

Water-cooled Central Water Chillers

SICC - W series central water-cooled chillers adopt German - made BITZER with twin screw compressors, models with one or two compressors, suitable for using R22 and R134a refrigerants. High efficiency condenser and evaporator have been manufactured under national "BR1" standard. Featuring stable heat exchange and ease of maintenance, advanced controller with built-in microprocessor which gives better performance than single chip based unit.



Features:

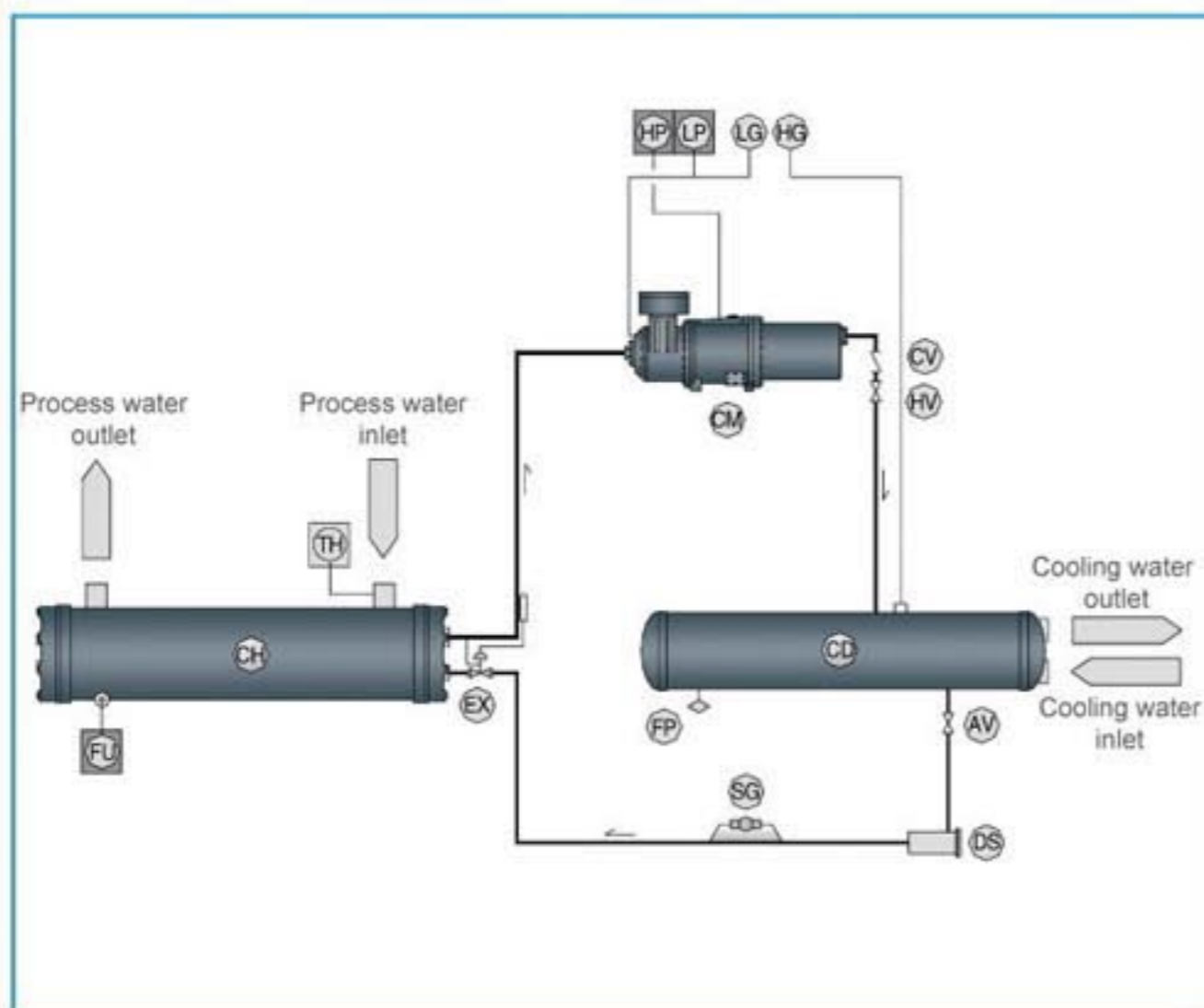
- German - made twin screw compressor with longer service life.
- Stepless compressor output capacity adjusting function are designed to save power.
- Evaporator and condenser built strictly according to national standards.
- Extendability of the controller makes upgrade of both hardware and software much easier.
- " Watchdog " technology makes microprocessor able to automatically diagnose and solve the problems.
- 512 K memory for programs and 128 K off - power data storage.
- Touch screen panel.
- System alarm text.
- Able to monitor the setting of actual temp. and display temp. trend in hours or daily.
- Remote control function turns on / off the machine according to preset timer.
- Support multi - language switch.



