

# Industrial LGR Dehumidifier Operating Instructions

**Model: VG LGR 3000**



# Read and save these instructions.

This instruction manual provides important information concerning the use and care of the B-Air Vantage LGR 3000 Commercial Dehumidifier – Model VG LGR 3000. Please read and follow these instructions in order to ensure the safe operation and maximum performance of your unit.

For any questions relating to the use and operation of the unit, please contact: 877.800.2247 or email [info@b-air.com](mailto:info@b-air.com)



**Plug into a grounded 3 prong outlet.  
Do not remove ground prong.  
Do not use an adaptor.  
Use of an extension cord is not recommended (see electrical safety section below)\*.  
Failure to follow these instructions can result in death, fire, or electrical shock.**

## Electrical Requirements

For 115V, 60Hz operation, a common grounded outlet on a 15 amp circuit is required. The dehumidifier draws approximately 12 amps at 80°F, 60% RH. If used in a wet area, a ground fault interrupter (GFI) is required.

## Built in Electrical Safety

For your safety and protection, this machine is manufactured with a grounded plug on its power cord. The power cord must be plugged into a properly grounded receptacle. If a grounded receptacle does not exist, have one installed by a certified electrician. Do not cut or remove the grounding prong on the power cord plug. We recommend that this electrical circuit/receptacle operate under a separate breaker or fuse.

\*If use of an extension cord is unavoidable, it must have a minimum of 12 AWG conductors if it is 25 feet long or less and 10 AWG conductors if it is greater than 25 feet long.

## Water Removal

The dehumidifier is equipped with an internal condensate pump to remove the water that is collected from the air. This allows the water to be pumped 25 feet with the attached hose. If the water needs to be pumped more than 20 feet above the unit, a second pump must be added to relay the water. The condensate pump automatically purges when the reservoir is full. For emptying of the condensate pump for storage see STORAGE section of this manual.

## REQUIREMENTS FOR SAFE OPERATION

Never allow unauthorized individuals or children to operate the unit at any time.

It is recommended that anyone operating the VG LGR 3000 wear the proper personal protective equipment and follow safe work practices in accordance with federal, state, provincial and employer regulations.

Check condition of power cord(s) before using them. Damaged cords can cause fatal electric shock and/or equipment damage.

Power cord(s) should never be exposed to water, heat, sharp, or abrasive objects; in addition, they should never be kinked or crushed. Avoid tightly wrapping the cords to prevent kinking of the internal wires. Always replace damaged power cords immediately.

Never pull the unit by the power cord.

Avoid running over power cords with utility equipment and vehicles.

**CAUTION: As with any piece of electrical equipment, always make sure that the unit is turned “OFF” prior to disconnecting it from an electrical outlet. Failure to do so will cause “arcing”, and could result in personal injury, fire hazards and/or damage to the unit. Do not disconnect the power cord from supply receptacle while the unit is operating.**

**WARNING: To reduce risk of electrical shock, do not expose this unit to water or rain – it is certified for INDOOR USE ONLY. Do not touch the electrical outlet or power cord(s) with wet hands or while standing on a wet or damp surface.**

**WARNING: Risk of electrical shock, or contact with moving parts leading to personal injury or death! Turn unit OFF and disconnect power cord from supply receptacle before taking off any removable covers.**

**WARNING: The dehumidifier will restart without warning after a temporary power interruption. If all covers are not in place, the intended protection from the motorized impeller will not be present - keep clear of the motorized impeller to reduce the risk of injury.**

**WARNING:** To reduce risk of fire or electrical shock, do not use the AT450S with any solid-state speed control device.

**CAUTION:** For general dehumidification use only. Do not use to dehumidify hazardous or explosive materials and vapors.

**WARNING:** This dehumidifier is not classified as “intrinsically safe” and should not be used in the following hazardous locations as defined by the Underwriters Laboratories: Class I Division 1, Class I Division 2, Class I Zone 0, Class I Zone 1, Class I Zone 2, Class II Division 1, Class II Division 2, Class III Division 1, Class III Division 2. Refer to the UL web site:

<http://www.ul.com/hazloc/define.htm>.

