



Technical Report No.: 64.181.24.00471.01 Rev.00

Date: 2024-06-25

Client: Name: Guangzhou Sprsun New Energy Technology Development

Co., Ltd

No.15 Tangxi Road, Yinsha Industrial Park, Xintang, Address:

Zengcheng District, Guangzhou, 511338, China

Contact person: YE XIN

Manufacturer: Guangzhou Sprsun New Energy Technology Development Name:

Co., Ltd

Address: No.15 Tangxi Road, Yinsha Industrial Park, Xintang,

Zengcheng District, Guangzhou, 511338, China

Factory: Name: Guangzhou Sprsun New Energy Technology Development

Co., Ltd

Address: No.15 Tangxi Road, Yinsha Industrial Park, Xintang,

Zengcheng District, Guangzhou, 511338, China

Test object: Product: DC Inverter Air Source Heat Pumps

> Model: CGK-030V4P-B, CGK-040V4P-B, CGK-050V4P-B

Trade mark: PRSUN

Test specification: 4 EN 14825:2022

> EN 14511-3:2022 4 1 EN 12102-1:2022

1 EN 14511-4:2022 Clause 4

Purpose of Test according to the test specification

examination:

1 (EU) No 813/2013

1 EU 2016/2282:2016-11-30

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

listed test specifications.

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





1 Description of the test object

1.1 Function

1.2

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						
Consideration of the forese	eeable	use				
☐ Not applicable						
Covered through the applied	ed stanc	dard				
☐ Covered by the following co	omment	t				
☐ Covered by attached risk a	nalysis					
Technical Data						
Model:	CGł	K-030V4P-B,	CGK-0	40V4P-B, CG	K-050	V4P-B
Rated Voltage (V):	380-	-420V, 3N~				
Rated Frequency (Hz):	50					
Rated Power (W):	see	the nameplat	е			
Rated Current (A):	see	the nameplat	е			
Protection Class:	Clas	ss I				
Protection Against Moisture :	IP X	(4				
Construction:	Stat	ionary				
Supply connection:		Non detach	able co	ord		
	V	Permanent	connec	ction to fixed	wiring	
Operation mode:	V	Continuous	operat	ion;		
		Intermittent	operat	ion;		
		Short time of	operation	on;		
Refrigerant/charge (kg) :	F	•	for CG	6K-030V4P-B 6K-040V4P-B 6K-050V4P-B	,	
Declared parameters :	4	Average		Warmer		Colder
Sound power level dB(A):	N/A					
Series No :		Л0532110002 Л0532110006				

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KBM053211000400015 for CGK-050V4P-B



2 Order

2.1 Date of Purchase Order, Customer's Reference

Date of Purchase Order: 2023-06-21

Customer's Reference: Guangzhou Sprsun New Energy Technology Development Co., Ltd

2.2 Test Sample(s)

• Reception date(s): 2024-01-19

• Location(s) of reception:

For Energy test:

Guangzhou Customs District Technology Center

(CNAS accredited laboratory with Registration No.CNAS L2322)

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

For Noise tests:

CVC Testing Technology Co., Ltd.

(CNAS accredited laboratory with Registration No.CNAS L0095)

Address: No.3, Tiantai Yilu, Kaitai Avenue, Science City, Guangzhou, Guangdong, China

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

2.3 Date(s) of Testing

2024-01-19 to 2024-06-12

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

☑ Decision rule according to ILAC-G8:09/2019 clause 4.2.1 Binary statement for simple
acceptance rule or IEC Guide 115:2023, clause 4.3 Simple acceptance was applied.
☐ Decision rule according to customer's requirements was applied. It is:
Decision rule according to II AC G8:00/2010 clause 4.2.2 Ripary statement with quard

 \square Decision rule according to ILAC-G8:09/2019 clause 4.2.2 Binary statement with guard band - guard band length = 95 % extended measurement uncertainty, was applied.

- □ Decision rule (based on ILAC-G8:09/2019 clause 4.2.3 Non-binary statement with guard band, guard band length = 95 % extended measurement uncertainty) for an upper specification limit (A lower limit or specification with an up-per and a lower limit is treated similarly.):
- Compliance with the requirement: If a specification limit is not breached by a measurement result plus the expanded uncertainty with a 95% coverage probability, then compliance with the specification will be stated (e. g. Pass).
- Non-compliance with the requirement: If a specification limit is exceeded by the measurement result minus the expanded uncertainty with a 95% coverage probability, then non-compliance with the specification will be stated (e. g. Fail).
- Inconclusive result: If a measurement result plus/minus the expanded uncertainty with a 95 % coverage probability overlaps the limit it will be stated that it is not possible to state compliance or non-compliance.

☐ There are no statements to conformity or r	o results with	measurand	stated in this	report, no
decision rule has been applied.				

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3.1 Positive Test Results

See Appendix I

4 Remarks

4.1 General

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 particulars 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

6 Test History

- 1) 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 5-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.

