



CFC-free Refrigerant Air-cooled Water Chiller

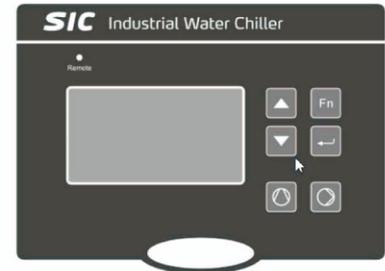
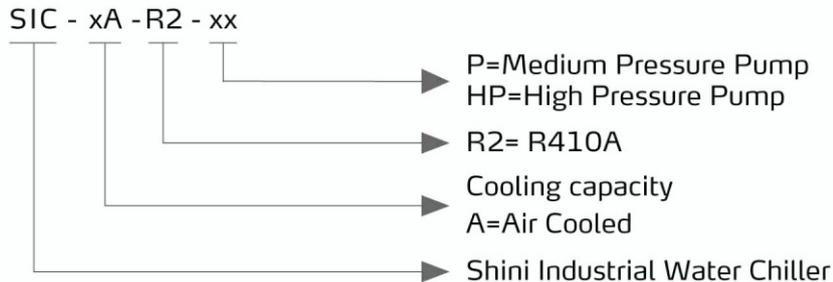
SIC-12A-R2



Refer carefully to the manual before operation.

SIC-A-R2 Series

■ Coding Principle



Control Panel

■ Features

- Cooling range: 7~25°C
- Stainless steel insulated water tank
- Equipped with an anti-freeze thermostat
- Compressor and pump overload protection
- The refrigerating system has high and low-pressure alarm protection;
- R410A ozone-friendly refrigerant with a high efficient cooling result;
- A well-known compressor that ensures low noise, energy-efficient, and long service life;
- Fin style condenser with internal thread copper pipe features rapid and well heat transfer, no need for cooling tower or water;
- Adopt high precision temperature controller with a display precision of $\pm 0.1^{\circ}\text{C}$
- It has a hot-gas bypass valve with a control accuracy of up to $\pm 0.1^{\circ}\text{C}$
- RS485 communication interface to realize centralized monitoring;
- Circular stainless steel thermal insulated water tank and unique cyclone design for even distribution of chill water;
- Water loop with a return water filter that adopts PVC-U water pipe to ensure the cleanliness of the water quality. (suitable for models in Spec. 1);
- Plate heat exchanger ensures efficient heat exchanging (suitable for models in Spec. 1);
- Equipped with safety valves for stable system pressure. The inlet and outlet pipe adopt an adaptive bypass valve to ensure stable outlet water pressure (suitable for models in Spec. 1).
- Equipped with a flow switch to avoid the unit from operating without water flow (suitable for models in Spec. 1);
- The standard water tank level indicator for visualizing check of the water level ;
- Compact outline and small foot (suitable for models in Spec. 1);

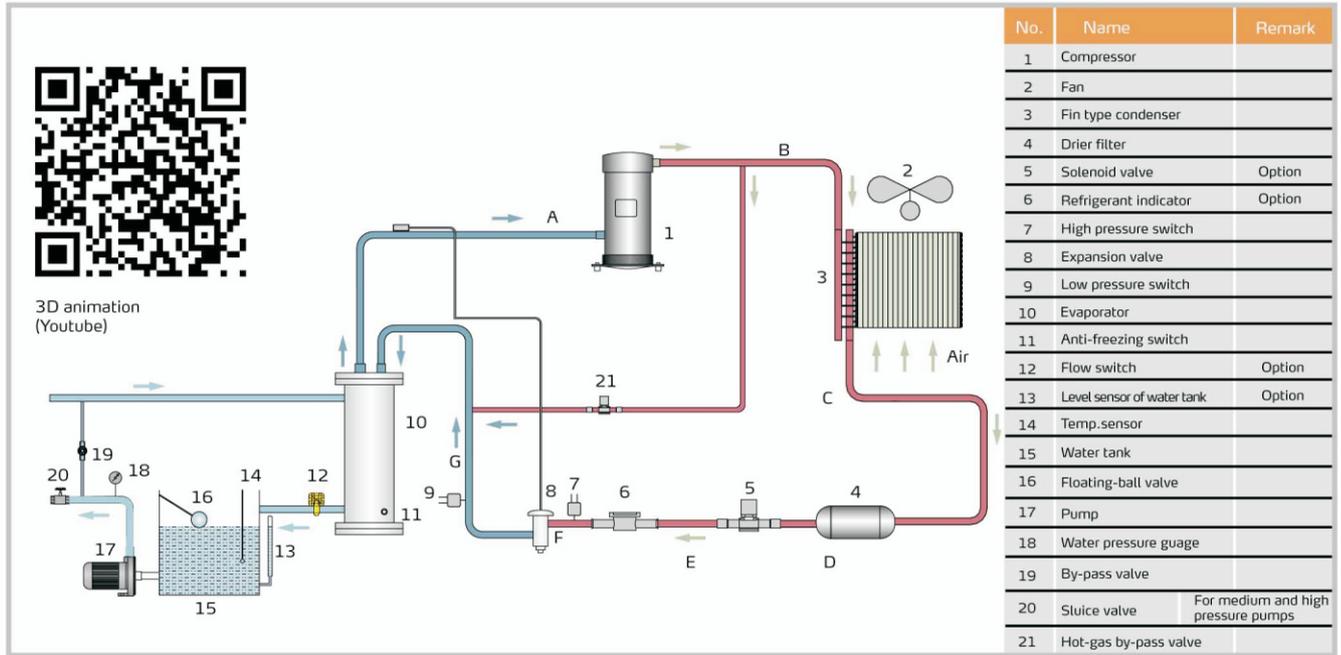
■ Options

- For models with a medium-pressure pump, add "P" at the end of the model code (suitable for models in Spec. 2), and for models optional with a high-pressure pump, add "HP" at the end of the model code.
- The level indicator in the water tank is optional to check whether the water level is within normal range and add "SG" at the end of the model code. (suitable for models in Spec. 2)
- The flow switch is optional to ensure that the unit is working under water flow, and add "FW" at the end of the model code (suitable for models in Spec.2);
- The level switch in the water tank is optional to check if the water level is normal, and add "LW" at the end of the model code (suitable for models in Spec.1);
- Liquid solenoid valve for pump down a refrigerant circuit to avoid liquid migration back to the compressor on the off-cycle, and it can potentially prevent liquid slug on startup. Add "LS" at the end of the model code.
- Optional refrigerant indicator for visual checking of refrigerant moisture content, and add "LSG" at the end of the model code.

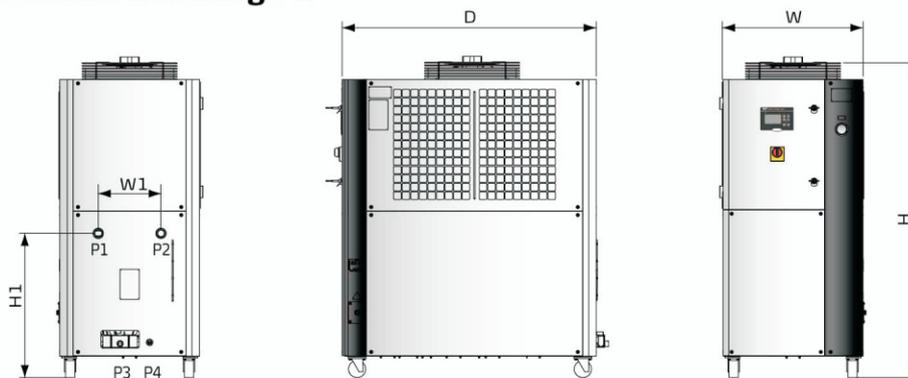
Application

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

Working Principle



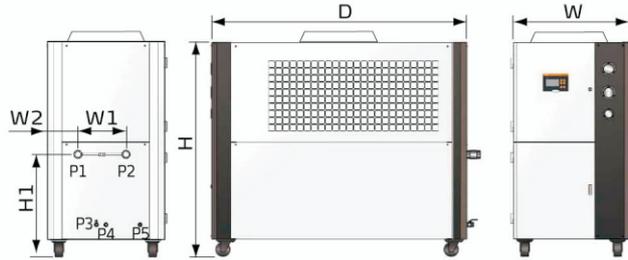
Outline Drawings 1



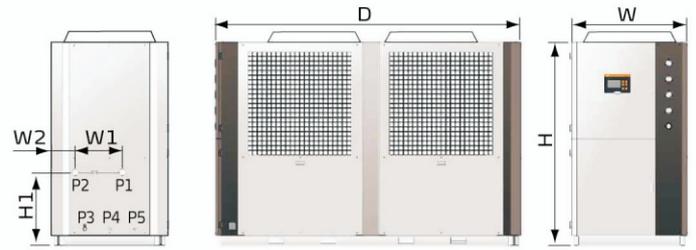
Model	H (mm)	H1 (mm)	W (mm)	W1 (mm)	D (mm)	P1 (inch) Cooling Water Inlet	P2 (inch) Cooling Water Outlet	P3 (inch) Water Tank Outlet Port	P4 (inch) Water Tank Overflow Port	Weight (kg)
SIC-15A-R2	1659	760	735	333	1333	Rc1.25	Rc1.25	Rc1/2	Rc1/2	350
SIC-25A-R2	1659	760	735	333	1333	Rc1.25	Rc1.25	Rc1/2	Rc1/2	366
SIC-33A-R2	1881	757	950	483	1210	Rc1.5	Rc1.5	Rc1/2	Rc1/2	421
SIC-49A-R2	1581	753	956	506	1512	Rc1.5	Rc1.5	Rc1/2	Rc1/2	520
SIC-66A-R2	1808	698	1053	435	2920	Rc2	Rc2	Rc1/2	Rc1/2	910
SIC-98A-R2	1868	701	1053	435	3102	Rc2	Rc2	Rc1/2	Rc1/2	1100

SIC-A-R2 Series

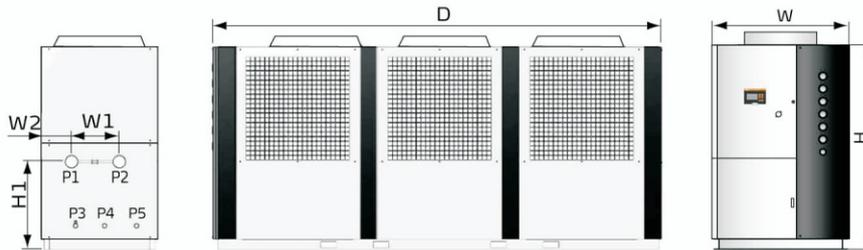
Outline Drawings 2



SIC-7.5A-R2~SIC-38A-R2



SIC-48A-R2~SIC-75A-R2



SIC-100A-R2~SIC-114A-R2

Model	H (mm)	H1 (mm)	W (mm)	W1 (mm)	W2 (mm)	D (mm)	P1 (inch) Cooling Water Inlet	P2 (inch) Cooling Water Outlet	P3 (inch) Water Tank Outlet Port	P4 (inch) Water Tank Overflow Port	P5 (inch) Water Tank Refill Port	Weight (kg)
SIC-7.5A-R2	1200	625	685	277	200	1190	1	1	1/2	1/2	1/2	305
SIC-12A-R2	1490	640	735	360	174	1320	1	1	1/2	1/2	1/2	315
SIC-24A-R2	1440	640	735	300	204	1610	1 1/2	1 1/2	1/2	1/2	1/2	420
SIC-28A-R2	1560	726	905	390	223	1782	1 1/2	1 1/2	1/2	1/2	1/2	530
SIC-38A-R2	1560	726	905	390	223	1782	2	2	1/2	1/2	1/2	540
SIC-48A-R2	1942	755	1208	400	257	2922	2	2	1	1/2	1/2	775
SIC-58A-R2	1942	755	1208	400	257	2922	2	2	1	1/2	1/2	800
SIC-75A-R2	1942	755	1208	418	257	2922	2 1/2	2 1/2	1	1/2	1/2	840
SIC-100A-R2	1942	641	1300	800	243	3475	2 1/2	2 1/2	1	1	1	1400
SIC-114A-R2	1942	641	1300	900	255	3475	2 1/2	2 1/2	1	1	1	1600



