



**TECHNICAL MANUAL
FOR
INSTALLATION, OPERATION
AND MAINTENANCE
OF
THE GAYLORD "ClearAir™"
MODEL "OCU-FF" SERIES
POLLUTION CONTROL UNITS**

WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment. Only trained and qualified service personnel should install or service this equipment.

GAYLORD INDUSTRIES

10900 S.W. AVERY STREET • TUALATIN, OR 97062 USA
PHONE: 503-691-2010 • TOLL FREE: 800-547-9696 • FAX: 503-692-6048
email: info@gaylordusa.com • www.gaylordusa.com



"Undisputed World Leader in
Engineered Systems for
Commercial Kitchens"™

GAYLORD INDUSTRIES

World Headquarters: 10900 S.W. Avery Street • Tualatin, Oregon 97062 U.S.A.

To Our Customers . .

Congratulations on your recent purchase of a Gaylord ClearAir™ Pollution Control Unit. We are proud to be able to provide you with a quality product that exemplifies our long-standing dedication to quality engineering.

Your unit is assembled from some of the very finest components available and is designed for years of efficient, effective, and trouble-free operation. In addition, this unit has undergone rigorous quality control inspections and was fully operationally tested prior to shipment.

If you have further questions, please contact us toll free at 1-800-547-9696, or info@gaylordusa.com. We are more than happy to help.

Sincerely,

Gaylord Industries

STREET ADDRESS: 10900 SW. Avery Street, Tualatin, Oregon 97062-8549 U.S.A.

PHONE: 503-691-2010 • 800-547-9696 • **FAX:** 503-692-6048 • **email:** info@gaylordusa.com • www.gaylordusa.com

COMMERCIAL KITCHEN EXHAUST SYSTEMS • FIRE PROTECTION • HEAT RECLAIM • UTILITY DISTRIBUTION • ROOF TOP UNITS • POLLUTION CONTROL • AIR HANDLING UNITS

**TECHNICAL MANUAL
FOR
INSTALLATION, OPERATION
AND MAINTENANCE**

OF

**THE GAYLORD “ClearAir™”
MODEL “OCU-FF” SERIES
POLLUTION CONTROL UNITS**

Published by:

GAYLORD INDUSTRIES
Tualatin, Oregon 97062
U.S.A.

First Printing: July 2010

© Copyright 2010, Gaylord Industries

ALL RIGHTS RESERVED. NO PART OF THIS BOOK MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM BY AN ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING MEANS OR OTHERWISE WITHOUT THE WRITTEN PERMISSION OF GAYLORD INDUSTRIES. COPYRIGHT 2010.

The manufacturer reserves the right to modify the materials and specifications resulting from a continuing program of product improvement or the availability of new materials.

Additional Copies \$15.00

The Gaylord ClearAir™ Unit is designed and engineered by
GAYLORD INDUSTRIES
10900 S.W. Avery Street, Tualatin, Oregon 97062

TABLE OF CONTENTS

RECEIVING & INSTALLATION	5
EQUIPMENT LIFTING PROCEDURE	6
MEDIA BED ODOR CONTROL SECTION	7
WARRANTY	Inside back cover

RECEIVING & INSTALLATION

RECEIVING

Most ClearAir™ units are shipped in one piece. However, some units, because of size or special jobsite conditions, may be shipped in multiple sections. Follow the instructions that are provided with the unit to join sections back together. If the unit includes media bed odor control, the KOR48/carbon odor control media is packaged separately. Verify against the shipping documents that you have received all items and note any shipping damage, obvious or hidden, to your carrier and on your Bill of Lading. If damage is found, immediately file a claim with the transport company. All units are thoroughly inspected and fully operation tested at the factory prior to shipment.

Verify that the electrical and air flow ratings on the unit name plate agrees with jobsite requirements. If a contradiction arises notify the factory prior to proceeding with installation.

SAFETY CONSIDERATIONS

Installing and servicing the ClearAir™ unit can be hazardous due to the presence of electrical components. Only trained and qualified service personnel should install or service this equipment.

Untrained personnel can perform basic maintenance, such as cleaning and replacing filters. All other operations should be performed by trained service personnel. When installing or servicing, observe precautions in literature and on tags and labels attached to unit.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly.

WARNING

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Electrical shock can cause personal injury or death.

