

# DANTHERM

COOLING

## EcoFlow® Series

Product User Manual



## INTRODUCTION

This is the service manual for Dantherm EcoFlow® units. Please see the table of contents below for further information about the sections of this manual.

## TARGET GROUP

The target group for this service manual are the technicians who install and maintain the EcoFlow® Series units, as well as users of the unit.

## COPYRIGHT

Copying of this service manual, or part of it, is forbidden without prior written permission from Dantherm Cooling Inc.

## PATENTS

The EcoFlow® uses Patented technology to provide direct air cooling for emergency or secondary cooling. Designed for use with PrecisionAir® air conditioners, the unit fits on existing cutouts for ease of field installations.

## RESERVATIONS

Dantherm reserves the right to make changes and improvements to the product and the service manual at any time without prior notice or obligation.

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## UNPACKING, HANDLING, AND INSPECTION

Thank you for purchasing a Dantherm EcoFlow® unit. Please carefully review all handling and installation instructions.

- The unit should be inspected on initial delivery and any damage to packaging should be noted.
- Special consideration should be given to correctness of external packing damage or abrasion, loose components and surface marks.
- Any damage should be added to the freight bill and immediately notify the freight company for filing a freight claim.
- All packing materials should be retained for inspection.

## GENERAL SAFETY

Certain parts of electrical systems are inevitably live or have a high operating temperature.

Observe caution at all times.


- Failure to observe these conditions and installation instructions can cause injury and damage.
- The system is to be installed and maintained only by trained and qualified personnel.
- Do not apply power until all ground connections have been made.
- The unit is fitted with pressed and folded metal parts, which could have sheared metal edges. Be cautious handling the unit, especially when working in poorly accessible places.
- Check that no tools, test equipment, torches etc. have been left in or on the equipment on completion of work.
- Ensure the cover(s) and all mounting hardware are firmly secured before leaving installation.
- All cable and connectors must conform to UL standards.


- The unit is UL recognized and tested to UL1995. It will comply where necessary with the safety requirements as defined in UL1995.


## WARNINGS

**INTRODUCTION:** This installation manual and the product uses various displays and labels to ensure safe use. Ignoring these displays and labels and incorrectly using the product could have results as classified below. Please read the following warning symbol information before reading the rest of this section, and be sure to strictly observe all instructions.

**GENERAL PRECAUTION:** This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. If the power cord is damaged, it must be replaced by the manufacturer, a service agent, or a similar qualified person in order to avoid a hazard.

 **WARNING:** Not following these instructions could result in death or serious injury.

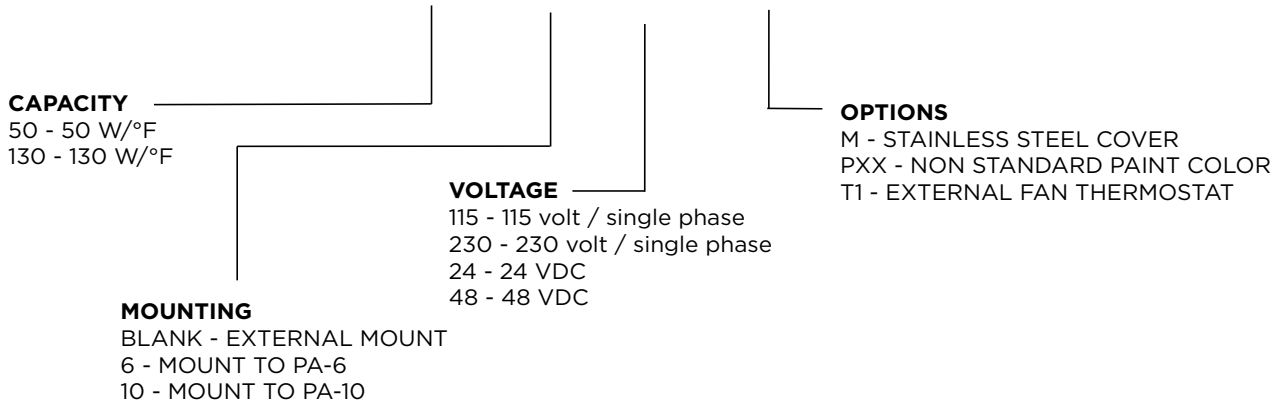
 **CAUTION:** Not following these instructions could result in injury or property damage.

