Product Service

Technical Report No.: 64.181.23.00419.01 Rev.00

Date: 2023-04-04

Client:	Report holder's name:	Guangzhou Sprsun New Energy Technology Development Co., Ltd
	Report holder's Address:	No.15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng District,Guangzhou,511338, China
	Contact person of report holder:	YE XIN
	Manufacturer's name:	Guangzhou Sprsun New Energy Technology Development Co., Ltd
	Manufacturer's address:	No.15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng District,Guangzhou,511338, China
Factory:	Factory's name:	Guangzhou Sprsun New Energy Technology Development Co., Ltd
	Factory's address:	No.15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng District,Guangzhou,511338, China
Test object:	Product:	EVI DC Inverter Air Source Heat Pumps
	Model:	CGK015V3L-B
	Trade name:	SPRSUN

Test specification:	☑	EN 14825:2022
	☑	EN 12102-1:2022
	☑	EN 14511-3:2022
	☑	EN 14511-4:2022 Clause 4
Purpose of examination:	Test according to the test specification	
	☑	(EU) No 813/2013
	☑	EU 2016/2282:2016-11-30

Test result: The test results show that the presented product is in compliance with the above listed test specifications.

www.tuvsud.com

TÜV®

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

1 Description of the test object

1.1 Function

Manufacturer's specification for intended use:
The appliance is air to water heat pump.
Manufacturer's specification for predictive use:
According to user manual.

1.2 Consideration of the foreseeable use

☐ Not applicable
☑ Covered through the applied standard
☐ Covered by the following comment
☐ Covered by attached risk analysis

1.3 Technical Data

Model :	CGK015V3L-B
Rated Voltage (V) :	220-240V~
Rated Frequency (Hz) :	50
Rated Power (W) :	2000
Rated Current (A) :	9.35
Protection Class :	Class I
Protection Against Moisture :	IP X4
Construction :	Stationary
Supply connection :	☐ Non detachable cord ☑ Permanent connection to fixed wiring
Operation mode:	☑ Continuous operation; ☐ Intermittent operation; ☐ Short time operation;
Refrigerant/charge (kg) :	R32 / 1.00kg
Declared parameters :	☑ Average ☐ Warmer ☐ Colder
Sound power level dB(A) :	N/A
Series No :	KAL01221040010020A

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

2 Order

2.1 Date of Purchase Order, Customer's Reference

2023-01-09,

Guangzhou Sprsun New Energy Technology Development Co., Ltd

2.2 Test Sample(s)

- Reception date(s): 2023-02-20
- Location(s) of reception:

For Energy test:

Guangzhou Customs District Technology Center

Address: No.3, Desheng East Road, Shunde, Daliang, Foshan, Guangdong, China

For Noise tests:

CVC Testing Technology Co., Ltd.

Address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, Guangdong, 510663, P.R.China

- Condition of test sample(s): completed and can be normal operation

2.3 Date(s) of Testing

2023-02-20 to 2023-03-08

2.4 Location(s) of Testing

Same as 2.2

2.5 Points of Non-compliance or Exceptions of the Test Procedure

N/A

3 Test Results

3.1 Positive Test Results

See Appendix I

4 Remark

N/A

4.1 The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further par-ticulars as well as of the composition and layout.

4.2 When the product is placed on the market, it must be accompanied with safety Instruc-tions written in official language of the country. The instructions shall give information re-garding safe operation, installation and maintenance.

5 Documentation

- Appendix I Test results
- Appendix II Marking plate
- Appendix III photo documentation
- Appendix IV Construction data form
- Appendix V Test equipment list

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd.
Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

6 Summary

1) The appliance is Air to Water Heat Pump Unit, including a whole compression type refrigerant circuit to heat water in another circuit. The appliance was for cooling and heating water function, this report only for heating capacity test.
2) The main power is supplied by a 3-pole supply cord connecting to fixed wiring.
3) Water enthalpy method was adopted in this report.
4) Standby mode power, off mode power and thermostat-off mode power were tested according to clause 12 of standard EN 14825:2022.

