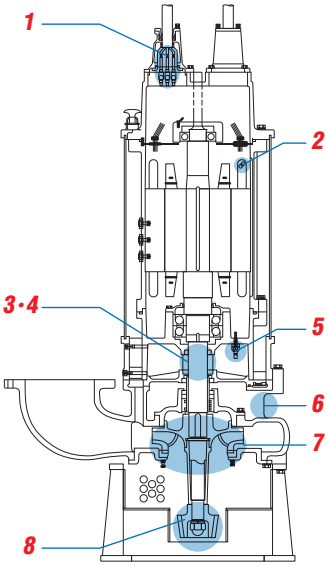
GSD Submersible High Power Slurry Pumps

The GSD Series pump is a heavy-duty slurry pump that delivers high head and high volume discharge. It is designed and built for continuous operation under the rough conditions often found at mega-construction sites and mines.

The GSD Series is a submersible three-phase high power, high head and high volume heavy-duty slurry pump driven by a 4-pole motor. It is equipped with a high-chromium cast iron agitator that assists smooth suction of the settled matters. The pump parts such as the impeller and the suction cover are made of wear-resistant materials. The side discharge, spiral design allows smoother passage of the sucked solid matters. The motor is cooled by a water jacket that assures efficient motor cooling even when it operates with its motor exposed to air. The pump incorporates seal pressure relief ports that prevent the pumping pressure from applying to the shaft seal.

Features



1. Anti-wicking Cable Entry prevents water incursion due to capillary wicking should the power cable be damaged or the end submerged.

2. Miniature Thermal Protectors react to excessive heat caused by dry-running. The bimetal strip opens to cause the control panel to shut the power supply.

3. Dual Inside Mechanical Seal eliminates problems like spring failure and ensures a long service life. Isolated in the oil chamber where a clean, non-corrosive and abrasion-free lubricating environment is maintained.

4. Oil Lifter (Patented) provides lubrication and cooling of the seal faces down to 1/3 of normal oil level, thus maintaining a stable shaft sealing effect and prolonging seal life longer.

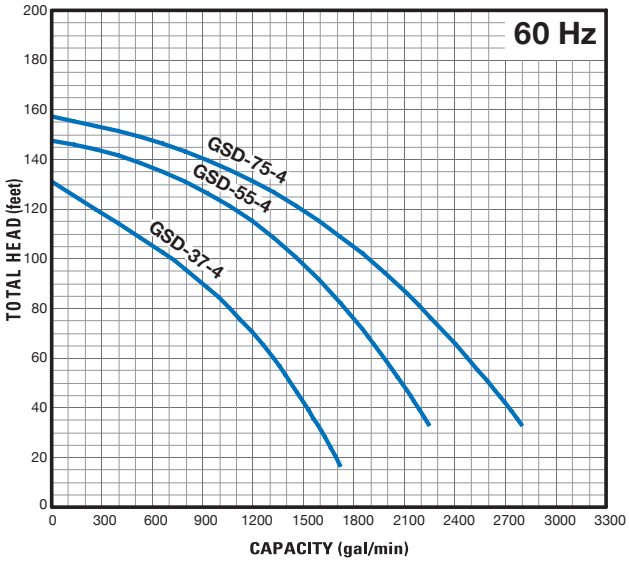
5. Leakage Sensor detects flooding into the oil chamber that may occur in a worst case scenario. When flooding is detected, signals are sent to operate the indicator lamps through the external control panel.

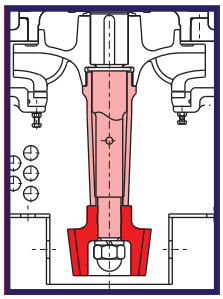
6. Seal Pressure Relief Ports protect the mechanical seal from pump pressure. They also protect the seal face by discharging wear particles.

7. Adjustable Impeller Clearance Equipped with a high-chromium cast iron impeller and mouth ring. Even if the performance drops due to wearing out of the impeller and/or mouth ring, it can be improved by adjusting impeller clearance.

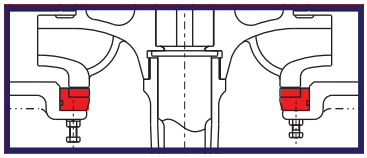
8. Agitator Mechanism consists of a shaft-mounted agitator and a dedicated strainer. The agitator made of high-chromium cast iron resists wear caused by abrasive particles, and it suspends solids to assist in pumping sediments in combination with the strainer.