Touch Screen

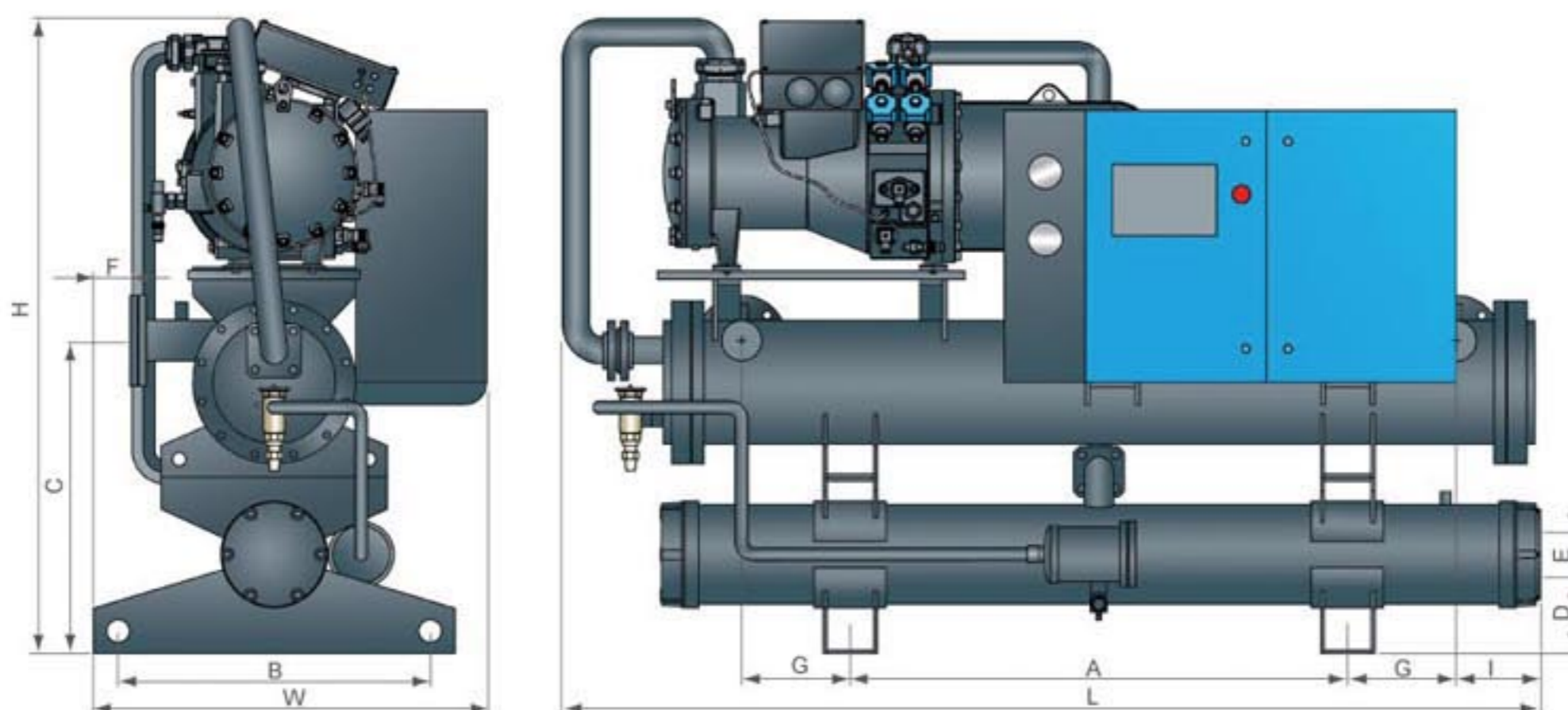
SICC-W Series

1、 Working Principle (One Compressor)

