

Heating & Cooling

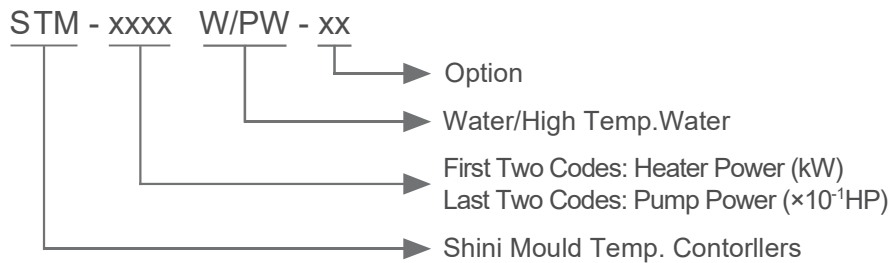
Water Heater



STM-607W

STM-W Series

Coding Principle



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 °C.
- P.I.D. multi-stage temperature control system can maintain a stable mould temperature with an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- Adopts high efficiency water cycle 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 efficiency heat exchange.
- Multiple safety devices include 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.
- For standard STM-W, the heating temperature can reach $120^{\circ}\text{C}/248^{\circ}\text{F}$.
- Equipped with high pressure protection, safety pressure relieving, automatic water supplying and air exhausting.
- Direct cooling with excellent refrigerating effect. Auto refilling device cools down the temperature to set value directly.
- Adopted Ethernet communication function to realize central monitoring online.
- Standard equipped with the buzzer.



Control Panel



Internal Structure

Options

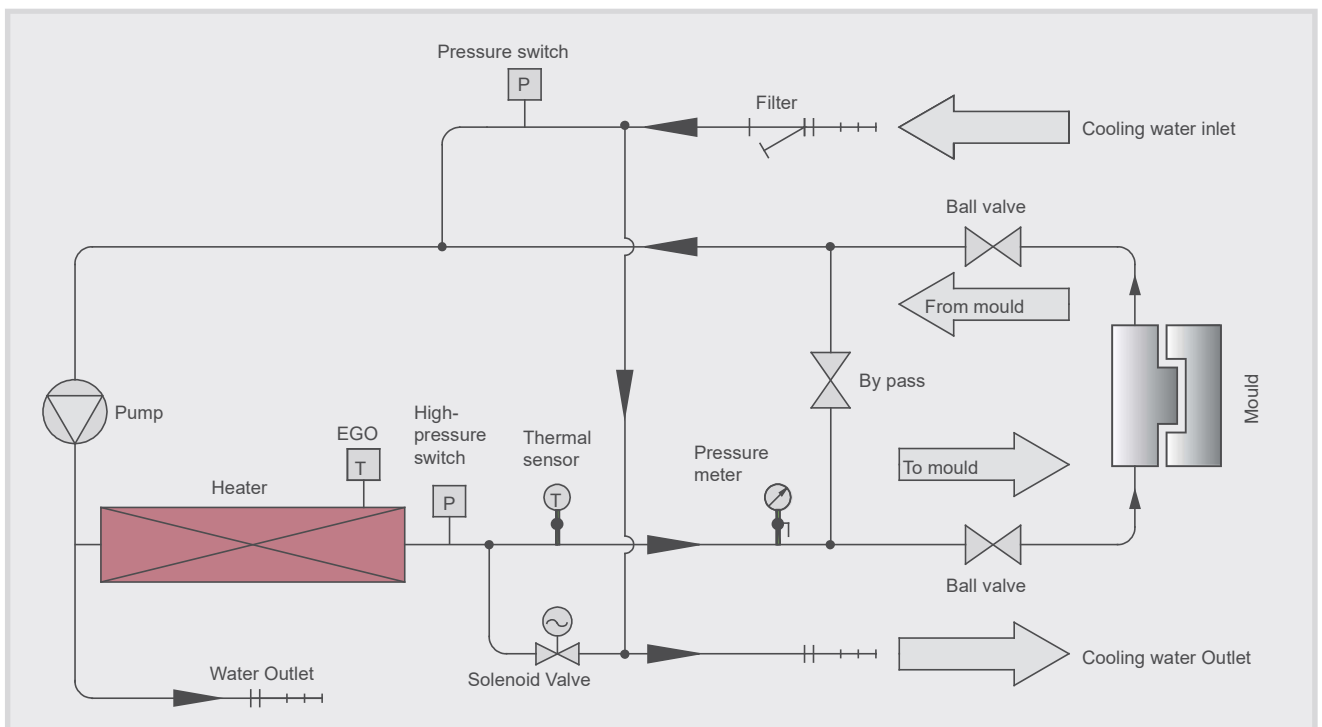
- Water manifolds and Teflon hose are optional.
- Displays of mold temperature and return water temperature of mold are optional.
- Magnepic Pump(Excluded for STM-3650 and STM-D models),add "M" at the end of the model code.
- Water-removing of air blowing (Excluded for STM-PW),add "A" at the end of the 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.

■ Application

STM-W series water heaters are used to heat up the mould and maintain temperature and other similar applications. High temperature water from the mould is returned to the cooling tank and cooled by either indirect cooling (For high temperature and high temperature plus pressure models) or direct cooling (For standard models). It is then pressurised by the high-pressure pump, sent to the heating tank and finally to the mould with a constant temperature. The newly applied temperature controller can maintain an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.

■ Working Principle

High temperature water returns to the machine and then be pressured by pump to the heaters. After being heated, water will be forced to mould and continue the circle. In the process, if the water temperature is too high, the system will activate the solenoid valve to let cooling water cool down the temperature directly until the water is down to the system requirement. If the temperature keeps increasing and reach to the set point of EGO, system will sound high pressure alarm and stop operation; when system pressure is too high (reach set value of high pressure switch), alarm would sounds and machine halts; when cooling water pressure fails to reach the set value, pressure switch will send a signal of water storage to launch low pressure alarm and machine halts.



System flow for STM-W (Direct Cooling)

STM-W Series

Specifications

Model		STM-607W	STM-607WD	STM-910W	STM-910WD	STM-1220W	STM-2440W	STM-3650W
Max. Temp.		120°C/248°F(140°C/284°F)**						
Pipe Heater(kW)		6	6×2	9	9×2	12	24	36
Pump Power(kW) (50/60Hz)		0.55/0.63	$\frac{2 \times 0.55}{2 \times 0.63}$	0.75/0.92	$\frac{2 \times 0.75}{2 \times 0.92}$	1.5/1.9	2.8/3.4	3
Max. pump Flow (50/60Hz)	L/min	27/30	$\frac{2 \times 27}{2 \times 30}$	42/50	$\frac{2 \times 42}{2 \times 50}$	74/84	90/90	100/100
	gal/min	7.1/7.9	$\frac{2 \times 7.1}{2 \times 7.9}$	11/13.2	$\frac{2 \times 11}{2 \times 13.2}$	19.5/22	23.8/23.8	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
Heating Tank Number		1	2	1	2	1	2	3
Heating Tank Capacity	L	3.0	2×3.0	3.0	2×3.0	3.0	7.4	17.7
	gal	0.8	2×0.8	0.8	2×0.8	0.8	2.0	4.7
Cooling Method		Direct						
Mould Coupling* (inch)		3/8 (2×2)	3/8 (4×2)	3/8 (2×2)	3/8 (4×2)	1 (1×2)	1 (1×2)	1 (1×2)
Inlet/Outlet (inch)		$\frac{3}{4} / \frac{3}{4}$	$\frac{3}{4} / \frac{3}{4}$	$\frac{3}{4} / \frac{3}{4}$	$\frac{3}{4} / \frac{3}{4}$	1 / 1	1 / 1	1 / 1
Dimensions (H×W×D)	mm	605×320×740	655×590×760	605×320×745	655×590×760	615×320×775	820×360×963	980×467×1011
	inch	23.6×12.5×28.9	25.5×23×29.6	23.6×12.5×29.3	25.5×23×29.6	24×12.5×30.2	32×14×37.6	38.2×18.2×39.4
Weight	kg	55	95	60	105	69	140	150
	lb	121	209	132	231	151.8	308	330

Notes: 1) "D" stands for dual-heating zones, "" stands for options.

2) When equipped with water-removing function of air blowing, model code should be followed by "A".

3) In order to maintain stable temp. of heat transfer media(120°C/248°F), cooling water pressure should be no less than 2kgf/cm², but also no more than 5kgf/cm².

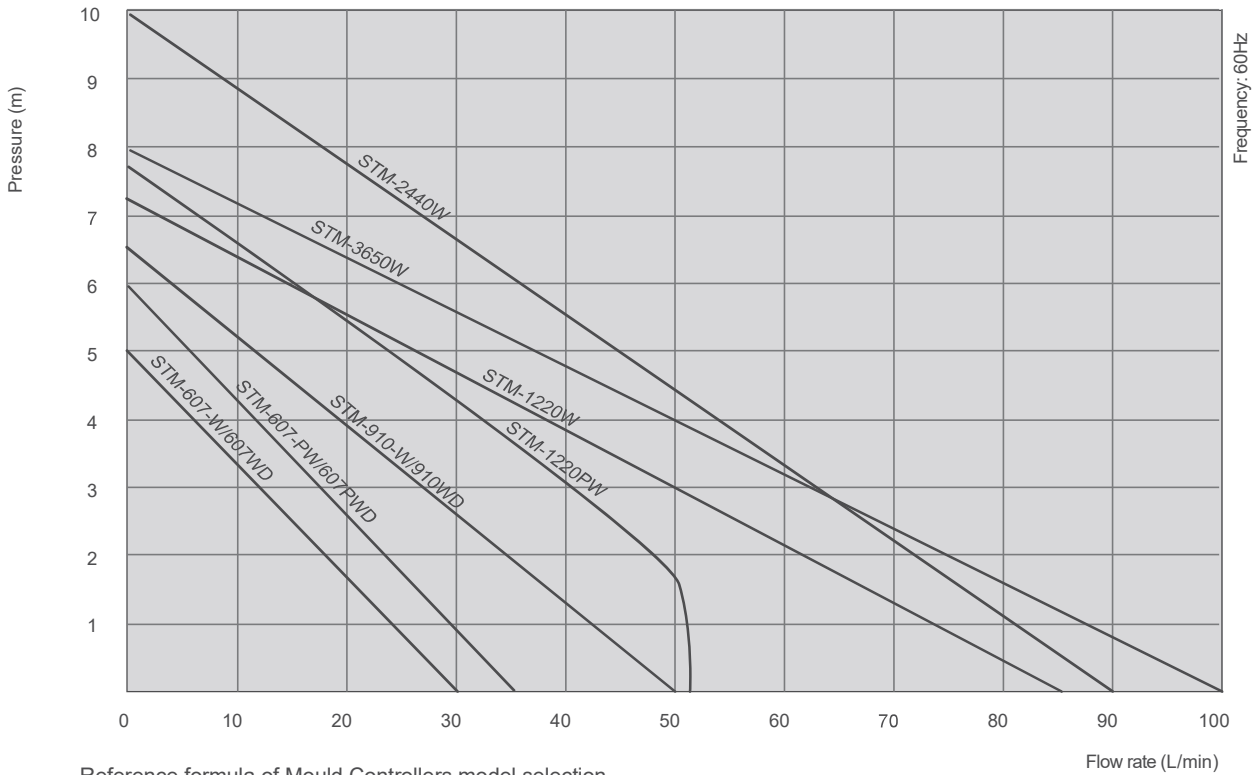
4) Pump testing standard: Power of 50/60Hz, purified water at 20°C/68°F.
(There is ±10% tolerance for either max. flowrate or max.pressure).

5) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.

6) "" stands for for heating the machine to 140°C/284°F, cooling water pressure should not be lower than 4kgf/cm².

We reserve the right to change specifications without prior notice.

Pump Performance



Reference formula of Mould Controllers model selection

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

Notes: safety coefficient range 1.3~1.5.

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

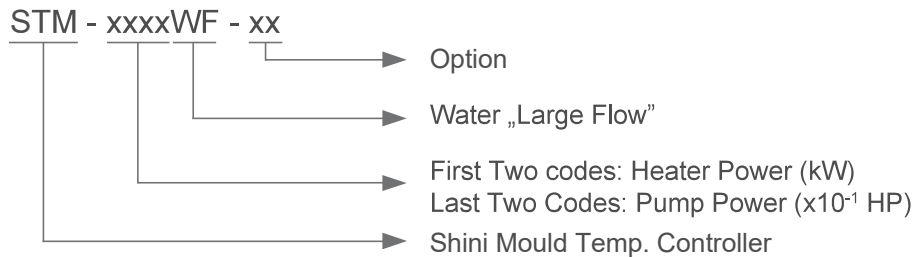
Notes: Water specific heat =1kcal/kg[°]C Heating medium oil specific heat =0.49kcal/kg[°]C Water density =1kg/L
 Heating medium oil density =0.842kg/L Time for heating=the time needed to heat from room temperature to set temperature

"Large Flow" Water Heater



STM-607WF

Coding Principle

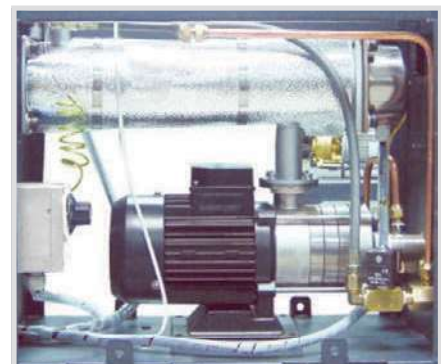


Features

- 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 the temperature can be converted between °F and °C.
- P.I.D. multi-stage temperature control system can maintain a mould temperature with an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- 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.
- Adopts large-flow pump with high stable performance, which especially suitable for extrusion molding and applications alike.
- Direct cooling can achieve optimal cooling effect; automatic water backup can rapidly lower temperature to set point.
- Advanced design of cycle can avoid high pressure explosion when system is under faults.
- Adopted Ethernet communication function to realize central monitoring online.
- Standard equipped with the buzzer.



Control Panel



Inner Structure

Options

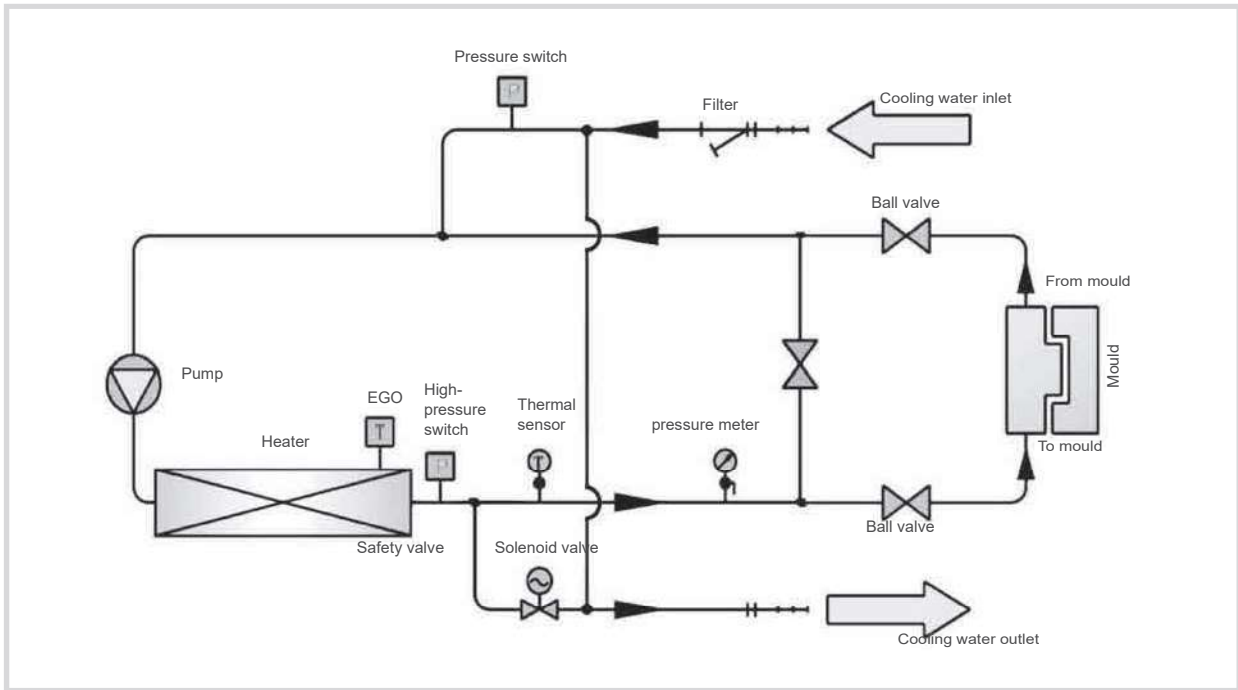
- Teflon hose is optional.
- Display of mould temperature and mould return water temperature is optional.

Application

STM-WF series „Large Flow” water heaters are used to heat up the mould and maintain temperature, also they can be used in similar applications. High temperature water from the mould is returned to the cooling tank and cooled by direct cooling. It is then pressurized by the high-pressure pump, sent to the heating tank and finally to the mould with a constant temperature. The newly applied temperature controller can maintain an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$

STM-WF Series

Working Principle



System flow (Direct Cooling)

High temperature water returns to the machine and then be pressured by pump to the heaters. After being heated, water will be forced to mould and continue the circle. In the process, if the temperature is too high, the system will activate the solenoid valve to let cooling water lower the temp. directly until the water is down to the system requirement. If the temp. keep increasing and reach to the set point of EGO, system will alarm and stop operation; when system pressure is too high (reach set value of high pressure switch), alarm would sounds and machine halts; if cooling water pressure fails to reach setting, pressure switch would send a signal of water deficiency and system would launch low pressure alarm with machine halting.

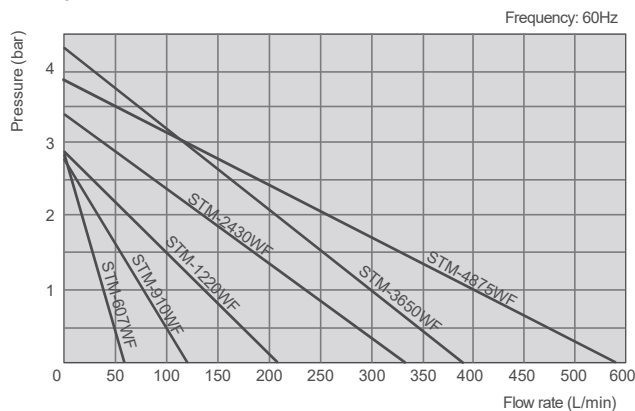
Specifications

Model		STM-607WF	STM-910WF	STM-1220WF	STM-2430WF*	STM-3650WF*	STM-4875WF*
Max.Temp.		120°C/248°F					
Pipe Heater(kW)		6	9	12	24	36	48
Pump Power(kW) (50/60Hz)		0.55/0.55	0.75/0.75	1.1/1.5	2.2/2.2	3.0/4.0	5.5/5.5
Max. pump Flow (50/60Hz)	L/min	58/67	116/133	168/216	267/333	267/398	533/580
	gal/min	15.3/67.3	30.6/35.1	44.4/57	70.5/88	70.5/105	140.7/153
Max. pump Pressure(bar)(50/60Hz)		2.8/2.6	2.8/2.6	2.9/2.7	2.9/2.9	3.4 /4.3	4.5/3.8
Heating Tank Number		1	1	1	2	3	4
Heating Tank Capacity	L	3.0	3.0	3.2	7.2	12.0	16.0
	gal	0.8	0.8	0.85	1.9	3.2	4.2
Cooling Method		Direct					
Mould Coupling** (inch)		1 (1×2)	1 (1×2)	1½ (1×2)	1½ (1×2)	1½ (1×2)	1½ (1×2)
Inlet/Outlet (inch)		1 / 1	1 / 1	1½ / 1½	1½ / 1½	1½ / 1½	1½ / 1½
Dimensions (H×W×D)	mm	655×320×750	655×320×790	675×320×830	855×434×840	855×474×940	955×474×1100
	inch	25.5×12.5×29.3	25.5×12.5×30.8	26.3×12.5×32.3	33.3×16.9×32.8	33.3×18.5×36.7	37.2×18.5×42.9
Weight	kg	60	85	85	156	180	242
	lb	132	187	187	343	397	532

