

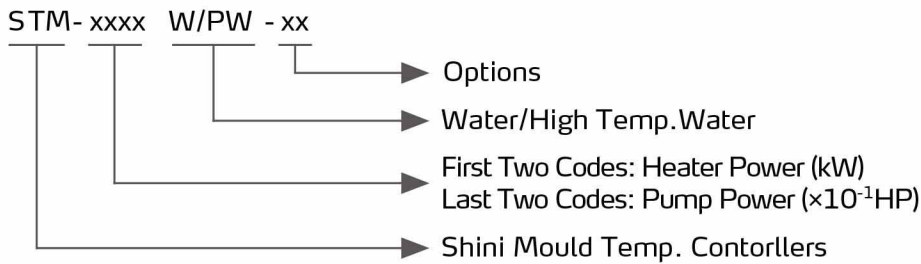
Water Heater

STM-607W



Refer carefully to this manual before operation.

■ Coding Principle



■ Features

- For standard STM-W, the maximum heating temperature is 120°C/248°F.
- P.I.D controller with 3.2" LCD with a user-friendly interface.
- The multi-stage controller can maintain stable mould temperature with a precision of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- In build weekly timer with $^{\circ}\text{C}/^{\circ}\text{F}$ unit conversion.
- Adopt a high-efficiency water pump.
- In build multiple safety with display and alarm buzzer, such as reverse phase, pump overload, overheat, and low water pressure.
- Equipped with high pressure protection, automatic water supplying and air exhausting.
- Direct cooling with excellent refrigerating effect. Auto refilling device cools down the temperature to set value directly.
- Adopt Ethernet communication function to realize central monitoring online.
- Modbus RTU data communication via RS485.



STM-WD



Control Panel

■ Options

- Displays of mould temperature and return water temperature of mould are optional, and add "TS" at end of the model code.
- For models optional with magnetic pump (excluded for STM-3650W and STM-D models), and add "M" at the end of the model code.
- Water-removing via compress air (Exclude for STM-PW), add "A" at the end of the model code.
- Water Flowmeter, add "V" at the end of the model code. (Max operating temperature 120°C).
- It could option with magnetic filter to prolong service life of magnetic pump (only suitable for models with magnetic pump), and add "MF" at the end of the model code.



