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INSTRUCTION MANUAL FOR TurboCool RANGE

TurboCool Standard
TurboCool +
TurboCool Dual Temp
2011 Models

USER MANUAL FOR iCOOL RECOVERY SYSTEMS
ALL TurboCool MODELS FROM February 2011
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THERE ARE THREE VERSIONS OF THE ICOOL TURBOCOOL

TurboCool Standard provides rapid cooling, fully automatic control for spa pools of up to 15 athletes

TurboCool + provides all the power and function of the TurboCool Standard plus a built in full water filtration system.

TurboCool Dual Temp provides all of the functions of the TurboCool+ but is also a reverse cycle heat pump and can either cool or heat a large spa automatically.

The TurboCools are twin heat pump cooling systems in a single cabinet. This arrangement provides excellent efficiency and intelligent digital power management. High cooling performance at the lowest cost.

THE OPERATION OF ALL 3 MODELS IS THE SAME EXCEPT WHERE NOTED IN THIS MANUAL

MODEL	COOLING POWER	HEATING POWER	VOLTAGES AVAILABLE
TurboCool Standard	8800 Watts	-	220-240 0R 110
TurboCool +	8800 Watts	-	220-240 OR 110
TurboCool Dual Temp	8800 watts	8400 watts	220-240 OR 110

IMPORTANT ELECTRICAL SAFETY ADVICE

POWER SUPPLY VOLTAGE
iCools can only be used with the voltage marked on the machine, they are not multi voltage. The voltage is marked next to the main power switch.

TO ENSURE SAFE OPERATION THE POWER OUTLET YOU USE MUST HAVE A PROPER EARTH CONNECTION.

BUILT IN SAFETY SYSTEMS
Your iCool system has many safety features to protect against such things as a loss of water flow, overheating of the system, or any chance of the user receiving an electrical shock. If any such potentially dangerous things should occur, in most cases your iCool will shut itself down and a red warning screen will appear to assist you to identify and correct the problem. In the case of overheating, the main fans will continue to run for some time until the temperature is safely back to normal.

For the safety of users, any leakage of even a small amount of electrical current will cause the system to Instantly remove all electrical power.

In the unlikely event that your system shuts itself down for any of these reasons, you must identify and correct the problem that has caused the safety systems to operate before allowing anyone to use the system.

PLEASE TEST THE EARTH LEAKAGE SAFETY DEVICE REGULARLY
The main power switch is also part of the electrical safety circuit that can prevents the possibility of electric shock. It is essential to test this safety system each time you use the iCool to make certain it is operating correctly. This is very easy to do and takes only a few seconds.

Turn on the main switch and then press the orange test button just above the switch. If the safety system is working normally, pressing the test button will cause the main power switch to shut off instantly.

After a successful test, reset the main switch to ON to begin normal operation. If pressing the test button fails to instantly shut off the power switch DO NOT USE THE SYSTEM until you contact iCool for advice. Failures of this system are very rare.

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ADVICE ABOUT WATER AND WATER FLOW

Your TurboCool is provided with a high quality spa water pump especially designed for the purpose. It is resistant to chlorine and salt water at normal concentrations, but the use of chemicals should be kept within the normal range as specified for swimming pools to prolong the life of the pump and the titanium heat exchanger tanks inside the unit.

AVOID HARSH CHEMICALS
Never use bromide it is highly corrosive to metals and can cause irritation to athletes. An ideal solution to the control of bacteria is an iCool Ultra Violet steriliser. This allows the use of fresh water with no additives and removes any health risk from chemicals.

PRIMING THE SYSTEM WITH WATER
The pump must be primed with water before it can provide proper circulation. If your spa pool is level with or above the TurboCool then there is generally no need to prime the system as the water will flow by gravity to the pump naturally.

Please check that the lint basket is full of water before starting the pump. If the water does not begin to flow after about 30 seconds, stop the pump and open the lint basket and fill it with water, close the lid and start the pump again. This will normally provide enough suction to get the system primed and circulating correctly.

CHECK FOR AIR LEAKS
Once the system has been primed the first time and water circulates correctly the system should not need priming again. Water should begin circulating as soon as the system starts. If water does not circulate on subsequent start ups then there may be an air leak in either the pipe from the spa or the pipe or hose fittings. This must be corrected or you may have to prime the system on every start up to get the water flowing and it could cause the automatic shut down to operate during a run cycle if water flow is lost due to an air leak.

THE PUMP SHOULD NEVER BE RUN WITHOUT PROPER WATER FLOW
The pumps main components are lubricated by the water and major damage can occur if the pump is run without water. To protect the pump your iCool has an automatic water flow monitoring system that will shut the system down and stop the pump if no water flows for more than 1 minute.

