

SolarRoofs.com Drainback Collector Direct Spa Heating

Overview: This setup uses a Differential Controller to power a 24 volt transformer to power a 3 Way Zone valve to completely bypass the existing spa heater and send the spa water through the Skyline solar collectors.

The spa heater needed to be turned off by its relay when solar heat is available.

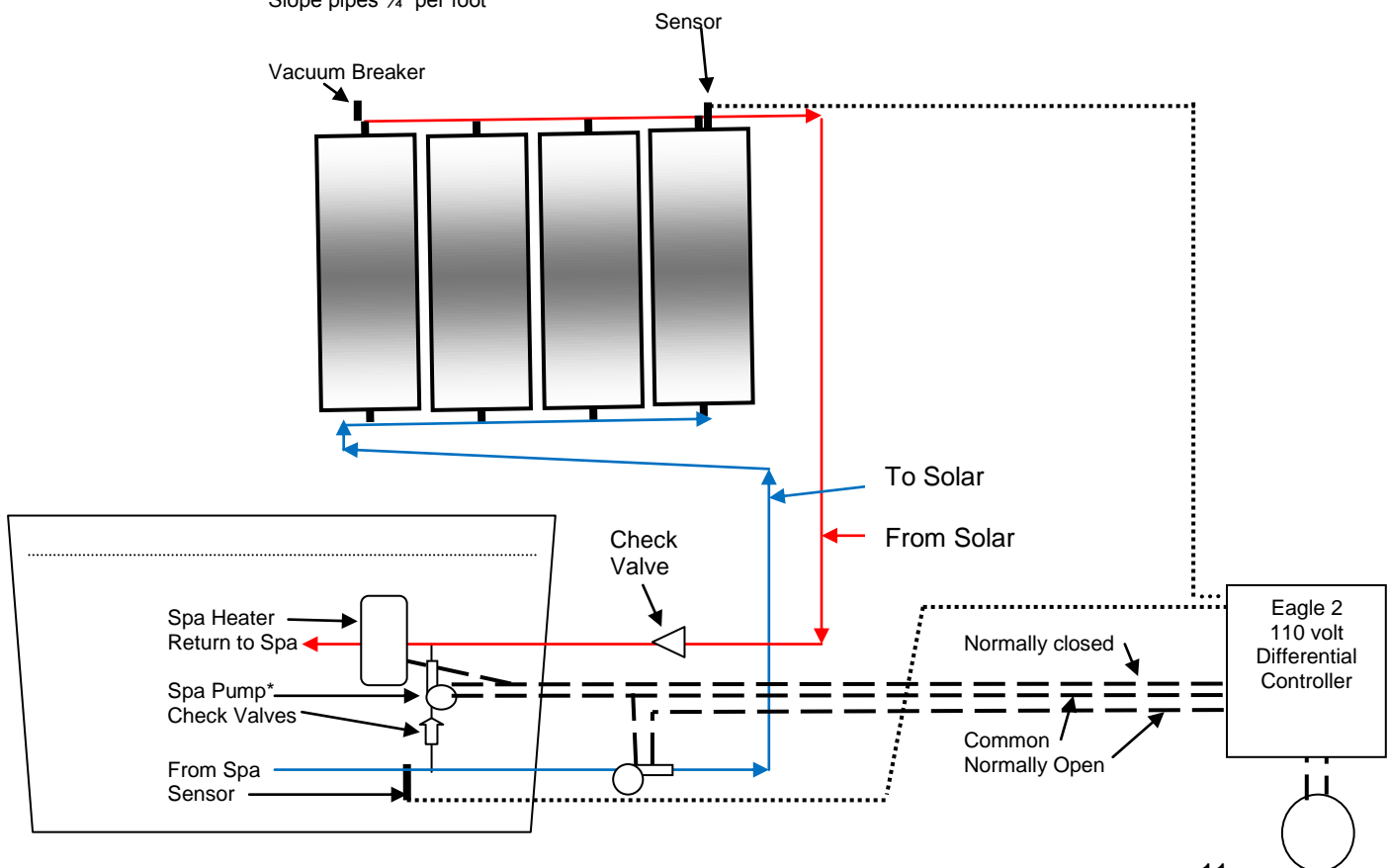
A simple manual ball valve can be substituted for the automatic valve to save cost.

Please note: This is a general guide to help in designing a spa heating system

1 to 4, 10-06 Skyline Collectors

6' long by 20" wide = ~ 6' x ~ 90" wide

Slope pipes 1/4" per foot



Existing pump is controlled by internal SPA thermostat. Wiring needs to be set up so the Spa heater power (which powers both the SPA heater and spa heater circulator) relay goes through the Differential controller normally closed switch. This way the spa heater will operate normally when the solar does not have heat to supply the spa and will be switched off when the relay activates the normally closed circuit that turns on the solar pump when solar heat is available. The differential controller's lowest setting is 110F so it needs to be switched off when SPA temperatures reach 105F. This may require a separate aquastat or it may be able to be switched through the spa heater relay.

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