



"Budget" Series Heater

STM-607-EB

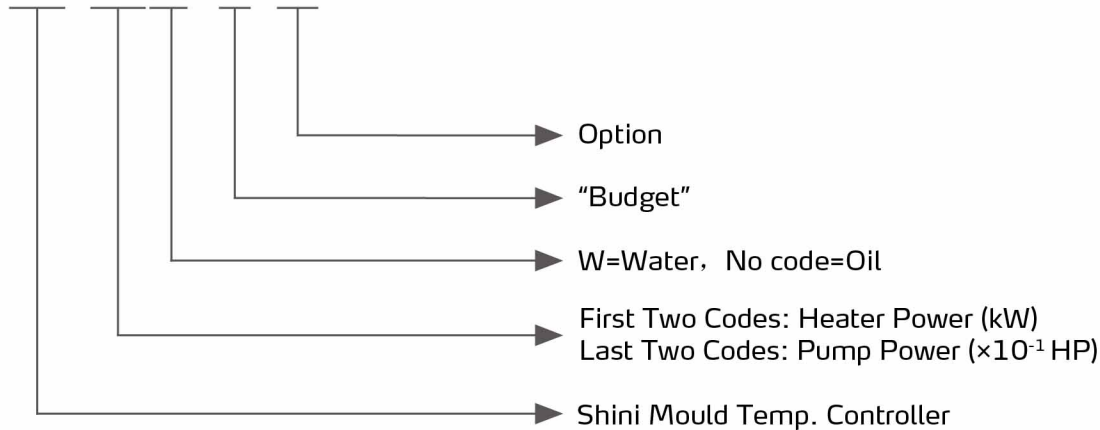


Refer carefully to this manual before operation.

STM-EB Series

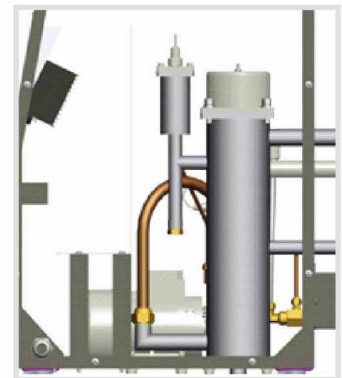
■ Coding Principle

STM- xxxx(W) - EB - XX



■ Features

- Full digital P.I.D. temp. control system maintains stable mould temp. with control accuracy up to $\pm 0.5^{\circ}\text{C}$.
- High-efficiency high temp. pump achieves the high efficiency heat exchange.
- Equipped with power phase reverse protector, pump overload protector and overheat protector and other safety devices, the machine can automatically detect the abnormalities with indicator lights when failure occurs.
- STM-W-EB is equipped with the low level protector.



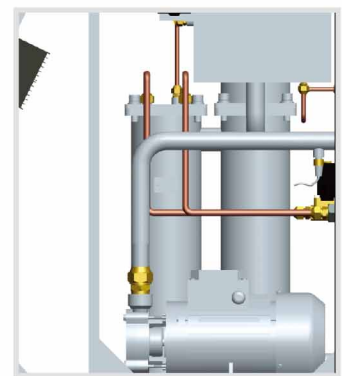
STM-W-EB Inner Structure

■ Options

Water manifolds, Teflon hose and transfer oil are optional.

■ Application

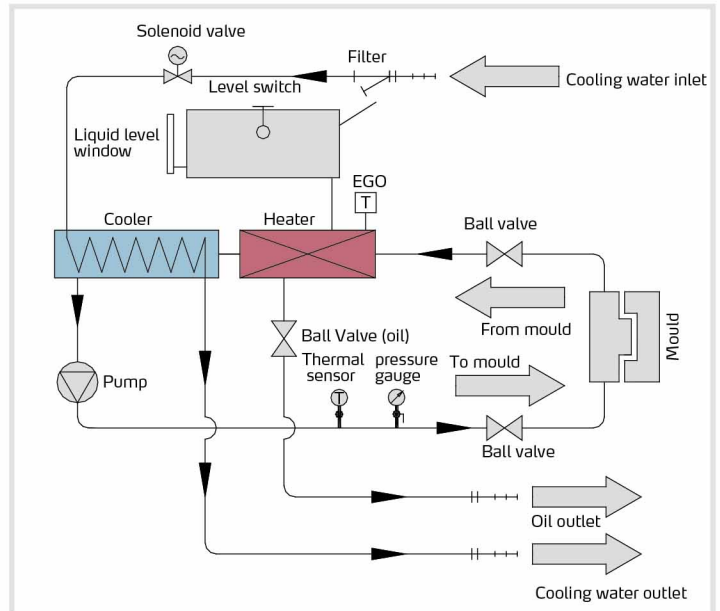
STM-EB series are applicable for heating up moulds and maintaining temperature, and they also can be used in other similar applications. Firstly, these series adopt different cooling methods to cool down media, then media are conveyed to the moulds after pressurized by pump and heated up by electrical heated tube. As medium, the water could reach $120^{\circ}\text{C}/248^{\circ}\text{F}$ and oil could reach $200^{\circ}\text{C}/392^{\circ}\text{F}$.