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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	CGK-030V4P	-В									
Product type	Air to Water	Heating season	7	Average	rage 🗆 Warmer 🗆			Colder			
1. Test condit	ions:										
	F	Part Load Ra	tio				door			r heat	
Condition	F	in %					change			anger	
	Form	iula		verage imates		•	(wet) b ture (°0			let water ures (°C)	
А	(-7-16)/(Tde	esignh-16)		88		-7((-8)		a /	34	
В	(+2-16)/ (Td	esignh-16)		54		2((1)		a /	30	
С	(+7-16)/(Td	esignh-16)		35		7((6)		a /	27	
D	(+12-16)/(To	lesignh-16)		15		12((11)		a /	24	
Е	(TOL	-16)/ (Tdesig	nh-16	5)		TO	OL		a / 35.3		
F	(Tbival	ent-16)/(Tdes	signh-	16)		Tbiv			a / 34		
G	(-15-16)/(Td	esignh-16)		N/A		-1	15		N/A		
Remark: a) With conditions, the conditions.	capacity is 5.73	32kW, the po	wer is								
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A	2/W30 54%)	A7/W2 (35%			W24 5%)	A(-10)/ W35.3 (100%)	A(-7)/ W34 (88%)	
		А		В	С		ſ)	Е	F	
Data collection period	hh: min:sec	1:10:00	1:	:10:00	1:10:0	00	1:10	0:00	1:10:00	1:10:00	
The heat pump defrosts		No		No	No		Ν	lo	No	No	
Electrical Prop	erties	•				•					
Voltage	V	399.8	3	399.8	399.5	5	39	9.3	400.6	399.8	
Current input of the unit	А	3.42		1.49	1.06		0.	98	3.50	3.42	
Power input of the unit	kW	1.913	(0.775	0.537	7	0.4	191	2.040	1.913	
Compressor frequency	Hz	85		38	30		3	60	90	85	

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Test condition	s User Side						
Water flow	m³/h	1.00	1.00	1.00	1.00	1.00	1.00
Inlet Water temperature	°C	28.86	26.87	24.97	23.18	30.21	28.86
Outlet Water temperature	°C	33.96	29.99	27.76	26.33	35.19	33.96
Test condition	s Source Side	,					
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Air inlet temperature, DB	°C	-6.99	2.01	6.93	12.06	-10.06	-6.99
Air inlet temperature, WB	°C	-7.99	1.00	6.03	10.95	-10.98	-7.99
Summary of th	e results						
Total heating capacity	kW	5.927	3.609	3.237	3.651	5.795	5.927
Effective power input	kW	1.912	0.764	0.528	0.480	2.039	1.912
Coefficient of performance (COP)	kW/kW	3.10	4.73	6.13	7.61	2.84	3.10

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.045
Standby mode [P _{SB}]	kW	0.022
Crankcase heater [P _{CK}]	kW	0.039
Off mode [P _{OFF}]	kW	0.022

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Tdesignh(°C):	-10		Tbiv(°C):	-7		
Pdesignh(kW):	6.701		TOL(°C):	-10		
Test result A,	B, C, D, E, F	conditions):	•		
Condition	Part load	Measured capacity	Measured COP	Cdh	CR	COP at part load
E	6.701	5.795	2.84	0.90	1.00	2.84
F	5.927	5.927	3.10	0.90	1.00	3.10
А	5.927	5.927	3.10	0.90	1.00	3.10
В	3.608	3.609	4.73	0.90	1.00	4.73
С	2.319	3.237	6.13	0.90	0.72	5.90
D	1.031	3.651	7.61	0.90	0.28	6.07

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.70
SCOP:	kWh/kWh	4.68
Q _H :	kWh/year	13843
Q _{HE} :	kWh/year	2957
$\eta_{s,h}$	%	184.2
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)		A+++

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Table 2.	Heating mod	e (Medium t	empe	rature app	lication)	:			ı	•
Model	CGK-030V4P	-В							-	
Product type	Air to Water	Heating season	7	Average		Warm	er		Colder	
1. Test condit	ions:									
Condition	F	Part Load Ra in %	itio		hea	Outdoo at excha		r		r heat anger
Condition	Form	nula		verage imates		dry (we				let water ures (°C)
А	(-7-16)/(Tde	esignh-16)		88		-7(-8)			a /	52
В	(-7-16)/(Tdesignh-16) (+2-16)/ (Tdesignh-16) (+7-16)/(Tdesignh-16) (+12-16)/(Tdesignh-16) (TOL-16)/ (Tdesignh-16)/(Tdesignh-16)/(Tdesignh-16)/(Tdesignh-16)			54		2(1)			a / 42	
С	Air to vvater season			35	7(6)			a /	36	
D	(+12-16)/(To	Part Load R in % Formula 16)/(Tdesignh-16) 16)/(Tdesignh-16) 16)/(Tdesignh-16) 16)/(Tdesignh-16) (TOL-16)/(Tdesignh-16) (Tol-16)/(Tdesignh-16) ater flow rate as derent is 6.297kW, the performance of the company of the compan		15		12(11))		a /	30
E	(TOL	16)/ (Tdesig	nh-16	5)		TOL			a/:	55.3
F	(Tbival	ent-16)/(Tde	signh-	16)		Tbiv			a /	52
G	(-15-16)/(Td	esignh-16)		N/A		-15			N	/A
conditions, the c	capacity is 6.29	97kW, the po	wer is						EN III EIN 1451	1-2 at 47/33
General test conditions/ Part-Load		A(-7)/W52	A	2/W42 54%)	A7/W3 (35%		\12/\ (15°		A(-10)/ W55.3 (100%)	A(-7)/ W52 (88%)
		А		В	С		D		Е	F
Data collection period	hh: min:sec	1:10:00	1:	:10:00	1:10:0	0	1:10	:00	1:10:00	1:10:00
The heat pump defrosts		No		No	No		No)	No	No
Electrical Prop	erties									
Voltage	V	399.6	3	399.8	399.3	3	399	.3	399.2	399.6
Current input of the unit	А	4.05		1.78	1.26		1.1	6	4.17	4.05
Power input of the unit	kW	2.340	(0.935	0.647	,	0.5	81	2.508	2.340
Compressor frequency	Hz	85		38	30		30	_ 	90	85

