

## SECTION 23 05 23

### GENERAL DUTY VALVES FOR HVAC

#### **PART 1 GENERAL**

##### **1.01 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**

##### **2.01 MANUFACTURERS AND MODELS**

- A. Strainers:
  - 1. "Y" Pattern cast iron or bronze body.
  - 2. Fusion epoxy 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 2-1/2" - 4": Type 302/304 stainless steel with 1/16" perforation.
    - b) Sizes 6" - 10": Type 302/304 stainless steel with 1/8" perforation.
    - c) Blow off connection shall have removable plug.
    - d) 175 psi W.P.
- 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 – Resilient seat gate valve 2-1/2" and above:
  - 1. Crane

2. Fisher
  3. Grinnell
  4. Hammond
  5. Jamesbury
  6. Keystone
  7. Milwaukee
  8. Nibco
  9. Posi-Seal
  10. Victaulic
- 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**

**3.01 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**