

## Section 23 216 | Steam and Condensate Heating Piping Specialties

### 1. General Requirements

Provide a high/low flow circuit to reduce high-pressure steam in a facility with an extreme seasonal or daily load variance. This circuit should consist of two parallel pressure reducing valve's. Size one pressure reducing valve for the nominal low flow and the other for nominal high flow requirement. (i.e. low 0 - 25%, high 20 - 75%) The high flow pressure reducing valve should be set at a lesser pressure than the low flow pressure reducing valve. This type of control may cause a larger than normal control point offset. If the equipment in the facility requires a smaller control point offset, use PRV with positive feedback.

This piping arrangement will prevent valve maintenance problems due to a full-sized pressure reducing valve operating at very low loads and hunting problems experienced when using series PRV circuits.

The main valve body shall be constructed of ductile iron for steam service and be single-seated, globe-style, packless design, with hardened stainless steel internal trim for a maximum operating pressure of 300 psig. The main valve shall be diaphragm-actuated and self-operated with threaded or ANSI 300 # flanged connections. Diaphragm shall be high tinsel, phosphor bronze. The main valve shall be factory tested to Class IV shut-off per ANSI/FCI 70-3. Pilot shall be spring-loaded and full enclosed to protect it from atmospheric conditions. Pilot shall mount to the main valve for control accuracy of downstream pressure equal to +/- 1 psi and allow for variation in set pressure while in service. The interconnected tubing between pilot and main valve shall be internal to the footprint of the main valve and shall be shipped fully assembled. The side-mounted and field-reversible pilot adapter shall have a full port integrated strainer with 60 mesh screen and integral blowdown valve. There shall be no springs in the steam space. The valve shall be repairable in-line and require a pilot for operation.

The basis of design shall be Watson McDaniel and Spence shall be an acceptable alternative.

<b>REVISION DATE</b>	<b>PAGES</b>	<b>REMARKS</b>
August 22, 2024	1	Updated to provide requirements of PRV and acceptable manufacturers.