■ Specifications 1(50Hz)

Item	Model Parameter	SIC-15A-R2	SIC-25A-R2	SIC-33A-R2	SIC-49A-R2	SIC-66A-R2	SIC-98A-R2
		Cooling Capacity ¹⁾	kW	15	25	33	49
Cooling Capacity ²⁾	kW	13	21	30	44	56	87
Cooling Capacity ³⁾	kW	12	19	27	40	52	77
Compressor	Type	Scroll					
	Power(kW)	3.8	6.18	8.5	12.35	8.5×2	12.35×2
Refrigerant	Filling volume(kg)	6.5	5.8	7.6	11	7.5×2	11×2
	Control Mode	Thermostatic expansion valve					
	Type	R410A					
Evaporator	Type	Plate style					
	Chilled water flow (L/min)	43	71.7	94.6	140.5	189.2	281
Condenser	Type	Fin style					
	Blower (kW)	0.42	0.42×2	0.7	0.7	0.7×2	0.7×2
Water Tank Capacity(L)		76	76	90	137	137	137
Pump ⁴⁾ (50Hz)	Power (kW)	0.75/1.1	1.1/1.1	1.5/2.2	1.5/2.2	2.4/3.0	3.0/4.0
	Working Pressure (kgf/cm ²) ⁵⁾	3/4					
Total Power (kW) ⁶⁾		4.95/5.32	8.12	10.7/11.4	14.55/15.25	20.8/21.4	29.1/30.1
Pipe Coupling (female thread) (inch)	Chilled Water Outlet	Rc1.25"		Rc1.5"		Rc2"	
	Chilled Water Inlet	Rc1.25"		Rc1.5"		Rc2"	
	Water Tank Drainage Port	Rc1/2"					
	Water Tank Overflow Port	Rc1/2"					
Protective Devices	Compressor	Overload relay					
	Pump	Overload relay					
	Cooling Water Circuit	High and low pressure switches/Anti-freeze switch					
	Water Circuit	Flow switch (Optional)/Water level switch (Optional)/By-pass valve					
Operation Noise dB(A)		78					
Use environment ⁷⁾		Under the condition with good ventilation or ambient temperature not exceeding the service pressure					
Power(VAC) ⁸⁾		3Φ, 400VAC, 50Hz					
Unit Conversion		1 kW = 860 kcal/hr		1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr	

Notes:

- Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature of 15°C/59°F of chilled water under the environmental temperature of 35°C/95°F.
- Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 10°C/50°F of chilled water under the environmental temperature of 35°C/95°F.
- Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C/44.6°F of chilled water under the environmental temperature of 35°C/95°F.
- Pump pressure of 3kgf/cm² is standard; customers can change for high-pressure pumps (use HP for short; e.g., SIC-and A-R2-HP), specific parameters in turn as shown above.
- The pressure value is the state when the pump inlet negative pressure is 0;
- Pump power, fan power, and compressor power are included in total power.
- The air-cooled water chiller applies to the environment temperature of 45°C or below.
- Special orders of machine voltage are available according to the request.

SIC-A-R2 Series

Specifications 1(60Hz)

Item	Parameter	Model	SIC-15A-R2	SIC-25A-R2	SIC-33A-R2	SIC-49A-R2	SIC-66A-R2	SIC-98A-R2
		Cooling Capacity ¹⁾	kW		18	29	38	56
Cooling Capacity ²⁾	kW		15	24	35	50	65	93
Cooling Capacity ³⁾	kW		14	22	31	46	60	88
Compressor	Type	Scroll						
	Power(kW)		4.56	7.42	10.2	14.82	10.2×2	14.82×2
Refrigerant	Filling volume(kg)		6.5	5.8	7.6	11	7.5×2	11×2
	Control Mode	Thermostatic expansion valve						
	Type	R410A						
Evaporator	Type	Plate style						
	Chilled water flow (L/min)		43	71.7	94.6	140.5	189.2	281
Condenser	Type	Fin style						
	Blower (kW)		0.5	0.5×2	1.2	1.2	1.2×2	1.2×2
Water Tank Capacity(L)			76	76	90	157	137	137
Pump ⁴⁾ (50Hz)	Power (kW)		1.1/1.5	1.1/1.5	1.5/2.2	1.5/2.2	2.2/3.0	4.0/5.5
	Working Pressure (kgf/cm ²) ⁵⁾		3/4					
Total Power (kW) ⁶⁾			6.16/6.56	9.52/9.92	12.9/13.6	18.22/19.02	25/25.8	36.04/37.54
Pipe Coupling (female thread) (inch)	Chilled Water Outlet		Rc1.25"		Rc1.5"		Rc2"	
	Chilled Water Inlet		Rc1.25"		Rc1.5"		Rc2"	
	Water Tank Drainage Port		Rc1/2"					
	Water Tank Overflow Port		Rc1/2"					
Protective Devices	Compressor	Overload relay						
	Pump	Overload relay						
	Cooling Water Circuit	High and low pressure switches/Anti-freeze switch						
	Water Circuit	Flow switch Optional/Water level switch (Optional)/By-pass valve						
Operation Noise dB(A)		78						
Use environment ⁷⁾		Under the condition with good ventilation or ambient temperature not exceeding the service pressure						
Power(VAC) ⁸⁾		3Φ, 230/400/460/575VAC, 60Hz						
Unit Conversion		1 kW = 860 kcal/hr		1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr		

Notes:

- Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature of 15°C/59°F of chilled water under the environmental temperature of 35°C/95°F.
- Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 10°C/50°F of chilled water under the environmental temperature of 35°C/95°F.
- Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C/44.6°F of chilled water under the environmental temperature of 35°C/95°F.
- Pump pressure of 3kgf/cm² is standard; customers can change for high-pressure pumps (use HP for short; e.g., SIC-and A-R2-HP), specific parameters in turn as shown above.
- The pressure value is the state when the pump inlet negative pressure is 0;
- Pump power, fan power, and compressor power are included in total power.
- The air-cooled water chiller applies to the environment temperature of 45°C or below.
- Special orders of machine voltage are available according to the request.

SIC-A-R2 Series

Specifications 2(50Hz)

Item	Model SIC-Parameter	7.5A-R2	12A-R2	24A-R2	28A-R2	38A-R2	48A-R2	58A-R2	75A-R2	100A-R2	114A-R2
		Cooling ¹⁾ Capacity	kW	7.5	12	24	28	38	48	58	75
Cooling ²⁾ Capacity	kW	9.5	14	32	38	45	64	76	90	121	135
Compressor	Type	Scroll									
	Power(kW)	2.9	4.2	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	8×2	7.8×2+6.8	8.7×3
	Control Mode	Thermostatic expansion valve									
	Type	R410A									
Evaporator	Type	Plate style									
	Chilled water flow (L/min)	21.5	34.4	68.8	80.3	108.9	137.6	166.3	215.0	286.7	326.8
Condenser	Type	Fin style									
	Blower (kW)	0.19	0.55	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				
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				
	Working Pressure (kgf/cm ²) ³⁾	Low pressure≥2, Medium pressure ≥3, High pressure≥4					Medium pressure ≥3, High pressure≥4				
Total Power (kW) ⁵⁾		3.8/3.8/4.2	5.5/5.5/5.9	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 Optional/Water level switch (Optional)/By-pass valve									
Operation Noise dB(A)		78	75	78	81	86	84	82	86	90	90
Power(VAC) ⁶⁾		3 φ, 400VAC, 50Hz									
Unit Conversion		1 kW = 860 kcal/hr		1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr					

Notes: 1) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C of chilled water under the environmental temperature of 35°C.

2) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 15°C of chilled water under the environmental temperature of 25°C.

3) It is the working pressure of water pump when negative pressure of inlet water is 0.

4) Low pressure pump is standard, 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.



Specifications 2 (60Hz)

Item	Model SIC-Parameter	12A-R2	24A-R2	28A-R2	38A-R2	48A-R2	58A-R2	75A-R2	100A-R2	114A-R2	
		Cooling ¹⁾ Capacity	kW	15	30	35.5	45	60	70	90	122
Cooling 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	
	Control Mode	Thermostatic expansion valve									
	Type	R410A									
Evaporator	Type	Plate style							Tube-in-shell style		
	Type	Fin style									
Condenser	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		
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	
	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									
Unit Conversion		1 kW = 860 kcal/hr			1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr				

- Notes: 1) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C of chilled water under the environmental temperature of 35°C.
2) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 15°C of chilled water under the environmental temperature of 25°C
3) It is the working pressure of water pump when negative pressure of inlet water is 0.
4) Low pressure pump is standard, 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.



CFC-free Refrigerant Water-cooled Water Chiller

SIC-33W-R2

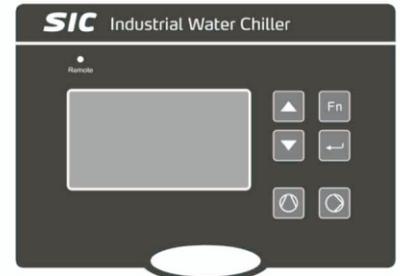
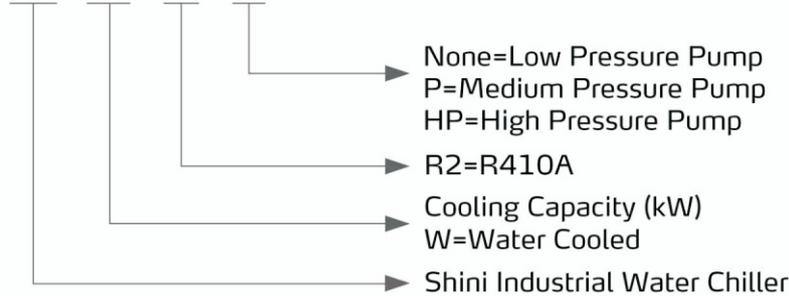


在使用本产品之前，请先仔细阅读产品说明书。

SIC-W-R2 Series

■ Coding Principle

SIC - xW - R2 - xx



Control Panel

■ Features

- Cooling range: 7~25°C
- Stainless steel insulated water tank
- Equipped with an anti-freeze thermostat
- Tube-in-shell condenser that features rapid and well heat transfer
- R410A ozone-friendly refrigerant with a high efficient cooling result;
- The refrigerating system has high and low-pressure alarm protection;
- Compressor and pump overload protection
- High precision temperature controller with a display precision of $\pm 0.1^{\circ}\text{C}$
- Well-known compressor that ensures low noise, energy-efficient, and long service life;
- Hot-gas bypass valve with a control accuracy of up to $\pm 0.1^{\circ}\text{C}$
- RS485 communication interface to realize centralized monitoring;
- Circular stainless steel thermal insulated water tank and unique cyclone design for even distribution of chill water;
- Water loop with a return water filter that adopts PVC-U water pipe to ensure the cleanliness of the water quality (suitable for models in Spec. 1);
- Plate heat exchanger ensures efficient heat exchanging (suitable for models in Spec. 1);
- Equipped with safety valves for stable system pressure. The inlet and outlet pipe adopt an adaptive bypass valve to ensure stable outlet water pressure (suitable for models in Spec. 1).
- Equipped with a flow switch to avoid the unit from operating without water flow (suitable for models in Spec. 1);
- The standard water tank level indicator for visualizing check of the water level (suitable for models in Spec. 1);
- Compact outline structure and small foot (suitable for models in Spec. 1);

