

K100P DEHUMIDIFIER

OWNER'S MANUAL



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SAFETY INFORMATION

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 not 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 / 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.
- The appliance should not be used or stored in a space of 4M³ or smaller.
- 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.

DEHUMIDIFIER PRINCIPLE

Dehumidifiers remove moisture from the air that is circulating through the appliance.

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 appliance. Continuous circulation of the room air through the appliance gradually reduces the relative humidity in the room.

The appliance 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 guarantees positive de-icing, thereby optimizing operation at low temperatures. Should the ambient temperature fall below 15°C then ice will form on the evaporator coil as the air is passed over it, and in turn the efficiency of the unit will drop. To prevent the buildup of this ice on the evaporator coil an electronic timer is incorporated to energize the hot-gas defrost valve. Operating the hot-gas valve causes the evaporator coil to defrost and the water to drain down to the condensate pan and into the drainage tube.

The appliance has been designed to work in ambient temperatures between 3°C and +35°C. Should the temperature in the room become excessive a thermostat within the compressor casing will open and dehumidifying will stop, until the thermostat resets itself.

UNPACKING

Carefully remove the appliance from its transit box and visually check for signs of transit damage. If there is evidence of damage DO NOT attempt to operate the appliance, call your supplier for advice. Do not discard the packing; it will be useful when transporting the dehumidifier unit in the future.

INSTALLATION

POSITIONING:

Position the appliance 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 appliance must have clear space around them and not be obstructed in anyway. The unit must also be on a level surface and raised 1M from the ground, this allows a gap under the unit that gas can escape to if the refrigeration circuit is damaged and refrigerant escapes. This height also ensures that the condensate water can drain away correctly.

Appliance shall be installed, operated and stored in a room with a floor area larger than 4M².

WIRING:

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

230V supply

Brown

Blue

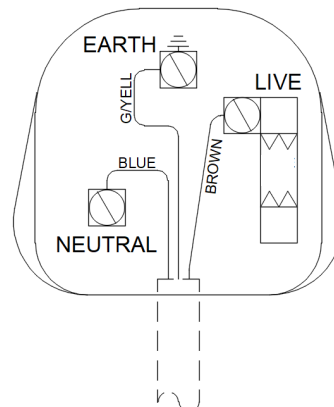
Green/Yellow

Live

Neutral

Earth (ground)

13 AMP 230V PLUG
TO BS1363



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

Once the appliance is installed turn the humidistat knob fully clockwise. Switch the power supply ON. Turn the on/off switch ON and note the unit starts. Then carry out the following: -

- Check that the compressor and fan are running
- Leave the appliance to run for approximately 15 minutes
- Observe the evaporator coil through the inlet grille to confirm frost formation or weeping of the evaporator coil
 - 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.
- 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.
- After the defrost has finished the machine will return to normal operation.
- 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

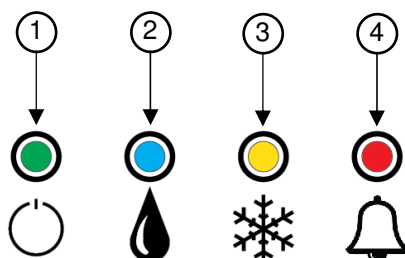
After using the K100P, turn it off at the switch (do not disconnect from mains supply) for 5 minutes to allow the condensate on the coils to drain into the pump reservoir. If the compressor has been running for longer than 10 minutes, and the set point has been reached, the unit may initiate a defrost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

Humidistat Control:

The appliance is fitted with a humidistat, which measures the relative humidity of the air within the room to be conditioned. The humidistat incorporates a pointer and scale, which can be adjusted, and set to a relative humidity level that is acceptable to maintain the required conditions within the room. The humidistat controls the on/off function of the dehumidifier, when the relative humidity of the air in the room falls below the set point of the humidistat the dehumidifier will switch off, but when the relative humidity of the air starts to rise again and passes the set point the unit will switch on. The humidistat is used for the on/off function as it is a cost effective method which ensures power is only used when needed.

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

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.

ROUTINE SERVICE

WARNING:

ENSURE THE POWER CORD TO THE APPLIANCE IS DISCONNECTED BEFORE CARRYING OUT ROUTINE SERVICE. SERVICING AND REPAIR SHOULD ONLY BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON.

To ensure continued full efficiency of the appliance, 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 THE REFRIGERATION COILS

2. Check that the fan is firmly secured to the motor shaft and that the fan rotates freely. The motor is sealed for life and does not require any lubrication
3. To check the refrigerant charge, run the appliance for 15 minutes. 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.

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 5. Control humidistat either set too high or malfunctioning	1. Tighten fan 2. Replace the fan motor 3. See <i>Routine Maintenance</i> 4. Check the wiring diagram to find fault and repair 5. Adjust humidistat as required or replace
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 EIPL 3. Contact EIPL
Little or no defrost when required	1. Faulty Timer 2. Faulty bypass timer	1. Contact EIPL 2. Contact EIPL

SPECIFICATIONS

MODEL: K100P

HEIGHT: 451 mm (18 in)

WIDTH: 712 mm (28 in)

DEPTH: 478 mm (19 in)

WEIGHT: 62 Kg (137 lb)

AIRFLOW: 510 M³/Hr (300 CFM)

POWER SUPPLY: 230 V, 1 ph, 50 Hz

FINISH: Epoxy Coating

REFRIGERANT TYPE/QTY: R454c (400g)

OPERATING RANGE: 3°C – 35°C

APPLIANCE SPARE PARTS LIST

Description	Part Number
Product Part Number	11241HZ-GB
PCB Timer	1619522
Display PCB	1619523
PCB Connecting Cable	2013748
Humidistat Control Knob	2019708
Filter	2027114
Mains Cable	2029217
Capillary Tube	3014252
Inslu Tube – 10mm ID	3014301
Insul Tube – 54mm OD	3014312
Silicone Tube – 10mm ID	3014368
Inseal Foam Tape	3015109
Condenser Coil	3020727
Evaporator Coil	3020732
Defrost Valve	3020833
Filter Dryer	3020957
Fan Motor	3030129
Defrost Solenoid Coil	3030454
Open Grommet – 20mm	3032101
Edging Strip	3032999
Humidistat	3035158
PCB Jumper Socket	3035834
On / Off Switch	3035914
Pump Purge Switch	3036779
Fan Blade	3040116
Cover Fixing Spacer	3080504
Claw Latch	3083512
Cover Screw No.8 x 1"	3084013
Snapper Hose Clip – Large	3086135
Quick Release Coupling	3086144
Snapper Hose Clip – Small	3086146
PCB Fastening Pins	3101413
Condensate Pump	3160148
Solid State Relay	3931321
Light Pipe Lens	3931732
Compressor Capacitor	3933604
Cable Gland – M20	3942330
PVC Tube – 7.8M – 3/8" ID	3944110
Reinforced PVC Tube - 10mm ID	3944113
Compressor	3944965



Drawing	: - TPC653
Issue	: - 1
Date	: - 03/02/26



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