Water-cooled Central Water Chiller

SICC-450WD-R3

Refer carefully to this manual before operation.

SICC-W Series

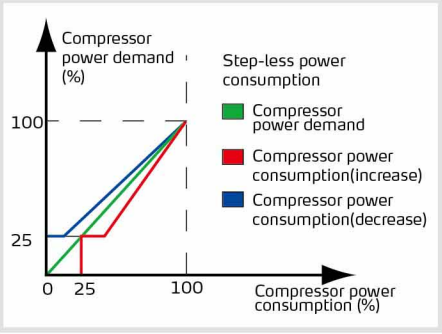
Coding Principle

SICC - xxxWx - R3

- R3=R134a
- First Three Codes: Refrigerating Capacity (kW)
  Fourth Code: W=Water Cooled
  Fifth Code: S=Single Compressor D=Double Compressors
- Shini Central Water Chiller

Features

- Brand semi-close double-screw compressor and long service-life of bearing ensure long time operation, and it is equipped with high-efficient motor that gives compressor high efficiency.
- Step-less compressor can achieve a cooling output range of 50~100% with each compressor and realize stable cooling output.
- The condenser and evaporator both can meet the requirement of national standard, with high-efficient heat transfer effect, convenient service and maintenance.
- Standard equipped RS485 communication function that can achieve machine unit's real-time control and monitor.
- Equipped with programmable logical controller to control via panel for convenient adjustment.
- The error check function and error recording function can analyze the causes for improvement.
- Standard equipped with high and low pressure switch, fusible plug, overload protector, coil overheat protector, exhaust air overheat protection, cooling water overheat and large temperature deviation protection.