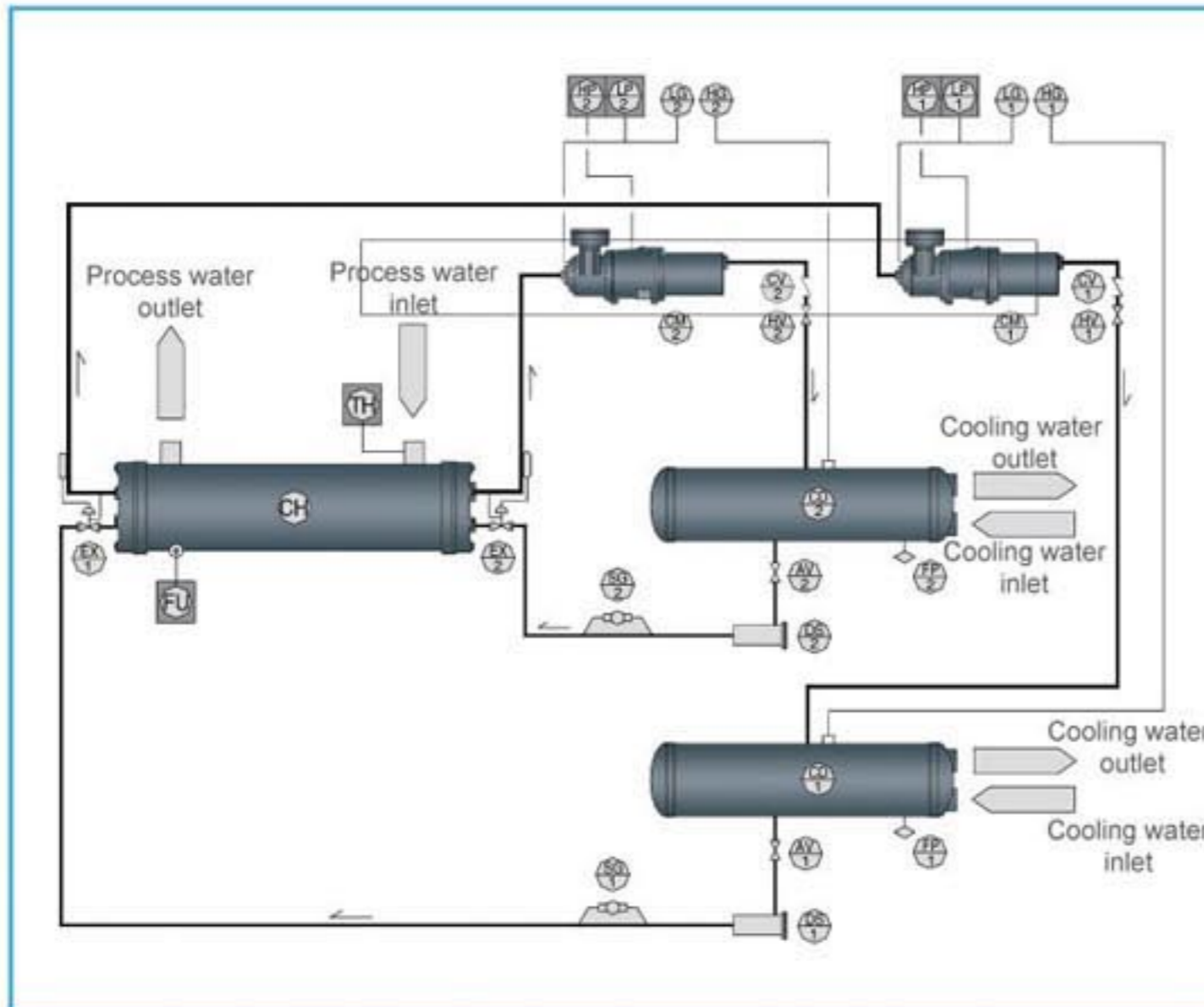


Sign	Name	Amount	Remark
CM	Compressor	1	
CD	Condenser	1	
CH	Evaporator	1	
EX	Expansion valve	1	
FP	Fusible plug	1	
AV	Angle valve	1	
DS	Drying filter	1	
SG	Liquid sightglass	1	
CV	Contrary stop valve	1	
HV	High pressure valve	1	
HG	High pressure gauge	1	
LG	low pressure gauge	1	
HP	High pressure switch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

2、 Outline Drawings (One Compressor)

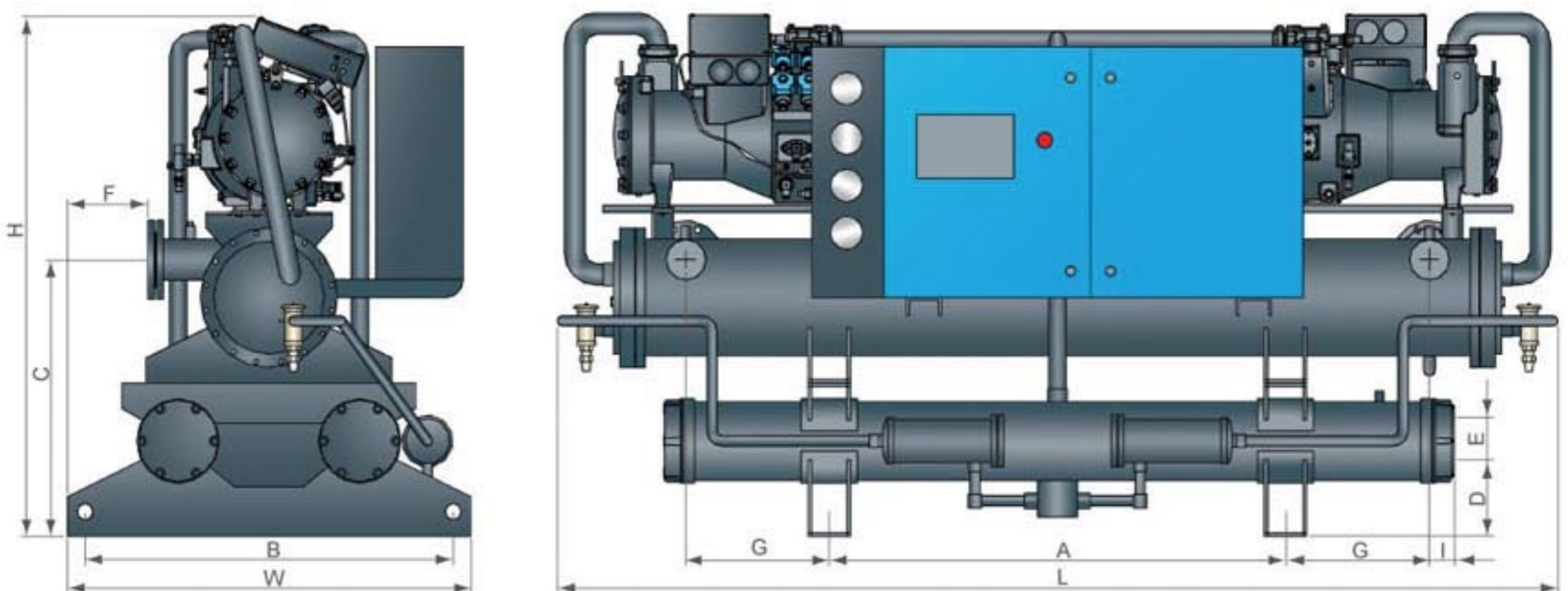


3、 Working Principle (Two Compressors)



