

LIMITED WARRANTY

Products manufactured by *Temtrol deltaT, Inc.* are warranted to the original consumer only, and to be free of defects in material and workmanship for a period of **two (2) years** from the date of purchase. The Timer has no warranty, except through the timer's manufacturer. However, the design and the use of a common timer allows for easy replacement / swap-out. Unwanted noise or vibration is warranted for 90 days from the date of purchase. All terms of this warranty shall only be valid if the REDYTEMP® OPTIMIZER has not been tampered with or show signs of abuse, we will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the product was not installed in accordance with printed installation and operation instructions. To obtain service under this warranty, the defective product must be returned to the distributor, dealer of *Temtrol deltaT, Inc.* from which it was purchased and must be accompanied by a copy of the original invoice, proof of purchase and installation date, failure date. The distributor or dealer will contact the *TEMTRON deltaT, Inc.* Factory Service Department for instructions. Any defective product to be returned to the factory must be sent freight prepaid, with documentation supporting the warranty claim. This warranty is in lieu of any other warranties, expressed or implied.

ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE LIMITED IN DURATION FOR THE **TWO (2) YEAR** PERIOD SPECIFIED ABOVE IN THIS LIMITED WARRANTY. OUR OBLIGATION UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PARTS OF THE REDYTEMP OPTIMIZER HOT WATER CIRCULATING SYSTEM.

Limitation of Liability

Regardless of whether any remedy set forth in this agreement fails of its essential purpose, to the extent permitted by law, in no event will *TEMTRON deltaT, Inc.* be liable to you for any loss of time, inconvenience, lost profits, lost savings or incidental expenses, indirect, incidental, special or consequential damages, arising out of your use or inability to use the product or the breach of this agreement even if advised of the possibility of such damages, whether from corrosion or any other causes. *Temtrol deltaT, Inc.* reserves the right to change the design in its products without any obligation to modify any previous product this warranty is in lieu of any other warranties, expressed or implied.

Damages

Under no circumstances and under no legal theory, tort, contract, or otherwise, shall *Temtrol deltaT, Inc.* or its suppliers or resellers be liable to you or any other person or entity in any way for any indirect, special, incidental, or consequential damages of any character including, without limitation, damages for loss of goodwill, work stoppage, or any and all other commercial damages, residential damages or losses, or for any damages of any kind or nature in excess of *TEMTRON deltaT, Inc.* list price for the product purchased, even if *Temtrol deltaT, Inc.* shall have been informed of the possibility of such damages, or for any claim by any other party. Furthermore, some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation and exclusion may not apply to you. You assume full responsibility for the selection of any product(s) purchased from *TEMTRON deltaT, Inc.* To achieve your intended purposes, for the proper installation and use of any product(s) purchased from *Temtrol deltaT, Inc.* And for verifying the results obtained from use of said product.

NOTE: A small amount of water, if any, in your REDYTEMP® OPTIMIZER is the result of QC testing. In keeping with Green Friendly Company qualification guidelines multiple types of packing materials, i.e. used air filled bags, used shipping container, bubble wrap, miscellaneous stuffing materials, foam popcorn, etc recycled from part shipments or other previous shipments we receive. Recycling reduces needless land filling, is good for the environment and should not be mistaken as indicators of being a used product.

Inspect and immediately report any damage or concerns of quality upon receipt by calling *TEMTRON deltaT, Inc.* at 760-586-6030

