**A9a.01** 1/06 NEW

## SUGGESTED SPECIFICATIONS Vertical Space Miser Split Coupled Pumps PC 131, Type VSM

The contractor shall furnish and install, as shown in the drawings and as described in these specifications, PACO Type VSM Vertical Space Miser 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, s	specify:	) Nema (	standard, hig	gh efficiency)
electric motor. Motor shall be of such size that it	will oper	rate continuous	ly without exc	eeding its HP
rating, exclusive of service factor, at the design of	capacity a	and head.	-	-

Pump casing shall be ductile iron and shall be constructed with top pull-out capability. Pumps 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, positioned in a manner to allow vertical piping without the need for elbows, guides, angle type valves, etc. It shall be possible to move an "A Frame" hoist over the motor to facilitate motor removal without disturbing the piping. 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 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.

The pump shall be mounted on a ductile iron stand with a minimum of 5 hold down holes, and support under the suction and discharge nozzle. The entire unit shall not require grouting for operation within Hydraulic Institute Standards for Vibration.

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.