THREE PHASE DEWATERING PUMPS

TSURUMI PUMP™
BUILT FOR WORK®
THREE PHASE DEWATERING PUMPS
Rugged Tsurumi pumps are loaded top to bottom with features to withstand your toughest dewatering applications.

1 **Motor Protector:**
Protects against overheating and run-dry.

2 **Anti-Wicking Block:**
Prevents water incursion due to capillary wicking should the power cable be damaged or the end submerged.

3 **Double Inside Mechanical Seal with Silicon Carbide Faces:**
Provides the longest operational life of any available seal.

4 **Oil Lifter:**
Lubrication of the seal faces down to 1/3 of normal oil level and greatly extends the seal life - uses no additional power.

5 **Ball Bearings:**
Permanently lubricated, double-shielded, single row deep groove, high temperature C3 Ball bearings, Rated B-10 = 60,000 Hours.

6 **Lip Seal Protector:**
Protects mechanical seal from abrasive particles.

7 **High Chrome Iron / Ductile Iron Impeller:**
Resists wear by abrasive particles.

8 **Field Adjustable / Replaceable Suction Cover:**
Resists wear by abrasive particles, and is easily adjusted to maintain pump performance.

The cutaway view above is a KTZ series pump. This pump illustrates the common design features used in Tsurumi dewatering pumps. Other series may differ in shape and structure.
Three Phase Dewatering Pump Lineup

**KTZ(E) Series**
- High head and high volume dewatering.
- Semi-open High Chrome Impeller.
- Easy conversion between high head and high volume models in each motor size.
- KTZE pumps with built-in electrode for automatic operation without a control panel.
- Discharge Sizes:
  - 2, 3, 4 and 6 inch
  - HP: 2, 3, 5, 7.5, 10, & 15

**LH Series**
- Medium to high volume at high heads.
- Closed High Chrome Impeller.
- Discharge Sizes:
  - 4, 6, and 8 inch
  - HP: 4, 20, 30, 35, 40, 50, 60, 75, 100, 120, & 150

**LHW Series**
- Extra high head pumping.
- Dual staged, Closed High Chrome Impeller.
- Pressure relief ports protect mechanical seal from excessive pressure and water hammer.
- Discharge Sizes:
  - 2, 3, and 4 inch
  - HP: 4, 7.5, 15, 30, 40 & 150

**KTV(E) Series**
- Portable job-site dewatering.
- Semi-vortex Urethane Rubber or Ductile Iron Impeller.
- KTVE pumps with built-in electrode for automatic operation without a control panel.
- Discharge Sizes:
  - 2 and 3 inch
  - HP: 1, 2, 3, 5, & 7.5

**KRS Series**
- High volume dewatering.
- Semi-open Ductile Iron and High Chrome Impeller.
- 1800RPM and 1200 RPM motors reduce impeller wear.
- Discharge Sizes:
  - 3, 4, 6, 8, 10, 12, and 14 inch
  - HP: 3, 5, 7.5, 10, 15, 20, 25, 30, 40, & 50

**GSZ Series**
- High volume dewatering pumping.
- Closed High Chrome and Stainless Steel Impeller.
- 1800 RPM and 1200 RPM motors reduce impeller wear.
- Discharge Size:
  - 6, 8, and 10 inch
  - HP: 30, 50, 60, 75, 100 & 200

**Agitator Pumps**
- Heavy duty slurry pumping.
- Abrasive resistant.
- Single phase and three phase solutions.
- Discharge Size:
  - 2 - 10 inch
  - HP: 1/2 - 100

**SFQ Series**
- Corrosive liquid dewatering.
- Semi-open Stainless Steel Impeller.
- All parts in contact with the liquid are 316 Stainless Steel.
- All elastomers are Viton.
- Discharge Size:
  - 2, 3 and 4 inch
  - HP: 1, 2, 5, 7.5, 10 & 15

**SQ Series**
- Portable corrosive liquid dewatering.
- Semi-open Stainless Steel Impeller.
- All parts in contact with the liquid are 304 Stainless Steel.
- Discharge Size:
  - 2 inch
  - HP: 1/2 & 1

