



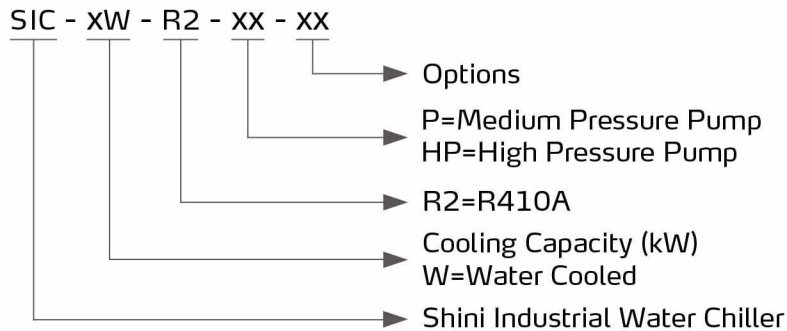
CFC-free Refrigerant Water-cooled Water Chiller

SIC-33W-R2



Refer carefully to this manual before operation.

■ Coding Principle



■ Features

- Cooling temperature range 7~25°C/44.6~77°F.
- Insulated water tank made of stainless steel.
- Equipped with anti-freeze thermostat.
- R410A ozone-friendly refrigerant.
- Refrigeration loop controlled by high and low pressure switches to ensure stable operation.
- Compressor and pump overload protection.
- Adopt high precision temperature controller with a max precision of +/- 1°C/1.8°F.
- All adopt quality compressors from major suppliers.
- SIC-W-R2 adopts a tube-in-shell condenser with excellent heat transfer and resistance to lower water quality.
- Equipped with hot-gas bypass valve for precision temperature control without the need to frequent the ON/OFF cycle.
- Equipped with RS485 communication interface to realize centralized monitoring.



Control Panel

■ Options

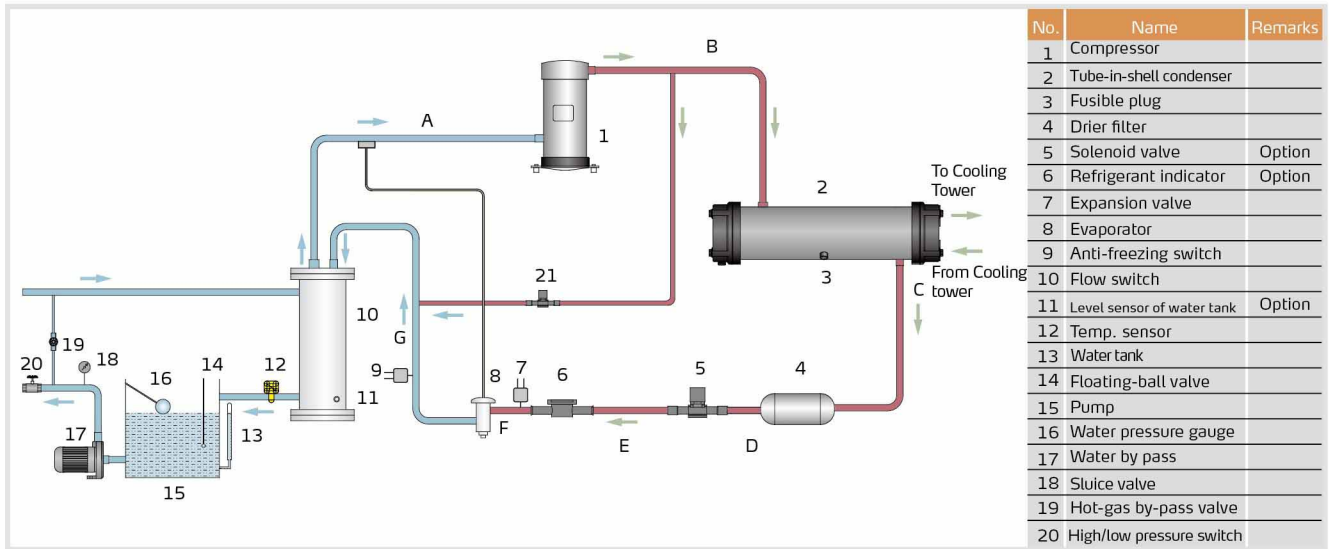
- For models with a medium-pressure pump, add "P" at the end of the model code, and for models optional with a high-pressure pump, add "HP" at the end of the model code.
- The level sensor in water tank is optional to check whether the water level is within normal range, and add "SG" at the end of the model code.
- Liquid solenoid valve for pump down a refrigerant circuit to avoid liquid migration back to the compressor on the off-cycle. It can potentially prevent liquid slug on startup. Add "LS" at the end of the model code.
- Optional refrigerant indicator the refrigerant moisture content, and add "LS" at the end of the model code.
- The flow switch is optional to ensure that the unit runs under sufficient water, and add "FW" at the end of the model code.

