R32 DC Inverter Pool Heat Pump

1. Working source temperature range: -15℃ to 45℃
2. Control Object: inlet temperature
(Setting range: Heating: 18℃～35℃; Cooling: 32℃～15℃)
3. Control Way: wire controller
4. Water Pump: start/stop according to water inlet temp



CGY015V3、CGY020V3、CGY025V3

CGY030V3、CGY035V3

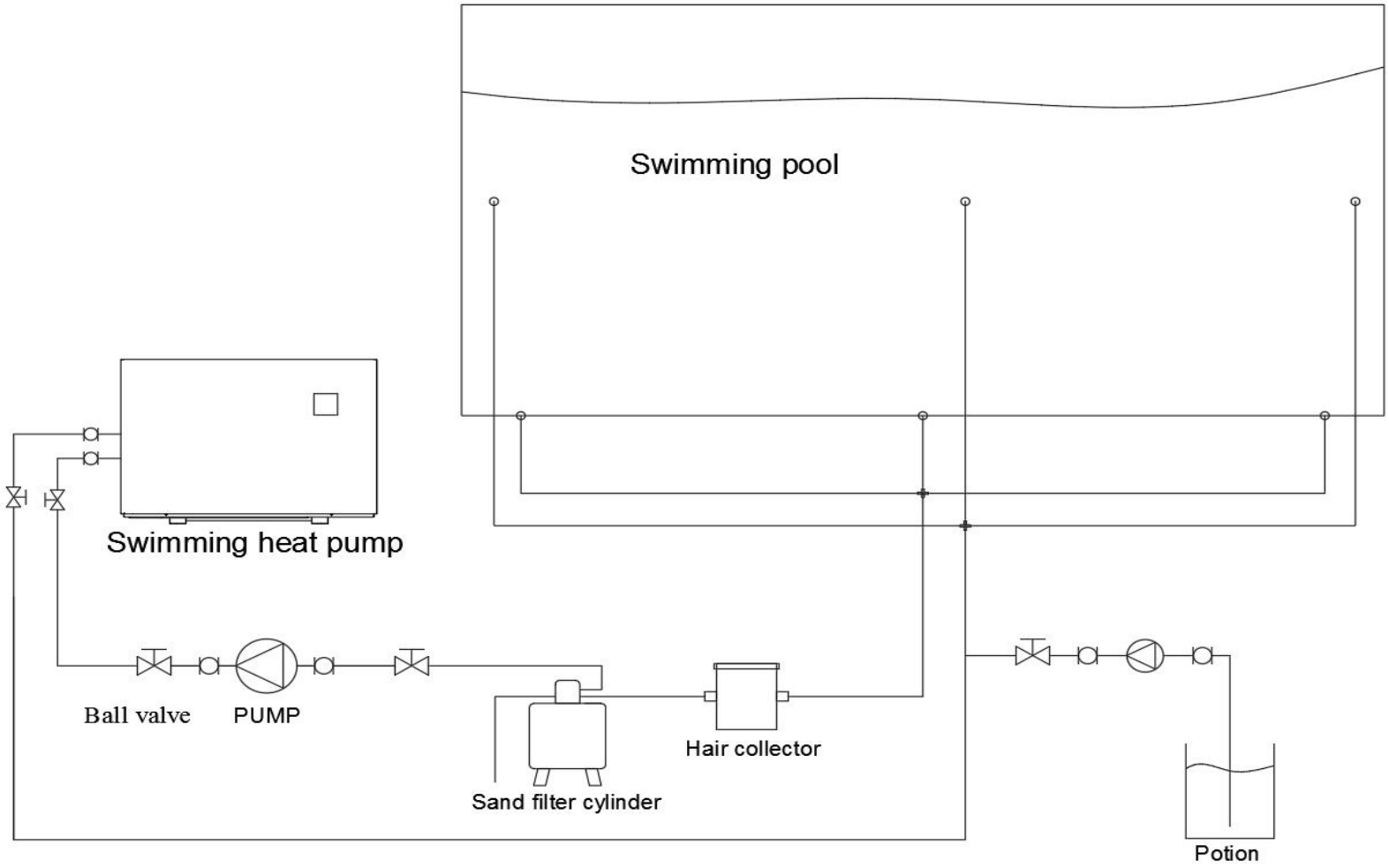
CGY040V3、CGY050V3 CGY060V3

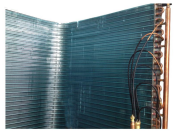
CGY-080V3

CGY-100V3


Guangzhou Sprsun New Energy Technology Development Co., Ltd.

