

Part 1 General

1.1 SCOPE

- .1 This section refers to the supply, delivery, and testing of the following valves:
 - .1 Dry Pit Location:
 - .1 Three (3) 200 mm Iron Gate Valves – manually actuated
 - .2 Three (3) 150 mm Iron Gate Valves – manually actuated
 - .3 Three (3) 150 mm Process Check Valves
 - .2 Wet Well Location:
 - .1 One (1) 400 mm Iron Gate Valve – manually actuated
- .2 Supply all other materials, products, and services described in this specification.

1.2 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 30 00 – Submittal Procedures.

1.3 REFERENCES

- .1 American Water Works Association (AWWA), American National Standards Institute (ANSI) / American society of Mechanical Engineers (ASME).
- .2 ASNI/ASME B1.20.1, Pipe Threads, General Purpose (Inch).

1.4 PRODUCT DATA

- .1 Submit product data in accordance with Section 01 33 00 – Submittal Procedures
- .2 Submit data for all valves specified in this section.

1.5 CLOSEOUT SUBMITTALS

- .1 Submit maintenance data for incorporation into manual specified in Section 01 78 00 – Closeout Submittals.

1.6 EXTRA MATERIALS

- .1 Furnish following spare parts:
 - .1 Valve seats: one for every ten (10) valves each size. Minimum 1.
 - .2 Stem packing: one (1) for every ten (10) valves, each size. Minimum 1.
 - .3 Valve handles: two (2) of each size. If only one handle of certain size is supplied, provide one spare only. Do not provide spare chain wheels.
 - .4 Gaskets for flanges: one for every ten (10) flanged joints. Minimum 1.

Part 2 Products

2.1 VALVE OPERATORS

- .1 Supply valve operators or actuators for all types of valves specified as follows:
 - .1 Dry Pit Valves: Supply hand wheels.
 - .2 Wet Well Valve: Valve stem extension complete with 50 x 50 square AWWA operating nut.

- .3 Ensure that each valve and operator is of suitable construction and rating for the long term service with the fluid or product being conveyed and at the pressure and operating frequencies required by the relevant service.
- .4 The allowable pull on a manual operator to open or close the valve shall be ≤ 270 N (60 lb force). Manual operators shall operate in a clockwise motion to close the valve. Provide gate valves ≥ 400 mm diameter with a 50 mm manual by-pass valve arrangement to allow for the relief of excess pressure.
- .5 Supply cast iron hand wheels clearly marked with a flow directional arrow and the word "open" cast in relief on the rim. Provide hand wheels > 300 mm in diameter for all valves > 200 mm and 450 mm in diameter for larger valves as required to allow for manual operation. In confined areas, furnish smaller hand wheels with higher ratio gearing of the valve to compensate.
- .6 Supply steel pipe Tee wrenches with socket to suit nut dimensions. In cases of valves in tanks requiring extension stems and Tee wrenches, the wrench shall be secured in place.

2.2 GENERAL VALVE REQUIREMENTS

- .1 Where there is an applicable recommended standard for the design, construction, and testing of a valve and/or actuator, e.g., AWWA, CGA, CSA etc., equipment to be supplied under this section will refer to this standard. Comply with these requirements for all equipment supplied in all regards. Where specifically requested, provide certificates of compliance with the applicable standards.
- .2 Where it is not intended to supply equipment or valves to a specific standard, the specification will indicate a reference product. Provide flanges as specified for all flanged valves for the line into which they are to be installed. As a minimum standard a Class 125 lb rating will be required.
- .3 All packing, gaskets, seats, diaphragms, lubricants, etc., shall be suitable for the intended operating conditions.

2.3 IRON GATE VALVE SPECIFICATION

- .1 Cast iron body with flanged ends; outside screw and yoke; bronze stem, double O-ring stem seals.
- .2 Bronze trimmed cast iron wedge
- .3 Stem:
 - .1 Dry Well Gate Valves: Rising stem type.
 - .2 Wet Well Gate Valve: Non-rising stem type.
- .4 End connections: flanged to ANSI B16.1, Class 125.
- .5 Packing and gaskets: non-asbestos.
- .6 Fusion bonded epoxy coating on the interior and exterior including gland cover, body, and bonnet to AWWA C-550.
- .7 All fasteners, nuts, and bolts shall be stainless steel.
- .8 Direction of opening shall be counter clockwise and shall be clearly stamped or indicated with raised letters and arrow.

- .9 Manufacturer's nameplate shall be attached to the valve body with stainless steel fasteners.
- .10 Acceptable manufacturers provided they meet the above specifications:
 - .1 Crane
 - .2 Toyo Valve
 - .3 Jenkins Figure
 - .4 Milwaukee
 - .5 Clow (McAvity)
 - .6 Mueller
 - .7 American AVK or R/D

2.4 PROCESS CHECK VALVES

- .1 Ductile iron body with flanged ends and removable inspection cover manufactured and tested in accordance with AWWA C508.
- .2 End connections: flanged to ANSI B16.1, Class 125.
- .3 ASTM D2000-BG, Buna-N (NBR) sewage resistant rubber flap and Type 302 stainless steel disc accelerator.
- .4 Manufacturer's nameplate shall be attached to the valve body with stainless steel fasteners.
- .5 Acceptable manufacturers provided they meet the above specifications:
 - .1 Val-Matic Series 500
 - .2 Flomatic

Part 3 Execution

3.1 SHOP TESTING

- .1 Test AWWA valves at the manufacture's facility in accordance with AWWA requirements. A certified test report shall be submitted.

3.2 CERTIFICATES

- .1 On completion of installation and testing, submit the manufacturer's certification of the correctness of the installation to the Contract Administrator.

END OF SECTION