RIGGING

All units are provided with a minimum of four (4) lifting points for rigging attachment. **WARNING:** Use all lifting points provided. (Refer to Page 12) Spreader bars are mandatory to prevent contact and damage to the unit by lifting hooks, straps, cables, or chains. Consult the mechanical or structural engineer before moving the unit across the roof deck.

INSTALLATION CODES

This unit requires external plumbing and electrical connections to be made in the field. It is recommended that the Authority Having Jurisdiction (AHJ) be consulted regarding local codes and installation procedures. Gaylord Industries is not responsible for obtaining necessary approvals and permits which may be required for installation, nor is it responsible for verifying that the unit has been installed in accordance with national, state, and local codes. In the absence of locally adopted codes use the latest editions of the national electrical code and the uniform mechanical code. Connections of the exhaust duct to the inlet and outlet of the ClearAir™ unit must be fully welded to comply with NFPA-96.

INSTALLATION PRECAUTIONS

1. The services of qualified contractors are essential for safe and proper installation of this equipment.
2. The air volumes and external static pressures that are listed on the unit are for the middle of the operating range of the filters. The initial air volume should be at least 10% higher than the listed CFM. As the filters load up the air volume will drop. This is inherent to this type of unit. If the unit is set up at or below the design CFM, as the filters load up, the kitchen hood may experience smoke loss problems. Please consult the factory if you have questions.
3. The unit is designed for installation on a level surface.
4. When installed in an enclosed space a fire rated enclosure may be required for the unit and associated duct work. Consult the Authority Having Jurisdiction.
5. Consult the Authority Having Jurisdiction regarding requirements covering the point of termination of the exhaust outlet of this unit. Minimum distances must usually be maintained between the exhaust outlet and any outside air intakes and/or adjacent structures or property lines.
6. Do not apply power to the unit until all electrical connections have been made and a pre-start-up preliminary inspection has been completed.
7. Allow a minimum of 36 inches clearance in front of the filter access door and electrical compartment door for service and routine maintenance.

SHORT TERM STORAGE

Units that include media bed odor control are provided with KOR48/carbon media which is shipped separate from the unit. KOR48/carbon media must be stored in a dry place with less than 95% relative humidity.

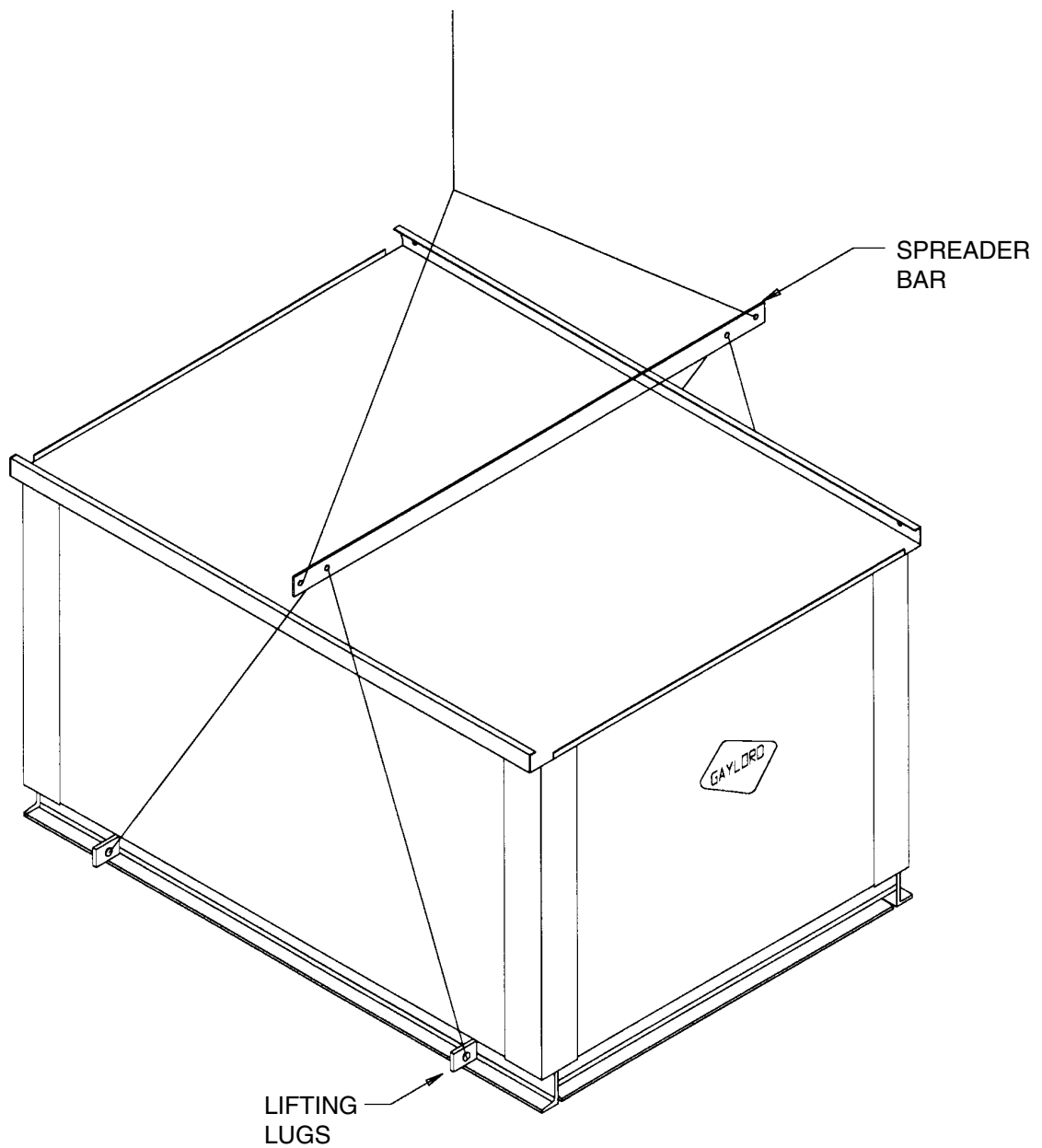
LONG TERM STORAGE (OVER ONE MONTH)

