

Section 23 09 00 – INSTRUMENTATION AND CONTROL FOR HVAC

23 09 13 Instrumentation and Control Devices for HVAC

13.33 CONTROL VALVES

A. Pressure Independent Control Valves

1. Valve shall be pressure independent and have 100% authority. Valve shall always use full stroke of the control element offering 100% authority for any of its adjustable flow settings.
 - i. NPS 2" and Smaller: Valve shall have flows of 65 GPM or less, forged brass body rated at no less than 375 PSI cold working pressure with a maximum close-off of 58 psi. Body shall be brass alloy NPT threaded. Flow Regulator shall utilize a spring and diaphragm cartridge.
 - ii. NPS 2-1/2" through 12": Valve shall allow for flows up to 2,641 GPM with iron body rated at no less than 232 psi cold working pressure with a maximum close-off rating of 116 psi. Body is to be compatible with ANSI 125 flanges to 12" (300mm). Flow Regulator shall utilize a spring and diaphragm cartridge.
2. In line adjustable flow rate required.
3. Accuracy: The control valves shall accurately control the flow from 0 to 100% rated flow with a valve body flow accuracy of +/- 5% and a minimum operating pressure differential range of 2.3 to 4.4 PSI for valves 2" or less and 2.1 to 4.8 PSI for valves over 2 1/2".
4. Valve diameter is not to exceed pipe diameter.
5. The actuators used for valves 2" and less shall have an IP54 rating. The actuators for valves 2 1/2" and up shall be IP66 rated (or equivalent). Both shall possess a position indicator, manual overwrite, click on/off function with an option for modulating with and without feedback and 3-Point Floating.
6. All pressure independent control valves shall include two P/T ports.
7. Calibrated Balancing Valves and Automatic Flow-Control Valves shall not be used on equipment where pressure independent control valves are installed.
8. Manufactured or distributed by Bray or equal.