

SOLVING HOT WATER NEEDS IS AS EASY AS A, B, C

The solution is easy for homeowners who never have enough hot water. High demand, fouled coils, or electric hot water heaters, which do not have adequate recovery, can be easily improved.

Three simple solutions provide gallons of hot water storage capacity to eliminate the problem during peak periods.

Laundry, dishwasher and shower can run at the same time at a steady temperature, and savings can be as much as 60%.

ALSO AVAILABLE: STAINLESS STEEL OR STANDARD TANK with EXTENDED WARRANTY



"A" HOT WATER SYSTEM

- 10-0200 System "A"
- 10-0201 System "A" w/Energy Saver Relay
- 10-0202 System "A" Less Tank

PROBLEM: When a hot water coil is installed in the boiler (called a tankless coil), the boiler must run frequently all year, with no usage consideration to maintain water temperature. Even so, high demand or fouled coils result in uneven water temperature that starts off too hot, yet quickly turns too cold before the need for hot water is satisfied.

SOLUTION: For a good boiler with a good coil in good condition, try solution "A". Lower the aquastat settings, fire the boiler on demand and reduce the burner firing rate. The coil makes hot water and stores it in the tank to provide plenty of hot water without drastic temperature swings.

INCLUDES:

- 40 gal tank with 2" high density foam insulation.
- Aquastat mounted
- Special Dip Tube
- 150# T&P Valve
- Taco Bronze Circulator
- Piping Set; drain, unions, makeup connectors
- Optional: Energy Saving Relay



"B" HOT WATER SYSTEM

- 10-0240 System "B" w/Energy Saver Relay
- 10-0241 System "B" w/Energy Saver Relay & Zone Valve w/End Switch
- 10-0242 System "B"

PROBLEM: When hot water is made with old gas or oil fired water heaters, much of the heat escapes up the flue or dissipates through poor insulation. The burner must run frequently all year to replace lost heat, with no consideration for household needs resulting in far more fuel used than needed to provide hot water.

SOLUTION: For a good boiler with a fouled or leaking tankless coil or a boiler without a coil, use Hot Water Maker "B". In contrast to coils, the external Plate Exchanger can be easily serviced because of its accessible location.

The storage tank and Plate Exchanger provide plenty of hot water to meet peak demands.

INCLUDES:

- 40 gal tank with 2" high density foam insulation
- 120/gph external Plate Exchanger
- Aquastat mounted
- Special Dip Tube
- 150# T&P Valve
- Taco Bronze Circulator
- Piping Set: drain, unions, makeup connectors
- Specify: either CI circulator or Zone Valve with end switch
- Optional: Energy Saving Relay



"C" HOT WATER KIT

- 10-0260 System "C"
- 10-0261 System "C" w/Energy Saver Relay
- 10-0262 System "C" w/Energy Saver Relay & Zone Valve w/End Switch

PROBLEM: Depending on the area, electric water heaters cost two to four times more per BTU than direct-fired fuels. Simply stated, the fuel efficiency in electric generation is only 30%, and electricity must be transported through miles of lines. Even with off-peak rates, hot water is frequently needed, made and charged at peak rates in an active household. Direct-fired fuels used in the home provide spectacular savings - 50% to 75%.

SOLUTION: For an existing storage tank, the "C" Kit converts the heat source from expensive electricity or inefficient fuel to an efficient boiler. Any well-insulated tank in good condition may be used; electric, gas or unheated tanks with electric aquastat.

INCLUDES:

- 120/gph stainless steel Plate Exchanger
- Taco Bronze Circulator
- Piping Set: drain, unions, makeup connectors
- Specify: either Zone Valve with end switch or Circulator for boiler side
- Optional: Energy Saving Relay

NOTE: Modify existing dip tube or order special dip tube separately (Part#10-0500)

HOT WATER SYSTEMS A, B, C (con't)

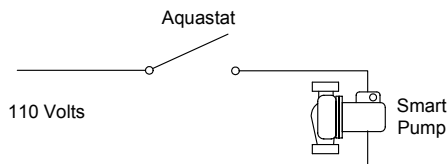
All Tanks are heavily insulated with 2" foam, the equivalent of R-15 for minimal heat loss. Typically, less than eight cents a day is lost, and the water will actually stay hot for several days. Three tank sizes available: 40 gallon (standard), 80 gallon and 120 gallon.

