

CD85

INDUSTRIAL DEHUMIDIFIER

OWNER'S MANUAL



www.eipl.co.uk

INTRODUCTION

Designed for a wide range of applications, the CD85 dehumidifier is a rugged, industrial unit which utilizes an energy-efficient compressor and a compact portable design to provide easy efficient drying.

The CD85 has a number of special features:

- Compact Size
- High efficiency rotary compressor
- Ebac's "**Hot Gas**" defrost system
- Exterior epoxy powder-coated finish
- Provision for permanent drainage
- All galvanized interior
- Extra long power cord
- Humidistat

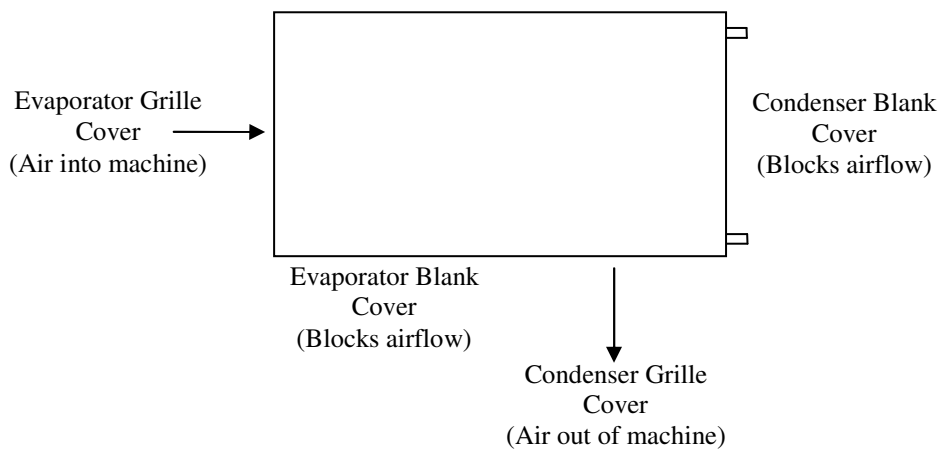
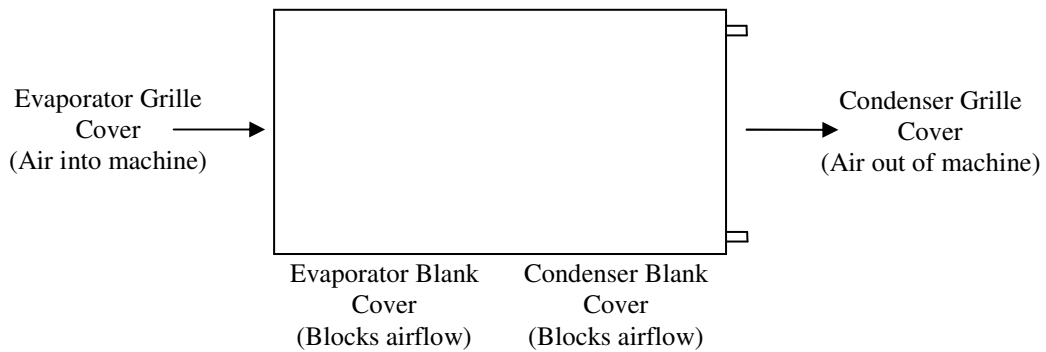
The fan draws the moist air through the cold evaporator coil, which cools the air below its dew point. Moisture forms on the evaporator coil and is collected in the condensate tray, which is equipped with a permanent drain. The cooled air then passes through the hot condenser coil where it is reheated using the same energy removed during the cooling phase, plus the additional heat generated by the compressor. The air is, therefore, discharged from the dehumidifier at a slightly higher temperature with a lower absolute humidity than that which entered. Continuous circulation of air through the dehumidifier gradually reduces the relative humidity within the area.