■ Application

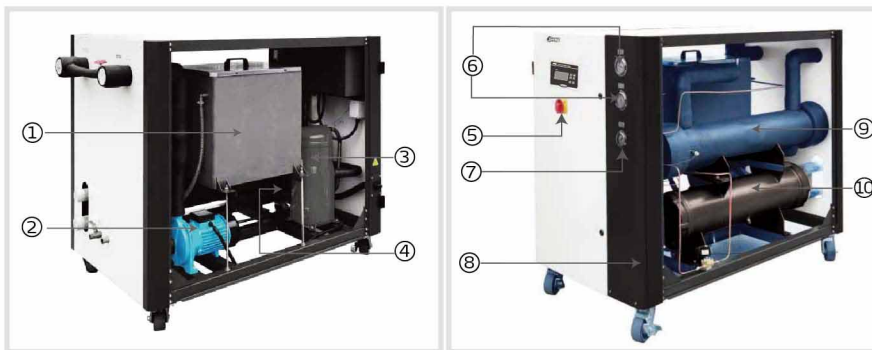
SIC-A-R2 series are applicable for cooling moulds to reduce the product moulding cycle; they are also available in the cooling of equipment to maintain a normal temperature. Besides, they are suitable for other industries with the need for water cooling.

SIC-W-R2 Series

Working Principle

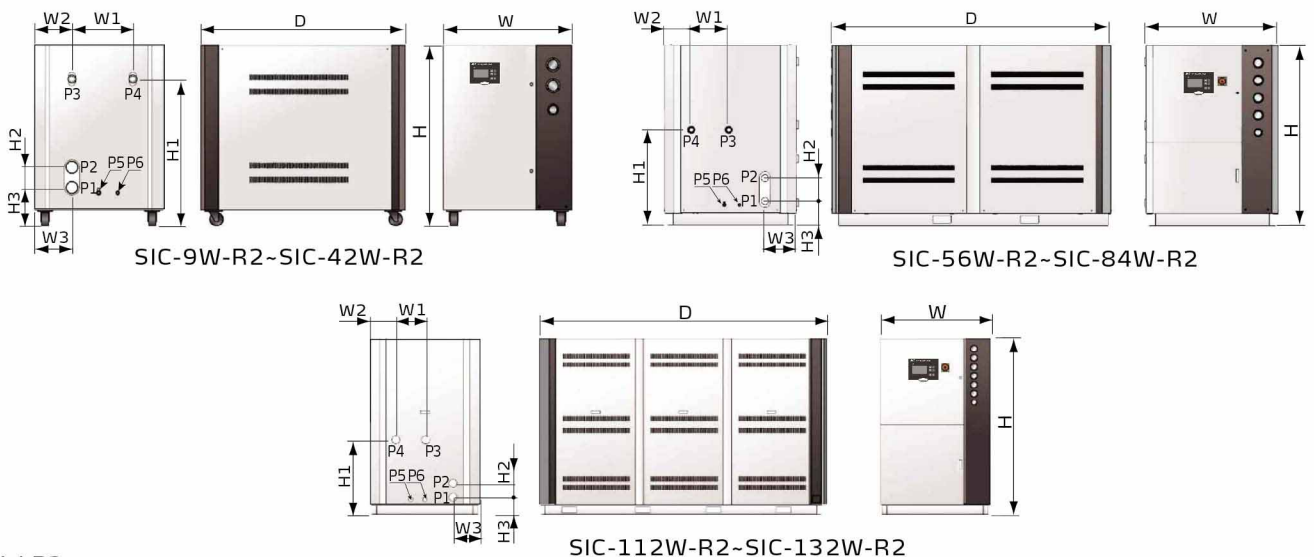


Structure of SIC-W-R2



- ① Stainless steel circulation water tank.
- ② Heavy-duty 3-phase pump ensures no blockages and high torque.
- ③ Scroll compressor(s).
- 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.
- ⑩ Tube-in-shell condenser.

Outline Drawings





Dimensions

Item	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
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}	
P2 (inch) Cooling Water Outlet				1 ^{1/2}				2				2 ^{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 Outlet 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		
Cooling Capacity	kW ¹⁾	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		
	kW ²⁾	50Hz	12.5	18.5	33	37	43	55	74	87	110	148	166	174		
		60Hz	15	22.2	39.6	44.4	51.6	66	88.8	104.4	132	177.6	199.2	208.8		
Compressor	Type	Scroll														
	Power (kW)	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	kg	50Hz	2.5	3.0	5.5	5.5	9.8	8.7	10.8	16	17.4	21.4	26.1	32		
		60Hz	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)	1½				2				2½				2×2½		
		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 ³⁾	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	-3.50/5.4	-2.90/5	-3.35/4.5	-3.90/-	-4.0/5.4	-5.0/6.2	-4.1/5.1	-4.4/-	-	-	-	-			
Total ⁴⁾ Power (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			1½"G			2"G			2½"G		2½"G			
	Chilled Water Inlet	1"G			1½"G			2"G			2½"G		2½"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	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														
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/44.6°F 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/59°F of chilled water under the temperature of 25°C/77°F 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.

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