

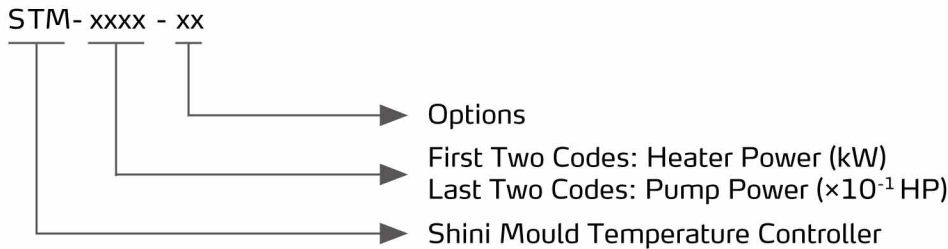
## Oil Heater

STM-1220



Refer carefully to this manual before operation.

## ■ Coding Principle



## ■ Features

- For standard STM, the maximum heating temperature can reach up to 200°C/392°F, while the maximum heating temperature of STM-HT can reach 300°C/572°F.
- P.I.D controller with 4.3" LCD with a intuitive and user-friendly interface.
- Weekly timer with °C/0.9°F unit conversion.
- Adopt digital P.I.D. multi-stage controller can maintain stable mould temperature with a precision of  $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$ .
- SSR solid state relay
- STM in build an efficient high temperature pump. STM-HT is equipped with magnetic pump, and the interior is made of stainless steel for high pressure explosion-proof without leakage;
- In build multiple safety plus warning devices, such as reverse phase, pump overload, overheat, and low oil level alarm.
- Stainless steel pipe heater.
- Standard equipped with flow display and pump reverse function for oil return.
- RS485 communication interface achieves centralized monitoring with the host.
- Standard buzzer