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Appendix I Test results

Test conditions User Side												
m³/h	0.70	0.70	0.70	0.70	0.70	0.70						
°C	45.32	37.73	33.47	29.03	48.41	45.32						
°C	52.09	41.93	37.28	33.38	55.09	52.09						
Test conditions Source Side												
kPa	99.85	99.85	99.85	99.80	99.75	99.85						
°C	-7.00	1.97	6.98	11.99	-9.95	-7.00						
°C	-7.99	0.99	6.05	11.07	-11.05	-7.99						
e results												
kW	5.509	3.401	3.097	3.534	5.439	5.509						
kW	2.340	0.921	0.635	0.570	2.508	2.340						
kW/kW	2.35	3.69	4.88	6.20	2.17	2.35						
	m³/h °C °C Source Side kPa °C °C • results kW	m³/h 0.70 °C 45.32 °C 52.09 Source Side kPa 99.85 °C -7.00 °C -7.99 results kW 5.509 kW 2.340	m³/h 0.70 0.70 °C 45.32 37.73 °C 52.09 41.93 Source Side kPa 99.85 99.85 °C -7.00 1.97 °C -7.99 0.99 results kW 5.509 3.401 kW 2.340 0.921	m³/h 0.70 0.70 0.70 °C 45.32 37.73 33.47 °C 52.09 41.93 37.28 Source Side kPa 99.85 99.85 99.85 °C -7.00 1.97 6.98 °C -7.99 0.99 6.05 results kW 5.509 3.401 3.097 kW 2.340 0.921 0.635	m³/h 0.70 0.70 0.70 0.70 °C 45.32 37.73 33.47 29.03 °C 52.09 41.93 37.28 33.38 Source Side kPa 99.85 99.85 99.85 99.80 °C -7.00 1.97 6.98 11.99 °C -7.99 0.99 6.05 11.07 e results kW 5.509 3.401 3.097 3.534 kW 2.340 0.921 0.635 0.570	m³/h 0.70 0.70 0.70 0.70 0.70 °C 45.32 37.73 33.47 29.03 48.41 °C 52.09 41.93 37.28 33.38 55.09 Source Side kPa 99.85 99.85 99.85 99.80 99.75 °C -7.00 1.97 6.98 11.99 -9.95 °C -7.99 0.99 6.05 11.07 -11.05 P results kW 5.509 3.401 3.097 3.534 5.439 kW 2.340 0.921 0.635 0.570 2.508						

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.045
Standby mode [P _{SB}]	kW	0.022
Crankcase heater [P _{CK}]	kW	0.039
Off mode [P _{OFF}]	kW	0.022

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3.Calculation/conclusion for SCOP:												
Tdesignh(°C):	-10		Tbiv(°C):	-7								
Pdesignh(kW):	6.228		TOL(°C):	-10								
Test result A,	B, C, D, E, F	conditions	S :									
Condition	Part load	Measured capacity	Measured COP	Cdh	CR	COP at part load						
E	6.228	5.439	2.17	0.90	1.00	2.17						
F	5.509	5.509	2.35	0.90	1.00	2.35						
А	5.509	5.509	2.35	0.90	1.00	2.35						
В	3.353	3.401	3.69	0.90	0.99	3.69						
С	2.156	3.097	4.88	0.90	0.70	4.68						
D	0.958	3.534	6.20	0.90 0.27 4.89								
CR: part load di	vided by capac	ity;	CR: part load divided by capacity;									

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.68
SCOP:	kWh/kWh	3.67
Q _H :	kWh/year	12866
Q _{HE} :	kWh/year	3507
$\eta_{s,h}$	%	143.8
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)		A++

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Table 3.	Heating mode (Low temperature application):							Р		
Model	CGK-040V4P-B									
Product type	Air to Water	Heating season	7	Average		Wa	armer		Colder	
1. Test condit	ions:									
	ı	Part Load Ra	itio		hea		door change	er		or heat anger
Condition	Forn	nula		verage imates		•	(wet) b			let water tures (°C)
А	(-7-16)/(Td	esignh-16)		88		-7	(-8)		a /	34
В	(+2-16)/ (To	lesignh-16)		54		2	(1)		a /	30
С	(+7-16)/(Td	esignh-16)		35		7	(6)		a /	27
D	(+12-16)/(To	designh-16)		15		12	(11)		a /	24
Е	(TOI	16)/ (Tdesig	nh-16	5)		T	OL		a / 35.3	
F	(Tbiva	lent-16)/(Tde	signh-	16)	Tbiv			a / 34		
G	(-15-16)/(To	lesignh-16)		N/A	-15			N/A		
Remark: a) With conditions, the c	capacity is 7.65	50kW, the po	wer is						en in EN1451	1-2 at 30/35
2.Tested data General test	Unit	A(-7)/W34	•	2/W30	A7/W2	07	A 1 2	W24	A(-10)/	A(-7)/ W34
conditions/ Part-Load	Offit	(88%)		(54%)	(35%			5%)	W35.3 (100%)	(88%)
		А		В	С		I)	Е	F
Data collection period	hh: min:sec	1:10:00	1	:10:00	1:10:0	00	1:10	0:00	1:10:00	1:10:00
The heat pump defrosts		No		No	No		N	lo	No	No
Electrical Prop	erties									
Voltage	V	400.0	4	400.5	400.5	5	40	0.7	399.6	400.0
Current input of the unit	А	4.36		1.89	1.35 1.24		24	4.49	4.36	
Power input of the unit	kW	2.575		1.005	0.707	7	0.6	36	2.734	2.575
Compressor	Hz	85		38	30		3	80	90	85

