

CD85 DEHUMIDIFIER

OWNER'S MANUAL



www.eipl.co.uk



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 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 / 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.

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

COVERS:

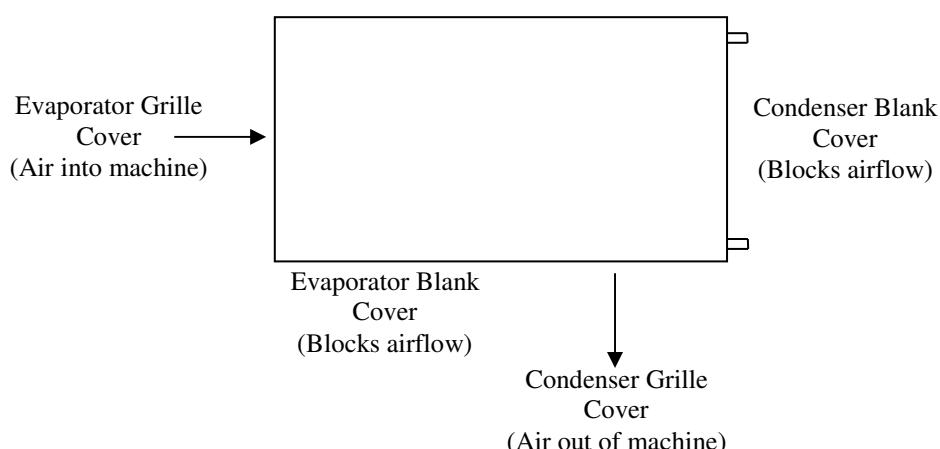
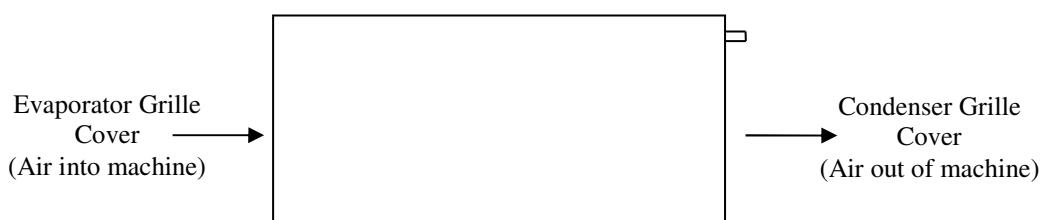
The unit covers can be swapped to allow the airflow direction to be changed to better suit the application the unit is to be used for. To change the covers, first remove the 4 off retaining screws and washers from each cover, swap cover positions and replace 4 off retaining screws and washers. If changing the evaporator covers then the filter retaining mesh should always be placed behind the evaporator grille cover which is held in place with 4off M3 hex head bolts. When moving the evaporator grille cover the humidistat sensor mounting bracket and sensor housing will also need to be moved. The sensor housing bracket can be mounted to either side of the grille via 2 off m4 fixings; it should always be fitted so that it is located above the condensate pump. It will also need rotating on the bracket so the cable is pointing downwards, this can be done via the M4 fixing in the top of the housing.

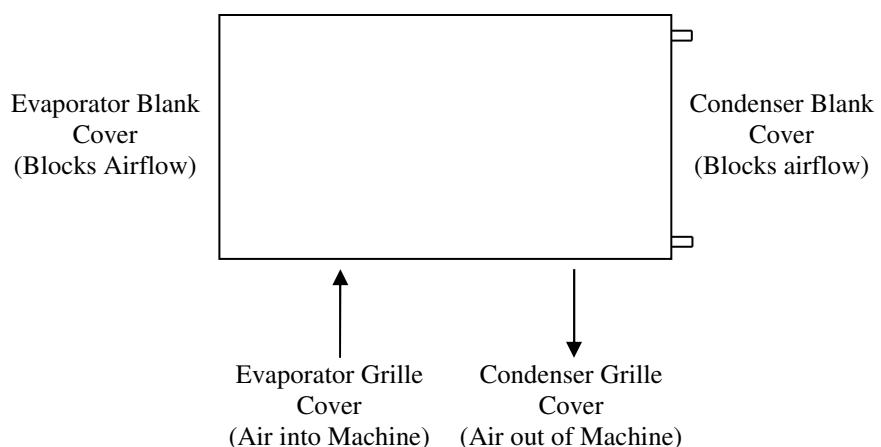
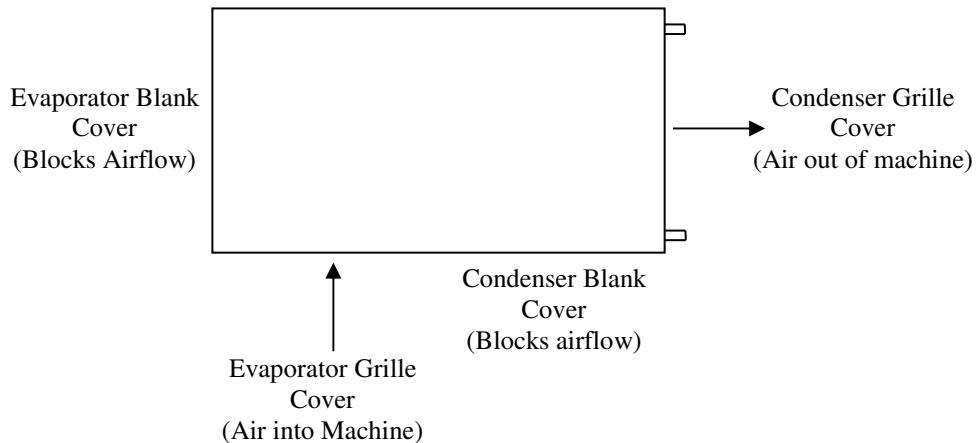
Evaporator Grille Cover and Evaporator Blanking Cover are interchangeable.

