Tsurumi Pump		Corrosion-Resistant Pumps
Series:	Discharge Bore:	Motor Output / Pole:
ТМ	40 - 80mm	0.25 – 3.7kW / 2-pole
	The TM-series is a submersible titaniu seawater. It is made of titanium an corrosion resistance against seawate where seawater is used. Liquid paraf makes it ideal for saltwater aquacultur	Im portable pump designed for handling d resin. Since titanium has a superb er, it is suitable for various applications fin is used for the lubricating oil, which e.

#### **Automatic Model**

The automatic model is available in every motor output. It has an integral control circuitry and two float switches. Automatic operation is possible with a simple power panel.

### **Selection Table**

Мо	del	Discharge Bore	Motor Output	Phase	Pole
Standard	Automatic	mm	kW		
40TM2.25S	40TMA2.25S	40	0.25	1-phase	2
40TM2.25	40TMA2.25	40	0.25	3-phase	2
50TM2.4S	50TMA2.4S	50	0.4	1-phase	2
50TM2.4	50TMA2.4	50	0.4	3-phase	2
50TM2.75	50TMA2.75	50	0.75	3-phase	2
50TM21.5	50TMA21.5	50	1.5	3-phase	2
80TM22.2	80TMA22.2	80	2.2	3-phase	2
80TM23.7	80TMA23.7	80	3.7	3-phase	2

Performance Curves Standard and Automatic models have the identical performance.





# Tsurumi Pump

### SPECIFICATIONS | Model

## 40TM2.25S

#### **Corrosion-Resistant Pumps**

**TM-series** 

#### 0.25kW, 1-phase

#### Type of Pump

Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater

Type of Fluid Seawater

Temperature: 0 to 40°C

Discharge Bore & Connection 40mm, Threaded Oval Flange

Motor Output 0.25kW

Power Supply Single-phase

Starting Method Capacitor Run

Motor Continuous-duty rated, dry-type induction motor

Insulation Class: E Degree of Protection: IP68

No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)

Power Supply Voltages & Rated Currents 50Hz 60Hz

220V - 2.6A 110V - 4.4A 230V - 2.5A 220V - 2.4A 240V - 2.5A

#### **Power Cable**

Sheath: PVC Standard Length: 5m 100 to 240V supply: 1 × 3 × 1.25mm<sup>2</sup>, O.D. 10.1mm

**Dry Weight** (excluding cable) Standard Model: 6.7kg Automatic Model: 7.2kg

#### Impeller

Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PPO

Solids Passage 50Hz – ¢10mm 60Hz – ¢10mm

#### **Cable Entry with Anti-Wicking Block**

Watertight cable entry with strain-relief device. The antiwicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.

**Bearing** Permanently lubricated, deep-groove, double-shielded C3 ball bearings

Shaft Titanium

**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.

Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + Ceramic

#### **OIL LIFTER**

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.

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 240ml

#### **Motor Protection Device**

A miniature thermal protector is embedded in winding of the motor. Directly cuts the motor circuit if excessive heat builds up in the motor.

# Tsurumi Pump

## SPECIFICATIONS Model

## 40TM2.25

#### **Corrosion-Resistant Pumps**

TM-series

0.25kW, 3-phase

#### Type of Pump

Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater

Type of Fluid Seawater

Temperature: 0 to 40°C

Discharge Bore & Connection 40mm, Threaded Oval Flange

Motor Output 0.25kW

Power Supply Three-phase

Starting Method Direct on Line

Motor Continuous-duty rated, dry-type induction motor

Insulation Class: E Degree of Protection: IP68

No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)

Power Supply Voltages & Rated Currents

50Hz	60Hz
380V – 0.9A	220V – 1.6A
400V – 0.9A	380V – 0.9A
415V – 1.0A	440V – 0.8A

#### **Power Cable**

Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm

**Dry Weight** (excluding cable) Standard Model: 5.7kg Automatic Model: 6.2kg

#### Impeller

Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PPO

Solids Passage 50Hz – ¢10mm 60Hz – ¢10mm

#### **Cable Entry with Anti-Wicking Block**

Watertight cable entry with strain-relief device. The antiwicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.

