

TRAVELING NUT ACTUATOR SPECIFICATION

1 Scope

1.1 This specification is intended to cover the design, manufacture, and testing of quarter-turn traveling nut actuators for use with AWWA butterfly valves.

2 Standards, Approvals and Verification

2.1 The actuators shall be designed, manufactured and tested in accordance with American Water Works Association Standard AWWA C504.

2.2 Manufacturer shall have a quality management system that is certified to ISO 9001:2000 by an accredited, certifying body.

3 Design

3.1 Actuators for use on valves 24 in. and smaller shall be of the slotted lever design.

3.2 Actuators for use on 30 in. and larger valves shall be of the link and lever design.

3.3 Actuators for use on 42 in. and larger valves shall be equipped with a bevel gear unit mounted on the main housing with at least a 3:1 mechanical ratio to reduce input torque. The bevel gear shall provide for change of rotation in the field by inverting the internal gear and not affect the open and closed stop settings.

3.4 Actuators shall be equipped with adjustable threaded stops secured to the stem with spring pins. Stops shall be capable of withstanding 450 ft-lbs of input torque. Actuators requiring adjustment with shims are not acceptable.

3.5 The actuator shall be equipped with a 2 in. cast iron nut requiring a maximum input torque of 150 ft-lbs., a handwheel requiring a maximum of 80 lbs rim pull, or a chainwheel requiring a maximum of 80 lbs chain pull.

3.6 The actuator shall OPEN LEFT (counter-clockwise) unless otherwise specified.

4 Materials

4.1 The actuator housing shall be fully sealed and constructed of ASTM A48 Class 40 gray iron or ASTM A536 Grade 65-45-12 ductile iron. Cover bolts shall be type 316 stainless steel.

4.2 The lever shall be ductile iron to prevent fracture from valve vibration.

4.3 The crosshead shall be bronze and the stem shall be alloy steel to prevent galling.

4.4 Moving parts shall be lubricated with water resistant, extreme pressure (EP), NLGI No. 2 grease.

4.5 The actuator shall be equipped with Teflon-lined, fiberglass-backed sleeve bearings to reduce friction. Link and lever designs shall be equipped with roller needle bearings to absorb the crosshead thrust.

4.6 For buried service, the input shaft shall be stainless steel or electroless nickel-plated and the housing shall be 90% grease-packed.

5 Options

5.1 For above ground indication, an indicator arrow shall rotate over "OPEN" and "CLOSE" markings on the actuator cover. For buried service, a 4-7/8 in. diameter soil pipe adapter shall be provided for use with 5 in. soil pipe valve boxes.

5.2 In addition to the standard mounting position, optional mounting positions are 90, 180, and 270 degrees when specified. Additionally, when a bevel gear is supplied (42 in. and larger valves), the input shaft shall be available in alternate positions B and C when specified. See drawing VM-2000/LSA.

6 Manufacture

6.1 The exterior of the actuator shall be coated with a universal alkyd primer.

6.2 Traveling nut actuators shall be Series LS as manufactured by Val-Matic Valve & Mfg. Corporation, Elmhurst, IL. USA. or approved equal.

TRAVELING NUT ACTUATOR SPECIFICATION

DATE 7-7-06

VAL-MATIC[®] VALVE AND MANUFACTURING CORP.

DRWG. NO.

VM-2000/LSA-S