

SPECIFICATIONS	Model	80TM22.2							
		TM-series 2.2kW, 3-phase							
<p><b>Type of Pump</b> Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater</p> <p><b>Type of Fluid</b> Seawater</p> <p>Temperature: 0 to 40°C</p> <p><b>Discharge Bore</b> 80mm</p> <p><b>Motor Output</b> 2.2kW</p> <p><b>Power Supply</b> Three-phase</p> <p><b>Starting Method</b> Direct on Line</p> <p><b>Motor</b> Continuous-duty rated, dry-type induction motor</p> <p>Insulation Class: E Degree of Protection: IP68</p> <p>No. of Poles &amp; Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)</p> <p>Power Supply Voltages &amp; Rated Currents</p> <table border="0"> <tr> <td>50Hz</td> <td>60Hz</td> </tr> <tr> <td>380V – 5.1A</td> <td>220V – 8.5A</td> </tr> <tr> <td>400V – 5.1A</td> <td>380V – 4.9A</td> </tr> <tr> <td>415V – 5.1A</td> <td>440V – 4.3A</td> </tr> </table> <p><b>Power Cable</b> Sheath: PVC Standard Length: 6m 380 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm 200 to 240V supply: 1 × 4 × 2.0mm<sup>2</sup>, O.D. 11.8mm</p> <p><b>Dry Weight (excluding cable)</b> Standard Model: 21kg Automatic Model: 22kg</p>	50Hz	60Hz	380V – 5.1A	220V – 8.5A	400V – 5.1A	380V – 4.9A	415V – 5.1A	440V – 4.3A	<p><b>Impeller</b> Vortex impeller designed for “high-gap structure”, made of glass-fiber reinforced PA+ABS</p> <p>Solids Passage 50Hz – φ20mm 60Hz – φ20mm</p> <p><b>Cable Entry with Anti-Wicking Block</b> 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><b>Bearings</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings</p> <p><b>Shaft</b> Titanium</p> <p><b>Shaft Seal (Mechanical Seal)</b> 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 Faces: Ceramic + Carbon Lower Seal Faces: SiC + SiC</p> <p><b>OIL LIFTER (Patented)</b> 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 &amp; Volume Liquid Paraffin (ISO VG32), 680ml</p> <p><b>Motor Protection Device</b> A circle thermal protector built in the motor housing. Directly cuts the motor circuit if excessive heat builds up or an overcurrent condition occurs in the motor.</p>
50Hz	60Hz								
380V – 5.1A	220V – 8.5A								
400V – 5.1A	380V – 4.9A								
415V – 5.1A	440V – 4.3A								
<b>TSURUMI MANUFACTURING CO., LTD.</b>									

