SUGGESTED SPECIFICATIONS

SUBMERSIBLE PUMP

Pump shall be designed for pumping product at:

Rated capacity of	_____ (GPM)
Total dynamic head of	_____ (TDH)
Minimum bowl efficiency of	_____ %
Product temperature of	_____ °F
Specific gravity of	_____
Running Speed of	_____ (RPM)

BOWL ASSEMBLY: Pump bowls, suction & discharge cases shall be of close grained ASTM A48 Class 30 cast iron, without imperfections. Discharge case shall be ASTM bronze B-505-932 fitted grease lubricated having a long support bushing extending into the top bowl. Top bowl shall also have a bronze bearing of bronze ASTM B-584-836 with a sand collar. Intermediate bowl bearings shall be of fluted neoprene and/or ASTM bronze B-505-932 . Impeller shall be made of ASTM bronze B-584-836, enclosed type and shall be fitted with replaceable ASTM aluminum-bronze B-148 grade D wear rings having minimum practical clearance to the mating cylindrical surface of the intermediate bowls and motor bracket. The impeller shall also be accurately cast, machined, statically balanced, and filed for optimum performance. The impeller shall be securely fastened to the bowlshaft with tapered collets of ASTM steel A-108 grade 1020. The water passages of pump bowls size 6" through 14" shall have vitreous enamel lining and 16" and over shall have Scotch Kote 134 Fusion Bonded Epoxy to provide optimum performance. The bowlshaft shall be of sufficient diameter to transmit the pump horsepower with a liberal safety factor. The bowl shaft material shall be ASTM stainless steel A-582 grade 416 with hard chrome plating having a Brinell hardness of no less than 500. The bowlshaft shall have no less than .007" hard chrome per side and shall have pump shaft quality dimensional tolerances of +.000" -.002". Only shafts meeting pump shaft quality dimensional tolerances will be acceptable.

MOTOR BRACKET: The motor bracket shall be of cast iron ASTM A48, Class 30 or fabricated steel construction. The motor bracket bearing shall be bronze B-505-932 and shall be provided with an bronze ASTM B-584-836 sand collar to protect the suction bowl bearing from abrasives in the liquid pumped. The net inlet area shall be equal to at least 5 times the impeller inlet area and thoroughly covered with a stainless steel screen. The coupling connecting the motor to the pump bowl assembly shall be of sufficient size and strength to withstand maximum torque generated by the motor with liberal safety factor. The coupling shall be of 316 stainless steel, keyed or splined to the pump shaft.

SUBMERSIBLE MOTOR: The motor shall be of the vertical, submersible, induction type designed for continuous duty underwater operation of 3 phase, 60 cycle, 230, 460 or 2300 volt alternating current. The motor shall be designed with normal starting torque and low starting current. The motor shall have a 1.15 service factor. The motor shall not be loaded in excess of its nameplate rating at design and not be loaded in excess of 115% of its nameplate rating at any condition from zero flow to maximum capacity of the pump. The motor shall be oil or water-filled and shall incorporate a mechanical seal to restrict foreign matter from entering the motor. The thrust bearing shall be of ample capacity to carry the weight of all rotating parts plus the hydraulic thrust and shall be an integral part of the driver. The bearing shall be of such size that the average life rating is based on 5 years continuous operation.

DISCHARGE PIPING: Discharge pipe shall be of steel ASTM A53 grade B furnished in random lengths connected by threaded sleeve couplings. The weight of the pipe shall be no less than stated in AWWA E101, Section 4.5 and shall have ANSI standard tapered pipe threads. The pipe size shall be such that velocities are not less than 4-5 FPS, nor more than 12 FPS.

SURFACE DISCHARGE ELBOW AND BASE: The discharge elbow shall be fabricated steel and shall be provided with class 150 ANSI raised face flange of the same diameter as the column pipe. The discharge elbow shall have an integral steel base and lifting lugs of sufficient strength to lift the entire head, column pipe and pump/motor assembly safely for installation and servicing operations. A threaded connection shall be provided in the head base for a terminal box. The base shall also be provided with threaded openings for a well vent and a water level indicator.

SUBMERSIBLE CABLE: The cable shall be comprised of separate conductors within a single neoprene exterior jacket. Each conductor shall be insulated by synthetic rubber or plastic insulation specifically for continuous immersion in water. The cable shall be protected with a steel guard where it passes the bowl assembly to prevent damage from contact with the well casing. Stainless steel cable straps shall be provided to support the cable along the riser pipe at intervals of not more than 20 feet. Minimum size of cable shall be as stated in ASA specification B58.1, Section B4.3.