

\_\_\_\_\_ shall use a \_\_\_\_\_ HP motor operating at \_\_\_\_\_ RPM.

\_\_\_\_\_ Pump motor shall be of the sealed submersible type rated \_\_\_\_\_ HP at \_\_\_\_\_ RPM, 60 Hertz. Motor shall be for single phase 230 volts \_\_\_\_\_ or three phase 200 volts \_\_\_\_\_ 230 volts \_\_\_\_\_ 460 volts \_\_\_\_\_ or 575 volts \_\_\_\_\_. Single phase motors shall be of capacitor start, capacitor run, NEMA L type. Three phase motors shall be NEMA B type.

Stator winding shall be of the open type with Class F insulation good for 155°C (311°F) maximum temperature. Winding housing shall be filled with a clean high dielectric oil that lubricates bearings and seals and transfers heat from winding and rotor to outer shell. Air-filled, motors which do not have the superior heat dissipating capabilities of oil-filled motors, shall not be considered equal.

Motor shall have two heavy-duty ball bearings to support pump shaft and take radial and thrust loads. Ball bearings shall be designed for 50,000 hours B-10 life. Stator shall be heat shrunk into motor housing.

A heat sensor thermostat shall be attached to and embedded in the winding and be connected in series with the motor starter contactor coil to stop motor if temperature of winding is more than 130°C. Thermostat to reset automatically when motor cools to safe operating temperature. Three heat sensors to be used on 3 phase motors. The common pump, motor shaft shall be of 416 stainless steel.

\_\_\_\_\_ Motor shall be protected by two mechanical seals mounted in tandem with a seal chamber between the seals. Seal chamber shall be oil filled to lubricate seal face and to transmit heat from shaft to outer shell. Seal faces shall be carbon and ceramic and lapped to a flatness of one light band. Lower seal faces can be tungsten carbide \_\_\_\_\_ (optional).

An electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control box. This signal shall not stop motor but shall act as a warning only, indicating service is required.

\_\_\_\_\_ The impeller shall be cast ductile iron and of the 2-vane solids handling enclosed type. Vane inlet tips shall be carefully rounded to prevent stringy material from catching in vanes. Pump-out vane shall be used in front and back chamber. Impeller shall be dynamically balanced.

Impeller to be driven by stainless steel shaft key and impeller held in place with lock screw and washer. Impeller and motor shall lift off of case as a unit without disturbing discharge piping.

Impeller neck shall run in bronze wear ring that is pressed into volute case.

\_\_\_\_\_ The volute case shall be cast iron and have a flanged center line discharge. Discharge flange shall be four (4) inch standard with bolt holes straddling center line. Bronze wear ring to be pressed into case for guiding impeller neck and to prevent corrosion freeze-up. Wear ring to be held from rotating by locking with stainless steel set screw in end of ring. The volute shall have integrally cast legs for mounting pump on bottom of wet well (V4WHV).

\_\_\_\_\_ The pump shall be painted with waterborne hybrid acrylic/alkyd paint. This custom engineered, quick dry paint shall provide superior levels of corrosion and chemical protection. All fasteners shall be 302 stainless steel.

\_\_\_\_\_ Power cord and control cord shall be double sealed. The power and control conductor shall be sealed with epoxy potting compound to seal outer jacket against leakage and to provide for strain relief to meet agency requirements. Insulation of the power and control cords shall be SOOW or W. The power and control cords shall also have a green carrier ground conductor that attaches to the motor frame.