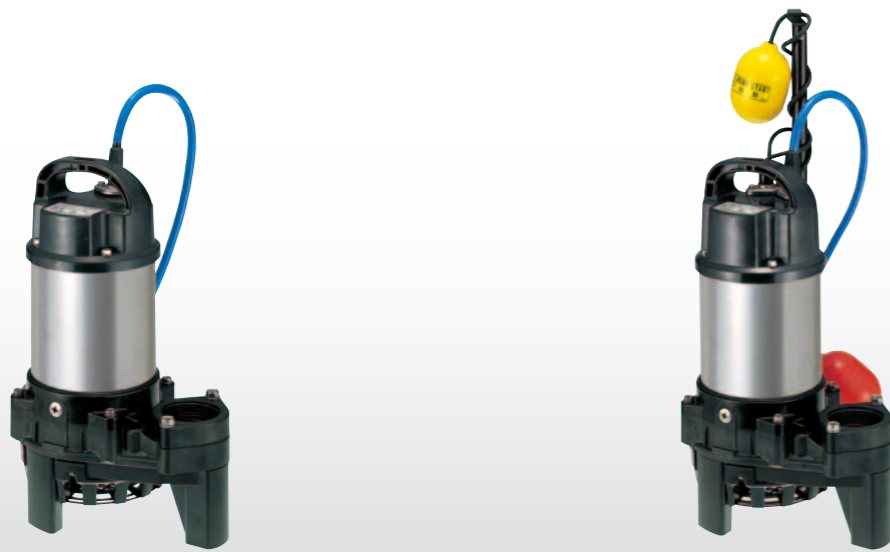


## Submersible Seawater Pumps

# TM

The TM-series is a semi-vortex pump, which is constructed of titanium and special resin. Titanium has a superb corrosion resistance against seawater. Being all wetted metal parts made of titanium, the pump is suitable for the intake, transfer, and drainage of seawater.



### Major Components & Specifications

Discharge Bore	mm	40	50	80	
Pumping Fluid	Type of Fluid	Seawater			
	Fluid Temperature	0 to 40°C			
Pump	Structure	Impeller	Vortex		
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)		
		Bearing	Double-shielded Ball Bearing		
	Materials	Impeller	Glass-fiber Reinforced Resin		
		Casing	Glass-fiber Reinforced Resin		
	Shaft seal	Silicon Carbide			
Motor	Type, Pole	Dry-type Submersible Induction Motor, 2-pole			
	Insulation	Class E			
	Phase	Single-phase (suffix "S") Three-phase			
	Starting Method	Capacitor Run (single-phase only) Direct on Line			
	Protection Device (Built-in)	Circle Thermal Protector Miniature Thermal Protector (single-phase only)			
	Lubricant	Liquid Paraffin (ISO VG32)			
	Materials	Frame	Titanium		
		Shaft	Titanium		
Cable		PVC			
Discharge Connection	Screwed Flange				

### Corrosion Tests (in Seawater / 6 months)

Material	Stepped Shaft	Shaft Tap
Titanium		
304 Stainless Steel		

### Applications

- Pumping seawater from bilge and pit of vessel
- Supplying seawater to aquarium
- Circulating seawater in breeding pond

