



Construction Innovations Co. Inc.

Malta, NY | 518.490.2330 | sales@coninnco.com

Thermocure

Concrete Cylinder Curing Boxes



Manual and Operating Guide
Thermocure II – Heats and Cools
Thermocure I – Heats Only



Important Safety Instructions & Electrical Information

These guidelines must be followed to ensure the safety mechanisms of the Thermocure curing box operate properly.

- The use of Extension cords is acceptable. Extension cords that are not sized properly either exceedingly long or undersized may cause an electrical hazard and affect the unit's electrical output.
- When using an extension cord is found necessary always be sure to use a sufficient size cord. The shortest length of cord possible is suggested. Under no circumstance should a unit be operated with an extension cord longer than 100 ft.
 - 100 ft Cord = Not less than 10 Gauge
 - 50 ft Cord = Not less than 12 Gauge

Never connect multiple extension cords or use more than one cord per unit.

- All Thermocure units are provided with a grounding type electrical cord designed for protection against electrical shock hazards. **DO NOT** under any circumstances **cut, remove, or bypass** the grounding prong from the plug. All Thermocure units must properly be plugged into a 110 V grounded three-prong receptacle, which is protected with a GFCI protected circuit.





- All Thermocure Unit performance will be affected if the voltage varied by 8 percent or more. Operating your Thermocure unit with-out a sufficient supply of power can damage the compressor motor and in all Thermocure models it can damage the heating element. Any consequential damage would not be covered under the existing warranty. To ensure a proper function and performance of your Thermocure Units, test all circuits (including extension cords) to be sure power is sufficient.
- **Do Not** plug the unit into an outlet controlled by a wall switch or a pull cord in order to prevent the unit from being turned off accidentally.
- For units being powered by a generator, ensure that the output of the generator is sufficient to power the Thermocure unit.
 - Recommended 2500 WATT minimum.
- **Be Sure** the Thermocure is switched off before the generator is turned off and turned on only after the generator is up and running.

Installation / Placement / Leveling

All Thermocure units must be placed near a location of a 110 V grounded power source or a sufficiently powered generator. For proper air circulation around the units, provide two to three inches of space on all sides of the unit.

In order to ensure proper leveling all bottom corners of the Thermocure unit must rest firmly on a solid surface. The surface must be durable and structurally sound to support a fully loaded Thermocure I or Thermocure II unit.

Level the unit within $\pm \frac{1}{8}$ " for proper operation of the Thermocure. Wood and Metal shims can be used between the foot pads and a solid surface.



Water Filling

The Thermocure units have an overflow drain located on the upper middle of the right end of the cooler. NEVER plug or cap this overflow. This could cause a positive pressure within the container resulting in severe damage to the unit and a possible electrical hazard.

The Thermocure units **MUST** contain water when curing test specimens. Water must be added to the Thermocure unit before connecting to a power source to ensure the heating element will not over-heat. All Thermocure models are shipped with the temperature set to 73°F ± 2° (22°C ± 1°). After the water is added and then the unit is turned on, adjust the temperature to the desired setting by pressing the up/down arrows on the controller of the Thermocure II.

- ❖ The Water Pump will automatically operate when the unit is properly plugged in.



Operating Guide

Starting the Unit

After filling the unit with water, both the Thermocure II and the Thermocure I, are ready to turn on. Plug the electrical power cord into an approved power supply.



Thermocure II Automated Controller

The Thermocure II Electronic Controller is located on the upper left corner of the control enclosure. If you have filled the unit with water and the unit is properly plugged in, the controller will automatically operate.

- ❖ Always fill the test cylinders with the sample concrete prior to placing the cylinders in the cooler. This will help to keep the cooler clean and the unit operating efficiently.

Thermocure Automated Controller

The red values indicate the temperature of the water in the container. The green values indicate the setpoint temperature that the unit will work to maintain. The delivery setpoint is preset to 73°F ± 2° (22°C ± 1°). Using the arrow keys on the right side of the controller you can adjust the set temperature. Pushing the up arrow key will raise the set temperature to your specified value, typically 73°F. It may take up to 24 hours for the water temperature to reach the initial setpoint.