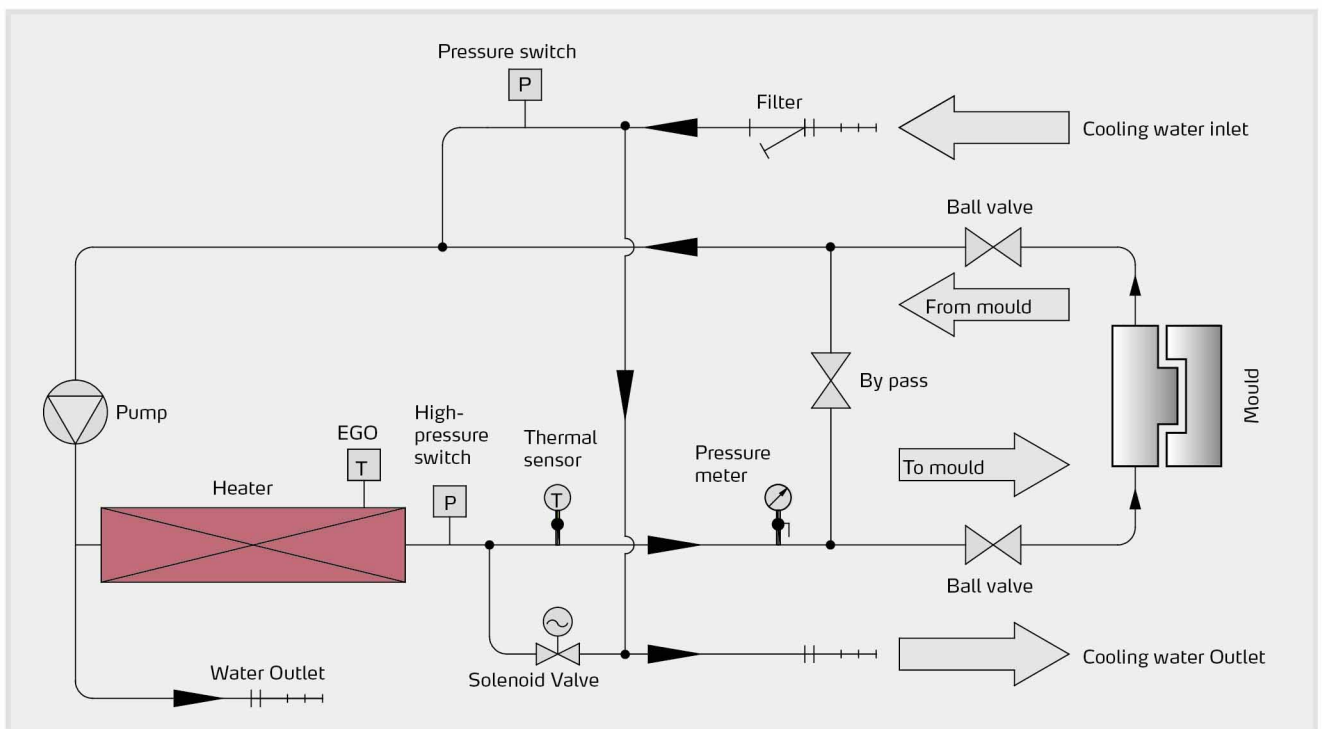
Internal Structure

STM-W Series

■ Application

STM-W series water heaters are used to heat up the mould and maintain temperature, and also they can be used in other similar applications. This series of machines use water as the medium that saves production cost and ensures good working environment. As water circulates in the hermetic pipes, it remains in liquid state even the mould temperature is higher than 100°C, which can enhance flow rate and improve heat transfer effect. Besides, there are multiple options and accessories of this series to meet different production requirements.

■ Working Principle



System flow for STM-W (Direct Cooling)



3D animation
(Tencent)



3D animation
(Youtube)



