

Section 23 09 00 – INSTRUMENTATION AND CONTROL FOR HVAC

23 09 13 Instrumentation and Control Devices for HVAC

13.33 CONTROL VALVES

A. Butterfly Valves – High Performance:

1. Valve body shall be full lugged carbon steel or stainless steel as required by the application, ANSI Class 150 or 300 flanged with a 316 stainless steel disc without a nylon coating, RTFE seat. Blowout-proof stem shall be 17-4ph stainless steel and shall be supported by a retaining ring installed between the machined stem groove and gland retainer step. Stem packing is adjusted via hex head nuts without having to remove the actuator. Valve body shall have long stem design to allow for 2” insulation (minimum). Valve face-to-face dimensions shall comply with API 609 and MSS-SP-68. Valve is to have replaceable seat.
2. Sizing:
 - i. Two-Position: Line size
 - ii. Modulating: Size for the design flow with the disc in a 60-degree-open-position with the design velocity less than 32 feet per second.
3. Flow Characteristics: Modified equal percentage.
4. Close-Off Pressure Rating: ANSI 150- 285 psi bubble tight shut-off; ANSI 300- 740 psi bubble tight shut-off.
5. Media Temperature Range: Water -20 to 500° F.
6. Max Differential Pressure: 285 psi @ 100° F for ANSI 150. 740 psi @ 100° F for ANSI 300.
7. Manufactured by Bray or equal.