TSURUMI PUMP®

BUILT FOR WORK®

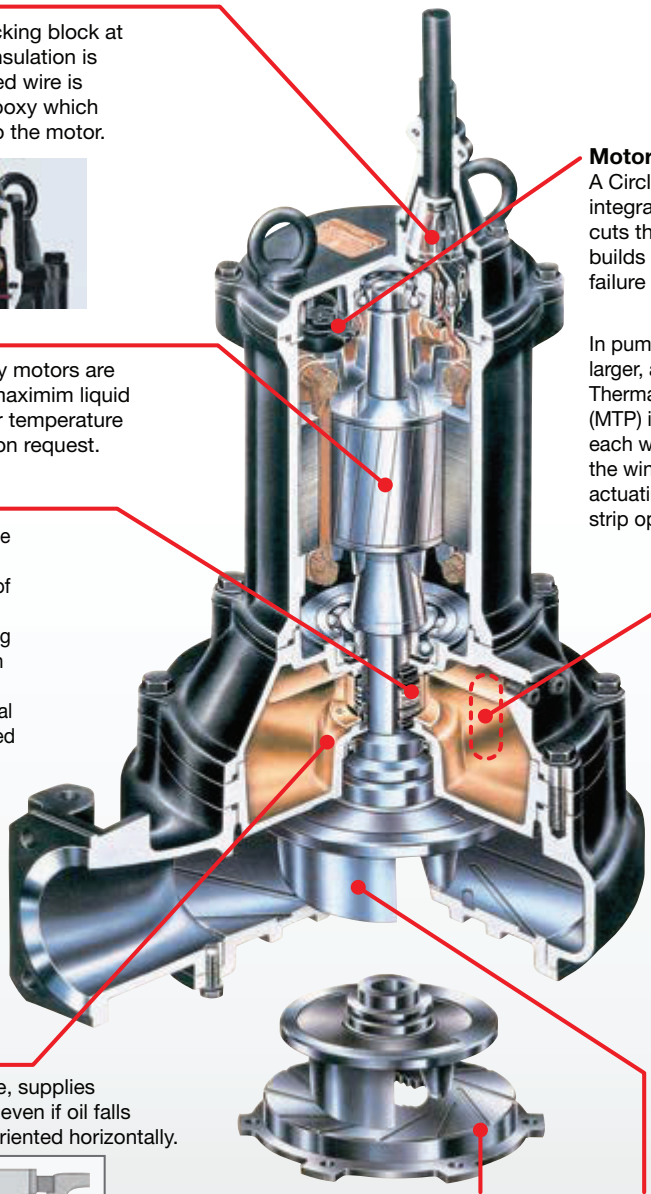
SEWAGE AND WASTEWATER PUMPS

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

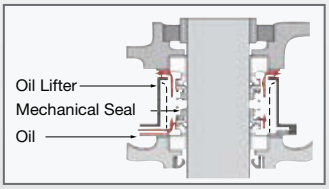
Cable Entry
Cables are designed with an anti-wicking block at motor entry where each conductor insulation is window cut and the exposed stranded wire is encapsulated in molded rubber or epoxy which eliminates moisture from wicking into the motor.

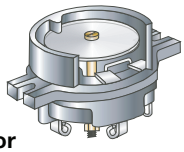
Motor
The air filled, continuous duty motors are designed to accomodate a maximim liquid temperature of 104˚F. Higher temperature options may be available upon request.

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.