Bearing

Permanently lubricated, deep-groove, double-shielded C3 ball bearings

### Shaft

Titanium

**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.

Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + Ceramic

#### OIL LIFTER

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.

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 240ml

#### **Motor Protection Device**

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.

# 🥟 Tsurumi Pump

### SPECIFICATIONS | Model

## 50TM2.4S

#### **Corrosion-Resistant Pumps**

TM-series

0.4kW, 1-phase

#### Type of Pump

Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater

Type of Fluid Seawater

Temperature: 0 to 40°C

**Discharge Bore & Connection** 50mm, Threaded Oval Flange

Motor Output 0.4kW

Power Supply Single-phase

Starting Method Capacitor Run

Motor Continuous-duty rated, dry-type induction motor

Insulation Class: E Degree of Protection: IP68

No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)

Power Supply Voltages & Rated Currents 50Hz 60Hz

220V – 3.2A 230V – 3.1A 240V – 3.0A 110V – 5.7A 220V – 2.9A

#### **Power Cable**

Sheath: PVC Standard Length: 5m 100 to 240V supply: 1 × 3 x 1.25mm<sup>2</sup>, O.D. 10.1mm

**Dry Weight** (excluding cable) Standard Model: 6.7kg Automatic Model: 7.2kg

#### Impeller

Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PPO

Solids Passage 50Hz – ¢10mm 60Hz – ¢10mm

#### **Cable Entry with Anti-Wicking Block**

Watertight cable entry with strain-relief device. The antiwicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.

**Bearing** Permanently lubricated, deep-groove, double-shielded C3 ball bearings

Shaft Titanium

**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.

Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + Ceramic

#### **OIL LIFTER**

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.

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 240ml

#### **Motor Protection Device**

A miniature thermal protector is embedded in winding of the motor. Directly cuts the motor circuit if excessive heat builds up in the motor.

🧭 Tsurumi Pump			Co	orrosion-Resistant Pumps				
		EOTI		TM-series				
SPECIFICATIONS	vioaei	5011	VIZ.4	0.4kW, 3-phase				
<b>Type of Pump</b> Submersible semi-vortex pump suitable for pumping seawater	made of titanium	and resin	Impeller Vortex impeller designed for of glass-fiber reinforced PPO	"high-gap structure", made				
<b>Type of Fluid</b> Seawater			Solids Passage 50Hz – ∳10mm 60Hz – ∳10mm					
Temperature: 0 to 40°C			Cable Entry with Anti-Wic	king Block				
<b>Discharge Bore &amp; Connec</b> 50mm, Threaded Oval Flange	tion		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.					
Motor Output 0.4kW								
<b>Power Supply</b> Three-phase			Bearing Permanently lubricated, dee C3 ball bearings	ep-groove, double-shielded				
Starting Method Direct on Line			<b>Shaft</b> Titanium					
<b>Motor</b> Continuous-duty rated, dry-typ	be induction motor		Shaft Seal (Mechanical Se Furnished with a double-face oil chamber. Both upper and	al) mechanical seal located in lower seal faces always run				
Insulation Class: E Degree of Protection: IP68			in a clean environment.					
No. of Poles & Speed (Synchro 2-pole, 3000/3600min <sup>-1</sup> (50/60	onous Speed) Hz)		Upper Seal Face: Ceramic + Lower Seal Face: SiC + Cera	Carbon mic				
Power Supply Voltages & Rate 50Hz 60Hz 380V – 1.2 A 220V – 2.0 400V – 1.2 A 380V – 1.0 415V – 1.25A 440V – 1.0	ed Currents DA 1A DA		<b>OIL LIFTER</b> Equipped in oil chamber. It is oil to the mechanical seal and to the upper seal faces even rated volume.	forcibly supplies lubricating d continues to supply the oil n if lubricant falls below the				

#### **Power Cable**

Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm

**Dry Weight** (excluding cable) Standard Model: 6.6kg Automatic Model: 7.1kg

#### Motor Protection Device

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 240ml

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.

