



Dual-purpose Water/Oil Heater



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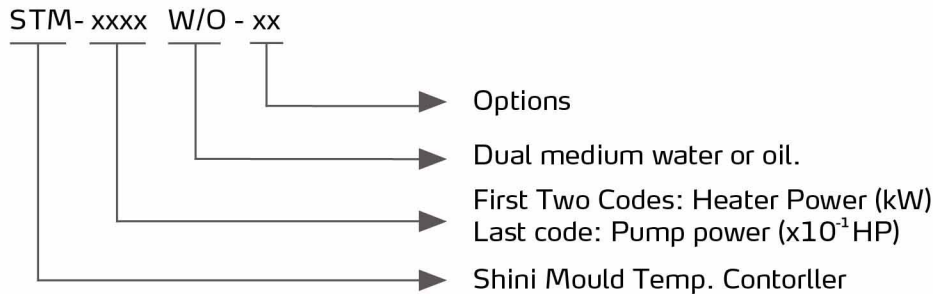
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STM-907W/O



Refer carefully to this manual before operation.

■ Coding Principle



■ Features

- Adopt water or oil as the heat transfer medium, the maximum operating temperature for water is 90°C/203°F, and oil is 160°C/320°F.
- 4.3" Touch screen controller with easy to use HMI and clean display.
- P. I. D multi-stage temperature control system can maintain a mould temperature with an accuracy of ±0.5°C/0.9°F.
- Programmable heating capacity in 3kW, 6kW, or 9kW via HMI.
- Pump reverse function for mould drain.
- Vacuum mode for leak stop function.
- Multiple safety devices including power reverse phase protection, pump overload protection, overheat protection, and low level protection.
- Modbus RTU data communication via RS485.



Inner Structure



Human machine interface

■ Options

- Return water or oil temperature is available as an option, and add "TS" at the end of the model code.
- Digital flow meter is available as an option, and add "V" at the end of the model code.
- Digital pressure gauge is available as an option, and add "P" at the end of the model code.

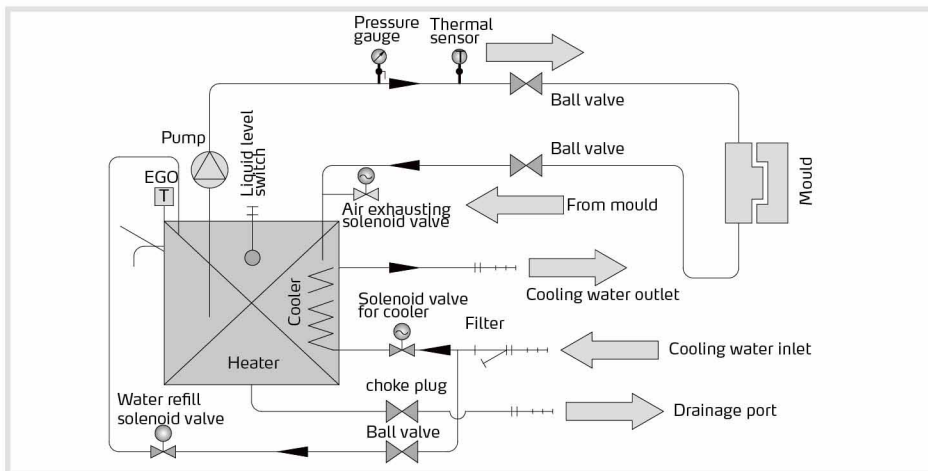
■ Application

STM-W/O series dual-medium mould temperature control units are used as mould heaters and maintain mould temperature. The unit can be used in other similar applications. The unit can use water or heating oil as the heat transfer medium for different production processes or conditions. The unit also has multiple options and accessories to meet various production process needs, such as a flow meter, manifold, hose, multi-coupling system, etc.

