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ARE YOU PROTECTED?

BEFORE YOU BUY AN RV

FAQS

EASY TO RETROFIT

DUCTED VS ULTRAHEAT

FREQUENTLY ASKED QUESTIONS ABOUT ULTRAHEAT® PRODUCTS FOR RECREATIONAL VEHICLES

TANK HEATER FAQs

Q) How many UltraHeat® Tank Heaters will be needed to protect my recreational vehicle (RV)?

A) That will depend on how many holding tanks are mounted below the floor of your particular RV. All of holding tanks below the floor (black tank - septic; gray tank - sinks/showers; & fresh water tanks) will need to be protected from freezing temperatures. In most cases, one UltraHeat® tank heater per below floor holding tank is typically needed to protect most RV's. Usually this is between two to five tank heaters per RV.

Q) How does the Model 3600 Tank Heater work?

A) The Model 3600 Tank Heater is actually two separate tank heaters in one. The Model 3600 Tank Heater has a 13.5 VDC heating element and an isolated 120 VAC heating element. Each individual heating element operates independent of the other. Both of the heating elements must be connected to the appropriate power source to operate each individual element. To protect a 60-gallon (227 L) holding tank with the Model 3600 Tank Heater the 13.5 VDC power must be connected and the 120 Volt AC power must be plugged in.

Q) My holding tanks are insulated and forced-air heated inside an enclosed underbelly beneath my floor. Do I still need to use Ultra Heat Holding Tank Heaters?

A) Yes, UltraHeat® Holding Tank Heaters will still be necessary to give your holding tanks protection from freezing in below freezing temperatures. Enclosing, insulating and heating the underbelly of an RV will only provide protection from freezing down to about +15°F to +20 °F (-9°C to -6°C) without wind chill. In laboratory testing, UltraHeat® Tank Heaters protected holding tanks from freezing down to -11°F (-24°C) on holding tanks exposed (open to the weather) below the floor of the RV. Once Ultra Heat Holding Tank Heaters are installed on an RV with insulated, enclosed and forced-air heated underbelly, you can expect protection from freezing to be significantly below -11°F (-24°C). Results will vary depending on the type of underbelly enclosure, amount of insulation, etc.

Q) Do UltraHeat® Tank Heaters have third party certifications for U.S. and Canadian safety standards?

A) Yes, all UltraHeat® products carry certifications by accredited testing laboratories. Testing Engineers International (TEI) certify that all Ultra Heat products meet the appropriate testing and safety requirements for U.S. safety standards. Quality Auditing Institute (QAI) certifies that UltraHeat's 12 Volt DC powered tank heaters meet the appropriate testing and safety requirements for Canadian safety standards.

Q) When should the UltraHeat® Tank Heaters be turned "ON"? When should it be turned "OFF"?

A) The 13.5 VDC power switch for the 13.5 VDC UltraHeat® Tank Heaters should be turned "ON" or the power cord for the 120 VAC UltraHeat® Tank Heaters should be plugged in when the outside temperature approaches freezing 32°F (0°C.) The 13.5 VDC power switch should be turned "OFF" and the power cords unplugged when the outside temperature stays above freezing. All UltraHeat® Tank Heaters are thermostatically controlled, they turn "ON" automatically when the holding tank temperature is 44° F (7° C) and turns "OFF" automatically when the liquid in the holding tank reaches 64°F (18°C.) The UltraHeat® Tank Heater should be turned "OFF" or unplugged when dumping the holding tank.

Q) How do you know if the UltraHeat® Tank Heater is working?

A) Turn "ON" the 13.5 VDC power switch for 13.5 VDC UltraHeat® Tank Heaters or plug in the power cord for 120 VAC powered UltraHeat® Tank Heaters. The outside temperature must be lower than 44° F (7° C) before the tank heater will activate (see FAQ above) since all UltraHeat® tank heaters are thermostatically controlled. Check the tank heater after five minutes. Touch the black foam pad in the center of the tank heater, you should feel the warmth from the heating element. This warmth indicates that the tank heater is working properly.

Q) Should liquid be in the holding tank when the UltraHeat® Tank Heater is "ON"?

A) Yes, liquid must always be in the holding tank when the Ultra Heat Tank Heater is "ON."