Specifications

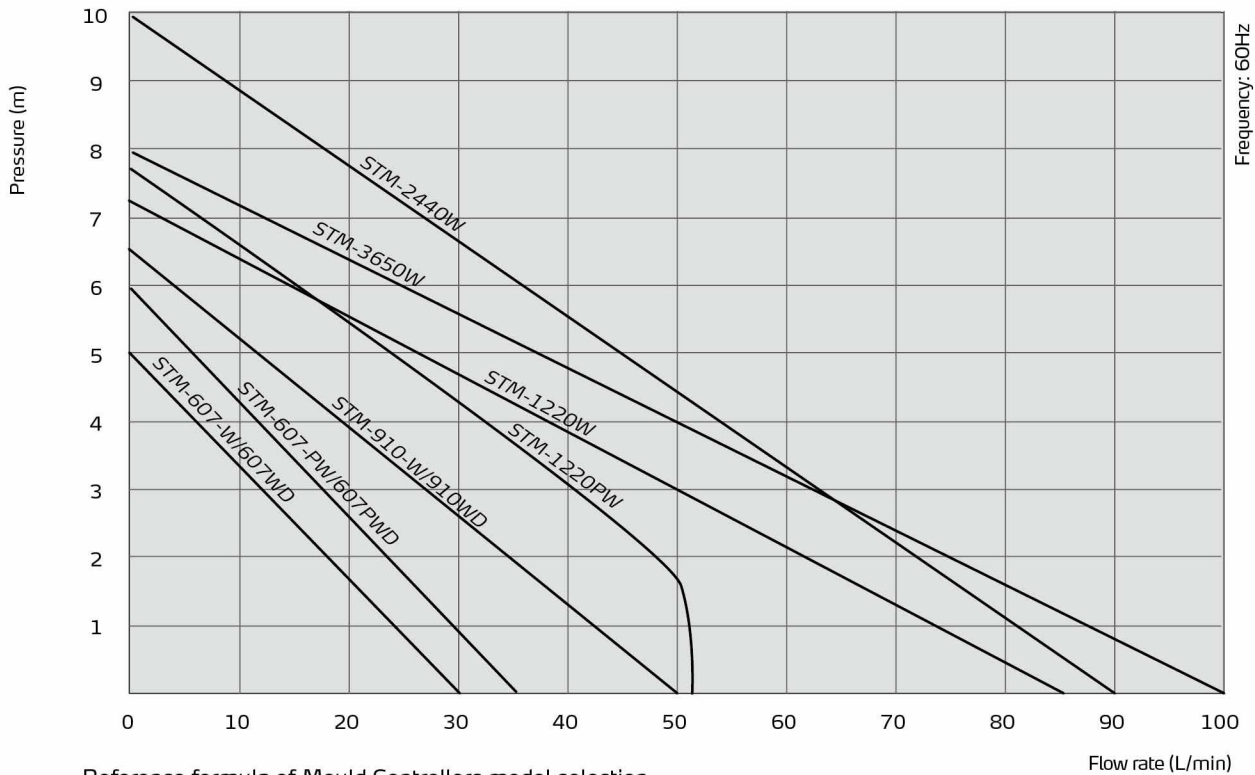
Model		STM-607W	STM-607WD	STM-910W	STM-910WD	STM-1220W	STM-2440W	STM-3650W
Max.Temp.		120°C/248°F(140°C/284°F)**						
Heater(kW)		6	6×2	9	9×2	12	24	36
Pump Power(kW) (50/60Hz)		0.55/0.63	$\frac{2 \times 0.55}{2 \times 0.63}$	0.75/0.92	$\frac{2 \times 0.75}{2 \times 0.92}$	1.5/1.9	2.8/3.4	4
Max. pump Flow (50/60Hz)	L/min	27/30	$\frac{2 \times 27}{2 \times 30}$	42/50	$\frac{2 \times 42}{2 \times 50}$	74/84	90/90	100/100
	gal/min	7.1/7.9	$\frac{2 \times 7.1}{2 \times 7.9}$	11/13.2	$\frac{2 \times 11}{2 \times 13.2}$	19.5/22	23.8/23.8	26.4/26.4
Max. pump Pressure(bar) (50/60Hz)		3.8/5	3.8/5	5.0/6.4	5.0/6.4	6.2/7.2	8.0/10.2	8.0/8.0
Heating Tank Number		1	2	1	2	1	2	3
Heating Tank Capacity	L	3.0	2×3.0	3.0	2×3.0	3.0	7.4	17.7
	gal	0.8	2×0.8	0.8	2×0.8	0.8	2.0	4.7
Cooling Method		Direct						
Inlet/Outlet (inch)		$\frac{3}{4} / \frac{3}{4}$	$\frac{3}{4} / \frac{3}{4}$	$\frac{3}{4} / \frac{3}{4}$	$\frac{3}{4} / \frac{3}{4}$	1 / 1	1 / 1	1 / 1
Dimensions (H×W×D)	mm	605×320×745	655×590×760	605×320×745	655×590×760	615×320×775	820×360×963	980×467×1011
	inch	23.6×12.5×29	25.5×23×29.6	23.6×12.5×29.3	25.5×23×29.6	24×12.5×30.2	32×14×37.6	38.2×18.2×39.4
Weight	kg	55	95	60	105	69	140	150
	lb	121	209	132	231	151.8	308	330

- Notes: 1) Pump testing standard: Power of 50/60Hz, purified water at 20°C/68°F.
(There is ±10% tolerance for either max. flowrate or max.pressure).
2) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.
3) "*" stands for for heating the machine to 140°C/284°F,
cooling water pressure should not be lower than 4kgf/cm².

We reserve the right to change specifications without prior notice.

STM-W Series

■ Pump Performance



Reference formula of Mould Controllers model selection

$$\text{Heater Power (kW)} = \text{mould weight (kg)} \times \text{mould specific heat (kcal/kg}^\circ\text{C)} \times \text{temperature difference between mould and environment (}^\circ\text{C)} \times \text{safety coefficient} / \text{heating duration} / 860$$

Notes: safety coefficient range 1.3~1.5.

$$\text{Flow Rate (L/min)} = \text{heater power (kW)} \times 860 / [\text{heating medium specific (kcal/kg}^\circ\text{C)} \times \text{heating medium density (kg/L)} \times \text{in/outlet temperature difference (}^\circ\text{C)} \times \text{time (60)}]$$

Notes: Water specific heat =1kcal/kg^{°C} Water density =1kg/L Time for heating=the time needed to heat from room temperature to set temperature

Shini Group

Addr: No. 23, Minhe St., Shulin Dist.,
New Taipei, Taiwan

Tel: +886 2 2680 9119

Fax: +886 2 2680 9229

Email: shini@shini.com

Factories:

- Taiwan
- Dongguan
- Pinghu
- Ningbo
- Chongqing
- Pune