

SnowClear

OVERHEAD MELTER

Model: **TK-C4000**

Date of Purchase: _____

Serial #: TK _____

INSTALLATION, OPERATOR & MAINTENANCE MANUAL

Table of Contents	
Important Instructions.....	2
Safety Instructions.....	2
Specifications	5
Installation Instructions.....	8
Operating Instructions.....	15
Wiring Instructions.....	15
Maintenance Instructions	20
Replacement Parts	21
Warranty.....	21

IMPORTANT INSTRUCTIONS

About This Manual

Read all instructions before using this SnowClear Overhead Melter.

This manual contains information on the installation, operation and maintenance of the **SnowClear Overhead Melter**.

Before initial operation, read this manual carefully and in its entirety.

Equipment owner/operator must ensure that this **manual is readily available** to the **licensed and qualified electrician** who is installing the unit. Refer to this manual whenever in doubt.

Failure to observe the warnings, cautions and operating instructions contained within this manual may result in injury or death or equipment damage for which Treacan Combustion Limited accepts no liability whatsoever and may void the SnowClear Overhead Melter's warranty.

Please record the serial number on the front of the manual. Having this number on hand is important when calling to order replacement parts.

SAFETY INSTRUCTIONS

Follow Important Safety Instructions

Carefully read this manual and pay close attention to all warnings contained herein. Also, pay close attention to the safety signs on the equipment.

Safety Symbol

The safety symbol shown below is used to draw the reader's attention to safety related information throughout this manual.



Safety Signal Words

The signal words "warning" and "caution" are used in this manual, sometimes in conjunction with the safety symbol. The meaning is explained below.

⚠ WARNING Warning is used to identify hazards or unsafe practices which could result in severe personal injury or death.

⚠ CAUTION Caution is used to identify hazards or unsafe practices which may result in minor to moderate personal injury, equipment damage or property damage.

Replace Safety Labels

Replace missing or damaged safety labels so that operators are aware of hazards. Replacement signs are available from Trecan Combustion Limited.



Maintain the Equipment

Ensure that the SnowClear Overhead Melter is maintained as instructed in this manual and is kept in proper working condition.

Equipment Modifications

Do not modify the SnowClear Overhead Melter. Modifications could be detrimental to the operation of the product, increase the risk of fire, affect equipment life and/or result in a safety hazard such as electric shock and injury. Modifications could also void equipment warranty.

Installation and Maintenance

⚠ WARNING SnowClear Overhead Melter must be properly installed by a licensed and qualified electrician before using. Ensure they fully understand the procedure and are qualified to undertake any maintenance or service work. If unit is not functioning properly, cease use immediately. Disconnect power at circuit breaker and have a licensed and qualified electrician inspect before reusing.

Hazardous Voltage

⚠ CAUTION Disconnect power supply at circuit breaker before any maintenance or service work. If safety grills installed on the equipment must be removed for maintenance or service, exercise caution. Always re-install the grills once the work is completed. Never operate the equipment without the grills properly installed in their original locations. Replace damaged or missing grills immediately to reduce your risk of electrical shock or burns. Do not touch or operate the product with wet hands.

Outdoor Use Only

⚠ WARNING Only install and use this product outdoors. Extremely hot when in use. Allow hot surfaces to cool before working on or around them. Do not block or cover this product. Also keep flammable materials away from the product to prevent fires.

Avoid Hot Surfaces

⚠ WARNING Avoid skin contact with hot surfaces to prevent burns. Allow hot surfaces to cool before working on or around them. Ensure the heating elements are cool before performing any maintenance or inspections.

Risk of Fire

⚠ CAUTION High temperature, risk of fire, keep electrical cords, drapery, furnishings and other combustibles at least 0.9 m (3 feet) from the front on the heater and away from the side and rear. To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the unit.

High Temperature Porcelain Wire Connectors

⚠ CAUTION Only high temperature porcelain wire connectors are to be used for connecting the heating elements to the unit. High temperature porcelain wire connectors are supplied with this product.

Handling of the Unit

⚠ CAUTION Handle product with care to prevent damage to the heating elements. Do not splash water on the heating elements.

SAVE THESE INSTRUCTIONS

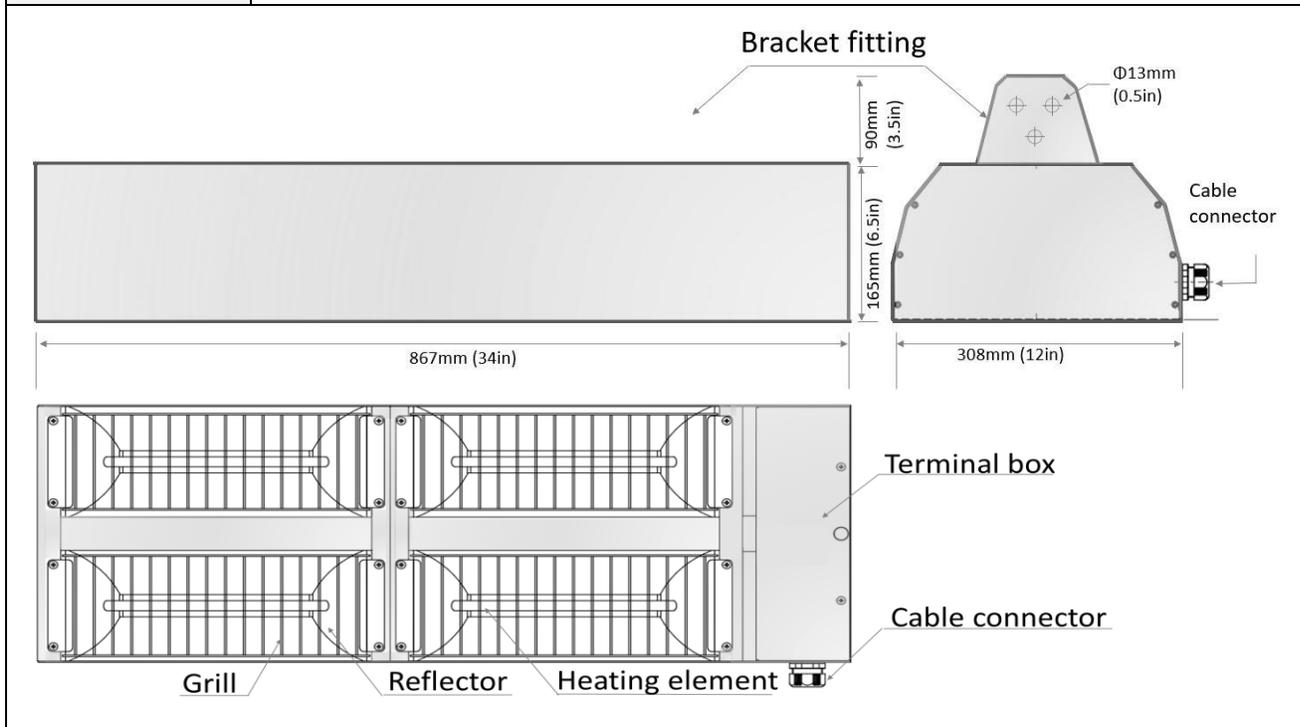
SPECIFICATIONS

The SnowClear Overhead Melter is a far-infrared, snow melting system. The far-infrared rays radiate from above and accelerate the vibration of snow (water) molecules and the ground below to produce heat energy that melts the snow.

Name	SnowClear Overhead Melter
Model	TK-C4000
Power Supply	Single phase, 208-240VAC, 4000 W
Heating Elements	Four ceramic special coating halogen lamps
Power Supply Connection	Minimum 10 AWG, 30 A, 3 Conductor Cable (Conductor cable is not supplied)
Continuous Run Time	20 hours or less recommended
Location	Outdoor Use Only
Operation Temperature	-20°C to 5°C (-4°F to 41°F)
Daily Inspection	Cleaning of exterior and removal of foreign matter if required

Main Unit

Dimensions	867mm W x 308mm D x 165mm H (bracket fitting + 90mm) (34in W x 12in D x 6.5in H (bracket fitting + 3.54in))
Weight	9.0 kg (19.8 Lbs)



Heating Element/Halogen Lamp

Voltage	208-240VAC
Power Consumption	1000 W \pm 7%
Rated Life	Approximately 3000 hours

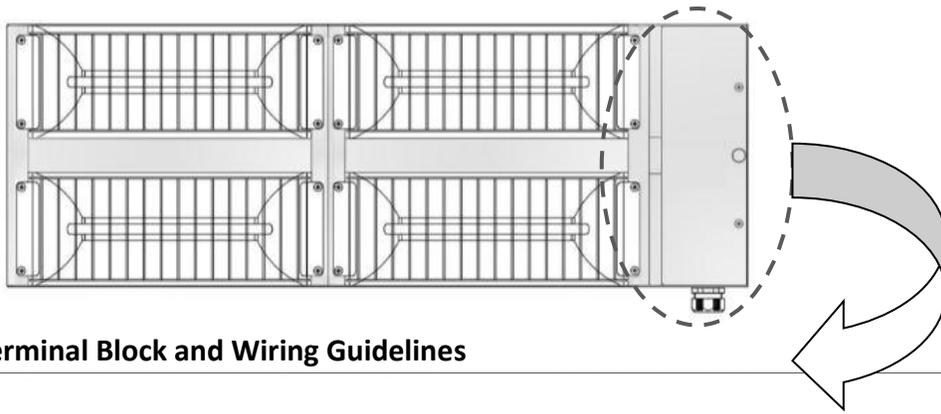
The diagram shows a horizontal heating element. From left to right: a 50mm (2in) long lead wire, a 300mm (11.8in) long main body, and another 50mm (2in) long lead wire. The main body has a central section of 230mm (9in) with a cross-hatched texture labeled 'Ceramic coating'. The diameter of the main body is $\Phi 12.5\text{mm}$ (0.5in). The diameter of the lead wires is $\Phi 7\text{mm}$ (0.28in).

