



## Oil Heater

STM-910

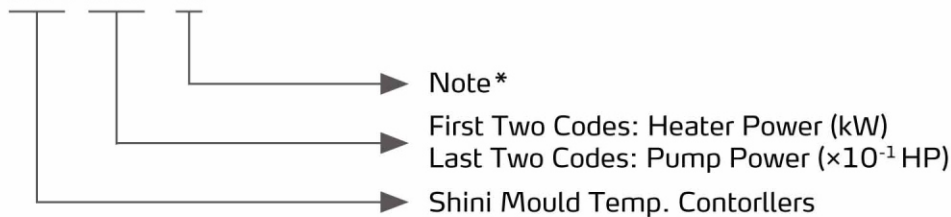


Refer carefully to this manual before operation.

# STM Series

## ■ Coding Principle

STM- xxxx - xx



Note\*:

D=Dual-heating Zones      HT=High Temperature Model  
CE= CE Conformity      M= Magnepic Pump



STM-910-D

## ■ Features

### Standard configuration

- 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 mould temperature with an accuracy of  $\pm 0.5^{\circ}\text{C}$ .
- Adopts high efficiency high temperature pump, which can meet the demands of temperature control for precise moulds and mould loop with minor diameter to achieve precise temperature control and high efficient heat exchange.
- 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.
- Pipe heaters are made of stainless steel.
- For standard STM, the heating temperature can reach  $200^{\circ}\text{C}$ , while for STM-HT, it can reach  $300^{\circ}\text{C}$ .
- STM-HT is equipped with magnetic pump and its internal structure is made of high pressure resistance stainless steel to prevent any explosion.



STM-2440HT



Control Panel

### Accessory option

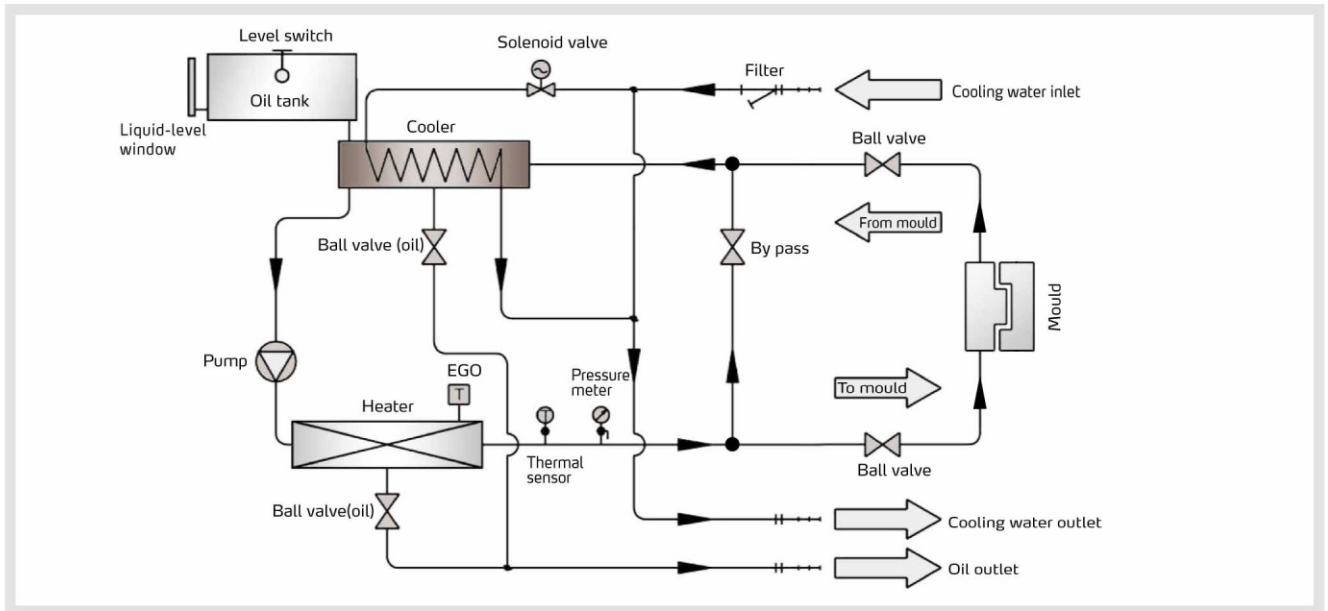
- Water manifolds, Teflon hose and Transfer oil are optional.
- All models of the standard oil mould controllers STM can opt for magnetic pump (STM-3650 series excluded).
- RS485 communication function; display of mould temperature and mould return water temperature are optional.
- Displays of mold temperature and return water temperature of mold are optional.

