COST OF OPERATION

(Calculations are based on continuous operation, 24 hours per day, and an energy consumption of 32.25 kw-hrs per month)

<u>ELECTRICITY COST (per kw-hr)</u>	<u>MONTHLY COST</u>	<u>ANNUAL COST</u>
\$0.06	\$1.93	\$23.16
\$0.08	\$2.58	\$30.96
\$0.10	\$3.22	\$38.64

## AIR CYCLES

(Calculations are based on a floor area of 3,000 sq. ft.)

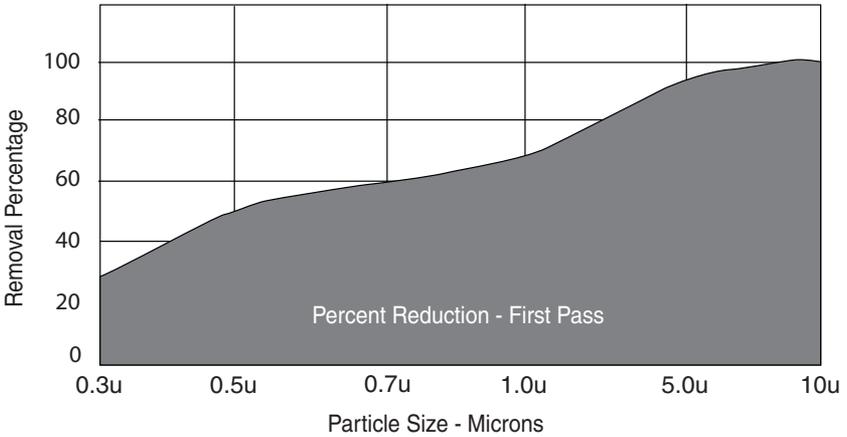
<u>FAN OPERATING PERIOD</u>	<u>AIR CYCLES PER HOUR</u>	<u>AIR CYCLES PER DAY</u>
10 minutes per hour	0.9	21
20 minutes per hour	1.8	42
30 minutes per hour	2.7	63
40 minutes per hour	3.6	84
50 minutes per hour	4.5	105
60 minutes per hour	5.4	126

# PERFORMANCE DATA

## AIRFLOW & RESISTANCE DATA

Airflow (cfm)	Resistance (in. wg)	Air Velocity (fpm)
1250	0.18	360
1500	0.20	432
1750	0.25	504
2000	0.35	576
2250	0.42	648
2500	0.55	720

## PARTICLE SIZE EFFICIENCY GRAPH



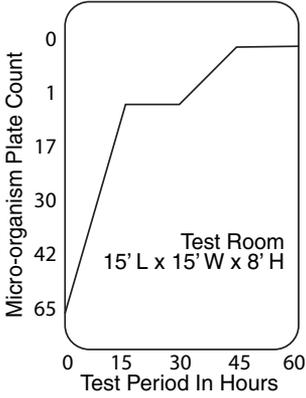
ELECTRICAL TESTING LABORATORIES  
UNITED STATES



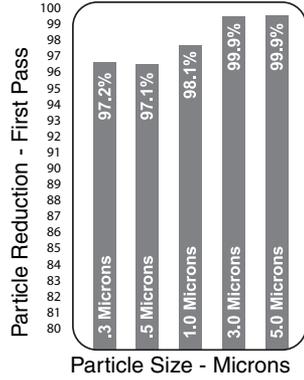
ELECTRICAL TESTING LABORATORIES  
CANADA

# PERFORMANCE DATA

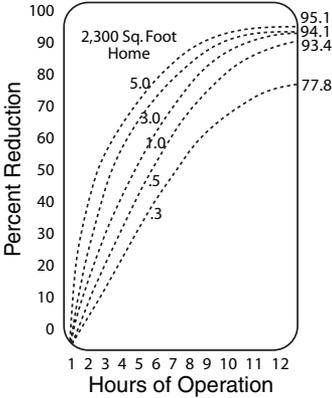
## BACTERIA REDUCTION



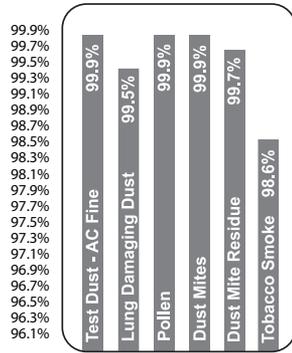
## PARTICULATE FILTRATION



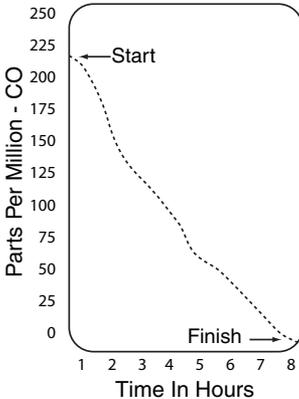
## PARTICLE REDUCTION



## REMOVAL EFFICIENCY OF TYPICAL ALLERGENS



## CARBON MONOXIDE REDUCTION



# MAINTENANCE

## SERVICE INTERVALS

The **CX3000GS Ducted Air Purifier** has a built-in computer to automatically keep track of service intervals. LED service lights change color, 30 days in advance of required service, to indicate when the MERV-11 electrostatic filter or ultraviolet UVC lamps need replacement.