- Notes: 1) "*" sands for vertical pump. "****" stands for options.
 2) In order to maintain stable temp. of heat transfer media, cooling water pressure should be no less than 2kgf/cm², but also no more than 5kgf/cm².
 3) Pump testing standard: Power of 50 / 60Hz, purified water in 20°C/68°F.
 (There is ± 10% tolerance for either max. flowrate or max. pressure).
 4) 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°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)]

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

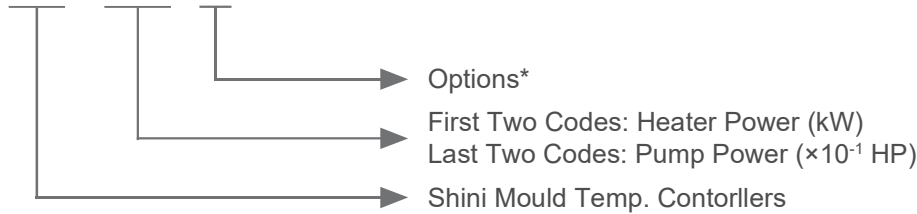
Oil Heater



STM-910

Coding Principle

STM - xxxx - xx



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 °C.
- P.I.D. multi-stage temperature control system can maintain stable mould temperature with an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- 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 include 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 $200^{\circ}\text{C}/392^{\circ}\text{F}$, while for STM-HT, it can reach $300^{\circ}\text{C}/572^{\circ}\text{F}$.
- 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



Control Panel

Options

- Water manifolds, Teflon hose and Transfer oil are optional.
- Displays of mold temperature and return oil temperature of mold are optional.
- 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.

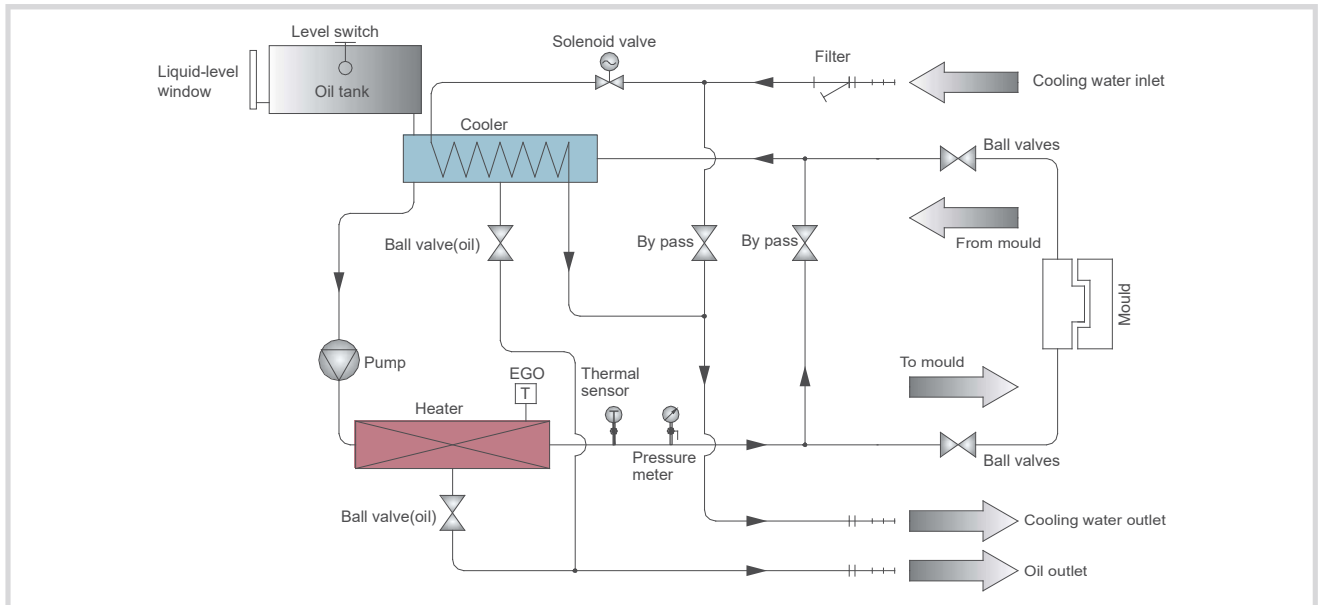
Application

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.

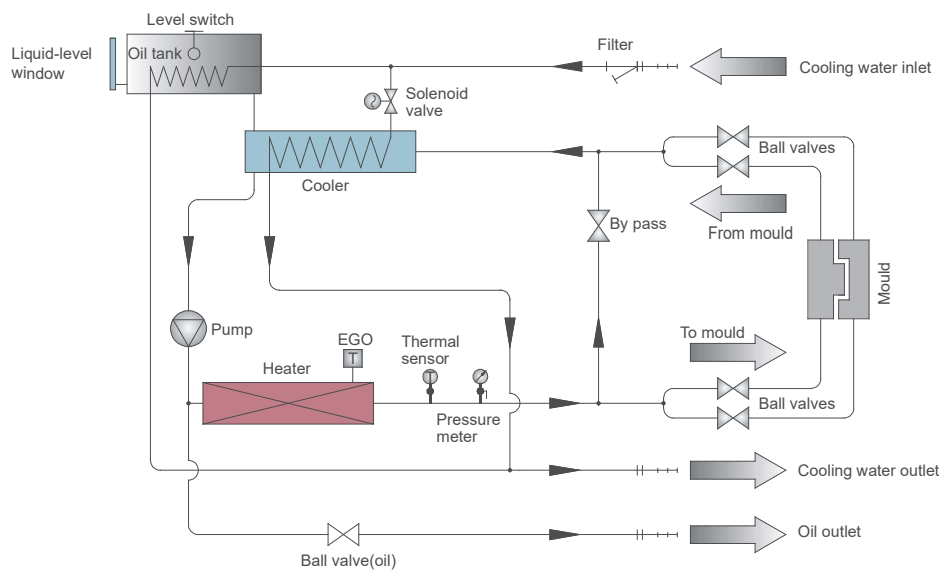
STM Series

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



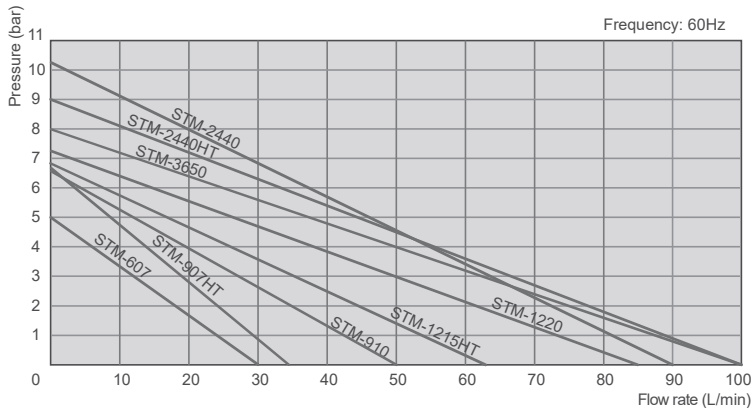
System flow for STM-HT

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										
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)	1 1/4 (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	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) "*" 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°C/68°F. (There is ±10% tolerance for either max. flowrate or max. pressure).
 4) When machine works continuously, the suggested temperature should not higher than 180°C/356°F.
 5) Power supply: 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

Pump Performance



- Notes: Water specific heat = 1 kcal/kg°C
 Heating medium oil specific heat = 0.49 kcal/kg°C
 Water density = 1 kg/L
 Heating medium oil density = 0.842 kg/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)]

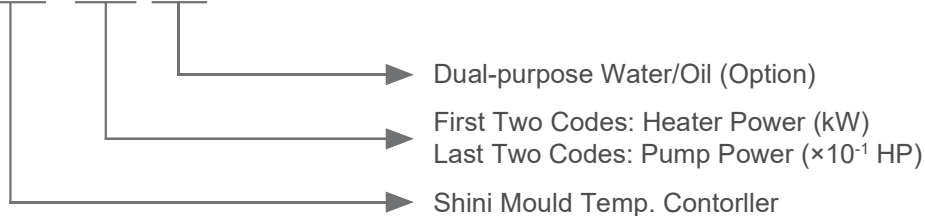
Dual-purpose Water/Oil Heater



STM-607W/O

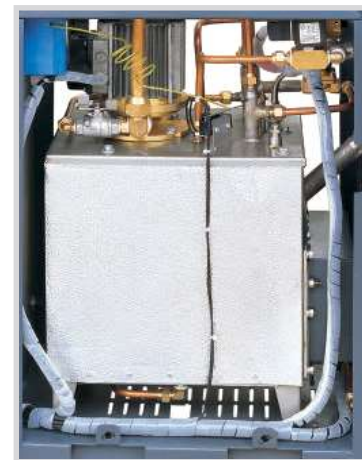
Coding Principle

STM - xxxx W/O



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 °C.
- P.I.D. multi-stage temperature control system can maintain a mould temperature with an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- Adopts high efficiency, vertical dual-purpose of water/oil high pressure pump with stable performance and great pressure.
- Multiple safety devices include 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.
- Adopts water or oil as heating medium, the maximum temperature can reach: water $95^{\circ}\text{C}/203^{\circ}\text{F}$ and oil is $160^{\circ}\text{C}/320^{\circ}\text{F}$.
- Equipped with pump reversion evacuation, automatic water supplying and negative pressure operation.
- Adopted Ethernet communication function to realize central monitoring online.



Inner Structure



Control Panel

Options

- Water manifolds, teflon hose and transfer oil are optional.
- Displays of mold temperature and return water temperature of mold are optional.
- Buzzer is optional .Add "B"at the end of the model code .