STM-EB Inner Structure

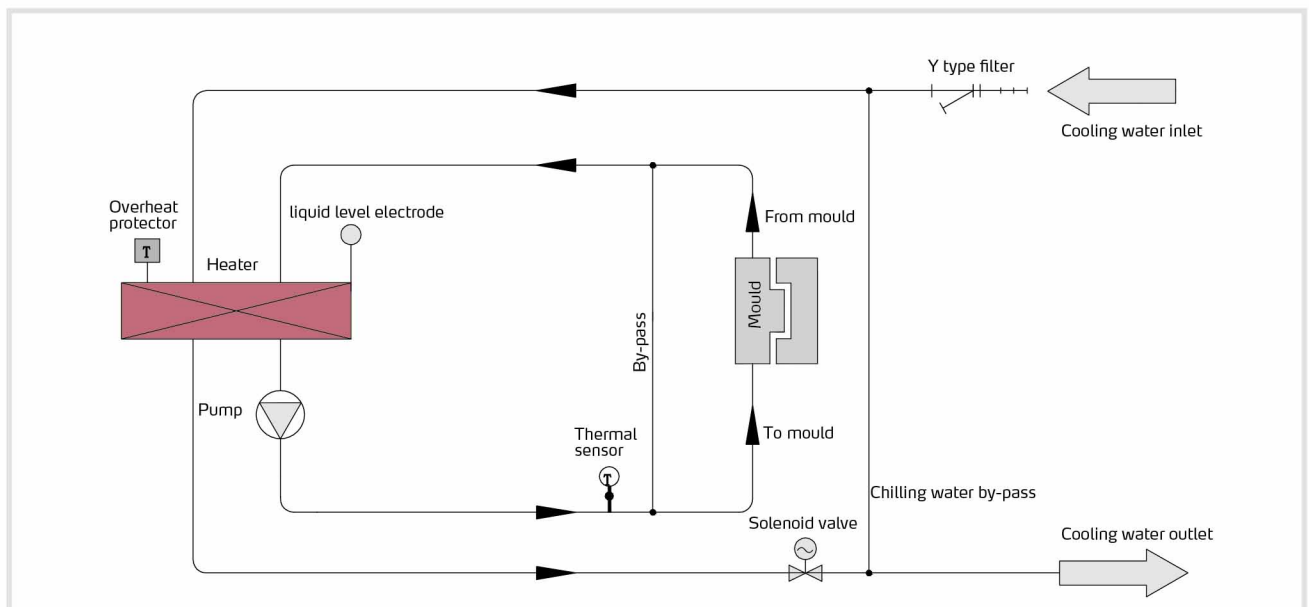
Working Principle

The high temperature oil returns to the heater through pipe and then be pressured by pump to mold after being heated. This cycle repeats. In the process, if the temp. is too high, the system will activate the solenoid valve to let cooling water lower the temperature indirectly until the it reaches the system requirement. If the temperature keeps increasing and reaches the set point of EGO, the system will alarm and stop operation. The system will sound low level alarm and stop working if oil level falls down below the set point.



