TSURUMI PUMP

Submersible Sewage Pumps

Vortex Impeller

UT / UTZ

Compact Economical Cast Iron Pumps

Economical

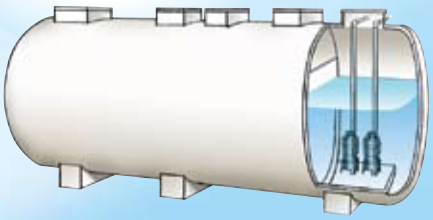
The UT / UTZ Series is an economical version of the Tsurumi U Series, semi-vortex submersible pumps. It is designed for a wide range of applications.

Large Diameter Passage

The pump has a large passage that makes it ideal for liquid containing various solids.

Available in Automatic Operation

Automatic version equipped with floats.



NEW

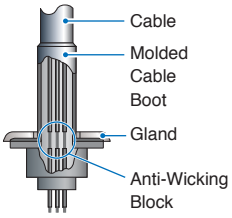
Applications

- Transferring wastewater between storage tanks
- Draining sewage from factories, home residences, hotels, restaurants, etc.
- Pumping water run-off containing solids.

Amenics
Amenities from Technology for People and the Earth

Features

Anti-wicking Cable Entrance
Maximum protection against water incursion through the cable entry.

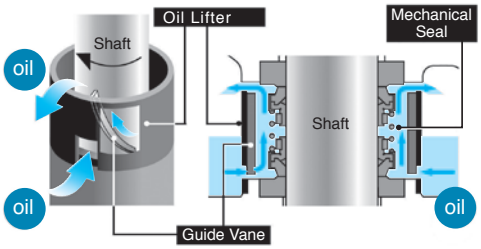


Motor Protector
A built-in thermal motor protection device reacts to the heat caused by overcurrent or run-dry conditions by shutting down the motor circuit automatically. When the motor cools down to a safe operating temperature, the motor restarts.

Dual Inside Mechanical Seal
The dual inside mechanical seal (dual face mechanical seal located in an oil bath) is incorporated in all pumps. As both top and bottom sealing faces are lubricated by the oil, it ensures a longer life of the product and a stable sealing effect.

Oil Lifter (Patented)
Tsurumi's exclusive Oil Lifter encloses the mechanical seal and uses the centrifugal force generated by the rotating shaft and seal to pump oil to the upper seal faces. Upper and lower seal faces are positively lubricated even when extremely low oil levels exist, as experinced after long periods of extended operation.

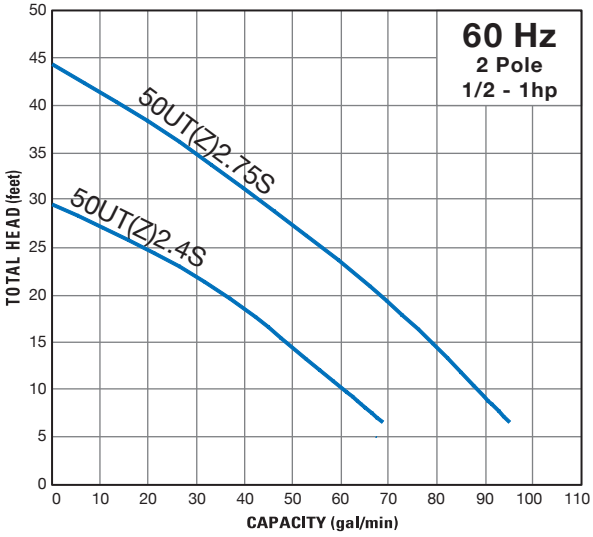
Automatic Operation with Float Switch
(50UTZ2.4S & 50UTZ2.75S)
The pump operates a float switch for automatic operation to prevent dry running and lower power consumption.



Major Standard Specifications

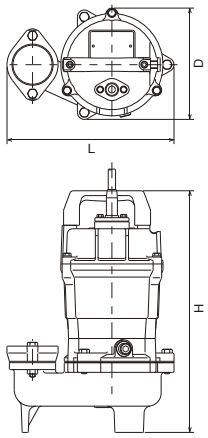
Discharge Size			2 inches (50mm)
Pumping Fluid	Type of Fluid		Sewage, Wastewater, and Liquid carrying Waste and Solid Matters
	Fluid Temperature		32 to 104°F (0 to 40°C)
Pump	Structure	Impeller	Vortex
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	Glass-fiber Reinforced Resin
		Casing	Gray Cast Iron
		Shaft Seal	Silicon Carbide
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole
	Insulation		Class E
	Phase		Single-phase
	Starting Method		Capacitor Run
	Protection Device (Built-in)		Circle Thermal Protector Miniature Thermal Protector (50UT2.4S only)
	Lubricant		Turbine Oil (ISO VG32)
	Materials	Frame	Gray Cast Iron
		Shaft	403 Stainless Steel
		Cable	PVC
Float Switch	Materials	Housing	Polypropylene Resin
		Cable	Chloroprene Rubber
Discharge Connection			Screwed Flange