THE TurboCool HAS AN AUTOMATIC WATER FLOW SAFETY SYSTEM
If the flow of water is interrupted for more than 1 minute, a red warning screen will appear and an alarm will sound. The screen will give advice about how to correct the situation.

KEEP THE FILTER AND LINT BASKET CLEAN.
The lint basket traps any larger objects that may get sucked back from the pool and it should be emptied whenever necessary. If your system has a filter then the filter cartridge should be removed and cleaned whenever the pressure shown on the gauge on the top of the filter indicates that the filter is becoming clogged. If the filter is not cleaned, eventually the TurboCool will shut down due to low water flow.

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The Water Flow Warning Screen also provides an option to over ride the flow protection system in the rare situation of a false alarm.

NEVER USE THIS OPTION UNLESS YOU ARE ABSOLUTELY CERTAIN THAT THE SYSTEM IS STOPPING BECAUSE OF A FALSE WATER FLOW ALARM!

NEVER DISARM THIS SAFETY FEATURE WHEN USING THE HEATING FUNCTION IN THE "DUAL TEMP" MODEL AS IT COULD ALLOW THE SYSTEM TO OVER HEAT

WARNING !
WATER IS NOT FLOWING or EXCHANGER TANK IS FROZEN

THE WATER FLOW SAFETY SENSORS INDICATE THAT NO WATER IS FLOWING IN THE HEAT EXCHANGER TANK.
THE iCOOL HAS STOPPED AUTOMATICALLY TO PREVENT DAMAGE.
PLEASE CHECK THE HOSES AND CONNECTIONS FOR ANY RESTRICTIONS AND MAKE SURE THAT THE POOL WATER LEVEL IS HIGHER THAN THE "WATER IN" CONNECTOR ON THE iCOOL OTHERWISE THE PUMP CANNOT RECEIVE WATER FROM THE POOL. ALSO MAKE SURE THAT NO PART OF THE HOSE CARRYING THE WATER FROM THE POOL BACK TO THE iCOOL IS ABOVE THE WATER INLET CONNECTOR AS THIS CAN TRAP AIR AND STOP THE FLOW. TRAPPED AIR IN THE SYSTEM IS THE MOST COMMON CAUSE OF WATER FLOW PROBLEMS.

IF WATER IS ACTUALLY FLOWING THIS ALARM MEANS THAT THE HEAT EXCHANGE TANK IS FROZEN SOLID. THIS IS POSSIBLE IF THE iCOOL IS SET TO AN EXTREMELY LOW TEMPERATURE, BELOW 8°C (45°F). IN THIS CASE NO FURTHER COOLING IS POSSIBLE UNTIL THE ICE IS CLEARED. TURN OF THE UNIT AND LEAVE IT FOR AT LEAST 30 MINUTES TO LET THE ICE MELT. THIS ONLY OCCURS RARELY AT VERY LOW TEMPERATURES. RESET TO A HIGHER TEMPERATURE TO AVOID THIS PROBLEM.

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Once you use this function to disarm the flow safety monitor nothing will stop the system even if water is not flowing and this can seriously damage the pump as it will have no lubrication or cooling from the water.

This over ride function is only to be used for short periods where it is essential to keep your system operating until the reason for the false alarm can be determined and corrected.

WATER FLOW CAN ALSO STOP IF THE HEAT EXCHANGER TANK IS FROZEN SOLID!
If you set the temperature below about 7°C or 45°F it is occasionally possible in certain climatic conditions for the heat exchange tank to freeze solid which will block most , but not all, of the flow of water.

A small amount of water may still be flowing through the automatic air bleed system which bypasses the heat exchanger, but the safety system monitors the heat exchanger tank flow only and if no water is flowing through the tank the system will stop.

In order to cool the pool water to these extremely low temperatures the system must cool to at least 5 to 7°C below the set temperature and this takes it very close to the temperature that water freezes solid.

SAFE TEMPERATURE SETTINGS
Following international safety standards your iCool will not accept water temperature settings below 6°C or 42°F as this would put athletes using the system unattended at risk of hypothermia. However, the iCool is easily powerful enough to freeze the water inside the system itself and if this happens the safety screen above will appear and the system will stop.

Please be aware that the tanks can only freeze if your setting is below 7 to 8°C and this can only happen in certain conditions. If your set temperature is above this then it is much more likely that the system has stopped because of a lack of water flow caused by either a hose or filter obstruction, or an air leak in the hoses or pipes from the spa pool, or trapped air in the system.

If there is a possibility that the heat exchanger tank is frozen, then you must allow the system to warm up for about 30 minutes to thaw the ice. Leave the power switched on so that the fans can operate if necessary to thaw out the tank. Set a new temperature no lower than 8 or 9°C before restarting so that the tanks do not freeze again.

