

RM85

INDUSTRIAL DEHUMIDIFIER

OWNER'S MANUAL



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SAFETY INFORMATION

READ AND SAVE THESE INSTRUCTION

Children shall not play with the appliance.

This appliance can be used by children from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the application in a safe way and understand the hazards involved.

Cleaning and user maintenance shall not be made by children without supervision.

If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified person in order to avoid hazard.

If the appliance is switched off at the mains power supply for any reason, the unit must be allowed to stand at rest for at least three minutes before restarting.

Due to the high pressures within the refrigeration circuit, under no circumstances must direct heat be applied to the evaporator coil in an attempt to remove the build-up of ice.

No attempt should be made to cut open any part of the refrigeration circuit due to high pressures and gas involved.

If the appliance is switched off at the mains power supply for any reason, it must be allowed to stand at rest for at least three minutes before restarting. Failure to do so may cause the appliance to blow the fuses owing to the compressor due to there being a refrigerant imbalance.

The Global Warming Potential (GWP) of refrigerants used in products manufactured by Ebac Industrial Products Ltd is as follows: -

R290 – 3

R454c – 148

For type and weight of refrigerant contained in this appliance, please refer to the product data label

Do not insert objects into any of the grilles on the machine.

Do no cover or obstruct airflow from the grilles.

Do not operate the unit with the covers removed

Do not stand on the unit

Do not attempt to lift heavy units unassisted.

Do check the plug on the unit matches the supply.

Do check the supply cord and power supply are earthed correctly

Do check the voltage selection before attempting to power up the unit (This is for dual voltage units only).

Do use a residual current device "RCD" where possible



The appliance uses R454c refrigerant gas. This gas is much kinder to the environment as it is non-toxic with zero Ozone Depletion Potential (ODP). This is a flammable gas and the following warnings should be considered:

- The appliance uses a flammable refrigerant (see unit serial plate for charge quantity). It is therefore part of a sealed system and **any servicing should only be carried out by EIPL service personnel.**
- Do not pierce / burn / puncture the appliance at any point, even when disposing of. Before disposing all refrigerant should be evacuated and disposed of as required by local environmental laws.
- If there is any damage to the appliance, DO NOT USE and contact EIPL.
- The appliance must not be used in a potentially explosive atmosphere.
- The appliance must not be used in an aggressive atmosphere e.g. chemical environments.
- The appliance must not be used in a high dust environment.
- The appliance must not be used in a high solvent concentration atmosphere.
- Do not use the appliance in a room with any continuous source of ignition e.g. open flames or gas fires.
- R454c is an odourless gas.
- Anyone who does work on the refrigeration circuit must have the appropriate qualifications / certification issued by a national accredited organisation to ensure competence when handling flammable refrigerants.
- Any parts to be replaced within the appliance should only be replaced with EIPL approved parts.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example open flames, an operating gas appliance or an operating electric heater).

GAS DETECTION

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) must not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks. Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at 25% of the LFL of the refrigerant and must be calibrated to the refrigerant deployed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe work.

RM85

PACKAGE CONTENTS

Item	Description	Quantity
11560RG-US	Dehumidifier	1
3086144	Quick release hose coupling	1
3944110	PVC Tube – 3/8" I/D	7.8M
TPC630	Manual	1

INTRODUCTION

Designed for a wide range of applications, the RM85 is a rugged, industrial unit, which utilizes an energy-efficient compressor and a compact portable design to provide easy efficient drying.

The RM85 has a number of special features:

- High efficiency rotary compressor
- EIPL's "**Hot Gas**" defrost system
- Hours run meter
- Integral pump out system
- Provision for permanent drainage
- Extra long power cord
- Robust rotational moulded polyethylene housing
- Separate outlets allowing dry air to be ducted

The fan draws the moist air through the cold evaporator coil, which cools the air below its dew point. Moisture forms on the evaporator coil and is collected in the condensate tray, which is equipped with a permanent drain. The cooled air then passes through the hot condenser coil where it is reheated using the same energy removed during the cooling phase, plus the additional heat generated by the compressor. The air is, therefore, discharged from the dehumidifier at a slightly higher temperature with a lower absolute humidity than that which entered. Continuous circulation of air through the dehumidifier gradually reduces the relative humidity within the area.

The RM85 dehumidifier is a rugged, reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions. An active hot gas defrost system, controlled by an electronic timer, guarantees positive de-icing, thereby optimizing operation at low temperatures.

The unit incorporates a rotational moulded polyethylene shell resilient to damage caused by rough handling.

SPECIFICATIONS

MODEL: 11560RG-US

HEIGHT: 37.2" (945mm)

WIDTH: 21.5" (545mm)

DEPTH: 19.4" (492mm)

WEIGHT: 99 lbs (45 Kg)

AIRFLOW: 230 CFM (390 M3/hr)

POWER SUPPLY: 110V/ 60Hz/ 1 ph

FINISH: Rotational Moulded
polyethylene

OPERATING RANGE: 33°F – 95°F

REFRIGERANT: R-454c (See unit rating
label for quantity)

OPERATION

The following procedures should be followed to test the RM85 for correct operation:

1. After unpacking, examine all external features to confirm damage-free shipment. Report all defects and damage at once. Connect the power cable to a grounded 15 Amp electrical outlet. Connect the drainage outlet to a suitably sized hose and run the hose to a permanent drain
2. Check dehumidification process as follows:

CAUTION: DO NOT REMOVE COVERS WHEN UNIT IS IN OPERATION

- A. Place unit on a level surface.
- B. Start up unit by switching to "I".
- C. Check that the compressor is running.
- D. Leave the machine running for 15 minutes.
- E. Observe the evaporator coils through the front grille, to confirm frost formation.
 - i. If the air temperature is below 78°F, an even coating of frost should cover the entire evaporator coil.
 - ii. If the air temperature is above 78°F, frost and/or droplets of condensed water should cover the entire evaporator coil.
- F. When the unit is operated in ambient of less than 59°F, a defrost cycle should occur approximately every hour. The exact time is impossible to predict as the unit is fitted with a temperature sensitive defrost control.