Performance Curves

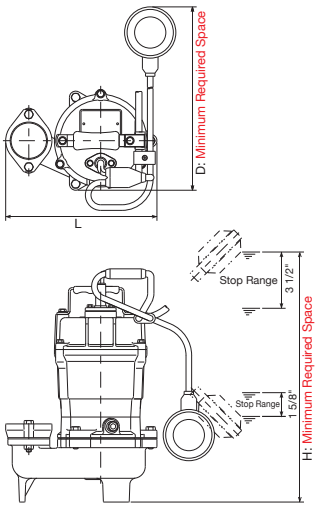


Dimensions

<50UT2.4S and 50UT2.75S>



<50UTZ2.4S and 50UTZ2.75S>



Standard Specifications

Model	Discharge Size (inch)	Motor Output (HP)	Voltages (V)	Phase	Impeller Material	Dimensions (inch)			Solids Passage (inch)	Cable length (ft)	Pump Weight (lbs.)
						L	D	H			
50UT2.4S	2	1/2	115/220	1Ø	PPO Resin	9 1/2	6 3/8	13 3/4	1.4	20	31
50UTZ2.4S	2	1/2	115/220	1Ø	PPO Resin	9 1/2	11 5/8*1	15 3/4*1	1.4	20	31
50UT2.75S	2	1	115/220	1Ø	PPO Resin	9 1/2	6 3/8	16	1.4	20*2	37
50UTZ2.75S	2	1	115/220	1Ø	PPO Resin	9 1/2	11 5/8*1	18*1	1.4	20*2	37

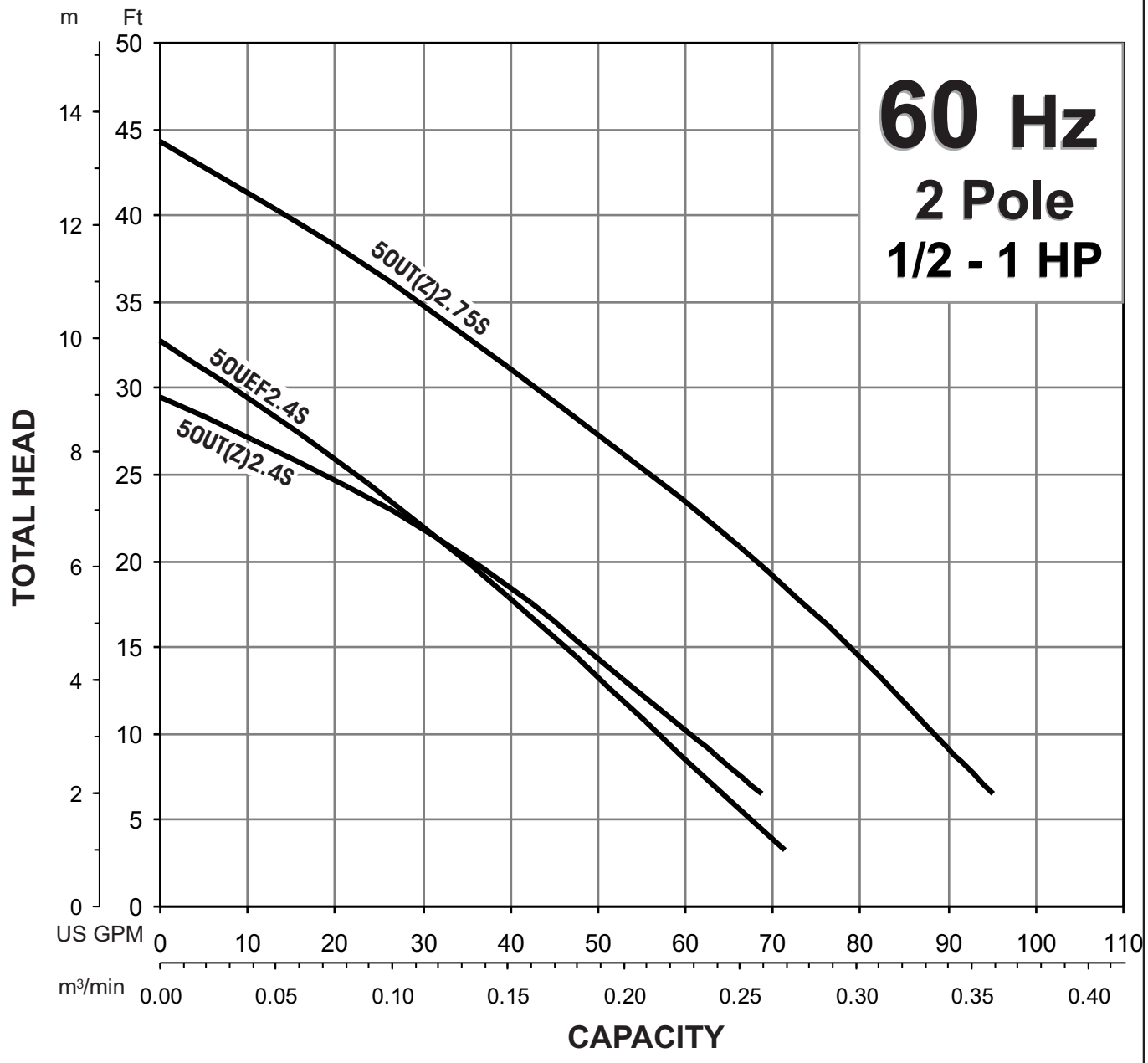
*1 Minimum Required Space *2 32ft is optional