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ELECTRICAL CONNECTION

Connect the power cable provided with your iCool to a standard power outlet capable of providing at least 20 amps in countries with a 220 V supply and 40 amps in countries with a 110 V supply. Although the system requires much less power than this in normal operation, all heat pump compressor motors need considerably more power for a minute or so each time they starts up.

FOR SAFETY, THE POWER OUTLET YOU USE MUST BE EARTHED CORRECTLY.
The main power switch is also part of the electrical safety circuit that prevents the possibility of electric shock. It is a good idea to test this system each time you start the iCool by turning on the main switch and then pressing the test button above the switch. If the safety system is working normally, pressing the test button will cause the main power switch to shut down instantly.
After this test, reset the main switch to ON to begin normal operation.

FINALLY, BEFORE STARTING THE SYSTEM PLEASE CHECK THAT ALL PIPE OR HOSE FITTINGS ARE IN GOOD ORDER AND THERE ARE NO LEAKS AND THAT YOUR SYSTEM IS CONNECTED TO A POWER OUTLET WITH A PROPER FUNCTIONING EARTH CONNECTION.

OPERATING YOUR TurboCool

All of the functions of your TurboCool are controlled by the colour touch screen.

Once you have entered your required settings, operation is fully automatic.

Your TurboCool will cool (or heat if you have a dual temp model) to your set temperature and maintain that temperature as long as the system is turned on. There are a number of essential safety functions that are constantly monitored and that the system will take automatic action if a safety issue occurs.

TO BEGIN TURN ON THE MAIN POWER SWITCH ON THE SIDE OF THE CABINET.

STEP 1

YOUR SYSTEM SOFWARE WILL BEGIN LOADING

Your iCool has a full colour high-resolution touchscreen that eliminates all switches and provides complete control over your iCool system in a user-friendly and intuitive manner. It also provides a substantial amount of additional information to assist you.

When you turn on the power for the first time the system will load the latest software from its memory card and run a diagnostic self test routine. This will take about 20 seconds. During this time you will see this screen (shown at right) and then a BLACK screen for about 20 seconds.

THE SOFTWARE LOADING SCREEN

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THE STATUS BAR WILL FLASH WHITE

The STATUS LIGHTS on the front of the cabinet aon either side of the screen change colour or flash to give a clear indication of each function.
While the software is loading the status lights will flash white while the system is loading and conducting a function test.

Once the software is loaded and tested a personal logo screen will appear similar to the examples shown below.

Touching your personal logo screen (see below) will stop the lights flashing and show a steady white light to indicate that the systems check was successful and that your iCool is now ready to use.

THE STATUS BAR LIGHT

The Status lights glow BLUE when only the pump is running, GREEN when the cooling system is running and RED when the heating system is running

If the bar glows RED when you try to start cooling please refer to page 15 & 16 for an explanation.

YOUR PERSONAL LOGO WELCOME SCREEN LIKE THESE SAMPLES BELOW WILL APPEAR AT THIS TIME

TOUCH THE LOGO SCREEN ANYWHERE TO CONTINUE

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STEP 2

The MAIN OPERATING SCREEN provides many options which are covered elsewhere in this manual, however to quickly start the system you can simply accept the default water temperature setting of 15°C or touch the CHANGE SETTINGS button to select a different temperature. 10°C will be inserted automatically but you can change to any temperature you require. The temperatures can also be displayed in Fahrenheit. This is explained later in this Manual.

Simply touch the up and down arrow buttons and the desired pool water temperature will appear on the bottom left-hand of the screen in the blue window marked "SELECTED TEMPERA-TURE". The right-hand side of the screen shows the outside air temperature.

Once the pool water temperature you want your iCool to cool to is showing, touch the START button. This takes you back to the main run screen which is the screen that you will use most of the time during normal operation.

MAIN OPERATING SCREEN

STEP 3

Touch the START PUMP button. This will start the pump operating and water should begin circulating. NOTE! When you touch START buttons they change to STOP buttons and can then be used to STOP that function if required.
IT IS ESSENTIAL THAT THE WATER IS FLOWING CORRECTLY BEFORE YOU TOUCH THE START SYSTEM BUTTON.
The water flow is pre set to an optimum flow of about 50-80 litres or around 14-20 gallons per minute. This allows time for the heat exchangers to operate at maximum cooling efficiency.
Pool water is completely changed approximately every 15 to 20 minutes in a 10 person spa.
Do not touch the START SYSTEM button until you are sure that water is flowing smoothly. If water does not flow smoothly within a minute, please check the plumbing and that there is water in the lint filter which is a part of the pump assembly.
If this does not correct the problem the system will sound an alarm and a red warning screen will appear with information about how to correct the water flow problem.

