



**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 m³/min)
- 54.1 Ft. ~ 417.0 Ft. (16.5. ~ 127.1 m)
- 104^o F. (40^o 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

TECHNICAL BULLETIN

Introduction of New Model, LH4110W

No.: N63-003
Date: July 26, 2013

We are pleased to introduce a new submersible construction dewatering pump, model LH4110W. The pump is a two-stage pump (having two impellers) and is suitable for extra high head pumping.

FEATURES

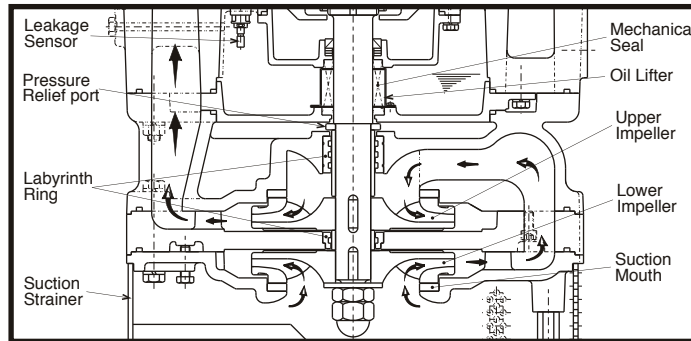
- Capable of extreme high head pumping with max. 755ft. head (60Hz).
- Back-to-back impeller arrangement reduces the axial thrust.
- Other features such as pressure relief port, cathodic protection anodes, high-chromium iron impeller, 420 stainless steel shaft, and SiC mechanical seal, etc. are the common features of all LH pumps.

APPLICATIONS

- Dewatering in quarry or mining
- Pumping underground water, storm water, river water
- Intaking raw water from a remote river or lake

AVAILABILITY

We are able to receive your orders with immediate effect.

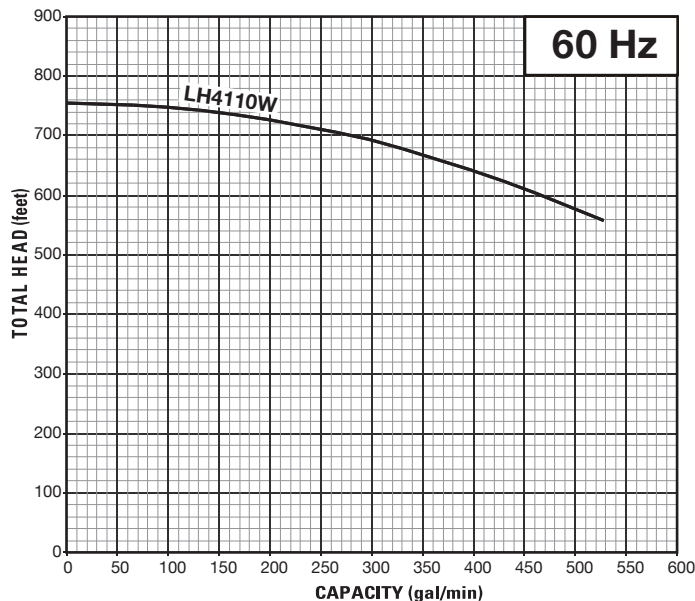


STANDARD SPECIFICATIONS

Model	Discharge Connection	Motor Output (HP)	Starting Method	Solids Passage (inches)	Dimension (inches)		Weight (lbs.)	Power Cable	
					Diameter	Height		Size	Length (ft)
LH4110W	4" NPT Companion Flange	150	Y-D & D.O.L	0.315	24 1/2	71 7/8	2800	1 x AWG 1/3, 4/1, 14/3 1 x AWG 1/3	65

Notes: 1) The mass is the weight of pump without cable.
2) One of the cables has extra cores for grounding and monitoring.