STM-W/O Series

Working Principle

The heat transfer medium returns from the mould to the temperature control unit via flexible heat and pressure resistance hose. The pump unit pressurizes or vacuums the line to circuit the mould. During the process in water mode, when the water level drops to the 1st stage. The unit will alarm and enable the solenoid valve to start the auto refill at the same time. When the water level drops to the 2nd stage, the unit will alarm and stop. However, in the heating oil process, when the water level drops to the 1st stage. The unit will only alarm for a manual refill of heating oil and stop when it reaches the 2nd stage. As the heat medium within the unit is overheated, the control unit will enable the cooling water solenoid valve to start the indirect cooling to regulate the temperature. If the unit keeps overheating and reaches the set point of EGO. It will trigger the overheating alarm and stops the unit.



System Flow (Indirect Cooling)

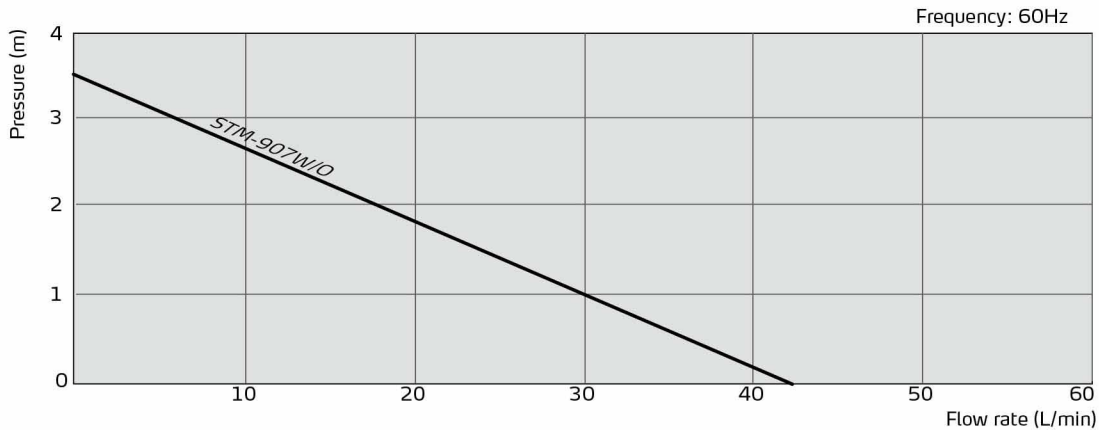
Specifications

Model		STM-907W/O
Max.Temp.		W: 90°C / 203°F O: 160°C / 320°F
Heater(kW)		3, 6, 9
Pump Power(kW) (50/60Hz)		0.55/0.55
Max. pump Flow (50/60Hz)	L/min	40/50
	gal/min	10.6/13.2
Max. pump Pressure(bar)(50/60Hz)		3.2
Heating Tank Number		1
Heating Tank Capacity	L	16
	gal	4.2
Cooling Method		Indirect
Inlet/Outlet (inch)		3/4 / 3/4
Dimensions (H×W×D)	mm	630×270×770
	inch	24.8×10.6×30.3
Weight	kg	47
	lb	103.4

- Notes: 1) To ensure stable heating temperature, the back pressure of inlet/outlet cooling water is not less than 0.5 bar.
 2) Pump testing conditions: Power of 50, purified water in 20°C/68°F. (There is ± 10% tolerance for either max. flowrate or max. pressure).
 3) Power supply: 3Φ, 230/400/460/575VAC, 50/60 Hz.

We reserve the right to change specifications without prior notice.

Pump Performance



Reference formula of Mould Controllers model selection

Heater Power (kW) = mould weight (kg) × mould specific heat (kcal/kg°C) × temperature difference between mould and environment (°C) × safety coefficient / heating duration(h) / 860

Notes: safety coefficient range 1.3-1.5.

Flow Rate (L/min) = heater power (kW) × 860 / [heating medium specific (kcal/kg°C) × heating medium density (kg/L) × in/outlet temperature difference (°C) × time (60Min)]

Notes: Water specific heat =1kcal/kg°C

Heating medium oil specific heat =0.49kcal/kg°C

Water density =1kg/L

Heating medium oil density =0.842kg/L

Time for heating=the time needed to heat from room temperature to set temperature