All tanks have "stratified storage" and come with a special dip tube so the hottest water is always at the top and ready for use. The temperature sensor is located so it permits drawing 10 to 15 gallons of hot water before the boiler is activated. The burner runs infrequently, eliminating the usual short cycles that waste fuel.

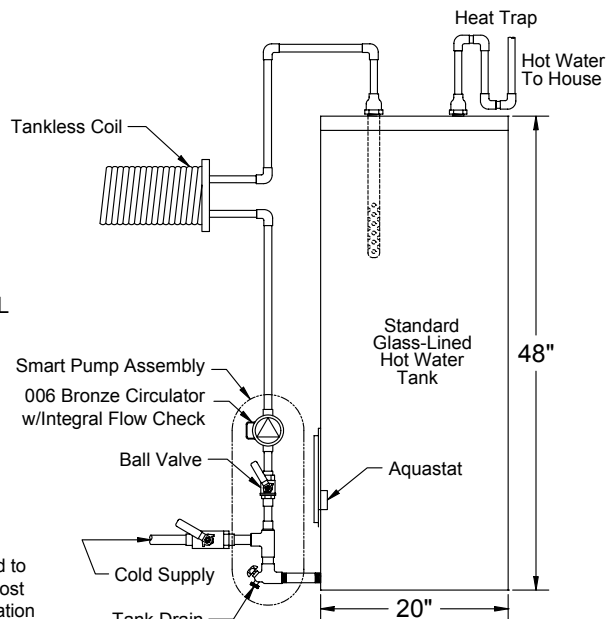
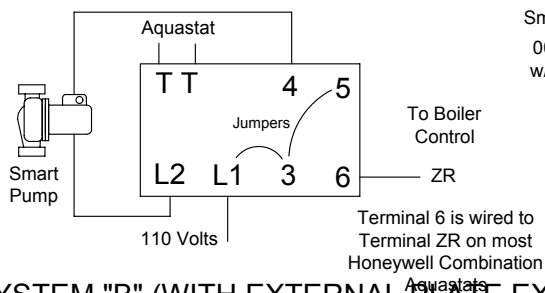
The Plate Exchanger is made of durable stainless steel, recovers at 120 gph with most boilers, and is easily serviced because of its convenient location.

SYSTEM "A" (WITH EXISTING COIL)

1.) LINE VOLTAGE

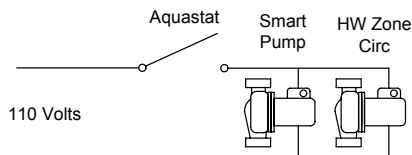


2.) LINE VOLTAGE - ENERGY SAVER CONTROL (Switching Relay SR100 or Equivalent.)

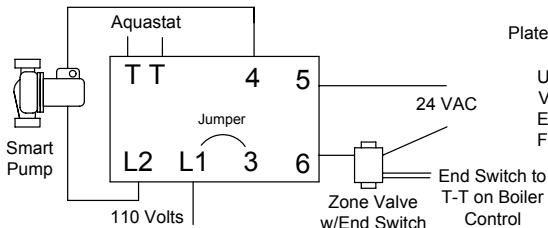


SYSTEM "B" (WITH EXTERNAL PLATE EXCHANGER)

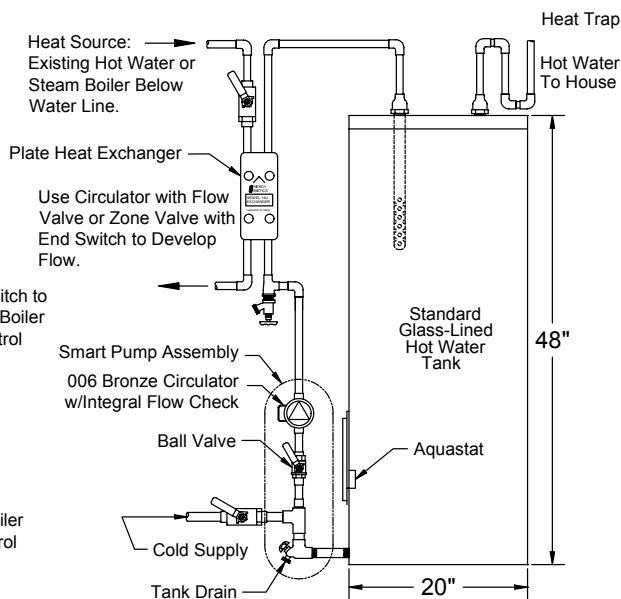
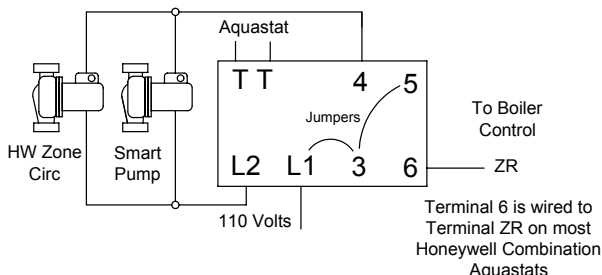
1.) LINE VOLTAGE