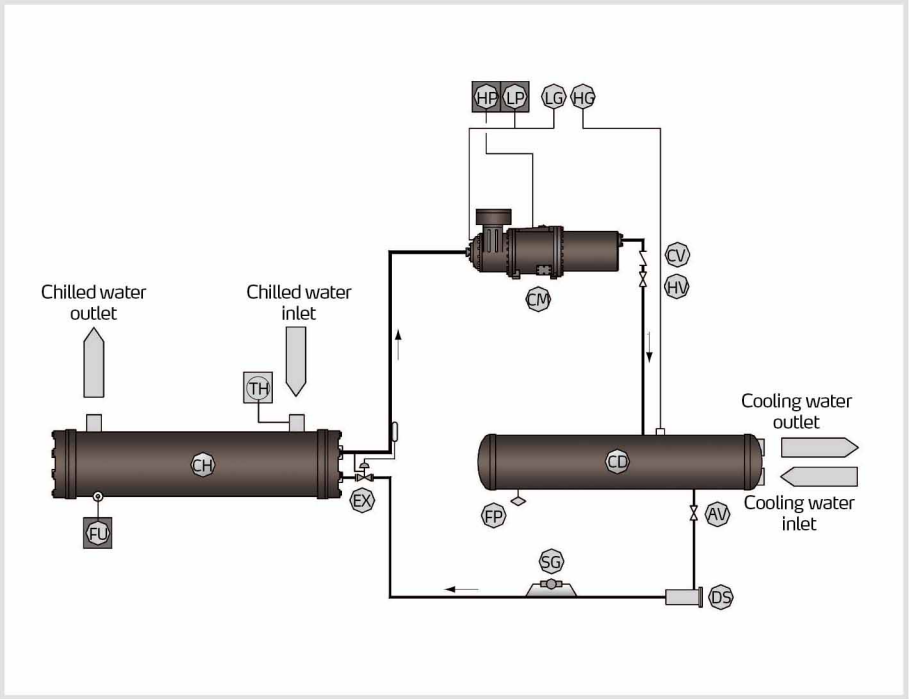


Step-less loading capacity

Application

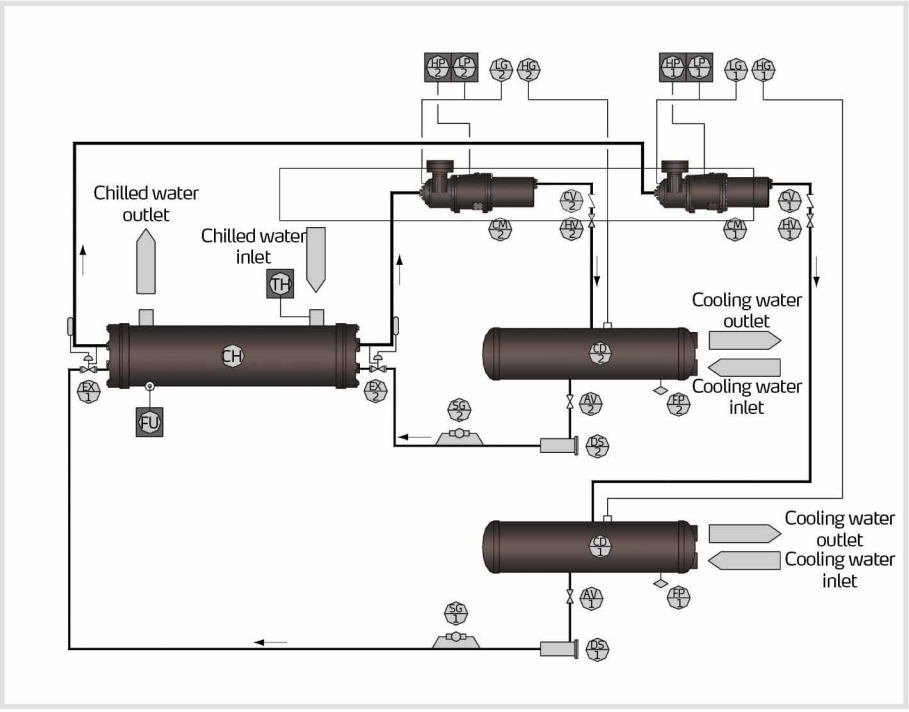
It is used for mould's cooling to reduce product's molding cycle, and it's applicable to cooling devices to ensure the temperature maintained under normal value, or other industrial areas need cooling.

Working Principle



One Compressor

Sign	Name	Amount Remark
CM	Compressor	1
CD	Condenser	1
CH	Evaporator	1
EX	Expansion valve	1
FP	Fusible plug	1
AV	Angle valve	1
DS	Drier filter	1
SG	Refrigerant indicator	1
CV	Contrary stop value	1
HV	High pressure valve	1
HG	High pressure gauge	1
LG	low pressure gauge	1
HP	High pressure switch	1
LP	Low pressure switch	1
TH	Thermo switch	1
FU	Anti-freezing switch	1

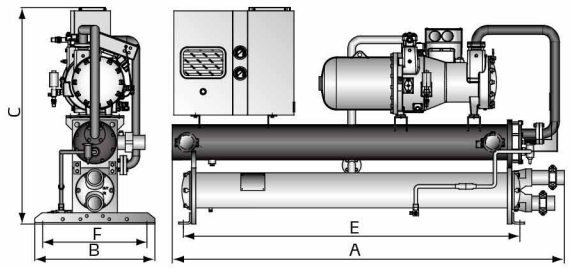


Two Compressors

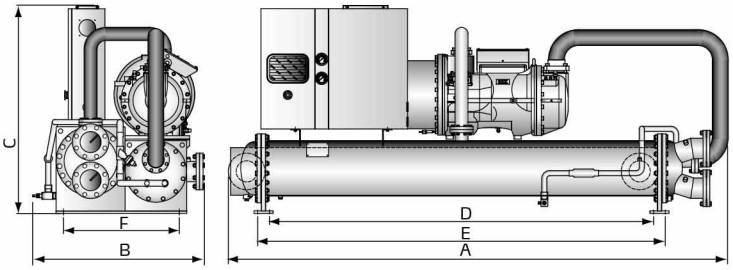
Sign	Name	Amount Remark
CM1-2	Compressor	2
CD1-2	Condenser	2
CH	Evaporator	1
EX1-2	Expansion valve	2
FP1-2	Fusible plug	2
AV1-2	Angle valve	2
DS1-2	Drier filter	2
SG1-2	Refrigerant indicator	2
CV1-2	Contrary stop value	2
HV1-2	High pressure valve	2
HG1-2	High pressure gauge	2
LG1-2	low pressure gauge	2
HP1-2	High pressure switch	2
LP1-2	Low pressure switch	2
TH	Thermo switch	1
FU	Anti-freezing switch	1

