Oil Heater

STM-910

STM Series

■ Coding Principle

STM- xxxx - xx

→ Note*
→ First Two Codes: Heater Power (kW)
  Last Two Codes: Pump Power (×10^{-1} HP)
→ Shini Mould Temp. Contorllers

STM-910-D
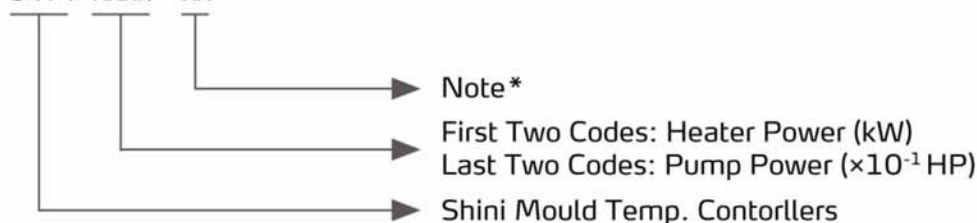
■ Features

- 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 ℃.
- P.I.D. multi-stage temperature control system can maintain mould temperature with an accuracy of ±0.5℃/0.9°F.
- 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℃/392°F, while for STM-HT, it can reach 300℃/572°F.
- STM-HT is equipped with magnetic pump and its internal structure is made of high pressure resistance stainless steel to prevent any explosion.
- Adopted Ethernet communication function to realize central monitoring online.

STM-2440HT

Control Panel

■ Options

- Water manifolds, Teflon hose and Transfer oil are optional.
- Displays of mold temperature and return oil temperature of mold are optional.
- Buzzer is optional .Add "B"at the model behind.
- Magnepic Pump(Excluded for STM-3650 and STM-D models),add "M" at the end of the model code.