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	Drying filter	2	
SG1-2	Liquid sightglass	2	
CV1-2	Contrary stop valve	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	

4、 Outline Drawings (Two Compressors)



5、Specifications (Single Compressor)

5a、Single Compressor (R22):

Model		SICC-132WS	SICC-165WS	SICC-193WS	SICC-223WS	SICC-256WS	SICC-317WS	SICC-363WS	SICC-419WS	SICC-547WS	SICC-630WS	SICC-723WS	
Refrigeration Capacity	kcal / h	113,500	141,900	166,000	191,800	220,200	272,600	312,200	360,300	470,400	541,800	621,800	
	kW	132	165	193	223	256	317	363	419	547	630	723	
Power Source	—	3Φ, 230 / 400 / 460 / 575V, 50 / 60Hz											
Power Consumption	kW	31	38	43	51	58	76	80	90	121	136	154	
Operation Current	A	54	66	75	87	96	123	136	151	199	221	246	
Start-up Type	A	218D / 411DD	269D / 508DD	290D / 485DD	350D / 585DD	423D / 686DD	520D / 801DD	612D / 943DD	665D / 1023DD	465Y / 1442D	586Y / 1853D	650Y / 2029D	
Compressor	Manner	Half-closed twin screw											
	Content Control	100-75-50-25-0											
	Start-up Type	Distribution winding									Y-Δ		
	Oil Heater	0.2						0.3					
Refrigeration Oil	Type	B320SH											
	Filling Quantity	9			15			22			28		
Refrigerant	Type	R22											
	Filling Quantity	21	26	30	35	40	50	57	66	86	99	113	
Process Flow	Manner	Tube-in-shell high efficient heat exchanger											
	Process Flow	m ³ / h	23	28	33	38	44	55	63	72	94	109	125
	Pressure	kPa	54	54	57	57	59	59	62	62	65	67	67
	Pipe Outlet	inch	3"	3"	3"	4"	4"	4"	4"	4"	5"	6"	6"
Cooling Flow	Manner	Tube-in-shell high efficient heat exchanger											
	Cooling Flow	m ³ / h	30	37	43	50	57	71	81	94	122	141	162
	Pressure	kPa	51	51	54	54	57	57	59	59	62	65	65
	Pipe Outlet	inch	2-1/2"	3"	3"	3"	3"	4"	4"	5"	5"	5"	5"
Protective Safety Devices	—	High or low pressure switch, Anti-freezing switch, Fusible plug, Compressor overheat protection, Motor overheat protection, Exhaust air overheat protection, Pump overcurrent protection, Oilil overheat protection, Phase reverse protection, High and low pressure protection, cooling water overheat protection, Process water shortage protection, Cooling water shortage protection, Cooling tower overcurrent protection etc.											
Dimensions	L	mm	2175	2195	2245	2860	2860	2975	2985	3010	3510	3590	3595
	W	mm	935	935	935	1015	1015	1015	1025	1055	1105	1150	1175
	H	mm	1430	1500	1655	1710	1710	1965	1975	1990	2140	2155	2195
	A	mm	1100	1100	1100	1200	1200	1300	1300	1300	1600	1600	1600
	B	mm	690	690	690	790	790	790	790	790	900	900	980
	C	mm	690	760	820	860	860	1000	1010	1010	1120	1120	1160
	D	mm	170	190	240	240	240	270	270	245	275	240	240
	E	mm	100	100	120	120	120	160	160	175	175	240	240
	F	mm	75	80	80	125	105	100	100	100	125	130	175
	G	mm	240	240	230	475	475	400	405	405	550	540	540
I	mm	75	145	170	200	200	315	310	245	250	340	340	
Net Weight	kg	1020	1060	1270	1370	1400	1870	1870	2070	2790	2910	3240	
Operating Weight	kg	1120	1180	1420	1550	1580	2100	2220	2340	3120	3240	3760	
Noise Level	dB(A)	74			76			78		80		82	

1) The refrigerant capacity is tested under conditions that process water inlet temp. is at 12 °C, process water outlet temp. is at 7 °C, cooling water inlet temp. is at 30 °C and cooling water outlet temp. is at 35 °C.

We reserve the right to change specifications without prior notice.

2) The noise level is tested at one meter in front of and 1.5 meter above the machine.

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

4) Please inform the special requirements to us before giving an order.

5) * S * denotes single compressor.

