TSURUMI PUMP®

BUILT FOR WORK®

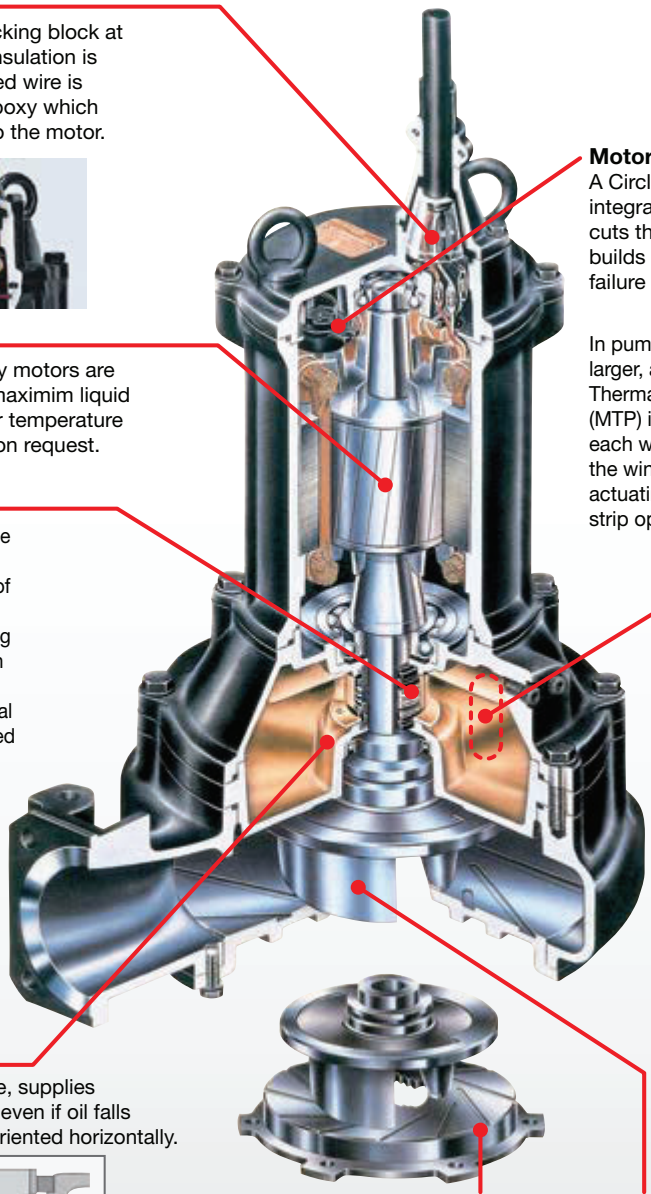
SEWAGE AND WASTEWATER PUMPS

SIMPLE DESIGN, EXTREME QUALITY | Tsurumi C Series CUTTER PUMP™

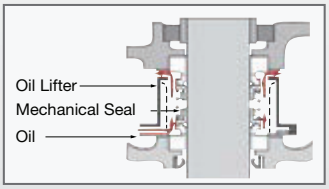
Cable Entry
Cables are designed with an anti-wicking block at motor entry where each conductor insulation is window cut and the exposed stranded wire is encapsulated in molded rubber or epoxy which eliminates moisture from wicking into the motor.

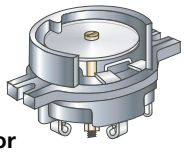
Motor
The air filled, continuous duty motors are designed to accomodate a maximim liquid temperature of 104˚F. Higher temperature options may be available upon request.

Mechanical Seal
Dual mechanical seal with silicon carbide faces sits within the oil chamber. The oil prevents corrosion, abrasion or fouling of the seal's spring and seal faces due to contamination, and also provides cooling and lubrication of the seal faces, even in run-dry conditions. These are common points of failure in designs where the seal is lubricated by the pumpage as opposed to oil.



