

# **ORION INDUSTRIAL DEHUMIDIFIER USERS MANUAL**



**[www.eipl.co.uk](http://www.eipl.co.uk)**

## **UNPACKING**

Thank you for deciding to purchase an Ebac dehumidifier. Like the many tens of thousands of people who have already bought an Ebac dehumidifier we are confident you will find it is the most effective answer to the problem of condensation and dampness related problems

Carefully remove the Orion dehumidifier unit from its transit box and visually check for signs of transit damage. If there is evidence of damage DO NOT attempt to operate the unit, call your supplier for advice. Do not discard the packing; it will be useful when transporting the dehumidifier unit in the future. Your dehumidifier is packed in a plastic wrapping, please ensure that it is disposed of safely and where it will not be a danger to children.

## **INTRODUCTION**

This user manual tells you how to use the Orion dehumidifier. Please read it thoroughly before operating the dehumidifier. If you have any questions about the unit please contact our Customer Services Department at the address shown at the back of the section or phone 01388 664400.

Dehumidifiers remove moisture from the air circulating through it.

Continuous operation reduces the relative humidity the air and this helps prevent rust, rot, mould, mildew and condensation.

The Orion dehumidifier consists of an air to air heat exchange, motor, compressor unit, a refrigerant condenser and air circulating fan, a refrigerated surface, a means for collecting and disposing of the condensed moisture and a cabinet to house these components.

## **GENERAL**

The Orion dehumidifier must only be stored and transported in the vertical position. To operate, stand the unit on level ground, and connect power supply and it is ready for operation.

When a generator is used to supply the power, it is essential to check the minimum kva required in the technical section within this manual. The generator must be started before connection is made to the dehumidifier.

## OPERATION

The fan draws the moist air through the refrigerated surfaces which cools it below its dew point, removing moisture which is collected and lead away. The cool air then passes over the hot condenser, where it is repeated. With the addition of other radiated heat the air is discharged into the room at a higher temperature but a lower relative humidity than when it entered the unit. Continuous circulation of the room air through the dehumidifier unit gradually reduces the relative humidity in the room.

The Orion dehumidifier is a robust, compact unit designed to control the humidity in the enclosed space in which it is placed.

The unit is thermally protected and will switch off for a period if maximum operating temperature of 40°C is exceeded.

## ELECTRICAL CONNECTIONS

### WARNING THIS APPLIANCE MUST BE EARTHED

#### WIRING:

Connect the power mains cable/plug of the dehumidifier unit as follows:-

|              |                |
|--------------|----------------|
| Brown        | Live           |
| Blue         | Neutral        |
| Green/Yellow | Earth (ground) |

As the colour of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminal in your own plug, proceed as follows.

The wire which is coloured Green and Yellow must be connected to the terminal marked E or by the Earth symbol or coloured Green or Green and Yellow. The wire which is coloured Blue must be connected to the terminal in the plug which is marked the letters N or coloured Black. The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Red.

You must safely dispose of the non re-wireable plug once it has been removed from the flexible cord. It is dangerous to attempt to insert the plug into any electrical socket.

#### CHANGING THE FUSE

13 Amp fuses that are ASTA approved to BS1362 should only be used.

#### NON REWIREABLE PLUGS

The fuse cover must be refitted after the replacement of the fuse.

## **BASIC STEPS FOR DRYING**

Ensure that all External doors and windows are closed. Where no doors or windows are fitted, temporarily screen off the openings.

### **POSITIONING**

For small areas position centrally in the area to be dried, for larger areas such as open plan buildings, offices or factories, a number of dryers may be required, in such cases they should be spaced evenly around the area. Ensure that no unit is positioned in such a way that it blows directly into another.

For private houses or flats, position the dryer on one floor at a time, starting at the lowest floor, closing all internal doors on the floor previously dried.

Continue until all floor levels have been dried.

Note when a particular damp patch is to be dried out the air outlet grille should be directed towards that area but should never be closer than 1m to the surface. At no time should the inlet or outlet grilles be covered or obstructed.