 This symbol will show for something that should NOT be done.

Project safety is your responsibility! Follow the instructions in this manual regarding the installation method and installation orientation. Not following these instructions could result in injury, death, or damage to equipment. All work should be performed by qualified personnel using safe work practices. All proper protective equipment should be used. PPE required may include, but is not limited to: Safety glasses | Hard hat | Safety shoe | Hearing protection | Cut resistant gloves | Face shield | Proper work attire (long sleeve shirt and long pants)

**MODEL IDENTIFICATION**

**EF-50-x-48-P04**



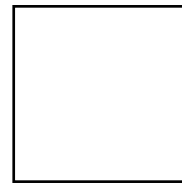
*Color Options*



04 - P04 Beige



20 - P20 White



00 - P00 Custom

**OPTIONS**

**Standard Control:** The standard operation will turn on the fans as soon as power is applied. The control is handled by the supplied power.

**Thermostat Control:** A temperature adjustable thermostat controls operation of all fans. The thermostat is set at 130°F and if the temperature rises over this point, the fan(s) will turn on.

MODEL OVERVIEW					
EF	COOLING CAPACITY W/°F [W/°C]	INPUT VOLTAGE	FULL LOAD AMPS (A)	MIN BREAKER/ FUSE (A)	WEIGHT [kg]
EF-50-24	50 [90]	24 VDC	1.2	1.5	25 [12]
EF-130-48	130 [230]	48 VDC	1.4	1.75	40 [18]

**Note:** The information provided above is a general overview for reference only. The customer is responsible for the correct installation and application of each product.

As products and features change, the nameplate on the side of the unit should be referred to for correct voltage/current during installation.

## INSTALLATION

### Please strictly observe the following:

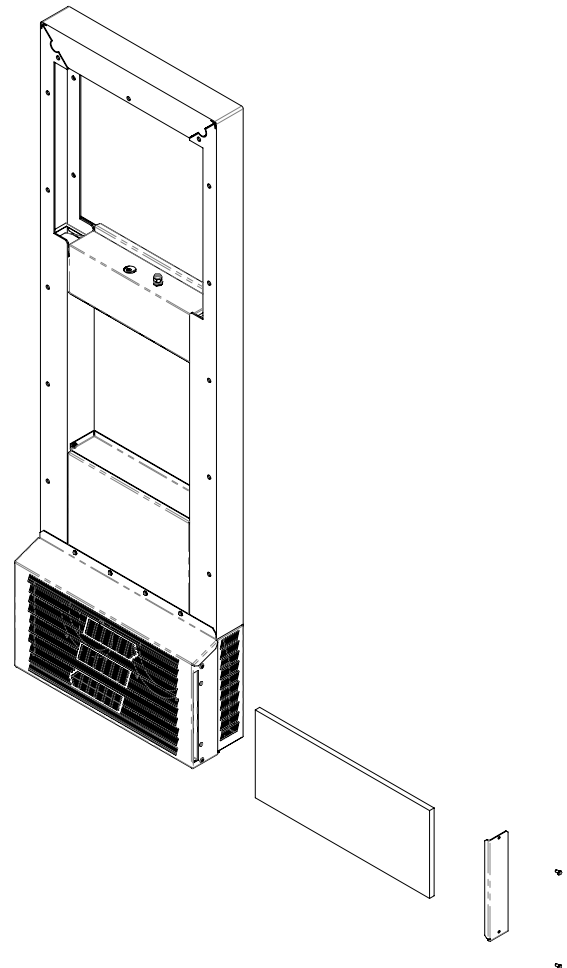
The enclosure shall be checked for correctness of cutouts, mounting holes and electrical supply.

