



Model VTPOL Specifications

A. Scope

This specification covers a vertical turbine pump with above ground discharge, the lineshaft bearings being product lubricated and furnished with suitable driver and accessories as specified herein. The pumping unit shall be designed and furnished in accordance with the latest Hydraulic Institute and AWWA Standards for vertical turbine pump.

B. Pump Construction

1. **Suction:** the suction bowl or suction bell shall be provided with a non-soluble biodegradable grease packed bronze bearing. A bronze sand collar shall be provided to protect this bearing from abrasives in the pumping fluids. The bearing house shall have sufficient opening at the bottom for easy removal of the bearing. A strainer of basket type may be provided. It shall not be more than 75% of the maximum opening of the water passage through the bowl or impeller.
2. **Bowl Assembly:** the bowls shall be flanged type constructed of close grain cast iron conform to ASTM A48, class 30. They shall be free from sand holes, blowholes, or other faults and must be accurately machined and fitted to close tolerances. They shall be capable of withstanding hydrostatic pressure equal to twice the pressure at rated flow or 1.5 times shut-off head, whichever is greater. All intermediate bowls shall be identical design for interchangeability. All bowls shall be fitted with sleeve type bearings of bronze alloy C89835.
3. **Impeller:** the impeller shall be constructed of 304 SS and shall be free from sand holes, blow holes or other faults and must be accurately machined to close tolerances and balanced to ISO tolerance G6.3
4. **Shaft:** The bowl shaft shall be constructed from ASTM 582 type 416 stainless steel.

C. Column Assembly- Open Lineshaft

1. **Lineshaft:** The line shaft shall be of ASTM A582 type 416 stainless steel ground and polished. They shall be furnished in interchangeable section not over 10 feet in length, and shall be coupled with threaded stainless steel couplings (up to 2-15/16") machined from solid steel bar. It shall have left-hand thread to tighten during pump operation. The diameter of the shaft and coupling shall be designed in accordance with AWWA E101 Standard.
2. **Bearing:** Bearing shall be fluted rubber retainer in the centering spider by a shoulder on each end of the bearing.
3. **Column pipe:** The column pipe shall be furnished in sections not exceeding a nominal length of 10 feet and shall be connected by flanges. Pump speeds between 2200RPM and 3600 RPM shall have intermediate column length and bearing spacing no greater than 5 feet. The length of the top and the bottom sections shall be not less than schedule 30. All column flanges faces shall be parallel and machined for rabbet fit to permit accurate alignment. The inside diameter of the pipe shall be such that the head losses shall not be more than 5 feet per 100 feet of pipe or the flow velocity not to exceed 3 ft./sec. based on rated flow of the pump.

D. Discharge Head Assembly

1. **Stuffing Box:** The stuffing box shall be cast iron and shall contain a minimum of five rings of packing (or mechanical seal). It shall have a pressure relief connection. The packing gland shall be a 316 SS split type secured in place with non-corrosive studs and nuts. The bearing shall be C89835 bronze. A rubber slinger shall be secured to the shaft above the packing gland.
2. **Discharge Head:** It shall be the type to allow shaft coupled above stuffing box and provided for mounting the driver and support the column and bowl assemblies. It shall be of high-grade cast iron, ASTM A48 Class 30, or fabricated steel. The above ground outlet shall be flanged to match ___ inch ANSI class 125 (for cast iron) or class 150 (for steel). It shall have a 1/2" NPT connection for pressure gauge.

LiquaFlowPump.com

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**Flows 9000 gpm
Head 1300'
Impellers 304SS
Cast iron &
Fabricated Heads**



Our world is water and we keep it flowing!