

SPECIFICATIONS	Model	LH690	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 150mm, JIS 20kg/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 $\begin{pmatrix} 3 \times 28\text{mm}^2 \\ 1 \times 22\text{mm}^2 \\ 3 \times 2\text{mm}^2 \end{pmatrix}$ O.D. 35.8mm 1 x 3 x 38mm², O.D. 35.9mm</p> <p>Dry Weight (excluding cable) 1100kg</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 – ϕ10mm 60Hz – ϕ10mm</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-22221-1

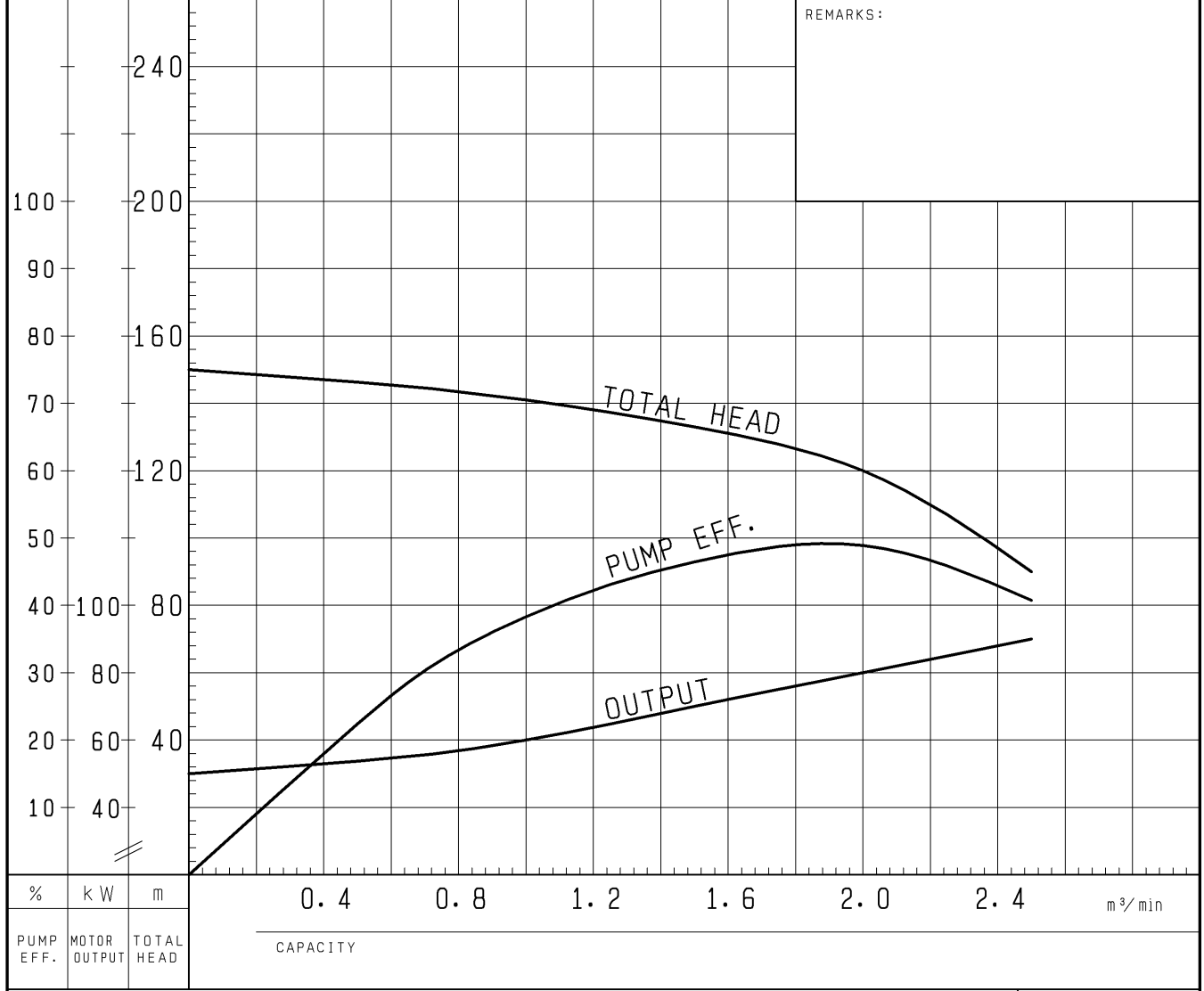
PUMP PERFORMANCE CURVES

TYPE Submersible High-Head Dewatering Pump	MODEL LH690 -50	FREQUENCY 50 Hz
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CUSTOMER'S NAME _____

EQUIPMENT TITLE _____ NO. _____

	STANDARD SPECIFICATIONS	REQUIRED SPECIFICATIONS
DISCHARGE BORE	150 mm	mm
TOTAL HEAD	120 m	m
CAPACITY	2 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	



