

Temperature Match Curing
CN850/51, CN855/56, CN860/61

Impact Test Equipment Ltd
www.impact-test.co.uk & www.impact-test.com

User Guide
User Guide
User Guide

**Impact Test Equipment Ltd.
Building 21 Stevenston Ind. Est.
Stevenston
Ayrshire
KA20 3LR**

T: 01294 602626

F: 01294 461168

E: sales@impact-test.co.uk

Test Equipment Web Site

www.impact-test.co.uk

Test Sieves & Accessories Web Site

www.impact-test.com

Important safety instructions:

Electrical Information:

These guidelines must be followed to insure that safety mechanisms in the design of this curing box will operate properly.

The IntelliCure unit is provided with a grounding type electrical cord for protection against electrical shock hazards. (Do not under any circumstances cut, remove, or bypass the grounding prong from this plug). It must be plugged into its own 110 Volt properly grounded three-prong receptacle, protected with a 15 amps or greater time delay fuse or circuit breaker.

If the voltage varies by 10 percent or more, unit performance may be affected. Operating your IntelliCure with insufficient power can damage the motor and/or the heating element. Such damage is not covered under the warranty. If you suspect your voltage is high or low, have it tested to be sure it's sufficient.

To prevent the unit from being turned off accidentally, do not plug the unit into an outlet controlled by a wall switch or pull cord. For units being powered by a generator, insure that the output of your generator is sufficient to handle operating loads. (Recommended 2000 WATT minimum dedicated for a single IntelliCure unit.) In addition, you must turn the IntelliCure off before the generator is turned off, and turned on only after the generator is running.

First Steps

Before starting the IntelliCure Match, follow these important first steps.

Installation / Placement

Choose a location that is near an 110V grounded power source. Allow 3 inches of space on all sides of the unit for good air circulation.

Leveling

The unit must have all bottom corners resting firmly on a solid surface. The surface must be strong enough to support a fully loaded IntelliCure unit.

It is VERY IMPORTANT that the IntelliCure Match unit be level +/- 1/8 inch, in order to function properly. If the units are not leveled properly during installation the (patent pending) Bubbler stirring system may not operate properly. The unit being out of level may also affect the safety float switch that is designed to allow the unit to heat or cool only after it has been filled with the correct amount of water. If needed, add metal or wood shims between the foot pads and floor.

Water Filling:

The IntelliCure Match unit is designed to Cure Test Specimens in a water bath. Before plugging it in you must first fill the container portion of the unit with water to a level above the stainless steel base rack. (This will insure that the heating element does not over heat in the event the ambient temperature is lower than the preset temperature when initially turned on.) Units are shipped with the temperature setting in the Auto Cure Mode at 34°F to insure the unit does not initially begin in heat mode. After the unit has been turned on adjust the Auto Cure temperature to desired setting.

Your IntelliCure Match units have an overflow drain located on the upper edge of the end of the container. Exiting the unit it has a 90° elbow that you can attach a garden hose fitting to in order to control where the water exiting the unit goes. It is recommended to **NEVER** plug or cap this overflow. This could cause a positive pressure within the container and cause severe damage to the unit and could pose an electrical hazard as well.

NOTE* Units manufactured after June 1ST 2012 will have a float switch installed to prevent operation of the unit until is filled with a sufficient amount of water. Float switch operation is dependent upon the unit being properly leveled before turning the unit on. It is the owner's responsibility to fill the unit prior to turning it on. (Damage caused by an absence of, or insufficient water is not covered under any warranty.)

Turning the unit on:

After filling the container portion of the unit with water the unit will then be ready to turn on. Plug the electrical power cord into your approved power supply. There is a covered GFCI switch on the lower left front face of the control enclosure. Lift the cover and push the ON button until you hear an audible click, at which time the unit is powered. At this time the bubbling system will begin pumping and you will hear a buzz coming from the control enclosure. If the tank is properly filled with the minimum amount of water the controller will power up and begin operating.

IntelliCure Match Automated Controller:

The IntelliCure Match Electronic Controller is located on the upper right corner of the control enclosure. If you have filled the unit with water and the GFCI has been properly turned on, the controller will power up and take control of the unit. The display operates differently depending on the type of mode, (AutoCure, or MatchCure) that is in operation.

