

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following general-duty valves:
 - 1. Ball valves.
 - 2. Butterfly valves.
 - 3. Check valves.
 - 4. Globe valves.
 - 5. Chainwheel actuators.

PART 2 - PRODUCTS

2.1 BALL VALVES

- A. Manufacturers:
 - 1. Conbraco Industries, Inc.; Apollo Div
 - 2. Hammond Valve.
 - 3. Kitz Corporation of America.
 - 4. NIBCO INC.
 - 5. Or approved equal.
- B. Three-Piece, Copper-Alloy Ball Valves: Brass or bronze body full-port, chrome-plated bronze ball; PTFE or TFE seats; and 600-psig minimum CWP rating and blowout-proof stem.

2.2 BUTTERFLY VALVES

- A. Manufacturers:
 - 1. Flanged, Ferrous-Alloy Butterfly Valves:
 - a. Grinnell Corporation.
 - b. Mueller Steam Specialty.
 - c. Or approved equal.
 - 2. Grooved-End, Ductile-Iron Butterfly Valves:
 - a. Grinnell Corporation.
 - b. Hammond Valve.
 - c. Mueller Steam Specialty.
 - d. NIBCO INC.
 - e. Victaulic Co. of America.
 - f. Or approved equal.
- B. Ferrous-Alloy Butterfly Valves, General: MSS SP-67, Type I, for tight shutoff, with disc and lining suitable for potable water, unless otherwise indicated.
- C. Flanged, 175-psig CWP Rating, Ferrous-Alloy Butterfly Valves: Flanged-end type with one- or two-piece stem.
- D. Grooved-End, 175-psig CWP Rating, Ferrous-Alloy Butterfly Valves: Ductile-iron or steel body with grooved or shouldered ends.

2.3 CHECK VALVES

A. Manufacturers:

1. Swing Check Valves: Bronze body ASTM B61 with IPS threaded ends, re-grindable or replaceable bronze seat, threaded bonnet, bronze disc, and stainless steel hinge pin. Rating: 200 lb.-S.W.P.; 400 lb.-W.O.G.
 - a. Muller Steam Specialty.
 - b. Stockham Valve.
 - c. Or approved equal.
2. Silent Check Valves: Globe style, silent check valve shall be provided with a cast iron body ASTM A126 and rated for service of 200 WOG (2" – 12"), 150 WOG (14" and larger). Valve shall have a minimum open area in the body of 110% of the area of the entering or corresponding pipe size. Provide with 125# ANSI flat face flange, 302 SS helical spring, bronze disc, dual guided (top and bottom) with a Buna-N seat. Valve shall comply with API 598. Unit shall operate silently in either vertical or horizontal position. Valve body shall extend on the discharge side to allow for the direct amount of a butterfly valve. Valve shall be Factory Mutual Approved Type 2, Bronze, Horizontal Lift Check Valves with Nonmetallic Disc:
 - a. APCO Series 600.
 - b. Val-Matic
 - c. Or approved equal.
3. Non-Slam Check Valves: Wafer style and have a pressure and temperature rating equal to or greater than the pipeline in which they are installed. Check valves 2 thru 12 inches shall be rated 200 PSI WOG, have a cast iron body ASTM A-126, Gr. B to fit inside 125# ANSI bolt circles, a double Bronze disc ASTM B-62, 85-5-5-5 type 316 stainless steel dual shafts, type 316 Stainless Steel torsion spring and have an integrally molded Buna-N seat vulcanized to the body.
 - a. Mueller Steam Specialty.
 - b. Or approved equal.

2.4 GLOBE VALVES

A. Manufacturers:

1. Globe Valves with Metal Disc:
 - a. Milwaukee Valve Company.
 - b. NIBCO INC.
 - c. Walworth Co.
 - d. Or approved equal.
2. Globe Valves with Nonmetallic Disc:
 - a. Milwaukee Valve Company.
 - b. NIBCO INC.
 - c. Walworth Co.
 - d. Or approved equal.
3. Globe Valves with Renewable Seat and Metal Disc:
 - a. Milwaukee Valve Company.
 - b. NIBCO INC.
 - c. Walworth Co.
 - d. Or approved equal.

2.5 CHAINWHEEL ACTUATORS

A. Manufacturers:

1. Babbitt Steam Specialty Co.
2. Roto Hammer Industries, Inc.

3. Or approved equal.
- B. Description: Valve actuation assembly with sprocket rim, brackets, and chain.
 1. Sprocket Rim with Chain Guides: Cast iron, of type and size required for valve. Include zinc coating.
 2. Brackets: Type, number, size, and fasteners required to mount actuator on valve.
 3. Chain: Hot-dip, galvanized steel, of size required to fit sprocket rim.

PART 3 - EXECUTION

3.1 VALVE INSTALLATION

- A. Valves in this section shall be installed in accordance with the manufacturer's recommendations as outlined in their installation, operation, and maintenance manual.
- B. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- C. Locate valves for easy access and provide separate support where necessary.

3.2 ADJUSTING

- A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

END OF SECTION