We reserve the right to change the specifications and designs for improvement without prior notice.

TSURUMI PUMP
TSURUMI (AMERICA), INC. • 1625 FULLERTON COURT, GLENDALE HEIGHTS, IL 60139 • TOLL-FREE 1-888-878-7864 • FAX 1-630-793-0146 • info@tsurumiamerica.com
www.tsurumipump.com

TAI_UT_OCT2011_DC/NZ-D-G-N

GROUP PERFORMANCE RANGE



TSURUMI PUMP

UT - SERIES
SUBMERSIBLE SEMI - VORTEX - SEWAGE PUMPS

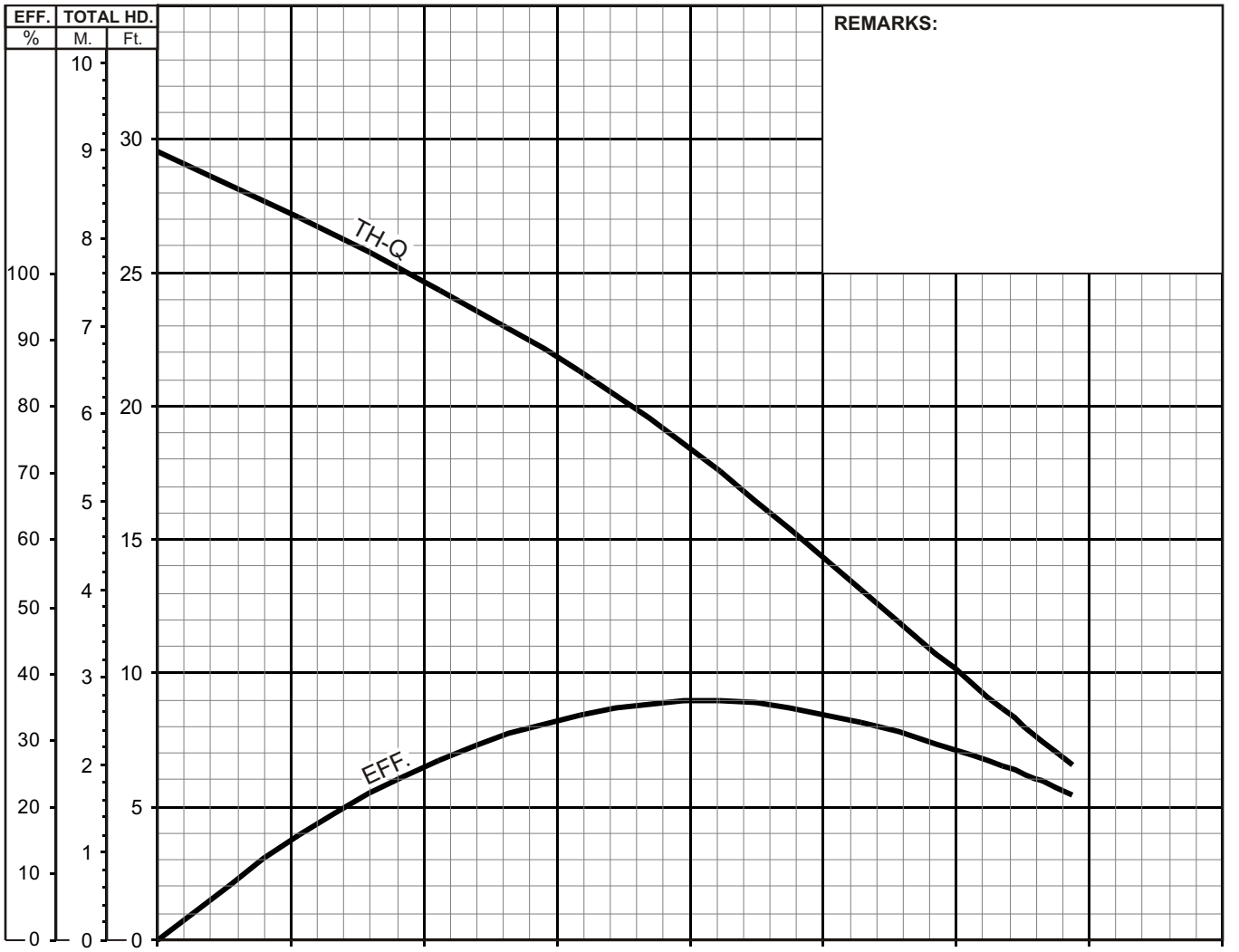
