

CD30E 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 R290 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.
- R290 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.

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

WIRING:

Connect the power mains cable to power supply as follows: -

230V supply

5 AMP 230V PLUG BS1363

Brown

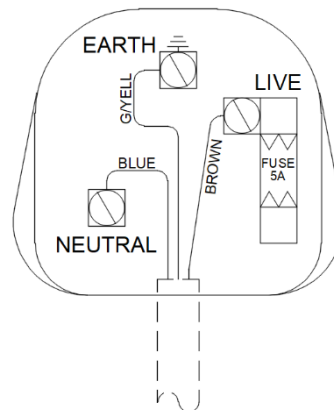
Live

Blue

Neutral

Green/Yellow

Earth (ground)



DRAINAGE:

Connect a 12.5mm inside diameter hose to the condensate outlet pipe. Secure the hose using a worm drive clip. The hose should at no point be raised higher than the outlet pipe. Hose should be run to a permanent drain. Failure to observe this requirement will result in flooding of the appliance.

The appliance is fitted with a heater tape, which will run the length of the condensate drainage tube. The effect of this heated condensate drainage tube will ensure that when the drainage point for the unit is not in the same room, but is run outside the room and could fall below freezing point, the tube will be warm enough to still allow the condensate to flow. Ensure that the heater tape does not protrude past the condensate drainage tube, if it does then the tape should be doubled up and fed back up into the condensate tube.

OPERATION

Once the appliance is installed turn the power supply on and note the unit starts. Then carry out the following: -

- Check that the compressor is 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.

Control Humidistat:

The appliance is fitted with a control 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. This humidistat is pre-set at 55% RH to maintain the relative humidity air at the set point.

Alarm Humidistat:

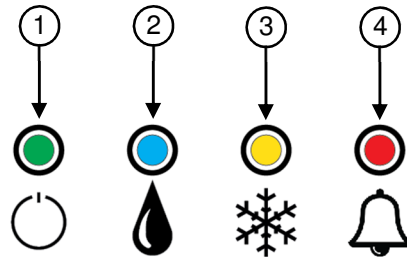
This humidistat, which has been factory pre-set at 70% RH, allows for connection to an external warning system. This warning indicating system will be monitored by the customer and will warn and indicate when the relative humidity of the air within the room has risen above a warning level due to a fault, either with the dehumidifier or due to some other circumstances and will require a service engineer.

NOTE RATING OF ALARM HUMIDISTAT IS 3.5A @ 240V

Alarm Wiring:	Plug L – Normally open contacts
	Plug N – Close on humidity rise
	Plug E – Earth

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

Yellow Flashing followed by Red solid – Alarm humidity level reached

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: CD30

HEIGHT: 300 mm (11.8 in)

WIDTH: 350 mm (13.8 in)

LENGTH: 550 mm (21.7 in)

WEIGHT: 25 Kg (55.1 lb)

AIRFLOW: 150 M³/Hr (88.3 CFM)

POWER SUPPLY: 230 V, 1 ph, 50 Hz

FINISH: Epoxy Coating

REFRIGERANT TYPE/QTY: R290 (see unit rating label for quantity)

OPERATING RANGE: 3°C – 35°C

APPLIANCE SPARE PARTS LIST

Description	Part Number
Appliance Number	10137GY-GB
Compressor	3944962
By-Pass Valve	3020836
Condenser Coil	3020740
Evaporator Coil	1133501
Capillary	3014250
Filter Dryer	3020937
Fan Motor	3035752
Fan Blade	3040129
Control Humidistat	3035158
Alarm Humidistat	3035158
PCB Timer	1619522
PCB Light Board	1619523
Solenoid Coil	3030452
Humidistat Knob	3090611
Control Humidistat Knob cap (Black)	3090612
Alarm Humidistat Knob Cap (Orange)	3090645
Panel Mount Plug	3035997
Free Socket	3035998
Feet	3100758
Mains Cable	3031231
Condensate Drain Tube	3944115
Worm Drive Clip	3086101
Cover fixing Clip Nut	3080507



Drawing	: - TPC523
Issue	: - 2
Date	: - 19/11/20



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