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Test conditions	s User Side						
Water flow	m³/h	1.35	1.35	1.35	1.35	1.35	1.35
Inlet Water temperature	°C	29.00	26.82	25.06	23.24	30.43	29.00
Outlet Water temperature	°C	33.99	29.87	27.92	26.48	35.27	33.99
Test conditions	s Source Side	,					
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Air inlet temperature, DB	°C	-6.99	2.03	7.06	11.89	-10.10	-6.99
Air inlet temperature, WB	°C	-8.05	1.00	5.91	10.98	-10.98	-8.05
Summary of th	e results						
Total heating capacity	kW	7.832	4.774	4.483	5.066	7.600	7.832
Effective power input	kW	2.574	0.994	0.698	0.620	2.733	2.574
Coefficient of performance (COP)	kW/kW	3.04	4.80	6.43	8.17	2.78	3.04

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.046
Standby mode [P _{SB}]	kW	0.023
Crankcase heater [P _{CK}]	kW	0.038
Off mode [P _{OFF}]	kW	0.023

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3.Calculation	conclusion	for SCOP:								
Tdesignh(°C):	-10		Tbiv(°C):	-7	-7					
Pdesignh(kW):	8.854		TOL(°C):	-10						
Test result A,	B, C, D, E, F	conditions	S:	•						
Condition	Part load	Measured capacity	Measured COP	Cdh	CR	COP at part load				
E	8.854	7.600	2.78	0.90	1.00	2.78				
F	7.832	7.832	3.04	0.90	1.00	3.04				
А	7.832	7.832	3.04	0.90	1.00	3.04				
В	4.767	4.774	4.80	0.90	1.00	4.80				
С	3.065	4.483	6.43	0.90	0.68	6.14				
D	1.362	5.066	8.17	0.90	0.27	6.42				
CR: part load di	vided by capac	ity;		•	1	1				

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.79
SCOP:	kWh/kWh	4.77
Q _H :	kWh/year	18292
Q _{HE} :	kWh/year	3833
$\eta_{s,h}$	%	187.9
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)		A+++

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Table 4.	Heating mode (Medium temperature application):							ı	P		
Model	CGK-040V4P	-В									
Product type	Air to Water	Heating season	7	Average		Wa	rmer		Colder		
1. Test condit	ions:										
Condition	F	Part Load Ra in %	itio		hea	Outo	door change	er		r heat anger	
Condition	Form	nula		verage imates			wet) b ture (°0			let water ures (°C)	
А	(-7-16)/(Tde	esignh-16)		88		-7(-8)		a /	52	
В	(+2-16)/ (Td	lesignh-16)		54		2(1)		a /	42	
С	(+7-16)/(Td	esignh-16)		35		7(6)		a /	36	
D	(+12-16)/(To	designh-16)		15		12(11)		a /	30	
Е	(TOL	16)/ (Tdesig	nh-16	5)		TC	DL		a / 55.3		
F	(Tbival	ent-16)/(Tde	signh-	16)	Tbiv			a / 52			
G	(-15-16)/(Td	lesignh-16)		N/A	-15			N/A			
Remark: a) With conditions, the conditions	capacity is 9.05	58kW, the po	wer is						en in EN1451	1-2 at 47/55	
2.Tested data General test	Unit		•	2/W42	A7/W3	oe I	A 1 2	W30	A (10) /	A	
conditions/ Part-Load	Onit	A(-7)/W52 (88%)	(54%)		(35%			vv30 5%)	A(-10)/ W55.3 (100%)	A(-7)/ W52 (88%)	
		Α		В	С		I)	Е	F	
Data collection period	hh: min:sec	1:10:00	1	:10:00	1:10:0	00	1:10	0:00	1:10:00	1:10:00	
The heat pump defrosts		No		No	No		Ν	lo	No	No	
Electrical Prop	erties					-					
Voltage	V	399.2	4	400.2	400.4	1	40	0.5	399.1	399.2	
Current input of the unit	А	5.20		2.41	1.65 1.46		46	5.56	5.20		
Power input of the unit	kW	3.221		1.339	0.876	6	0.7	758	3.465	3.221	
Compressor frequency	Hz	85		38	30		3	60	90	85	

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Test conditions	s User Side						
Water flow	m³/h	1.00	1.00	1.00	1.00	1.00	1.00
Inlet Water temperature	°C	45.56	37.83	33.47	28.85	48.91	45.56
Outlet Water temperature	°C	51.97	42.00	37.14	33.04	55.08	51.97
Test conditions	s Source Side						
Barometric pressure	kPa	99.85	99.85	99.85	99.80	99.75	99.85
Air inlet temperature, DB	°C	-7.00	2.00	6.93	12.08	-10.12	-7.00
Air inlet temperature, WB	°C	-8.00	1.00	5.99	11.02	-10.97	-8.00
Summary of th	e results						
Total heating capacity	kW	7.454	4.857	4.266	4.873	7.168	7.454
Effective power input	kW	3.217	1.335	0.873	0.755	3.462	3.217
Coefficient of performance (COP)	kW/kW	2.32	3.64	4.88	6.45	2.07	2.32

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.046
Standby mode [P _{SB}]	kW	0.023
Crankcase heater [P _{CK}]	kW	0.038
Off mode [P _{OFF}]	kW	0.023

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3.Calculation	/conclusion	for SCOP:							
Tdesignh(°C):	-10		Tbiv(°C):	-7					
Pdesignh(kW):	8.426		TOL(°C):	-10					
Test result A,	B, C, D, E, F	conditions	S :	•					
Condition	Part load	Measured capacity	Measured COP	Cdh	CR	COP at part load			
E	8.426	7.168	2.07	0.90	1.00	2.07			
F	7.454	7.454	2.32	0.90	1.00	2.32			
Α	7.454	7.454	2.32	0.90	1.00	2.32			
В	4.537	4.857	3.64	0.90	0.93	3.64			
С	2.917	4.266	4.88	0.90	0.68	4.67			
D	1.296	4.873	6.45	0.90	0.27	5.06			
CR: part load di	vided by capac	ity;		•					