If the unit is equipped with an exhaust fan it must be relubricated as soon as it arrives. To prevent corrosion all bearings should receive grease and be rotated the first of every month. Turn the wheel by hand while greasing bearings. A clean 1/16" bead of grease must appear on each side of each bearing. Refer to specific bearing lubricating instructions on the fan. Also, refer to bearing lubricating instructions found in the exhaust fan section of this manual.

Bearings which are to be stored or idle for an extended period of time should be wrapped in a neutral grease-proof paper, foil, or plastic film. Compounds can be recommended by the bearing manufacturer to provide protection for several months to several years.

After long-term storage, grease should be purged .

EQUIPMENT LIFTING PROCEDURE

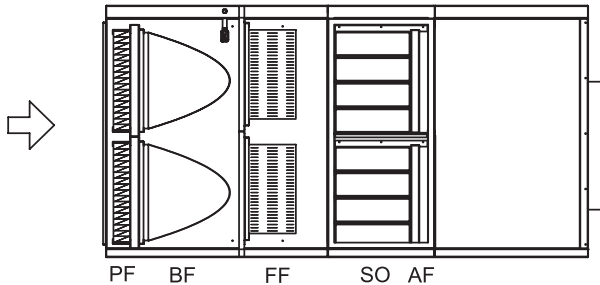


1. All units are provided with a minimum of four lifting points for rigging attachment. All lifting points must be used.
2. Spreader bars are mandatory to prevent contact and damage to the unit by lifting hooks, straps, cables or chains.

ODOR CONTROL SECTION – MEDIA BED TYPE

General Description

ClearAir™ units that include media bed odor control have an “SO” suffix for single pass and “DO” suffix for double pass odor control in the model number. Refer to the nameplate on the unit (see page 20 for sample). As shown in the illustration below, the odor control section consists of two major components: Odor control media and 30% after filters.



Odor Control Media (bed type)

The odor control media furnished with your Gaylord ClearAir™ unit is a product trade named KOR48/Carbon Blend and manufactured by Cameron/Great Lakes, Inc. of Portland, Oregon. KOR48/Carbon Blend is made from a unique 50% aluminosilicate compound impregnated with 6% potassium permanganate and 50% activated carbon or 100% activated carbon.