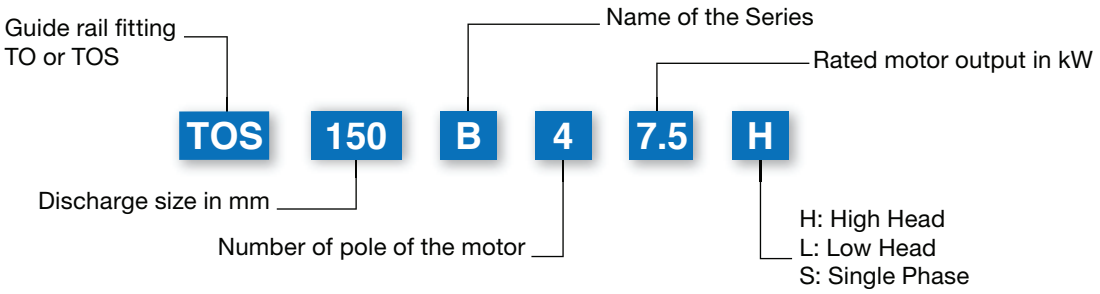
GUIDE RAIL FITTING SYSTEM

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

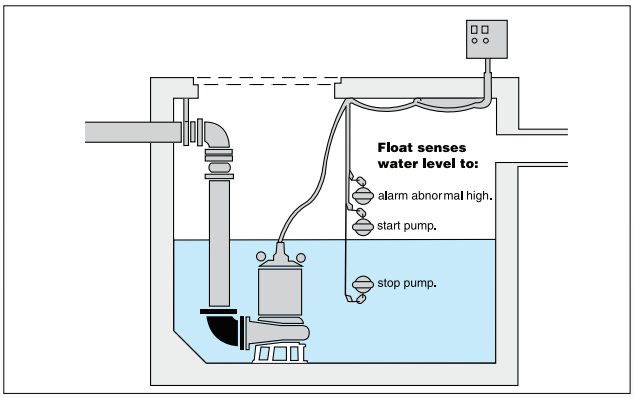


INSTALLATION

Free Standing

Simple installation in the sump saves both money and space.

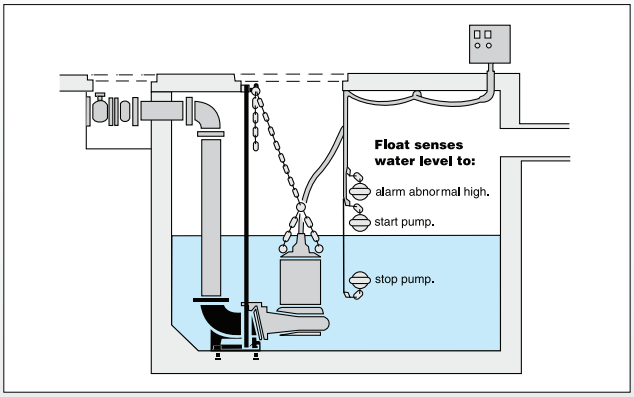
Pump's with legs or a stand can sit directly on the sump floor. A discharge bend and flexible hosing allows for simple install/ removal. Install the pump on a pump base if waste could clog or block its suction inlet.



Guide-Rail Fitting

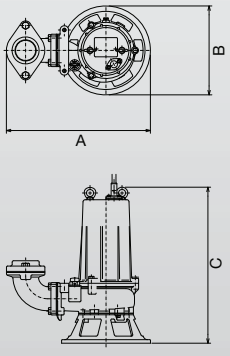
A guide rail suspends the pump with a chain for quick, easy installation or removal.

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.

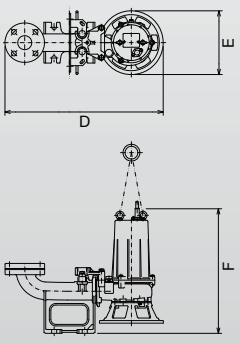


DIMENSIONAL DRAWING DESCRIPTION

Dimension: Free Standing A / B / C



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



B SERIES | Sewage & Wastewater Non-Clog Submersible Pump

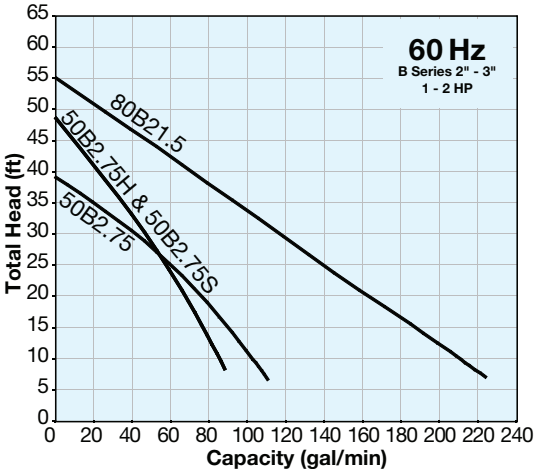
Our B Series non-clog pumps are used primarily in municipal water supply stations and sewage treatment plants for pumping water, sewage, and digested sludge. In industry, these pumps are efficient for controlling cooling water, process and wastewater, and abrasive materials.