PERFORMANCE CURVE



MAJOR COMPONENTS

Pump	Structure	Impeller	Shrouded multi-vane impeller
		Shaft Seal	Double-face seal in Oil Chamber
Material	Bearing	Upper – Cylindrical Roller Bearing Lower – Duplex Angular Bearing	
	Pump Casing	Cast Iron	
	Impeller	High Chromium Iron	
	Mouth Ring	High Chromium Iron	
	Shaft Seal	SiC+SiC, SiC+SiC	

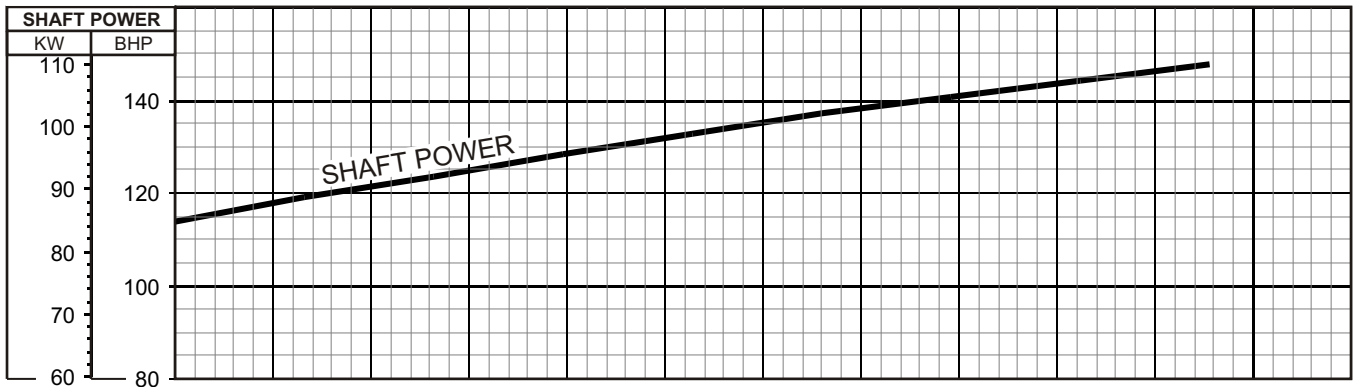
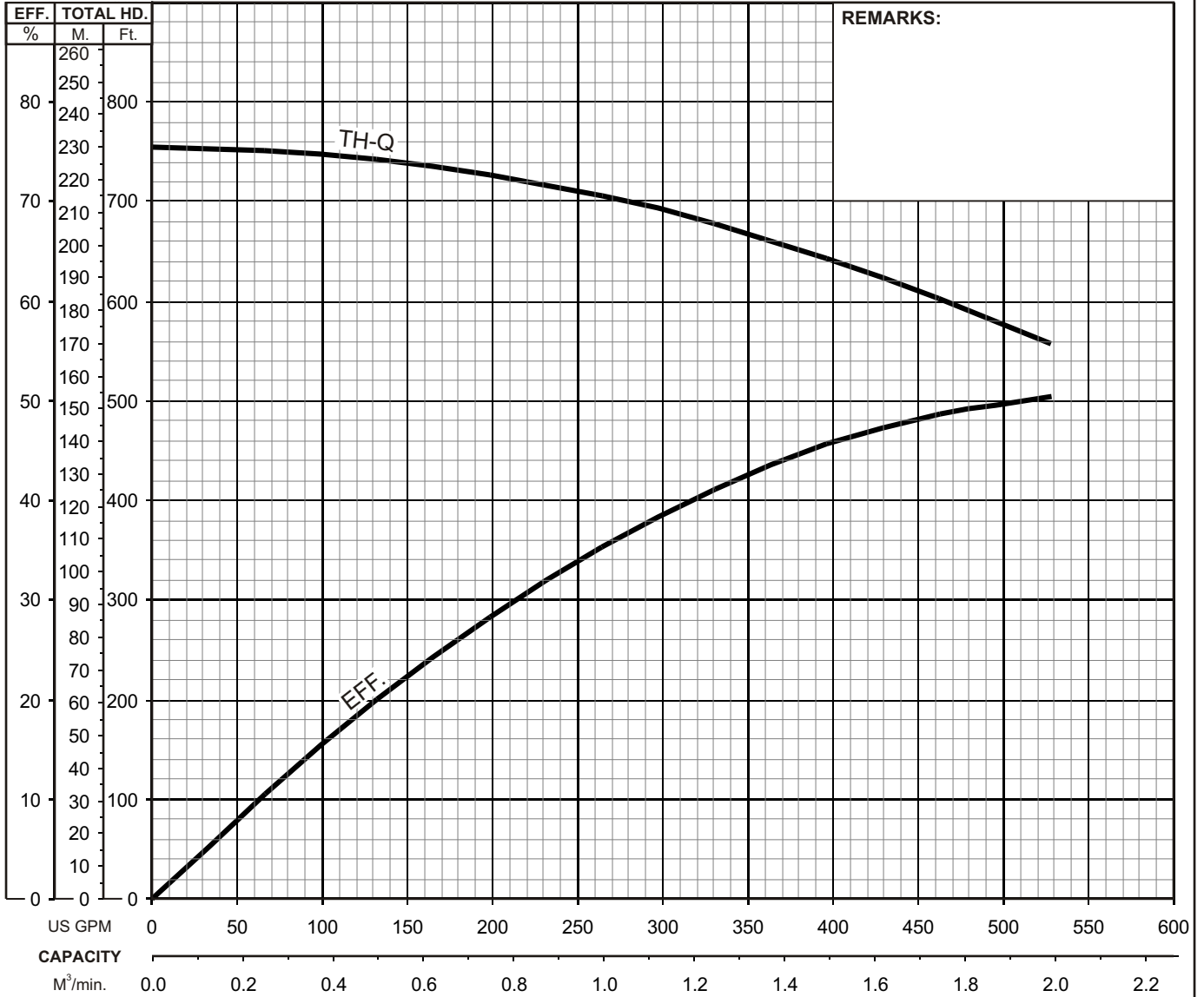
Motor	Power Supply	AC, Three-phase, 460V / 575V
	Class of Insulation	Class F
	Speed (60Hz)	3570rpm
	Motor Protection Device	Miniature Thermal Protectors
	Material	Motor Frame
Shaft		Stainless Steel
Power Cable		Chloroprene Sheathed Cable, 65ft.



