

Technical Report No.: 64.181.22.03448.01 Rev.00

Date: 2022-09-22

Client: Report holder's name: Guangzhou Sprsun New Energy Technology

Development Co., Ltd

Report holder's No.15 Tangxi Road, Yinsha Industrial Park, Xintang, Address:

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

No.15 Tangxi Road, Yinsha Industrial Park, Xintang, Factory's address:

Zengcheng District, Guangzhou, 511338, China

Test object: Product: EVI DC Inverter Air Source Heat Pumps

> Model: CGK025V3L-B; CGK040V3L-B; CGK060V3L-B

Trade name: **SPRSUN**

Test specification: **✓** EN 14825:2018

> (EU) No 813/2013 **V** EN 14511-3:2018 1

EN 14511-4:2018 Clause 4 **✓**

EN 12102-1:2017

Purpose of

Test according to the test specification

examination:

✓ 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.

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

5F&8F East, Communication Building, No.163 Pingyun Road, Huangpu Ave. West, Guangzhou 510656, China

Tel: +86 20 38320668



Description of the test object

1.1 **Function**

1.3

Manufacturer's specification for intended use: These appliances are air to water heat pump. Manufacturer's specification for predictive use: According to user manual

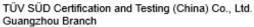
1.2

7 tooording to door mandai.	
Consideration of the foreseea Not applicable Covered through the applied st Covered by the following comm Covered by attached risk analy	andard nent
Technical Data	
Model:	CGK025V3L-B; CGK040V3L-B; CGK060V3L-B
Rated Voltage (V):	220-240V~
Rated Frequency (Hz):	50
Rated Power (W):	3090W for CGK025V3L-B; 5140W for CGK040V3L-B; 7090W for CGK060V3L-B
Rated Current (A):	14.79A for CGK025V3L-B; 24.60A for CGK040V3L-B; 33.94A for CGK060V3L-B
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 (g) :	R32 / 1500g for CGK025V3L-B; 2000g for CGK040V3L-B; 2800g for CGK060V3L-B
Declared parameters :	✓ Average ☐ Warmer ☐ Colder
Sound power level dB(A):	N/A
Series No :	KRZK07A10250803577 for CGK025V3L-B; KRZK06A10400803377 for CGK040V3L-B;

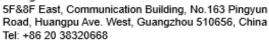
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KRZK06A10600802377 for CGK060V3L-B







2 Order

2.1 Date of Purchase Order, Customer's Reference

2022-07-01, Guangzhou Sprsun New Energy Technology Development Co., Ltd

2.2 Test Sample(s)

Reception date(s): 2022-07-01

• Location(s) of reception:

For Energy test:

Guangzhou Lingxin Technology Co., LTD

Address: Room 101, Building 2, No.13 west Route, Kengtou Industrial Zone, Nancun Town, Panyu District, Guangzhou

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

2022-07-01 to 2022-07-31

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 Instructions written in official language of the country. The instructions shall give information regarding 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

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TI"N/®

Technical Report



6 Summary

- These appliances are Air to Water Heat Pump Unit, each one including a whole compression type refrigerant circuit to heat water in another circuit. These appliances were 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 14825:2018.

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

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Table 1.	Heating mode(Low temperature application):							Р		
Model	CGK025V3L-I	3						•		
Product	Air to Water	Heating	✓	Averag		Warme	r	Colder		
type		season		е						
1. Test cond	litions:					l		1		
		Part Loa				Outdo	or heat	Indoo	r heat	
- E		in ⁹	%			exch	anger	exch	anger	
Ξ	Form	ıula	Α	W	С	Inlet d	ry (wet)	Inlet/out	let water	
Condition						b	dlu	temperat	ures (°C)	
၂ ၓ						tempe	erature			
						· c	С			
А	(-7-16)/(Tdesi	gnh-16)	88	N/A	N/A	-7	(-8)	a/	34	
В	(+2-16)/ (Tdes	signh-16)	54	N/A	N/A	2	(1)	a/	30	
С	(+7-16)/(Tdes		35	N/A	N/A		(6)	a /	27	
D	(+12-16)/(Tde	signh-16)	15	N/A	N/A	12	(11)	a/	24	
E	(TOL-16)/ (To	designh-	-16)		T	OL	a/3	35.3	
F	(Tt	oivalent-16)/(Tdesigr	nh-16)		Т	vic	a /	34	
G	(-15-16)/(Tdes	signh-16)	N/A	N/A	N/A	-	15	N.	/A	
Remark: a) W	ith the water flo	w rate as de	termine	d at the	standard	rating c	onditions	s given in E	N14511-2	
at 30/35 condi				e power i	is 1685.6	4W, the	COP is	4.71W/W.		
2.Tested dat	a/correction	data(Avera	ige):							
General test	Unit	A(-7)/W34	A2/	W30	A7/W2	7 A1	2/W24	A(-	A(-	
conditions/		(88%)	(54	4%)	(35%)) (15%)	10)/W35.	7)/W34	
Part-Load								3	(88%)	
								(100%)		
		Α		В	С		D	E	F	
Data	hh: min:sec	4:00:00		0:00	2:10:0	0 2	10:00	4:00:00	4:00:00	
collection										
period										
The heat		Yes	N	10	No		No	Yes	Yes	
pump										
defrosts										
Complete		2		0	0		0	2	2	
Cycles										
Barometric	kPa	101.02	101	1.02	101.0	101.02 10		101.02	101.02	
pressure										
Voltage	V	231.4	23	1.5	232.4	. 2	229.2	229.3	231.4	
Current input	Α	9.81	5	.04	4.01		3.29	10.03	9.81	
of the unit	 	3.01	0.	.0-1	4.01		0.20	10.00	3.01	
Power input	kW	1.972	0.8	393	0.695).541	2.009	1.972	
of the unit										
Test condition										
Inlet Water	°C	29.39	27	.25	24.15	5 2	20.86	31.02	29.39	
temperature,										
DB										
Outlet Water	°C	33.39*	29	.90	26.99	, ;	24.09	34.67*	33.39*	
temperature,							-			
DB										

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Test condition	s outdoor un	it					
Air inlet temperature, DB	°C	-6.84	2.02	7.12	12.01	-9.97	-6.84
Air inlet temperature, WB	°C	-8.08	1.01	6.00	11.00	-11.09	-8.08
Summary of the	ne results						
Total heating capacity	kW	6.255	4.177	4.470	5.082	5.725	6.255
Effective power input	kW	2.010	0.931	0.733	0.579	2.047	2.010
Coefficient of performance (COP)		3.11	4.49	6.10	8.78	2.80	3.11
Compressor frequency	Hz	70	33	30	30	70	70
Water flow	m³/h	1.35	1.35	1.35	1.35	1.35	1.35
				'		-	

Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.

