"Large Flow" Heater

STM-4575F

Refer carefully to this manual before operation.

STM-F Series

Coding Principle

STM - xxxx F

- F → Water "Large Flow"
- xxxx → First Two Codes: Heater Power (kW); Last Two Codes: Pump Power (10^{-1}HP)
- STM → Shini Mould Temp. Contorllers

Features

Standard configuration

- P.I.D. multi-stage temperature control system can maintain a mould temperature with accuracy of ±0.5℃.
- Controller adopts 3.2" LCD for easy operation.
- 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.
- The cooling efficiency of plate heat exchanger is favorable.

Accessory option

- RS485 communication function is optional
- Display of mould temperature and mould return water temperature is optional.
- Teflon hose is optional.

Control Panel

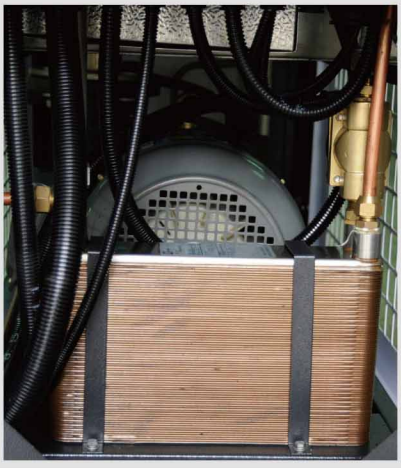
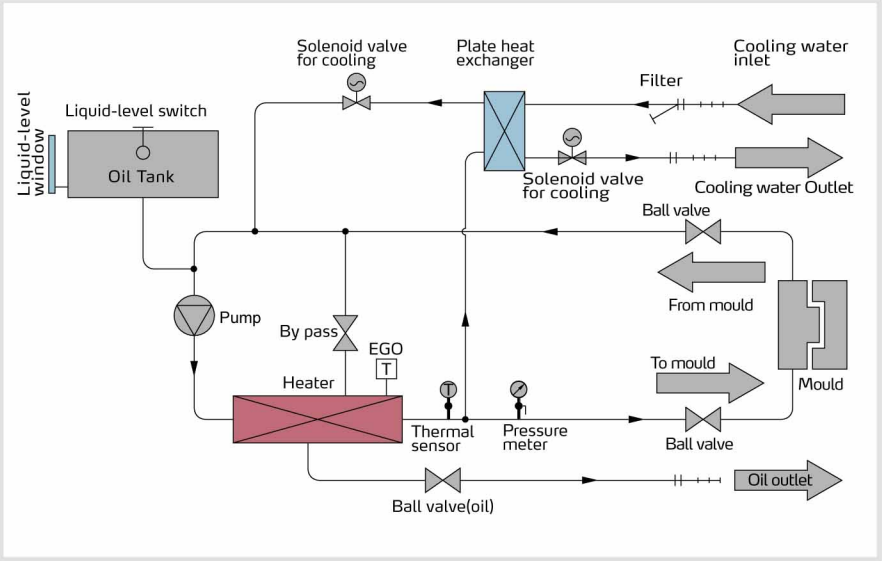


Plate Heat Exchanger

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



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 solenoid valve to let the oil flow through plate heat exchanger to cool down temperature indirectly until oil temperature is down to system requirement. If the oil temperature keeps increasing and reaches to set point of EGO, system will sound overheat alarm and stops. If level switch located in oil tank, detects liquid level is too low, it will send the signal and system will sound low level alarm and stop operations.

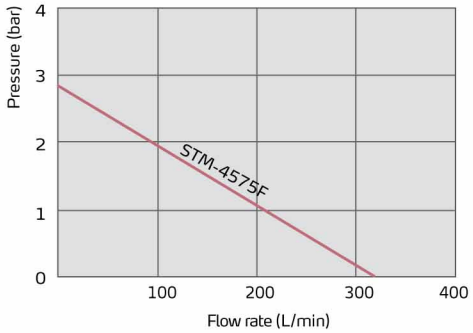
Specifications

Model	Max. Temp.	Pipe Heater (kW)	Pump Power (kW) (50/60Hz)	Max. pump Flow (L/min) (50/60Hz)	Max. pump Pressure (bar,50/60Hz)	Heating Tank Number	Tank (L)		Cooling Method	Mould Coupling* (inch)	Inlet/Outlet (inch)	Cooling water Inlet/Outlet (mm)	Dimensions (mm) (H × W × D)	Weight (kg)
							Main tank	Drop tank						
STM-4575F	200℃	45	5.5	424	3.0	3	16	51	Indirect	$1\frac{7}{8}$-12 (1x2)	1.5/1.5	13/13	1200×500×1350	270

Note: 1) "*" stands for options.
2) Pump testing standard: Power of 50/60Hz, purified water at 20℃. (There is ±10% tolerance for either max. flowrate or max. pressure).
3) Power supply: 3Φ, 230/400/460/575VAC, 50/60HZ.

We reserve the right to change specifications without prior notice.

Pump Performance



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 / 860

Note: safety coefficient can select a value from 1.3 to 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 (60)]

Note: Water specific heat =1kcal/kg℃
Heating medium oil specific heat =0.49kcal/kg℃
Water density =1kg/L
Heating medium oil density =0.842kg/L

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