



1040 N. Meridian Rd., P.O. Box 1556, Youngstown, Ohio 44501  
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## Suggested Specifications, Iron Mud Valve, Bronze Seats For use with Indicating Floorstand or Position Indicator

**Mud Valves.** Mud valves shall be the Non-Rising Stem type and shall be cast iron with bronze seating surfaces on the gate and body flange.

The base flange, yoke, and gate shall be Gray Cast Iron, per ASTM A126 (B). The stem shall be machined from manganese bronze, ASTM B584. The gate seat and base flange seat shall be bronze, per ASTM B62; B584.

The base flange shall be drilled per ANSI 125# and shall be machined to provide a smooth seating surface. Fasteners shall be stainless steel.

All iron castings shall be coated with an NSF 61 approved epoxy primer, similar or equal to Tnemec 140-1211.

The extension stem shall be type 316 stainless steel, either solid bar or Schedule 40 pipe. The top and bottom couplings of the extension stem shall be type 316 stainless steel and not include any welded components. Mud valves shall be manufactured by Trumbull Industries, Youngstown, Ohio.

### **Position Indication (Indicating Floorstand or Position Indicator)**

The position of the mud valves, from fully open to fully closed, shall be visible at ground level, by means of either a position indicator or an indicating-type floorstand, as shown on the drawings.

**Indicating Floorstand** (If a floorstand is shown on the drawings). The pedestal shall be ductile iron and have a vertical indicating slot. The indicating slot shall be covered with a Lexan window and sealed. A bronze indicator shall travel on a threaded stem to indicate the position of the valve. The floorstand shall be operated by a 12" diameter handwheel. The word "OPEN" shall be cast in the pedestal at the top of the indicating slot. A "CLOSED" tag will be field mounted to the pedestal, to indicate the closed position of the valve. Floorstands fabricated by welding flanges to pipe shall not be accepted. Where a floor is not directly over the valve and extension stem, position indicators or floorstands shall be supported by a wall bracket mounted to the side wall. The wall bracket shall be either ductile iron or stainless steel, as shown on the drawings.

### **Position Indicator** (If a floorstand is **not** shown on the drawings):

Unless floorstands are shown on the drawings, position indicators shall be installed with all mud valves. 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.

Where a floor is not directly over the valve and extension stem, position indicators shall be supported by a wall bracket mounted to the side wall. The wall bracket shall be either ductile iron or stainless steel, as shown on the drawings.



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Where there is a floor directly over the valve and extension stem, the position indicator shall be installed in a cast iron floor adapter. The adapter shall have internal opposing flat sides to match the flat sides of the position indicator, to prevent rotation of the position indicator during operation. 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. Where it is desirable to prevent foreign material from passing onto the position indicator or into the basin below, a debris shield shall be installed into the cast iron floor adapter. The debris shield shall be of non-corrosive material and designed to fit tightly inside of the cast iron floor adapter.

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. 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 Industries, Youngstown, Ohio.

### **Stem Guides**

Stem Guides shall be constructed of cast stainless steel, type 316. Stem guides fabricated by welding stainless steel shall not be permitted. Stem guides shall include a bronze bushing with an inside diameter 1/16" larger than the outside diameter of the extension stem and shall be retained with two stainless steel screws.

The stem guide shall be of the adjustable design for plumb alignment. The adjusting bolt and washer shall be type 316 stainless. Stem guides shall be spaced so that the unsupported length between extension stems shall not exceed 7 feet. Mud valves shall be operated with extension stems, stem guides and either position indicators or indicating floorstands, as shown on the valve schedule or drawings. Stem guides shall be as manufactured by Trumbull Industries, Youngstown, Ohio.