### **DRAINAGE**

Under most operating conditions water will be produced continuously and it is important that it is drained away correctly and not allowed to spill. Any spillage will evaporate and will therefore, have to be recycled through the dryer again, which in effect, only prolongs the drying period.

### **PORTABLE CONTAINERS**

Position a closed top container underneath the water discharge pipe (approximately 25 litres capacity). Place a short length of pipe one end over the discharge pipe and the other end in the container. Use a transparent container, this will enable you to check the level of water and so prevent overflowing. As the unit will be running for long periods of time, a regular check should be made on the container water level.

### **PERMANENT DRAINAGE**

Connect a flexible hose to the water drainage pipe of sufficient length so that it will reach a permanent drain. The gravity head created will allow for a gradual fall from the unit to the drain. Ensure that the hose is free of kinks and is not allowed to rise at any point above the level of the discharge point from the dehumidifier. Any air locks which may be created, should the level be raised by the hose passing over obstructions, could cause the water to “back up” the hose and spill from the drier.

### **SWITCHING ON**

Plug the unit into the power supply and switch on. Set the illuminated Rocker switch to the ON position (On dual voltage units turn the rotary switch to the cored supply voltage).

### **SWITCHING OFF**

Set the illuminated Rocker switch to the OFF position. Turn off the power supply and disconnect.

## **SPECIAL FEATURES**

### **DEFROST OPERATION**

If the ambient temperature of the room in which the dehumidifier is conditioning, falls below 15°C ice will form on the evaporator coil as the air passes over it. Over a period of time this build up of ice will effect the efficiency of the dehumidifier on its ability to maintain the required set conditions within the room.

The Orion is therefore fitted with a defrost control device. This defrost control device is timed to operate every 55 minutes for a period of 5 minutes.

During the defrost cycle the high pressure hot gas from the compressor is diverted into the evaporator coil where it melts the ice which has formed on the evaporator coil.

### **DUAL VOLTAGE MODELS**

The Orion dehumidifier unit is fitted with a transformer which will allow the unit to operate on either 110 volts or 230 volts 1 ph 50Hz power supply.

All electrical components within the dehumidifier are rated for 110 volts, for safety reasons. The voltage selector switch allows for the selection of the required voltage prior to starting the unit.

### **VOLTAGE PROTECTION DEVICE**

The dual voltage Orion dehumidifier unit is fitted with as standard with a unique voltage selection protection device.

Should the unit be connected to a 115 volts supply and the voltage selector switch set inadvertently to 230 volts, the unit will not start. Similarly should the unit be connected to a 230 volts supply and the voltage selector switch set to 110 volts, the unit will not start.

## **SAFETY**

- **DO NOT** Use the unit if the cabinet or power cord is damaged.
- **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** Attempt any repairs should the unit fail to operate.
- **DO NOT** Stand on the unit.
- **DO NOT** Attempt to lift heavy units unassisted.
- **DO** Check the plug on the equipment matches the supply.
- **DO** Use this unit for the purpose for which it was designed.
- **DO** Ensure the power cord and supply is earthed correctly.
- **DO** Check the voltage selection before attempting to power up the unit.  
(Dual voltage units only)
- **DO** Use a Residual Current Device "RCD" where possible.

## **SERVICE**

The machine should be serviced by qualified Ebac personnel or other persons having technical competence in servicing refrigeration equipment following the instructions in the Ebac service manual.

## **SPARES**

Full spares parts listings and Ebac Service Manuals are available upon request by contacting one of the Ebac Service Centres listed in this manual.

## **OZONE FRIENDLY**

The gas which is inside the hermetically sealed refrigeration circuit is R22, which is an HCFC. Under No circumstances should this gas be released into the atmosphere. The unit should be serviced by trained personnel who will reclaim the removed gas.

