


TSURUMI PUMP
SFQ - SERIES
ALL 316 SS - DEWATERING PUMPS
SAMPLE
SPECIFICATIONS
1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model _____ Submersible Pump(s). Each unit shall be capable of delivering _____ GPM (_____ m³/min) at _____ Feet (_____ m) TDH. The pump(s) shall be designed to pump waste water, without damage during operation. The pump(s) shall be designed so that the shaft power required (BHP)/(kW) shall not exceed the motor rated output throughout the entire operating range of the pump performance curve.

2. MATERIALS OF CONSTRUCTION -

All major parts of the pumping unit(s) including pump casing, impeller, discharge elbow, and motor frame shall be manufactured from 316 stainless steel. Unit(s) shall have a field adjustable/replaceable, 316 stainless steel wear plate. Impellers shall be of the multi-vane semi-open solids handling design, and shall be equipped with back pump out vanes, slip fit to the shaft and key driven. Internal and external surfaces coming into contact with the pumpage shall not require a protective coating. All exposed fasteners shall be stainless steel. All units shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange.

3. MECHANICAL SEAL -

All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber and further protected by an exclusionary oil seal located between the bottom seal faces and the fluid being pumped. The oil chamber by virtue of design shall prevent vortexing of the oil therein, units 1 Hp and above shall be fitted with a device that shall provide positive lubrication of the top mechanical seal, (down to one third of the standard oil level). The device shall not consume any additional electrical power. Mechanical seals shall be rated to preclude the incursion of water up to 42.6 PSI. (98.4 Ft.) submergence. Units shall have silicon carbide versus silicon carbide upper and lower mechanical seal faces. Mechanical seal hardware shall be stainless steel. Units 7.5 Hp and above shall incorporate seal pressure relief ports. Mechanical seals elastomers shall be viton.

4. MOTOR-

The pump motor(s) shall be _____ Hp., _____ kW., _____ V., 60 Hz. Phase and shall be NEMA MG-1, Design Type B equivalent. Motor(s) shall be rated at _____ full load amps. Motor(s) shall have a 1.15 service factor and shall be rated for 20 starts per hour. Motor(s) shall be air filled, copper wound, class F or E (up to 5 Hp) insulated with built in thermal and over amperage protection for each winding. Motor shaft shall be 316 stainless steel and shall be supported by two permanently lubricated, high temperature ball bearings, with a B-10 life rating at best efficiency point of 60,000 hours. The bottom bearings on units up to 5 Hp shall be single row, double shielded, C3, deep groove type ball bearing. Units 7.5 Hp and above shall have two row, double shielded, C3, deep groove type ball bearing. The top bearings on all units shall be single row, double shielded, C3, deep groove type ball bearing. Motors shall be D.O.L. or star-delta start (15 Hp), and shall be suitable for across the line start or variable speed applications, utilizing a properly sized variable frequency drive.

5. POWER CABLE AND CABLE ENTRANCE -

Units up to 5 Hp shall be supplied with a cable entrance that incorporates built in strain relief, a one piece, three way mechanical compression seal and a fatigue reducing cable boot. The pump power cable shall be suitable for submersible pump applications. The power cable on units 7.5 Hp and above shall be field replaceable utilizing standard submersible pump cable. The cable entrance shall incorporate built in strain relief and a combination three way mechanical compression sealing. The cable entrance assembly shall contain a anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.