LH-W SERIES HIGH HEAD - DEWATERING PUMPS

PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
LH4110W-61	4"/100mm	150	110	3570	0.315"/8mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Dewatering Pump		3	460 / 575	181 / 145		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-	-		-	-		-

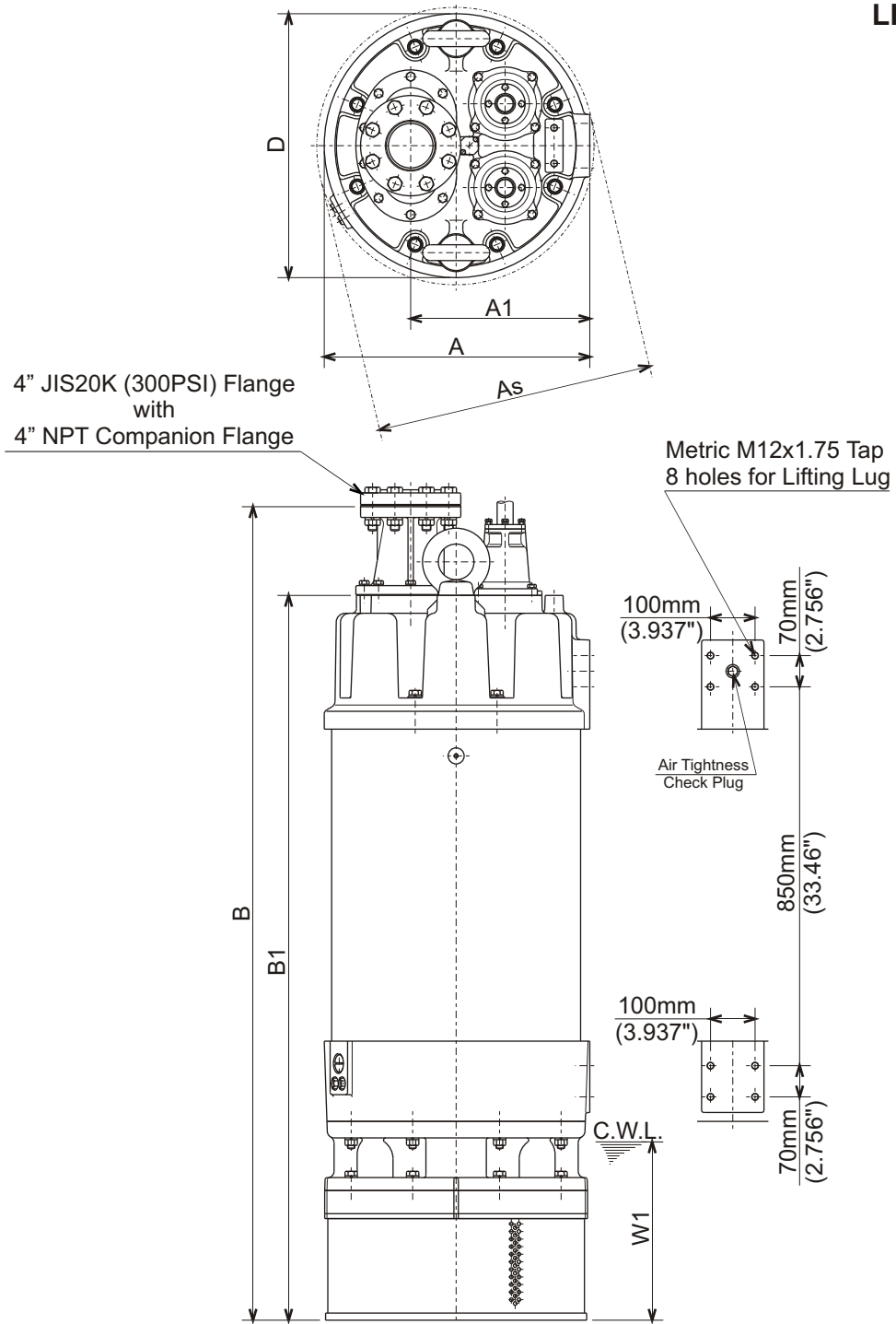




LH-W SERIES
HIGH HEAD - DEWATERING PUMPS

DIMENSIONS

LH4110W-61



C.W.L. : Continuous running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor						C.W.L. W1	Wt. (lbs.)
			A	As	A1	B	B1	D		
LH4110W-61	150	4"	23 7/16	24 1/2	15 13/16	71 7/8	64	23 5/16	15 3/4	2800

DIMENSIONS:METRIC (mm)

