

1. GENERAL

1.1 Scope

- .1 Gate valves.
- .2 Globe or angle valves.
- .3 Ball valves.
- .4 Check valves.
- .5 Plug cocks.
- .6 Eccentric plug valves.
- .7 Butterfly valves.
- .8 Drain valves.
- .9 Air eliminators.

1.2 Manufacturer

- .1 Provide valves of the same type by the same manufacturer throughout.
- .2 Provide valves with manufacturer's name and pressure rating clearly marked on outside of body.

1.3 Shop Drawings

- .1 Submit copies of valves "ordering schedule" for approval before ordering valves.
- .2 Submit detailed shop drawings clearly indicating make, model, size, pressure rating, materials of construction and intended service.

2. PRODUCTS

2.1 Piping Drains

- .1 Ball Valves up to 50 mm: Brass body, chrome plated brass ball, threaded or solder ends, TFE seat and packing. 4134 kPa non-shock WOG rating. Threaded, Red-White Fig. 5044A. Solder joint, Red-White Fig. 5049A.
- .2 Globe Valves up to 50 mm: Bronze body, screw over bonnet, threaded ends rating 1035 kPa steam, solder ends rating 2070 kPa water. Threaded, Red-White Fig. 221. Solder ends, Red-white Fig. 222.

Globe Valves 65 mm and over: Cast iron body, flanged ends, O.S. and Y, renewable bronze seat ring, renewable composition disc. Rating 860 kPa steam. 1380 kPa. Red-White Fig. 400.

- .3 Gate Valves up to 50 mm: Bronze body, inside screw, travelling stem, solid wedge, screw-in bonnet, threaded ends rating 860 kPa steam, solder ends rating 1380 kPa water. Threaded, Red-White Fig. 293. Solder ends, Red-White Fig. 299.

Gate Valves 65 mm and over: Cast iron body, bronze trim, O.S. and Y, rising stem, solid wedge, flanged ends, rating 860 kPa steam. Red-White Fig. 421.

2.2 Valve Operators

- .1 Provide suitable hand wheels for gate, globe or angle, and drain valves.
- .2 Provide one plug cock wrench for every ten plug cocks sized 50 mm and smaller, minimum of one. Provide each plug cock sized 65 mm and larger with a wrench, with set screw.
- .3 Provide valves larger than 100 mm located more than 2.1 m from floor in equipment rooms with chain operated sheaves. Extend chains to 1.5 m above floor and hook to clips to arrange to clear walking aisles.

2.3 Air Eliminators

- .1 Provide Spirax Sarco 13W air eliminators, or approved equal.

3. EXECUTION

3.1 Installation and Application

- .1 Install valves with stem upright or horizontal, not inverted.
- .2 Provide threaded lug type butterfly valves for equipment isolation service. Provide wafer or threaded lug type valves for zone shut-off service.
- .3 Use eccentric plug valves in water systems for throttling/balancing service.
- .4 Provide drain valves at main shut-off valves, low points of piping and apparatus.
- .5 Size drain lines and drain valves equal to size of apparatus drain connection.
- .6 For pipe sizes 20 mm and over, minimum drain size to be 20 mm
- .7 Provide quick-connect coupling for drain sizes not piped directly to floor drains.
- .8 Install air eliminators at high points on each section of piping that can be isolated on header connecting Branch I and Branch II pump discharges, and on Branch I UV discharge header. Provide piping to floor for vents.

3.2 Painting

- .1 Paint all valves and air eliminators in accordance with Section 13060.

3.3 Spare Parts

- .1 Provide spare parts for valves and air eliminators in accordance with the manufacturers recommendations.

3.4 Testing

- .1 Test valves and air eliminators in accordance with Sections 13035 and 13042.

END OF SECTION