Tech Sheet #120
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Steam Pressure Control Valves

The deaerator system is to be provided with a means of supplying heating steam in sufficient amounts to maintain the desired operating pressure. Heating steam may be obtained from externally controlled sources such as turbine exhaust/extractions or other heat recovery equipment. When these sources cannot provide adequate steam for operation of the deaerator, supplemental steam must be obtained by reducing high pressure steam to deaerator pressure.

Steam pressure reducing/control valves may be of the self or pilot operated type or may be air operated. The self/pilot operated control valves generally have less regulation accuracy. The steam pressure control shall be capable of maintaining the deaerator pressure within ±1 psi of the desired steady state operating pressure. At its wide open position, the control valve shall be capable of passing at least the amount of heating steam required under the worst expected operating condition, i.e. maximum steam flow, determined by heat balance. Efforts should be made to select a control valve that is not severely oversized.

As a caution, pressure reducing valves generate noise at levels that may exceed workplace safety guidelines. The need for noise suppression devices should be reviewed by the User and the valve manufacturer.

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.