- The life of the heating element varies depending on the conditions and environment, but the estimated life span is 3000 hours.
- Use in a horizontal lighting direction only.
- Allow heating element to cool before touching.
- Do not touch the glass part of the heating element with bare hands, as grease, including fingerprints, may cause the heating element to burn out prematurely. Gloves should be worn to prevent touching the heating element.
- When replacing the heating element, always have a licensed and qualified electrician perform this task. See page 20 for Maintenance Instructions.

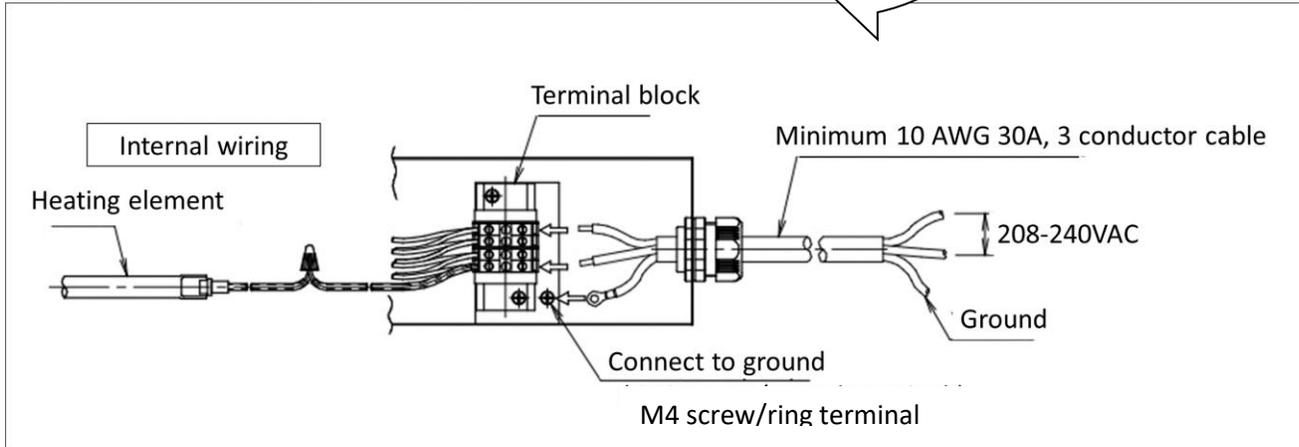
Mounting Bracket

Dimensions	Dimensions: 519mm W x 110mm D x 310mm (20in W x 4.3in D x 12in H)
Weight	2.0 kg (4.4 Lbs)

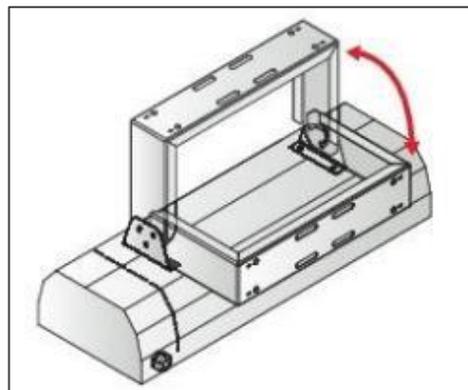
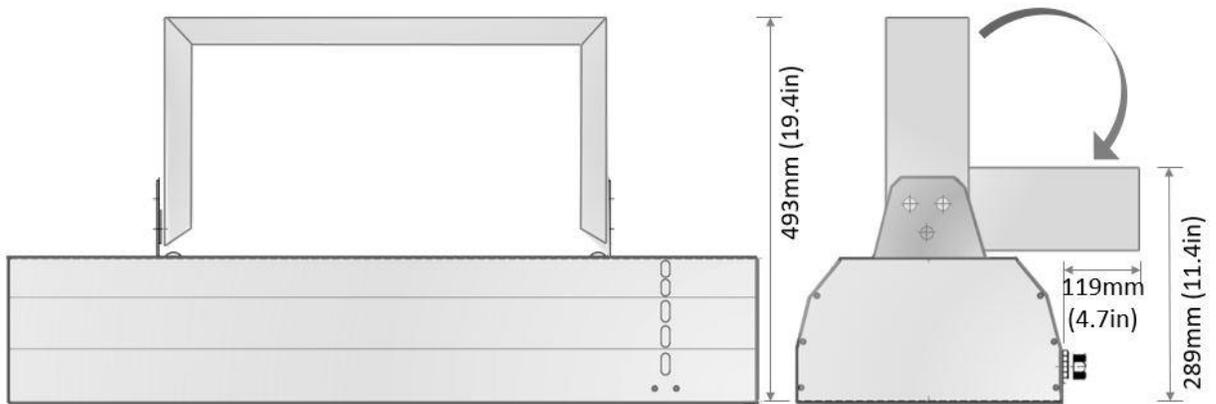
The diagram shows a U-shaped mounting bracket. The top horizontal bar has a total width of 455mm (18in) and an inner width of 413mm (16.25in). The depth of the top bar is 72mm (2.8in). The total depth of the bracket is 110mm (4.3in). The height of the vertical side bars is 310mm (12in). The bottom horizontal bar has a width of 519mm (20in). There are two circular holes on the top bar, each with a diameter of $\Phi 13\text{mm}$ (0.5in). The distance between the centers of these holes is 130mm (5in). The distance from the center of each hole to the edge of the top bar is 62mm (2.4in). The diameter of the circular inset showing screws is $\Phi 13\text{mm}$ (0.5in) x 43mm (1.7in). The inset shows 4 sets of M8 screws, each with a length of 25mm (1 in). The bottom bar has a diameter of $\Phi 9\text{mm}$ (0.35in).



Terminal Block and Wiring Guidelines



Main Unit with Mounting Bracket



INSTALLATION INSTRUCTIONS

1. This unit should only be installed by a licensed and qualified electrician in accordance with the relevant electrical code for your area.
2. This unit must be properly installed before it is used.
3. This product does not have an ON/OFF switch and is designed to operate with a snow sensor and controller to switch on when the sensor detects falling snow, and switch off when it detects that it has stopped snowing. This device operates automatically when connected to the snow sensor.
4. The Overhead Melter is fitted with an electrical connection box and should be connected as a fixed installation by a licensed and qualified electrician.
5. The SnowClear Overhead Melter must be properly grounded.
6. An overcurrent protection device (for example a circuit breaker) is required for proper installation.
7. The SnowClear Overhead Melter is designed for domestic or commercial snow melting application in an **outdoor** area and should not be used or modified for any other purpose.
8. Before starting installation, check that the electrical supply voltage is the same as shown on the rating plate of the unit
9. Use copper wire only.
10. Only high temperature porcelain wire connectors are to be used for connecting the heating elements to the unit. High temperature porcelain wire connectors are supplied with the unit.
11. Do not install the product less than 2.5m (8.2 feet) from the ground. The ideal installation height is between 2.5m (8.2 feet) and 3m (10 feet) to achieve maximum coverage of snow melting area.
12. It is recommended to install the unit on the mounting bracket at an angle of between 0° and 20° to the ground for maximum effectiveness.
13. The unit can be mounted on a wall, ceiling or a pole.
14. This product is not recommended for use in extremely humid or dusty environments.
15. Wiring procedures and connections shall be in accordance with the national and local codes having jurisdiction.