Installation Diagram



Standard Materials								
Name	**Description**	**Picture**	**Name**	**Description**	**Picture**	**Name**	**Description**	**Picture**
Condenser (Titanium)	Tube in shell heat exchanger		Evaporator	Hydropilic Aluminium foil and internal thread copper pipe heat exchanger		High pressure switch	3.6/4.4MPa	
Compressor	Panasonic Rotary Compressor		Expansion valve	Danfoss Electronic expansion valve		Low pressure switch	0.15/0.56MPa	
4-way valve	SANHUA		DC Fan	Nidec DC Fan		Package	corrugated board case	
Controller	SPRSUN multiple function controller							

Functions

1. Cooling mode
l When the inlet water temperature ≥ cooling set temperature + hysteresis temperature (parameter P1), start cooling;
l When the inlet water temperature ≤ refrigeration set temperature, the water temperature is controlled by constant temperature;
l When the inlet water temperature ≤ refrigeration set temperature -1℃, the machine will stop;

2. Heating mode
l When the inlet water temperature ≤ heating set temperature - return difference temperature (parameter P1), start heating;
l When the inlet water temperature ≥ heating set temperature, the water temperature is controlled by constant temperature;
When the inlet water temperature ≥ heating set temperature + 1℃, the machine will stop

l Heating enters defrost condition:
When heating, the cumulative running time of the press is ≥45MIN (parameter P5), and the continuous running time of the press is ≥5MIN;
External coil temperature <-3℃ (parameter P6);
① (Ambient temperature - external coil temperature) ≥ 5℃ (parameter P9), and -7℃ ≤ ambient temperature ≤ defrost ambient temperature (parameter P10)
and lasts for 30 seconds;
② (Ambient temperature - external coil temperature) ≥9℃ (parameter P9+4℃), and the ambient temperature is <-7℃ and lasts for 30 seconds;
When the above conditions are met at the same time, it will enter defrost; (Note: ① and ② only need to meet any one of the conditions)
When the external coil temperature fails, if the ambient temperature is ≤20℃, the defrost will be changed to scheduled defrost, and the defrost time is 8MIN (parameter P7);
l Conditions for exiting defrost:
After 2 minutes of defrosting, when the external coil temperature ≥15℃ (parameter P8) or the defrost time reaches 8MIN (parameter P7), the system will exit.
defrost;
l Defrost action:
When the conditions for entering defrost are met, the following actions are performed:
1) When the defrosting conditions are met, the compressor starts to reduce the frequency to the four-way valve switching frequency of 25Hz;
2) Open the four-way valve and stop the fan after the frequency drops to 25Hz;
3) After 5S, the compressor frequency will be increased to defrost frequency 78Hz;
4) The water pump keeps running;
When the conditions for exiting defrost are met, the following actions are performed:
1) The compressor starts to reduce the frequency to the four-way valve switching frequency of 25Hz;
2) Turn on the fan after 5 seconds;
Close the four-way valve in 10 seconds, and the press frequency returns to normal heating frequency.

