



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

 Mechanical Seal
 Elastomers

 Impeller Type
 Solids Handling Capability

 Bearings

 Motor Nomenclature
 Type, Speed, Hz.
 Voltage, Phase

 Insulation

 Accessories
 Operational Mode

■ STANDARD

4" Npt (100 mm)
 2 ~15 Hp. (1.5 ~ 11 kW)
 105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
 21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
 104° F. (40° C.)

 ASTM 48 Class 35 Cast Iron
 ASTM 48 Class 35 Cast Iron
 420,403 Stainless Steel
 ASTM 48 Class 35 Cast Iron
 304 Stainless Steel

 Silicon Carbide
 NBR (Nitril Buna Rubber)

 Enclosed Single Vane, solids handling.
 3.15" (80 mm)

 Pre-lubricated, Double Shielded

 Air Filled, 1800 Rpm, 60 Hz.
 208-230, 230 or 440, 460 or 575 V.
 (3 Phase)

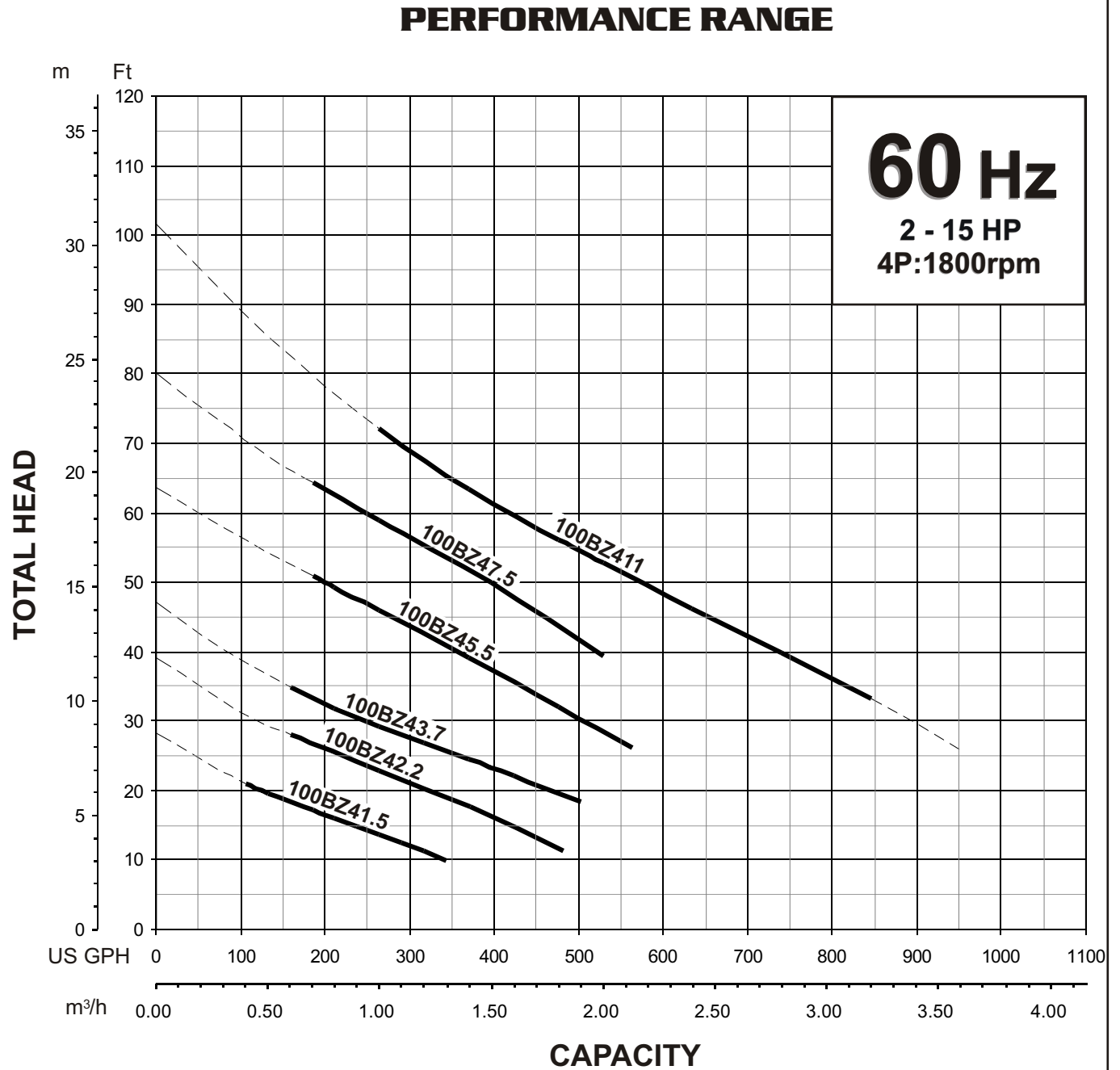
 Class F
 Submersible Power Cable 32' (10 m)
 Manual

■ OPTIONS

Nema 3R inverter available for
 230 V., 1 Ph. operation from
 2~5 Hp.

 Length as Required

 Model
 TOS Slide rail system

**TSURUMI PUMP****BZ - SERIES**
SEWAGE & WASTEWATER PUMPS**PERFORMANCE**
RANGE

REMARKS: Not Recommended For
Continuous Operation On Dashed Curve.

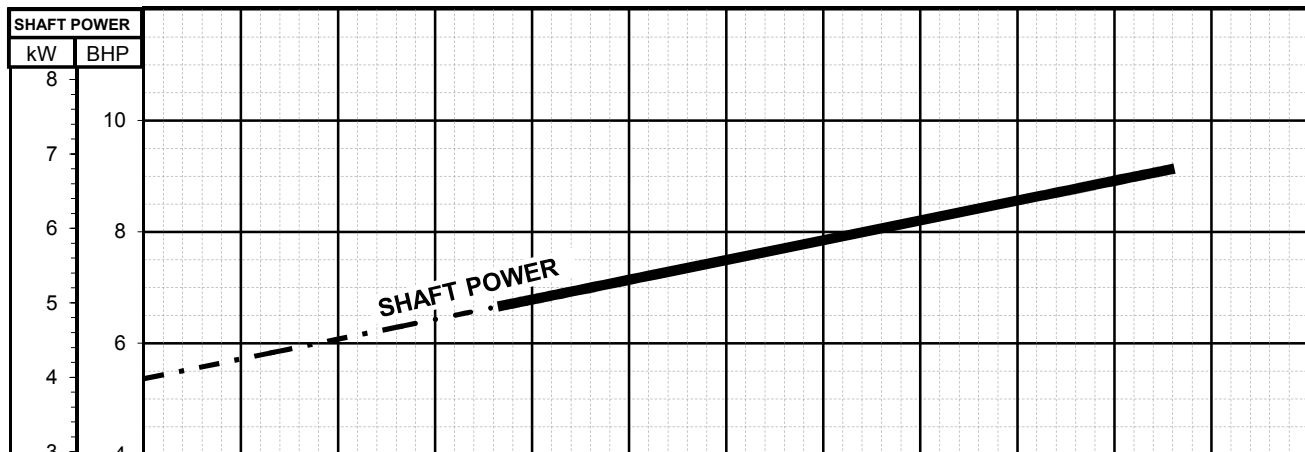
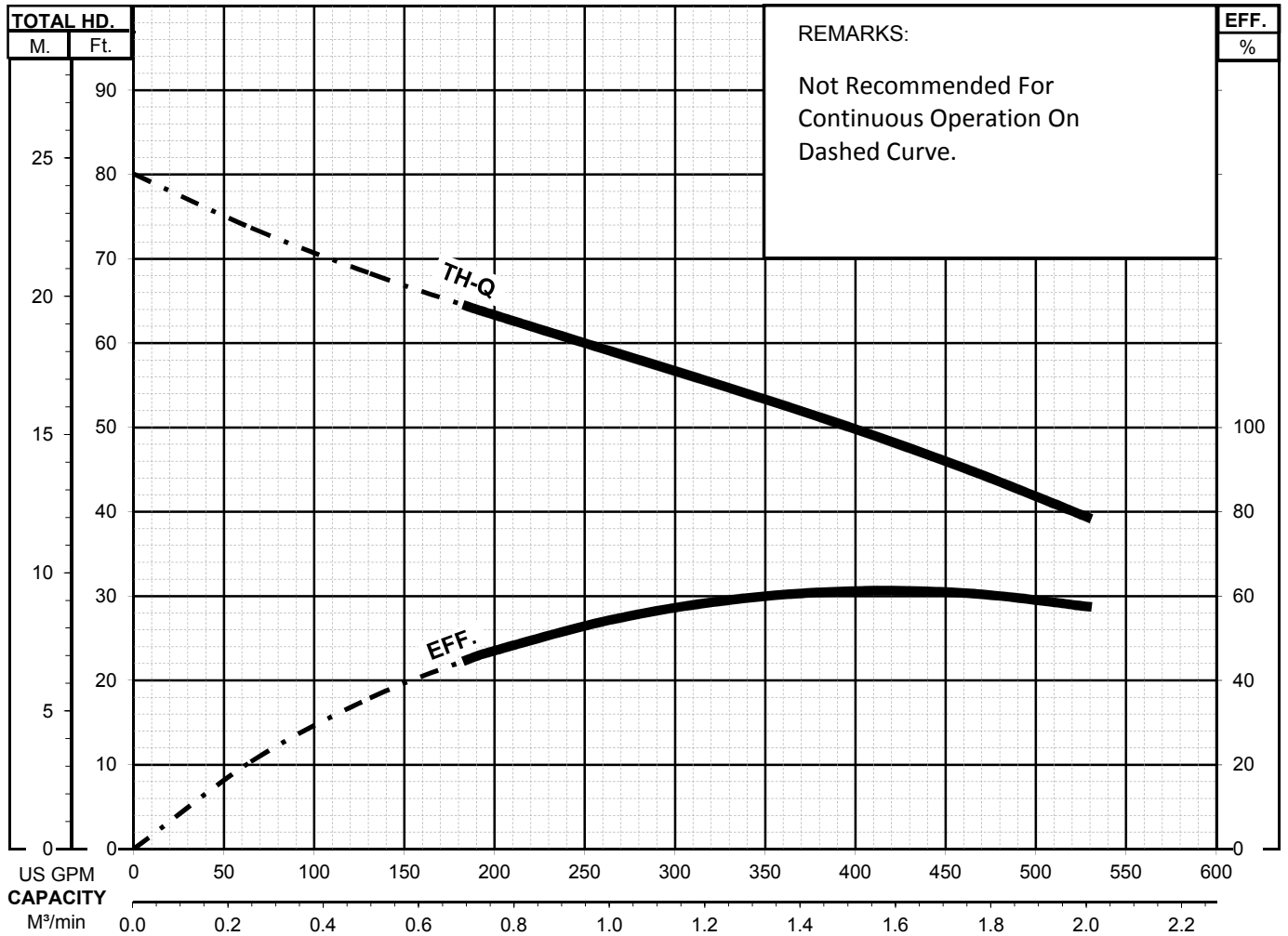
**TSURUMI PUMP**

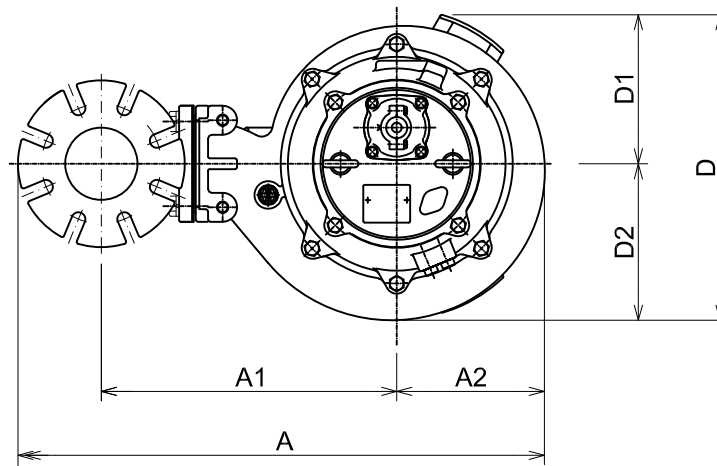
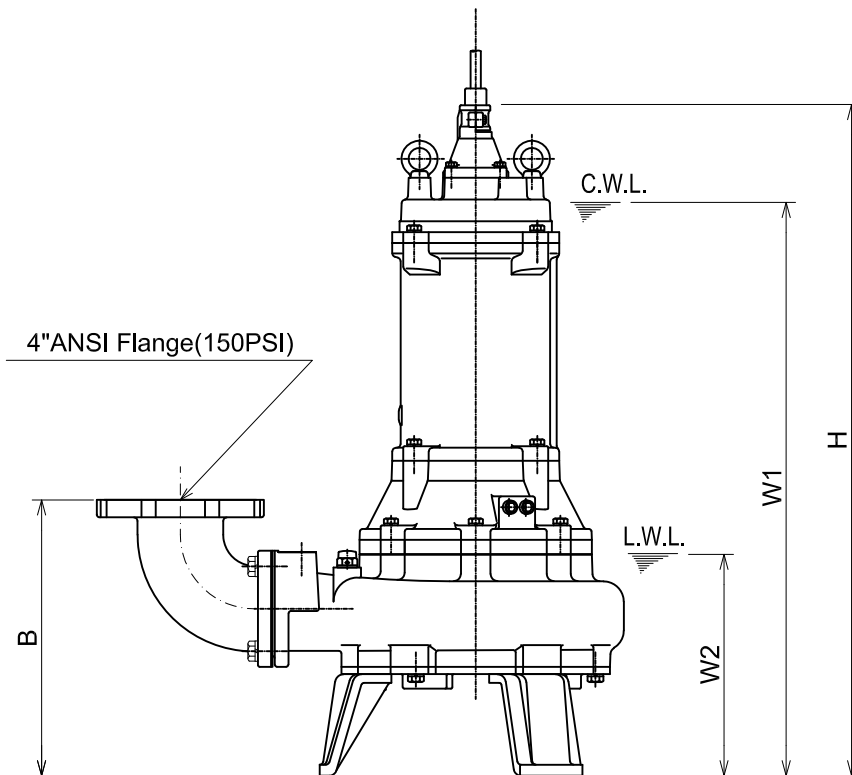
BZ - SERIES

SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL	BORE	HP	kW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TOS)100BZ47.5-65	4"/100mm	10	7.5	1735	3.15"/80mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
Sewage & Wastewater Pump	3	208-230/460/575	29.8-28.0 / 14.0 / 11.5		60	Direct On Line		F	
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD		INS. CLASS	
-	-	-	-	-	-	-		-	



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
 Bend model:
 BEND100-100 ANSI
**100BZ45.5 -65****100BZ47.5 -65**

4"ANSI Flange(150PSI)

 C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	B	D	D1	D2	H	W1	W2	(lbs.)
100BZ45.5-65	7.5	4"	29	16 7/16	8 1/16	11	14 15/16	16 9/16	8 1/2	8 1/16	36 7/16	31 4/8	12	375
100BZ47.5-65	10	4"	29	16 7/16	8 1/16	11	14 15/16	16 9/16	8 1/2	8 1/16	37 3/16	32 1/4	12	417

DIMENSIONS:METRIC (mm)

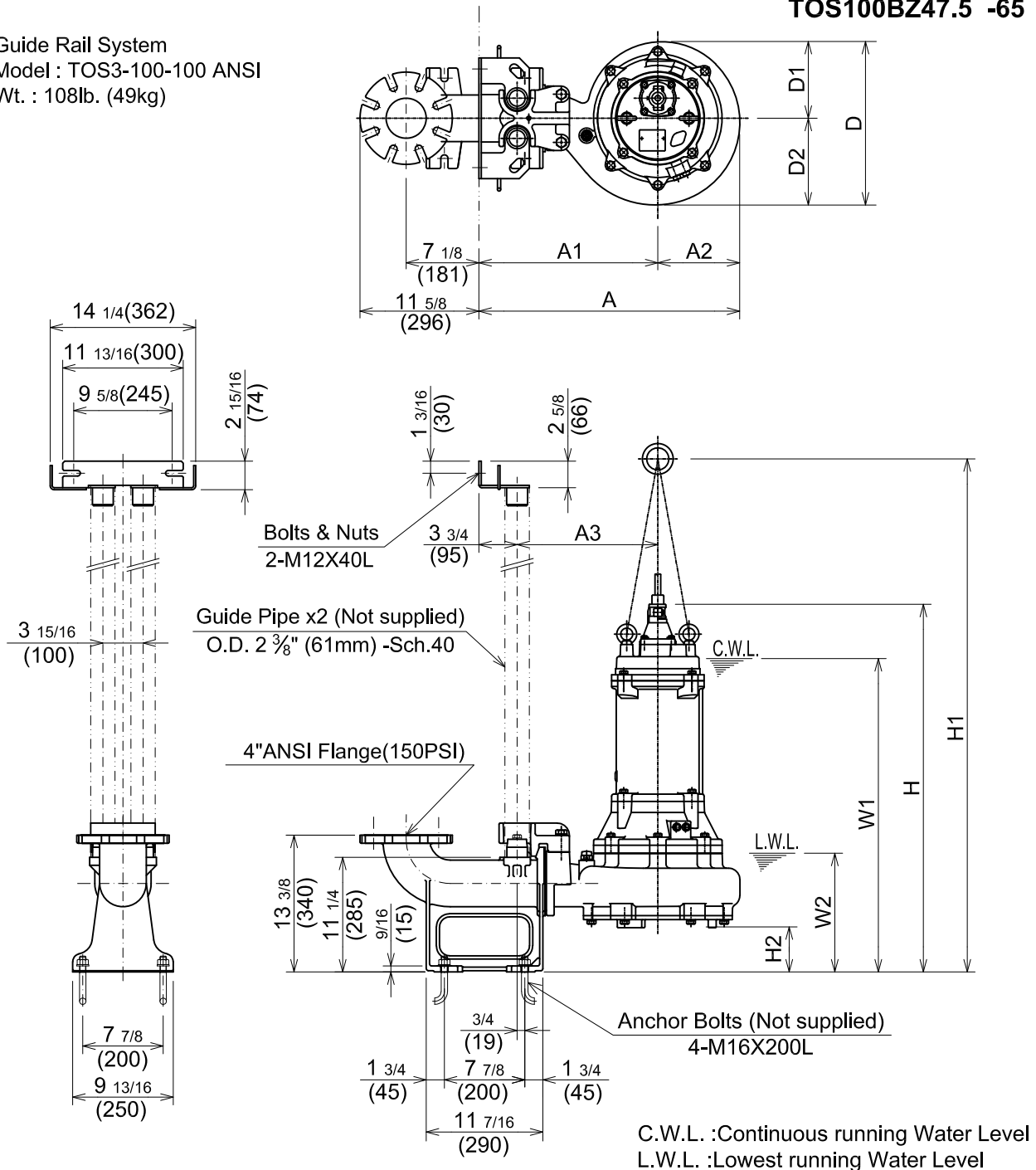
*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	B	D	D1	D2	H	W1	W2	(kg)
100BZ45.5-65	5.5	100	736	417	204	280	380	421	216	205	925	800	305	170
100BZ47.5-65	7.5	100	736	417	204	280	380	421	216	205	945	820	305	189

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS

Guide Rail System
 Model : TOS3-100-100 ANSI
 Wt. : 108lb. (49kg)

TOS100BZ45.5 -65
TOS100BZ47.5 -65

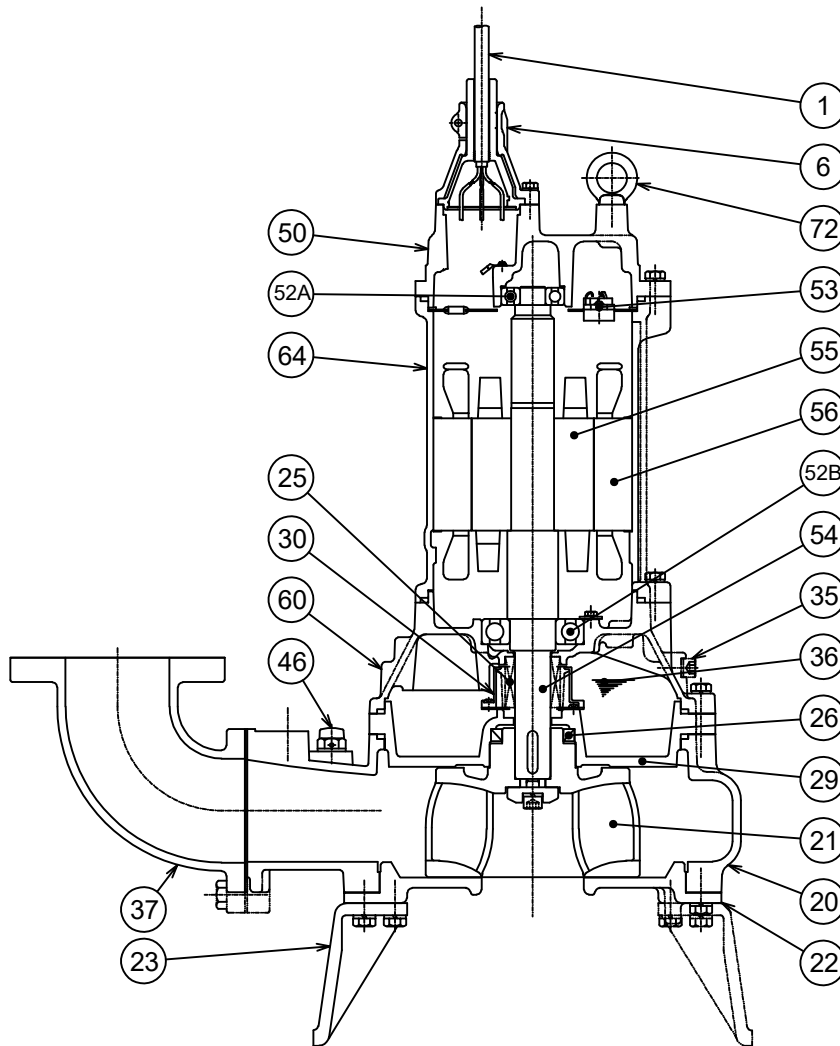
**DIMENSIONS:USCS (Inch)**

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	
TOS100BZ45.5-65	7.5	4"	25 9/16	17 1/2	8 1/16	13 3/4	16	7 1/2	8 1/2	36	50 1/4	4 5/16	31 1/8	11 5/8	370
TOS100BZ47.5-65	10	4"	25 9/16	17 1/2	8 1/16	13 3/4	16	7 1/2	8 1/2	36 13/16	51 1/4	4 5/16	31 7/8	11 5/8	412

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	
TOS100BZ45.5-65	5.5	100	649	445	204	350	406	190	216	914	1276	110	790	295	168
TOS100BZ47.5-65	7.5	100	649	445	204	350	406	190	216	935	1301	110	810	295	187

*Excluding TOS & Cable

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW
100BZ45.5 -65
100BZ47.5 -65


	BZ45.5	BZ47.5
* 1	AWG 12/4-32ft	AWG 10/4-32ft
* 2	#AC-6305ZC3	#AC-6306ZC3

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath *1			1
6	Staffing Box	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
20	Pump Casing	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
21	Impeller	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
22	Suction Cover	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
23	Pump Stand	Cast Iron	A48M Class 30B	EN 1561 GJL-200	3
25	Mechanical Seal	Silicon Carbide / H-35A			1
26	Oil Seal	NBR / TC608212			1
29	Oil Casing	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel / M12x14L	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron / 4" ANSI Flange(150PSI)	A48M Class 30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
50	Motor Bracket	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
52A	Upper Bearing	*2			1
52B	Lower Bearing	#6309ZC3			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 Class 30B	EN 1561 GJL-200	1
64	Motor Housing	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2



BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 30. Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

 Mechanical Seal
 Elastomers

 Impeller Type
 Solids Handling Capability

 Bearings

 Motor Nomenclature
 Type, Speed, Hz.
 Voltage, Phase

 Insulation

 Accessories
 Operational Mode

■ STANDARD

4" Npt (100 mm)
 2 ~15 Hp. (1.5 ~ 11 kW)
 105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
 21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
 104° F. (40° C.)

 ASTM 48 Class 35 Cast Iron
 ASTM 48 Class 35 Cast Iron
 420,403 Stainless Steel
 ASTM 48 Class 35 Cast Iron
 304 Stainless Steel

 Silicon Carbide
 NBR (Nitril Buna Rubber)

 Enclosed Single Vane, solids handling.
 3.15" (80 mm)

 Pre-lubricated, Double Shielded

 Air Filled, 1800 Rpm, 60 Hz.
 208-230, 230 or 440, 460 or 575 V.
 (3 Phase)

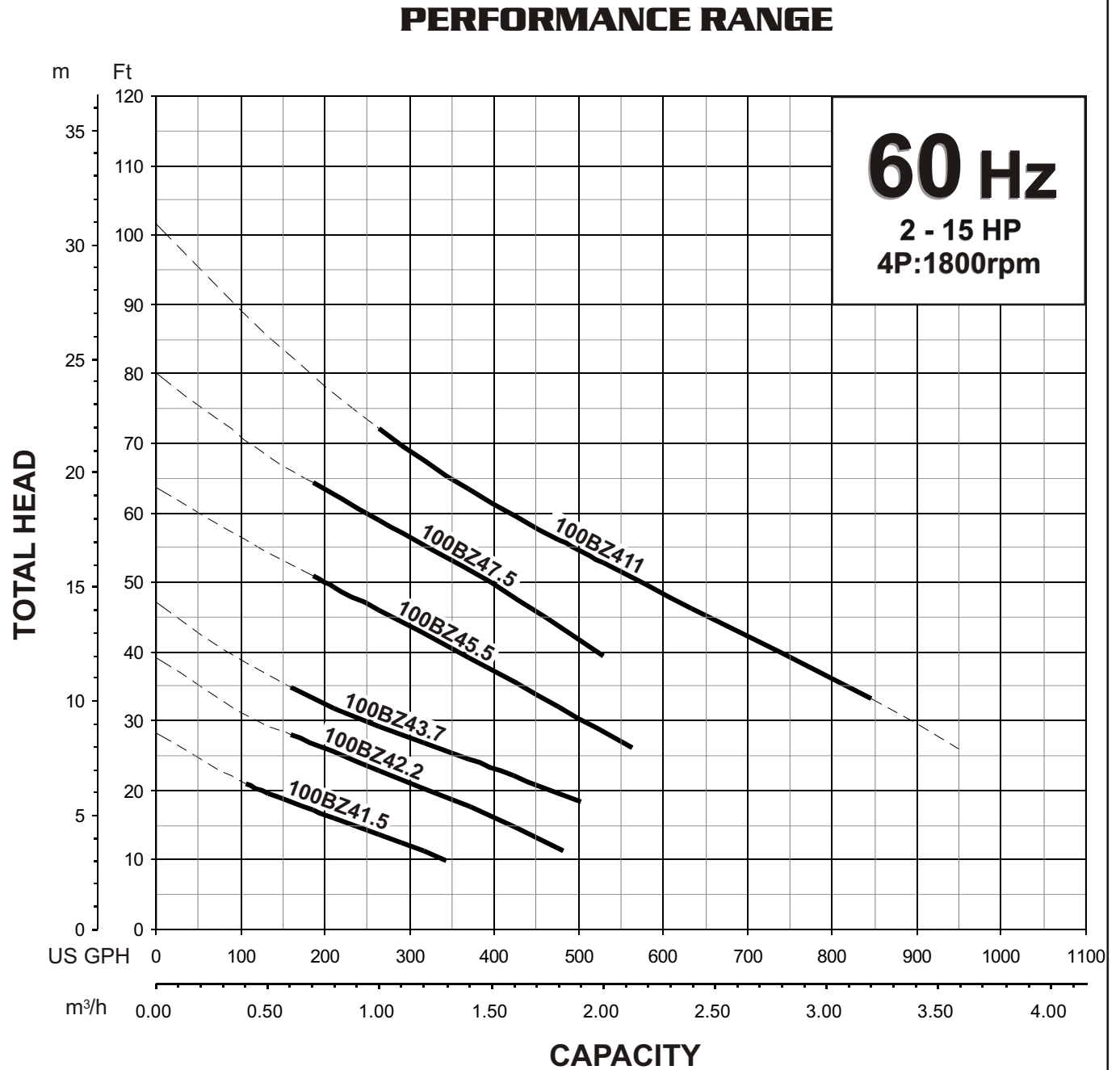
 Class F
 Submersible Power Cable 32' (10 m)
 Manual

■ OPTIONS

Nema 3R inverter available for
 230 V., 1 Ph. operation from
 2~5 Hp.

 Length as Required

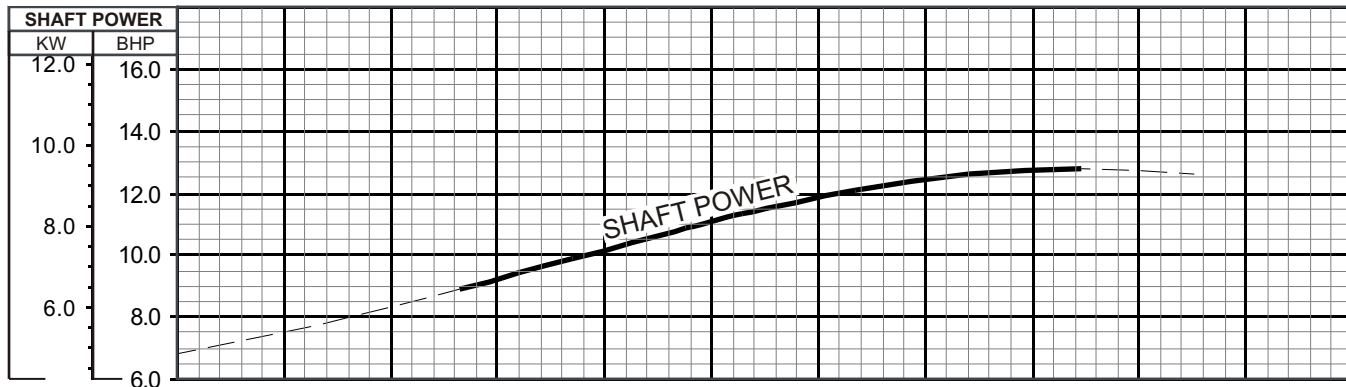
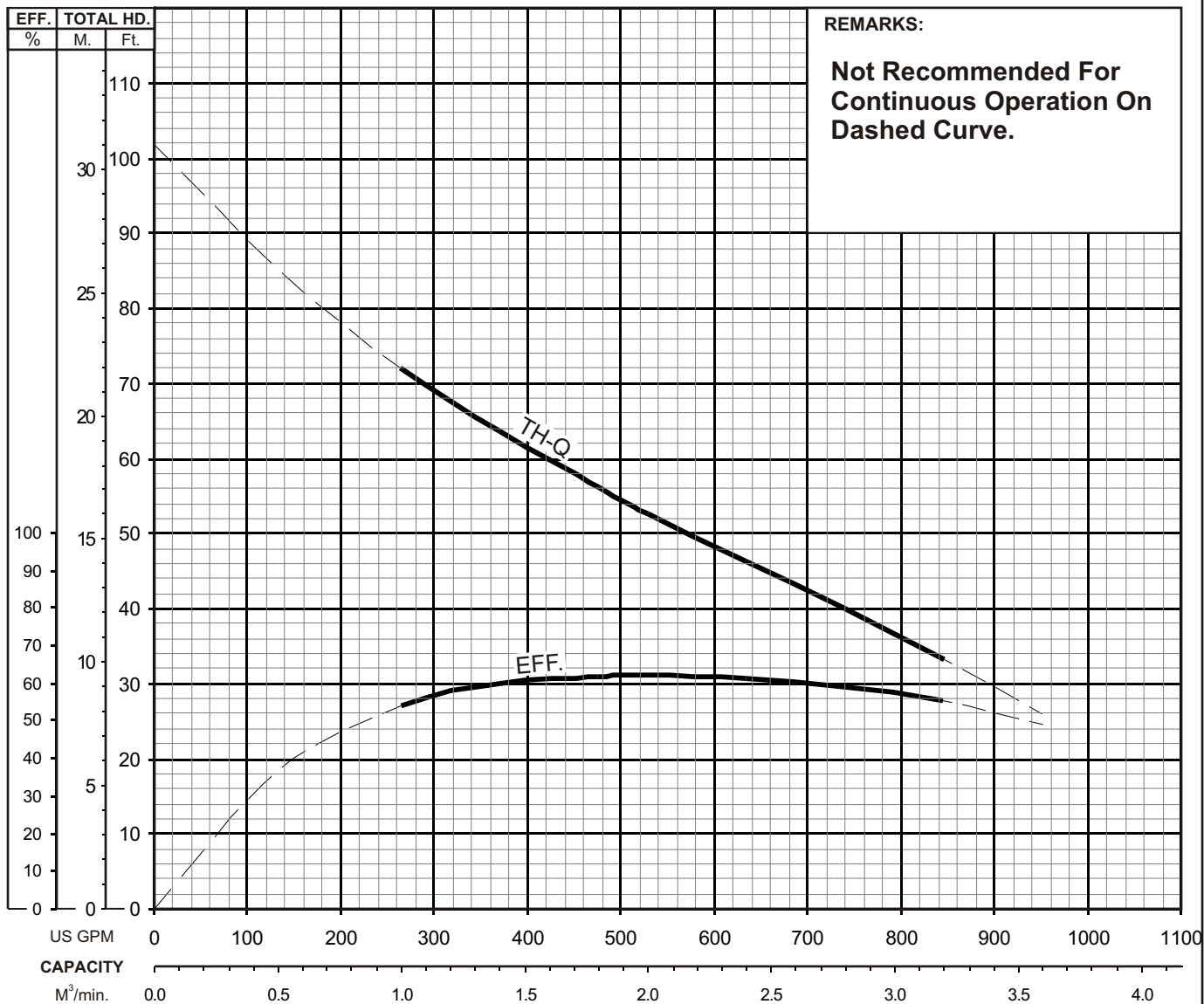
 Model
 TOS Slide rail system

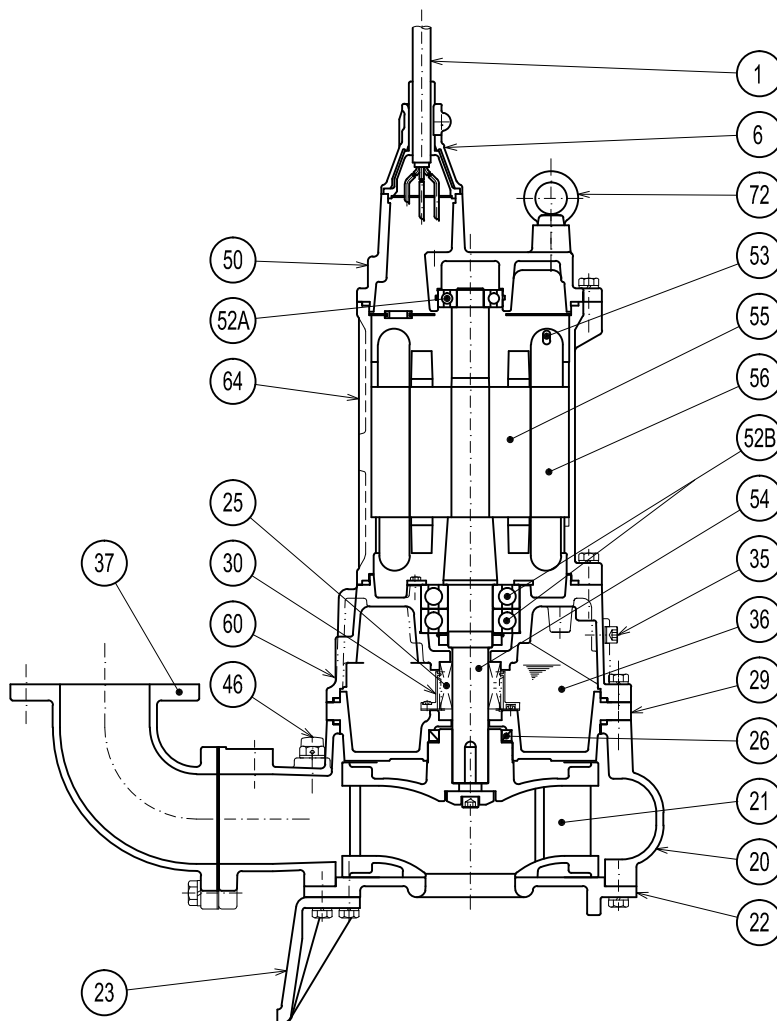
**TSURUMI PUMP**
BZ - SERIES
SEWAGE & WASTEWATER PUMPS
PERFORMANCE
RANGE


REMARKS: Not Recommended For
Continuous Operation On Dashed Curve.


