

## PIG system pressurization unit

Here is a proven method of providing the necessary minimal amounts of makeup water lost through air elimination immediately after filling and commissioning an older system or a new system, while avoiding possible water damage. The theory of operation is as follows;



Once the hydronic system is completely filled and all free air eliminated through purging, and normal system operating pressure is topped off, the need for significant amounts of water are extremely negated. As the dissolved oxygen is removed from the hydronic system through the process of heating, there is a subsequent minor reduction in system fluid volume associated with this air/gas elimination. This reduction in system volume normally only occurs right after initial filling, and once all dissolved oxygen and other gasses are removed, system

volume becomes extremely stable, unless a leak occurs in the hydronic system. This device will provide the hydronic system access to pressurized fluid (water or water and glycol) for the purposes of compensating for the minor fluid loss associated with air and gas elimination. Should the system develop a leak after the fact, the quantity of water lost within the dwelling is limited to the volume of the reservoir tank, and associated major water damage avoided.

It is recommended that a reliable low pressure cut off switch be installed at the point of no pressure change (PONPC) and be wired into the critical safety control string to shut down the physical plant if all system pressure is lost. If used in a remote, occasionally occupied setting, it is advised that one set of the low pressure contacts be connected to an alarm system to notify the owners of a potentially dangerous condition (loss of water pressure in the hydronic system).

Use and implementation is as follows. For initial fill, connect the Reservoir Charging cock to a water source using a double female automatic washing machine hose. Open pressure reducing bypass to allow full mains pressure into the system. Fill and purge the hydronic system as per normal. Once system is completely filled and purged, reset pressure reducing valve bypass to NORMAL condition and charge the reservoir tank to as full as possible given the existing water source. **NOTE:** Do NOT fill reservoir tank to a pressure which is greater than what it is rated for. Observe reservoir tank fill pressure, as well as System operating pressure. It is also recommended that the tanks diaphragm pressure be checked and written on the tank for a permanent record for future reference, prior to exposing to water.

After filling the system allow the system to operate per normal. Remove the double female hose, remove isolation ball valve handles to avoid inadvertent shut off by unqualified persons, and store valve handles in a secure spot on sight. Depending upon the actual application and system size, and season of the year, it may be necessary to recharge the reservoir tank. It is recommended that the pressure be monitored for a week after initial fill and checked during annual inspections.