3.0	Cal	cul	lat	ion/	/conc	lus	ion	for	SC	OP	(Aver	age)):
-----	-----	-----	-----	------	-------	-----	-----	-----	----	----	-------	------	----

	<u>'</u>	· • •	
Tdesignh(°C)	-10	Tbiv(°C)	-7
Pdesignh(kW	7.071	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
Е	7.071	5.725	2.80	0.00	1.00	2.80
F	6.255	6.255	3.11	0.00	1.00	3.11
А	6.255	6.255	3.11	0.00	1.00	3.11
В	3.808	4.177	4.49	0.00	0.91	4.49
С	2.448	4.470	6.10	0.99	0.55	6.05
D CD: nort load o	1.088	5.082	8.78	0.99	0.21	8.47

CR: part load divided by capacity;





Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.009
Standby mode [P _{SB}]	kW	0.009
Crankcase heater [P _{CK}]	kW	0.033
Off mode [P _{OFF}]	kW	0.009

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.71
SCOP:	kWh/kWh	4.70
Q _H :	kWh/year	14609
Q _{HE} :	kWh/year	3108
$\eta_{s,h}$	%	185.0
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)		A+++

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Table 2.	Heating mode(Medium temperature application):						F)	
Model	CGK025V3L-B								
Product	Air to Water	Heating	V	Averag		Warme	r	Colder	
type		season		е					
1. Test cond	itions:	I				ı		<u> </u>	
		Part Loa	d Ratio			Outdo	or heat	Indoo	r heat
ڃ		in ^c					anger		anger
Condition	Form		A	W	С		ry (wet)		let water
Pu Pu							ulb		ures (°C)
ပိ						temp	erature		` ,
							C		
Α	(-7-16)/(Tdesi		88	N/A	N/A		(-8)		52
В	(+2-16)/ (Tdes		54	N/A	N/A		(1)		42
С	(+7-16)/(Tdes		35	N/A	N/A		(6)		36
D E	(+12-16)/(Tde	signn-16) (TOL-16)/ (To	15	N/A	N/A		(11) OL		30 55.3
F F		oivalent-16)/(biv		52
Ğ	(-15-16)/(Tdes		N/A	N/A	N/A		15		/A
Remark: a) W									
at 47/55 condi	tions, the capa	city is 8076.6	66W, the			-		-	
2.Tested dat	a/correction	data(Avera	age):						
General test	Unit	A(-7)/W52	A2/	W42	A7/W3	6 A	2/W30	A(-	A(-
conditions/		(88%)	(54	4%)	(35%)) (15%)	10)/W55.	7)/W52
Part-Load								3	(88%)
								(100%)	
		А		В	С		D	E	F
Data	hh: min:sec	4:00:00	2:1	0:00	2:10:0	0 2	:10:00	2:10:00	4:00:00
collection									
period									
The heat		Yes	١	10	No		No	No	Yes
pump									
defrosts									
Cycles		1	1	0	0		0	0	1
Cycles		404.00	10	4 00	404.04		01.00	101.00	101.00
Barometric	kPa	101.02	10	1.02	101.02	2 1	01.02	101.02	101.02
pressure	V	222.2	22	9.3	222.5		222.0	220.0	222.2
Voltage		232.3			232.5	'	233.8	230.8	232.3
Current input	Α	13.29	6.	35	5.18		4.12	14.45	13.29
of the unit									
Power input	kW	2.837	1.1	162	0.919		0.698	3.085	2.837
of the unit									
Test condition	s indoor unit	<u> </u>			1			1	L
Inlet Water	l°C	44.62	38	.05	31.70		25.15	47.99	44.62
temperature,	-						2		
DB									
Outlet Water	°C	51.19	41	.98	35.94	.	30.01	54.78*	51.19
temperature,									
lnr i		1							1

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Test condition	s outdoor ເ	ınit					
Air inlet temperature, DB	°C	-7.00	2.00	7.01	12.00	-10.00	-7.00
Air inlet temperature, WB	°C	-8.20	1.00	6.00	11.00	-11.20	-8.20
Summary of the	ne results						
Total heating capacity	kW	6.597	4.017	4.348	4.978	6.881	6.597
Effective power input	kW	2.884	1.209	0.966	0.745	3.132	2.884
Coefficient of performance (COP)		2.29	3.32	4.50	6.68	2.20	2.29
Compressor frequency	Hz	70	33	30	30	70	70
Water flow	m³/h	0.88	0.88	0.88	0.88	0.88	0.88

Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.

3.Calculation/conclusion for SCOP(Average)	3.Calculation/conclusion	for SCOP(Average):
--	--------------------------	--------------------

or our our arror		,	
Tdesignh(°C)	-10	Tbiv(°C)	-7
Pdesignh(kW	7.458	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	7.458	6.881	2.20	0.00	1.00	2.20
F	6.597	6.597	2.29	0.00	1.00	2.29
А	6.597	6.597	2.29	0.00	1.00	2.29
В	4.016	4.017	3.32	0.00	1.00	3.32
С	2.581	4.348	4.50	0.99	0.59	4.47
D	1.147	4.978	6.68	0.99	0.23	6.46
CR: part load of	divided by capa	acity:				

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Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.009
Standby mode [P _{SB}]	kW	0.009
Crankcase heater [P _{CK}]	kW	0.033
Off mode [P _{OFF}]	kW	0.009

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.51
SCOP:	kWh/kWh	3.51
Q _H :	kWh/year	15407
Q _{HE} :	kWh/year	4394
$\eta_{s,h}$	%	137.2
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)		A++



