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Owner's Manual Revolution LGR Dehumidifier

Model F413

DRI-EAZ PRODUCTS, INC.

15180 Josh Wilson Road, Burlington, WA 98233

Phone: 800-932-3030 Fax: 360-757-7950 <http://Revo.LegendBrandsRestoration.com>

The Dri-Eaz® Revolution LGR Dehumidifier reduces humidity in enclosed environments by removing water vapor from the air. The Revolution is ideal for water damage restoration, structural drying, construction, and many other applications requiring temporary, high-performance dehumidification.

Patents: <http://www.LBpatents.com>

SAVE THESE INSTRUCTIONS

WARNING

Read and understand manual before operating.



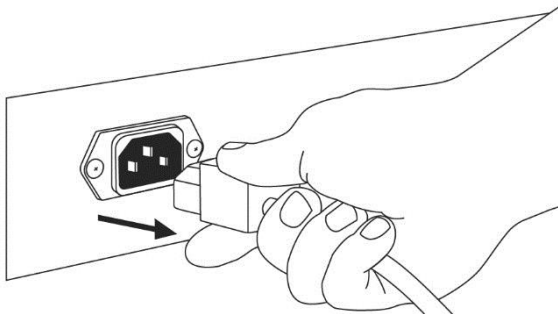
SAFETY INSTRUCTIONS

WARNING! Do not alter or modify your unit in any way. Use only replacement parts authorized by Dri-Eaz Products, Inc. Modifications or use of unapproved parts could create a hazard and will void your warranty. Contact your authorized distributor for assistance.

CORRECT PLUG REMOVAL

Grasp IEC plug and pull straight out

IMPORTANT: Damage to IEC receptacle or dehumidifier resulting from improper removal of the power cord is not covered by warranty. The IEC power cord is a wear item and is not covered by warranty.



WARNING! Electric shock hazard, rotating fan, hot surface hazards. Unplug unit before opening cover for cleaning or servicing. Unit must be grounded.

- Inspect the power cord before use. If cord is damaged, do not use. Always grasp the plug (not the cord) to unplug.
- Insert three-prong plug on power cord into a matching electrically grounded outlet. Do not use adapter. Never cut off third prong. Do not use an extension cord.
- The unit must be operated on a 115V/60Hz circuit protected by a Ground Fault Circuit Interrupter (GFCI) device.
- Keep motor and wiring dry.
- Do not attempt to repair the unit. For Authorized Service Centers, contact Dri-Eaz.

BEFORE YOU BEGIN

Warranty registration

Visit warranty.LegendBrandsRestoration.com to register your purchase. Registration allows us to better assist you with using, maintaining or servicing your equipment and to contact you in case we have important safety information concerning your Dri-Eaz product. If you determine service is required, have your equipment model, serial number and original proof of purchase available and call your distributor for assistance with obtaining a return material authorization (RMA).

INTRODUCTION

The Revolution Dehumidifier reduces humidity in enclosed structural environments by removing water vapor from the air. With proper use, the Revolution can help to dry out damp structural materials, insulation, and contents, and maintain a healthy level of humidity. Using the Revolution may also prevent secondary damage caused by high humidity.

How the Revolution works

The Revolution refrigerant dehumidifier uses a fan to draw moist air in and condenses it into water that collects in a tray and is automatically pumped out through a drain hose. The unit can be set to operate continuously or the user may select Humidistat Mode. In Humidistat Mode, the Revolution will turn on and off automatically to maintain the inlet humidity level the user has selected.

CONTROLS AND OPERATING INSTRUCTIONS

Set unit upright

NOTICE: Always store, transport, and use the unit in a horizontal position. If the unit is ever placed in a vertical position, return it to the horizontal position and let it stand for at least 30 minutes before turning it on.

Positioning a Dehumidifier

For best results, operate your dehumidifiers in an enclosed area. Close all doors and windows that open to the outside to maximize water removal efficiency. Place your dehumidifier away from obstructions, and keep it away from anything that could block airflow into and out of the unit. For more information about creating an optimum drying environment, contact Dri-Eaz at 800-932-3030.