Solids handling, non-clog submersible pump designed for raw sewage and wastewater in municipal, industrial and commercial applications. Offered in 2" to 8" with multiple impeller designs for maximum flexibility.

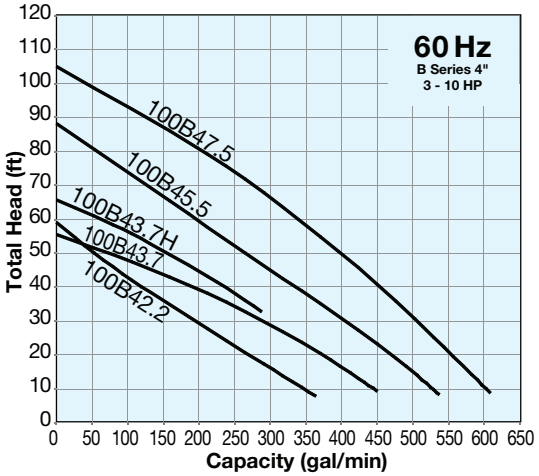
100B42.2

With TO /TOS Guide Rail System

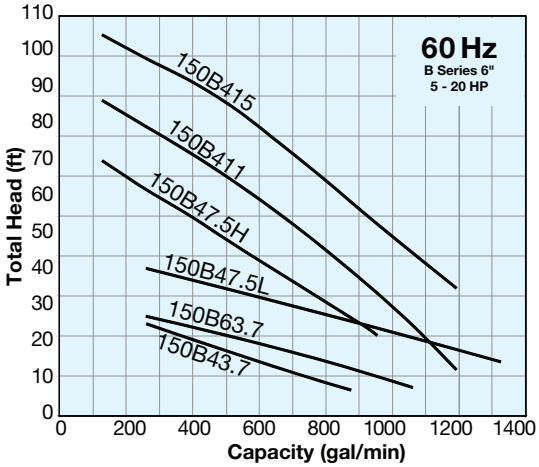
Discharge Size: 2"- 3"



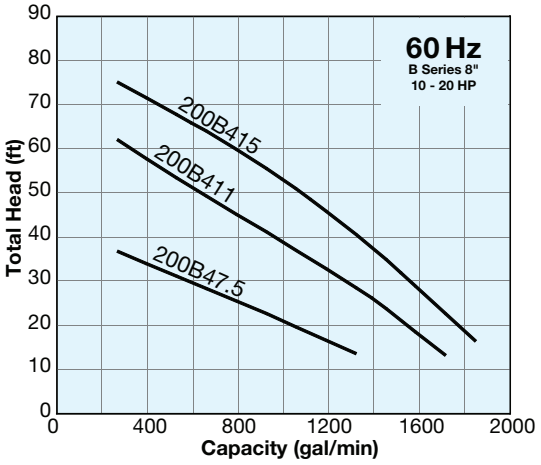
Discharge Size: 4"



Discharge Size: 6"



Discharge Size: 8"