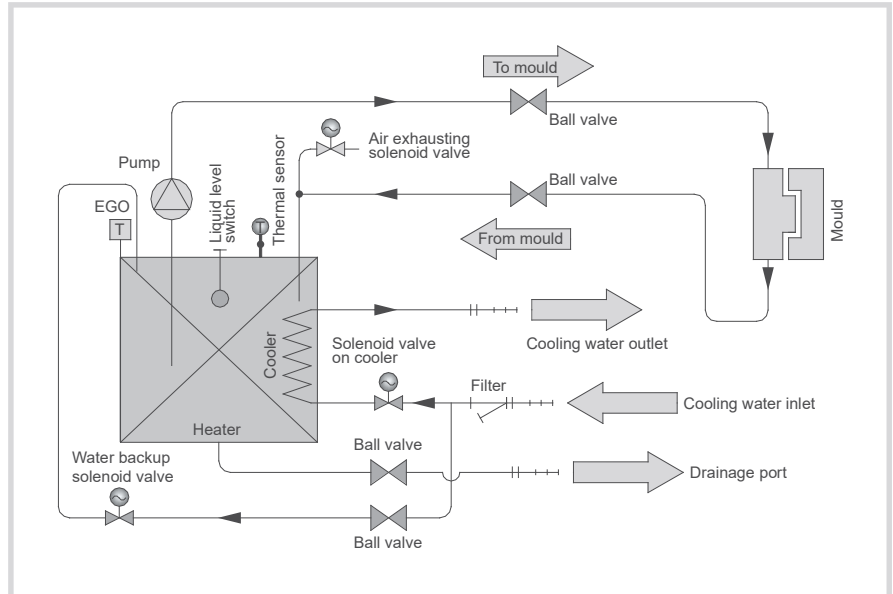
Application

STM-W/O series of dual-purpose heaters are mainly used to heat up the mould and maintain its temperature, and they can also be used in similar applications. High temperature water or oil return from the mould is cooled by indirect cooling and then is sent to the pipe heaters via high pressure pump for heating to a constant temperature. This unique design allows user to choose between water and oil as heat transfer medium. With our optimized design, the newly applied temperature controller can maintain an accuracy of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.

STM-W/O Series

Working Principle

High temperature water returns to the machine and then be pressured by pump to the heaters. After being heated, water will be forced to mould and continue the circle. In the process, if the temperature is too high, the system will activate the solenoid valve to let cooling water lower the temperature directly till the water temperature is down to the system requirement. If the temperature keep rising and reach the set point of EGO, the system will alarm and stop operation. The system will have low pressure alarm and stop working if cooling water pressure doesn't reach the set point.



System Flow (Indirect Cooling)

Specifications

Model	STM-607W/O		STM-907W/O	
Max.Temp.	W: 95°C / 203°F O: 160°C / 320°F			
Heater(kW)	6		W: 9 O: 6	
Pump Power(kW) (50/60Hz)	0.55/0.55			
Max. pump Flow (50/60Hz)	L/min	55/62.7		
	gal/min	14.5/16.6		
Max. pump Pressure(bar)(50/60Hz)	3.4			
Heating Tank Number	1			
Heating Tank Capacity	L	12	16	
	gal	3.2	4.2	
CoolingMethod	Indirect			
Mould Coupling* (inch)	3/8 (2×2)			
Inlet/Outlet (inch)	3/4 / 3/4			
Dimensions (H×W×D)	mm	845×325×907		832×353×807
	inch	33×12.7×35.4		32.5×13.8×31.5
Weight	kg	75		84
	lb	165		184.8

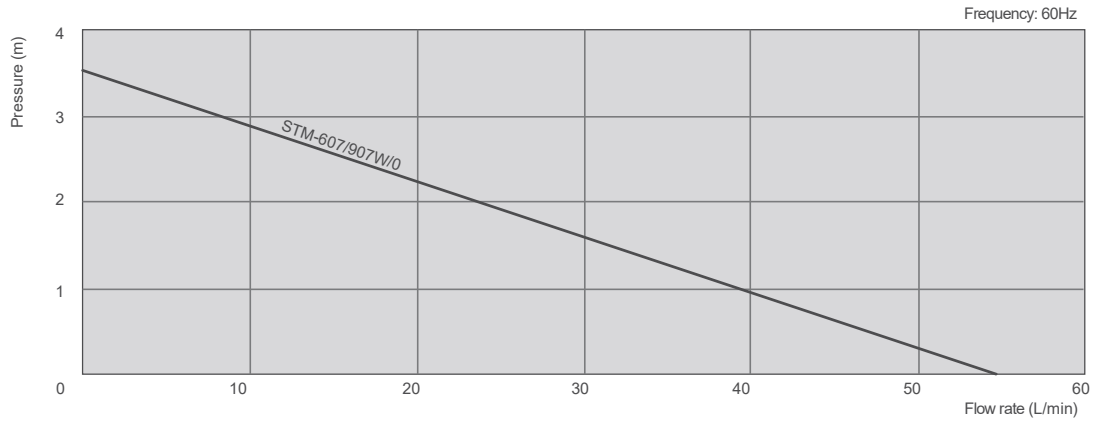
Notes: 1) Pump testing conditions: Power of 50 / 60Hz, purified water in 20°C/68°F.(There is ± 10% tolerance for either max. flowrate or max. pressure).

2) "*" stands for options.

3) Power supply: 3Φ, 230/400/460/575VAC, 50/60 Hz.

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°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)]

- 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

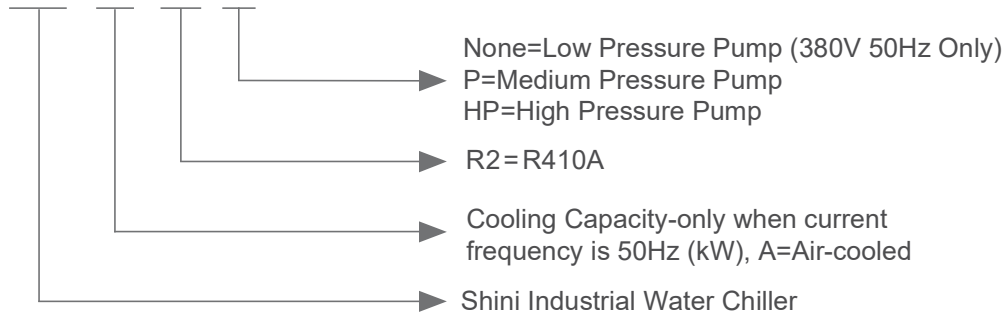
CFC-free Refrigerant Air-cooled Water Chiller



SIC-12A-R2

Coding Principle

SIC - xA - R2 -xx



Features

- Cooling range 7~25°C/44.6°F~77°F.
- Stainless steel insulated water tank.
- Equipped with anti-freeze thermostat.
- Adopt R410A refrigerant, used to improve coefficient of performance (COP) and R410A is ozone-friendly.
- Refrigerant loop controlled by high and low pressure switches to ensure stable operation.
- Compressor and pump overload protection.
- Adopt precise high-precision temperature controller with an accuracy of $\pm 1^{\circ}\text{C}/1.8^{\circ}\text{F}$.
- Single-system series are equipped with low pressure pump, and models with two or more systems medium pressure pump.
- All adopt quality compressors from major supplier.
- Adopt fin style condenser design. Without any need of cooling water for excellent heat transfer and rapid cooling.
- Equipped with hot-gas bypass valve to balance refrigerating capacity for accurate temperature control and machine frequent start and stop protection.
- Equipped with RS485 communication interface to realize centralized monitoring.



Control Panel

Options

- Medium and high pressure pumps are optional to meet any requirements.
- Lever sensor of water tank is available to detect water level.
- Solenoid valve is optional to prevent compressor re-start and the liquid impact phenomenon by cutting the refrigerant immediately after downtime.
- Refrigerant indicator can be opted to detect the refrigerant and the water ratio.
- Optional flow switches to ensure compressor works in sufficient water quantity.

SIC-A-R2 Series

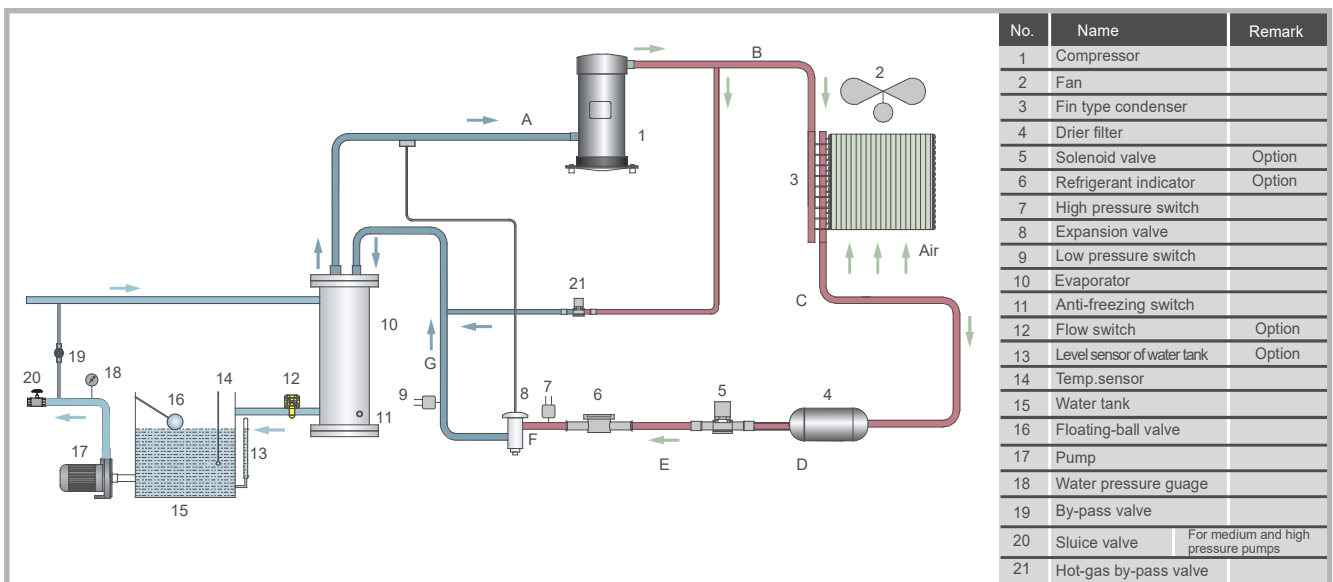
Application

SIC-A-R2 series are applicable for cooling moulds to reduce products molding cycle; also they are available in the cooling of equipments in order to maintain a normal temperature. Besides, they are suitable for other industries with the need of cooling.

