



HS SERIES HS • HSZ • HSD

Semi-Vortex - Wastewater Pump with Agitator

SPECIFICATIONS

✓ FEATURES



- Semi-vortex urethane rubber impeller with agitator suspends solids and allows for pumping of sand and stringy material.
- Highly efficient, continuous duty air-filled, copper wound motor with class E insulation minimizes the cost of operation.
- Built in thermal protection prevents motor failure due to overloading, accidental run-dry and single phasing in three phase units.
- Double inside mechanical seals with silicon carbide faces running in an oil filled chamber provide for one the most durable seal designs available.
- Double shielded, permanently lubricated, high temperature C3 ball bearings rated for a B-10 life of 60,000 hours provide for extended operational life.

✓ APPLICATIONS

- Residential, commercial, industrial wastewater and site drainage.
- Decorative waterfalls and fountains.
- Raw water supply from lakes or rivers.
- Sediment removal from small sumps or basins.

✓ SPECIFICATIONS

HS • HSZ • HSD SERIES		STANDARD	OPTIONS
Discharge Size		2" - 3" NPT (50 - 80mm)	
Horsepower Range		1/2 - 1HP (0.40 - 0.75kW)	
Performance Range	Capacity	13.2 - 61.0GPM (0.05 - 0.23m ³ /min)	
	Head	13.1 - 62.0ft. (4.0 - 18.9m)	
Maximum Water Temperature		104F° (40C°)	
Materials of Construction	Casing	Cast Iron Ductile Cast Iron (HSD)	
	Impeller	Urethane Rubber High Chrome Cast Iron (HSD)	
	Shaft	403 Stainless Steel	
	Motor Frame	Aluminum Alloy	
	Fasteners	304 Stainless Steel	
Mechanical Seal		Silicon Carbide	
Elastomers		NBR (Nitrile Butadiene Rubber)	
Impeller Type		Semi-Vortex, Solid Handling	
Solids Handling Capability		0.276" - 0.393" (7.0 - 10.0mm)	
Bearings		Prelubricated, Double Shielded	
Motor Nomenclature	Type, Speed, Hz	Air Filled, 3600RPM, 60Hz	
	Voltage, Phase	115 / 230V, 1 Phase	
	Insulation	Class E	
Accessories		Submersible Power Cable, 20' - 32' (6.2 - 10m)	Length as required
Operational Mode		Manual (HS, HSD), Automatic (HSZ)	TS-301 Float Switch

