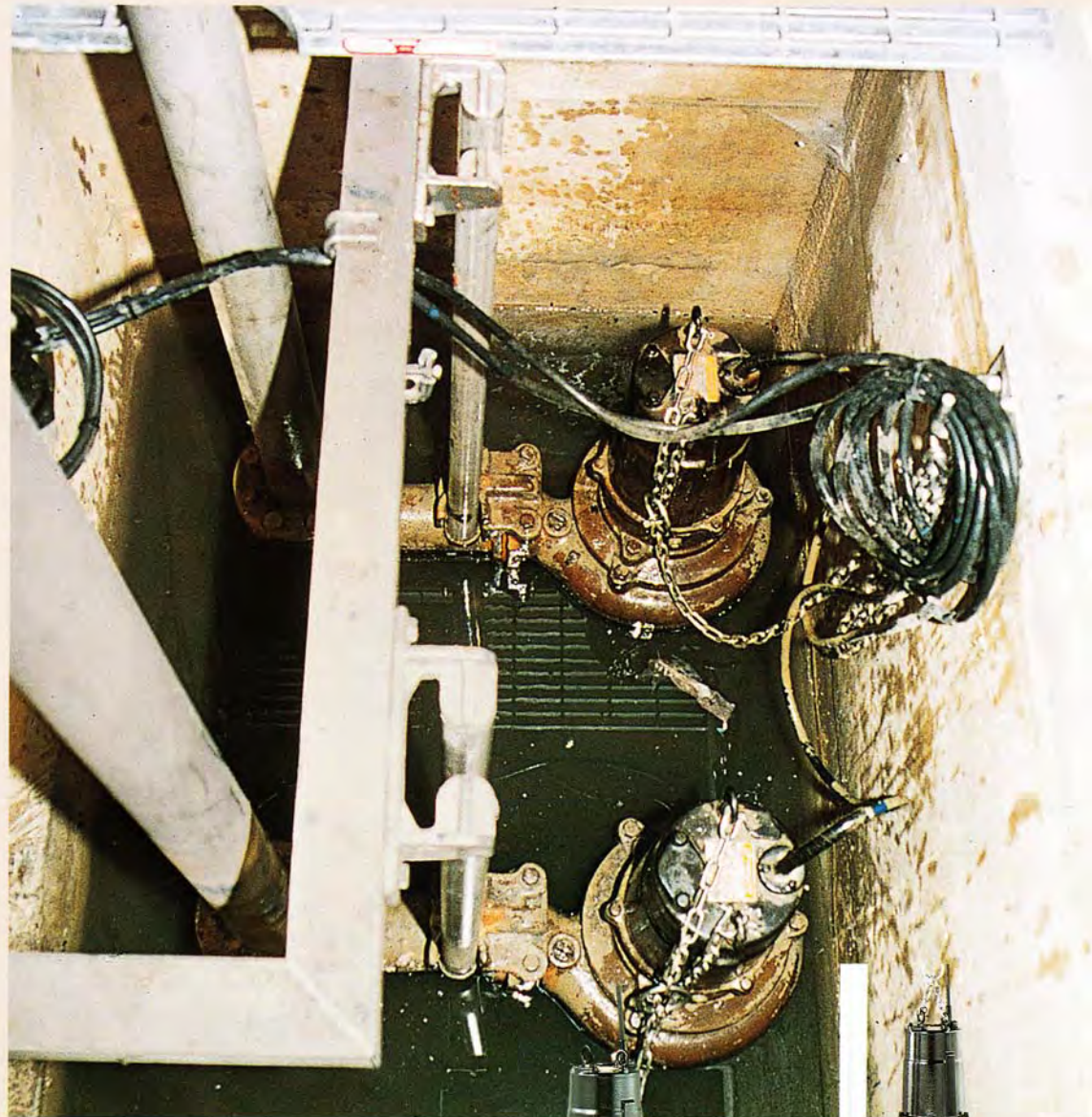




Submersible Sewage Pumps

Channel Impeller

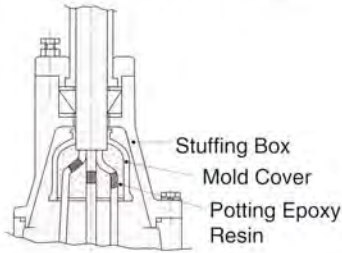
BZ



A specially designed single channel impeller makes the BZ pump possible to pass 80mm diameter solids.

Cable Entry

Every cable has an anti-wicking block at the cable entry section of the pump. This mechanism is such that a part of each conductor is stripped back and the part is sealed by molded rubber or epoxy potting which flowed in between each strand of the conductor. This unique feature prevents "wicking" under the strands of the conductor itself.