PERFORMANCE CURVE

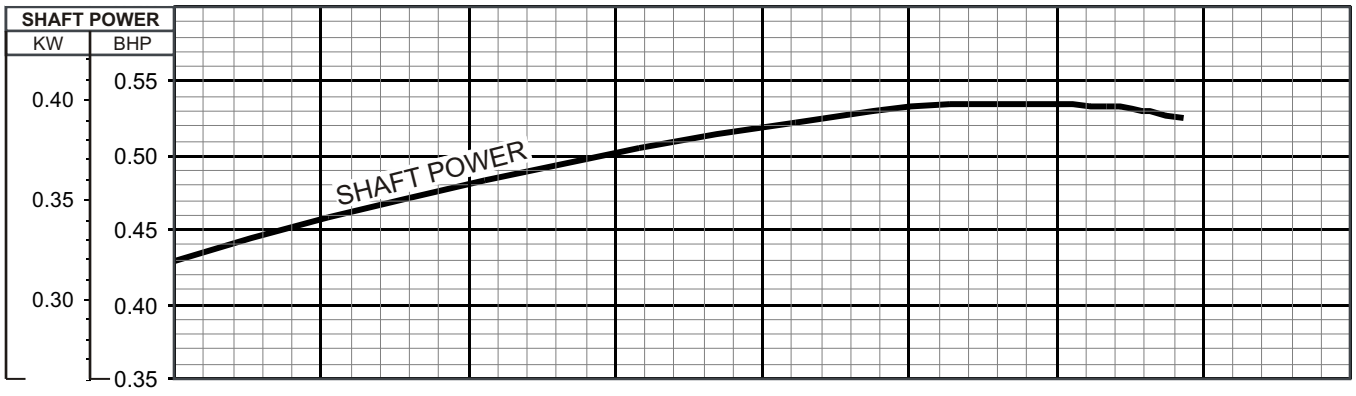
MODEL	BORE	HP	KW	RPM	SOLIDS DIA	LIQUID	SG.	VISCOSITY	TEMP.
50UT(Z)2.4S -61	2" / 50mm	0.54	0.40	3366	1.4" / 36mm	Water	1.0	1.123 cSt.	60°F

PUMP TYPE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD	INS. CLASS
SUBMERSIBLE SEMI - VORTEX - SEWAGE	Single	110/115/120 /220	5.8/5.7/5.6 /3.4	60	Capacitor-Start	E

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

REMARKS:



