

SECTION 151030
ECCENTRIC PLUG VALVES & ELECTRIC MOTOR ACTUATORS (S-105)

1. DESCRIPTION

This specification shall govern all work required for furnishing eccentric plug valves & electric actuators required to complete the job.

2. MATERIALS

Plug valves shall be of the tight closing resilient faced, non-lubricated variety and shall be of eccentric design such that the plug rises off the seat contact area during shaft rotation while opening and closing valve. In the closed position the plug shall press firmly into the seat for a dead-tight shutoff. Valves shall be drip-tight rated at pressures up to 175 p.s.i. through 12" and 150 p.s.i. for larger. The valve closing member should rotate approximately 90 degrees from open to closed position.

Valve body - cast iron ASTM A 126, Class B
End style - flanged
Seat - 304 stainless steel or nickel
Bearings - stainless steel
Plug - cast iron
Resilient facing - Buna N or Fluorinated Hydrocarbon
Packing - Buna Vee
Actuator - electric motor

Electric motor modulating valve actuator shall comply with AWWA C540 and the following:

Rotation - 90 degree reversible
Torque rating - for 125 p.s.i. differential
Cycle time - less than 100 seconds
Duty - 15 minutes continuous
Manual operation - integral with declutching device
Hand switch - integral 5 position to permit local operation
Mechanical stops - internal to prevent over travel
Gearing - for 30 to 60 second opening/closing
Auxiliary limit switches - 4 SPDT: 2 full open, 2 full closed
Heater - 8 watt minimum
Control wiring - 120 VAC, 1 phase, 60 Hz
Equipment actuator with zero and span adjustments
Provide actuator with a field set choice of valve position on loss of signal
Submersible design required

Electrical Characteristics:

Power: 120 VAC. 1 phase, 60 Hz
Rating: NEMA 4

Local Control:

Push button station equipped with:
Remote/local switch
Position indication lights
Reversible, intermittent contact
Close - stop - open switch
Contact closure for remote/local indication where indicated in schedule
Enclosure - NEMA 4
Mounting - at inflow and outflow valves adjacent to tank

Manual Operation:

Type: Handwheel, lever, or (operating nut required below ground unless specified otherwise).

General:

Comply with AWWA C504
Maximum torque at 80 lb. input
Worm gear for handwheel operation
Totally enclosed worm gear

3. SUBMITTALS

The Contractor shall submit 5 sets of detailed drawings and specifications and maintenance instruction for the Engineer's review and approval, prior to construction.

4. SUPPORT FROM MANUFACTURER

Field Service: The equipment manufacturer shall furnish the services of a qualified factory field service engineer at the site to inspect the installation and instruct the City's Wastewater personnel of the operation and maintenance of the unit.

O&M Manual: The manufacturer shall furnish the Engineer with 4 sets of complete operation and maintenance manuals (including wiring diagrams).

5. MEASUREMENT AND PAYMENT

Unless indicated otherwise in the proposal, plug valves shall not be measured for pay but shall be subsidiary to other work.