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch
TÜV SÜD Group

Tested by: William Liang, Project Handler

printed name, function & signature

Approved by: Plum Li, Designated Reviewer

printed name, function & signature

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Appendix I Test results

Table 1.	Heating mode(Low temperature application):							P
Model	CGK015V3L-B							
Product type	Air to Water	**Heating season**	☑	Average	☐	Warmer	☐	Colder

1. Test conditions:

Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger
	Formula	A	W		Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)
A	(-7-16)/(Tdesignh-16)	88	N/A	N/A	-7(-8)	a / 34
B	(+2-16)/ (Tdesignh-16)	54	N/A	N/A	2(1)	a / 30
C	(+7-16)/(Tdesignh-16)	35	N/A	N/A	7(6)	a / 27
D	(+12-16)/(Tdesignh-16)	15	N/A	N/A	12(11)	a / 24
E	(TOL-16)/ (Tdesignh-16)				TOL	a / 35.3
F	(Tbivalent-16)/(Tdesignh-16)				Tbiv	a / 34
G	(-15-16)/(Tdesignh-16)	N/A	N/A	N/A	-15	N/A

Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions, the capacity is 5.165kW, the power is 1.095kW, the COP is 4.72kW/kW.

2.Tested data/correction data(Average):

General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)	A7/W27 (35%)	A12/W24 (15%)	A(-10)/W35.3 (100%)	A(-7)/W34 (88%)
	--	A	B	C	D	E	F
Data collection period	hh: min:sec	3:00:00	1:10:00	1:10:00	1:10:00	3:00:00	3:00:00
The heat pump defrosts	--	Yes	No	No	No	Yes	Yes
Complete Cycles	--	1	0	0	0	1	1
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	229.0	230.6	229.9	229.1	231.0	229.0
Current input of the unit	A	5.23	2.19	2.01	1.75	5.45	5.23
Power input of the unit	kW	1.060	0.474	0.423	0.367	1.253	1.060
Test conditions **indoor** unit							
Inlet Water temperature, DB	°C	29.87	27.75	25.67	23.33	31.40	29.87
Outlet Water temperature, DB	°C	33.41*	29.95	28.20	26.28	34.80*	33.41*

www.tuvsud.com

TÜV®

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Appendix I Test results

Test conditions **outdoor** unit							
Air **inlet** temperature, DB	°C	-6.99	2.02	7.03	12.02	-9.99	-6.99
Air **inlet** temperature, WB	°C	-8.19	1.00	6.00	11.01	-11.13	-8.19
Summary of the results							
Total heating capacity	kW	3.582	2.234	2.571	2.992	3.429	3.582
Effective power input	kW	1.083	0.497	0.446	0.391	1.276	1.083
Coefficient of performance (COP)	--	3.31	4.50	5.77	7.66	2.69	3.31
Compressor frequency	Hz	67	30	30	30	70	67
Water flow	m³/h	0.87	0.87	0.87	0.87	0.87	0.87
Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.							

3.Calculation/conclusion for SCOP(Average):			
Tdesignh(°C)	-10	Tbiv(°C)	-7
Pdesignh(kW)	4.049	TOL(°C)	-10

Test result A, B, C, D, E, F conditions:

Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load
E	4.049	3.429	2.69	0.90	1.00	2.69
F	3.582	3.582	3.31	0.90	1.00	3.31
A	3.582	3.582	3.31	0.90	1.00	3.31
B	2.180	2.234	4.50	0.90	0.98	4.50
C	1.402	2.571	5.77	0.90	0.55	5.32
D	0.623	2.992	7.66	0.90	0.21	5.55
CR: part load divided by capacity;						

www.tuvsud.com

TÜV®

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.030
Standby mode [P_{SB}]	kW	0.008
Crankcase heater [P_{CK}]	kW	0.034
Off mode [P_{OFF}]	kW	0.008

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.49
SCOP:	kWh/kWh	4.46
Q_H:	kWh/year	8366
Q_{HE}:	kWh/year	1874
$\eta_{s,h}$	%	175.5
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A+++

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Appendix I Test results

Table 2.	Heating mode(Medium temperature application):						P
Model	CGK015V3L-B						
Product type	Air to Water	**Heating season**	☑	Average	☐	Warmer ☐	Colder

1. Test conditions:

Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger
	Formula	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)
A	(-7-16)/(Tdesignh-16)	88	N/A	N/A	-7(-8)	a / 52
B	(+2-16)/ (Tdesignh-16)	54	N/A	N/A	2(1)	a / 42
C	(+7-16)/(Tdesignh-16)	35	N/A	N/A	7(6)	a / 36
D	(+12-16)/(Tdesignh-16)	15	N/A	N/A	12(11)	a / 30
E	(TOL-16)/ (Tdesignh-16)				TOL	a / 55.3
F	(Tbivalent-16)/(Tdesignh-16)				Tbiv	a / 52
G	(-15-16)/(Tdesignh-16)	N/A	N/A	N/A	-15	N/A

Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 47/55 conditions, the capacity is 5.059kW, the power is 1.641kW, the COP is 3.08kW/kW.