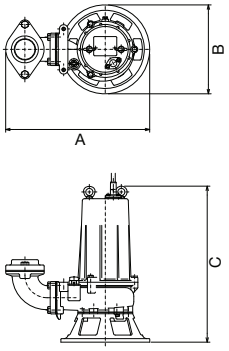
Impeller types for B series

Open Channel

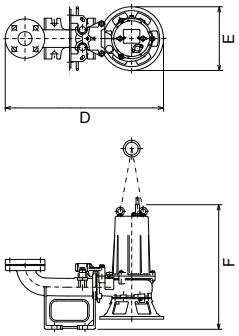
Solids Handling

Enclosed

Dimension: Free Standing A / B / C



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



Single Phase Model	Motor Output (HP)	Rated Current (A)		*S.S. (RPM)	Discharge Size (in.)	Dimensions (in. / lbs.)						Max. Solids Dia. (in.)
						Free Standing Models			TOS Guide Rail Models			
		115V	230V			A	B	C	D	E	F	
50B2.75S	1	11.7	5.9	3600	2	15 15/16	9 13/16	20 9/16	24 7/16	9 13/16	22 5/16	0.79

Three Phase Model	Motor Output (HP)	Rated Current (A)				*S.S. (RPM)	Discharge Size (in.)	Dimensions (in. / lbs.)						Max. Solids Dia. (in.)
								Free Standing Models			TOS & TO Guide Rail Models			
		208V	230V	460V	575V			A	B	C	D	E	F	
50B2.75H	1	3.5	3.5	1.8	1.4	3600	2	15 15/16	9 13/16	16 5/16	24 7/16	9 13/16	18 1/16	0.79
50B2.75	1	3.5	3.5	1.8	1.4	3600	2	15 15/16	9 13/16	17 5/16	24 7/16	9 13/16	18 7/8	0.94
80B21.5	2	6.2	5.9	3.1	2.3	3600	3	17 9/16	9 13/16	21 1/8	26 5/8	9 13/16	23 1/16	1.38
100B42.2	3	9.4	8.5	4.3	3.5	1800	4 or 3	24 1/4	12 3/4	24 1/4	30 1/16	12 3/4	24 13/16	1.77
100B43.7H	5	15.0	13.8	6.9	5.4	1800	4 or 3	24 1/2	13 9/16	26 1/4	30 5/16	13 9/16	26 13/16	1.38
100B43.7	5	15.0	13.8	6.9	5.4	1800	4 or 3	24 7/16	13 1/8	27 3/16	30 1/4	13 1/8	27 9/16	1.77
150B43.7	5	14.7	13.8	6.9	5.4	1800	6	34 15/16	19 1/8	34 7/16	41 15/16	18 1/16	32 5/16	2.00
150B63.7	5	16.0	15.6	7.8	6.0	1200	6	33	16 11/16	35 9/16	40 5/16	15 9/16	36 7/16	2.17
100B45.5	7.5	22.6	20.5	10.3	8.1	1800	4	27 13/16	16 1/8	35 3/4	36	15 1/8	35 11/16	1.57
100B47.5	10	28.8	26.6	13.4	10.8	1800	4	27 13/16	16 1/8	36 9/16	36	15 1/8	36 1/2	1.57
150B47.5H	10	28.8	26.6	13.4	10.8	1800	6	32 13/16	16 7/16	37 1/2	40 1/2	15 7/8	38 7/16	2.76
150B47.5L	10	28.8	26.6	13.4	10.8	1800	6	34 5/16	19 1/8	42 11/16	41 15/16	18 1/16	40 9/16	1.97
200B47.5	10	28.8	26.6	13.4	10.8	1800	8	36 7/16	19 1/8	42 11/16	49 13/16	18 1/16	41 5/16	1.97
150B411	15	42.2	39.2	19.5	15.7	1800	6	35 1/4	19 5/16	43 1/4	42 7/8	18 1/4	41 7/16	2.95
200B411	15	42.2	39.2	19.5	15.7	1800	8	36 7/16	19 1/8	44 1/2	49 13/16	18 1/16	43 1/8	2.28
150B415	20	56.4	53.2	26.6	21.6	1800	6	35 1/4	19 5/16	46	42 7/8	18 1/4	44 3/16	2.95
200B415	20	56.4	53.2	26.6	21.6	1800	8	38 1/4	20 11/16	47 1/16	48 9/16	17 1/16	45 11/16	2.36

* Synchronous Speed

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®

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