WATER TEMPERATURE SETTING SCREEN

STEP 4

Now that you have pre set your desired temperature and started the circulating pump, the touch screen should look like the picture at the top of this page. (of course your temperatures may be different). Notice that the pump button will have changed from START to STOP. You can use this same button to start and stop the pump at any time.

Now, touch the START SYSTEM button and the cooling (or heating) cycle will begin. The water will be cooled to your preset temperature and the system will then cycle to maintain it at that temperature automatically. The SYSTEM can only be started once within any 3 minute period to avoid overloading the compressors. If you don't hear it start do not touch the START SYSTEM again , it will start automatically after the 3 minutes safety period elapses. Also, the TurboCool may only start one compressor to save electricity if the cooling demand is low.

If your TurboCool is the DUAL MODEL then, depending on the temperature you set, it will either heat or cool the water automatically to reach your preset temperature and then maintain it at that temperature. More detailed information about the operation of the DUAL version can be found later in this manual.

FOR THE SAFETY OF USERS, YOU CAN NOT SET TEMPERATURES BELOW 5°C OR ABOVE 45°C. (40°F-112°F)

IN AN EMERGENCY YOU CAN STOP ALL FUNCTIONS IMMEDIATELY BY TOUCHING THE "ALL STOP" BUTTON however, if the cabinet is hot, the fans may continue to run until the cabinet has cooled.

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MAIN OPERATION SCREEN

DETAILS OF THE MAIN OPERATING SCREEN
The POOL TEMPERATURE window shows the actual water temperature returning from the pool. This will vary slightly to the actual temperature in the pool because for safety reasons the electronic sensor is in the cooling unit not in the pool. It accurately reads the actual temperature of the water that is returning to the pool. The actual pool temperature will be slightly different depending on your particular setup. The temperature is always accurately maintained but if you want to display the actual pool temperature within 1 degree you can simply set an offset amount to compensate for the difference when selecting your required temperature.

The HEAT PUMP TEMPERATURE window shows the temperature inside the cabinet. If this exceeds 70°C or 158°F the system will shut down, an alarm will sound and a warning screen will appear. This could happen in extremely hot conditions or if the unit is covered by an object such as a towel or anything that prevents proper airflow.

The OUTSIDE TEMPERATURE WINDOW shows the current room or outside temperature. It is not desirable to operate this system in temperatures above 42°C or 108° F. If the reading exceeds this you need to move the system to a cooler area or improve the air flow. The PRESET TEMPERATURE WINDOW always shows your selected temperature. This is the temperature the water will be automatically cooled (or heated) to and maintained at.

CHANGING THE TEMPERATURE SETTING
You can change your preset temperature at any time by touching the CHANGE SETTING BUTTON, this will take you to the change settings screen. From here you proceed as described previously.

CHANGING FROM COLD TO HOT OR HOT TO COLD
If you have the DUAL model, for safety reasons you cannot change directly from heating to cooling or cooling to heating. To do this you must switch off the entire system at the main switch and start again. This is required to reset the computer and the safety systems. You must also operate the RED HEATING MODE SWITCH on the side of the unit. Full details are on Page 16.

FAN SPEEDS
During normal operation the main fans will automatically change speeds as required to maintain the highest Efficiency. The fans will be at full speed when temperatures are high or the water is warm. To save electricity the fans will not operate if the difference between the ambient air and the heat pump is less than 3ºC.

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YOU CAN DISPLAY THE POOL TEMPERATURE AT FULL-SCREEN SIZE
.
If you touch the number in the pool temperature window on the Main Operation Screen for a few seconds the screen will change to a full-screen display of that temperature.

This is useful if you wish to monitor the system from a distance.

The pre-set temperature and the outside temperature continued to display in smaller windows for your reference.

To return to the main operating screen touch the BACK 1 button.

TO STOP THE SYSTEM AT THE END OF YOUR RECOVERY SESSION
There are several ways to stop the system and close it down.
You can stop the cooling system by touching the STOP SYSTEM button, in this case the pump will continue to run, however you can stop to pump at any time by touching the STOP PUMP BUTTON. Alternatively you can stop everything by touching the ALL STOP BUTTON. Alternatively you can simply switch off the main power. If you use the ALL STOP BUTTON the fans may continue to run for a short time to cool the cabinet.

EMPTYING THE POOL USING THE BUILT IN PUMP.
You can use the main circulating pump to empty the water from the pool if your plumbing has been set up to allow for this feature. The pump can be turned on and off at any time using the pumps STOP/START button.

DETAILED OPERATION
THE TOUCH BUTTON FUNCTIONS

SYSTEM SETTINGS

When your iCool starts up, the first screen you will see offers you a SYSTEM SETTINGS button. OPTIMUM SETTINGS ARE AUTOMATICALLY SELECTED so there is usually no need to use this feature. The three settings you can change are the fan speed range, the temperature from degrees Centigrade to Fahrenheit and the sound level from the screen.