2.Tested data/correction data(Average):

General test conditions/ Part-Load	Unit	A(-7)/W52 (88%)	A2/W42 (54%)	A7/W36 (35%)	A12/W30 (15%)	A(-10)/W55.3 (100%)	A(-7)/W52 (88%)
	--	A	B	C	D	E	F
Data collection period	hh: min:sec	3:00:00	1:10:00	1:10:00	1:10:00	3:00:00	3:00:00
The heat pump defrosts	--	Yes	No	No	No	Yes	Yes
Complete Cycles	--	1	0	0	0	1	1
Barometric pressure	kPa	99.85	99.85	99.85	99.80	99.80	99.85
Voltage	V	229.5	230.5	229.9	230.4	230.5	229.5
Current input of the unit	A	6.88	2.83	2.43	2.10	7.79	6.88
Power input of the unit	kW	1.564	0.618	0.537	0.462	1.837	1.564
Test conditions **indoor** unit							
Inlet Water temperature, DB	°C	46.55	38.74	34.03	28.92	48.76	46.55
Outlet Water temperature, DB	°C	51.70*	41.95	37.75	33.43	54.60*	51.70*

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Appendix I Test results

Test conditions **outdoor** unit							
Air **inlet** temperature, DB	°C	-6.85	2.02	7.01	12.12	-9.88	-6.85
Air **inlet** temperature, WB	°C	-8.03	1.00	6.00	11.00	-11.02	-8.03
Summary of the results							
Total heating capacity	kW	3.305	2.032	2.386	2.865	3.686	3.305
Effective power input	kW	1.569	0.623	0.542	0.467	1.842	1.569
Coefficient of performance (COP)	--	2.11	3.26	4.40	6.14	2.00	2.11
Compressor frequency	Hz	61	30	30	30	70	61
Water flow	m³/h	0.55	0.55	0.55	0.55	0.55	0.55
Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.							

3.Calculation/conclusion for SCOP(Average):			
Tdesignh(°C)	-10	Tbiv(°C)	-7
Pdesignh(kW)	3.736	TOL(°C)	-10

Test result A, B, C, D, E, F conditions:

Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load
E	3.736	3.686	2.00	0.90	1.00	2.00
F	3.305	3.305	2.11	0.90	1.00	2.11
A	3.305	3.305	2.11	0.90	1.00	2.11
B	2.011	2.032	3.26	0.90	0.99	3.26
C	1.293	2.386	4.40	0.90	0.54	4.06
D	0.575	2.865	6.14	0.90	0.20	4.39
CR: part load divided by capacity;						

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.030
Standby mode [P_{SB}]	kW	0.008
Crankcase heater [P_{CK}]	kW	0.034
Off mode [P_{OFF}]	kW	0.008

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.27
SCOP:	kWh/kWh	3.25
Q_H:	kWh/year	7718
Q_{HE}:	kWh/year	2374
$\eta_{s,h}$	%	127.0
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A++