TSURUMI PUMP
BZ - SERIES
SEWAGE & WASTEWATER PUMPS
PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA	LIQUID		SG.	VISCOSITY	TEMP.
(TOS) 100BZ411 -63		4"/100mm	15	11	1733	3.15" / 80mm	Water		1.0	1.123 cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
Sewage & Wastewater Pump		3	208-230 / 460 / 575		42.2-39.2 / 19.5 / 15.7		60	Star-Delta		F	
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
-	-	-	-		-		-	-		-	



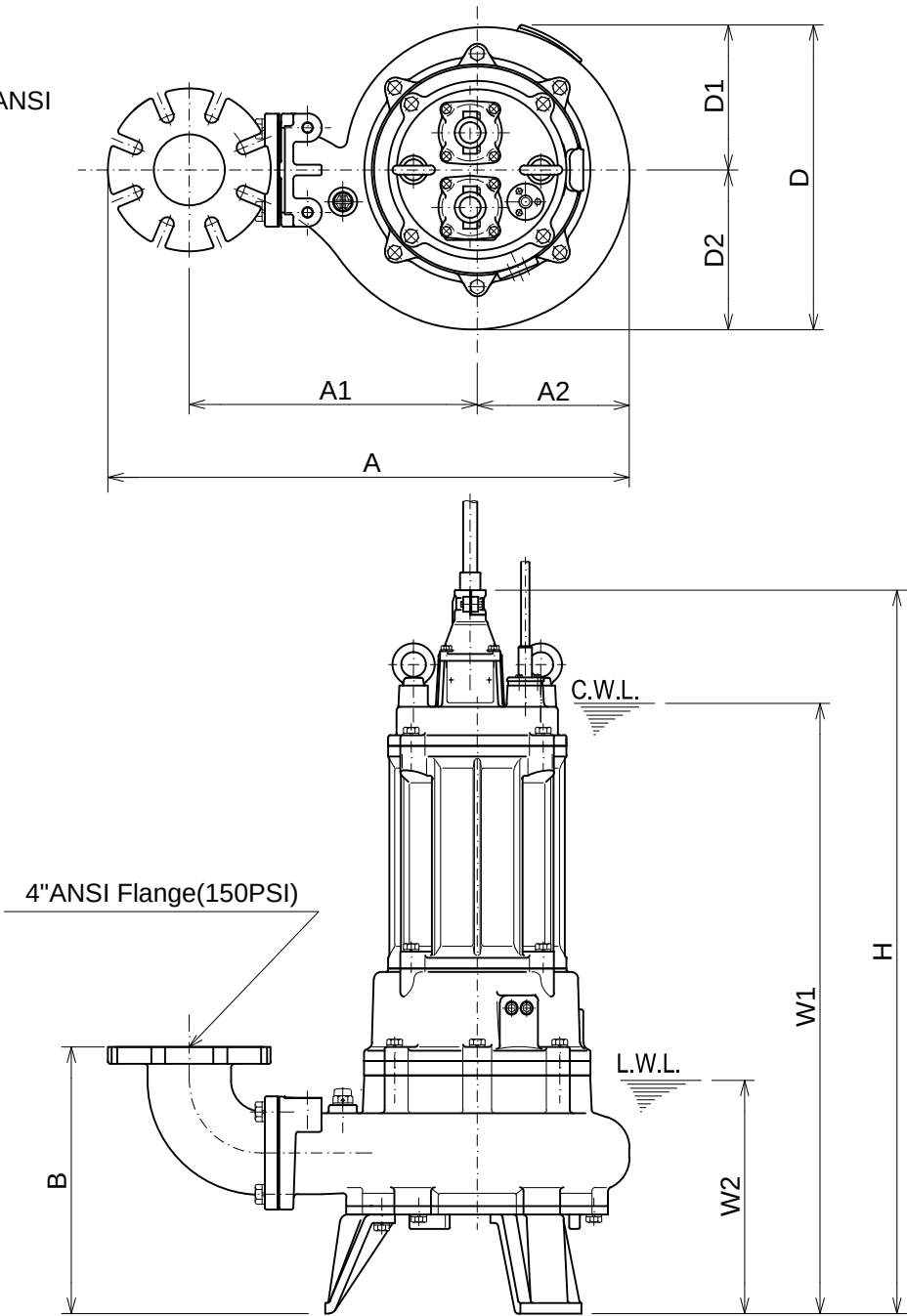
**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW**100BZ411 -63**

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM,AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 12/4-32ft			1
	Power Cable	Chloroprene Sheath AWG 12/3-32ft			1
	Control Cable	Chloroprene Sheath AWG 16/2-32ft			1
6	Stuffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
22	Suction Cover	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
23	Pump Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	3
25	Mechanical Seal	Silicon Carbide / H-40			1
26	Oil Seal	NBR / TC709212			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
37	Discharge Bend	Cast Iron / 4"ANSI Flange(150PSI)	A48M Class30B	EN 1561 GJL-200	1
46	Air Release Valve	Nylon			1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	AC-#6306ZZC3			1
52B	Lower Bearing	#6310ZZD2C3			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
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2

 TSURUMI PUMP	BZ-SERIES SEWAGE & WASTEWATER PUMPS	DIMENSIONS
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100BZ411 -63

Bend model:
BEND100-100 ANSI



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

DIMENSIONS:USCS(Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
100BZ411 -62	15	4"	29 7/16	16 7/16	8 7/16	14 13/16	16 15/16	8 1/16	8 7/8	40 1/4	34	13	472

DIMENSIONS:METRIC(mm)

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	B	D	D1	D2	H	W1	W2	
100BZ411 -62	11	100	747	417	215	377	431	205	226	1023	865	330	214

*Excluding Cable.



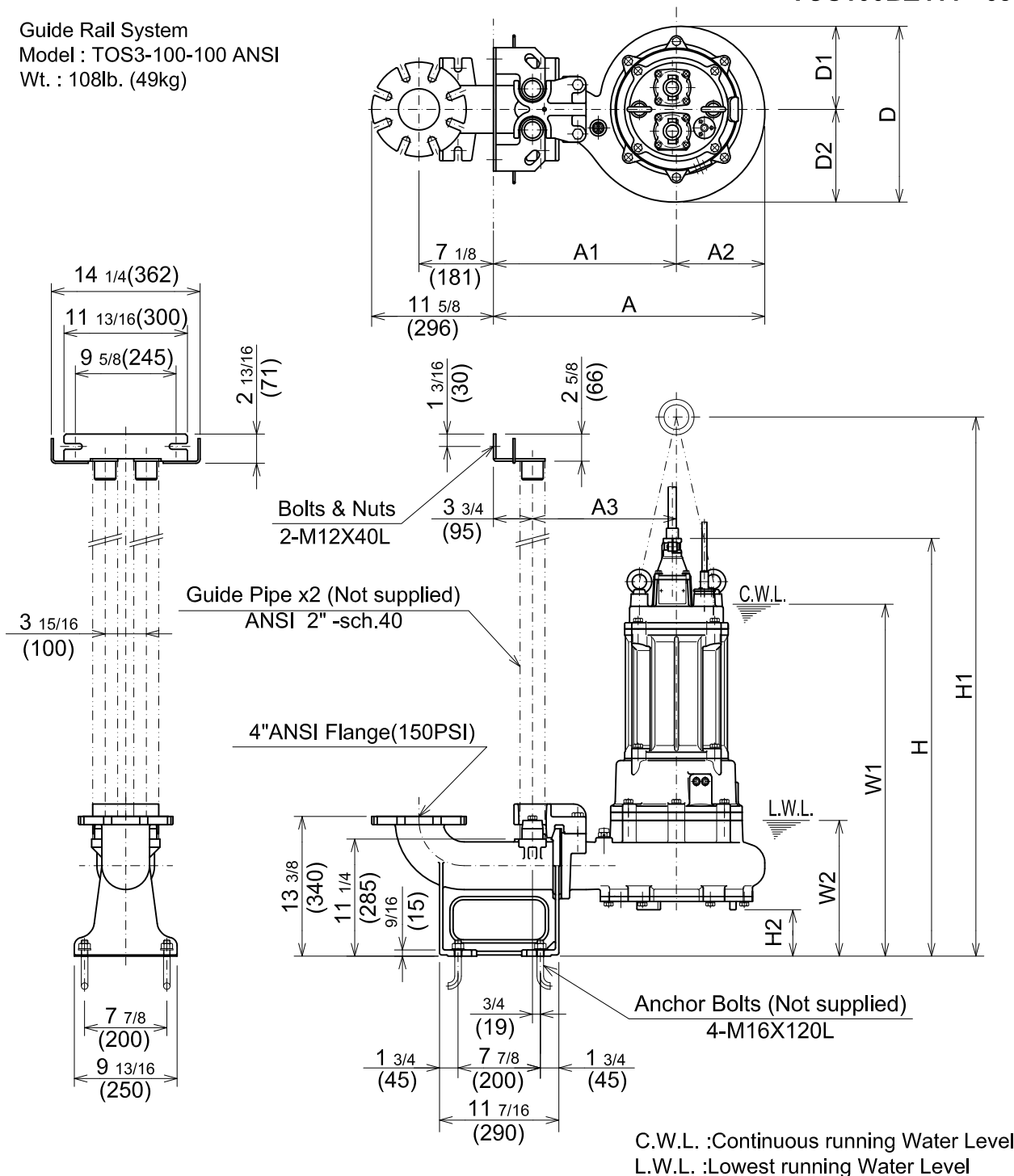
TSURUMI PUMP

BZ-SERIES SEWAGE & WASTEWATER PUMPS

DIMENSIONS

TOS100BZ411 -63

Guide Rail System
Model : TOS3-100-100 ANSI
Wt. : 108lb. (49kg)



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

DIMENSIONS:USCS(Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(lbs.)
TOS100BZ411 -63	15	4"	26	17 1/2	8 7/16	13 3/4	16 7/8	7 15/16	8 7/8	40	51 7/16	4 7/16	33 7/8	13	467

DIMENSIONS:METRIC(mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L. W1	L.W.L. W2	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TOS100BZ411 -63	11	100	660	445	215	350	428	202	226	1016	1312	113	860	330	212

*Excluding
TOS & Cable.



BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 30. Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

 Mechanical Seal
 Elastomers

 Impeller Type
 Solids Handling Capability

 Bearings

 Motor Nomenclature
 Type, Speed, Hz.
 Voltage, Phase

 Insulation

 Accessories
 Operational Mode

■ STANDARD

4" Npt (100 mm)
 2 ~15 Hp. (1.5 ~ 11 kW)
 105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
 21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
 104° F. (40° C.)

 ASTM 48 Class 35 Cast Iron
 ASTM 48 Class 35 Cast Iron
 420,403 Stainless Steel
 ASTM 48 Class 35 Cast Iron
 304 Stainless Steel

 Silicon Carbide
 NBR (Nitril Buna Rubber)

 Enclosed Single Vane, solids handling.
 3.15" (80 mm)

 Pre-lubricated, Double Shielded

 Air Filled, 1800 Rpm, 60 Hz.
 208-230, 230 or 440, 460 or 575 V.
 (3 Phase)

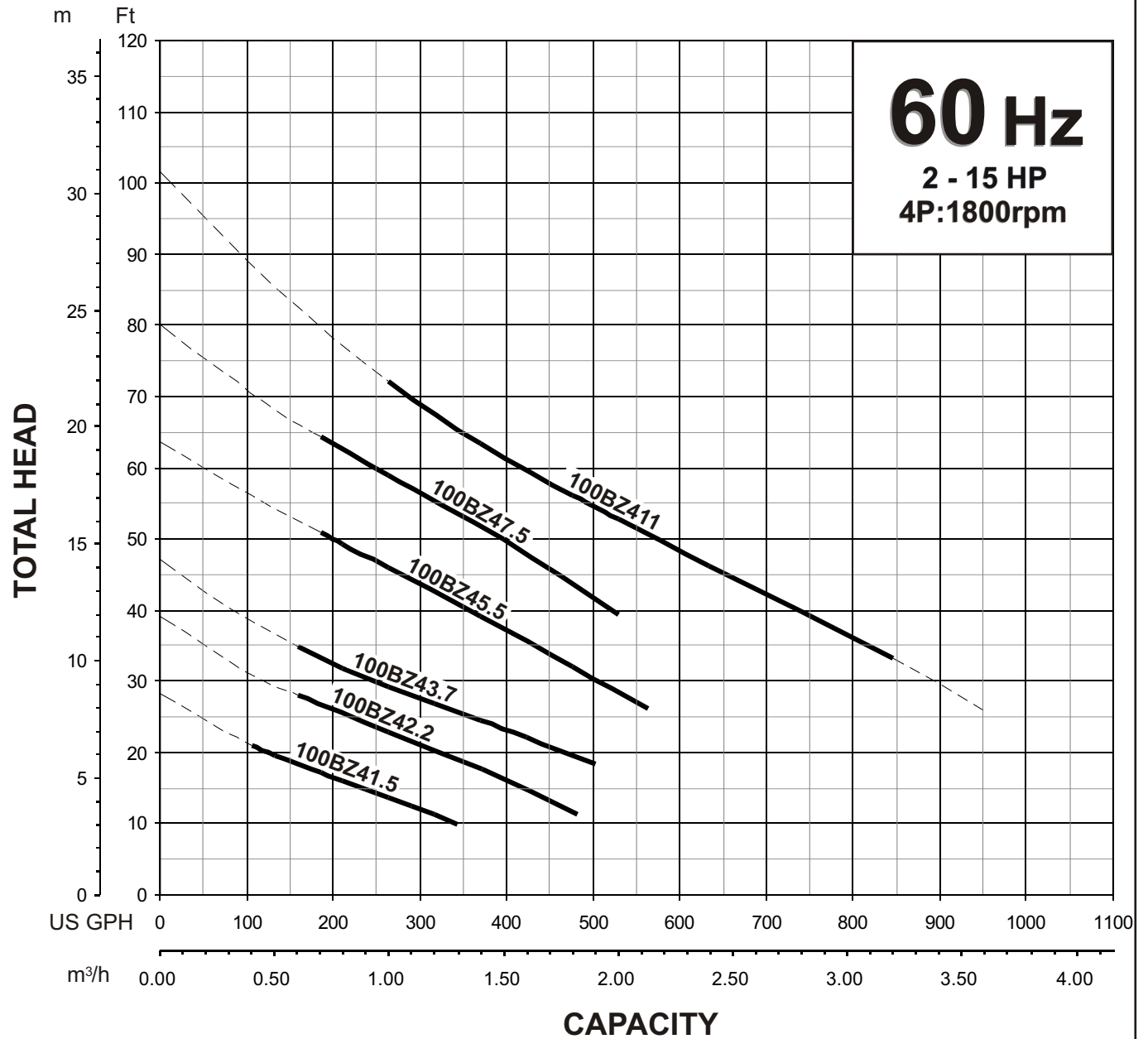
 Class F
 Submersible Power Cable 32' (10 m)
 Manual

■ OPTIONS

Nema 3R inverter available for
 230 V., 1 Ph. operation from
 2~5 Hp.

 Length as Required

 Model
 TOS Slide rail system

**TSURUMI PUMP**
BZ - SERIES
SEWAGE & WASTEWATER PUMPS
PERFORMANCE
RANGE
PERFORMANCE RANGE


REMARKS: Not Recommended For
Continuous Operation On Dashed Curve.

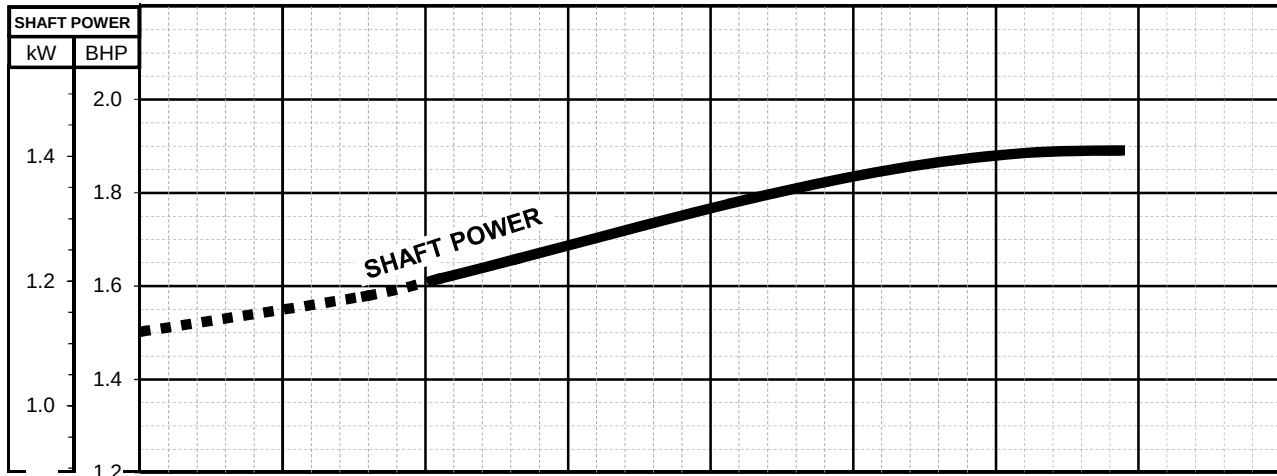
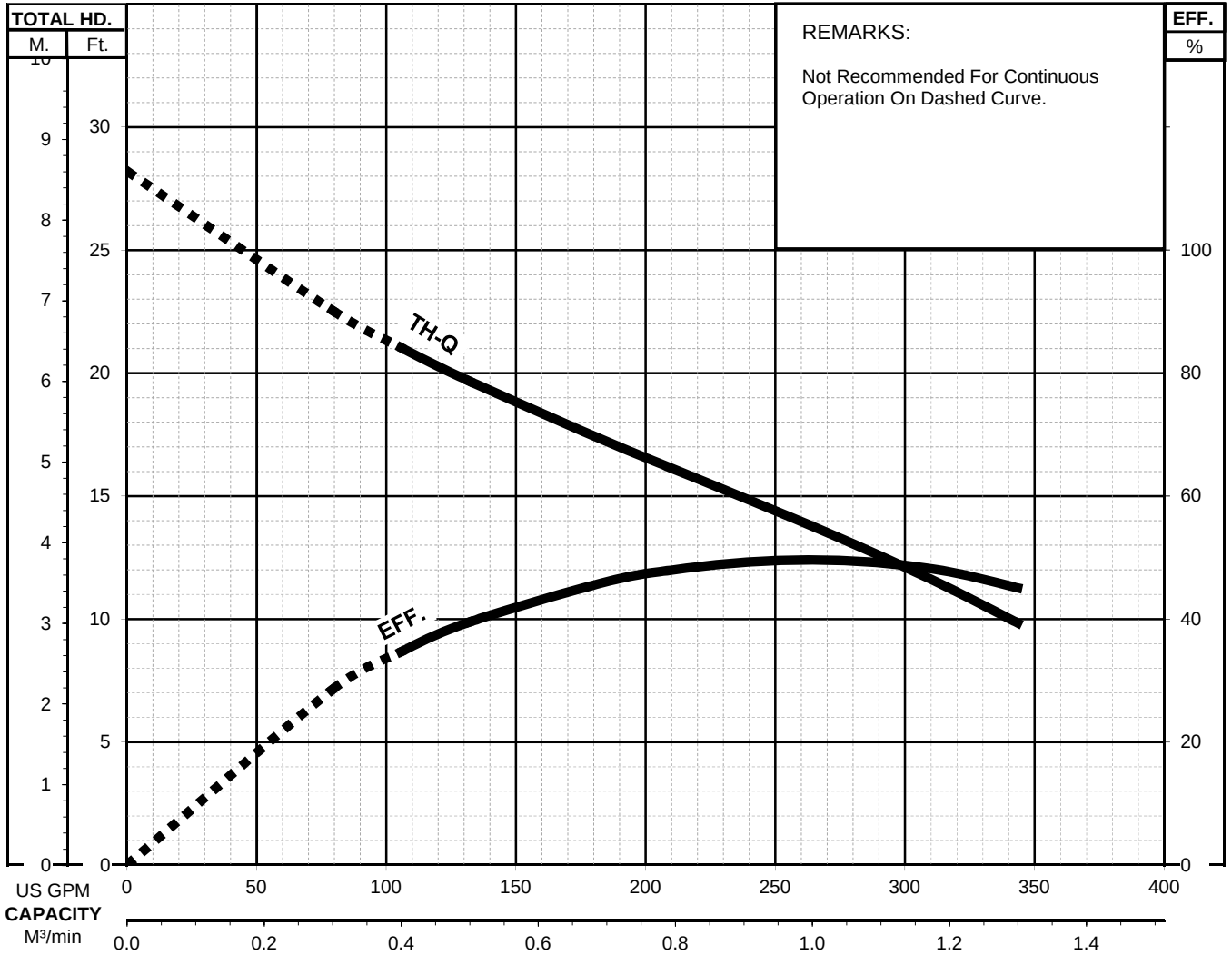


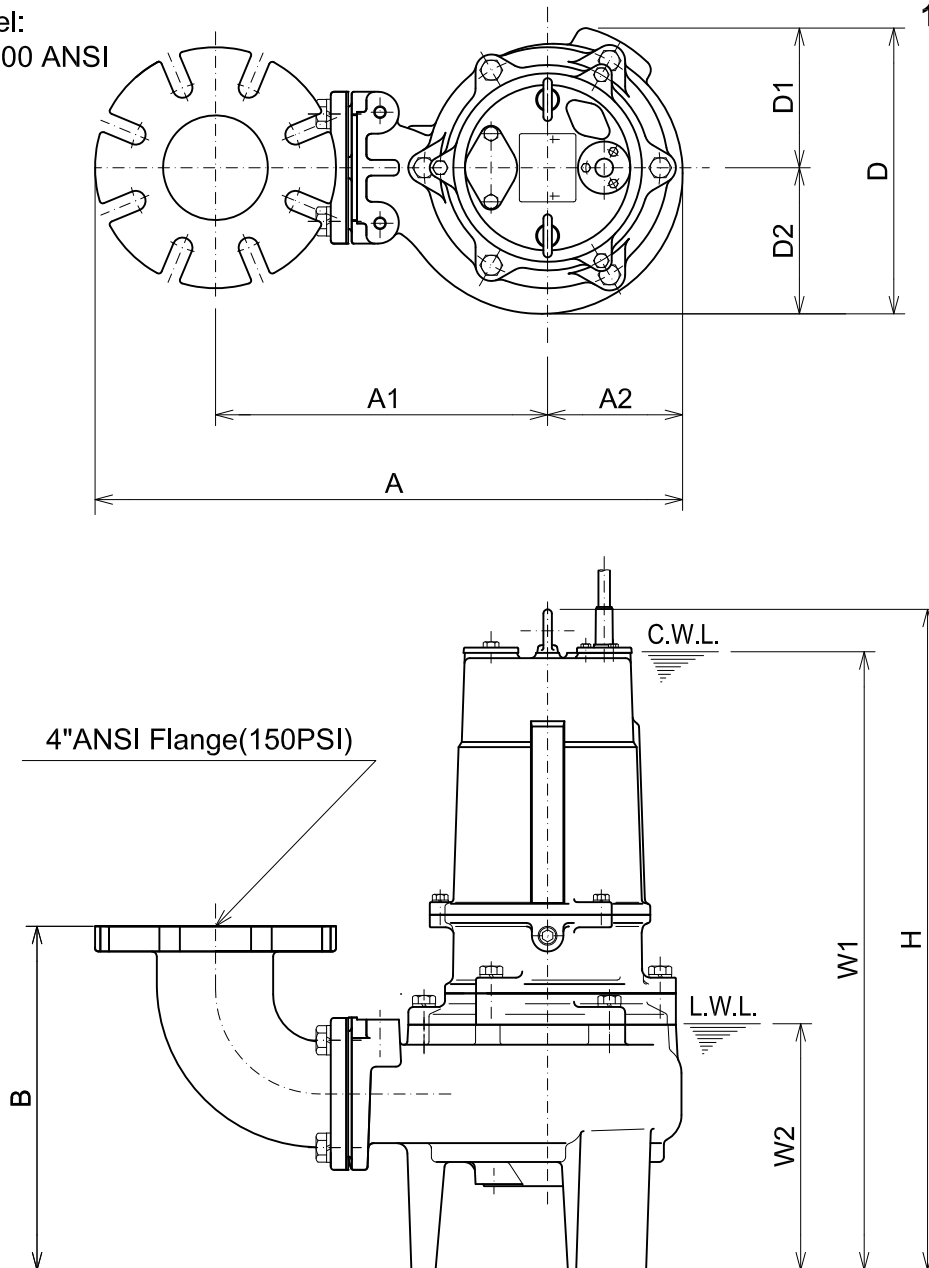
BZ - SERIES

SUBMERSIBLE SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TOS)100BZ41.5-62		4"/100mm	2.0	1.5	1700	3.15"/80mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater		3	208-230/460/575		8.0-8.0/4.0/3.0		60	Direct On Line		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
 Bend model:
 BEND80-100 ANSI
100BZ41.5 -62**100BZ42.2 -62**
 C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level
DIMENSIONS:USCS(Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	*Wt.
			A	A1	A2	B	D	D1	D2	H	W1	W2	(lbs.)
100BZ41.5 -61	2	4"	22 1/2	12 7/8	5 1/16	12 15/16	10 3/4	5 1/4	5 1/2	24 13/16	23 1/4	9 1/4	170
100BZ42.2 -61	3	4"	22 1/2	12 7/8	5 1/16	12 15/16	10 3/4	5 1/4	5 1/2	24 13/16	23 1/4	9 1/4	170

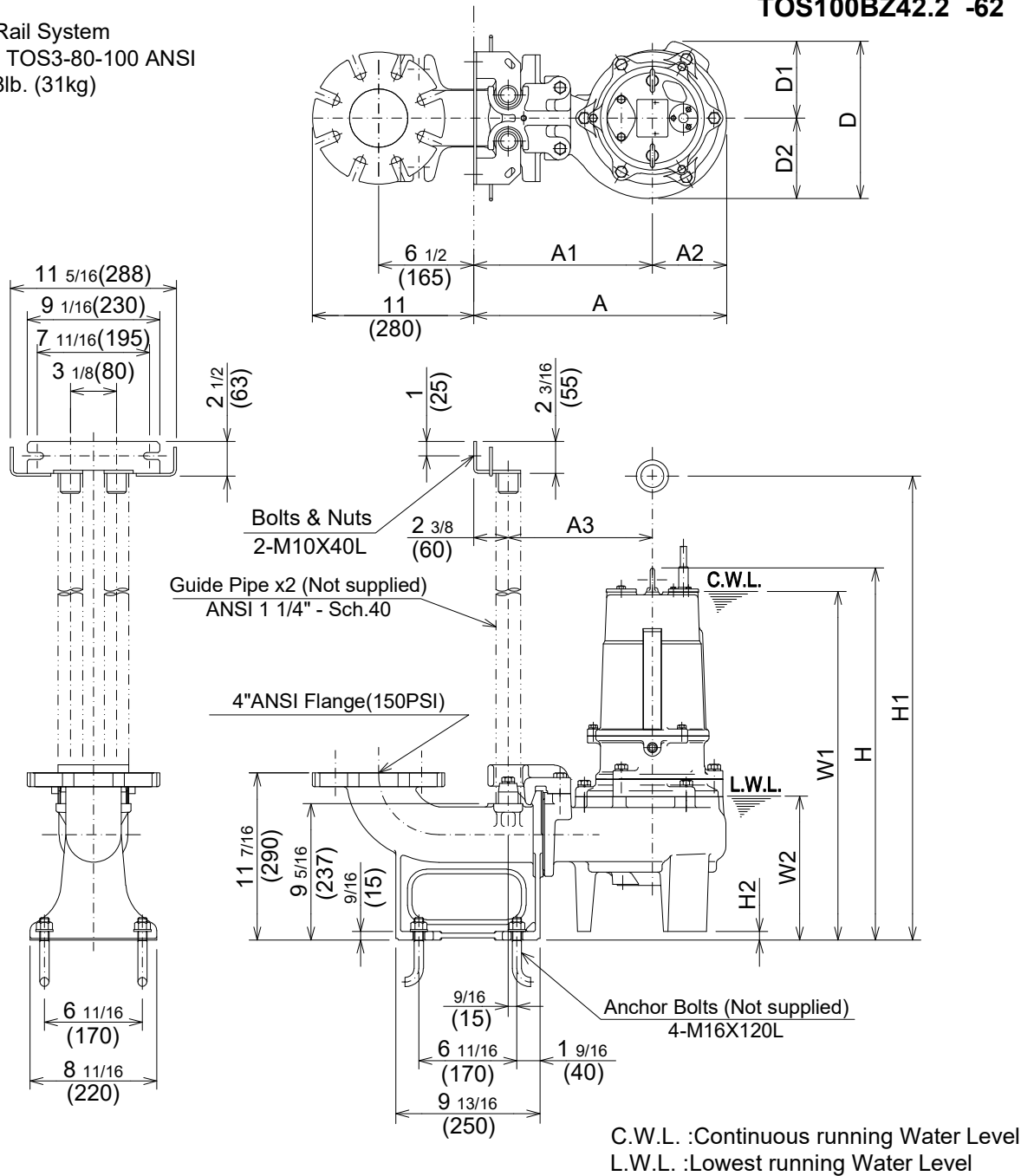
DIMENSIONS:METRIC(mm)

*Excluding Cable.

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	*Wt.
			A	A1	A2	B	D	D1	D2	H	W1	W2	(kg)
100BZ41.5 -61	1.5	100	571	327	129	328	273	133	140	631	590	235	77
100BZ42.2 -61	2.2	100	571	327	129	328	273	133	140	631	590	235	77

TOS100BZ41.5 -62
TOS100BZ42.2 -62

Guide Rail System
 Model : TOS3-80-100 ANSI
 Wt. : 68lb. (31kg)

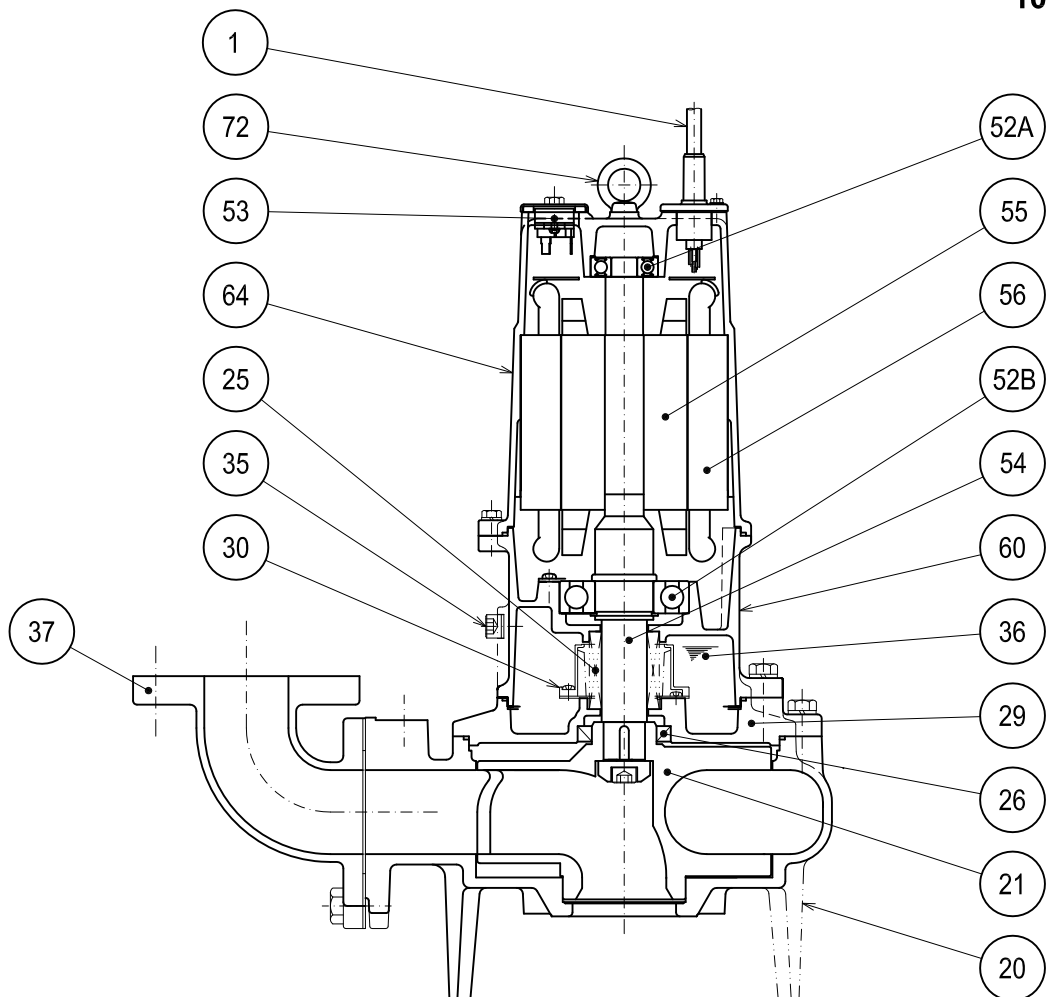

DIMENSIONS:USCS(Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	
TOS100BZ41.5 -62	2	4"	17 5/16	12 3/16	5 1/16	9 13/16	10 3/4	5 1/4	5 1/2	25 7/16	30 3/16	9/16	23 7/8	9 7/8	163
TOS100BZ42.2 -62	3	4"	17 5/16	12 3/16	5 1/16	9 13/16	10 3/4	5 1/4	5 1/2	25 7/16	30 3/16	9/16	23 7/8	9 7/8	163

DIMENSIONS:METRIC(mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	
TOS100BZ41.5 -62	1.5	100	439	310	129	250	273	133	140	646	767	15	605	250	74
TOS100UZ42.2 62	2.2	100	439	310	129	250	273	133	140	646	767	15	605	250	74

*Excluding
Cable & TOS

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW**100BZ41.5 -62****100BZ42.2 -62****100BZ43.7 -62**

	BZ41.5	BZ42.2	BZ43.7
* 1	AWG 16/4-32ft	AWG 14/4-32ft	AWG 12/4-32ft
* 2	H-30A	H-30A	H-35A
* 3	TC456812	TC456812	TC507212
* 4	#6307ZZC3	#6307ZZC3	#6309ZZC3

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM,AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath * 1			1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / * 2			1
26	Oil Seal	NBR / * 3			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
37	Discharge Bend	Cast Iron / 4"ANSI Flange(150PSI)	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	AC-#6304ZZC3			1
52B	Lower Bearing	* 4			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
72	Lifting Lug Bolt	Stainless Steel	S 30400	1.4301	2



BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 30. Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

 Mechanical Seal
 Elastomers

 Impeller Type
 Solids Handling Capability

 Bearings

 Motor Nomenclature
 Type, Speed, Hz.
 Voltage, Phase

 Insulation

 Accessories
 Operational Mode

■ STANDARD

4" Npt (100 mm)
 2 ~15 Hp. (1.5 ~ 11 kW)
 105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
 21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
 104° F. (40° C.)

 ASTM 48 Class 35 Cast Iron
 ASTM 48 Class 35 Cast Iron
 420,403 Stainless Steel
 ASTM 48 Class 35 Cast Iron
 304 Stainless Steel

 Silicon Carbide
 NBR (Nitril Buna Rubber)

 Enclosed Single Vane, solids handling.
 3.15" (80 mm)

 Pre-lubricated, Double Shielded

 Air Filled, 1800 Rpm, 60 Hz.
 208-230, 230 or 440, 460 or 575 V.
 (3 Phase)

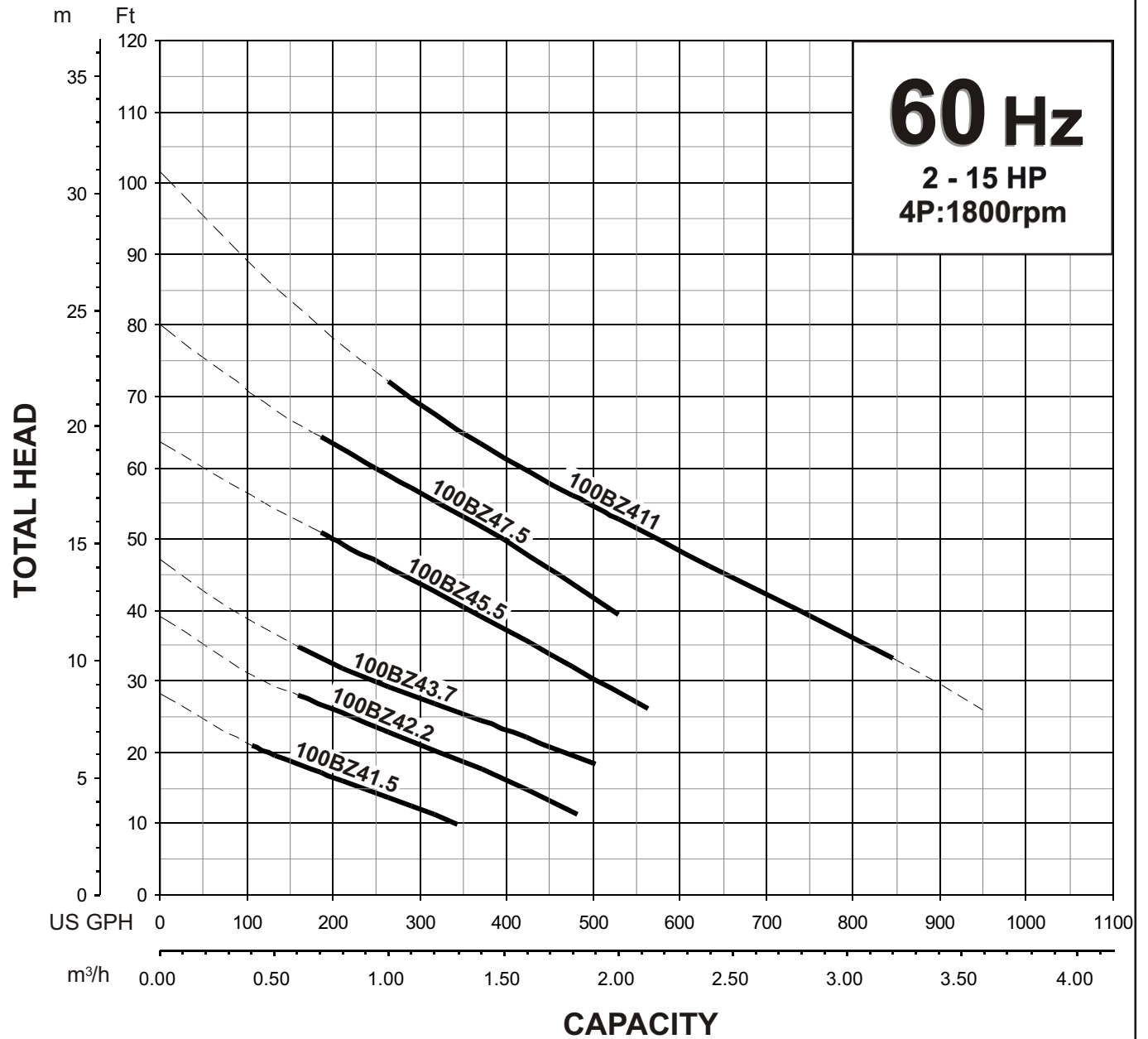
 Class F
 Submersible Power Cable 32' (10 m)
 Manual

■ OPTIONS

Nema 3R inverter available for
 230 V., 1 Ph. operation from
 2~5 Hp.