MAIN COOLING FAN SPEED. This allows you to set the main cooling fan to either NORMAL or QUIET MODE. Generally you should always leave it in the NORMAL mode which is fully automatic and allows the system to control the fan speed to give the very best efficiency and fastest cooling.

If you are in a very quiet environment you can select QUIET MODE, but you must be aware that this will reduce the cooling ability of the system, however it will be quieter overall as the fan will not run higher than 60% of maximum unless there is a risk of overheating, in which case the safety system will turn the fan back to high no matter what the setting. The NORMAL setting is used to give absolute maximum cooling power where higher fan noise is not a problem. On a normal day this gives about 25% more cooling than in the QUIET MODE.
If cooling seems lower than normal, check to see if this feature was previously set to Quiet Mode.

TEMPERATURE DISPLAY SCALE This can be set to either Centigrade or Fahrenheit and this changes all of the displays throughout the entire system. When you first start the iCool it will normally start in Centigrade as this is the world standard. Due to complex decimal calculations between C° and F° there may be minor difference in the true F° displays. This has no effect on actual cooling accuracy.

The SOUND LEVEL adjusts the sounds made by touching the screen and by the alarms. Normally it should be left on high to assist with settings and to make sure alarms are heard.
A red dot indicates which setting is selected in each of the available settings.

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TEMPERATURE SETTINGS

When your iCool starts up, you are offered 3 different ways to choose a water temperature setting. Whichever method you choose it eventually takes you to the main run screen. If you make no setting, the system will automatically insert 15°C. (around 59°F) In this case you would navigate directly to the main run screen in order to access and start the pump and cooling system.

If you want to use your previous setting from the last session, you can touch the USE PREVIOUS SETTING button and the last setting you used will be automatically inserted into the system. Previous settings may have been lost if you have removed to mains power or if the internal memory battery is low.

If you want to make a new setting, which is the most common choice users make, you touch the MAKE NEW SETTINGS BUTTON and this will take you to the screen illustrated above, where you can use the up and down arrows to select the temperature you require. After you make your setting touch the start button to go to the main screen where you can start both the pump and the cooling system and where all relevant temperature information is clearly displayed.

WATER TEMPERATURE FULL SCREEN

TEMPERATURE SAFETY LIMITATIONS

Because of the dangers of hypothermia in the case of an unattended athlete using the pool, your system will not allow you to set temperatures below 5°C/40°F. If the model you are using is the DUAL TEMP model which also provides heating for contrast therapy you cannot set the temperature above 45°C/112°F because of the risk of scalding. These temperature limits have been set after wide consultation with the sporting industry around the world. There are no demonstrated benefits in using water temperature lower than 5°C or above 45°C and therefore the risk of doing so is not justified.

TIMING FUNCTIONS

Your iCool offers a number of very useful timing functions including a real-time clock, a countdown timer to time recovery and training sessions and a timer to shut down the system automatically at a predetermined time after use. To set up and use these functions touch the TIMER FUNCTION button on the home screen. You can reach this screen by using the BACK 1 button or the HOME button.

TIME SETTING SCREEN

In order to use these functions you first need to set the time of day on the built-in clock.

To set the clock touch the SET MAIN CLOCK button on the timing functions screen and the time setting display on the bottom right of the screen will begin flashing. You must set it while one of the numbers is flashing by using the up down and left right keys. Once you stop using these keys for more than a few seconds the display will stop flashing and the time showing is set into the system and the clock begins operating.

The iCool clock operates in the universal 24-hour time style.

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AUTOMATIC SYSTEM SHUTDOWN TIMER

You can preset your iCool to shut down at any time up to five hours in the future. This is very convenient for coaches and specialists who may want to leave the training area early but want to make sure that the system is not left running needlessly. To set this time, touch the SET SHUT DOWN BUTTON and the clock digits on the bottom right of the screen will begin to flash as with setting the clock. Use the same up down and left right arrows to set the number of hours and minutes you wish to elapse before the system automatically shuts down. The system automatically begins the countdown and will stop when the time you set reaches zero. The time remaining before shutdown is displayed on the main clock display screen.

As the same arrows are used to set all three time functions, to avoid confusion, a red dot appears next to be button of the function being set.

THE SESSION TIMER

A very popular and useful feature of your iCool is the SESSION COUNTDOWN TIMER.
This allows you to accurately control the immersion times of athletes and to repeat those times as often as needed. This is an essential part of successful cryo recovery therapy and is just as important as maintaining accurate and consistent temperatures, which of course your iCool does perfectly.