## **DISPOSAL OF UNIT**

**At the end of the machines working life the refrigerant must be disposed of in the correct manner.**

## SPECIFICATIONS

|                   | 10270??-<br>US | Units Of<br>Measure |
|-------------------|----------------|---------------------|
| HEIGHT:           | 1110           | Inch                |
| WIDTH:            | 630            | Inch                |
| DEPTH:            | 540            | Inch                |
| WEIGHT:           | 165            | Lbs                 |
| AIRFLOW:          | 600            | CFM                 |
| VOLTAGE:          | 115            | V                   |
| PHASE:            | 1              |                     |
| FREQUENCY:        | 60             | Hz                  |
| MAXIMUM POWER:    | 900            | W                   |
| MAXIMUM CURRENT:  | 8              | A                   |
| GENERATOR SIZE:   | 1.5            | Kva                 |
| FUSE RATING:      | 13             | A                   |
| EFFECTIVE VOLUME: | 300            | m3                  |
| REFRIGERANT TYPE: | R407c          |                     |
| REFRIGERANT       | 0.585          | Kg                  |
| QUANTITY:         |                |                     |
| NORMAL            | 105            | PPD                 |
| EXTRACTION:       |                |                     |

(?? Indicates colour)

Noise Level: Less than 70dB (A) when running

Finish: Epoxy Coated Zintec Steel

Mobility: Light in construction and easily positioned.

Normal: Rated Extraction at 54°F 70% RH Condition

*"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"*

## CONTACTING EBAC CUSTOMER SERVICES

**If you have nay further queries please contact the Ebac Customer Services Department on 01388 664400 and have the following information at hand:-**

- Part Number and Serial Number of the machine (located on the rating plate and the front of the machine).
- Full name and address.
- Where your machine was purchase.



|         |              |
|---------|--------------|
| Drawing | : - TPC381   |
| Issue   | : - 1        |
| Date    | : - 09/01/12 |

## LIMITED WARRANTY

Our products carry a one-year unconditional warranty against any defects in workmanship or material. This warranty will cover all parts and labour required to repair your Ebac product. This warranty is invalid if the unit has been abused, damaged, whether intentional or accidental, or if any modifications have been made to the unit.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS ISSUED IN LIEU OF ALL OTHER WARRANTIES (WHETHER WRITTEN, ORAL, OR IMPLIED) INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. EBAC INDUSTRIAL PRODUCTS, INC. DISCLAIMS ANY LIABILITY FOR CONSEQUENTIAL DAMAGES, LOST PROFITS, OR INCIDENTAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY WITH RESPECT TO THE FOREGOING DESCRIBED MERCHANDISE.

For Your Records: Model: \_\_\_\_\_  
S/N: \_\_\_\_\_  
Date Received: \_\_\_\_\_

-----  
SAVE THIS SECTION FOR YOUR RECORDS

CLIP AND RETURN THIS CARD

### **PLEASE NOTE**

To ensure that your Ebac Dehumidifier is accorded the full coverage provided by this warranty, please complete and mail this card at your earliest convenience.

***Thank You***

### **WARRANTY REGISTRATION**

|                |             |                     |
|----------------|-------------|---------------------|
| MODEL _____    | S/N _____   | DATE RECEIVED _____ |
| OWNER _____    |             |                     |
| ADDRESS _____  |             |                     |
| CITY _____     | STATE _____ | ZIP _____           |
| COMMENTS _____ |             |                     |

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



|         |              |
|---------|--------------|
| Drawing | : - TPC381   |
| Issue   | : - 1        |
| Date    | : - 09/01/12 |

### **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](http://www.eipl.co.uk)  
[sales@eipl.co.uk](mailto: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](http://www.ebacusa.com)  
[sales@ebacusa.com](mailto:sales@ebacusa.com)

### **German Sales Office**

Ebac Industrial Products Ltd  
Miraustra 64 – 66  
13509  
Berlin  
Germany

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

[www.eip-ltd.de](http://www.eip-ltd.de)  
[sales@eip-ltd.de](mailto:sales@eip-ltd.de)