- The mounting hook is preset to match the recommended cutout openings. If an adjustment other than factory setting of the hook needs to be made, do so prior to installation.
- Install gaskets as shown.
- Mount the EcoFlow to the cabinet by using the mounting hook, which supports the weight of the unit. Mount the Air Conditioner to the EcoFlow. The hook grabs the cut out opening on the cabinet panel.
- Install the mounting hardware as supplied with the unit (M6 SCKT HD cap screws & washers). The fixings are installed from inside the cabinet into the threaded inserts located in the unit.
- Connect the unit power lead to the main supply located in the cabinet/enclosure. Refer to the product label on the bottom right hand side panel of the unit for the proper voltage/amp requirement. Make sure a properly grounded supply is used. All installations are to be completed in accordance with local NEC codes and guidelines.
- The electrical circuit should be protected by a slow blow breaker or fuse. Refer to page 6 in this manual for fuse breaker rating.
- After final inspection and power supply connected, power on the unit and check for correct airflow and fan speeds.
- Please contact Dantherm Cooling for more information if required.

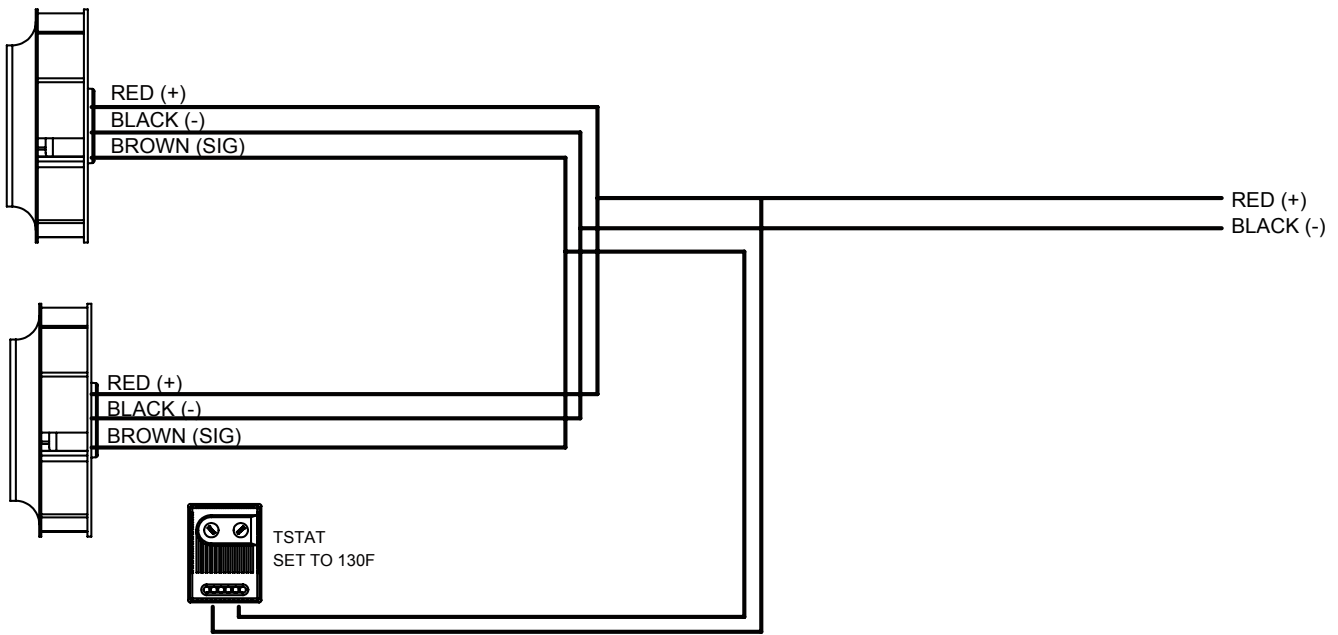
## MAINTENANCE

The EcoFlow should be examined periodically to determine the required cleaning periods based on the installed environmental conditions. Annual inspections are most typical and will cover the majority of installed locations.