■ 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.
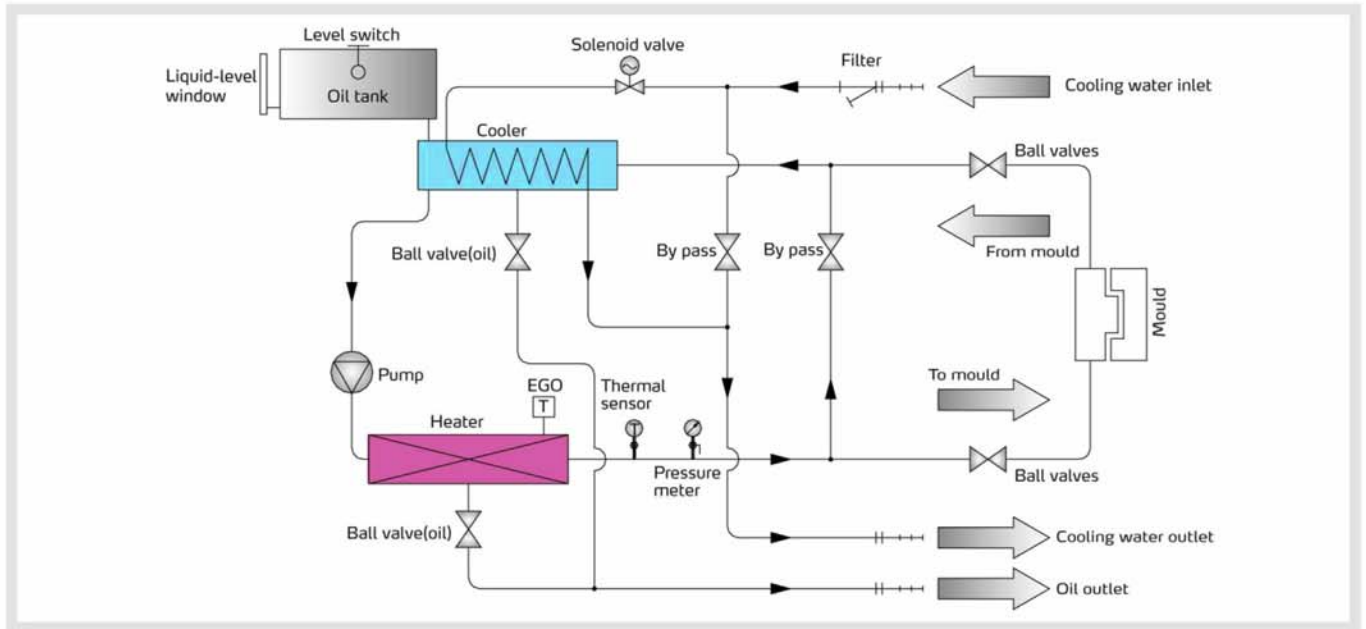
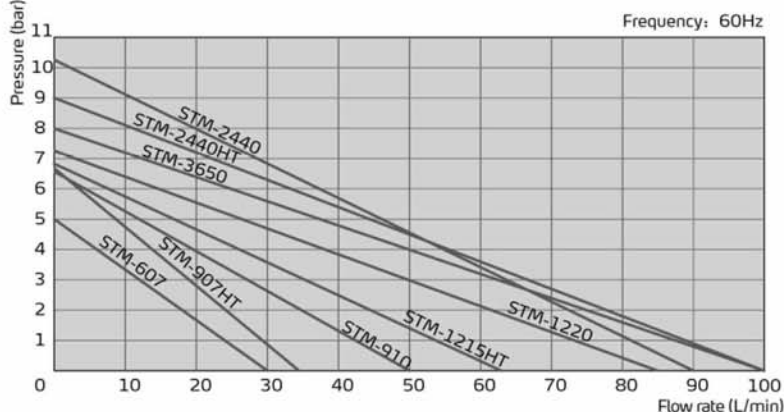System flow for STM
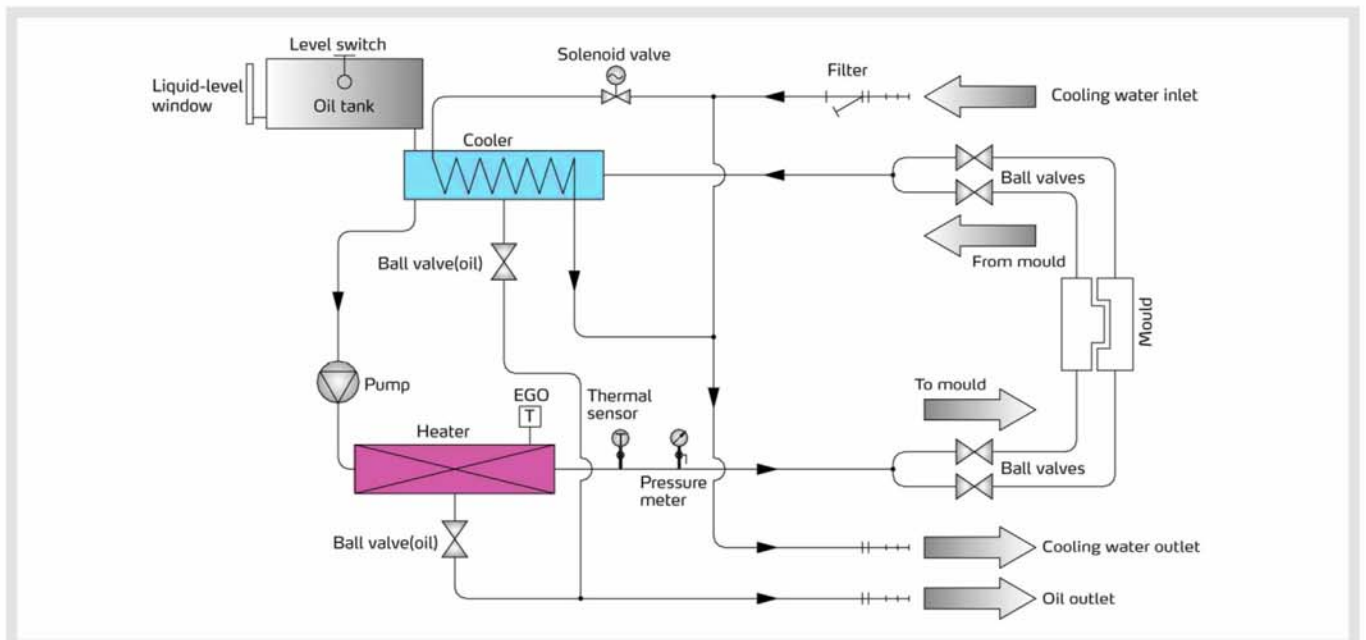
System flow for STM-HT

STM Series

■ Specifications

Model	STM-607	STM-607D	STM-910	STM-910D	STM-1220	STM-2440	STM-3650	STM-907HT	STM-1215HT	STM-2440HT
Max. Temp.	200℃ / 392℉							300℃ / 572℉		
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
Max. pump Flow (50/60Hz) 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
Main/Sub. Oil Tank 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									
Mould Coupling* (inch)	3/8 (2×2)	3/8 (4×2)	3/8 (2×2)	3/8 (4×2)	3/8 (4×2)	1 (1×2)	1¼ (1×2)	3/8 (2×2)	1 (1×2)	1 (1×2)
Inlet/Outlet (inch)	³/₄ / ³/₄	³/₄ / ³/₄	³/₄ / ³/₄	³/₄ / ³/₄	1 / 1	1 / 1	1¹/₄ / 1¹/₄	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
Dimensions (H×W×D) 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	65	120	70	140	100	145	155	75	100	190
Weight lb	143	265	154	308	220	319	341	165	220	418

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℃/68℉. (There is ±10% tolerance for either max. flowrate or max. pressure).
4) When machine works continously,the suggested temperature should not higher than 180℃/356℉.
5) Power supply: 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

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(h) / 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 (60Min)]

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

COMET
PLASTIC EQUIPMENT, LLC

7655 Enterprise Dr., Suite 3A
Riviera Beach FL 33404
United States

Tel: (561) 842-0011
Fax: (561) 841-0400
Toll Free: (800) 328-5088

www.cometpe.com