STM-2440HT



Control Panel



Magnetic pump

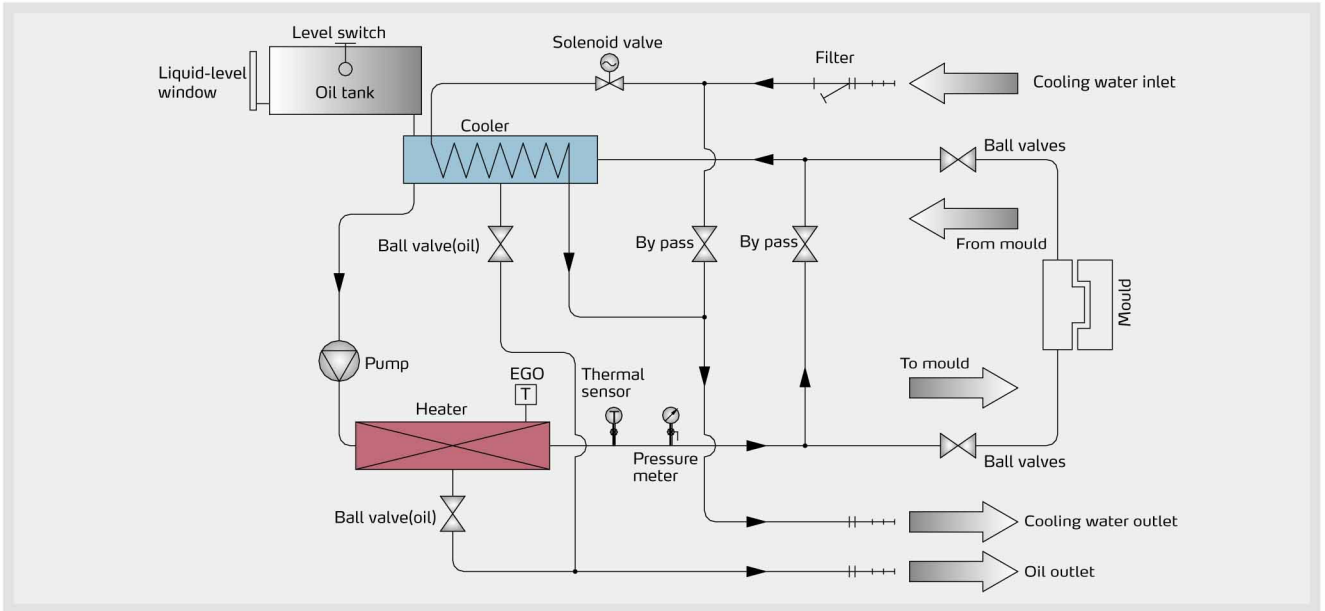
## ■ Options

- Displays of mould temperature and return oil temperature of mould are optional, and add "TS" at the end of the model code.
- For models optional with magnetic pump (excluded for STM-3650 and STM-D models), add "M" at the end of the model code.
- It could option with magnetic filter to prolong service life of magnetic pump (only suitable for models with magnetic pump). Add "MF" at the end of the model code.

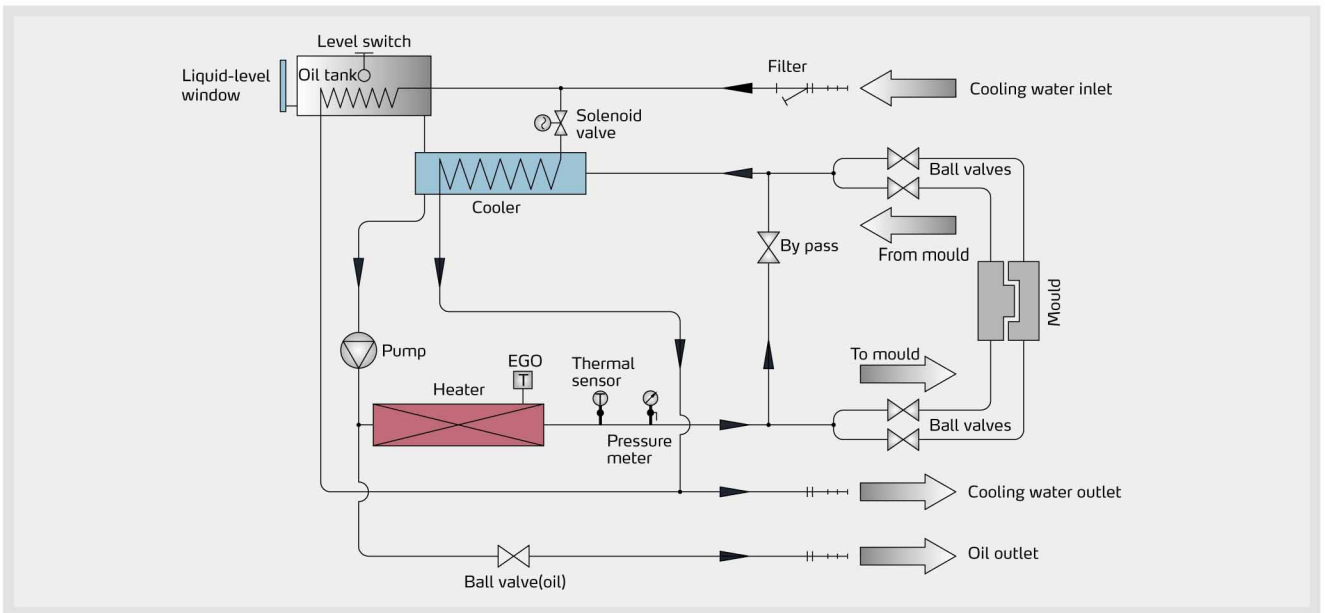
## ■ Application

STM series of oil heaters have both the standard and high temperature types, which can heat moulds up to 200°C and 300°C respectively. It's mainly applied to heating up and temperature maintenance of mould, and other fields with the same demands. This series of machines use oil as the medium so that rust can be avoided inside the mould. As oil has small specific heat, its heating and cooling rates are better than water heaters. The oil heaters can be used for moulds with high temperature demands, and multiple options and accessories are available for customers to meet different production requirements.