The granules are approximately .10 inch in diameter and are poured into metal modules (see page 16) which slide into racks in the odor control section of the unit. As the air is drawn through the modules, the KOR48 the media oxidizes the lighter odor molecules and chemically changes them into harmless solids which remain in the media and the carbon absorbs the heavier odor molecules. This combination provides very effective odor control. The 100% carbon is lower cost alternative that must have fire suppression system installed to protect it as it is flammable. This material absorbs odor and will gradually decrease in effectiveness until it starts to release the odors it has absorbed.

The life of the odor control media is dependent upon several factors such as the type of odor, amount of odor molecules, grease loading and air temperature. KOR48 media has a flat efficiency curve - meaning that the efficiency, or

effectiveness, stays constant until the media has expended and then the efficiency drops off rapidly. The carbon portion of the media’s efficiency drops continually during its life. Thus a regular schedule of change out needs to be established and followed.

Filters

Smoke control filters in the odor control section of the system requires the replacement prior to them becoming loaded. It is recommended that the filters be inspected in accordance with the “Odor Control Media Inspection Frequency Chart” on this page, and replaced if necessary. The following chart provides data for ordering filters.

Service and Maintenance

The KOR48/ carbon media is deep purple in color when new, turning to a dark brown during use and light tan when expended. Carbon media is black at the time of delivery. It is recommended that both medias be checked in accordance with the table below.

The ClearAir™ unit incorporates an “Odor Control Media Monitoring Tube” to facilitate inspection (refer to page 16). Using an open end wrench, turn the tube nut counter clockwise and remove the monitoring tube assembly. If the KOR48/ Carbon media is dark brown, break a granule open and if the inside is light tan there is very little life left and it should be replaced. If the outside of the granules are light tan the media is completely expended and must be replaced. If you are unable to determine the status send a small sample (one teaspoon) to Cameron Great Lakes noting the date of installation. They will conduct a life test and advise the results by fax or phone within 2 days of receipt. For further details contact Cameron Great Lakes .

Cameron Great Lakes

2335 NW 29th
Portland, OR 97210
800-777-4044
630-377-0711

The label next to the monitoring tube includes an area where the date of initial fill and the date of inspection can be filled in with a grease pencil.

ODOR CONTROL MEDIA INSPECTION FREQUENCY CHART

TYPE OF COOKING EQUIPMENT	FREQUENCY IN DAYS
LIGHT DUTY	120
Ovens, steamers, and kettles	
MEDIUM DUTY	90
Braising pans/Tilting skillets, fryers, griddles, grooved griddles, open burner ranges, hot top ranges, and conveyor ovens	
HEAVY DUTY	60
Gas and electric char broilers, upright broilers, woks and conveyor broilers	
EXTRA HEAVY DUTY	30
Solid fuel broilers	

ODOR CONTROL MEDIA MONITORING TUBE
(USE GREASE PENCIL)
LAST REFILL

DATE _____ INITIAL _____

LAST INSPECTION

DATE _____ INITIAL _____

FORM NO. OCMM 797

ODOR CONTROL SECTION – MEDIA BED TYPE

Replacing the Media

There are two methods of replacing the media, the Advancing Program or Site Refill.

Advancing Program - This is a program offered by Cameron/Great Lakes, Inc. where they will ship recycled pre-filled modules in exchange for used modules. The pre-filled modules are shipped two to a box, box size 25" x 25" x 13", which weigh approximately 90 lbs. The boxes are palletized, 36 to a pallet, and are shrink wrapped. Three primary advantages of the "Advancing Program" are: 1) virtually no requirement for storage except for the short period of time needed to switch the new modules for the expended ones 2) minimizes unit down time and 3) avoids filling on site.

To participate in the "Advancing Program" proceed as follows:

1. Contact the local Cameron/Great Lakes distributor and order the number of modules required.
2. Upon receipt, remove the depleted modules and replace with the new modules.
3. Empty the media from the depleted modules into containers for disposal.
4. Pack the empty used modules into the boxes the new ones came in and ship back to the distributor.
5. Fill the media monitoring tube with new media and mark the date on the monitoring tube label.

Site Refill - Site refill involves the purchase and storage of new media, emptying and refilling the modules and disposing of the spent media. New media may be purchased from your local Cameron Great Lakes distributor. For the name and phone number of the local distributor call Cameron/Great Lakes.

New media comes in standard five gallon buckets which weigh 40 lbs each. One bucket will refill approximately 1.33 modules. It is recommended that new media is purchased no more than 2 weeks in advance of its use. The buckets should be protected against physical damage as KOR48/carbon will begin to oxidize any odor molecule when exposed to atmosphere. The buckets should be stored in a cool dry area.

