

| SPECIFICATIONS | Model | LH890 | LH-series | | | | | | |
|--|-------------|-------|---------------|-------------|-------------|-------------|-------------|--|--|
| | | | 90kW, 3-phase | | | | | | |
| <p>Type of Pump Submersible high head drainage pump for construction and foundation works, floodwater drainage, etc.</p> <p>Type of Fluid Stormwater, groundwater, wash water, and sand-carrying water</p> <p>Temperature: 0 to 40°C</p> <p>Discharge Bore & Connection 200mm, JIS 10kg/cm² Screwed Flange</p> <p>Motor Output 90kW</p> <p>Power Supply Three-phase</p> <p>Starting Method Star-Delta</p> <p>Motor Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: F Degree of Protection: IP68</p> <p>No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min⁻¹ (50/60Hz)</p> <p>Power Supply Voltages & Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 172A</td> <td>380V – 165A</td> </tr> <tr> <td>400V – 166A</td> <td>440V – 143A</td> </tr> <tr> <td>415V – 162A</td> <td></td> </tr> </table> <p>Power Cable Sheath: Chloroprene rubber Standard Length: 20m 200 to 600V supply: 1 x $\begin{pmatrix} 3 \times 38\text{mm}^2 \\ 1 \times 22\text{mm}^2 \\ 3 \times 2\text{mm}^2 \end{pmatrix}$ O.D. 35.8mm 1 x 3 x 38mm², O.D. 35.9mm</p> <p>Dry Weight (excluding cable) 1150kg</p> | 50Hz | 60Hz | 380V – 172A | 380V – 165A | 400V – 166A | 440V – 143A | 415V – 162A | | <p>Impeller Closed Impeller made of high-chromium cast iron</p> <p>Solids Passage 50Hz – ϕ20mm 60Hz – ϕ20mm</p> <p>Mouth Ring Made of high-chromium cast iron, excellent in abrasion-resistance</p> <p>Cable Entry with Anti-Wicking Block Watertight cable entry with strain-relief device. The anti-wicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.</p> <p>Bearing Upper: Cylindrical roller bearing Lower: Duplex angular contact ball bearing mounted back-to-back</p> <p>Shaft 420 stainless steel</p> <p>Shaft Seal (Mechanical Seal) Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run in a clean environment.</p> <p>Upper Seal Face: SiC + SiC Lower Seal Face: SiC + SiC</p> <p>Pressure Relief Port Protects the mechanical seal from over rated limits, and also protects the seal faces from abrasive particles by drawing particles away.</p> <p>OIL LIFTER (Patented) Equipped in oil chamber. It forcibly supplies lubricating oil to the mechanical seal and continues to supply the oil to the upper seal faces even if lubricant falls below the rated volume.</p> <p>Type of Lubricating Oil & Volume Turbine Oil (ISO VG32), 8000ml</p> <p>Motor Protection Device A miniature thermal protector is embedded in each winding of the motor. Should excessive heat builds up, the bimetal strip opens to cause the control panel to shut the power supply.</p> <p>Leakage Sensor Made of 304 stainless steel. It can be wired to a control panel to alert operators of water incursion into the oil chamber.</p> <p>Galvanic Anode Protects the pump from electric corrosion, made of aluminium alloy</p> |
| 50Hz | 60Hz | | | | | | | | |
| 380V – 172A | 380V – 165A | | | | | | | | |
| 400V – 166A | 440V – 143A | | | | | | | | |
| 415V – 162A | | | | | | | | | |