5b、Single Compressor (R134a):

Model		SICC-105WSH	SICC-124WSH	SICC-147WSH	SICC-163WSH	SICC-194WSH	SICC-215WSH	SICC-233WSH	SICC-272WSH	SICC-352WSH	SICC-404WSH	SICC-469WSH	
Refrigeration Capacity	kW	105	124	147	163	194	215	233	272	352	404	469	
	kcal / h	90,300	106,600	126,400	140,200	166,800	184,900	200,400	233,900	302,700	347,400	403,300	
Power Source	—	3Φ, 230 / 400 / 460 / 575V, 50 / 60Hz											
Power Consumption	kW	24	30	32	37	43	48	51	59	75	86	99	
Operation Current	A	43	52	59	65	76	81	84	103	131	145	162	
Start-up Type	A	169D / 338DD	206D / 355DD	267D / 449DD	290D / 485DD	350D / 585DD	520D / 801DD	439D / 675DD	520D / 801DD	665D / 1023DD	436Y / 1364D	465Y / 1442D	
Compressor	Manner	Half-closed twin screw											
	Content Control	%											
	Start-up Type	Distribution winding										Y-Δ	
	Oil Heater	kW						0.2					
Refrigerant Oil	Type	BSE170											
	Filling Quantity	L	9.5	15				22		29	35		
Refrigerant	Type	R134a											
	Filling Quantity	kg	17	20	23	26	31	34	37	43	56	64	75
Process Flow	Manner	Tube-in-shell high efficient heat exchanger											
	Process Flow	m ³ / h	18	21	25	28	33	37	40	47	61	70	81
	Pressure	kPa	49	51	51	54	54	57	57	59	62	62	65
	Pipe Outlet	inch	2-1/2"	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"
Cooling Flow	Manner	Tube-in-shell high efficient heat exchanger											
	Cooling Flow	m ³ / h	24	28	33	36	43	48	52	61	79	90	105
	Pressure	kPa	47	49	49	51	51	54	54	57	59	59	62
	Pipe Outlet	inch	2"	2-1/2"	2-1/2"	2-1/2"	3"	3"	3"	3"	4"	4"	5"
Protective Safety Devices	—	High or low pressure switch, Anti-freezing switch, Fusible plug, Compressor overheat protection, Motor overheat protection, Exhaust air overheat protection, Pump overcurrent protection, Oil overheat protection, Phase reverse protection, High and low pressure protection, cooling water overheat protection, Process water shortage protection, Cooling water shortage protection, Cooling tower overcurrent protection etc.											
Dimensions	L	mm	2195	2245	2245	2245	2860	2900	2985	2985	3010	3510	3590
	W	mm	935	935	935	935	1015	1015	1025	1025	1055	1105	1105
	H	mm	1500	1655	1655	1655	1710	1710	1975	1975	1990	2140	2155
	A	mm	1100	1100	1100	1100	1200	1200	1300	1300	1300	1600	1600
	B	mm	690	690	690	690	790	790	790	790	790	900	900
	C	mm	760	820	820	820	860	860	1010	1010	1010	1120	1120
	D	mm	190	240	240	240	240	240	270	270	245	275	240
	E	mm	100	120	120	120	120	120	160	160	175	175	240
	F	mm	80	80	80	80	125	125	100	100	100	125	130
	G	mm	240	230	230	230	475	475	405	405	405	550	540
I	mm	145	170	170	170	200	200	310	310	245	250	340	
Net Weight	kg	1060	1270	1320	1370	1400	1440	1940	1870	2070	2430	2790	
Operating Weight	kg	1180	1420	1485	1550	1580	1630	2220	2100	2340	2730	3120	
Noise Level	dB(A)	72	74	74	74	76	76	78	78	80	82	82	

1) The refrigerant capacity is tested under conditions that process water inlet temp. is at 12 °C, process water outlet temp. is at 7 °C, cooling water inlet temp. is at 30 °C and cooling water outlet temp. is at 35 °C.

2) The noise level is tested at one meter in front of and 1.5 meter above the machine.

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

4) Please inform the special requirements to us before giving an order.

5) * S * denotes single compressor.

We reserve the right to change specifications without prior notice.

6. Specifications (Double Compressor)

6a. Double Compressor (R22):