2.) ZONE VALVE - ENERGY SAVER CONTROL (Switching Relay SR100 or Equivalent.)



2.) LINE VOLTAGE - ENERGY SAVER CONTROL (Switching Relay SR100 or Equivalent.)



SYSTEM C: (CONVERSION OF ELECTRIC HOT WATER TANK TO INDIRECT HEAT WITH A PLATE HEAT EXCHANGER)

HOT WATER TANK CONVERSION INSTALLATION INSTRUCTIONS

1. Turn off electric supply to hot water tank and disconnect power supply back to circuit breaker.
2. Drain water from tank. Remove drain valve.
3. Disconnect cold supply connection at top of tank. For best results, remove plastic dip tube (1) and do steps (4) and (5).
4. Heat dip tube lightly with torch approx. 20" from top until it melts to permit lower end to be twisted off like an "Ice Cream Cone", sealing end at same time. Drill eight $\frac{1}{4}$ " diameter holes at bottom end of tube (See Figure 1)
5. Reinsert dip tube in top "cold" connection.
6. Insert $\frac{3}{4}$ " brass nipple in tank drain long enough to permit piping and pump to clear tank jacket.
- (See Figure 2)
7. Put the piping assembly together before installing combination tee/drain on tank.
8. Combination tee/drain, $\frac{3}{4}$ " x $\frac{1}{2}$ " $\frac{3}{4}$ " tee, $\frac{1}{2}$ " ball valve, 006 bronze circulator w/integral flow check, $\frac{3}{4}$ " FTG x M Adaptor. Install on nipple at bottom of tank and pipe to lower connection on domestic side of plate exchanger.
9. Pipe from top of heat exchanger (Domestic Out) to cold connection at top of tank (where dip tube was inserted).
10. Bring cold supply (3) to make up connection: $\frac{3}{4}$ " special tee below bronze circulator.
11. Re-pipe hot water supply to house with a heat trap (12" high) optional, but recommended. Heat trap prevents gravity loss of hot water and saves about \$20/year.
12. Open lower panel door on hot water tank. Tank thermostat will be used to control hot water temperature through thermostat wire to Manager on input terminals THW & A₁.

Note:

If tank thermostat is very near bottom of tank, it will cause system to have frequent starts.

If possible, remove tank thermostat and relocate approx. 12" above tank bottom on 40 gallon tank and 8" on the 80 gallon tank.

It may be necessary to wedge tank thermostat against tank at this location by a wooden block or foam insulation between jacket and tank thermostat cover.

Figure 1: Modify existing dip tube or purchase Pre-formed Dip tube, part no. 10-0500. DIP TUBE BEFORE HEATING OR SEALING

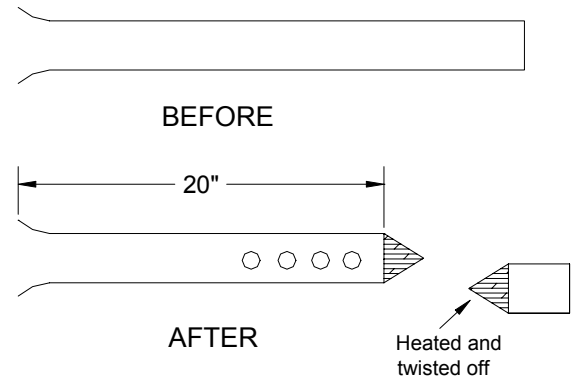


Figure 2: Converting an electric tank

