

SECTION 23 05 23

GENERAL DUTY VALVES FOR HVAC PIPING

This document is intended to note the Owners Design Requirements (ODR) for the titled specification section. Design professional to review and integrate ODR into the project's technical specifications. This ODR document should not be viewed as a standalone technical specification.

PART 1 - GENERAL REQUIREMENTS

N/A

PART 2 - PRODUCTS AND MATERIALS

- ◆ MANUFACTURERS (or OWNER approved equal)
 - Ball Valves
 - NIBCO
 - Butterfly Valves
 - NIBCO
- ◆ VALVE FEATURES, GENERAL
 - EPDM seat when available
 - Butterfly valves above 8" should have a chainwheel
- ◆ GATE VALVES
 - No gate valves should be used
- ◆ BALL VALVES
 - Ball Valves, 2 Inch and Smaller: Class 150 saturated steam pressure, 600-psi CWP; two-piece construction; with bronze body, full port, stainless steel ball, replaceable PTFE (Teflon) seats and seals, blowout-proof stem, and vinyl-covered steel handle. Provide solder ends for use with copper tubing or threaded ends for use with steel piping. Provide Class 150 valves meeting the above where system pressure requires.
 - Ball Valves, 2-1/2 Inch to 3 Inch: Class 150, 600-psi CWP; 3-piece construction; with bronze body, full port, stainless steel ball, replaceable PTFE (Teflon) seats and seals, blowout proof stem, and vinyl-covered steel handle. Provide solder ends for use with copper tubing or threaded ends for use with steel piping.
- ◆ BUTTERFLY VALVES
 - Butterfly Valves, 4-Inch and Larger: Class 125/150; 200-psi CWP for low and medium pressure service, 250 psi for high pressure service; lug-type body constructed of ductile iron. Provide valves with resilient EPDM seat and stem seals, aluminum bronze disc, and 416 stainless steel stem. Provide lever operators (10 position minimum), with locks and stops for sizes 2-1/2 through 6 inches and gear operators with position indicator for sizes 8 inch and larger. Valves must be rated for bi-directional dead end service at full pressure rating of valve with no downstream flange required.
- ◆ CHECK VALVES
 - Swing Check Valves, 2-Inch and Smaller: Class 125, 200-psi CWP, cast-bronze body and cap conforming to ASTM B 62; with horizontal swing, Y-pattern, and PTFE (Teflon) disc; and having threaded or solder ends. Provide valves capable of being reground while the valve remains in the line. Provide Class 150, 300-psi CWP, valves meeting the above specifications, with threaded end connections, where system pressure requires or where Class 125 valves are not available.
 - Swing Check Valves, 2-1/2-Inch and Larger: Class 125 200-psi CWP, cast iron body and bolted cap conforming to ASTM A 126, Class B; with horizontal swing, bronze disc or ductile

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iron disc with bronze disc face ring, and bronze seat ring; and flanged ends. Provide valves capable of being refitted while the valve remains in the line.

- Wafer Check Valves: Class 125, cast-iron body; non-slam, spring actuated, twin disc type with replaceable twin bronze discs, EPDM or Buna-N seat, and stainless steel trim and torsion spring. Provide valves designed to open and close at approximately 0.5 PSI differential pressure.
- Lift Check Valves, 2-Inch and Smaller: Class 150, cast-bronze body and cap conforming to ASTM B 62; horizontal or angle pattern, lift-type valve, with stainless steel spring, bronze disc holder with renewable PTFE (Teflon) disc, and threaded ends. Provide valves capable of being refitted and ground while the valve remains in the line.

PART 3 - EXECUTION

◆ VALVE ENDS SELECTION

- Select valves with the following ends or types of pipe/tube connections:
 - Copper Tube Size, 2-Inch and Smaller: Solder ends, except provide threaded ends for heating hot water.
 - Steel Pipe Sizes, 2-Inch and Smaller: threaded or grooved end.
 - Steel Pipe Sizes 2-1/2 Inch and Larger: flanged or grooved end.

◆ VALVE PRESSURE/TEMPERATURE CLASSIFICATION SCHEDULES

• VALVES, 3-INCH AND SMALLER

SERVICE	BALL	CHECK
Chilled Water	150	125
Heating Hot Water	150	150

• VALVES, 4-INCH AND LARGER

SERVICE	BUTTERFLY	CHECK
Chilled Water	200	125
Heating Hot Water	200	125

◆ VALVE INSTALLATIONS

- Locate valves for easy access and provide separate support where necessary. Provide access doors and fire rated access doors for maintenance access.
- Install valves and unions for each fixture and item of equipment arranged to allow equipment removal without system shutdown.

END OF SECTION