



**LHW-SERIES  
HIGH HEAD DEWATERING PUMP**

**SPECIFICATIONS**

**■ FEATURES**

1. Enclosed, high chrome iron, impellers, 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. Residential, commercial, industrial wastewater and construction site drainage.
2. Effluent transfer.
3. Decorative waterfalls and fountains.
4. Raw water supply from rivers or lakes..



**■ SPECIFICATIONS**

- Discharge Size
- Horsepower Range
- Performance Range Capacity Head
- Maximum water temperature
- Materials of Construction
  - Casing
  - Impeller
  - Shaft
  - Motor Frame
  - Fasteners
- Seal Pressure Relief Ports
- Mechanical Seal
  - Elastomers
- Impeller Type
- Solids Handling Capability
- Bearings
- Motor Nomenclature
  - Type, Speed, Hz.
  - Voltage, Phase
  - Insulation
- Accessories
- Operational Mode

**■ STANDARD**

- 2" ~ 4" NPT (50 ~ 100 mm)
- 4 ~ 40 HP. (3.0 ~ 30 kW)
- 26.4 ~ 322.0 GPM. (0.10 ~ 1.22 m<sup>3</sup>/min)
- 54.1 Ft. ~ 417.0 Ft. (16.5. ~ 127.1 m)
- 104<sup>o</sup> F. (40<sup>o</sup> C.)
- Cast Iron , Ductile Cast Iron
- High Chrome Cast Iron
- 420 Stainless Steel
- Cast Iron
- 304 Stainless Steel
- 7.5 - 40HP (5.5 - 30kW)
- Silicon Carbide
- NBR (Nitrile Butadiene Rubber)
- Enclosed, two stage, solids handling.
- 0.236 - 0.334" (6.0 - 8.5mm)
- Prelubricated, Double Shielded
- Air Filled, 3600 RPM, 60 Hz.
- 208/230/460/575 V., 3 Phase
- Class B, F
- Submersible Power Cable 65' (20 m)
- Manual

**■ OPTIONS**

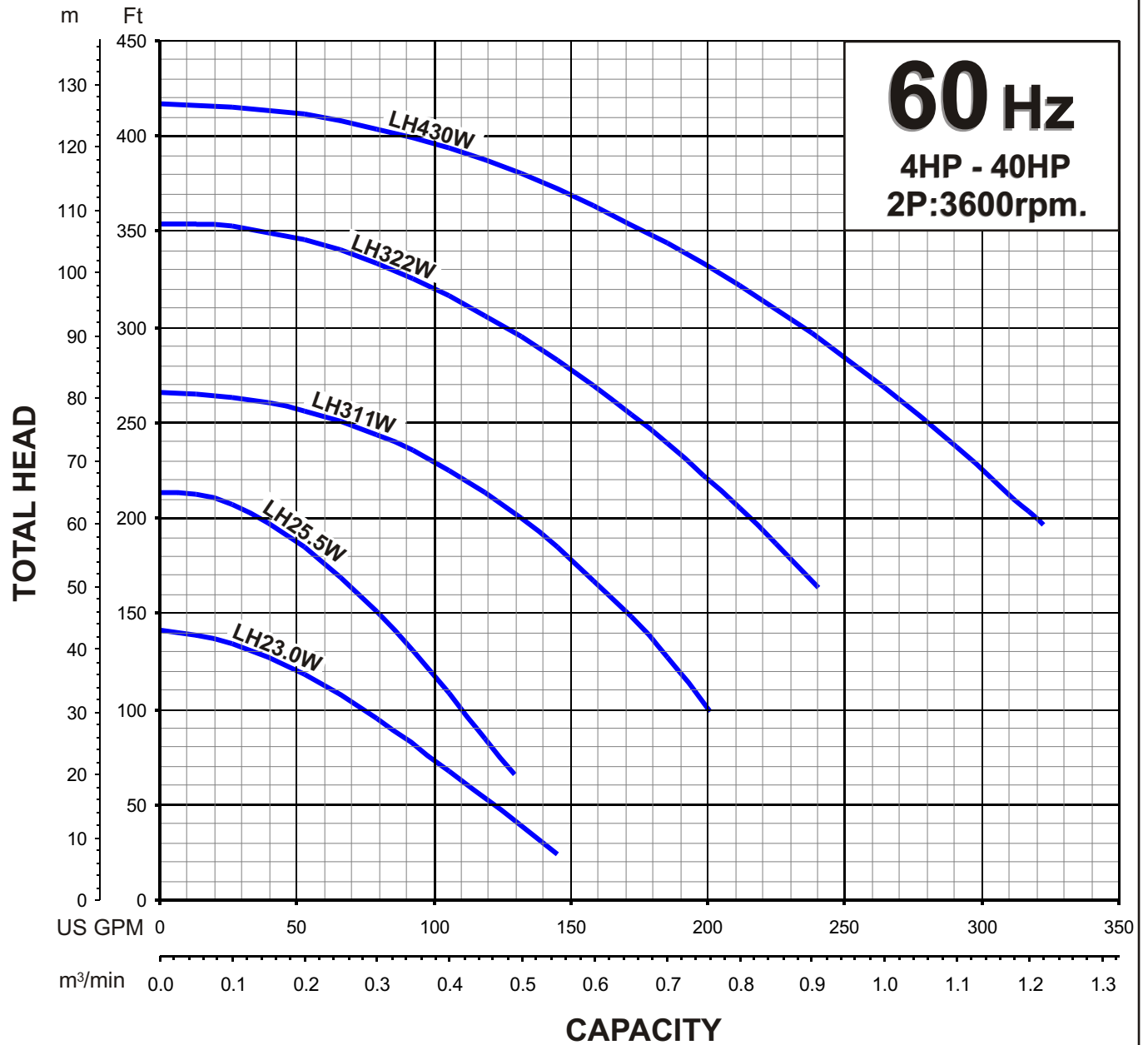
- Length as Required
- TS-301 Float Switch