Motor Protector

Miniature Thermal Protectors (MTPs) are supplied on all pumps as standard. Imbedded in the winding of the motor, these MTPs are connected in series, and their wires are led out of the motor. Should the winding temperature rise to the actuating temperature, the bimetal strip opens to cause the control panel to shut the power supply.



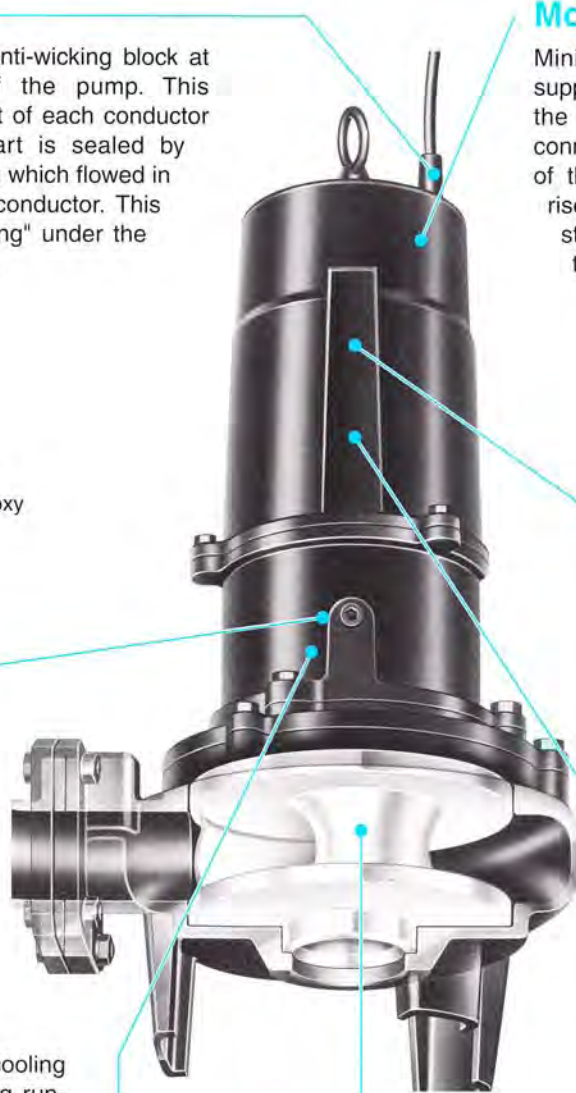
(Miniature thermal protector)

Mechanical Seal

All pumps are furnished with a Silicon Carbide dual inside mechanical seal that is located completely out of the pumpage, running in an oil filled chamber. The advantage of this seal are two-fold, it eliminates spring failure caused by corrosion, abrasion or fouling which prevents the seal faces from closing properly, and prevents loss of cooling to the bottom seal faces during run-dry conditions which causes the bottom seal to fail.

Oil Lifter (Pat. Pending)

The Oil Lifter is designed to stabilize the mechanical seal function. Utilizing the rotational energy of the shaft seal, the Oil Lifter forcibly supply lubricating oil to the mechanical seal and continues to supply the lubricant to the top seal faces even if the lubricant falls below the rated volume. This amazingly simple device not only turns the wasted energy into added protection but also doubles the life expectancy of the mechanical seal and also the maintenance term.



Motor

The motor is dry type, squirrel cage induction motor, housed in a cast iron watertight casing, and conforms to insulation class of F. All standard pumps can be used under the maximum ambient temperature of 40°C.

Shaft

The high tensile stainless steel used on all pumps is designed to have an adequate strength for the transmission of the full load. The shaft is supported by C3 type, high quality, deep groove ball bearings.

Impeller

The BZ pump is equipped with a specially designed single channel impeller. It is designed to have a wide passage from the inlet to outlet and enables it to pass solids with 80mm in diameter. This ensures waste water and sewage are transferred without clogging.