GSD Series





Agitator



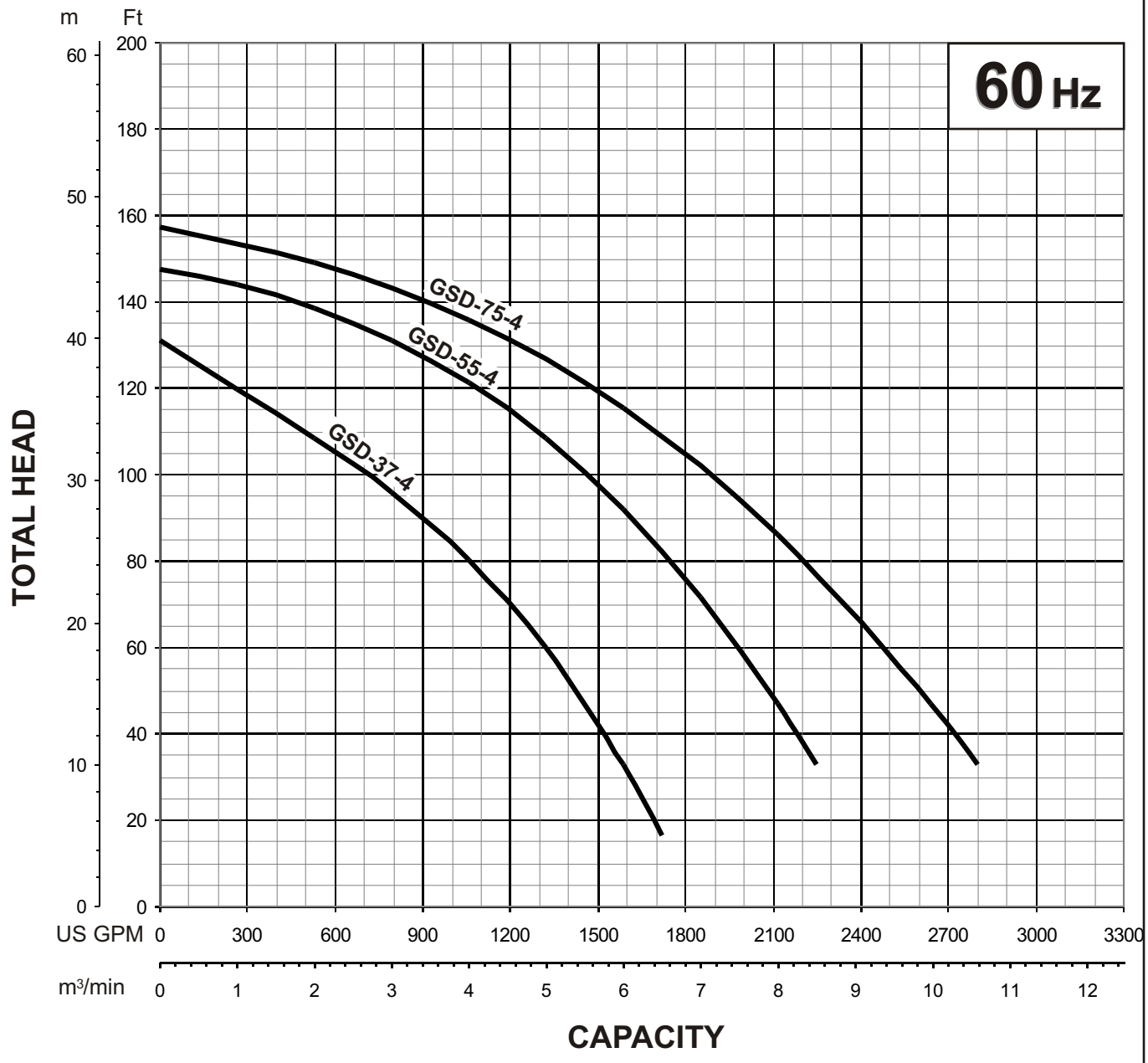
Suction Plate

Specifications

MODEL	MOTOR SPECIFICATIONS				PUMP SPECIFICATIONS				DIMENSIONS			
	Motor Output (HP)	Phase	Rated Current (A)		RPM	Discharge Size (in.)	Maximum Capacity (GPM)	Maximum Head (ft.)	Dimension (in.)		Continuous Running Water Level (in.)	Pump Weight (lbs.)
			460V	575V					Diameter	Height		
GSD-37-4	50	Three	63	49.5	1740	8	1717	131	36	62 5/16	18 7/8	1290
GSD-55-4	75	Three	97	76	1775	10	2245	148	41 5/16	75 7/8	20 1/8	2440
GSD-75-4	100	Three	128	101	1775	10	2800	157	41 5/16	75 7/8	20 1/8	2690