If, after carrying out the above procedures, the unit does not appear to function properly, refer to the *Trouble Shooting* section, which follows, or contact the Factory Service Center.

CAUTION: ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST FIVE MINUTES BEFORE RESTARTING.

After using the RM85, turn it off for five minutes to allow the condensate on the coils to drain into the pump reservoir, then press the momentary pump purge switch for twenty to thirty seconds to evacuate the water from the pump reservoir.

ROUTINE SERVICE

WARNING:

ENSURE THAT THE POWER CORD TO THE MACHINE HAS BEEN DISCONNECTED BEFORE CARRYING OUT ROUTINE SERVICE. THE SERVICING AND REPAIR OF THIS UNIT SHOULD ONLY BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON

To ensure continued full efficiency of the dehumidifier, maintenance procedures should be performed as follows:

1. Clean the surface of the evaporator and condenser coils by blowing the dirt out from behind the fins with compressed air. Hold the nozzle of the air hose away from the coil to avoid damaging the fins. Alternatively, vacuum clean the coils.

WARNING:

DO NOT STEAM CLEAN REFRIGERATION COILS

2. Check that the fan rotates freely. **The fan motor is sealed for life and therefore does not need oiling.**
3. To check the refrigerant charge, run the unit for 15 minutes and observe the evaporator coil. It should be evenly frost coated across its surface. At temperatures above 78°F, the coil may be covered with droplets of water rather than frost. Partial frosting accompanied by frosting of the thin capillary tubes, indicates loss of refrigerant gas or low charge.
4. Check all wiring connections.
5. In order to check the defrost operation, the unit needs to be operated in an ambient temperature of less than 59°F for at least 1 hour. When operated in this condition the unit should defrost at least once every hour. The defrost mode can be monitored by observing the ice melting on the coil face, prior to defrost the face will show a white coating of frost, which should clear during defrost

IF ANY OF THE PRECEDING PROBLEMS OCCUR, CONTACT THE EBAC SERVICE CENTER PRIOR TO CONTINUED OPERATION OF THE UNIT TO PREVENT PERMANENT DAMAGE.

TROUBLESHOOTING

<u>SYMPTOM</u>	<u>CAUSE</u>	<u>REMEDY</u>
Unit inoperative	1. No power to unit	1. Check the power from power supply panel
Little or no airflow	1. Fan motor burnt out 2. Dirty refrigeration coils 3. Loose electrical wiring	1. Replace the fan motor 2. See <i>Routine Maintenance</i> Section 3. Check the wiring diagram to find fault and repair
Little or no water extraction	1. Insufficient air flow 2. Compressor fault 3. Loss of refrigerant gas	1. Check all of the above 2. Contact the Factory Service Center 3. Contact the Factory Service Center
Little or no defrost when required	1. Faulty timer 2. Faulty by-pass valve	1. Contact the Factory Service Center 2. Contact the Factory Service Center
Unit vibrates excessively	1. Loose compressor 2. Damaged fan	1. Tighten the nuts on the compressor mounts 2. Replace fan
Water flooding inside the machine	1. Drain pipe blocked/frozen 2. Drain pipe too high 3. Crimped or blocked tubing	1. Clear the obstruction 2. Ensure that no section of the drain hose is above the level of the water outlet 3. Straighten, clear, or replace tubing

RM85 SPARE PARTS LIST

Description	Part Number
Product Part Number	11560RG-US
PCB Timer	1619522
Cable retainer	2056002
Drain tray	2056003
Filter	2056004
Foam blanking strips	2056028
Refrigeration coils	2056035
Capillary	3014251
Insul tube 10mm ID	3014301
Silicone tube 10mm ID	3014368
Solenoid valve	3020837
Filter dryer	3020909
Solenoid coil	3030451
Hourmeter	3030779
Terminal block	3031460
Open grommet 20mm	3032101
Open grommet 12.5mm	3032104
Open grommet 25mm	3032111
Mains cable klambush	3032501
Coil sensor	3035142
Mains lead	3035148
PCB jumper socket	3035834
I/O switch	3035924
Switch cover	3035926
Compressor capacitor	3036357
Pump purge switch	3036779
Fan	3040277
Fan inlet ring	3040283
Wheel	3050124
Starlock washer (uncapped)	3082601
Starlock washer (capped)	3082602
Snap hose clip 10mm	3086135
Quick release coupling	3086144
Snap hose clip 8mm	3086146
Circuit board pin	3101413
Black rubber foot	3101436
Condensate pump	3160155
Solid state relay	3931320
PVC clear tube 3/8" ID	3944110
PVC reinforced tube 10mm ID	3944113
Compressor	3944966
Compressor cover	3944966
Compressor cover gasket	3944985
Compressor cover nut	3944987
Compressor mounting foot	3944988



UK Head Office

Ebac Industrial Products Ltd
St Helens Trading Estate
Bishop Auckland
County Durham
DL14 9AD

Tel: +44 (0) 1388 664400
Fax: +44 (0) 1388 662590

www.eipl.co.uk
sales@eipl.co.uk

American Sales Office

Ebac Industrial Products Inc
700 Thimble Shoals Blvd.
Suite 109, Newport News
Virginia, 23606-2575
USA

Tel: +01 757 873 6800
Fax: +01 757 873 3632

www.ebacusa.com
sales@ebacusa.com