Set up drain hose

This unit automatically pumps out water on a regular basis. This dehumidifier is equipped with a quick-connect fitting for attachment to the provided 40 ft. (12 m) drain hose located in the tray on top of the unit. Unwrap the entire hose and place the open end in a sink, drain, bucket or outdoors – anywhere that water can drain out safely. If you use a bucket or other container for water collection, check it regularly to prevent overflows.

NOTICE: Uncoil and straighten the entire drain hose. Do not leave any part of the hose coiled and do not place the end of the hose higher than 20 ft. (6 m) above the bottom of the unit. Also check for kinks or other obstructions that might restrict the flow of water. Obstructions may cause a water backup and result in overflows.

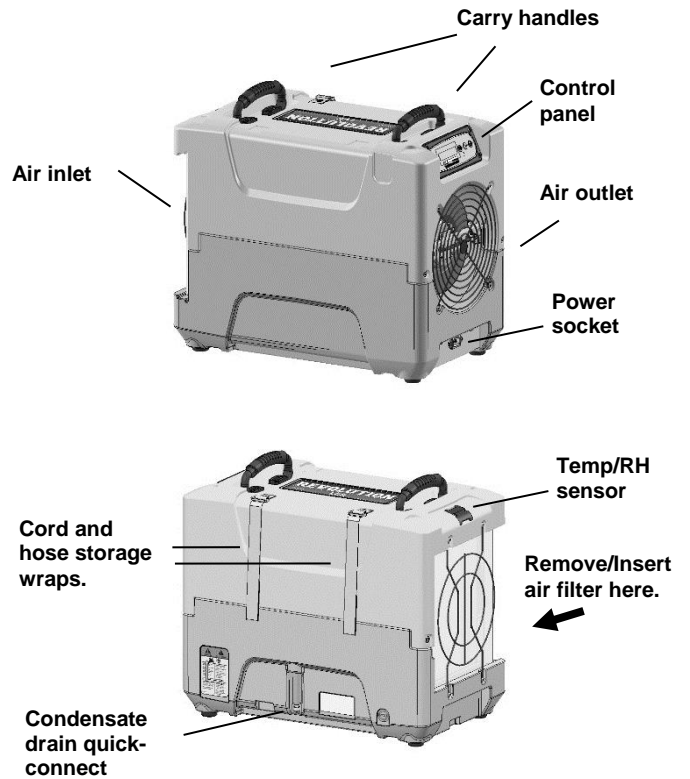
Plug in electrical cord

The Revolution should be plugged into a **GFCI-protected 115 volt outlet** rated for at least 15 amps. Always plug the cord firmly into the unit first, and then plug the other end into a suitable outlet.

Startup display and normal display modes

When unit is first plugged in to AC power, the control panel display will briefly cycle through a series of readouts. This is part of the unit's self-diagnosis procedure and no user intervention is required.

Fig. A: Parts Identification



Turn the unit on

The control panel on the Revolution dehumidifier has a display and a touchpad with four keys. Press the ON/OFF to turn the unit on. The unit will now go through a compressor delay countdown (up to sixty seconds in duration) and a self-diagnostics process.

Once the compressor delay countdown and self-diagnostics are complete, the display will switch to normal display mode.

UNIT ON 00 HRS
INLET 00°C / INLET 00%

The **first line** of the display shows the total number of hours the unit has been in operation. This value may be reset to zero to track job hours (see "Job Hours Reset" below). The **second line** of the display alternates between inlet temperature and inlet humidity.

User Settings Menu

A number of display settings may be changed by the user. System information can also be displayed. These items are accessed by pressing DISPLAY MENU. Each press of the key will display the next parameter. When you reach the parameter you wish to adjust, press MENU SELECTION to increase the value. Press DISPLAY MENU again to accept the setting and re-start the display cycle.