 Length as Required

 Model
 TOS Slide rail system

**TSURUMI PUMP****BZ - SERIES**
SEWAGE & WASTEWATER PUMPS**PERFORMANCE**
RANGE**PERFORMANCE RANGE**

REMARKS: Not Recommended For
Continuous Operation On Dashed Curve.

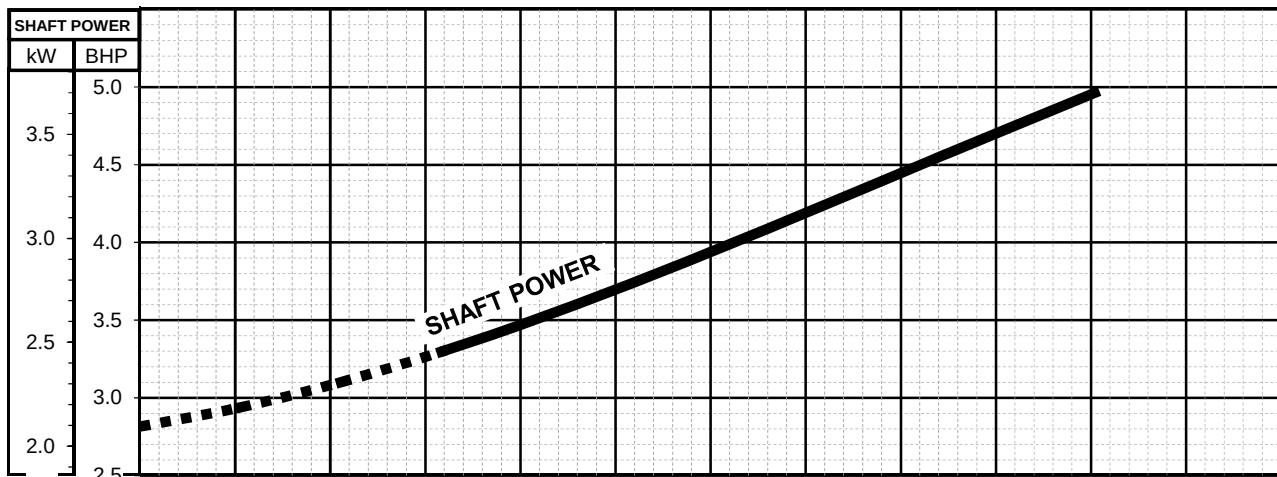
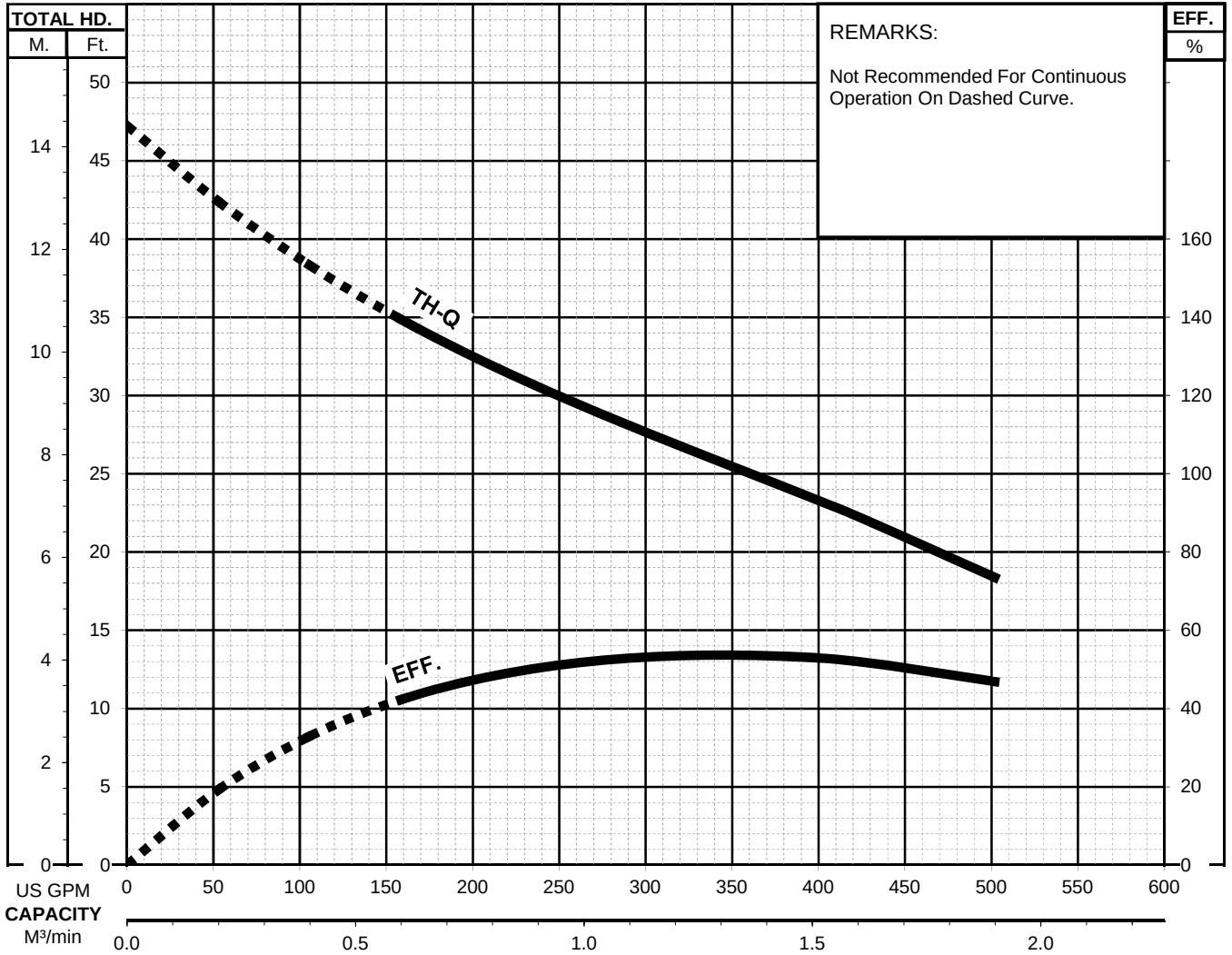


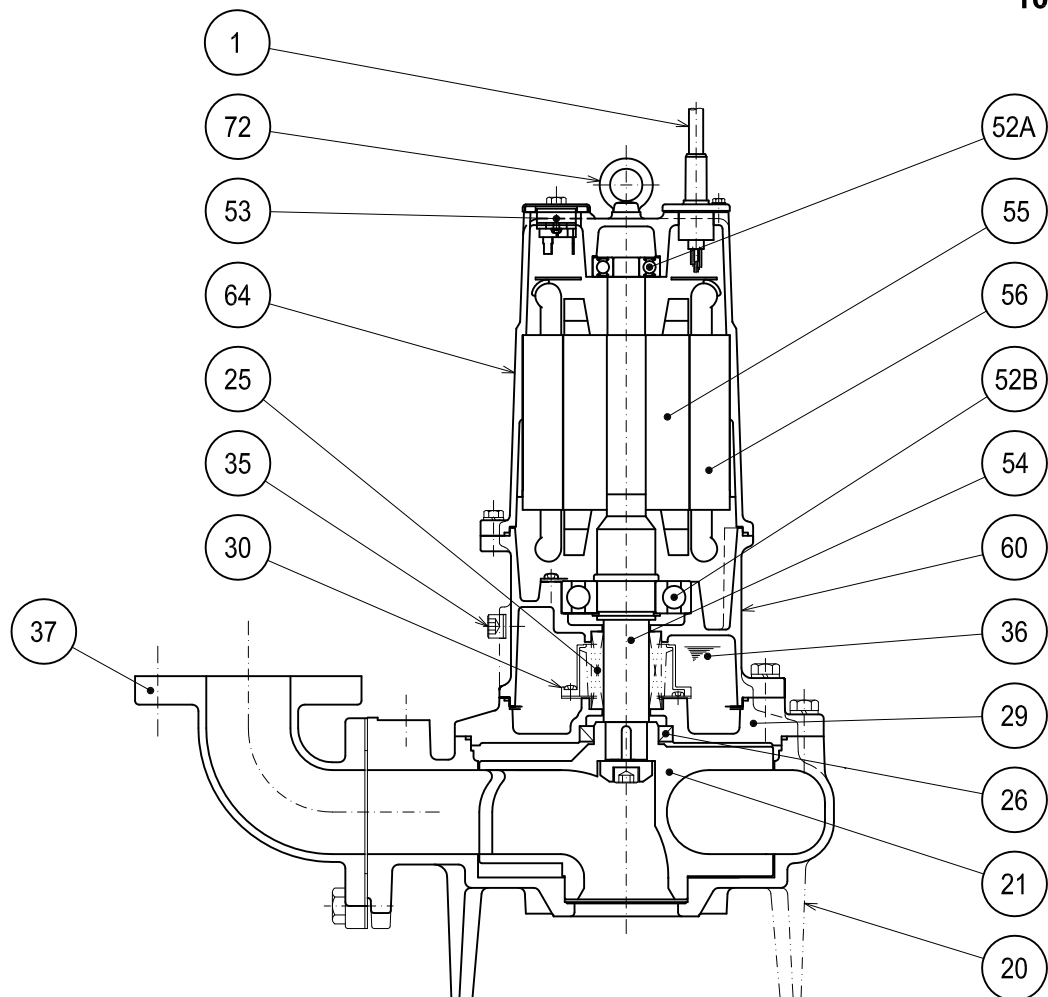
BZ - SERIES

SUBMERSIBLE SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TOS)100BZ43.7-62		4"/100mm	5.0	3.7	1690	3.15"/80mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater		3	208-230/460/575		15.0-14.2/7.3/5.4		60	Direct On Line		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



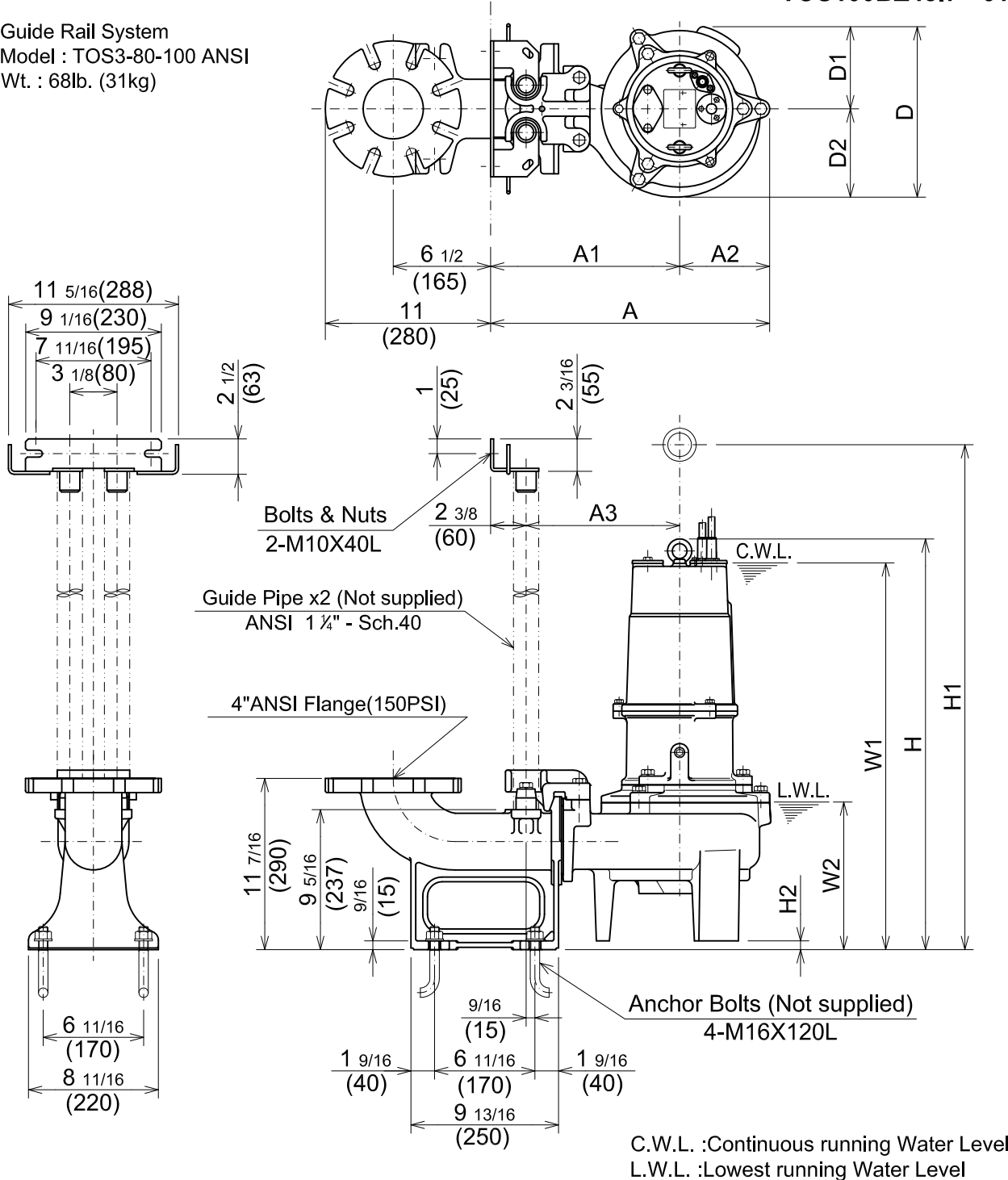
**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW**100BZ41.5 -62****100BZ42.2 -62****100BZ43.7 -62**

	BZ41.5	BZ42.2	BZ43.7
* 1	AWG 16/4-32ft	AWG 14/4-32ft	AWG 12/4-32ft
* 2	H-30A	H-30A	H-35A
* 3	TC456812	TC456812	TC507212
* 4	#6307ZZC3	#6307ZZC3	#6309ZZC3

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM,AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath * 1			1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / * 2			1
26	Oil Seal	NBR / * 3			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
37	Discharge Bend	Cast Iron / 4"ANSI Flange(150PSI)	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	AC-#6304ZZC3			1
52B	Lower Bearing	* 4			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
72	Lifting Lug Bolt	Stainless Steel	S 30400	1.4301	2

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS**TOS100BZ43.7 -61**

Guide Rail System
 Model : TOS3-80-100 ANSI
 Wt. : 68lb. (31kg)

**DIMENSIONS:USCS(Inch)**

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(lbs.)
TOS100BZ43.7 -61	5	4"	18 5/8	12 5/8	6	10 1/4	11 3/8	5 1/2	5 7/8	27 3/8	32 3/16	9/16	25 3/4	9 7/8	207

DIMENSIONS:METRIC(mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(kg)
TOS100BZ43.7 -61	3.7	100	473	320	153	260	289	139	150	696	817	15	655	250	94

*Excluding
TOS & Cable.



BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 30. Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

 Mechanical Seal
 Elastomers

 Impeller Type
 Solids Handling Capability

 Bearings

 Motor Nomenclature
 Type, Speed, Hz.
 Voltage, Phase

 Insulation

 Accessories
 Operational Mode

■ STANDARD

4" Npt (100 mm)
 2 ~15 Hp. (1.5 ~ 11 kW)
 105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
 21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
 104° F. (40° C.)

 ASTM 48 Class 35 Cast Iron
 ASTM 48 Class 35 Cast Iron
 420,403 Stainless Steel
 ASTM 48 Class 35 Cast Iron
 304 Stainless Steel

 Silicon Carbide
 NBR (Nitril Buna Rubber)

 Enclosed Single Vane, solids handling.
 3.15" (80 mm)

 Pre-lubricated, Double Shielded

 Air Filled, 1800 Rpm, 60 Hz.
 208-230, 230 or 440, 460 or 575 V.
 (3 Phase)

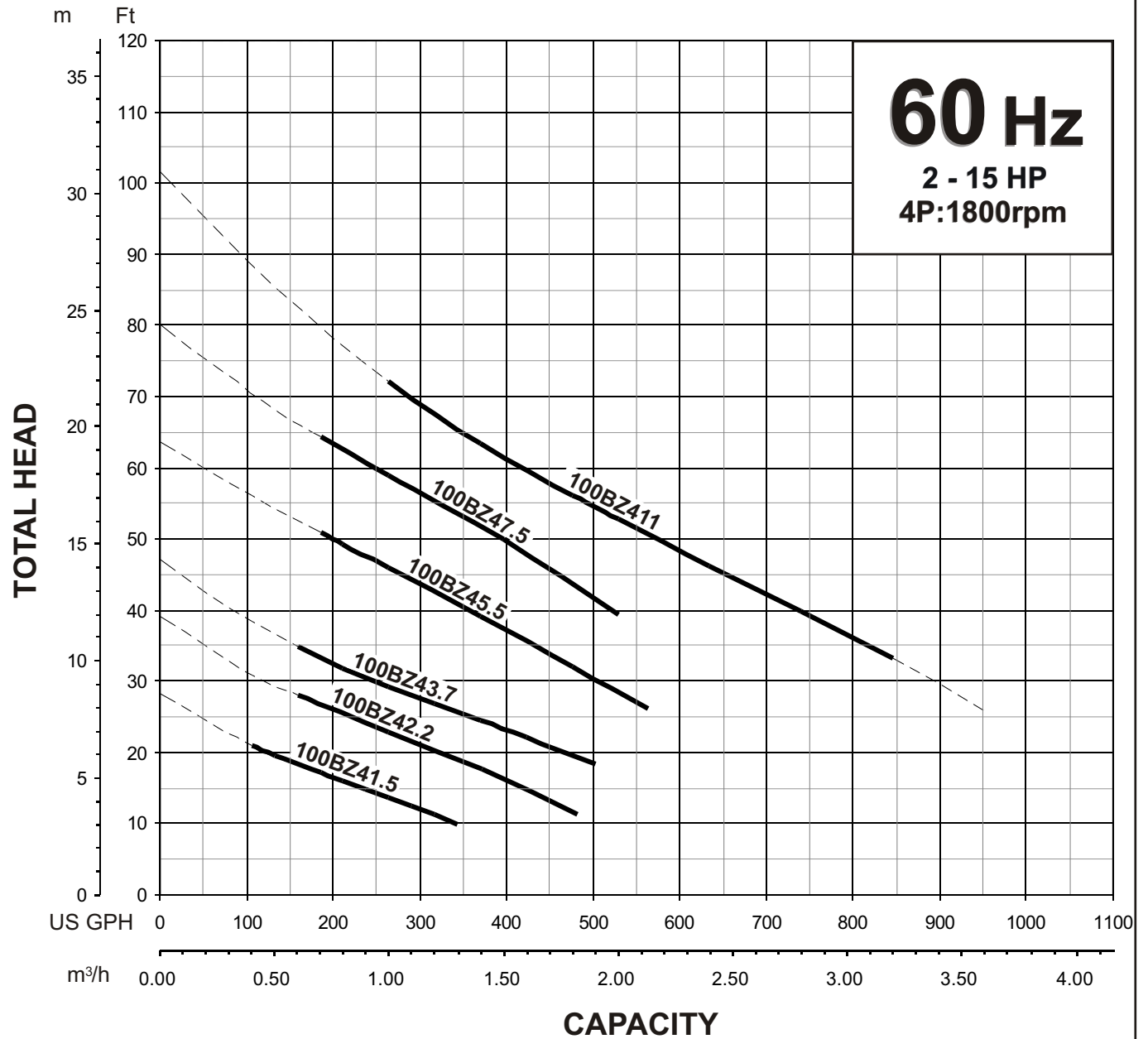
 Class F
 Submersible Power Cable 32' (10 m)
 Manual

■ OPTIONS

Nema 3R inverter available for
 230 V., 1 Ph. operation from
 2~5 Hp.

 Length as Required

 Model
 TOS Slide rail system

**TSURUMI PUMP**
BZ - SERIES
SEWAGE & WASTEWATER PUMPS
PERFORMANCE
RANGE
PERFORMANCE RANGE


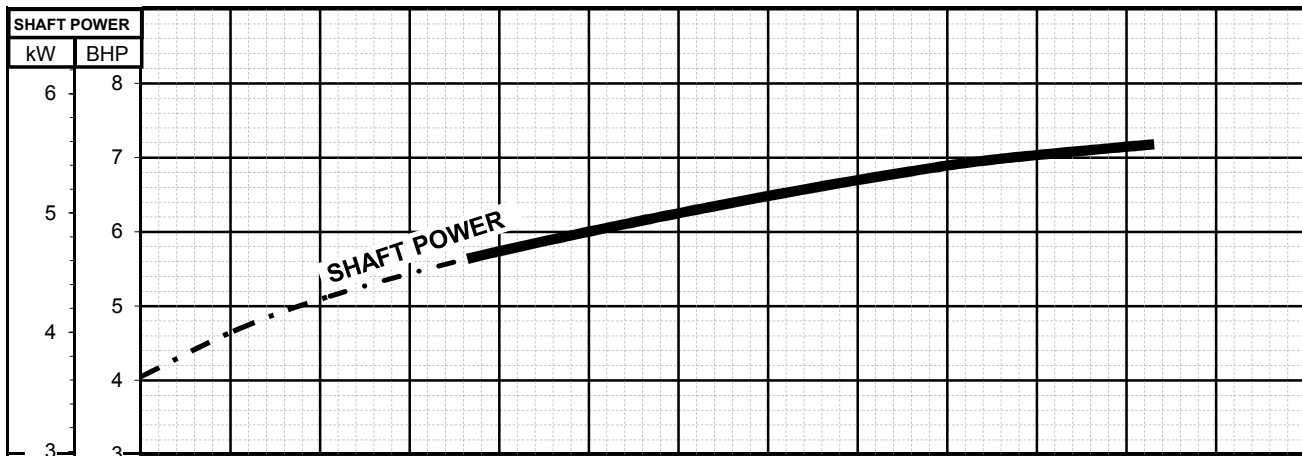
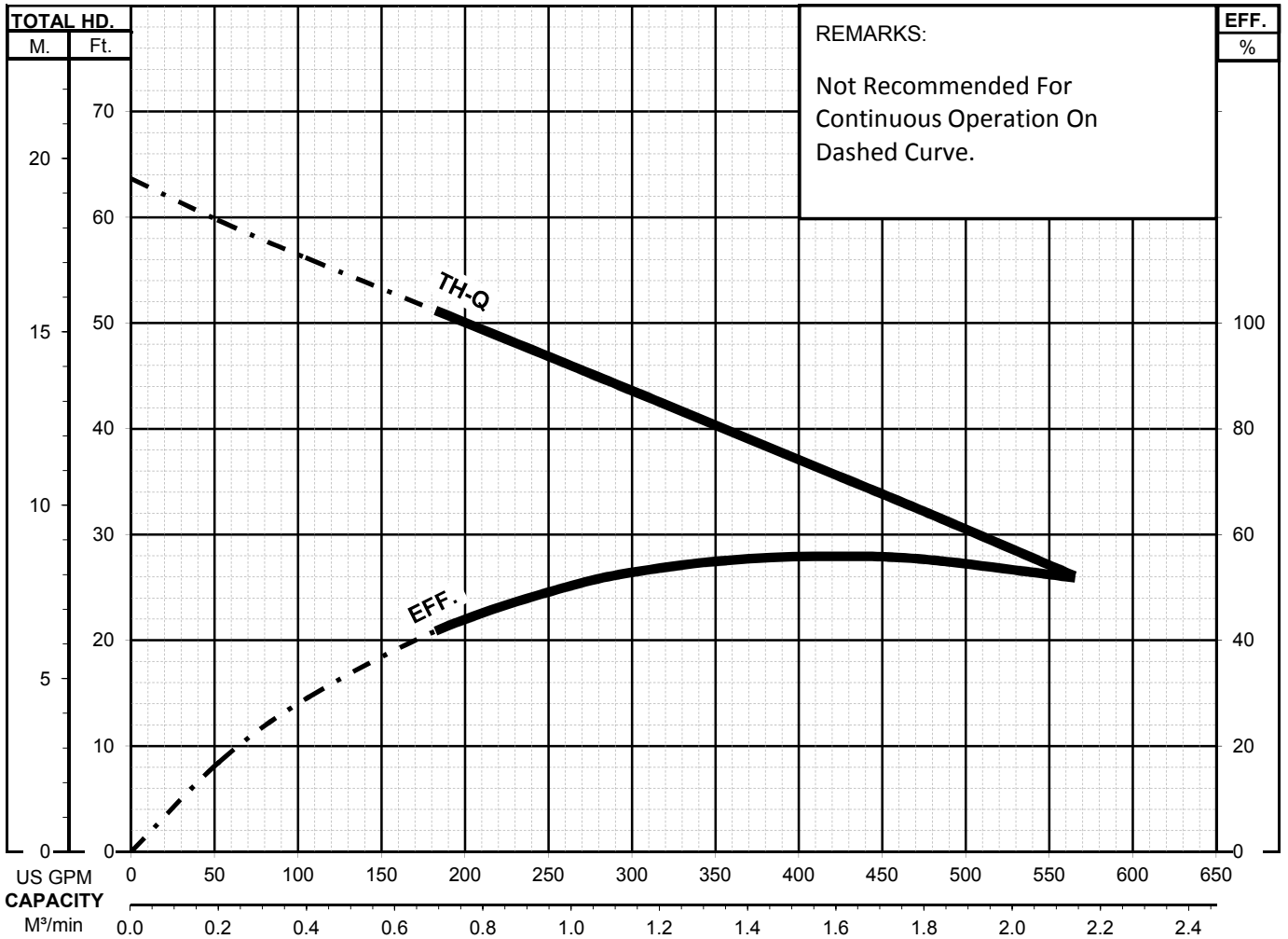
REMARKS: Not Recommended For
Continuous Operation On Dashed Curve.

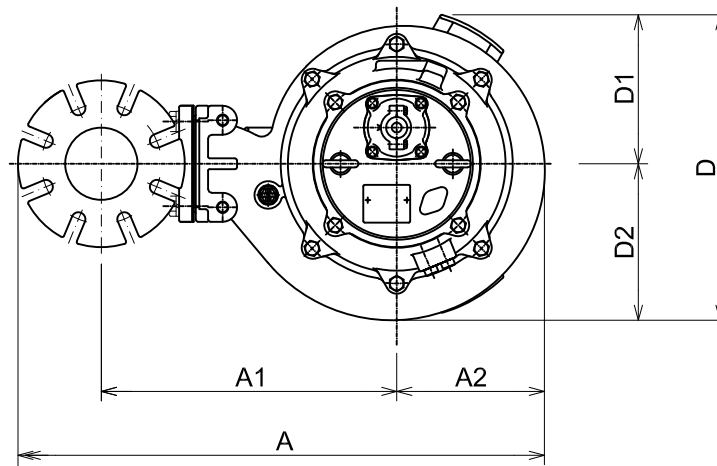
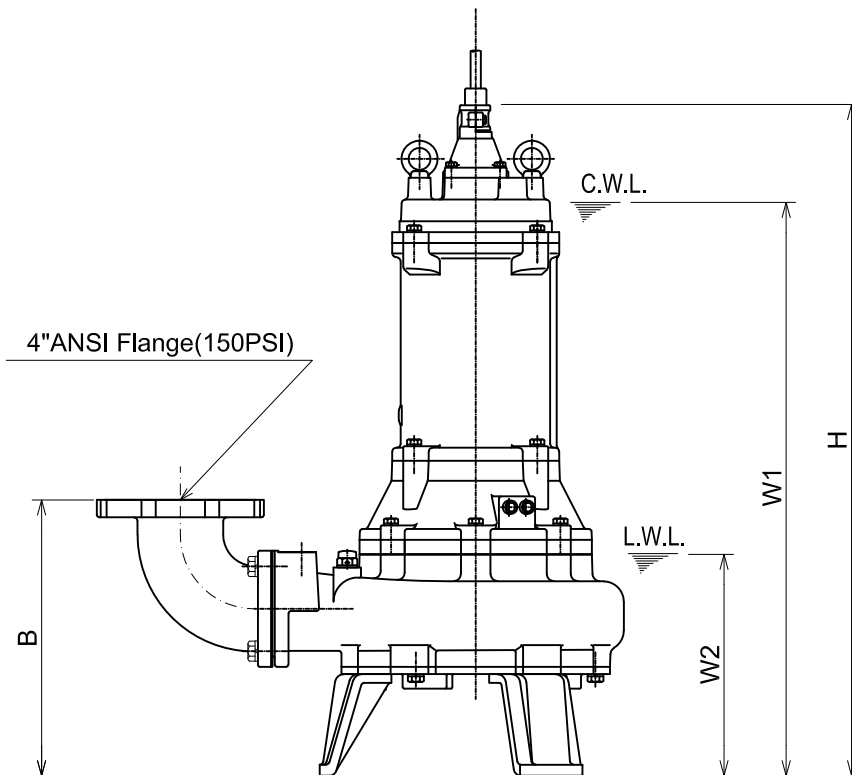

TSURUMI PUMP

BZ - SERIES **SEWAGE & WASTEWATER PUMPS**

PERFORMANCE
CURVE

MODEL	BORE	HP	kW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TOS)100BZ45.5-65	4"/100mm	7.5	5.5	1731	3.15"/80mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE	PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
Sewage & Wastewater Pump	3	208-230/460/575	22.2-20.8 / 10.4 / 8.3		60	Direct On Line		F	
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE	HZ	STARTING METHOD		INS. CLASS	
-	-	-	-	-	-	-		-	



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
 Bend model:
 BEND100-100 ANSI
**100BZ45.5 -65****100BZ47.5 -65**

4"ANSI Flange(150PSI)

 C.W.L. :Continuous running Water Level
 L.W.L. :Lowest running Water Level
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H	W1	W2	
100BZ45.5-65	7.5	4"	29	16 7/16	8 1/16	11	14 15/16	16 9/16	8 1/2	8 1/16	36 7/16	31 4/8	12	375
100BZ47.5-65	10	4"	29	16 7/16	8 1/16	11	14 15/16	16 9/16	8 1/2	8 1/16	37 3/16	32 1/4	12	417

DIMENSIONS:METRIC (mm)

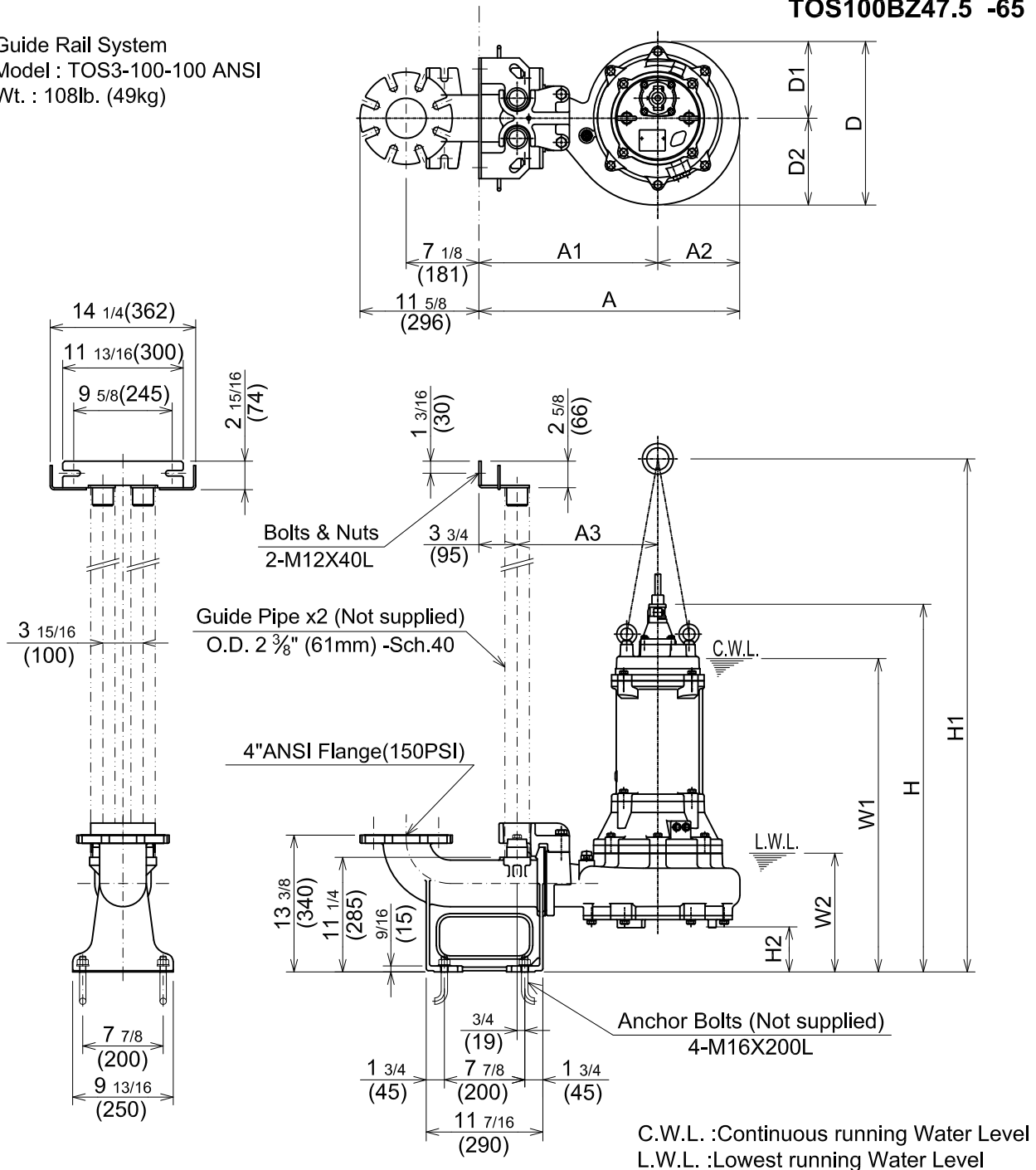
*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H	W1	W2	
100BZ45.5-65	5.5	100	736	417	204	280	380	421	216	205	925	800	305	170
100BZ47.5-65	7.5	100	736	417	204	280	380	421	216	205	945	820	305	189

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS

Guide Rail System
 Model : TOS3-100-100 ANSI
 Wt. : 108lb. (49kg)

TOS100BZ45.5 -65
TOS100BZ47.5 -65

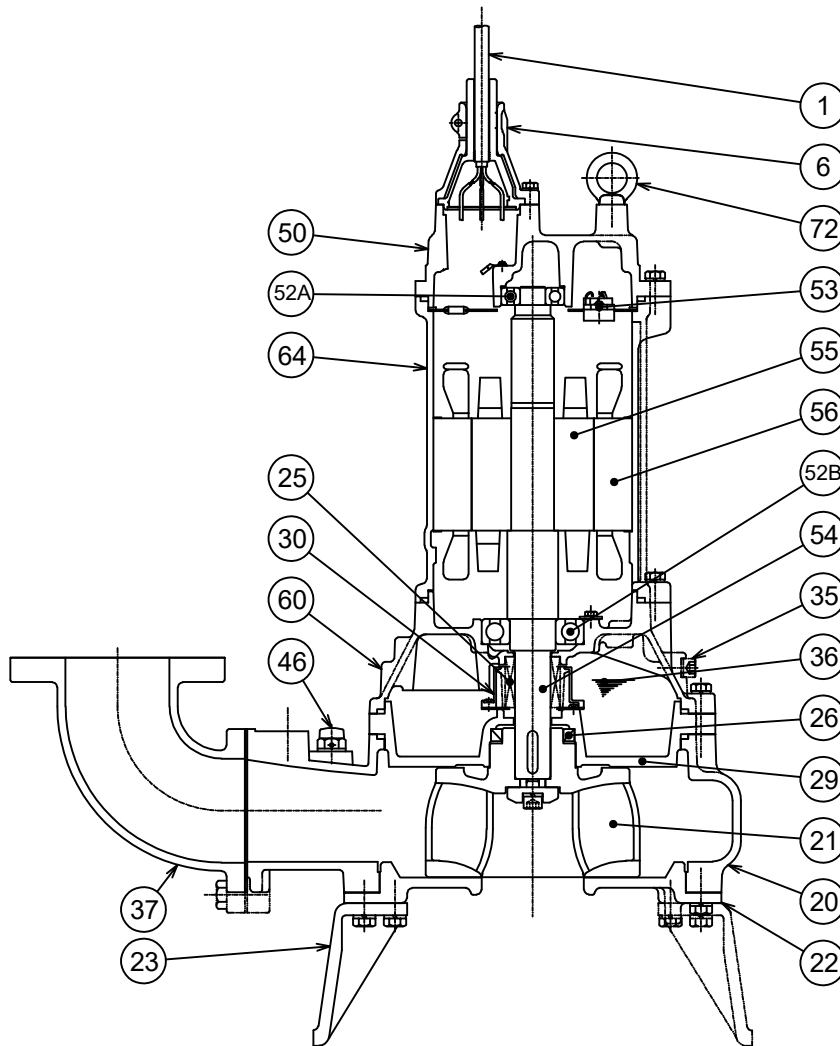
**DIMENSIONS:USCS (Inch)**

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	
TOS100BZ45.5-65	7.5	4"	25 9/16	17 1/2	8 1/16	13 3/4	16	7 1/2	8 1/2	36	50 1/4	4 5/16	31 1/8	11 5/8	370
TOS100BZ47.5-65	10	4"	25 9/16	17 1/2	8 1/16	13 3/4	16	7 1/2	8 1/2	36 13/16	51 1/4	4 5/16	31 7/8	11 5/8	412

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	
TOS100BZ45.5-65	5.5	100	649	445	204	350	406	190	216	914	1276	110	790	295	168
TOS100BZ47.5-65	7.5	100	649	445	204	350	406	190	216	935	1301	110	810	295	187

*Excluding TOS & Cable

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW
100BZ45.5 -65
100BZ47.5 -65


	BZ45.5	BZ47.5
* 1	AWG 12/4-32ft	AWG 10/4-32ft
* 2	#AC-6305ZC3	#AC-6306ZC3

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath *1			1
6	Staffing Box	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
20	Pump Casing	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
21	Impeller	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
22	Suction Cover	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
23	Pump Stand	Cast Iron	A48M Class 30B	EN 1561 GJL-200	3
25	Mechanical Seal	Silicon Carbide / H-35A			1
26	Oil Seal	NBR / TC608212			1
29	Oil Casing	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel / M12x14L	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron / 4" ANSI Flange(150PSI)	A48M Class 30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
50	Motor Bracket	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
52A	Upper Bearing	*2			1
52B	Lower Bearing	#6309ZC3			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 Class 30B	EN 1561 GJL-200	1
64	Motor Housing	Cast Iron	A48M Class 30B	EN 1561 GJL-200	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2



BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 30. Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

 Mechanical Seal
 Elastomers

 Impeller Type
 Solids Handling Capability

 Bearings

 Motor Nomenclature
 Type, Speed, Hz.
 Voltage, Phase

 Insulation

 Accessories
 Operational Mode

■ STANDARD

4" Npt (100 mm)
 2 ~15 Hp. (1.5 ~ 11 kW)
 105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
 21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
 104° F. (40° C.)