NO. A-19470-1

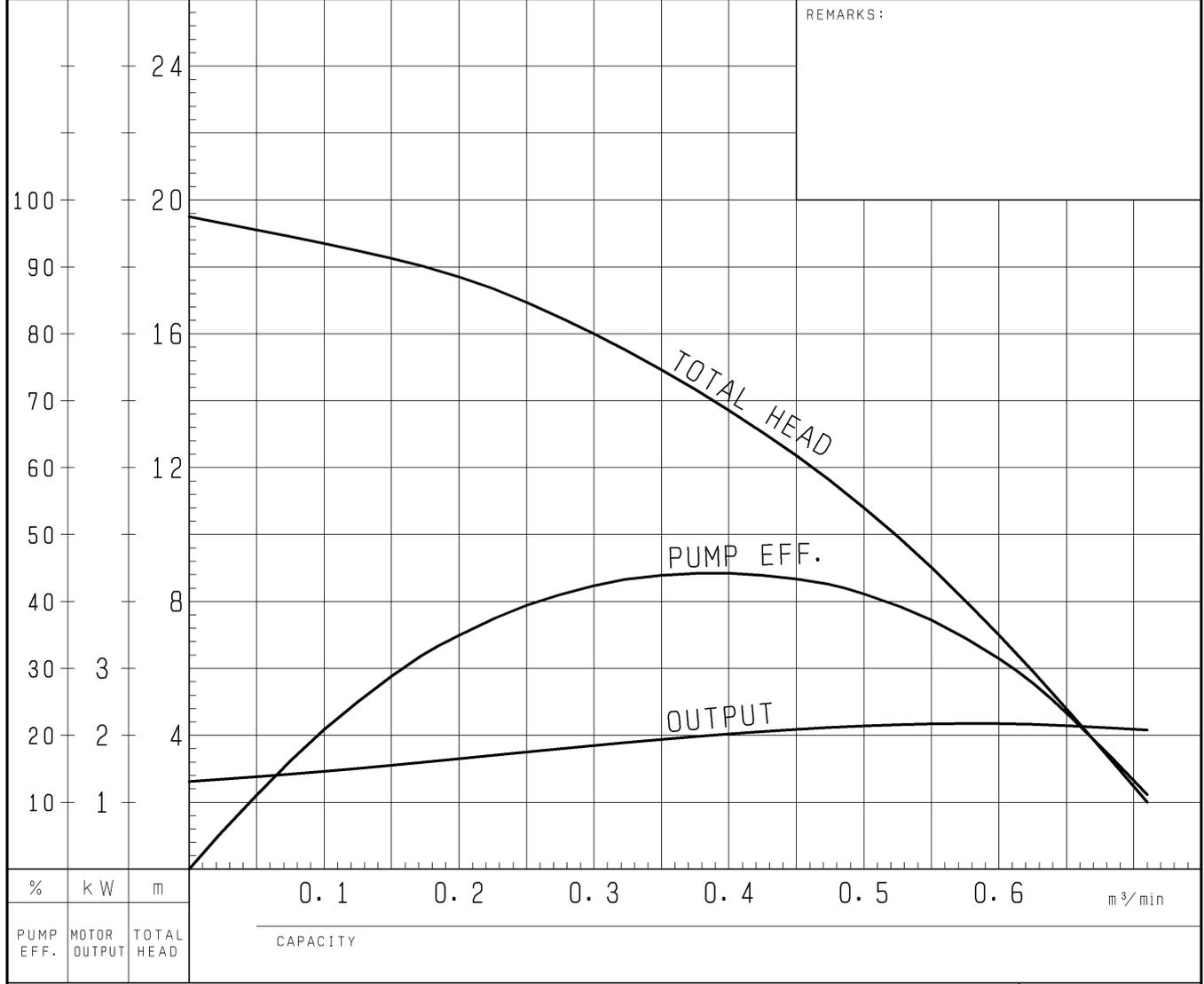
# PUMP PERFORMANCE CURVES

TYPE Sea Water Submersible Titanium Seawater Pump	MODEL 80TM22.2 -51 80TMA22.2 -51	FREQUENCY 50 Hz
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CUSTOMER'S NAME \_\_\_\_\_

EQUIPMENT TITLE \_\_\_\_\_ NO. \_\_\_\_\_

	STANDARD SPECIFICATIONS	REQUIRED SPECIFICATIONS
DISCHARGE BORE	80 mm	mm
TOTAL HEAD	16.0 m	m
CAPACITY	0.3 m <sup>3</sup> /min	m <sup>3</sup> /min
MOTOR OUTPUT	2.2 kW	kW
PHASE x VOLTAGE	3 $\phi$ x V	$\phi$ x V
CURRENT	A	A
POLES / REVOLUTION	2 P / s. s. 3000 min <sup>-1</sup>	P / min <sup>-1</sup>
STARTING METHOD	DIRECT ON LINE	
INSULATION CLASS	E	

