TSURUMI PUMP

LH - SERIES
DEWATERING PUMP

SPECIFICATIONS

FEATURES

1. Semi-open, high chrome iron impeller with replaceable / adjustable high chrome Iron wear rings, increases wear resistance, when pumpage contains abrasive particles.

2. Double inside mechanical seals with silicon carbide faces, (both top and bottom) running in an oil filled chamber and further protected by a lip seal running against a replaceable, 430 stainless steel shaft sleeve, provides for the most durable seal design available.

3. Highly efficient, continuous duty air filled, copper wound motor with class B, F insulation minimizes the cost of operation.

4. Built in thermal & amperage sensing protector prevents motor failure due to overloading or accidental run -dry conditions.

5. Double shielded, permanently lubricated, high temperature C3 ball bearings rated for a B-10 life of 60,000 hours, extend operational life.

6. Top discharge, flow-thru design enables operation at low water levels for extended periods.

APPLICATIONS

1. Commercial, industrial wastewater and construction site drainage.

2. Effluent transfer.

3. Decorative waterfalls and fountains.

4. Raw water supply from rivers or lakes.

OIL LIFTER EQUIPPED

ETL LISTED c US Intertek

SPECIFICATIONS

Discharge Size	3” ~ 8” NPT (80 mm ~ 200 mm)
Horsepower Range	4 ~ 150 HP. (3 ~ 110 Kw)
Performance Range Capacity	26.4 ~ 1717.0 GPM. (0.1 ~ 6.5 m^3/min)
Head	20.5 ~ 604.0 Ft. (6.25 ~ 184.1m)
Maximum water temperature	104^0 F. (40^0 C.)
Materials of Construction	
Casing	Cast Iron , Ductile Cast Iron
Impeller	High Chrome Cast Iron
Shaft	420 Stainless Steel
Motor Frame	Cast Iron
Fasteners	304 Stainless Steel
Seal Pressure Relief Ports	50 - 150HP (37 - 110 kW)
Mechanical Seal	Silicon Carbide
Elastomers	NBR (Nitrile Butadiene Rubber)
Impeller Type	Semi-open, solids handling.
Solids Handling Capability	0.236 - 0.787” (6 - 20mm)
Bearings	Prelubricated, Double Shielded
Motor Nomenclature	
Type, Speed, Hz.	Air Filled, 3600 RPM, 60 Hz.
Voltage, Phase	208/230/460/575 V., 3 Phase.
Insulation	Class B , F
Accessories	Submersible Power Cable 50 - 65’ (15 - 20m) — Length as Required.
Operational Mode	Manual — TS-303 Float Switch