# LH-W SERIES HIGH HEAD - DEWATERING PUMPS

## PERFORMANCE RANGE

### GROUP PERFORMANCE RANGE

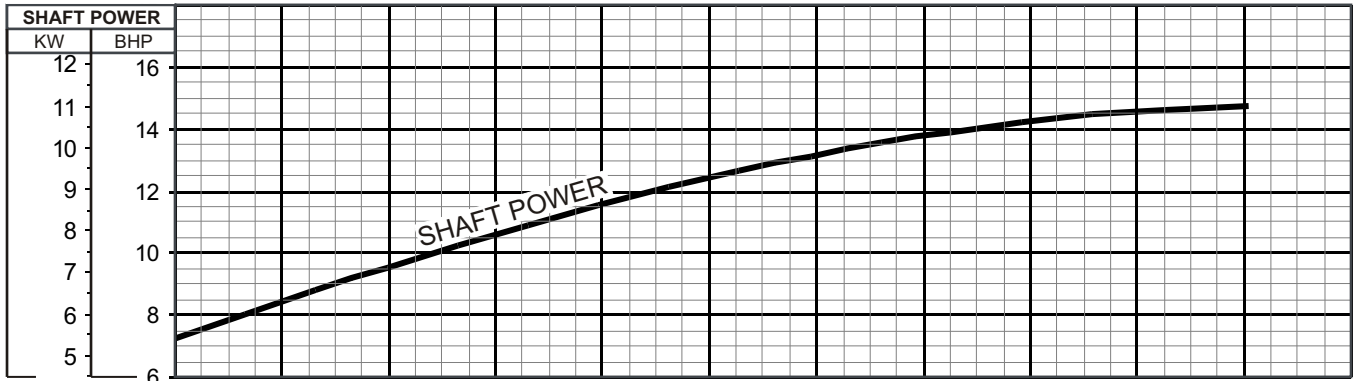
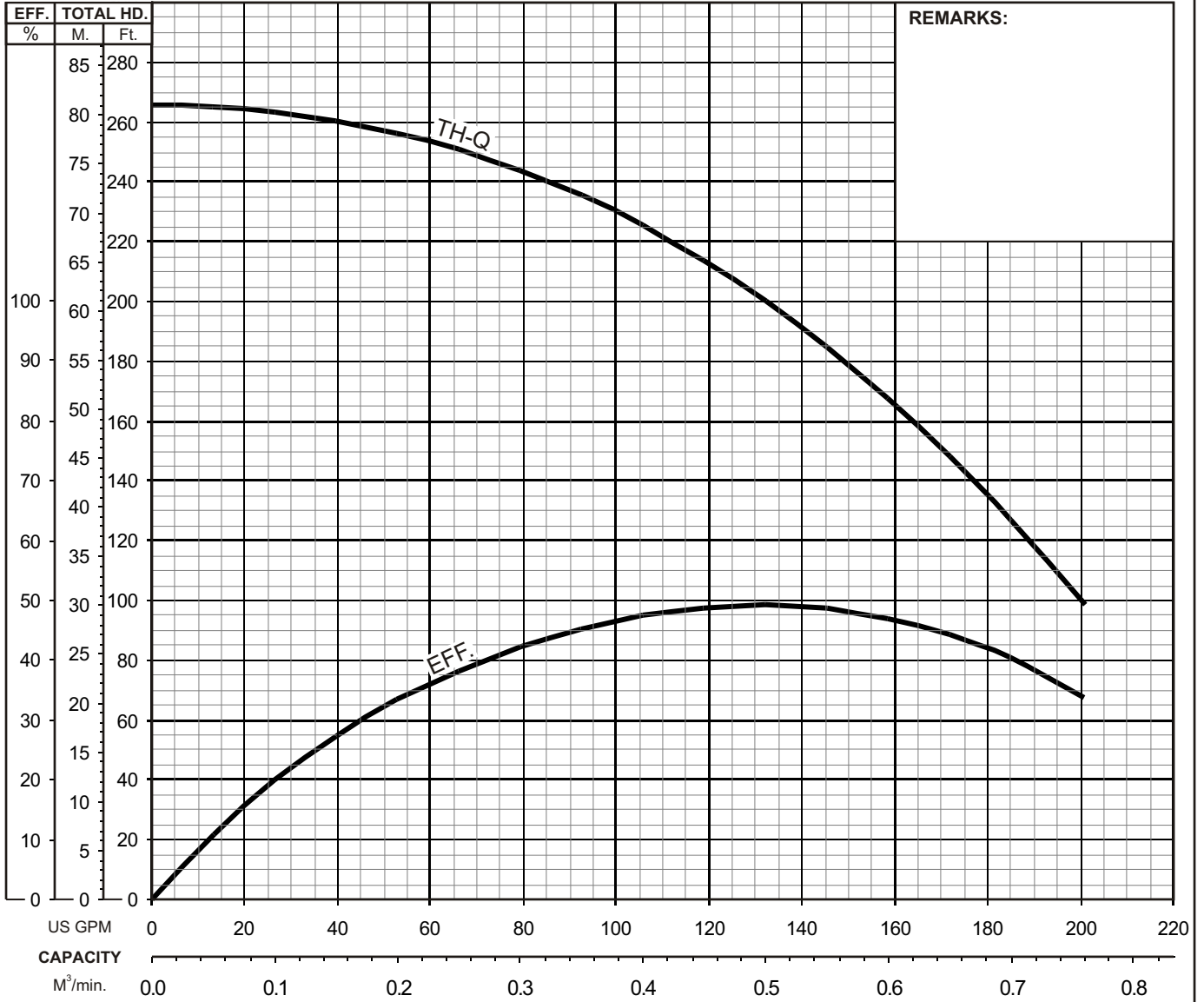




# LH-W SERIES HIGH HEAD - DEWATERING PUMPS

## PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
LH311W-60	3"/80mm	15	11	3465	0.334"/8.5mm	Water	1.0	1.123 cSt	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS			
High Head Dewatering Pump	3	208/230/460/575	42.0/37.0/18.5/14.5	60	Direct On Line	B			
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS		
-	-	-	-	-	-	-	-		