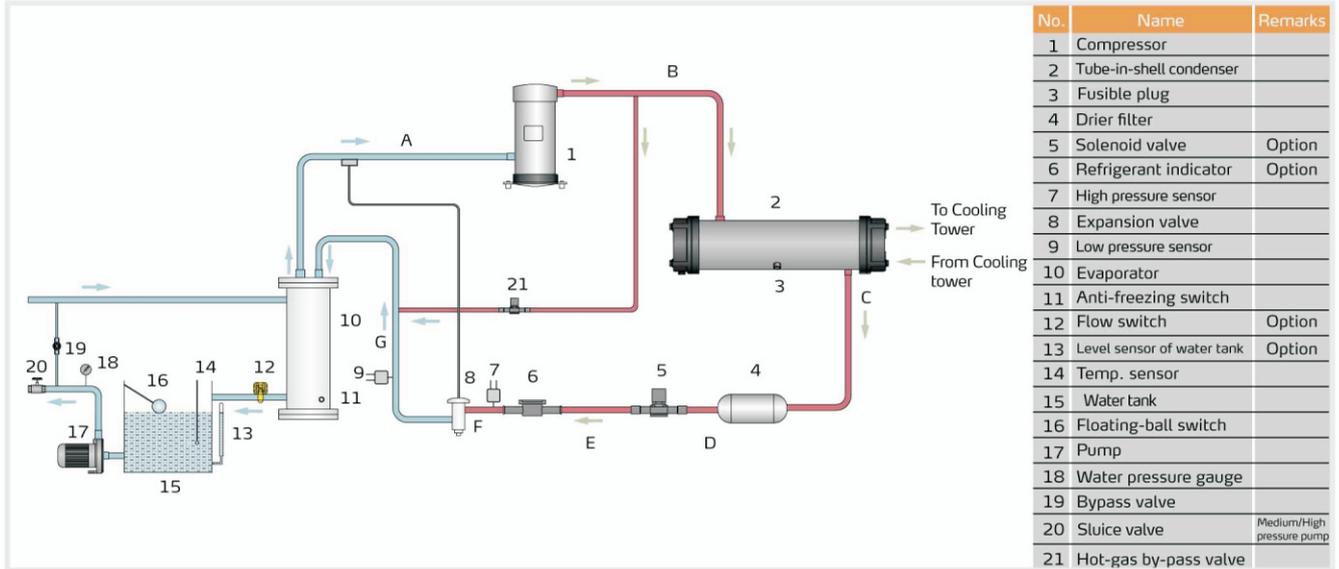
■ Options

- For models with a medium-pressure pump, add "P" at the end of the model code (suitable for models in Spec. 2), and for models optional with a high-pressure pump, add "HP" at the end of the model code.
- The level indicator in the water tank is optional to check whether the water level is within normal range and add "SG" at the end of the model code. (suitable for models in Spec. 2)
- The flow switch is optional to ensure that the unit is working under water flow, and add "FW" at the end of the model code (suitable for models in Spe.2);
- The level switch in the water tank is optional to check if the water level is normal, and add "LW" at the end of the model code (suitable for models in Spec.1);
- Liquid solenoid valve for pump down a refrigerant circuit to avoid liquid migration back to the compressor on the off-cycle, and it can potentially prevent liquid slug on startup. Add "LS" at the end of the model code.
- Optional refrigerant indicator for visual checking of refrigerant moisture content, and add "LSG" at the end of the model code.

Application

SIC-W-R2 series are applicable for cooling moulds to reduce the product moulding cycle; they are also available in the cooling of equipment to maintain a normal temperature. Besides, they are suitable for other industries with the need for water cooling.

Working Principle



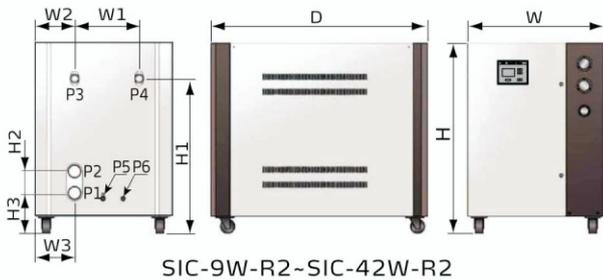
Outline Drawings I



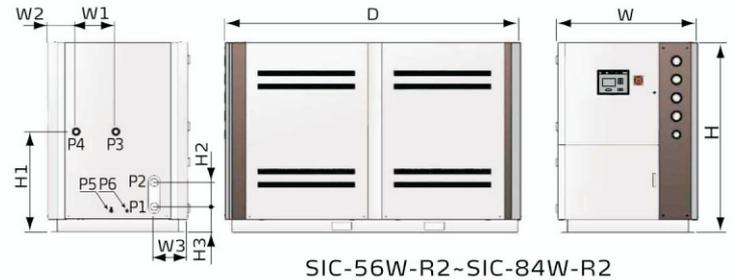
Model	H (mm)	H1 (mm)	W (mm)	W1 (mm)	D (mm)	P1 (inch) Cooling Water Inlet	P2 (inch) Cooling Water outlet	P3 (inch) Water Tank Outlet Port	P4 (inch) Water Tank Overflow Port	Weight (kg)
SIC-17W-R2	1266	468	661	358	955.5	Rc1	Rc1	Rc1/2	Rc1/2	250
SIC-29W-R2	1276	1090	810	364	1092	Rc1.25	Rc1.25	Rc1/2	Rc1/2	330
SIC-38W-R2	1276	1090	810	364	1092	Rc1.5	Rc1.5	Rc1/2	Rc1/2	350
SIC-57W-R2	1356	1156	856	324	1194	Rc1.5	Rc1.5	Rc1/2	Rc1/2	440
SIC-76W-R2	1645	1253	1044	557	1826	Rc2	Rc2	Rc1/2	Rc1/2	720
SIC-114W-R2	1700	1350	1044	503	1876	Rc2	Rc2	Rc1/2	Rc1/2	882

SIC-W-R2 Series

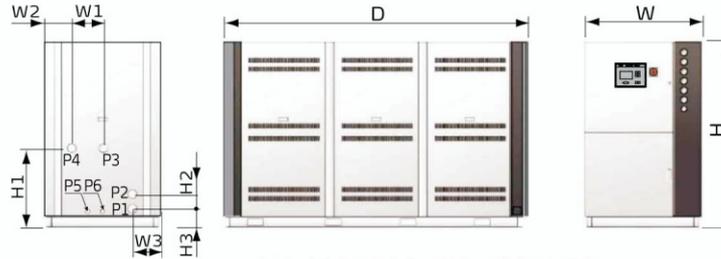
Outline Drawings II



SIC-9W-R2~SIC-42W-R2



SIC-56W-R2~SIC-84W-R2



SIC-112W-R2~SIC-132W-R2

Model	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	W (mm)	W1 (mm)	W2 (mm)	W3 (mm)	D (mm)	P1 (inch) Cooling Water Inlet	P2 (inch) Cooling Water Outlet	P3 (inch) Chilled Water Inlet	P4 (inch) Chilled Water Outlet	P5 (inch) Water Tank Outlet Port	P6 (inch) Water Tank Overflow Port	Weight (kg)
SIC-9W-R2	970	790	91	207	605	273	164	164	1080	1 1/2"G	1 1/2"G	1"G	1"G	1/2"G	1/2"G	210
SIC-14W-R2	970	790	91	207	605	273	164	164	1080	1 1/2"G	1 1/2"G	1"G	1"G	1/2"G	1/2"G	240
SIC-28W-R2	1050	910	140	225	830	370	230	230	1200	1 1/2"G	1 1/2"G	1 1/2"G	1 1/2"G	1/2"G	1/2"G	340
SIC-33W-R2	1200	1078	140	308	865	459	202	162	1470	2"G	2"G	2"G	2"G	1/2"G	1/2"G	430
SIC-42W-R2	1200	1078	140	308	865	459	202	162	1470	2"G	2"G	2"G	2"G	1/2"G	1/2"G	495
SIC-56W-R2	1450	765	200	190	1055	300	295	205	2235	2 1/2"G	2 1/2"G	2"G	2"G	1/2"G	1/2"G	750
SIC-66W-R2	1450	765	200	190	1055	300	295	205	2235	2 1/2"G	2 1/2"G	2"G	2"G	1/2"G	1/2"G	760
SIC-84W-R2	1450	765	200	200	1055	300	215	205	2235	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	1/2"G	1/2"G	800
SIC-112W-R2	1760	750	140	190	1100	300	260	267	2870	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	1"G	1"G	1200
SIC-126W-R2	1760	490	140	190	1100	300	230	250	3085	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	1"G	1"G	1450
SIC-132W-R2	1760	520	140	190	1100	205	325	505	3285	2x2 1/2"G	2x2 1/2"G	2 1/2"G	2 1/2"G	1"G	1"G	1750

Model Selection Reference

Mould Clamping Force (T)	Moulding Capacity (kg/hr)	Model (kW)
≤250	≤25	9
≤450	≤45	14
≤650	≤65	21
≤850	≤85	28
≤1300	≤130	33
≤1800	≤180	42

Mould Clamping Force (T)	Moulding Capacity (kg/hr)	Model (kW)
≤2500	≤250	56
≤3000	≤300	66
≤4000	≤400	84
≤5000	≤500	112
≤6000	≤600	126



■ Specifications I(50Hz)

Item	Parameter	Model					
		SIC-17W-R2	SIC-29W-R2	SIC-38W-R2	SIC-57W-R2	SIC-76W-R2	SIC-114W-R2
Cooling Capacity ¹⁾	kW	17	29	38	57	76	114
Cooling Capacity ²⁾	kW	15	27	32	49	69	100
Cooling Capacity ³⁾	kW	14	24	29	45	62	91
Compressor	Type	Scroll					
	Power(kW)	3.18	4.98	6.8	10.15	6.79×2	10.152
Refrigerant	Filling quantity (kg)	2.85	6.8	5.6	9.8	6.5×2	11×2
	Control Mode	Thermostatic expansion valve					
	Type	R410A					
Evaporator	Type	Tube-in-shell style					
	Cooling Water Flow (L/min)	48.7	83.1	108.9	163.4	217.9	326.8
Condenser	Type	Plate style					
	In/out Pipe (inch)	Rc1.5	Rc2	Rc2	Rc2	Rc2	Rc2
	Cooling Water Flow (L/min)	60.9	103.9	136.1	204	272.3	408.5
Water Tank Capacity (L)		80	172	172	172	150	150
Pump ⁴⁾ (50Hz)	Power (kW)	0.75/1.1	1.1/1.1	1.5/2.2	1.8/2.4	2.4/3	4/4.4
	Working Pressure ⁵⁾ (kgf/cm ²)	3/4	3/4	3/4	3/4	3/4	3/4
Total Power (kW) ⁶⁾		3.93	5.95	8.3	11.95	16.58	24.3
Pipe Coupling (female thread) (inch)	Chilled Water Outlet	Rc1	Rc1.25	Rc1.5	Rc1.5	Rc2	Rc2
	Chilled Water Inlet	Rc1	Rc1.25	Rc1.5	Rc1.5	Rc2	Rc2
	Drainage Port Of Water Tank	Rc1/2					
	Overflow Port Of Water Tank	Rc1/2					
Protective Device	Compressor	Overload relay					
	Pump	Overload relay					
	Refrigerant Circuit	High and low pressure switches/Anti-freezing switch					
	Cooling water Ciucuit	High and low pressure switches/Anti-freezing switch					
Operation Noise dB(A)		67	67	71	71	67	71
Use environment ⁷⁾		Under the condition with good ventilation or ambient temperature not exceeding the service pressure					
Power ⁸⁾		3Φ, 400VAC, 50Hz					
Unit Conversion		1 kW = 860 kcal/hr		1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr	

Notes:

- Cooling capacity 1 is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature of 15°C of chilled water under the environmental temperature of 30°C.
- Cooling capacity 2 is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 10°C of chilled water under the environmental temperature of 30°C.
- Cooling capacity 3 is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C of chilled water under the environmental temperature of 30°C.
- Pump pressure of 3kgf/cm² is standard; customers can change for high-pressure pumps (use HP for short; e.g., SIC-W-R2-HP), specific parameters in turn as shown above.
- The pressure value is the state when the pump inlet negative pressure is 0;
- Pump power, fan power, and compressor power are included in total power.
- The water-cooled water chiller applies to the environment temperature of 35°C or below.
- Special orders of machine voltage are available according to the request.

