

DC Hot Water Circulating Pumps

- PV powered circulation for solar heating closed-loop using water or glycol solution
- Hydronic radiant floor space heating for off-grid or uninterruptible battery backup
- Instant hot water distribution (DC controllers also available)
- Pond management, water treatment, fountains, aeration, etc.

For solar water heating (PV-direct)

ADVANTAGES

- Use a small, inexpensive PV module (photovoltaic panel) to power the pump. No battery or electronic controller is used. There is no wiring to the building's electric system.
- Sun-synchronous operation: pump speed varies with sunlight, corresponding to the available heat in the collector—natural automation!
- This principle has proven highly reliable in solar water heaters since the early 1980's.

For hydronic heating (using battery system)

- Power requirement is less than half that of conventional AC pumps powered by inverter.
- Additional energy savings can be realized by using individual zone pumps instead of a single pump with zone valves. This method can reduce power consumption by 75%.
- Energy saving greatly reduces the size and cost of the power system required.

FEATURES

Magnetic drive

- These pumps feature seal-less magnetic coupling to the impeller. There is no seal friction, no seal wear, and no chance of seal leakage.

Advanced motors

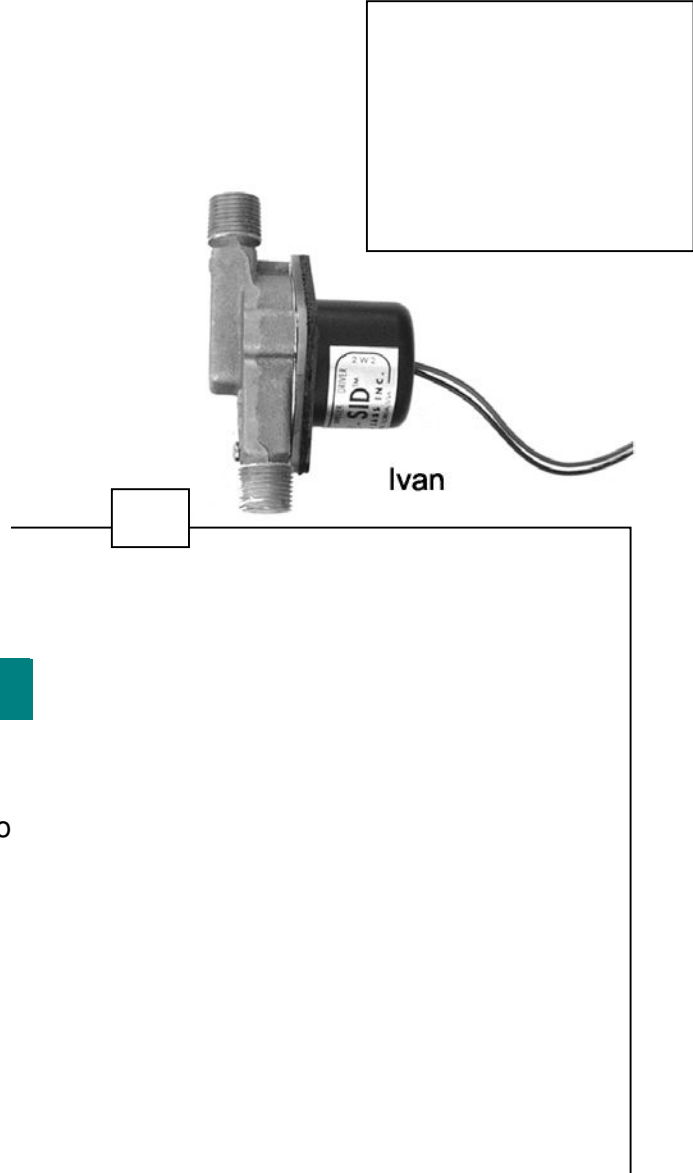
- Ivan pumps use **brushless** motors that are maintenance-free.

Temperature and Pressure Limits

- Maximum: 250°F (120°C) at 150 PSI (10 bar)

Overcurrent Protection Requirements

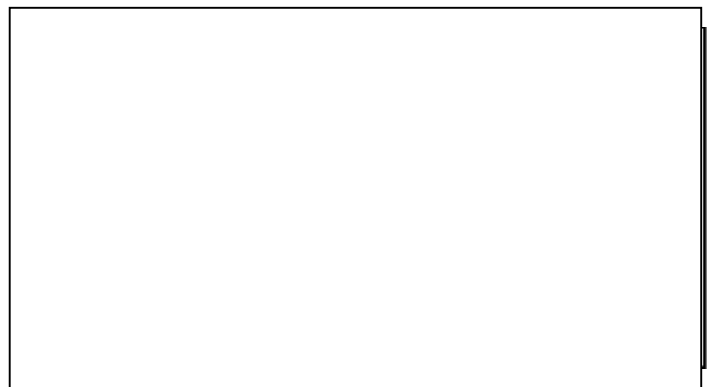
- PV-direct: No fuse is required, unless PV module is sized greater than 1.5X recommended size.