**LB / LBT Series**
- For well dewatering: Fits n 8” casing.
- Semi-Vortex Impeller.
- Allows for jobsite dewatering utilizing smaller generators and smaller well casings.
- Discharge Size:
  - 2 and 3 inch
  - HP: 1/2, 1 & 2
KTZ(E) SERIES | High volume, extra durable pump available in variety of sizes

**KTZ(E) SERIES Features**

- Easily converted between high pressure and high volume configurations
- High Pressure Rated Mechanical Seals
- Rugged Iron Construction
- Anti-Wicking Cable Entrance
- Dual Silicon Carbide Mechanical Seals
- Oil Lifter
- Internal Thermal Motor Protection
- Automatic Operation on KTZE Series

**Material**

- Impeller: High Chrome Iron
- Casing: Cast Iron
- Mechanical Seal: Silicon Carbide
- Motor Frame: Cast Iron
- Shaft: 420 Stainless Steel
- Fasteners: 304 Stainless Steel
- Cable: PVC, Chloroprene Sheath

**KTZ(E) SERIES Discharge Angles**

- KTZ21.5: Discharge can be 60° angled
- KTZ43.7
- KTZE21.5: Built-in Automatic Operation KTZE

**KTZ(E) SERIES Performance Curves**

- **Group Performance Curves: KTZE 2 - 5 HP**
- **Group Performance Curves: KTZ 7.5 - 15 HP**

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**Impeller:** High Chrome Iron

**Casing:** Cast Iron

**Mechanical Seal:** Silicon Carbide

**Motor Frame:** Cast Iron

**Shaft:** 420 Stainless Steel

**Fasteners:** 304 Stainless Steel

**Cable:** PVC, Chloroprene Sheath

**Discharge:** 60° angled

**Built-in Automatic Operation KTZE:** Allows a 3-phase pump to operate automatically in a smaller casing or sump where traditional float switches don’t fit.

**www.tsurumipump.com**
The **KTZ series** is designed with high-chrome impellers to withstand the most demanding conditions, including highly abrasive liquids found in construction, aggregate and mining applications. Versatility is increased as each pump model has the capability of being easily converted between high head and high volume performance with a simple change of impeller and wear plate. Dual high-pressure silicon carbide mechanical seals are isolated in the oil chamber to protect the seal faces from abrasion and corrosion. Tsurumi incorporates Pressure Relief Ports on the 10HP and 15HP models, exposing the mechanical seal only to the pressure developed by the sump submergence level. This has virtually eliminated the premature wear and failure of mechanical seals in higher pressure applications.

The **KTZE series** offers the same features as the KTZ series with the added benefit of an integrally mounted electrode probe for turning the pump on and off automatically. Unnecessary dry-run is prevented to save energy and reduce wear without the need for auto control panels and cumbersome float assemblies. The pump installs and handles like a standard pump yet operates automatically by simply connecting to a manual control panel.

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### MOTOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Motor Specifications</th>
<th>Discharge Size (inch)</th>
<th>Dimension</th>
<th>Pump Starting Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Output (HP)</td>
<td>Rated Current (A)</td>
<td>RPM</td>
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</tr>
</tbody>
</table>

(*) 6inch is optional

Www.tsurumipump.com
LH / LHW SERIES | Extreme high pressure pumping at high volumes

**Material**
- Impeller: High Chrome Iron
- Casing: Ductile Cast Iron
- Mechanical Seal: Silicon Carbide
- Motor Frame: Cast Iron
- Shaft: 420 Stainless Steel
- Fasteners: 304 Stainless Steel
- Cable: Chloroprene Sheath

**Features**
- High Pressure Capability
- High Pressure Rated Mechanical Seals
- Seal Pressure Relief Ports
- Rugged Iron Construction
- Anti-Wicking Cable Entrance
- Dual Silicon Carbide Mechanical Seals
- Oil Lifter
- Internal Thermal Motor Protection

**Group Performance Curves: LH / LHW Series Pumps**

- LH6110
- LH4110W
- LH3.0

www.tsurumipump.com
LH Series handles medium to high flows at higher heads, yet its top discharge flow-through design welcomes low water level operation for extended periods. Complete with a high chromium semi-open impeller and adjustable wear rings, our LH pumps provide you with increased wear resistance whether your application is construction site drainage, or commercial/industrial mine dewatering, or effluent transfer.