WARNING
AVERTISSEMENT

MODEL: TK-C4000, SNOWCLEAR OVERHEAD MELTER

WARNING

SINGLE PHASE, 208-240VAC, 30 AMPS

OUTDOOR USE ONLY

USE COPPER WIRE ONLY

INSTALL 4 METRES (13.1 FEET) FROM A SIMILAR DEVICE

DO NOT INSTALL LESS THAN 2.5 METRES (8.2 FEET) FROM THE GROUND

SERVICING SHOULD BE DONE ONLY WHILE THE UNIT IS DISCONNECTED

FROM THE SUPPLY CIRCUIT

MODÈLE: TK-C4000, SNOWCLEAR FONDEUSE À NEIGE AÉRIENNE

AVERTISSEMENT

MONOPHASE, 208-240VAC, 30 AMPS

UTILISATION EXTÉRIEURE UNIQUEMENT

UTILISEZ UNIQUEMENT DU FIL DE CUIVRE

INSTALLER 4 MÈTRES (13,1 PIEDS) À PARTIR D'UN APPAREIL SIMILAIRE

NE PAS INSTALLER À MOINS DE 2,5 MÈTRES (8,2 PIEDS) DU SOL

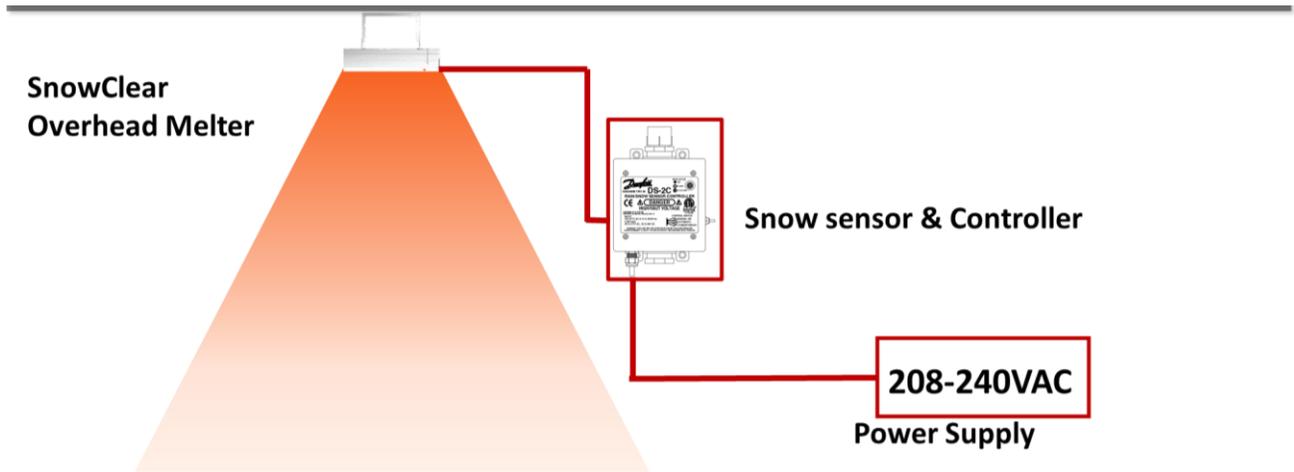
LE SERVICE DOIT ÊTRE FAIT UNIQUEMENT PENDANT QUE L'UNITÉ EST

DÉCONNECTÉE DU CIRCUIT D'ALIMENTATION

Installation Guidelines

Installation Location

1. An outdoor area free from obstructions.
2. If installing under a roof or overhang, ensure there is 3m (10 feet) or more of clearance.
3. Choose an area where there is vehicle height clearance if required.
4. Chose an area where heavy snow or ice sliding off a roof, will not damage the product.



- Step 1.** Mount the bracket to the ceiling/wall/pole at the designated height (see #11, under Installation Instructions).
- Step 2.** Install the unit to the bracket and set the angle between 0° and 20°.
- Step 3.** Install the snow sensor and controller. Connect to the unit.
- Step 4.** Connect the snow sensor and controller to the 208-240VAC power supply.

Installation Method

Three ways to install the SnowClear Overhead Melter to optimize the desired snow melting area.

Wall installation



Ceiling installation

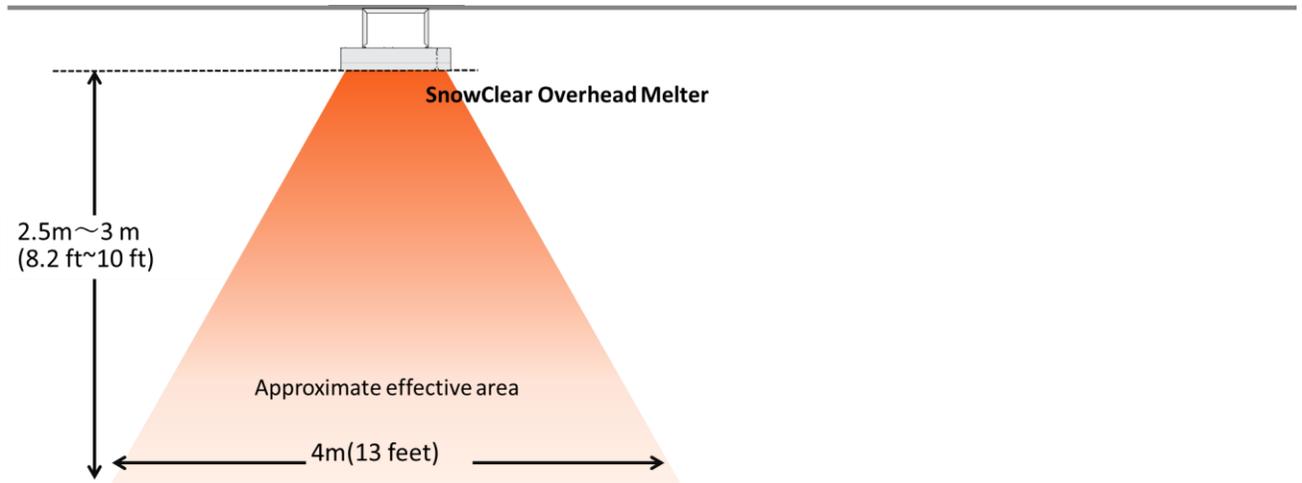


Pole installation



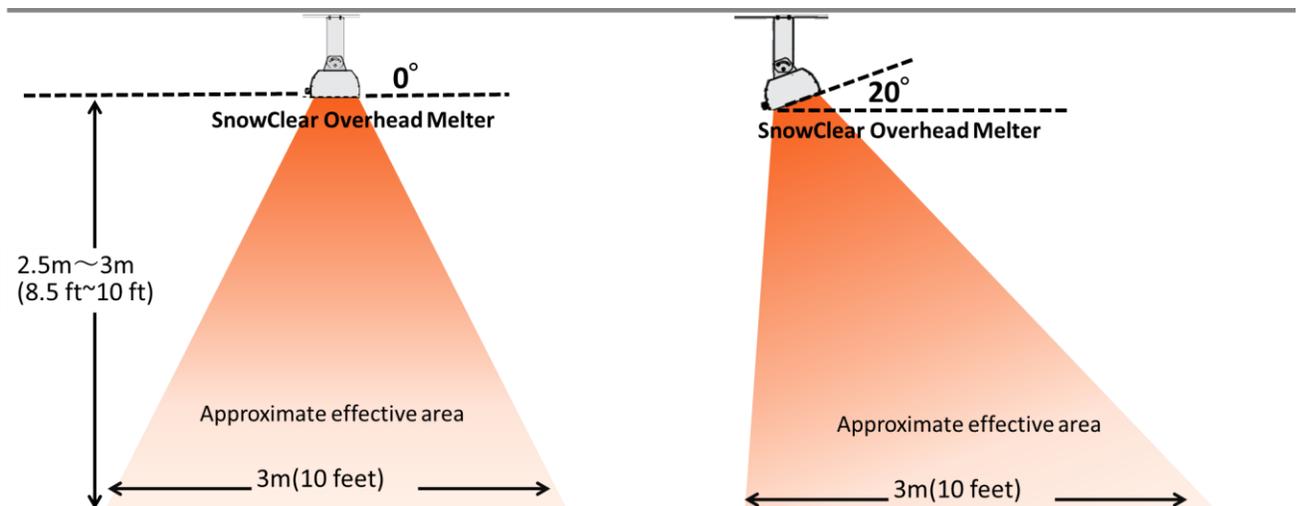
Installation Height

Install the unit 2.5m to 3m (8.2 to 10 feet) above the ground.