Once the controller is set to the specified temperature the unit will then begin either cooling (indicated by a small number 1 on the upper part of the display) or heating (indicated by a small number 2 on the upper part of the display) until it reaches the preset temperature. The unit is ready to receive test cylinders when the temperature indicated in red is +/- 2°F of the set temp in green.

The controller can display temperature in both Fahrenheit and Celsius. Unless ordered configured to Celsius all the Thermocure units are shipped to show temp values in Fahrenheit. If you wish to change the display values to Celsius please call 518.490.2330.





Thermocure I Temperature Adjustment

The Thermocure I temperature is set at 73°F ± 2° (22°C ± 1°). Once the unit is filled with the proper amount of water and the unit is plugged into the proper electrical source. Should you need to adjust the temperature set point, **UNPLUG THE UNIT**, there is no need to drain the water, remove the cover from the heater and adjust the thermostat by using a dial located inside the heater mechanism. Only turn the dial slightly as the thermostat is very sensitive. Plug the unit back in and allow the temperature to regulate for an hour. If further adjustment is required, repeat above. It may take up to 24 hours for the water temperature to reach the initial setpoint.

Placement of Test Cylinders Thermocure II and Thermocure I



Always fill the test cylinders with the sample concrete prior to placing the cylinders in the cooler. This will help to keep the cooler clean and the unit operating effectively.

Take care when loading and unloading concrete test specimens into the units. NEVER drop specimens onto the stainless support rack. This could cause leaks, damage the cooling and/or heating elements, temperature sensors, and permanently warp the support rack.

Cleaning of the Tank, Thermocure II and Thermocure I

The Thermocure unit should be drained and cleaned periodically to ensure optimum performance. **UNPLUG** the unit to avoid electrical hazard. There is a drain plug on the Thermocure unit, opposite to the control enclosure. The drain plug is located on the bottom center of the end of the unit. Removing the drain plug will allow all the water in the unit to drain out provided it is level. After the water has drained out, it is recommended that a water hose on the light to medium pressure be used to wash out the unit until all particles resting on the bottom are flushed out.



For Technical Assistance Please Call 518.490.2330

Pre-Technical Assistance Call Checklist

Before calling for technical assistance, please review this list

Problem	Possible Cause	What To Do
Unit does not start	The unit is not plugged in.	Make sure the unit's plug is pushed completely into the proper outlet.
	GFCI has not been set properly.	When pressing the on tab, make sure there is an audible click.
	Circuit Breaker is tripped/ fuse blown.	Check the breaker/fuse box. Replace fuse or reset breaker.
	Generator that is being used does not supply enough power.	Check wattage output on generators to ensure they have sufficient output. 2500W minimum output per Thermocure required. **NEVER use the generator as the On/Off for the Thermocure. Switch OFF the Thermocure before switching OFF the generator. Always wait until the generator is ready to supply power, and then turn ON the unit.
	GFCI trips often.	The GFCI may trip often if there is not enough power to run the Thermocure. Check the supplied voltage, all of the connections and the size of extension cords being used. Voltage drop cannot be more than 8%. Extension cords should be only one cord per unit. Size 10 awg for longer than 50ft. Size 12 awg 50ft or less.



Problem	Possible Cause	What To Do
Unit does not cool	There is a restriction of airflow.	Make sure no obstructions are blocking the vents on the metal control enclosure.
	The temperature control may not be set properly	Check the temperature controllers, press up or down keys to set the temperature as desired.
Unit does not heat	Lid may not be closed completely	Close and latch the lid to insure the unit temperature is not affected by ambient temps.
	The unit may be plugged into insufficient power source.	Check to ensure supplied power is 110V, 50 Hertz, with a minimum 20 amp Fuse/ Circuit breaker used only by the Thermocure Unit
Water drips from enclosure	Hot, humid weather	In humid weather it is normal for a small amount of water to drip from the enclosure
Louder sound levels during cooling cycle	Refrigeration compressor operates at higher pressures when cycle first starts	This is normal, sound levels will decrease as the cooling cycle continues.
Popping or cracking sound when compressor is running	Metal parts undergo expansion and contraction depending on temperatures	This is normal. Sound levels will decrease as the cooling cycle continues.