The session timer is set up from the main TIME SETTING SCREEN by touching the SET COUNTDOWN button. The numbers on the setting screen in the bottom right-hand corner will begin to flash and you can use the left, right and up, down arrows to change the time in minutes and seconds. Once you have set the time you want your athletes to remain in the bath, touching the DISPLAY COUNTDOWN FULL-SCREEN button will take you to the screen illustrated below. This screen allows you to see the countdown from a distance and also to control it in various convenient ways. The current pool temperature and the outside temperature will also be displayed.

The count down can be set for once only, or it can repeat automatically as many times as you like. This is particularly convenient if you have a number of athletes using the same pool at the same time. The system beeps for each of the last five seconds at the end of each countdown to warn the athletes to get ready to get either in or out of the pool and pauses for several seconds to allow the changeover before the countdown begins again (if it is set in the repeat mode).

Resets time to the preset value in the single shot mode, ready to start again by pressing the START button

When this button is pressed the countdown will repeat until the repeat function is cancelled by pressing once again. A red dot indicates that it is active

You can pause the countdown at any time and start again from the same position with this button, or touch reset to start from the top.
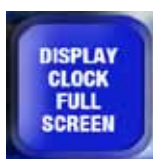
This button starts the countdown

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DISPLAY CLOCK FULL SCREEN

YOU CAN ALSO DISPLAY THE MAIN CLOCK, SHOWING THE TIME OF DAY IN FULL-SCREEN MODE IF REQUIRED BY TOUCHING THE DISPLAY CLOCK FULL SCREEN BUTTON.

TO GO BACK TO THE PREVIOUS SCREEN TOUCH THE BACK 1 BUTTON.

EXTERNAL LIGHTING

Some iCool models have convenient area lighting which is very helpful if the area around your pool arrangement is not well lit. The lights can be activated from a simple lighting control screen. The lighting control screen can be accessed from several screens by touching the LIGHTS button This Takes you to a simple screen that has both ON and OFF light icon buttons. When you touch the on button the area lights illuminate and a red dot beside the icon indicates that the lights are set on.

Simply reverse the procedure to turn the lights off. If the lights are activated they do not turn off when you touch the all stop button or when the system initiates a safety shutdown. This allows an extra measure of safety by continuing to light the area even if a fault has been detected.

STEREO SOUND SYSTEM

Some iCool models have a very high quality stereo sound system built in to allow athletes to plug-in their iPods or MP3 players or any other entertainment devices and listen to powerful, quality sound while they use the iCool recovery system. This has been a very popular feature and contributes to the 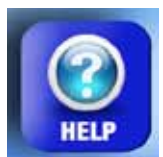general feeling of well-being that everyone reports after regular use of ice bath recovery systems. Of course this feature has no effect if you're particular ICool model does not have a sound system built-in.

To activate the sound system touch the SOUND button, which is available on several screens. This takes you to a simple sound control screen that turns the amplifiers and speakers on and off. Plug-in any music player to the mini phono jack provided. The volume is controlled by your music player not by iCool stereo system, so be sure the volume is turned down when you first plug in your player.

THE HELP SYSTEM

Your iCool has an extensive built-in electronic help system. Detailed and well illustrated helpful information on every important subject to do with the operation of your iCool, is available from almost any screen simply by touching the help button.

Touching any help button will take you to the screen illustrated on the right. The screen has eight menu buttons covering all of the important topics you are ever likely to need assistance with.

When you touch the menu button covering the topic you need assistance with, the screen will change to a series of pages covering that subject. Sample screens are illustrated below and opposite.

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You can flip forward or backwards from page to page using the buttons on the right-hand side of the help screens or you can return to be main help menu page at any time.

The built-in illustrated help system is a revolutionary new idea and we are constantly updating it as new information and new feedback comes in from all over the world from iCool clients and from our recovery research programs in several countries.

Some help pages may not be installed on your iCool when it is delivered. Your local dealer can install them to suit your country and sport. Alternatively iCool can provide a free update memory card with the latest help menus to suit your needs.

EXAMPLES OF THE ELECTRONIC HELP SYSTEM'S PAGES

You may need a free local upgrade memory card to access all help files for your region.

LOCKING YOUR ICOOL SYSTEM TO PREVENT TAMPERING.

YOUR iCOOL HAS AN ELECTRONIC LOCK
As you can see, iCool Systems have attractive user interfaces, this makes them easy and very intuitive to use, but the downside is that untrained people sometimes like to play with the colourful touchscreens. As with any sophisticated piece of equipment when people start pressing buttons at random anything can happen. Your iCool has many safety features to prevent a person tampering with the system from causing a disaster, but most of these safety features involve Automatically shutting down the system which of course is undesirable.

We have covered this by installing a secret locking routine. It is a good idea to keep this secret to as few people as possible.

To lock the screen so that no further inputs can be made, touch and hold the iCool icon on the main run screen for more than 10 seconds (you can only lock from this main screen). A picture of a lock will appear. While ever this lock is visible it is not possible to make any inputs or to change screens.