Oil Lifter
The Oil Lifter, utilizing centrifugal force, supplies lubricating oil to the upper seal faces even if oil falls below the rated volume, or pump is oriented horizontally.





Motor Protector
A Circle Thermal Protector (CTP) integrated in the motor housing directly cuts the motor circuit if excessive heat builds up or an electrical/mechanical failure leads to overcurrent.

In pumps 15 HP and larger, a Miniature Thermal Protector (MTP) is embedded in each winding of the motors. Should the winding temperature rise to the actuating temperature, the bimetal strip opens to cut off power supply.

Moisture Sensor
An internal moisture sensor is standard for all pumps 30 HP and larger. An external moisture sensor is available as an option to detect intrusion of water in the oil chamber. Internal and External sensors, when wired to a control panel, alert the operator of a potential leak.

Impeller & Cutter Plate
A tungsten carbide cutter is brazed onto the impeller vane, and rotates along the serrated entry of the cutter plate. Incoming fibrous matters are cut up which prevents clogging.

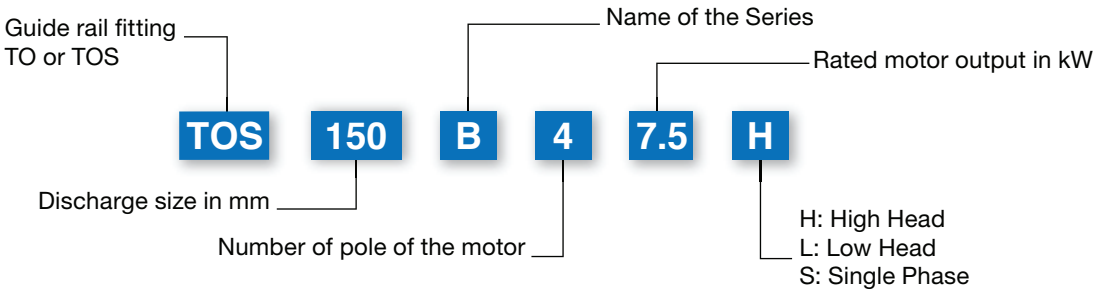
GUIDE RAIL FITTING SYSTEM

The guide rail fitting 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. Pump models used in combination with the guide rail fitting system can be identified by the prefix "TOS / TO" and "TOK". Refer to standard specifications for availability and model numbers.

The **TOS / TO** is the standard guide rail fitting system made of cast-iron and is compatible with cast-iron pumps. Pumps having a discharge bore from 2 inches to 6 inches are available for the TOS, and from 8 inches to 32 inches are available for the TO.

The **TOK** guide rail connecting system is made of a high-quality corrosion resistant resin. This system is specifically designed for use with the corrosion resistant, light weight VANCS™ pumps (Page 16).

MODEL NUMBER DESIGNATION

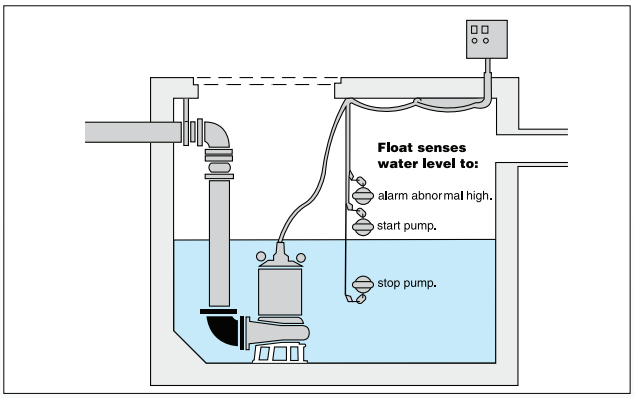


INSTALLATION

Free Standing

Simple installation in the sump saves both money and space.

