

Preventing Water in The System

Water is everywhere. Three-quarters of the Earth's surface is water. About 60% of the average human body is water.

All that water could be hard to keep out of a thermal fluid system. But even minimal precautions help keep the water at bay. Make that, in the bay.

1. Do not "hydro-test" a new system with water. Save the water for testing the equipment that it can be easily removed from. Besides, since most thermal-fluid leaks occur when the system is hot, you'd have to go through the entire bolt tightening process all over again at running temperature, anyway. If you are replacing a component, make sure that the vendor dries it thoroughly if he hydro-tested it
2. Do not store drums of fluid outside where water can collect in the drum head. The expansion/contraction of the fluid with temperature changes can pull water in through the bungs. If you have to store the drums outside because your warehouse guy "spaced" out, lay them on their sides. If you break the seal on a "new" drum and see rust on the seal itself or on the drum head, don't use the fluid
3. Protect the pump used to charge fluid into the system with a big "for heat transfer fluid only" sign along with some threats involving fire arms and/or your mother-in-law. This sounds like a no brainer but if you leave the pump unprotected, you know it will get borrowed.....
4. If your system is vented and located in a humid part of the planet, give some serious thought to installing a nitrogen blanket on the expansion tank. If the tank temperature drops below the dewpoint, condensation will form on the outside and the inside of a vented expansion tank. If you can't tell when your expansion tank sweats because it is insulated, water is the least of your problems