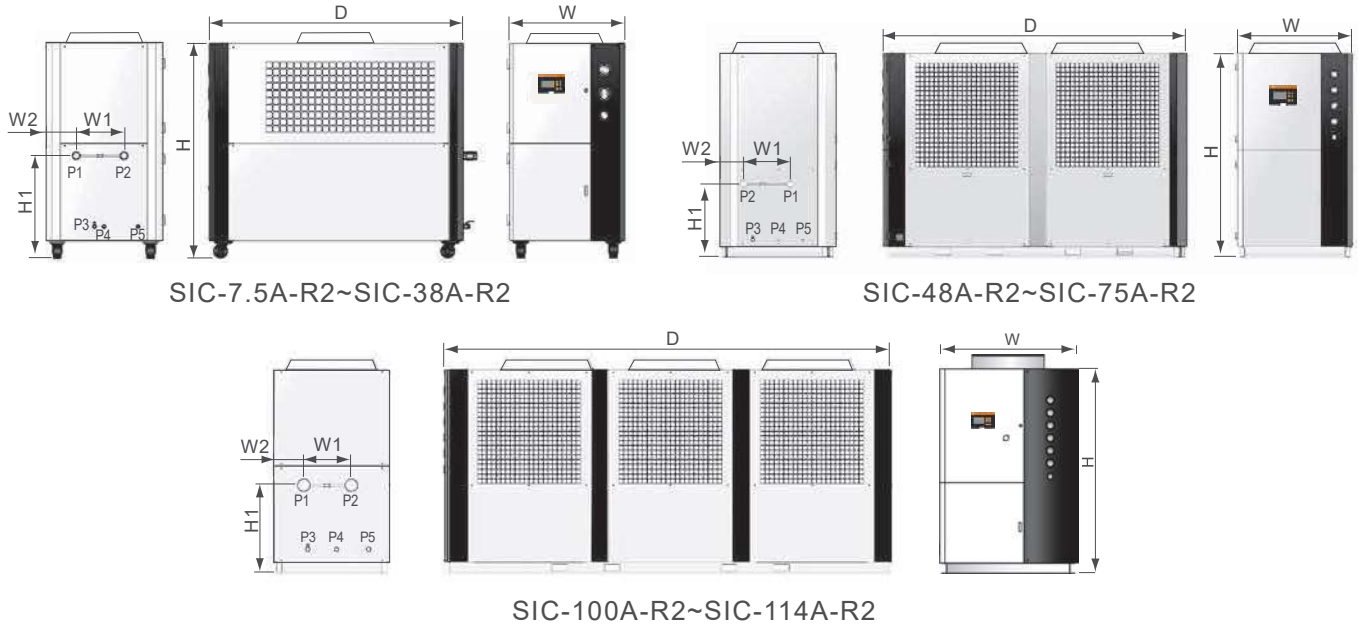
Working Principle

When SIC-A-R2 air-cooled water chiller starting-up, compressor starts working. Refrigerant is compressed into high temperature high pressure gas in the process from B to C, and then be cooled when passing through condenser and changed into liquid. Heat is taken away by the cooling air. In the process from C to D to E and F, liquid refrigerant is dried and filtered by the drier filter. After that, it passes through solenoid valve, level sensor and then reaches the expansion valve. In the process from F to G, the high pressure liquid refrigerant is throttled and depressurized by heat expansion valve and temperature goes down. In the process from G to A, chilled water absorbs the heat of process water in evaporator and returns back to the compressor. This heat exchange process repeats until process water is cooled down to requirement temperature.

Hot-gas bypass function: the compressor continues working when the process water is cooled down to required temperature, then the hot-air bypass valve opens as the temperature drops to its set value. A part of the refrigerant from compressor passes through by-pass valve and then reaches evaporator, balancing out part of the machine refrigerating capacity and then goes back to compressor without passing through condenser. With the help of hot-air bypass valve, system can stay in balanced condition and meanwhile can keep control accuracy within $\pm 1^{\circ}\text{C}/1.8^{\circ}\text{F}$.



Outline Drawings



Outline Drawings

Model		SIC-7.5A-R2	SIC-12A-R2	SIC-18A-R2	SIC-24A-R2	SIC-28A-R2	SIC-38A-R2	SIC-48A-R2	SIC-58A-R2	SIC-75A-R2	SIC-100A-R2	SIC-114A-R2
H	mm	1200	1490	1430	1440	1560		1942				
	inch	47.2	58.7	56.3	56.7	61.4		76.5				
H1	mm	625	640		726		755		641			
	inch	24.6	25.2		28.6		29.7		25.2			
W	mm	685	735		905		1208		1300			
	inch	27	28.9		35.6		47.6		51.1			
W1	mm	277	360	300		390		400	418	800	900	
	inch	10.9	14.1	11.8		15.4		15.7	16.5	31.5	35.4	
W2	mm	200	174	204		223		257		243		255
	inch	7.9	6.9	8		8.8		10.1		9.6		10
D	mm	1190	1320	1610		1782		2922		3475		
	inch	46.9	52	63.4		70.2		115		136.8		
P1 (inch) Cooling Water Inlet		1		1½				2		2½		
P2 (inch) Cooling Water Outlet		1		1½				2		2½		
P3 (inch) Water Tank Outlet Port				1/2				1				
P4 (inch) Water Tank Overflow Port						1/2				1		
P5 (inch) Water Tank Refill Port						1/2				1		
Weight	kg	305	315	400	420	530	540	775	800	840	1400	1600
	lb	672	695	882	926	1,168	1,191	1,709	1,764	1,852	3,087	3,527

SIC-A-R2 Series

Structure of Air-cooled Models



- ① Stainless steel water tank for storage of circulating water.
- ② Large flow 3-phase pump ensures no blockage and high torque.
- ③ High/low pressure gauges to display system pressure.
- ④ Main power switch.
- ⑤ Pump pressure gauge to display pump pressure.
- ⑥ Scroll-type compressor(s) for super high efficiency and low noise.



- ⑦ Expansion valve for accurate adjustment of refrigerant flow.
- ⑧ Tube-fin condenser features quick heat transfer and heat radiation.
- ⑨ Shell-and-tube type evaporator ensures efficient cooling.
- ⑩ Powder coating coated frame and control box.

Specifications (50Hz)

Item	Model Parameter	SIC-	7.5A-R2	12A-R2	18A-R2	24A-R2	28A-R2	38A-R2	48A-R2	58A-R2	75A-R2	100A-R2	114A-R2
		7.5A-R2	12A-R2	18A-R2	24A-R2	28A-R2	38A-R2	48A-R2	58A-R2	75A-R2	100A-R2	114A-R2	
Refrigerant ¹⁾ Capacity	kW	7.5	12	18	24	28	38	48	58	75	100	114	
Refrigerant ²⁾ Capacity	kW	9.5	14	24	32	38	45	64	76	90	121	135	
Compressor	Type	Scroll											
	Power(kW)	2.9	4.2	6.4	8.72	9.36	12.25	17.44	18.72	24.86	33.58	37.29	
Refrigerant	Filling Volume	kg	3.5	5.0	5.5	9.0	12.5	7.5×2	8×2	7.8×2+6.8	8.7×3		
		lb	7.7	11	12.1	19.8	27.6	16.5×2	17.6×2	17×2+15	19.2×3		
	Control Mode	Thermostatic expansion valve											
	Type	R410A											
Evaporator	Type	Tube-in-shell style											
Condenser	Type	Fin style											
	Blower (kW)	0.19	0.55	2×0.23	2×0.385	2×0.6	2×0.78	2×1.03	2×0.85	2×1.92	2×2.2+1.5	3×2.2	
Water Tank Capacity	L	30	65	80	186	230	316						
	gal	7.9	17.2	21.1	49.1	60.8	83.5						
Pump ⁴⁾	Power (kW)	0.75/0.75/1.1	1.1 / 1.1 / 1.1	1.1 / 1.5 / 2.2	- / 1.8 / 2.4	- / 3.0 / 4.0	-4.0/5.5						
	Pump Flow	L/min	21.5	34.4	51.6	68.8	80.3	108.9	137.6	166.3	215.0	286.7	326.8
		gal/min	5.7	9.0	13.6	18.2	21.2	28.8	36.4	43.9	56.8	75.7	86.3
	Working Pressure (kgf/cm ²) ³⁾	3.3/3.7/4.5	3.2/3.5/4.4	2.8/4.1/4.9	2.7/3.85/4.5	3.1/3.9/4.9	2.4/3.8/4.6	-3.4/4.5	-3.2/4.3	-3.5/4.1	-3.1/3.9	-3.7/4.9	
Total Power (kW) ⁵⁾	3.8/3.8/4.2	5.5/5.5/5.9	7.8/7.8/7.8	10.6/10.6/10.6	11.7/12/12.8	14.9/15.3/16	-21.3/21.9	-22.2/22.8	-31.7/32.7	-42.5/43.5	-47.9/49.4		
Pipe Coupling (female thread)	Chilled Water Outlet	1" G	1 1/2" G	2" G	2 1/2" G								
	Chilled Water Inlet	1" G	1 1/2" G	2" G	2 1/2" G								
	Water Tank Drainage Port	1/2" G				1" G							
	Water Tank Overflow Port	1/2" G				1" G							
Protective Devices	Compressor	Overload relay											
	Pump	Overload relay											
	Cooling Water Circuit	High and low pressure switches/Anti-freeze switch											
	Water Circuit	Flow switch/Water level switch (Optional)/By-pass valve											
Operation Noise dB(A)	78	75	74	78	81	86	84	82	86	90	90		
Power(VAC) ⁶⁾	3Φ, 400VAC, 50Hz												
Measures Exchange	1 kW = 860 kcal/hr 1 RT = 3,024 kcal/hr 10,000 Btu/hr = 2,520 kcal/hr												

- Notes: 1) Refrigeration capacity 1 is based on the flow of 0.172m³/(h.k W), the chilled water outlet temperature of 7°C/44.6°F and the environment temperature of 35°C/95°F.
- 2) Refrigeration capacity 2 is based on the flow of 0.172m³/(h.k W), the chilled water outlet temperature of 15°C/59°F and the environment temperature of 25°C/77°F.
- 3) It is the working pressure of water pump when negative pressure of inlet water is 0.
- 4) Low pressure pump is for domestic and Southeast Asia export, customers can change for medium pressure pumps (use P for short; e.g.: SIC-and A-R2-P) or high pressure pumps (use HP for short; e.g.: SIC-and A-R2-HP), specific parameters in turn as shown above.
- 5) Pump power is included in total power.
- 6) Special orders of machine voltage can be acceptable according to customers's request.
- 7) The air-cooled water chiller is applicable to the conditions under the environment temperature of 43°C.

