



## DSSY-XM SERIES



### MARINE TYPE ELECTRIC WATER HEATERS WITH ELECTRICAL COMMAND PANEL

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## **DSSY-XM Series Marine Type Electric Water Heaters with Electrical Command Panel**

### **Standard Specifications :**

Vertical (Up Right)

AISI 304L Storage tank material

Design Code EN 13445-3

Storage Tank Passivated Inside, Pickled Outside

Capacity range between 200 – 9.460 liters

Electric heating power range between 3kW – 800kW

208-380-400-415-440-460-480-600-690 V

[Cr/Ni – 304 quality stainless steel heater \(heating element\)](#)

[Safety thermostat](#)

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[Main circuit breaker](#)

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[Electrical command panel with polyurethane cast gasket cover](#)

24VAC Control Circuit

Rock wool insulated storage tank

[Deck stabilizer special mounting feet](#)

Tank lifting lugs

[T&P temperature and pressure safety relief valve](#)

[Protection system against waterless operation](#)

Visual warning system in case of low water level

[Visual warning system in case of over heating](#)

[Adjustable temperature regulating thermostat](#)

Manometer with glycerine

Electrostatic powder paint coated galvanized steel sheet outer jacket

Hand-hole cleaning cover (for 300L and more)

Drain valve

Additional ground connections

Meets the thermal efficiency requirements of the US Department of Energy and current addition ASHRAE/IES 90.16-1992

Tank materials complies with NSF 61

5 years product guarantee

10 years spare part supply guarantee



### **Optional Equipment and Request Options :**

#### **Vessel**

- Horizontal Orientation
- AISI 316L, 316Ti SS, Duplex stainless steel, CuNi, CuNiFe, storage tank material
- Hot dip galvanized storage tank material
- AISI 304L / 316L stainless steel outer jacket and top / bottom covers
- Man-Hole (DN400, DN500, DN600)
- Vacuum safety valve
- Circulation pump switch and signal lamp
- Expansion tank
- Disinfective and preventive system for Legionella Bacteria
- Alternate heating with hot water, thermal oil or steam.
- IACS class society certification upon request
- Special tank painting applications
- NDT examinations, PMI provided
- Design Code ASME Sec. VIII Div.1

#### **Electrical**

- Enclosure for outdoor / wet locations
- Explosion resistant enclosure for hazardous locations
- Thermic magnetic main circuit breaker
- 
- Incolloy825 heating element (UL Listed – Made in Germany)
- SS 316 or Copper Seamless pipe heating element
- Status indication lamps
- Audible alarm system
- PLC Control temperature controller
- Control panel Anti-condensation heater
- Daily programmable time clock
- Phase protection relay
- Leakage current relay (human life protection)
- Safety switch for electric command panel door
- Fault indication lamp for heating elements
- Lamp test button



## Standard Equipment :

### Stainless Steel Cr/Ni-304 Quality

Special Gasket System as long with stainless steel connection sleeves ensures easy mounting \_ No need for Cotton / Teflon.

[up](#)



*Stainless Steel Connection Sleeves and special gaskets against leakage*

### Safety Thermostat

Provides tank protection via breaking electric circuit of the heaters in case tank water temperature level exceeds the operating temperature value. Factory adjusted and sealed. The reset button on the thermostat should be pressed in order to resume the heating.

[up](#)

### Heater Group Switches and Signal Lamps

Heater group switches placed on cover and being command manually. Operates as ON/OFF. 1 each for every heater group. Purpose of use is to take the groups into/out of the circuit.

Heater group signal lamps are placed on the group switches. Red light will be on in case the switch is in "ON" position. Thermostat will shut all the group lamps when tank water level reaches desired temperature. This means hot water is ready for consumption.

