



MODEL VF29
 VERTICAL UPFLOW TEE TUBE METER
 SEALED METER MECHANISM – MAGNETIC DRIVE
 SEALED TOTALIZER
 SIZES 4" thru 20"

SPECIFICATIONS

METER shall be a velocity propeller type, magnetic drive, sealed housing, vertical tee tube meter for 150 psi working pressure. It shall comply with the applicable provisions of AWWA, except for the higher standard required in this specification. In the event of conflict, the specification herein shall prevail. The meter shall be a **WATER SPECIALTIES** _____ inch **MODEL VF29** with a six digit sealed totalizer reading in units of _____ and shall be accurate within $\pm 2\%$ of true flow within a range of _____ to _____ GPM or an approved equal. The meter assembly shall be constructed as follows:

METER TUBE shall be fabricated steel pipe and use 150 lb. AWWA Class "D" flat face steel flanges on the flanged bottom and side outlets. The internal and external of the meter tube and meter head shall be blasted to near white metal and coated with 12 mils minimum of NSF approved fusion epoxy coating, applied by the fluidized bed method. Meter tubes shall have a constant nominal inside diameter to offer minimum obstruction to the flow and shall be furnished with four straightening vanes.

METER HEAD shall be connected to the tube by means of a flanged, o-ring sealed connection with stainless steel bolts. The meter head shall be designed for easy removal of water wetted parts from the tube for inspection or repair without having to remove the complete tube. Water wetted meter components that are permanently attached to the tube will not be accepted. To allow interchangeability, all size meters (except 4") will use the same meter head.

DROP-PIPE AND SEPARATOR shall be stainless steel and a factory sealed unit. However, parts shall be coupled so with proper instructions the parts can be replaced in the field without returning the meter to the factory. The drive mechanism shall be magnetically driven from the propeller through a ceramic sleeve magnetic coupling, and be isolated from the water flow by means of an o-ring sealed housing. A rigid stainless steel vertical shaft is required from the separator to the totalizer drive magnet.

PROPELLER shall utilize a water lubricated ceramic sleeve and spindle bearing system. The stainless steel/ceramic spindle on which the propeller is mounted shall be parallel to the direction of the water flow in the pipe. Dual ceramic thrust bearings shall be standard on all meters to handle flows in both the forward and reverse directions. The propeller shall be a conical shaped, three bladed propeller, injection molded of thermoplastic material, resistant to normal water corrosion and deformity due to high flow velocities.

TOTALIZER shall be a six digit, straight reading type with a 3" diameter, 100 division dial and center sweep test hand to permit timing for an accurate determination of flow rate. The totalizer shall read in units of _____ (specify totalizer units) and shall be magnetically driven and equipped with change gears to facilitate easy change of registration without removing pressure from the line. The totalizer shall be encased in an o-ring sealed bonnet made from injection molded 20% glass filled engineered grade thermoplastic. The bonnet shall be attached to the meter head by screws with seal wire holes and have a hinged lid with padlock hasp.

PARTS & SERVICE: Supplier must have test facilities, spare parts, personnel to maintain, instruct, train or whatever is necessary to assure meters will be maintained throughout the guarantee period.

VOLUMETRIC TESTING of all meters must be performed and approved prior to shipment. The completed meter head assembly will be accuracy tested. The testing will be conducted in accordance to AWWA testing procedure, rates, and volume. The amount of water used to conduct the test shall be left on the totalizer. Prior to shipping, a tag shall be attached to the meter showing the totalizer reading after testing. The test facility must be certified annually to an accuracy of $\pm 0.25\%$ and be traceable to the National Institute of Standards and Technology. If desired, the test can be witnessed by the customer or their selected agent. Certified accuracy test records will be furnished at no charge.

ONE MANUFACTURER shall make all meter sizes and styles required for this contract. The meters shall be manufactured and tested in the U.S.A. and shall be of a design in production in the U.S.A. for at least 5 years.