**⚠ CAUTION:** Always disconnect power to the unit prior to servicing. Scheduled maintenance includes cleaning of fans and filter as they become contaminated with dust and/or residue.



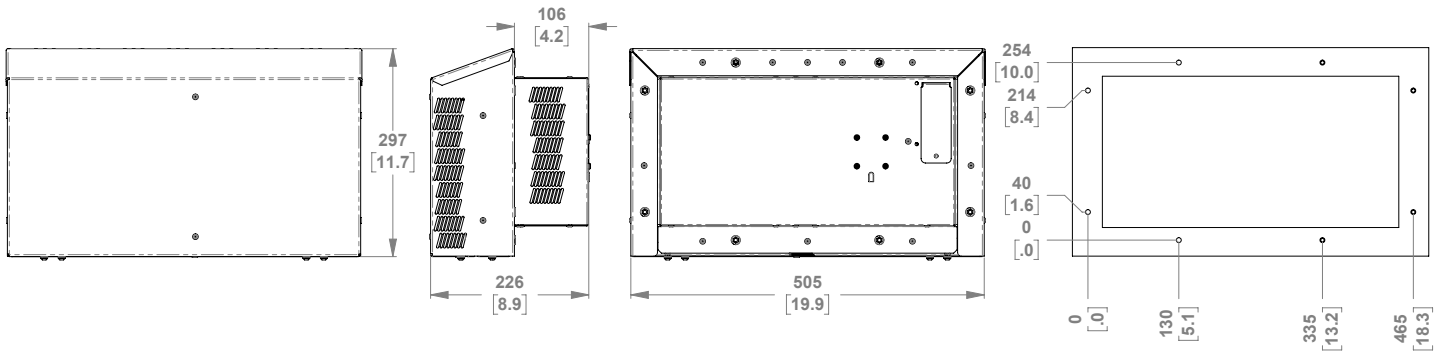
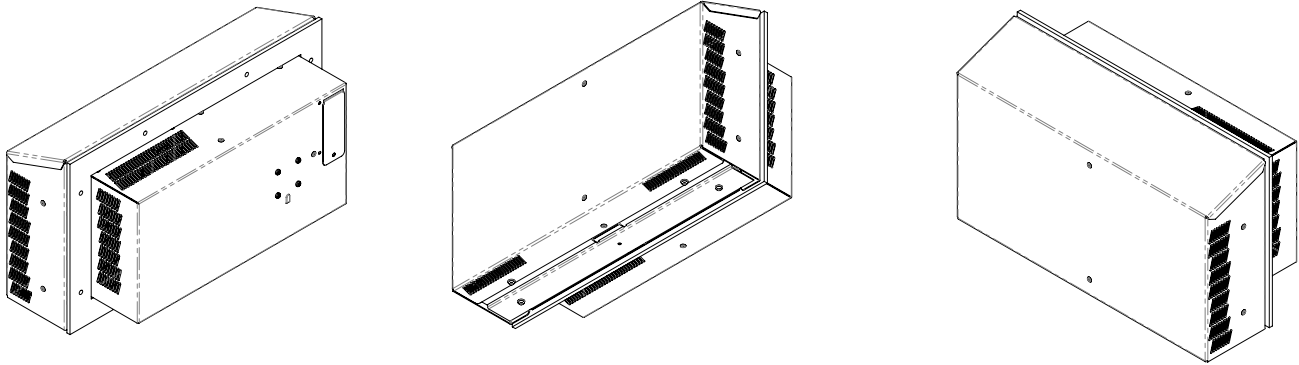
### EF-130-48-T