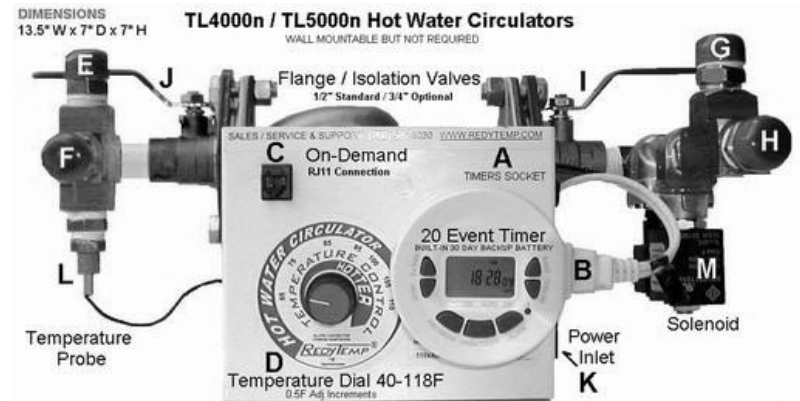
REDYTEMP®

WHEN COMFORT AND EFFICIENCY MATTERS

HOT WATER *OPTIMIZER*
CONVENIENCE – COMFORT TEMP – CONTROL – EFFICIENCY

TL 4000/5000

ON-DEMAND ♦ CIRCULATOR ♦ RE-CIRCULATOR
AND
FREEZE PROTECTION



CAUTION: To AVOID DAMAGING solenoid NEVER PUT PRESSURE OR LEVERAGE on "M". USE WRENCHING POINTS ONLY

IF DESIRED: The brass fittings on the HOT (left) and COLD (right) can be rotated by loosening the two (2) flange bolts.

NOTE: Connections to "E" and "F" are interchangeable. Same applies to "G" and "H". Connecting "F" and "H" to supply valves is marginally more efficient.

OWNERS MANUAL

CONGRATULATIONS, and sincere thanks from the TEMTROL deltaT family for purchasing the world's most advanced hot water re-circulation / circulation and on-demand system. REDYTEMP® OPTIMIZER is engineered with 21st century technology to maximize efficiency, comfort and water savings. The system provides an instant (Redy) means of optimizing the water temperature (Temp) throughout your home, giving your entire family the convenience of instant hot water at your desired temperature and readiness. And, by using the REDYTEMP® OPTIMIZER system, the conservation of our earth's precious water supply is an added benefit.

It has always been our goal to offer consumers the best technology, the highest quality in a homeowner friendly appliance that will supply many years of service and convenience to discriminating consumers. We extend our appreciation to you for incorporating the REDYTEMP® OPTIMIZER into your household appliances, and trust that you too will want to be added to our list of satisfied customers.

Sincerely,

The RedyTemp Family

THE REDYTEMP USES A "WATER COOLED PUMP" NEVER OPERATE PUMP WITHOUT WATER. DOING SO MAY DAMAGE UNIT AND VOID WARRANTY.

In keeping with Temtrol deltaT's tradition of "industry first's" We strongly recommend placing the below signage in clear sight of water heater and water main / meter or any / all shut-off valves that directly affect the homes water supply. Doing so alerts person(s) that a recirculation system is installed on the property and must be turned off or power unplugged before shutting off water supply.

We also recommend protecting signage / printout with document protectors or covering with clear tape to protect it from moisture. Half-page printouts of this label can be downloaded at the following link www.redytemp.com/STOP_BEFORE_CLOSING_WATER_VALVE.jpg.



Own a "TANK" water heater? Download our Water Heater Purge Table at <http://www.RedyTemp.com/water-heater-purge-table.pdf>

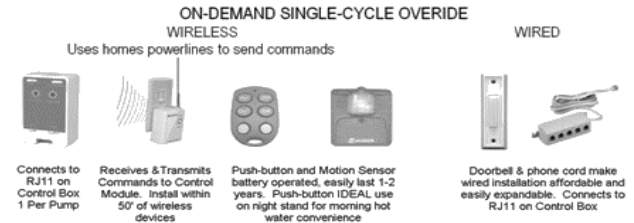
Purging a quart from your water heater every 3 months helps prevent sediment buildup in your water heater making it last longer and run more efficient

TEMTROL deltaT Inc.
www.RedyTemp.com

ON-DEMAND PUSH BUTTON OVERRIDE CONTROL INSTALLATION
DO NOT CONNECT TO HOME PHONE JACK OR TELEPHONE
(doing so may damage unit and will void warranty)

The REDYTEMP® OPTIMIZER is engineered with single-cycle override capability or On-Demand hot water delivery via momentary contact of the 2 middle wires in the phone jack of the controller.