Q) Will the UltraHeat® Tank Heater damage the holding tank if little or no liquid is in the tank when the UltraHeat® Tank Heater is "ON"?

A) In most all cases, NO, the UltraHeat® Tank Heater will not damage any type of holding tank. If the outside temperature is below 44° F (7° C) and the UltraHeat Tank Heater is "ON" with little or no liquid in the black or gray holding tank, the tank heater will possibly create sewer gas that may give off odors. This said, some liquid must always be present within the tanks when using the UltraHeat system.

Q) Is regular maintenance required on the UltraHeat® Tank Heater?

A) NO. But you will still want to periodically check the UltraHeat® Tank Heater for damage, loose wires, etc.

Q) What should be done if the UltraHeat® Tank Heater is not working?

A)

1. Check the 13.5 VDC power switch and make sure it is in the "ON" position, or make sure the 120 VAC power cord is plugged in.
2. Check the 13.5 VDC fuse, 13.5 VDC circuit breaker or 120 VAC circuit breaker for the RV's converter or shore power extension cord, make sure the fuse is not blown or the circuit breakers "OFF".
3. Check all wire connections, crimp cap connections and all power wires. There must be good mechanical connections between all wires and all wire insulation must be undamaged and whole.
4. Check the appropriate power source to confirm that either 13.5 VDC power is available from the converter/battery system or 120 VAC power is available from the shore power extension cord to the RV converter or extension cord for the 120 VAC Tank Heater.

Q) Does the UltraHeat® Tank Heater have a warranty?

A) YES. A ONE-YEAR LIMITED WARRANTY. Extended warranties are available [here](#).

PIPE & ELBOW HEATER FAQs

[Click here to see what other RVers are saying about UltraHeat® Tank Heaters.](#)

WARRANTY †

Register Your Warranty
What is the Warranty?
What is the Extended Warranty?

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Tank Heaters
Pipe Heaters
Elbow Heaters

FOR OTHER INDUSTRIES †

Transportation Safety
Personal Heaters
Medical - I.V. Warmer

ULTRAHEAT®



Ultra Heat, Inc.
Eikhart IN 46516

Date : 04 April 08

O.E.M. Specification for Tank Heaters, Pipe Heaters, and Elbow Heaters

WHAT WAS PURCHASED!

Tank Heater Model	Heater Pad Size	Voltage Required	Current Draw	Power Consumed	Heat Output	Active Heating Area	Max. Tank Size for use
Enclosed Holding Tanks							
TH-618	6.5" x 18"	13.5 vdc	5 Amps	67.5 Watts	230.18 BTU/h	72 sq in	30 Gal
TH-624	6.5" x 24"	13.5 vdc	8 Amps	108 Watts	368.28 BTU/h	99 sq in	40 Gal
TH-825 (*4ft leads)	6.5" x 24"	120 vac	0.94 Amps	112.8 Watts	384.65 BTU/h	96.25 sq in	40 Gal
Exposed Holding Tanks							
TH-900	6" x 12"	13.5 vdc	4 Amps	54 Watts	184.14 BTU/h	45 sq in	25 Gal
TH-718	7.25" x 18"	13.5 vdc	5 Amps	67.5 Watts	230.18 BTU/h	72 sq in	30 Gal
TH-726	7.25" x 26"	13.5 vdc	8 Amps	108 Watts	368.28 BTU/h	99 sq in	40 Gal
TH-1218	12" x 18"	13.5 vdc	7 Amps	94.5 Watts	322.25 BTU/h	152 sq in	50 Gal
M4200A	12" x 20"	120 vac	1.37 Amps	164.4 Watts	560.6 BTU/h	171 sq in	60 Gal
M4800A	12" x 24"	120 vac	1.68 Amps	201.6 Watts	687.46 BTU/h	209 sq in	75 Gal
M3600A	6" x 24"	13.5 vdc	8 Amps	108 Watts	368.28 BTU/h	99 sq in	40 Gal
(dual voltage, dual elements)	6" x 24"	120 vac	0.94 Amps	112.8 Watts	384.65 BTU/h	96.25 sq in	40 Gal
Pipe Heater Models							
PH-312	7.25" x 12"	13.5 vdc	4 Amps	54 Watts	184.14 BTU/h	45 sq in	3" Pipe
PH-318	7.25" x 18"	13.5 vdc	6 Amps	81 Watts	276.21 BTU/h	72 sq in	3" Pipe
PH-1512	6" x 12"	13.5 vdc	4 Amps	54 Watts	184.14 BTU/h	45 sq in	1.5" Pipe
PH-1518	6" x 18"	13.5 vdc	6 Amps	81 Watts	276.21 BTU/h	72 sq in	1.5" Pipe
PH-513	3" x 12"	13.5 vdc	2.3 Amps	31.1 Watts	106.05 BTU/h	25 sq in	1/2" Pipe
Pipe Elbow Heaters							
EH-313	3" x 12"	13.5 vdc	1.8 Amps	24.3 Watts	82.86 BTU/h	17.5 sq in	3" Elbow
EH-158	3" x 7.5"	13.5 vdc	0.9 Amps	12.2 Watts	41.6 BTU/h	8.75 sq in	1.5" Elbow