Back Pullout Design

Unfastening the bolts between the oil casing and the pump casing allows the body to be separated into the pump section and the motor section with the impeller left in position. This facilitates inspections of the main portions. (Applied to pumps up to 3.7kW)

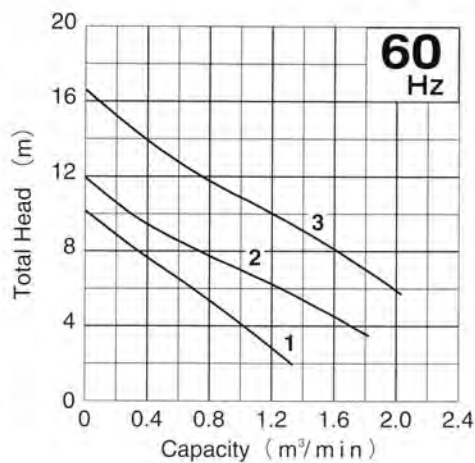
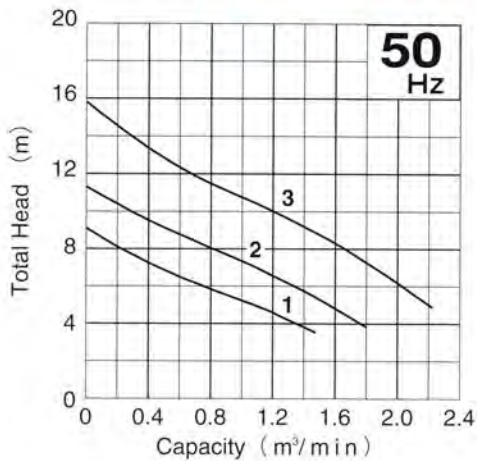


COMPOSITION OF THE MODEL NAME

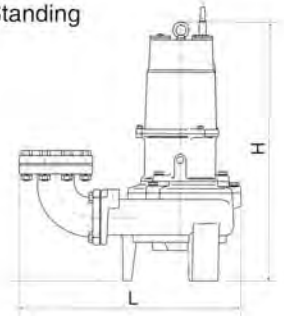
100	BZ	4	11	H
Discharge Bore in millimeters	Name of the Series	Number of motor poles	Rated motor output in kilowatts	Sub. Code for the Pumping Head
				H : High head Blank : Standard

Performance Curves

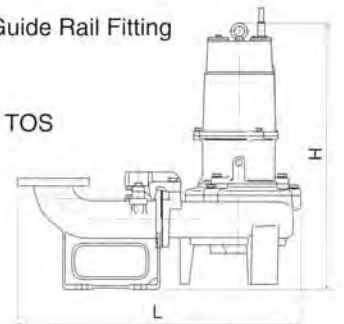
DISCHARGE BORE **80mm·100mm**



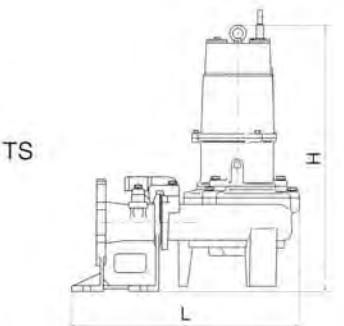
Free Standing



Guide Rail Fitting

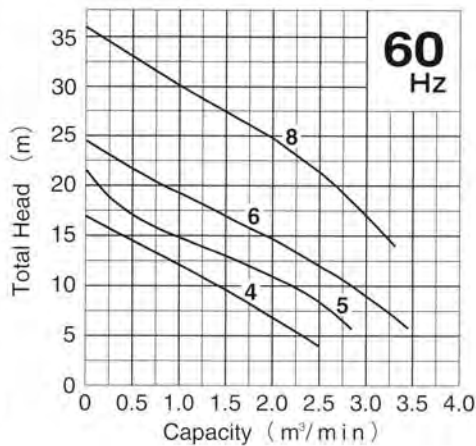
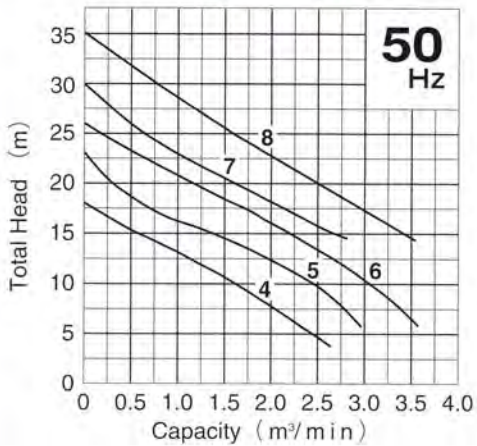


