

K100P

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.

K100P

PACKAGE CONTENTS

Item	Description	Quantity
11241HZ-US	Dehumidifier	1
3086144	Quick release hose coupling	1
3944110	PVC tube – 3/8" I/D	7.8M
TPC652	Manual	1

INTRODUCTION

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

A dehumidifier consists of a motor-compressor unit, a refrigerant condenser, an air circulating fan, a refrigerated surface, a means of collecting and disposing the condensed moisture and a cabinet to house these components. 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 K100P dehumidifier is a rugged reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions. A powerful and reliable active hot gas defrost system, controlled by an electronic timer, guarantees positive de-icing and thereby optimising operation at low temperatures.

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

SPECIFICATIONS

MODEL: K100P

HEIGHT: 451mm (18")

WIDTH: 712mm (28")

DEPTH: 478mm (19")

WEIGHT: 62 Kg (137 lbs)

AIRFLOW: 510 M³/hr (300 cfm)

POWER SUPPLY: 110 V, 1 ph, 60Hz

FINISH: Epoxy coated steel

REFRIGERANT TYPE/QTY: R454c (See unit rating label for quantity)

OPERATING RANGE: 3°C – 35°C

INSTALATION

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

WIRING:

Connect the power mains cable to a 13 Amp power supply. As follows:-

Brown	Live
Blue	Neutral
Green/Yellow	Earth (ground)

DRAINAGE:

The appliance is fitted with a condensate pump which collects all the condensate. As the condensate pump fills with water it will automatically activate and empty via the tube outlet located at the back of the dehumidifier, this should be connected to a water container or permanent drain. If the pump fails, then the dehumidifier will automatically switch off. NOTE: after the pump has emptied there will still be a small amount of water standing in the pump reservoir which will leak if the dehumidifier is not kept upright.

OPERATION

The operation of the dehumidifier is to remove moisture from the air by having it condense on the cold tubes of the evaporator coil. The air then passes over the hot condenser coil and returns to the conditioned space slightly warmer and dryer than when it entered the dehumidifier unit. To concentrate drying all doors and windows should be kept closed.

Test for Correct Operation

WARNING:

DO NOT RUN THE MACHINE WITHOUT THE COVERS IN PLACE FOR ANY LONGER THAN NECESSARY. DO NOT REMOVE / REPLACE THE COVERS WITH THE POWER ON

1. Set the adjustable humidistat to maximum.
2. Switch the machine to ON via the I/O (on / off switch); this will result in the compressor starting to run and the fan blade starting to rotate.
3. When the compressor has been running for 20 minutes the coils located above the drain tray will be evenly coated in frost. (If the ambient temperature is above 25°C the coils will be covered in water.
4. 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) this will result in the frost on the coils melting and dripping into the drainage tray.
5. After the defrost has finished the machine will return to normal operation.
6. The condensate drains into the pump reservoir. Once enough water is collected in the pump it will automatically activate and empty. The purge switch can also be used to empty any water in the pump.

Shutdown Procedure

After using the K100P, turn it off at the switch (do not disconnect from mains supply) for 5 minutes to allow the condensate on the coils to drain into the pump reservoir. If the compressor has been running for longer than 10 minutes, and the set point has been reached, the unit may initiate a defrost before the compressor switches off. LED Status during this 'run on' period – Drying LED OFF / Defrost LED ON (solid)

CAUTION

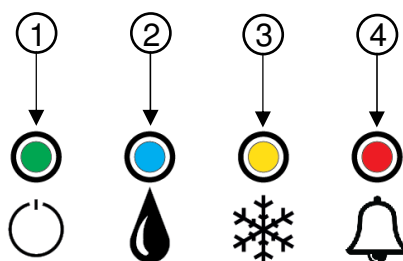
ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST 5 MINUTES BEFORE RESTARTING

Setting the Adjustable Humidistat

The position of the humidistat depends on the application the K100P is being used for and the conditions within the area to be dried. The worse the conditions within the area then the higher the humidistat should be set (i.e. the machine will run for a longer period of time to ensure all the moisture is reduced sufficiently). As a rough guide the humidistat wants to be set at approximately 50% for factories and warehouses and for basements or de-flooding then the humidistat should be set to approximately 100%.

Light Functions:

The unit has four LED indicators, located in the controls. 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

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:

Removal of the cover is achieved by means of four screws at the sides of the unit at base level. With the cover removed all maintenance can be carried out.

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 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.

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>
Little or no airflow	1. Loose fan on shaft 2. Fan motor burnt out 3. Dirty refrigeration coils 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 bypass timer	1. Contact the Factory Service Center 2. Contact the Factory Service Center
Unit vibrates excessively	1. Loose compressor mounts 2. Damaged fan	1. Tighten nuts on compressor mounts 2. Replace with a new fan
Water flooding inside machine	1. Faulty water pump 2. Sticking float switch 3. Drain tray blocked	1. Replace water pump 2. Remove obstruction 3. Remove obstruction

CD100 SPARE PARTS LIST

Description	Part Number
Product Part Number	11324BR-US
PCB Timer	1619522
Display PCB	1619523
PCB Connecting Cable	2013748
Humidistat Control Knob	2019708
Filter	2027114
Capillary	3014252
Insul Tube – 10mm ID	3014301
Silicone Tube – 10mm ID	3014368
Inseal Foam Tape	3015109
Condenser Coil	3020727
Evaporator Coil	3020732
Defrost Valve	3020833
Filter Dryer	3020957
Fan Motor	3030126
Defrost Solenoid Coil	3030453
Mains Cable	3031202
Open Grommet – 20mm	3032101
Edging Strip	3032999
Humidistat	3035158
PCB Jumper Socket	3035834
On / Off Switch	3035914
Compressor Capacitor	3036358
Pump Purge Switch	3036779
Cover Fixing Spacer	3080504
Claw Latch	3083512
Cover Screw No.8 x 1"	3084013
Snapper Hose Clip – Large	3086135
Quick Release Coupling	3086144
Hose Snapper Clip – Small	3086146
PCB Fastening Pins	3101413
Condensate Pump	3160145
Solid State Relay	3931321
Light Pipe Lens	3931732
Mains Plug	3934515
Fan Blade	3940002
Cable Gland – M20	3942330
PVC Tube – 3/8" ID - 7.8mt Long	3944110
Reinforced PVC Tube – 10mm ID	3944113
Compressor	3944967



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