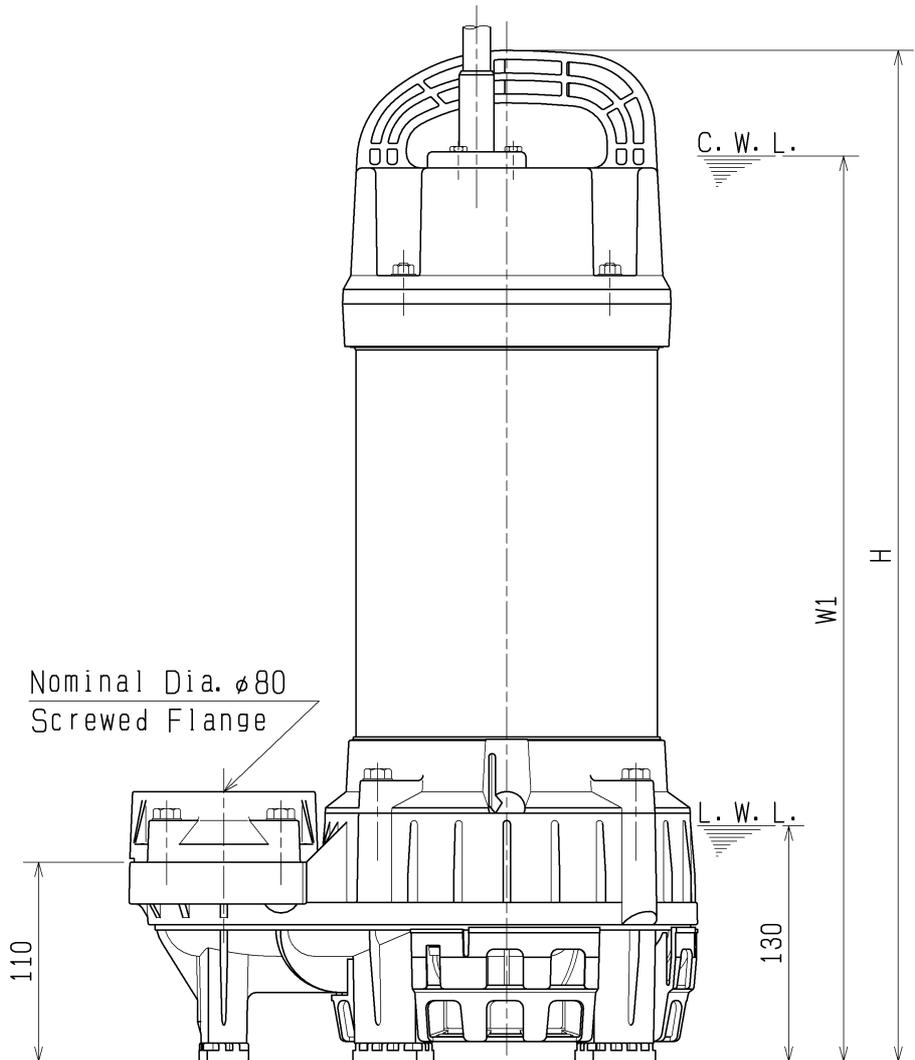
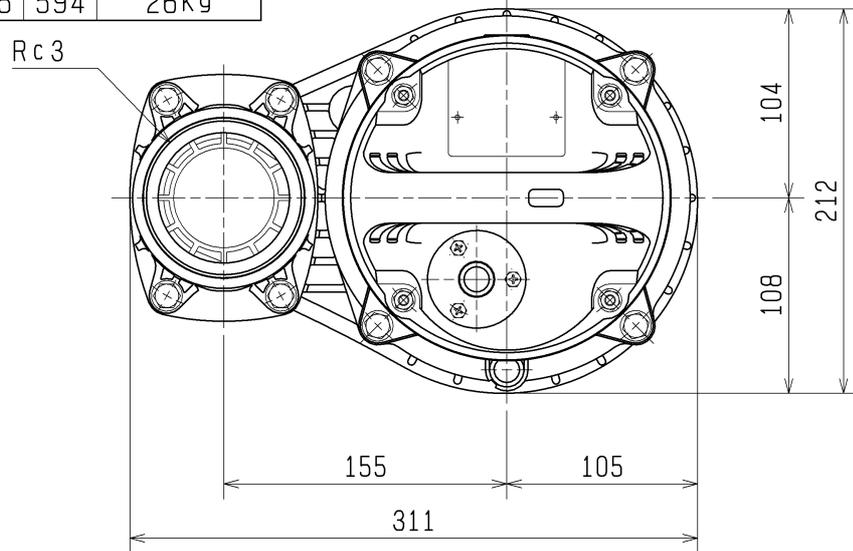


TSURUMI MFG. CO., LTD.

<b>DIMENSION DRAWING</b>		No.	No. A-19480-1
TYPE	Sea Water Submersible Titanium Seawater Pump	MODEL	80TM22.2 -51/61 80TM23.7 -51/61

MODEL	W1	H	Approximate Weight (kg)
80TM22.2-51/61	500	559	21kg
80TM23.7-51/61	535	594	26kg