Note that only menu items followed by a greater-than symbol (>) may be adjusted.

All settings and modes are discussed in detail in Control Panel Guide, below.

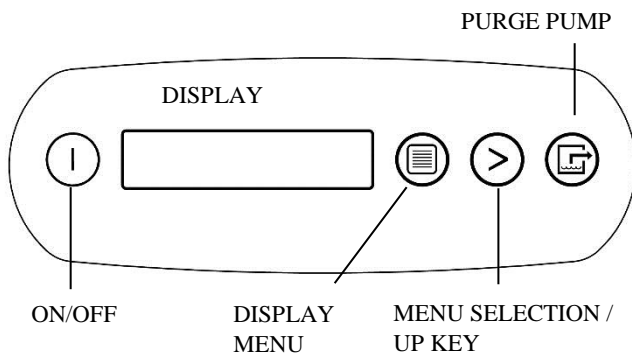
Error messages

If the Revolution onboard diagnostics discover a problem, the unit will display an error message. See "Error Messages," p. 8, for an explanation of each message.

Control Panel Guide

ON/OFF. Press to turn the unit on or off. When the machine is turned on, the display normally reads PLEASE WAIT COMP. DELAY and performs a numeral countdown for a maximum of 60 seconds to 0. This delay allows time for refrigerant pressures to equalize for easier starting. Once the unit completes the compressor delay, the display shows UNIT ON XX HRS and cycles between INLET XX°F and INLET XX%. NOTE: If no compressor delay countdown is displayed, a delay is not necessary and the machine will begin operation immediately.

CONTROL PANEL



ON/OFF	Press and release to turn unit on or off.
DISPLAY MENU	Press to select next item in menu. Menu item will show in display.
MENU SELECTION / UP KEY	Press to toggle or select values in menu displayed.
PURGE PUMP	Press and release to start purge. Display will count down seconds remaining until purge is complete.

DISPLAY MENU. Press to cycle through the display of additional dehumidifier conditions and User Settings. To return to the main menu, press the ON/OFF key once.

MENU SELECTION. Press to change the values of the "User Defined" settings. The MENU SELECTION

key acts as the UP key for adjusting the setpoint for Humidistat mode operation. See User Settings Menu (below) for details.

PURGE. Press to empty water from the condensate pump reservoir. The display will read PUMP PURGING with a numeral countdown. NOTE: During normal operation, the pump purges automatically.




NOTE: During normal operation, the pump purges automatically.


USER SETTINGS


Only menu items followed by a greater-than symbol (>) can be adjusted. If no keys are selected for 5 minutes on screens: INLET OUTLET, GRAIN DPR (INLET-OUTLET for 230V models), the display will return to normal display mode. In all the other menu items, the display will return to the normal display mode after 20 seconds. Items without the symbol (>) are for information only and cannot be changed or reset.




Press  **DISPLAY MENU** to proceed to the next menu item. ↓




Press  **MENU SELECTION** to change the setting. →




 1. JOB HRS RESET > PWR INTERRUPT X  1. JOB HR RESET 0 PWR INTERRUPT 0 Press  to reset to 0.




 2. INLET OUTLET 100' 80% 115' 30% *For information only.*






 3. GRAIN DPR XX GPP *Note: Unit displays GPP if set to Fahrenheit or g/kg if set to Celsius. To change this setting, see menu item 9.*




 4. FILTER CLEANED XXX HRS >  5. FILTER CLEANED 0 HRS Press  to clear filter hours.


 5. COIL CHECKED XXX HRS >  5. COIL CHECKED 0 HRS Press  to clear coil hours.


 6. HUMIDISTAT MODE OFF >  6. HUMIDISTAT MODE ON > Press  to turn ON or OFF. **For maximum dehumidification, make sure HUMIDISTAT is OFF.**


 7. HUMIDISTAT SETPOINT XX% >  Press  to cycle through 40%–90% at 5% increments (default is 50%).


 8. LANGUAGE ENGLISH >  8. IDIOMA ESPANOL >  8. SPRACHE DEUTSCH >  8. LANGUE FRANCAIS > Press  to change language options.

