"Large Flow" Water Heater

STM-607WF
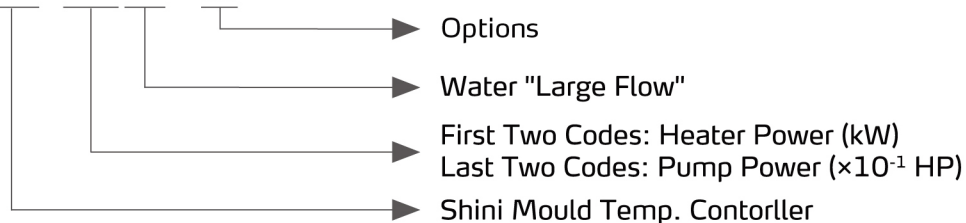
STM-WF Series

■ Coding Principle

STM - xxxx WF - xx

→ Options

→ Water "Large Flow"

→ First Two Codes: Heater Power (kW)
Last Two Codes: Pump Power ($\times 10^{-1}$ HP)

→ Shini Mould Temp. Contorller

■ Features

- The max. working temperature can reach 120℃.

- 7-day automatic start/stop timer supports the conversion between Chinese and English, and ℃ and ºF.

- P.I.D. multi-stage temperature control system can maintain a mould temperature with an accuracy of ±0.5℃.

- 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.

- Direct cooling with excellent refrigerating effect. Auto refilling device cools down the temperature to set value directly.

- RS485 communication interface achieves centralized monitoring with the host.