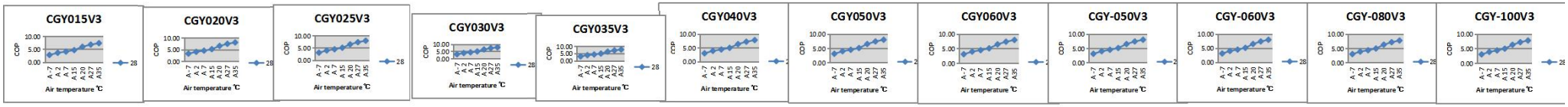
Unit Name			SPRSUN DC Inverter Pool Heat Pump										
Model			CGY015V3	CGY020V3	CGY025V3	CGY030V3	CGY035V3	CGY040V3	CGY050V3	CGY060V3	CGY-050V3	CGY-060V3	CGY-080V3	CGY-100V3
Advised Pool Volume		m3	15-20	20-30	25-40	30-60	40-80	50-100	50-100	60-120	50-100	60-120	80-140	100-160
Power Supply		V/Hz/P	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	220-240/50/1	380-420/50/3	380-420/50/3	380-420/50/3	380-420/50/3
Refrigerant			R32	R32	R32	R32	R32	R32	R32	R32	R32	R32	R32	R32
Max. Heating Capacity (1)		kW	6.5	9	10.5	14	17	24	28	32	28	32	41	55
C.O.P (1)		W/W	6.9	7.52	7.45	7.41	7.28	7.32	7.46	7.42	7.46	7.42	7.21	7.26
Heating Capacity Min./Max.(1)		kW	2.02 / 6.5	2.79 / 9	3.26 / 10.5	4.34 / 14	5.27 / 17	7.44 / 24	8.68 / 28	9.92 / 32	8.68 / 28	9.92 / 32	12.71 / 41	17.05 / 55
Heating Power Input Min./Max.(1)		W	146 / 942	186 / 1197	218 / 1409	293 / 1889	362 / 2335	508 / 3279	582 / 3753	668 / 4313	582 / 3753	668 / 4313	881 / 5687	1174 / 7576
C.O.P Min./Max.(1)		W/W	6.9 / 13.80	7.52 / 15.04	7.45 / 14.90	7.41 / 14.82	7.28 / 14.56	7.32 / 14.64	7.46 / 14.92	7.42 / 14.84	7.46 / 14.92	7.42 / 14.84	7.21 / 14.42	7.26 / 14.52
Max. Heating Capacity(2)		kW	4.7	6.5	7.6	10.1	12.2	17.3	20.2	23.0	20.2	23.0	29.5	39.6
C.O.P (2)		W/W	4.80	5.23	5.18	5.15	5.06	5.09	5.18	5.16	5.18	5.16	5.01	5.05
Heating Capacity Min./Max.(2)		kW	1.50 / 4.68	2.07 / 6.48	2.42 / 7.56	3.23 / 10.08	3.92 / 12.24	5.53 / 17.28	6.45 / 20.16	7.37 / 23.04	6.45 / 20.16	7.37 / 23.04	9.45 / 29.52	12.67 / 39.60
Heating power input Min./Max.(2)		W	197 / 976	251 / 1240	295 / 1460	396 / 1957	489 / 2419	687 / 3397	786 / 3888	903 / 4468	786 / 3888	903 / 4468	1191 / 5891	1587 / 7848
C.O.P Min./Max.(2)		W/W	4.80 / 7.59	5.23 / 8.27	5.18 / 8.20	5.15 / 8.15	5.06 / 8.01	5.09 / 8.05	5.18 / 8.21	5.16 / 8.16	5.18 / 8.21	5.16 / 8.16	5.01 / 7.93	5.05 / 7.99
Max. Cooling Capacity(3)		kW	3.6	5.0	5.8	7.7	9.4	13.2	15.4	17.6	15.4	17.6	22.6	30.3
E.E.R (3)		W/W	3.12	3.40	3.37	3.35	3.29	3.31	3.37	3.35	3.37	3.35	3.26	3.28
Cooling Capacity Min./Max.(3)		kW	1.64 / 3.58	2.28 / 4.95	2.66 / 5.78	3.54 / 7.70	4.30 / 9.35	6.07 / 13.20	7.08 / 15.40	8.10 / 17.60	7.08 / 15.40	8.10 / 17.60	10.37 / 22.55	13.92 / 30.25
Cooling Power Input Min./Max.(3)		W	352 / 1147	447 / 1457	526 / 1716	705 / 2300	872 / 2843	1224 / 3992	1401 / 4570	1610 / 5251	1401 / 4570	1610 / 5251	2123 / 6923	2829 / 9223
E.E.R Min./Max.(3)		W/W	3.12 / 4.68	3.40 / 5.10	3.37 / 5.05	3.35 / 5.02	3.29 / 4.93	3.31 / 4.96	3.37 / 5.06	3.35 / 5.03	3.37 / 5.06	3.35 / 5.03	3.26 / 4.89	3.28 / 4.92
Rated Current		A	4.5	5.7	6.7	9.0	11.2	15.7	18.0	20.6	7.9	9.1	12.0	16.0
Max Current		A	6.5	8.3	9.8	13.1	16.2	22.75	26.04	29.92	11.48	13.20	17.40	23.18
Max Power Input		kW	1.34	1.70	2.00	2.68	3.32	4.66	5.33	6.12	5.33	6.12	8.07	10.76
Compressor	Type - Quantity/System		Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1
Fan	Quantity		1	1	1	1	1	1	1	1	1	1	1	1
	Airflow	m3/h	1500	2000	2400	3000	3000	5000	5000	5500	5000	5500	8000	10000
	Rated power	W	33	36	40	80	80	200	200	210	200	210	250	600
Water Side Heat Exchanger	Type		Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC	Titanium Tube in PVC
	Water Pressure Drop	kPa	8	9	9.5	10	11	20	20	21	20	21	25	35
	Piping Connection	mm	φ50	φ50	φ50	φ50	φ50	φ50	φ50	φ50	φ50	φ50	φ50	φ65
水流量	最小/额定/最大	L/S	0.39 0.62 0.78	0.54 0.86 1.07	0.63 1.00 1.25	0.84 1.34 1.67	1.02 1.62 2.03	1.43 2.29 2.87	1.67 2.68 3.34	1.91 3.06 3.82	1.67 2.68 3.34	1.91 3.06 3.82	2.45 3.92 4.90	3.28 5.25 6.57
Noise Level		dB(A)	41	43	45	49	52	55	60	61	60	61	63	66
Net Dimension(L×D×H)		mm	930*380*670	930*380*670	930*380*670	1090*510*820	1090*510*820	1090*510*1000	1090*510*1000	1090*510*1000	1090*510*1000	1090*510*1000	1090*550*1100	950*900*1950
Packing Dimension(L×D×H)		mm	960*410*770	960*410*770	960*410*770	1120*540*930	1120*540*930	1120*540*1120	1120*540*1120	1120*540*1120	1120*540*1120	1120*540*1120	1120*540*1230	1020*960*2125
Net Weight		kg	48	57	64	88	92	105	124	130	124	130	150	260
Gross Weight		kg	50	60	67	93	97	110	163	140	163	140	176	295
Note: (1) Performance Condition: Air 27℃/Water 26℃/Humidity 80%														
(2) Performance Condition: Air 15℃/Water 26℃/Humidity 70%														
(3) Performance condition: Air 35℃/Water 28℃/Humidity 64%														