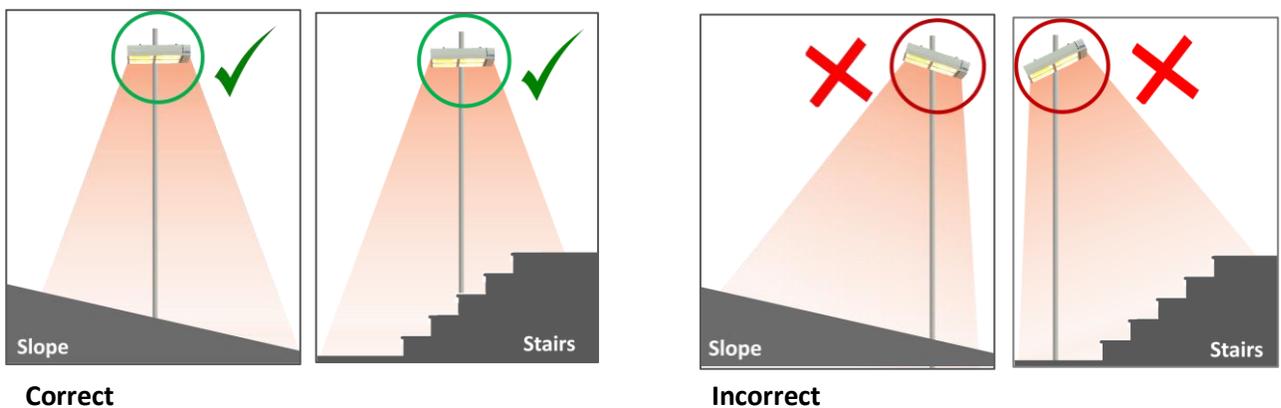


Installation Angle

Adjust the unit in the vertical inclination angle between 0° and 20°.



If the unit is to be installed on an incline, ensure that it is installed horizontally without tilting.



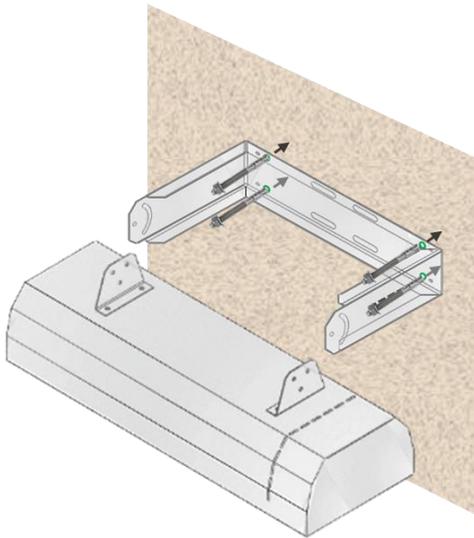
Mount bracket to wall/ceiling/pole between 2.5-3m (8.2-10 feet) above the ground

The SnowClear Overhead Melter comes with a standard mounting bracket. This adjustable bracket allows a direct ceiling, wall, or pole mount, and allows the angle of the unit to be adjusted. The bracket needs to be installed onto a secure frame, wall, ceiling, or pole. When completing the installation, ensure all screws are tight and that the unit is secure. **When installing the unit on a wood or thin wall or ceiling, reinforcing the wall or ceiling with a steel plate is required to ensure that the weight of the unit is supported.**

Wall Installation

Secure the bracket with four M12 anchor bolts into the wall, using the four outer screw holes.

Note: Anchor bolts are not included.



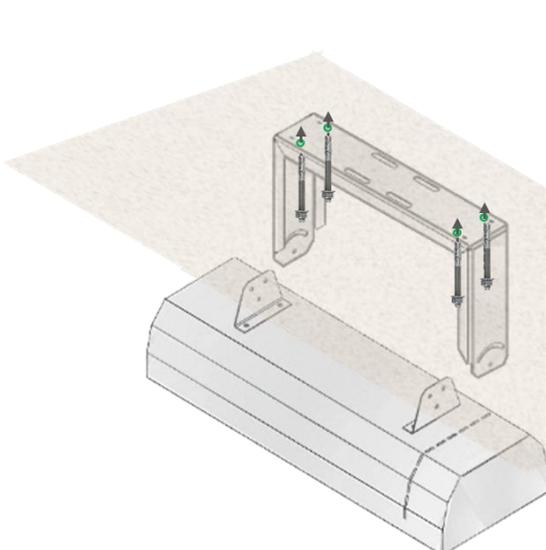
For wall installation, use the four holes indicated below.



Ceiling Installation

Secure the bracket with four M12 anchor bolts into the ceiling, using the four outer screw holes.

Note: Anchor bolts are not included.



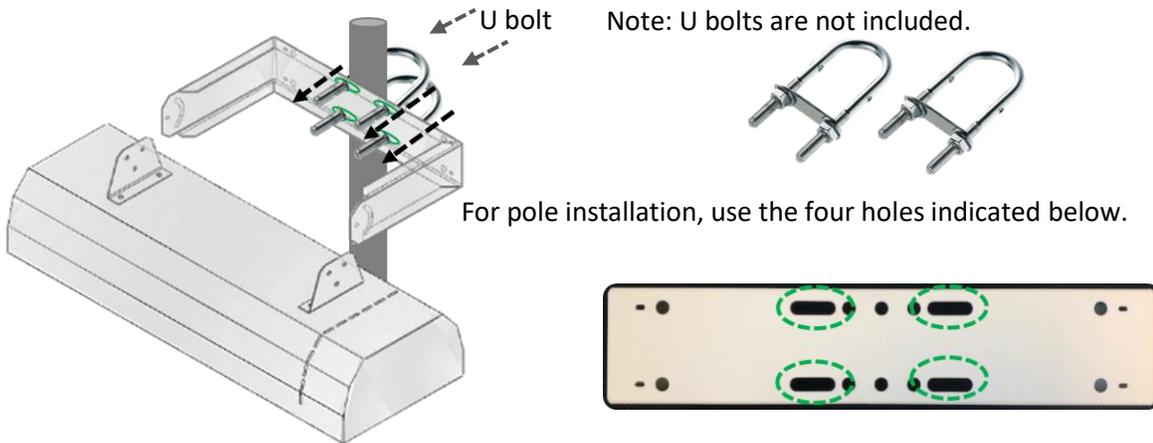
For ceiling installation, use the four holes indicated below.



Pole Installation

Secure the bracket with two U-bolts onto the pole, using the four inner screw holes.

The recommended pole sizes are 114mm (4.5 in) for a round steel pole or 102-127 mm (4-5 in) for a squared steel pole.

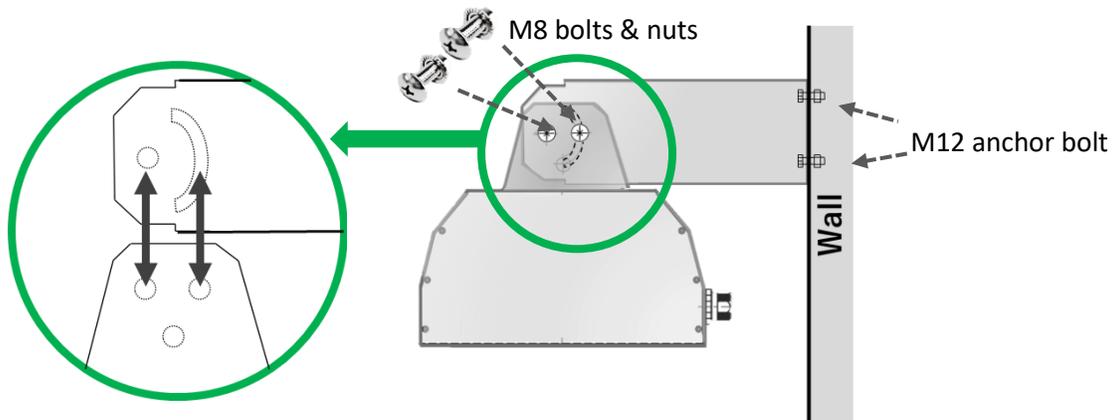


Mount Unit to Bracket

Wall Installation

Use the two top holes on the main unit bracket to join the unit to the holding bracket.

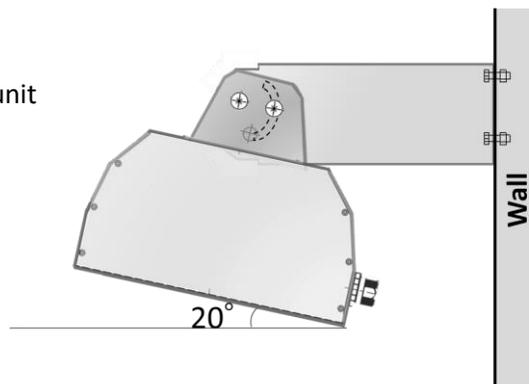
4 sets of M8 bolts & nuts are included.



Note: When installing the unit on a wooden or thin wall, reinforce the attachment area with a steel plate to ensure the unit's weight will be supported.