NO. A-22223-1

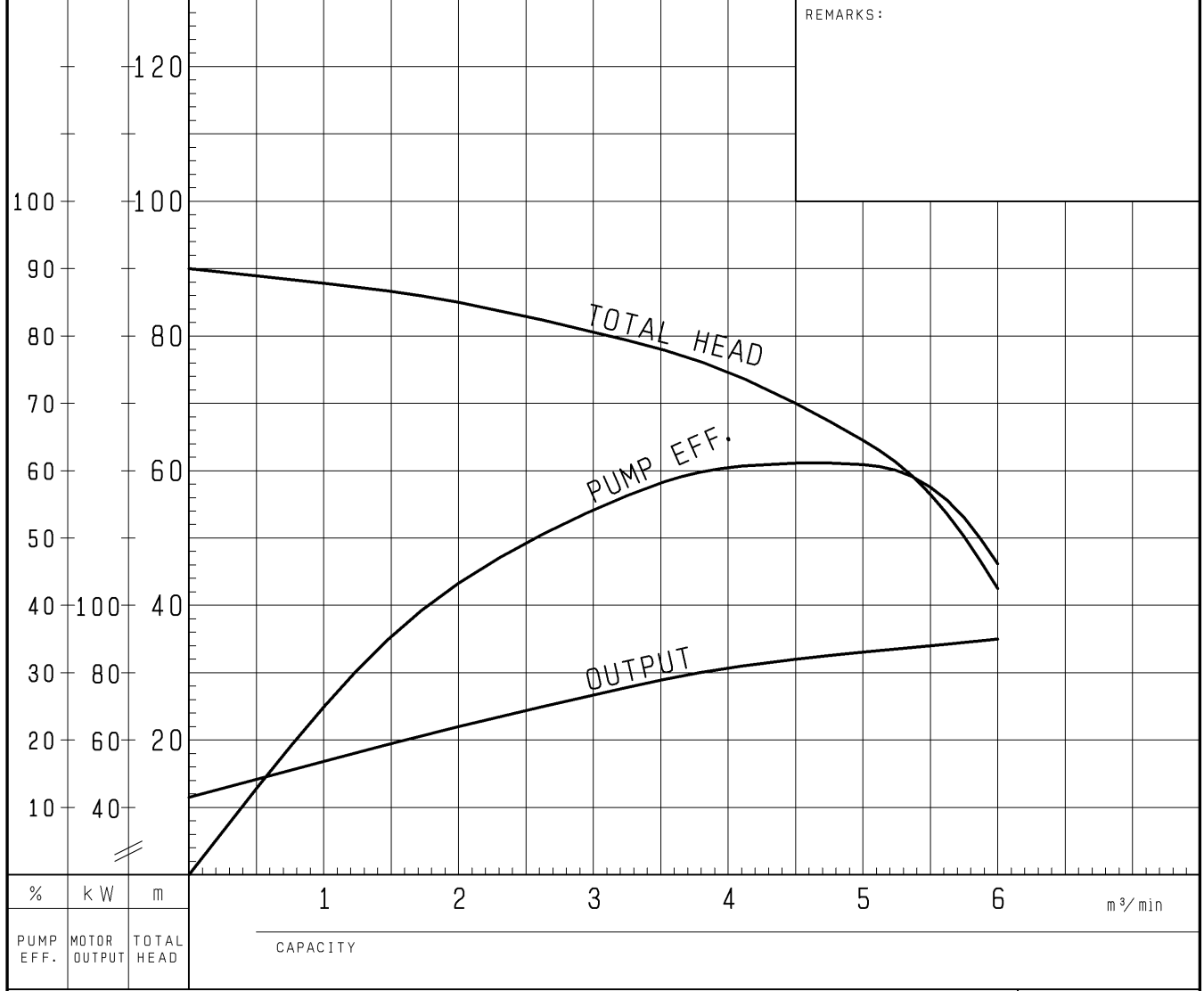
PUMP PERFORMANCE CURVES

| | | |
|---|-----------------|-----------------|
| TYPE Submersible High-Head Dewatering Pump | MODEL LH890 -50 | FREQUENCY 50 Hz |
|---|-----------------|-----------------|

CUSTOMER'S NAME _____

EQUIPMENT TITLE _____ NO. _____

| | STANDARD SPECIFICATIONS | REQUIRED SPECIFICATIONS |
|--------------------|------------------------------------|-------------------------|
| DISCHARGE BORE | 200 mm | mm |
| TOTAL HEAD | 70 m | m |
| CAPACITY | 4.5 m ³ /min | m ³ /min |
| MOTOR OUTPUT | 90 kW | kW |
| PHASE × VOLTAGE | 3 φ × V | φ × V |
| CURRENT | A | A |
| POLES / REVOLUTION | 2 P / S. S. 3000 min ⁻¹ | P / min ⁻¹ |
| STARTING METHOD | STAR DELTA | |
| INSULATION CLASS | F | |