WESCO EQUIPMENT TO TANK PAD!



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INSTALLATION INSTRUCTIONS:: TANK HEATER

Detailed Installation Instructions for UltraHeat® Tank Heaters

Outside temperature must be at least 50°F (10°C) when applying tank, pipe and elbow heaters.

Please read the entire installation instructions before attempting to install the UltraHeat® Tank Heaters.

1. Prepare the Tank Surface.

- Select a location on the bottom of the holding tank where the tank heater is to be put. It is recommended that the tank heater be placed as close to the drain end of the holding tank as is practical to do so. Select a location where the tank heater is mostly on the bottom of the holding tank and will lay flat against the bottom surface of the tank.
- If your holding tank has grooves in the tank surface or ribs that stick out of the tank surface, select a location on the bottom of your holding tank that will minimize the contact with the grooves or ribs and still be relatively close to the holding tank drain.
- Pre-clean the dust, dirt and other foreign matter from the holding tank surface using soap and water. Rinse with clean water and let the surface dry completely.
- Next clean the holding tank surface using isopropyl alcohol (70% alcohol minimum) with a clean cloth or rag. Allow the tank surface to dry completely. The tank surface must be clean and dry before proceeding to the next step.

Caution: Do not use any type of solvent to clean the holding tank surface.

2. Put the Tank Heater onto the Tank Surface.

- Peel the release paper off the back side of the tank heater exposing the adhesive side of the tank heater.
- Place the tank heater onto the bottom tank surface with the adhesive side against the tank. It is usually best to start at one end of the tank heater and slowly but firmly press the tank heater down so that the entire tank heater makes contact with the tank surface. *Be careful not to stretch the tank heater beyond its original size.*
- If your holding tank has grooves in the tank surface or ribs that stick out of the tank surface you will need to make sure that you do not create air gaps or loose edges on the tank heater that will expose the adhesive side of the tank heater. Slowly placing the tank heater on the tank surface, work from one end being careful to lay the tank heater into the grooves or over the ribs in such a way as to make sure the tank heater is in complete contact with the tank surface. *Be careful not to stretch the tank heater beyond its original size.*
- Press down firmly on all parts of the tank heater once in place. This will activate the pressure sensitive adhesive on the Ultra-Heat® Tank Heater.

Caution: When properly installed the UltraHeat® Tank Heater will be very difficult to remove without destroying it.

3. Electrical Installation

3a1. Select the Appropriate 120 VAC Power Source.

120 Volt AC (VAC) Powered Tank Heaters (Model 3600, Model 4200 & Model 4800)

- All of the 120 VAC powered tank heaters are furnished with a 15-foot (13.5m) power cord and a standard two prong plug. Simply connect an extension cord into a convenient 120 VAC outlet and run the other end to the tank heater's location and plug-in the tank heater's power cord.

Caution: Make sure the power cord/extension cord connection is off the ground & protected from water exposure.

- UltraHeat®'s 13.5 VDC Tank Heaters can be combined on the same power circuit with UltraHeat® Pipe and Elbow Heaters as long as the following conditions are met:

1. All UltraHeat® heaters must be connected in parallel only. All heater "hot-wire" leads (colored red) must be connected together with the positive circuit wire. All the heater negative wire leads (colored white) must be connected together with the circuit ground wire.
2. The total current draw of all tank, pipe and elbow heaters to be combined on one 13.5 Volt DC circuit must be less than 15 Amperes.