To unlock the system and returned to normal, repeat the procedure. Touch and hold the iCool icon for more than 10 seconds. The lock will disappear and all functions will return to normal.

USER MANUAL FOR iCOOL RECOVERY SYSTEMS
ALL TurboCool MODELS FROM February 2011
Updates in Pdf format are published regularly on our website www.icoolsport.com

IF YOUR SCREEN FREEZES OR FAILS TO RESPOND

As with all computers and computer controlled devices it is possible that occasionally the system could freeze due to data or software conflicts. Your iCool has 2 computers that monitor and communicate with each other. Occasionally a data error can cause them to stop communicating.

We have designed the system to be as fail safe as possible. In most cases if the screen freezes the main computer will still carry on running the system and monitoring the safety features but you will not be able to change anything and the displayed temperatures will not update. You can either allow it to keep running if that is more convenient, or you can restore the system to normal operation by switching off the main power and re starting. Exactly as you would do if your computer or smart phone freezes.

The sytem will always reset to normal when you restart it.

When your screen first starts up and the welcome screen appears a small warning notice will sometimes appear in the centre of the screen for one or two seconds refering to the inter computer communication rquirements, this is normal.

EMERGENCY OVERRIDE PROVISIONS

CERTAIN SAFETY FEATURES IN YOUR ICOOL CAN BE OVERRIDDEN IN THE EVENT OF A PARTIAL FAILURE

ICool systems are very reliable and have attained an excellent reputation around the world for this. In addition we have done all that we can in the designs to build-in ways to work around any partial failure, so that you are not prevented from using your system for an important event. There are some circumstances in which it would be acceptable to temporarily override certain safety systems that may become too sensitive and cause trouble until they can be properly readjusted. This allows systems to continue to operate in circumstances where otherwise it might not be possible. Of course we do not advise the overriding of electrical safety circuits.

For example, depending on the way your system has been set up, it sometimes occurs that the water flow monitoring system may be too sensitive and will stop the pump because it appears that water is not flowing properly. We allow this to be over ridden if it becomes troublesome. Instructions on how to do this will appear on the screen automatically if this happens. It must be remembered of course that if you disarm this system the pump is no longer protected from running dry and therefore without lubrication so it is essential that you manually monitor the water flow. Our staff can assist you by phone or e-mail to overcome most problems on the spot.

NEVER OVER RIDE THE WATER FLOW SAFETY SYSTEM WHILE USING THE HEATING FUNCTION IN THE "DUAL TEMP" MODEL AS IT COULD DANGEROUSLY OVERHEAT.

EVEN IF THE ENTIRE TOUCHSCREEN USER INTERFACE FAILS, WE CAN USUALLY STILL GET YOU GOING.

In our efforts to remain the world's number one supplier of mobile ice bath systems, we have continued to improve reliability, but we have also engineered ways to ensure that no matter what happens in the field, in most cases you can still use your iCool for that important event.

Realistically, even the best electronic systems occasionally have problems, especially in portable systems that have a relatively hard life.
Fortunately, we have very few such problems, but as an added benefit we have built into all iCool's a complete manual override system that allows your iCool to operate effectively even if all of the main electronics fail for whatever reason.

We do not publish this over ride information in the manual because it is a little different from model to model, but in the rare event that you ever have a failure of the electronics which prevents you from operating your iCool, just call or e-mail the local iCool representative in your country, or our international number or go to our web site www.iCoolsport.com where you will find a listing of representatives around the world, or you can request a reply directly from our headquarters. You will be contacted promptly and we will explain how to work around your problem until we can arrange repairs. This is an important service that we hope you never need, but it's good to know it is there.

In addition to this service you will be pleased to know that your iCool is of a modern modular design, which means that most components can be easily replaced in the field and often by the owner.

iCool

USER MANUAL FOR iCOOL RECOVERY SYSTEMS
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IF THE STATUS BAR LIGHT ON TOP OF THE ICOOL TURNS RED WHEN YOU TOUCH START SYSTEM This means that the **RED** MODE MASTER SWITCH on the side of the TurboCool is turned to the heating mode. Please refer to the detailed instructions on the next page.