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.65
SCOP:	kWh/kWh	3.64
Q _H :	kWh/year	17408
Q _{HE} :	kWh/year	4783
$\eta_{s,h}$	%	142.6
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)		A++

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Table 5.	Heating mode (Low temperature application):							F	•		
Model	CGK-050V4P	-В									
Product type	Air to Water	Heating season	V	Average		Wa	armer		Colder		
1. Test condit	tions:										
Condition	F	Part Load Ra	itio		hea		door chang	er		r heat anger	
Condition	Form	nula		verage imates		-	(wet) b ture (°0			let water ures (°C)	
А	(-7-16)/(Tde	esignh-16)		88		-7	(-8)		a /	34	
В	(+2-16)/ (Td	esignh-16)		54		2	(1)		a /	30	
С	(+7-16)/(Td	esignh-16)		35		7	(6)		a /	27	
D	(+12-16)/(To	lesignh-16)		15		12	(11)		a /	24	
E	(TOL	-16)/ (Tdesig	gnh-16	6)		T	OL		a / 35.3		
F	(Tbival	ent-16)/(Tde:	signh-	ignh-16) Tbiv			a / 34				
G	(-15-16)/(Td	esignh-16)		N/A	-15			N/A			
Remark: a) With conditions, the conditions	capacity is 10.2	279kW, the p	ower i						en in Ein 145 i	1-2 at 30/35	
2.Tested data			•	0/11/00	A 7 / A / A	\ -	110	0.0.0.4	A (40) (A / 7) /) A / O 4	
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)		A7/W2 (35%			W24 5%)	A(-10)/ W35.3 (100%)	A(-7)/ W34 (88%)	
		А		В	С		I)	Е	F	
Data collection period	hh: min:sec	1:10:00	1	:10:00	1:10:0	00	1:10	0:00	1:10:00	1:10:00	
The heat pump defrosts		No		No	No		N	lo	No	No	
Electrical Prop	erties										
Voltage	V	399.6		400.3	400.5	5	40	0.7	399.2	399.6	
Current input of the unit	А	5.69		2.56	1.76		1.	61	5.97	5.69	
Power input of the unit	kW	3.504		1.409	0.949	9	0.8	354	3.743	3.504	
Compressor frequency	Hz	85		40	30		3	80	90	85	

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Test conditions User Side								
m³/h	1.75	1.75	1.75	1.75	1.75	1.75		
°C	28.45	26.62	25.09	23.01	30.09	28.45		
°C	33.88	29.95	28.00	26.33	35.38	33.88		
Source Side	•							
kPa	101.02	101.01	101.01	101.02	101.01	101.02		
°C	-6.99	2.01	7.07	11.89	-9.98	-6.99		
°C	-8.06	1.00	5.92	10.92	-10.97	-8.06		
e results								
kW	11.043	6.766	5.924	6.737	10.779	11.043		
kW	3.502	1.398	0.941	0.845	3.742	3.502		
kW/kW	3.15	4.84	6.30	7.97	2.88	3.15		
	m³/h °C °C s Source Side kPa °C °C e results kW	m³/h 1.75 °C 28.45 °C 33.88 Source Side kPa 101.02 °C -6.99 °C -8.06 e results kW 11.043 kW 3.502	m³/h 1.75 1.75 °C 28.45 26.62 °C 33.88 29.95 Source Side kPa 101.02 101.01 °C -6.99 2.01 °C -8.06 1.00 e results kW 11.043 6.766 kW 3.502 1.398	m³/h 1.75 1.75 1.75 °C 28.45 26.62 25.09 °C 33.88 29.95 28.00 Source Side kPa 101.02 101.01 101.01 °C -6.99 2.01 7.07 °C -8.06 1.00 5.92 e results kW 11.043 6.766 5.924 kW 3.502 1.398 0.941	m³/h 1.75 1.75 1.75 1.75 °C 28.45 26.62 25.09 23.01 °C 33.88 29.95 28.00 26.33 S Source Side kPa 101.02 101.01 101.01 101.02 °C -6.99 2.01 7.07 11.89 °C -8.06 1.00 5.92 10.92 e results kW 11.043 6.766 5.924 6.737 kW 3.502 1.398 0.941 0.845	m³/h 1.75 1.75 1.75 1.75 °C 28.45 26.62 25.09 23.01 30.09 °C 33.88 29.95 28.00 26.33 35.38 S Source Side kPa 101.02 101.01 101.01 101.02 101.01 °C -6.99 2.01 7.07 11.89 -9.98 °C -8.06 1.00 5.92 10.92 -10.97 e results kW 11.043 6.766 5.924 6.737 10.779 kW 3.502 1.398 0.941 0.845 3.742		

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.085
Standby mode [P _{SB}]	kW	0.024
Crankcase heater [P _{CK}]	kW	0.041
Off mode [P _{OFF}]	kW	0.024

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Tdesignh(°C):	-10		Tbiv(°C):	-7		
Pdesignh(kW):	12.483		TOL(°C):	-10		
Test result A,	B, C, D, E, F	conditions	s:	•		
Condition	Part load	Measured capacity	Measured COP	Cdh	CR	COP at part load
E	12.483	10.779	2.88	0.90	1.00	2.88
F	11.043	11.043	3.15	0.90	1.00	3.15
А	11.043	11.043	3.15	0.90	1.00	3.15
В	6.722	6.766	4.84	0.90	0.99	4.84
С	4.321	5.924	6.30	0.90	0.73	6.07
D	1.920	6.737	7.97	0.90	0.29	6.38

