



"Large Flow" Oil Heater

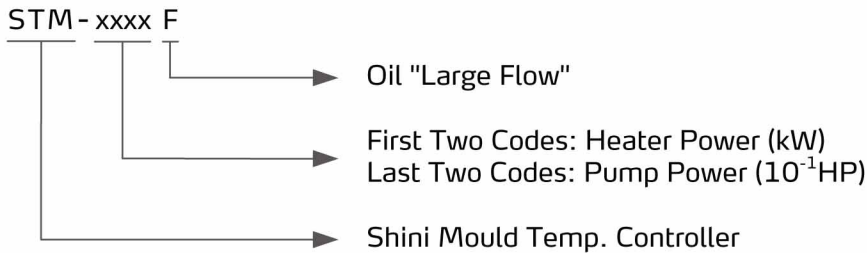
STM-3050F



Refer carefully to this manual before operation.

STM-F Series

■ Coding Principle



■ Features

- P.I.D. multi-stage temperature control system can maintain a mould temperature.
- Adopt SSR solid-state relay controller.
- Maximum working temperature can reach 200°C with control accuracy of $\pm 1^\circ\text{C}$.
- 4.3" Touch screen controller with easy to use HMI and clean display.
- Multiple safety devices including power reverse phase protection, pump overload protection, overheat protection and low level protection that can automatically detect abnormal operation and indicate this via visible alarm.
- Adopts large-flow pump with high stability, which is not only suitable for heating up moulds and maintaining temperature, but also for extrusion molding and applications alike.
- Double-cooler design ensures optimal cooling effect.
- Standard equipped with RS485 interface and buzzer.

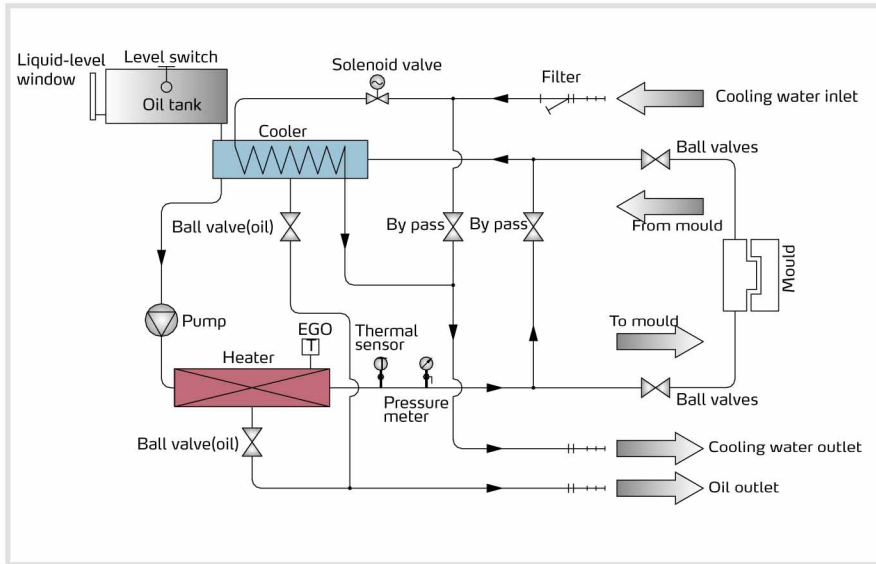
■ Options

- The display of mold temperature and mold return water temperature can be optional, and add "TS" at the end of model code.
- The audible alarm can be optional (here the buzzer is cancelled), and add "AA" at the end of the model code.

■ Application

This series are suitable for heating up moulds and maintaining temperature, also they can be used in extrusion molding and applications requiring large flow and cooling throughput.

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 till the temperature is down to the system requirement and achieve constant temperature. 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.

Specifications

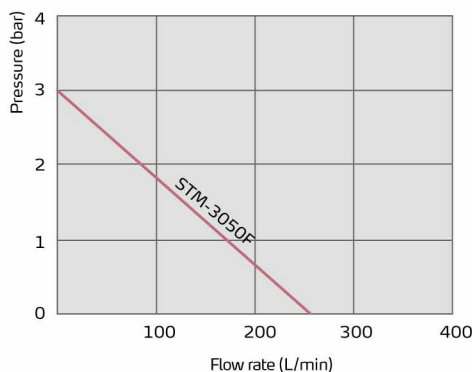
Model	Max. Temp.	Pipe Heater (kW)	Pump Power (kW)	Max. pump Flow (L/min)	Max. pump Pressure (bar)	Heating Tank Number	Capacity (L)		Cooling Method	Inlet/Outlet (Inch)	Dimensions (mm) (H × W × D)	Weight (kg)
							Auxiliary oil tank	Main oil tank				
STM-3050F	200°C	30	3.7	263	3.0	2	18	100	Indirect	1.5/1.5	1240×550×1280	280

Note: 1) "*" stands for options.

- 2) Pump testing standard: Power of 50Hz, purified water at 20°C.
(There is ±10% tolerance for either max. flowrate or max. pressure).
- 3) Power supply: 3Φ, 230/400/460/575VAC, 50HZ.

We reserve the right to change specifications without prior notice.

Pump Performance



Reference formula of Mould Controllers model selection

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

Note: safety coefficient can select a value from 1.3 to 1.5.

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

Note: Heating medium oil specific heat =0.49kcal/kg°C
Heating medium oil density =0.842kg/L

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