LH-W series achieves extremely high head pressure. Our dual enclosed impellers are just one of many features found engineered into these durable pumps which can help you solve all your long distance water transfer needs.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MOTOR SPECIFICATIONS</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
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</thead>
<tbody>
<tr>
<td>Output (HP)</td>
<td>RPM</td>
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<td>460V</td>
<td>575V</td>
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<td>4</td>
<td>24</td>
<td>1/2</td>
<td>71</td>
</tr>
</tbody>
</table>

: Slimline Pumps - Pump diameter less than 15"
KTV(E) SERIES | Lightweight, compact, durable & self-contained automatic operation

**Material**
- Impeller: Abrasion Resistant / Urethane Lined
- Casing: Aluminum
- Mechanical Seal: Silicon Carbide
- Motor Frame: Aluminum Alloy
- Shaft: 403 / 420 Stainless Steel
- Fasteners: 304 Stainless Steel
- Cable: PVC Sheath, Chloroprene Sheath

**Features**
- Lightweight, Compact Size
- Long Life and Low Maintenance
- Anti-Wicking Cable Entrance
- Dual Silicon Carbide Mechanical Seals
- Oil Lifter
- Internal Thermal Motor Protection
- Automatic Operation on KTVE Series
- Slimline design for well dewatering

**Built-in Automatic Operation KTVE:**
Allows a three phase pump to operate automatically in a smaller casing or sump where traditional float switches don’t fit.

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**Group Performance**

![Group Performance Chart](chart.png)

**60 Hz 1 - 5 HP**

**TOTAL HEAD [m]**

<table>
<thead>
<tr>
<th>CAPACITY (gall/min)</th>
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<tbody>
<tr>
<td>0</td>
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<tr>
<td>0</td>
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<tr>
<td>80</td>
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</table>

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www.tsurumipump.com
KTV series was developed with a die cast aluminum body and elastomer pump end to reduce weight and allow easy handling. The semi-vortex impeller allows for maximum particle passage size while offering increased parts life. In addition, the need for impeller efficiency adjustments has been completely eliminated.

KTVE series offers the same features as the KTV series with the added benefit of an integrally mounted electrode probe for turning the pump on and off automatically. Unnecessary dry-run is prevented to save energy and reduce wear without the need for auto control panels and cumbersome float assemblies. The pump installs and handles like a standard pump yet operates automatically by simply connecting to a manual control panel.

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<tr>
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<th>Discharge Size (inch)</th>
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<th>PUMP WEIGHT (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Output (HP)</td>
<td>Rated Current (A)</td>
<td>RPM</td>
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<td>7.5</td>
<td>21.5 19 9.5 7.5</td>
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</table>

### Slimline Pumps - Pump diameter less than 15"

KTV series was developed with a die cast aluminum body and elastomer pump end to reduce weight and allow easy handling. The semi-vortex impeller allows for maximum particle passage size while offering increased parts life. In addition, the need for impeller efficiency adjustments has been completely eliminated.

KTVE series offers the same features as the KTV series with the added benefit of an integrally mounted electrode probe for turning the pump on and off automatically. Unnecessary dry-run is prevented to save energy and reduce wear without the need for auto control panels and cumbersome float assemblies. The pump installs and handles like a standard pump yet operates automatically by simply connecting to a manual control panel.

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</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
KRS SERIES | High volume, extra durable pump available in a variety of sizes

**Material**
- Impeller: Ductile or High Chrome
- Casing: Cast Iron
- Mechanical Seal: Silicon Carbide
- Motor Frame: Cast Iron
- Shaft: 420 Stainless Steel
- Fasteners: 304 Stainless Steel
- Cable: Chloroprene Sheath

**Features**
- High Volume Pumping
- 4 Pole, 1800 RPM Motors
- 6 Pole, 1200 RPM Motors
- Lower Impeller Tip Speeds for Longer Life
- Rugged Iron Construction
- Anti-Wicking Cable Entrance
- Dual Silicon Carbide Mechanical Seals
- Oil Lifter
- Internal Thermal Motor Protection

**Group Performance: 3 - 30HP**

**Group Performance: 30 - 50HP**

www.tsurumipump.com
**KRS series** offers longer wear life on parts due to the slower impeller tip speed provided by 4-pole, 1800 RPM / 6-pole, 1200 RPM motors. Reducing impeller speed by half will extend your parts wear life by at least 2 to 3 times.