Table 3.	Heating mode(Low temperature application):						F	Р		
Model	CGK040V3L-B						•			
Product	Air to Water	Heating	✓	Averag		Warmer		Colder		
type		season		е						
1. Test cond	itions:					I.	1	1		
		Part Loa	d Ratio			Outdoo	r heat	Indoo	r heat	
u _o		in 9	%			excha	nger	exch	anger	
Condition	Form	ula	Α	W	С	Inlet dr	y (wet)	Inlet/out	let water	
l ä						bu	lb	temperat	ures (°C)	
ပ						tempe	rature			
						°(
Α	(-7-16)/(Tdesi	gnh-16)	88	N/A	N/A	-7(-8)	a/	34	
В	(+2-16)/ (Tdes	signh-16)	54	N/A	N/A	2(1)	a /	30	
С	(+7-16)/(Tdes	ignh-16)	35	N/A	N/A	7(6)	a /	27	
D	(+12-16)/(Tde		15	N/A	N/A	12(11)	•	24	
E		TOL-16)/ (To				TC		•	35.3	
F		oivalent-16)/(Tb		•	34	
G	(-15-16)/(Tdes		N/A	N/A	N/A	-1			/A	
Remark: a) W										
at 30/35 condi	tions, the capa	city is 11922	55W, tl	he powe	r is 2603.	.08W, the	COP i	s 4.58W/W	•	
2.Tested dat	a/correction	data(Avera	ige):							
General test	Unit	A(-7)/W34	A2/	W30	A7/W2	7 A12	2/W24	A(-	A(-	
conditions/		(88%)	(54%)		(35%)) (1	5%)	10)/W35.	7)/W34	
Part-Load		, ,			, ,			3	(88%)	
								(100%)		
		Α		В	С		D	Е	F	
Data	hh: min:sec	4:00:00		0:00	2:10:0	0 2:	10:00	4:00:00	4:00:00	
collection				0.00	Í	<u> </u>	. 0.00			
period										
The heat		Yes	N	10	No		No	Yes	Yes	
pump										
defrosts										
Complete		2		0	0		0	1	2	
Cycles										
Barometric	kPa	101.02	101	1.02	101.02	2 10	1.02	101.02	101.02	
pressure										
Voltage	V	235.1	23	4.5	230.4	. 2	32.9	230.3	235.1	
Current input	Α	14.10	6.	19	5.45		1.46	15.20	14.10	
of the unit			0.		0.10					
Power input	kW	2.064	4 (207	1 0 1 1		0.40	2.200	2.064	
	KVV	3.061	1.4	207	1.041	0	.842	3.269	3.061	
of the unit										
Test condition		00.45		. = 4		, 1 -	0.0=	00.55	00.75	
Inlet Water	°C	29.43	27	.54	24.28	· 2	0.87	30.82	29.43	
temperature,										
DB										
Outlet Water	°C	33.31*	30	.00	27.12	2	4.06	34.79*	33.31*	
temperature,										
DB	1								1	

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Appendix	CSt i CSuitS						
Test condition	s outdoor unit						
Air inlet temperature, DB	°C	-6.81	2.01	7.02	12.10	-9.93	-6.81
Air inlet temperature, WB	°C	-8.00	1.00	6.01	11.00	-11.15	-8.00
Summary of th	ne results						
Total heating capacity	kW	9.457	5.999	6.933	7.811	9.669	9.457
Effective power input	kW	3.127	1.272	1.107	0.907	3.335	3.127
Coefficient of performance (COP)		3.02	4.72	6.27	8.61	2.90	3.02
Compressor frequency	Hz	57	25	25	25	60	57
Water flow	m³/h	2.10	2.10	2.10	2.10	2.10	2.10

Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.

3.0	Cal	cu	lat	ion/	cond	lus	ion	for	SC	COP	(Ave	erage):
-----	-----	----	-----	------	------	-----	-----	-----	----	-----	------	-------	----

Tdesignh(°C)	-10	Tbiv(°C)	-7
Pdesignh(kW	10.691	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
Е	10.691	9.669	2.90	0.00	1.00	2.90
F	9.457	9.457	3.02	0.00	1.00	3.02
А	9.457	9.457	3.02	0.00	1.00	3.02
В	5.756	5.999	4.72	0.00	0.96	4.72
С	3.701	6.933	6.27	0.99	0.53	6.21
D CD: port load o	1.645	7.811	8.61	0.99	0.21	8.30

CR: part load divided by capacity;

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Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.008
Standby mode [P _{SB}]	kW	0.008
Crankcase heater [P _{CK}]	kW	0.041
Off mode [P _{OFF}]	kW	0.008

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.85
SCOP:	kWh/kWh	4.84
Q _H :	kWh/year	22087
Q _{HE} :	kWh/year	4562
$\eta_{s,h}$	%	190.7
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)		A+++



Table 4.	Heating mode(Medium temperature application):								
Model	CGK040V3L-E	3						•	
Product	Air to Water	Heating	✓	Averag		Warme	er	Colder	
type		season	e e						
1. Test conditions:									
		Part Loa	d Ratio			Outdo	or heat	Indoo	r heat
uc		in 9					anger		anger
Condition	Form	ula	Α	W	С	Inlet o	ry (wet)	Inlet/out	let water
ouc							ulb	temperat	ures (°C)
ŭ							erature		
•	(7 40) //T L ·	1 40)	00	N1/A	N 1/A		<u>'C </u>	,	50
A B	(-7-16)/(Tdesig		88 54	N/A N/A	N/A N/A		(-8)	a /	42
С	(+2-16)/ (Tdes (+7-16)/(Tdesi		35	N/A	N/A		(1) (6)		36
D	(+12-16)/(Tdesi		15	N/A	N/A		(11)	•	30
E		TOL-16)/ (To			14//		OL OL	•	55.3
F		pivalent-16)/(biv		52
G	(-15-16)/(Tdes		N/A	N/A	N/A		15	N,	
	th the water flo								
at 47/55 condi	tions, the capa	city is 12130	.62W, th	ne powei	is 4059.	44W, th	ie COP i	s 2.99W/W	
2.Tested dat	a/correction	data(Avera	ige):						
General test	Unit	A(-7)/W52	A2/W42		A7/W3		2/W30	A(-	A(-
conditions/		(88%)	(54	1%)	(35%))	(15%)	10)/W55.	7)/W52
Part-Load								3	(88%)
								(100%)	
		Α		3	С		D	E	F
Data	hh: min:sec	4:00:00	2:10:00		2:10:0	0 2	:10:00	4:00:00	4:00:00
collection									
period		V		1-	NI-		NI-	V	V
The heat		Yes	IN	lo	No		No	Yes	Yes
pump defrosts									
Complete		1		0	0		0	2	1
Cycles			,		Ü		Ü	_	·
Barometric	kPa	101.02	101	1.02	101.02	2 /	01.02	101.02	101.02
pressure		101102				_	01.02	101.02	101102
Voltage	V	229.1	23	1.3	232.9		229.2	229.6	229.1
Current input	Α	18.66	7.	67	6.54		5.47	21.17	18.66
of the unit									
Power input	kW	3.995	1.5	591	1.367	'	1.046	4.544	3.995
of the unit									
Test conditions	s indoor unit								
Inlet Water	°C	45.13	38	.36	31.80		25.18	47.74	45.13
temperature,									
DB									
Outlet Water	°C	51.08*	42	.00	36.08		30.12	53.89*	51.08*
temperature,									

Test condition	s outdoor u	ınit					
Air inlet temperature, DB	°C	-6.97	2.02	7.02	12.01	-9.93	-6.97
Air inlet temperature, WB	°C	-8.18	1.01	6.00	11.00	-11.15	-8.18
Summary of the	ne results						
Total heating capacity	kW	9.135	5.633	6.626	7.663	9.431	9.135
Effective power input	kW	4.074	1.670	1.447	1.126	4.623	4.074
Coefficient of performance (COP)		2.24	3.37	4.58	6.81	2.04	2.24
Compressor frequency	Hz	53	25	25	25	60	53
Water flow	m³/h	1.33	1.33	1.33	1.33	1.33	1.33

Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.