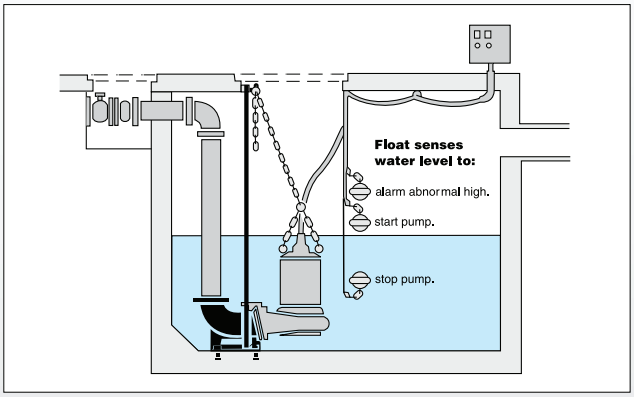
Pump's with legs or a stand can sit directly on the sump floor. A discharge bend and flexible hosing allows for simple install/ removal. Install the pump on a pump base if waste could clog or block its suction inlet.



Guide-Rail Fitting

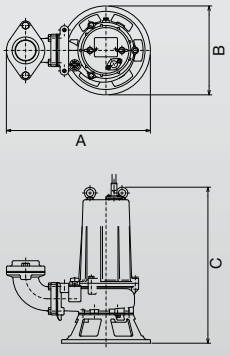
A guide rail suspends the pump with a chain for quick, easy installation or removal.

Mount the pump on the rails using a guide hook above the discharge flange. As the pump is lowered, a hook on the discharge flange locks into and positions against the discharge elbow's flange. No tools or hardware are required as the weight of the pump seals the mated flanges. To remove the pump, simply raise with the chain and the pump will lift along the guide rails.

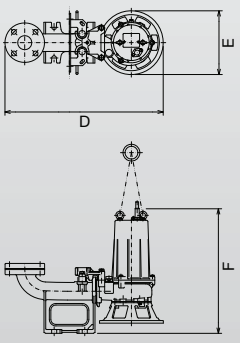


DIMENSIONAL DRAWING DESCRIPTION

Dimension: Free Standing A / B / C



Dimension: Guide Rail Fitting (TO / TOS) D / E / F



BZ SERIES | Non-Clog Submersible Pump • Jacketed & Non-Jacketed

Highly reliable and durable, Tsurumi BZ Series pumps are designed and built for sound quality and continuous duty that can help you keep your systems - whether for wastewater drainage, pumping or flood control - running stably and greatly reduce your maintenance costs. As an option, the pumps can be adapted for seawater, high temperature liquids or other special application, paving the way for their use at shipyards and power plants for water intake and discharge.


