

SECTION 23 05 23

GENERAL DUTY VALVES FOR HVAC

PART 1 GENERAL

1.1 OPERATION AND MAINTENANCE DATA

- A. Include documentation of inspections and tests performed, including logs, curves, and certificates.
- B. Documentation shall note replacement of equipment or components that failed during testing.

PART 2 PRODUCTS

2.1 MANUFACTURERS AND MODELS

- A. Strainers:
 - 1. "Y" Pattern cast iron, ductile iron, or bronze body.
 - 2. Fusion epoxy or approved enamel coated cast iron – internal and external.
 - 3. Blow off connection: 1" for sizes 2-1/2" & 3"; 1-1/2" for 4" size; 2" sizes 6" - 10"
 - 4. Screen:
 - a) Sizes 2" – 3": Type 302/304 stainless steel with 1/16" perforation.
 - b) Sizes 4" - 10": Type 302/304 stainless steel with 1/8" perforation.
 - c) Blow off connection shall have removable plug.
 - d) 300 psi W.P.
 - 5. Basis of Design: Victaulic Style 732 and AGS W732.
- B. Ball Valves:
 - 1. Straight pattern.
 - 2. Bronze body.
 - 3. Stainless or chrome plated ball.
 - 4. 300 psi W.P. @ 180°F water temperature.
- C. Flanges Cast Iron, Ductile, and Bronze:
 - 1. 250 psi min. W.P.
- D. Drinking water components shall meet NSF/ANSI Standard 61 or NSF/ANSI Standard 372.
- E. Ball Valves – up to 2":
 - 1. Bronze body, tunnel balls.
 - 2. Acceptable manufacturers:
 - a) Apollo
 - b) Kitz
 - c) Hammond
 - d) Jamesbury
 - e) Jenkins
 - f) Milwaukee
 - g) Nibco
 - h) Watts
- F. Butterfly valve acceptable manufacturers – 2-1/2" and above:
 - 1. Crane

2. Nibco
 3. Posi-Seal
 4. Victaulic
 5. 300 psi CWP (2065 kPa) suitable for bidirectional and dead-end service at full rated pressure. Grooved end black enamel coated ductile iron body conforming to ASTM A536, [coated ductile iron] [stainless steel] [aluminum bronze] disc with blowout proof 416 stainless steel stem. Disc offset from the stem centerline to allow full 360 degree circumferential seating, with [EPDM] [Lubricated Nitrile] seat (pressure responsive in sizes through 12". Victaulic Vic®-300 MasterSeal™ and AGS-Vic300.
- G. U.L., F.M. Approved or Listed Valve approved manufacturers:
1. Grinnell
 2. Kennedy
 3. Keystone
 4. Mission
 5. Mueller
 6. Nibco
 7. Victaulic
- H. Bronze pressure-rated valve approved manufacturers:
1. Crane
 2. Hammond
 3. Lunkenheimer
 4. Milwaukee
 5. Nibco
 6. Stockham
 7. Walworth
- I. Iron body pressure-rated valve approved manufacturers:
1. Crane
 2. Kennedy
 3. Lunkenheimer
 4. Milwaukee
 5. Mueller
 6. Stockham
 7. Walworth
- J. Stop valves: Shall be ¼" turn ball valve type; no plastic.
- K. General valve requirements:
1. Pressure rated type.
 2. Either flanged or threaded ends; solder ends are not acceptable.
 3. Rising stem or ball valves.
- L. Gate valves, steam only: Refer to standard Section 23 22 13.
- M. Balancing valves: See standard Section 23 21 13.

PART 3 EXECUTION

3.1 VALVE APPLICATION

- A. Chilled, heating, and condenser water piping:

1. Ball valves, NPS 2 and smaller: One-piece, 400-psig CWP rating, copper alloy.
 2. Ball valves, NPS 2-1/2 and larger: Class 150, ferrous alloy.
 3. Single-flange, high pressure flanged butterfly valves are required for dead-end service.
 4. Butterfly valves, NPS 2-1/2 and larger: Flanged, 150-psig CWP rating, ferrous alloy, with EPDM liner.
 5. Lift check valves, NPS 2 and smaller: Type 2, Class 125, bronze.
 6. Swing check valves, NPS 2 and smaller: Type 4, Class 125, bronze.
 7. Swing check valves, NPS 2-1/2 and larger: Type II, Class 125, gray iron.
 8. Spring-loaded, lift-disc check valves, NPS 2 and smaller: Type IV, Class 125 minimum.
 9. Spring-loaded, lift-disc check valves, NPS 2-1/2 and larger: Type I or II, Class 125, cast iron.
- B. Low-pressure, compressed-air piping:
1. Ball valves, NPS 2 and smaller: One-piece, 400-psig CWP rating, copper alloy.
 2. Equipment-isolation ball valves, NPS 2 and smaller: Safety-exhaust, bronze.
 3. Ball valves, NPS 2-1/2 and larger: Class 150, ferrous alloy.

END OF SECTION 23 05 23