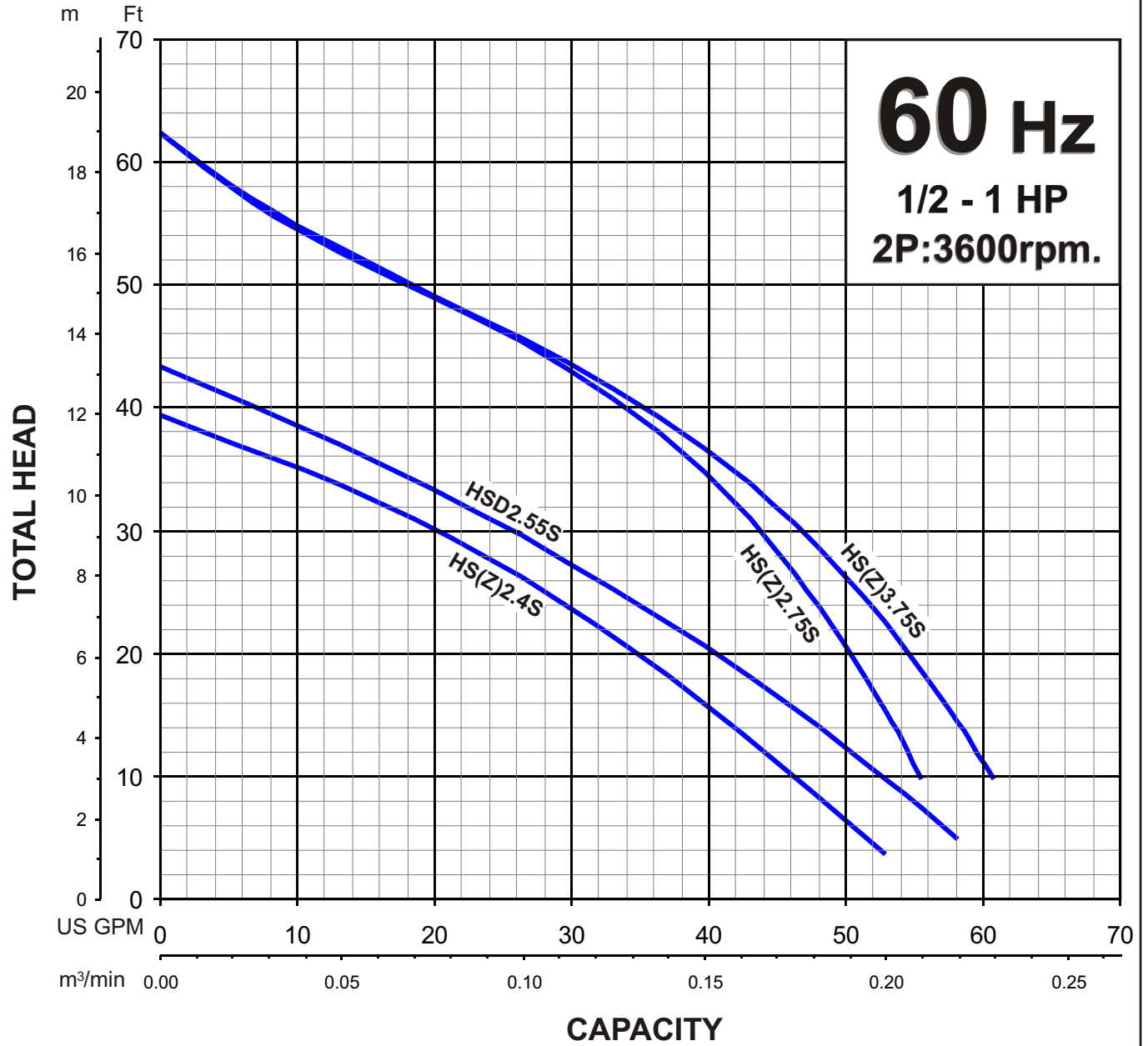


TSURUMI PUMP

HS - SERIES
SEMI-VORTEX - WASTEWATER & DEWATERING PUMP

PERFORMANCE
RANGE

GROUP PERFORMANCE RANGE

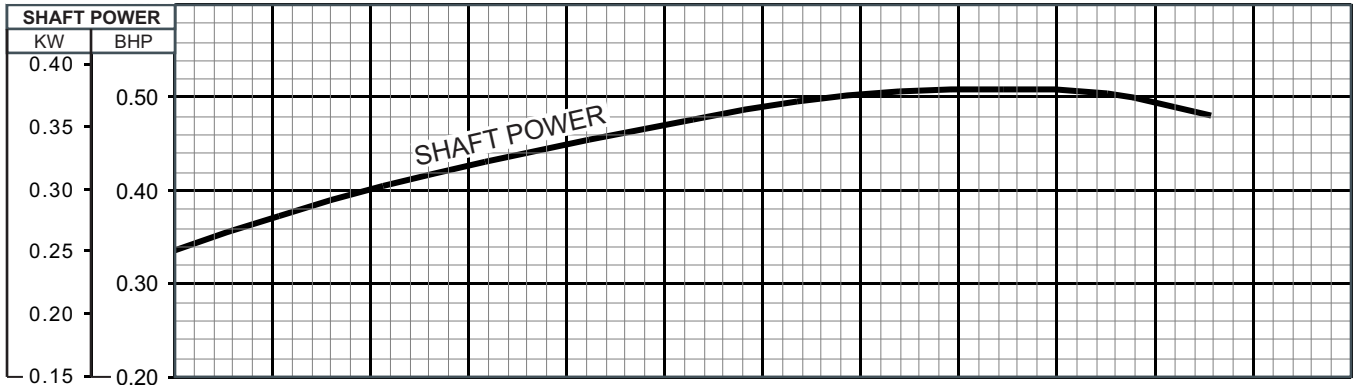
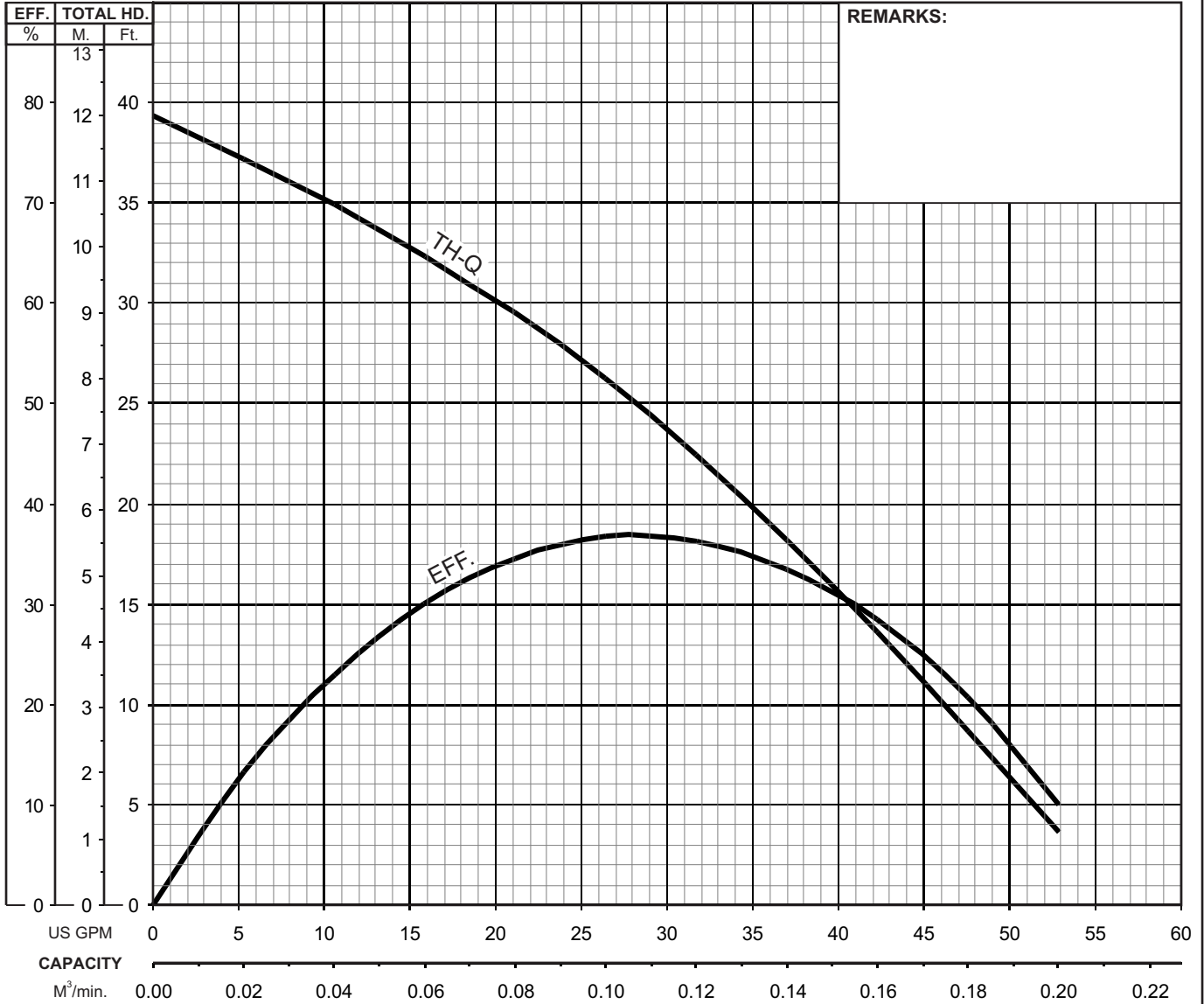




HS - SERIES SEMI-VORTEX - WASTEWATER PUMP

PERFORMANCE CURVE

MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
HS(Z)2.4S-62	2" / 50mm	0.54	0.40	3320	0.28" / 7mm	Water	1.0	1.123 cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Semi-Vortex - Wastewater Pump	Single	110/115, 220		5.4 / 5.2, 2.7		60	Capacitor Start		E
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD		INS. CLASS	
-	-	-	-	-	-	-		-	