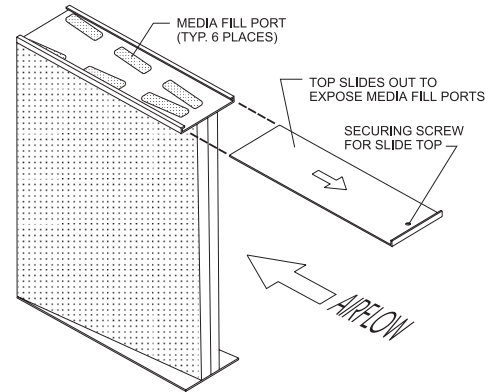
Removing the Modules

Caution - each module weighs approximately 30 lbs. and may be awkward to handle particularly in the upper racks. It is highly recommended that a heavy duty steel wheeled ladder be used when removing the upper modules.

Caution - Exhaust fan must be off before opening the odor control media access door

Refilling the modules is a relatively simple task not requiring any special tools. Follow steps 1-11:

- Step 1. Set the module on end so the securing screw is on top.
- Step 2. Remove the securing screw and slide the cover plate off.



Step 3. Place the filling jig over opening.

Step 4. Pour the media into the module.

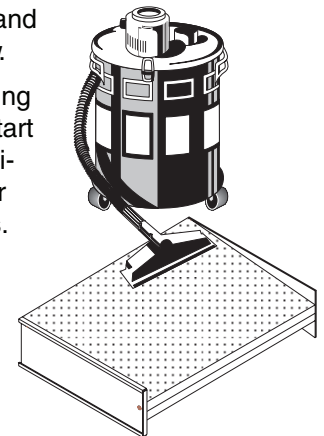
Step 5. To eliminate voids, shake or vibrate the module to ensure that the media settles.

Step 6. Continue adding media until module is full.

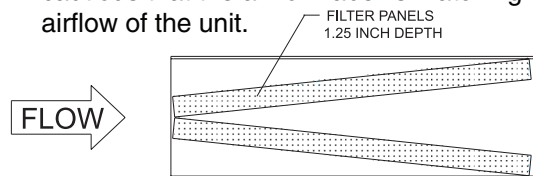
Caution: Do not overfill as it may cause the sides to bulge.

Step 7. Replace cover plate and install securing screw.

Step 8. Optional - some dusting may occur on initial start up of the unit. To minimize this, vacuum or blow out the modules.

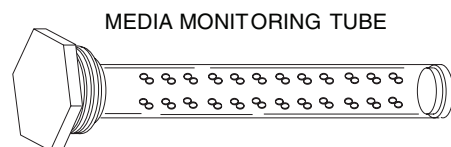


Step 9. Slide the modules back into the rack being cautious that the airflow label is matching the airflow of the unit.



Step 10. Close the odor control media access door.

Step 11. Pour new media into the media monitoring tube and re-install. Record the date on the label.



LIMITED WARRANTY

THE GAYLORD ClearAir™ POLLUTION CONTROL UNIT

LIMITED WARRANTY

The Gaylord ClearAir™ Pollution Control Unit is warranted by GAYLORD INDUSTRIES to be free from defects of material and workmanship under normal use when installed, operated and serviced in accordance with factory recommendations.

GAYLORD INDUSTRIES' obligation under this warranty shall be limited to repairing or replacing at its option any part of said equipment which GAYLORD INDUSTRIES' examination shall disclose to its satisfaction to be thus defective, for a period of one (1) year from the date of installation provided proper and acceptable evidence of such installation is recorded at the factory or 18 months from date of shipment whichever occurs first.