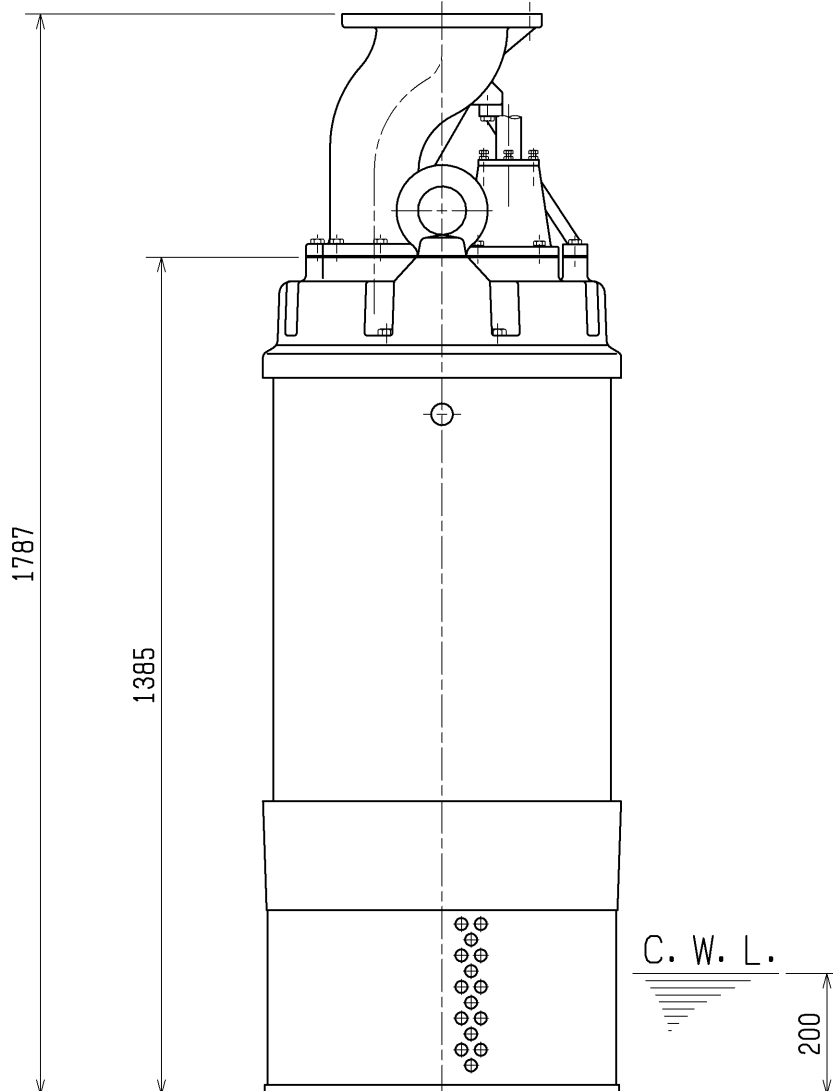
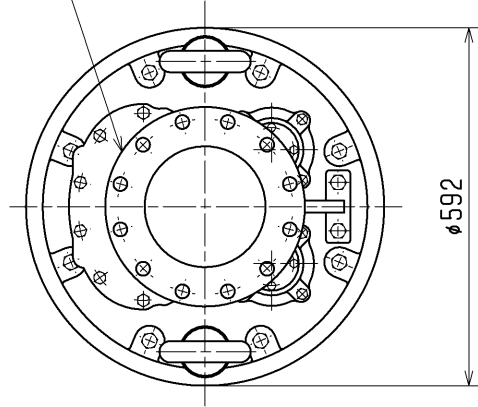
TSURUMI MFG. CO., LTD.

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

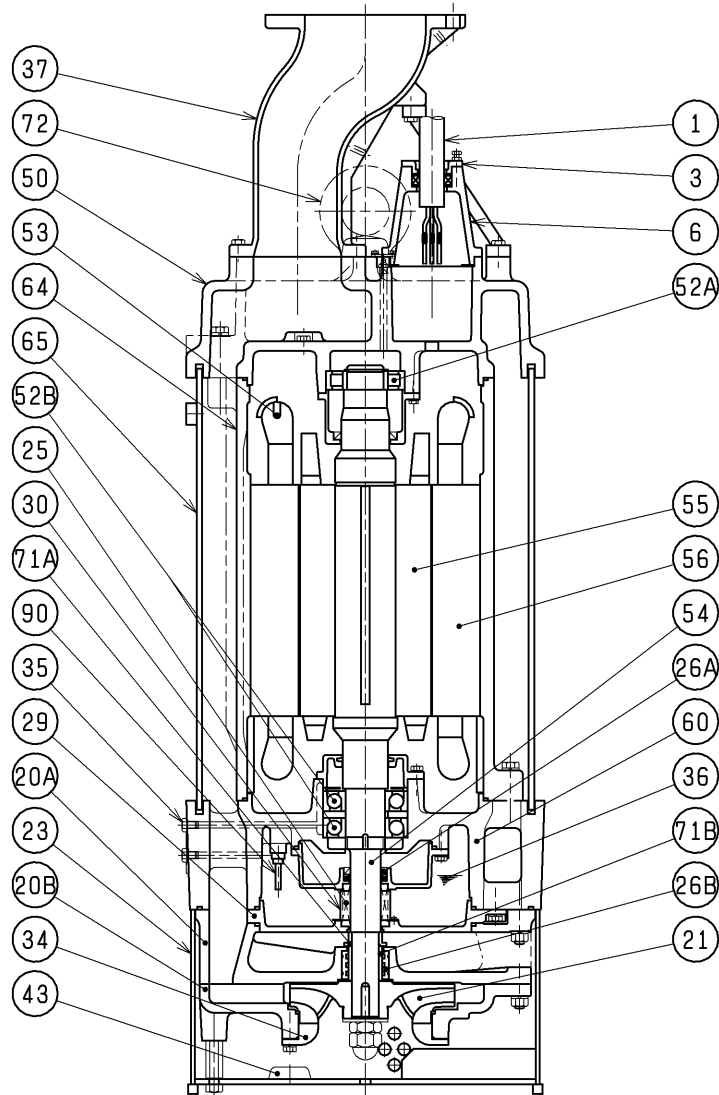
JIS10K (20K) Flange
Nominal Dia.
φ200 (φ150)



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				