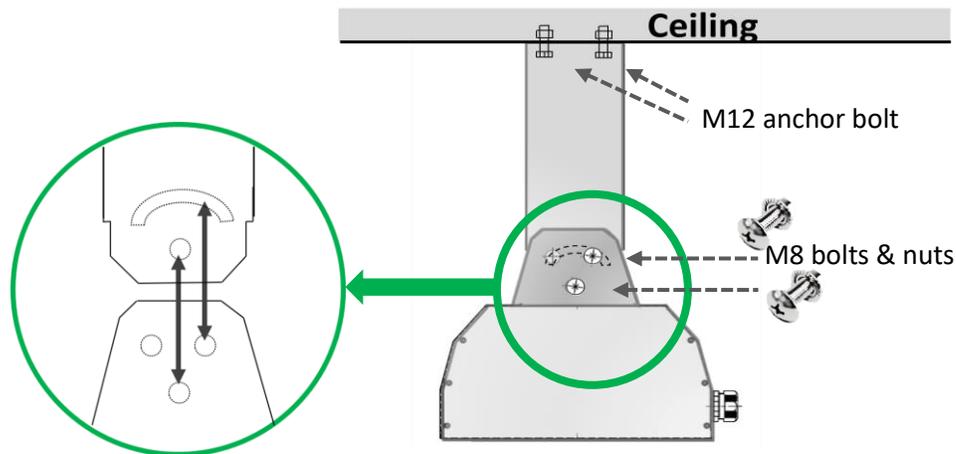
Wall Installation-Angled

For angled wall installation, move the main unit upwards to 20 degrees.



Ceiling Installation

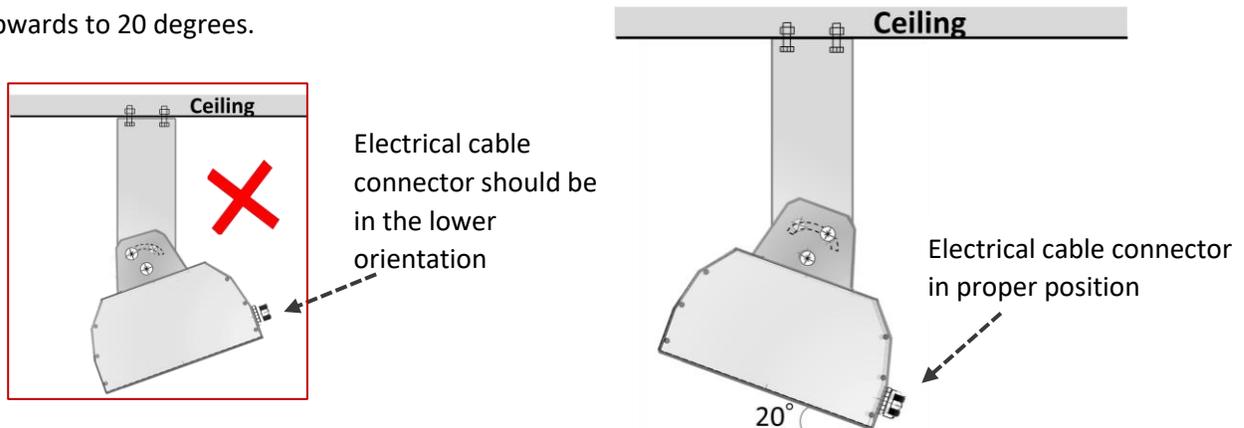
Use the two holes, one below and the one on the right side of the main unit bracket to join to the holding bracket. 4 sets of M8 bolts & nuts are included.



Note: When installing the unit on a wooden or thin ceiling. Reinforce the attachment area with a steel plate to ensure that the unit's weight will be supported.

Ceiling Installation-Angled

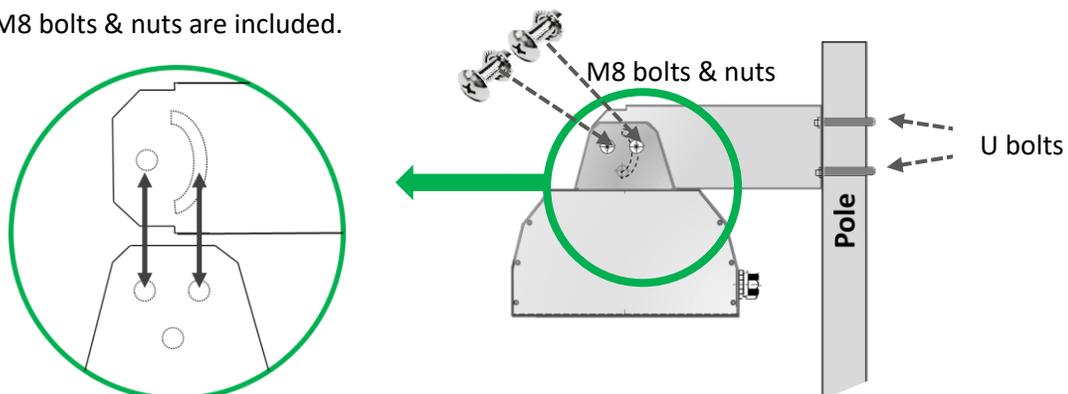
For angled wall installation, move the main unit upwards to 20 degrees.



Pole Installation

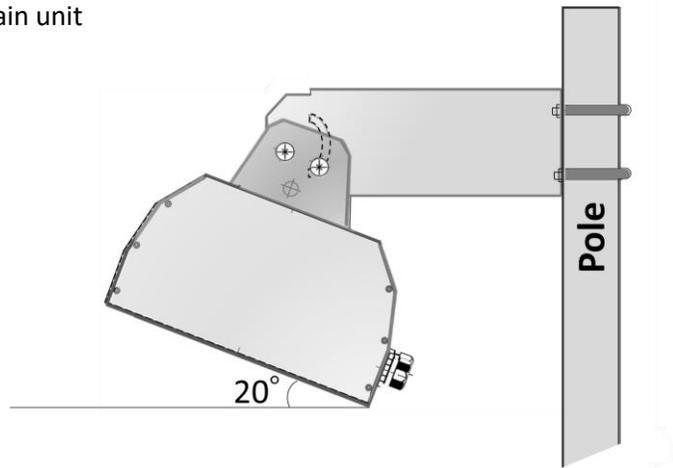
Use the two top holes on the main unit bracket to join the unit to the holding bracket.

4 sets of M8 bolts & nuts are included.



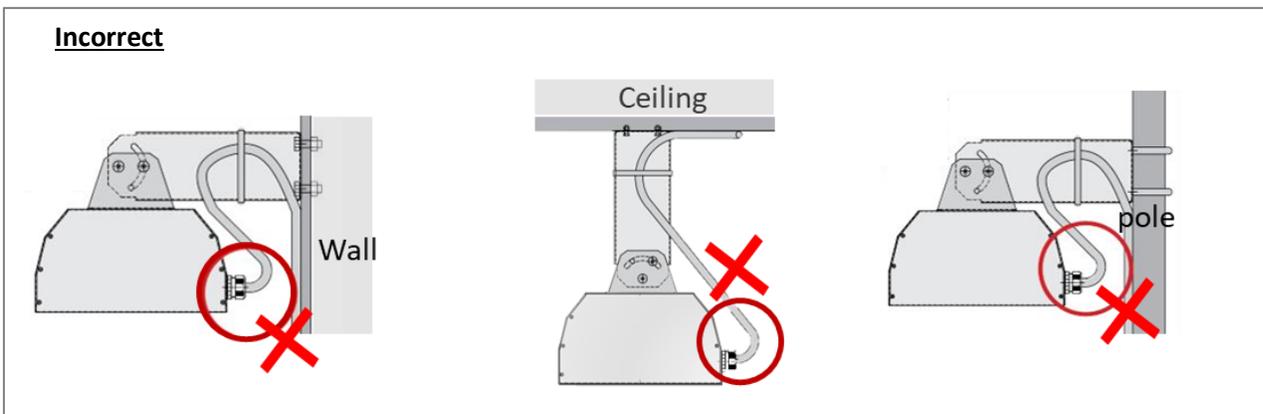
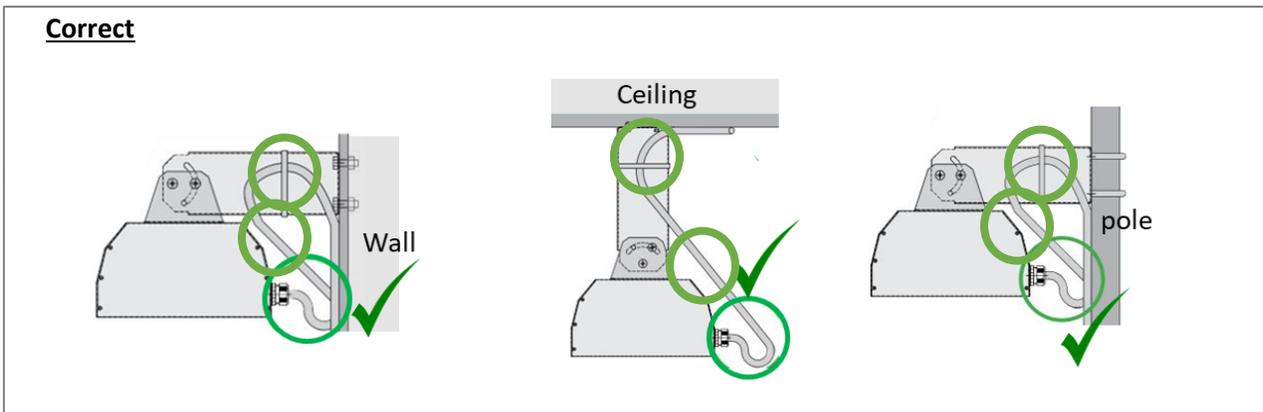
Pole Installation-Angled

For angled wall installation, move the main unit upwards to 20 degrees.