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.83
SCOP:	kWh/kWh	4.81
Q _H :	kWh/year	25790
Q _{HE} :	kWh/year	5366
$\eta_{s,h}$	%	189.3
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)		A+++

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Table 6.	Heating mode (Medium temperature application):								Р	
Model	CGK-050V4P	-B								
Product type	Air to Water	Heating season	7	Average		Wa	rmer		Colder	
1. Test condit	ions:									
	F		tio			Outo				r heat
Condition	F						change			anger
Condition Form		nuia		verage imates		• •	wet) b ture (°0			let water ures (°C)
А	(-7-16)/(Tde	esignh-16)		88		-7(-8)		a /	52
В	(+2-16)/ (Tdesignh-16) (+7-16)/(Tdesignh-16)			54		2(1)		a /	42
С	### Season ### Season ### Load Ratio in % Formula			35		7(6)		a /	36
D	(+12-16)/(To	lesignh-16)		15		12(11)		a /	30
Е	(TOL	16)/ (Tdesig	nh-16	5)		TC	DL		a / 55.3	
F	, , , ,		signh-	16)	Tbiv		a / 52			
G	(-15-16)/(Td	esignh-16)		N/A	-15			N/A		
conditions, the c	capacity is 11.4	157kW, the po	ower is							
General test conditions/ Part-Load		A(-7)/W52	A	2/W42 54%)	A7/W3 (35%			/W30 5%)	A(-10)/ W55.3 (100%)	A(-7)/ W52 (88%)
		Α		В	С		I)	E	F
Data collection period	hh: min:sec	1:10:00	1:	:10:00	1:10:0	00	1:10	0:00	1:10:00	1:10:00
The heat pump defrosts		No		No	No		Ν	lo	No	No
Electrical Prop	erties					•				
Voltage	V	399.4	4	400.2	400.4	1	40	0.6	398.8	399.4
Current input of the unit	А	6.76		3.13	2.15		1.	92	7.17	6.76
Power input of the unit	kW	4.248	,	1.746	1.183	3	1.0)32	4.558	4.248
Compressor frequency	Hz	85		40	30		3	80	90	85

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Test conditions	SUser Side						
Water flow	m³/h	1.25	1.25	1.25	1.25	1.25	1.25
Inlet Water temperature	°C	44.76	37.55	33.34	28.81	48.31	44.76
Outlet Water temperature	°C	51.91	41.97	37.19	33.28	55.24	51.91
Test conditions	Source Side	•					
Barometric pressure	kPa	99.85	99.85	99.85	99.80	99.75	99.85
Air inlet temperature, DB	°C	-7.00	2.08	6.99	11.99	-9.94	-7.00
Air inlet temperature, WB	°C	-8.06	1.00	5.98	11.12	-11.04	-8.06
Summary of the	e results						
Total heating capacity	kW	10.392	6.408	5.577	6.477	10.074	10.392
Effective power input	kW	4.246	1.726	1.163	1.013	4.557	4.246
Coefficient of performance (COP)	kW/kW	2.45	3.71	4.80	6.39	2.21	2.45

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.085
Standby mode [P _{SB}]	kW	0.024
Crankcase heater [P _{CK}]	kW	0.041
Off mode [P _{OFF}]	kW	0.024

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Tdesignh(°C):	-10		Tbiv(°C):	-7	7			
ruesigriri(C).	-10		1610(6) .	-'				
Pdesignh(kW):	11.747		TOL(°C):	-10				
Test result A, B, C, D, E, F conditions:								
Condition	Part load	Measured capacity	Measured COP	Cdh	CR	COP at part load		
E	11.747	10.074	2.21	0.90	1.00	2.21		
F	10.392	10.392	2.45	0.90	1.00	2.45		
А	10.392	10.392	2.45	0.90	1.00	2.45		
В	6.326	6.408	3.71	0.90	0.99	3.71		
С	4.066	5.577	4.80	0.90	0.73	4.62		
D	1.807	6.477	6.39	0.90	0.28	5.08		

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.72
SCOP:	kWh/kWh	3.71
Q _H :	kWh/year	24270
Q _{HE} :	kWh/year	6547
$\eta_{s,h}$	%	145.3
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)		A++

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Appendix I Test results

Table 7a.	Sound power level	Р						
Model	CGK-030V4P-B	CGK-030V4P-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 outlet tempe	erature (°C):	35.0				
	Voltage (V):			400				
	Frequency (Hz):	juency (Hz):						
	Working condition cla	ass:		Class A				
	Acoustical environme	ent :		Hemi-anechoic room				
	Windshield type :			Sponge				
	Measured position a	mount :		14				
Mea	sured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark				
Sound pressure level `L _{p(ST)} ****			40					
Measureme	ent distance d *		1.0m					
Sound pow	er level L _{wA} ****		54					

Setting of controls: according to user manual.

Duct connection:--

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

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Table 7b.	Sound power level	Р						
Model	CGK-030V4P-B	CGK-030V4P-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 outlet tempe	rature (°C):	55.0				
	Voltage (V):			400				
	Frequency (Hz):	Frequency (Hz):						
	Working condition cl	orking condition class :						
	Acoustical environme	ent :		Hemi-anechoic room				
	Windshield type :			Sponge				
	Measured position a	mount :		14				
Meas	sured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark				
Sound pressure level `L _{p(ST)} ****			40					
Measureme	ent distance d *		1.0m					
Sound pow	er level L _{wA} ****		54					

Setting of controls: according to user manual.

