

SECTION 22 05 23
GENERAL-DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. General-duty valves for domestic water and sewer systems.

1.2 RELATED WORK

A. Section 22 05 11, COMMON WORK RESULTS FOR PLUMBING.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Manufacturer's Literature and Data:

1. Valves.
2. Backflow Preventers.
3. All items listed in Part 2 - Products.

1.4 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM):

A536-84(R1999) E1.....Ductile Iron Castings

C. National Association of Plumbing - Heating - Cooling Contractors (PHCC):

National Standard Plumbing Code - 1996

D. Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS):

SP-67-02.....Butterfly Valve of the Single flange Type (Lug Wafer)

SP-70-98.....Cast Iron Gate Valves, Flanged and Threaded Ends.

SP-72-99.....Ball Valves With Flanged or Butt Welding For General Purpose

SP-80-03.....Bronze Gate, Globe, Angle and Check Valves.

SP-110-96.....Ball Valve Threaded, Socket Welding, Solder Joint, Grooved and Flared Ends

E. American Society of Sanitary Engineers (ASSE):

1013-99.....Reduced Pressure Principle Backflow Preventers

PART 2 - PRODUCTS**2.1 VALVES**

- A. Asbestos packing is prohibited.
- B. Shut-off:
 - 1. Cold Water:
 - a. Fifty millimeter (2 inches) and smaller:
 - 1) Ball, Mss SP-72, SP-110, Type II, Class 125, Style 1, three piece or double union end construction, full ported, full flow, with solder end connections, 2750 kPa (400 psi) WOG, MSS-SP-67.
- C. Check:
 - 1. Less than 100 mm (3 inches) and smaller): Bronze body and trim, swing type, MSS-SP-80, 850 kPa (125 pound) WSP.
- D. Globe:
 - 1. Eighty millimeters (3 inches) or smaller: Bronze body and bonnet, MSS-SP-80, 850 kPa (125 pound) WSP. Disk shall be free to swivel on the stem. Composition seating surface disk construction may be substituted for all metal disk construction. Packing shall be a woven non-asbestos material, impregnated with not less than 25 percent, by weight, tetrafluoroethylene resin.
 - 2. Larger than 80 mm (3 inches): Similar to above, except with cast iron body and bronze trim.

2.2 WATER PRESSURE REDUCING VALVE AND CONNECTIONS

- A. Single-seated, for dead end service for 200 to 850 kPa (30 to 125 pounds) range on low pressure side. Composition diaphragm and stainless steel springs, bronze body with threaded connections for sizes 15 to 55 mm (1/2 to 2 inch), cast iron or semi-steel body with brass or bronze trimmings and flanged connections for sizes 15 to 50 mm (2-1/2 to 4 inch).
- B. Operation: Diaphragm and spring to act directly on valve stem. Delivered pressure shall vary not more than one kPa for each 10 kPa (one pound for each 10 pounds) variation on inlet pressure.
- C. Setting: Entering water pressure, discharge pressure, capacity, size, and related measurements shall be as shown on the drawings.
- D. Connections Valves and Strainers: Install shut off valve on each side of reducing valve and full sized bypass with globe valve. Install strainer on inlet side of, and same size as pressure reducing valve. Install pressure gage on low pressure side of line.

2.3 BACKFLOW PREVENTERS

- A. Provide a backflow prevention device at any point in the plumbing system where the potable water supply comes in contact with a potential source of contamination. Device shall be certified by the American Society of Sanitary Engineers. Listed below is a partial list of connection to the potable water system which shall be protected against backflow or back siphonage.
- B. Reduced Pressure Backflow Preventer: ASSE 1013.
 - 1. Water make-up to heating systems, cooling tower, and chilled water system.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. General: Comply with the PHCC National Standard Plumbing Code and the following:
 - 1. Install valves with stem in horizontal position whenever possible. All valves shall be easily accessible. Install valve in each water connection to fixture.
 - 2. Install union and shut-off valve on pressure piping at connections to equipment.
 - 3. Backflow prevention device shall be installed in an accessible location, 5 (five) feet above finish floor.

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