Condenser Grille Cover and Condenser Blanking Cover are interchangeable.

Evaporator and Condenser covers are not interchangeable.

The different combinations available are shown below.





HANDLE:

The CD85 can be fitted with handles if required. Handles are found separate in the packaging. On top of the unit there are 4 off M5 pan headed bolts. Remove the bolts with appropriate flat bladed screw driver. Place handles over fixings on top of unit and replace M5 bolts to secure handle.

WIRING:

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

230V supply

13 AMP 230V PLUG BS1363

Brown

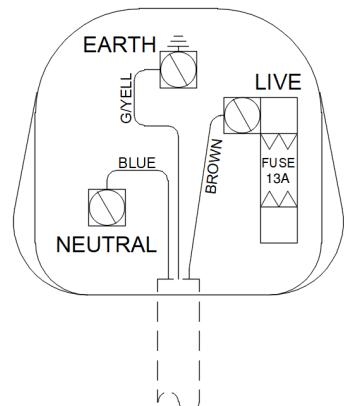
Live

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 end of the dehumidifier, this should be connected to a water container or permanent drain.

OPERATION

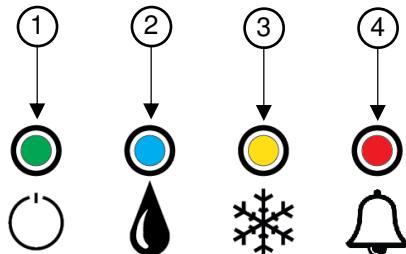
Once the appliance is installed turn the power supply on, then turn the on / off switch to the 'I' position, note the display will flash for approximately 1 second then show the humidity set point for approximately 12 seconds. Also all the indicator lights will illuminate for the same duration. After 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: -

- Set the humidity set point to lowest setting (35% RH) as follows.
 - Press the UP and DOWN arrow keys together for 3 seconds and the display will start to flash
 - Use the UP and DOWN arrow keys to adjust the set point to 35%
 - Press the RIGHT arrow key to save (if the RIGHT arrow key is not pressed for 3 seconds the selection is cancelled)
 - Once set to 35% and saved the compressor will start and the drying light will illuminate
- Check that the compressor is running
- Leave the appliance to run for approximately 15 minutes
- Observe the coils through the filter 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. When in defrost the DRYING lamp will extinguish and the DEFROST light illuminate. After defrost the lights will switch back.

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.

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: 11293GL-GB

HEIGHT: 400 mm (15.8 in)

WIDTH: 600 mm (23.6 in)

DEPTH: 345 mm (13.6 in)

WEIGHT: 33 Kg (72.8 lb)

AIRFLOW: 350 M³/Hr (206 CFM)

POWER SUPPLY: 230 V, 1 ph, 50 Hz

FINISH: Epoxy Coating

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

OPERATING RANGE: 3°C – 35°C

APPLIANCE SPARE PARTS LIST

| Description | Part Number |
|-----------------------------------|-------------|
| Product Part Number | 11293ML-GB |
| PCB Timer | 1619522 |
| Controls Display PCB | 1619524 |
| Humidity Sensor PCB | 1619526 |
| PCB Connecting Cable | 2013748 |
| Mains Cable | 2029217 |
| Filter | 2029331 |
| Drain Tray | 2029332 |
| Condenser / Evaporator Coil Block | 2029336 |
| Control Label | 2128422 |
| Capillary Tube | 3014249 |
| Insulation Tube 10mm ID | 3014301 |
| Silicone Drain Tray Tube | 3014368 |
| By-Pass Valve | 3020837 |
| Filter Dryer | 3020909 |
| Solenoid Coil | 3030452 |
| 20mm Open Grommet | 3032101 |
| 3/8" Open Grommet | 3032104 |
| Mains Cable Gland Nut | 3032512 |
| Float Switch | 3033043 |
| Mains Supply Filter | 3033618 |
| Coil Sensor | 3035142 |
| Humidity Sensor Housing | 3035164 |
| Mains Cable Gland | 3035442 |
| On / Off Switch | 3035914 |
| Fan | 3040278 |
| Fan Inlet Ring | 3040283 |
| Cover Fixing Spacer | 3080504 |
| Jubilee Clip | 3086101 |
| Silicone Tube to Copper Tube Clip | 3086135 |
| Non Return Valve Clip | 3086136 |
| Handle | 3090150 |
| PCB Mounting Pin | 3101413 |
| Feet | 3101436 |
| Condensate Pump | 3160152 |
| Solid State Relay | 3931320 |
| Light Pipe Lens | 3931732 |
| Compressor Capacitor | 3933603 |
| Condensate Drain Tube | 3944115 |
| Compressor | 3944964 |

Spare parts available online
www.EIPLDIRECT.com



| | |
|------------|----------|
| Drawing :- | TPC557 |
| Issue :- | 1 |
| Date :- | 06/09/21 |



| | |
|------------|----------|
| Drawing :- | TPC557 |
| Issue :- | 1 |
| Date :- | 06/09/21 |



UK Head Office

Ebac Industrial Products Ltd
St Helens Trading Estate
Bishop Auckland
County Durham
DL14 9AD

Tel: +44 (0) 1388 664400
Fax: +44 (0) 1388 662590

www.eipl.co.uk
sales@eipl.co.uk

American Sales Office

Ebac Industrial Products Inc
700 Thimble Shoals Blvd.
Suite 109, Newport News
Virginia, 23606-2575
USA

Tel: +01 757 873 6800
Fax: +01 757 873 3632

www.ebacusa.com
sales@ebacusa.com