

EBAC MODEL WM80 INDUSTRIAL DEHUMIDIFIER OWNER'S MANUAL



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WM80

PACKAGE CONTENTS

| Item | Description | Quantity |
|------------|-----------------------------|----------|
| 11284GL-US | Dehumidifier | 1 |
| 3082214 | Brass wood screws | 4 |
| 3088525 | Rawl plug | 4 |
| 3086144 | Quick release hose coupling | 1 |
| 3944110 | PVC tube – 3/8" I/D | 7.8M |
| TPC543 | Manual | 1 |

INTRODUCTION

Designed for a wide range of applications, the WM80 is a rugged, industrial unit, which utilizes an energy-efficient compressor and a compact portable design to provide easy efficient drying.

The WM80 has a number of special features:

- High efficiency rotary compressor
- Ebac's "**Hot Gas**" defrost system
- Integral pump out system
- Provision for permanent drainage
- Exterior epoxy powder-coated finish
- Extra long power cord
- Free Standing or Wall Mountable
- Status Indicators
- Control Humidistat

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 WM80 dehumidifier is a 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.

SPECIFICATIONS

| | |
|-------------------------|------------------------|
| MODEL: | 11284GL-US |
| HEIGHT: | 19.4" (495mm) |
| WIDTH: | 22" (560mm) |
| DEPTH: | 11.4" (290mm) |
| WEIGHT: | 81.5 lbs (37Kg) |
| AIRFLOW: | 360 CFM (600M3/hr) |
| POWER SUPPLY: | 110V - 60Hz - 1 ph |
| FINISH: | Powder-coated Epoxy |
| OPERATING RANGE: | 33°F – 105°F |
| REFRIGERANT: | R-407c (13 oz) |

"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

The following procedures should be followed to test the WM80 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 13 Amp electrical socket. Connect the drainage outlet to a suitably sized hose and run the hose to a permanent drain.

CAUTION

DO NOT REMOVE COVERS WHEN THE UNIT IS IN OPERATION

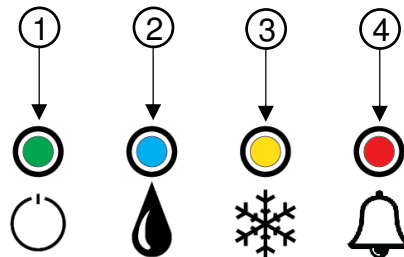
2. Check dehumidification process as follows:
 - a. Place unit on a level surface.
 - b. Turn the power supply on, then turn the on / off switch to the 'I' position, note the display will flash for approximately 1 second then show the humidity set point for approximately 12 seconds. Also all the indicator lights will illuminate for the same duration. After this brief period the display will show the room humidity and all the lights will go off. The machine is now powered up (POWER light illuminated) and ready to operate. Then carry out the following: -
 - c. Set the humidity set point to lowest setting (35% RH) as follows.
 - i. Press the UP and DOWN arrow keys together for 3 seconds and the display will start to flash
 - ii. Use the UP and DOWN arrow keys to adjust the set point to 35%
 - iii. Press the RIGHT arrow key to save (if the RIGHT arrow key is not pressed for 3 seconds the selection is cancelled)
 - iv. Once set to 35% and saved the compressor will start and the drying light will illuminate
 - d. Check that the compressor is running.
 - e. Leave the machine running for 15 minutes.
 - f. Observe the evaporator coils through the rear upper grille, to confirm frost formation.
 - g. If the air temperature is below 25°C, an even coating of frost should cover the entire evaporator coil.
 - h. If the air temperature is above 25°C, frost and/or droplets of condensed water should cover the entire evaporator coil.
 - i. When the unit is operated in an ambient of less than 15°C, a defrost cycle should occur. This will be at intervals of no more than every hour and will last no more than 5 minutes. The exact time is impossible to predict as the unit is fitted with a temperature sensitive defrost control. When in defrost the DRYING lamp will extinguish and the DEFROST light illuminate. After defrost the lights will switch back
3. After using the WM80, turn it off for 5 minutes to allow the condensate on the coils to drain into the pump reservoir.