3.Calculation/conclusion	for SCOP(Average):

or our our arror									
Tdesignh(°C)	-10	Tbiv(°C)	-7						
Pdesignh(kW	10.326	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
Е	10.326	9.431	2.04	0.00	1.00	2.04
F	9.135	9.135	2.24	0.00	1.00	2.24
А	9.135	9.135	2.24	0.00	1.00	2.24
В	5.560	5.633	3.37	0.00	0.99	3.37
С	3.575	6.626	4.58	0.99	0.54	4.54
D	1.589	7.663	6.81	0.99	0.21	6.56
CR: part load of	divided by capa	acity:		•	•	•

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Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.008
Standby mode [P _{SB}]	kW	0.008
Crankcase heater [P _{CK}]	kW	0.041
Off mode [P _{OFF}]	kW	0.008

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.54
SCOP:	kWh/kWh	3.53
Q _H :	kWh/year	21334
Q _{HE} :	kWh/year	6040
$\eta_{s,h}$	%	138.3
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)		A++



Table 5.	Heating mode(Low temperature application):							F)
Model	CGK060V3L-B								
Product	Air to Water	Heating	√	Averag		Warmer		Colder	
type		season		е					
1. Test cond	litions:	<u> </u>				<u> </u>	1		
		Part Loa	d Ratio			Outdoo	r heat	Indoo	r heat
L C		in ⁹	%			excha	nger	exch	anger
Condition	Form	ıula	Α	W	С	Inlet dr	y (wet)	Inlet/out	let water
) uc						bu	lb	temperat	ures (°C)
ပ						tempe	rature		
						°(
А	(-7-16)/(Tdesi		88	N/A	N/A	-7(-		a/	34
В	(+2-16)/ (Tdes		54	N/A	N/A	2(30
С	(+7-16)/(Tdes		35	N/A	N/A	7(a /	
D	(+12-16)/(Tde		15	N/A	N/A	12(24
E		(TOL-16)/ (To				TC			35.3
F		oivalent-16)/(11/4	Tb			34
G Comments and Marie	(-15-16)/(Tdes		N/A	N/A	N/A	-1		N.	
Remark: a) Wi	ith the water fic tions, the capa								
									•
2.Tested dat	a/correction	data(Avera	ige):						
General test	Unit	A(-7)/W34	A2/	W30	A7/W2	7 A12	2/W24	A(-	A(-
conditions/		(88%)	(54	4%)	(35%)) (1	5%)	10)/W35.	7)/W34
Part-Load								3	(88%)
								(100%)	
		А		В	С		D	Е	F
Data	hh: min:sec	4:00:00	2:1	0:00	2:10:0	0 2:	10:00	4:00:00	4:00:00
collection									
period									
The heat		Yes	١	10	No		No	Yes	Yes
pump									
defrosts									
Complete		1		0	0		0	2	1
Cycles									
Barometric	kPa	101.02	10	1.02	101.02	2 10	1.02	101.02	101.02
pressure									
Voltage	V	231.2	23	0.6	230.1	2	30.7	231.3	231.2
Current input	А	18.23	8.	54	6.80	Ę	5.49	20.01	18.23
of the unit			0.		0.00				
Power input	kW	2.075	4 (20.4	1 0 1 1	-	000	4 240	2.075
	KVV	3.875	1.0	624	1.244	. 0	.998	4.310	3.875
of the unit									
Test condition									
Inlet Water	°C	29.43	27	.62	24.39	2	1.16	30.82	29.43
temperature,									
DB									
Outlet Water	°C	33.01*	30	.02	26.98	2	4.13	34.46*	33.01*
temperature,	1								
DB								1	

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Test condition	s outdoor u	nit					
Air inlet temperature, DB	°C	-7.01	1.99	7.03	12.00	-9.98	-7.01
Air inlet temperature, WB	°C	-8.11	1.01	6.01	11.00	-11.11	-8.11
Summary of the	ne results						
Total heating capacity	kW	11.796	7.933	8.582	9.806	11.929	11.796
Effective power input	kW	3.964	1.714	1.333	1.088	4.399	3.964
Coefficient of performance (COP)		2.98	4.63	6.44	9.02	2.71	2.98
Compressor frequency	Hz	71	33	30	30	78	71
Water flow	m³/h	2.83	2.83	2.83	2.83	2.83	2.83
						•	•

Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.

3.0	Cal	cul	lat	ion/	/conc	lus	ion	for	SC	OP	(Aver	age)):
-----	-----	-----	-----	------	-------	-----	-----	-----	----	----	-------	------	----

Tdesignh(°C)	-10	Tbiv(°C)	-7							
Pdesignh(kW	13.335	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
Е	13.335	11.929	2.71	0.00	1.00	2.71
F	11.796	11.796	2.98	0.00	1.00	2.98
А	11.796	11.796	2.98	0.00	1.00	2.98
В	7.180	7.933	4.63	0.99	0.91	4.62
С	4.616	8.582	6.44	0.99	0.54	6.38
D CD: port load o	2.052	9.806	9.02	0.99	0.21	8.69

CR: part load divided by capacity;

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Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.009
Standby mode [P _{SB}]	kW	0.009
Crankcase heater [P _{CK}]	kW	0.035
Off mode [P _{OFF}]	kW	0.009

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.82
SCOP:	kWh/kWh	4.82
Q _H :	kWh/year	27550
Q _{HE} :	kWh/year	5718
$\eta_{s,h}$	%	189.7
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)		A+++



Table 6.	Heating mode(Medium temperature application):							F	•	
Model	CGK060V3L-	В								
Product	Air to Water	Heating	4	Averag		Wa	rmer		Colder	
type		season		е						
1. Test cond	litions:									
		Part Loa	d Ratio			Ou	tdoor	heat	Indoo	r heat
uo		in ⁹	%			e	xchan	ger	excha	anger
Condition	Form	nula	Α	W	С	Inle	et dry	(wet)	Inlet/out	let water
ů.							bulb		temperat	ures (°C)
0						te	mpera °C	ture		
A	(-7-16)/(Tdesi	anh-16)	88	N/A	N/A		-7(-8)	a /	52
В	(+2-16)/ (Tdes		54	N/A	N/A		2(1)	,	a/	
С	(+7-16)/(Tdes	ignh-16)	35	N/A	N/A		7(6)		a/	36
D	(+12-16)/(Tde		15	N/A	N/A		12(11		a /	
E		(TOL-16)/ (To					TOL		a / 5	
F G	(-15-16)/(Tdes	bivalent-16)/(N/A	n-16) N/A	N/A		Tbiv -15		a / N/	
	ith the water flo					ratin		ditions		
at 47/55 condi	tions, the capa	city is 16054	.41W, t							
	ta/correction									
General test	Unit	A(-7)/W52		W42	A7/W3		A12/\		A(-	A(-
conditions/ Part-Load		(88%)	(54	4%)	(35%))	(15	%)	10)/W55. 3	7)/W52
Part-Load									(100%)	(88%)
		А		В	С		С)	Е	F
Data collection period	hh: min:sec	4:00:00	2:1	0:00	2:10:0	0	2:10	0:00	4:00:00	4:00:00
The heat		Yes	١	10	No		N	0	Yes	Yes
pump										
defrosts				0						
Complete Cycles		1		0	0		0)	1	1
Barometric pressure	kPa	101.02	10 ⁻	1.02	101.02	2	101	.02	101.02	101.02
Voltage	V	232.5	23	2.2	230.1		229	9.5	228.8	232.5
Current input of the unit	А	23.32	10	.56	8.45		6.6	60	25.85	23.32
Power input of the unit	kW	5.130	2.	154	1.652		1.2	92	5.647	5.130
Test condition										
Inlet Water temperature, DB	°C	44.72	38	.30	32.05		25.	16	47.48	44.72
Outlet Water temperature, DB	°C	50.96*	42	.07	36.09		29.	91	53.44*	50.96*