TSURUMI PUMP	GSD - SERIES HIGH VOLUME - SUBMERSIBLE AGITATOR PUMPS	PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



TSURUMI PUMP

GSD SERIES
HIGH VOLUME - SUBMERSIBLE AGITATOR PUMPS

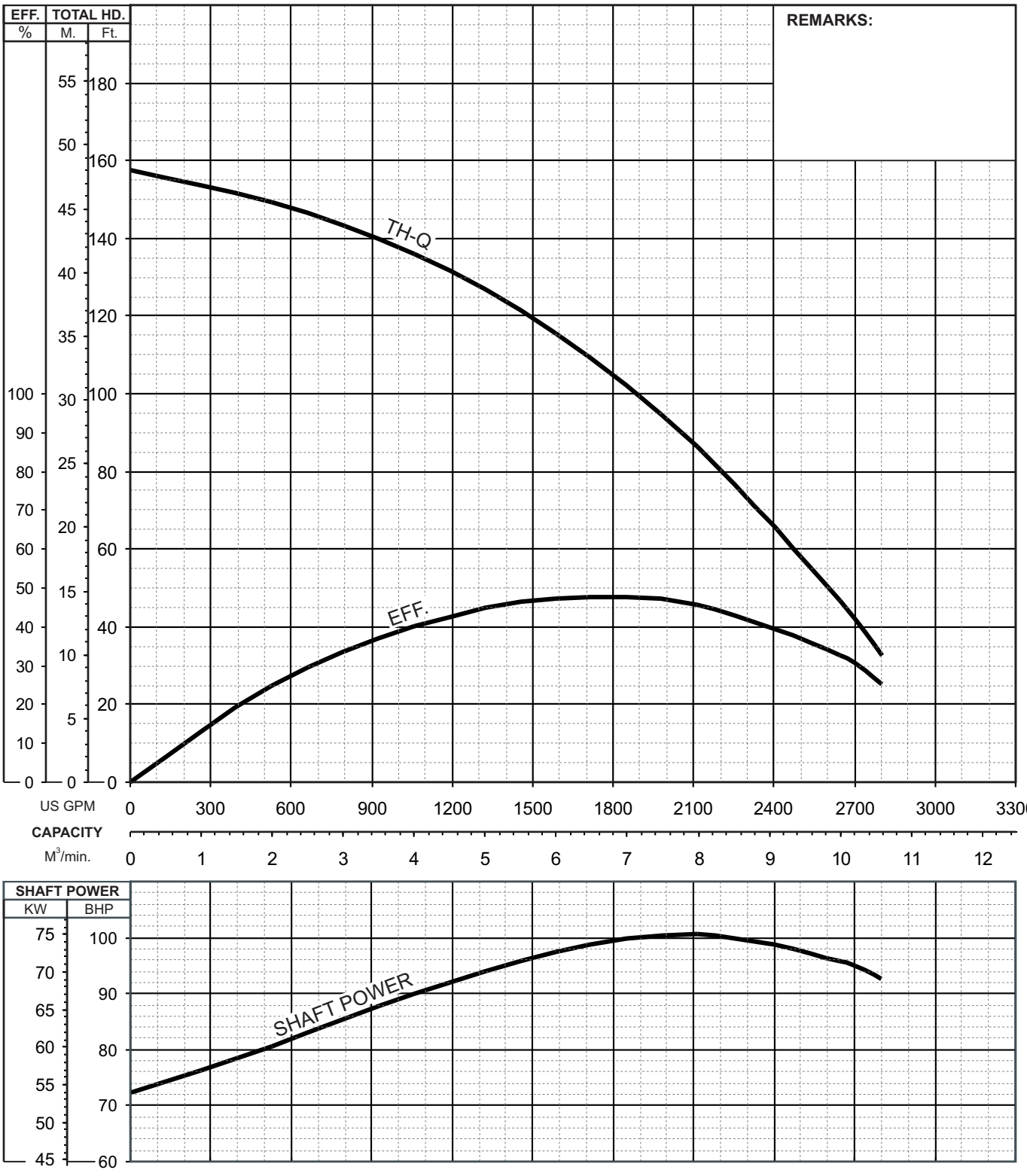
PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
GSD-75-4	10"/250mm	100	75	1775	0.984"/25mm	Water	1.0	1.123 cSt	60°F

PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS
High Volume - Agitator Pump	3	460 / 575	128 / 101	60	Star-Delta	E

CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS
-	-	-	-	-	-	-	-

REMARKS:

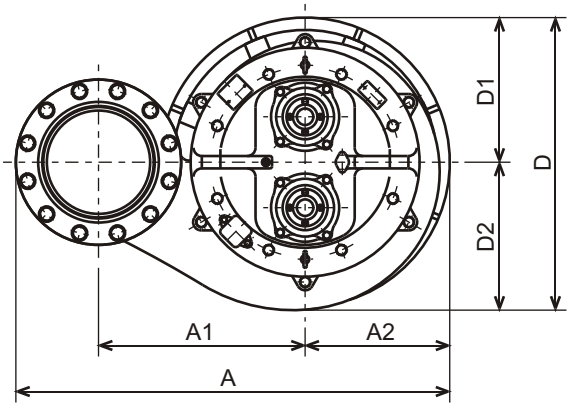


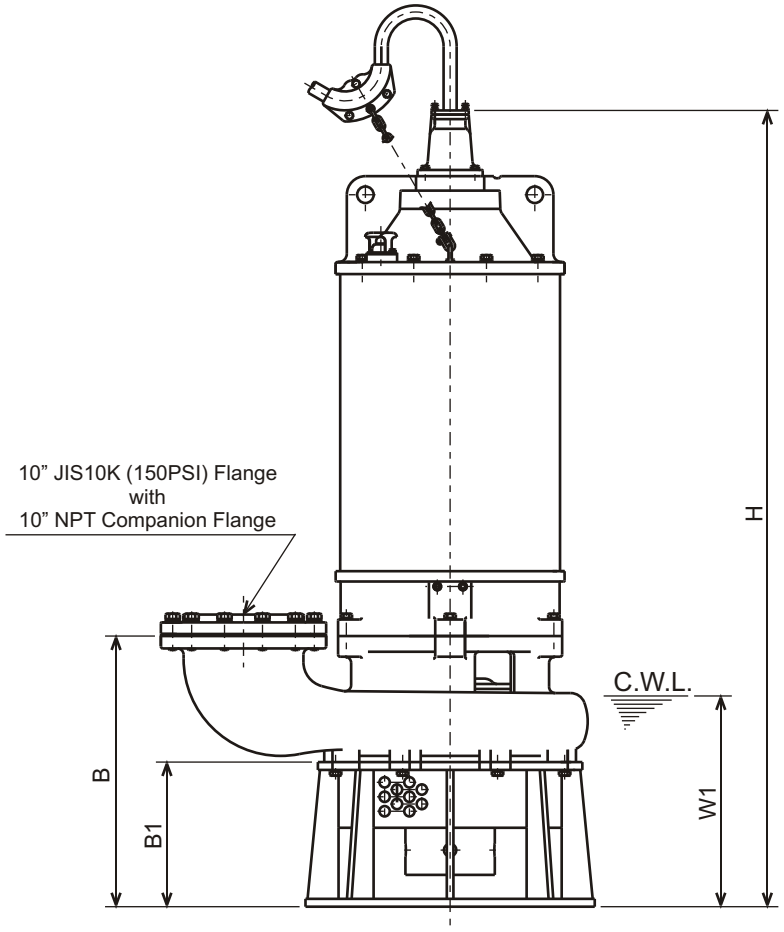
TSURUMI PUMP

GSD SERIES
HIGH VOLUME - SUBMERSIBLE AGITATOR PUMPS

DIMENSIONS

GSD-55-4
GSD-75-4





C.W.L. : Continuous running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM.	Pump & Motor									C.W.L.	*Wt.
		SIZE	A	A1	A2	B	B1	D	D1	D2	H	W1	(lbs.)
GSD-55-4	75	10"	41 5/16	19 11/16	13 3/4	25 13/16	13 3/4	27 7/8	13 3/4	14 1/8	75 7/8	20 1/8	2440
GSD-75-4	100	10"	41 5/16	19 11/16	13 3/4	25 13/16	13 3/4	27 7/8	13 3/4	14 1/8	75 7/8	20 1/8	2690

*Excluding Cable

DIMENSIONS:METRIC (mm)