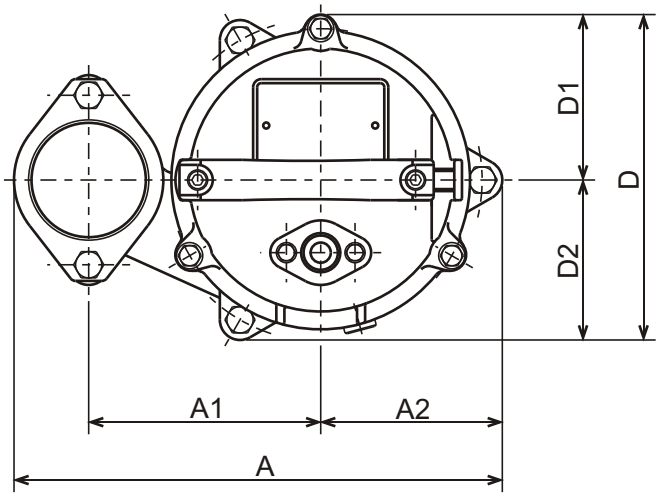


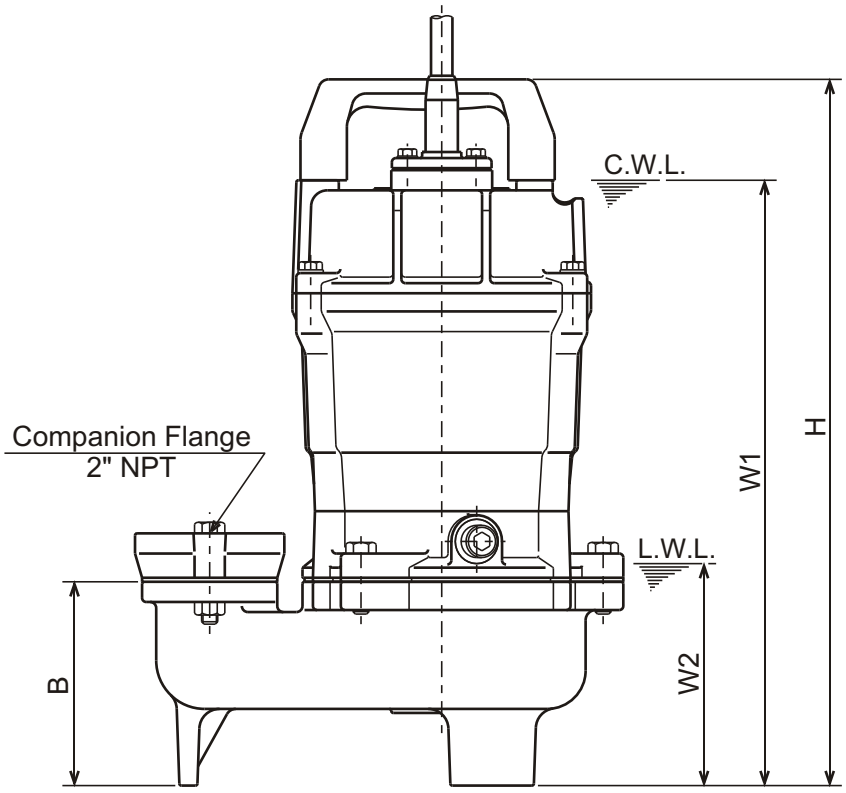
TSURUMI PUMP

UT - SERIES
SUBMERSIBLE SEMI - VORTEX - SEWAGE PUMPS

DIMENSIONS

50UT2.4S-61





C.W.L. :Continuous running Water Level
L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM.	Pump & Motor								C.W.L.	L.W.L.	Wt.
		SIZE	A	A1	A2	B	D	D1	D2	H	W1	W2	(lbs.)
50UT2.4S-61	1/2	2"	9 1/2	4 1/2	3 9/16	4	6 3/8	3 1/4	3 1/8	13 3/4	11 3/4	4 3/8	31

DIMENSIONS:METRIC (mm)