100BZ47.5

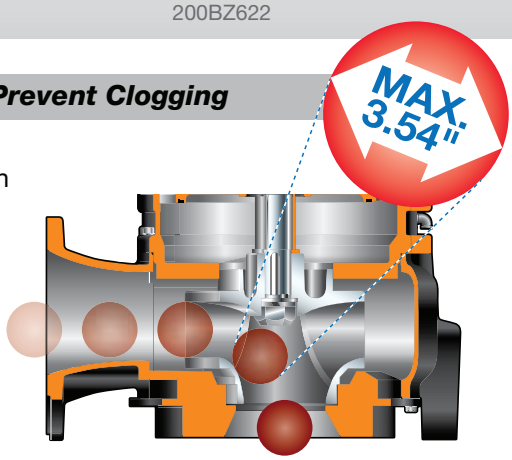

250BZ455


200BZ622

Shrouded Channel Impeller with Wide Passages to Prevent Clogging

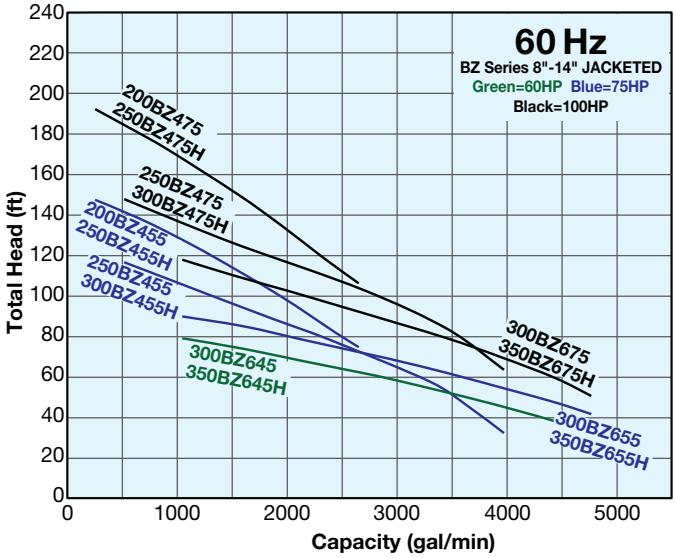
– Over 3 Inches Passage –

BZ Series pumps come with wide passages of over 3 inches in diameter to minimize trouble due to clogged solids and fibrous matter. They adopt a shrouded single/two-channel impeller.

