Water Heater

STM-607W

Refer carefully to this manual before operation.

STM-W Series

Coding Principle

STM- xxxx W/PW - xx

- xx → Options
- W/PW → Water/High Temp.Water
- xxxx → First Two Codes: Heater Power (kW) / Last Two Codes: Pump Power (×10^{-1}HP)
- STM- → Shini Mould Temp. Contorllers

Features

- For standard STM-W, the heating temperature can reach 120℃/248°F.
- Controller adopts 3.2 " LCD for easy operation.
- 7-day automatic start/stop timer supports the conversion between Chinese and English, and ℃ and °F.
- P.I.D. multi-stage temperature control system can maintain a stable mould temperature with an accuracy of ±0.5℃/0.9°F.
- Adopt high efficiency water cycle pump.
- Multiple safety devices include power reverse phase protection, pump overload protection, overheat protection and low level protection that can automatically detect abnormal performance and indicate this via visible alarm.
- Equipped with high pressure protection, safety pressure relieving, 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.
- Standard equipped with the buzzer.

Control Panel


Internal Structure

Options

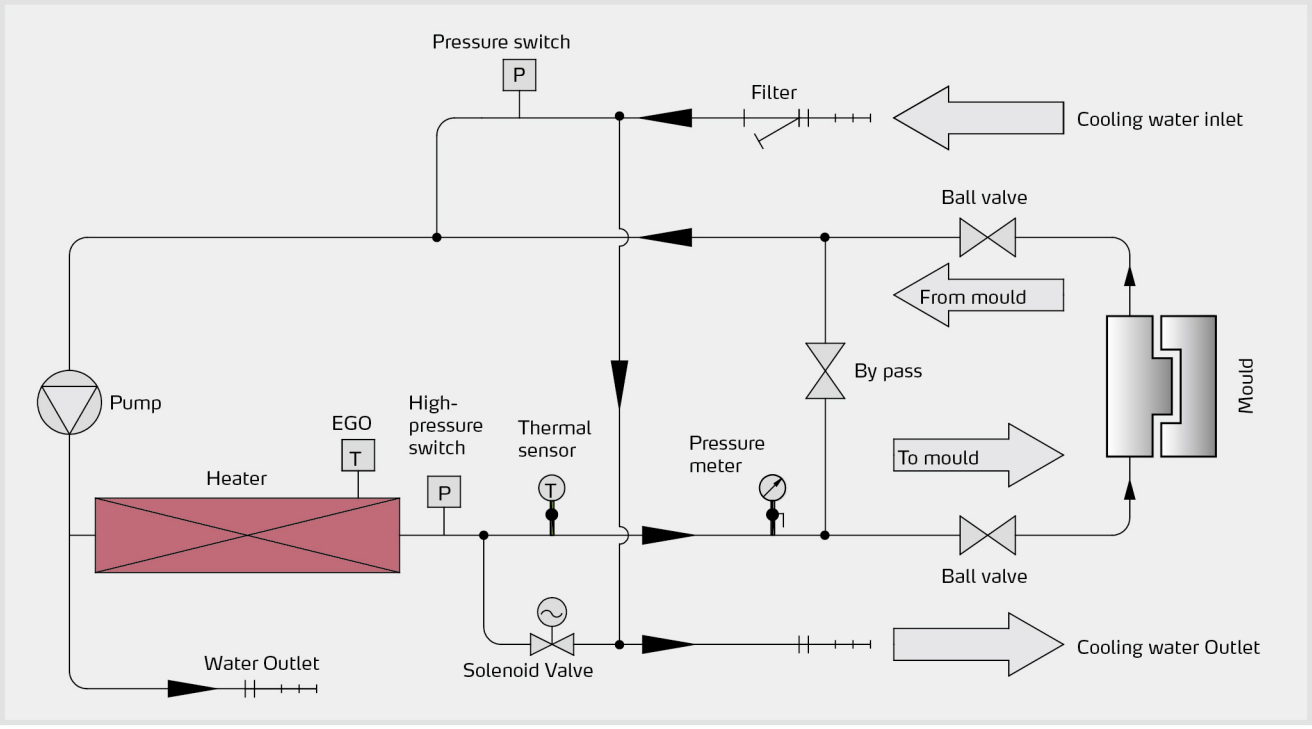
- Displays of mould temperature and return oil temperature of mould are optional,and add “TS” at end of the model code.
- For models optional with magnetic pump (excluded for STM-3650 and STM-D models), and add “M” at the end of the model code.
- For models optional with auto air-blowing function, add "A" at the end of the model code. For models optional with manual air-blowing function, add "MA" at the end of the model code.
- Flow switch,add "V" at the end of the model code.(Maximum 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.

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

High temperature water returns to the machine and then be pressured by pump to the heaters. After being heated, water will be forced to mould and continue the circle. In the process, if the water temperature is too high, the system will activate the solenoid valve to let cooling water cool down the temperature directly until the water is down to the system requirement. If the temperature keeps increasing and reach to the set point of EGO, system will sound high pressure alarm and stop operation; when system pressure is too high (reach set value of high pressure switch), alarm would sounds and machine halts; when cooling water pressure fails to reach the set value, pressure switch will send a signal of water storage to launch low pressure alarm and machine halts.