## ■ Application

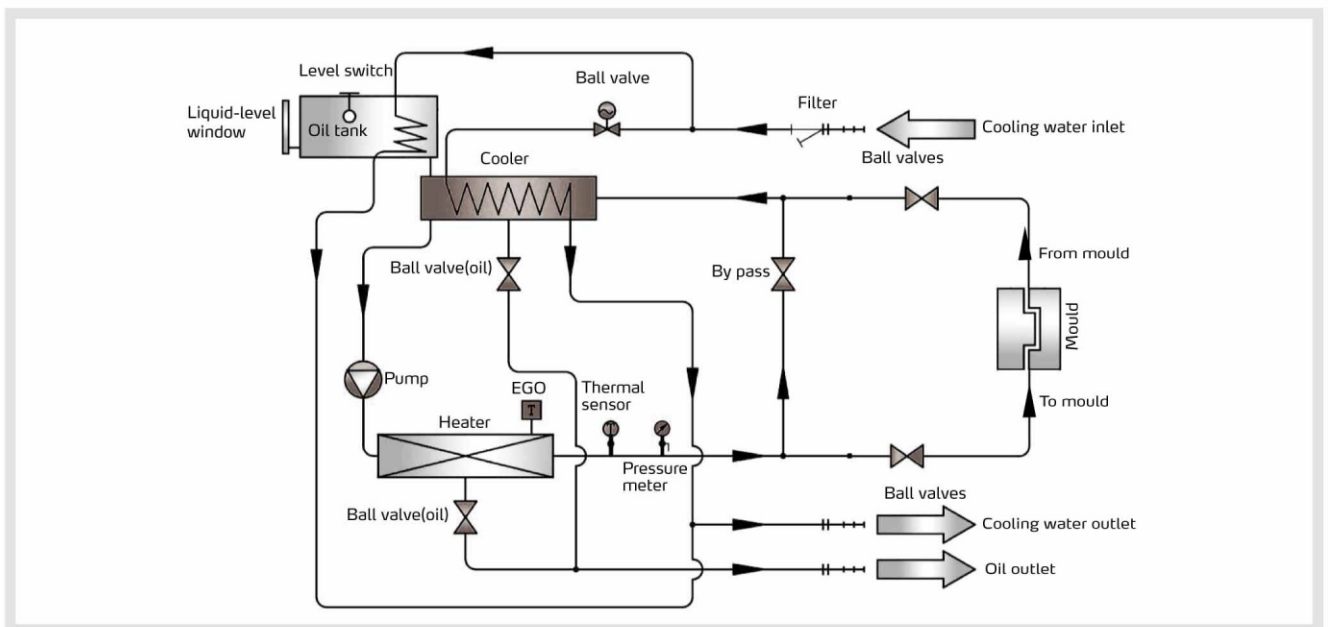
STM series of oil heaters have both the standard and high temperature types. It's mainly applied to heating up and temperature maintenance of mold. It also can be applied to other fields with the same demands. High temperature oil from the mold is returned to the cooler for indirectly cooling. Then the oil will be sent to the mold after being pressurized by pump and heated by the heater pipe, which realizes heating and temperature maintenance of the oil. Besides, it can ensure stable temperature control with the new type of controller.

## ■ Working Principle

The high temperature oil returns to the machine and then be pressured by pump to the heaters. After being heated, oil will be forced to the mould and continue the circle. In the process, if the oil temperature is too high, system will activate the solenoid valve to let cooling water cool down high temperature oil indirectly until the temperature is down to the system requirement. If the temperature keeps increasing and reaches to the set point of EGO, the system will sound alarm and stop operation. The system will have low level alarm and stop working if oil level falls down below the set point.