 ASTM 48 Class 35 Cast Iron
 ASTM 48 Class 35 Cast Iron
 420,403 Stainless Steel
 ASTM 48 Class 35 Cast Iron
 304 Stainless Steel

 Silicon Carbide
 NBR (Nitril Buna Rubber)

 Enclosed Single Vane, solids handling.
 3.15" (80 mm)

 Pre-lubricated, Double Shielded

 Air Filled, 1800 Rpm, 60 Hz.
 208-230, 230 or 440, 460 or 575 V.
 (3 Phase)

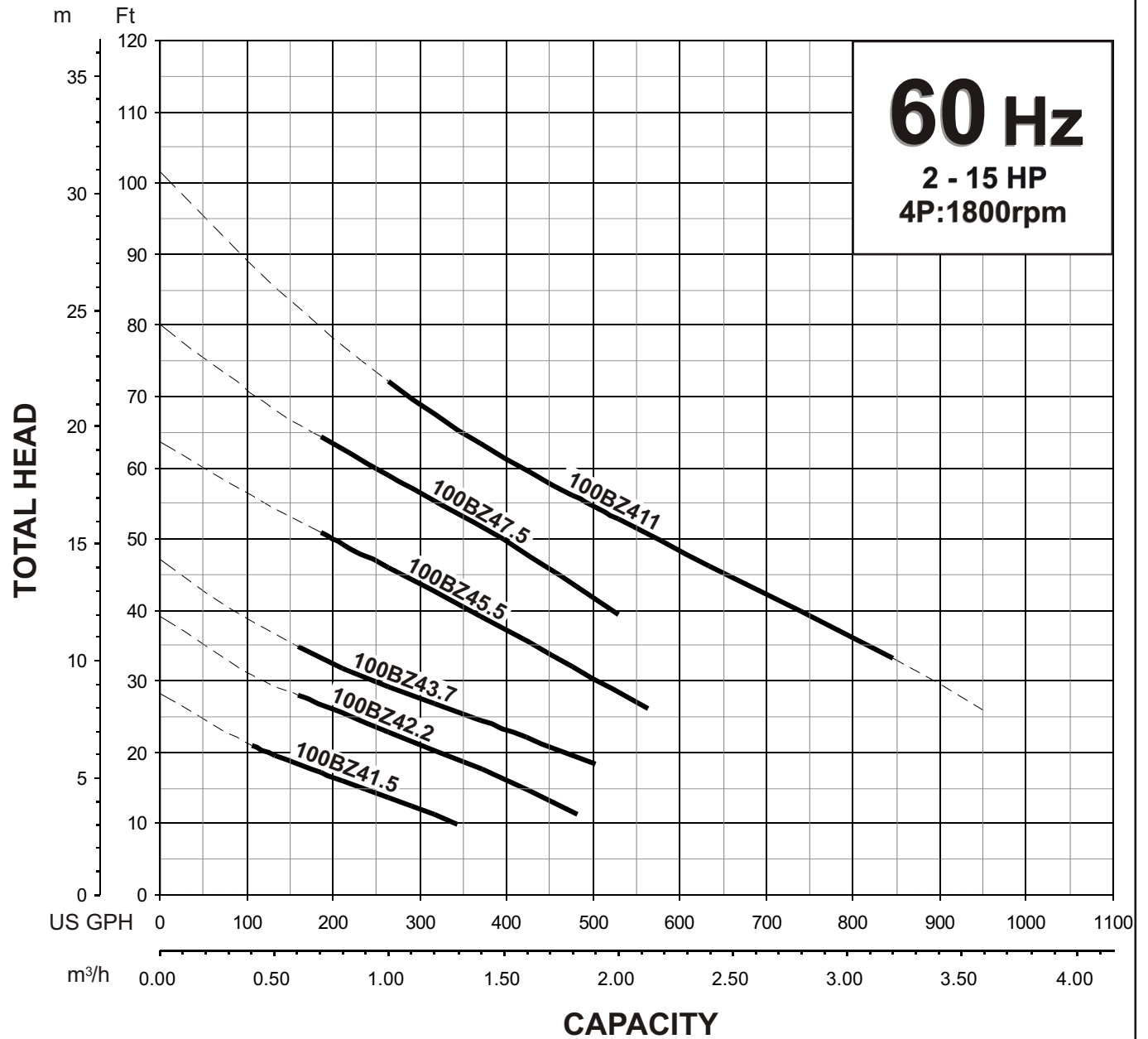
 Class F
 Submersible Power Cable 32' (10 m)
 Manual

■ OPTIONS

Nema 3R inverter available for
 230 V., 1 Ph. operation from
 2~5 Hp.

 Length as Required

 Model
 TOS Slide rail system

**TSURUMI PUMP****BZ - SERIES**
SEWAGE & WASTEWATER PUMPS**PERFORMANCE**
RANGE**PERFORMANCE RANGE**

REMARKS: Not Recommended For
Continuous Operation On Dashed Curve.

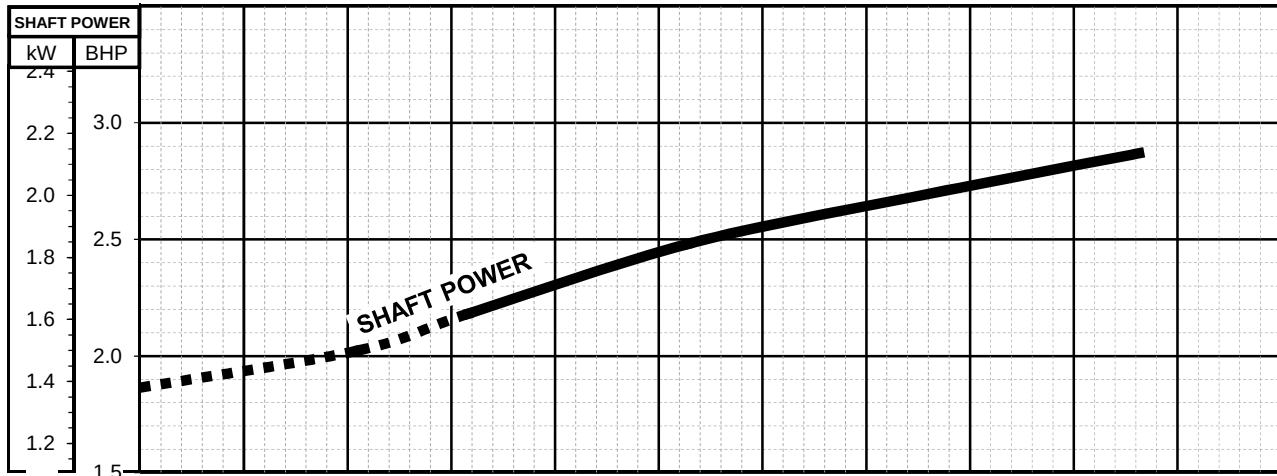
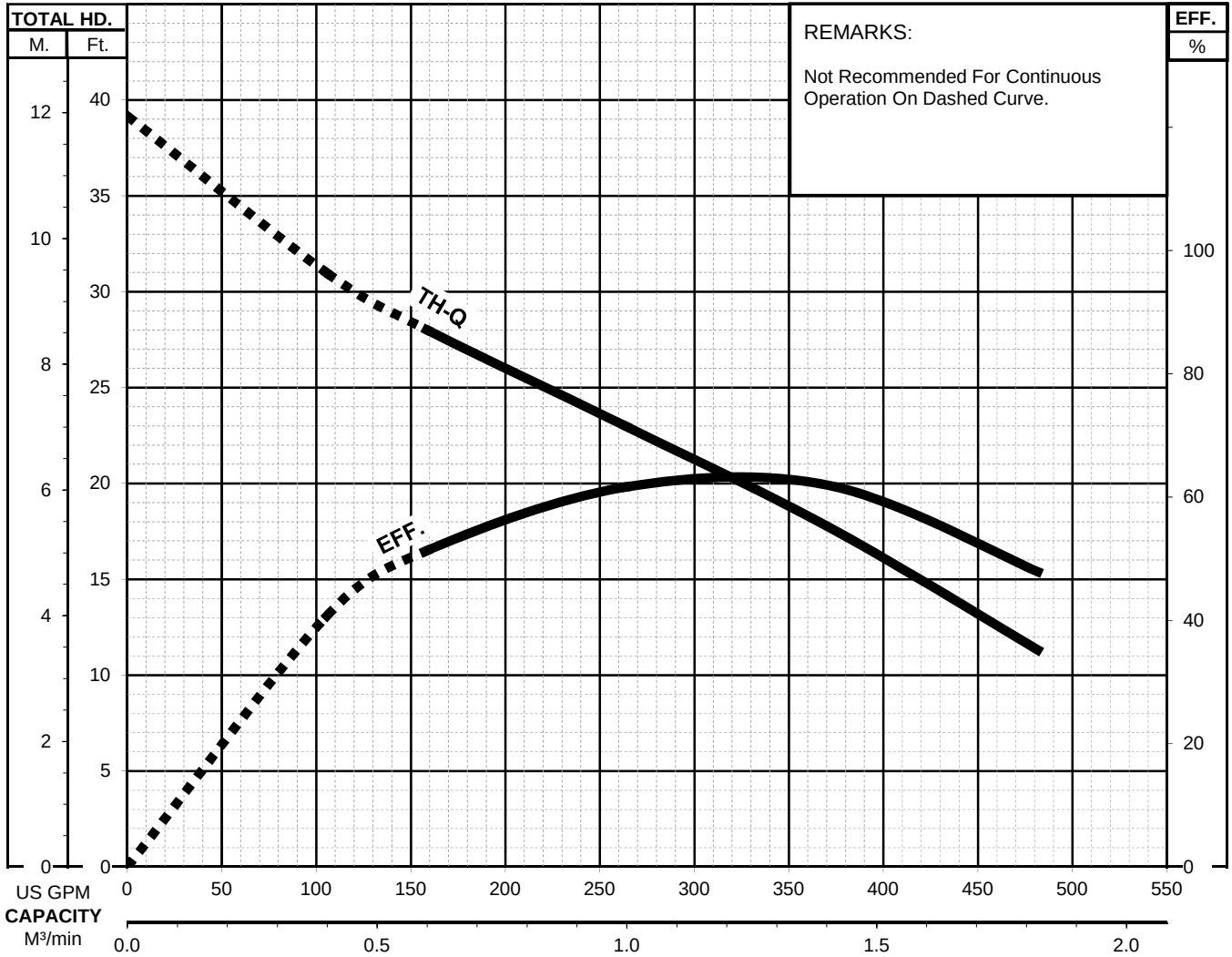


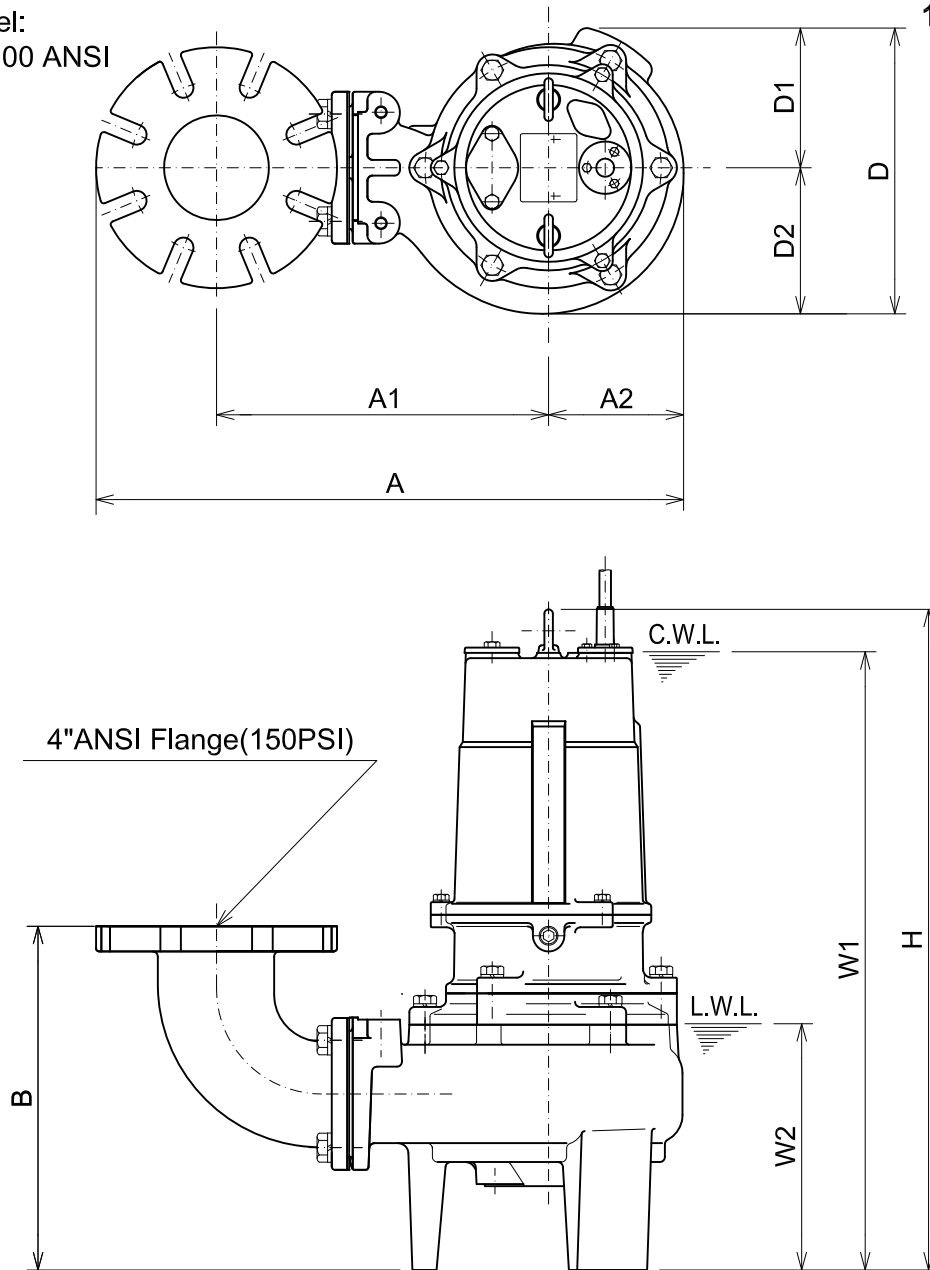
BZ - SERIES

SUBMERSIBLE SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TOS)100BZ42.2-62		4"/100mm	3.0	2.2	1700	3.15"/80mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater		3	208-230/460/575		9.8-9.2/4.6/3.6		60	Direct On Line		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
 Bend model:
 BEND80-100 ANSI
100BZ41.5 -62**100BZ42.2 -62**
 C.W.L. : Continuous running Water Level
 L.W.L. : Lowest running Water Level
DIMENSIONS:USCS(Inch)

Model	HP	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	*Wt.
			A	A1	A2	B	D	D1	D2	H	W1	W2	(lbs.)
100BZ41.5 -61	2	4"	22 1/2	12 7/8	5 1/16	12 15/16	10 3/4	5 1/4	5 1/2	24 13/16	23 1/4	9 1/4	170
100BZ42.2 -61	3	4"	22 1/2	12 7/8	5 1/16	12 15/16	10 3/4	5 1/4	5 1/2	24 13/16	23 1/4	9 1/4	170

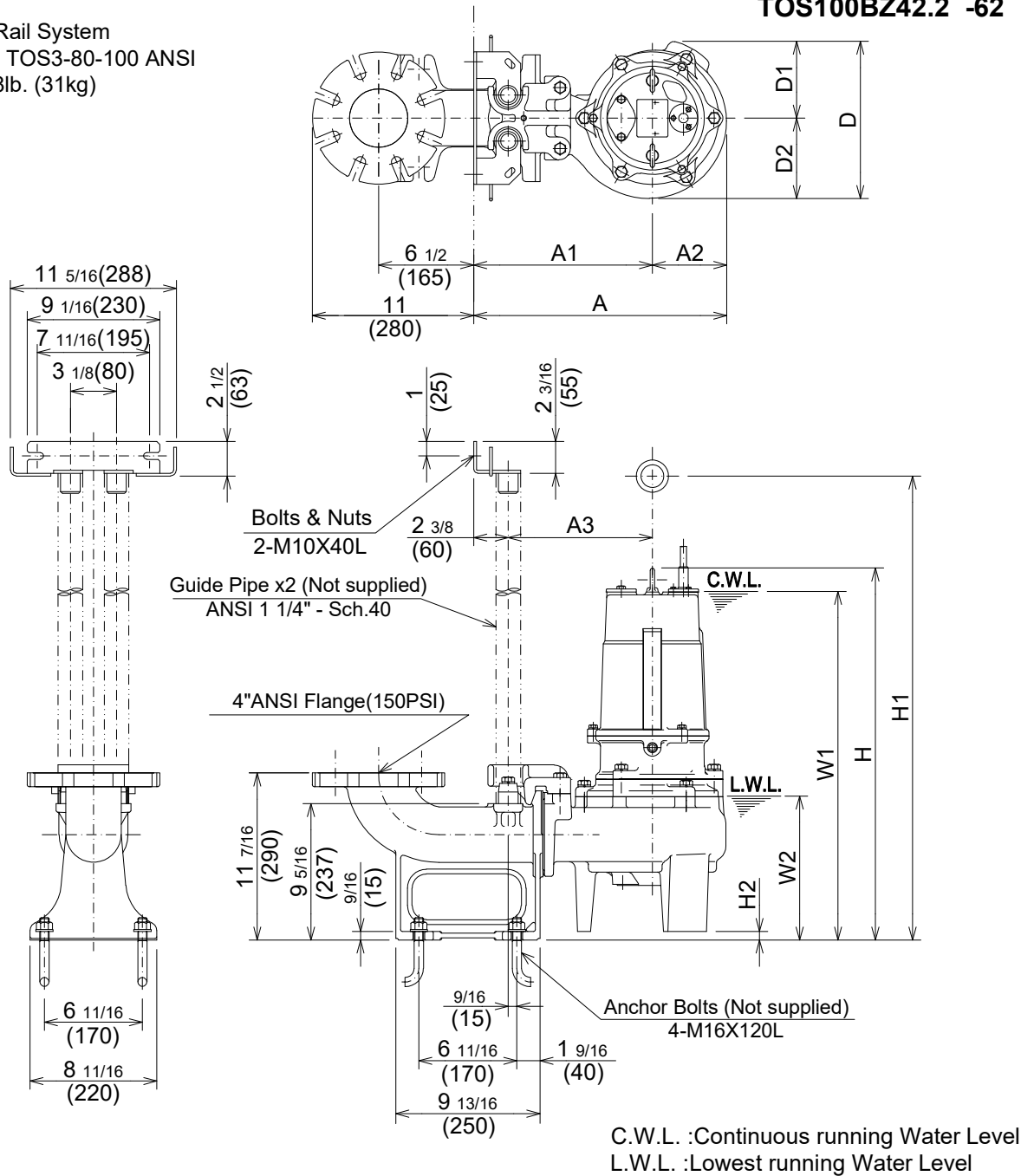
DIMENSIONS:METRIC(mm)

*Excluding Cable.

Model	kW	NOM. SIZE	Pump & Motor								C.W.L.	L.W.L.	*Wt.
			A	A1	A2	B	D	D1	D2	H	W1	W2	(kg)
100BZ41.5 -61	1.5	100	571	327	129	328	273	133	140	631	590	235	77
100BZ42.2 -61	2.2	100	571	327	129	328	273	133	140	631	590	235	77

TOS100BZ41.5 -62
TOS100BZ42.2 -62

Guide Rail System
 Model : TOS3-80-100 ANSI
 Wt. : 68lb. (31kg)

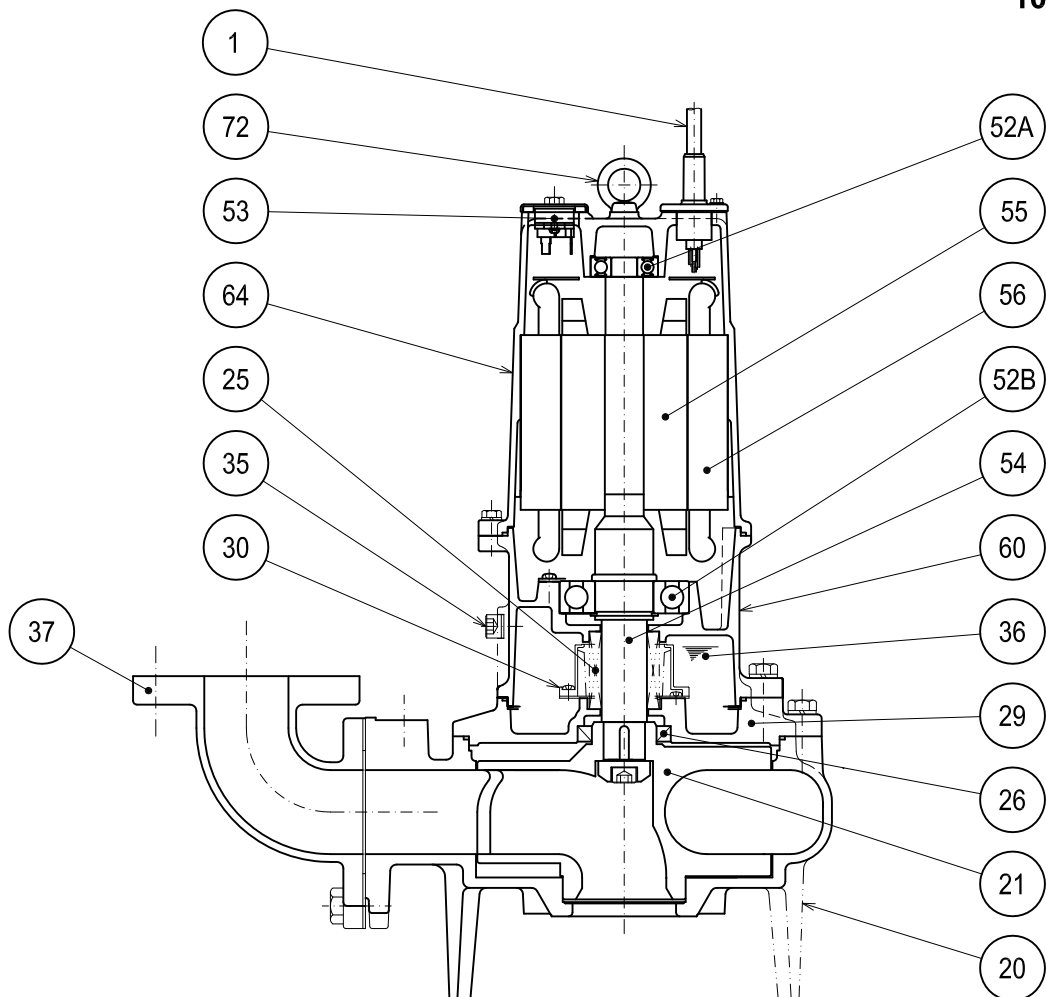

DIMENSIONS:USCS(Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(lbs.)
TOS100BZ41.5 -62	2	4"	17 5/16	12 3/16	5 1/16	9 13/16	10 3/4	5 1/4	5 1/2	25 7/16	30 3/16	9/16	23 7/8	9 7/8	163
TOS100BZ42.2 -62	3	4"	17 5/16	12 3/16	5 1/16	9 13/16	10 3/4	5 1/4	5 1/2	25 7/16	30 3/16	9/16	23 7/8	9 7/8	163

DIMENSIONS:METRIC(mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(kg)
TOS100BZ41.5 -62	1.5	100	439	310	129	250	273	133	140	646	767	15	605	250	74
TOS100UZ42.2 62	2.2	100	439	310	129	250	273	133	140	646	767	15	605	250	74

*Excluding
Cable & TOS

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW**100BZ41.5 -62****100BZ42.2 -62****100BZ43.7 -62**

	BZ41.5	BZ42.2	BZ43.7
* 1	AWG 16/4-32ft	AWG 14/4-32ft	AWG 12/4-32ft
* 2	H-30A	H-30A	H-35A
* 3	TC456812	TC456812	TC507212
* 4	#6307ZZC3	#6307ZZC3	#6309ZZC3

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM,AISI CODE	RELATED EN CODE	QTY
1	Power Cable	PVC Sheath * 1			1
20	Pump Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
21	Impeller	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / * 2			1
26	Oil Seal	NBR / * 3			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	PBT Plastic W/(GF+MD)40			1
35	Oil Plug	Stainless Steel	S 30400	1.4301	1
36	Lubricant	Turbine Oil ISO VG32 or SAE 10W-20			
37	Discharge Bend	Cast Iron / 4"ANSI Flange(150PSI)	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	AC-#6304ZZC3			1
52B	Lower Bearing	* 4			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
72	Lifting Lug Bolt	Stainless Steel	S 30400	1.4301	2



BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 35. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 30. Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



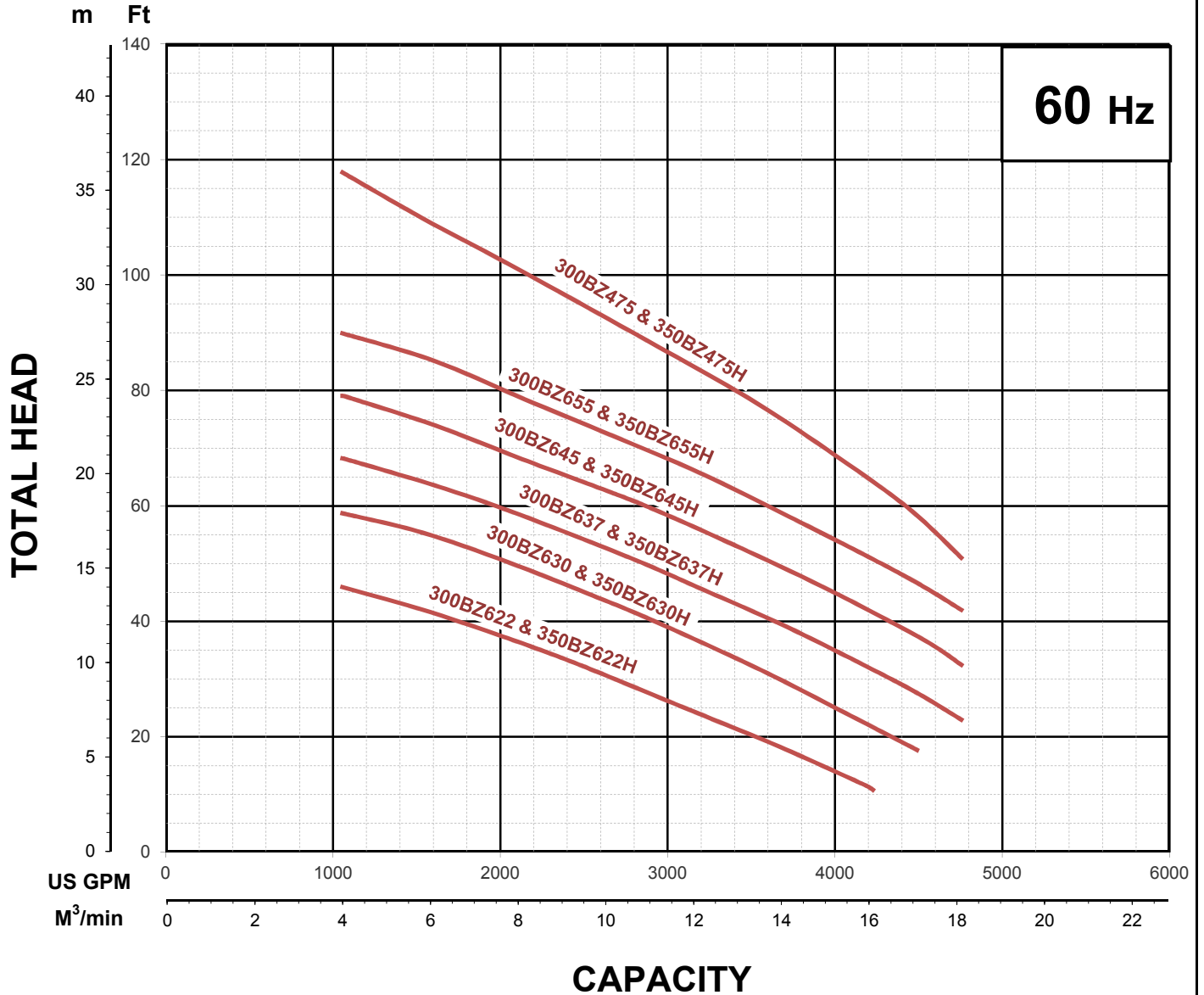
TSURUMI PUMP

BZ - SERIES (12" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

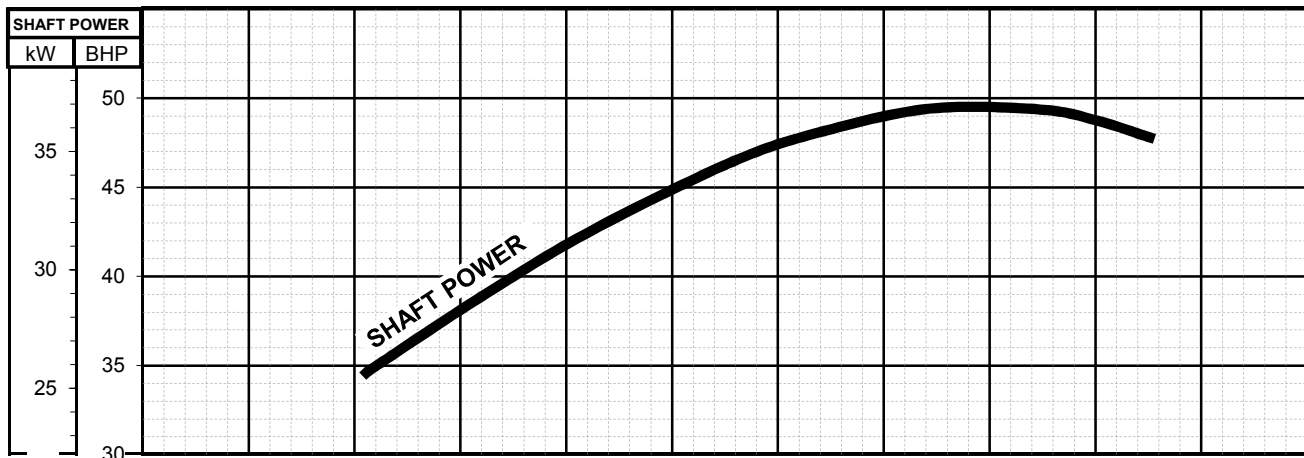
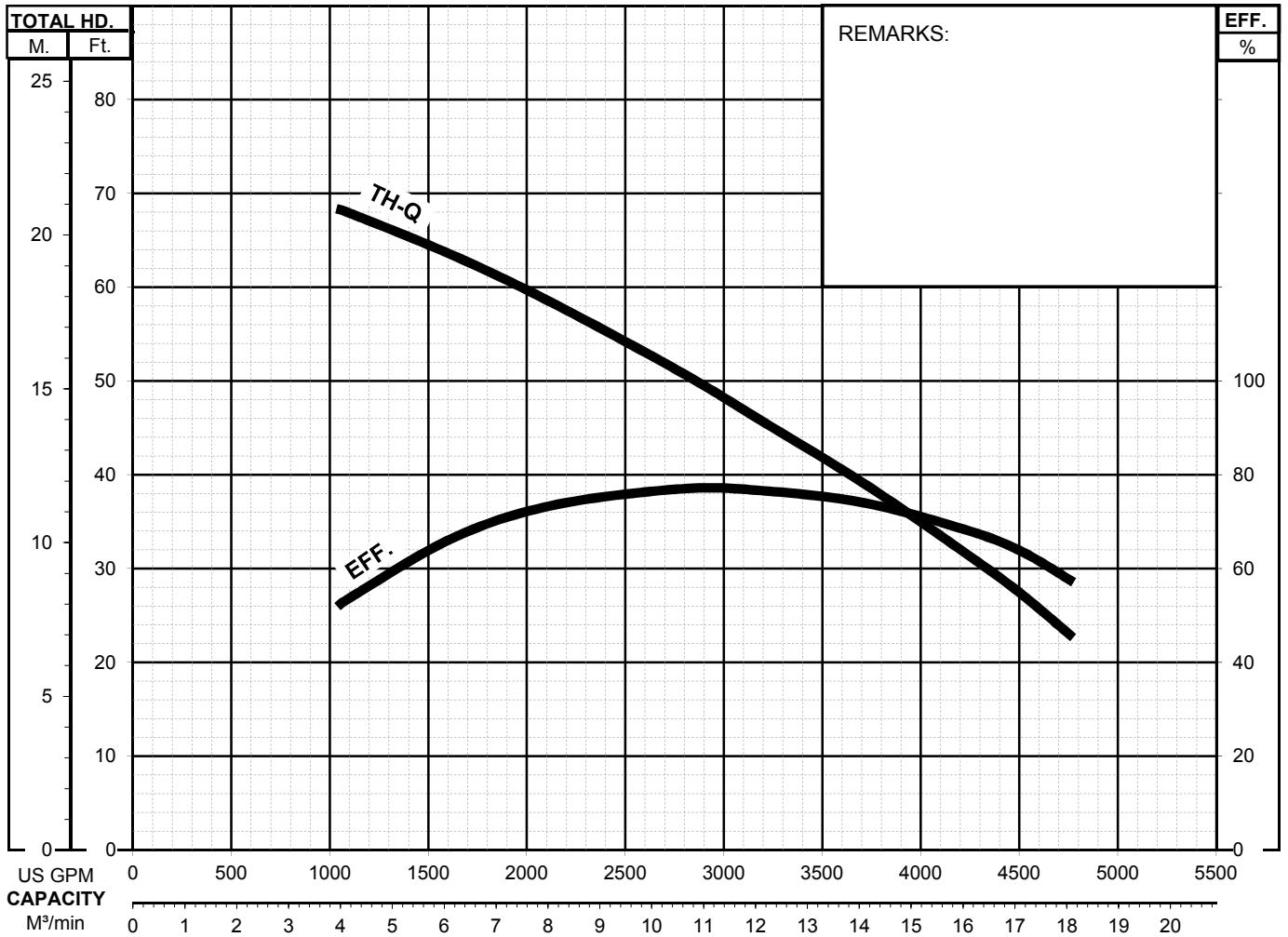
**TSURUMI PUMP**