SICC-W Series

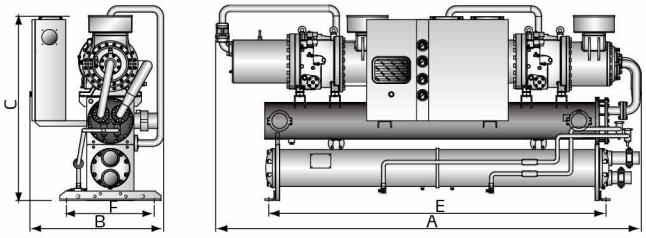
■ Outline Drawings



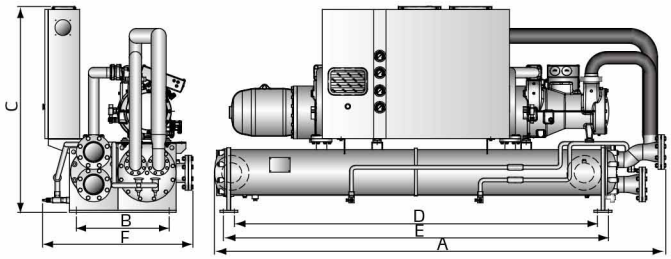
SICC-157WS
&
SICC-130WS-R3~ SICC-220WS-R3



SICC-319WS~SICC-767WS



SICC-314WD
&
SICC-260WD-R3~ SICC-450WD-R3



SICC-518WD~SICC-1076WD

■ Specifications (R22)

Item \ Model SICC-			157WS	319WS	413WS	538WS	611WS	767WS
Cooling Capacity		kW[1)]	157	319	413	538	611	767
		kW[2)]	128	251	330	430	488	610
Power Source		–	3Φ 380V 50Hz					
Power Consumption		kW	35.4	68	100.3	120.9	125.9	156.7
Operation Current		A	63	122	179	216	225	280
Start-up Current		A	269	516	579	757	586	805
Power Adjustment		–	Capacity level 4 control					
	Filling Quantity	L	11	17	17	21	21	25
	Type	–	KL320SH					
Refrigerant			R22					
Evaponator	Type	–	U type tube-in-shell style				Tube-in-shell style	
	Process Flow	m^3/hr	27.0	54.9	71.0	92.5	105.0	131.9
	Pressure Loss	kPa	48	54	63	63	66	80
	Pipe Coupler		Φ3"Clamp	Φ4"Clamp	Φ4"Clamp	DN125	DN150	DN150
Condenser	Type	–	Tube-in-shell style					
	Cooling Flow	m^3/hr	35.1	71.3	92.3	120.3	136.6	171.5
	Pressure Loss	kPa	20	30	45	45	45	58
	Pipe Coupler		Φ3"Clamp	Φ4"Clamp	Φ4"Clamp	DN125	DN150	DN150
Unit Dimensions	A	mm	2600	3050	3350	3450	3400	3800
	B	mm	750	1150	1250	1250	1350	1400
	C	mm	1500	1370	1450	1500	1650	1700
Installing Dimensions	D	mm	–	2390	2620	2620	2620	2920
	E	mm	2100	2550	2780	2780	2780	3080
	F	mm	650	600	670	790	870	920
Net Weight		kg	1220	1770	1900	2350	2600	3130
Operating Weight		kg	1370	1970	2150	2650	2900	3480
Unit Conversion			1 kW = 860 kcal/hr		1 RT = 3,024 kcal/hr		10,000 Btu/hr = 2,520 kcal/hr	

Specifications (R22)

