

# K100E DEHUMIDIFIER OWNER'S MANUAL



[www.eipl.co.uk](http://www.eipl.co.uk)

## K100E

# PACKAGE CONTENTS

Item	Description	Quantity
10185GE-US	Dehumidifier	1 off
3086144	Quick release hose coupling	1 off
3944110	PVC Tube – 3/8" I/D	7.8M
TPC452	Manual	1 off

## INTRODUCTION

Dehumidifiers remove moisture from the air that is circulating through the unit. The resulting reduction of relative humidity helps prevent rust, rot, mold, mildew and condensation within the room, or other enclosed spaces where the dehumidifier is used.

The K100E has a number of special features:

- Ebac's "Reverse Cycle" 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 Indicator
- Electronic Humidity Control

The fan draws air through the refrigerated surface and cools it below its dew point, removing moisture which is collected and led away. The cool air then passes the hot condenser, where it is reheated. With the addition of other radiated heat the air is discharged into the room at a higher temperature but lower relative humidity than when the air entered the unit. Continuous circulation of the room air through the dehumidifier unit gradually reduces the relative humidity in the room.

The K100E controls consist of an electronic humidity controller, incorporating Bluetooth connectivity and Real Time Clock, allowing the unit to interface with Android and IOS smart phones and provide additional control and data logging features. The respective apps are available for free download through the normal channels

### Smartphone App

The Smartphone interface allows the following additional functions

- a) Real time monitoring of the relay status and room conditions
- b) Adjustment of Control set point (To allow this functionality, the link fitted to J3 on the main controller board, will need removing)
- c) Data logging of, Time, Temperature, Humidity, Relay Status, Control and Alarm Set points
- d) Adjusting the data Logging Interval
- e) Resetting the data log
- f) Downloading logged data
- g) Emailing logged data in RAW or CSV formats (Allowing importing into Excel)

The K100E dehumidifier is a rugged reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions. A powerful and reliable reverse cycle defrost system, controlled by an electronic timer, guarantees positive de-icing and thereby optimizing operation at low temperatures.

The unit incorporates a welded steel chassis and is finished in epoxy coated steel covers for resilience to damage caused by rough handling.

## SPECIFICATIONS

**MODEL:** 10185GE-US

**HEIGHT:** 27.2" (692mm)

**WIDTH:** 22.8" (580mm)

**DEPTH:** 18.3" (464mm)

**WEIGHT:** 117 Lbs (53Kg)

**AIRFLOW:** 300 CFM (510 M3/Hr)

**POWER SUPPLY:** 110V 1Ph 60Hz

**POWER** 1500 W (max)

**FINISH:** Epoxy coated steel

**REFRIGERANT TYPE/QTY:** R407C (540g)

*"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"*

## INSTALLATION

### POSITIONING:

Position the dehumidifier unit in the center of the room to be conditioned if at all possible. However if a damp patch is particularly apparent the outlet grille should be pointed towards it.

**NOTE:** Both inlet grille and outlet grille of the dehumidifier unit must have clear space around them and not be obstructed in anyway.

### WIRING:

Connect the power mains cable to a designated 30 Amp breaker. As follows:-

For Models without plugs:-

Brown	Live
Blue	Neutral
Green/Yellow	Earth (ground)

### DRAINAGE:

The K100E has a water pump fitted as standard which is capable of discharging the condensate water 20ft vertical lift away from the unit & 100ft horizontal. The water can, therefore, be discharged into a drain some distance away.

## OPERATION

The following procedures should be followed to test the K100E 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 electrical outlet.
2. Setting the Digital Humidistat
  - Turn fully clockwise
3. Check dehumidification process as follows:

TO ENSURE CONTINUED FULL EFFICIENCY OF THE DEHUMIDIFIER, MAINTENANCE PROCEDURES SHOULD BE PERFORMED AS FOLLOWS:
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- A. Place unit on a level surface.
- B. Start up unit by turning the ON/OFF switch to ON
- C. Check that the compressor is running.
- D. Leave the machine running for 15 minutes.
- E. Observe the evaporator coils through the rear upper grill, to confirm frost operation.
  - i. If the air temperature is below 80°F, an even coating of frost should cover the entire evaporator coil
  - ii. If the air temperature is above 80°F, frost and/or droplets of condensed water should cover the entire evaporator coil.
- F. After continuous running time of approximately 55 minutes, the unit will enter "Hot Gas" defrost mode for 5 minutes and then automatically return to normal operation.