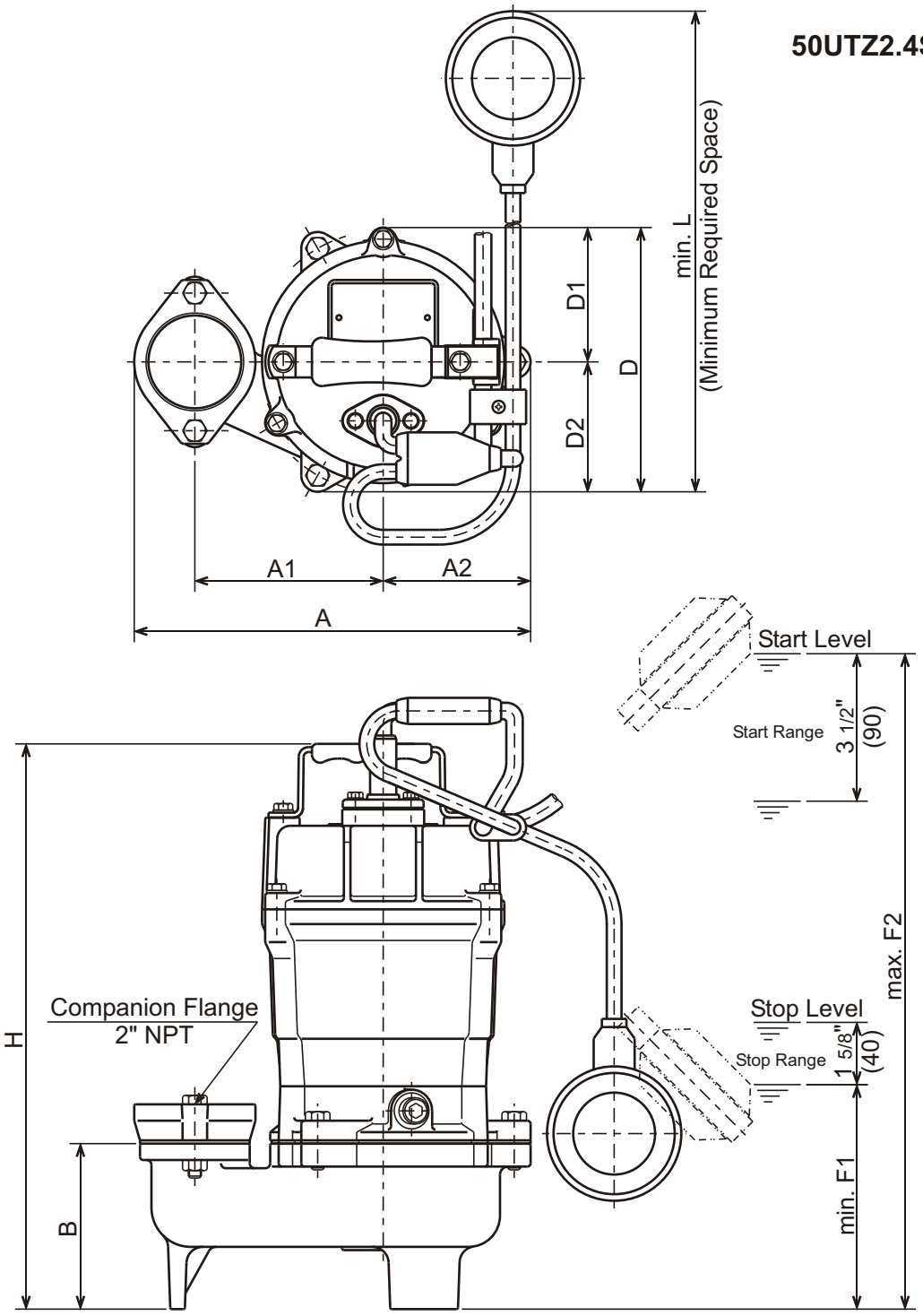
Model	kW	NOM.	Pump & Motor								C.W.L.	L.W.L.	Wt.
		SIZE	A	A1	A2	B	D	D1	D2	H	W1	W2	(kg)
50UT2.4S-61	0.40	50	242	115	90	101	161	82	79	350	300	110	14.0

TSURUMI PUMP

UT - SERIES
SUBMERSIBLE SEMI - VORTEX - SEWAGE PUMPS

DIMENSIONS

50UTZ2.4S-61



DIMENSIONS:USCS (Inch)

Model	HP	NOM.	Pump & Motor								Space	Stop	Start	Wt.
		SIZE	A	A1	A2	B	D	D1	D2	H	min. L	min. F1	max. F2	(lbs.)
50UTZ2.4S-61	1/2	2"	9 1/2	4 1/2	3 9/16	4	6 3/8	3 1/4	3 1/8	13 9/16	11 5/8	5 1/2	15 3/4	31

DIMENSIONS:METRIC (mm)