SIC-A-R2 Series

Specifications (60Hz)

Item	Model Parameter	SIC-	12A-R2	24A-R2	28A-R2	38A-R2	48A-R2	58A-R2	75A-R2	100A-R2	114A-R2
Refrigerant ¹⁾ Capacity	kW		15	30	35.5	45	60	70	90	122	136
Refrigerant ²⁾ Capacity	kW		17.5	37.5	41	48	75	82	96	133.5	144
Compressor	Type	Scroll									
	Power(kW)		5.28	10.2	11.73	14.8	20.4	23.76	29.6	39.8	44.4
Refrigerant	Filling Volume	kg	5.0	5.5	9.0	12.5	7.5×2	8 ×2		7.8×2+6.8	8.7×3
		lb	11	12.4	19.8	27.6	16.5×2	17.6 ×2		17.2×2+15	19.2×3
	Control Mode	Thermostatic expansion valve									
	Type	R410A									
Evaporator	Type	Plate style								Tube-in-shell style	
Condenser	Type	Fin style									
	Blower (kW)		0.91	2×0.57	2×0.91	2×1.1	2×2.2		2×2.2	2×2.2+2.2	3×2.2
Water Tank Capacity	L		50	85	150		180	200	270	400	
	gal		13.2	22.5	39.6		47.6	52.8	71.3	105.7	
Pump ⁴⁾	Power (kW)		0.75/1.5	1.1/1.5	2.2/3.0		3.0/3.0		5.5/5.5		
	Pump Flow	L/min	43.1	86.2	102	129.3	172.3	201.1	258.5	350.4	390.7
		gal/min	11.4	22.8	26.9	34.2	45.5	53.1	68.3	92.6	103.2
	Working Pressure (kgf/cm ²) ³⁾		-/3.1/5.1	-/3.0/4.2	-/2.7/4.1	-/2.5/3.9	-/4.5/5.6	-/3.9/4.8	-/2.8/2.8	-/4.5/4.5	-/4.1/4.1
Total Power (kW) ⁵⁾		-/6.9/7.6	-/12.4/12.8	-/15.7/16.5	-/19.2/20	27.8	31.1	39.5	51.9	56.5	
Pipe Coupling (female thread)	Chilled Water Outlet		1"G	1 1/2"G	2"G			2.5"G			
	Chilled Water Inlet		1"G	1 1/2"G	2"G			2.5"G			
	Water Tank Drainage Port		1/2"G				1"G				
	Water Tank Overflow Port		1/2"G						1"G		
Protective Devices	Compressor	Overload relay									
	Pump	Overload relay									
	Cooling Water Circuit	High and low pressure switches/Anti-freeze switch									
	Water Circuit	Flow switch/Water level switch (Optional)/By-pass valve									
Operation Noise dB(A)		75	78	81	86	84	82	86	90	90	
Power(VAC) ⁶⁾		3Φ, 230/400/460/575VAC, 60Hz									
Measures Exchange		1 kW = 860 kcal/hr			1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr				

- Notes:
- 1) Refrigeration capacity 1 is based on the flow of 0.172m³/(h.k W), the chilled water outlet temperature of 7°C/44.6°F and the environment temperature of 35°C/95°F.
 - 2) Refrigeration capacity 2 is based on the flow of 0.172m³/(h.k W), the chilled water outlet temperature of 20°C/68°F and the environment temperature of 30°C/86°F.
 - 3) It is the working pressure of water pump when negative pressure of inlet water is 0.
 - 4) Low pressure pump is for domestic and Southeast Asia export, customers can change for medium pressure pumps (use P for short; e.g.: SIC-and A-R2-P) or high pressure pumps (use HP for short; e.g.: SIC-and A-R2-HP), specific parameters in turn as shown above.
 - 5) Pump power is included in total power.
 - 6) Special orders of machine voltage can be acceptable according to customers's request.
 - 7) The air-cooled water chiller is applicable to the conditions under the environment temperature of 43°C/109.5°F.

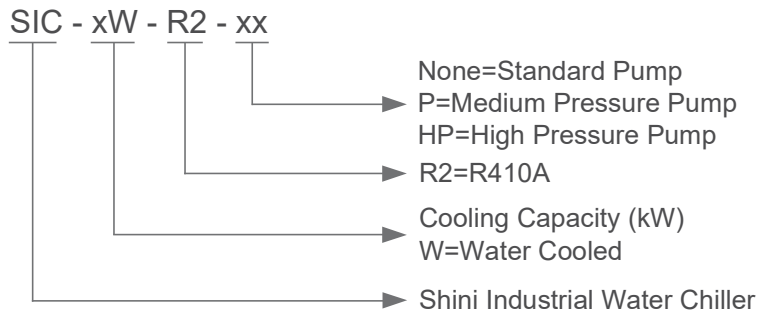
CFC-free Refrigerant Water-cooled Water Chiller



SIC-33W-R2

SIC-W-R2 Series

Coding Principle



Features

- Cooling range 7~25°C/44.6~77°F.
- Insulated water tank made of stainless steel.
- Equipped with anti-freeze thermostat.
- Adopt R410A refrigerant, used to improve coefficient of performance (COP) and R410A is ozone-friendly.
- Refrigeration loop controlled by high and low pressure switches to ensure stable operation.
- Compressor and pump overload protection.
- Adopt precise high-precision temperature controller with an accuracy of $\pm 1^{\circ}\text{C}/1.8^{\circ}\text{F}$.
- All adopt quality compressors from major supplier.
- Middle Pressure Pump is optional.
- SIC-W-R2 adopts tube-in-shell condenser design. Without any need of cooling water for excellent heat transfer and rapid cooling.
- Equipped with RS485 communication interface to realize centralized monitoring.



Control Panel

Options

- Medium and high pressure pumps are optional to meet any pressure requirements.
- Water tank level sensor is available to detect whether the water level is normal.
- Solenoid valve is optional to prevent compressor re-start and the liquid impact phenomenon by cutting the refrigerant immediately after downtime.
- Refrigerant indicator can be opted to detect the refrigerant and the water ratio.
- Optional flow switches to ensure compressor works in sufficient water quantity.
- 1/2" water flow regulator SFR-400 is optional. (Only suitable for SIC-9W-R2 & SIC-14W-R2)

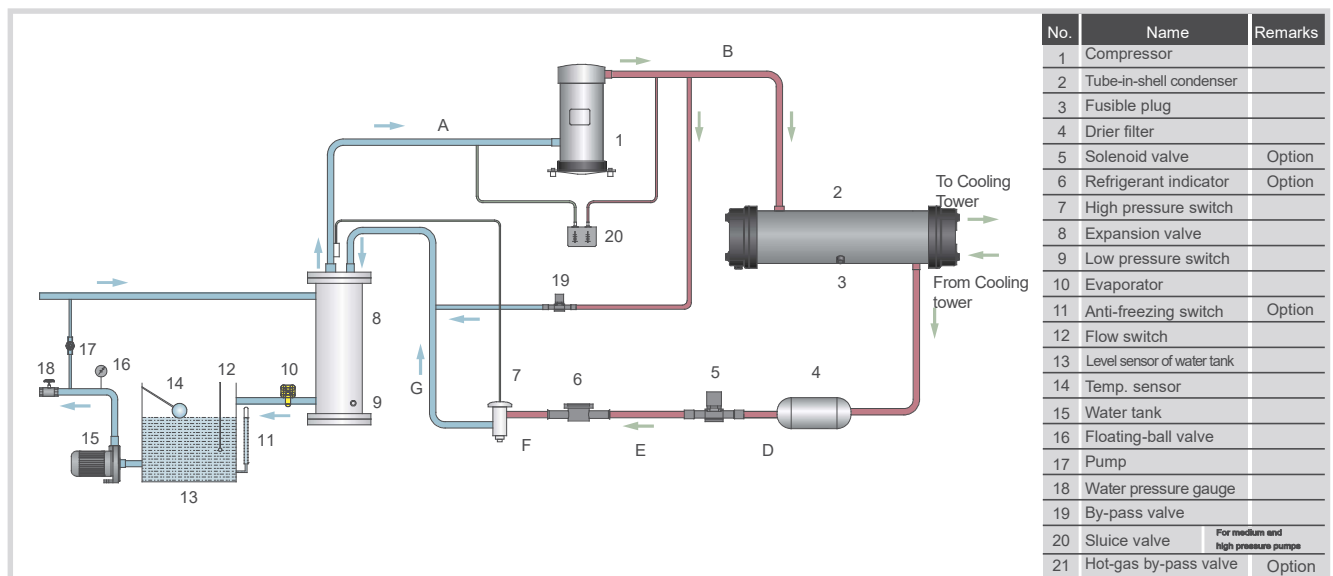
Application

It is applied to plastics industry to precisely control moulds temperature so that molding cycle can be reduced and quality would be improved. Also SIC-W-R2 series can be applicable for electronic and machinery manufacturing to ensure normal operation temperature for devices.

Working Principle

When the SIC-W water-cooled water chiller starts up, compressor starts working. Refrigerant is compressed into high temperature and high pressure gas in the process from B to C, and then be cooled when passing through the condenser and changed into liquid. Heat is taken away by the cooling water. In the process from C to D to E and F, the liquid refrigerant is dried and filtered by drier filter. After that, it will pass through solenoid valve, refrigerant indicator and then reach expansion valve. In the process from F to G, the high pressure liquid refrigerant will be throttled and depressurized by heat expansion valve and temperature will go down. In the process from G to A, chilled water absorbs the heat of process water in the evaporator and returns back to compressor. This heat exchange process repeats until process water is cooled down to required temperature.