Model		SICC-263WD	SICC-330WD	SICC-385WD	SICC-446WD	SICC-512WD	SICC-637WD	SICC-725WD	SICC-839WD	SICC-1093WD	SICC-1260WD	SICC-1446WD	
Refrigeration Capacity	kW	263	330	385	446	512	637	725	839	1093	1260	1446	
	kcal / h	226,200	283,800	331,100	383,600	440,300	547,800	623,500	721,500	940,000	1,083,600	1,243,600	
Power Source	—	3Φ, 230 / 400 / 460 / 575V, 50 / 60Hz											
Power Consumption	kW	62	76	87	102	117	153	160	180	230	272	305	
Operation Current	A	108	132	149	175	192	246	273	305	373	452	504	
Start-up Type	A	218D / 411DD	269D / 508DD	290D / 485DD	350D / 585DD	423D / 686DD	520D / 801DD	612D / 943DD	665D / 1023DD	465Y / 1442D	586Y / 1853D	650Y / 2029D	
Compressor	Manner	Half-closed twin screw											
	Content Control	100-75-50-25-0											
	Start-up Type	Distribution winding										Y-Δ	
	Oil Heater	0.2 x 2						0.3 x 2					
Refrigerant	Type	B320SH											
	Filling Quantity	9 x 2			15 x 2			22 x 2			28 x 2		
Refrigerant	Type	R22											
	Filling Quantity	21 x 2	26 x 2	30 x 2	35 x 2	40 x 2	50 x 2	57 x 2	61 x 2	78 x 2	92 x 2	104 x 2	
Process Flow	Manner	Tube-in-shell high efficient heat exchanger											
	Process Flow	m ³ / h	45	57	66	77	88	110	125	144	188	217	249
	Pressure	kPa	57	57	59	59	62	62	65	65	67	67	69
	Pipe Outlet	inch	4"	4"	4"	5"	5"	5"	6"	6"	6"	8"	8"
Cooling Flow	Manner	Tube-in-shell high efficient heat exchanger											
	Cooling Flow	m ³ / h	59	74	86	100	115	143	162	188	244	282	323
	Pressure	kPa	51	51	54	54	57	57	62	62	65	65	67
	Pipe Outlet	inch	2-1 / 2" x 2	2-1 / 2" x 2	3" x 2	3" x 2	3" x 2	4" x 2	4" x 2	4" x 2	5" x 2	5" x 2	6" x 2
Protective Safety Devices	—	High or low pressure switch, Anti-freezing switch, Fusible plug, Compressor overheat protection, Motor overheat protection, Exhaust air overheat protection, Pump overcurrent protection, Oil overheat protection, Phase reverse protection, High and low pressure protection, cooling water overheat protection, Process water shortage protection, Cooling water shortage protection, Cooling tower overcurrent protection etc.											
Dimensions	L	mm	3060	3060	3175	3180	3180	3820	3760	3760	4100	4100	4250
	W	mm	1150	1150	1250	1250	1250	1400	1400	1400	1600	1750	1750
	H	mm	1525	1525	1805	1830	1830	2080	2040	2080	2260	2290	2360
	A	mm	1300	1300	1300	1600	1600	1600	1600	1600	1600	1600	1600
	B	mm	1040	1040	1140	1140	1140	1290	1290	1290	1480	1630	1630
	C	mm	770	770	955	970	975	1085	1130	1135	1240	1270	1305
	D	mm	216	215	275	270	270	285	265	265	290	290	290
	E	mm	100	100	120	120	120	160	175	175	240	240	250
	F	mm	230	230	275	300	275	330	375	375	450	450	430
	G	mm	410	410	400	245	250	540	545	545	500	500	775
I	mm	70	70	90	95	225	25	265	265	100	100	90	
Net Weight	kg	1760	1780	2340	2420	2500	3580	3750	3380	5050	5340	5600	
Operating Weight	kg	1920	1970	2520	2620	2710	3920	4110	4250	5490	5830	6260	
Noise Level	dB(A)	76			78			80			84		

1) The refrigerant capacity is tested under conditions that process water inlet temp. is at 12 °C, process water outlet temp. is at 7 °C, cooling water inlet temp. is at 30 °C and cooling water outlet temp. is at 35 °C.

2) The noise level is tested on one meter in front of the machine and 1.5 meter above.

3) Stepless compressor output capacity adjusting function is an optional feature.

4) Please inform the special requirements to us before giving and order.

5) * D * denotes double compressor.

We reserve the right to change specifications without prior notice.

6、Specifications (Double Compressor)

6b、Double Compressor (R134a):