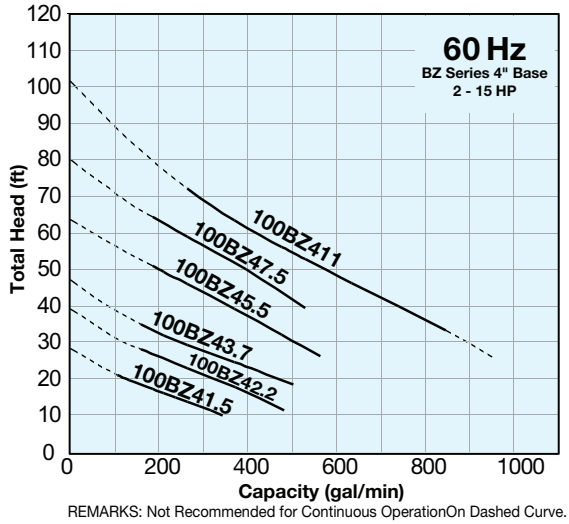


Group Curves

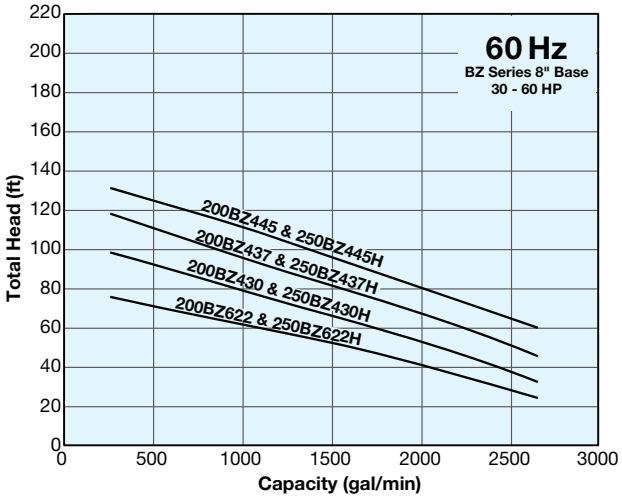
BZ Series: Jacketed

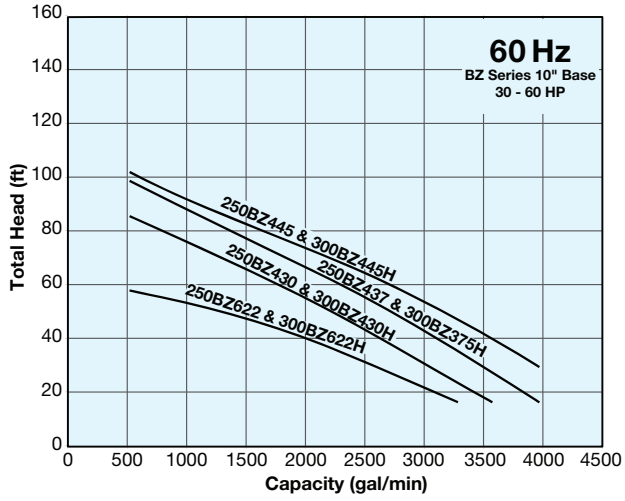


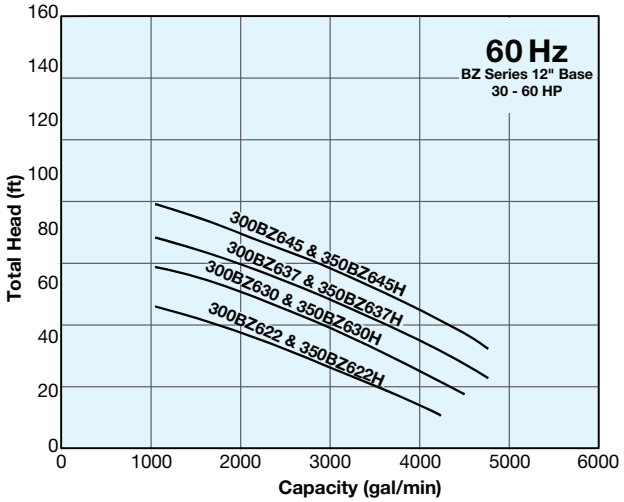
BZ Series: Non-Jacketed



REMARKS: Not Recommended for Continuous OperationOn Dashed Curve.







BZ SERIES | Non-Clog Submersible Pump • Jacketed & Non-Jacketed

Specifications

BZ Series: Jacketed

Three Phase Model	Motor Output (HP)	Rated Current (A)				*S.S. (RPM)	Discharge Size (in.)	Dimensions (in.)						Max. Solids Dia. (in.)
								Free Standing Models			TOS Guide Rail Models			
		208V	230V	460V	575V			A	B	C	D	E	F	
200BZ455	75	N/A	N/A	CF	CF	1800	8	47 9/16	29 15/16	68 3/8	57 1/2	26	64 13/16	3.00
250BZ455H	75	N/A	N/A	CF	CF	1800	10	51 11/16	29 15/16	68 3/8	62 1/16	26	63 3/4	3.00
200BZ475	100	N/A	N/A	CF	CF	1800	8	47 9/16	29 15/16	68 3/8	56 9/16	26	64 13/16	3.00
250BZ475H	100	N/A	N/A	CF	CF	1800	10	51 11/16	29 15/16	68 3/8	62 1/16	26	63 3/4	3.00
250BZ455	75	N/A	N/A	CF	CF	1800	10	48 5/8	28 1/2	70 15/16	58 1/2	25 1/16	65 9/16	3.15
300BZ455H	75	N/A	N/A	CF	CF	1800	12	50 11/16	28 1/2	70 15/16	62 3/16	25 1/16	66 1/2	3.15
250BZ475	100	N/A	N/A	CF	CF	1800	10	48 5/8	28 1/2	70 15/16	58 1/2	25 1/16	65 9/16	3.15
300BZ475H	100	N/A	N/A	CF	CF	1800	12	50 11/16	28 1/2	70 15/16	62 3/16	25 1/16	66 1/2	3.15
300BZ645	60	N/A	N/A	CF	CF	1200	12	54 9/16	31 1/2	72 5/8	65 7/8	26 3/4	67 5/8	3.54
350BZ645H	60	N/A	N/A	CF	CF	1200	14	59 3/8	31 1/2	72 5/8	68 7/8	26 3/4	69 7/16	3.54
300BZ655	75	N/A	N/A	CF	CF	1200	12	54 9/16	31 1/2	72 5/8	65 7/8	26 3/4	67 5/8	3.54
350BZ655H	75	N/A	N/A	CF	CF	1200	14	59 3/8	31 1/2	72 5/8	68 7/8	26 3/4	69 7/16	3.54
300BZ475	100	N/A	N/A	CF	CF	1800	12	54 9/16	31 1/2	72	65 7/8	26 3/4	67	3.54
350BZ475H	100	N/A	N/A	CF	CF	1800	14	59 3/8	31 1/2	72	68 7/8	26 3/4	68 3/4	3.54