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Test condition	s outdoor ປ	ınit					
Air inlet temperature, DB	°C	-6.83	2.02	7.00	12.01	-9.87	-6.83
Air inlet temperature, WB	°C	-8.03	1.00	6.00	11.01	-10.96	-8.03
Summary of th	ne results						
Total heating capacity	kW	12.462	7.582	8.136	9.578	11.900	12.462
Effective power input	kW	5.244	2.269	1.766	1.406	5.762	5.244
Coefficient of performance (COP)		2.38	3.34	4.61	6.81	2.07	2.38
Compressor frequency	Hz	68	33	30	30	78	68
Water flow	m³/h	1.73	1.73	1.73	1.73	1.73	1.73

Remark: * In part condition, outlet temperature data is recorded by a full average complete cycle's data.

3.0	Calcu	lation	concl	usion	tor	SCC)P(A\	/erage):
-----	-------	--------	-------	-------	-----	-----	-------	----------

or oaroaratio	or carculation recording to the control of the cont									
Tdesignh(°C)	-10	Tbiv(°C)	-7							
,		` '								
Pdesignh(kW	14.087	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	14.087	11.900	2.07	0.00	1.00	2.07			
F	12.462	12.462	2.38	0.00	1.00	2.38			
А	12.462	12.462	2.38	0.00	1.00	2.38			
В	7.585	7.582	3.34	0.00	1.00	3.34			
С	4.876	8.136	4.61	0.99	0.60	4.58			
D	2.167	9.578	6.81	0.99	0.23	6.59			
CR: part load of	divided by capa	acity;		-					

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Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.009
Standby mode [P _{SB}]	kW	0.009
Crankcase heater [P _{CK}]	kW	0.035
Off mode [P _{OFF}]	kW	0.009

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.56
SCOP:	kWh/kWh	3.55
Q _H :	kWh/year	29104
Q _{HE} :	kWh/year	8187
$\eta_{s,h}$	%	139.2
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)		A++

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Table 7.		EN 14511-4:2	018		Р
Model	CGK025V3L	-В			
Customer Code	Execution Date [dd- mm-yyyy]	Testing item	Standard Reference	Comment	Test Response
TEST 1	25-07-2022	STARTING TEST	EN14511- 4:2018, §4.2.1.2 Table 3	The "lower" starting operating conditions declared by the manufacturer for the heating mode- i.e. Tair=-25.00°C, T out water 14.56°C, Flow rate 0.85m³/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	25-07-2022	OPERATIN G TEST	EN14511- 4:2018, §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=-25.02°C, T out water 56.52°C, Flow rate 0.85m³/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	25-07-2022	SHUTTING OFF WATER FLOW	EN14511- 4:2018, § 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	25-07-2022	SHUTTING OFF AIR FLOW	EN14511- 4:2018, § 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	25-07-2022	COMPLETE POWER SUPPLY FAILURE	EN14511- 4:2018, § 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



	k I Test resi				
Table 8.		EN 14511-4:2	018		Р
Model	CGK040V3L	D			
Customer Code	Execution Date [dd- mm-yyyy]	Testing item	Standard Reference	Comment	Test Response
TEST 1		STARTING TEST	EN14511- 4:2018, §4.2.1.2 Table 3	The "lower" starting operating conditions declared by the manufacturer for the heating mode- i.e. Tair=-25.03°C, T out water 14.98°C, Flow rate 1.20m³/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	26-07-2022	OPERATIN G TEST	EN14511- 4:2018, §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=-25.12°C, T out water 56.45°C, Flow rate 1.20m³/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	26-07-2022	SHUTTING OFF WATER FLOW	EN14511- 4:2018, § 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	26-07-2022	SHUTTING OFF AIR FLOW	EN14511- 4:2018, § 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	26-07-2022	COMPLETE POWER SUPPLY FAILURE	EN14511- 4:2018, § 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

Appendix I Test results								
Table 9.		EN 14511-4:2	.018		Р			
Model	CGK060V3L	<u>—</u>						
Customer	Execution	Testing item	Standard	Comment	Test			
Code	Date [dd-	resting item	Reference	Comment	Response			
Code	mm-yyyy]		Reference		Response			
	ппп-уууу]							
TEST 1	27-07-2022	STARTING	EN14511-	The "lower" starting operating conditions	Passed			
		TEST	4:2018, §4.2.1.2	declared by the manufacturer for the				
			Table 3	heating mode- i.e. Tair=-25.03°C, T out				
				water 10.29°C, Flow rate 1.56m 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.				
				-				
TEST 2	27-07-2022		EN14511-	From the machine "lower" starting	Passed			
		G TEST	4:2018,	conditions - i.e the machine was				
			§4.2.1.2Table 3	brought to the lower operating conditions				
				declared by the manufacturer for the				
				heating mode- i.e. Tair=-25.00°C, T out				
				water 56.21°C, Flow rate 1.56m 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.				
TEST 3	27-07-2022	SHUTTING	EN14511-	The water flow rate was shutted off	Passed			
		OFF	4:2018, § 4.5	through manual and automatic valves of				
		WATER		the test rig. The machine switched off				
		FLOW		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.				
TEST 4	27-07-2022	SHUTTING	EN14511-	The air flow rate was shutted off through	Passed			
		OFF AIR	4:2018, § 4.5	a plastic sheet and a panel. The				
		FLOW		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.				
]				
TEST 5	27-07-2022	COMPLETE	EN14511-	The power supply was cut off for about	Passed			
		POWER	4:2018, § 4.6	10 seconds.The unit restarted				
		SUPPLY		automatically within about 3 minutes after				
		FAILURE		the power supply was reactivated.				

