

RM40
INDUSTRIAL DEHUMIDIFIER
OWNER'S MANUAL





Drawing	: - TPC470
Issue	: - 1
Date	: - 09/02/17

RM40

PACKAGE CONTENTS

Item	Description	Quantity
10187MG-US	Dehumidifier	1
3086144	Quick release hose coupling	1
3944110	PVC Tube – 3/8" I/D	7.8M
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INTRODUCTION

Designed for a wide range of applications, the RM40 is a rugged, industrial unit, which utilizes an energy-efficient compressor and a compact portable design to provide easy efficient drying.

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 RM40 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: 10187MG-US

HEIGHT: 24.2" (615 mm)

WIDTH: 15" (382 mm)

DEPTH: 14.4" (365 mm)

WEIGHT: 57lbs (26 kg)

AIRFLOW: 88.3CFM (150 M³/Hr)

POWER SUPPLY: 110V/ 60Hz/ 1 ph

FINISH: Rotational Moulded
polyethylene

OPERATING RANGE: 37°F – 95°F

REFRIGERANT: R134a (6.1oz (173g))

"This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. The refrigeration system is hermetically sealed.

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

R134a – 1300

R407c – 1610

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

OPERATION

After unpacking, examine all external features to confirm damage-free shipment. Report all defects and damage at once.

Before connecting it to the mains you should ensure that the humidistat is turned fully anti-clockwise. Connect to a grounded 15A standard household electrical outlet then the humidistat control should be turned clockwise until you hear the unit operate. To protect the compressor, you should allow 5 minutes between switching the dehumidifier off and on again.

OPERATING THE HUMIDISTAT

The humidistat works in a similar way to a central heating thermostat, but instead of measuring temperature, it measures the amount of moisture in the air. You may select the level of moisture you require (known as Relative Humidity) and the unit will operate to achieve that level and then switch off. As a general guide, the higher the setting the lower the Relative Humidity will be before the machine switches off. Therefore the machine will operate longer to achieve this. If the dehumidifier switches off and drying is not complete it is possible that the humidistat setting is too low and may need increasing. Conversely, if you no longer have condensation and the unit is still operating, then the humidistat setting may need reducing.

EMPTYING THE WATER CONTAINER

When the water container is full an internal float mechanism will switch the unit off. This is indicated by the illumination of the “full” light on the front control panel. The water container is at the rear of the unit. To empty the container, carefully remove the water container. When emptied replace

PERMANENT DRAINAGE

When your dehumidifier is to be used constantly in one area, it can be fitted to drain continuously, eliminating the need to empty the water container. Ideal when the property is to be left unoccupied.

For this you will need a length of PVC tubing, 10mm internal diameter. Disconnect your dehumidifier from the power supply before fitting permanent drainage. Remove the water container; remove the blind grommet on the back face of the unit and then the blanking bung from the drainage point visible through the hole. Feed tubing through hole where grommet was located and onto the visible drain point. Lastly fit the blanking bung to the drain point on the underside of the drain tray. The water container can be replaced whilst the drainage kit is in use for safe storage

USE OF PERMANENT DRAINAGE

When in use tubing should be run to a suitable drainage point, ensuring that the tube doesn't rise above the drain tray, otherwise flooding may occur.

CHECK DEHUMIDIFICATION PROCESS AS FOLLOWS:

<p style="text-align: center;">CAUTION: DO NOT REMOVE COVERS WHEN UNIT IS IN OPERATION</p>

1. Place unit on a level surface.
2. Start up unit by switching to "I" and humidistat fully clockwise
3. Check that the compressor is running.
4. Leave the machine running for 15 minutes.
5. Observe the evaporator coils through the rear grille, to confirm frost formation or weeping.
 - If the air temperature is below 25°C, an even coating of frost should cover the entire evaporator coil.
 - If the air temperature is above 25°C, frost and/or droplets of condensed water should cover the entire evaporator coil.
6. When the unit is operated in ambient of less than 15°C, 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.

<p style="text-align: center;">CAUTION: ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST FIVE MINUTES BEFORE RESTARTING.</p>

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, service 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 coated with frost across its surface. At temperatures above 25°C, 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, including mains cable for damage or loose connections.
5. In order to check the defrost operation, the unit needs to be operated in an ambient temperature of less than 15°C 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.

REPAIRS

1. Should an electrical component fail, consult the Factory Service Center to obtain the proper replacement part.
2. If refrigerant gas is lost from the machine, it will be necessary to use a refrigeration technician to correct the fault. Contact the Factory Service Center prior to initiating this action.