CAUTION

ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST 5 MINUTES BEFORE RESTARTING

Light Functions:

The unit has four LED indicators, located on the side of the unit. The following lists the functions of these lights:



1 - ON / OFF

Green solid – Indicates power ON

2 – DRYING

Blue flashing – Indicates drying selected (compressor has not started)

Blue solid – Indicates drying ON (compressor has started)

3 – DEFROST

Yellow flashing (Approximately every 5 seconds) – Defrost cycle active

Yellow solid – Defrost in progress

4 – Alarm

Indicates the pump is running, colour can be Flashing Yellow or Red

Initially flashes yellow for a minimum time of 5 seconds. If after 10 seconds the pump is still running the controller assumes a fault / restriction and turns to solid Red.

If the fault clears and the float returns to its normal position, the pump will stop and the LED extinguishes

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

INSTALLATION

The WM80 Dehumidifier can be left free standing unit, alternatively can be wall mounted for instructions on mounting the unit please read the following:

A full installation kit is included in the package to allow a problem free install. This kit comprises of the following :-

- 1 X WM80 Dehumidifier
- 1 X Mounting Bracket
- 4 X Rawl plugs and screws
- 4 X M6 Hex Head Bolts, flat and spring washers

For mounting the WM80 Dehumidifier to a wall you will first need to remove the cover from the unit and detach the wall mounting bracket from the rear of the unit by removing the 4 bolts that secures it.

With reference to the installation drawing at the rear of this manual, maintain the minimum clearances from adjacent objects (ie walls ceilings etc). Maintaining these distances will ensure easy access for installation and maintaining the unit during the products life

Place the wall mounting bracket onto the wall, ensuring the correct orientation, and the bracket is level. Mark off 4 points on the wall where you will be securing the bracket, the bracket has numerous holes and slots to allow the bracket to be mounted at different points depending on the wall you are mounting it to. It is advised to have the fixing points spaced out as far as possible to allow a more ridged and secure installation.

Using a 7mm masonry bit, drill the 4 points you marked off earlier to a depth of 40mm, insert the 4 Rawl plugs into the wall that are supplied with this unit.

Secure the wall mounting bracket to the wall using the 4 brass screws supplied with the unit.

Ensure all fixings are tight and bracket is secured to the wall.

Screw 2 X M6 Bolts into the top fixings on the bracket, only screwing them in a 2-3 turns. Lift the unit onto the bracket and hook the unit onto the bolts using the keyhole slots in the rear of the unit do not tighten the bolts yet. Fit the 2 remaining bolts through bottom holes in the rear of unit and into the wall mounting bracket and tighten all 4 bolts.

Check to make sure the unit is secure to the wall mounting bracket.

Replace cover and refit all fixings that have been removed.

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. Remove the air filter and clean by either blowing compressed air through, vacuuming or washing in warm water
3. Check that the fan is firmly secured to the motor shaft and that the fan rotates freely. **The fan motor is sealed for life and therefore does not need oiling.**
4. To check the refrigerant charge, run the unit for 15 minutes and briefly remove the top cover. The evaporator coil should be evenly frost coated 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. During this inspection, check visually to ensure that the pump rollers are turning.
5. Check all wiring connections.
6. To check the operation of the defrost system, switch the machine on and leave it running for approximately 55 minutes. The machine will then enter "Hot Gas" defrost mode for approximately 5 minutes before returning to normal operation. If the unit will not defrost, the printed circuit timer board may be defective or the by-pass valve may be inoperable.

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.