The installation is simple and easy requiring a "momentary contact" switch or "NON-ILLUMINATING" (without light bulb or it will always be enabled) doorbell button available at home improvement / hardware stores for around \$2.00. You will also need a single 2 wire or 4 wire phone cord easily available at 99 cent stores or electronics stores. Simply cut the connector off one end of the phone cord, strip and connect the two middle wires within the cord to the momentary contact switch / doorbell switch connection screws. Temporarily unplug the main power cord from the back and then plug the opposite end of the phone cord into the REDYTEMP® OPTIMIZER. By pressing the button, "while in OFF-SCHEDULE" operation AND when the water temperature is below set point, the REDYTEMP® OPTIMIZER will override the controlled device and run for ONE (1) cycle only (until temp equals set point) and stop. It is easy to imagine the simplistic installation of multiple switches throughout a home using a multi-phone jack connector and run multiple switches within the home. Wireless activation that uses the homes power lines to transmit commands is simple and easy to setup. Read more <http://www.redytemp.com/hotwatercirculationcontrol.htm>

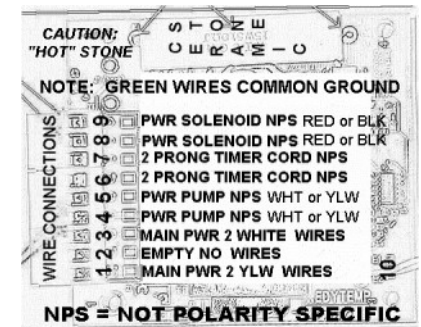


+++ CONNECTING WHITE CONTROL BOX WIRES+++
CAUTION: ELECTRICAL SHOCK HAZARD ALWAYS UNPLUG MAIN POWER
GRASPING FIRMLY CONNECT THE MALE AND FEMALE QUICK-CONNECTORS AS FOLLOWS
CONNECT **Yellow, White and Green** from PUMP to CONTROLLERS **Y, W, any G** wire
CONNECT **Black 2-Wire SET** to TEMPERATURE PROBES **Black 2-Wires**
CONNECT remaining **Black, Red and Green** from CONTROLLER to SOLENOIDS **B, R, G**
NOTE: GREEN WIRES are COMMON GROUND
OK to connect any green with either of the green/light green wires

Warning: Discharge static electricity
By touching any grounded metal before touching board, wires, etc.

FOR REFERENCE PURPOSES ONLY--->
FOR SERVICE OR SUPPORT CALL
(760) 586-6030
or email questions to
info@RedyTemp.com

Note: If solenoid operation is in question verify ceramic stone solder connections.



OPERATING INSTRUCTIONS

AUTOMATIC SCHEDULED OPERATIONS:

Utilizing the supplied timer, REDYTEMP® OPTIMIZER can be scheduled to have hot water ready during your chosen time periods optimizing your lifestyle and water savings.

MANUAL / SWITCHED OPERATION:

Wireless wall switch controllers can replace the timer as a means of operation, including X-10 home automation products to turn the unit "ON" or "OFF" manually.

PUSH-BUTTON / TIMER OVERRIDE / ON-DEMAND OPERATION:

By installing a momentary contact switch (doorbell button) the REDYTEMP® OPTIMIZER can be operated on a single cycle basis as well as allow operation during scheduled-off time periods. Purchase any standard 2 or 4 wire phone cord. Cut one end of the phone cord off and connect the two middle wires from the phone cord to any momentary contact switch. Plug the other end of the phone cord into the phone jack on the front of the REDYTEMP® OPTIMIZER.