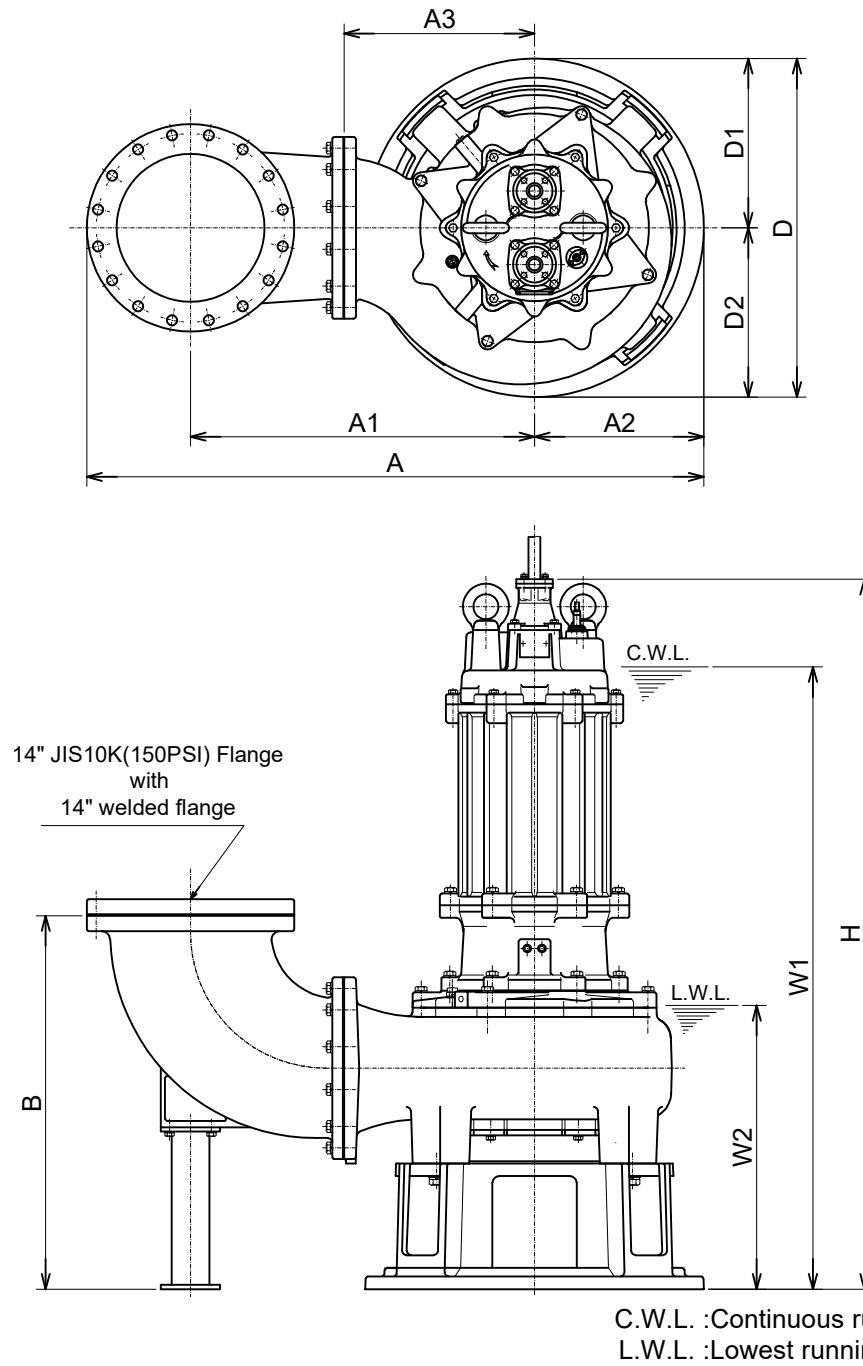
BZ - SERIES

SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)350BZ637H -61		14"/350mm	50	37	SS 1200	3.54"/90mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater Pump		3	460 / 575		- / -		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
350BZ622H -61
350BZ630H -61
350BZ637H -61
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H	W1	W2	
350BZ622H-61	30	14"	59 3/8	34	15 3/4	17 11/16	34 13/16	31 1/2	15 3/4	15 3/4	66	57 7/8	26 3/8	2010
350BZ630H-61	40	14"	59 3/8	34	15 3/4	17 11/16	34 13/16	31 1/2	15 3/4	15 3/4	66	57 7/8	26 3/8	2090
350BZ637H-61	50	14"	59 3/8	34	15 3/4	17 11/16	34 13/16	31 1/2	15 3/4	15 3/4	66	57 7/8	26 3/8	2070

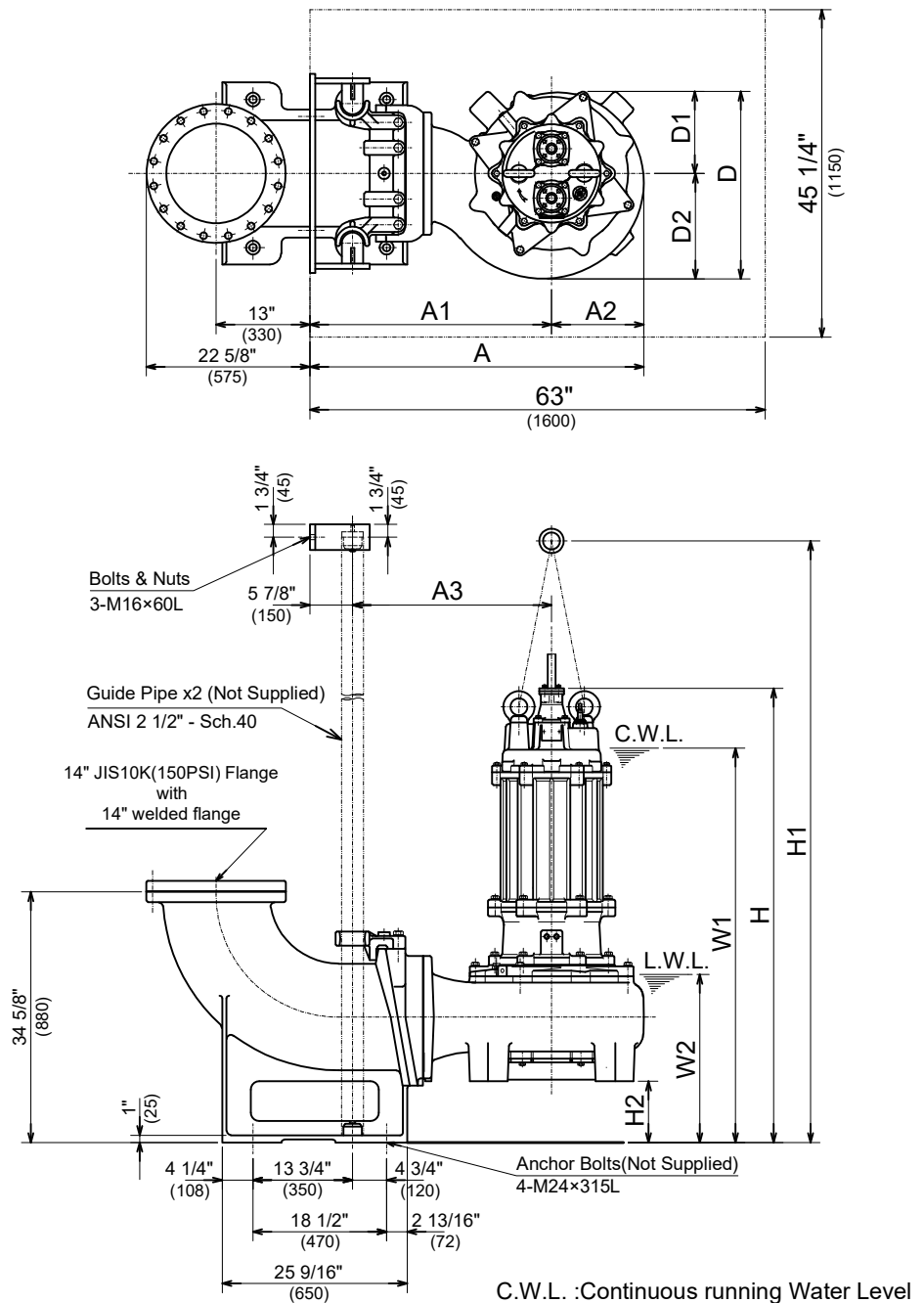
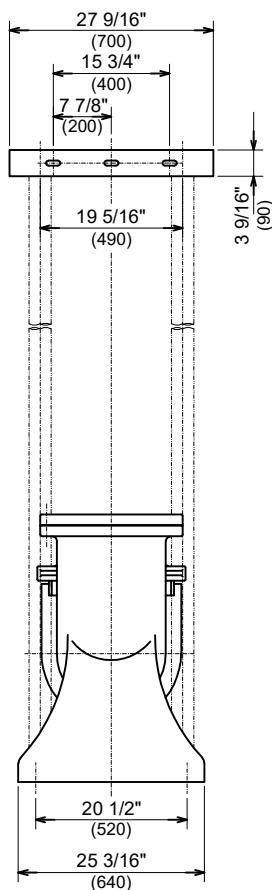
DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H	W1	W2	
350BZ622H-61	22	350	1508	863	400	450	885	800	400	400	1677	1470	670	910
350BZ630H-61	30	350	1508	863	400	450	885	800	400	400	1677	1470	670	950
350BZ637H-61	37	350	1508	863	400	450	885	800	400	400	1677	1470	670	940

TO350BZ622H -61
 TO350BZ630H -61
 TO350BZ637H -61

Guide rail
 Model: TO-350
 Weight: 640 lbs. (290kg)

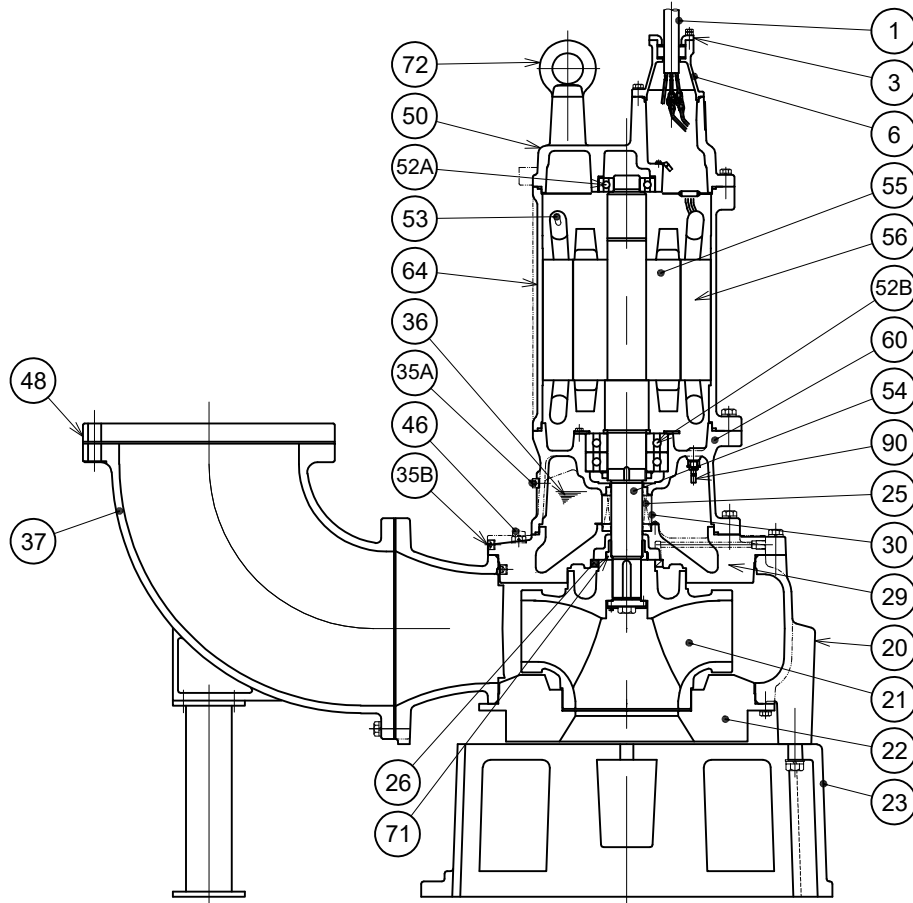

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO350BZ622H -61	30	14"	46 1/4	33 7/16	12 3/4	27 9/16	25 7/8	11 5/16	14 9/16	62 13/16	83 3/16	8 7/16	54 1/2	23 1/4	1790
TO350BZ630H -61	40	14"	46 1/4	33 7/16	12 3/4	27 9/16	25 7/8	11 5/16	14 9/16	62 13/16	83 3/16	8 7/16	54 1/2	23 1/4	1870
TO350BZ637H -61	50	14"	46 1/4	33 7/16	12 3/4	27 9/16	25 7/8	11 5/16	14 9/16	62 13/16	83 3/16	8 7/16	54 1/2	23 1/4	1850

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO350BZ622H -61	22	350	1174	850	324	700	658	288	370	1595	2113	215	1385	590	810
TO350BZ630H -61	30	350	1174	850	324	700	658	288	370	1595	2113	215	1385	590	850
TO350BZ637H -61	37	350	1174	850	324	700	658	288	370	1595	2113	215	1385	590	840

*Excluding TOS & Cable

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW
350BZ622H -61
350BZ630H -61
350BZ637H -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 6/4 - 32ft			1
		Chloroprene Sheath AWG 6/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-60			1
26	Oil Seal	NBR / TC11014014			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35A	Oil Plug	Stainless Steel	S 30400	1.4301	2
35B	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
48	Welded Flange	Steel / 14"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6310ZC3			1
52B	Lower Bearing	#6315ZC3			2
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
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1


TSURUMI PUMP
**BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 30B. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 E or F (7.5 Hp. and above) 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 25B or 30B (7.5 Hp. and above). Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



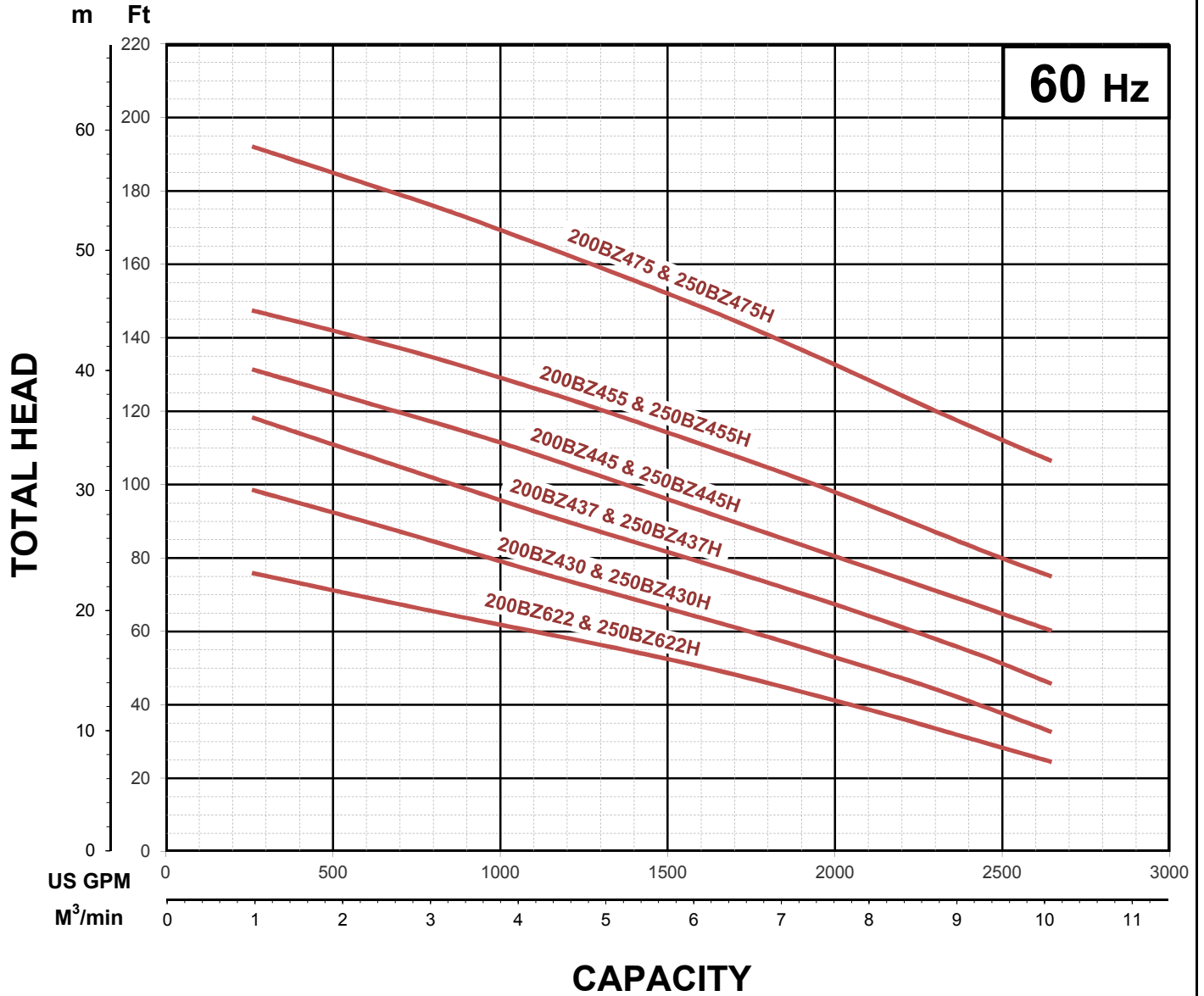
TSURUMI PUMP

BZ - SERIES (8" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

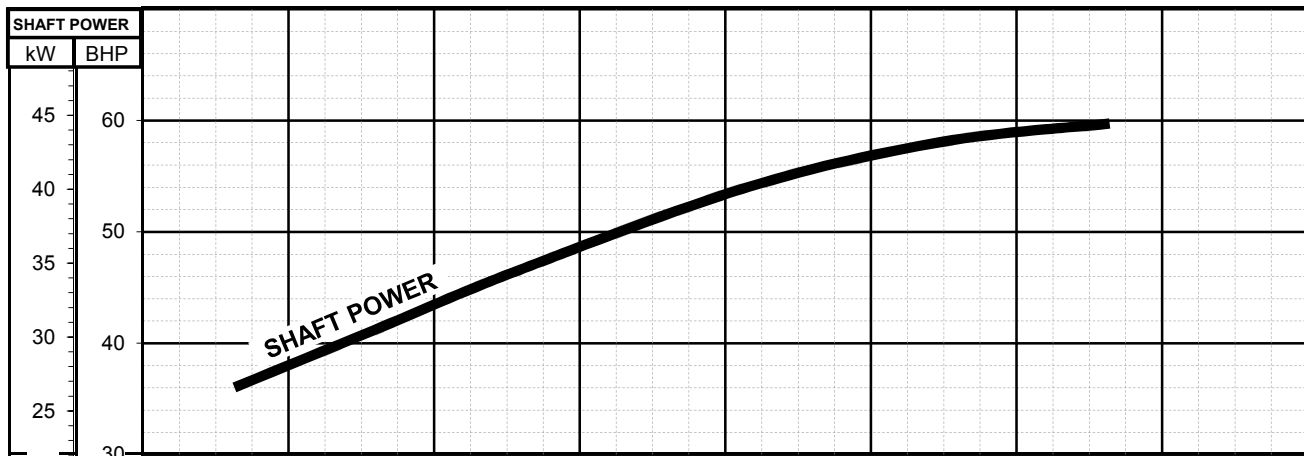
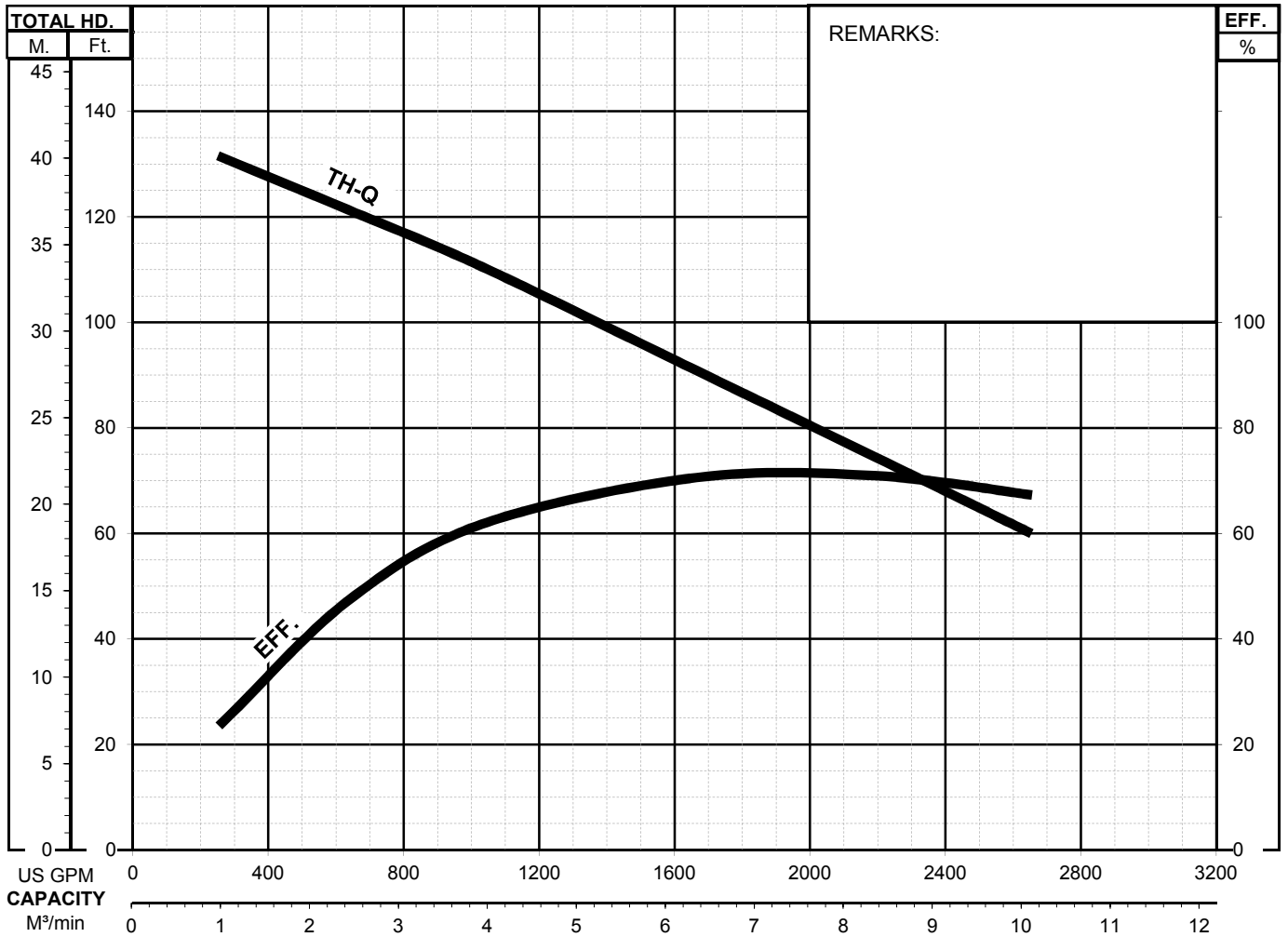
**TSURUMI PUMP**

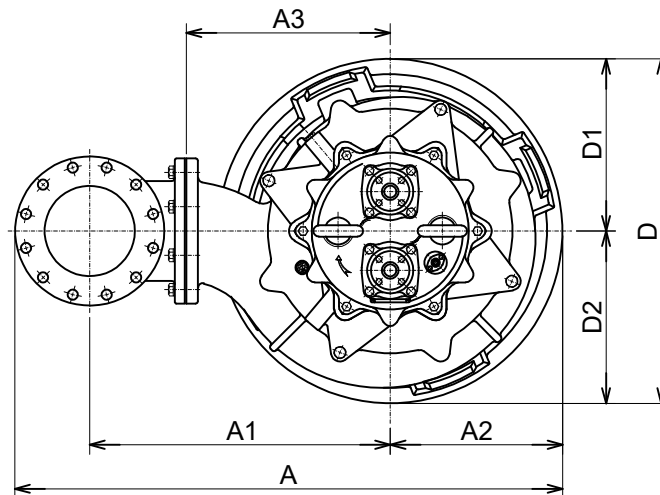
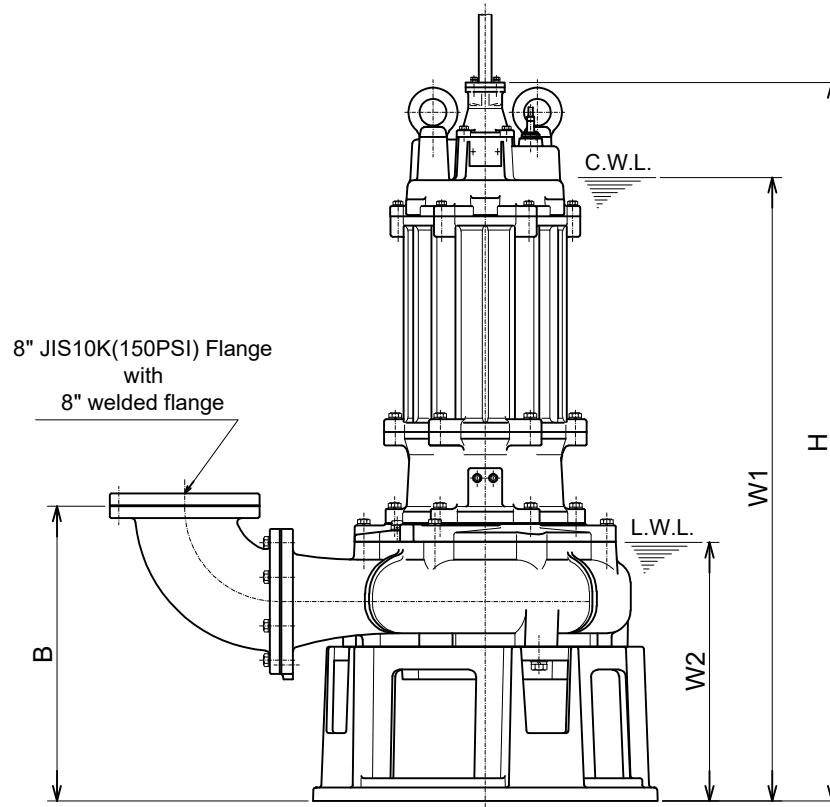
BZ - SERIES

SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)200BZ445 -61		8"/200mm	60	45	SS 1800	3"/76.2mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater Pump		3	460 / 575		- / -		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
200BZ622 -61
200BZ437 -61
200BZ445 -61


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

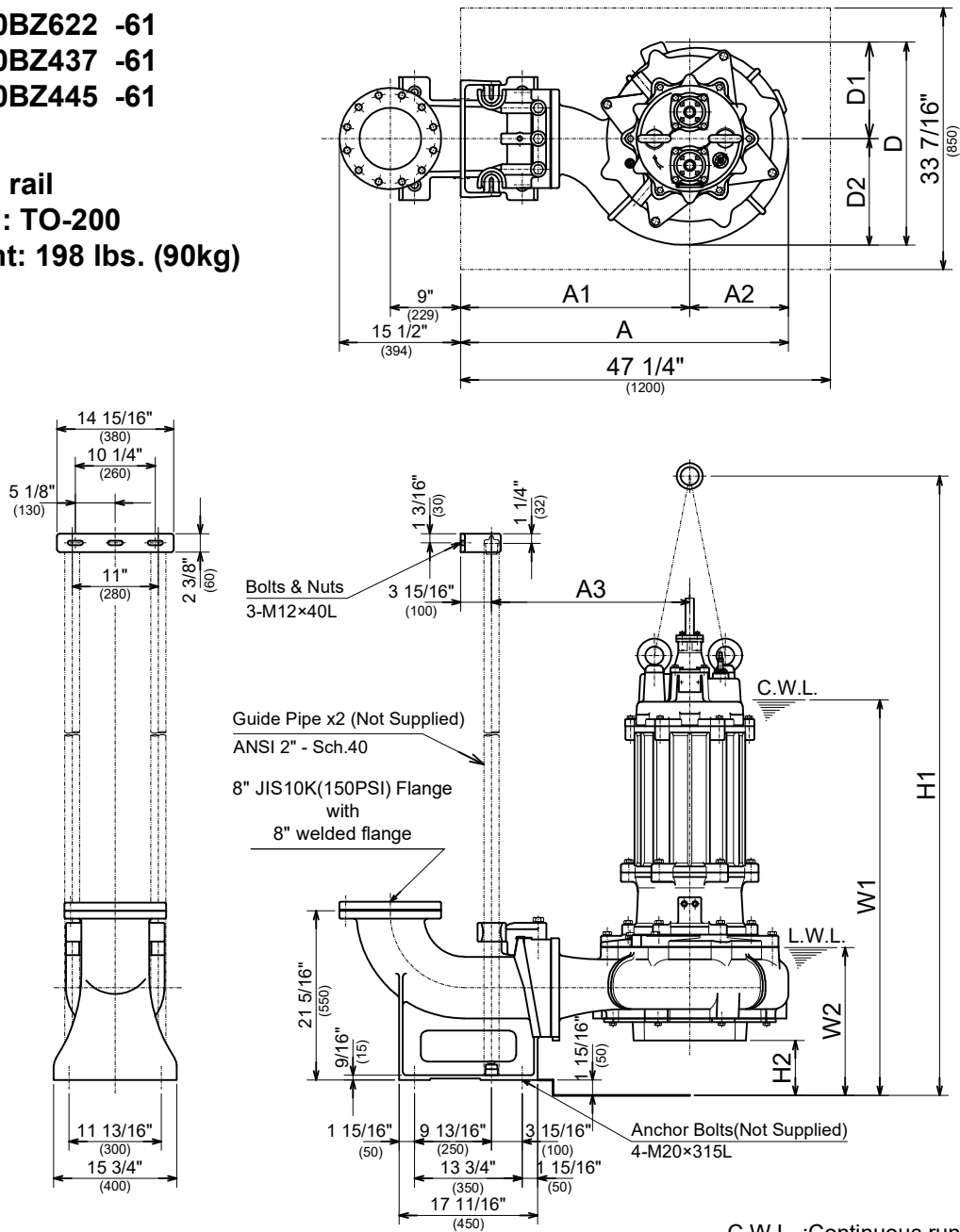
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H			
200BZ622-61	30	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	62 3/8	54 1/8	22 1/2	1680
200BZ437-61	50	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	61 7/8	53 3/4	22 1/2	1830
200BZ445-61	60	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	62 3/8	54 1/8	22 1/2	1850

DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H			
200BZ622-61	22	200	1208	663	380	450	650	760	380	380	1584	1375	570	760
200BZ437-61	37	200	1208	663	380	450	650	760	380	380	1572	1365	570	830
200BZ445-61	45	200	1208	663	380	450	650	760	380	380	1584	1375	570	840

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS**TO200BZ622 -61****TO200BZ437 -61****TO200BZ445 -61****Guide rail****Model: TO-200****Weight: 198 lbs. (90kg)**

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

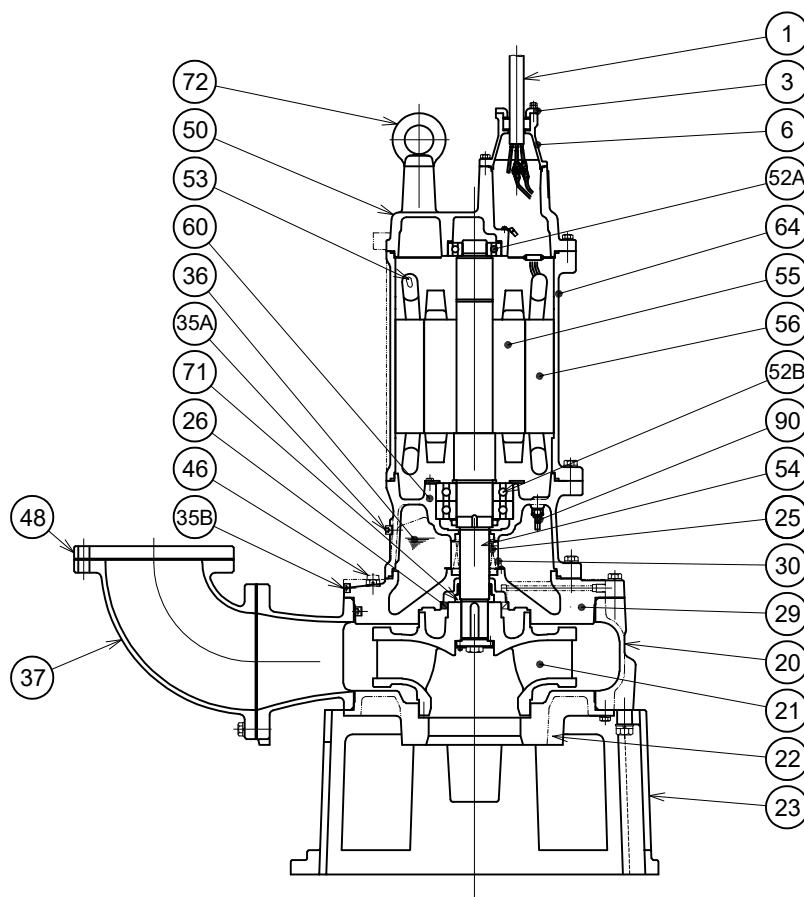
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO200BZ622 -61	30	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 13/16	79 3/16	7	50 5/8	18 7/8	1570
TO200BZ437 -61	50	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 3/8	78 3/4	7	50 1/4	18 7/8	1720
TO200BZ445 -61	60	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 13/16	79 3/16	7	50 5/8	18 7/8	1740

DIMENSIONS:METRIC (mm)

*Excluding TOS & Cable

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO200BZ622 -61	22	200	1065	744	321	644	660	314	346	1494	2012	178	1285	480	710
TO200BZ437 -61	37	200	1065	744	321	644	660	314	346	1482	2000	178	1275	480	780
TO200BZ445 -61	45	200	1065	744	321	644	660	314	346	1494	2012	178	1285	480	790

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW
200BZ622 -61
200BZ437 -61
200BZ445 -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 6/4 - 32ft			1
	Power Cable	Chloroprene Sheath AWG 6/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-60			1
26	Oil Seal	NBR / TC11014014			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35A	Oil Plug	Stainless Steel	S 30400	1.4301	2
35B	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
48	Welded Flange	Steel / 8"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6310ZZC3			1
52B	Lower Bearing	37kW: #6314ZZC3 / 22&45kW: #6315ZZC3			2
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
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