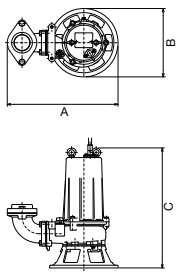
* Synchronous Speed

BZ Series: Non-Jacketed

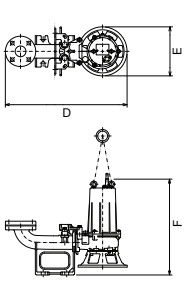
Three Phase Model	Motor Output (HP)	Rated Current (A)				*S.S. (RPM)	Discharge Size (in.)	Dimensions (in.)						Max. Solids Dia. (in.)
								Free Standing Models			TOS Guide Rail Models			
		208V	230V	460V	575V			A	B	C	D	E	F	
100BZ41.5	2	8.0	8.0	4.0	3.0	1800	4	22 1/2	10 3/4	24 13/16	28 5/16	10 3/4	25 7/16	3.15
100BZ42.2	3	9.8	9.2	4.6	3.6	1800	4	22 1/2	10 3/4	24 13/16	28 5/16	10 3/4	25 7/16	3.15
100BZ43.7	5	15.0	14.2	7.3	5.4	1800	4	23 13/16	11 3/8	26 13/16	29 5/8	11 3/8	27 3/8	3.15
100BZ45.5	7.5	22.2	20.8	10.4	8.3	1800	4	29	16 9/16	36 7/16	37 3/16	16	36	3.15
100BZ47.5	10	29.8	28.0	14.0	11.5	1800	4	29	16 9/16	37 3/16	37 3/16	16	36 13/16	3.15
100BZ411	15	41.4	38.0	19.0	14.7	1800	4	29 7/16	16 15/16	40 1/4	37 5/8	16 7/8	40	3.15
200BZ622	30	N/A	N/A	CF	CF	1200	8	47 9/16	29 15/16	62 3/8	57 7/16	26	58 13/16	3.00
250BZ622H	30	N/A	N/A	CF	CF	1200	10	51 11/16	29 15/16	62 3/8	62 1/16	26	57 3/4	3.00
200BZ430	40	N/A	N/A	CF	CF	1800	8	47 9/16	29 15/16	59 3/16	57 7/16	26	55 1/2	3.00
250BZ430H	40	N/A	N/A	CF	CF	1800	10	51 11/16	29 15/16	59 3/16	62 1/8	26	54 1/2	3.00
200BZ437	50	N/A	N/A	CF	CF	1800	8	47 9/16	29 15/16	61 7/8	57 7/16	26	58 3/8	3.00
250BZ437H	50	N/A	N/A	CF	CF	1800	10	51 11/16	29 15/16	61 7/8	62 1/16	26	57 5/16	3.00
200BZ445	60	N/A	N/A	CF	CF	1800	8	47 9/16	29 15/16	62 3/8	57 7/16	26	58 13/16	3.00
250BZ445H	60	N/A	N/A	CF	CF	1800	10	51 11/16	29 15/16	62 3/8	62 1/16	26	57 3/4	3.00
250BZ622	30	N/A	N/A	CF	CF	1200	10	48 5/8	28 1/2	64 15/16	58 1/2	24 1/4	59 5/8	3.15
300BZ622H	30	N/A	N/A	CF	CF	1200	12	50 11/16	28 1/2	64 15/16	62 3/16	24 1/4	60 1/2	3.15
250BZ430	40	N/A	N/A	CF	CF	1800	10	48 5/8	28 1/2	61 13/16	58 1/2	24 1/4	56 7/16	3.11
300BZ430H	40	N/A	N/A	CF	CF	1800	12	50 11/16	28 1/2	61 13/16	62 3/16	24 1/4	57 3/8	3.11
250BZ437	50	N/A	N/A	CF	CF	1800	10	48 5/8	28 1/2	64 1/2	58 1/2	24 1/4	59 9/16	3.11
300BZ437H	50	N/A	N/A	CF	CF	1800	12	50 11/16	28 1/2	64 1/2	62 3/16	24 1/4	60 1/16	3.11
250BZ445	60	N/A	N/A	CF	CF	1800	10	48 5/8	28 1/2	64 15/16	58 1/2	24 1/4	59 5/8	3.11
300BZ445H	60	N/A	N/A	CF	CF	1800	12	50 11/16	28 1/2	64 15/16	62 3/16	24 1/4	60 1/2	3.11
300BZ622	30	N/A	N/A	CF	CF	1200	12	54 9/16	31 1/2	66	65 7/8	25 7/8	61	3.54
350BZ622H	30	N/A	N/A	CF	CF	1200	14	59 3/8	31 1/2	66	68 7/8	25 7/8	62 13/16	3.54
300BZ630	40	N/A	N/A	CF	CF	1200	12	54 9/16	31 1/2	66	65 7/8	25 7/8	61	3.54
350BZ630H	40	N/A	N/A	CF	CF	1200	14	59 3/8	31 1/2	66	68 7/8	25 7/8	62 13/16	3.54
300BZ637	50	N/A	N/A	CF	CF	1200	12	54 9/16	31 1/2	66	65 7/8	25 7/8	61	3.54
350BZ637H	50	N/A	N/A	CF	CF	1200	14	59 3/8	31 1/2	66	68 7/8	25 7/8	62 13/16	3.54