●The information in this document is just for reference. Since the continuous improvement and control in the production process, the information contained in this document may be subject to change. Please refer to the nameplate on the machine for model specifications.

Heating capacity at different condition

Model	CGY015V3 220V	CGY020V3 220V	CGY025V3 220V	CGY030V3 220V	CGY035V3 220V	CGY040V3 220V	CGY050V3 220V	CGY060V3 220V	CGY-050V3 380V	CGY-060V3 380V	CGY-080V3 380V	CGY-100V3 380V
Air temp ℃	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)	Heating capacity (KW)
A -7	2.90	4.01	4.42	5.90	7.16	7.16	10.11	13.48	11.80	13.48	17.28	23.17
A 2	3.67	5.08	5.46	7.28	8.84	8.84	12.48	16.65	14.57	16.65	21.33	28.61
A 7	4.12	5.70	6.43	8.57	10.40	10.40	14.69	19.58	17.14	19.58	25.09	33.66
A 15	4.68	6.48	7.56	10.08	12.24	12.24	17.28	23.04	20.16	23.04	29.52	39.60
A 20	5.85	8.10	9.14	12.18	14.79	20.88	24.36	27.84	24.36	27.84	35.67	47.85
A27	6.50	9.00	10.50	14.00	17.00	24.00	28.00	32.00	28.00	32.00	41.00	55.00
A35	7.15	9.90	11.55	15.40	18.70	26.40	30.80	35.20	30.80	35.20	45.10	60.50
Water temp out ℃	28	28	28	28	28	28	28	28	28	28	28	28

COP		COP		COP		COP		COP		COP		COP		COP		COP		COP		COP	
Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)	Air temp ℃	Outlet water temperature (W28℃)
A -7	2.93	A -7	3.32	A -7	3.16	A -7	3.15	A -7	3.09	A -7	3.09	A -7	3.17	A -7	3.15	A -7	3.17	A -7	3.15	A -7	3.06	A -7	3.08
A 2	3.76	A 2	4.09	A 2	4.06	A 2	4.03	A 2	3.96	A 2	3.96	A 2	4.06	A 2	4.04	A 2	4.06	A 2	4.04	A 2	3.92	A 2	3.95
A 7	4.22	A 7	4.60	A 7	4.56	A 7	4.53	A 7	4.45	A 7	4.45	A 7	4.56	A 7	4.54	A 7	4.56	A 7	4.54	A 7	4.41	A 7	4.44
A 15	4.80	A 15	5.23	A 15	5.18	A 15	5.15	A 15	5.06	A 15	5.06	A 15	5.18	A 15	5.16	A 15	5.18	A 15	5.16	A 15	5.01	A 15	5.05
A 20	6.07	A 20	6.62	A 20	6.56	A 20	6.52	A 20	6.41	A 20	6.41	A 20	6.56	A 20	6.53	A 20	6.56	A 20	6.53	A 20	6.34	A 20	6.39
A27	6.90	A27	7.52	A27	7.45	A27	7.41	A27	7.28	A27	7.28	A27	7.46	A27	7.42	A27	7.46	A27	7.42	A27	7.21	A27	7.26
A35	7.45	A35	8.12	A35	8.05	A35	8.00	A35	7.86	A35	7.86	A35	8.06	A35	8.01	A35	8.06	A35	8.01	A35	7.79	A35	7.84



●The information in this document is just for reference. Since the continuous improvement and control in the production process, the information contained in this document may be subject to change. Please refer to the nameplate on the machine for model specifications.