## Working Principle



System flow for STM



System flow for STM-HT

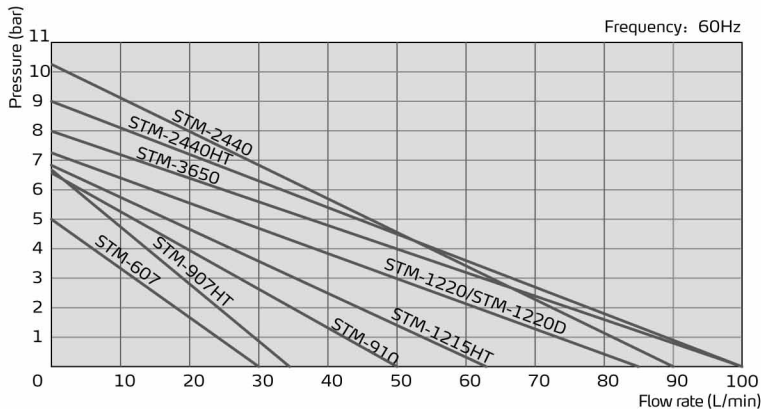


## Specifications

Model	STM-607	STM-607D	STM-910	STM-910D	STM-1220	STM-1220D	STM-2440	STM-3650	STM-907HT	STM-1215HT	STM-2440HT	
Max. Temp.	200°C / 392°F						300°C / 572°F					
Pipe Heater (kW)	6	6×2	9	9×2	12	12×2	24	36	9	12	24	
Pump Power (kW) (50/60Hz)	0.55/0.63	2×0.55 2×0.63	0.75/0.92		1.5/1.9	2×1.5 2×1.9	2.8/3.4	4/4	0.5/0.63	1.0/1.1	2.8/3.43	
Max. pump Flow (50/60Hz)	L/min	27/30	2×27 2×30	42/50	2×42 2×50	74/84	2×74 2×84	90/90	100/100	28/34	58/63	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	2×19.5 2×22	23.7/23.7	26.4/26.4	7.4/9	15.3/16.6	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	6.2/7.2	8.0/10.2	8.0/8.0	4.8/6.5	5.8/6.8	8/9	
Heating Tank Number	1	2	1	2	1	2	2	3	1	1	2	
Main/Sub. Oil Tank	L	6/3.2	2×6/2×3.2	6/3.2	2×6/2×3.2	6.8/11.8	2×6.8/ 2×11.8	11/16	14/16	6/6	6.8/16	16/25
	gal	1.58/0.85	2×1.58/ 2×0.85	1.58/0.85	2×1.58/ 2×0.85	1.8/3.1	2×1.8/ 2×3.1	2.9/4.2	3.7/4.2	1.58/1.58	1.8/4.2	4.2/6.6
Cooling Method	Indirect											
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	1 1/4 / 1 1/4	3/4 / 3/4	1 / 1	1 / 1	
Dimensions (H×W×D)	mm	700×350 ×900	700×535 ×900	700×350 ×900	700×535 ×900	755×320 ×900	795×690 ×935	900×407 ×1009	928×407 ×1000	740×280 ×695	800×400 ×1000	1050×515 ×910
	inch	28×13.8 ×35.4	28×21 ×35.4	28×13.8 ×35.4	28×21× 35.4	29.7×12.6 ×35.4	31.4×27.2 ×36.8	35×16 ×39.7	36.5×16 ×39.4	29×10 ×27	31.5×13 ×39.4	39.4×20 ×35.8
Weight	kg	70	120	71	140	90	161	145	155	75	90	190
	lb	154	265	157	308	198	355	319	341	165	198	418

- Notes: 1) "D" stands for dual-heating zones. "HT" stands for high temperature model.  
 2) 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).  
 3) When machine works continuously, the suggested temperature should not higher than 180°C/356°F. (Excluding STM-HT)  
 4) Power supply: 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

## Pump Performance



- Notes: Heating medium oil specific heat =0.49kcal/kg°C  
 Heating medium oil density =0.842kg/L  
 Time for heating=the time needed to heat from room temperature to set temperature

### 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(h) / 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 (60Min)]

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