Item \ Model			SICC-314WD	SICC-518WD	SICC-638WD	SICC-706WD	SICC-826WD	SICC-1076WD
Refrigeration Capacity		kW[1]	314	518	638	706	826	1076
		kW[2]	256	408	502	578	660	860
Power Source		–	3Φ 380V 50Hz					
Power Consumption		kW	70.8	119.2	136.0	162.6	200.6	241.8
Power Consumption		A	126	213	243	291	359	432
Operation Current		A	332	530	638	707	758	973
Power Adjustment		–	8 steps capacity control					
	Refrigerant Filling Quantity	L	22	26	34	34	34	42
	Type	–	KL320SH					
Refrigerant			R22					
Evaporator	Type	–	U type tube-in-shell style			Tube-in-shell style		
		m^3/hr	54.0	89.1	109.8	121.4	142.1	185.0
	Pressure Loss	kPa	60	63	66	66	66	80
	Pipe Coupler		Φ4"Clamp	DN125	DN150	DN150	DN150	DN200
Condenser	Type	–	Tube-in-shell style					
	Cooling Flow	m^3/hr	70.2	115.8	142.7	157.9	184.7	240.6
	Pressure Loss	M	40	40	57	57	57	64
	Pipe Outlet		Φ4"Clamp	DN125	DN150	DN150	DN150	DN200
Unit Dimensions	A	mm	3180	3300	3900	3950	4000	4300
	B	mm	1050	1150	1300	1350	1450	1500
	C	mm	1700	1550	1600	1650	1650	1700
Installing Dimensions	D	mm	–	2620	2920	2920	2920	3190
	E	mm	2700	2780	3080	3080	3080	3350
	F	mm	650	670	870	920	980	1030
Net Weight		kg	2010	2610	3300	3700	3880	4350
Operating Weight		kg	2210	2910	3600	4200	4380	4900
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 15℃/59℉ of chilled water under the temperature of 30 ℃/86℉ 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 7℃/44.6℉ of chilled water under the temperature of 30℃/86℉ and flow of 0.215m³/(h.kW) of cooling water.

3) Machine operation conditions: outlet chilling water temperature is at 7~25℃, inlet chilling water temperature is at 19~33℃, For special require ments, the machine can be customized.

4) The noise level is tested at 1m in front of and 1.5m above the machine.

5) As per application needs, stepless compressor output capacity adjusting function can be optionally available.

SICC-W Series

■ Specifications(R134a)

Item \ Model SICC-			130WS-R3	188WS-R3	220WS-R3	260WD-R3	380WD-R3	450WD-R3
Refrigeration Capacity		kW[1)]	130	188	220	260	380	450
		kW[2)]	104	150	176	208	300	351
Power Source		—	3Φ 400V 50Hz					
Power Consumption		kW	24	35. 8	40. 9	48	71. 6	81. 8
Operation Current		A	41.5	60	69	83	120	138
Start-up Current		A	310	480	600	351.5	540	669
Power Adjustment		—	S:50~100% step-less capacity control. D: 25~100% step-less capacity control.					
	Filling Quantity	L	7	14	16	14	28	32
	Type	—	HBR-B08					
Refrigerant			R410a					
Evaporator	Type	—	Tube-in-shell style					
	Process Flow	m^3/hr	22	32	37. 5	44	64	75
	Pressure Loss	kPa	46	50	52	58	63	63
	Pipe Coupler		Φ3"Clamp	Φ3"Clamp	Φ3"Clamp	Φ4"Clamp	Φ5"Clamp	Φ5"Clamp
Condenser	Type		Tube-in-shell style					
	Cooling Flow	m^3/hr	26.5	38. 5	45	53	77	90
	Pressure Loss	kPa	20	20	30	40	40	60
	Pipe Outlet		2.5"PT Famale	3.0"PT Famale	3.0"PT Famale	2.5"PT Famale	3.0"PT Famale	3.0"PT Famale
Unit Dimensions	A	mm	2490	2650	2780	2850	3110	3250
	B	mm	750	850	850	1075	1125	1125
	C	mm	1525	1655	1670	1570	1750	1750
Installing Dimensions	D	mm	—	—	—	—	—	—
	E	mm	1100	1266	1327	1260	1467	1467
	F	mm	540	640	640	798	878	878
Net Weight		kg	940	1200	1260	1860	2340	2530
Operating Weight		kg	1040	1300	1360	2060	2590	2800
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 15℃/59℉ of chilled water under the temperature of 30℃/86℉ and flow of 0.215m³/(h.kW) of cooling water.
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