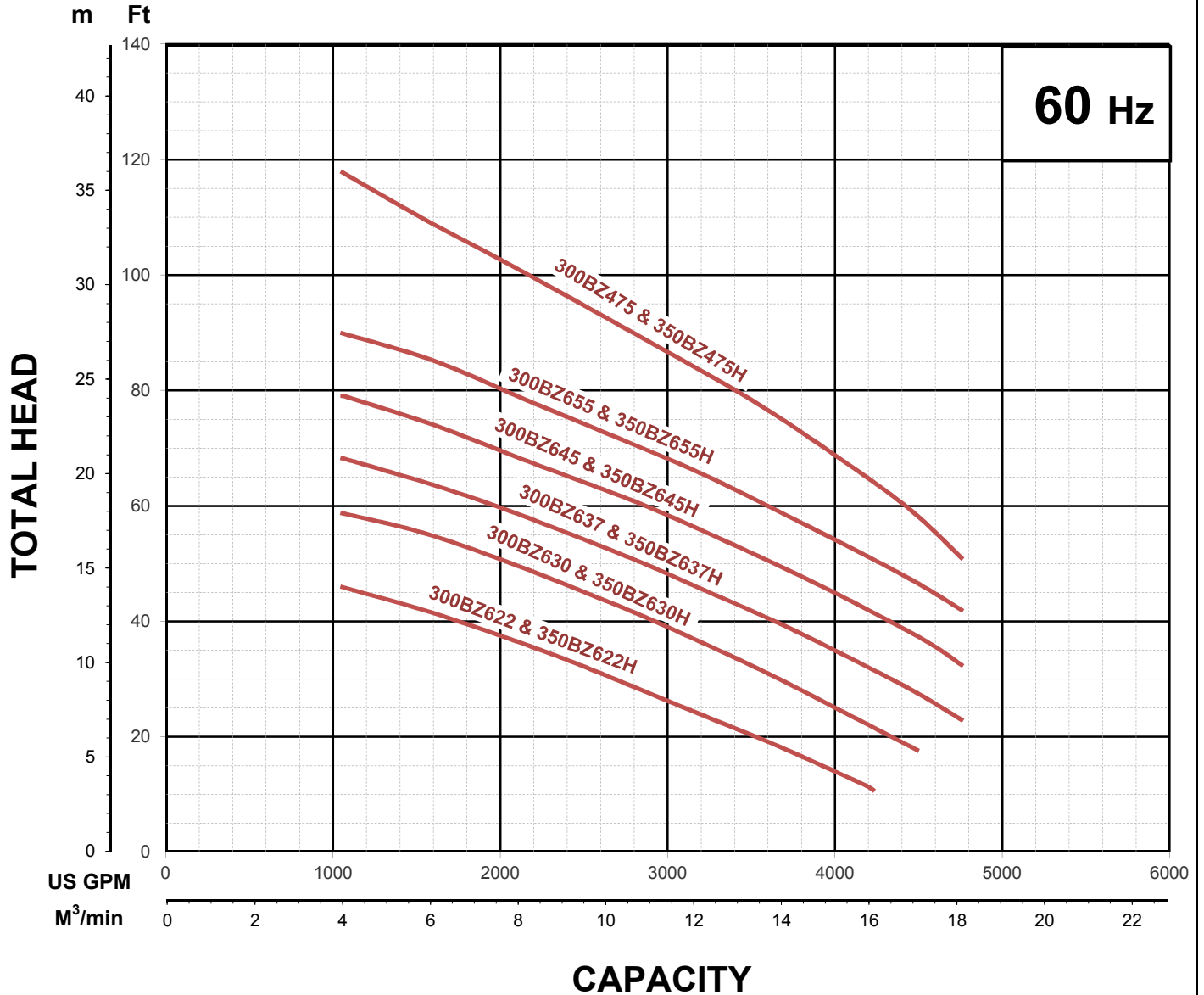
TSURUMI PUMP

BZ - SERIES (12" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

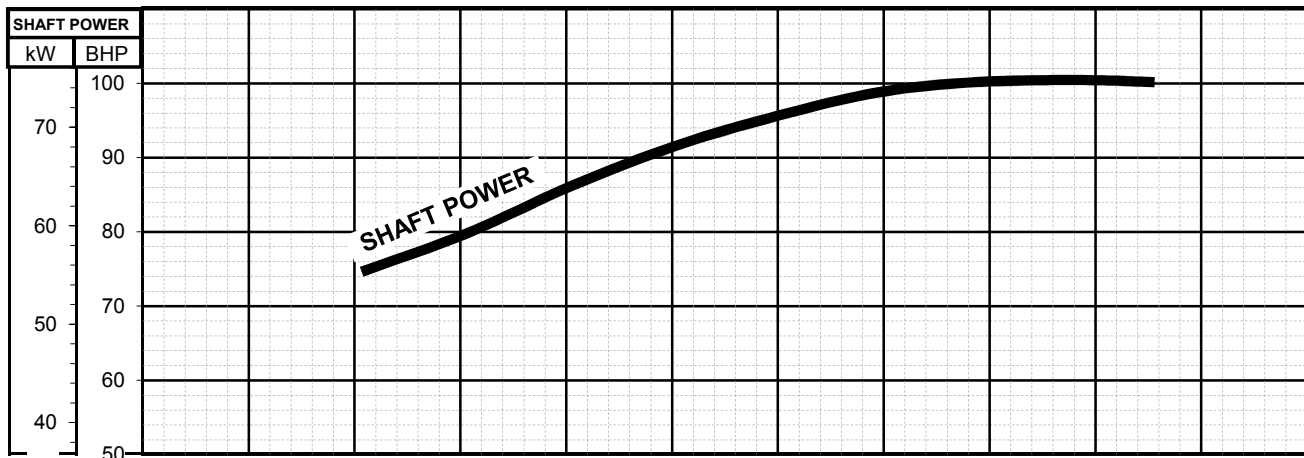
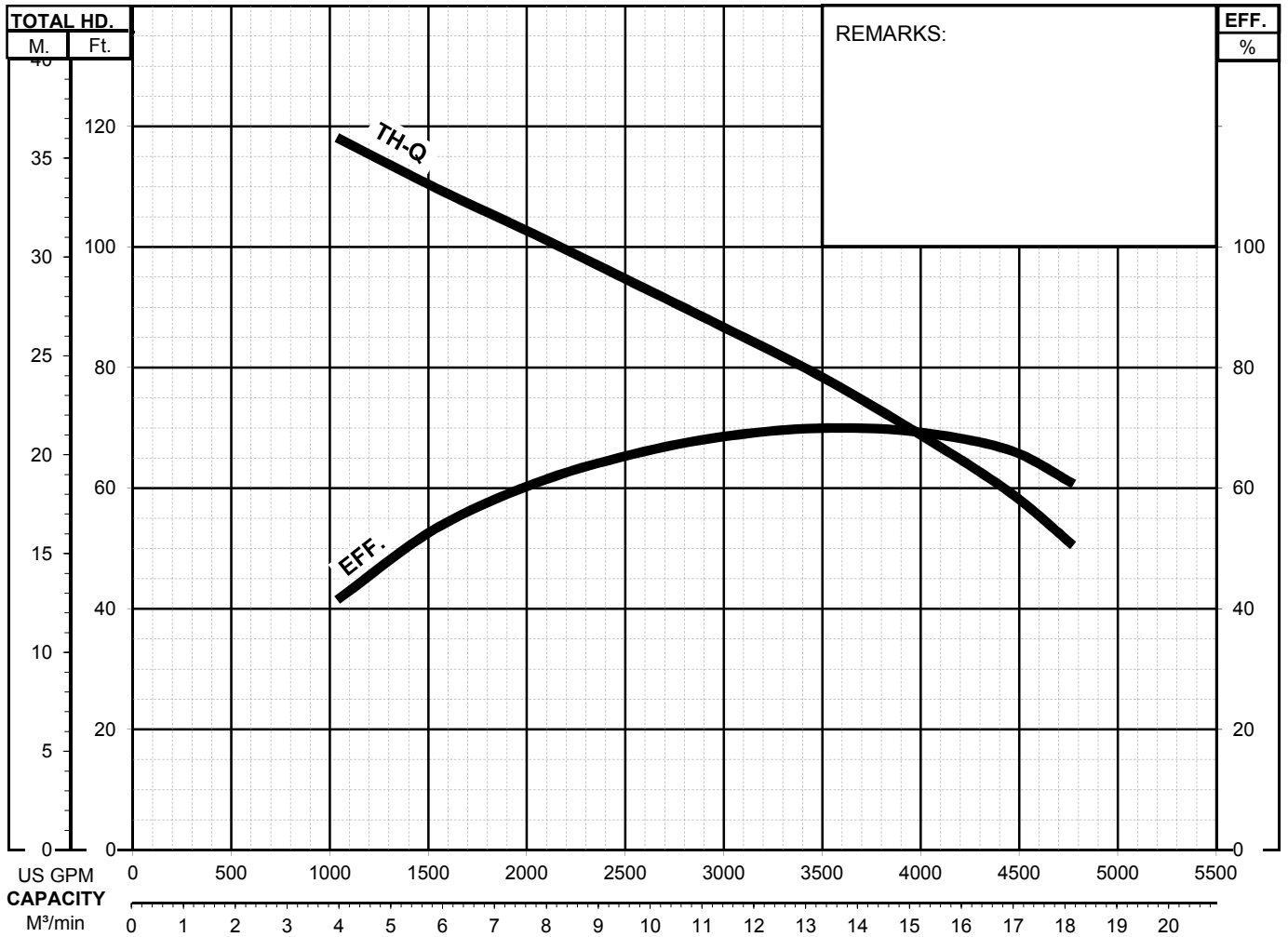
**TSURUMI PUMP**

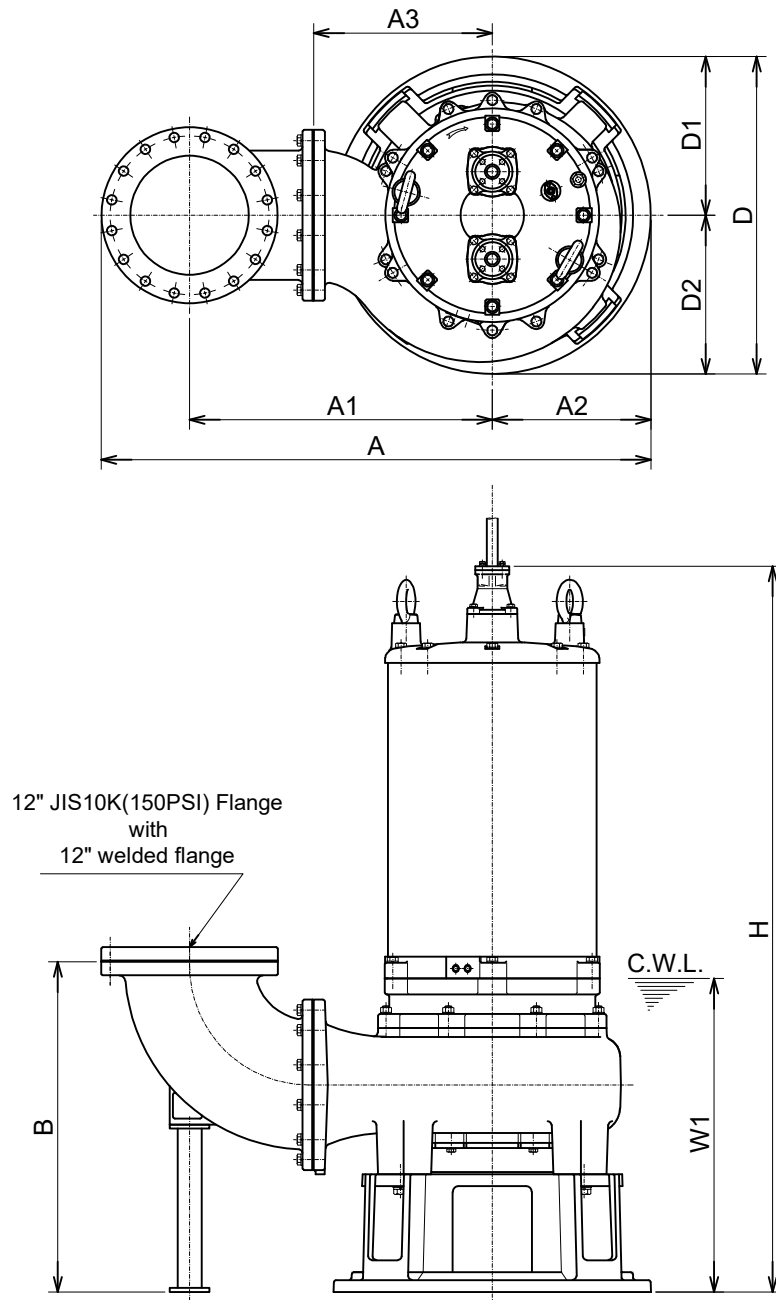
BZ - SERIES

SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)300BZ475 -61		12"/300mm	100	75	SS 1800	3.54"/90mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater Pump		3	460 / 575		- / -		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS

300BZ645 -61
300BZ655 -61
300BZ475 -61

C.W.L. :Continuous running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	*Wt.
			A	A1	A2	A3	B	D	D1	D2	H	W1	(lbs.)
300BZ645-61	60	12"	54 9/16	30 1/16	15 3/4	17 11/16	32 3/4	31 1/2	15 3/4	15 3/4	72 5/8	31 1/8	2670
300BZ655-61	75	12"	54 9/16	30 1/16	15 3/4	17 11/16	32 3/4	31 1/2	15 3/4	15 3/4	72 5/8	31 1/8	2670
300BZ475-61	100	12"	54 9/16	30 1/16	15 3/4	17 11/16	32 3/4	31 1/2	15 3/4	15 3/4	72	31 1/8	2730

DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H	W1	
300BZ645-61	45	300	1386	763	400	450	832	800	400	400	1845	790	1210
300BZ655-61	55	300	1386	763	400	450	832	800	400	400	1845	790	1210
300BZ475-61	75	300	1386	763	400	450	832	800	400	400	1829	790	1240



TO300BZ645 -61

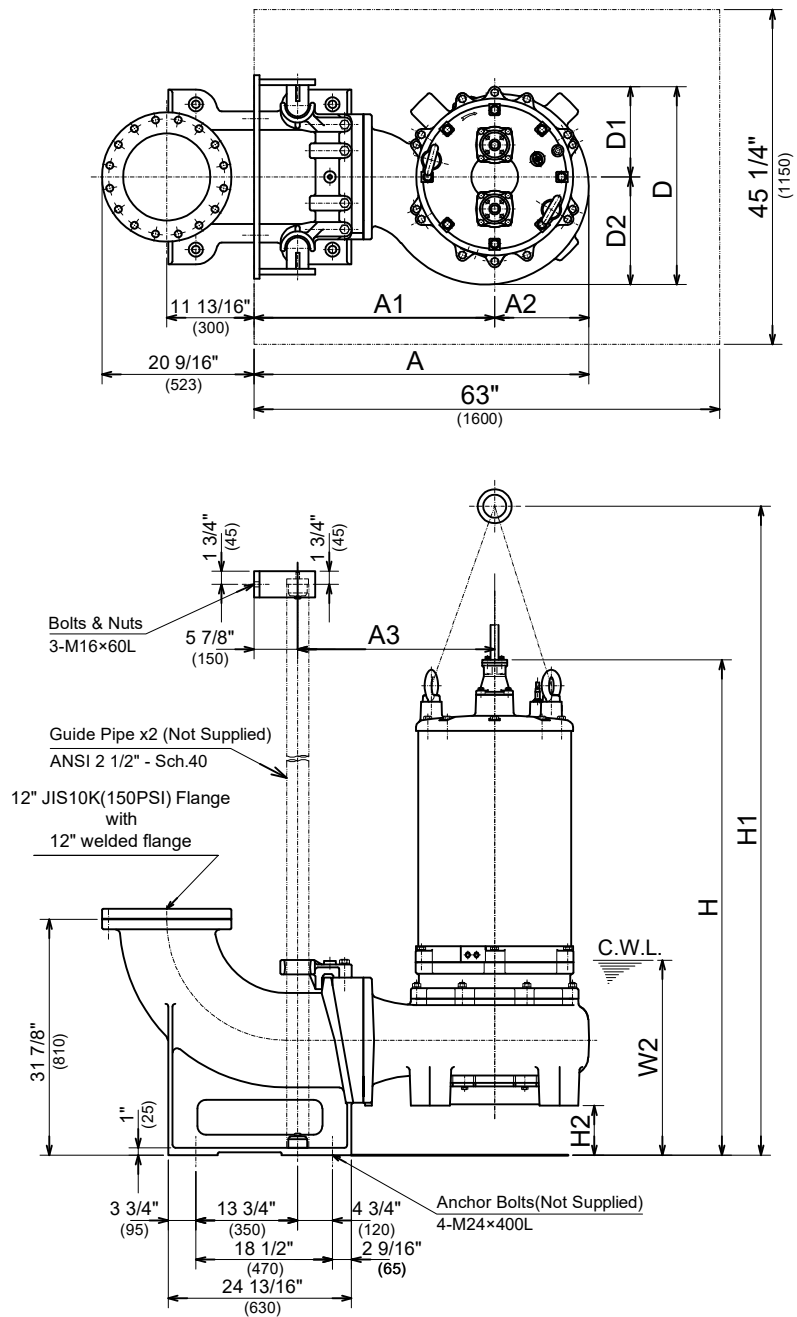
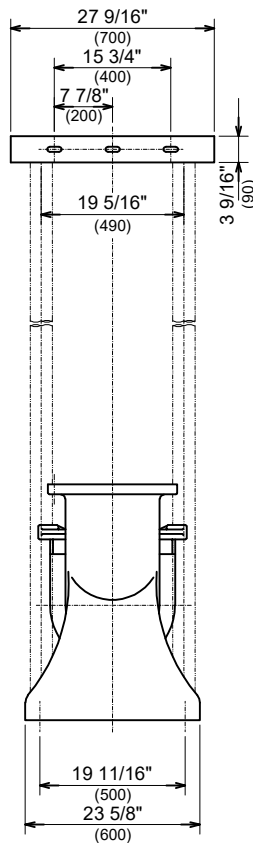
TO300BZ655 -61

TO300BZ475 -61

Guide rail

Model: TO-300

Weight: 595 lbs. (270kg)



C.W.L. :Continuous running Water Level

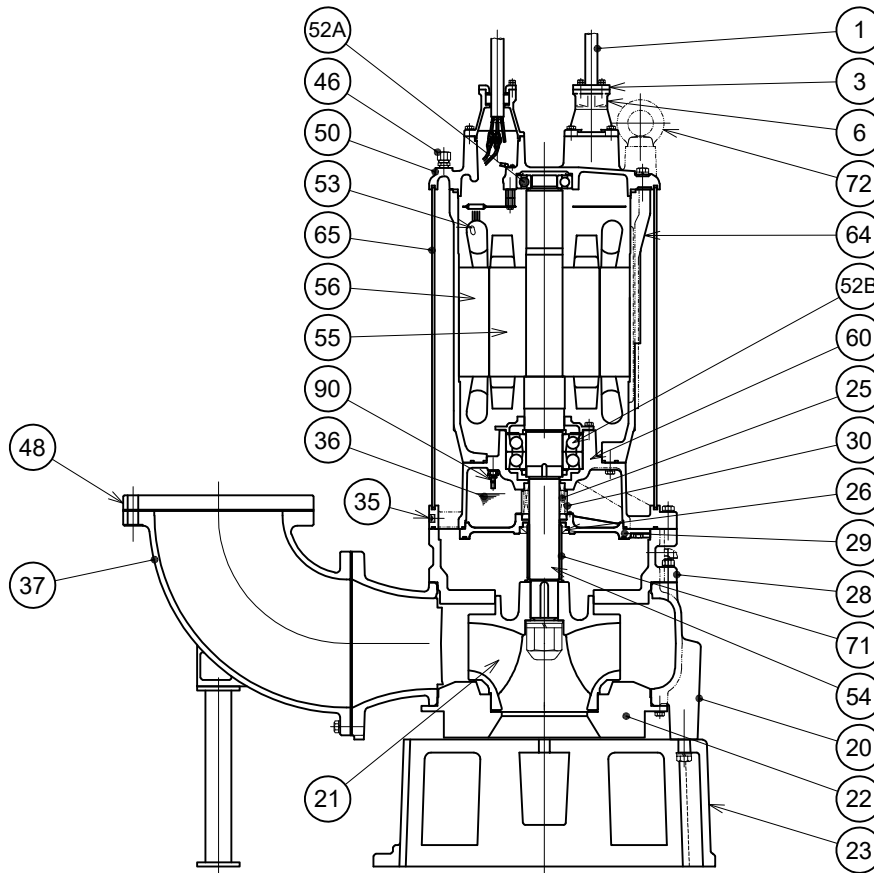
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	(lbs.)
TO300BZ645 -61	60	12"	45 5/16	32 9/16	12 3/4	26 5/8	26 3/4	12 1/4	14 9/16	67 5/8	89	6 11/16	26 3/8	2450
TO300BZ655 -61	75	12"	45 5/16	32 9/16	12 3/4	26 5/8	26 3/4	12 1/4	14 9/16	67 5/8	89	6 11/16	26 3/8	2450
TO300BZ475 -61	100	12"	45 5/16	32 9/16	12 3/4	26 5/8	26 3/4	12 1/4	14 9/16	67	87 13/16	6 11/16	26 3/8	2510

DIMENSIONS:METRIC (mm)

*Excluding TOS & Cable

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	(kg)
TO300BZ645 -61	45	300	1151	827	324	677	680	310	370	1718	2261	170	670	1110
TO300BZ655 -61	55	300	1151	827	324	677	680	310	370	1718	2261	170	670	1110
TO300BZ475 -61	75	300	1151	827	324	677	680	310	370	1702	2231	170	670	1140

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW
300BZ645 -61
300BZ655 -61
300BZ475 -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	45&55kW: Chloroprene Sheath AWG 6/4 - 32ft			1
		45&55kW: Chloroprene Sheath AWG 6/3 - 32ft			1
		75kW: Chloroprene Sheath AWG 4/4 - 32ft			1
		75kW: Chloroprene Sheath AWG 4/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-70			1
26	Oil Seal	NBR / TC8011515			1
28	Middle Plate	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Steel (Cold Rolled)	A109/A1008	EN 10130	1
48	Welded Flange	Steel / 12"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	45&55kW: #6313ZZC3 / 75kW: #6312ZZC3			1
52B	Lower Bearing	45&55kW: #7318BDB / 75kW: #7317DBD			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
71	Shaft Sleeve	Stainless Steel	S 40300	1.4000	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1

**TSURUMI PUMP**

BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 30B. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 E or F (7.5 Hp. and above) 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 25B or 30B (7.5 Hp. and above). Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



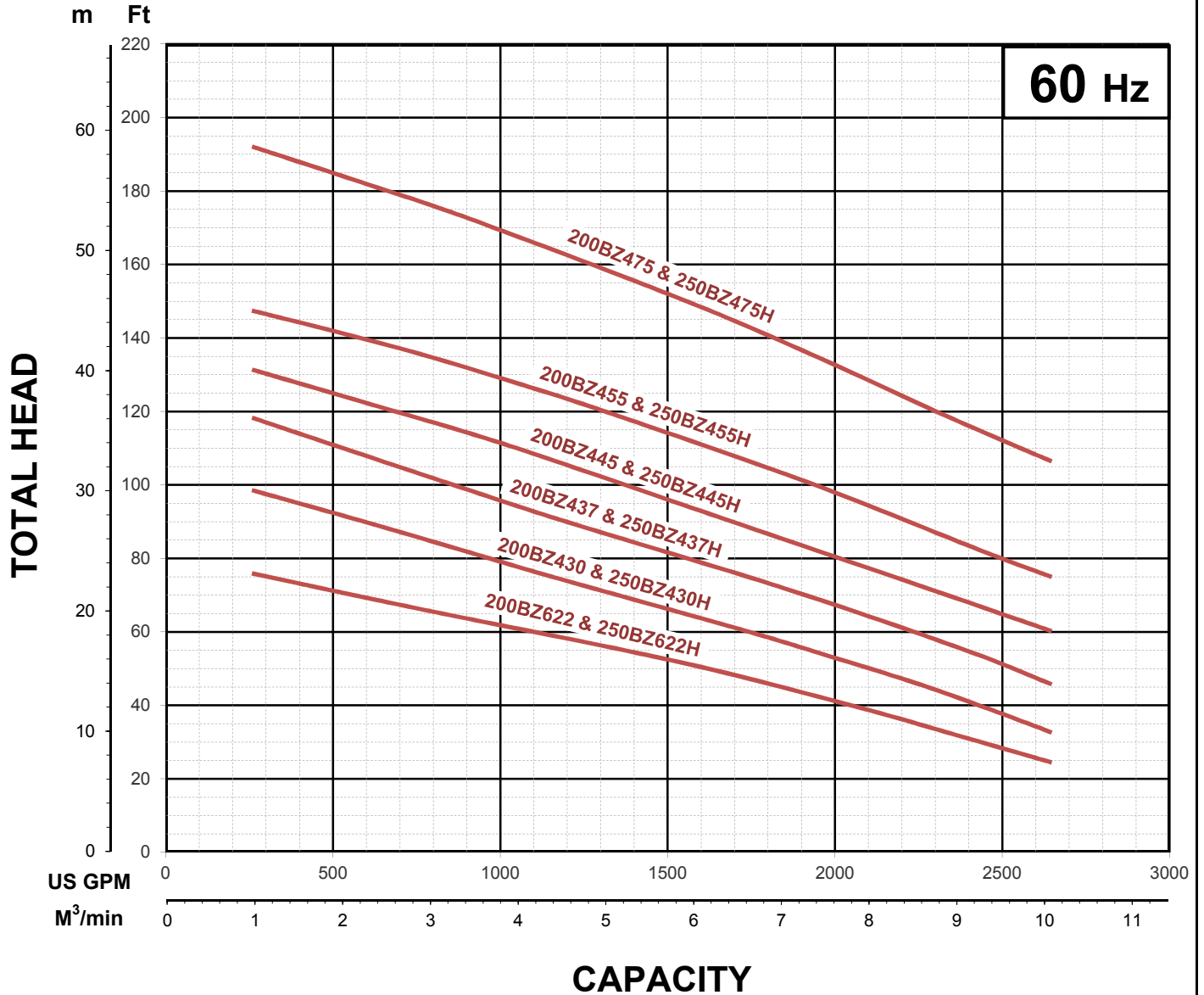
TSURUMI PUMP

BZ - SERIES (8" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

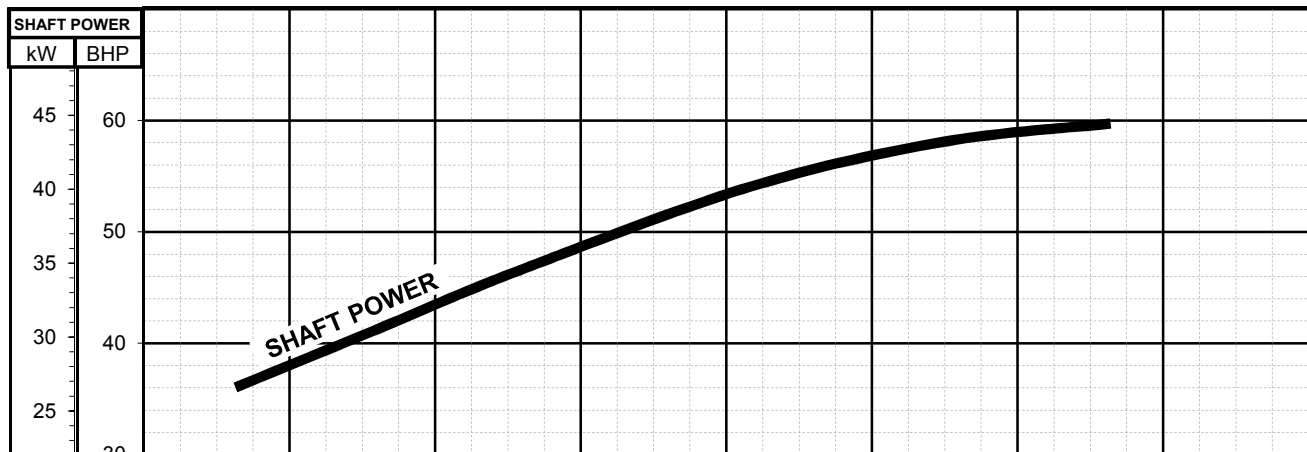
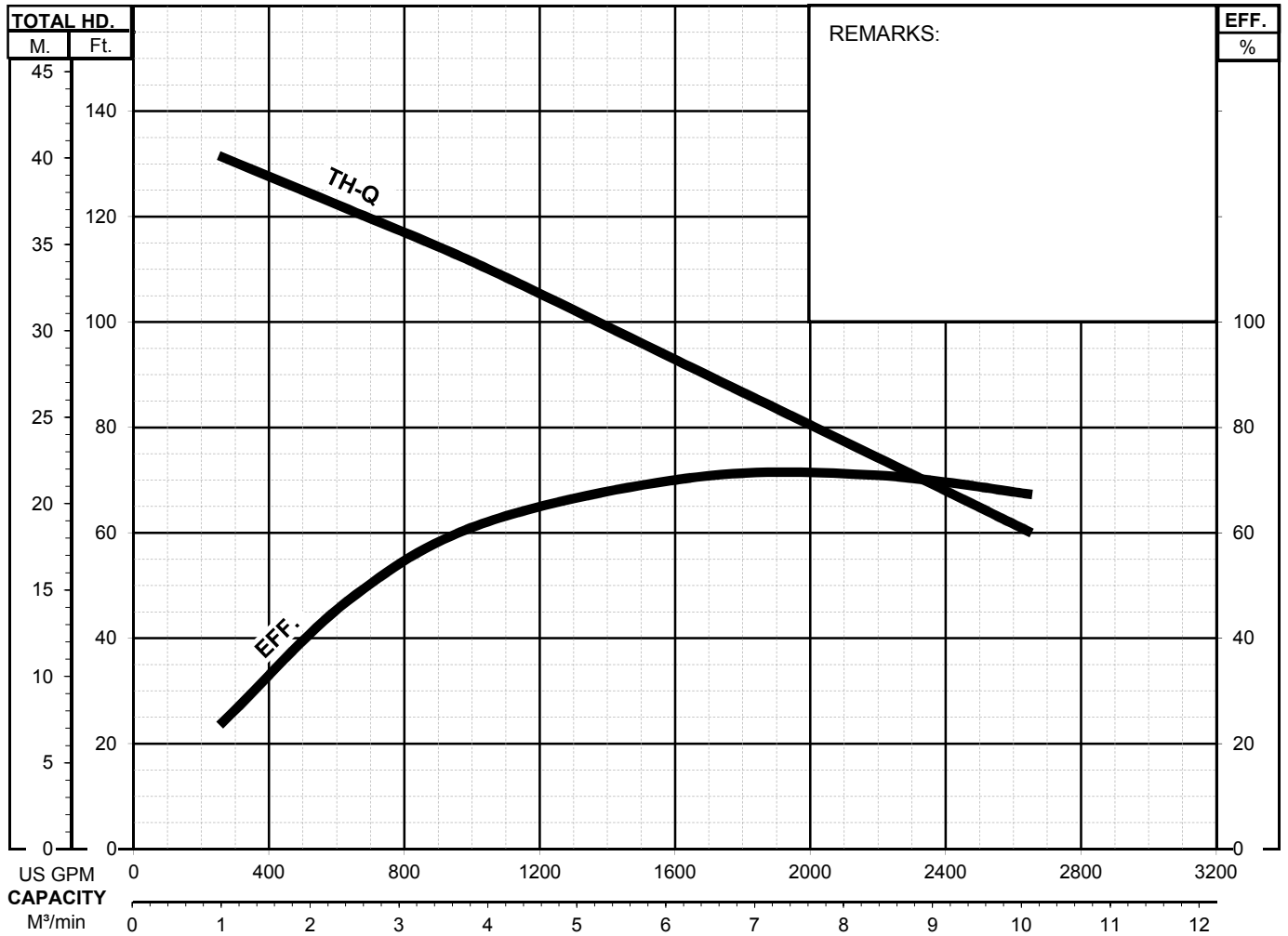


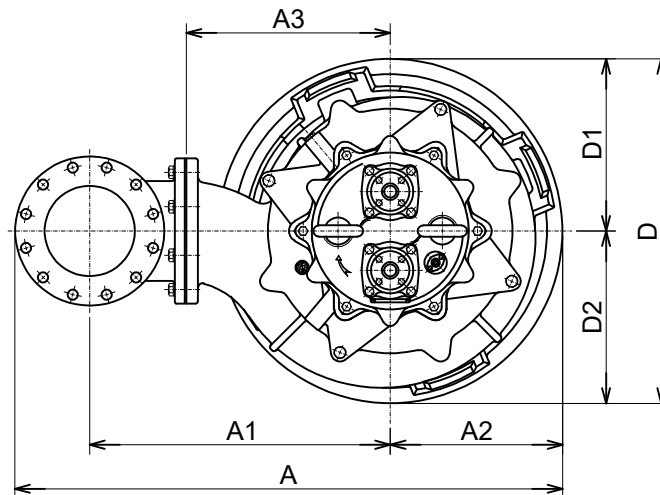
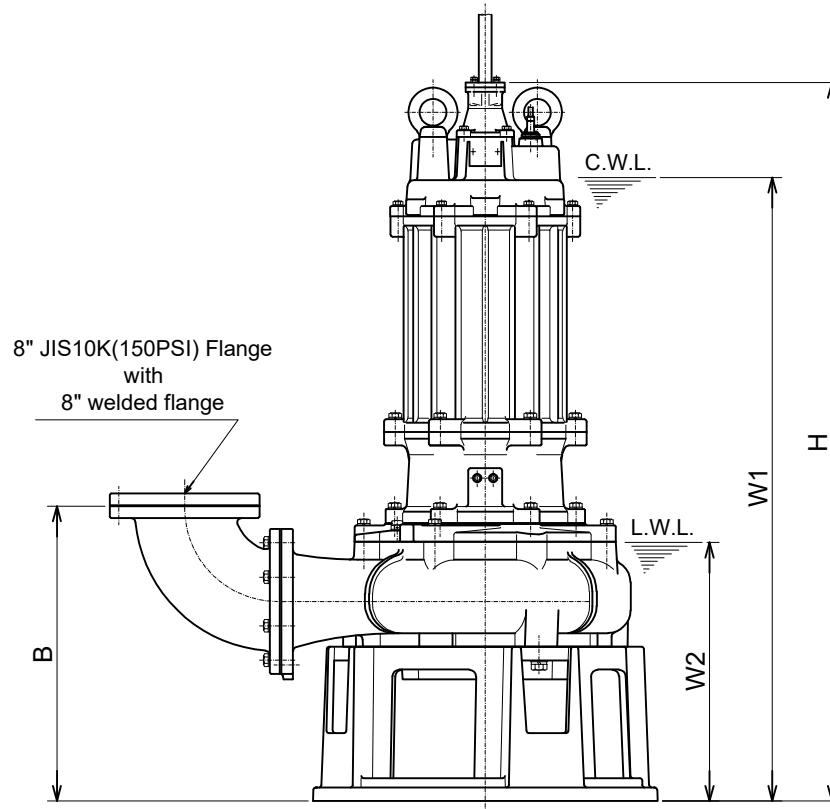
TSURUMI PUMP

BZ - SERIES
SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	kW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)200BZ445 -61		8"/200mm	60	45	SS 1800	3"/76.2mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater Pump		3	460 / 575		- / -		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
200BZ622 -61
200BZ437 -61
200BZ445 -61


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

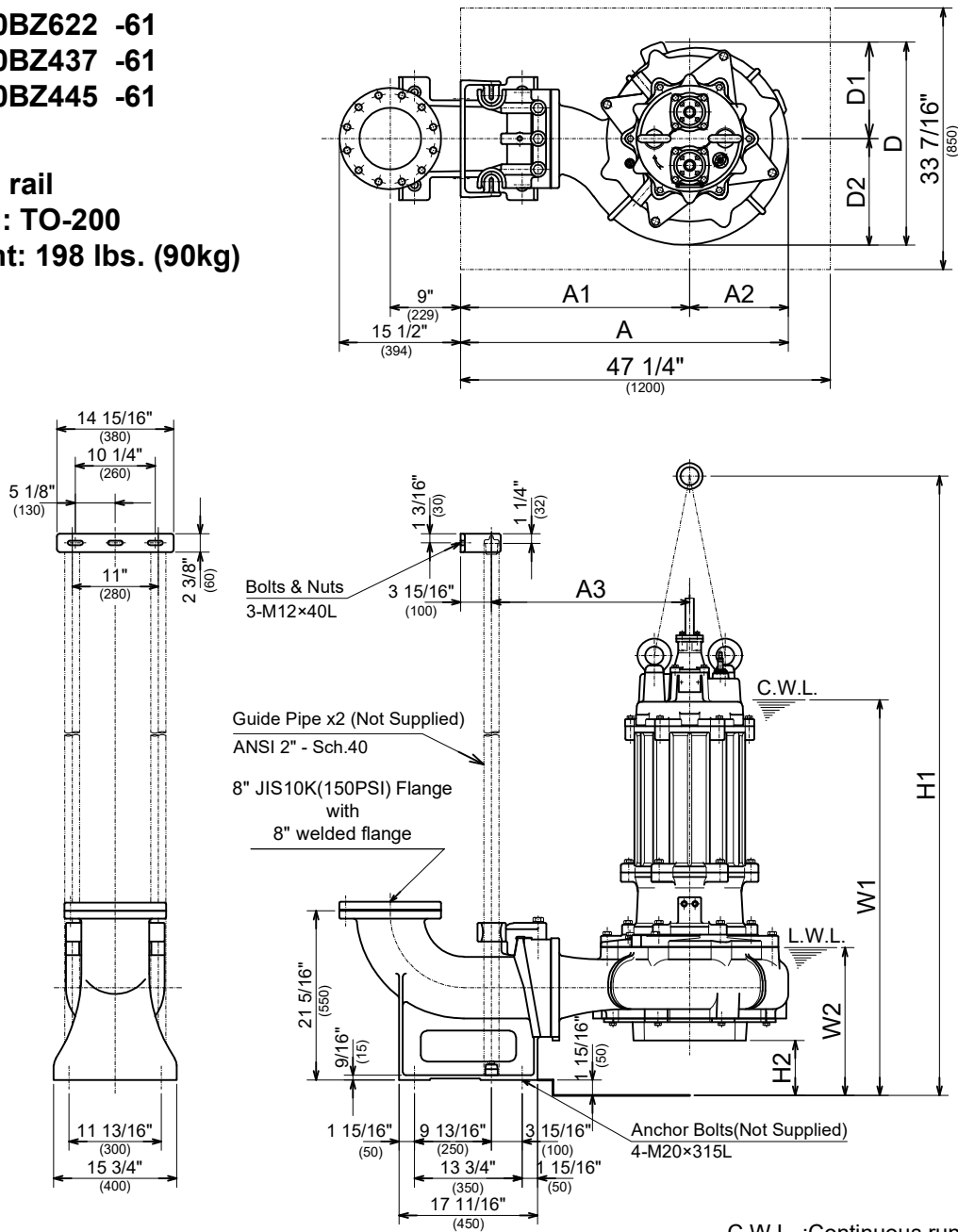
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H			
200BZ622-61	30	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	62 3/8	54 1/8	22 1/2	1680
200BZ437-61	50	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	61 7/8	53 3/4	22 1/2	1830
200BZ445-61	60	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	62 3/8	54 1/8	22 1/2	1850

DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H			
200BZ622-61	22	200	1208	663	380	450	650	760	380	380	1584	1375	570	760
200BZ437-61	37	200	1208	663	380	450	650	760	380	380	1572	1365	570	830
200BZ445-61	45	200	1208	663	380	450	650	760	380	380	1584	1375	570	840

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS**TO200BZ622 -61****TO200BZ437 -61****TO200BZ445 -61****Guide rail****Model: TO-200****Weight: 198 lbs. (90kg)**

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

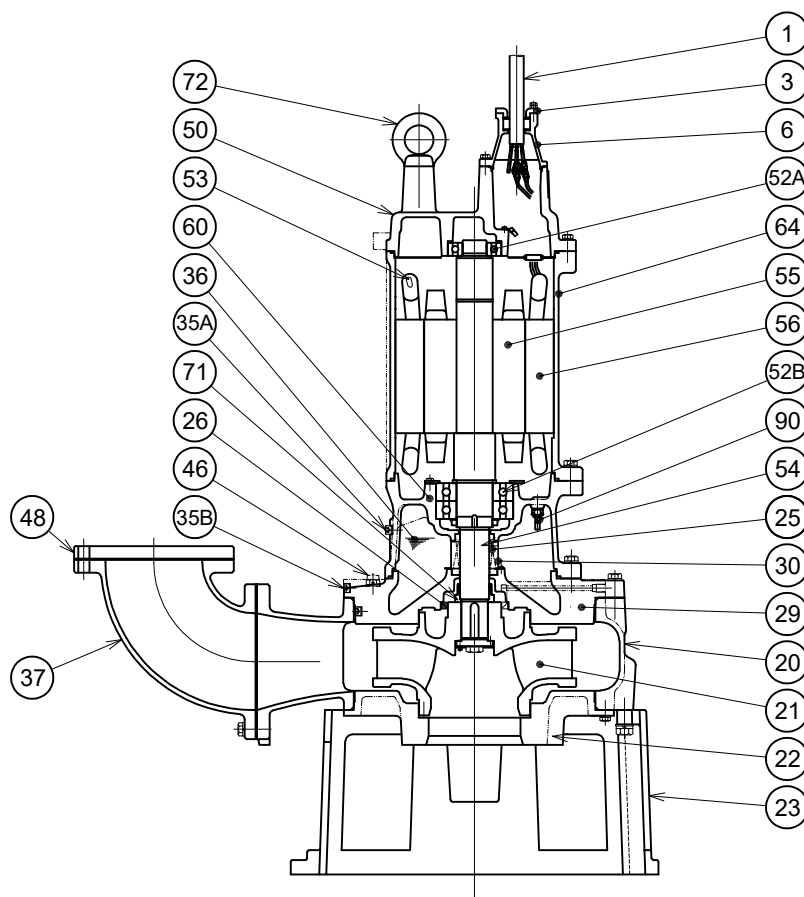
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO200BZ622 -61	30	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 13/16	79 3/16	7	50 5/8	18 7/8	1570
TO200BZ437 -61	50	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 3/8	78 3/4	7	50 1/4	18 7/8	1720
TO200BZ445 -61	60	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 13/16	79 3/16	7	50 5/8	18 7/8	1740

DIMENSIONS:METRIC (mm)

*Excluding TOS & Cable

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO200BZ622 -61	22	200	1065	744	321	644	660	314	346	1494	2012	178	1285	480	710
TO200BZ437 -61	37	200	1065	744	321	644	660	314	346	1482	2000	178	1275	480	780
TO200BZ445 -61	45	200	1065	744	321	644	660	314	346	1494	2012	178	1285	480	790

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW

200BZ622 -61
 200BZ437 -61
 200BZ445 -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 6/4 - 32ft			1
	Power Cable	Chloroprene Sheath AWG 6/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-60			1
26	Oil Seal	NBR / TC11014014			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35A	Oil Plug	Stainless Steel	S 30400	1.4301	2
35B	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
48	Welded Flange	Steel / 8"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6310ZZC3			1
52B	Lower Bearing	37kW: #6314ZZC3 / 22&45kW: #6315ZZC3			2
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
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



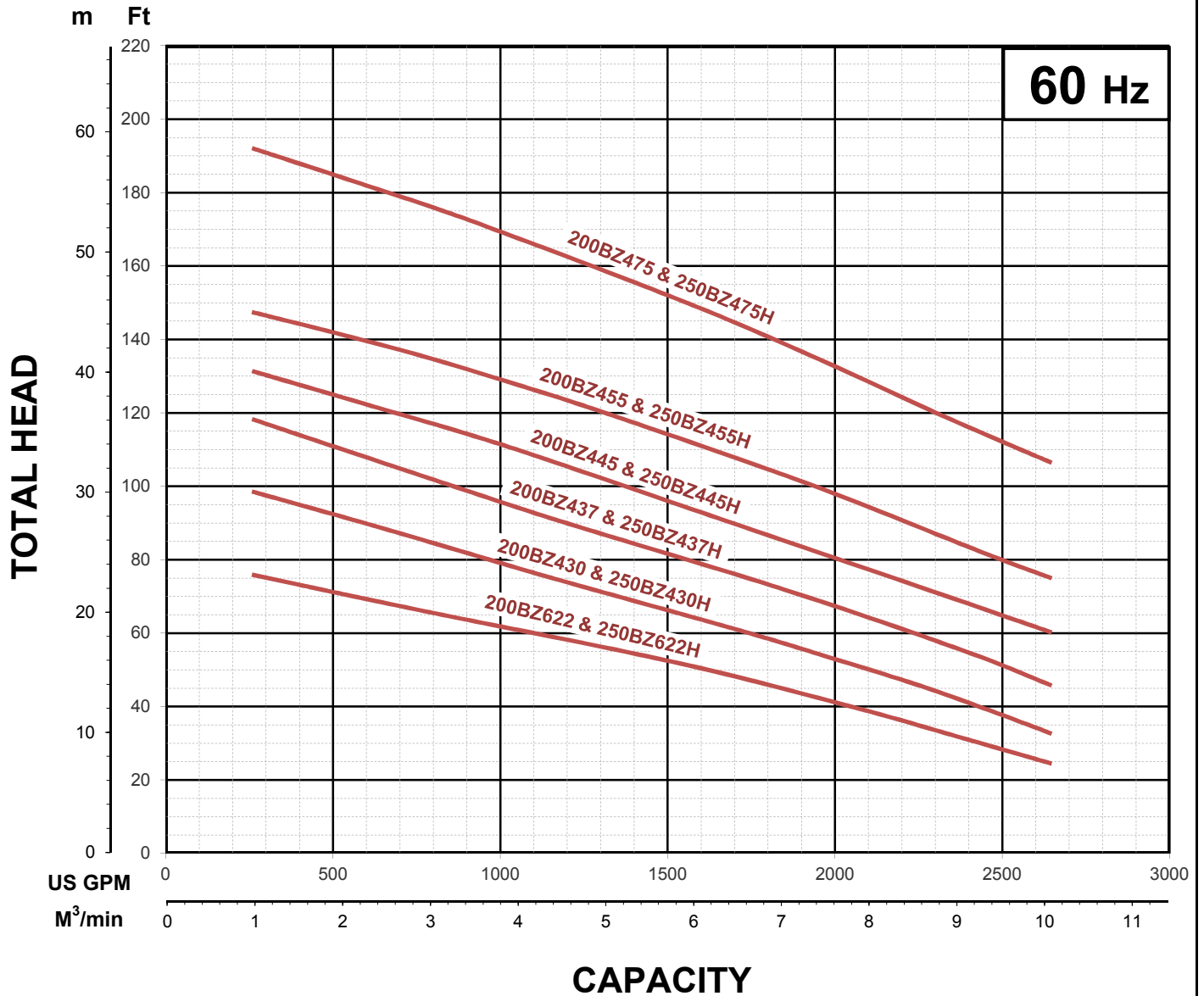
TSURUMI PUMP

BZ - SERIES (8" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

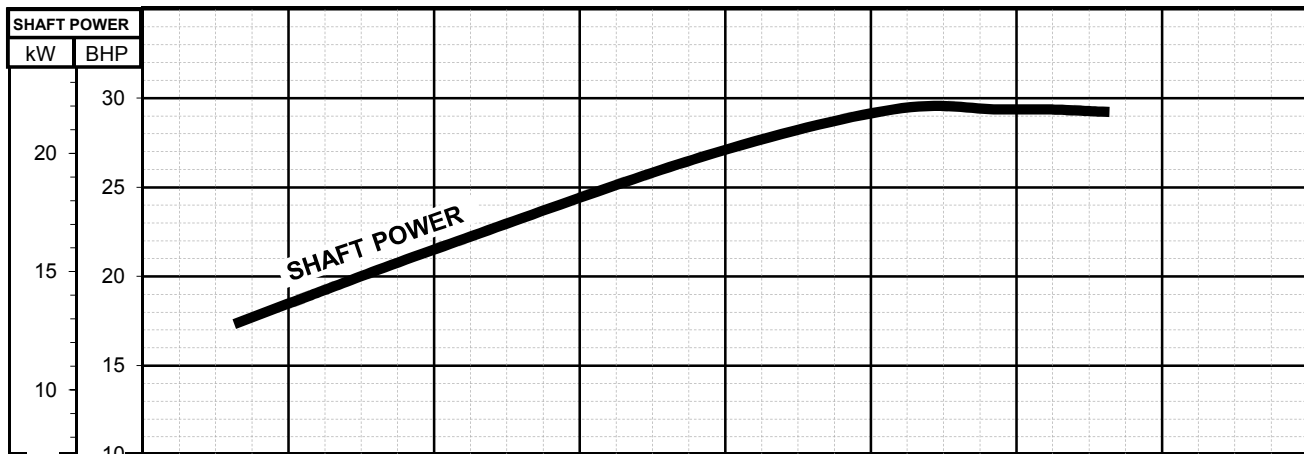
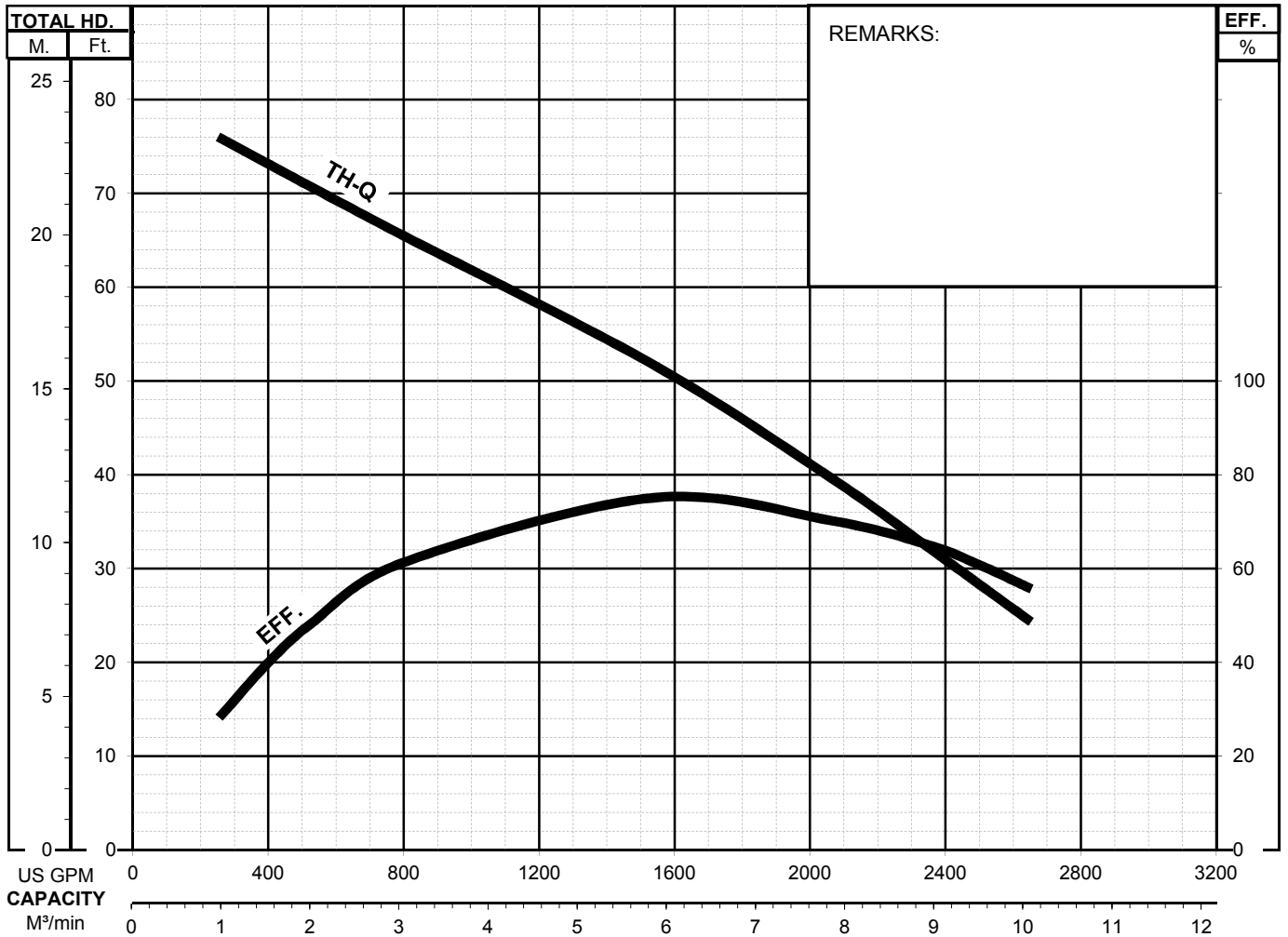
**TSURUMI PUMP**

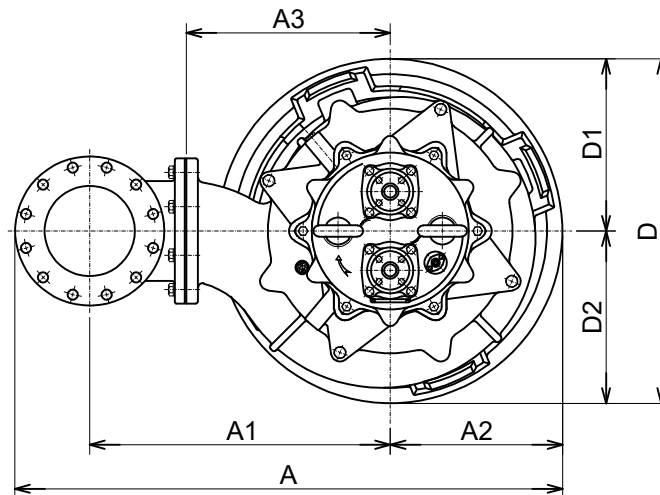
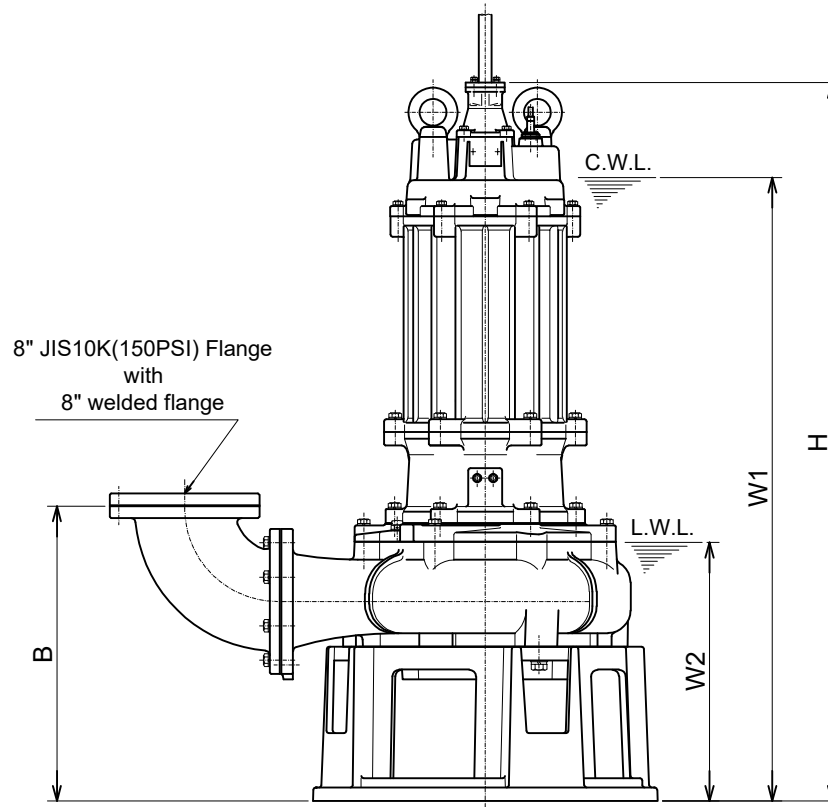
BZ - SERIES

SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)200BZ622 -61		8"/200mm	30	22	SS 1200	3"/76.2mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater Pump		3	460 / 575		- / -		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS
200BZ622 -61
200BZ437 -61
200BZ445 -61


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

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H			
200BZ622-61	30	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	62 3/8	54 1/8	22 1/2	1680
200BZ437-61	50	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	61 7/8	53 3/4	22 1/2	1830
200BZ445-61	60	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	62 3/8	54 1/8	22 1/2	1850

DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H			
200BZ622-61	22	200	1208	663	380	450	650	760	380	380	1584	1375	570	760
200BZ437-61	37	200	1208	663	380	450	650	760	380	380	1572	1365	570	830
200BZ445-61	45	200	1208	663	380	450	650	760	380	380	1584	1375	570	840



TO200BZ622 -61

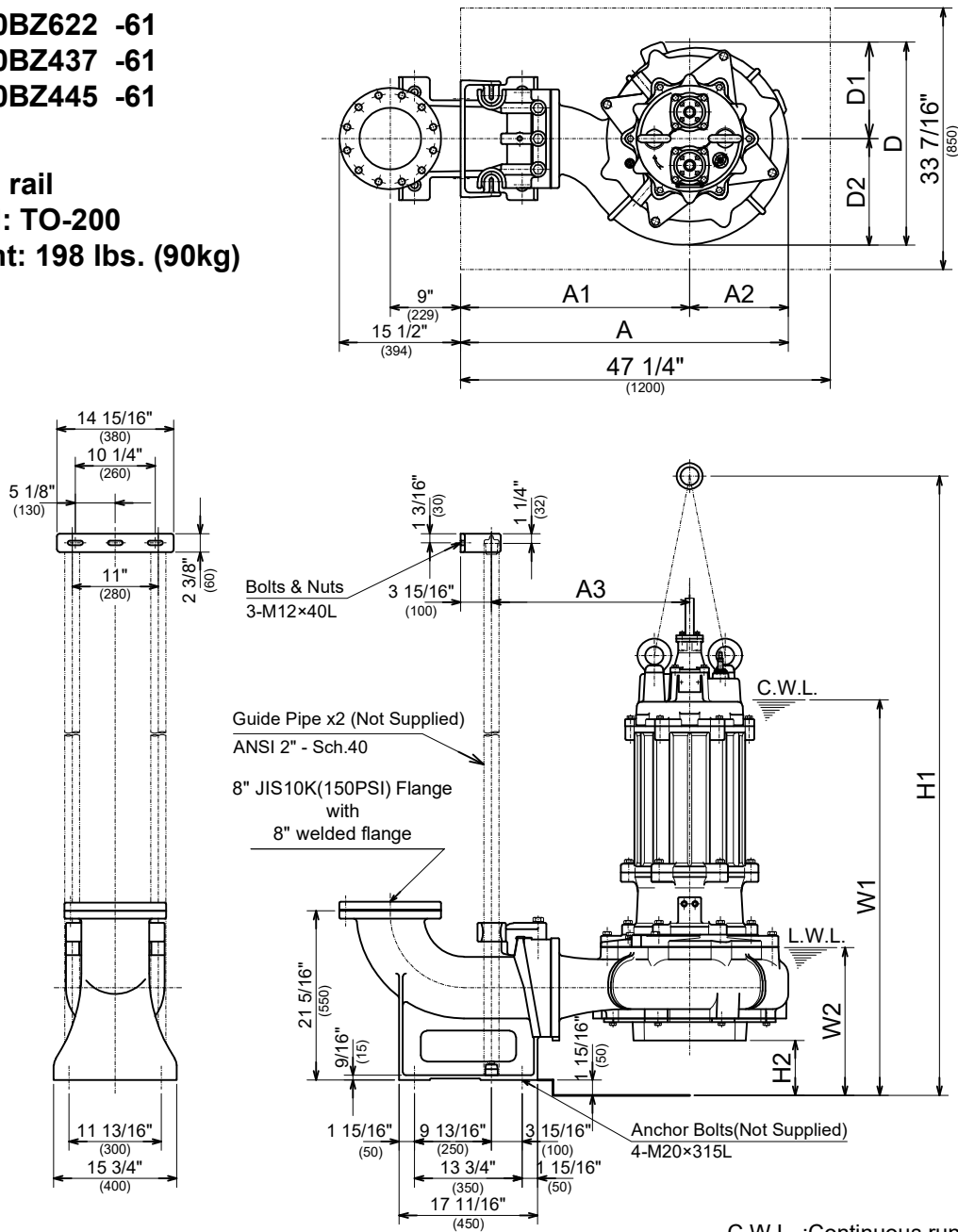
TO200BZ437 -61

TO200BZ445 -61

Guide rail

Model: TO-200

Weight: 198 lbs. (90kg)



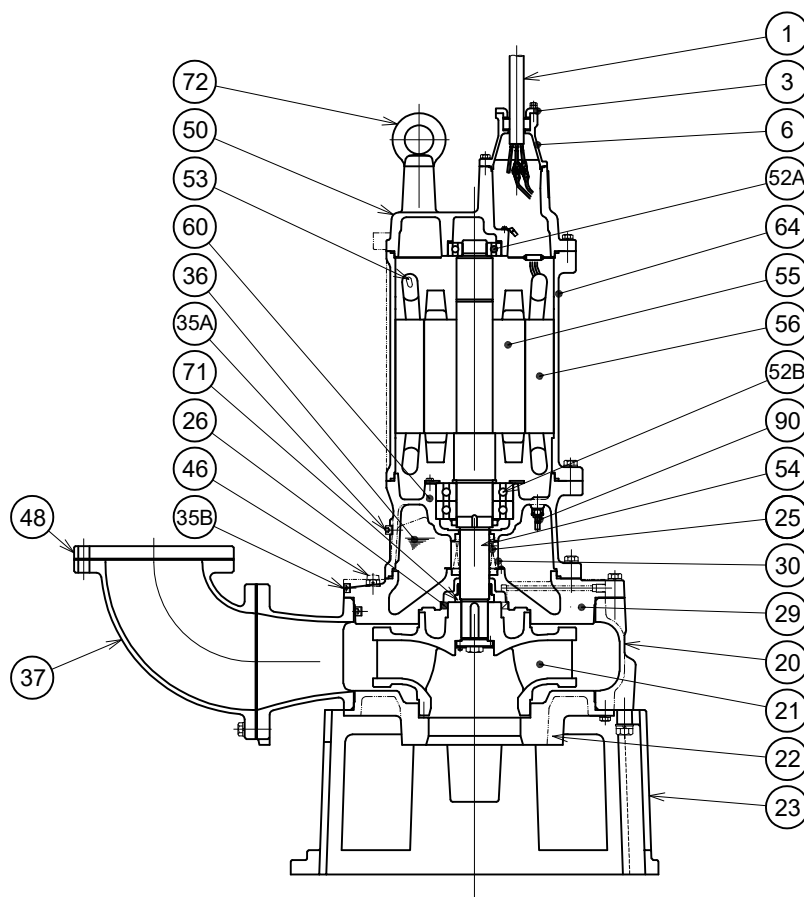
C.W.L. :Continuous running Water Level
L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(lbs.)
TO200BZ622 -61	30	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 13/16	79 3/16	7	50 5/8	18 7/8	1570
TO200BZ437 -61	50	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 3/8	78 3/4	7	50 1/4	18 7/8	1720
TO200BZ445 -61	60	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	58 13/16	79 3/16	7	50 5/8	18 7/8	1740

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.		L.W.L.	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2		
TO200BZ622 -61	22	200	1065	744	321	644	660	314	346	1494	2012	178	1285	480	710	
TO200BZ437 -61	37	200	1065	744	321	644	660	314	346	1482	2000	178	1275	480	780	
TO200BZ445 -61	45	200	1065	744	321	644	660	314	346	1494	2012	178	1285	480	790	

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW

200BZ622 -61
200BZ437 -61
200BZ445 -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 6/4 - 32ft			1
	Power Cable	Chloroprene Sheath AWG 6/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-60			1
26	Oil Seal	NBR / TC11014014			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35A	Oil Plug	Stainless Steel	S 30400	1.4301	2
35B	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
48	Welded Flange	Steel / 8"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6310ZZC3			1
52B	Lower Bearing	37kW: #6314ZZC3 / 22&45kW: #6315ZZC3			2
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
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1

**TSURUMI PUMP**

BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 30B. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 E or F (7.5 Hp. and above) 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 25B or 30B (7.5 Hp. and above). Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



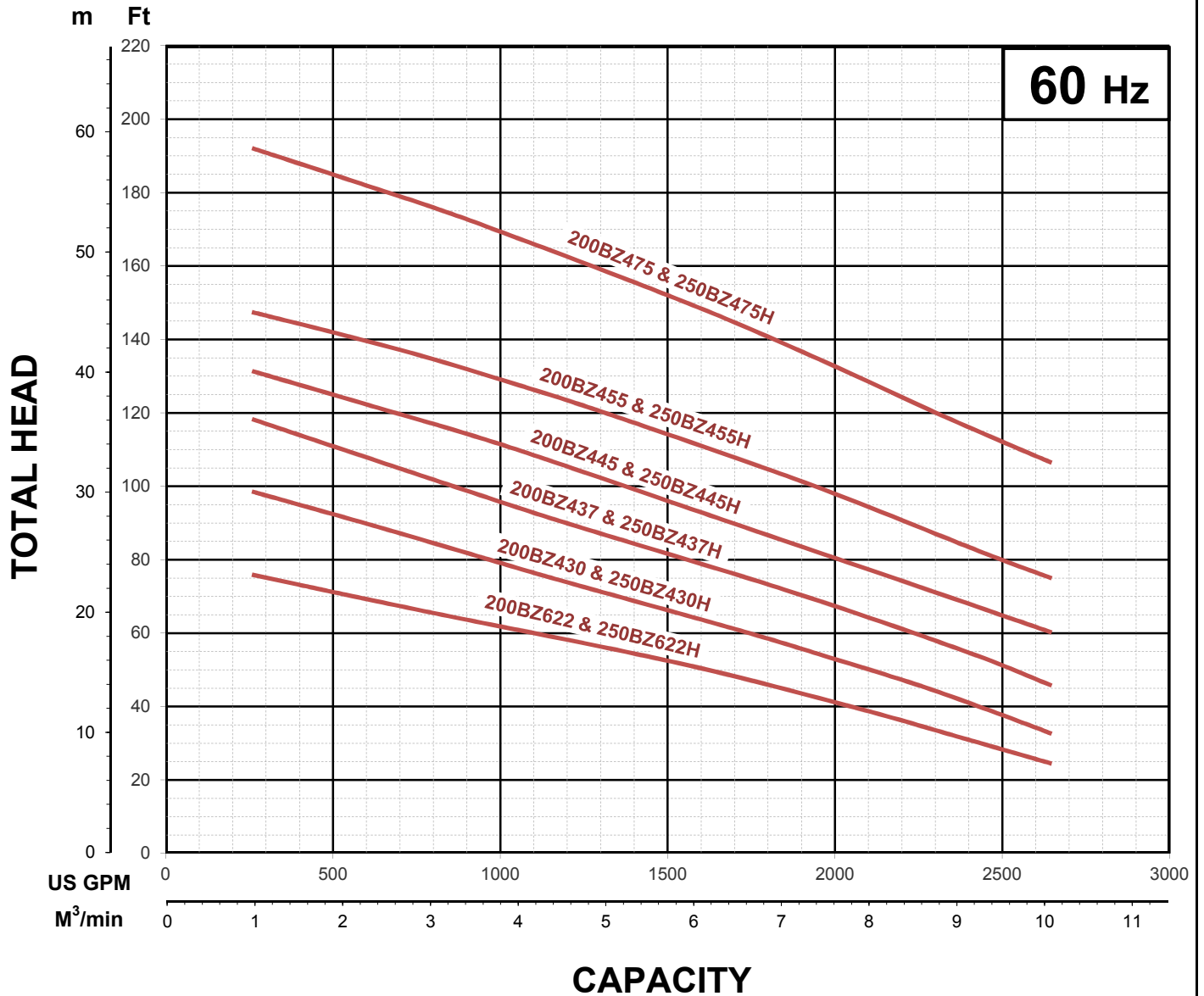
TSURUMI PUMP

BZ - SERIES (8" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

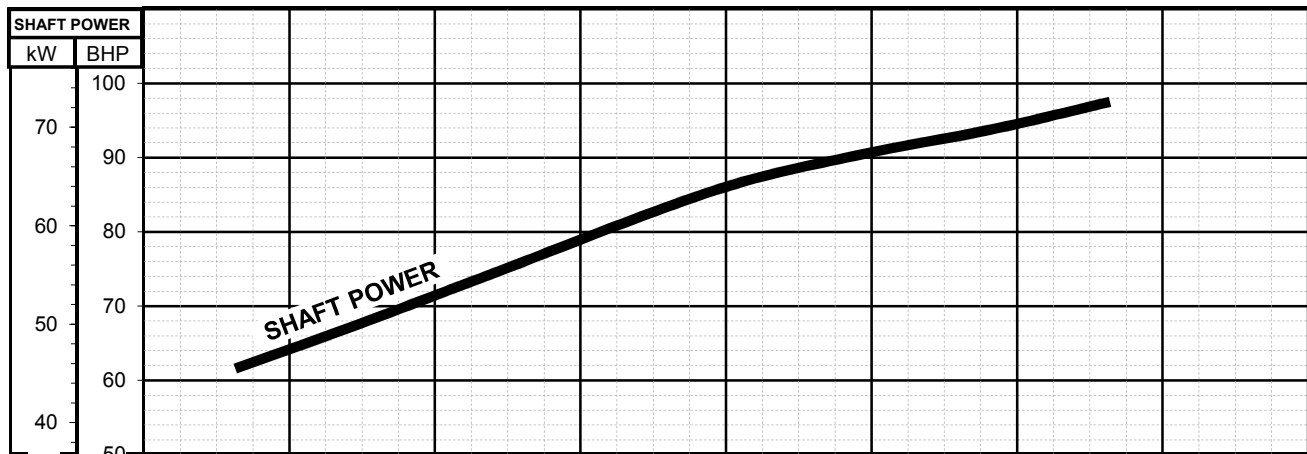
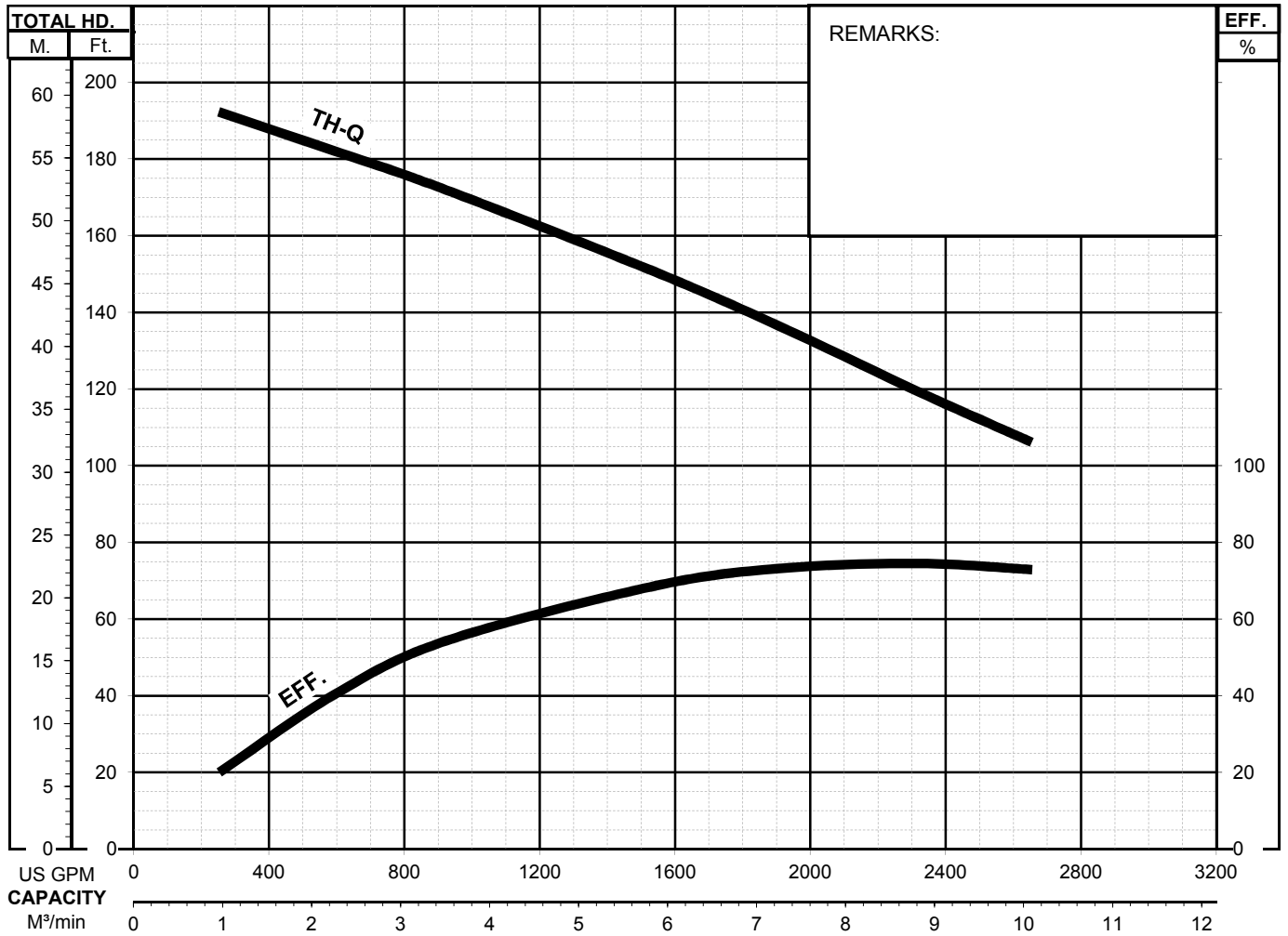


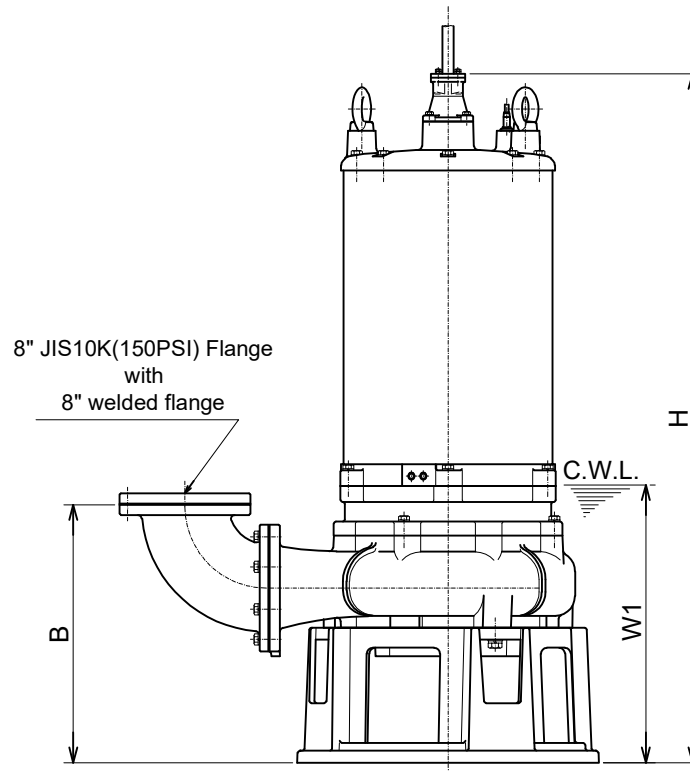
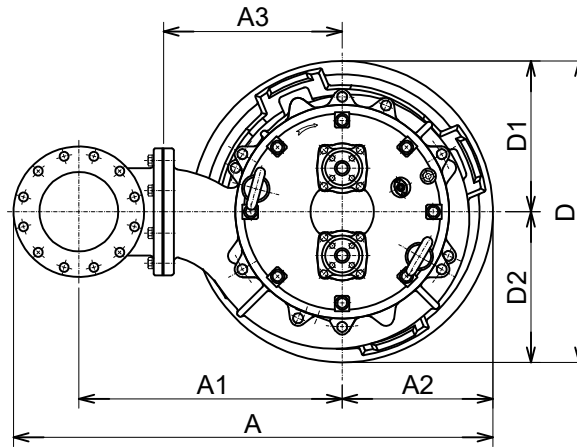
TSURUMI PUMP