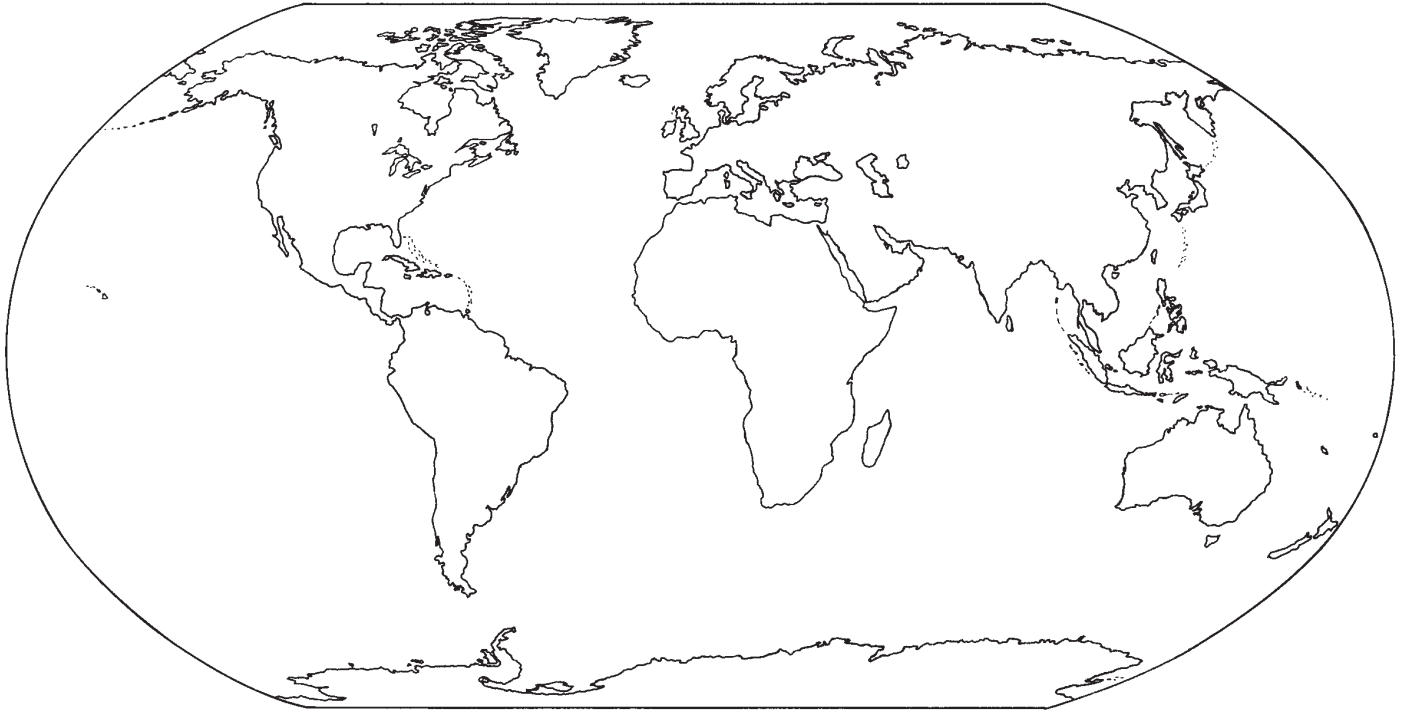
GAYLORD INDUSTRIES SHALL NOT BE RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM A BREACH OF THIS WARRANTY.

All replacement parts furnished under this warranty shall be F.O.B. Gaylord Industries of Tualatin, Oregon. The owner shall pay the necessary freight delivery charges, and necessary labor for removal and installation of parts, and any federal, state or local taxes.

SPECIFIC ITEMS NOT COVERED BY THIS WARRANTY:

1. Fan belts if equipped with an exhaust fan.
2. Pre filters, bag filters, final filters, after filters, and KOR48/carbon media if equipped with odor control.
3. Routine maintenance and cleaning as spelled out in The Gaylord ClearAir™ Model OCU-FF Series Unit Technical Manual.
4. Malfunction or improper operation caused by fluctuating electrical or power surges or improper installation.

This is the sole warranty with respect to the aforesaid items. NEITHER GAYLORD INDUSTRIES OR ANY OTHER PARTY MAKES ANY OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID OBLIGATIONS ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS AGREEMENT



WORLDWIDE SALES, MANUFACTURING AND SERVICE
FOR THE NAME AND LOCATION OF THE NEAREST
CERTIFIED SERVICE AGENCY, VISIT OUR WEB SITE:

WWW.GAYLORDUSA.COM

OR CONTACT US AT:

GAYLORD INDUSTRIES

10900 S.W. AVERY STREET
TUALATIN, OREGON 97062 U.S.A

Phone: 503-691-2010

1-800-547-9696

Fax: 503-692-6048

email: info@gaylordusa.com

LOCAL SERVICE AGENCY