System flow for STM-W (Direct Cooling)

STM-W Series

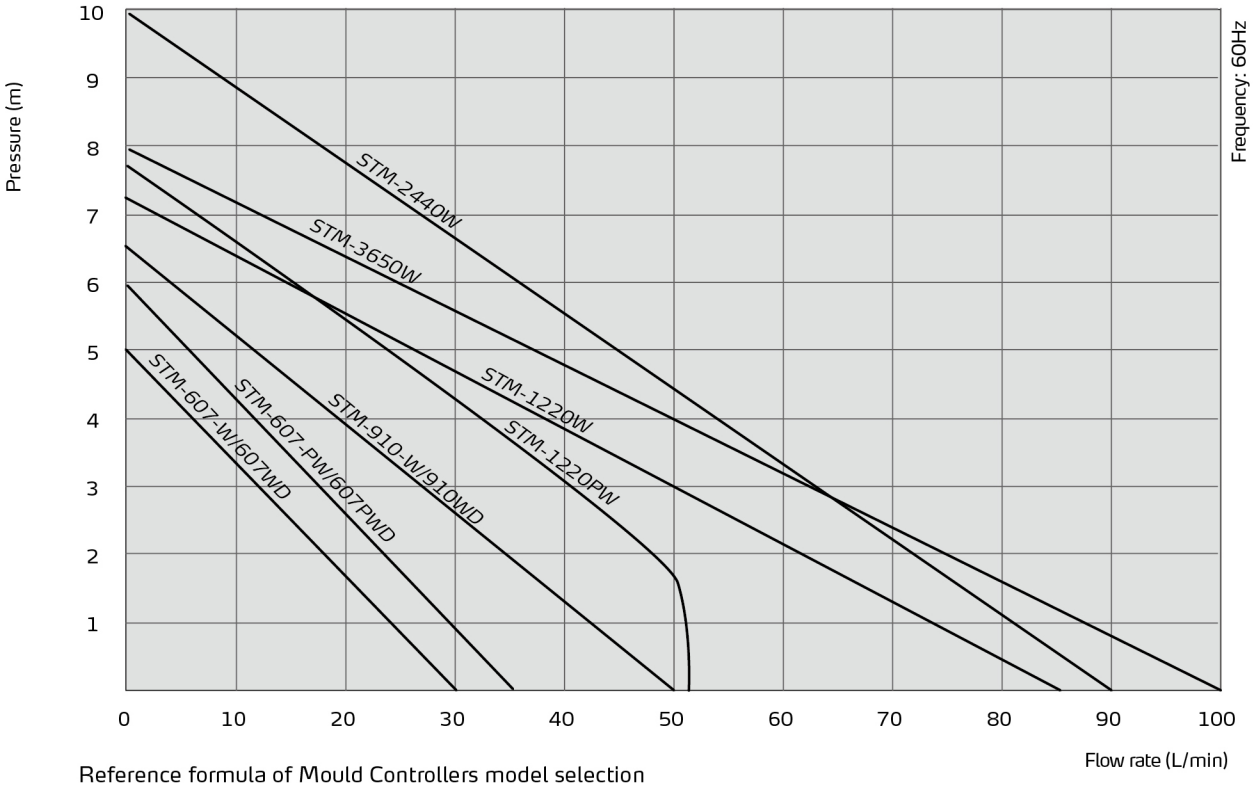
Specifications

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)**						
Pipe Heater(kW)		6	6×2	9	9×2	12	24	36
Pump Power(kW) (50/60Hz)		0.55/0.63	2×0.55 / 2×0.63	0.75/0.92	2×0.75 / 2×0.92	1.5/1.9	2.8/3.4	4
Max. pump Flow (50/60Hz)	L/min	27/30	2×27 / 2×30	42/50	2×42 / 2×50	74/84	90/90	100/100
	gal/min	7.1/7.9	2×7.1 / 2×7.9	11/13.2	2×11 / 2×13.2	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
CoolingMethod		Direct						
Inlet/Outlet (inch)		3/4 / 3/4	3/4 / 3/4	3/4 / 3/4	3/4 / 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) When equipped with water-removing function of air blowing, model code should be followed by "A".
2) In order to maintain stable temp. of heat transfer media(120°C/248°F), cooling water pressure should be no less than 2kgf/cm² , but also no more than 5kgf/cm².
3) 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).
4) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.
5) "**" stands for for heating the machine to 140℃/284°F, cooling water pressure should not be lower than 4kgf/cm².

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℃) × temperature difference between mould and environment (℃) × safety coefficient / heating duration / 860

Notes: safety coefficient range 1.3~1.5.

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

Notes: Water specific heat =1kcal/kg℃ Water density =1kg/L Time for heating=the time needed to heat from room temperature to set temperature