Drawing	: - TPC634
Issue	: - 1
Date	: - 01/07/25

NEPTUNE

INDUSTRIAL DEHUMIDIFIER

OWNER'S MANUAL

www.eipl.co.uk

SAFETY INFORMATION

READ AND SAVE THESE INSTRUCTION

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: -
R32 – 675

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 R32 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 / burn / 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.
- Do not use the appliance in a room with any continuous source of ignition e.g. open flames or gas fires.
- R32 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.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example open flames, an operating gas appliance or an operating electric heater.

GAS DETECTION

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) must not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks. Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at 25% of the LFL of the refrigerant and must be calibrated to the refrigerant deployed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe work.

NEPTUNE

PACKAGE CONTENTS

Item	Description	Quantity
11199GR-US	Dehumidifier	1
3014336	PVC Tube – 3/8” I/D	1.5M
3086116	Jubilee clip	1
TPC634	Manual	1

INTRODUCTION

Designed for a wide range of applications, the Neptune dehumidifier is a super high capacity industrial unit which provides fast and efficient drying.

The Neptune has a number of special features:

- Super high efficiency rotary compressor
- Temperature-sensitive microprocessor controlled defrost system
- Exterior epoxy powder-coated finish
- Internal condensate pump (optional)
- Rugged portable design
- Heavy duty carrying handle
- Extra long power cord

The fan draws the moist air through the inlet grille on the back of the unit, and then 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 dehumidifier is a rugged, reliable drying unit designed to operate effectively over a broad range of temperature and humidity conditions.

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

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SPECIFICATIONS

MODEL:	Neptune
HEIGHT:	24” (610mm)
WIDTH:	14” (355mm)
DEPTH:	15” (381mm)
WEIGHT:	60 lbs (30 Kg)
AIRFLOW:	282 CFM (476 M3/Hr)
POWER SUPPLY:	110V / 60Hz / 1 ph
FINISH:	Powder-coated Epoxy
OPERATING RANGE:	33°F – 95°F
REFRIGERANT:	R-32 (See rating label for quantity)

OPERATION

The following procedures should be followed to test the Neptune 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 15 Amp electrical outlet.

2. Check dehumidification process as follows:

CAUTION:
DO NOT REMOVE COVERS WHEN UNIT IS IN OPERATION

A. Place unit on a level surface.

B. Start up unit by switching to “ON”.

C. Check that air is being delivered through the front outlet grille and the compressor is running.

D. Leave the machine running for 60 minutes.

E. Check to ensure there is sign of water extraction through the condensate drain.

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. Replace or clean the inlet air grille as required. 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 top cover. The evaporator coil should be evenly frost coated across its surface. At temperatures above 70°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.

IF ANY OF THE PRECEDING PROBLEMS OCCUR, CONTACT THE EBAC SERVICE CENTER PRIOR TO CONTINUED OPERATION OF THE UNIT TO PREVENT PERMANENT DAMAGE.

TROUBLESHOOTING

SYMPTOM	CAUSE	REMEDY
Unit inoperative	1. No power to unit	1. Check the power from power supply panel
Little or no airflow	1. Loose fan on shaft 2. Fan motor burnt out 3. Dirty refrigeration coils 4. Loose electrical wiring	1. Tighten fan 2. Replace the fan motor 3. See *Routine Maintenance* Section 4. 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 above the level of the water outlet 3. Straighten, clear, or replace tubing

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SPARE PARTS LIST

Description	Part Number
Product Part Number	11199GR-US
PCB	1619522
Drain Tray	2131107
Refrigeration Coils	2139330
Capillary Tube	3014251
Insul Tube 10mm I/D	3014301
PVC Clear Tube 3/8" I/D	3014336
Inseal 15mm wd X 3mm thk	3015109
Solenoid Valve	3020836
Filter Dryer	3020901
Solenoid Coil	3030451
20mm Blind Grommet	3032118
3/8” Open Grommet	3032102
Coil Sensor	3035142
Mains Lead	3035148
Mains Lead Terminal Block	3035346
PCB Jumper Socket	3035834
On / Off Switch	3035914
Fan Blade	3040129
Jubilee Clip	3086116
PCB Support Pin	3101413
Rubber Foot	3101436
Solid State Relay	3931320
Fan Motor	3947038
Compressor	3944804

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