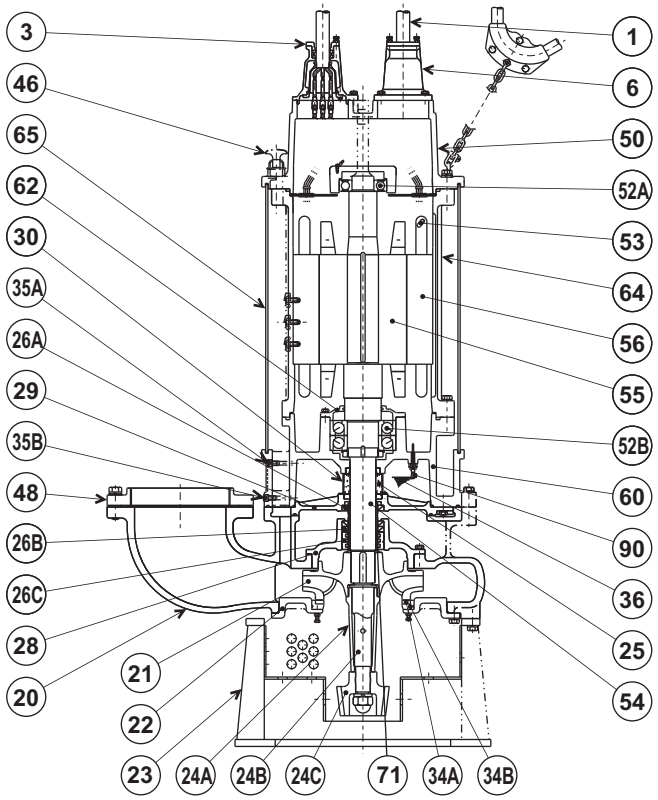
Model	kW	NOM.	Pump & Motor									C.W.L.	*Wt.
		SIZE	A	A1	A2	B	B1	D	D1	D2	H	W1	(kg)
GSD-55-4	55	250	1050	500	350	655	350	708	350	358	1927	510	1110
GSD-75-4	75	250	1050	500	350	655	350	708	350	358	1927	510	1220

TSURUMI PUMP

GSZ-4 SERIES
HIGH VOLUME - DEWATERING PUMP

SECTIONAL VIEW

GSD-55-4
GSD-75-4



ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	ASTM, AISI CODE	RELATED EN CODE	Q'TY
1	Power Cable	Chloroprene Sheath AWG 2/3 , 6/1, 14/3 -50ft			1
	Power Cable	Chloroprene Sheath AWG 2/3 -50ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Stuffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	High Chrome Cast Iron	A532 ClassIII TypeA	DIN 1695 G-X260Cr27	1
22	Suction Cover	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
23	Suction Strainer	Steel	A283 Grade D	EN 10025 S275	1
24A	Clutch	Ductile Cast Iron	A536 65-45-12	EN 1563 GJS-450-10	1
24B	Clutch	Steel	A283 Grade D	EN 10025 S275	1
24C	Agitator	High Chrome Cast Iron	A532 ClassIII TypeA	DIN 1695 G-X260Cr27	1
25	Mechanical Seal	Silicon Carbide / H-70			1
26A	Oil Seal	NBR / TC-8011515			2
26B	Oil Seal	NBR / TC-8011515			1
26C	Labyrinth Ring	Stainless Steel	S 40300	1.4000	1
28	Seal Housing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
34A	Mouth Ring	High Chrome Cast Iron	A532 ClassIII TypeA	DIN 1695 G-X260Cr27	1
34B	Suction Mouth	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
35A	Oil Plug	Stainless Steel	S 30400	1.4301	2
35B	Oil Plug	Stainless Steel	S 30401	2.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
46	Air Release Valve	Steel (Cold Rolled)	A109/A1008	EN 10130	1
48	Companion Flange	Cast Iron / NPT 10" JIS10K	A48M Class30B	EN 1561 GJL-200	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6312ZZC3			1
52B	Lower Bearing	#7317BDB			1
53	Motor Protector				3
54	Shaft	Stainless Steel	S 42000	1.4028	1
55	Rotor				1
56	Stator				1
60	Bearing Housing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
62	Bearing Cover	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
64	Motor Housing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
65	Outer Cover	Steel	A283 Grade D	EN 10025 S275	1
71	Shaft Sleeve	Stainless Steel	S 40300	1.4000	1
90	Leak Sensor (Electrode)	Stainless Steel	S 30300	1.4305	1

TSURUMI PUMP | 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 (_____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 -

Construction of major parts of the pumping unit(s) shall be gray cast iron, ASTM A48 CLASS 35. 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/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 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 _____H p., _____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.