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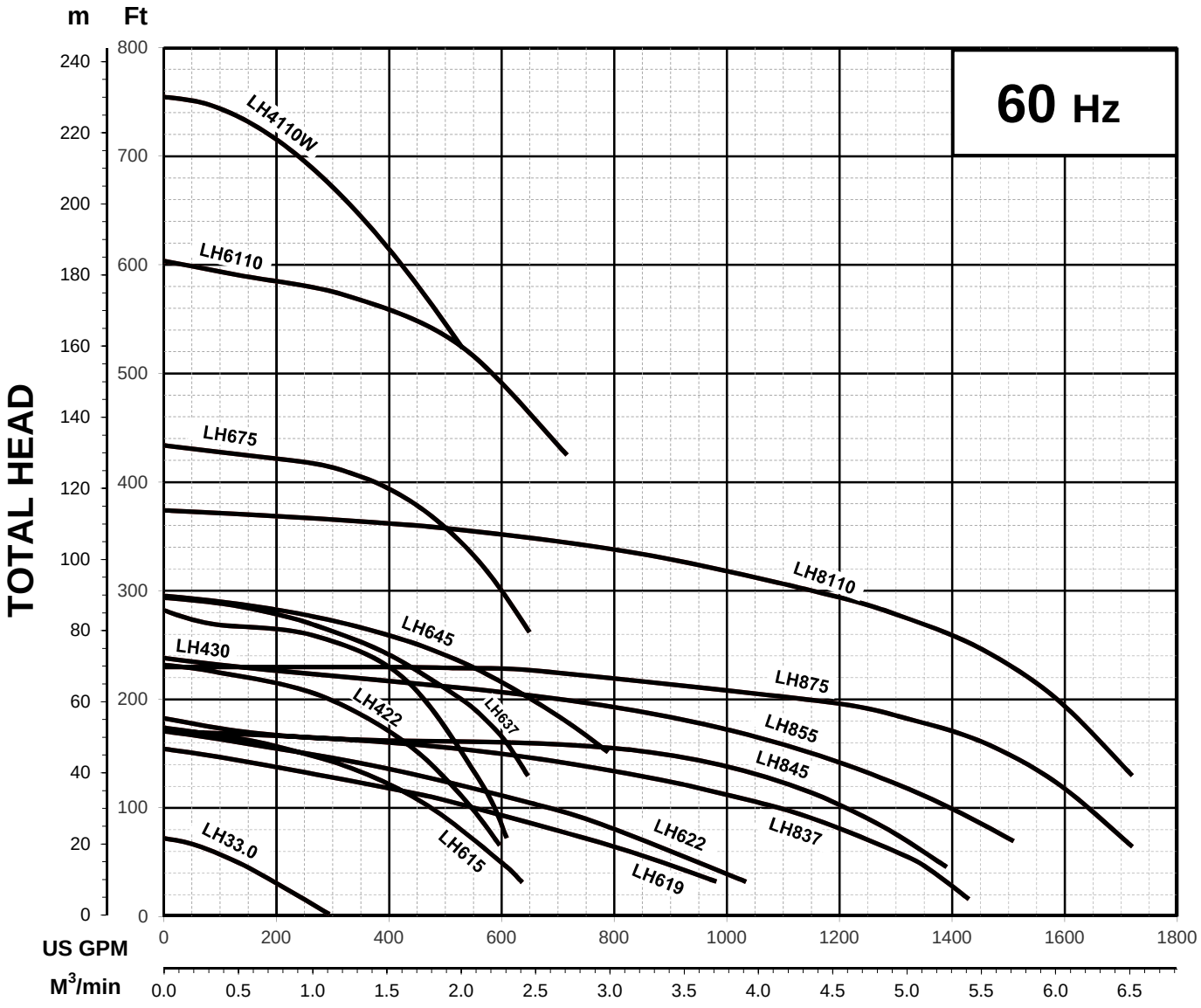
SUBMERSIBLE DEWATERING PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

Ex.