Any competent refrigeration technician will be able to service the equipment. The following procedure must be used:

- a. The source of the leak must be determined and corrected.
- b. The machine should be thoroughly evacuated before recharging.
- c. The unit must be recharged with refrigerant measured accurately by weight.
- d. For evacuation and recharging of the machine, use the crimped and brazed charging stub attached to the side of the refrigerant compressor.

The charging stub should be crimped and rebrazed after servicing. **NEVER** allow permanent service valves to be fitted to any part of the circuit. Service valves may leak causing further loss of refrigerant gas.

3. The refrigerant compressor fitted to the dehumidifier is a durable unit that should give many years of service. Compressor failure can result from the machine losing its refrigerant gas. The compressor can be replaced by a competent refrigeration technician.

Failure of the compressor can be confirmed by the following procedure:

- a. Establish that power is present at the compressor terminals using a voltmeter.
- b. With the power disconnected, check the continuity of the internal winding by using meter across the compressor terminals. An open circuit indicates that the compressor should be replaced.
- c. Check that the compressor is not grounded by establishing that a circuit does not exist between the compressor terminals and the shell of the compressor.

TROUBLESHOOTING

<u>SYMPTOM</u>	<u>CAUSE</u>	<u>REMEDY</u>
Unit inoperative	<ol style="list-style-type: none"> 1. No power to unit 2. Mains cable damaged. 	<ol style="list-style-type: none"> 1. Check the power from power supply panel. 2. Contact the Factory Service Center
Little or no airflow	<ol style="list-style-type: none"> 1. Fan motor burnt out 2. Dirty refrigeration coils 3. Loose electrical wiring 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Insufficient air flow 2. Compressor fault 3. Loss of refrigerant gas 	<ol style="list-style-type: none"> 1. Check all of the above 2. Contact the Factory Service Center 3. Contact the Factory Service Center
Little or no defrost when required	<ol style="list-style-type: none"> 1. Faulty timer 2. Faulty by-pass valve 	<ol style="list-style-type: none"> 1. Contact the Factory Service Center 2. Contact the Factory Service Center
Unit vibrates excessively	<ol style="list-style-type: none"> 1. Loose compressor 2. Damaged fan 	<ol style="list-style-type: none"> 1. Tighten the nuts on the compressor mounts 2. Replace fan
Water flooding inside the machine	<ol style="list-style-type: none"> 1. Drain pipe blocked/frozen 2. Drain pipe too high 3. Crimped or blocked tubing 	<ol style="list-style-type: none"> 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

RM40 SPARE PARTS LIST

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>QUANTITY</u>
1	Timer	1617990	1
2	Condenser coil	2131147	1
3	Evaporator coil	1018611	1
4	Drain tray	2018705	1
5	Filter	1019712	1
6	Capillary	3014250	1.64ft
7	Solenoid valve	3020836	1
8	Filter dryer	3020937	1
9	Solenoid coil	3030451	1
10	On/Off switch	3035914	1
11	Fan Motor	3035773	1
12	Fan Blade	3040181	1
13	Castor	3050205	4
14	Compressor	3022147	1
15	Water Container Assy	1137907	1
16	Bucket Micro Switch	3033033	1
17	Humidistat Knob	2018644	1
18	Bucket Full Lens	3032271	1
19	Bucket Full Light	3036636	1
20	Humidistat	3035158	1
21	Mains Cable	2141095	1
22	Front Grille	2018704	1

WARNINGS

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.

Children shall not play with the appliance.

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.

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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 unit 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.

For correct installation and operation the unit inlet and outlet must have a clearance of 0.5M from all adjacent surfaces and or structures.



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LIMITED WARRANTY

Our products carry a one-year unconditional warranty against any defects in workmanship or material. This warranty will cover all parts and labor required to repair your Ebac product. This warranty is invalid if the unit has been abused, damaged, whether intentional or accidental, or if any modifications have been made to the unit.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS ISSUED IN LIEU OF ALL OTHER WARRANTIES (WHETHER WRITTEN, ORAL, OR IMPLIED) INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. EBAC INDUSTRIAL PRODUCTS, INC. DISCLAIMS ANY LIABILITY FOR CONSEQUENTIAL DAMAGES, LOST PROFITS, OR INCIDENTAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY WITH RESPECT TO THE FOREGOING DESCRIBED MERCHANDISE.

For Your Records: Model: _____
S/N: _____
Date Received: _____

SAVE THIS SECTION FOR YOUR RECORDS
CLIP AND RETURN THIS CARD

PLEASE NOTE

To ensure that your Ebac Dehumidifier is accorded the full coverage provided by this warranty, please complete and mail this card at your earliest convenience.

Thank You

WARRANTY REGISTRATION

MODEL _____	S/N _____	DATE RECEIVED _____
OWNER _____		
ADDRESS _____		
CITY _____	STATE _____	ZIP _____
COMMENTS _____		

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