- MERV-11 Electrostatic Filter
  - o Replace every 6 months
  - o LED service light turns from green to yellow after 5 months, and to red after 6 months
  
- Ultraviolet UVC Lamps
  - o Replace every 12 months
  - o LED service light turns from green to yellow after 11 months, and to red after 12 months

## REPLACING LAMPS

1. Unplug the power cord from the **CX3000GS** unit.
2. Unscrew the two locking knobs and remove the door. (Fig. 6)
3. Remove photo-catalytic module. (Fig. 3)
4. Unplug UVC lamps. (Fig. 4)
5. Loosen retaining knobs and remove old UVC lamps. (Fig. 5)
6. Install new UVC lamps, tightening only finger tight.
7. Tighten retaining knobs and reconnect plug ends.
8. Re-install photo-catalytic module and filter. Ensure that filter and photo-catalytic module are installed in proper airflow sequence.
9. Secure door.
10. Reconnect power cord.
11. Check both sight ports to ensure that both lamps are illuminated.



Fig. 3

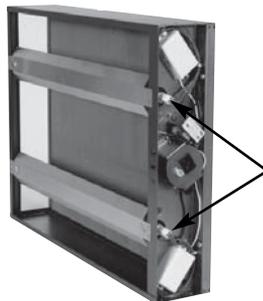


Fig. 4

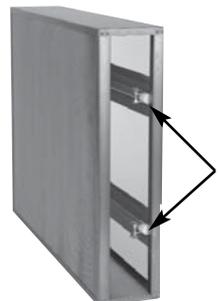


Fig. 5

# MAINTENANCE

## REPLACING FILTER

1. Unplug the power cord from the **CX3000GS** unit.
2. Unscrew the two locking knobs and remove the door. (Fig. 6)
3. Remove old filter and replace with new MERV-11 electrostatic filter. Ensure that airflow arrow on filter points to the inside of module. (Fig. 7)



Fig. 6



Fig. 7

## RESETTING SERVICE LIGHTS

On the right side of the service panel, there are arrows pointing to two small holes marked 'RESET'. (Fig. 8) One is for the FILTER service light, and the other is for the LAMP service light. The service lights may be reset by inserting the end of a paper clip into the corresponding hole, and pushing lightly until the service light returns to green.

## SERVICE PANEL

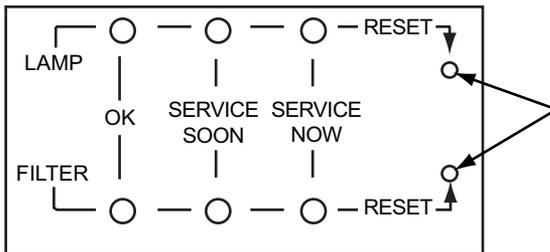


Fig. 8

# PRODUCT SPECIFICATIONS

## SPECIFICATIONS

Manufacturer:	Continental Fan Manufacturing Inc.
Model:	CX3000GS Ducted Air Purifier
Dimensions:	21" W x 25" H x 10" D
Weight:	26 lbs
Max Airflow:	2,170 cfm
Max Air Velocity:	625 fpm
Power Consumption:	45 watts
Voltage:	120V/60 Hz
Current:	0.6 amps
Fuse:	AGC-2
Capacity:	4.0 to 5.0 tons
UV Range:	254 nm (germicidal)
Lamps:	CX3000-RLGS - ultraviolet UVC lamps (2)
Filter:	CX3000-RFGS - MERV-11 electrostatic filter
Application:	3000 sq. ft.
Service Interval:	Lamps - 1 year Filter - 6 months
Catalyst:	Metal oxides (70 sq. ft.)

## REPLACEMENT PARTS

Replacement parts are available from the following sources:

- Your local HVAC wholesaler or contractor
- Continental Fan Manufacturing Inc., Buffalo, NY (1-800-779-4021)
- [www.continentalfan.com](http://www.continentalfan.com)

# PRODUCT SPECIFICATIONS

## PARTS LIST

PART NUMBER

DESCRIPTION

AL006

Photo-Catalytic Module (Honeycomb Core)



BL007

12 Volt Transformer



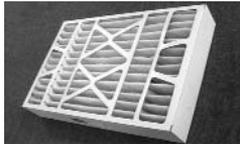
BL014

Electronic Lamp Ballast



CX3000-RFGS

MERV-11 Electrostatic Filter



CX3000-RLGS

Ultraviolet UVC Lamps (Set of 2)



CX3000-RFLGS

1 Year Replacement Parts Kit, comprising:

- (2) CX3000-RFGS
- (1) CX3000-RLGS

## LIMITED WARRANTY

Subject to the provisions of the clauses herein, Vendor agrees to correct any defect or defects in workmanship or materials which may develop under proper and normal use, by repair or by replacement of the defective part or equipment, at Vendor's option, FOB factory. Unless otherwise stated, the warranty period shall be one (1) year from date of shipment. The exceptions to this warranty period are:

CX Complete Air Purification Systems - Two (2) years

This warranty is provided to the original Buyer, and may not be transferred, sold or bartered. Motors, drives, electrical controls and other components manufactured for Vendor by others are not covered by these warranty provisions. All warranty claims must be processed through point of purchase. All warranty repair work must be performed either at the factory or by a factory certified service center. For additional information regarding warranties, see Vendor document: Limited Warranty-0909.

**USA**

[www.continentalfan.com](http://www.continentalfan.com)

**Continental Fan Manufacturing Inc.**

203 Eggert Road

Buffalo, New York 14215

Tel: (800) 779 4021 Fax: (716) 842 0611

**Canada**

[www.aeroflo.com](http://www.aeroflo.com)

**Aeroflo Inc.**

12-205 Matheson Blvd. East

Mississauga, Ontario L4Z 3E3

Tel: (905) 890 6192 Fax: (905) 890 6193