The iron construction of KRS series extends the life of the pump. To prevent premature wear and failure from abrasive materials, Tsurumi’s dual inside mechanical seals are completely isolated in an oil chamber with an extra lip seal to protect mechanical seals from the abrasives.

KRS series exemplifies Tsurumi’s design for multi-purpose pumps to fit a wide variety of applications due to their simple construction, superb durability and high efficiency.

<table>
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<tr>
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<th>MOTOR SPECIFICATIONS</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
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<tbody>
<tr>
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</table>
GSZ SERIES | High volume dewatering pumps

Material
- Impeller: High Chrome or Stainless Steel
- Casing: Cast Iron
- Mechanical Seal: Silicon Carbide
- Motor Frame: Cast Iron / Cooling Jacket
- Shaft: 420 Stainless Steel
- Fasteners: 304 Stainless Steel
- Cable: Chloroprene Sheath

Features
- High Volume Pumping
- 4 Pole, 1800 RPM Motors / 6 Pole, 1200 RPM Motors
- Lower Impeller Tip Speeds for Longer Life
- Rugged Iron Construction
- Anti-Wicking Cable Entrance
- Dual Silicon Carbide Mechanical Seals
- Oil Lifter
- Internal Thermal Motor Protection
- Water Jacket for Motor Cooling

Group Performance

![Graph showing performance curves for GSZ SERIES pumps.](image-url)
**GSZ series** is one of the most formidable high volume submersible dewatering pumps available. Reducing impeller speed by half will extend your parts wear life by at least 2-3 times. With impeller materials of High Chrome and Stainless Steel, the GSZ series tackles the most aggressive dewatering applications. The side discharge design allows a smooth passage of abrasive materials.

Tsurumi’s exclusive Seal Pressure Relief Ports further protect the mechanical seals on the 4-pole, 1800 RPM models by providing a flow path above the pump casing to allow a release of water to flow from the pump and away from the shaft. The mechanical seals remain isolated in the oil chamber above this flow path and are protected from any excessive pumping pressure or water hammer that may cause premature wear or failure of the mechanical seals in high pressure applications.

Extended operation at low water levels is made possible by utilizing a water jacket that surrounds the motor housing. A portion of the water is allowed to flow completely around the motor on its way to the side discharge. Air lock is prevented by an air-release valve at the top of the water jacket to allow air in the pump casing and water jacket to be displaced by water when the pump begins operation.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MOTOR SPECIFICATIONS</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
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</thead>
<tbody>
<tr>
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<td>Output (HP)</td>
<td>Rated Current (A)</td>
<td>RPM</td>
<td>Diameter</td>
<td>Height</td>
<td></td>
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<td>95 1/4</td>
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</table>
Specifications
Type of Fluid: Sludge, muddy water, sandy mud

Applications
- Grit chambers, mine processing plants where light to medium abrasive solids need to stay suspended for pumping in wastewater
- Heavy abrasive construction site dewatering
- Aggregate wash down
- Ragoon / sludge pond cleanout

Group Performance
HS, HSD, NK, KTD and KTV

Group Performance
KRS and GPN

Group Performance
GSD
Tsurumi Agitator Pumps are designed for sludge slurry pumping with hard iron adjustable wear parts. Up to 10" discharge size / 100HP with 4 pole / 6 pole motors for slower impeller tip speed which prolongs pump life.

Additional options which may help extend the life of the wear parts in tough applications are available. (Consult factory for recommendations)

Additional optional special coating available.

KRS Series convert from regular hydraulic configuration to agitator versions with stock parts for more flexibility.