SIC-W-R2 Series

Specifications I (60Hz)

Item	Model Parameter	SIC-17W-R2	SIC-29W-R2	SIC-38W-R2	SIC-57W-R2	SIC-76W-R2	SIC-114W-R2
		Cooling Capacity ¹⁾	kW	20	33	44	66
Cooling Capacity ²⁾	kW	17	31	37	56	80	116
Cooling Capacity ³⁾	kW	16	28	33	52	71	100
Compressor	Type	Scroll					
	Power(kW)	3.82	5.97	8.16	12.18	8.16×2	12.18×2
Refrigerant	Filling quantity (kg)	2.85	6.8	5.6	9.8	6.5×2	11×2
	Control Mode	Thermostatic expansion valve					
	Type	R410A					
Evaporator	Type	Tube-in-shell style					
	Cooling Water Flow (L/min)	56	95.6	125.2	188	250.5	375.8
Condenser	Type	Plate style					
	In/out Pipe (inch)	Rc1.5	Rc2	Rc2	Rc2	Rc2	Rc2
	Cooling Water Flow(L/min)	70.1	120.5	156.5	235	313.2	470
Water Tank Capacity (L)		80	150	150	150	150	150
Pump ⁴⁾ (50Hz)	Power (kW)	1.1/1.5	1.5/2.2	1.5/2.2	2.2/3	3/3	4/5.5
	Working Pressure ⁵⁾ (kgf/cm ²)	3/4	3/4	3/4	3/4	3/4	3/4
Total Power (kW) ⁶⁾		4.92/5.32	7.48/8.17	9.66/10.36	14.38/15.18	19.32	28.36/29.86
Pipe Coupling (female thread) (inch)	Chilled Water Outlet	Rc1	Rc1.25	Rc1.5	Rc1.5	Rc2	Rc2
	Chilled Water Inlet	Rc1	Rc1.25	Rc1.5	Rc1.5	Rc2	Rc2
	Drainage Port Of Water Tank	Rc1/2					
	Overflow Port Of Water Tank	Rc1/2					
Protective Device	Compressor	Overload relay					
	Pump	Overload relay					
	Refrigerant Circuit	High and low pressure switches/Anti-freezing switch					
	Cooling water Circuit	High and low pressure switches/Anti-freezing switch					
Operation Noise dB(A)		67	67	71	71	67	71
Use environment ⁷⁾		Under the condition with good ventilation or ambient temperature not exceeding the service pressure					
Power ⁸⁾		3Φ, 230/400/460/575VAC, 60Hz					
Unit Conversion		1 kW = 860 kcal/hr		1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr	

Notes:

- Cooling capacity 1 is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature of 15°C of chilled water under the environmental temperature of 30°C.
- Cooling capacity 2 is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 10°C of chilled water under the environmental temperature of 30°C.
- Cooling capacity 3 is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C of chilled water under the environmental temperature of 30°C.
- Pump pressure of 3kgf/cm² is standard; customers can change for high-pressure pumps (use HP for short; e.g., SIC-W-R2-HP), specific parameters in turn as shown above.
- The pressure value is the state when the pump inlet negative pressure is 0;
- Pump power, fan power, and compressor power are included in total power.
- The water-cooled water chiller applies to the environment temperature of 35°C or below.
- Special orders of machine voltage are available according to the request.

SIC-W-R2 Series

Specifications II(50Hz)

Item	Model Parameter	SIC-9W-R2	SIC-14W-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	
Cooling ¹⁾ Capacity	kW	9.0	14	28	33	42	56	66	84	112	126	132	
Cooling ²⁾ Capacity	kW	12.5	18.5	37	43	55	74	87	110	148	166	174	
Compressor	Type	Scroll											
	Power (kW)	2.5	3.55	7.35	8.35	10.5	14.7	16.7	21	28.35	31.5	33.4	
Refrigerant	Filling quantity (kg)	3.6	3.6	5.4	8.0	8.7	5.4×2	6.6×2	7.4×2	8.6×2+5.7	6.5×3	6.5×4	
	Control Mode	Thermostatic expansion valve											
	Type	R410A											
Evaporator	Type	Tube-in-shell style											
	Cooling Water Flow (L/min)	25.8	40.1	80.3	94.6	120.4	160.5	189.2	240.8	321.1	361.2	378.4	
Condenser	Type	Tube-in-shell style											
	In/out Pipe (inch)	1 1/2			2			2 1/2			2×2 1/2		
	Cooling Water Flow (L/min)	33.5	52.2	104.3	123	156.5	208.7	246	313	417.4	469.6	491.9	
Water Tank Capacity (L)		40	70	80	200	400							
Pump ⁴⁾ (50Hz)	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						
	Working Pressure (kgf/cm ²)	Low pressure≥2, Medium pressure≥3, High pressure≥4						Medium pressure≥3, High pressure≥4					
Total Power (kW) ⁵⁾		3.3/3.3/3.6	4.3/4.3/4.7	8.5/8.5/8.5	9.5/9.9/10.6	11.6/12/12.7	-/16.5/17.1	-/18.5/19.1	-/24/25	-/31.4/32.4	-/35.5/37	-/37.4/38.9	
Pipe Coupling (female thread)(inch)	Chilled Water Outlet	1"G	1 1/2"G	2"G	2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	
	Chilled Water Inlet	1"G	1 1/2"G	2"G	2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	2 1/2"G	
	Drainage Port Of Water Tank			1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	
	Overflow Port Of Water Tank			1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	
Protective Device	Compressor	Overload relay											
	Pump	Overload relay											
	Refrigerant Circuit	High and low pressure switches/Anti-freezing switch											
	Cooling water Circuit	Flow switch(Optional) /Water level switch (Option)) / By-pass valve											
Operation Noise dB(A)		69	70.5	72.5	71.4	74	75.5	73.3	78.5	81.4	79.6	86.5	
Power ⁶⁾		3 φ , 400VAC, 50Hz											
Unit Conversion		1 kW = 860 kcal/hr			1 RT = 3,024 kcal/hr			10,000 Btu/hr = 2,520 kcal/hr					

- Notes: 1) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C of chilled water under the temperature of 30°C and flow of 0.215m³/(h.kW) of cooling water.
- 2) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 15°C of chilled water under the temperature of 25°C and flow of 0.215m³/(h.kW) of cooling water.
- 3) The working pressure of water pump is the pressure when negative pressure of inlet water is 0.
- 4) Low pressure pump is standard medium (Model marked with "P", such as SIC-9W-R2-P) or high pressure pump (Model "HP", such as SIC-9W-R2-P) are optional for installation on customer's demands.
- 5) Pump power is included in total power.
- 6) Demands on special voltage of power supply could be satisfied.



Specifications II(60Hz)

Item	Model Parameter	SIC-9W -R2	SIC-14W -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	
Cooling ¹⁾ Capacity	kW	10.8	16.8	33.6	39.6	50.4	67.2	79.2	100.8	134.4	151.2	158.4	
Cooling ²⁾ Capacity	kW	15	22.2	44.4	51.6	66	88.8	104.4	132	177.6	199.2	208.8	
Compressor	Type	Scroll											
	Power (kW)	3.2	4.5	8.5	9.75	12.5	17	19.5	25	33.5	37.5	39	
Refrigerant	Filling quantity (kg)	3.6	3.6	5.4	8.0	8.7	5.4×2	6.6×2	7.4×2	8.6×2	6.5×3	6.5×4	
	Control Mode	Thermostatic expansion valve											
	Type	R410A											
Evaporator	Type	Plate style								Tube-in-shell style			
	Cooling Water Flow (L/min)	25.8	40.1	80.3	94.6	120.4	160.5	189.2	240.8	321.1	361.2	378.4	
Condenser	Type	Tube-in-shell style											
	In/out Pipe (inch)	1 1/2			2			2 1/2			2×2 1/2		
	Cooling Water Flow (L/min)	33.5	52.2	104.3	123	156.5	208.7	246	313	417.4	469.6	491.9	
Water Tank Capacity (L)		40		70		80		200		400			
Pump ⁴⁾ (50Hz)	Power (kW)	0.75 / 0.75 / 1.1		1.1/1.1/1.1		2.2		3		5			
	Working Pressure (kgf/cm ²)	Low pressure≥2, Medium pressure≥3, High pressure≥4				Medium pressure≥3, High pressure≥4							
Total Power (kW) ⁵⁾		3.15	5.6	9.21	11.39	14.6	19.22	21.38	30.3	38.41	42.7	42.26	
Pipe Coupling (female thread)(inch)	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				
	Drainage Port Of Water Tank	1/2"G					1"G						
	Overflow Port Of Water Tank	1/2"G					1"G						
Protective Device	Compressor	Overload relay											
	Pump	Overload relay											
	Refrigerant Circuit	High and low pressure switches/Anti-freezing switch											
	Cooling water Circuit	Flow switch(Optional) / Water level switch (Optional) / By-pass valve											
Operation Noise dB(A)		69	70.5	72.5	71.4	74	75.5	73.3	78.5	81.4	79.6	86.5	
Power ⁶⁾		3Φ, 230/400/460/575VAC, 60Hz											
Unit Conversion		1 kW = 860 kcal/hr			1 RT = 3,024 kcal/hr			10,000 Btu/hr = 2,520 kcal/hr					

- Notes: 1) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 7°C of chilled water under the temperature of 30°C/86°F and flow of 0.215m³/(h.kW) of cooling water.
- 2) Cooling capacity is measured based on the flow of 0.172m³/(h.kW) and the outlet temperature 15°C of chilled water under the temperature of 25°C and flow of 0.215m³/(h.kW) of cooling water.
- 3) The working pressure of water pump is the pressure when negative pressure of inlet water is 0.
- 4) Low pressure pump is standard medium (Model marked with "P", such as SIC-9W-R2-P) or high pressure pump (Model "HP", such as SIC-9W-R2-P) are optional for installation on customer's demands.
- 5) Pump power is included in total power.
- 6) Demands on special voltage of power supply could be satisfied.