TOS



TS

DISCHARGE BORE **100mm**



Specifications

Curve No.	Discharge Bore mm	Model			Motor Output kW	Revolution 50Hz/60Hz min ⁻¹	Starting Method	Impeller Passage mm	Standard Cable Length m	Cable Code	Dimensions L×H mm			Dry Weight kgs	
		Free Standing	Guide Rail Fitting								Free Standing	Guide Rail Fitting	Free Standing	Guide Rail Fitting	
			TOS	TS											TOS
1	80	80BZ41.5	TOS80BZ41.5	TS80BZ41.5	1.5	1500/1800	D.O.L	80	10	B	523×631	697×646	544×646	78	74
2	100	100BZ42.2	TOS100BZ42.2	TS100BZ42.2	2.2	1500/1800	D.O.L	80	10	D	551×631	709×646	554×646	78	74
3	100	100BZ43.7	TOS100BZ43.7	TS100BZ43.7	3.7	1500/1800	D.O.L	80	10	D	584×681	743×696	588×696	98	94
4	100	100BZ45.5	TOS100BZ45.5	TS100BZ45.5	5.5	1500/1800	D.O.L	80	10	G	716×925	935×914	740×914	149	144
5	100	100BZ47.5	TOS100BZ47.5	TS100BZ47.5	7.5	1500/1800	D.O.L	80	10	W	716×946	935×935	740×935	165	160
6	100	100BZ411	TOS100BZ411	TS100BZ411	11	1500/1800	Star-Delta	80	10	L	727×1023	946×1016	751×1016	222	217
7*	100	100BZ411H	TOS100BZ411H	TS100BZ411H	11	1500/1800	Star-Delta	80	10	L	727×1023	946×1016	751×1016	222	217
8	100	100BZ415	TOS100BZ415	—	15	1500/1800	Star-Delta	80	10	M	820×1099	1041×1194	—	295	290

Note : Every model operates on a three phase supply.
* 50Hz only

CABTYRE CABLE CODE REFERENCE

Code	Pieces per Unit	Cores × mm ²	Dia. mm	Material
B	2	4 × 1.25 2 × 1.25	10.1 10.1	PVC Sheath
D	2	4 × 2 2 × 1.25	11.8 10.1	

Code	Pieces per Unit	Cores × mm ²	Dia. mm	Material
G	2	4 × 3.5 2 × 1.25	14.1 10.1	Chloroprene Sheath
L	3	4 × 3.5	14.1	
		3 × 3.5 2 × 2	12.9 10.6	
M	3	4 × 5.5	16.8	
		3 × 5.5 2 × 2	15.2 10.6	
W	2	4 × 5.5	16.8	
		2 × 1.25	10.1	

GUIDE RAIL TYPE

TOS

We recommend using the Tsurumi "TOS" guide rail fitting system with pumps. This system connects the pump to and from the piping easily just by lowering and hoisting the pump, allowing easy maintenance and inspection without the need to enter the sump.



TS

This compact guide rail fitting system is ideal for installing on prefabricated lift stations. Its discharge flange is compatible with major flange standards including ANSI 150lb, BS PN10, and DIN PN10. Four models are available and can be used on Tsurumi cast-iron pumps in the 50 mm through 100 mm discharge bore range.



TSURUMI OPTIONS

SPECIAL VERSION WITH GALVANIC CORROSION PROTECTION

In seawater, the effect of galvanic corrosion is more serious than that of ordinary corrosion. When two kinds of metals are dipped into an electrolytic liquid, a battery phenomenon occurs due to the difference in the electric potential of the two materials. In this case, the metal having higher potential corrodes first. As an option, Tsurumi can supply the pumps as an option, with parts made of higher electric potential metal as sacrificial anodes.

SPECIAL VERSION FOR HIGHER TEMPERATURE LIQUID

Standard pumps are designed for continuous running at a maximum ambient temperature of 40°C. In addition to these, Tsurumi can provide pumps for operation at higher liquid temperature upon request. Refitting for operation at higher temperature involves modification of not only the insulation of motor windings but also several components. The high-temperature operation models are available for the RANK 60 version, for the operation in liquids up to 60°C. Consult your dealer for more details. (These special versions are not available for some pump models.)

DRY PIT VERSION

The advantage of the dry pit type pump is that a flooding of water will not damage it, as it is constructed by a submersible pump. Tsurumi can provide the dry pit type pumps as an option for the whole range of BZ series pumps. Durable motor with effective water-cooling jacket assures the pump continuous running without overheating.

SPECIAL VERSION WITH NON-STANDARD MATERIALS

Tsurumi can also provide you with pumps with essential components such as the impeller, pump casing, and the suction cover made of non-standard materials. Select from stainless steel, chromium iron, and bronze to suit your specific requirements. Consult your dealer for more details.

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

TSURUMI
MANUFACTURING CO.,LTD.

PT. LUKES INDONESIA

Lindeteves Trade Center Lt UG, Blok B1 No. 6
Jalan Hayam Wuruk, Jakarta - Indonesia
Phone : 021 - 6231 7842, 628 5144
Fax : 021 - 6231 0499
email : lukes@cbn.net.id