GPN Series / GSD Series only: Bottom side discharge

---

**Agitator**

Tsurumi's slurry pumps have an agitator made of abrasion resistant material. It is mounted on the shaft and rotates to create a downward current. This agitator assists the pump in suspending and transferring solids such as bentonite slurry, slime, mud, and water with high sand content.

---

### MOTOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Motor Output (HP)</th>
<th>Phase</th>
<th>Rated Current (A)</th>
<th>RPM</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
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* Dual Voltage
## Material

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<th>SQ</th>
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<td>304 Stainless Steel</td>
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<td>Casing: 316 Stainless Steel</td>
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<td>Mechanical Seal: Silicon Carbide</td>
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<td>Motor Frame: 316 Stainless Steel</td>
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<td>Shaft: 316 Stainless Steel</td>
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<td>Fasteners: 316 Stainless Steel</td>
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<tr>
<td></td>
<td>Cable: PVC Sheath, Chloroprene Sheath</td>
<td>PVC Sheath</td>
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</table>

### Group Performance: SFQ

![Graph showing performance of SFQ pumps](image)

#### Graph Details:
- **60 Hz**
- **1 - 15 HP**

### Group Performance: SQ

![Graph showing performance of SQ pumps](image)

#### Graph Details:
- **60 Hz**
- **1/2 - 1 HP**

www.tsurumipump.com
### Features

**SFQ Series**
- All wetted components are 316 Stainless Steel
- Viton elastomers
- Dual inside mechanical seals with Silicon Carbide faces, operate in an oil filled chamber
- Built in motor protector
- Semi-open, SCS14 stainless steel impeller
- Seal pressure relief system features (7.5 - 15HP)
- Optional 316 SS Guide rail system is available for models from 7.5 - 15hp.

**SQ Series**
- All components including motor frame are made of SS 304 Stainless Steel.
- Non-toxic white mineral oil is used as the lubricant.
- The flow-through design and heat resistant Silicon Carbide Mechanical Seals
- Built in motor protector
- Semi-vortex, stainless steel impeller

---

**SFQ Seal Pressure Relief System**

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<table>
<thead>
<tr>
<th>MODEL</th>
<th>MOTOR SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>Motor Output (HP)</td>
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<td>100SFQ211</td>
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Material

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<th>LB(T)-1500</th>
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<tr>
<td>Impeller</td>
<td>Semi-Vortex</td>
<td>Semi-Open</td>
</tr>
<tr>
<td>Impeller Materials:</td>
<td>Urethane Rubber</td>
<td>High Chrome</td>
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<tr>
<td>Volute Casing Materials:</td>
<td>LB-480 - Ethylene Propylene Rubber</td>
<td>LB(T)-800 &amp; LB(T)-1500 - Butadiene Rubber &amp; Natural Rubber</td>
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<td>Wear Plate Materials:</td>
<td>LB-480 - Urethane Propylene Rubber</td>
<td>LB(T)-800 &amp; LB(T)-1500 - Butadiene Rubber &amp; Natural Rubber</td>
</tr>
<tr>
<td>Shaft Seal:</td>
<td>Double inside mechanical seal with silicone carbide</td>
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</tr>
</tbody>
</table>

Features

All Models:
- Built with durable materials and light weight for easy handling
- Built-in Motor Protector
- Double Inside Mechanical Seal with Silicon Carbide faces
- Oil Lifter provides lubrication of the seal faces
- Single-phase is available in automatic operation

LB(T)-1500 only:
- High Chrome Iron Semi-Open Impeller
- Synthetic Rubber Pump Casing
- Optional 2” discharge available

### Group Performance

- **Model**: LB(T)-800 & LB(T)-1500
- **Impeller**: Semi-Vortex
- **Impeller Materials**: Urethane Rubber
- **Volute Casing Materials**: Butadiene Rubber & Natural Rubber
- **Wear Plate Materials**: Urethane Propylene Rubber
- **Shaft Seal**: Double inside mechanical seal with silicone carbide

### Motor Specifications

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<thead>
<tr>
<th>MODEL</th>
<th>Motor Output (HP)</th>
<th>Phase</th>
<th>Impeller</th>
<th>Rated Current (A)</th>
<th>RPM</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.</th>
<th>Pump Weight (lbs.)</th>
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</table>
**EPT4** | Heavy Duty Trailer Mount / Skid Mount Trash Pump