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Appendix I Test results

Table 3.	**Clause 4 of EN 14511-4:2022**				**P**
Customer Code	Execution Date [dd-mm-yyyy]	Testing item	Standard Reference	Comment	Test Response
TEST 1	07-03-2023	STARTING TEST	EN14511-4:2022, §4.2.1.2 Table 3	The "lower" starting operating conditions declared by the manufacturer for the heating mode- i.e. Tair=-23.96°C, T out water 14.55°C, Flow rate 0.50m^3/h have been set and obtained. At those conditions, the machine was switched on. It started without any problem and worked for 30 minutes without showing any warning or allarm. During the test the machine operated in automode. No damage was recorded on the machine during and after the test.	Passed
TEST 2	07-03-2023	OPERATING TEST	EN14511-4:2022, § 4.2.1.2Table 3	From the machine "lower" starting conditions - i.e. - the machine was brought to the lower operating conditions declared by the manufacturer for the heating mode- i.e. Tair=-25.31°C, T out water 56.99°C, Flow rate 0.52m^3/h. Once these conditions were obtained, the machine was let operate for over 1 hour in automode. During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.	Passed
TEST 3	07-03-2023	SHUTTING OFF WATER FLOW	EN14511-4:2022, § 4.5	The water flow rate was shutted off through manual and automatic valves of the test rig. The machine switched off and only the flow switch Protection appeared on the user interface of indoor unit. Perform error reset operation , once the water flow rate was restored, the machine restarted automatically and worked for 30 minutes normally. No damage was recorded on the machine during and after the test.	Passed
TEST 4	07-03-2023	SHUTTING OFF AIR FLOW	EN14511-4:2022, § 4.5	The air flow rate was shutted off through a plastic sheet and a panel. The machine never turned off. It continued to operate with continuous frosting and defrosting cycles. After more than half an hour, the air flow rate was restored and the machine started to operate normally. During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.	Passed
TEST 5	07-03-2023	COMPLETE POWER SUPPLY FAILURE	EN14511-4:2022, § 4.6	The power supply was cut off for about 10 seconds.The unit restarted automatically within about 3 minutes after the power supply was reactivated.	Passed

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix I Test results

Table 4a.	Sound power level measurement(Low temperature application)		P
Model	CGK015V3L-B		
	Product type :		Air to Water
	Outdoor heat exchanger, Air temperature DB/WB (°C):		7.0 /6.0
	Indoor heat exchanger, Water inlet/outlet temperature (°C):		30.0 /35.0
	Voltage (V):		230
	Frequency (Hz):		50
	Working condition class :		Class A
	Acoustical environment :		Hemi-anechoic room
	Windshield type :		Sponge
	Measured position amount :		20
	Water flow (m^3/h):		0.87

Measured quantity	$L_{WA,indoors}$ (dB(A))	$L_{WA,outdoors}$ (dB(A))	Remark
Sound pressure level $\overline{L}_{p(ST)}$****	--	46	--
Spheres radius d *	--	1.0m	--
Sound power level L_{wA}****	--	60	--

Setting of controls: according to user manual.
Duct connection:--
Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer
Fan speed: 710 r/min, compressor speed: 58Hz.

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix I Test results

Table 4b.	Sound power level measurement(Medium temperature application)		P
Model	CGK015V3L-B		
	Product type :		Air to Water
	Outdoor heat exchanger, Air temperature DB/WB (°C):		7.0 /6.0
	Indoor heat exchanger, Water inlet/outlet temperature (°C):		47.0 /55.0
	Voltage (V):		230
	Frequency (Hz):		50
	Working condition class :		Class A
	Acoustical environment :		Hemi-anechoic room
	Windshield type :		Sponge
	Measured position amount :		20
	Water flow (m^3/h):		0.55

Measured quantity	$L_{WA,indoors}$ (dB(A))	$L_{WA,outdoors}$ (dB(A))	Remark
Sound pressure level $\overline{L}_{p(ST)}$****	--	48	--
Spheres radius d *	--	1.0m	--
Sound power level L_{wA}****	--	62	--

Setting of controls: according to user manual.
Duct connection:--
Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer
Fan speed: 730 r/min, compressor speed: 58Hz.

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix II Marking plate

Nameplate

Model: CGK015V3L-B

SPRSUN CE

EVI DC Inverter Air Source Heat Pumps

Model	CGK015V3L-B
Power Supply	220-240V~/50Hz
*Heating Capacity Min./Max.	2.76/6.0kW
*Heating Input Power Min./Max.	0.5/1.35kW
*Heating COP Min./Max.	4.45/5.56W/W
Cooling Capacity Min./Max.	1.99/4.32kW
Cooling Input Power Min./Max.	0.5/1.72kW
Rated. Input Power/Current	2.0kW/9.35A
Max. Water Outlet Temperature	55℃
Water Flow	1.04m^3/h
Refrigerant/Weight	R32/1000g
Low/High side operation pressure	1.5/4.4MPa
Maximum allowable pressure	4.4MPa
Max Water Pressure	1.0MPa
Shock Proof Grade	I
WaterProof Level	IPX4
Water Pressure Drop	18kPa
Water Pipe Connection	3/4 inch
Net Weight	52kg
Date/NO.	See bar code

System CO2 equivalent charge weight: 0.675 ton

***Heating working condition:**
Dry bulb temperature 7℃, Wet bulb temperature 6℃
Inlet water temperature 30℃,Outlet water temperature 35℃