Sound power level	ound power level measurement(Low temperature application)						
CGK025V3L-B							
Product type :			Air to Water				
Outdoor heat excha	nger, Air temperature [DB/WB (°C):	7.0 /6.0				
Indoor heat exchang	ger, Water inlet/outlet to	emperature (°C):	30.0 /35.0				
Voltage (V):	230						
Frequency (Hz):	50						
Working condition c	Class A						
Acoustical environm	Hemi-anechoic room						
Windshield type:	Sponge						
Measured position a	14						
Water flow (m³/h):			1.35				
sured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark				
ure level $\overline{L}_{p(ST)}^{****}$		47					
us d *		1.0m					
r level L _{wA} ****		61					
	CGK025V3L-B Product type: Outdoor heat exchange Voltage (V): Frequency (Hz): Working condition condi	CGK025V3L-B Product type: Outdoor heat exchanger, Air temperature E Indoor heat exchanger, Water inlet/outlet to Voltage (V): Frequency (Hz): Working condition class: Acoustical environment: Windshield type: Measured position amount: Water flow (m³/h): Sured quantity LWA,indoors (dB(A)) ure level \(\bar{L}_{p(ST)}^{****}\) us d *	Product type: Outdoor heat exchanger, Air temperature DB/WB (°C): Indoor heat exchanger, Water inlet/outlet temperature (°C): Voltage (V): Frequency (Hz): Working condition class: Acoustical environment: Windshield type: Measured position amount: Water flow (m³/h): Fured quantity LwA,indoors (dB(A)) LwA,outdoors (dB(A)) LwA,outdoors (dB(A)) LwA d' 1.0m				

Setting of controls: according to user manual.

Duct connection:--

Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

Fan speed: 610 r/min, compressor speed: 55Hz.

Road, Huangpu Ave. West, Guangzhou 510656, China Tel: +86 20 38320668

Table 10b.	Sound power level measurement(Medium temperature application)			Р	
Model	CGK025V3L-B				
	Product type :	Air to Water			
	Outdoor heat exchai	Outdoor heat exchanger, Air temperature DB/WB (°C):			
	Indoor heat exchang	ger, Water inlet/outlet to	emperature (°C):	47.0 /55.0	
	Voltage (V):			230	
	Frequency (Hz):	50			
	Working condition c	Class A			
	Acoustical environment :			Hemi-anechoic room	
	Windshield type :		Sponge		
	Measured position a	14			
	Water flow (m³/h):			0.88	
Measured quantity		L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark	
Sound pressure level $\overline{L}_{p(ST)}^{****}$			48		
Spheres radi	us d *		1.0m		
Sound power level L _{wA} ****			63		

Setting of controls: according to user manual.

Duct connection:--

Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

Fan speed: 580 r/min, compressor speed: 55Hz.



Table 11a.	Sound power level	measurement(Low te	emperature application)	Р	
Model	CGK040V3L-B				
	Product type :	Air to Water			
	Outdoor heat excha	PB/WB (°C):	7.0 /6.0		
	Indoor heat exchang	emperature (°C):	30.0 /35.0		
	Voltage (V):		230		
	Frequency (Hz):	50			
	Working condition c	Class A			
	Acoustical environm	Hemi-anechoic room			
	Windshield type :	Sponge			
	Measured position a	14			
	Water flow (m³/h):	2.10			
Meas	sured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark	
Sound pressure level $\overline{L}_{p(ST)}^{****}$			53		
Spheres radi	us d *		1.0m		
Sound power	level L _{wA} ****		67		

Setting of controls: according to user manual.

Duct connection:--

Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

Fan speed: 780 r/min, compressor speed: 45Hz.



1		Sound power level measurement (Medium temperature application)		
CGK040V3L-B				
Product type :	Air to Water			
Outdoor heat exchar	nger, Air temperature D	DB/WB (°C):	7.0 /6.0	
Indoor heat exchang	er, Water inlet/outlet te	47.0 /55.0		
Voltage (V):			230	
Frequency (Hz):				
Working condition cl	Class A			
Acoustical environment : Windshield type :			Hemi-anechoic room	
			Sponge	
Measured position a	14			
Water flow (m³/h):			1.33	
ured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark	
$ \text{ re level } \overline{L}_{p(ST)}^{****} $		53		
us d *		1.0m		
level L _{wA} ****		67		
	Product type: Outdoor heat excharg Indoor heat exchang Voltage (V): Frequency (Hz): Working condition cl Acoustical environment Windshield type: Measured position a Water flow (m³/h): ured quantity ure level \(\bar{L}_{p(ST)}^{****}\) us d * level \(L_{wA}^{*****}\)	Product type: Outdoor heat exchanger, Air temperature E Indoor heat exchanger, Water inlet/outlet te Voltage (V): Frequency (Hz): Working condition class: Acoustical environment: Windshield type: Measured position amount: Water flow (m³/h): ured quantity LwA,indoors (dB(A)) ure level \(\overline{L}_{p(ST)}^{****}\) us d *	Product type: Outdoor heat exchanger, Air temperature DB/WB (°C): Indoor heat exchanger, Water inlet/outlet temperature (°C): Voltage (V): Frequency (Hz): Working condition class: Acoustical environment: Windshield type: Measured position amount: Water flow (m³/h): ured quantity LwA,indoors (dB(A)) LwA,outdoors (dB(A)) Jure level LyGST)****	

Setting of controls: according to user manual.

Duct connection:--

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Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ***) nearest integer

Fan speed: 730 r/min, compressor speed: 45Hz.



Table 12a.	Sound power level measurement(Low temperature application)		emperature application)	Р	
Model	CGK060V3L-B	CGK060V3L-B			
	Product type :	Air to Water			
	Outdoor heat exchai	nger, Air temperature [DB/WB (°C):	7.0 /6.0	
	Indoor heat exchang	ger, Water inlet/outlet to	emperature (°C):	30.0 /35.0	
	Voltage (V):			230	
	Frequency (Hz):	Frequency (Hz):			
	Working condition cl	Working condition class :			
	Acoustical environment :			Hemi-anechoic room	
	Windshield type :			Sponge	
	Measured position a	14			
	Water flow (m³/h):			2.83	
Measured quantity		L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark	
Sound pressure level $\bar{L}_{p(ST)}^{****}$			53		
Spheres radi	us d *		1.0m		
Sound power level L _{wA} ****			68		

Setting of controls: according to user manual.

Duct connection:--

Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

Fan speed: 700 r/min, compressor speed: 58Hz.

