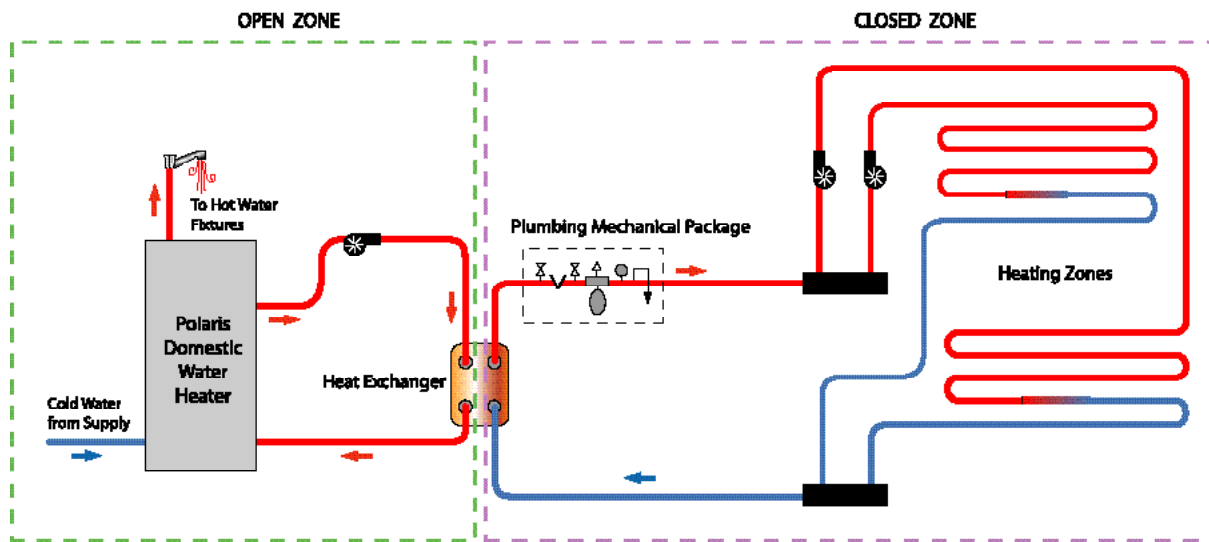


## The Indirect System

An Indirect System is one in which the domestic water heater supplies heat to the radiant heating system “indirectly” by means of a heat exchanger. The heat exchanger separates the potable domestic hot water from the heating system fluid.

Indirect systems can be used when antifreeze must be added to the heating fluid, or when codes mandate this separation.



A heat exchanger is a device that exchanges the heat from one fluid to another without mixing the fluids.

A Radiantec heat exchanger is a stack of stainless steel plates that are stamped together so that they form chambers between them. Domestic hot water flows through half of the chambers and the heating fluid flows through the other half.

Heat from the domestic water heater is exchanged to the heating system fluid without mixing the fluids.

### OPERATION

When the thermostat calls for heat, two pumps come on. The water heater pump comes on and circulates heat from the domestic water heater to the heat exchanger. The heating system pump comes on simultaneously and takes the heat away from the heat exchanger and circulates it through the tubing in the floor.

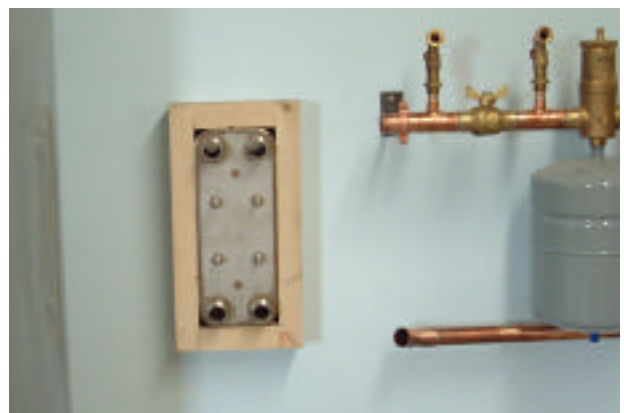
## INSTALL THE HEATING SIDE OF THE SYSTEM

The heating side of the indirect system is a "Closed" type system, and these systems are described in another supplement titled *Install a 'Closed' type heating system*. Please refer to this supplement for this part of the installation.

## INSTALL THE DOMESTIC SIDE OF THE SYSTEM

### MOUNT THE HEAT EXCHANGER

It is convenient to make a mounting frame for the heat exchanger out of framing lumber (in this case, 2x4's). It is desirable to insulate the pipes and heat exchanger for efficiency. Wood has better insulating properties than a metal hanger.



### MOUNT THE PUMP

Mount the pump so that draws water from the heating outlet of the tank (closer to the top), passes it through the heat exchanger, and then goes into the heating inlet of the tank (closer to the bottom).



Mount Pump

Please refer to the "Closed" heating system supplement for information on installing Zone Distribution Manifolds.

## COMPLETE THE LOOP

Complete the piping between the heat exchanger, the pump and the tank. Do not add any extra valves or flow control valves.

## PREVENT STAGNATION OF THE POTABLE WATER DURING THE NON-HEATING PERIODS

This design element allows a small amount of water to go back and forth between the loop and the tank by "gravity" (the differences in the buoyancy of warm water and cold water). This small amount of water flow will help to prevent stagnation of the potable water in the loop during non-heating periods.



## INSULATE FOR EFFICIENCY

The small amount of hot water that will pass back and forth between the water heater and the heat exchanger means that the loop should be well insulated for efficiency.