Water Flow Regulator

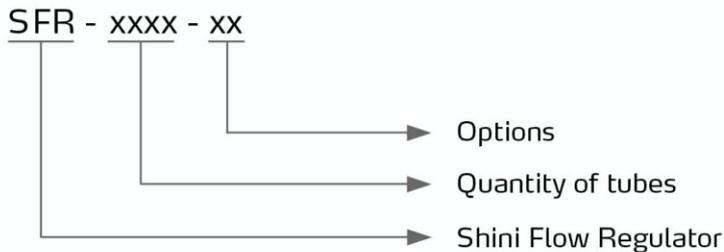
SFR-600



Refer carefully to this manual before operation.

SFR Series

■ Coding Principle



■ Features

- 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.
- Adopt precise adjusting valve, which can adjust the flowrate more accurately.
- Cleaning brush is supplied as standard for easy maintenance of flow tubes.



Machine Mounting Bracket (optional)

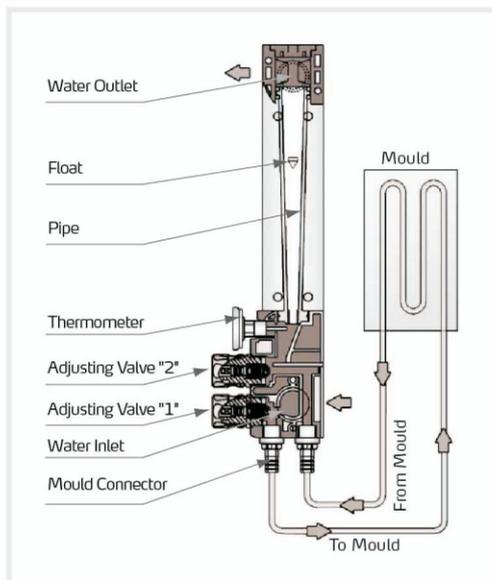
■ Options

- 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.

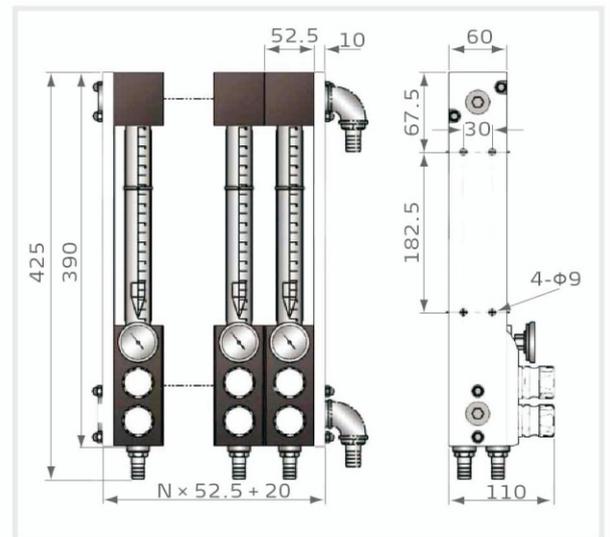
Application

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



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)

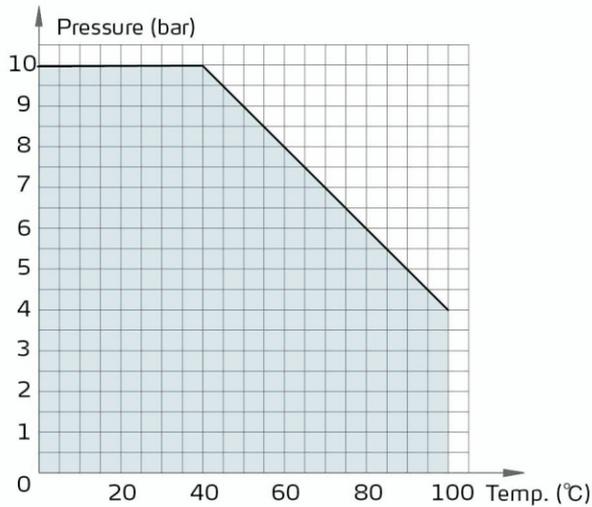
Quick-release Connector:

3/8" G Male Thread

Water Connectors:

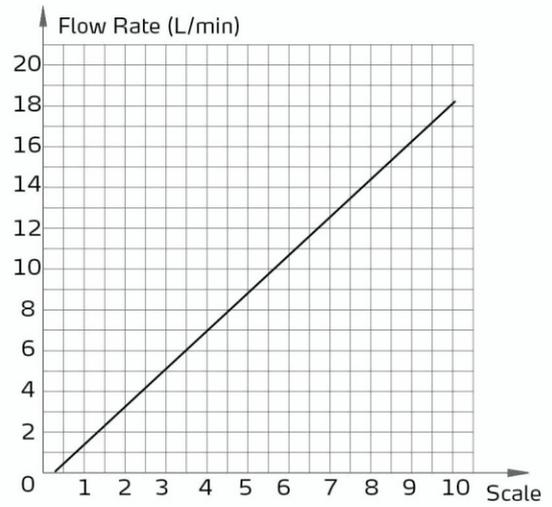
3/4" PT Female Thread

Temp. and pressure Chart



(Accuracy of this curve is within $\pm 5\%$)

Grad. and flowrate Chart



(Accuracy of this curve is within $\pm 0.5\text{L/min}$)



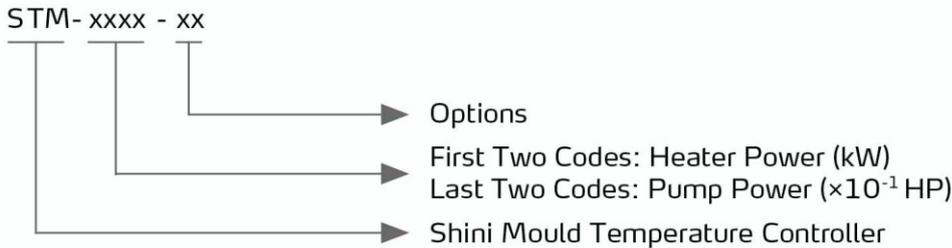
Oil Heater

STM-910



Refer carefully to this manual before operation.

■ Coding Principle



STM-910-D

■ Features

- For standard STM, the maximum heating temperature 200°C/392°F, while STM-HT maximum heating temperature is 300°C/572°F.
- P.I.D controller with 3.2" LCD with a user-friendly interface.
- The multi-stage controller can maintain stable mould temperature with a precision of +/- 0.5°C/0.9°F.
- In build weekly timer with °C/°F unit conversion.
- STM in build a high-temperature quality pump. STM-HT with a leakage-free sealess magnetic driven pump.
- In build multiple safety with display and alarm buzzer, such as reverse phase, pump overload, overheat, and low oil level alarm.
- Modbus RTU data communication via RS485.



STM-2440HT

■ Options

- Displays of mould temperature and return oil temperature of mould are optional, and add "TS" at the end of the model code.
- For models optional with 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.

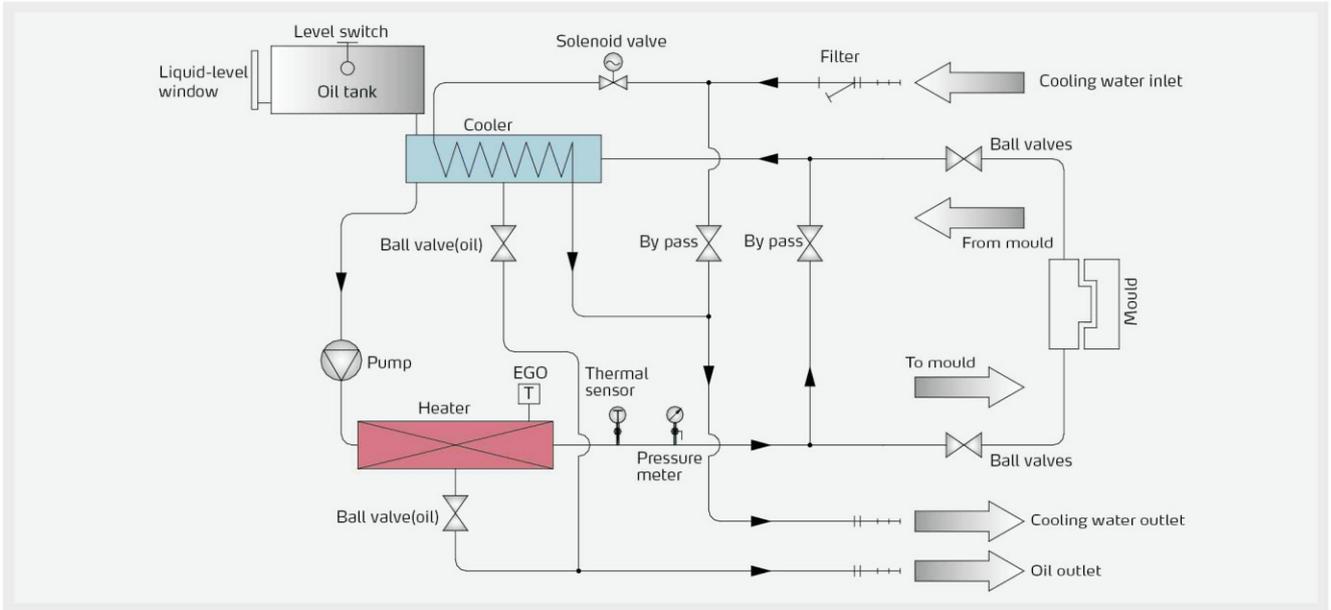


Control Panel

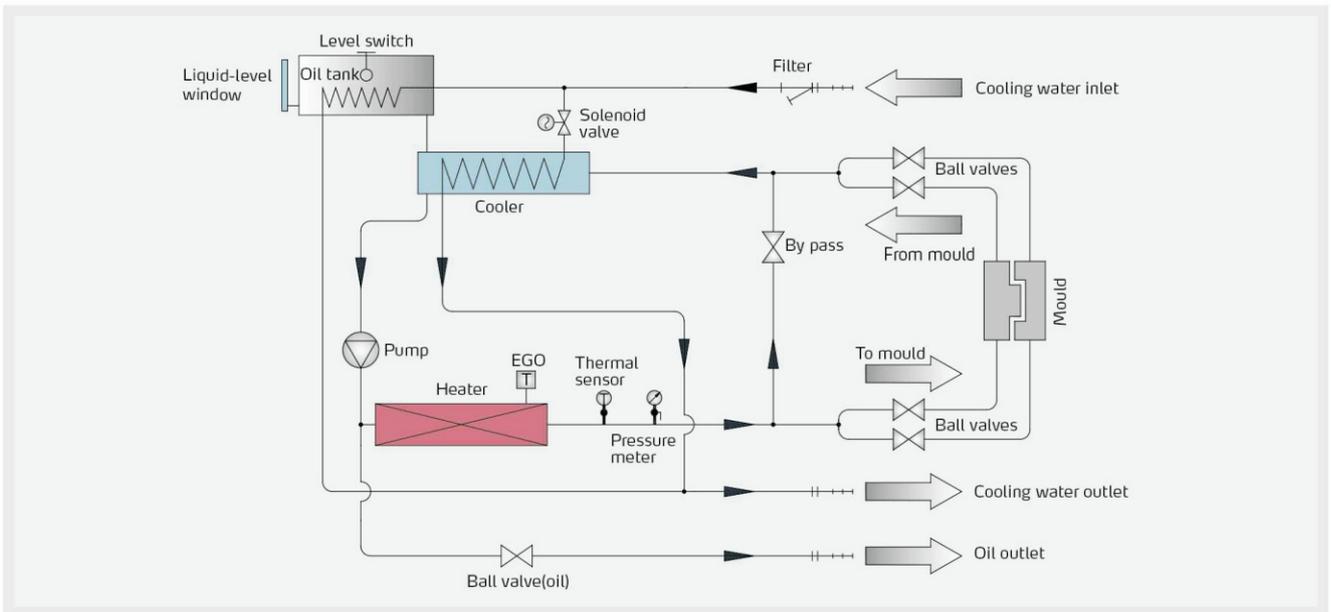
■ Application

STM series of oil heaters have both the standard and high temperature types, which can heat moulds up to 200°C and 300°C respectively. It's mainly applied to heating up and temperature maintenance of mould, and other fields with the same demands. This series of machines use oil as the medium so that rust can be avoided inside the mould. As oil has small specific heat, its heating and cooling rates are better than water heaters. The oil heaters can be used for moulds with high temperature demands, and multiple options and accessories are available for customers to meet different production requirements.

