



**GSD - SERIES**  
HIGH VOLUME - SUBMERSIBLE AGITATOR PUMPS

**SAMPLE  
SPECIFICATIONS**

### 1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model \_\_\_\_\_ Submersible Pump(s).

Each unit shall be capable of delivering \_\_\_\_\_ GPM ( \_\_\_\_\_ m<sup>3</sup>/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 -

Construction of major parts of the pumping unit(s) shall be gray cast iron, ASTM A48 CLASS 30B. Impellers, Agitator, and field adjustable/replaceable, wear plate shall be high chrome iron. Impellers shall be of the multi-vane enclosed solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. Internal and external surfaces coming into contact with the pumpage shall be protected by a fused polymer coating. All exposed fasteners shall be stainless steel. All units shall be furnished with 150 lb. (10 kg/cm<sup>2</sup>) 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 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 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. Unit(s) shall incorporate seal pressure relief ports. All unit(s) shall be fitted with a replaceable 403 stainless steel shaft sleeve.

### 4. MOTOR-

The pump motor(s) shall be \_\_\_\_\_ Hp., \_\_\_\_\_ kW., \_\_\_\_\_ V., 60 Hz. 3 Phase Motor(s) shall be rated at \_\_\_\_\_ full load amps. Motor(s) shall have a 1.1 service factor and shall be rated for 6 starts per hour. Motor(s) shall be air filled, copper wound, class F or E (60 Hp and above) insulated with built in thermal protection for each winding. Motor shaft shall be 420 stainless steel and shall be supported by two high temperature ball bearings, with a B-10 life rating at best efficiency point of 60,000 hours. The bottom bearing on units 50 Hp shall be two row, double shielded, C3, deep groove type ball bearing. The bottom bearing on units 60 Hp and above shall be two row, re-greasable, C3, angular contact type ball bearing. The top bearing on all units shall be single row, double shielded, C3, deep groove type ball bearing. Motors shall be star-delta start and shall be suitable for across the line start or variable speed applications, utilizing a properly sized variable frequency drive. Motor shall incorporate a steel water cooling jacket.

### 5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications and 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.