- Standard equipped with the buzzer.
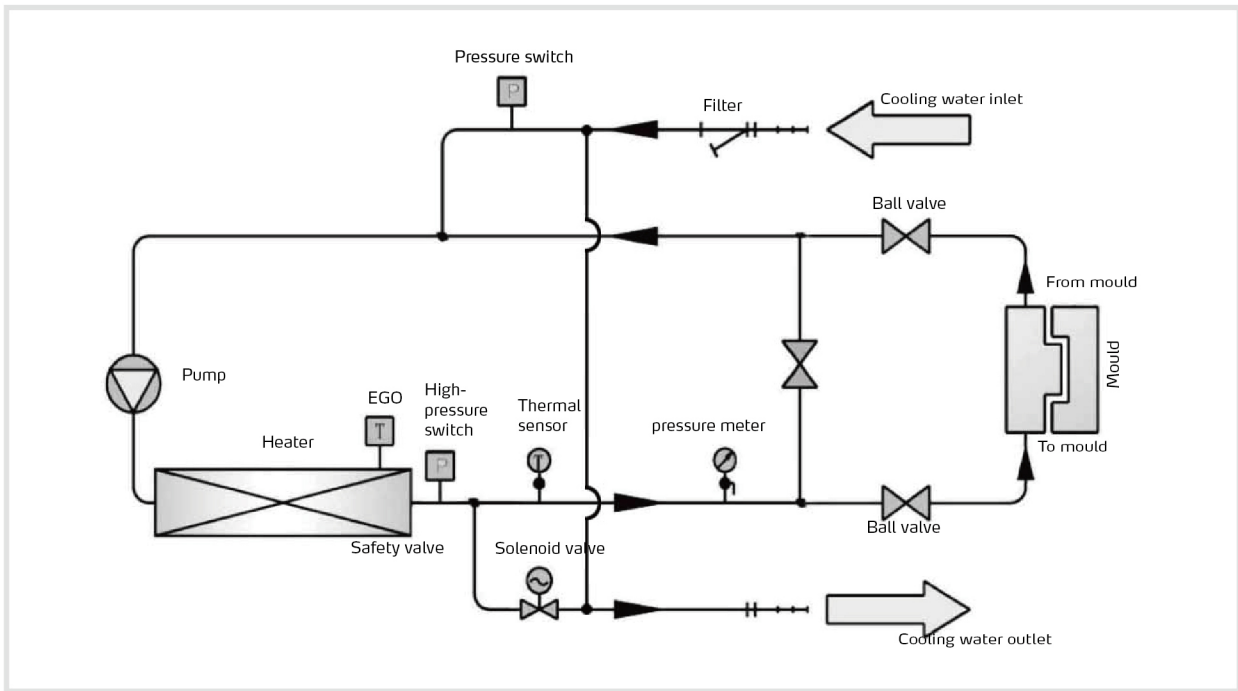

Control Panel
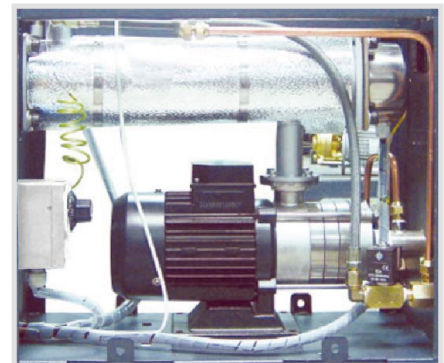
Inner Structure

■ Options

- Displays of mould temperature and return oil temperature of mould are optional, and add "TS" at end of the model code.

■ Application

STM-WF series "Large Flow" water heaters are used to heat up the mould and maintain temperature, and also they can be used in other similar applications. Compared with standard water heaters STM-W, this series of machines adopt large flow pump that are especially applicable to large flow and constant temperature productions, such as plates and extrusion molding etc. Besides, this series of models have multiple options and accessories to meet different production demands.

■ Working Principle

Pressure switch

Filter

Cooling water inlet

Ball valve

From mould

Mould

Pump

EGO

High-pressure switch

Thermal sensor

pressure meter

To mould

Heater

Safety valve

Solenoid valve

Ball valve

Cooling water outlet

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.
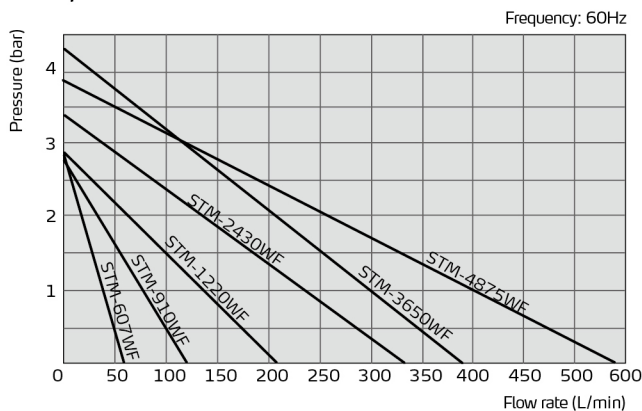
■ Specifications

Model	STM-607WF	STM-910WF	STM-1220WF	STM-2430WF※	STM-3650WF※	STM-4875WF※
Max.Temp.			$120^oC/248^oF$			
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
Max. pump Flow (50/60Hz) 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
Heating Tank Capacity gal	0.8	0.8	0.85	1.9	3.2	4.2
CoolingMethod			Direct			
Mould Coupling* (inch)	1 (1×2)	1 (1×2)	$1^1/_2$ (1×2)	$1^1/_2$ (1×2)	$1^1/_2$ (1×2)	$1^1/_2$ (1×2)
Inlet/Outlet (inch)	1 / 1	1 / 1	$1^1/_2$ / $1^1/_2$	$1^1/_2$ / $1^1/_2$	$1^1/_2$ / $1^1/_2$	$1^1/_2$ / $1^1/_2$
Dimensions (H×W×D) mm	655×320×750	655×320×790	675×320×830	855×434×840	855×474×940	955×474×1100
Dimensions (H×W×D) 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
Weight lb	132	187	187	343	397	532

Notes：1) "※" sands for vertical pump.
2) In order to maintain stable temp. of heat transfer media, 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 in $20^oC/68^oF$. (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

Frequency: 60Hz

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℃
Heating medium oil specific heat =0.49kcal/kg℃
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