### Cable Cables

#### Single-phase

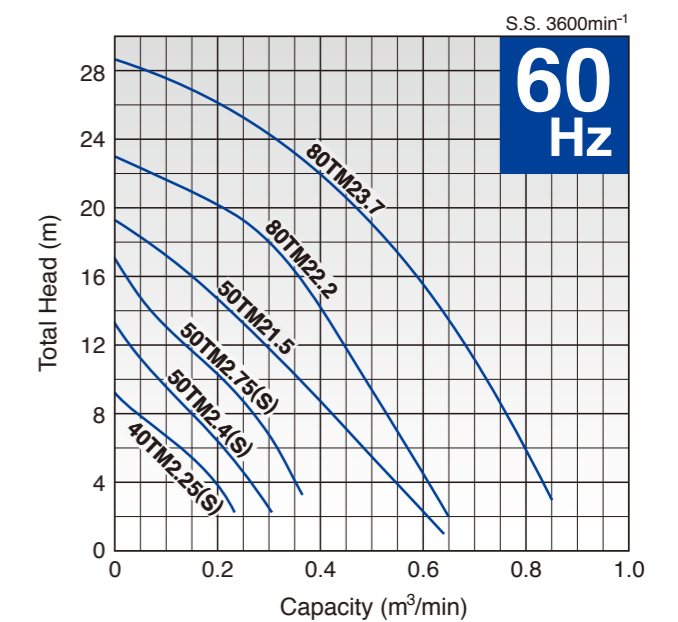
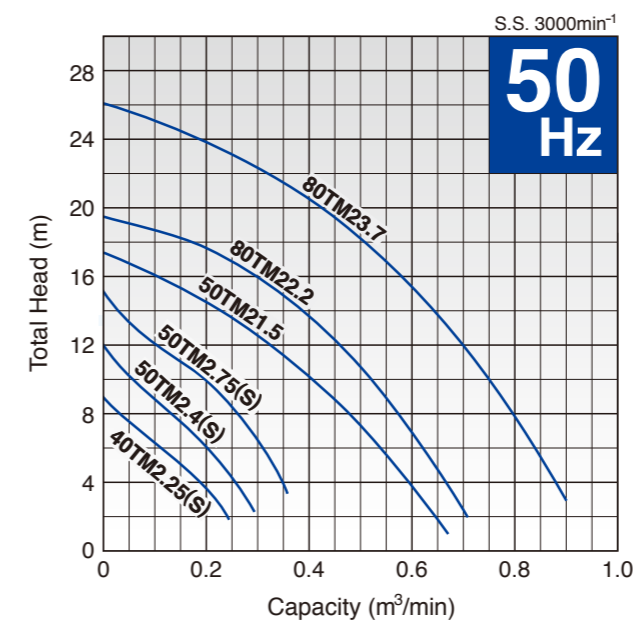
Model	100-120V		200-240V		Length m	Material
	Cores x mm <sup>2</sup>	Outer Dia. mm	Cores x mm <sup>2</sup>	Outer Dia. mm		
40TM2.25S	3 x 1.25	10.1	3 x 1.25	10.1	5	PVC
50TM2.4S	3 x 1.25	10.1	3 x 1.25	10.1		
50TM2.75S	3 x 2.0	10.9	3 x 1.25	10.1		

#### Three-phase

Model	200-240V		380-600V		Length m	Material
	Cores x mm <sup>2</sup>	Outer Dia. mm	Cores x mm <sup>2</sup>	Outer Dia. mm		
40TM2.25	4 x 1.25	11.1	4 x 1.25	11.1	6	PVC
50TM2.4	4 x 1.25	11.1	4 x 1.25	11.1		
50TM2.75	4 x 1.25	11.1	4 x 1.25	11.1		
50TM21.5	4 x 1.25	11.1	4 x 1.25	11.1		
80TM22.2	4 x 2.0	11.8	4 x 1.25	11.1		
80TM23.7	4 x 3.5	13.9	4 x 2.0	11.8		

### Performance Curves

Standard and Automatic models have the identical performance.



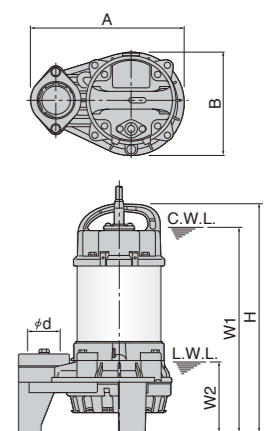
### Model Selection

Discharge Bore mm	Model		Motor Output kW	Phase	Starting Method	Solids Passage mm	Dry Weight kg	
	Standard	Automatic					Standard	Auto & Auto-alternation
40	40TM2.25S	40TMA2.25S	0.25	Single	Capacitor Run	10	6.7	7.2
40	40TM2.25	40TMA2.25	0.25	Three	D.O.L.	10	5.7	6.2
50	50TM2.4S	50TMA2.4S	0.4	Single	Capacitor Run	10	6.7	7.2
50	50TM2.4	50TMA2.4	0.4	Three	D.O.L.	10	6.6	7.1
50	50TM2.75S	50TMA2.75S	0.75	Single	Capacitor Run	10	8.6	9.1
50	50TM2.75	50TMA2.75	0.75	Three	D.O.L.	10	7.8	8.4
50	50TM21.5	50TMA21.5	1.5	Three	D.O.L.	20	14.9	15.6
80	80TM22.2	80TMA22.2	2.2	Three	D.O.L.	20	21.0	22.0
80	80TM23.7	80TMA23.7	3.7	Three	D.O.L.	20	26.0	27.0

• Weights excluding cable

### Dimensions

Model	d	A	B	H	W1	W2
40TM2.25S	40	236	162	360	325	110
40TM2.25	40	236	162	349	310	110
50TM2.4S	50	236	162	360	325	110
50TM2.4	50	236	162	360	325	110
50TM2.75S	50	236	162	380	345	110
50TM2.75	50	236	162	374	335	110
50TM21.5	50	295	196	435	390	110
80TM22.2	80	311	212	559	500	130
80TM23.7	80	311	212	594	535	130



C.W.L.: Continuous Running Water Level  
L.W.L.: Lowest Running Water Level