 9. TEMP UNITS 'F' >  9. TEMP UNITS 'C' > Press  to change to °F or °C.

 10. COIL TEMP XX' *For information only.*


 11. COMP CURRENT XX.X A *For information only.*

 12. FIRMWARE 3.0X F583-XXX *For information only.*

 13. LIFE HOURS XXXX HRS

(Returns to top menu item.)

The following section available only on wireless-equipped units.

 14. SENSOR ID XXXXXXXX

(Returns to top menu item.)

AT THE END OF THE JOB

To reduce the possibility of drips when moving the unit, follow these additional steps to ensure that all water is removed from the unit.

NOTICE: To ensure all water is removed from the dehumidifier, the unit will complete the defrost cycle even if the unit is turned off. If the unit is unplugged during the defrost cycle, excessive water may accumulate in the unit and may drip out when you move the unit.

NOTICE: To ensure the condensate tank empties completely while purging, make sure the unit is placed upright on a horizontal surface.

1. Do not turn unit off or move it until it has returned to normal operating mode. To confirm unit status, review the control panel. The control panel will display one of the following messages:

Defrost in progress:

**UNIT ON 00 HRS
DEFROST XX**

Display mode when unit is in defrost mode. XX indicates the seconds remaining on the defrost cycle.

Shutdown sequence

**WAIT FOR
DEFROST XX**

Display mode when unit in defrost and unit is powered down (shut off by user). Unit will complete the defrost cycle to remove any built-up ice then purge the pump. XX indicates the seconds remaining on the defrost cycle.

Drying sequence


**WAIT FOR
UNIT DRYING XX**

Display mode when unit not in defrost and unit is powered down (shut off by user). Unit will complete the 5 minute drying cycle then purge the pump. XX indicates the seconds remaining on the drying cycle.

Normal display:

**UNIT ON 00 HRS
INLET XX° C**

The unit has completed a defrost and drying cycle and has returned to normal mode. You may now proceed to step 2.

- 2. Gently rock the machine to ensure any water remaining on interior surfaces falls into the sump area.**
- 3. Press the  PURGE key. When the purge cycle is complete, turn the unit off.**
- 4. Remove the external drain hose, drain it carefully, coil it, and secure it with one of the straps provided.**
- 5. Remove the power cord, coil it neatly, and secure it with one of the straps provided.**

TRANSPORTATION AND STORAGE

NOTICE: Always remove power cord before moving, transporting, or storing the unit.

NOTICE: Handle the unit carefully. Do not drop, throw, or place the unit where it could fall. Rough treatment can damage this equipment and may create a hazardous condition or void warranty.

- Do not expose the control panel to moisture, snow or rain.
- Protect from freezing.
- Store and transport securely to avoid any damaging impact to internal parts.
- Secure during transport to prevent sliding and possible injury to vehicle occupants.

MAINTENANCE SCHEDULE

WARNING! ELECTRIC SHOCK HAZARD. Unplug unit before cleaning or servicing.

WARNING: Risk of dust and contaminants exposure. Use of respirator mask and gloves is recommended. If unit has been exposed to potentially dangerous contaminants, clean thoroughly and sanitize before reuse.

NOTICE: The unit is fitted with sensitive electronic sensors. Protect the sensors and their lead wires from damage and do not expose them to water or cleaning solution.

The following tools and supplies are needed to complete the maintenance procedures described in this manual:

- Philips screwdriver
- 10 mm wrench
- 6 mm hex bit
- ¼ in. nut driver
- Cleaning cloths
- HEPA vacuum cleaner with soft brush nozzle and crevice nozzle.

Recommended

Cordless drill, small knife, small-jaw pliers, coil cleaning solution, rotomolded housing cleaning solution.

Before each use

Inspect the electrical cord for damage. Look for fraying, cuts, etc. Replace the cord if you find any damage.