Guangzhou Sprsun New Energy Technology Development Co., Ltd
No. 15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng Guangzhou,China

www.tuvsud.com

TÜV®

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix III photo documentaiton

Details of:	Overall view
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Compressor
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

www.tuvsud.com

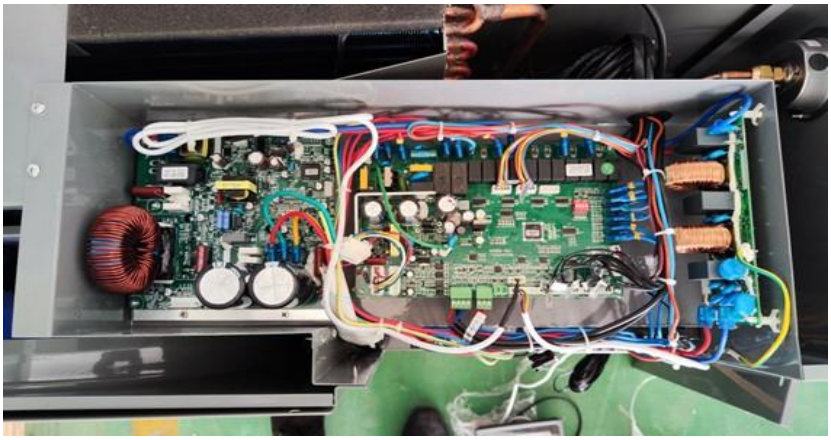
TÜV®

TÜV SÜD Certification and Testing (China) Co., Ltd.
Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix III photo documentaiton

Details of:	Fan Motor
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

Details of:	Main Control Board
View: ☐ General ☐ Front ☐ Rear ☐ Right ☐ Left ☐ Top ☐ Bottom	

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd.
Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Product Service

Appendix IV Construction data form

Part		Technical data
1. Compressor		
	Manufacture:	Panasonic Wanbao Appliances Compressor (Guangzhou) Co., Ltd.
	Type:	9RD138ZBA2J
	Rated capacity:	1400W
	Serial-number:	F0002654
	Specification:	DC280V; R32
2. Condenser		
	Manufacture:	East -Alliance Thermal Equipment
	Type:	EATB43-D-22-2M-2L
	Heat exchanger:	Plate heat exchanger
	Dimension (mm):	436(L)mmX112(H)mmX65(D)mm
3. Evaporator		
	Manufacture:	Guangzhou Aotai Refrigeration EquipmentCo.,Ltd.
	Type:	02KC-CP-01
	Heat exchanger:	Finned-coil heat exchanger
	Dimension (mm):	650(L)mmX610(H)mmX255(D)mm
4. Fan motor		
	Manufacture:	Nidec Shibaura (Zhejiang) Co., Ltd.
	Type:	SIC-52FS-F147-1
	Fan type:	3 blade
	Specification:	DC310V; 47W
5. Main control board		
	Manufacture:	CHICO
	Type:	CG248075
	Specification:	220-240V~; 50Hz

www.tuvsud.com

TÜV®

TÜV SÜD Certification and Testing (China) Co., Ltd.
Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668

Appendix V Equipment List

No.	Type	Manufacture	Model	Equipment ID	Calibration Due Date
1	Heat pump energy efficiency testing system	PINXIN	10HP	2017J00001	2023-11-24
2	Electromagnetic flowmeter	KROHNE	OPTIFLUX4100 C	H17221264	2023-12-21
3	Anechoic rooms (hemi-anechoic rooms)	Guangzhou Kinte	-	NC-036-2	2023-10-07
4	AC source Supply	YANGHONG	YF-3600	VGDS-0637	2023-11-07
5	6 channel data logger	—	PXI-1033	VGDY-0257	2023-05-20
6	PULSE system	B & K	3660C	VGDY-0184	2023-04-12
7	Calibrator	B & K	4231	HJ-000095	2023-06-30
8	Long steel tape	—	5m	HJ-000150	2024-01-01
9	Temperature measurement system	—	—	NC-036-1	2023-06-07
10	Atmospheric pressure meter	—	—	HJ-000165	2023-11-22
11	Constant temperature water system	B & K	—	VGDS-0448	2023-04-18
12	Windscreen	B & K	WS002-5	—	—

-- End of Report --

www.tuvsud.com

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch, TÜV SÜD Group
5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China
Tel: +86 20 38320668