

**Suggested Specifications**  
**Vertical In-Line Pump**  
**Type VLS**

The contractor shall furnish and install, as shown in the drawings and as described in these specifications, PACO Type VL Vertical In-Line bronze fitted, single stage, centrifugal pump(s), as manufactured by PACO Pumps.

Each pump shall be capable of delivering \_\_\_\_\_ gallons per minute against a total head of \_\_\_\_\_ feet. Pump(s) shall meet or exceed the efficiency shown in the pump schedule.

To insure stable operation, the pump curve shall be constantly rising from run-out to shut off. To insure cavitation-free operation, each pump's NPSH requirement must be low enough to permit stable, continuous operation at 120% or greater of best efficiency point. Each pump shall be capable of continuous operation without producing noise in excess of Hydraulic Institute and OSHA guidelines.

Pump(s) shall (each) be close-coupled to a \_\_\_\_\_ HP, \_\_\_\_\_ RPM, \_\_\_\_\_ phase, \_\_\_\_\_ Hertz, \_\_\_\_\_ volt ball bearing drip-proof (**special enclosure, specify: \_\_\_\_\_**) Nema (**standard, high efficiency**) electric motor. Motor shall be of such size that it will operate continuously without exceeding its HP rating, exclusive of service factor, at the design capacity and head.

Pump casing shall be gray iron and shall be constructed with back pull-out capability. Models 3" and larger shall have balanced double volute design to reduce radial thrust and to prolong seal and bearing life. Pump casing shall incorporate a suction baffle to reduce pre-rotation and improve efficiency. Suction and Discharge connections shall be the same size, flanged (**125, 250**) PSI rating, 180 degrees opposite on centerline for pipeline mounting. Casing shall have bronze replaceable wear ring. Impeller shall be cast bronze, enclosed, statistically, dynamically and hydraulically balanced, and shall be factory trimmed to match the delivery conditions indicated above. Motor shaft shall be one piece stainless steel, or steel with bronze shaft sleeve. Pumps shall have mechanical seal suitable for the temperatures and pressures indicated, and shall be properly vented to the pump suction connection.

All normally required spare and replacement parts shall be available in kit form and shall be field selectable from pump nameplate data. It shall not be necessary to reference any drawing when selecting spare or replacement parts.

**Optional Supports:** Pump shall be mounted on a heavy duty cast iron support stand or on steel flange supports for floor mounting (Note: Specify one if applicable)