*Material*

- Impeller Type: Fully Enclosed
- Impeller Material: Cast Iron
- Volute Casing Material: Cast Iron
- Wear Plate / Ring Material: Cast Iron
- Pump Casing Material: Cast Iron
- Shaft Seal: Tungsten Carbide

*Features*

- Prime assisted pump utilizes venturi system for priming
- Diesel engine (manufacturer; consult factory), and water cooled
- Passes 3-inch spherical solids
- Mechanical seal is tungsten and silicon carbide seal faces, viton elastomers, 303 stainless steel hardware and spring. Seal system designed for dry running
- Heavy duty DOT road trailer
- EPT4-150Q: Capable of quiet operation

---

**Group Performance**

![Graph showing performance](image)

**MODEL** | **PUMP SPECIFICATIONS** | **ENGINE SPECIFICATIONS** | **DIMENSIONS**
--- | --- | --- | ---
EPT4-150 Standard | 6" ANSI Flange | Consult Factory | Length (in.) | Width (in.) | Height (in.) | Weight (lbs.)
EPT4-150Q Sound Attenuated | Consult Factory | Diesel | 60 | 136 1/2 | 67 | 67 7/8 | Consult Factory
EPT4-150S Skid Mount | Diesel | 30 | 161 1/2 | 76 1/8 | 79 13/16 | 120 | 100 | 42 | 49 1/2
Seawater Resistant Kit

Tsurumi’s standard pumps can be combined with a seawater-resistant kit (optional) that adds a galvanic anode and seawater-resistant special cast iron impeller, and enables about two years of service. (The service period depends on operating conditions.)

- Galvanic Anodes (with Fittings, Seal Putty)
- Seawater-Resistant Special Cast Iron Impeller
- 304 Stainless Steel Eye Bolts*

* Applicable only with models having steel eye bolts

The galvanic anode is an electrolytic protective measure used with metals of differing corrosive potentials. Metals of a potential lower (aluminium and zinc) than the pump body (cast iron and steel) are brought into contact with the body via the galvanic anodes and allowed to corrode in order to protect the body. However, the full effect cannot be obtained unless the anodes are installed in the proper positions.

Tsurumi mainly utilizes aluminium because of its superior anticorrosive performance per unit weight, while utilizing zinc for only the strainer stand that is liable to be worn by water current. Since the galvanic anodes are worn by corrosion, they need to be replaced every two years. They can be replaced easily and used immediately after replacement.

---

**Corrosion Test (in seawater, 1 year)**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MOTOR SPECIFICATIONS</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
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<td>KT43.7</td>
<td>5 15 13.6 6.8 5.3 4 4 11 1/8 27 1/16 0.334 5 7/8 137</td>
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<tr>
<td>KT411</td>
<td>15 39.8 37.4 18.6 14.9 3520 4 14 3/4 32 15/16 0.472 7 1/2 293</td>
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<tr>
<td>KT611</td>
<td>15 39.8 37.4 18.6 14.9 3520 4 14 3/4 32 15/16 0.787 7 1/2 295</td>
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<td>LH645</td>
<td>60 60 67 53 6530 6 20 7/8 57 0.236 9 7/8 780</td>
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<td>LH845</td>
<td>60 67 53 3530 8 20 7/8 58 9/16 0.787 7 1/2 1120</td>
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</tr>
<tr>
<td>LH311W</td>
<td>15 42 37 18.5 14.5 3465 3 10 5/8 40 5/16 0.334 7 1/2 287</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>KRS815</td>
<td>20 57.9 55.7 27.9 22.2 1735 8 18 15/16 38 9/16 0.984 10 7/8 530</td>
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<td></td>
<td></td>
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<tr>
<td>KRS822</td>
<td>30 38.5 30.8 1745 8 22 11/16 47 1/4 0.984 13 5/8 840</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Tandem operation is an operation method that connects two pumps of the same model in series. This provides ultra high head at the same flow rate in comparison with that of a single pump. The principle of tandem operation is the same as that with multistage pumps. The LH and LHW series pumps adopt the center flange construction to align the discharge pipe with the cylindrical pump center axis.* Connecting the pumps in series with the tandem connector can provide higher pump head without affecting the advantage of the slim design. At construction sites, there are many cases where a higher pump head is required as construction work progresses. In such cases, the addition of a tandem pump may meet the required pump head, instead of using a new pump.