* Synchronous Speed

Dimension: Free Standing A / B / C



Dimension: Guide Rail Fitting (TO / TOS) D / E / F



TSURUMI PUMP® SUPERIOR DESIGN & TECHNOLOGY

CONTROL PANELS & MOISTURE DETECTOR

TS SERIES CONTROL PANELS

- Lockable – 4X Enclosures
- HOA Switch – Heavy Duty Oil Tight
- Terminal Block – For Field Wiring
- Pump Run Indicator – Heavy Duty Oil Tight
- Multi-Tap Control Transformer 208 / 230 / 460 VAC Operation
- Control Alarm Fuse
- Motor Protective Switch
- Adjustable Overload Protection
- IEC Rated Magnetic Contactor
- Horn Silence Switch – Heavy Duty Oil Tight
- Auto Reset Horn Silence
- Buzzer – 95db warble
- Red Alarm Beacon
- Includes three (3) Mechanical Float Switches & Pipe Clamp

SEAL MOISTURE PROBE

The **TSMP SEAL MOISTURE PROBE** is designed to detect moisture in the mechanical seal chamber, alerting customers of potential motor failure. The TSMP SEAL MOISTURE PROBE can be field installed on any new or existing Tsurumi pump models and connected to the control panel for the appropriate alarm or notification.

Principle of Operation:

- Sensor is installed through the oil port and directly into the mechanical seal chamber which contains an electrically non-conductive oil.
- The presence of water changes the chamber fluid mixture to a conductive condition and therefore completes the circuit which will result in a leakage indication on the control panel.

Electrical Specification

Sensor Type:	Conductive
Suggested Seal Fail Relay Voltage:	24 VAC
Required Wiring:	Single wire in separate sensor cable to be connected to seal leak relay in control panel by customer.

TSURUMI PUMP®

TSURUMI (AMERICA), INC.
Headquarters: 1625 Fullerton Ct, Glendale Heights, IL 60139
Utah Office: 3822 West 1987 South, Salt Lake City, UT 84104
Tel: 1-888-878-7864 (Toll-Free) • 1-630-793-0127
Fax: 1-630-793-0146 • www.tsurumipump.com

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