### EF-50-24



# EcoFlow® 50



**NOTES:**

- 1) UNITS = MM [IN]
- 2) STEP FILES AVAILABLE ON REQUEST



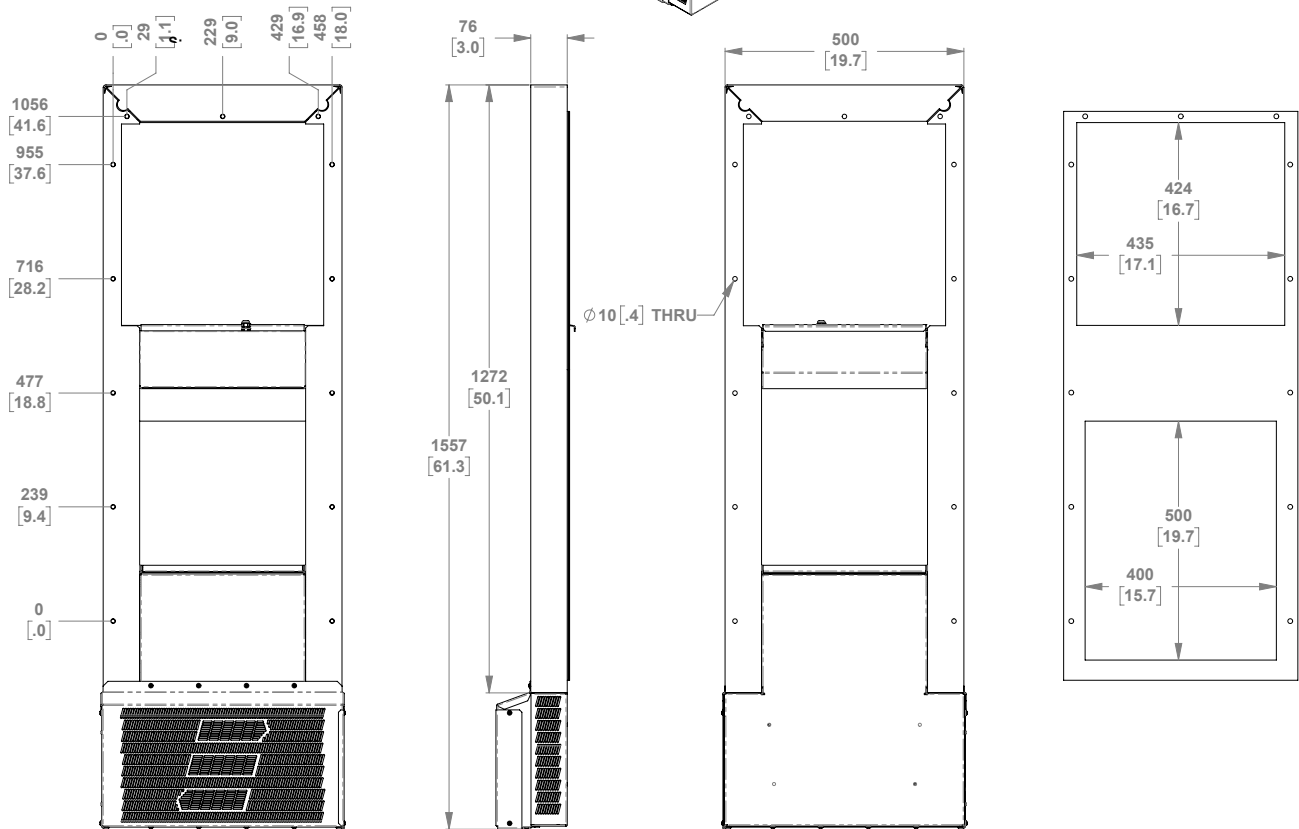
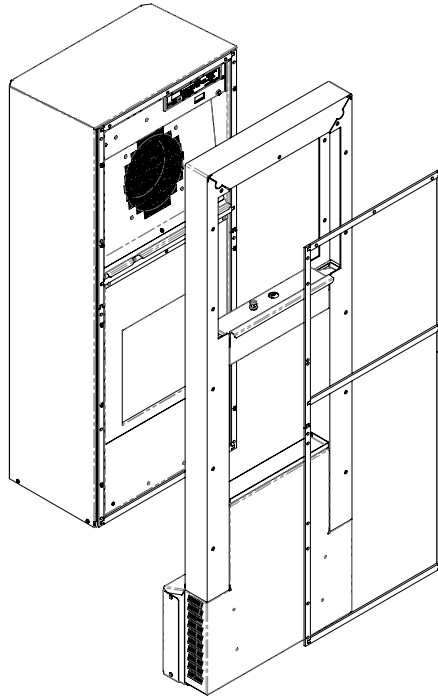
## EcoFlow® 50