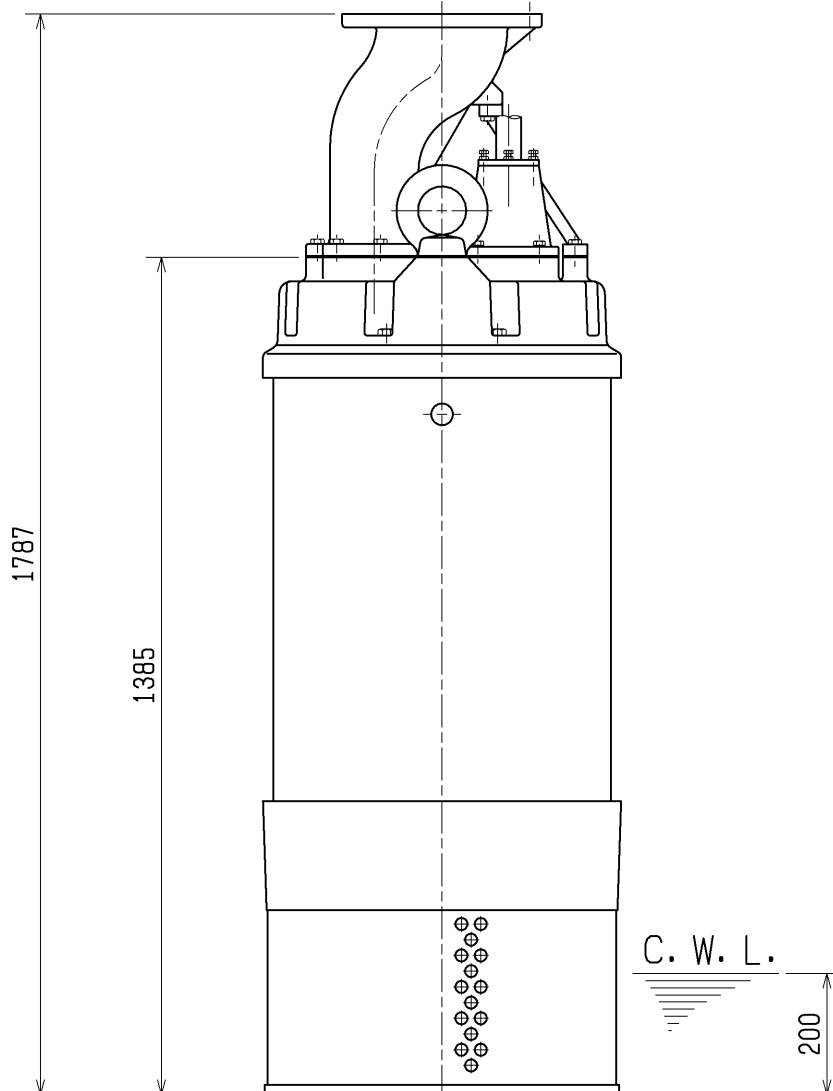
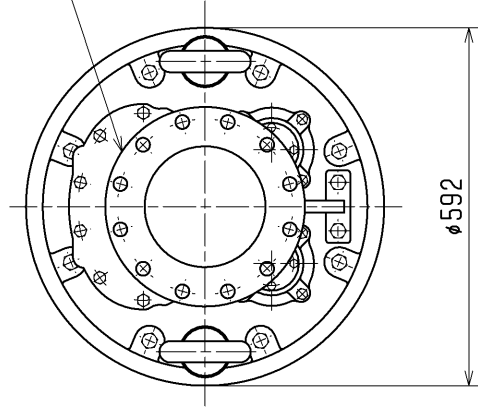
TSURUMI MFG. CO., LTD.

| | | | | |
|--------------------------|--|-------|--|-----------|
| DIMENSION DRAWING | | No. | No. | A-22230-1 |
| TYPE | Submersible High-Head Dewatering Pump | MODEL | LH690 -50/60, LH6110 -50/60 LH890 -50/60, LH8110 -50/60 | |

| MODEL | Approximate Weight (※) |
|--------------|------------------------|
| LH6110-50/60 | 1200kg |
| LH690 -50/60 | 1100kg |
| LH8110-50/60 | 1250kg |
| LH890 -50/60 | 1150kg |