3b. Install the 13.5 VDC, 15 Ampere fuse or circuit breaker.

- Each 13.5 VDC power circuit for UltraHeat® heaters must use only a 15 Ampere rated fuse or circuit breaker.
- Install a 15 Ampere fuse in an open fuse slot of the 13.5 VDC fuse panel connected to the output of the 13.5 VDC power converter. If you do not have enough open circuits in your 13.5 VDC fuse panel for the number of UltraHeat® Heaters you want to install please refer to the "[Frequently Asked Questions About Typical Ultra Heat Heater Installations](#)" concerning this subject. If appropriate install a 15 Ampere in-line fuse or circuit breaker off the direct output of the 13.5 VDC power converter if a 13.5 VDC fuse panel is not used.

3c. Run Circuit Wire from the Fuse or Circuit Breaker to the 13.5 VDC Power Switch.

- Each 13.5 VDC power circuit must use a minimum of 14 AWG (American Wire Gage) sized circuit wires in order to comply with National Electrical Code for 15 Ampere rated circuits. It is acceptable to use a larger gage circuit wire (12 AWG, 10 AWG, etc.) for a 15 Ampere rated circuit but not a smaller gage wire (16 AWG, etc.).
- Use a female slide connector (packaged separate from the UltraHeat® Tank Heater) to connect the circuit wire from the fuse/circuit breaker to the input side of the 13.5 VDC power switch (also packaged separate from the UltraHeat® Tank Heater.)

3d. Run Circuit Wire from 13.5 VDC Power Switch to the UltraHeat® Tank Heater Positive Lead.

- Use a female slide connector (packaged separate from the UltraHeat® Tank Heater) to connect the circuit wire to the output side of the 13.5 VDC power switch.
- Use the crimp cap connectors that were packaged with your UltraHeat® 13.5 VDC Tank Heater to connect the heater's lead wires to the 13.5 VDC circuit wires. Connect the positive circuit wire coming from the 13.5 VDC power switch to the red positive lead wire on the UltraHeat® Tank Heater.
- If larger connectors are necessary to properly connect multiple heater lead wires to the circuit wires, large crimp cap connectors are recommended (not included with the UltraHeat® Tank Heater.)

3e. Run Circuit Wire from the UltraHeat® Tank Heater Negative Lead to Ground.

- Connect the circuit wire to be used for the ground side of the circuit using a crimp cap connector to the UltraHeat® Tank Heater's white negative lead wire. Run the circuit wire back to the RV's 13.5 VDC grounding bar which is normally located near the RV's 13.5 VDC power converter.
- It is also acceptable practice to connect the negative circuit wire directly to the RV's frame to use as a ground for the UltraHeat® Tank Heater. It is recommended that a crimp-on eyelet, a star washer, a bolt and nut or other appropriate hardware be used to attach the negative circuit wire to the RV's frame. Removing a small amount of the paint on the RV's frame where the ground connection will be located will help insure a good ground connection.

INSTALLATION INSTRUCTIONS:: TANK HEATER

3a2. Select the Appropriate 13.5 VDC Power Source.

13.5 Volt DC (VDC) Powered Tank Heaters (Model 1200, Model 2400 & Model 3600)

- It is recommended that UltraHeat®'s 13.5 VDC Tank Heaters be powered from the output fuse panel of an RV's 13.5 VDC power converter. UltraHeat® 13.5 VDC Tank Heaters should not be powered directly from a motorized RV's engine battery circuit.
- All 13.5 VDC power circuits for UltraHeat® Heaters should be dedicated to powering UltraHeat® tank, pipe and elbow heaters only. Do not combine UltraHeat® Tank Heaters on 13.5 VDC power circuits with devices that use electric motors (water pumps, furnace blower motors, etc.).

Caution: Do not allow high voltage on the 13.5 VDC UltraHeat® Tank Heater power circuits, this will cause great damage to the tank heater.

- [Installing UltraHeat® Pipe Heaters](#)
- [Installing UltraHeat® Elbow Heaters](#)

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1. WIRED THRU CONVERTER ON A DEDICATED CIRCUIT.
 2.

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