Table 12b.	Sound power level measurement(Medium temperature application)			Р
Model CGK060V3L-B				•
	Product type :		Air to Water	
	Outdoor heat exchai	nger, Air temperature [7.0 /6.0	
	Indoor heat exchang	ger, Water inlet/outlet to	emperature (°C):	47.0 /55.0
	Voltage (V):			230
	Frequency (Hz):	50		
	Working condition c	Class A		
	Acoustical environm	ent:	Hemi-anechoic room	
	Windshield type : Measured position amount :			Sponge
				14
	Water flow (m³/h):			1.73
Measured quantity		L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark
Sound pressure level $\overline{L}_{p(ST)}^{****}$			56	
Spheres radi	us d *		1.0m	
Sound power level L _{wA} ****			71	

Setting of controls: according to user manual.

Duct connection:--

Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

Fan speed: 670 r/min, compressor speed: 58Hz.

Road, Huangpu Ave. West, Guangzhou 510656, China Tel: +86 20 38320668



Appendix II Marking plate

Nameplate

Model: CGK025V3L-B









EVI DC Inverter Air Source Heat Pumps

	_
Model	CGK025V3L-B
Power Supply	220-240V~/50Hz
*Heating Capacity Min./Max.	4.32/9.4kW
*Heating Input Power Min./Max.	0.76/2.06kW
*Heating COP Min./Max.	4.56/5.68W/W
Cooling Capacity Min./Max.	2.78/6.05kW
Cooling Input Power Min./Max.	0.74/2.44kW
Rated. Input Power/Current	3.09kW/14.79A
Max. Water Outlet Temperature	55℃
Water Flow	1.6m³/h
Refrigerant/Weight	R32/1500g
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	1 inch
Net Weight	78kg
Date/NO.	See bar code

*Heating working condition:

Dry bulb temperature 7°C, Wet bulb temperature 6°C, Inlet water temperature 30°C, Outlet water temperature 35°C.

System CO2 equivalent charge weight: 1.01 ton

Guangzhou Sprsun New Energy Technology Development Co., Ltd

No. 15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng, Guangzhou, China









Appendix II Marking plate

Nameplate

Model: CGK040V3L-B









98kg

See bar code

EVI DC Inverter A	ir Source Heat Pumps
Model	CGK040V3L-B
Power Supply	220-240V~/50Hz
*Heating Capacity Min./Max.	7.27/15.8kW
*Heating Input Power Min./Max.	1.26/3.43kW
*Heating COP Min./Max.	4.60/5.77W/W
Cooling Capacity Min./Max.	4.67/10.16kW
Cooling Input Power Min./Max.	1.24/4.06kW
Rated. Input Power/Current	5.14kW/24.6A
Max. Water Outlet Temperature	55℃
Water Flow	2.7m³/h
Refrigerant/Weight	R32/2000g
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	21kPa
Water Pipe Connection	1 inch

*Heating working condition:

Net Weight

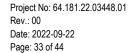
Date/NO.

Dry bulb temperature 7°C, Wet bulb temperature 6°C, Inlet water temperature 30°C, Outlet water temperature 35°C.

System CO2 equivalent charge weight: 1.35 ton

Guangzhou Sprsun New Energy Technology Development Co., Ltd

No. 15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng, Guangzhou, China







Appendix II Marking plate

Nameplate

Model: CGK060V3L-B









EVI DC Inverter Air	Source Heat Pumps
Model	CGK060V3L-B
Power Supply	220-240V~/50Hz
*Heating Capacity Min./Max.	10.03/21.8kW
*Heating Input Power Min./Max.	1.74/4.73kW
*Heating COP Min./Max.	4.61/5.76W/W
Cooling Capacity Min./Max.	6.45/14.02kW
Cooling Input Power Min./Max.	1.71/6kW
Rated. Input Power/Current	7.09kW/33.94A
Max. Water Outlet Temperature	55℃
Water Flow	3.8m³/h
Refrigerant/Weight	R32/2800g
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	25kPa
Water Pipe Connection	1 inch
Net Weight	124kg
Date/NO.	See bar code
6 . 600	1.1. 4.00.

System CO2 equivalent charge weight: 1.89 ton

*Heating working condition:

Dry bulb temperature 7°C, Wet bulb temperature 6°C, Inlet water temperature 30°C, Outlet water temperature 35°C.

Guangzhou Sprsun New Energy Technology Development Co., Ltd

No. 15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng, Guangzhou, China







Details of:	Overall view for CGK025V3L-B
View:	
☐ General	
Front	
Rear	
Right	
Left	
□ Тор	
☐ Bottom	

Details of:	Compressor for CGK025V3L-B
View: General Front Rear Right Left Top Bottom	Panasonic GRD220ZAA2J COMPRESSOR SERIAL 2BOV FOOD2644 7975407 R32 Banasonic Corporation Basso Mollances Corpressor (Buangthou) Co. Ltd A Differ of Fire Shock 有 解 中

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Appendix III photo documentaiton

Details of:	Fan Motor for CGK025V3L-B
View: ☐ General	
☐ Front	直流无刷电动机 Vn 红。 LD-00400116-1
Rear	SIC-82FX-F1116-1 Vap # 0 M
Right	900r/min E級
Left	G C 1MI15.
□ Тор	Aider 日本电产芝浦(浙江)有限公司 物→
☐ Bottom	

Details of:	Main Control Board for CGK025V3L-B
View:	
☐ General	
☐ Front	
Rear	
Right	
Left	
□ Тор	
☐ Bottom	
	and the latest and th

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Appendix III photo documentaiton

Details of:	Overall view for CGK040V3L-B		
View:			
☐ General			
☐ Front			
Rear			
Right			
☐ Left			
□ Тор			
☐ Bottom			



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Details of:	Fan Motor for CGK040V3L-B		
View:			
☐ Front	直流无刷电动机 Vn 红 ~		
Rear	S1C-82FX-F1116-1		
Right	900r/min E級 G C 1MI15.		
☐ Left	Nider 日本电产芝脯(浙江)有限公司 特向→		
□ Тор			
☐ Bottom	7-		
Bottom			

Botano or:	Wall Control Board for Control by Car				
View:					
☐ General					
☐ Front					
Rear					
Right					
☐ Left					
□ Тор	W1 14 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4				
☐ Bottom					

Main Control Board for CGK040V3L-B

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Details of:

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Appendix III photo documentaiton

Details of:	Overall view for CGK060V3L-B		
View:			
☐ General			
☐ Front			
☐ Rear			
Right			
☐ Left			
□ Тор			
☐ Bottom			

View: General Volume	Details of:	Compressor for CGK060V3L-B					
Bottom Bottom Do not compress air into ref. goils Caution, Hot Surface PROD YEAR: 2022 VOLUME: 3. 13L PS: 43 bar TS: -35°C - +115°C Panasonic Manbao Appliances Compressor (Guangzhou) Co. Ltd. Authorized Representative in EU Panasonic Marketing Europe GmbH Winberg: Testing Centre	View: General Front Rear Right Left Top	Panasonic 9VD420ZAA2J COMPRESSOR R32 SERIAL NO. V42AU FO006867 Made in China Panasonic Corporation MARN I NG / DANGER Danger of Electric Shock Disconnect power before work. Mount the terminal cover in place. Mount the terminal cover in preserve the protective goggles. Let out the gas before brazing. Do not compress air into ref. 8 oils. Caution. Hot Surface PROD. YEAR:2022 PROD. YEAR:2022 Albanaonic Manbao Appliances Compressor (Guangzhou) Co. Ltd. Albanaonic Manbao Appliances Compressor (Guangzhou) Co. Ltd.					