### TECHNICAL DATA

These units are designed for high reliability and electrical efficiency.

	UNITS	
MODEL NUMBER	--	EF-50-24
MOUNTING TYPE	--	Outdoor
UNIT DIMENSIONS [HxWxD]	Inches [mm]	61.3x19.7x3 [1556x500x73]
WEIGHT	Lbs [kg]	25 [12]
COOLING CAPACITY 131°F INTERNAL / 131°F AMBIENT	W/°F [W/°C]	1700 [6,700]
OPERATIONAL TEMPERATURE RANGE	°F [°C]	-40 to 131 [-40 to 55]
MAXIMUM AIRFLOW	CFM [m3/hr]	175 [300]
NOISE 1.5M DISTANCE	dB	62
INPUT VOLTAGE	Volts	24 VDC
CURRENT	Amps	1.5
APPROVALS	--	UL SA12349
CONSTRUCTION	--	Aluzink Steel, Stainless Optional Textured Powder Coat, Color Options Available

# EcoFlow® 130



- NOTES:**  
 1) UNITS = MM [IN]  
 2) STEP FILES AVAILABLE ON REQUEST

# EcoFlow® 130

## TECHNICAL DATA

These units are designed for high reliability and electrical efficiency.

	UNITS	
MODEL NUMBER	--	EF-130-48
MOUNTING TYPE	--	Outdoor
UNIT DIMENSIONS [HxWxD]	Inches [mm]	61.3x19.7x3 [1556x500x73]
WEIGHT	Lbs [kg]	40 [18]
COOLING CAPACITY 131°F INTERNAL / 131°F AMBIENT	W/°F [W/°C]	4500 [15,300]
OPERATIONAL TEMPERATURE RANGE	°F [°C]	-40 to 131 [-40 to 55]
MAXIMUM AIRFLOW	CFM [m3/hr]	515 [1,130]
NOISE 1.5M DISTANCE	dB	62
INPUT VOLTAGE	Volts	48 VDC
CURRENT	Amps	1.4
APPROVALS	--	PENDING
CONSTRUCTION	--	Aluzink Steel, Stainless Optional Textured Powder Coat, Color Options Available

**WARRANTY:**

DANTHERM COOLING, INC., HEAT EXCHANGERS AND AIR CONDITIONING UNITS HAVE LIMITED WARRANTY.

DANTHERM COOLING, INC. (“DANTHERM”) limited warranty extends to the original purchaser only of any DANTHERM heat exchanger and air conditioning unit, and to no other person or entity. DANTHERM warrants that such DANTHERM products will be free from defects in materials and workmanship in normal use for a period of twelve (12) months from the date of the original purchase. Should any part of your DANTHERM product fail because of a manufacturing defect within such twelve (12) month period, DANTHERM terms are set out below.

**IMPORTANT**

- Using Dantherm nominated service contractors-warranty on product continues
- Using Dantherm non-approved service contractors-warranty on product becomes void.
- Warranty period starts from date of shipment-warranty of replacement parts shall only apply for the remainder of the warranty period of the original product.

Any transportation, related service labor, diagnosis calls, filters, driers, and refrigerant are not included.

In the event all related service labor is performed by DANTHERM nominated service contractors, the replacement part shall be warranted by DANTHERM for the remainder of the warranty period for the original product.