Hot-air bypass function: the compressor continues working when process water is cooled down to required temperature, then the hot-air bypass valve opens as the temperature drops to its set value. A part of the refrigerant from the compressor passes through the by-pass valve and then reaches evaporator, balancing out part of the machine refrigerating capacity and then goes back to compressor without passing through the condenser. With the help of hot-air bypass valve, the system can stay in an balanced condition and meanwhile can keep control accuracy within $\pm 1^{\circ}\text{C}/1.8^{\circ}\text{F}$.



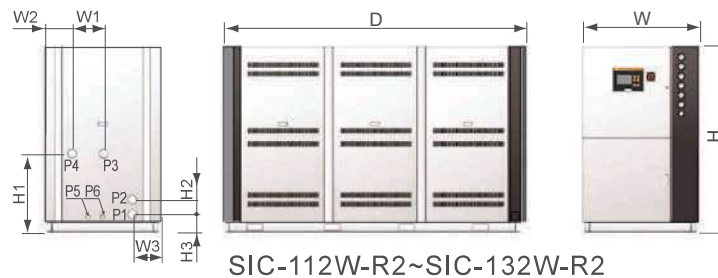
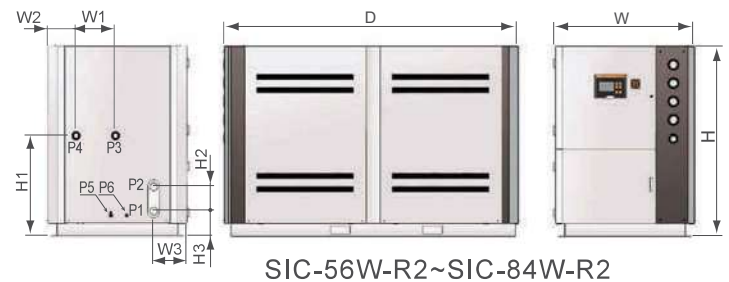
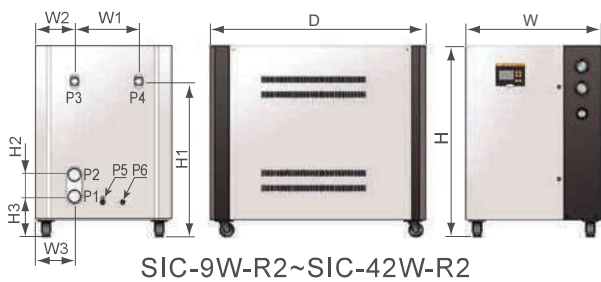
SIC-W-R2 Series

Structure of SIC-W-R2



- ① Stainless steel water tank for storage of circulation water.
- ② Heavy-duty 3-phase pump ensures no blockages and high torque.
- ③ Scroll compressor(s) for super high efficiency and low noise.
- ④ Drier filter(behind compressor).
- ⑤ Main switch.
- ⑥ High/low pressure gauges.
- ⑦ Pump pressure gauge.
- ⑧ Powder coated frame.
- ⑨ Tube-in-shell evaporator ensures efficient cooling.
- ⑩ Tube-in-shell condenser design for quick heat transfer and excellent heat radiation.

Outline Drawings



Dimensions

Item	Model	SIC-9W	SIC-14W	SIC-21W	SIC-28W	SIC-33W	SIC-42W	SIC-56W	SIC-66W	SIC-84W	SIC-112W	SIC-126W	SIC-132W	
		-R2	-R2	-R2	-R2	-R2	-R2	-R2	-R2	-R2	-R2	-R2	-R2	
H	mm	970		1050		1200			1450			1760		
	inch	38.2		41.3		47.2			57			69.3		
H1	mm	790		910		1078			765		750	490	520	
	inch	31.1		35.8		42.4			30.1		29.5	19.3	20.5	
H2	mm	91		140		140			200			140		
	inch	3.6		5.5		5.5			7.9			5.5		
H3	mm	207		225		308		190		200		190		
	inch	8.1		8.9		12.1		7.5		7.9		7.5		
W	mm	605		830		865			1055			1100		
	inch	23.8		32.7		34			41.5			43.3		
W1	mm	273		370		459			300		300		205	
	inch	10.7		14.6		18			11.8		11.8		8.0	
W2	mm	164		230		202		295		215	260	230	325	
	inch	6.5		9.0		8.0		11.6		8.5	10.2	9.0	12.8	
W3	mm	164		230		162			205		267	250	505	
	inch	6.5		9.0		6.4			8.0		10.5	9.8	19.9	
D	mm	1080		1200		1470			2235		2870	3085	3285	
	inch	42.5		47.2		57.9			88.0		113	121.5	129.3	
P1 (inch) Cooling Water Inlet		1 1/2			2			2 1/2			2x2 1/2			
P2 (inch) Cooling Water Outlet		1 1/2			2			2 1/2			2x2 1/2			
P3 (inch) Chilled Water Inlet		1	1 1/2			2			2 1/2					
P4 (inch) Chilled Water Outlet		1	1 1/2			2			2 1/2					
P5 (inch) Water Tank Drainage Port		1/2									1			
P6 (inch) Water Tank Overflow Port		1/2									1			
Weight	kg	210	240	330	340	430	495	750	760	800	1200	1450	1750	
	lb	463	529	727.5	729	948	1,091	1,653	1,675	1,764	2,646	3,197	3,858	

Model Selection Reference

Mould Clamping Force (T)	Moulding Capacity (kg/hr)	Model (kW)
≤250	≤25	6
≤450	≤45	11
≤650	≤65	14
≤850	≤85	18
≤1300	≤130	27
≤1800	≤180	38

Mould Clamping Force (T)	Moulding Capacity (kg/hr)	Model (kW)
≤2500	≤250	52
≤3000	≤300	62
≤4000	≤400	84
≤5000	≤500	104
≤6000	≤600	126

SIC-W-R2 Series

Specifications

Item	Parameter	Model	SIC-9W-R2	SIC-14W-R2	SIC-21W-R2	SIC-28W-R2	SIC-33W-R2	SIC-42W-R2	SIC-56W-R2	SIC-66W-R2	SIC-84W-R2	SIC-112W-R2	SIC-126W-R2	SIC-132W-R2										
		Refrigeration Capacity ¹⁾	kW	50Hz	9.0	14	21	28	33	42	56	66	84	112	126	132								
		60Hz	10.8	16.8	25.2	33.6	39.6	50.4	67.2	79.2	100.8	134.4	151.2	158.4										
	kcal/hr	50Hz	7,740	12,040	18,060	24,080	28,380	36,120	48,160	56,760	72,240	94,320	108,360	113,520										
		60Hz	9,288	14,448	21,672	28,896	34,056	43,344	57,792	68,112	86,688	115,584	130,032	136,224										
Compressor	Power (kW)	Type	Scroll																					
		50Hz	2.5	3.55	5.5	7.35	8.35	10.5	14.7	16.7	21	28.35	31.5	33.4										
		60Hz	3.2	4.5	6.4	8.5	9.75	12.5	17	19.5	25	33.5	37.5	39										
Refrigerant	Weight	kg	2.5	3.0	5.5	5.5	9.8	8.7	10.8	16	17.4	21.4	26.1	32										
		lb	5.5	6.6	12.1	12.1	21.6	19.2	23.8	35.3	38.4	47.2	57.5	70.5										
	Control Mode	Thermostatic expansion valve																						
	Type	R410A																						
Evaporator	Type	50Hz	Tube-in-shell style									Tube-in-shell style												
		60Hz	Plate style									Tube-in-shell style												
Condenser	Type	Tube-in-shell style																						
		In/out Pipe (inch)	1 1/2				2				2 1/2				2x2 1/2									
	Cooling Water Flow	L/min	33.5	52.2	78.3	104.3	123	156.5	208.7	246	313	417.4	469.6	491.9										
gal/min		8.9	13.8	20.7	27.6	32.5	41.3	55.1	65.0	82.7	110.3	124.0	129.9											
Water Tank	L	40			70			80			200			400										
	gal	10.6			18.5			21.1			52.8			105.7										
Pump ²⁾	Power (kW)	50Hz	0.75/0.75/1.1			1.1/1.1/1.1			1.1/1.5/2.2			-1.8/2.4			-3.0/4.0		-4.0/5.5							
		60Hz	0.75/0.75/1.1			1.1/1.1/1.5			2.2			3			5									
	Pump Flow (L/min)	50Hz	25.8	40.1	60.2	80.3	94.6	120.4	160.5	189.2	240.8	321.1	361.2	378.4										
		60Hz	30.9	48	71.9	96	113	147.2	191.7	226	287.7	383.6	431.6	452.2										
Working Pressure (kgf/cm ²)	50Hz	3.3/3.7/4.5	3.1/3.5/4.3	2.8/3.9/5.7	2.7/3.3/4.0	2.7/3.7/4.7	2.6/3.5/4.5	-3.2/4.4	-3.1/4.1	-3.4/4.1	-2.8/3.8	-3.7/4.4	-3.2/4.3											
	60Hz	-3.5/5.4	-2.9/5	-3.35/4.5	-3.9/5	-4.0/5.4	-5.0/6.2	-4.1/5.1	-4.4/-	-	-	-	-											
Total Power ³⁾ (kW)	50Hz	3.25	4.3	6.61	8.45	9.45	11.6	16.9	18.9	23.2	30.55	32.7	35.6											
	60Hz	3.15	5.6	7.22	9.21	11.39	14.6	19.22	21.38	30.3	38.41	42.7	42.26											
Pipe Coupling (female thread)	Chilled Water Outlet	1"G		1 1/2"G			2"G				2 1/2"G		2 1/2"G											
	Chilled Water Inlet	1"G		1 1/2"G			2"G				2 1/2"G		2 1/2"G											
	Drainage Port Of Water Tank	1/2"G																						
	Overflow Port Of Water Tank	1/2"G																						
Protective Device	Compressor	Overload relay																						
	Pump	Overload relay																						
	Refrigerant Circuit	High and low pressure switches/Anti-freezing switch																						
	Cooling water Circuit	By-pass valve/Water level switch (Option)																						
Operation Noise dB(A)	69		70.5		70.4		72.5		71.4		74		75.5		73.3		78.5		81.4		79.6		86.5	
Power	3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz																							
Measures Exchange	1 kW = 860 kcal/hr				1 RT = 3,024 kcal/hr				10,000 Btu/hr = 2,520 kcal/hr															

Notes: 1) Refrigeration capacity is measured based on the flow 0.172 m³ / (h·k W) and the outlet temperature (7°C/44.6°F) of chilled water under the environment temperature of 30°C/86°F and cooling water flow of 0.215 m³ / (h·k W).