**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;"><b>CAUTION:</b> ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST FIVE MINUTES BEFORE RESTARTING.</p>
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## **Discharge Pump**

The pump works automatically and periodically pumps away collected moisture to a drain or container. The pump is capable of discharging water to a vertical height of 20ft.

## **Warnings.**

- 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.



## **ROUTINE MAINTENANCE**

**WARNING:**  
ENSURE THAT THE POWER CORD TO THE MACHINE HAS BEEN  
DISCONNECTED BEFORE CARRYING OUT ROUTINE MAINTENANCE ON  
ITEMS 1, 2, 3, AND 4.

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 (approx 6") to avoid damaging the fins. Alternatively, vacuum clean the coils.

**WARNING:**  
DO NOT STEAM CLEAN REFRIGERATION COILS

2. Check that the fan is firmly secured to the motor shaft and that the fan rotates freely.

### **THE FAN IS SEALED FOR LIFE AND DOES NOT NEED LUBRICATING.**

3. To check the refrigerant charge, run the unit for 20 minutes (with humidistat set to maximum) and briefly remove the cover. The evaporator coil should be evenly frost coated across its surface. At temperatures above 77°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.

**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 correct 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 licensed 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 licensed 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

<b>SYMPTOM</b>	<b>CAUSE</b>	<b>REMEDY</b>
<b>Little or no airflow</b>	<ol style="list-style-type: none"> <li>1. Loose fan on shaft</li> <li>2. Fan motor burnt out</li> <li>3. Dirty refrigeration coils</li> <li>4. Loose electrical wiring</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten fan</li> <li>2. Replace the fan motor</li> <li>3. See <i>Routine Maintenance</i> Section</li> <li>4. Check the wiring diagram to find fault and repair</li> </ol>
<b>Little or no water extraction</b>	<ol style="list-style-type: none"> <li>1. Insufficient air flow</li> <li>2. Compressor fault</li> <li>3. Loss of refrigerant gas</li> </ol>	<ol style="list-style-type: none"> <li>1. Check all of the above</li> <li>2. Contact the Factory Service Center</li> <li>3. Contact the Factory Service Center</li> </ol>
<b>Little or no defrost when required</b>	<ol style="list-style-type: none"> <li>1. Faulty Timer</li> <li>2. Faulty bypass timer</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact the Factory Service Center</li> <li>2. Contact the Factory Service Center</li> </ol>
<b>Unit vibrates excessively</b>	<ol style="list-style-type: none"> <li>1. Loose compressor mounts</li> <li>2. Damaged fan</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten nuts on compressor mounts</li> <li>2. Replace with a new fan</li> </ol>
<b>Water flooding inside machine</b>	<ol style="list-style-type: none"> <li>1. Faulty water pump</li> <li>2. Sticking float switch</li> <li>3. Drain tray blocked</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace water pump</li> <li>2. Remove obstruction</li> <li>3. Remove obstruction</li> </ol>

Spare parts available online

[www.EIPLDIRECT.com](http://www.EIPLDIRECT.com)

## K100E SPARE PARTS LIST

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>QUANTITY</u>
1	HUMIDITY SENSOR	1619514	1
2	DEFROST TIMER	1619516	1
3	CAPILLIARY TUBE .047 2pcs.	3014251	48" x2
4	COMPRESSOR (R407c)	3944915	1
5	CONDENSER COIL	3020727	1
6	EVAPORATOR COIL	3020732	1
7	DEFROST VALVE	3020833	1
8	FILTER DRYER	3020957	1
9	CONTACTOR	3930732	1
10	SOLENOID COIL	3030453	1
11	ROTARY SWITCH	3030557	1
12	MOTOR	3030126	1
13	CAPACITOR	3036337	1
14	USA PLUG	3934515	1
15	AXIAL FAN	3940002	1
16	PUMP	3160145	1



Drawing	: - TPC452
Issue	: - 2
Date	: - 23/05/16

## LIMITED WARRANTY

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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: \_\_\_\_\_

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 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***

<b>WARRANTY REGISTRATION</b>		
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		



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