Inspect filter. Replace if accumulation of dust and debris is visible.

NOTICE: Replace used filters only with a new Dri-Eaz 4-PRO filter part no. F583 (24-pack). Other filter types do not provide adequate filtration or airflow. Each filter is individually wrapped to protect filtration effectiveness. Remove the wrapper before installing the filter into the dehumidifier.

Monthly

Inspect coils. Clean when dust accumulation is visible. In normal use, dust can accumulate and can restrict air-flow, reducing performance and causing the unit to over-heat. Use a vacuum cleaner with a brush tool and a soft cloth to remove any debris. Take care not to damage any interior components.

To maintain appearance, wipe interior and exterior surfaces with a damp cloth. For deep cleaning and a lasting, protective shine, use an automotive interior cleaner.

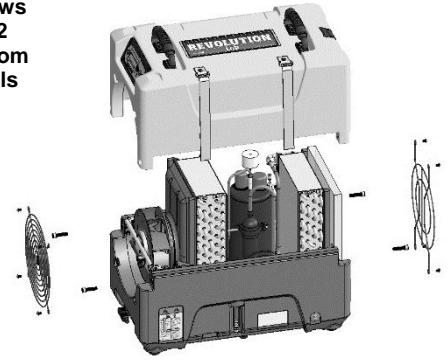
As Needed

Clean pump check valve and basin. If the unit displays the message "ER9 PUMP BLOCKED PUMP & HOSE", the pump check valve and pump basin may need to be cleaned. Remove grills and cover as shown in Fig. B. Remove screws from pump base and lift out pump. Wipe out pump basin with a damp cloth. Inspect the pump base for build-up of debris and clean if needed. Unthread barbed fitting with check valve and rinse fitting and check valve with clean water. Reinstall check valve into barbed fitting and install the barbed fitting into pump. Do not overtighten. Reinstall pump on base. Reinstall cover and grills.

Clean coils. With the cover removed, inspect both coils. If excessive dust and debris is present, vacuum thoroughly and/or clean with coil cleaner.

Fig. B: Disassembly for Cleaning

Remove the 4 screws from housing and 2 top screws each from inlet and outlet grills and lift off cover.



SYSTEM MESSAGES

The Control Panel will display the following messages based on system performance and environmental conditions. User action, if any is required, is indicated in the third column.

CONTROL PANEL MESSAGE	EXPLANATION	USER ACTION
INITIALIZING	Unit is powering up.	None
FIRMWARE VERSION XXX	Indicates control board firmware version number.	None
F583-XXX	Model number.	None
OFF	Unit has finished powering up and is operating.	None
PLEASE WAIT COMP. DELAY XX	60s delay before compressor turns on. Allows system pressure to equalize.	None
UNIT ON XXXX HRS INLET XXX°F / XX%	First line: indicates total operating hours. Second line: Toggles between inlet temperature and inlet RH every 2 seconds.	None
HUMIDISTAT INLET XXX°F / XX%	First line: indicates unit is in humidistat mode Second line: Toggles between inlet temperature and inlet RH every 2 seconds.	None
LOW TEMP INLET XXX°F / XX%	F515 only. Unit shuts off if inlet temp below 45°F/7°C. Turns back on when inlet reaches 50°F/10°C.	None
--- PUMP PURGING XX	Pump is purging with countdown in seconds. Press key again to stop if needed.	None
HI TEMP CYCLE REMAINING XX MIN	Unit overload limit reached. Cool-down initiated.	None
--- DEFROST XX	Unit is defrosting, with countdown in seconds.	None
WAIT FOR DEFROST XXX	Unit turned off when coil is cold or already in a defrost cycle. Proceeds to finish cycle or initiate one to clear the coils of ice before storage.	None
WAIT FOR UNIT DRYING XXX	Occurs when unit is turned off and coil is not frozen. Clears the coils of water before storage.	None
CHECK FILTER > ---	Prompt to check filter.	Change if necessary. Press the > key to reset
CLEAN COILS > ---	Prompt to clean coils and interior.	Clean coils. Press the > key to reset

ERROR MESSAGES

If the control system detects an error, it will produce an error (“ER”) message. If this occurs, first unplug the unit and then plug it back in. This will usually reset the electronics, and the unit will begin operating normally. If the error message reappears, refer to the explanations and solutions shown below. If these solutions do not fix the problem, contact your local authorized service center.