Working Principle



System flow for STM



System flow for STM-HT

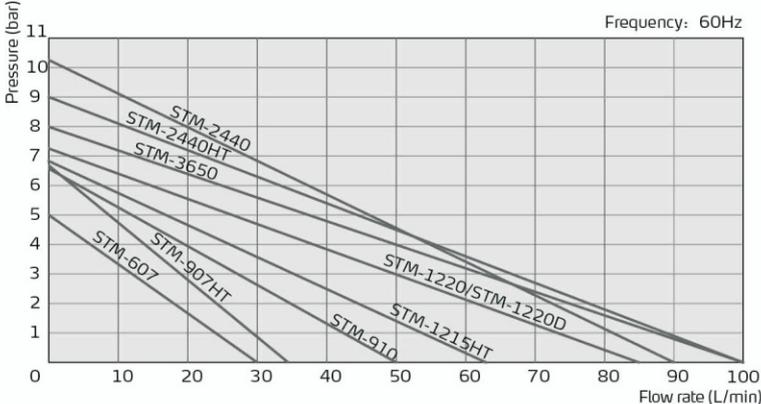


Specifications

Model	STM-607	STM-607D	STM-910	STM-910D	STM-1220	STM-1220D	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	12×2	24	36	9	12	24	
Pump Power (kW) (50/60Hz)	0.55/0.63	2×0.55 2×0.63	0.75/0.92		1.5/1.9	2×1.5 2×1.9	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	2×74 2×84	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	2×19.5 2×22	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	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	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	2×6.8/ 2×11.8	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	2×1.8/ 2×3.1	2.9/4.2	3.7/4.2	1.58/1.58	1.8/4.2	4.2/6.6
Cooling Method	Indirect											
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	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	795×690 ×935	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 ×35.4	31.4×27.2 ×36.8	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	161	145	155	75	90	190
	lb	154	265	157	308	198	355	319	341	165	198	418

- Notes: 1) "D" stands for dual-heating zones. "HT" stands for high temperature model.
 2) 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).
 3) When machine works continuously, the suggested temperature should not higher than 180°C/356°F. (Excluding STM-HT)
 4) Power supply: 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

Pump Performance



- Notes: Heating medium oil specific heat = 0.49kcal/kg°C
 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(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)]



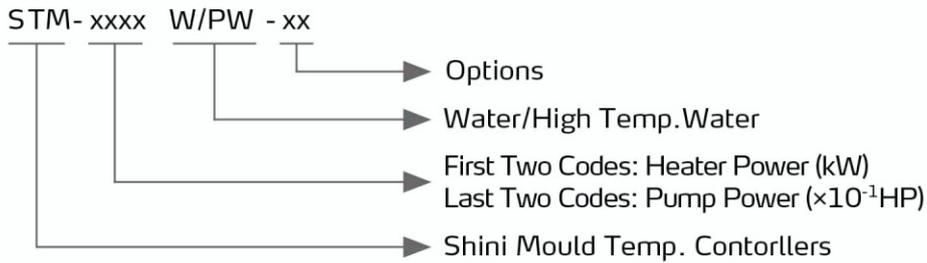
Water Heater

STM-607W



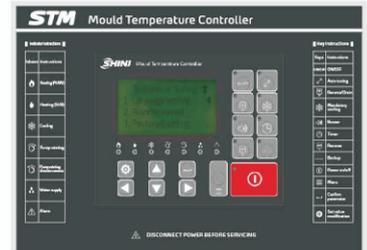
Refer carefully to this manual before operation.

■ Coding Principle



■ Features

- For standard STM-W, the maximum heating temperature is 120°C/248°F.
- P.I.D controller with 3.2" LCD with a user-friendly interface.
- The multi-stage controller can maintain stable mould temperature with a precision of $\pm 0.5^{\circ}\text{C}/0.9^{\circ}\text{F}$.
- In build weekly timer with $^{\circ}\text{C}/^{\circ}\text{F}$ unit conversion.
- Adopt a high-efficiency water pump.
- Multiple built-in safety displayers and alarm devices, such as phase reverse protector, pump overload protector, and overheat protectors.
- Equipped with high/low pressure protection, auto water supplying and air exhausting functions.
- Direct cooling with excellent refrigerating effect. Auto refilling device cools down the temperature to set value directly.
- Adopt Ethernet communication function to realize central monitoring online.
- Modbus RTU data communication via RS485.



Control Panel



Internal Structure

■ Options

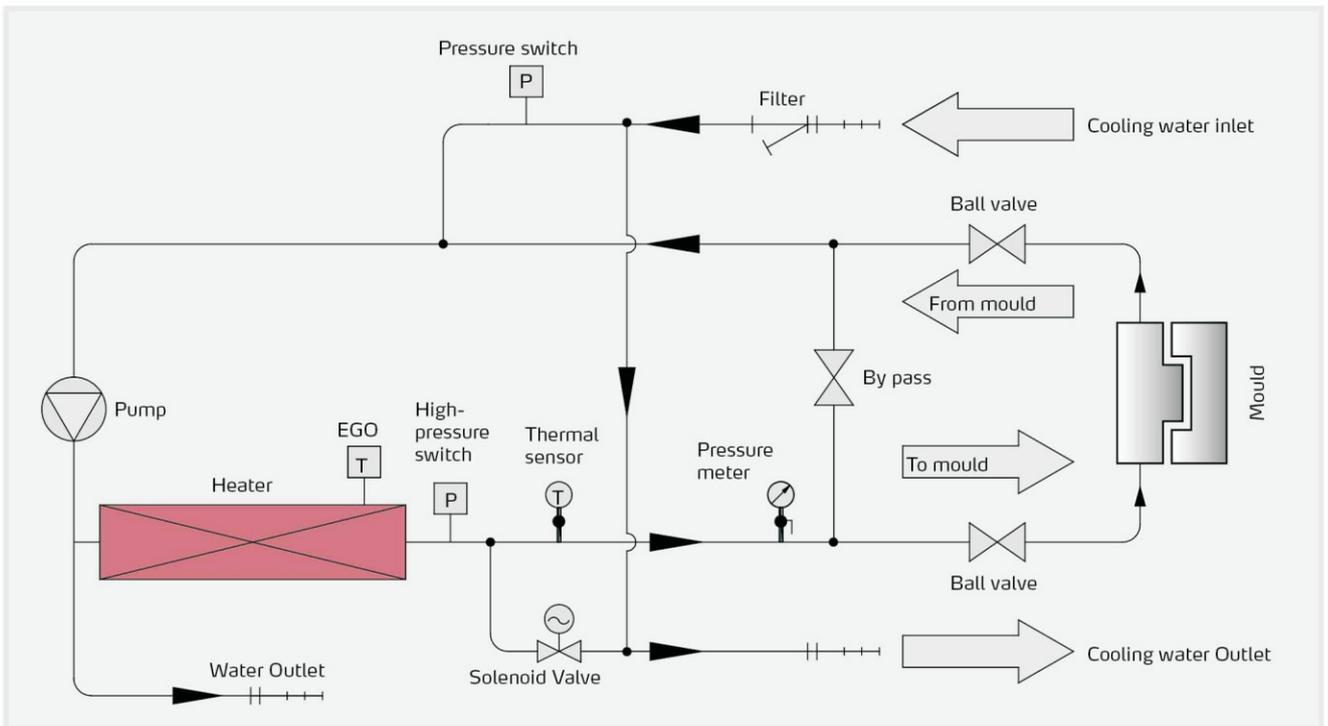
- Displays of mould temperature and return water temperature of mould are optional, and add "TS" at end of the model code.
- For models optional with magnetic pump (excluded for STM-3650W and STM-D models), and add "M" at the end of the model code.
- Water-removing via compress air (Exclude for STM-PW), add "A" at the end of the model code.
- Water Flowmeter, add "V" at the end of the model code. (Max operating temperature 120°C).
- It could option with magnetic filter to prolong service life of magnetic pump (only suitable for models with magnetic pump), and add "MF" at the end of the model code.

STM-W Series

■ Application

STM-W series water heaters are used to heat up the mould and maintain temperature, and also they can be used in other similar applications. This series of machines use water as the medium that saves production cost and ensures good working environment. As water circulates in the hermetic pipes, it remains in liquid state even the mould temperature is higher than 100°C, which can enhance flow rate and improve heat transfer effect. Besides, there are multiple options and accessories of this series to meet different production requirements.

■ Working Principle



System flow for STM-W (Direct Cooling)



3D animation
(Tencent)



3D animation
(Youtube)



■ Specifications

Model		STM-607W	STM-910W	STM-1220W	STM-2440W	STM-3650W
Max.Temp.		120°C/248°F(140°C/284°F)**				
Heater(kW)		6	9	12	24	36
Pump Power(kW) (50/60Hz)		0.55/0.63	0.75/0.92	1.5/1.9	2.8/3.4	4
Max. pump Flow (50/60Hz)	L/min	27/30	42/50	74/84	90/90	100/100
	gal/min	7.1/7.9	11/13.2	19.5/22	23.8/23.8	26.4/26.4
Max. pump Pressure(bar) (50/60Hz)		3.8/5	5.0/6.4	6.2/7.2	8.0/10.2	8.0/8.0
Heating Tank Number		1	1	1	2	3
Heating Tank Capacity	L	3.0	3.0	3.0	7.4	17.7
	gal	0.8	0.8	0.8	2.0	4.7
Cooling Method		Direct				
Inlet/Outlet (inch)		3/4 / 3/4	3/4 / 3/4	1 / 1	1 / 1	1 / 1
Dimensions (H×W×D)	mm	605×320×745	605×320×745	615×320×775	820×360×963	980×467×1011
	inch	23.6×12.5×29	23.6×12.5×29.3	24×12.5×30.2	32×14×37.6	38.2×18.2×39.4
Weight	kg	55	60	69	140	150
	lb	121	132	151.8	308	330

Notes: 1) 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).