- Battery system: Fuse is required. See watts on chart. Fuse size = watts/volts X 1.5 to 2.

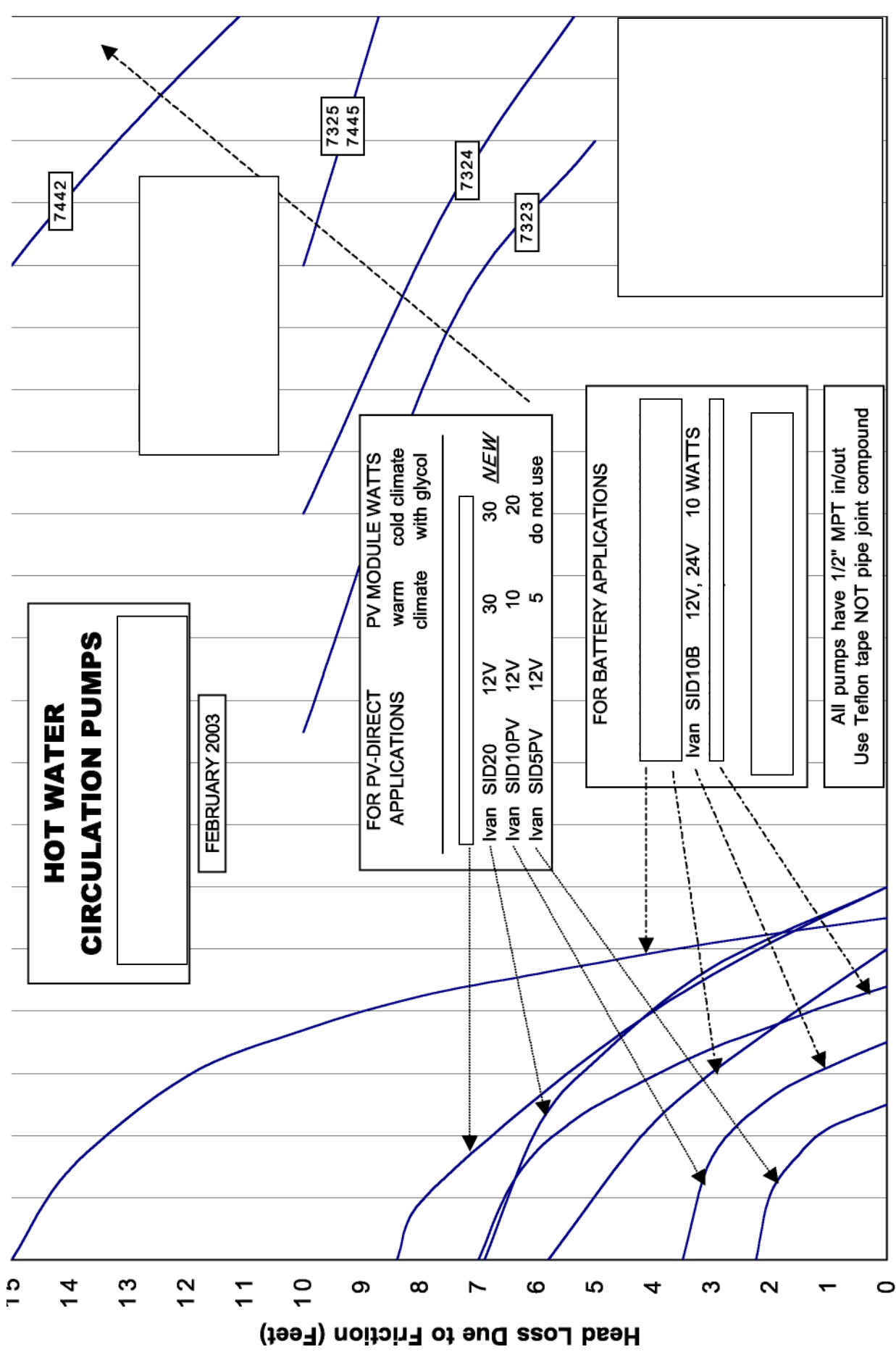
Warranty

One year against defects in materials and workmanship.



HOT WATER CIRCULATION PUMPS

FEBRUARY 2003



Gallons Per Minute

Head Loss Due to Friction (Feet)