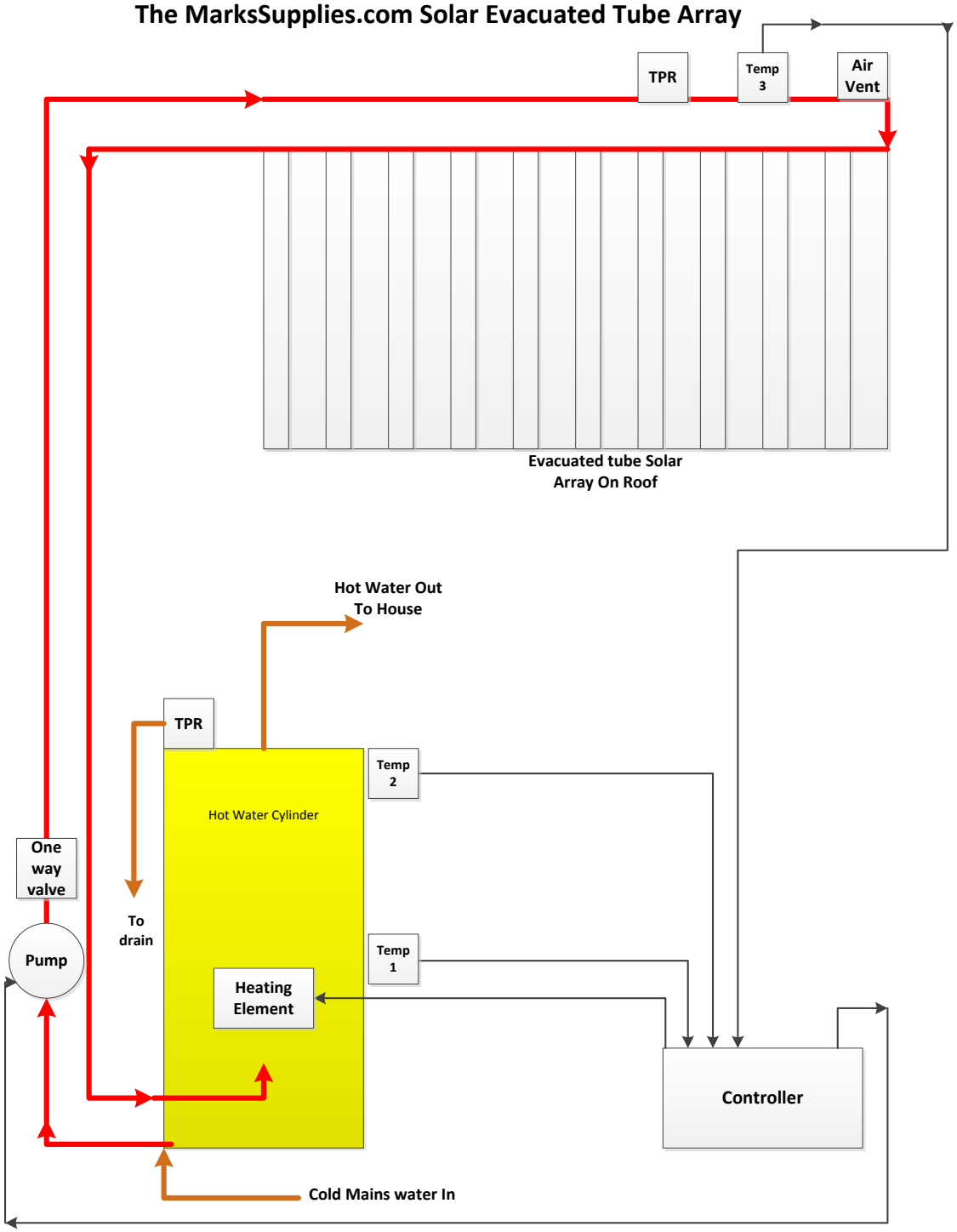
The MarksSupplies.com Solar Evacuated Tube Array



Before the solar installation the cylinder had just a cold water in and a hot water out shown in orange, above we have added 2 extra pipes to the cylinder shown in red, one to take cold water from the bottom of the cylinder to the evacuated tubes and the second to bring the hot water back down & into the cylinder.
There is a TPR valve (Temperature Pressure Relief) on the top of the evacuated tube array along with an automatic air vent. The air vent is mounted at the highest point to automatically remove any air in the system. The TPR valve will automatically release water if the system goes over temperature or over pressure, it is the same rating as the existing one mounted on the top of the cylinder.
There are 3 temperature sensors, 2 mounted on the cylinder & 1 mounted on the evacuated tube array.
The controller will control the pump & the old existing electrical heating element depending on the temperature sensors and the time of day. We have added a pump and also a one way valve above the pump to stop thermal siphoning when the pump is off.