

# TRUMBULL

**Trumbull Manufacturing**

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## VALVE POSITION INDICATORS

### Suggested Specifications

Position indicators shall be installed on all multi-turn valves 3" and larger. An extension stem shall be provided by the manufacturer of the position indicator. The extension stem shall connect to a 2" square nut on the valve and extend up through the position indicator, terminating in a 2" square nut, operable by a standard waterworks tee-handle wrench. The position of the valve, from fully open to fully closed, shall be easily identified at ground level. The movement of the indicating arrow shall be visible through a window covering a minimum of 300 degrees of the circumference of the indicator. The scale plate shall be clear polycarbonate with characters and numerals that are a minimum of 3/16" to facilitate identification by the operator.

For buried valves, the position indicator shall be installed in a valve box within 6" of grade. For valves installed inside a structure, the position indicator shall be installed in a floor box. When used in a valve box or floor box, a debris shield shall be installed over the position indicator to keep the indicating window visible and clear of dirt and other foreign material. The debris shield shall be of non-corrosive material and designed to fit tightly inside of the cast iron adapter, to prevent dirt from passing onto the position indicator or into the valve box.

Where a floor is not directly over the valve and extension stem, position indicators shall be supported by a wall bracket mounted to a side wall. The wall bracket shall be either ductile iron or cast stainless steel, as shown on the drawings or specified herein. The manufacturer of the position indicator shall be responsible to provide the necessary adapter to secure the position indicator for installation in either a valve box, floor box or wall bracket. The position indicator and adapter shall have matching flat sides to prevent rotation of the indicator during operation. When installed inside a floor, the adapter shall be provided with a bronze bushing to support and center the extension stem. The bronze bushing shall be retained in the cast iron floor adapter by 2 stainless steel screws and drilled to an inside diameter 1/16" larger than the outside diameter of the extension stem.

The position indicator shall be of the planetary gear design. The sun gear, planet gear and ring gears will be constructed of non-corrosive Delrin. All Delrin components shall be white in color, to enhance visibility in the cast iron valve box or adapter. The scale plate will be clear polycarbonate. Housings of carbon steel or aluminum will not be accepted. Fasteners shall be stainless steel. The top scale plate shall have markings representing the number of turns, contain the word "Closed", and a directional arrow. The markings shall be permanently recessed, embossed or engraved in the scale plate. The use of adhesive labels is not acceptable. The "open" line shall be marked on a transparent polycarbonate window, which will be field adjusted to the exact number of turns of each valve. After calibration, the position of the adjustable "open" window shall be secured to the top surface of the scale plate by the outside diameter of three stainless button head cap screws. Position indicators that are factory calibrated without the valve, rather than calibrated to the valve they are used with, are not acceptable.

The position indicator shall be sealed with (2) Neoprene O-rings. The position indicator shall not admit more than 0.5 ounce of water, after 7 days of submergence. The position indicator shall be cycle tested by the manufacturer, to insure successful operation of 1 million revolutions. Drop testing shall be performed by dropping an 18 # weight from 4 feet, to insure accidental impact will not crack or damage the position indicator. The manufacturer shall support submergence, cycle and impact testing with a report from an independent test laboratory.

Position indicators shall be as manufactured by Trumbull Manufacturing, Youngstown, Ohio.