[up](#)

### Heater Group Fuses

There are 3 pieces fuses for each heater exists in every heater group. These fuses breaks the circuit to eliminate the faulty heater incise heater malfunctions

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### **\_\_\_Thermic Magnetic Main Circuit Breaker and 24V.AC Reduced Command Voltage**

A thermic magnetic breaker which is suitable with the heater power of the panel placed to provide protection for cable feed line and panel. This main breaker breaks the circuit in case short circuits and excessive currents. It can operate manually with its latch. Diameter and isolation values of command cables are lower according to energy cables. This disadvantage is being eliminated via using devices with low voltage.

[up](#)

### **\_\_\_Leakage Current Relay (Human Life Protection)**

Heaters leaks current as milliamp as time goes by. This leakage current relay protects system and human life against short circuits and touching.

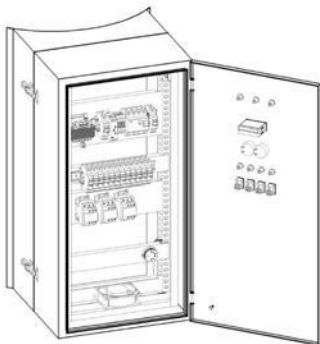
[up](#)

### **\_\_\_Power Steps Control**

Generally total power divided in groups to make power step Control. The power steps are operated by the switches placed on panel cover. If all the switches are in "ON" position, tank will operate with maximum power. In case of the total power is not necessary, thus it is possible to control the heating power via shutting down some of the switches.

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### **\_\_\_Electrical command panel with polyurethane cast gasket cover**



Polyurethane cast gasket used between panel and its' cover provides resistance against dust and water drop.

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### **\_\_\_Tank Passivation**

Tank passivation is a process applied by using special chemical compounds to the inner surfaces of the stainless steel tank in order to maximize the inherent corrosion resistance of stainless steel.

### Deck stabilizer special mounting foot

Deck stabilizer special mounting feet minimizes the risk of hazardous vibrations which can occur on board & off shore platforms.

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### Temperature and Pressure T&P Relief Valve (Made in USA)



T&P valve is a mechanical safety accessory against excessive heat and pressure. It discharges at max. 99°C and/or at 7, 8.6, 10,34bar.

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### Protection System Against Waterless Operation



This system stops the operation and starts to warn the operator with light or audible to protect the heating elements in case the tank is empty or water level of the tank is low.

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## Optional Equipment and Request Options :

### PLC Control Panel

Usage purpose of this programmable logic control panel is to provide easy function follow up of the heating system. User can easily control and adjust the heating functions and follow function faults from the control panel with digital thermostat-thermometer. Data adjustment access is password locked.

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### Safety Switch for Electric Command Panel

This switch provides energy cut-off before opening the tank panel cover in purpose of maintenance, test or malfunction. The panel cover cannot be open unless the switch is being turned.

[up](#)

### Hand-Hole Cleaning Cover

This cleaning cover permits the operator to access to the inner tank for periodical maintenances.

[up](#)

### Vacuum Safety Valve



Watts N36-M1

Design certified by  
SP<sup>®</sup>  
C US

This is a mechanical safety valve which provides protection for system and installation pipes against negative pressure (inner vacuum).

[up](#)

### Expansion Tank

This is an installation accessory which absorbs expanded water and provide system protection.

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### **\_\_\_Disinfective and Preventive System Against Legionella Bacterium**

Water storage systems, fresh water and waste water systems are ideal places for micro-organisms. Among these micro-organisms, especially Legionella bacteria can pullulate easily in the water with 35-45°C temperature. These bacterium cannot live above 65°.

- **Fault indication lamp for heating element**

Indication lamps for heating elements are provided to indicate the faulty element.

### **\_\_\_Circulation Pump Switch and Signal Lamp**

Via this switch it is possible to command the pump from panel cover.

