



new-systems



NEW SYSTEMS: OPERATION AND MAINTENANCE

This document is offered as a general guideline to starting a new or freshly filled system. Please follow proper safety procedures and consult your system manufacturer for specifics on your system and what steps need to be taken to ensure a smooth and safe start-up.

System Preparation

1. A general inspection of the system is recommended before proceeding. Ensure all pipes, flanges, valves etc. are properly installed/tightened and valves are in their designated open/closed position before charging the system with fluid.
2. Inspect the system for any water that may have been introduced during construction, pressure testing etc. Check with the system manufacturer for any system-specific procedures but generally, opening low point drains and blowing nitrogen or dry air through the system is recommended to ensure the system is dry prior to filling. The use of moist/standard air is not recommended as it may introduce more water into the system.

Filling the System

Once the system's integrity has been checked and all water removed, it's time to start filling the system.

1. Consider the ambient/fluid temperature and its affect on the fluid's viscosity to ensure adequate pumps are available to start charging the system with fluid. Consult your specific Duratherm fluid's property chart for its viscosity at your specific fill temperature.
2. Open all high point vents and valves to the various system 'users'.
3. Filling the system should be done through the lowest point in the system in order to prevent air pockets - this is generally at the pump level and in some cases the system pump may be appropriate for filling the system. Otherwise, a portable, high velocity pump or truck mounted pump (if bulk delivered) can be used to fill the system.
4. Fill the system slowly. Close all bleed vents as the fluid level reaches them.
5. Filling is generally complete when the system's expansion tank reaches a point just above the low level switch - check with your system manufacturer to be sure of desired expansion tank levels. Should you overfill the expansion tank, drain back an appropriate amount of fluid keeping in mind that the fluid expands as it's heated.
6. Should your system utilize an inert gas (usually nitrogen) on the expansion tank, please consult your system manufacturer for proper procedures for initializing its use. Generally speaking, Duratherm fluids do not require more than a low pressure nitrogen pad to help reduce oxidation.

Starting the System

1. First ensure your system pump is set up in accordance to its manual. Follow instructions for mechanical and air cooled seals - usually air needs to be removed. Your Duratherm fluid can often be used as the barrier fluid if required.
2. Consult your system manufacturer's manual for specifics but assuming the system is in a ready state to be started, follow the specific instructions for your system. This will typically include a pump and boiler test/check.
3. When the system is pumping, leak free and circulating properly, again follow your manufacturer's recommendations but in most cases, the fluid should be heated slowly - particularly up to 121°C to 149°C (250°F to 300°F) - to ensure any moisture can be vented safely and without causing undue pump cavitation.
4. Don't forget once the system has been started to take advantage of our complimentary fluid analysis program and send us a baseline sample. Doing so provides you with a start-up reference point that is invaluable in diagnosing any system fluid issues in the future.

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Caption:

Description:

Dimensions: x