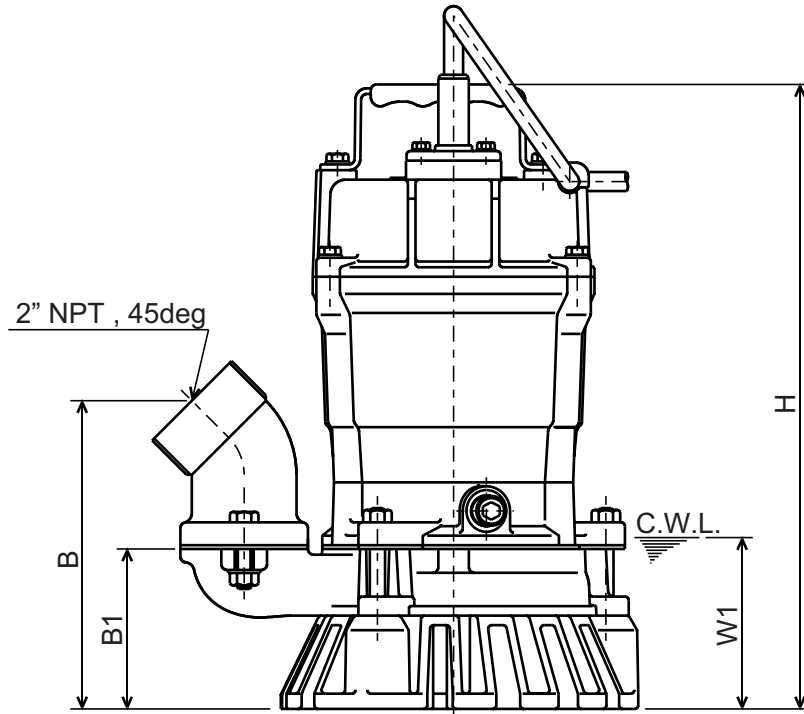
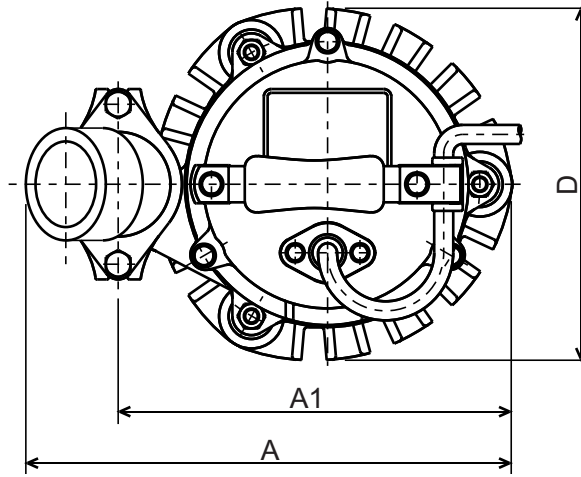




HS - SERIES
SEMI-VORTEX - WASTEWATER PUMP

DIMENSIONS

HS2.4S-62



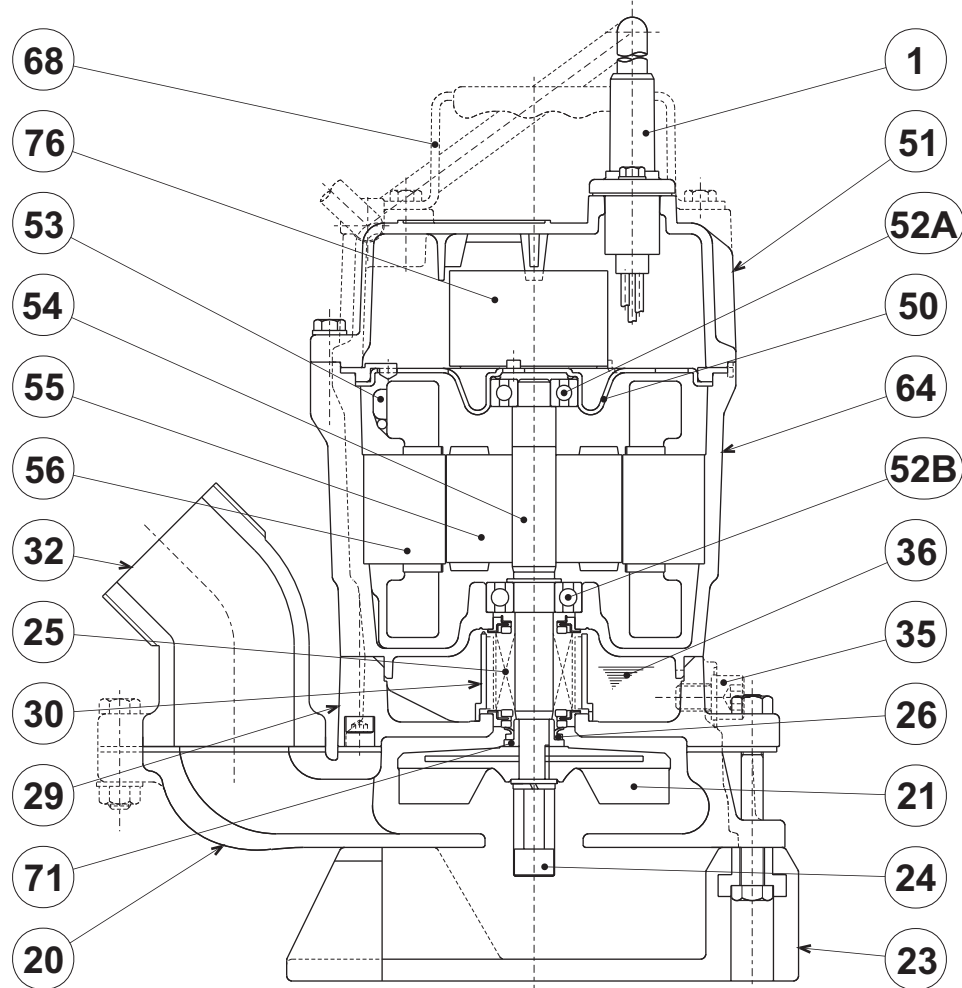
C.W.L. : Continuous running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor						C.W.L.	Wt. (lbs.)
			A	A1	B	B1	D	H	W1	
HS2.4S-62	1/2	2"	10 1/16	8 1/8	6 3/8	3 5/16	7 5/16	12 15/16	3 1/2	25