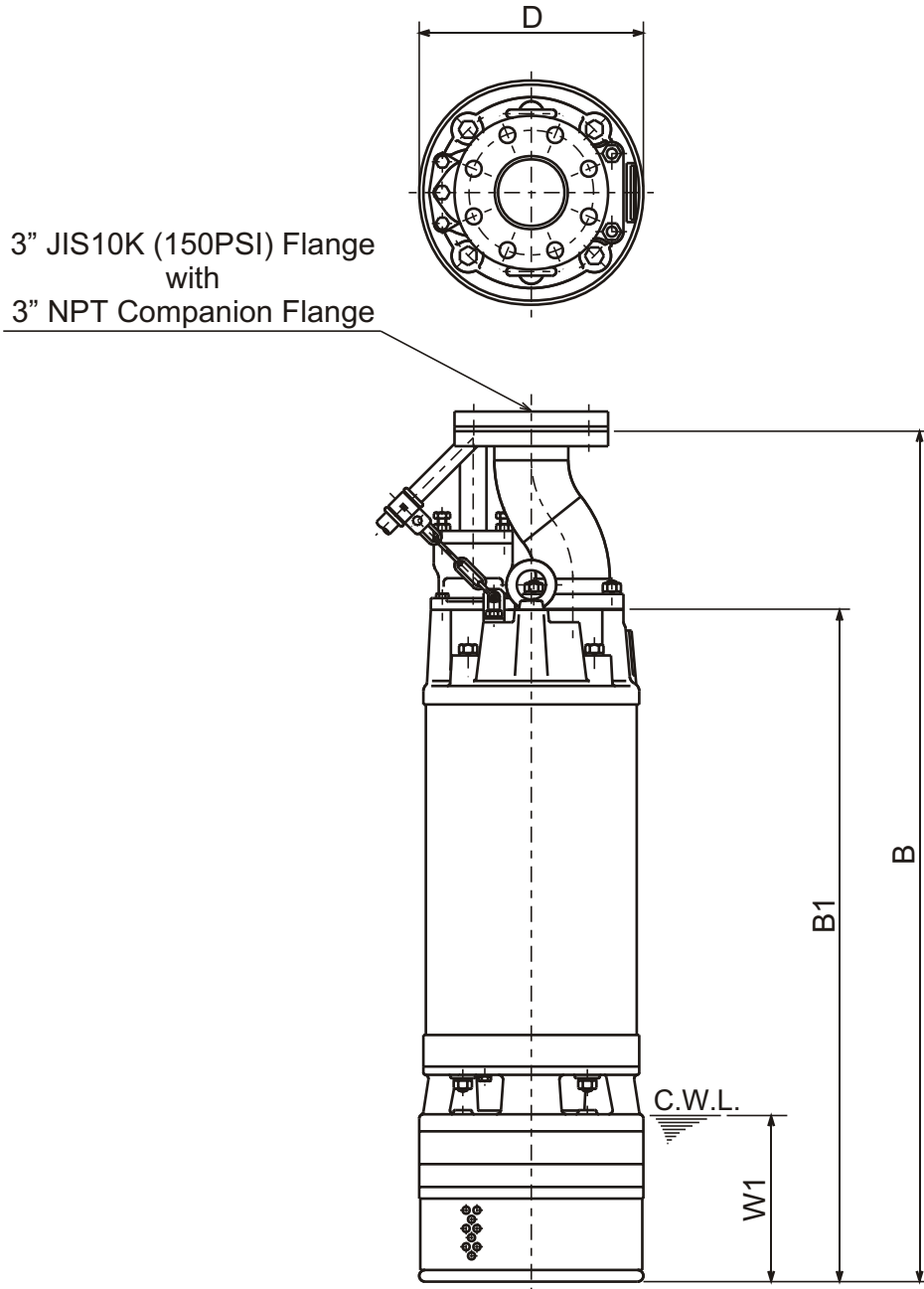




**LH-W SERIES**  
HIGH HEAD - DEWATERING PUMPS

**DIMENSIONS**

**LH311W-60**



C.W.L. : Continuous running Water Level

**DIMENSIONS:USCS (Inch)**

Model	HP	NOM. SIZE	Pump & Motor			C.W.L.	*Wt. (lbs.)
			B	B1	D	W1	
LH311W-60	15	3"	40 5/16	31 7/8	10 5/8	7 7/8	287