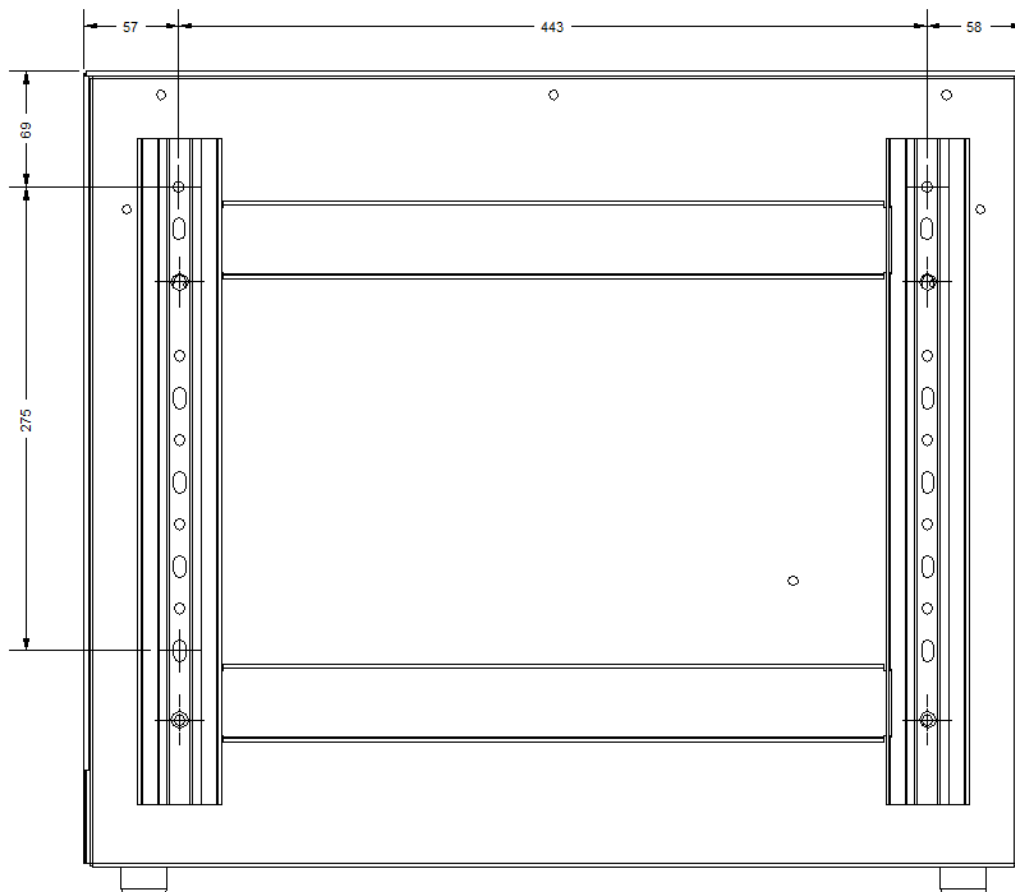
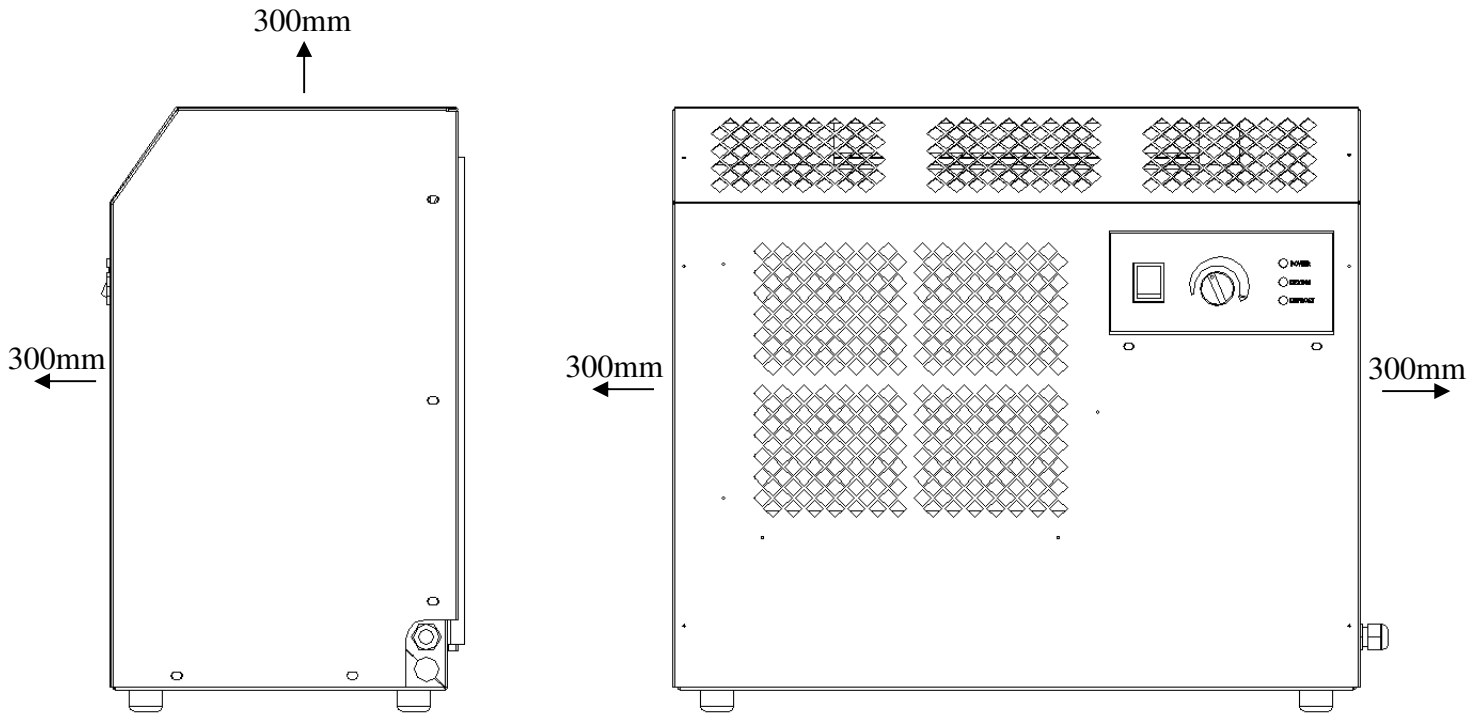
TROUBLESHOOTING