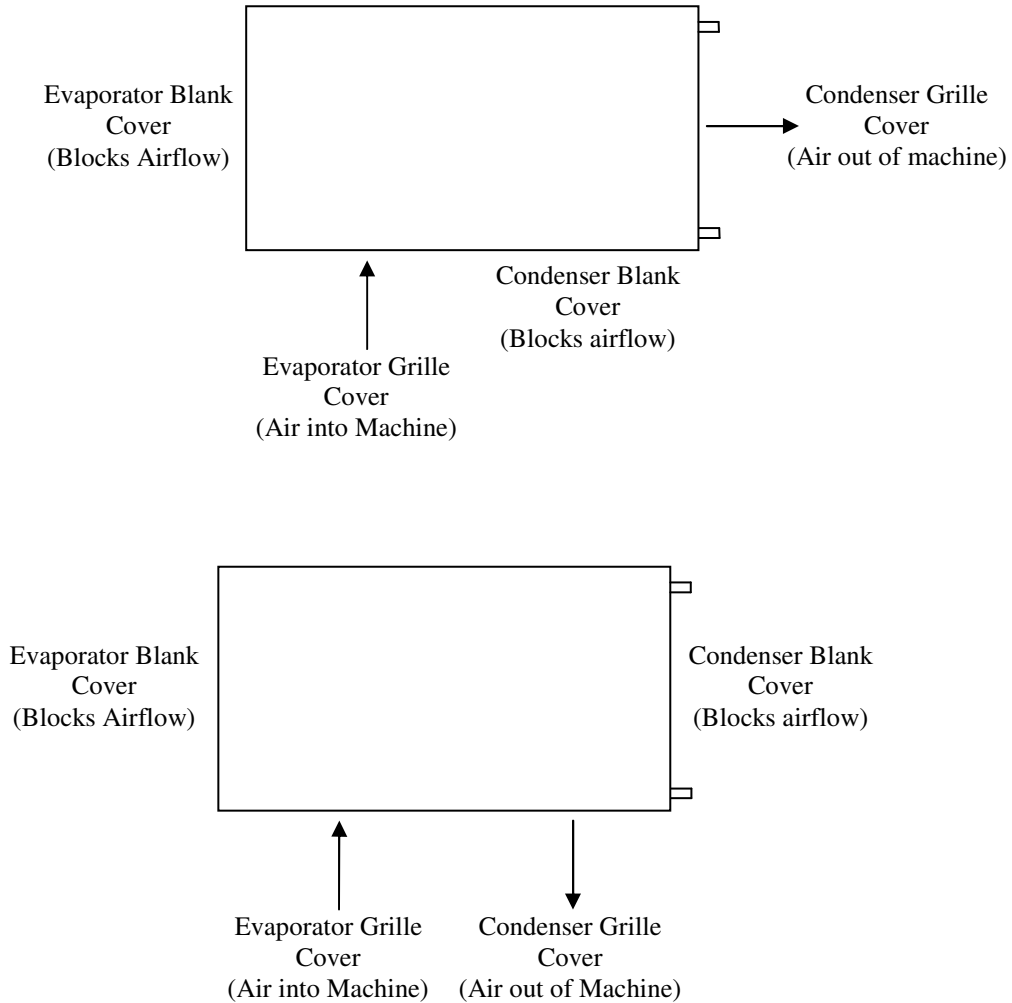
The CD85 dehumidifier is a rugged, reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions. An active hot gas defrost system, controlled by an electronic timer, guarantees positive de-icing, thereby optimizing operation at low temperatures.

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

COVERS

The CD85 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. This is held in place with 4 off M3 hex head bolts. For correct installation and operation the unit inlet and outlet must have a clearance of 0.5M from all adjacent surfaces and or structures. 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.

