

Equipment Plumbing for Solar

Let's review the function of the valves and drain down options available.

Always keep pipe size compatible with existing equipment hydraulics; if 2" is existing, use all 2" fittings and solar valves. Never down size to 1½", this will only cause problems with overall hydraulic performance.

A Check Valve

Installed after the filter and before the solar so that water draining back from solar doesn't backwash D.E. back through the filter and out the main drain.

A Check Valve

Installed on return from panels stops the flow of water back through solar panels when solar is off but filter pump is running.

3-way posi seal valve

The 3-way posi seal valve allows for direction of water flow either through the solar collectors or directly back to the pool. This valve combines 2 functions in one eliminating the use of 2 gate valves.

Bypass and Drain Valve

The bypass and drain valve installed between return and feed allows panels to drain from feed to return and back to pool when pump shuts off. Also allows for control of water flow to solar collectors.

Solar Controls

Diagram 1 - Manual Control Systems

Set 3-way valve to solar on-position and set filter pump time clock to turn pool pump on when panels are in full sun. Run system 6-8 hours or until the pool gallonage has turned over at least once. Be aware when cooling trends or hot spells are present. You are the auto control. You must turn it on or turn it off manually at the appropriate times to control overheating or cooling of pool.

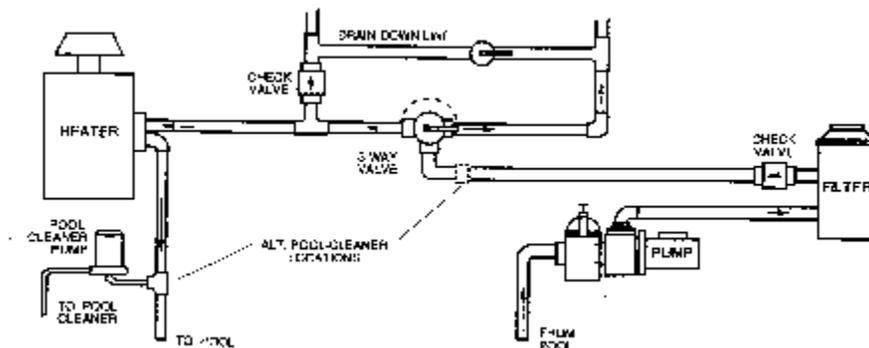


Diagram 2 -Auto Control Systems

Through temperature sensing devices and thermostatic control, automatic controls regulate the operation of the solar system and the pool temperature.

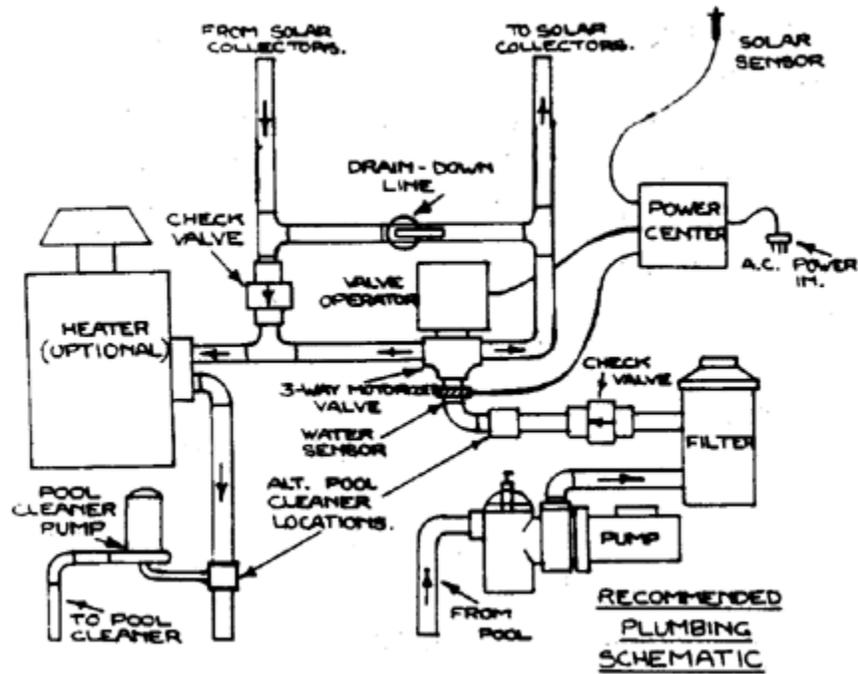


Diagram 3 -Booster Pump System

This procedure is used where:

- Separate feed from the pool to the panels and back to the pool are a requirement eliminating equipment tie in altogether. Recommended on new pool construction.
- Location of the panels is unusually high above the pool requiring additional lift or long feed pipe runs exceeding 150'.
- Where requirement of a set turnover ratio and gallon per minute flow rate are required (ie: required by health departments on commercial pools), the booster pump in line and working in conjunction with the filter pump can alleviate gallonage deliverance loss by added head pressure in solar systems.

RULE OF THUMB SIZING CALCULATION : existing HP pool filter motor x 35% equals booster pump size. Example: 2 HP x 35% = .7 or 3/4 HP.