Model		SICC-248WDH	SICC-293WDH	SICC-326WDH	SICC-388WDH	SICC-430WDH	SICC-467WDH	SICC-613WDH	SICC-704WDH	SICC-809WDH	SICC-938WDH	SICC-1051WDH		
Refrigeration Capacity	kW	248	293	326	388	430	467	613	704	809	938	1051		
	kcal / h	213,300	252,000	280,400	333,700	369,800	401,600	527,200	605,400	695,700	806,700	903,900		
Power Source	—	3Φ, 230 / 400 / 460 / 575V, 50 / 60Hz												
Power Consumption	kW	59	65	73	86	96	101	132	150	172	197	228		
Operation Current	A	105	117	131	151	162	168	232	262	290	323	389		
Start-up Type	A	206D / 355DD	267D / 449DD	290D / 485DD	350D / 585DD	423D / 686DD	439D / 675DD	612D / 943DD	665D / 1023DD	436Y / 1364D	465Y / 1422D	586Y / 1853D		
Compressor	Manner	Half-closed twin screw												
	Content Control	100-75-50-25-0												
	Start-up Type	Distribution winding										Y-Δ		
	Oil Heater	0.2 x 2						0.3 x 2						
Refrigerant Oil	Type	BSE170												
	Filling Quantity	15 x 2					22 x 2		29 x 2		35 x 2			
	Type	R134a												
Refrigerant	Filling Quantity	20 x 2	23 x 2	26 x 2	31 x 2	34 x 2	37 x 2	49 x 2	59 x 2	64 x 2	75 x 2	84 x 2		
	Process Flow	Manner	Tube-in-shell high efficient heat exchanger											
		Process Flow	m ³ / h	43	50	56	67	74	80	106	121	139	162	181
		Pressure	kPa	54	54	57	57	59	59	62	65	65	67	67
Pipe Outlet	inch	4"	4"	4"	4"	5"	5"	6"	6"	6"	6"	8"		
Cooling Flow	Manner	Tube-in-shell high efficient heat exchanger												
	Cooling Flow	m ³ / h	56	66	3	87	96	105	137	158	181	210	235	
	Pressure	kPa	49	49	51	51	54	54	57	59	59	62	62	
	Pipe Outlet	inch	2-1 / 2" x 2	2-1 / 2" x 2	2-1 / 2" x 2	3" x 2	3" x 2	3" x 2	4" x 2	4" x 2	5" x 2	5" x 2	5" x 2	
Protective Safety Devices	—	High or low pressure switch, Anti-freezing switch, Fusible plug, Compressor overheat protection, Motor overheat protection, Exhaust air overheat protection, Pump overcurrent protection, Oil overheat protection, Phase reverse protection, High and low pressure protection, cooling water overheat protection, Process water shortage protection, Cooling water shortage protection, Cooling tower overcurrent protection etc.												
Dimensions	L	mm	3175	3175	3175	3180	3200	3200	3830	3830	4330	4330	4400	
	W	mm	1250	1250	1250	1250	1250	1250	1400	1400	1600	1600	1750	
	H	mm	1805	1805	1805	1830	1850	1850	2125	2130	2300	2330	2365	
	A	mm	1300	1300	1300	1600	1600	1600	1600	1600	1600	1600	1600	
	B	mm	1140	1140	1140	1140	1140	1140	1290	1290	1480	1480	1630	
	C	mm	955	955	955	975	975	975	1130	1135	1240	1240	1270	
	D	mm	275	275	275	270	270	270	285	285	300	300	290	
	E	mm	120	120	120	120	120	120	160	175	175	175	240	
	F	mm	275	275	275	275	275	275	325	325	406	406	450	
	G	mm	400	400	400	250	250	250	540	540	750	750	750	
I	mm	90	90	90	225	225	225	25	25	50	50	130		
Net Weight	kg	2340	2420	2500	2580	2660	3750	4020	4170	5050	5340	5600		
Operating Weight	kg	2520	2620	2710	2800	2890	4110	4400	4560	5490	5830	6260		
Noise Level	dB(A)	76	76	76	78	78	80	82	82	84	84	84		

1) The refrigerant capacity is tested under conditions that process water inlet temp. is at 12 °C, process water outlet temp. is at 7 °C, cooling water inlet temp. is at 30 °C and cooling water outlet temp. is at 35 °C.

2) The noise level is tested on one meter in front of the machine and 1.5 meter above.

3) Stepless compressor output capacity adjusting function is an optional feature.

4) Please inform the special requirements to us before giving and order.

5) " D " denotes double compressor.

We reserve the right to change specifications without prior notice.

7、Foundation and Installation

7a、Selection of Installation Environment:

- 1) Please select a firm and solid ground which can fully support machine when running. The ground selection has also to avoid any happens of vibration and loudly environment. The machine should be installed on a place without any exposures from wind, rain, sunlight, or any heat source occurrence.
- 2) Ambient temperature is from 0°C to 40°C. Relative Humidity (RH) is within 75%. The installation environment should be well ventilated and less dust.
- 3) When install, please preserve a maintenance space, as shown blow. For the cleaning of the condenser, please reserve space of 0.8L on the left or right side of the machine.