TSURUMI PUMP

LH - SERIES
DEWATERING PUMPS

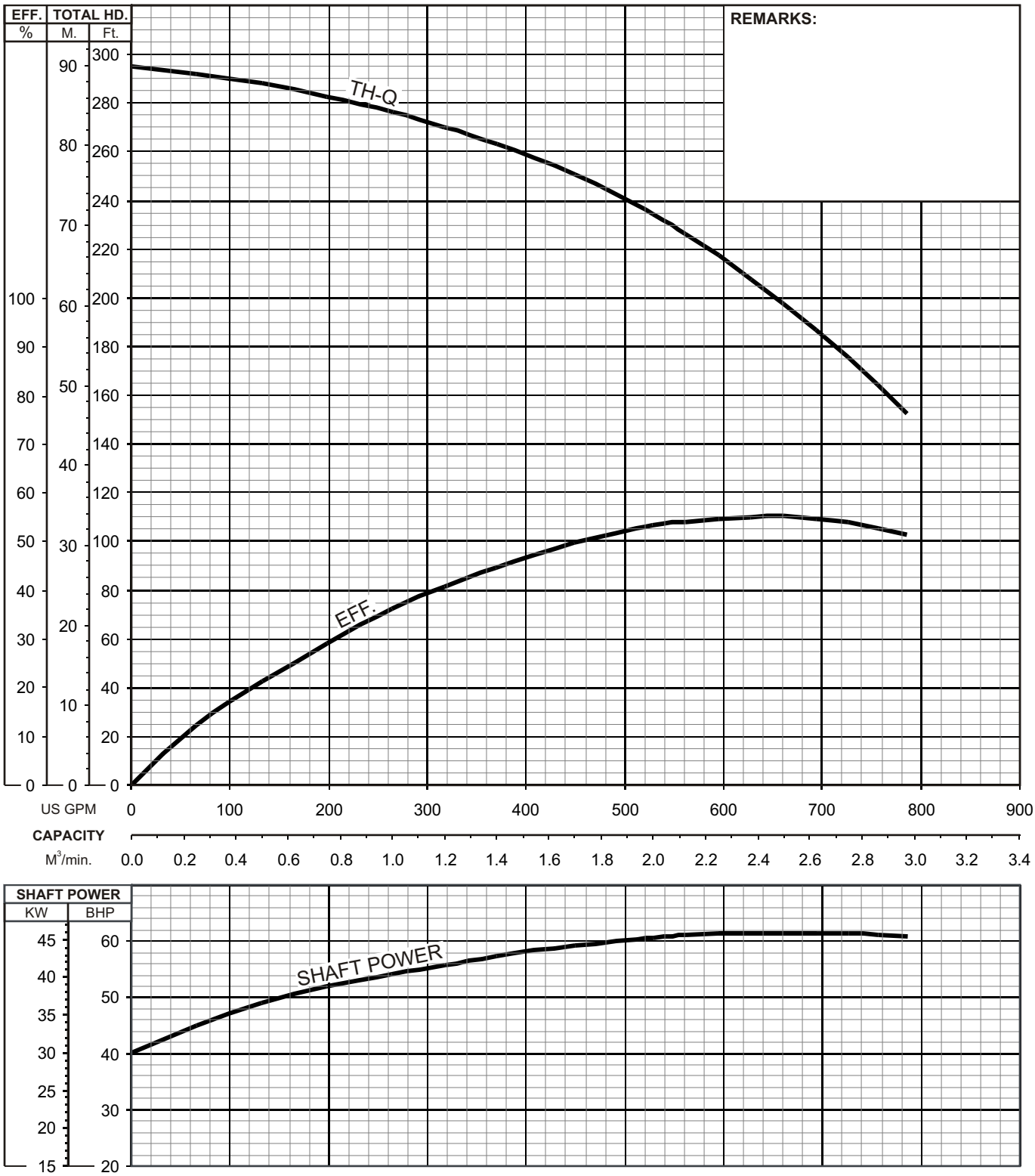
PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
LH645-60	6"/150mm	60	45	3530	0.236"/6mm	Water	1.0	1.123 cSt.	60°F

PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS
Dewatering Pump	3	460 / 575	67.0 / 53.0	60	Star-Delta	F