* Available as an option for separately purchased LH33.0 and LH23.0W.

**Remarks:**

The intermediate connection pipe is not required in the range indicated as a bold line on curves. If the required total head exceeds the maximum head of the pump without an intermediate connection pipe (indicated as dashed line), an intermediate connection pipe of a length corresponding to the excess amount or more is required.*

*Consult factory for design assistance

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MOTOR SPECIFICATIONS</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output (HP)</td>
<td>208V</td>
<td>230V</td>
<td>460V</td>
<td>575V</td>
<td>RPM</td>
<td>Diameter</td>
</tr>
<tr>
<td>LH33.0</td>
<td>4</td>
<td>12.3*</td>
<td>12</td>
<td>6.0</td>
<td>4.7</td>
<td>33</td>
</tr>
<tr>
<td>LH23.0W</td>
<td>4</td>
<td>12.3*</td>
<td>12</td>
<td>6.0</td>
<td>4.7</td>
<td>33</td>
</tr>
<tr>
<td>LH25.5W</td>
<td>7.5</td>
<td>22</td>
<td>19.2</td>
<td>9.6</td>
<td>7.7</td>
<td>335</td>
</tr>
<tr>
<td>LH311W</td>
<td>15</td>
<td>42</td>
<td>37</td>
<td>18.5</td>
<td>14.5</td>
<td>346</td>
</tr>
<tr>
<td>LH322W</td>
<td>30</td>
<td>—</td>
<td>—</td>
<td>35.5</td>
<td>28</td>
<td>349</td>
</tr>
<tr>
<td>LH430W</td>
<td>40</td>
<td>40</td>
<td>48</td>
<td>38.5</td>
<td>35</td>
<td>347</td>
</tr>
</tbody>
</table>

* 208 & 230V same motor
LH / LHW-14 series are submersible pumps designed for handling aggressive and corrosive liquids. All wetted parts are made of 316 Stainless Steel, enabling it to withstand demanding conditions found in construction, aggregate and mining applications. Because of its slim design, LH / LHW-14 Series pump can be installed in a well casing for deep well dewatering. The center flange construction ensures stable installation, even if it is fixed by the discharge pipe. The pump incorporates seal pressure relief ports that prevent the pumping pressure from applying to the shaft seal.

Special Rubber Parts Made of Viton Elastomer
Rubber parts of the mechanical seal, oil seal, O-ring and packings are made of viton elastomer which provides higher resistance to heat and chemicals.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MOTOR SPECIFICATIONS</th>
<th>Discharge Size (inch)</th>
<th>DIMENSION</th>
<th>Max. Solids Dia. (inch)</th>
<th>Continuous Running Water Level (in.)</th>
<th>Pump Weight (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Output (HP)</td>
<td>Rated Current (A)</td>
<td>RPM</td>
<td>Diameter</td>
<td>Height</td>
<td></td>
</tr>
<tr>
<td>LH422-14</td>
<td>30</td>
<td>—</td>
<td>208V</td>
<td>4</td>
<td>16 9/16</td>
<td>53 1/4</td>
</tr>
<tr>
<td>LH637-14</td>
<td>50</td>
<td>—</td>
<td>230V</td>
<td>6</td>
<td>20 7/8</td>
<td>57</td>
</tr>
<tr>
<td>LH6110-14</td>
<td>150</td>
<td>—</td>
<td>460V</td>
<td>6</td>
<td>23 5/16</td>
<td>70 3/8</td>
</tr>
<tr>
<td>LH837-14</td>
<td>50</td>
<td>—</td>
<td>575V</td>
<td>8</td>
<td>20 7/8</td>
<td>57</td>
</tr>
<tr>
<td>LH8110-14</td>
<td>150</td>
<td>—</td>
<td>—</td>
<td>8</td>
<td>23 5/16</td>
<td>70 3/8</td>
</tr>
<tr>
<td>LH311W-14</td>
<td>15</td>
<td>42</td>
<td>37</td>
<td>3</td>
<td>10 5/8</td>
<td>40 5/16</td>
</tr>
<tr>
<td>LH322W-14</td>
<td>30</td>
<td>—</td>
<td>35.5</td>
<td>3</td>
<td>13</td>
<td>48 5/8</td>
</tr>
</tbody>
</table>

