

1. Class: 125
2. Body: ASTM B-62 bronze.
3. Disc: ASTM B-62 bronze.
4. Hinge : ASTM B-62 bronze.
5. Hinge Pin: ASTM B-16 brass.
6. Cap: ASTM B-62 bronze.
7. Ends: Threaded or soldered.
8. Acceptable Manufacturers:
  - a. Stockham
  - b. Nibco
  - c. Milwaukee

## **2.14 CALIBRATED BALANCE VALVES**

- A. Size 1/2 inch to 3 inch:
  1. Bronze body with brass ball construction with glass and carbon filled TFE seat rings. Valves shall have differential pressure read-out ports across valve seat area. Read-out ports shall be fitted with internal EPT insert and check valve. Valve bodies shall have 1/4 inch NPT tapped drain/purge port. Valves shall have memory stop feature to allow valve to be closed for service and then reopened to set point without disturbing balance position. All valves shall have calibrated nameplate to assure specific valve setting. Valves shall be leak-tight at full rated working pressure.
  2. Design Pressure/Temperature:
    - a. 1/2" to 3" NPT connections: 300 psi at 250 degrees F.
    - b. 1/2" to 2" sweat connections: 200 psi at 250 degrees F.
- B. Size 2-1/2" to 8"
  1. Valves shall be of heavy-duty cast iron construction with ANSI flanged connections suitable up to 175 psi working pressure. Valves 2-1/2" to 3" pipe shall have a brass ball with glass and carbon filled TFE seat rings. Valves 4" to 8" shall be fitted with a bronze seat, replaceable bronze disc with EPDM seal insert, and stainless steel stem. Valves shall have memory stop feature to allow valve to be closed for service and then reopened to set point without disturbing balance position. All valves shall have calibrated nameplate to assure specific valve setting. Valves shall be leak-tight at full rated working pressure.
- C. Design Pressure/Temperature: 175 psi at 250 degrees F.

D. Acceptable Manufacturers:

1. Red-White Valve Corp.
2. Bell and Gossett
3. Flow Design, Inc.

### **PART 3 EXECUTION**

#### **3.1 PREPARATION**

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare piping connections to equipment using jointing system specified.
- D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
- E. After completion, fill, clean, and treat systems. See Section 232500 for additional requirements.

#### **3.2 CALIBRATED BALANCE VALVE SELECTION**

- A. The contractor shall be responsible for selection of the appropriate size of all calibrated balance valves. Select valve size such that optimal accuracy is achieved when balanced to the flow rate as indicated on contract documents. Provide all required increasers and reducers to mate the installed calibrated balance valves to the adjacent piping and equipment.
- B. Balance Valve Sizing:

GPM	Balance Valve Size
Up to 2.5	1/2"
2.6 to 4.5	3/4"
4.6 to 9.0	1"
9.1 to 22.0	1-1/4"
22.1 to 35.0	1-1/2"
35.1 to 78.0	2"
78.1 to 120.0	2-1/2"
120.1 to 200.0	3"
200.1 to 400.0	4"
400.1 to 500.0	5"

#### **3.3 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Install heating water piping to ASME B31.9 requirements.