2) The working pressure of water pump is the pressure when negative pressure of inlet water is 0.

3) This pump is used as standard either for domestic or Southeast Asia; medium (Model denotes "P", such as SIC-9W-R2-P) or high pressure pump (Model denotes "HP", such as SIC-9W-R2-P) are optional for installation on customer's demands.

4) Pump power is included in total power.

5) Demands on special voltage of power supply could be satisfied.

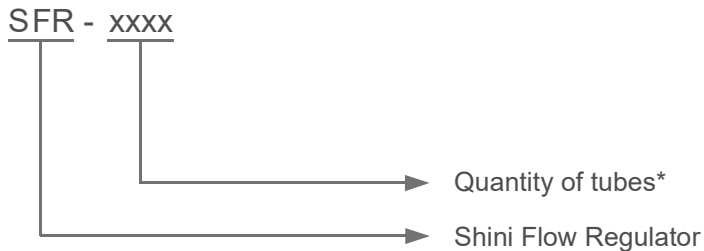
Water Flow Regulator



SFR-600

SFR Series

■ Coding Principle



Notes: *

For example: SFR-200, 2 tubes

SFR-1000, 10 tubes

■ Features

Standard configuration

- Modularized design and great expandability, which can be configured on client's demand.
- Optimal structure design, long service life.
- Flowrate is adjustable according to different demands and has temperature and flowrate display function, which can display immediately whenever there is clogging in the mould circulation loops so as to avoid producing defective products.
- Ensure the conformity of product's shrinkage by accurate and reliable mould temperature control.
- Convenient for both mounting and demounting, easy for cleaning and maintenance.
- Purely mechanical structure with no power consumption.
- Viewable flowrate display helps fast adjusting to required rate.
- Adopts precise adjusting valve, which can adjust the flowrate more accurately.
- Cleaning brush is supplied as standard for easy maintenance of flow tubes.

Accessory option

- Water connection elbows with quick-release connectors, and machine mounting bracket are optional.
- Mould connector (3/8" male quick-release connector) is supplied as optional.

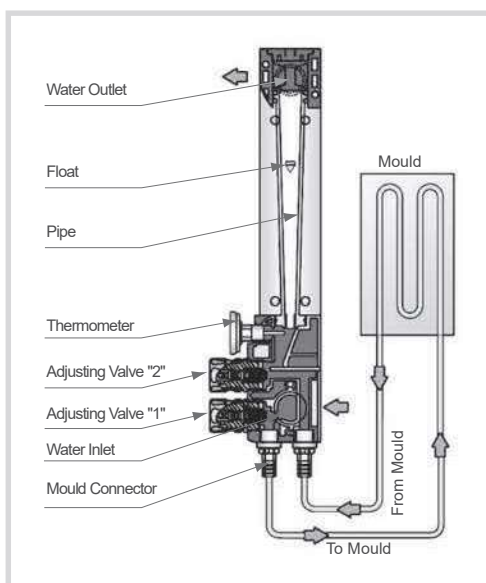


Machine Mounting Bracket (optional)

■ Application

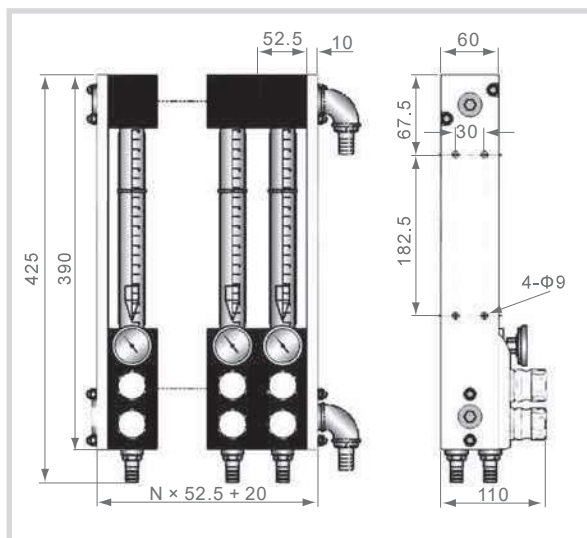
SFR series water flow regulators are designed to work with mould heaters, water chillers and cooling towers, which can be connected to more than one mould connectors. They have the function like temperature and flowrate displays, flowrate control in order to meet the requirements of different working conditions. Modularized combination ensures convenient installation and maintenance. It is indispensable in modern plastic industry to improve its molding efficiency.

■ Working Principle



- Circulating water comes into flow regulator via water inlet.
- Then the circulating water comes into mould via the adjusting valve "1".
- After the circulating water completed its circulating in the mould, it will go back to the flow tubes via the flow regulator's return water inlet and the adjusting valve "2". Flowrate can be observed in the flow pipes.
- Circulating water returns to the mould temperature controller, water chiller or cooling tower via water outlet.
- Thermometer displays the temperature of the flow.

■ Outline Drawings



■ Specifications

Model	Tube Quantity (N)
SFR-200	2
SFR-400	4
SFR-600	6
SFR-800	8
SFR-1000	10
SFR-1200	12

SFR Series

Technical Parameters

Max. Temperature: 100°C (212°F)

Max. Pressure: 10kgf/cm²

Flowrate Range: 0~18L/min(0~4.8gal/min) (Each pipe)

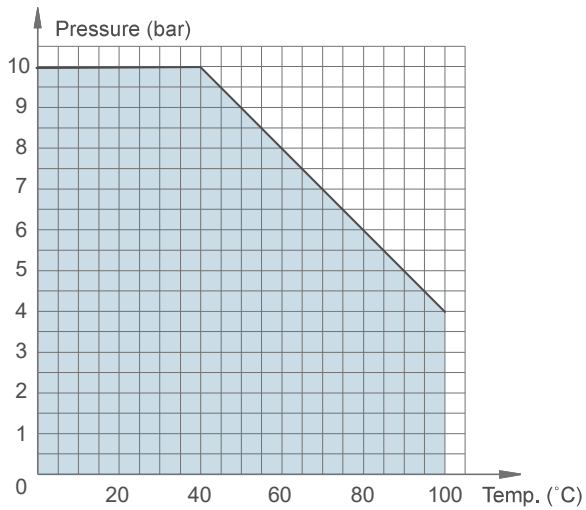
Quick-release Connector:

3/8" G Male Thread

Water Connectors:

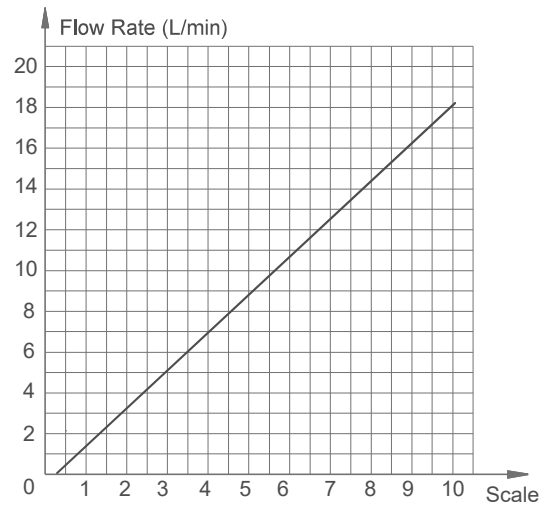
3/4" PT Female Thread

Temp. and pressure Chart



(Accuracy of this curve is within ± 5%)

Grad. and flowrate Chart



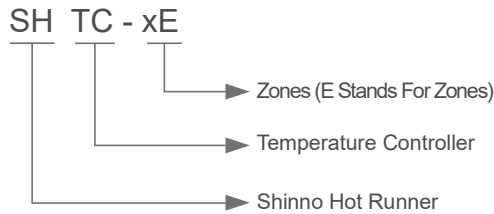
(Accuracy of this curve is within ± 0.5L/min)

Temperature Controller



SHTC

Coding Principles



Application

Temperature controller, being used in hot runner system, is a device which maintains the required temperature value for the hot runner via. PID control. It consists of temperature control card, circuit breaker, cabinet, fan, terminal blocks and cables. The temperature control card in the cabinet controls the temperature of the hot runner and the temperature accuracy of system.

Self-protection and fault tolerance depends on the function of the temperature control card. At present, temperature controller is necessary in the application of hot runner molds.

Specifications

Zone	Length (mm)	Width (mm)	Height (mm)
zone 1	100	220	280
zone 2	240	390	240
zone 4	380	390	240
zone 6	440	390	240
zone 8	540	390	240
zone 12	410	390	440
zone 24	720	390	440

Features

Standard Function

- LCD Module display
- Inside buzzer
- Over-pressure protector prevents module burnt due to wrong connection
- Detection for thermocouple break and reverse connection
- Fuse break detection
- Percentage output with display
- Dual trigger output(phase/ zero bit)
- Intelligent soft-start function
- Manual output for thermocouple abnormality
- Auto/manual control
- PID temperature control
- Set for output percentage limit
- Dual thermocouple (J/K)
- Dual temperature limit (°C/°F)
- Six kinds of alarm
- Temperature range K TYPE: 0~600°C(32~999°F) / J TYPE: 0~600°C(32~999°F)

Options

- Current detection function:
Current display/Heater short circuit protection/Heater break detection/TRIAC short circuit protection
- Infrared ray module:
One button start (stop)/ heat insulation (heating up)
- Communication module :
RS485 communication function: mode ASCII and RTU