## TSURUMI PUMP

## SPECIFICATIONS | Model

## 50TM2.75

#### **Corrosion-Resistant Pumps**

TM-series

0.75kW, 3-phase

#### Type of Pump

Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater

Type of Fluid Seawater

Temperature: 0 to 40°C

**Discharge Bore & Connection** 50mm, Threaded Oval Flange

Motor Output 0.75kW

Power Supply Three-phase

Starting Method Direct on Line

Motor Continuous-duty rated, dry-type induction motor

Insulation Class: E Degree of Protection: IP68

No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)

Power Supply Voltages & Rated Currents

50Hz	60Hz
380V – 2.0A	220V – 3.2A
400V – 1.9A	380V – 1.8A
415V – 1.9A	440V – 1.6A

#### **Power Cable**

Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm<sup>2</sup>, O.D. 11.1mm

**Dry Weight** (excluding cable) Standard Model: 7.8kg Automatic Model: 8.4kg

#### Impeller

Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PPO

Solids Passage 50Hz – ¢10mm 60Hz – ¢10mm

#### **Cable Entry with Anti-Wicking Block**

Watertight cable entry with strain-relief device. The antiwicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.

Bearing

Permanently lubricated, deep-groove, double-shielded C3 ball bearings

### Shaft

Titanium

**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.

Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + Ceramic

#### OIL LIFTER

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.

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 240ml

#### **Motor Protection Device**

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.

Tsurumi Pump	Corrosion-Resistant Pumps
	TM-series
SPECIFICATIONS Model 5	01 M/2 1.5 1.5kW, 3-phase
<b>Type of Pump</b> Submersible semi-vortex pump made of titanium and suitable for pumping seawater	resin Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PPO
<b>Type of Fluid</b> Seawater	Solids Passage 50Hz – ¢20mm 60Hz – ¢20mm
Temperature: 0 to 40°C	Cable Entry with Anti-Wicking Block
<b>Discharge Bore &amp; Connection</b> 50mm, Threaded Oval Flange	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
Motor Output 1.5kW	submerged.
Power Supply Three-phase	<b>Bearing</b> Permanently lubricated, deep-groove, double-shielded C3 ball bearings
Starting Method Direct on Line	<b>Shaft</b> Titanium
<b>Motor</b> Continuous-duty rated, dry-type induction motor	<b>Shaft Seal</b> (Mechanical Seal) Furnished with a double-face mechanical seal located in oil chamber. Both upper and lower seal faces always run
Insulation Class: E Degree of Protection: IP68	in a clean environment.
No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min <sup>-1</sup> (50/60Hz)	Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC
Power Supply Voltages & Rated Currents $50Hz$ $60Hz$ $380V - 4.1A$ $220V - 6.6A$ $400V - 4.0A$ $380V - 3.9A$ $415V - 4.0A$ $440V - 3.6A$	<b>OIL LIFTER</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.
Power Cable	Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 500ml
Sheath: PVC Standard Length: 6m 200 to 600V supply: 1 × 4 × 1.25mm <sup>2</sup> , O.D. 11.1mm	Motor Protection Device 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
<b>Dry Weight</b> (excluding cable) Standard Model: 14.9kg Automatic Model: 15.6kg	

TSURUMI MANUFACTURING CO., LTD.

# Tsurumi Pump

### SPECIFICATIONS | Model

## 80TM22.2

#### **Corrosion-Resistant Pumps**

TM-series

2.2kW, 3-phase

#### Type of Pump

Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater

Type of Fluid Seawater

Temperature: 0 to 40°C

Discharge Bore & Connection 80mm, Threaded Oval Flange

Motor Output 2.2kW

Power Supply Three-phase

Starting Method Direct on Line

Motor Continuous-duty rated, dry-type induction motor

Insulation Class: E Degree of Protection: IP68

No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)

Power Supply Voltages & Rated Currents

50Hz	60Hz
380V – 5.1A	220V – 8.5A
400V – 5.1A	380V – 4.9A
415V – 5.1A	440V – 4.3A

#### **Power Cable**

Sheath: PVC Standard Length: 6m 380 to 600V supply:  $1 \times 4 \times 1.25$ mm<sup>2</sup>, O.D. 11.1mm 200 to 240V supply:  $1 \times 4 \times 2.0$ mm<sup>2</sup>, O.D. 11.8mm

**Dry Weight** (excluding cable) Standard Model: 21kg Automatic Model: 22kg

#### Impeller

Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PA+ABS

Solids Passage 50Hz – ¢20mm 60Hz – ¢20mm

#### **Cable Entry with Anti-Wicking Block**

Watertight cable entry with strain-relief device. The antiwicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.