BZ - SERIES
SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	kW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)200BZ475 -61		8"/200mm	100	75	SS 1800	3"/76.2mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
Sewage & Wastewater Pump		3	460 / 575	- / -		60	Star-Delta		F	
CURVE No.	DATE	PHASE	VOLTAGE	AMPERAGE		HZ	STARTING METHOD		INS. CLASS	
-	-	-	-	-		-	-		-	



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS**200BZ455 -61****200BZ475 -61**

C.W.L. :Continuous running Water Level

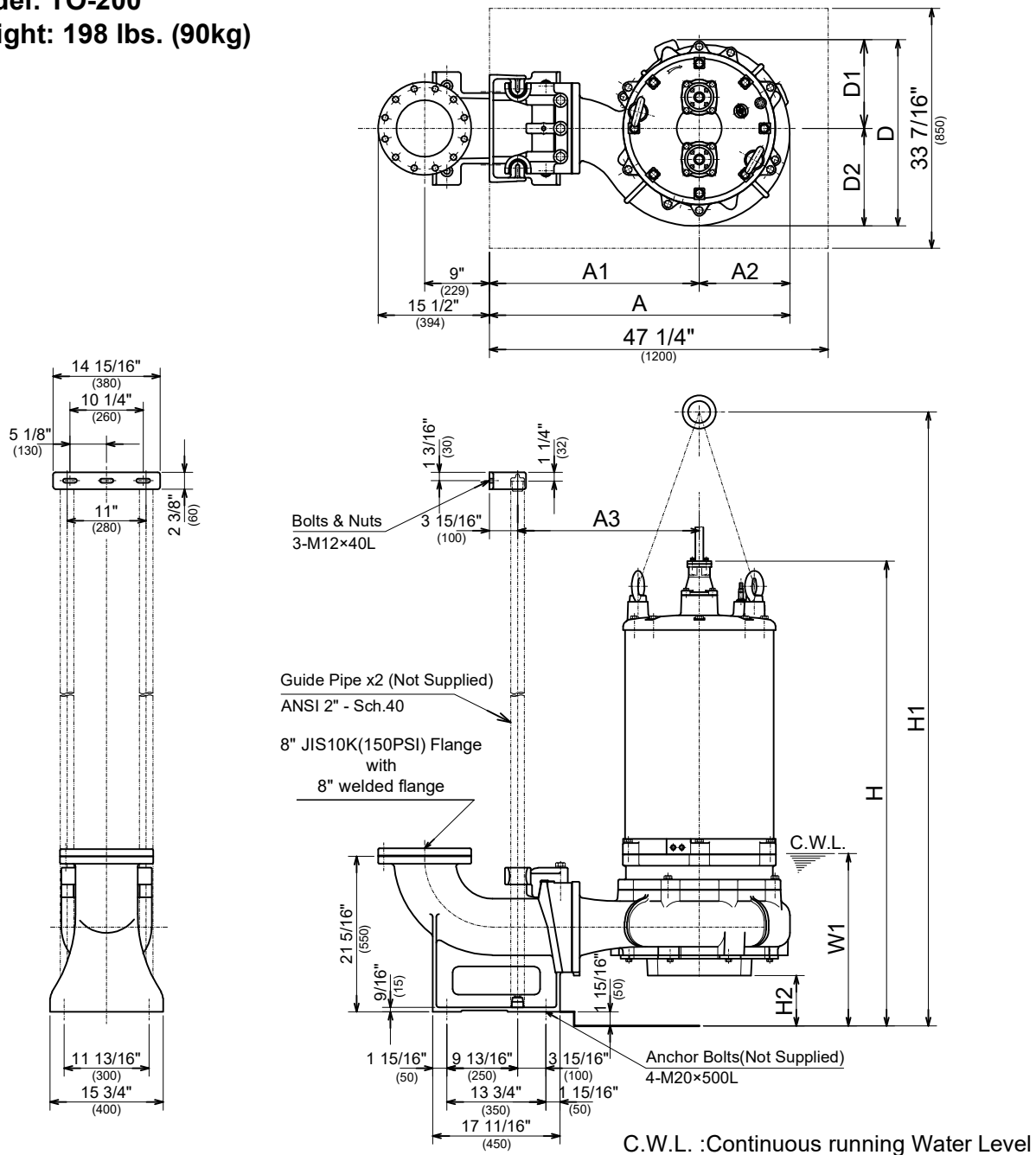
DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H	W1	
200BZ455-61	75	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	68 3/8	27 1/2	2950
200BZ475-61	100	8"	47 9/16	26 1/8	14 15/16	17 11/16	25 9/16	29 15/16	14 15/16	14 15/16	68 3/8	27 1/2	2950

DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H	W1	
200BZ455-61	55	200	1208	663	380	450	650	760	380	380	1736	700	1340
200BZ475-61	75	200	1208	663	380	450	650	760	380	380	1736	700	1340

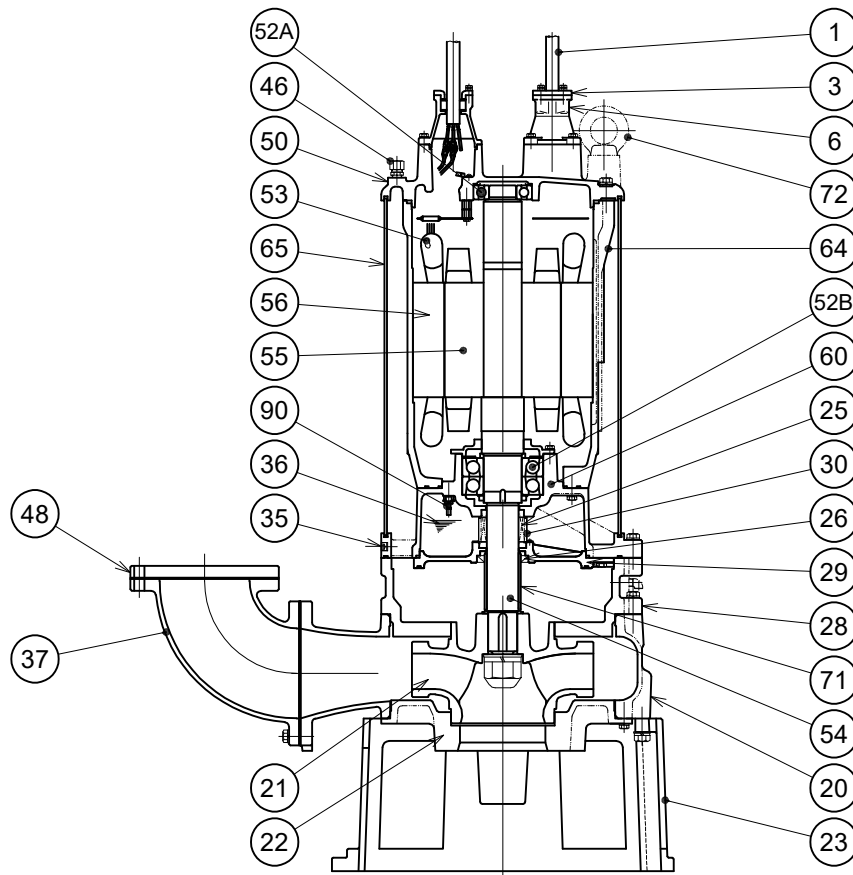
**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS**Guide rail****Model: TO-200****Weight: 198 lbs. (90kg)****TO200BZ455 -61****TO200BZ475 -61****DIMENSIONS:USCS (Inch)**

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	(lbs.)
TO200BZ455 -61	75	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	64 13/16	85 5/8	7	24	2840
TO200BZ475 -61	100	8"	41 15/16	29 5/16	12 5/8	25 3/8	26	12 3/8	13 5/8	64 13/16	85 5/8	7	24	2840

DIMENSIONS:METRIC (mm)

*Excluding TOS & Cable

Model	kW	NOM. SIZE	Pump & Motor										C.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	(kg)
TO200BZ455 -61	55	200	1065	744	321	644	660	314	346	1646	2175	178	610	1290
TO200BZ475 -61	75	200	1065	744	321	644	660	314	346	1646	2175	178	610	1290

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW
200BZ455 -61
200BZ475 -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	55kW: Chloroprene Sheath AWG 6/4 - 32ft			1
		55kW: Chloroprene Sheath AWG 6/3 - 32ft			1
		75kW: Chloroprene Sheath AWG 4/4 - 32ft			1
		75kW: Chloroprene Sheath AWG 4/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-70			1
26	Oil Seal	NBR / TC8011515			1
28	Middle Plate	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Steel (Cold Rolled)	A109/A1008	EN 10130	1
48	Welded Flange	Steel / 8"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6312ZC3			1
52B	Lower Bearing	#7317BDB			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
71	Shaft Sleeve	Stainless Steel	S 40300	1.4000	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1

**TSURUMI PUMP**

BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 30B. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 E or F (7.5 Hp. and above) 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 25B or 30B (7.5 Hp. and above). Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.



BZ - SERIES

SINGLE VANE - SEWAGE & WASTE WATER PUMPS

SPECIFICATIONS

■ FEATURES

1. Single Vane, Cast Iron, impeller passes 3" diameter solids without clogging providing for highly efficient pumping of raw sewage and waste water.
2. Double inside mechanical seals with silicon carbide faces, running in an oil filled chamber and further protected by a lip seal, provides for the most durable seal design available.
3. Highly efficient, continuous duty, air filled, copper wound motor with class F, insulation minimizes the cost of operation.
4. Built in thermal & amperage sensing, protector prevents motor failure due to overloading, single phasing (in three phase units), 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.

■ APPLICATIONS

1. Residential, commercial, industrial sewage, effluent, wastewater and site drainage.
2. Decorative waterfalls, fountains and fish ponds.
3. 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

Mechanical Seal
Elastomers

Impeller Type
Solids Handling Capability

Bearings

Motor Nomenclature
Type, Speed, Hz.
Voltage, Phase

Insulation

Accessories
Operational Mode

■ STANDARD

4" Npt (100 mm)
2 ~15 Hp. (1.5 ~ 11 kW)
105.7 ~ 951.0 Gpm. (.40 ~ 3.60 m³/min)
21.0 Ft. ~ 101.7Ft. (6.4 ~ 31.0 m)
104° F. (40° C.)

ASTM 48 Class 35 Cast Iron
ASTM 48 Class 35 Cast Iron
420,403 Stainless Steel
ASTM 48 Class 35 Cast Iron
304 Stainless Steel

Silicon Carbide
NBR (Nitril Buna Rubber)

Enclosed Single Vane, solids handling.
3.15" (80 mm)

Pre-lubricated, Double Shielded

Air Filled, 1800 Rpm, 60 Hz.
208-230, 230 or 440, 460 or 575 V.
(3 Phase)

Class F
Submersible Power Cable 32' (10 m)
Manual

■ OPTIONS

Nema 3R inverter available for
230 V., 1 Ph. operation from
2~5 Hp.

Length as Required

Model
TOS Slide rail system



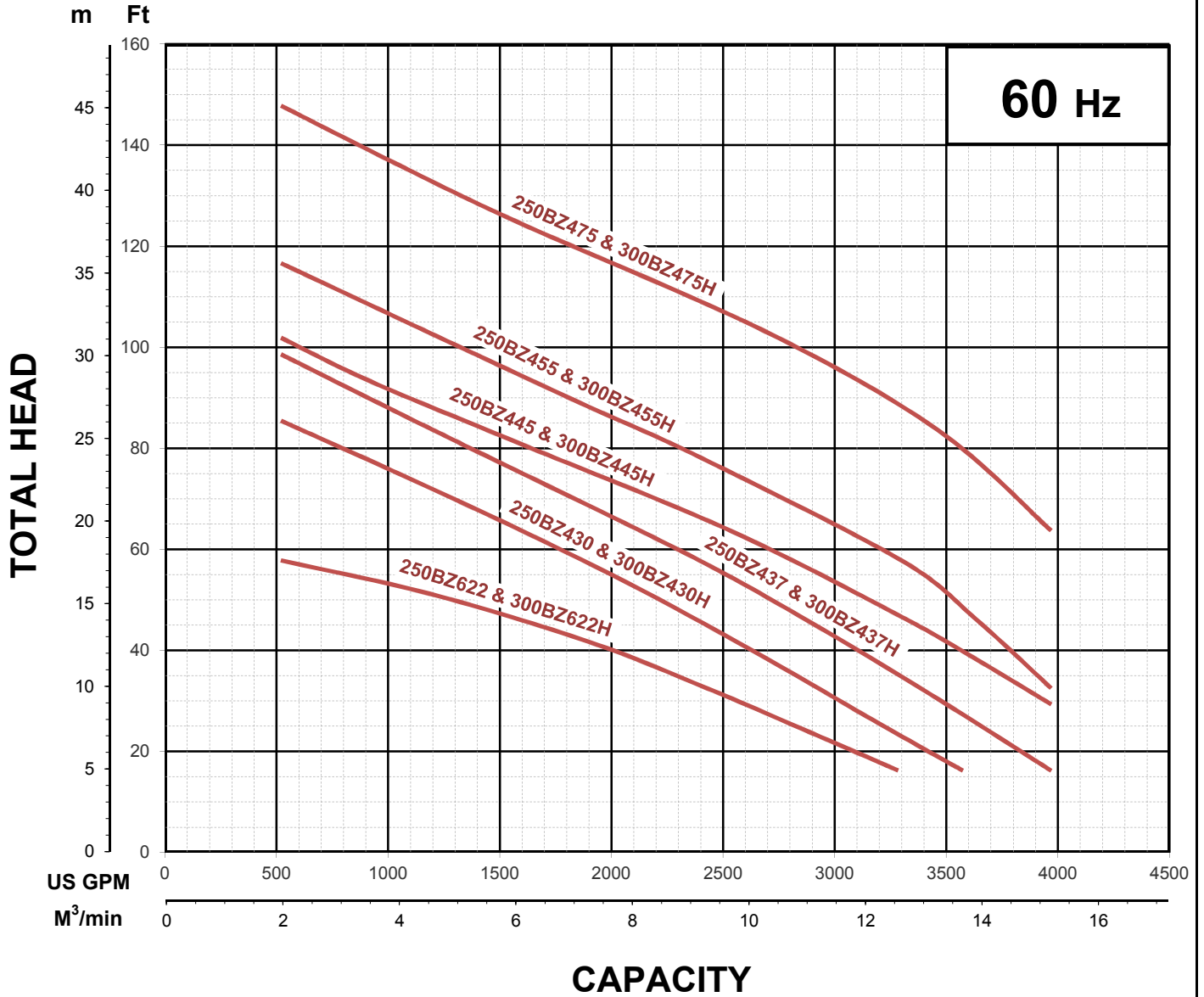
TSURUMI PUMP

BZ - SERIES (10" base pump)

SEWAGE & WASTEWATER PUMPS

PERFORMANCE RANGE

GROUP PERFORMANCE RANGE



Note

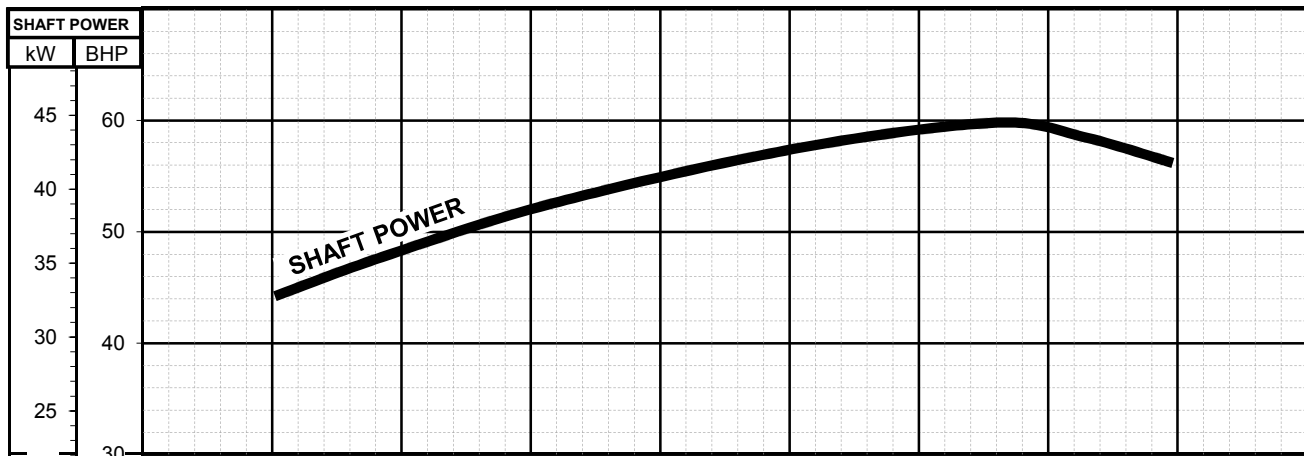
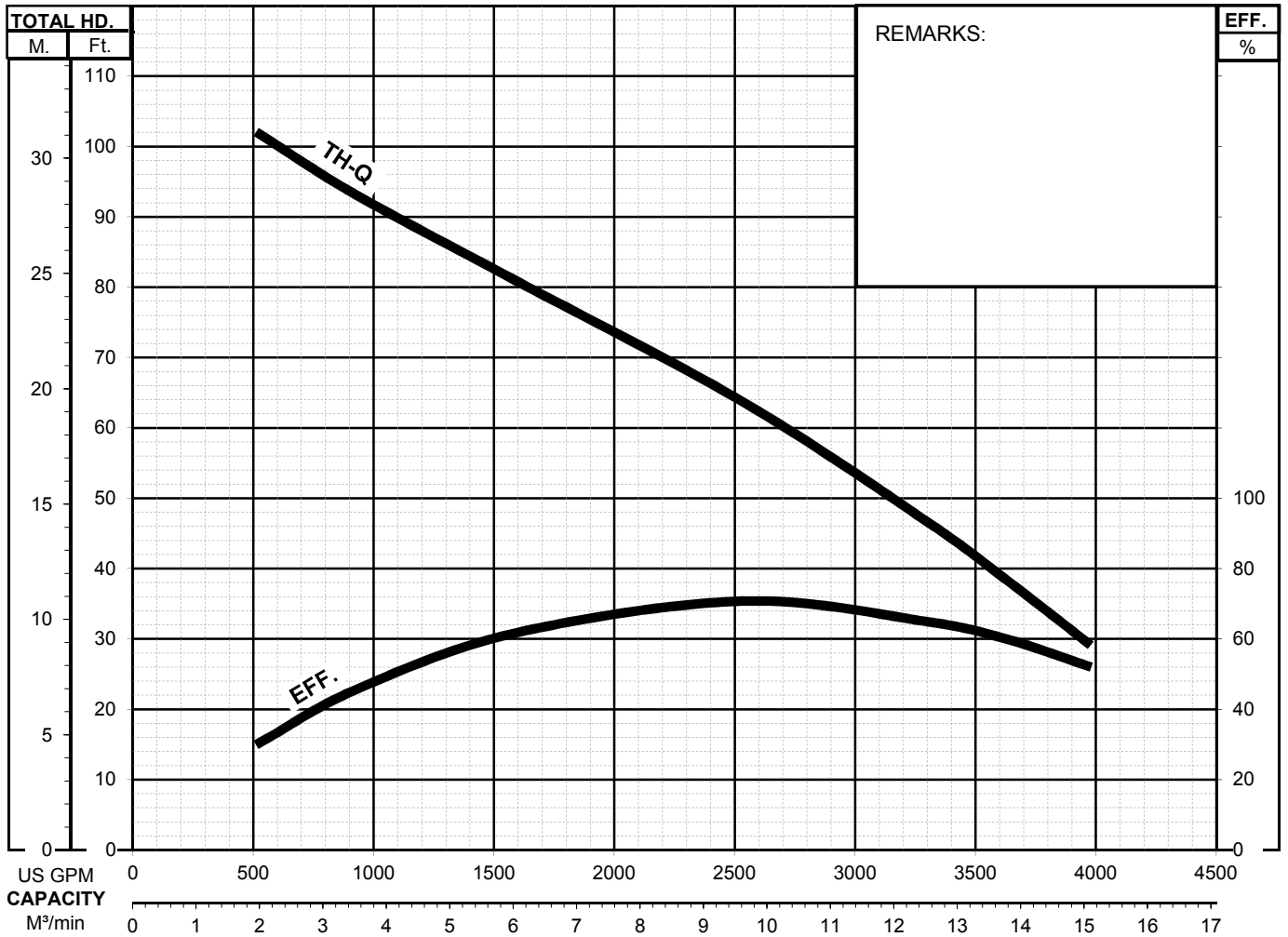
**TSURUMI PUMP**

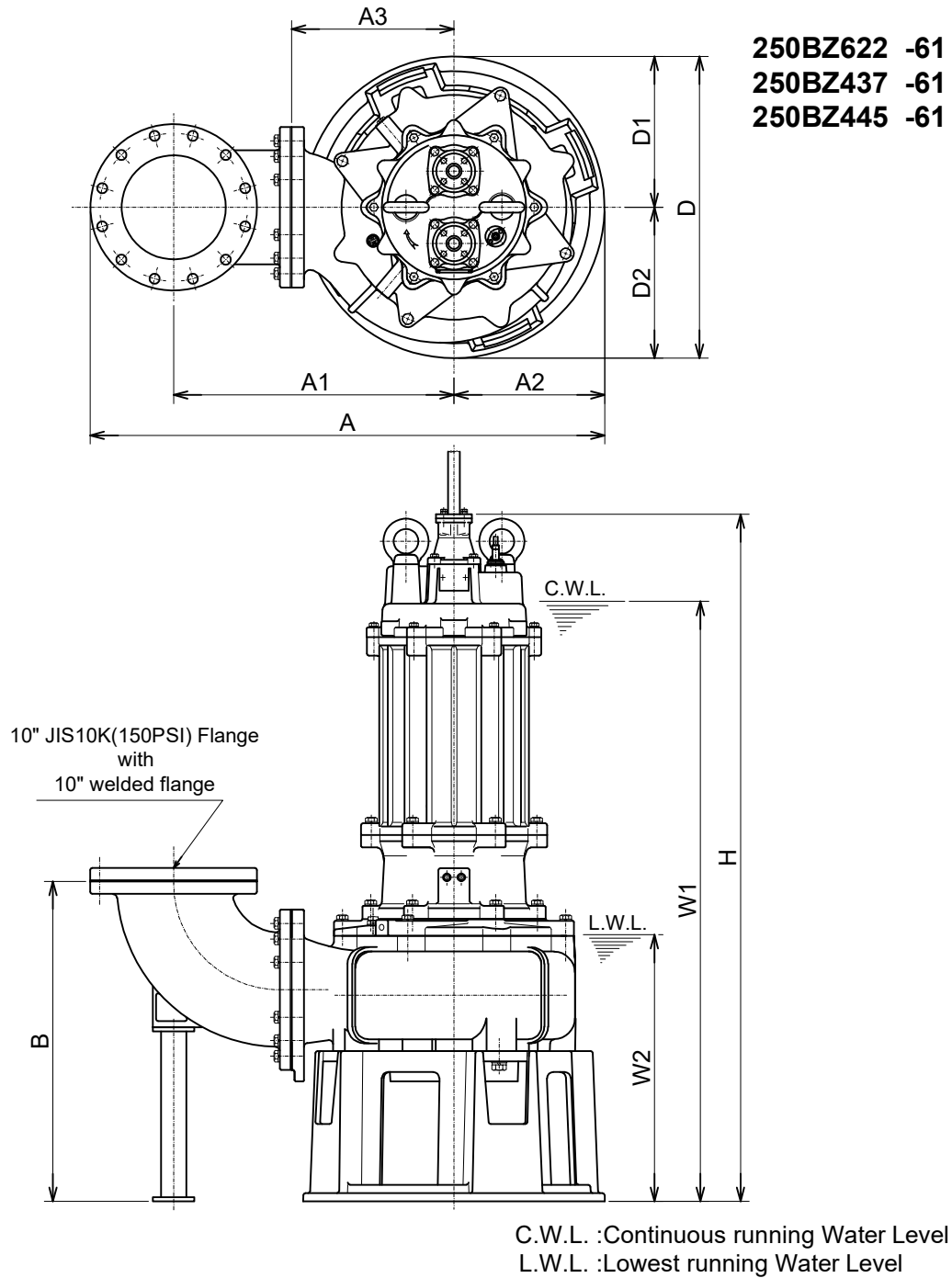
BZ - SERIES

SEWAGE & WASTEWATER PUMPS

PERFORMANCE
CURVE

MODEL		BORE	HP	KW	RPM	SOLIDS DIA.	LIQUID	SG.	VISCOSITY	TEMP.
(TO)250BZ445 -61		10"/250mm	60	45	SS 1800	3.11"/79mm	Water	1.0	1.123cSt.	60°F
PUMP TYPE		PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
Sewage & Wastewater Pump		3	460 / 575		- / -		60	Star-Delta		F
CURVE No.	DATE	PHASE	VOLTAGE		AMPERAGE		HZ	STARTING METHOD		INS. CLASS
-	-	-	-		-		-	-		-



**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
DIMENSIONS**DIMENSIONS:USCS (Inch)**

Model	HP	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (lbs.)
			A	A1	A2	A3	B	D	D1	D2	H			
250BZ622-61	30	10"	48 5/8	26 1/2	14 1/4	15 3/8	30 1/4	28 1/2	14 1/4	14 1/4	64 15/16	56 3/4	25 1/4	1790
250BZ437-61	50	10"	48 5/8	26 1/2	14 1/4	15 3/8	30 1/4	28 1/2	14 1/4	14 1/4	64 1/2	56 1/4	25 1/4	1940
250BZ445-61	60	10"	48 5/8	26 1/2	14 1/4	15 3/8	30 1/4	28 1/2	14 1/4	14 1/4	64 15/16	56 3/4	25 1/4	1960

DIMENSIONS:METRIC (mm)

*Excluding Cable

Model	kW	NOM. SIZE	Pump & Motor									C.W.L.	L.W.L.	*Wt. (kg)
			A	A1	A2	A3	B	D	D1	D2	H			
250BZ622-61	22	250	1235	673	362	390	768	724	362	362	1650	1440	640	810
250BZ437-61	37	250	1235	673	362	390	768	724	362	362	1638	1430	640	880
250BZ445-61	45	250	1235	673	362	390	768	724	362	362	1650	1440	640	890



TO250BZ622 -61

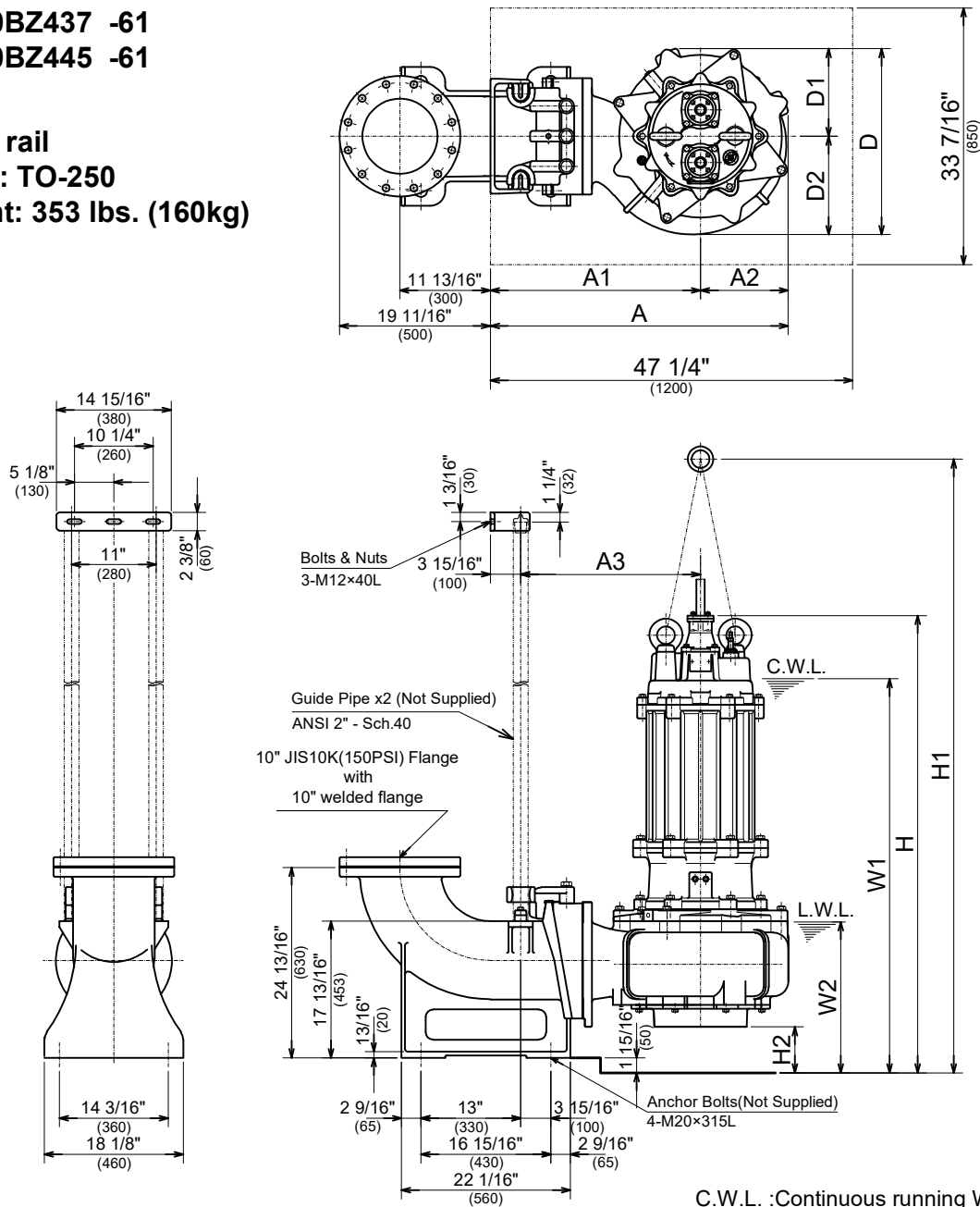
TO250BZ437 -61

TO250BZ445 -61

Guide rail

Model: TO-250

Weight: 353 lbs. (160kg)



C.W.L. :Continuous running Water Level

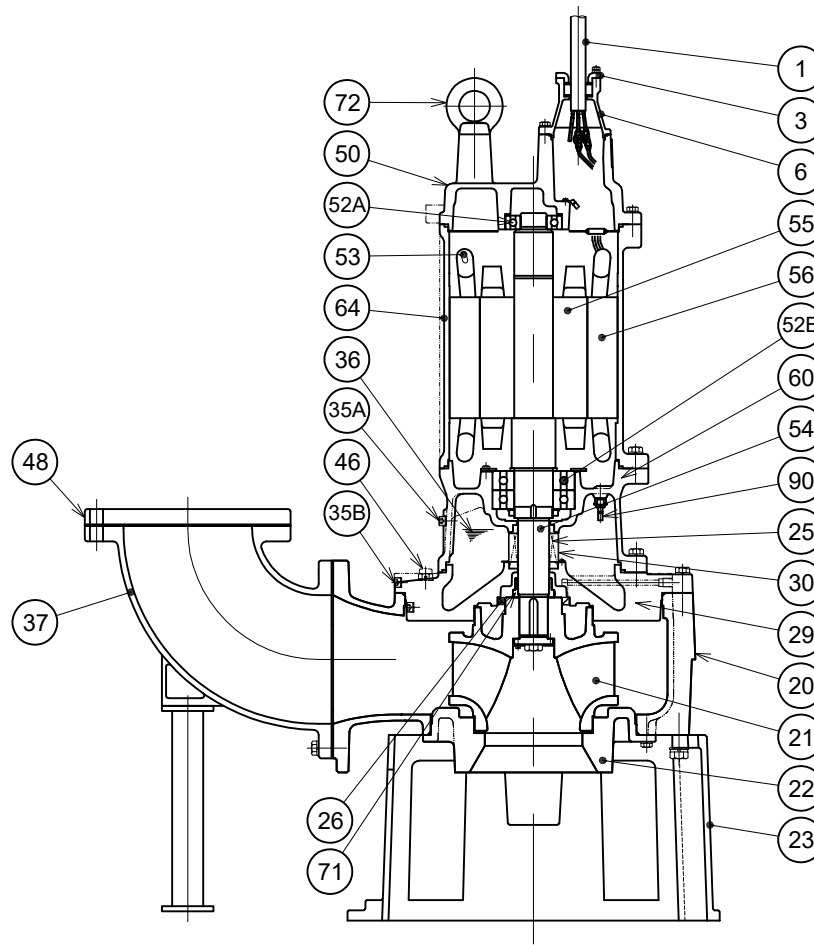
L.W.L. :Lowest running Water Level

DIMENSIONS:USCS (Inch)

Model	HP	NOM. SIZE	Pump & Motor										C.W.L.	L.W.L.	*Wt.
			A	A1	A2	A3	D	D1	D2	H	H1	H2	W1	W2	(lbs.)
TO250BZ622-61	30	10"	38 13/16	27 3/8	11 7/16	23 7/16	24 1/4	11 7/16	12 13/16	59 5/8	80	6	51 3/8	19 5/8	1680
TO250BZ437-61	50	10"	38 13/16	27 3/8	11 7/16	23 7/16	24 1/4	11 7/16	12 13/16	59 9/16	79 1/2	6	51	19 5/8	1830
TO250BZ445-61	60	10"	38 13/16	27 3/8	11 7/16	23 7/16	24 1/4	11 7/16	12 13/16	59 5/8	80	6	51 3/8	19 5/8	1850

DIMENSIONS:METRIC (mm)

Model	kW	NOM. SIZE	Pump & Motor										C.W.L. W1	L.W.L. W2	*Wt. (kg)
			A	A1	A2	A3	D	D1	D2	H	H1	H2			
TO250BZ622 -61	22	250	986	696	290	596	616	290	326	1514	2032	153	1305	500	760
TO250BZ437 -61	37	250	986	696	290	596	616	290	326	1513	2020	153	1295	500	830
TO250BZ445 -61	45	250	986	696	290	596	616	290	326	1514	2032	153	1305	500	840

**TSURUMI PUMP**
BZ-SERIES
SEWAGE & WASTEWATER PUMPS
SECTIONAL VIEW

250BZ622 -61
250BZ437 -61
250BZ445 -61

PART#	DESCRIPTION	MAIN MATERIAL / NOTE	RELATED ASTM, AISI CODE	RELATED EN CODE	QTY
1	Power Cable	Chloroprene Sheath AWG 6/4 - 32ft			1
	Power Cable	Chloroprene Sheath AWG 6/3 - 32ft			1
	Control Cable	PVC Sheath AWG 16/3 - 32ft			1
3	Gland	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
6	Staffing Box	Cast Iron	A48M Class30B	EN 1561 GJL-200	2
20	Pump Casing	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
21	Impeller	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
22	Suction Cover	Cast Iron	A48M Class35B	EN 1561 GJL-250	1
23	Strainer Stand	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
25	Mechanical Seal	Silicon Carbide / H-60			1
26	Oil Seal	NBR / TC11014014			1
29	Oil Casing	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
30	Oil Lifter	Steel (Cold Rolled)	A109/A1008	EN 10130	1
35A	Oil Plug	Stainless Steel	S 30400	1.4301	2
35B	Oil Plug	Stainless Steel	S 30400	1.4301	2
36	Lubricant	Turbine Oil ISO VG32 or SAE10W-20			
37	Discharge Bend	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
46	Air Valve	Nylon			1
48	Welded Flange	Steel / 10"	A283 Grade D	EN 10025 S275	1
50	Motor Bracket	Cast Iron	A48M Class30B	EN 1561 GJL-200	1
52A	Upper Bearing	#6310ZZC3			1
52B	Lower Bearing	37kW: #6314ZZC3 / 22&45kW: #6315ZZC3			2
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
71	Shaft Sleeve	Stainless Steel	S 30400	1.4301	1
72	Lifting Lug Bolt	Steel	A283 Grade D	EN 10025 S275	2
90	Leakage Sensor (Electrode)	Stainless Steel			1

**TSURUMI PUMP**

BZ - 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 (_____ m³/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, impeller, and discharge elbow shall be manufactured from gray cast iron, ASTM A48 CLASS 30B. Unit(s) shall have a field adjustable and or replaceable, cast iron wear plate or wear rings. 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 shall be furnished with a discharge elbow with 150 lb. (10 kg/cm²) flat face flange and NPT companion flange. Impellers shall be of the single vane, enclosed, solids handling design equipped with back pump out vanes and shall be slip fit to the shaft and key driven. The pump casing shall incorporate an air relief valve.

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 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.

4. MOTOR -

The pump motor(s) shall be _____ Hp., _____ 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 E or F (7.5 Hp. and above) 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. On units up to 10 Hp. (7.5 kW), the bottom bearing shall be single row, double shielded, C3, deep groove type ball bearings. On units 15 Hp. (11 kW), the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearings. The top bearing on all units 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 25B or 30B (7.5 Hp. and above). Motors shall be D.O.L. or Star-delta start (15 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. Units up to 5 Hp. 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. On units 7.5 Hp. and above, the cable entrance shall incorporate built in strain relief, and combination three way mechanical compression sealing with a fatigue reducing/thermal expansion rubber boot. The power cable shall be field replaceable utilizing standard submersible pump cable. 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 damaged.