For use in potentially hazardous locations that fall outside of the above designations, always consult a certified industrial hygienist before use. Do NOT use this equipment in any atmosphere that is or may be immediately dangerous to life or health (IDLH), combustible, flammable, explosive, oxygen deficient, and/or contains odors, vapors, gases or particulates that exceed permissible exposure levels. Such atmospheres may require the use of intrinsically safe equipment, specific engineering controls, and personal protective equipment in accordance with Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Canadian Standards Association (CSA), and other federal, state, provincial and local regulations.

**WARNING:** Pressurized Unit. This equipment is factory-charged with R-410A refrigerant and is under pressure. Only qualified personnel should attempt repairs to the refrigeration system. Do not puncture or cut into the refrigeration piping.

**WARNING:** The unit should never be operated without the compressor terminal cover properly secured in place on top of the compressor; otherwise, serious injury or death could result. The cover is required to be securely in place to allow proper operation for the safety overload, and to act as a shield if the hermetic terminals blow out of the compressor shell.

## **OPERATION**

1. Place dehumidifier inside area to be dried.
2. Make sure all windows and doors are closed to the outside and seal off the wet area from any unaffected areas.

3. Route condensate hose into a drain, or a very large container.
4. Press the On/Off button to activate the dehumidifier. **Do not toggle on and off, wait 10 minutes before restarting!**
5. **ENSURE VALVE FOR THE PUMP RESERVOIR IS CLOSED BEFORE OPERATING THE UNIT!!!! RED RING MUST BE SHOWING** (see storage section of the manual)

### **Power Button**

The dehumidifier is turned on or off by pressing the power button. When the dehumidifier is started, the hour meter will display the cumulative hours.

### **Pump Purge Button**

In normal operation, the pump will automatically empty the reservoir. Pressing this button allows manual emptying of the reservoir. Press and *hold* the pump purge button until its reservoir is empty. Always manually purge the water reservoir before transport or storage. Turn off the power and allow the plugged in dehumidifier to rest 5 minutes before the final purge. The purge button can be activated even when the power button is in the off position.

### **Hour Counter**

The counter will accumulate and display the total running hours of the unit in 1/10 of an hour. This counter cannot be reset, and therefore might show some hours on a new product that has had quality control testing performed on it.

### **Defrost Cycle**

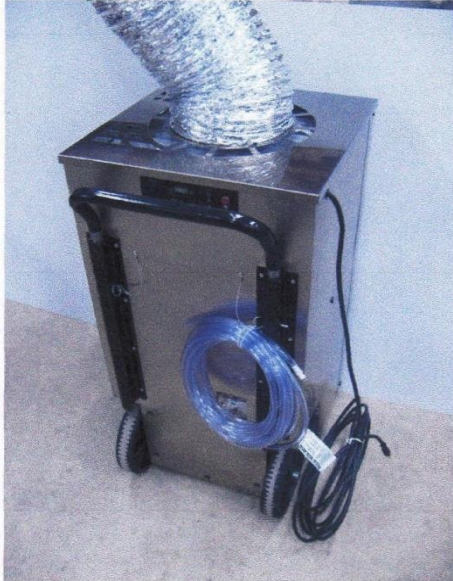
Under certain conditions, ice may build up on the evaporator coil. When that occurs, the unit will automatically go into a defrost cycle, during which the “Defrost Indicator” lamp will be lit. When the ice has melted, the defrost cycle will end and the system will reverse back to normal operation.

### **Defrost Indicator**

The defrost indicator lamp will illuminate to indicate the dehumidifier is in defrost cycle. During this period, the compressor is running and the system has reversed.

### **Venting/Ducting**

Both intake and exit air can be ducted on the dehumidifier, using the duct rings provided. Intake air must be ducted using a duct hose to avoid collapse of the hose during operation (see picture). Do not use lay-flat hose on the inlet.



The side air outlet can accommodate up to 10" diameter lay flat duct or duct hose (not shown). This allows for warm, dry air to be directed as desired. The maximum duct length will depend on the type of ducting used, however, regardless of duct type, the pressure at the outlet (external to the unit) should not exceed 0.15" water column external static pressure.