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Details of:	Fan Motor for CGK060V3L-B			
View:				
☐ General	直流无刷电动机 ¥n 紅。 LD-004DC116-1			
Front	S1C-82FX-F1116-1 Vsp (A) M DC310V 8P 116W PG (E) CO			
Rear	900r/min E級			
Right	⑥ C 1MI.15. (新江) 有限公司 物→			
Left	Nider Hard Carlotte			
□ Тор				
☐ Bottom				

2 0 10.110 0 11	
View: General Front Rear Right Left Top	
☐ Bottom	

Main Control Board for CGK060V3L-B

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Details of:

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Appendix IV Construction data form

Model: CGK025V3L	<u>-B</u>	
Part		Technical data
1. Compressor		
	Manufacture:	Panasonic Wanbao Appliances Compressor
		(Guangzhou) Co., Ltd.
	Туре:	9RD220ZAA2J
	Rated capacity:	2265W
	Serial-number:	F0002644
	Specification:	DC280V; R32
2. Condenser		
	Manufacture:	Jiangsu Yuanzhuo Equipment Manfactur Co., Ltd
	Type:	ZL62FA-22AD-CG
	Heat exchanger:	Plate heat exchanger
	Dimension (mm):	526(L)mmX119(H)mmX56(D)mm
3. Evaporator		
	Manufacture:	Guangzhou Aotai Refrigeration EquipmentCo., Ltd.
	Type:	03KA-CP-04
	Heat exchanger:	Finned-coil heat exchanger
	Dimension (mm):	660(L)mmX750(H)mmX345(D)mm
4. Fan motor		
	Manufacture:	Nidec Shibaura (Zhejiang) Co., Ltd.
	Type:	SIC-82FX-F1116-1
	Fan type:	3 blade
	Specification:	DC310V; 116W
5. Main control board		
	Manufacture:	CHICO
	Type:	CG248075
	Specification:	220-240V; 50Hz

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Appendix IV Construction data form

Model: CGK040V3L	<u>-В</u>			
Part		Technical data		
1. Compressor				
	Manufacture:	Panasonic Wanbao Appliances Compressor		
		(Guangzhou) Co., Ltd.		
	Type:	9KD420ZAA2J		
	Rated capacity:	4320W		
	Serial-number:	F0001538		
	Specification:	DC280V; R32		
2. Condenser				
	Manufacture:	Jiangsu Yuanzhuo Equipment Manfactur Co., Ltd		
	Type:	ZL62FA-30AD-CG		
	Heat exchanger:	Plate heat exchanger		
	Dimension (mm):	526(L)mmX119(H)mmX71(D)mm		
3. Evaporator				
	Manufacture:	Guangzhou Aotai Refrigeration Equipment Co., Ltd.		
	Type:	04KA-CP-01		
	Heat exchanger:	Finned-coil heat exchanger		
	Dimension (mm):	660(L)mmX900(H)mmX345(D)mm		
4. Fan motor				
	Manufacture:	Nidec Shibaura (Zhejiang) Co., Ltd.		
	Type:	SIC-82FX-F1116-1		
	Fan type:	3 blade		
	Specification:	DC310V; 116W		
5. Main control board				
	Manufacture:	CHICO		
	Type:	CG248075		
	Specification:	220-240V; 50Hz		

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Appendix IV Construction data form

Model: <u>CGK060V3L-B</u>				
Part		Technical data		
1. Compressor				
	Manufacture:	Panasonic Wanbao Appliances Compressor		
		(Guangzhou) Co., Ltd.		
	Type:	9VD420ZAA2J		
	Rated capacity:	4390W		
	Serial-number:	F0006867		
	Specification:	DC280V; R32		
2. Condenser				
	Manufacture:	Jiangsu Yuanzhuo Equipment Manfactur Co., Ltd		
	Type:	ZL62FA-40AD-CG		
_	Heat exchanger:	Plate heat exchanger		
	Dimension (mm):	526(L)mmX119(H)mmX91(D)mm		
3. Evaporator				
	Manufacture:	Guangzhou Aotai Refrigeration EquipmentCo., Ltd.		
	Type:	05KA-CP-01		
	Heat exchanger:	Finned-coil heat exchanger		
	Dimension (mm):	660(L)mmX1300(H)mmX345(D)mm		
4. Fan motor				
	Manufacture:	Nidec Shibaura (Zhejiang) Co., Ltd.		
	Type:	SIC-82FX-F1116-1		
	Fan type:	3 blade		
	Specification:	DC310V; 116W		
5. Main control board				
	Manufacture:	CHICO		
	Type:	CG248075		
	Specification:	220-240V; 50Hz		

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Appendix V Equipment List

No.	Туре	Manufacture	Model	Equipment ID	Calibration Due Date
1	Digital power meter	YOKOGAWA	WT230	91HC39024	2023-01-04
2	Platinum resistance	CHINO	Pt100	TS-019XC0130	2023-01-04
3	Platinum resistance	CHINO	Pt100	TS3XA0248	2023-01-04
4	Temperature and humidity sensor	YOKOGAWA	HMD62	S4610294	2023-01-04
5	Water pressure gauge	YOKOGAWA	MPM489	B86832	2023-01-04
6	Water pressure gauge	YOKOGAWA	MPM489	B86833	2023-01-04
7	Flowmeter	YOKOGAWA	AXG032	S5W920561039	2023-01-04
8	Anechoic rooms (hemi-anechoic rooms)	Guangzhou Kinte	-	NC-036-2	2023-10-07
9	AC source Supply	YANGHONG	YF-3600	VGDS-0637	2022-11-07
10	6 channel data logger	_	PXI-1033	VGDY-0257	2023-05-20
11	PULSE system	B & K	3660C	VGDY-0184	2023-04-12
12	Calibrator	B & K	4231	HJ-000095	2023-06-30
13	Long steel tape	_	5m	HJ-000150	2023-01-04
14	Temperature measurement system	_	_	NC-036-1	2023-06-07
15	Atmospheric pressure meter			HJ-000165	2022-11-22
16	Constant temperature water system	B & K	_	VGDS-0448	2023-04-18
17	Windscreen	B & K	WS002-5	_	_

-- End of Report --



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