



## "Large Flow" Water Heater

STM-607WF

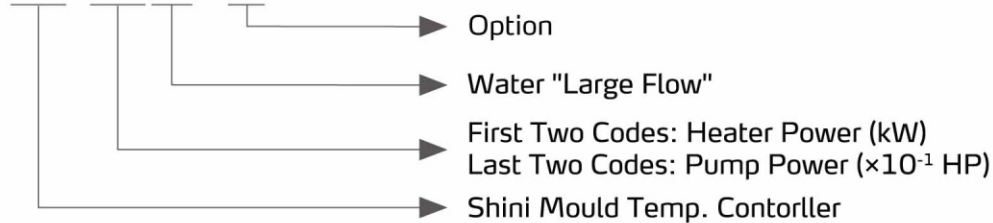


Refer carefully to this manual before operation.

# STM-WF Series

## ■ Coding Principle

STM- xxxx WF - XX



## ■ Features

- Controller adopts 3.2 " LCD for easy operation.
- Equipped with the design of 7-day automatic start/stop timer. LCD screen can be converted between Chinese and English. The unit of temperature can be converted between °F and °C.
- P.I.D. multi-stage temperature control system can maintain a mould temperature with an accuracy of  $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$ .
- Multiple safety devices including 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.
- Adopts large-flow pump with high stable performance, which especially suitable for extrusion molding and applications alike.
- Direct cooling can achieve optimal cooling effect; automatic water backup can rapidly lower temperature to set point.
- Advanced design of cycle can avoid high pressure explosion when system is under faults.
- Adopted Ethernet communication function to realize central monitoring online.

## ■ Options

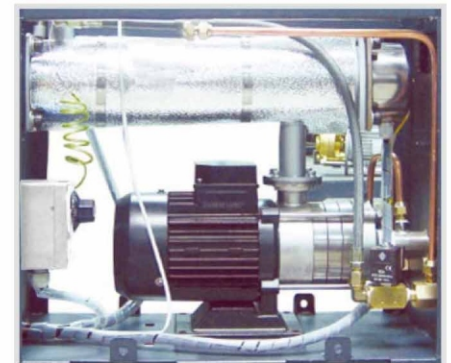
- Teflon hose is optional.
- Display of mould temperature and mould return water temperature is optional.
- Buzzer is optional .Add "B" at the model behind.

## ■ Application

STM-WF series "Large Flow" water heaters are used to heat up the mould and maintain temperature, also they can be used in similar applications. High temperature water from the mould is returned to the cooling tank and cooled by direct cooling. It is then pressurized by the high-pressure pump, sent to the heating tank and finally to the mould with a constant temperature. The newly applied temperature controller can maintain an accuracy of  $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$ .