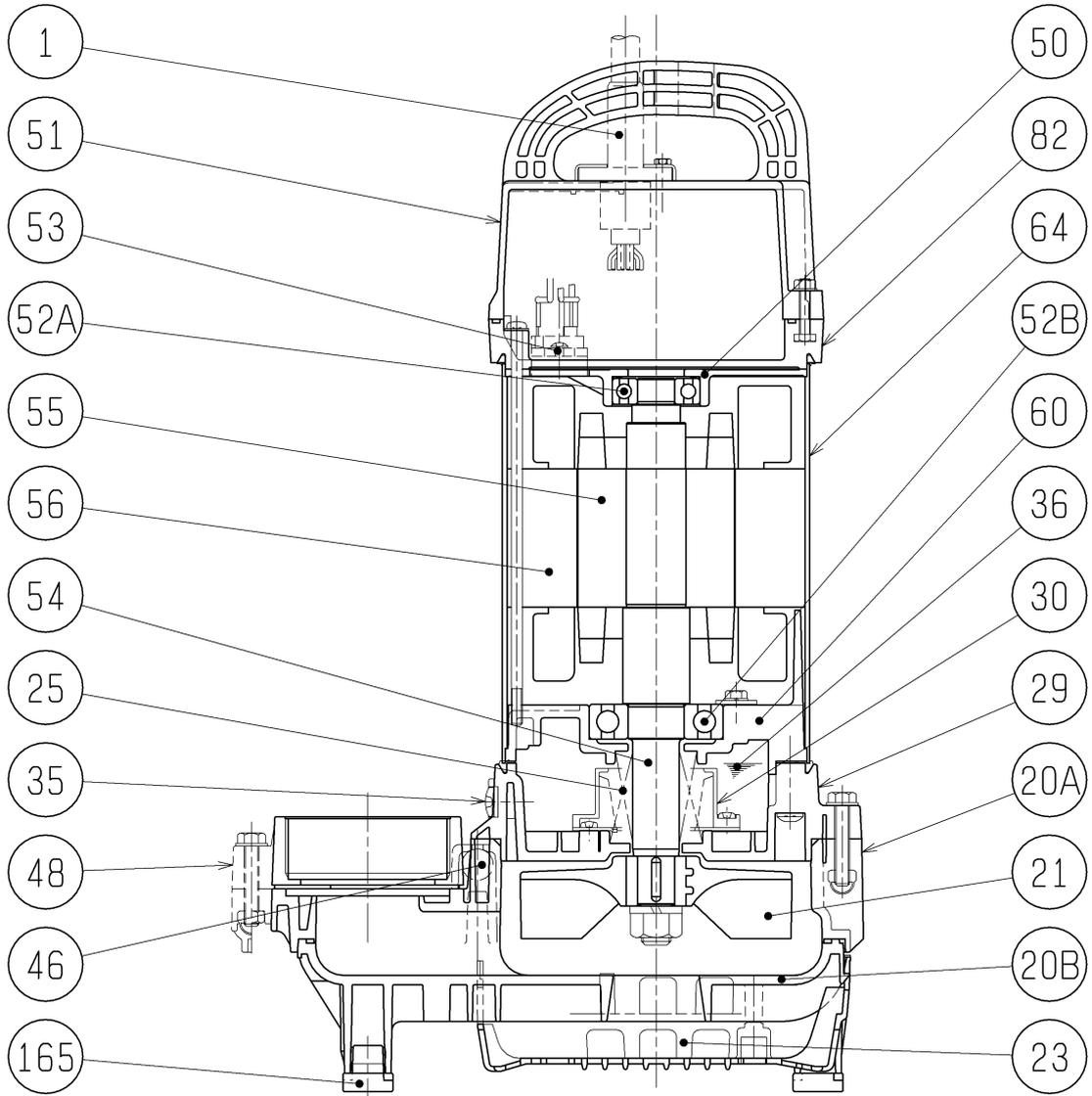
※excluding cable



C.W.L. :Continuous running Water Level

L.W.L. :Lowest running Water Level

<b>SECTIONAL DRAWING</b>		No.	No. A-19488-1
TYPE	Sea Water Submersible Titanium Seawater Pump	MODEL	80TM22.2 -51/61 80TM23.7 -51/61



\* All metal parts (including cable gland, bolts, nuts, washers, etc.) contacting with liquid are made of TITANIUM.

※1 Upper and lower blocks form a one-piece casing.

※2 the wetted part

	2.2kW	3.7kW
※3	H-25A	H-25AT

REQ. SPECIFICATION	
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No.	DESCRIPTION	Q'TY	MATERIAL / NOTE	No.	DESCRIPTION	Q'TY	MATERIAL / NOTE
1	Cabtyre Cable	1	PVC Sheath	51	Head Cover	1	Plastic W/GF
20A	Upper Pump Casing	※1	Plastic W/GF	52A	Upper Bearing	1	6204ZCC3
20B	Lower Pump Casing	1	Plastic W/GF	52B	Lower Bearing	1	6306ZCC3
21	Impeller	1	Plastic W/GF	53	Motor Protector	1	
23	Strainer	1	Plastic	54	Shaft	1	Titanium(※2)
25	Mechanical Seal	1	※3	55	Rotor	1	
29	Oil Casing	1	Plastic W/GF	56	Stator	1	
30	Oil Lifter	1	Plastic	60	Bearing Housing	1	Aluminium Alloy Casting
35	Oil Plug	1	Titanium	64	Motor Frame	1	Titanium
36	Lubricant		Liquid Paraffin (ISO VG32)	82	Head Cover Spacer	1	Plastic W/GF
46	Air Release Valve	1	Glass Ball	165	Rubber Foot	5	Nitrile Butadien Rubber
48	Screwed Flange	1	Plastic W/GF				
50	Motor Bracket	1	Aluminium Alloy Casting				