WIRELESS / REMOTE CONTROL:

REDYTEMP® OPTIMIZER can be operated "wirelessly" by unplugging the timer and replacing it with any number of wireless / remote outlet control or X-10 home automation devices available at most home improvement stores and the internet.

CONTINUOUS OPERATION:

Can be set for continuous operation by removing the timer and plugging in the short white cord to where the timer was plugged. Now the unit will function 24 hours a day.

TEMPERATURE CONTROL:

Turn the adjustment knob clockwise to increase the temperature cycle zone, counter clockwise to decrease. Most homeowners set their dial to between the 1 o'clock to 3 o'clock positions on the dial. Finding your homes unique delta-T "sweet spot" can be achieved by following this basic rule: If you turn on the "COLD WATER" faucet where the unit is installed and you get more than 2-3 seconds of "warmish" water then simply turn the temperature control knob counter clockwise "just a hair". Wait 1 hour for the homes plumbing to adapt to any new settings. Adjust the knob clockwise if the water from the hot water faucet is not hot enough. Setting the temperature dial "too high" will cause "hot" water to be placed into the cold line.

PIPE FREEZE PROTECTION:

REDYTEMP® OPTIMIZER can "assist" in preventing pipes from freezing by setting the temperature control dial to lower settings. If needed relocate the temperature probe to the area of pipe with the highest threat of freezing. And place the unit in continuous operation mode.

VACATIONS / DISABLED OPERATION:

When going on vacation or long periods of no hot water usage or any other time when hot water or no water will be available, simply unplug the power cord from the wall outlet.

PUMP CYCLES / OPERATION:

Many factors influence pumping cycles, i.e. outside temperature, length of water travel, diameter of pipes, pipes in cement slab/foundation, insulated / non-insulated pipes. Anticipating hot water usage periods accurately and using a control which best fits your lifestyle is the second part to an optimized hot water system. A person who travels a lot may find that using motion sensors or sound sensors more efficient than using a timer. One proud owner was known to use "The Clapper" set in burglar mode. The Clapper would activate the REDYTEMP® OPTIMIZER in the master bathroom upon hearing the CUSTOMERS morning alarm clock. Adjusting the sound sensitivity on The Clapper was key to preventing false starts. With the right temperature settings and control type homeowners can greatly improve their hot water comfort and convenience saving thousands of gallons of water each year.

PRECAUTIONS

Before operating the unit, please read this instruction guide thoroughly and with understanding before handling / installing unit. Keep this guide for future use.

IMPORTANT SAFEGUARDS

To avoid electrical shock, unplug main power cord before opening controller. Refer servicing to qualified personnel only. Have a dry towel at the ready when installing or uninstalling unit to wipe up any water on unit or area of installation.

When using electrical products—especially when children are present—basic safety precautions should always be followed, including;

- Operate the unit only on 120—Volt AC.
- **Unplug the unit from the wall outlet when it is not going to be used for an extended period of time.** To disconnect the cord, pull it out by grasping the plug. **Never pull it by the cord.**
- Do not handle the plug or cord or unit if water is present on floor, near unit's power connections or with wet hands. Dry area's thoroughly before connecting or disconnecting to / from power outlets.
- Never operate this product if it has a damaged cord or plug; if it is not working properly; or if it has been dropped or damaged.
- Use this product only for its intended use as described in this instruction guide
- Under no circumstances should REDYTEMP® OPTIMIZER's pump be allowed to run without making sure that valves in the suction and discharge lines of the pump are open allowing for circulation to exist

WARNING: WHEN USING THIS PRODUCT PLEASE PAY CLOSE ATTENTION TO THE FOLLOWING SAFETY TIPS TO ACHIEVE THE BEST RESULTS FROM YOUR UNIT.