Duct connection:--

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

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Table 8a.	Sound power level	Р						
Model	CGK-040V4P-B	CGK-040V4P-B						
	Product type :			Air to Water				
	Outdoor heat exchar	nger, Air temperature [DB/WB (°C):	7.0 / 6.0				
	Indoor heat exchang	er, Water outlet tempe	erature (°C):	35.0				
	Voltage (V):			400				
	Frequency (Hz):	Frequency (Hz):						
	Working condition cl	ass:	Class A					
	Acoustical environme	ent :		Hemi-anechoic room				
	Windshield type :			Sponge				
	Measured position a	mount :		14				
Mea	sured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark				
Sound pressure level `L _{p(ST)} ****			43					
Measureme	ent distance d *		1.0m					
Sound pow	er level L _{wA} ****		57					

Setting of controls: according to user manual.

Duct connection:--

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

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Appendix I Test results

Table 8b. Sound power level i		measurement (Mediu	ım temperature application)	Р	
Model	CGK-040V4P-B				
	Product type :			Air to Water	
	Outdoor heat exchar	nger, Air temperature D	er, Air temperature DB/WB (°C): Water outlet temperature (°C):		
	Indoor heat exchang	er, Water outlet tempe			
	Voltage (V):			400	
	Frequency (Hz):			50	
	Working condition class :			Class A	
	Acoustical environme	ustical environment :			
	Windshield type :			Sponge	
	Measured position a	mount :		14	
Measured quantity		L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark	
Sound pressure level `L _{p(ST)} ****			42		
Measureme	ent distance d *		1.0m		
Sound power level L _{wA} ****			56		

Setting of controls: according to user manual.

Duct connection:--

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

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Table 9a.	Sound power level	measurement (Low t	emperature application)	Р
Model	CGK-050V4P-B			•
	Product type :		Air to Water	
	Outdoor heat exchar	nger, Air temperature D	ger, Air temperature DB/WB (°C):	
	Indoor heat exchang	er, Water outlet tempe	perature (°C):	35.0
	Voltage (V):			
	Frequency (Hz):			50
	Working condition class :			Class A
	Acoustical environme	stical environment :		
	Windshield type :			Sponge
	Measured position a			14
Measured quantity		L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark
Sound pressure level `L _{p(ST)} ****			45	
Measurement distance d *			1.0m	
Sound power level L _{wA} ****			59	

Setting of controls: according to user manual.

Duct connection:--

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

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Appendix I Test results

Table 9b.	. Sound power level measurement (Medium temperature application)			Р
Model	CGK-050V4P-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 outlet tempe	rature (°C):	55.0
	Voltage (V):			400
	Frequency (Hz): Working condition class :			50
				Class A
	Acoustical environme	ent :		Hemi-anechoic room
	Windshield type :			Sponge
	Measured position a	mount :		14
Measured quantity		L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark
Sound pressure level `L _{p(ST)} ****			46	
Measurement distance 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

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Table 10.	Clause 4 of EN 14511-4:2022	
Model:	CGK-030V4P-B	
TEST 1	STARTING TEST (§4.2.1.2 Table 3)	

Requirement: The "lower" starting operating conditions declared by the manufacturer for the heating mode- i.e. Tair= -24.87°C, T in water =10.66°C, Flow rate 0.48m³/h have been set and obtained. At those conditions, the machine was switched on.

Observation/ Evaluation: It started without any problem and worked for 30 minutes without showing any warning or alarm. During the test the machine operated in auto mode. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 2 OPERATING TEST (§4.2.1.2 Table 3)

Requirement: 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= -24.88 °C, T in water = 52.30 °C, Flow rate 0.48 m³/h. Once these conditions were obtained, the machine was let operate for over 1 hour in auto mode.

Observation/ Evaluation: During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 3 SHUTTING OFF WATER FLOW (§ 4.5)

Requirement: The water flow rate was shuted 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.

Observation/ Evaluation: 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 Response: Pass

TEST 4 SHUTTING OFF AIR FLOW (§ 4.5)

Requirement: 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.

Observation/ Evaluation: During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 5 COMPLETE POWER SUPPLY FAILURE (§ 4.6)

Requirement: The power supply was cut off for about 5 seconds.

Observation/ Evaluation: The unit restarted automatically within about 3 minutes after the power supply was reactivated.

Test Response: Pass

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Table 11.	Clause 4 of EN 14511-4:2022	
Model:	CGK-040V4P-B	
TEST 1	STARTING TEST (§4.2.1.2 Table 3)	

Requirement: The "lower" starting operating conditions declared by the manufacturer for the heating mode- i.e. Tair= -24.98°C, T in water =9.87°C, Flow rate 0.63m³/h have been set and obtained. At those conditions, the machine was switched on.

Observation/ Evaluation: It started without any problem and worked for 30 minutes without showing any warning or alarm. During the test the machine operated in auto mode. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 2 OPERATING TEST (§4.2.1.2 Table 3)

Requirement: 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= -24.97 °C, T in water = 51.71 °C, Flow rate 0.63 m³/h. Once these conditions were obtained, the machine was let operate for over 1 hour in auto mode.

Observation/ Evaluation: During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 3 SHUTTING OFF WATER FLOW (§ 4.5)

Requirement: The water flow rate was shuted 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.

Observation/ Evaluation: 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 Response: Pass

TEST 4 SHUTTING OFF AIR FLOW (§ 4.5)

Requirement: 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.

Observation/ Evaluation: During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 5 COMPLETE POWER SUPPLY FAILURE (§ 4.6)

Requirement: The power supply was cut off for about 5 seconds.

Observation/ Evaluation: The unit restarted automatically within about 3 minutes after the power supply was reactivated.

Test Response: Pass

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Table 12.	Clause 4 of EN 14511-4:2022	
Model:	CGK-050V4P-B	
TEST 1	STARTING TEST (§4.2.1.2 Table 3)	

Requirement: The "lower" starting operating conditions declared by the manufacturer for the heating mode- i.e. Tair= -24.88°C, T in water =10.01°C, Flow rate 0.90m³/h have been set and obtained. At those conditions, the machine was switched on.