The above data is a rough indication for sulfuric acid (H2SO4) and sodium hydroxide (NaOH). Metals are affected by the type of acid/alkali, seal material, painting and abrasive environment.
BARGE SYSTEM

Floating barges can be used with any Tsurumi dewatering pump to allow dewatering from quarries, pits, and other sites. Barges allow a pump to operate close to the surface of the water, preventing it from pumping settled abrasives or solids and increase life. The versatility of the system allows for both the barge and the pump to be adjusted so water can be pumped down to the lowest level in uneven terrain.

The barges are constructed with polyethylene float sections and welded steel sections to provide a durable platform for harsh outdoor environments. Pumps can be hung from a center beam in the central opening.

<table>
<thead>
<tr>
<th>Barge Dimensions (ft.)</th>
<th>Max. Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 x 6</td>
<td>296 lbs</td>
</tr>
<tr>
<td>8 x 8 with platform</td>
<td>2000 lbs</td>
</tr>
<tr>
<td>8 x 8</td>
<td>3100 lbs</td>
</tr>
<tr>
<td>10 x 10 with platform</td>
<td>4550 lbs</td>
</tr>
<tr>
<td>10 x 10</td>
<td>5750 lbs</td>
</tr>
</tbody>
</table>

Consult factory for additional options and materials.

FLOTATION MODULES: TFM

- **The Concept**
  The pump flotation modules have been developed to provide a light-weight and cost-effective alternative to the traditional steel pontoon.

- **Installation**
  The pump and integral module can be simply installed by use of a central lifting attachment. Once in the water, the module can be towed by boat, if required, and secured in position by anchor or guide ropes. The float module remains visible above the water surface for easy recovery.

- **Applications**
  - Mine dewatering
  - Tailing dams
  - Underground dams
  - Sewage Treatment
  - Aeration ponds
  - Floating foundation displays
  - Construction site dewatering

- **Design Features**
  - Compact and lightweight
  - Easily mounted to pumps on site
  - Lifting points for easy installation
  - Easy to transport as an integral unit
  - Foam filled to prevent sinking

<table>
<thead>
<tr>
<th>Module</th>
<th>Float dimensions (inches - approximate)</th>
<th>Pump mounting bracket</th>
<th>Weight (approximate) including brackets</th>
<th>Maximum Pump Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFM-450</td>
<td>39 x 39 x 18</td>
<td>Stainless steel</td>
<td>150lbs. to 172lbs.</td>
<td>450lbs.</td>
</tr>
<tr>
<td>TFM-2500</td>
<td>71 x 71 x 30</td>
<td>Galvanized steel</td>
<td>567lbs. to 661lbs.</td>
<td>2500lbs.</td>
</tr>
</tbody>
</table>
CONTROL PANELS - Automatic / Manual, VFD & Soft Start Control Panels

**Automatic Control Panels**
- UL Listed Nema 4X Fiberglass Enclosure
- HOA Selector Switch
- IEC Rated Magnetic Contactor
- Field Adjustable Overload Protection
- Includes (2) 50” Mechanical Floats

**Manual Control Panels**
- UL Listed
- Hand/Off Lockable Selector Switch
- IEC Rated Magnetic Contactor
- Field Adjustable Overload Protection
- Nema 4X Fiberglass Enclosure

**VFD and Soft Start Control Panels**
- Constant Pressure
- Constant Level
- Pace Flow
- UL Listed
- Field Adjustable Overload Protection

**Available Options Include:**
- Line Reactor
- Load Reactor
- Seal Leak Protection
- Lightening Protection
- Ground-Ground Check Protection
- Elapsed Time meter
- Mechanical Floats
- Liquid Level Probes
- SCADA monitoring

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**Tsurumi Pump**

**Built for Work**

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