SPECIFICATIONS

MODEL: CD85

HEIGHT: 400mm

WIDTH: 600mm

DEPTH: 345mm

WEIGHT: 33 kg

AIRFLOW: 350 M3/Hr

EXTRACTION: 35L / Day

POWER SUPPLY: 230V/ 50Hz/ 1 ph

FINISH: Powder-coated Epoxy

OPERATING RANGE: 3°C – 35°C

REFRIGERANT: R-407c (500g)

"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"

OPERATION

The following procedures should be followed to test the CD85 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. Connect the drainage outlet to a suitably sized hose and run the hose to a permanent drain
2. Check dehumidification process as follows:

TO ENSURE CONTINUED FULL EFFICIENCY OF THE DEHUMIDIFIER, MAINTENANCE PROCEDURES SHOULD BE PERFORMED AS FOLLOWS:

- A. Place unit on a level surface.
- B. Start up unit by turning the humidistat control knob until the unit turns on.
- C. Check that the compressor is running.
- D. Leave the machine running for 15 minutes.
- E. Observe the evaporator coils through the evaporator filter panel
 - 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.

CAUTION:
ONCE THE UNIT HAS BEEN SWITCHED OFF, WAIT AT LEAST FIVE MINUTES BEFORE RESTARTING.

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:

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 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 motor is sealed for life and therefore does not need oiling.**
3. To check the refrigerant charge, run the unit for 15 minutes and briefly remove the evaporator filter cover. The evaporator coil should be evenly frost coated across its surface. At temperatures above 80°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.
5. To check the operation of the defrost system, switch the machine on and leave it running for approximately 55 minutes. The machine will then enter "Hot Gas" defrost mode for approximately 5 minutes before returning to normal operation. If the unit will not defrost, the printed circuit timer board may be defective or the by-pass valve may be inoperable.

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 proper 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 competent 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 competent 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

<u>SYMPTOM</u>	<u>CAUSE</u>	<u>REMEDY</u>
Unit inoperative	1. No power to unit	1. Check the power from power supply panel
Little or no airflow	1. Fan motor burnt out 2. Dirty refrigeration coils 3. Loose electrical wiring	1. Replace the fan motor 2. See <i>Routine Maintenance</i> Section 3. 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 by-pass valve	1. Contact the Factory Service Center 2. Contact the Factory Service Center
Unit vibrates excessively	1. Loose compressor 2. Damaged fan	1. Tighten the nuts on the compressor mounts 2. Replace fan
Water flooding inside the machine	1. Drain pipe blocked/frozen 2. Drain pipe too high 3. Crimped or blocked tubing	1. Clear the obstruction 2. Ensure that no section of the drain hose is 1M max. above the level of the water outlet 3. Straighten, clear, or replace tubing

CD85 SPARE PARTS LIST

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>QUANTITY</u>
1	Defrost Timer	1619506	1
2	Control Knob	2018644	1
3	Capillary Tube	3014254	2 x 24"
4	Solenoid Valve	3020837	1
5	Filter Dryer	3020909	1
6	Compressor	3944918	1
7	Solenoid Coil	3030452	1
8	Capacitor	3037513	1
9	Humidistat	3035147	1
10	Mains Lead	2029217	1
11	Fan Motor	3040255	1
12	Fan Motor Inlet Ring	3040254	1
13	Fan Motor Capacitor	3030841	1
14	Relay	3036188	1
15	Rubber Foot	3101436	1
16	Condensate Pump	3160152	1
17	Condenser Coil	2029322	1
18	Evaporator Coil	2029323	1

Spare parts available online

www.EIPLDIRECT.com

WARNINGS

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.

Children shall not play with the appliance.

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.

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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.



Drawing	: - TPC370
Issue	: - 6
Date	: - 24/11/16

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

German Sales Office

Ebac Industrial Products Ltd.
Gartenfelder Str. 29-37
Gebäude 35
D-13599, Berlin
Germany

Tel: +49 3043 557241
Fax: +49 3043 557240

www.eip-ltd.de
sales@eip-ltd.de