| <u>SYMPTOM</u> | <u>CAUSE</u> | <u>REMEDY</u> |
|---|--|---|
| Unit inoperative | 1. No power to unit | 1. Check the power from power supply panel |
| Little or no airflow | 1. Loose fan on shaft 2. Fan motor burnt out 3. Dirty refrigeration coils / filter 4. Loose electrical wiring | 1. Tighten fan 2. Replace the fan motor 3. See <i>Routine Maintenance</i> Section 4. 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 |

SPARE PARTS LIST

| Description | Part Number |
|-----------------------------|-------------|
| Product Part Number | 11284GL-US |
| PCB Timer | 1619522 |
| Controls Display PCB | 1619524 |
| Humidity Sensor PCB | 1619526 |
| PCB Connecting Cable | 2013748 |
| Condenser Coil | 2026014 |
| Evaporator Coil | 2026074 |
| Filter | 2028420 |
| Mains Cable | 3035148 |
| Keypad Label | 2128417 |
| Drain Tray | 2131107 |
| Insulation Tube 10mm ID | 3014301 |
| Silicone Drain Tray Tube | 3014368 |
| By-Pass Valve | 3020837 |
| Filter Dryer | 3020901 |
| Solenoid Coil | 3030451 |
| 20mm Open Grommet | 3032101 |
| 3/8" Open Grommet | 3032104 |
| M16 Gland Nut | 3032512 |
| Humidity Sensor Housing | 3035164 |
| M16 Gland | 3035442 |
| On / Off Switch | 3035914 |
| Fan Motor | 3040137 |
| Spire Clip | 3080501 |
| No. 10 x 5/8" Screw | 3084095 |
| Large Hose Clip | 3086135 |
| Quick Release Tube Coupling | 3086144 |
| Small Hose Clip | 3086146 |
| Edge Fastener Clip | 3088520 |
| PCB Mounting Pin | 3101413 |
| Feet | 3101436 |
| Condensate Pump | 3160145 |
| Relay | 3036157 |
| Light Pipe Lens | 3931733 |
| Compressor Capacitor | 3030908 |
| Condensate Drain Tube | 3944110 |
| Condensate Pump Outlet Tube | 3944113 |
| Compressor | 3944932 |

Spare parts available online
www.EIPLDIRECT.com





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|---------|--------------|
| Drawing | : - TPC543 |
| Issue | : - 2 |
| Date | : - 07/10/22 |

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 _____ | | |
| _____ | | |
| Ebac Industrial Products. 700 Thimble Shoals Boulevard, Suite 109, Newport News, Virginia. 23606-2575 | | |

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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R134a – 1300

R407c – 1610

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

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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| Drawing | : - TPC543 |
| Issue | : - 2 |
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