[up](#)





## PLACE OF USAGE

- Vessels
- Mega Yachts
- Tugboats
- Cruise Vessels
- Offshore Oil Plants
- Applications for Military Purpose
  - ✓ Naval Assault Boats
  - ✓ Patrol Boats
  - ✓ Reinforcement Boats
  - ✓ Amphibian Vessel Group
  - ✓ Cost Guard Boats
  - ✓ Rapid Reaction Boats
  - ✓ Sailing School Ships
  - ✓ Salvage Ships
  - ✓ Replenishment Vessels
  - ✓ Cost Guard Rescue Boats





## DSSY-XM SERIE HEATING TIME



MODEL	10 KW	15 KW	20 KW	22.5 KW	30 KW	45 KW	60 KW	75 KW
DSSY-125XM	32.3 min.	21.5 min.	-	-	-	-	-	-
DSSY-150XM	38.7 min.	25.8 min.	-	-	-	-	-	-
DSSY-200XM	51.6 min.	34.4 min.	25.8 min.	-	-	-	-	-
DSSY-250XM	64.5 min.	43.0 min.	32.2 min.	28.7 min.	-	-	-	-
DSSY-300XM	77.4 min.	51.6 min.	38.7 min.	34.4 min.	25.8 min.	-	-	-
DSSY-400XM	103.3 min.	68.8 min.	51.6 min.	45.9 min.	34.4 min.	22.9 min.	-	-
DSSY-500XM	129.1 min.	86.0 min.	64.5 min.	57.4 min.	43.0 min.	28.7 min.	21.5 min.	-
DSSY-750XM	-	129.1 min.	96.8 min.	86.0 min.	64.5 min.	43.0 min.	32.3 min.	25.8 min.
DSSY-1000XM	-	-	129.1 min.	114.7 min.	86.0 min.	57.4 min.	43.0 min.	34.4 min.
DSSY-1250XM	-	-	-	143.4 min.	107.6 min.	71.7 min.	53.8 min.	43.0 min.
DSSY-1500XM	-	-	-	-	129.1 min.	86.0 min.	64.5 min.	51.6 min.
DSSY-2000XM	-	-	-	-	172.1 min.	114.7 min.	86.0 min.	68.8 min.
DSSY-2500XM	-	-	-	-	-	143.4 min.	107.6 min.	86.0 min.
DSSY-3000XM	-	-	-	-	-	172.1 min.	129.1 min.	103.3 min.
DSSY-4000XM	-	-	-	-	-	-	172.1 min.	137.7 min.
DSSY-5000XM	-	-	-	-	-	-	215.1 min.	172.1 min.
MODEL	90 KW	120 KW	150 KW	180 KW	200 KW	240 KW	260 KW	300 KW
DSSY-750XM	21.5 min.	-	-	-	-	-	-	-
DSSY-1000XM	28.7 min.	21.5 min.	-	-	-	-	-	-
DSSY-1250XM	35.9 min.	26.9 min.	21.5 min.	-	-	-	-	-
DSSY-1500XM	43.0 min.	32.3 min.	25.8 min.	21.5 min.	-	-	-	-
DSSY-2000XM	57.4 min.	43.0 min.	34.4 min.	28.7 min.	25.8 min.	21.5 min.	-	-
DSSY-2500XM	71.7 min.	53.8 min.	43.0 min.	35.9 min.	32.3 min.	26.9 min.	24.8 min.	21.5 min.
DSSY-3000XM	86.0 min.	64.5 min.	51.6 min.	43.0 min.	38.7 min.	32.3 min.	29.8 min.	25.8 min.
DSSY-4000XM	114.7 min.	86.0 min.	68.8 min.	57.4 min.	51.6 min.	43.0 min.	39.7 min.	34.4 min.
DSSY-5000XM	143.4 min.	107.6 min.	86.0 min.	71.7 min.	64.5 min.	53.8 min.	49.6 min.	43.0 min.

Mentioned heating times are calculated considering 37°C temperature difference between input&output and without consumption. Heating times are valid only for mentioned "Total Heater Power". For this chart, different KW values will affect only the heating time. Please ask for information with regard to different capacity and KW requests.



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