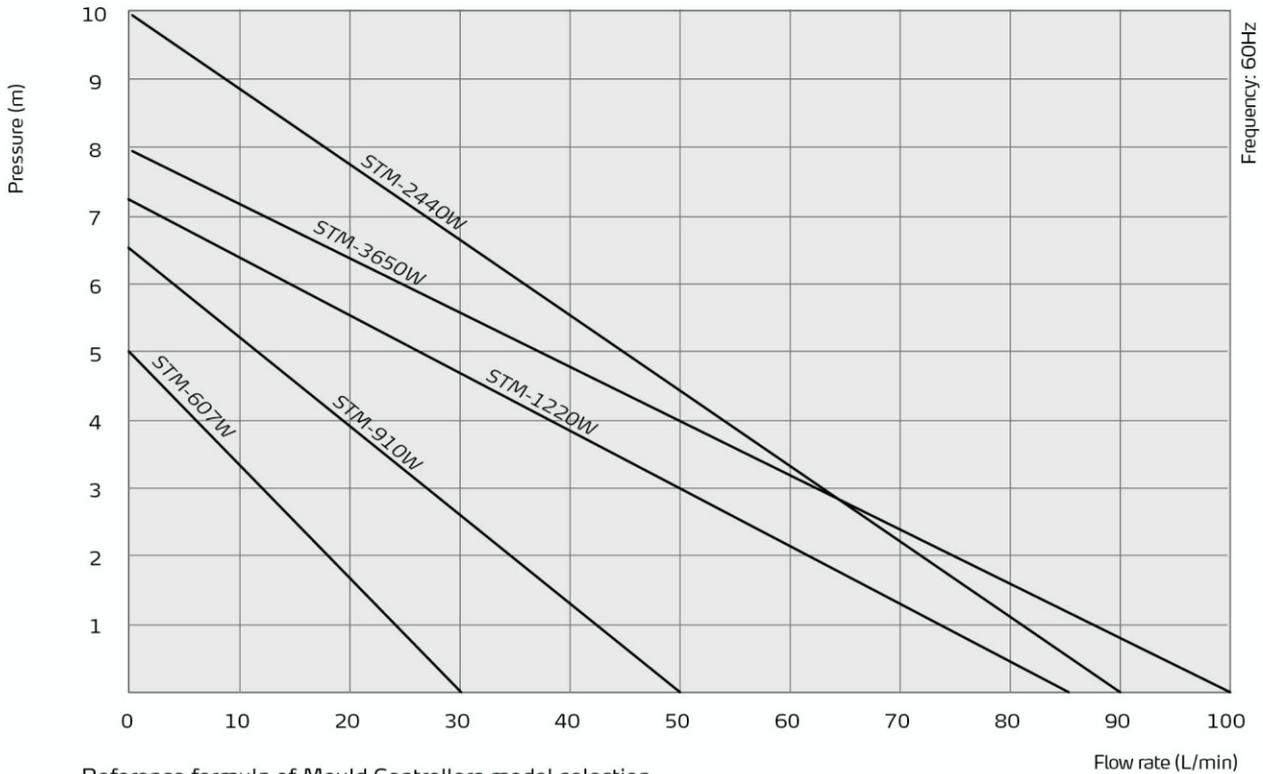
2) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.

3) "*" 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.

STM-W Series

■ 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 Water density =1kg/L Time for heating=the time needed to heat from room temperature to set temperature



High Temp. Water Heater

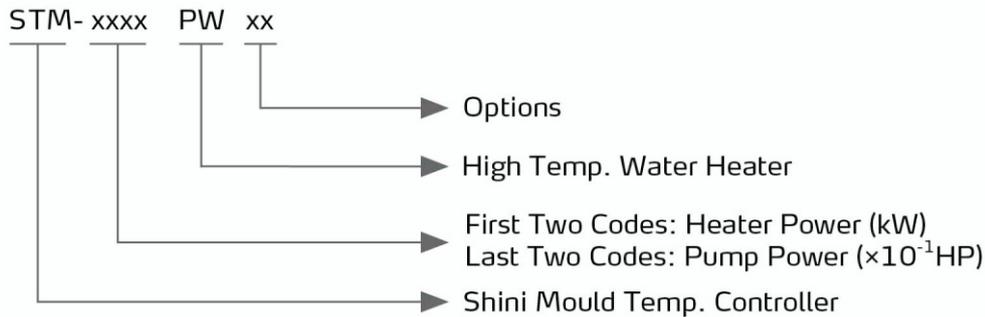
STM-607PW



Refer carefully to this manual before operation.

STM-PW Series

■ Coding Principle



■ Features

- For standard STM-PW, the maximum heating temperature is 180°C/356°F.
- 4.3" Touch screen controller with easy to use HMI and clean display.
- Adopt SSR solid-state relay controller.
- Adopt plate heat exchanger for direct cooling and accurate temperature control, and the low water viscosity makes quick heat exchange.
- P.I.D controller with 3.2" LCD with a user-friendly interface. The multi-stage controller can maintain stable mould temperature with a precision of +/- 0.5°C/0.9°F.
- In build weekly timer with °C/°F. unit conversion.
- In build multiple safety with display and alarm buzzer, such as reverse phase, pump overload, overheat, and low water pressure.
- Built-in magnetic pump without seal.
- RS485 communication interface achieves centralized monitoring with the host.
- Equipped with water level probe and high-pressure plunger pump that could accurately detect the water level, and refill during high-pressure as to avoid empty water system.

■ Options

- For models optional with magnetic filter to prolong the service life the magnetic pump, and add "MF" at the end of the model code.
- For models optional with mold temperature and mold return water temperature display, and add "TS" at the end of the model code.
- For models optional with manual air-blowing function, add "MA" at the end of the model code.
- For models optional with the circuit breaker, add "CB" at the end of the model code.



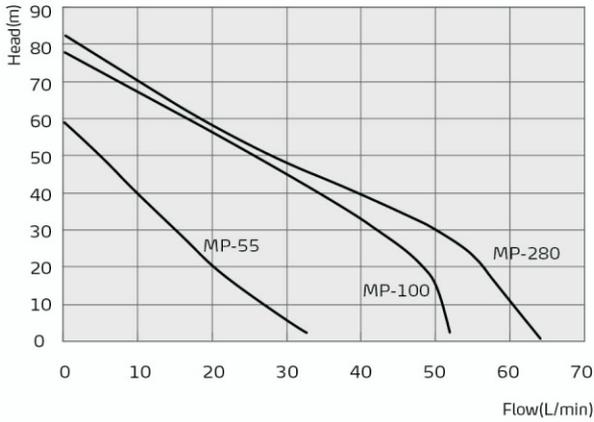
Control Panel

■ Application

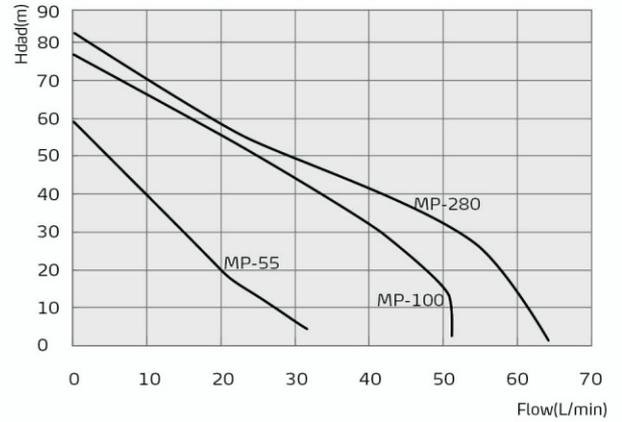
STM-PW series high temp. water heaters are mainly used for mold heating and mold temperature maintaining. Besides, it is also applicable to fields with other similar demands.

Compared with the STM-W water heater, this series is able to meet wider production demands under higher heating temperature (180°C) condition. Besides, there are many options and accessories for this series of machine that can meet different production demands.

■ Performance Curve

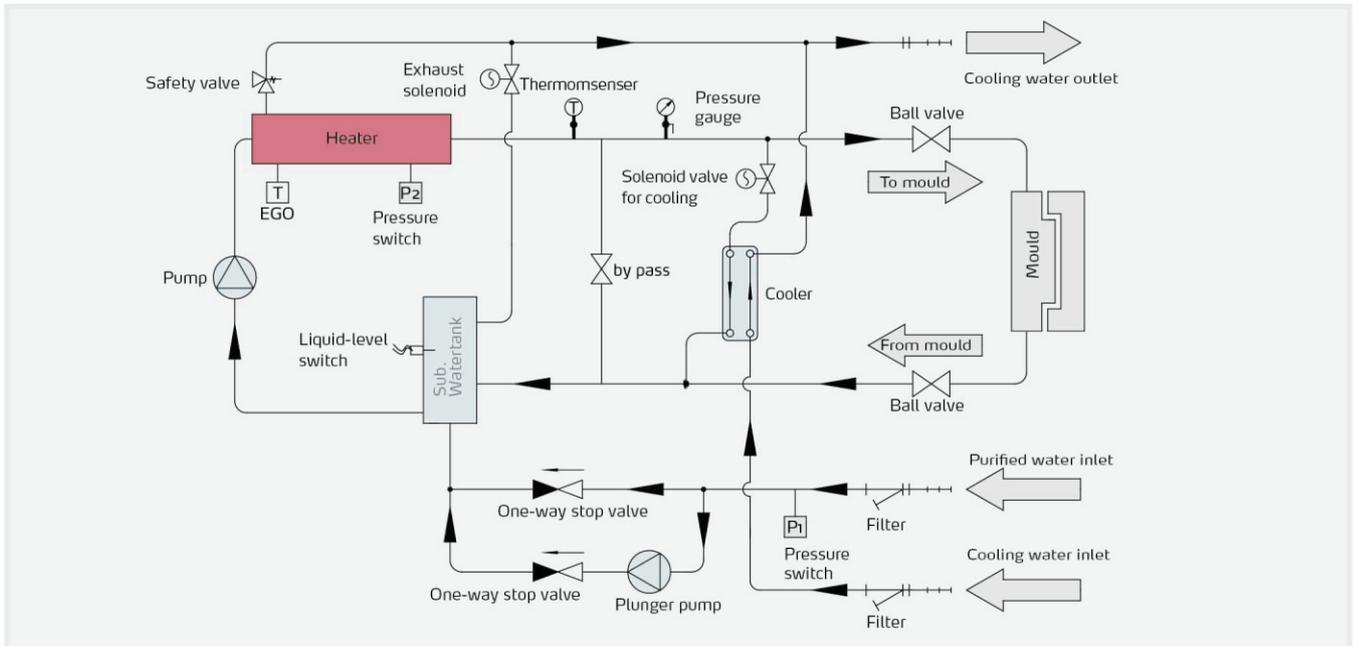


50Hz-cycles/2800r/min-rpm-tr/min



60Hz-cycles/3400r/min-rpm-tr/min

■ Working Principle



STM-PW System flow chart

STM-PW Series

Specifications

Model		STM-607PW	STM-607PW-D	STM-1220PW	STM-1220PW-D	STM-2440PW
Max.Temp.		180 ⁰ C/356 ⁰ F				
Heater(kW)		6	6×2	12	12×2	24
Pump Power(kW) (50/60Hz)		0.6/0.69	0.6×2/0.69×2	1.0/1.2	1.05×2/1.2×2	2.9/3.4
Max. pump Flow (50/60Hz)	L/min	25.5/28	25.5/28	50/60	50/60	100/120
	gal/min	6.7/7.4	6.7/7.4	13.2/15.8	13.2/15.8	26.4/31.7
Max. pump Pressure(bar)(50/60Hz)		4.8/6.3	4.8/6.3	5.8/7.6	5.8/7.6	8/10.5
Heating Tank Number		1	2	1	2	2
Heating Tank Capacity	L	3.4	3.4	3.4	3.2×2	6.2
	gal	0.9	0.9	0.9	0.85×2	1.64
Sub. water tank Capacity	L	1.4	1.4	1.4	1.4×2	1.8
	gal	0.37	0.37	0.37	0.37×2	0.48
CoolingMethod		Indirect				
Inlet/Outlet (inch)		3/4 / 3/4	3/4 / 3/4	3/4 / 3/4	3/4 / 3/4	1 / 1
Dimensions (H×W×D)	mm	690×320×910	750×620×990	690×320×990	750×620×990	950×450×1050
	inch	27.2×12.5×35.8	29.5×24.4×39	27.2×12.5×39	29.5×24.4×39	37.4×17.7×41.3
Weight	kg	80	185	95	190	140
	lb	176	408	209	419	309

- Notes: 1) To ensure stable water temperature, cooling water pressure should not be less than 2kgf/cm², but also no more than 5kgf/cm².
 2) 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).
 3) Power supply: 3Φ, 230/400/460/575VAC, 50/60Hz.