TURBOCOOL MODELS - SPECIFICATIONS

	Standard	TurboCool +	Dual Temp
COOLING POWER	9800 Watts	9800 Watts	9800 Watts
HEATING POWER	-		9000 Watts
RUN (& Max.) POWER @220Volts	15 Amps (20Amps)	15 Amps (20Amps)	15 Amps (20Amps)
RUN (& Max.) POWER @110Volts	30 Amps(40Amp)	30 Amps(40Amp)	30 Amps(40Amp)
HEAT PUMP TYPE	Twin Rotary	Twin Rotary	Twin Rotary
EARTH LEAK SAFETY DEVICE	Yes 30 Milliamps	Yes 30 Milliamps	Yes 30 Milliamps
TITANIUM HEAT EXCHANGER TANKS	2	2	2
ROLLER BEARING WHEELS	On request	On request	On request
STAINLESS HANDLES	On request	On request	On request
AREA LIGHTING	Yes 3	Yes 3	Yes 3
HI RESOLUTION COLOUR TOUCH SCREEN	Yes 800 x 480	Yes 800 x 480	Yes 800 x 480
ELECTRICALLY ISOLATED PUMP, SHIELDED	Yes	Yes	Yes
MAXIMUM PUMP CAPACITY	Up to 500 LPM	Up to 500 LPM	Up to 500 LPM
POWER PLUG	3 Pin Heavy Duty	3 Pin Heavy Duty	3 Pin Heavy Duty
WEIGHT KG / POUNDS	80KG 175 Lbs	90KG 198 Lbs	92KG 202 Lbs
DIMENSIONS H. - W. - D. in mm.	650x520x1350	650x520x1350	650x520x1350
DIMENSIONS H. - W. - D. Inches	25x20x53	25x20x53	25x20x53

Please note.
iCool Systems are sold all around the world and these specifications may be different for units delivered in your country due to local conditions or regulations. We are constantly improving our products and therefore certain specifications may change due to ongoing research and development.

We welcome your feedback and suggestions and we offer support for general enquiries and information for specific countries on our website at..

www.iCoolSport.com

Thank you for choosing iCool the world's most popular ice bath therapy and recovery systems.

◀iCool

HEATING MODE

ADDITIONAL INFORMATION ABOUT TURBOCOOL 2 WITH THE REVERSE CYCLE HEATING FUNCTION

The latest TurboCool 2 models (after February 2011) have a slightly different procedure to change from the cooling mode to the heating mode.

TO ACTIVATE THE HEATING MODE.

1. Touch the ALL STOP red button on the main screen.

2. Turn off the MAINS POWER either at the main isolation switch that will be on the wall beside the unit and then back on again. This resets the computer for a different cycle.

TIPS: You can also use the Residual Earth Leakage Safety Switch to turn the unit OFF and then ON again if the main isolation switch is inaccessible.

If you have a control screen that is remote from the TurboCool you can also reset the computer by operating the EMERGENCY STOP button if one is installed and then returning the emergency stop button to it's normal position. (see below)

3. Turn on the HEATING which is located on the right hand side of the TurboCool. It has a RED safety cover. Lift the safety cover and turn the switch to the UP position.

YOUR TURBOCOOL IS NOW SET TO OPERATE AS A REVERSE CYCLE HEAT PUMP.

4. All setting and starting operations are the same as in the cooling mode (See Pages 5-8)

TO RETURN TO THE COOLING MODE.

1. Touch the ALL STOP button.

2. Turn the mains power OFF and then ON again as above.

3. Turn off the HEATING MODE MASTER SWITCH and move the RED safety cover back to the normal position.

YOUR TURBOCOOL IS NOW SET TO OPERATE AS A REVERSE CYCLE COOLING PUMP.

IF THE POOL IS ALREADY COLDER OR HOTTER THAN YOUR SETTING

In the COOLING MODE, if you set a temperature that is HIGHER than the actual temperature of water at that time, the pump will run normally to circulate the water, but the TurboCool compressors will not start cooling until needed. This is automatic. Once you have pressed the START SYSTEM button the computer will stand by until needed no matter how long that is, and turn on the cooling system whenever the water is 1 degree higher than your set temperature. Then it will accurately maintain that your selected temperature. If you set a temperature that is lower than the water temperature it will start immediately.

In the HEATING MODE, if you set a temperature that is LOWER than the actual temperature of water at that time, the pump will run normally to circulate the water, but the TurboCool compressors will not start heating until needed. This is automatic. Once you have pressed the START SYSTEM button the computer will stand by until needed and turn on the heating system whenever the water is 1 degree lower than your set temperature. Then it will accurately maintain that your selected temperature. If you set a temperature that is higher than the water temperature it will start immediately.

INTELLIGENT POWER MANAGEMENT SAVES ELECTRICITY AUTOMATICALLY

All TurboCools are fitted with an intelligent power management system that manages the dual heat pumps on and off times to minimise electricity use. It senses pool and room temperature and other parameters and closes down one heat pump when it is not required. This cuts power use by half. Compared to other systems it offers large savings during long holding periods such as over night while still maintaing your set temperature.

FOR FURTHER INFORMATION OR ASSISTANCE PLEASE CONTACT US AT

www.iCoolSport.com

INFO@ICOOLSPORT.COM