### **Transporting**

The VG LGR 3000 should be transported upright. When transporting the unit, there is the possibility of water spillage out of the pump reservoir or water drainage off of the wetted evaporator coil. It is therefore important to make effective use of the manual purge to evacuate the water out of the pump reservoir before moving the unit. After the OFF button has been depressed, it is recommended that a manual purge be initiated by depressing the PURGE button. Then wait at least 15 minutes for the water to shed off the evaporator and find its way into the pump reservoir. Initiate another manual purge to clear the pump reservoir of any residual water one last time before moving the unit. Disconnect and fully drain the drain hose before coiling it up and storing it under the top cover.

**CAUTION: If the unit has been laid on its back, even for short periods of time, it must be set upright for at least ½ hour before being plugged in and started up. This gives the compressor oil and liquid refrigerant sufficient time to re-distribute. Failure to do so can cause premature compressor failure, and voids the compressor warranty.**

If extremely poor road conditions exist, or excessive shock and vibration are expected, take precautionary measures by padding the unit to provide impact absorption during transport.

**CAUTION: Always be careful when moving the dehumidifier inside a building or home. The unit weighs 160 lbs. Older structures with weakened floors and staircases may require special considerations for safe transport.**

### **MAINTENANCE**

#### **Air Filter**

This product comes equipped with a MERV 8 dust filter. The filters are not reusable, therefore please do not attempt to clean and reuse them. Replacement frequency is very subjective, as it depends on the cleanliness of the job site air, as well the duration of use. The air filter should be checked regularly. Operating the dehumidifier with a clogged filter will reduce efficiency. Operating it without a filter will cause the internal workings to become clogged allowing bacteria and mold to form. The unit can also accommodate a higher efficiency replacement filter of the same physical size and still operate effectively.

**CAUTION: This dehumidifier is designed to meet or exceed safety and performance standards for LGR dehumidification equipment. Use only manufacturers' replacement parts for service. Use of aftermarket parts voids the product warranty and all performance claims.**

### **CLEANING**



**Turn unit OFF and Disconnect power supply before cleaning. Failure to follow these instructions can result in death, fire or electrical shock.**

#### **External Cleaning**

Use a non-flammable mild, non-abrasive soap and clean water solution to clean the dehumidifier. Wipe dry.

#### **Internal Cleaning**

Turn unit off and disconnect dehumidifier from power supply. The heat exchange core can be removed for

cleaning if the unit seems to not be operating optimally or the unit has been running in a highly dusty environment without the filter (not recommended). Remove the 4 screws holding the brackets for the core located under the filter. Be careful to not drop screws into the coil area. Pull the core straight up by the metal frame surrounding it on the top. Clean the core with warm soapy water. Replace, making sure the rear metal frame is facing the rear sealing frame inside the unit. Take care to make sure the seal is good as any air leakage will cause the unit to under-perform. Attach the brackets on the top with the screws loosely, and then apply sideways pressure to ensure a good seal between the frame and the core. Start up the unit and listen for air whistling, if there are any leaks, readjust the brackets.

### **STORAGE**

Freezing temperatures and biological growth must be considered before storing the dehumidifier. The dehumidifier should be flushed with a bio fungicide before storing. When storing the unit, ensure that water has been removed from the reservoir and hose. This will prevent damage caused by freezing temperatures and to prevent biological growth. Use the pump purge button to remove water and bio fungicide chemicals from the dehumidifier. When that is complete, open the valve located in the wheel well on the right side of the unit. **Pushing the insert in will open it, removing the red ring from sight. Pressing the steel catch will close the valve, popping insert partially out, red ring should then be showing! (See picture)** Opening this valve allows the pump reservoir to empty completely for storage to avoid damage to the condensate pump in freezing conditions.

**PLEASE NOTE: OPENING THE HOSE INSERT WILL ALLOW WATER TO DRAIN FROM PUMP AS SOON AS IT IS OPENED. MAKE SURE YOU ARE IN AN AREA WHERE THERE WILL BE NO DAMAGE FROM WATER DRAINING OUT OF THE UNIT BEFORE DOING THIS!!!!**

**ENSURE INSERT FOR THE PUMP RESERVOIR IS CLOSED (red ring should be showing) BEFORE STARTING THE UNIT!!!!**

### **STACKING**

**DO NOT STACK THE DEHUMIDIFIERS!**

### **SERVICE**

A qualified refrigeration technician must service all refrigerant leaks.