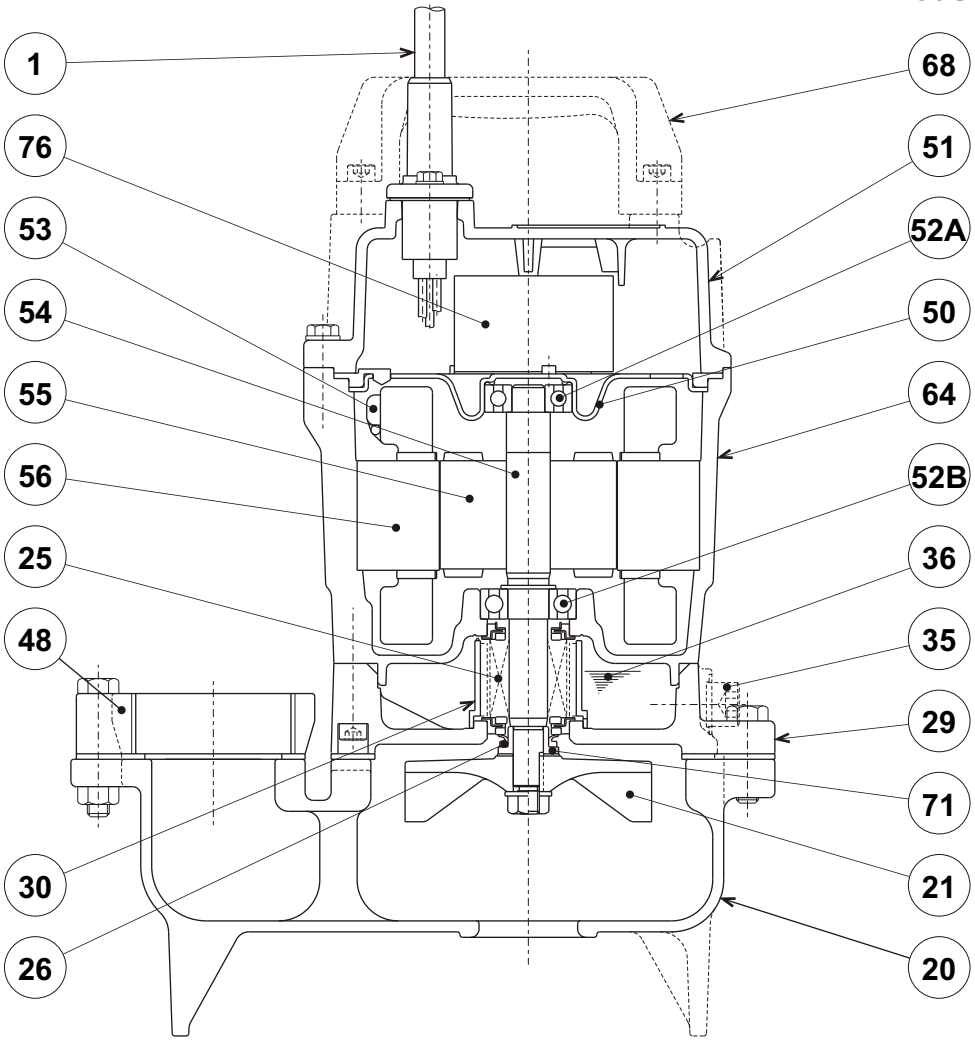
Model	kW	NOM.	Pump & Motor								Space	Stop	Start	Wt.
		SIZE	A	A1	A2	B	D	D1	D2	H	min. L	min. F1	max. F2	(kg)
50UTZ2.4S-61	0.40	50	242	115	90	101	161	82	79	345	293	137	400	14.0