Bearing

Permanently lubricated, deep-groove, double-shielded C3 ball bearings

### Shaft

Titanium

**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.

Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC

#### OIL LIFTER

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.

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 680ml

#### **Motor Protection Device**

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.

# TSURUMI PUMP

## SPECIFICATIONS | Model

## 80TM23.7

#### **Corrosion-Resistant Pumps**

TM-series

3.7kW, 3-phase

#### Type of Pump

Submersible semi-vortex pump made of titanium and resin suitable for pumping seawater

Type of Fluid Seawater

Temperature: 0 to 40°C

Discharge Bore & Connection 80mm, Threaded Oval Flange

Motor Output 3.7kW

Power Supply Three-phase

Starting Method Direct on Line

Motor Continuous-duty rated, dry-type induction motor

Insulation Class: E Degree of Protection: IP68

No. of Poles & Speed (Synchronous Speed) 2-pole, 3000/3600min<sup>-1</sup> (50/60Hz)

Power Supply Voltages & Rated Currents

50Hz	60Hz
380V – 7.9A	220V – 13.4A
400V – 7.5A	380V - 7.8A
415V – 7.5A	440V - 7.8A

#### **Power Cable**

Sheath: PVC Standard Length: 6m 380 to 600V supply:  $1 \times 4 \times 2.0$ mm<sup>2</sup>, O.D. 11.8mm 200 to 240V supply:  $1 \times 4 \times 3.5$ mm<sup>2</sup>, O.D. 13.9mm

**Dry Weight** (excluding cable) Standard Model: 26kg Automatic Model: 27kg

#### Impeller

Vortex impeller designed for "high-gap structure", made of glass-fiber reinforced PA+ABS

Solids Passage 50Hz – ¢20mm 60Hz – ¢20mm

#### **Cable Entry with Anti-Wicking Block**

Watertight cable entry with strain-relief device. The antiwicking block prevents water incursion due to capillary action should the power cable be damaged or the end submerged.

Bearing

Permanently lubricated, deep-groove, double-shielded C3 ball bearings

### Shaft

Titanium

**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.

Upper Seal Face: Ceramic + Carbon Lower Seal Face: SiC + SiC

#### OIL LIFTER

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.

Type of Lubricating Oil & Volume Liquid Paraffin (ISO VG32), 680ml

#### **Motor Protection Device**

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.

# TSURUMI PUMP

## DIMENSIONS

# Model 40TM(A)2.25S to 80TM(A)23.7

**Corrosion-Resistant Pumps** 

## **TM-series**

40 - 80mm





#### **Standard Model**

Standard Mode	el											Unit: mm
Model	d	A	A1	A2	В	B1	D	D1	D2	W1	W2	Н
40TM2.25S	40	236	115	81	102	90	162	76	86	325	110	360
40TM2.25	40	236	115	81	102	90	162	76	86	310	110	349
50TM2.4S	50	236	115	81	102	90	162	76	86	325	110	360
50TM2.4	50	236	115	81	102	90	162	76	86	325	110	360
50TM2.75	50	236	115	81	102	90	162	76	86	335	110	374
50TM21.5	50	295	145	99	89	—	196	92	104	390	110	435
80TM22.2	80	311	155	105	110	—	212	104	108	500	130	559
80TM23.7	80	311	155	105	110	—	212	104	108	535	130	594

Automatic Mode	el											Unit: mm
Model	d	A	A1	A2	В	B1	D	D1	D2	Н	FL1	FL2
40TMA2.25S	40	236	115	81	102	90	173	76	97	374	115	607
40TMA2.25	40	236	115	81	102	90	173	76	97	363	115	596
50TMA2.4S	50	236	115	81	102	90	173	76	97	374	115	607
50TMA2.4	50	236	115	81	102	90	173	76	97	374	115	607
50TMA2.75	50	236	115	81	102	90	173	76	97	388	115	621
50TMA21.5	50	295	145	99	89	—	206	92	114	435	138	623
80TMA22.2	80	311	155	105	110	—	221	104	117	559	152	767
80TMA23.7	80	311	155	105	110	—	221	104	117	594	152	802