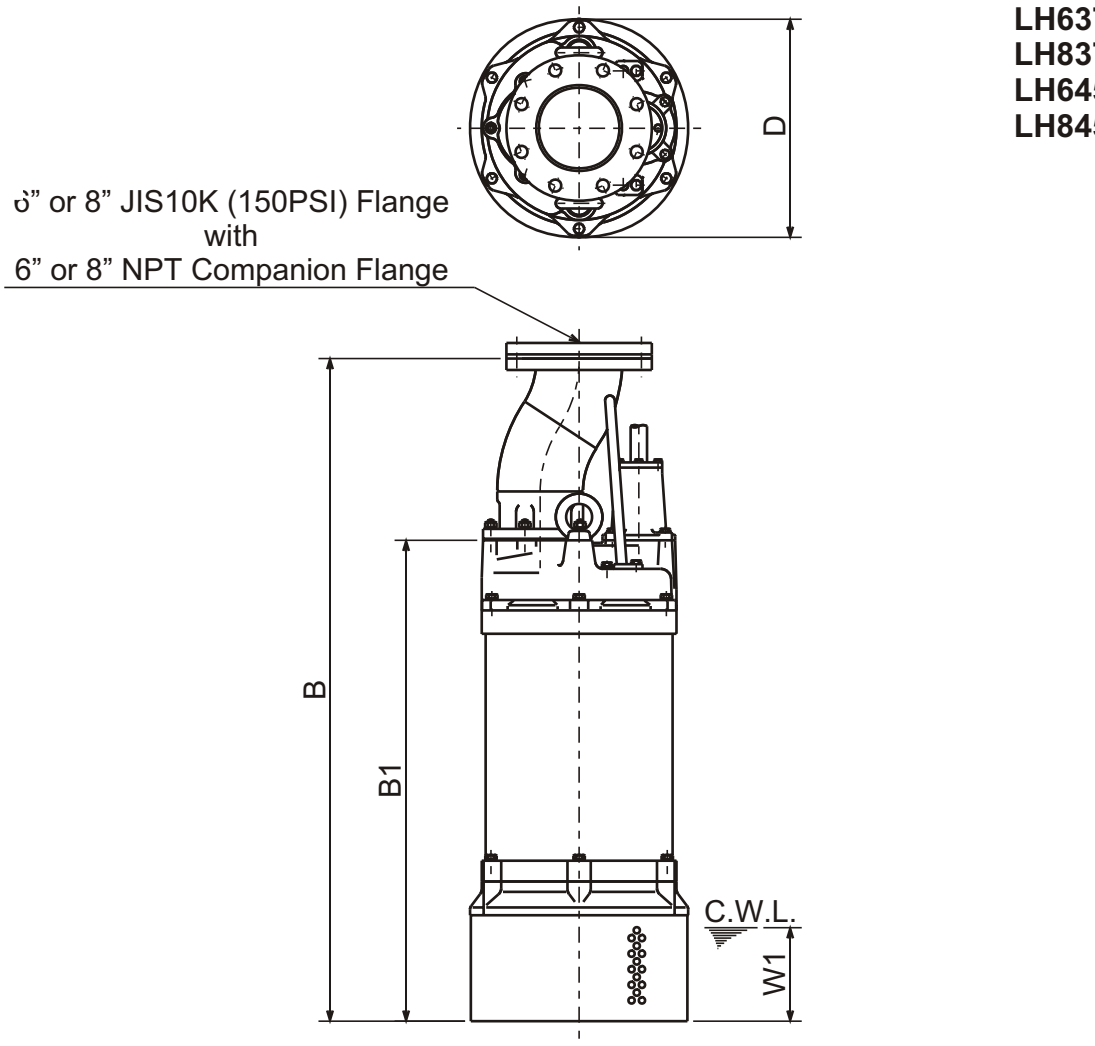
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS
-	-	-	-	-	-	-	-

REMARKS:



TSURUMI PUMP	LH - SERIES DEWATERING PUMPS	DIMENSIONS

LH637-60
LH837-60
LH645-60
LH845-60



C.W.L. : Continuous running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor			C.W.L.	Wt.
			B	B1	D	W1	(lbs.)
LH637-60	50	6"	57	40 7/16	20 7/8	7 1/8	1090
LH837-60	50	8"	58 9/16	40 7/16	20 7/8	7 1/8	1090
LH645-60	60	6"	57	40 7/16	20 7/8	7 1/8	1120
LH845-60	60	8"	58 9/16	40 7/16	20 7/8	7 1/8	1120

DIMENSIONS:METRIC (mm)

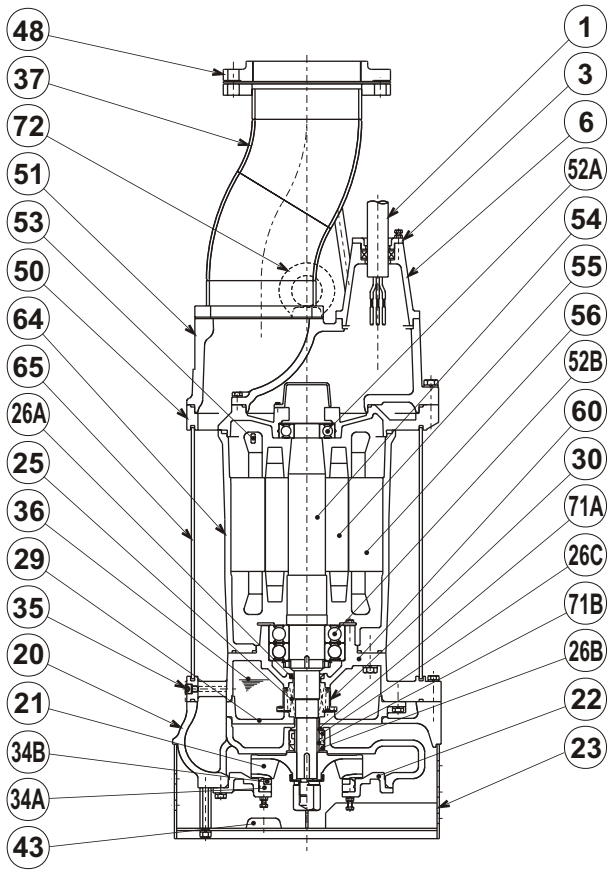
Model	kW	NOM. SIZE	Pump & Motor			C.W.L.	Wt.
			B	B1	D	W1	(kg)
LH637-60	37	150	1448	1027	530	180	495
LH837-60	37	200	1488	1027	530	180	495
LH645-60	45	150	1448	1027	530	180	510
LH845-60	45	200	1488	1027	530	180	510