- REDYTEMP® OPTIMIZER performs well with the hot water heater temperatures set at a minimum 120 F. **Some states prohibit water heater temperatures to be set above 120 degrees F to avoid scalding. If the water heater is set below 120 degrees F, you may experience warm water at your cold water faucet.**
- Turn-Off / Unplug the unit whenever the hot water heater or **water supply is shut off.** We recommend placing a 3x5 card next to shut-off valves at the heater and main shut-off valve stating: **STOP! Unplug Recirculation Pump Before Closing This Valve!** Continued use of the unit in this condition will result in damage of the pump and VOID WARRANTY.
- If a water leak occurs, follow safety instructions above before disconnecting the electrical plug from the wall outlet. Then turn-off the hot and cold water outlet valves.

WARNING

Proprietary information: The product(s) and documentation provided hereunder are TEMTROL DELTA T, Inc. trade secret, patented proprietary products and information. Customer agrees not to disclose such materials to any other party and not to reverse engineer or use the products in any manner except as contemplated in this User Guide.

TANKLESS WATER HEATERS

NOTE: Some tankless water heaters have flow limitations set by the manufacturer. Using flex hoses ensures flow limitations are not exceeded. When no flex hoses are used flow rate can be manipulated using the outgoing isolation valves ONLY IF NEEDED.

OPEN LOOP "UNDER-SINK" INSTALLATION

To ensure proper installation, please read these instructions completely before proceeding. Your REDYTEMP® OPTIMIZER unit is fully assembled upon delivery. Remove unit from the shipping container and examine the contents for any visible damage.

Examine the plumbing system in your home to determine the furthest fixture from the hot water heater. Test when hot water has not been used for an hour or more. Turn the hot water faucet on at this fixture and wait until hot water arrives. If this "is" the fixture at the end of the line, hot water should be readily available at other fixtures leading back to the water heater. Repeat the test at another fixture if the results prove incorrect.

NOTE: Some homes may have two hot water main supply lines, requiring two REDYTEMP® OPTIMIZER units or a single unit on the most active line.

Remove all articles from under the desired plumbing fixture. Have a towel and small bucket available for any water spills.

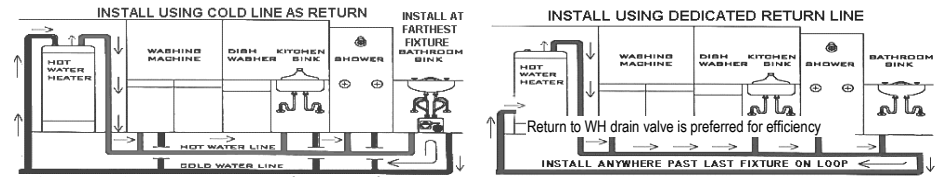
1. Shut the hot and cold water supply valves under the sink by turning both valves completely clockwise. (45 seconds)
2. Turn the hot and cold water faucets to the "Open" position. Make sure there is no water flow through the faucets before proceeding. (15 seconds)
3. Disconnect the existing supply lines or tubes "faucet end ONLY" from the faucets. An 8" crescent, 7/8" wrench or Basin Wrench (preferred), can be used for this job. (10 minutes)

NOTE: Fittings can be purchased that allow connecting the shutoff end of existing faucet hoses to the unit if disconnecting the faucet end is difficult. These are available at home improvement stores. Just tell them "I need an adapter to go from (your hose size) to 1/2" male NPT connection."