※excluding cable

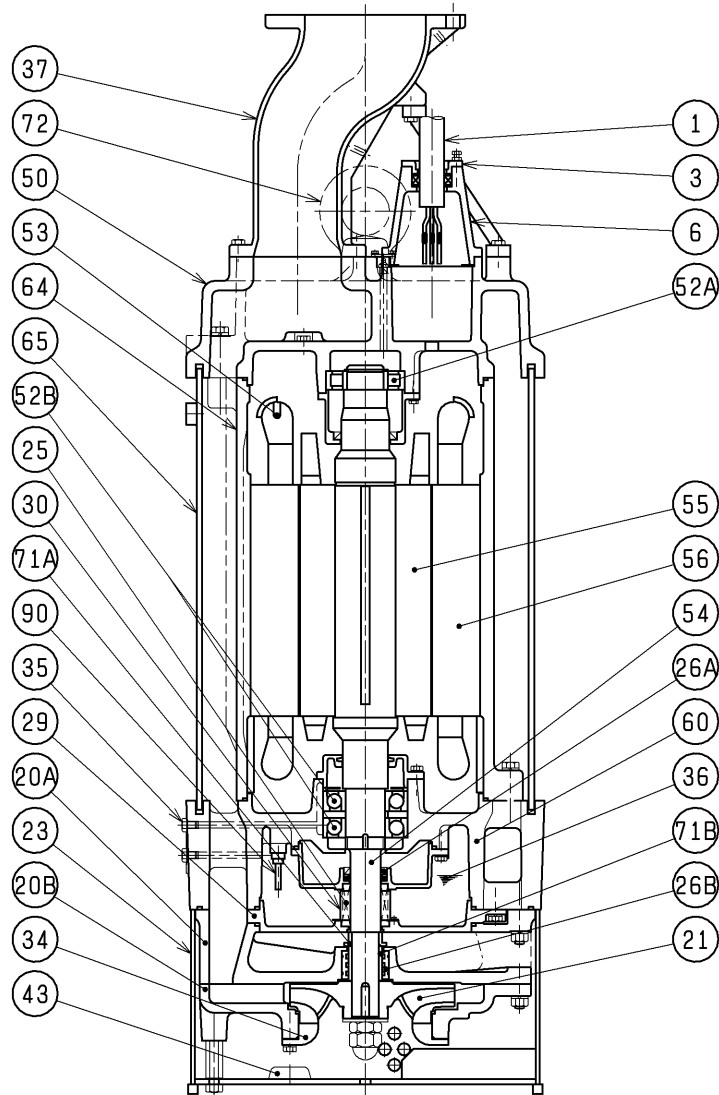
JIS10K (20K) Flange
Nominal Dia.
φ200 (φ150)



The Figure in () shows the dimensions of LH690 and LH6110.

C. W. L. :Continuous running Water Level

| | | | |
|---|--|--|---------------|
| SECTIONAL DRAWING | | No. | No. A-22232-1 |
| TYPE Submersible High-Head Dewatering Pump | | MODEL LH690 -50/60, LH6110 -50/60 LH890 -50/60, LH8110 -50/60 | |



| |
|--------------------|
| REQ. SPECIFICATION |
| ----- |
| ----- |

| No. | DESCRIPTION | QTY | MATERIAL / NOTE | No. | DESCRIPTION | QTY | MATERIAL / NOTE |
|-----|---------------------------|-----|-----------------------|-----|--------------------------|-----|-----------------------|
| 1 | Cable | 2 | Chloroprene Sheath | 50 | Motor Bracket | 1 | Gray Iron Casting |
| 3 | Gland | 2 | Gray Iron Casting | 52A | Upper Bearing | 1 | NU312A |
| 6 | Stuffing Box | 2 | Gray Iron Casting | 52B | Lower Bearing | 1 | 7313ADB |
| 20A | Upper Pump Casing | 1 | Gray Iron Casting | 53 | Motor Protector | 3 | |
| 20B | Lower Pump Casing | 1 | Ductile Iron Casting | 54 | Shaft | 1 | Stainless Steel 420J2 |
| 21 | Impeller | 1 | Chromium Iron Casting | 55 | Rotor | 1 | |
| 23 | Strainer Stand | 1 | Steel Sheet | 56 | Stator | 1 | |
| 25 | Mechanical Seal | 1 | H-50TX | 60 | Bearing Housing | 1 | Gray Iron Casting |
| 26A | Oil Seal | 1 | SC507212 | 64 | Motor Frame | 1 | Gray Iron Casting |
| 26B | Labyrinth Ring | 1 | Stainless Steel 403 | 65 | Outer Cover | 1 | Structure Steel |
| 29 | Oil Casing | 1 | Gray Iron Casting | 71A | Upper Shaft Sleeve | 1 | Stainless Steel 403 |
| 30 | Oil Lifter | 1 | Steel Sheet | 71B | Lower Shaft Sleeve | 1 | Stainless Steel 403 |
| 34 | Suction Mouth | 1 | Chromium Iron Casting | 72 | Eyebolt | 2 | Carbon Steel Forging |
| 35 | Oil Plug | 2 | Stainless Steel 304 | 90 | Leakage Sensor Electrode | 1 | Stainless Steel |
| 36 | Lubricant | | Turbin Oil (ISO VG32) | | | | |
| 37 | Discharge Pipe | 1 | Ductile Iron Casting | | | | |
| 43 | Cathodic Protection Plate | 3 | Aluminium Alloy | | | | |