We reserve the right to change specifications without prior notice.



"Large Flow" Water Heater

STM-607WF

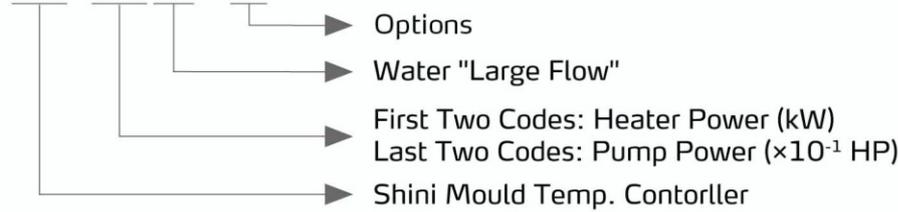


Refer carefully to this manual before operation.

STM-WF Series

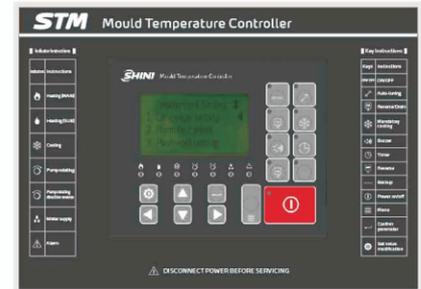
■ Coding Principle

STM - xxxx WF - xx

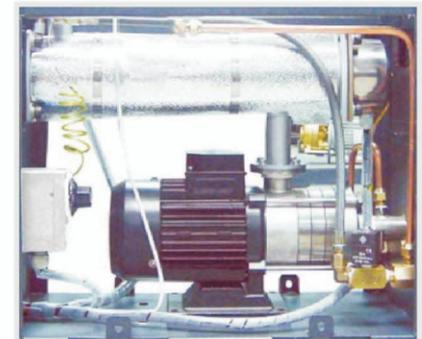


■ Features

- Large water flow design with a maximum working temperature of 120°C.
- In build weekly timer with °C/°F unit conversion.
- P.I.D. multi-stage temperature control system can maintain a mould temperature with an accuracy of $\pm 0.5^{\circ}\text{C}$.
- In build multiple safety with display and alarm buzzer, such as reverse phase, pump overload, overheat, and low water pressure.
- Direct cooling with excellent heating exchange. Auto refilling device cools down the temperature to set value directly.
- Modbus RTU data communication via RS485.



Control Panel

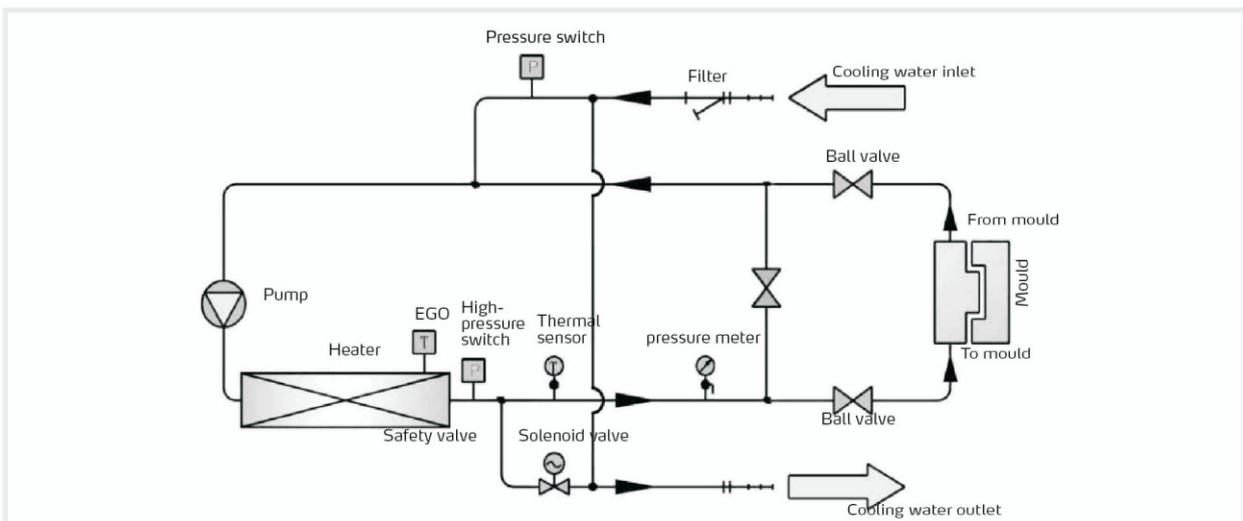


Inner Structure

■ Options

- Displays of mould temperature and return water temperature of mould are optional, and add "TS" at end of the model code.

■ Working Principle



System flow (Direct Cooling)

Application

STM-WF series "Large Flow" water heaters are used to heat up the mould and maintain temperature, and also they can be used in other similar applications. Compared with standard water heaters STM-W, this series of machines adopt large flow pump that are especially applicable to large flow and constant temperature productions, such as plates and extrusion molding etc. Besides, this series of models have multiple options and accessories to meet different production demands.

Specifications

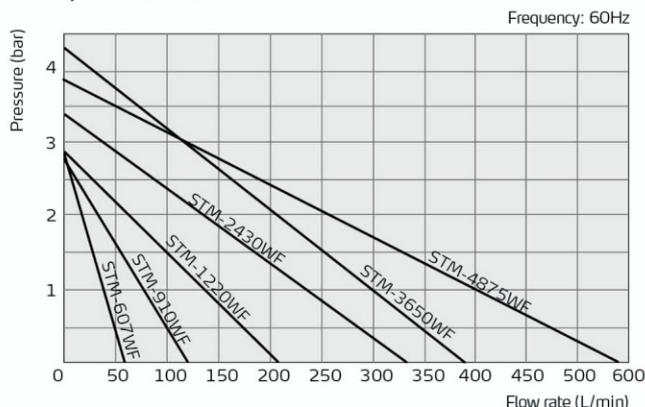
Model		STM-607WF	STM-910WF	STM-1220WF	STM-2430WF※	STM-3650WF※	STM-4875WF※
Max.Temp.		120°C/248°F					
Heater(kW)		6	9	12	24	36	48
Pump Power(kW) (50/60Hz)		0.55/0.55	0.75/0.75	1.1/1.5	2.2/2.2	3.0/4.0	5.5/5.5
Max. pump Flow (50/60Hz)	L/min	58/67	116/133	168/216	267/333	267/398	533/580
	gal/min	15.3/67.3	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) "※" stands for vertical pump.

- 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.
- 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).
- 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

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

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



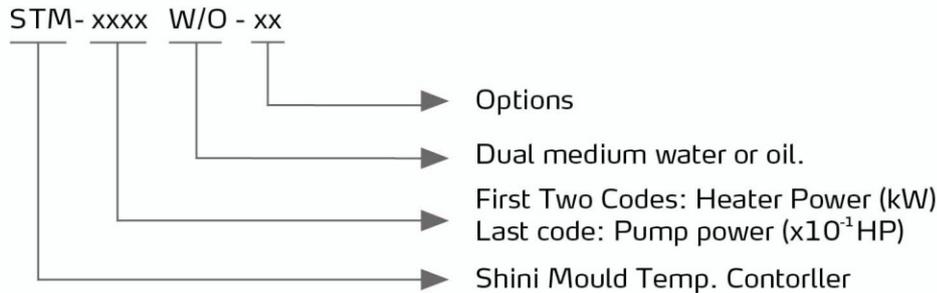
Dual-purpose Water/Oil Heater

STM-907W/O



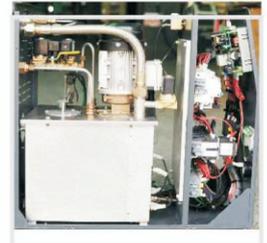
Refer carefully to this manual before operation.

■ Coding Principle



■ Features

- Adopt water or oil as the heat transfer medium, the maximum operating temperature for water is 90°C/203°F, and oil is 160°C/320°F.
- 4.3" Touch screen controller with easy to use HMI and clean display.
- P. I. D multi-stage temperature control system can maintain a mould temperature with an accuracy of ±0.5°C/0.9°F.
- Programmable heating capacity in 3kW, 6kW, or 9kW via HMI.
- Pump reverse function for mould drain.
- Vacuum mode for leak stop function.
- Multiple safety devices including power reverse phase protection, pump overload protection, overheat protection, and low level protection.
- Modbus RTU data communication via RS485.



Inner Structure



Human machine interface

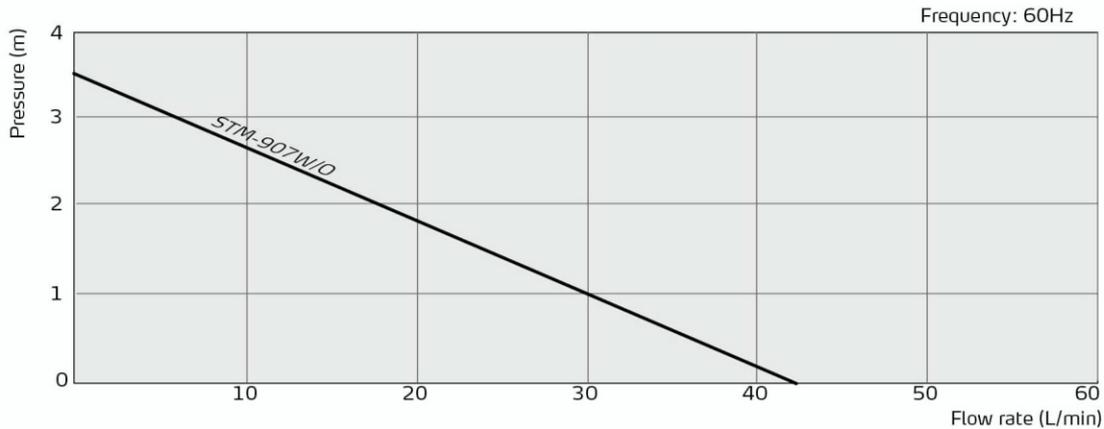
■ Options

- Return water or oil temperature is available as an option, and add "TS" at the end of the model code.
- Digital flow meter is available as an option, and add "V" at the end of the model code.
- Digital pressure gauge is available as an option, and add "P" at the end of the model code.

■ Application

STM-W/O series dual-medium mould temperature control units are used as mould heaters and maintain mould temperature. The unit can be used in other similar applications. The unit can use water or heating oil as the heat transfer medium for different production processes or conditions. The unit also has multiple options and accessories to meet various production process needs, such as a flow meter, manifold, hose, multi-coupling system, etc.

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

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