

Oil Heater

STM-910

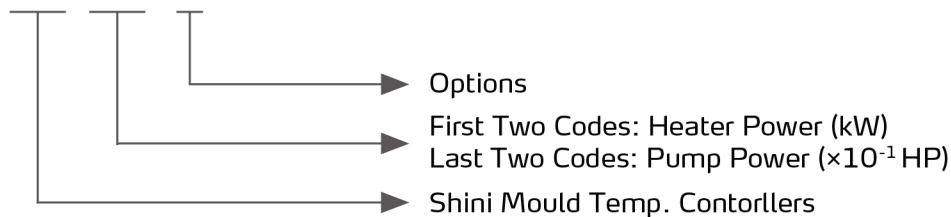


Refer carefully to this manual before operation.

STM Series

■ Coding Principle

STM- xxxx - xx



■ Features

- For standard STM, the heating temperature can reach 200°C/392°F, while for STM-HT, it can reach 300°C/572°F.
- Controller adopts 3.2 " LCD for easy operation.
- 7-day automatic start/stop timer supports the conversion between Chinese and English, and °C and °F.
- P.I.D. multi-stage temperature control system can maintain stable mould temperature with an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- Adopt high efficiency high temperature pump.
- Equipped with level sensor and high-pressure plunger pump for accurate detecting the water level and auto replenishing the water, which supplies water to the high pressure system when the liquid level is too low as to prevent burnt pipe dry burning .
- Pipe heaters are made of stainless steel.
- STM-HT is equipped with magnetic pump and its internal structure is made of high pressure resistance stainless steel to prevent any explosion.
- Equipped with RS485 communication interface to realize centralized monitoring.
- Standard equipped with the buzzer.



STM-910-D



STM-2440HT

■ 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), 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.