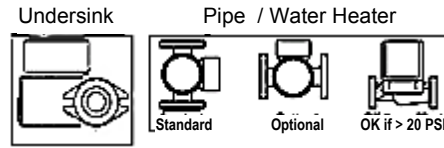
4. Find the two flex lines provided (N models only) connect and tighten one to each faucet adapter. (5 minutes) (Some flanges allow rotation of fittings after loosening 2 flange bolts to customize installation). See rotation arrows in diagram on following page.
5. Set the REDYTEMP® OPTIMIZER under the sink on a towel/carpet/mouse pad to prevent vibration sounds). Connect HW supply to "F" and HW faucet "E" (left side) and CW supply "H" and CW faucet "G" (right side) flex lines to the units. Use wrench to tighten connections, but do not exceed more than a half turn after they first get snug. Double check all connections before proceeding. (5 minutes)
6. Open hot and cold water faucets, then fully OPEN hot water supply valve (turning counter clockwise). **SLOWLY** open two green-handled isolation valves (open=handle inline with pipe) (**hot side first, then cold side**) allowing water to fill pump. Let water run 15 seconds or more until air within the line is purged, then turn off hot faucet. Open CW supply valve, then turn off cold faucet. Inspect all connections for any leaks. Wipe up all water from unit, floor and hands. **DO NOT PROCEED WITHOUT FIXING ANY LEAKS.** (2 minutes)
7. Find the disconnecting power cord provided and plug it into the power inlet socket on the side of the units control box. Plug the power cord into existing (some area electrical codes may require ground-fault circuit interrupters -- GFCI or GFI) 115 volt AC outlet. (30 seconds)

When installing under a kitchen sink, the outlet of choice is often controlled by the garbage disposal switch and may not allow usage correctly. If this is the case consider sharing the outlet used by the dishwasher. If there is no outlet in the sink cabinet, consult a licensed electrician for installation of an outlet.

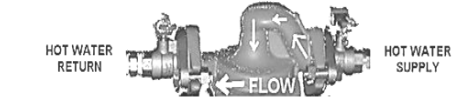
Check the timer switch to make sure the unit is "ON". The pump should start circulating the cold water out of the hot water lines. **THOROUGHLY PURGE AIR FROM SYSTEM BY OPENING / CLOSING COLD WATER FAUCET REPEAT x 3 UNTIL PUMP RUNS SILENT.**



PUMP INSTALL ORIENTATION



CLOSED-LOOP SYSTEM INSTALLATION



To change flow direction rotate pump head



All wires have quick connects pre-installed making strategic relocation of temperature probe and / or wall mounting control box easy. To wall mount control box ensure main power cord is unplugged from control box. Remove 2 screws on each side, pull off cover. Unscrew loosen base plate retaining screws and lift off base from pump. Mount to wall using appropriate hardware. Replace control box cover using 4 screws.

MOUNTING PUMP

Mounting pump to a wall is not required. If mounting is desired use metal "L" brackets or metal strapping tape depending on the environment. Avoid humming by placing rubber/foam/cushion material between wall and pump. Maintain true horizontal positioning of pump.

"CLOSED LOOP" SYSTEM INSTALLATION

This installation should only be performed by a certified plumber or other qualified professional with adequate knowledge of household water distribution systems. Any questions should be answered before beginning the installation. Prepare a bucket and towels for use during installation. Decide on point of installation for pump, pump flow and final position of pump once installed. For maximum green efficiency, consider locating the water contacting temperature probe "L" (see above illustration) just after the last hot water usage point on the loop. Doing so will minimize pump cycle runtime and reduce demand on water heater by eliminating wasteful end-of-loop pipe heating. For superior energy savings insulate hot water loop pipes.

Shut off home water main. Drain home hot water supply by opening hot water faucets. Drain water heater if installing to drain valve. Follow your water heaters safety instructions for proper shutdown and restart.

Orientate the pumps supply and return to match your loops direction of flow. See above illustration. Ensure no debris exists in the lines before making connections. Connect using appropriate fittings as needed.

With both isolation valves connected to loop and **CLOSED**. **OPEN** the home main water supply and check for leaks. If, no leaks exist, **slowly** open both isolation valves to allow water to fill the pump. **Fully open two or more hot water faucets for 30 seconds with pump operating to evacuate air from the system until pump runs nearly silent.** Plug-in the main power cord to the control box "K" and set desired temperature "D". Don't hesitate to call with questions or concerns using number on the unit label or inside this manual. Save this manual for future reference. Pull out timer and set program times using included timer instructions. Before replacing timer into socket, write unit model / serial number on cover of this owners manual. Then visit <http://www.RedyTemp.com/registrationcard.pdf> to register your product.