Power Cable Wiring Guide

Ensure the electrical cable does not touch the unit. Bend the electrical cable down to prevent water entering the unit. Secure the cable on the bracket.



OPERATING INSTRUCTIONS

The unit must be properly installed before it is used. For outdoor use only. The unit does not have an ON/OFF switch as it is designed to operate with a snow sensor and controller. It will switch on when the sensor detects falling snow and switches off when it detects that it has stopped snowing. This unit will operate automatically when a snow sensor is installed. It is recommended to install a timer controller to ensure that the unit keeps operating for a pre-set time after it stops snowing.

The *Danfoss Rain/Snow Sensor Controller (DS-2C)* is recommended as it includes a timer function, a temperature control, plus a single 30-amp relay. The *DS-2C* is recommended for one or more units. Two or more units requires the *DS-2C* and one or more contactors. Install the Danfoss Rain/Snow Sensor Controller (*DS-2C*) according to the **DS-2C Rain/Snow Sensor Controller Installation Manual**. Recommend the Long Delay (LD) configuration switch be set to the ON position so the delay off time is between 2-6 hours.

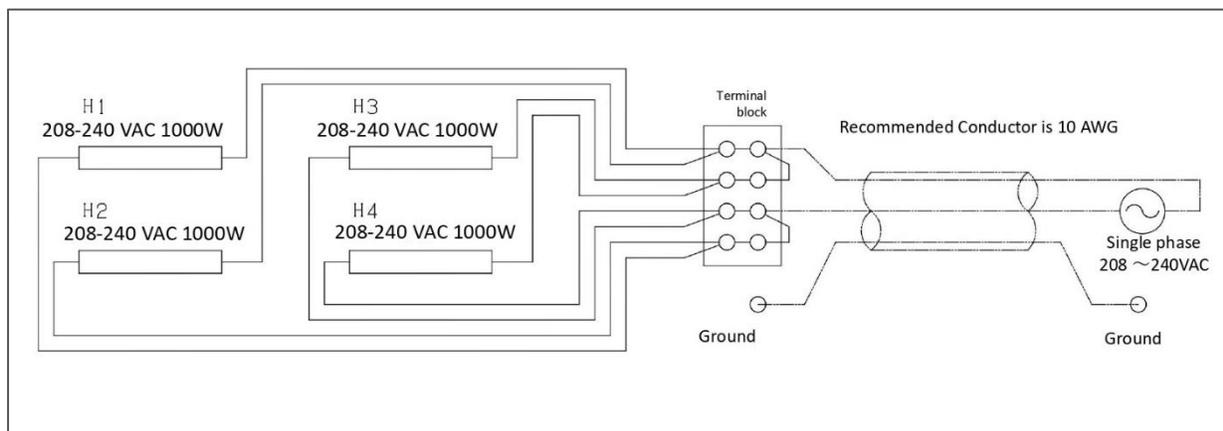
The unit takes approximately 30 minutes to heat up to maximum temperature and approximately 30 minutes to cool down, depending on the ambient temperature.

Do not operate the unit for more than 20 hours continuously, as this may damage the heating elements.

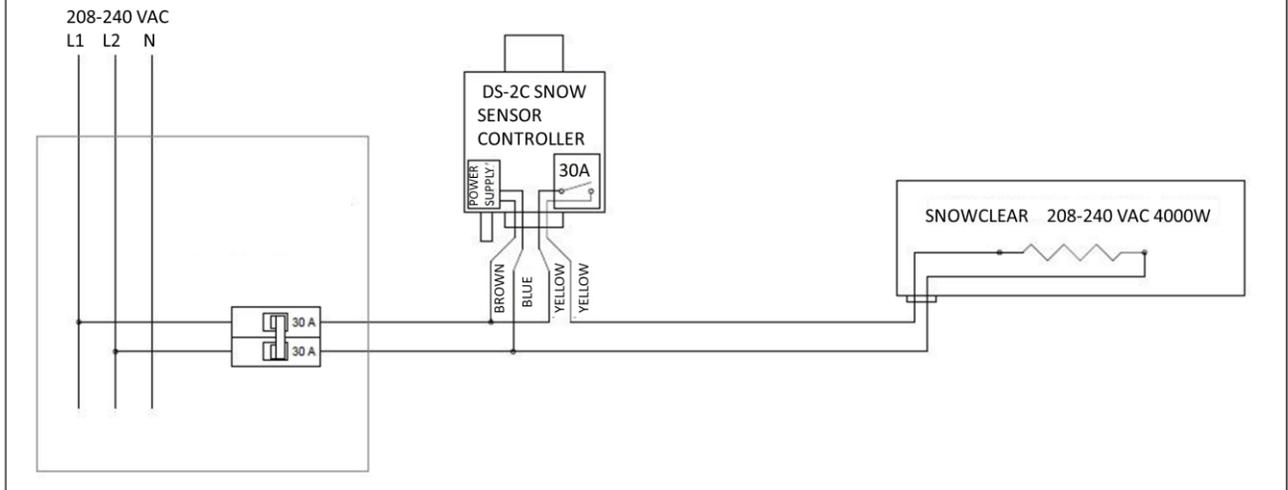
Wiring Instructions

Power Supply Connection: Minimum 10 AWG, 3 Conductor Cable

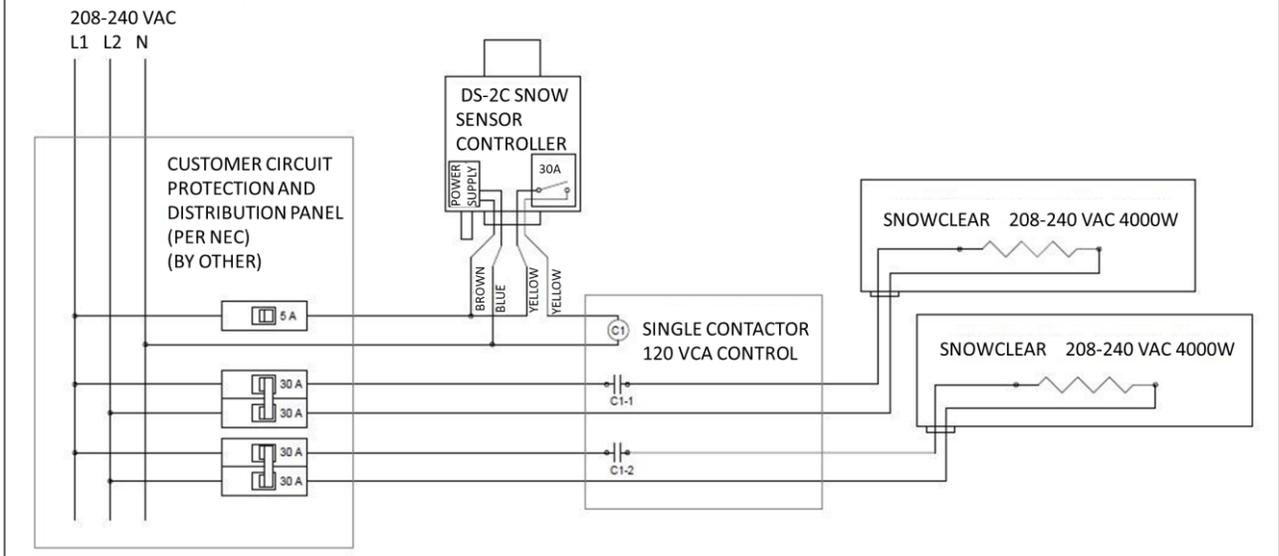
The SnowClear Overhead Melter must be properly grounded using a ring terminal crimp connector on the ground wire.