System Flow for STM-EB (Indirect Cooling)

The water in the heating tank is sent to the mold after heating through the pump, and returns to the heating tank after the mold is heated up to repeat to the cycle. During the whole cycle, if the water temperature is too high, the water refilling solenoid valve opens and the cooling water enters the system to cool down the water in the system. If the temperature exceeds the value set by temperature protector (snap action thermostat), the system will alarm and stop. If the water has losses during system operation, the water level in the system will decrease, and the level electrode detected water level will decrease. At this time, the machine stops to alarm as to prevent heating tank from dry burning.



System Flow for STM-607W-EB (Direct Cooling)

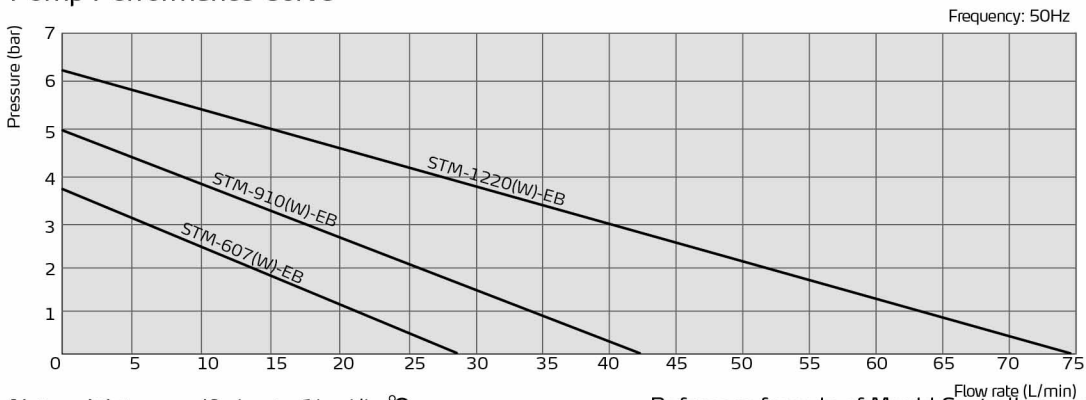
STM-EB Series

Specifications

| Model | | STM-607-EB | STM-607W-EB | STM-910-EB | STM-910W-EB | STM-1220-EB | STM-1120W-EB |
|-----------------------------|---------|--------------|----------------|----------------|--------------|----------------|--------------|
| Max. Temp. | | 200°C/392 °F | 120°C/248°F | 200°C/392 °F | 120°C/248°F | 200°C/392 °F | 120°C/248°F |
| Pipe Heater (kW) | | 6 | | 9 | | 12 | |
| Pump Power (kW) | | 0.55 | | 0.75 | | 1.5 | |
| Max. pump Flow | L/min | 27 | | 42 | | 74 | |
| | gal/min | 7.1 | | 11 | | 19.5 | |
| Max. pump Pressure (bar) | | 3.8 | | 5.0 | | 6.2 | |
| Heating Tank Quantity | | 1 | | 1 | | 1 | |
| Main/Sub. Oil Tank | L | 6.0 / 3.3 | - | 6.0 / 3.2 | - | 6.8 / 11.8 | - |
| | gal | 1.6 / 0.9 | - | 1.6 / 0.8 | - | 1.6 / 3.1 | - |
| Water Heating Tank Capacity | L | - | 2.0 | - | 3.0 | - | 3.0 |
| | gal | - | 0.53 | - | 0.8 | - | 0.8 |
| Cooling Method | | Indirect | Direct | Indirect | Direct | Indirect | Direct |
| Inlet/Outlet(inch) | | 3/4 / 3/4 | | 3/4 / 3/4 | | 1/1 | |
| Dimensions (H × W × D) | mm | 686×325×563 | 575×285×505 | 705×365×655 | 670×305×620 | 705×365×700 | 665×320×635 |
| | inch | 27×12.7×22.2 | 22.4×11.1×19.7 | 27.8×14.4×25.8 | 26.4×12×24.4 | 27.8×14.4×27.6 | 26.2×12.6×25 |
| Weight | kg | 49 | 38 | 70 | 60 | 80 | 75 |
| | lb | 108 | 83.8 | 154 | 132 | 176 | 165 |

- Notes: 1) Pump testing standard: Power of 50/60Hz, purified water at 20°C/68°F.
 (There is ±10% deviation for both max. flow rate and max. pressure).
 2) "*" stands for options.
 3) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.

Pump Performance Curve



- 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

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 / 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 (60)]