Tech Sheet #114
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Deaerator Accessories

Pressure Gauge

A pressure gauge shall be provided for the steam space in the deaerator. The pressure gauge should feature a ½" minimum connection. Either dry or liquid filled gauges may be specified. A siphon tube and shutoff cock for the pressure gauge should also be included. In addition to considering the operating pressure of the deaerator, the gauge resolution should be evaluated when selecting the pressure gauge. Typically the pressure gauge shall have a range sufficient to cover the design pressure of the vessel.

Thermometer

Thermometers shall be located to give good visual indication of the deaerator temperature. Preferred locations are the steam space of the deaerator and under the water level of the storage tank. Gauges shall be hermetically sealed with a suitable stem length. In addition to considering the operating temperature of the deaerator, the gauge resolution should be evaluated. The thermometer shall cover a range to include the saturated temperature corresponding to the vessel design pressure.

Gauge Glass

The Gauge glass is used to indicate the local level in the storage tank. The level gauge typically consists of a gauge glass and shut off valves. The gauge should be viewable from 0 % diameter to 90% vessel diameter. The glass can be specified as tubular, redline pyrex, reflex or magnetic type. The gauge glass should be suitable for the most severe operating temperature and pressure of the deaerator.

Vent System

The vent valve shall be a gate valve manufactured from a corrosion resistant material with a minimum of a 1/8' drilled gate. There should be one valve per vessel vent connection. Orifice plates can be used in place of vent valves at the customer request. External vent piping and fittings shall be of a corrosion resistant material, typically supplied by the customer, and shall be continuously rising and short so as to eliminate condensate backflow and low points in the vent piping. If vent piping is longer than 10 feet or discharges into a common header, the piping shall have provisions to bypass the normal vent piping or header within 10 feet from the deaerator to atmosphere during testing with a two valve tee by pass so as to isolate the normal vent piping from the test piping.

This Tech Sheet was developed by the members of the Heat Exchange Institute's (HEI) Deaerator Section. HEI is a trade association comprising the leading manufacturers of heat exchange and vacuum equipment. HEI Tech Sheets are information tools and should not be used as substitutes for instructions from individual manufacturers. Always consult with individual manufacturers for specific instructions regarding their equipment.