AUTOCURE MODE

At Start up the unit will be in AutoCure mode. This mode allows the user to manually adjust a set point, Once you have the controller set to your specified temperature the unit will then begin either cooling (indicated by a (C) in the upper right corner of the display) or heating (indicated by a (H) on the upper

right corner of the display) until the water reaches the temperature set by you. The unit is ready to receive test cylinders when the temperature indicated under TEMP is +/- 1° F of the SETPOINT.

ADJUSTING the SET POINT

In the horizontal center of the display you will find the headings TEMP, and SETPOINT. The temperature value under TEMP is the temperature of the water within the unit. The value under SETPOINT is user adjustable by pressing either the right or center buttons in the lower right corner of the controller. Pressing the right button will raise the temperature value while the center button will lower the value to the desired temperature setting.

Units of Degrees

The factory default setting for the IntelliCure Match is Fahrenheit but it is easily changed to Celsius by pressing the left button once. All temperature values will automatically change to the corresponding value displayed to the right of UNITS: in the center of the display field.

MATCHCURE MODE

MatchCure mode begins only when an IntelliRock logging device is attached to the controller. The IntelliRock logging devices will all have one RED and one Black, or (Black and red) lead. Connect the red lead to the red connecting post and the black to the black connecting post, making sure that there is good metal to metal contact. The controller will then begin communicating with the logger and will upload the current temperature of the logging device.

When the current logger temperature is uploaded, the controller will then automatically change to MATCH mode. This will reset the elapsed time display; change the AUTO display to MATCH in the upper left corner of the display. In addition the temperature SETPOINT changes to MATCH TEMP which displays the temperature value from the IntelliRock logging device is not manually adjustable. The controller will begin controlling the water temperature within the unit to correspond with that of the logger device imbedded in the in-place concrete. The unit will automatically update every two minutes and make the appropriate changes within the unit as the temperature changes within the in-place concrete.

HIGH / LOW, and Timer display

The IntelliCure Match display is equipped with an (elapsed time) timer that is located at the bottom of the visual display, and displays the highest and lowest temperature values achieved starting from the last reset or power loss of the timer. When in AUTO mode, the timer displays the elapsed time from the last reset or power loss. Time is displayed in values of D, H, M, and S, representing DAYS, HOURS, MINUTES, and SECONDS, and continues until the unit is reset, turned off, or losses power.

When the unit is in MATCH Mode, the timer automatically resets when communication is established between the IntelliRock logging device and the controller. The HIGH/LOW feature displays the highest and the lowest temperatures achieved from connection to the logging device.

The timer continues to display the elapsed time from the moment the logging device is attached until it is disconnected then resets as the unit reverts to AUTO mode.

Maintenance, Care, and Cleaning

Care must be taken when loading and unloading concrete test specimens into the units. **NEVER** drop specimens onto the stainless support rack. This could cause leaks, damage of the cooling and/ or heating elements/ temperature sensor, float switch, and permanently warp the support rack.

Cleaning of the tank

The IntelliCure unit will need to be drained and cleaned periodically to insure optimum performance. The unit must be unplugged to avoid electrical hazard. There is a drain plug on the opposite end of the cylinder container from the control enclosure. It can be found on the bottom center of that end. Removing the drain plug will allow all the water in the unit to drain out provided it is installed level. After the water has drained out, it is recommended to use a water hose on light to medium pressure be used to wash out the unit until all the particles resting on the bottom are flushed out.

Patent Pending Bubbling System

It is very important to periodically clean the orifices of the bubbling system to insure proper circulation within the curing tank. Depending on which size was purchased, there will be between 2 and 3 locations in the tank that need special attention.

First, remove the stainless steel rack exposing the bottom of the tank. On the enclosure end of the tank there is a small copper tube entering the center of the tank. Attached to this is a plastic tube which in turn connects the bubbling devices. (2 devices for the Mini, 3 devices for the Standard and Mega models). Holding firmly the copper tube entering the tank you can twist the first plastic piece and either remove or simply turn until the orifices are visible and exposed for cleaning.

It is recommended to use a tooth brush or very fine wire brush to insure the best possible results. With the cleaning brush, apply light pressure in small circular motions on each of the (three orifices per) bubbling devices until they are free of any debris. When cleaning is complete, return the assembly to its original orientation. While the devices will work in any orientation, they will operate longer between necessary cleanings if they are facing down which insures falling debris does not plug the devices.

Never clean the bubbling devices while dirty water is in the tank. Drain, clean, rinse, and refill the tank prior to cleaning the bubbling system to insure the best possible results.