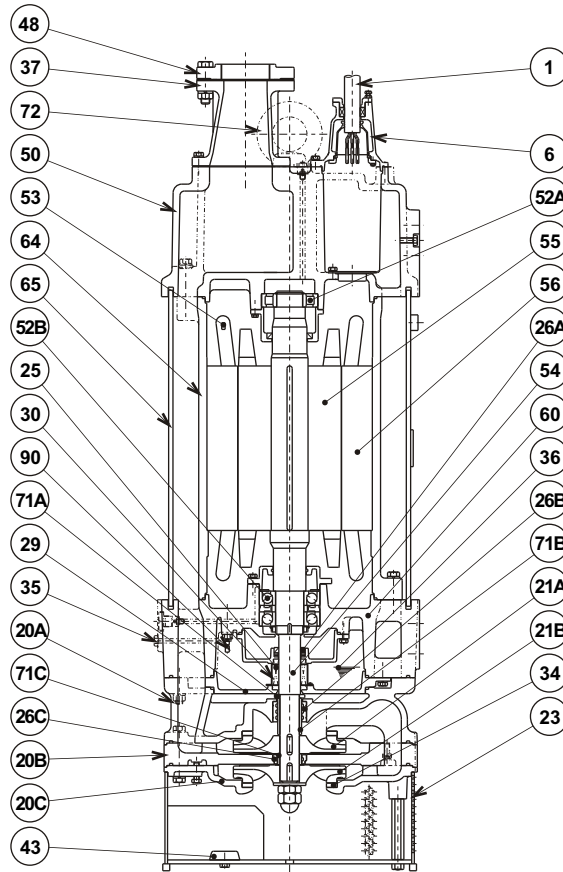
Model	kW	NOM. SIZE	Pump & Motor						C.W.L. W1	Wt. (kg)
			A	As	A1	B	B1	D		
LH4110W-61	110	100	596	622	402	1825	1626	592	400	1270



LH-W SERIES
HIGH HEAD - DEWATERING PUMPS

SECTIONAL VIEW

LH4110W-61



ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 1/3, 4/1, 14/3 -65f t			1
	Power Cable	Chloroprene Sheath AWG 1/3 -65f t			1
6	Stuffing Box	Cast Iron	A48M Class30B	EN1561 GJL-200	2
20A	Upper Pump Casing	Cast Iron	A48M Class30B	EN1561 GJL-200	1
20B	Middle Pump Casing	Cast Iron	A48M Class30B	EN1561 GJL-200	1
20C	Lower Pump Casing	Cast Iron	A48M Class30B	EN1561 GJL-200	1
21	Impeller	High Chrome Cast Iron	A532 Class III Type A	DN 1695 G-X260Q27	1
23	Suction Strainer	Steel (Cold Rolled)	A109/A 1008	EN10130	1
25	Mechanical Seal	Silicon Carbide / H-50T			1
26A	Oil Seal	Nitrile Butadiene Rubber / SC-507210			1
26B	Labyrinth Ring (Upper)	Stainless Steel	S 17400	1.4542	1
26C	Labyrinth Ring (Lower)	Stainless Steel	S 17400	1.4542	1
29	Oil Casing	Cast Iron	A48M Class30B	EN1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A 1008	EN10130	1
34	Suction Mouth	High Chrome Cast Iron	A532 Class III Type A	DN 1695 G-X260Q27	1
35	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil BO VG32 or SAE10W-20			
37	Flanged Discharge Pipe	Ductile Cast Iron / 4" JIS20K	A536 65-45-12	EN1563 GJS-500-7	1
43	Cathodic Protection Plate	Aluminium Alloy			3
48	Companion Flange	Cast Iron / NPT 4"	A48M Class30B	EN1561 GJL-200	1
50	Motor Head Cover	Cast Iron	A48M Class30B	EN1561 GJL-200	1
52A	Upper Bearing	#NU312ECM			1
52B	Lower Bearing	#7313BECBMD w/ Spacer			1 set
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	EN1561 GJL-200	1
64	Motor Housing	Cast Iron	A48M Class30B	EN1561 GJL-200	1
65	Outer Cover	Steel	A283 Grade D	EN10025 S275	1
71A	Shaft Sleeve (Upper)	Stainless Steel	S 17400	1.4542	1
71B	Shaft Sleeve (Middle)	Stainless Steel	S 17400	1.4542	1
71C	Shaft Sleeve (Lower)	Stainless Steel	S 17400	1.4542	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN10025 S275	2
90	Leakage Sensor Electrode	Stainless Steel	S 30300	1.4305	1



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 (_____ m³/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/cm²) flat face flange and NPT companion flange. Units 30 HP and above shall be furnished with 300 lb. (20 kg/cm²) 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.