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor						C.W.L.	Wt. (kg)
			A	A1	B	B1	D	H	W1	
HS2.4S-62	0.40	50	255	207	162	84	185	328	90	11.3

HS2.4S-62


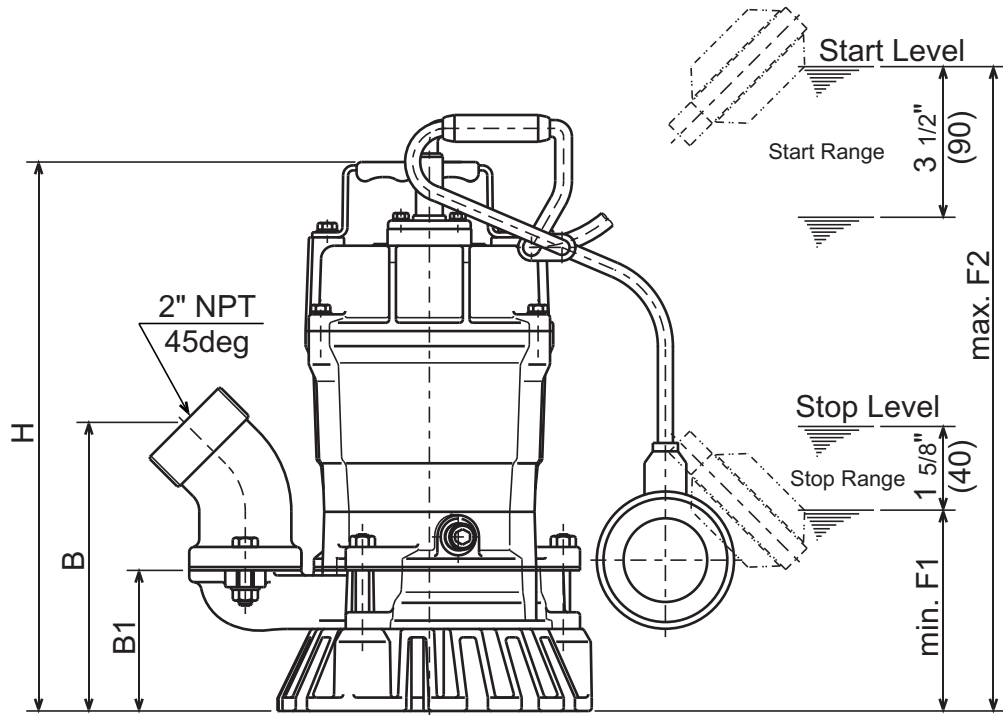
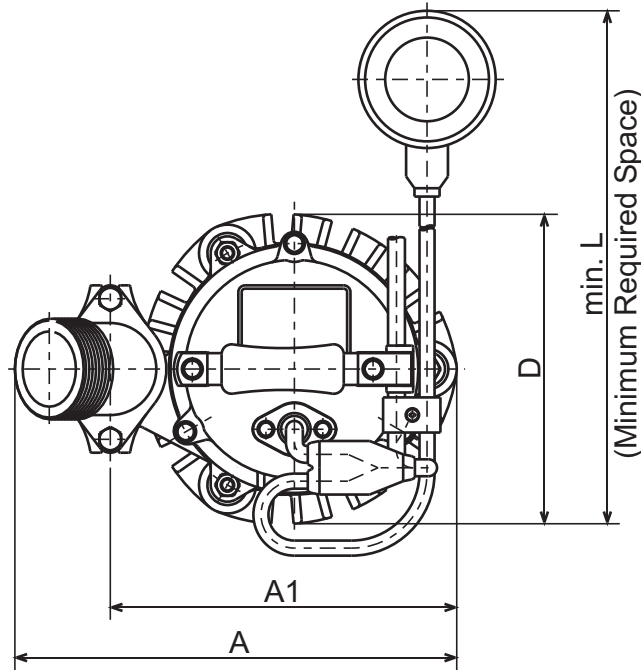
ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	Q'TY
1	Power Cable	PVC Sheath AWG16/3-20ft			1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	Urethane Rubber			1
23	Suction Strainer	PVC			1
24	Agitator	Steel	A283 Grade D	EN 10025 S275	1
25	Mechanical Seal	Silicon Carbide / W-14VL			1
26	V-Ring	Nitrile Butadiene Rubber			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Resin			1
32	Discharge Connection	Cast Iron / NPT 2"	A48M Class30B	EN 1561 GJL-200	1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE10W -20			
50	Motor Bracket	Steel (Electro-Galvanized)	A591	EN 10152	1
51	Motor Head Cover	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
52A	Upper Bearing	#6201ZZC3			1
52B	Lower Bearing	#6202ZZC3			1
53	Motor Protector				1
54	Shaft	Stainless Steel	S 40300	1.4000	1
55	Rotor				1
56	Stator				1
64	Motor Housing	Aluminum Alloy Die Casting	B85 383.0	EN 1706 AC-46100	1
68	Handle	Steel (Hot Rolled) + NR Rubber	A1011	EN 10111	1
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1