System flow for STM



System flow for STM-HT

# STM Series

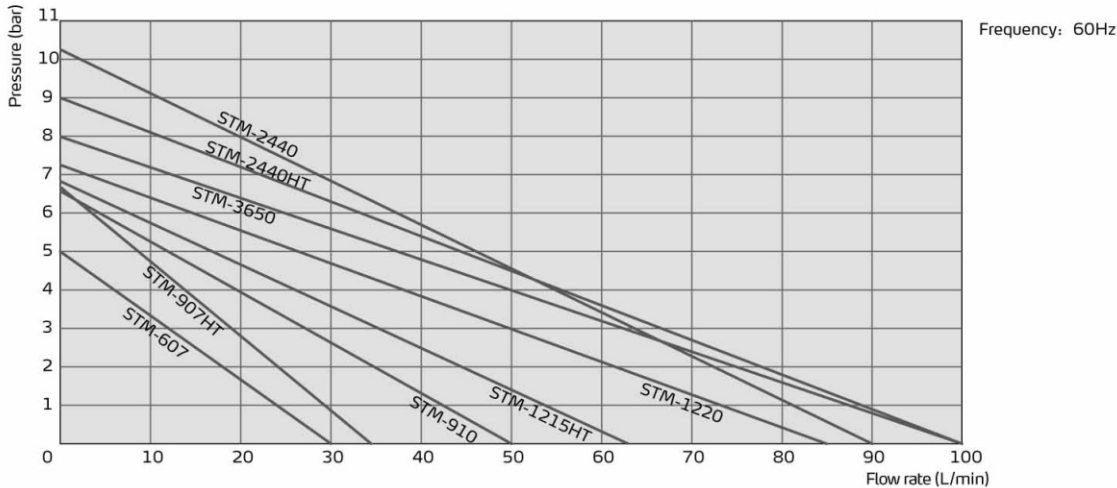
## Specifications

Model	Max. Temp.	Pipe Heater (kW)	Pump Power (kW) (50/60Hz)	Max. pump Flow (L/min) (50/60Hz)	Max. pump Pressure (bar) (50/60Hz)	Heating Tank Number	Main/Sub. Oil Tank (L)	Cooling Method	Mould Coupling* (inch)	Inlet/Outlet (inch)	Dimensions (mm) (HxWxD)	Weight (kg)
STM-607	200°C	6	0.55/0.63	27/30	3.8/5	1	6/3.2	Indirect	3/8 (2x2)	3/4 / 3/4	670x320x760	65
STM-607-D		6x2	2x0.55 / 2x0.63	2x27 / 2x30	3.8/5	2	2x6/2x3.2		3/8 (4x2)	3/4 / 3/4	655x560x740	130
STM-910		9	0.75/0.92	42/50	5.0/6.4	1	6/3.2		3/8 (2x2)	3/4 / 3/4	635x320x740	70
STM-910-D		9x2	2x0.75 / 2x0.92	2x42 / 2x50	5.0/6.4	2	2x6/2x3.2		3/8 (4x2)	3/4 / 3/4	655x560x740	140
STM-1220		12	1.5/1.9	74/84	6.2/7.2	1	6.8/11.8		3/8 (4x2)	1 / 1	795x340x845	100
STM-2440		24	2.8/3.4	90/90	8.0/10.2	2	11/16		1 (1x2)	1 / 1	900x390x935	145
STM-3650		36	4/4	100/100	8.0/8.0	3	14/16		1 1/4 (1x2)	1 1/4 / 1 1/4	900x385x980	155
STM-907-HT	300°C	9	0.5/0.63	28/34	4.8/6.5	1	6/6		3/8 (2x2)	3/4 / 3/4	695x280x740	75
STM-1215-HT		12	1.0/1.1	58/63	5.8/6.8	1	6.8/16		1 (1x2)	1 / 1	795x340x820	100
STM-2440-HT		24	2.8/3.43	100/100	8/9	2	16/25		1 (1x2)	1 / 1	1050x515x910	190

- Notes: 1) "\*" stands for options.  
 2) "D" stands for dual-heating zones. "HT" stands for high temperature model.  
 3) Pump testing standard: Power of 50/60Hz, purified water at 20°C. (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

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

Notes: safety coefficient range 1.3-1.5.

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

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

## 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](mailto:shini@shini.com)

### Factories:

- Taiwan
- Dongguan
- Pinghu
- Ningbo
- Mumbai

2014-07-15-04 Copyrights Reserved.

[www.shini.com](http://www.shini.com)