This warranty does not cover damages or repairs caused by improper installation, misuse of the product, negligent servicing, improper applications, unauthorized modifications, improper electrical supply, failure to follow manufacturer’s instructions and rating plate information, accidents, natural disasters, damage in transportation, lack of normal preventive maintenance, or other events beyond DANTHERM’s control.

This warranty is also subject to the following operating conditions:

- 1) Voltage variation not greater than 10%,
- 2) Frequency variation not greater than 3Hz from nameplate rating
- 3) Cooling load is not greater than product label under rated conditions
- 4) Unit is not restarted for a period of five minutes after accidental or intentional shut-off
- 5) Operation is not subject to abnormal conditions or customer, user misapplication
- 6) Customer or user does not modify, abuse, or neglect the product
- 7) Refrigerant specified on nameplate is only refrigerant used
- 8) Customer or user complies with all other installation, maintenance, and operating instructions. Cost of repair or replacement of consumable parts is not covered under the terms of this warranty.

THIS WARRANTY CONSTITUTES THE EXCLUSIVE REMEDY OF ANY PURCHASER OF A DANTHERM HEAT EXCHANGER, AIR CONDITIONING UNIT AND IS IN LIEU OF ALL OTHER WARRANTIES. THIS ALSO INCLUDES, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE, OR FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE, OR FOR A PARTICULAR PURPOSE EXCEED THE TERMS OF THE APPLICABLE WARRANTY STATED ABOVE, AND DANTHERM SHALL HAVE NO OTHER OBLIGATION OR LIABILITY, EXPRESS OR IMPLIED. IN NO EVENT SHALL DANTHERM BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. SOME STATES DO NOT ALLOW LIMITATIONS OR EXCLUSIONS, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU.

## RETURN MATERIAL AUTHORIZATION PROCEDURE

In the unlikely event of unit failure, the following return procedure shall be adopted:

- All product returns require a Return Material Authorization number regardless of reason.
- The customer is required to contact the Quality Department at Dantherm Cooling, Inc. in Spartanburg, SC at +1-864-595-9800 to obtain an RMA number.

The following information must be provided prior to a RMA number being issued:

- Dantherm Cooling, Inc. part number(s) of product to be returned
- Dantherm Cooling, Inc. serial number(s) of product to be returned.
- Number of units requested to be returned. Reason for return.
- Contact name, phone and fax number. Date of product receipt.
- Invoice number and purchase order number covering the unit(s).

The customer is responsible for suitably packaging the unit(s) securely, ideally in the original packaging, marking all cartons with the RMA number and shipping them prepaid to the designated site specified by Dantherm Cooling, Inc.

IN NO EVENT SHALL DANTHERM COOLING, INC. ACCEPT ANY SHIPMENT WHICH DOES NOT COMPLY WITH THE ABOVE PROCEDURES.

REMOVE THE CONDENSATE HOSE AND ADAPTER FROM THE BOTTOM OF THE UNITS PRIOR TO DISMANTLING THE AIR CONDITIONER AND RESTING IT ON THE GROUND.

## DECLARATION OF CONFORMITY

Dantherm Cooling Inc., Spartanburg, SC hereby declare that the units PrecisionAir 50/60Hz are in conformity with the following directives:

UL 60335-1 ..... Fifth Edition

UL 60335-2-40 ..... First Edition

CAN/CSA-C22.2 No. 60335-1-11 ..... First Edition

CAN/CSA-C22.2 No. 60335-2-40 .. First Edition

Spartanburg, SC – September.20.2018

**Recycling:** The unit should be recycled according to national rules and procedures to protect the environment. Please consult your local authorities for further information.

# **DANTHERM** COOLING

**DANTHERMCOOLING.COM**

**TECH.SUPPORT@DANTHERMCOOLING.COM | 864-595-9800**

**671 SPRINGFIELD ROAD | SPARTANBURG, SOUTH CAROLINA 29303**