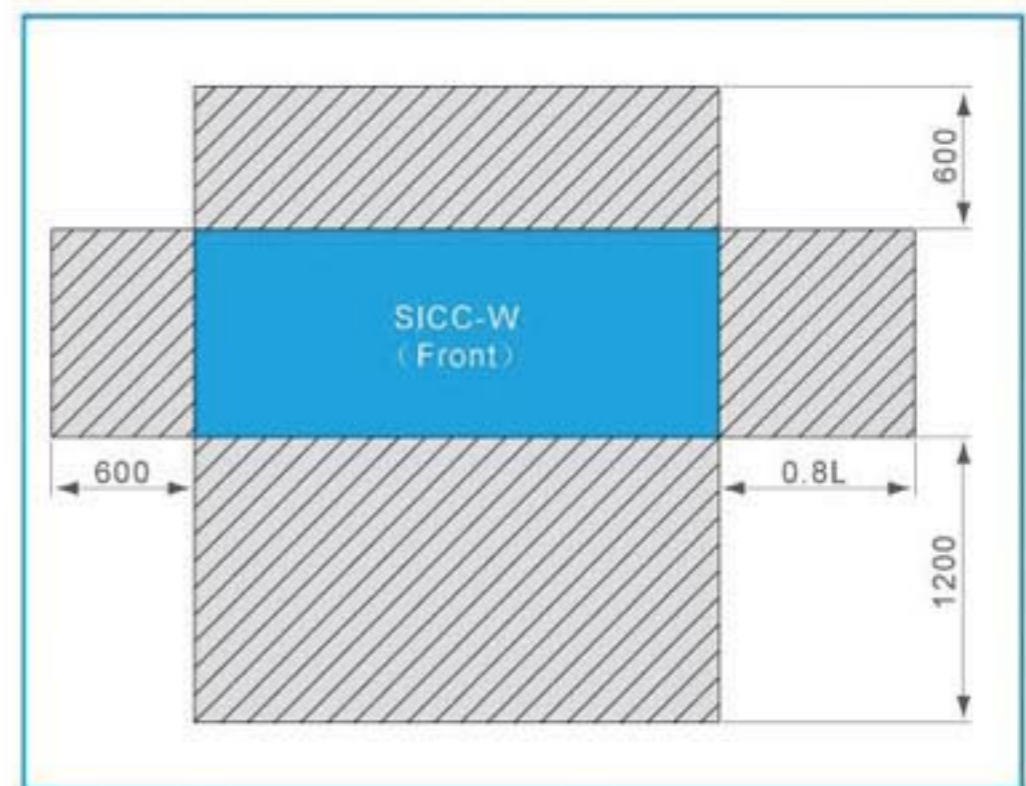


Figure 7a Unit: mm

7b、Foundation Base

- 1) The foundation of the concrete base, according to the operation weight of the machines, will put on steel bars, diameter above 9.5 mm, and are clustered together on the upper and lower layer of the base, interspaced about 100 mm.
- 2) When making concrete floor to be foundation, it is necessary to rough the surface. Clean the floor before the installation.
- 3) The concrete base has to be rigid; the mixing proportion of concrete is 1: 2: 4. Put required anchor bolts into base, according to the request. Polishing and flat the surface of the base when finished.
- 4) Put the machine on the base when it is fully dried out and rigid.
- 5) It has to be a well drainage works around the base to prevent water remaining.

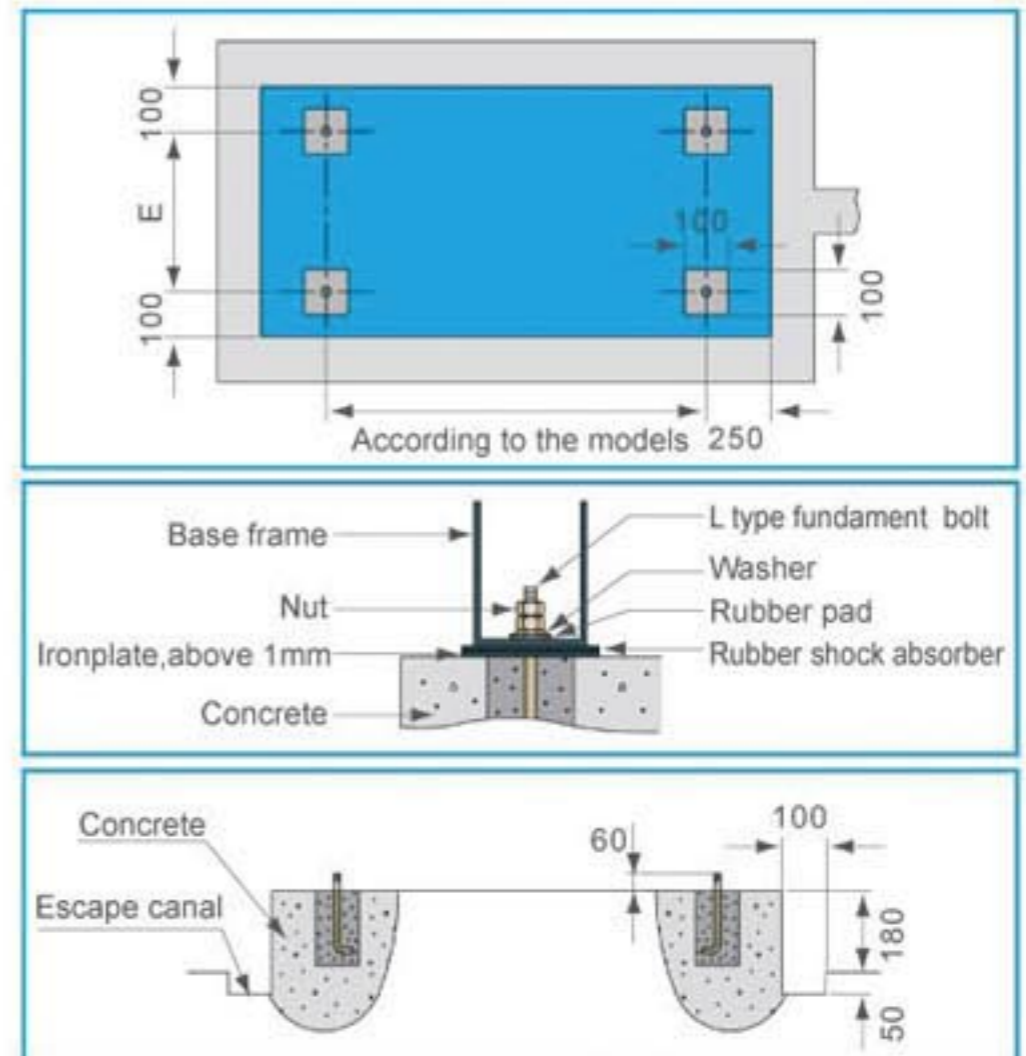


Figure 7b Unit: mm

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