

**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 – Resilient Seat:

1. NPS 2 to 20: Valve body shall be full lugged cast iron 250 psig body with a nylon 11 coated or aluminum bronze disc, EPDM seat, stainless steel stem, extended neck and shall meet ANSI 125/150 flange standards. Disc-to-stem connection shall utilize a double “D” or key design requiring no splines, screws or pins to connect stem to disc with no possible leak paths. The seat shall be tongue-and-groove with a primary hub seal and a molded O-ring suitable for weld-neck and slip on flanges
2. Sizing:
  - i. Two-Position: Line size
  - ii. Modulating: Size for the design flow with the disc in a 60-degree-open-position and a design velocity not to exceed 12 feet per second.
3. Flow Characteristics: Modified equal percentage.
4. Close-Off Pressure Rating: NPS 2-12” 175 psi bubble tight shut-off. NPS 14 and larger, 150 psi bubble tight shut-off.
5. Media Temperature Range: Water -20 to 250° F.
6. Valve shall have Pressure Equipment Directive (PED) approval.
7. Manufactured by Bray or equal.