**WARNING: The dehumidifier uses a high pressure refrigerant system and high voltage circuitry, which could present a health hazard, resulting in death, serious bodily injury, and/or property damage. Only qualified service people should service this unit.**

The serial data plate is located on the rear panel of the dehumidifier.

**For service information contact: 877.800.BAIR (2247) or email [warranty@b-air.com](mailto:warranty@b-air.com)**



## **LIMITED MANUFACTURER'S WARRANTY**

The manufacturer warrants that goods sold to the original user shall be free from defects in material and workmanship as follows:

1-year parts and labor on the entire unit. 5-year parts and labor on sealed system (compressor, evaporator, and condenser).

- DAY 1-15: A unit that fails within the first 15 days after the sale to an end-user may be eligible to be replaced with a new unit at the sole discretion of the manufacturer. All transportation costs will be covered for the customer.
- DAY 15-YEAR 1: A unit that fails between 15 and 365 days after sale will have parts and labor charges covered under warranty, but transportation charges are to be paid by the customer. Transportation costs include travel charges by repair personnel, or shipping charges to move the unit to and from a repair location.

The manufacturer will not be responsible for:

1. Useful filter life / replacement filters.
2. Damage due to failure to perform normal maintenance as outlined in the Instruction Manual.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers, or any other damages due to the inadequacy or interruption of electrical services.
4. Damage or repairs needed as a consequence of any misapplication, abuse, neglect, unauthorized alteration, improper servicing, or operation, including operation outside the voltage and frequency limitations as stated on the unit rating plate.
5. Damage as a result of flooding (immersion), fires, lightning, freezing of residual water, corrosive environment, or other conditions beyond the control of the manufacturer.
6. Reimbursement for warrantable replacement parts not supplied by the manufacturer.
7. Shipping damage, or damage as a result of abuse in transporting the unit.

The manufacturer does not warrant that the goods sold are merchantable or fit for any particular purpose, and makes no warranties other than as stated in this section.

All other warranties, guaranties, or representations, express or implied, by operation of law or otherwise, are expressly disclaimed.

If circumstance warrants, the manufacturer may opt to refund the purchase price of such goods. Where applicable, as indicated above, the manufacturer will pay return transportation charges on returned goods not exceeding the transportation charges applicable to ship from original destination unless the returned goods are free from defect and conform to specifications. Be sure to review this instruction booklet. Returned goods which are found by the manufacturer to be free from defect and to conform to specifications shall be held for Purchaser's shipping instructions, which shall be furnished promptly upon request.

The manufacturer's liability shall in no event extend beyond replacement, repair or refund of the purchase price and shall not be liable under any circumstances for special, contingent, incidental or consequential damages, nor for losses, damages, or expenses directly or indirectly arising from the use of the goods, including without limitation, warehousing, labor, handling and service charges, die, equipment, or machine breakage, nor for costs, lost profits or loss of good will. The use of substitute parts and/or filters in this product voids all warranties and performance claims. The remedies set forth herein are exclusive.

Any replacement parts supplied under warranty will be warranted for the balance of the product's warranty.

Establishing the proof of purchase date for warranty purposes is the responsibility of the end-use customer, failing which, the effective date will be based upon the date of manufacture plus thirty (30) days. Retain your bill of sale as proof of purchase.

For warranty information and assistance contact B-Air and request the assistance of a technician at 877.800.2247 or email [warranty@b-air.com](mailto:warranty@b-air.com)

SPECIFICATIONS	
Water Removal @ AHAM (80° / 60% RH)	170 ppd
Airflow	450 CFM
Dimensions	23" L x 20-1/4" W x 40-1/4" H
Dehumidifier Type	Low Grain Refrigerant (LGR) – R410a
Water Removal at 80° F/ 20% RH	Yes
Weight	160 Pounds
Shipping Weight	204 Pounds
Cabinet Material	Anodized Aluminum
Standard Pleated Filter	MERV 8, UL Rated
Duct Attachment Rings	Yes, 10" for Intake and Exhaust
Drain Hose Length	30 Feet
Power Cord Length	25 Feet
Power Supply Requirement	120 volts AC, 60 Hz, 15 amps
Amperage Draw	12 Amps
Maximum Useable Pump Lift	20 feet
Cord Wrap	Yes, on handle or inside top of unit
Hose Storage	Yes, in top of unit

## TROUBLESHOOTING GUIDE – LGR COMMERCIAL DEHUMIDIFIER

**WARNING:** Some diagnostics contained herein are for the guidance of qualified service personnel only. Improper troubleshooting or servicing could result in fire, shock, explosion, or mechanical injury hazards that can cause personal injury or death.