TSURUMI PUMP

UT - SERIES
SUBMERSIBLE SEMI - VORTEX - SEWAGE PUMPS

SECTIONAL VIEW

50UT2.4S-61



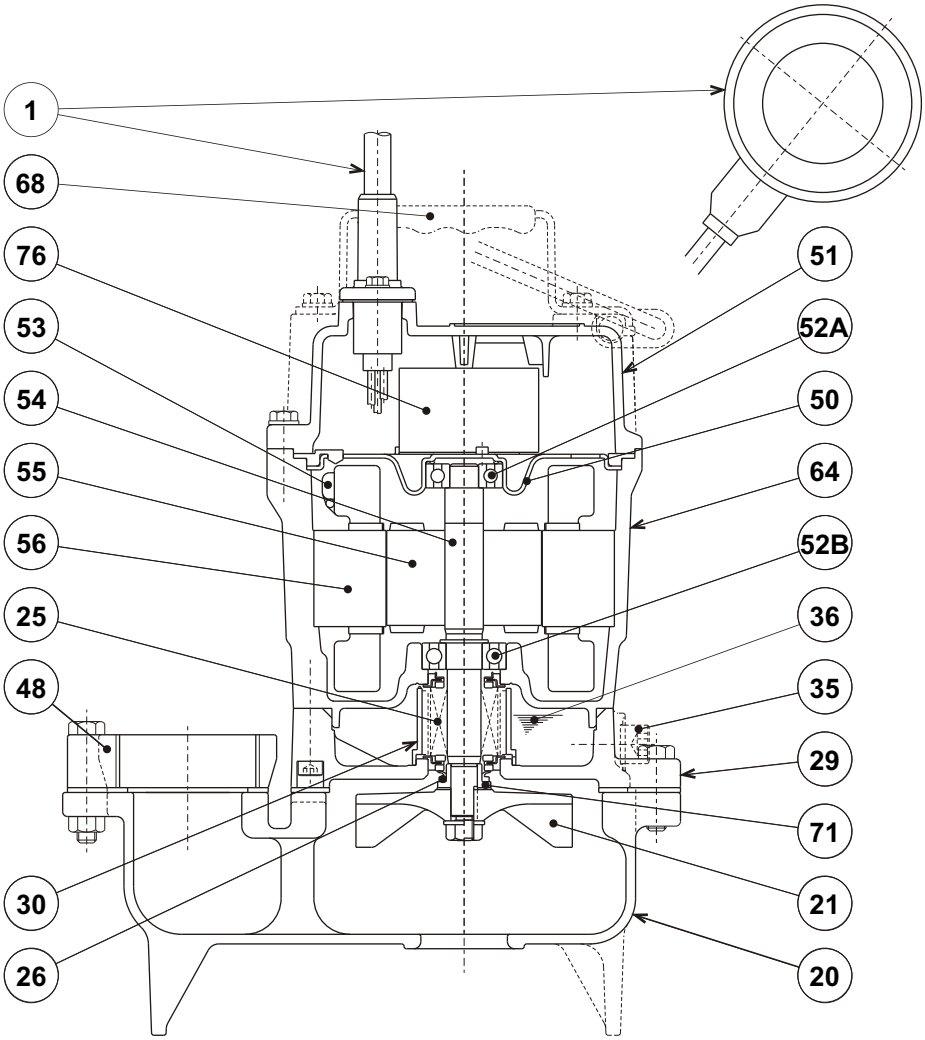
ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	Q'TY
1	Power Cable	PVC Sheath AWG16/3-20ft			1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	PPO Resin w/GF20			1
25	Mechanical Seal	Silicon Carbide / W-14VL			1
26	V-Ring	Nitrile Butadiene Rubber			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Resin			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
48	Companion Flange	Cast Iron / NPT 2"	A48M Class30B	EN 1561 GJL-200	1
50	Motor Bracket	Steel (Electro-Galvanized)	A591	EN 10152	1
51	Motor Head Cover	Cast Iron	A48M Class30B	EN 1561 GJL-200	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	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
68	Handle	ABS Resin			1
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
76	Capacitor				1

TSURUMI PUMP

UT - SERIES
SUBMERSIBLE SEMI - VORTEX - SEWAGE PUMPS

SECTIONAL VIEW

50UTZ2.4S-61



ITEM#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	Q'TY
1	Power Cable w/ Float Set	PVC Sheath AWG16/3-20ft w/ PP Resin + Chloroprene Sheath Cable			1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	PPO Resin w/GF20			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
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
48	Companion Flange	Cast Iron / NPT 2"	A48M Class30B	EN 1561 GJL-200	1
50	Motor Bracket	Steel (Electro-Galvanized)	A591	EN 10152	1
51	Motor Head Cover	Cast Iron	A48M Class30B	EN 1561 GJL-200	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	Cast Iron	A48M Class30B	EN 1561 GJL-200	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

TSURUMI PUMP	UT- SERIES SEWAGE & WASTEWATER 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, sewage or effluent containing _____ inch (_____mm) diameter 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. The pump discharge size shall Be____inch, (____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) including pump casing and motor casing shall be manufactured from gray cast iron, ASTM A48 CLASS 30B. Impeller shall be manufactured from a recyclable, application appropriate resin, and shall be of the multi-vane, semi-vortex, solids handling design which is slip fit onto the shaft. Motor shaft shall be machined to provide a positive drive of the impeller. Internal and external cast iron surfaces coming into contact with the pumpage shall be protected by a fused polymer coating. All exposed fasteners shall be stainless steel.

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. Unit shall be fitted with a device that shall provide positive lubrication of 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.). Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be stainless steel. A rubber V-ring and stainless steel shaft sleeve shall provide additional protection of the mechanical seal and motor shaft from abrasives and debris.

4. MOTOR -

The pump motor(s) shall be _____Hp., _____ kW., _____V., 60 Hz., ___ 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 E, B, or F insulated with built in thermal protection for each winding. Motor shaft shall be 420 or 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 bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. The top bearing shall be single row, double shielded, C3, deep groove type ball bearings. Motor housing and bearing housing shall be gray cast iron, ASTM A48 CLASS 30B.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. Units shall be supplied with a cable entrance that incorporates built in strain relief, a one piece, three way mechanical compression seal with a fatigue reducing cable boot. The power cable shall be field replaceable. The cable entrance assembly on all units shall contain an anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally cut.