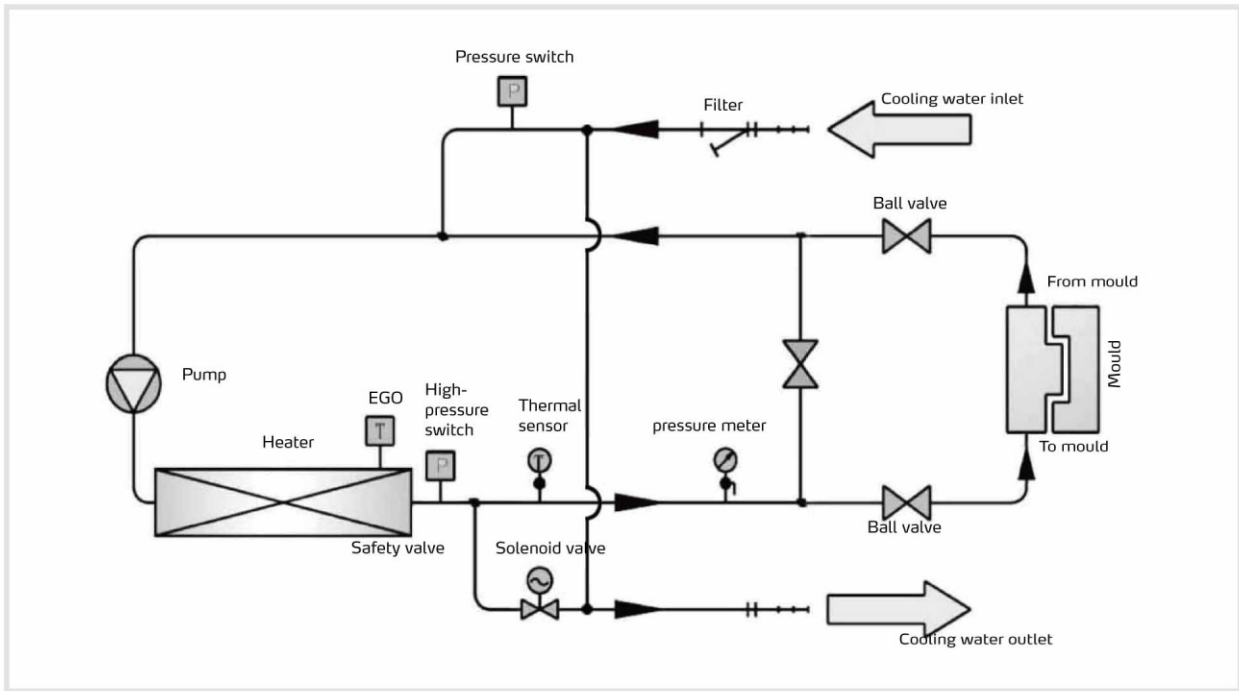
Control Panel



Inner Structure

# STM-WF Series

## Working Principle



System flow (Direct Cooling)

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 temperature is too high, the system will activate the solenoid valve to let cooling water lower the temp. directly until the water is down to the system requirement. If the temp. keep increasing and reach to the set point of EGO, system will alarm and stop operation; when system pressure is too high (reach set value of high pressure switch), alarm would sounds and machine halts; if cooling water pressure fails to reach setting, pressure switch would send a signal of water deficiency and system would launch low pressure alarm with machine halting.

## Specifications

Model		STM-607WF	STM-910WF	STM-1220WF	STM-2430WF※	STM-3650WF※	STM-4875WF※
Max.Temp.		120°C/248°F					
Pipe Heater(kW)		6	9	12	24	36	48
Pump Power(kW) (50/60Hz)		0.55/0.55	0.75/0.75	1.1/1.5	2.2/2.2	3.0/4.0	5.5/5.5
Max. pump Flow (50/60Hz)	L/min	58/67	116/133	168/216	267/333	267/398	533/580
	gal/min	15.3/67.3	30.6/35.1	44.4/57	70.5/88	70.5/105	140.7/153
Max. pump Pressure(bar)(50/60Hz)		2.8/2.6	2.8/2.6	2.9/2.7	2.9/2.9	3.4 /4.3	4.5/3.8
Heating Tank Number		1	1	1	2	3	4
Heating Tank Capacity	L	3.0	3.0	3.2	7.2	12.0	16.0
	gal	0.8	0.8	0.85	1.9	3.2	4.2
Cooling Method		Direct					
Mould Coupling* (inch)		1 (1×2)	1 (1×2)	1½ (1×2)	1½ (1×2)	1½ (1×2)	1½ (1×2)
Inlet/Outlet (inch)		1 / 1	1 / 1	1½ / 1½	1½ / 1½	1½ / 1½	1½ / 1½
Dimensions (H×W×D)	mm	655×320×750	655×320×790	675×320×830	855×434×840	855×474×940	955×474×1100
	inch	25.5×12.5×29.3	25.5×12.5×30.8	26.3×12.5×32.3	33.3×16.9×32.8	33.3×18.5×36.7	37.2×18.5×42.9
Weight	kg	60	85	85	156	180	242
	lb	132	187	187	343	397	532

Notes: 1) "※" stands for vertical pump. "\*" stands for options.

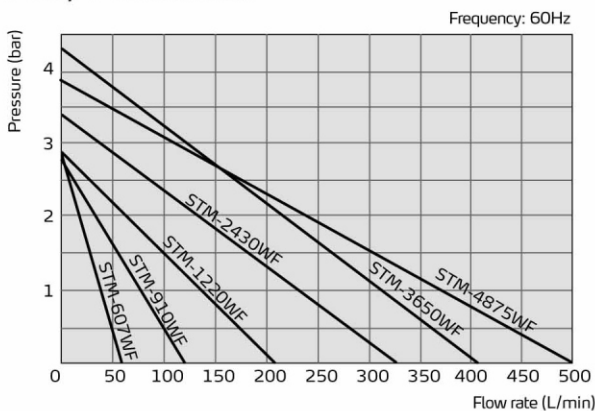
2) In order to maintain stable temp. of heat transfer media, cooling water pressure should be no less than 2kgf/cm<sup>2</sup>, but also no more than 5kgf/cm<sup>2</sup>.

3) Pump testing standard: Power of 50 / 60Hz, purified water in 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.

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 / 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 (60)]

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

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