CONTROL PANEL MESSAGE	EXPLANATION AND SOLUTION
ER4 DEFROST SENSOR CONNECT or ER4 OUTLET SENSOR CONNECT	Temp sensor is open, missing, or shorted. Check that temp sensors are installed correctly on control panel. If error persists, contact service.
ER5 SENSOR CONNECTION ON BD	Inlet Temp/RH sensor is open, missing, or shorted. Check that inlet temp/RH sensor is installed correctly on control panel and inlet shroud. If error persists, contact service.
ER6 CONTACT SERVICE CENTER	Current sensor failure. If error persists, contact service.
ER7 INVALID MODEL SETTING	Incorrect or unsupported DIP switch settings. Contact Dri-Eaz service department for correct DIP switch settings.
ER8 BUTTON STUCK ALL BUTTONS	Key is stuck or has been held down too long. Contact service.
ER9 PUMP BLOCKED PUMP & HOSE	Check for obstructions in drain hose. Check the pump.

TROUBLESHOOTING

FAULT	CAUSE	SOLUTION
Water drips out when moving unit	Unit was unplugged before purging was complete.	Purge unit before moving. See "At the End of the Job," p. 5.
Unit does not operate	Unit not switched on. No power to machine.	Switch unit on. Plug in unit; check power cord connection at wall outlet and at base of unit.
Unit operating, but room not dry	Not enough time to dry. Poor air movement in room. Excessive moist air infiltration.	Make sure "Humidistat" is OFF. Allow more time for drying. Increase air movement with air movers. Seal off area to reduce infiltration.
Unit collects too little water	Room air is dry. Room temperature is too low. Filter is clogged. Coils are clogged.	Make sure "Humidistat" is OFF. Confirm humidity level with hygrometer. Increase room temperature. Check filter. Replace as necessary. Check coils. Clean as necessary.
<p><i>If the problem you are experiencing is not listed here, call your local distributor or contact our Service Department toll-free at 800-932-3030 for further assistance.</i></p>		

SPECIFICATIONS

Name	Revolution LGR Dehumidifier Model F413
Dimensions (W x H x D)	12.5 x 17.6 x 21.5 in. 31.8 x 44.7 x 54.6 cm
Weight (w/ cord & hose)	65 lbs. 29.5 kg
Amps	6.2 amps at 80°F/60% RH
Power	115V / 60Hz
Air movement	121–180 CFM 3.43–5.1 CMM
Water removal	80 pts/day 38 L/day at 80°F/60% RH (AHAM) 134 pts/day 63 L/day at 90°F/90% RH
Operating temperature range	33–100°F 1–38°C
Safety	ETL listed to CSA standards
<p><i>Specifications are subject to change without notice. Some values may be approximate.</i></p>	

 **WARNING:** This product may expose you to chemicals, including lead and phthalates, known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, go to P65Warnings.ca.gov

PARTS INCLUDED

40 ft. (12 m) of drain hose with quick-connect fitting.
25 ft. (7.6 m) detachable power cord.
4-PRO Air filter reorder no. F583 (24 pk)

OPTIONAL

Duct Attachment Kit (F530)

ADDITIONAL PRODUCT INFORMATION and current documentation is available at <http://Revo.Legend-BrandsRestoration.com>.

FOR PARTS AND SERVICE CALL YOUR LOCAL DISTRIBUTOR or Dri-Eaz at 800-932-3030. Legend-BrandsRestoration.com

Visit warranty.LegendBrandsRestoration.com and register your purchase to ensure you receive any important product releases.