**DIMENSIONS:METRIC (mm)**

\*Excluding Cable

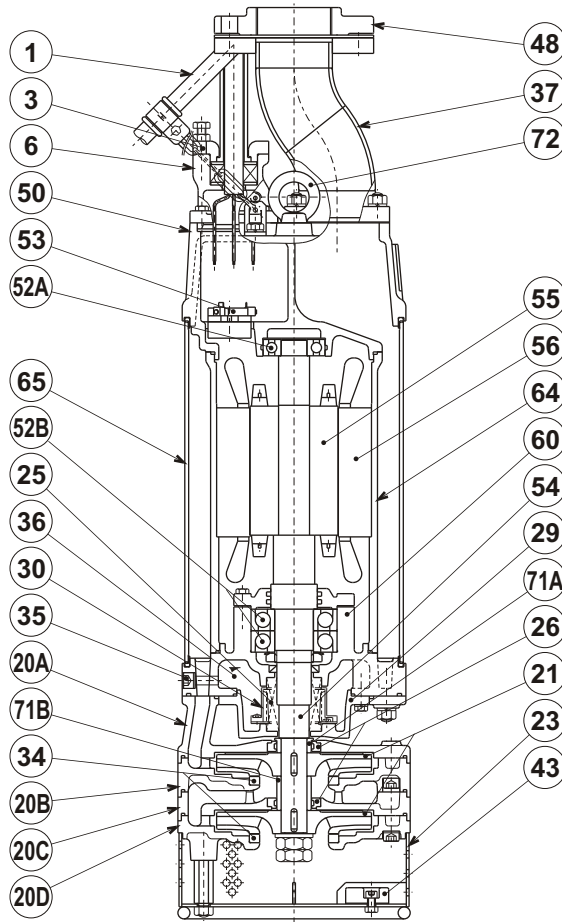
Model	HP	NOM. SIZE	Pump & Motor			C.W.L.	*Wt. (kg)
			B	B1	D	W1	
LH311W-60	11	80	1024	809	270	200	130



**LH-W SERIES**  
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**SECTIONAL VIEW**

**LH311W-60**



ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	ASTM, AISI CODE	RELATED EN CODE	Q'TY
1	Power Cable	Chloroprene Sheath AWG8/4-65ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
6	Stuffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
20A	Upper Pump Casing	Ductile Cast Iron	A536 65-45-12	EN 1563 GJS-450-10	1
20B	Lower Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
20C	Upper Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
20D	Lower Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	High Chrome Cast Iron	A532 Class TypeA	DIN 1695 G-X260Cr27	2
23	Suction Strainer	Steel	A283 Grade D	EN 10025 S275	1
25	Mechanical Seal	Silicon Carbide / HT-3540N			1
26	Labyrinth Ring	Stainless Steel	S 30400	1.4301	2
29	Oil Casing	Ductile Cast Iron	A536 65-45-12	EN 1563 GJS-450-10	1
30	Oil Lifter	PBT Resin W/GF40			1
34	Mouth Ring	High Chrome Cast Iron	A532 Class TypeA	DIN 1695 G-X260Cr27	2
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
37	Discharge Pipe	Steel Pipe (& Steel) / 3" JIS10K	A53 Type F (& A283 Grade D)	DIN 1615 St 33 (& EN 10025 S275)	1
43	Cathodic Protection Plate	Zinc Anode			2
48	Companion Flange	Cast Iron / NPT 3" JIS10K	A48M Class30B	EN 1561 GJL-200	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6306ZZC3			1
52B	Lower Bearing	#7309DBC3			1
53	Motor Protector				1
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	Stainless Steel	S 30400	1.4301	2



## LH-W SERIES HIGH HEAD - 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<sup>3</sup>/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 plate 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 15 HP shall be furnished with 150 lb. (10 kg/cm<sup>2</sup>) flat face flange and NPT companion flange. Units 30 HP and above shall be furnished with 300 lb. (20 kg/cm<sup>2</sup>) 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. All unit(s) shall be fitted with replaceable shaft sleeves.

### 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 B or F (40 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. The bottom bearing on unit 7.5 HP shall be two row, double shielded, C3, deep groove type ball bearing. Units 15 Hp and above shall have 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 D.O.L. or star-delta start (40 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 -

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 with a fatigue reducing boot. The cable entrance assembly shall contain an anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.