TSURUMI PUMP

LH - SERIES
DEWATERING PUMPS

SECTIONAL VIEW

LH637-60
LH837-60
LH645-60
LH845-60



ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	ASTM, AISI CODE	RELATED EN CODE	Q'TY
1	Power Cable (LH637/837)	Chloroprene Sheath AWG 2/6 , 4/1 , 14/2 -50ft			1
	Power Cable (LH645/845)	Chloroprene Sheath AWG 4/6 , 6/1 , 14/2 -50ft			
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
6	Stuffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	High Chrome Cast Iron	A532 ClassIIITypeA	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
25	Mechanical Seal	Silicon Carbide / HT-4550N			1
26A	Oil Seal	NBR / SC50689			1
26B	Oil Seal	NBR / TCN487012			1
26C	Labyrinth Ring	Stainless Steel	S 30400	1.4301	1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Resin W/GF40			1
34A	Suction Mouth	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
34B	Mouth Ring	High Chrome Cast Iron	A532 ClassIIITypeA	DIN 1695 G-X260Cr27	1
35	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
37	Discharge Pipe	Steel Pipe (& Steel) / 6" or 8" JIS10K	A53 Type F (& A283 Grade D)	DIN 1615 St 33 (& EN 10025 S275)	1
43	Cathodic Protection Plate	Aluminium Alloy			3
48	Companion Flange	Cast Iron / NPT 6" or 8" JIS10K	A48M Class30B	EN 1561 GJL-200	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
51	Head Cover	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6310ZZC3			1
52B	Lower Bearing	#6314ZZD2C3			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
64	Motor Housing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
65	Outer Cover	Steel	A283 Grade D	EN 10025 S275	1
71A	Shaft Sleeve (Upper)	Stainless Steel	S 40300	1.4000	1
71B	Shaft Sleeve (Lower)	Stainless Steel	S 40300	1.4000	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2

TSURUMI PUMP	LH - SERIES DEWATERING PUMPS	SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model _____ Submersible Pump(s). Each unit shall be capable of delivering _____GPM (_____m^3/min) at _____Feet (_____m) TDH. The pump(s) shall be designed to pump waste water or effluent 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. Pump(s) shall be of the top discharge, flow through design.

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) shall be gray cast iron, ASTM A48 CLASS 35. Impellers and field adjustable/replaceable wear plates shall be high chrome iron. 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 up to 75 HP and LH875/890/8110 shall be furnished with 150 lb. (10 kg/cm^2) flat face flange and NPT companion flange. LH675/690/6110 shall be furnished with 300 lb. (20 kg/cm^2) flat face flange and NPT companion flange. 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. The unit(s) shall include built in cathodic protection.

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 be rated to preclude the incursion of water up to 42.6 PSI (98.4 Ft.) submergence. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be stainless steel. Unit(s) shall incorporate seal pressure relief ports. Units 75 Hp and above shall be supplied with electrode type seal sensor. All unit(s) shall be fitted with a replaceable shaft sleeve.

4. MOTOR-

The pump motor(s) shall be _____H P., _____kW., _____V., 60 Hz. 3 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 B (up to 30 HP) insulated with built in thermal protection for each winding. Motor shaft shall be 420 stainless steel and shall be supported by two high temperature bearings, with a B-10 life rating at best efficiency point of 60,000 hours. On units up to 60 HP, the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearing, and the top bearing shall be single row, double shielded, C3, deep groove type ball bearing. On units 75 HP and above, the bottom bearing shall be re-greasable, two row, C3, angular contact type ball bearing, and the top bearing shall be re-greasable, single row, C3, cylindrical roller bearing. Motors shall be D.O.L. or star-delta start (40 HP and above), 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 -

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.