HS - SERIES
SEMI-VORTEX - WASTEWATER PUMP (AUTO-TYPE)

DIMENSIONS

HSZ2.4S-62



DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor						Space min. L	Stop min. F1	Start max. F2	Wt. (lbs.)
			A	A1	B	B1	D	H				
HSZ2.4S-62	1/2	2"	10 1/16	8 1/8	6 3/8	3 5/16	7 5/16	12 15/16	13 1/2	4 3/4	15 1/8	25

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor						Space min. L	Stop min. F1	Start max. F2	Wt. (kg)
			A	A1	B	B1	D	H				
HSZ2.4S-62	0.40	50	255	207	162	84	185	328	340	120	385	11.3



HS - SERIES
SEMI-VORTEX - WASTEWATER PUMP

SAMPLE
SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model HS2.4S-62 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 wastewater, or effluent containing debris and solids 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 as follows: Pump casing shall be gray cast Iron, ASTM A48 CLASS 35. Motor frame shall be aluminum alloy die casting. Impeller shall be urethane rubber and shall incorporate an agitating device in order to disperse debris and suspend particles. A fused polymer coating shall protect Internal and external surfaces coming into contact with the pumpage. All exposed fasteners shall be stainless steel. All units shall be furnished with a 2" NPT discharge connection. Impellers shall be of the multi-vane, semi-vortex, solids handling design and shall be slip fit to the shaft and positively driven. The suction strainer shall be manufactured from ABS high impact resin and shall incorporate flow-reversing vanes.

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. Mechanical seals shall be rated to preclude the incursion of water up to 13.9 PSI. (32 Ft.) submergence. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be stainless steel.

4. MOTOR -

The pump motor(s) shall be 1/2 Hp., 0.40 kW., 115 / 230V., 60 Hz., 1 Phase and shall be NEMA MG-1, Design Type B equivalent. Motor(s) shall be rated at 5.2 / 2.7 full load amps. Motor(s) shall have a 1.15 service factor and shall be rated for 10 starts per hour. Motor(s) shall be air filled, copper wound, class E insulated with built in thermal protection in the winding. Motor shaft shall be 403 stainless steel and shall be supported by two permanently lubricated, high temperature ball bearings with a B-10 life rating at best efficiency point of 60,000 hours. The bearings shall be single row, double shielded, C3, deep groove type ball bearings.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief and a one piece, three way mechanical compression seal with fatigue reducing cable 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.