SYMPTOM	POSSIBLE CAUSE	CHECK / CORRECTION
Unit not extracting water at expected rate	Restricted airflow through unit.	Check for dirty air filter. Replace as necessary. Also check for dirty air-to-air-heat exchanger, evaporator, or condenser. Clean as necessary.
	Low voltage.	Voltage should be within nameplate limits.
	Air is very dry.	Test humidity. Unit will not extract moisture from air below 30 grains.
	Low Refrigerant Charge	Contact qualified service personnel.
Compressor Short Cycles	Low voltage.	Voltage should be within nameplate limits.
	Blocked Air Outlet.	Check for debris lodged in the air discharge screen. Clean as necessary.
	Outlet Ducting too long or restricted.	Reduce duct length or increase duct diameter to ensure pressure at the outlet, external to the unit, does not exceed 0.15" water column external static pressure.
	Blower operating intermittently, blower rotating slowly, or not at all.	Insure a generous volume of air is being discharged through the air outlet. If not, contact qualified service personnel.
	Faulty or incorrect compressor overload.	Contact qualified service personnel.
Compressor Will Not Run	Unit partially or fully unplugged	Push power plug in fully.
	Fuse or circuit breaker tripped.	Replace or reset as necessary.
	Defective compressor relay	Contact qualified service personnel.
	No power to control panel.	Contact qualified service personnel.
	Broken, shorted, loose, or incorrect wiring.	Contact qualified service personnel.
	Defective compressor capacitor or external overload	Contact qualified service personnel..
	Low voltage or no voltage to compressor.	Voltage should be within nameplate limits.
	Seized compressor.	Contact qualified service personnel.
Unit Trips Fuse / Circuit Breaker	Shorted or incorrect wiring.	Contact qualified service personnel.
	Shorted capacitor.	Contact qualified service personnel.
	Compressor short cycling.	See "Compressor Short Cycles"
	Fuse or breaker setting too low.	Check nameplate fuse size.
	Broken, shorted, loose, or improper wiring.	Contact qualified service personnel.
	Low voltage or no voltage.	Voltage should be within nameplate limits.
	Seized or seizing compressor.	Contact qualified service personnel.
	Defective fan relay.	Contact qualified service personnel.
Unit Rattles or is Excessively Noisy	Defective compressor.	Contact qualified service personnel.
	Overcharged refrigerant quantity.	Contact qualified service personnel.
	Refrigerant lines contacting each other, or other parts	Contact qualified service personnel.
	Loose impeller or loose compressor mounts.	Contact qualified service personnel.
	Humming reversing valve solenoid.	Contact qualified service personnel.
Compressor and Motorized Impeller run, but there is no water being pumped from unit	Air is too dry to remove any more water	Move unit or ducting to an alternate location or increase the evaporation rate out of the building materials using fans.
	Low refrigerant charge	Contact qualified service personnel.
	Excessive refrigerant charge	Contact qualified service personnel.
	Drain Valve is open	Ensure that valve is shut. The red ring should be visible. See STORAGE Section.
	Drain pan hose not inserted into pump reservoir.	Re-insert hose as far into pump reservoir as possible.
	Reversing valve stuck in defrost position	Contact qualified service personnel.
Water Drips from Unit	Refrigeration tubing insulation is missing, or damaged.	Contact qualified service personnel.
	Unit was not manually purged prior to relocating.	Leave unit plugged in for 15 minutes after final shut-down. After 15 minutes (or more) press PURGE button to drain pump reservoir completely before moving unit.

**\*This troubleshooting guide is intended for use by qualified service personnel.**



# WIRING DIAGRAM