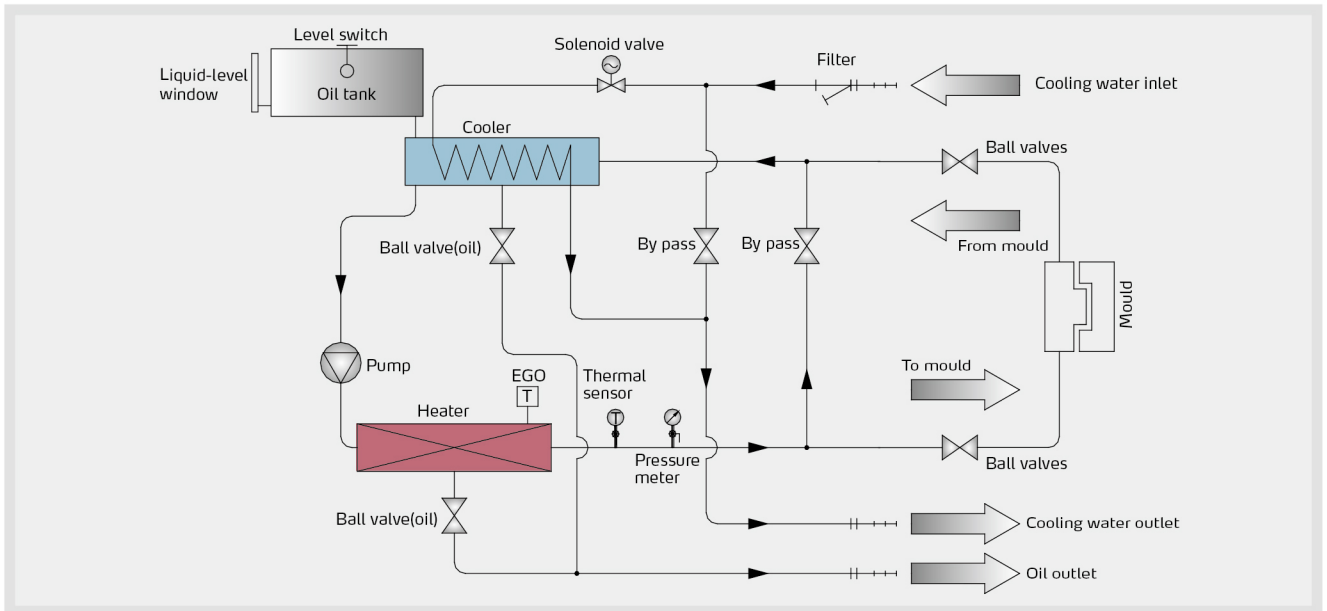
Control Panel

■ Application

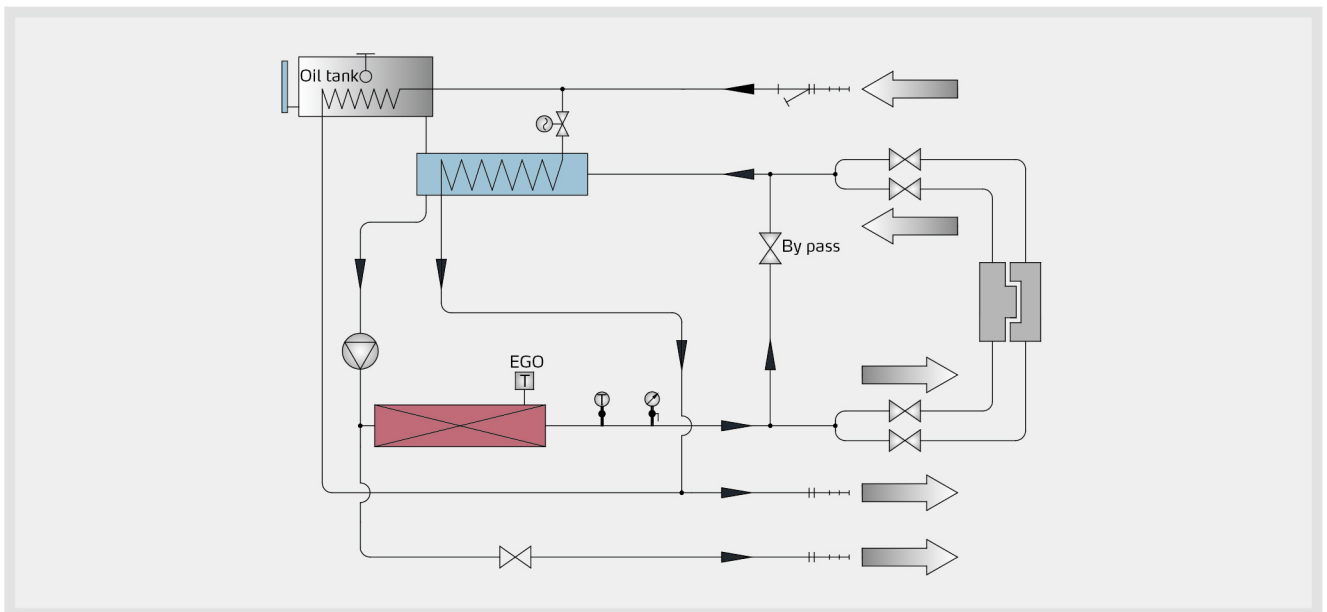
STM series of oil heaters have both the standard and high temperature types, which can heat moulds up to 200°C and 300°C respectively. It's mainly applied to heating up and temperature maintenance of mould, and other fields with the same demands. This series of machines use oil as the medium so that 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

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

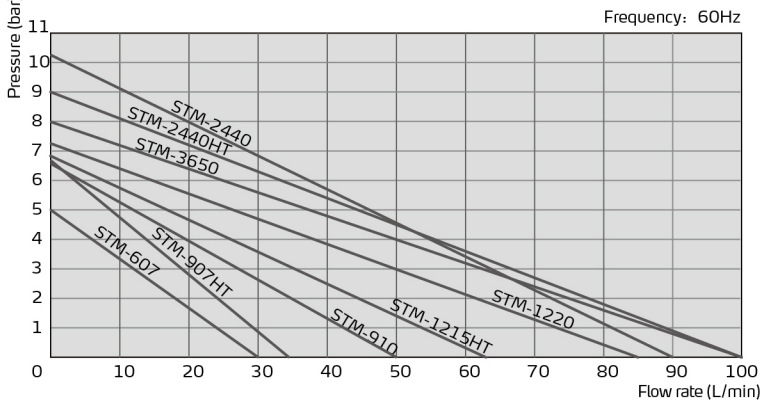
STM Series

Specifications

Model	STM-607	STM-607D	STM-910	STM-910D	STM-1220	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	24	36	9	12	24	
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	4/4	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	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	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	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	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	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	2.9/4.2	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 1/4 / 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	900×407 ×1009	928×407 ×1000	695×280 ×740	1000×400 ×800	1050×515 ×910
	inch	28×13.8×35.4	28×21×35.4	28×13.8×35.4	28×21×35.4	29.7×12.6×5.4	35×16×39.7	36.5×16×39.4	27×10×29	31×13×32	39.4×20×35.8
Weight	kg	70	120	71	140	90	145	155	75	90	190
	lb	154	265	157	308	198	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.
 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)]