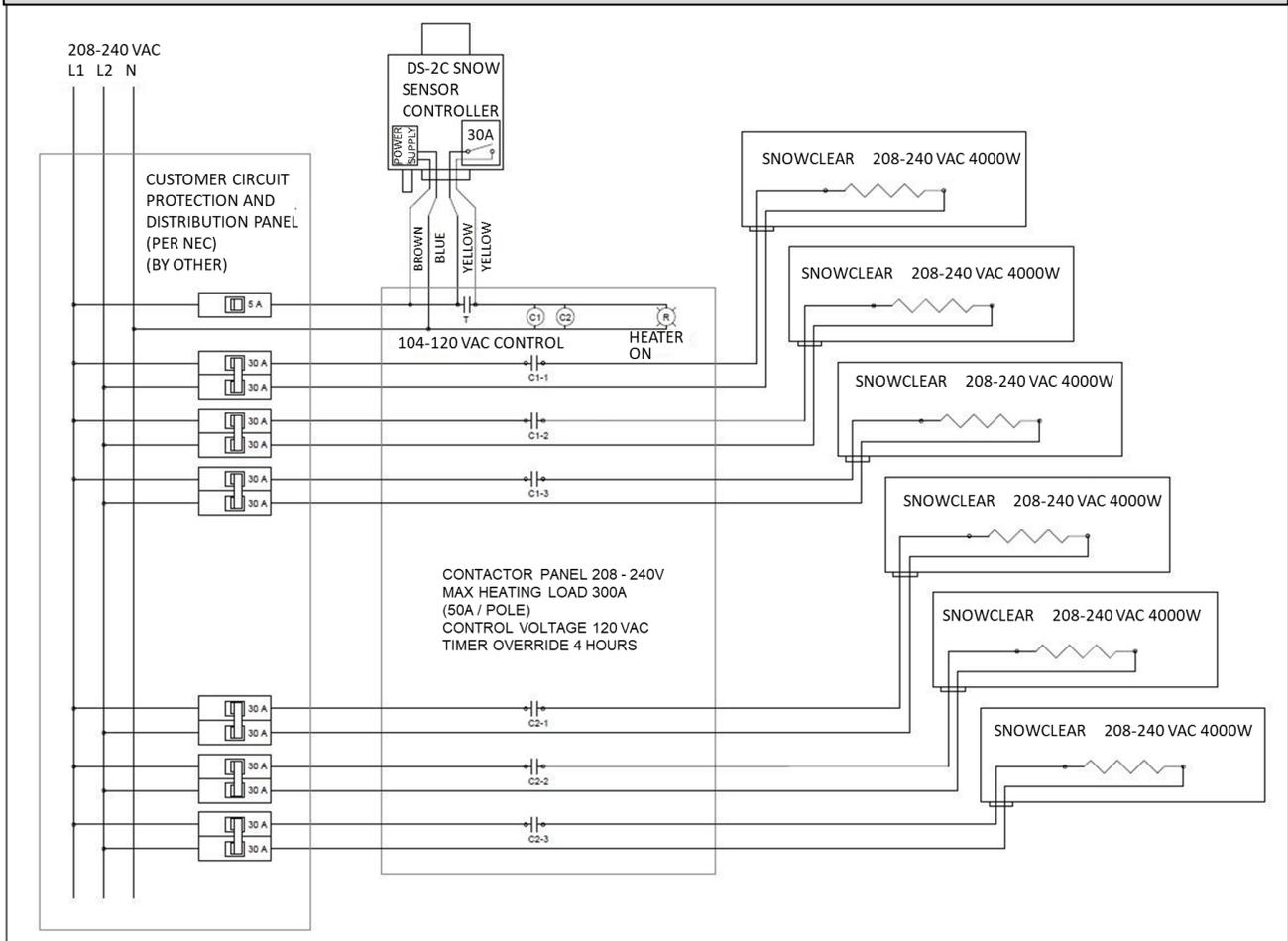
One SnowClear Overhead Melter Unit



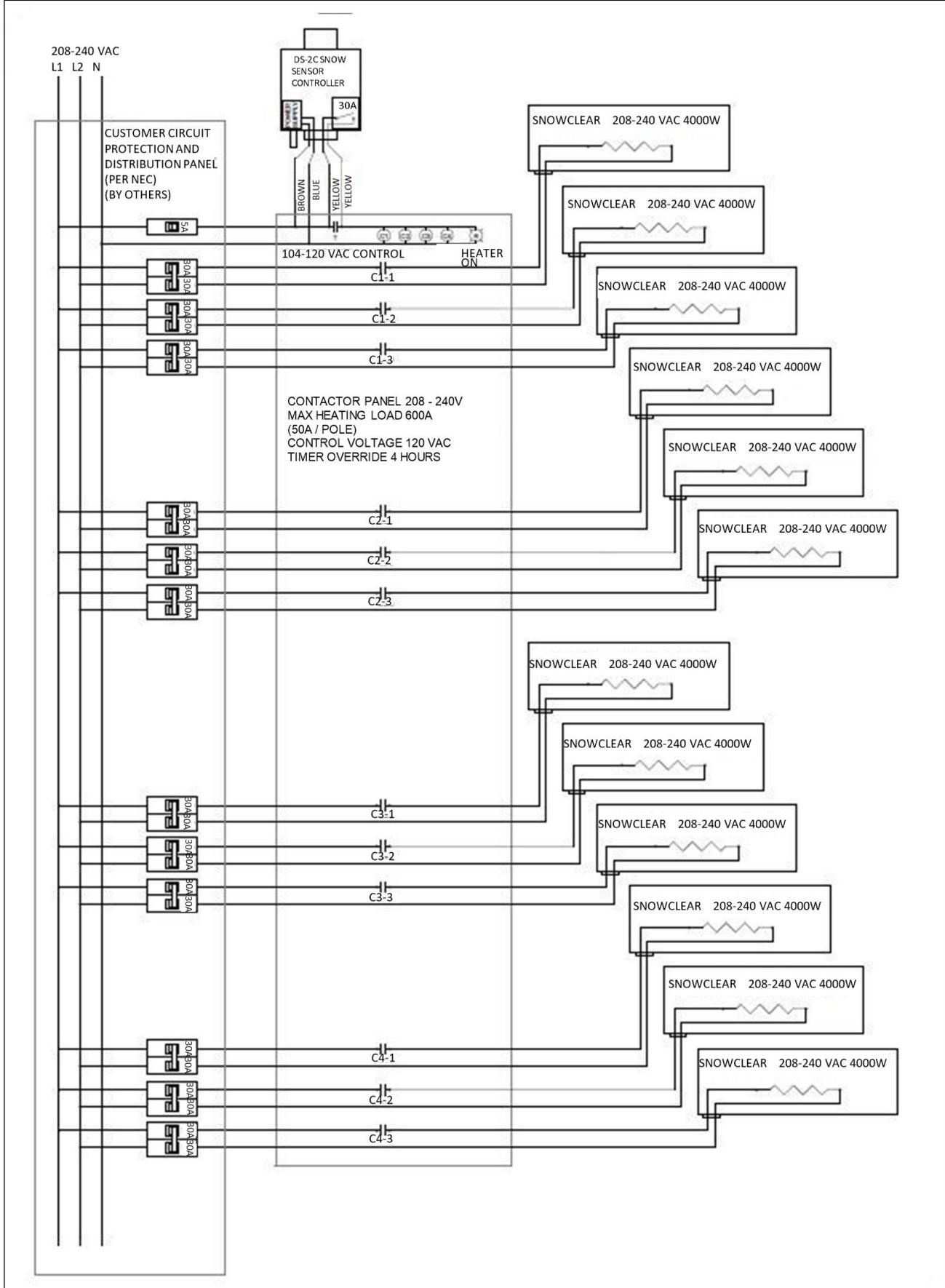
Two SnowClear Overhead Melter Units



Three to Six SnowClear Overhead Melter Units



Seven to Twelve SnowClear Overhead Melter Units



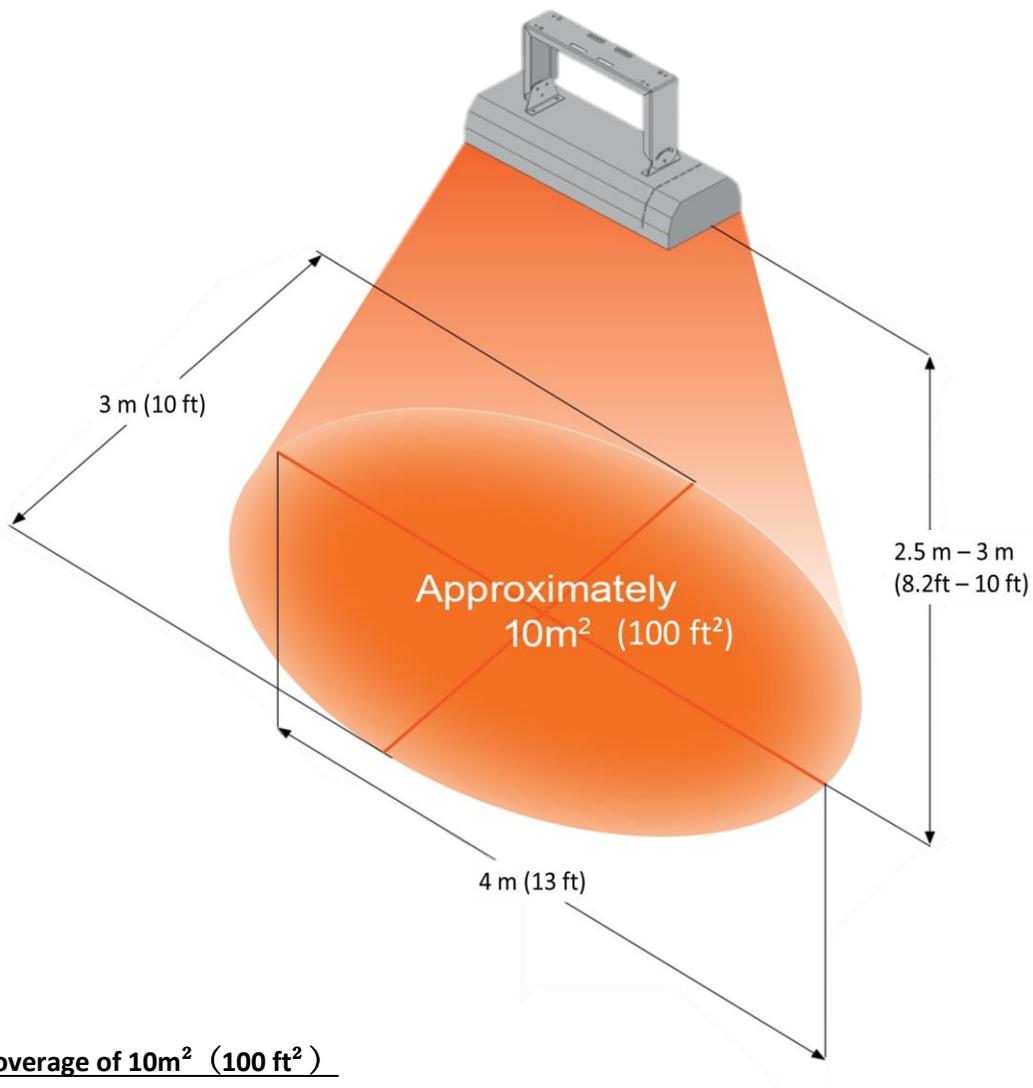
Connecting to power supply

⚠ WARNING To prevent electric shock, proper grounding is required. Failure to do this may result in electric shock, burns, death and/or damage to the unit.

Power cable size 10 gauge is recommended. If the cable is not the correct size, it may result in short circuiting, causing a fire or electrical shock. Installation and direct connection of the power contractor must be done by a licensed and qualified electrician.

Scope of Application per unit

SnowClear is a far-infrared, overhead snow melting system. The far-infrared rays radiate from above and accelerate the vibration of snow (water) molecules and underneath ground surface to produce heat energy that melts snow (ice).



Snow melt coverage of 10m² (100 ft²)

The coverage may vary with the height and angle of installation, ambient temperature, covering velocity of snow and other environmental factors.

MAINTENANCE INSTRUCTIONS

1. Disconnect the power supply at the circuit breaker panel and ensure the heating elements are cool before performing cleaning, minor servicing or maintenance. These tasks should only be performed by a licensed and qualified electrician.
2. Snow melting efficiency may decrease if the reflectors become dirty due to the build-up of contaminants from the environment. Daily visual inspection and maintenance are important to ensure maximum melting capability throughout the winter season. Cleaning of exterior casing and removal of foreign matter may be required.
3. After the winter season, it is recommended to clean the product with a soft cloth, gently wiping the outside surfaces of the unit with a mild detergent to remove built-up. Wipe all the detergent off the unit.
4. Due to the nature of the heating elements, they will need to be replaced within the life span of the unit. For heating element replacement, please contact the retailer from where you purchased the unit. The heating element should only be replaced by a licensed and qualified electrician. Gloves must be worn during heating element replacement. Any fingerprints or grease on the heating element surface may shorten the life span of the heating element.
5. Heating Element Replacement- Licensed and qualified electrician to perform this task.
 - a) Disconnect the unit from the supply circuit.
 - b) Unscrew the grill holders and remove the grill.
 - c) Remove both side reflectors with a gentle pulling motion.
 - d) Locate the high temperature porcelain wire connectors. Use a counter clockwise motion to unwind the wire connector and expose the wire connection. Separate the wires. Remove the insulation sleeve covering the heating element wire. Save this sleeve.
 - e) Unscrew the heating element holder located at each end of the heating element. Remove the burnt-out heating element.
 - f) Wear clean soft gloves and remove the protective covering from around the new heating element.
 - g) Place the new heating element in the base holder and attach the top heating element holder. Ensure the heating element is securely fastened. Replace the insulation sleeve over the new heating element wire.
 - h) Strip 14.3mm (0.56 inch) of insulation from the stranded wire ends to be connected. Hold wires together with ends even. Bend wire tips together. Do no pre-twist wire. Push wires into the porcelain wire connector and screw connector clockwise onto the wire until tight. Check that all wires are gripped tightly by the connector. Slide the insulation sleeve over the bare heating element wire.
 - i) Slide both end reflectors back into place, ensuring that the wire connections are behind the reflectors.
 - j) Replace the grill and grill holder.
 - k) Power may now be restored to the unit.

Replacement Parts

Please contact Trecan Combustion Limited- Parts Sales Department by one of the following methods for replacement parts:

Mail: Trecan Combustion Limited
4049 St. Margaret's Bay Road
Hubley, Nova Scotia
B3Z 1C2 Canada

Phone: (902) 876-0457 Press 3 for Parts Sales

Email: parts@trecan.com

1 Year Limited Warranty

Terms and Conditions of the SnowClear Overhead Melter 1 Year Limited Warranty

What is covered

- Your SnowClear Overhead Melter is warranted against original defects in material and workmanship for a period of 1 year from the date of purchase, when used for normal overhead melting purposes in accordance with the SnowClear Overhead Melter Installation, Operator & Maintenance Manual. Please retain your proof of purchase. This warranty provides, at no extra cost to you, all labour and parts necessary to ensure your overhead melter is in proper operating condition during the warranty period. The replacement of any part of your overhead melter under warranty will not extend the period of the warranty. Any parts which are returned to Trecan Combustion Limited will become the property of Trecan Combustion Limited.
- This limited warranty is subject to the following terms:

What is not covered

Trecan Combustion Limited, shall not be liable for costs, damages or repairs incurred as a result of, due to, or from:

- Purchases of overhead melters from unauthorized dealers.
- Careless operation or handling, misuse, abuse and/or lack of maintenance or use not in accordance with the SnowClear Overhead Melter Installation, Operator & Maintenance Manual.
- Use of the overhead melter other than for normal overhead melting purposes within North America.
- Use of parts not in accordance with the SnowClear Overhead Melter Installation, Operator & Maintenance Manual.
- Use of parts and accessories other than those produced or recommended by Trecan Combustion Limited.
- External sources such as power surges, power spikes and undo vibrations.
- Repairs or alterations carried out by unauthorized/unlicensed parties or agents.
- Normal wear and tear.
- Additionally, this limited warranty does not apply to any overhead melter that has had the serial number altered or removed.

Warranty Service

- Please fill out and return the Warranty Form, or take a photo of the completed Warranty Form and email the information to parts@trecan.com
- Before parts service can take place, the terms of the warranty require that you contact Trecan Combustion Limited with your model name/number, serial number, date and place of purchase.
- Please keep your purchase receipt in a safe place to ensure you have this information.
- All parts service work will be coordinated by Trecan Combustion Limited or its authorized agents.
- Any replaced defective parts will become the property of Trecan Combustion Limited.
- Service under this warranty will not extend the period of this warranty.

Warranty Limitations and Exclusions

- Any implied warranties relating to your overhead melter including but not limited to warranty of merchantability or warranty of fitness for a particular purpose, are limited to the duration of this warranty. This limitation is not allowed by some States, Provinces or Territories and so this limitation may not apply to you.
- Your remedy for breach of this warranty is limited to the warranty service described above. Trecan Combustion Limited will not be liable for any consequential damages or incidental damages you may incur in connection with your purchase and use of your overhead melter. This limitation is not allowed by some States, Provinces or Territories and so this limitation may not apply to you.
- The warranty gives you specific legal rights, and you may also have other rights which vary from state to state, province to province and territory to territory.
- This limited warranty is not transferable.
- This limited warranty is only available in North America.

This product is made in Japan by:

ELCOM Co.,Ltd.

MC Bldg. 10-1 Kita 10 Nishi 1, Kita-ku, Sapporo City 001-0010, Japan

Assembled in Canada by:

Treca Combustion Limited

4049 St. Margaret's Bay Road

Hubley, Nova Scotia

B3Z 1C2 Canada