Observation/ Evaluation: It started without any problem and worked for 30 minutes without showing any warning or alarm. During the test the machine operated in auto mode. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 2 OPERATING TEST (§4.2.1.2 Table 3)

Requirement: 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= -24.88 °C, T in water = 51.10 °C, Flow rate 0.90 m³/h. Once these conditions were obtained, the machine was let operate for over 1 hour in auto mode.

Observation/ Evaluation: During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.

Test Response: Pass

SHUTTING OFF WATER FLOW (§ 4.5) TEST 3

Requirement: The water flow rate was shuted 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.

Observation/ Evaluation: 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 Response: Pass

TEST 4 SHUTTING OFF AIR FLOW (§ 4.5)

Requirement: 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.

Observation/ Evaluation: During the test, no waring or alarm were showed. No damage was recorded on the machine during and after the test.

Test Response: Pass

TEST 5 COMPLETE POWER SUPPLY FAILURE (§ 4.6)

Requirement: The power supply was cut off for about 5 seconds.

Observation/ Evaluation: The unit restarted automatically within about 3 minutes after the power supply was reactivated.

Test Response: Pass

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Appendix II Marking plate

Nameplate

Model: CGK-030V4P-B

SPRSUN	C€ <u>₹</u>	
DC Inverter Air Source I		
Model	CGK-030V4P-B	
Power Supply	380-420V 3N~/50Hz	
*Heating Capacity Min./Max.	3.15/9.1kW	
*Heating Input Power Min./Max.	0.63/2.17kW	
*Heating COP Min./Max.	4.20/5.0W/W	
Cooling Capacity Min./Max.	2.10/5.63kW	
Cooling Input Power Min./Max.	0.61/2.12kW	
Rated Input Power/Current	4.0kW/8.44A	
Max. Water Outlet Temperature	75℃	
Max. Water Pump Flow	4m ³ /h	
Max. Water Pump Head	9m	
Rated Water Flow	1.55m ³ /h	
Refrigerant/Weight	R290/0.75kg	
Low/High side operation pressure	0.85/3.2MPa	
Low/High maximum allowable pressure	1.8/3.2MPa	
Max Water Pressure	1.0MPa	
Shock Proof Grade	I	
Water Proof Level	IPX4	
Water Pressure Drop	20kPa	
Water Pipe Connection	1 inch	
Net Weight	106kg	
Date/NO.	See bar code	
System CO2 equivalent charge weig		
*Heating working condition: Dry bulb temperature 7°C, Wet bulb tempera Inlet water temperature 30°C,Outlet water tem		
Guangzhou Sprsun New Energy Technology Development Co., Ltd No. 15 Tangxi Road, Yinsha Industrial Park, Xintang, Zengcheng Guangzhou,China		

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Appendix II Marking plate

Nameplate

Model: CGK-040V4P-B

	C€ <u>₹</u>
DC Inverter Air Source H	the state of the s
Model	CGK-040V4P-E
Power Supply	380-420V 3N~/50Hz
*Heating Capacity Min./Max.	4.35/12kW
*Heating Input Power Min./Max.	0.89/3.07kW
*Heating COP Min./Max.	3.9/4.92W/W
Cooling Capacity Min./Max.	3.58/7.2kW
Cooling Input Power Min./Max.	1.21/2.75kW
Rated Input Power/Current	5.0kW/23.92A
Max. Water Outlet Temperature	75°C
Max. Water Pump Flow	4m³/t
Max. Water Pump Head Rated Water Flow	9ir 2.06m ³ /h
Refrigerant/Weight	R290/0.90kg
Low/High side operation pressure	0.85/3.2MPa
Low/High maximum allowable pressure	1.8/3.2MPa
Max Water Pressure	1.0MPa
Shock Proof Grade	I
Water Proof Level	IPX4
Water Pressure Drop	21kPa
Water Pipe Connection	1 inch
Net Weight	110kg
Date/NO.	See bar code
System CO2 equivalent charge weig	ht : 0.003 ton
*Heating working condition: Dry bulb temperature 7°C, Wet bulb temperat Inlet water temperature 30°C,Outlet water tem	
Guangzhou Sprsun New Energy 1 Development Co., Ltd No. 15 Tangxi Road, Yinsha Industrial Park, Guangzhou,China	rechnology

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Appendix II Marking plate

Nameplate

Model: CGK-050V4P-B

SPRSUN	C€\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
DC Inverter Air Source	Heat Pumps
Model	CGK-050V4P-B
Power Supply	380-420V 3N~/50Hz
*Heating Capacity Min./Max.	5.6/15kW
*Heating Input Power Min./Max.	1.13/3.8kW
*Heating COP Min./Max.	3.94/4.96W/W
Cooling Capacity Min./Max.	4.69/10.2kW
Cooling Input Power Min./Max.	1.52/3.88kW
Rated Input Power/Current	6.3kW/13.29A
Max. Water Outlet Temperature	75°C
Max. Water Pump Flow	6.2m ³ /h
Max. Water Pump Head	10.5m
Rated Water Flow	2.6m ³ /h
Refrigerant/Weight 🔬	R290/1.2kg
Low/High side operation pressure	0.85/3.2MPa
Low/High maximum allowable pressure	1.8/3.2MPa
Max Water Pressure	1.0MPa
Shock Proof Grade	I
Water Proof Level	IPX4
Water Pressure Drop	23kPa
Water Pipe Connection	1 inch
Net Weight	135kg
Date/NO.	See bar code
System CO2 equivalent charge weig	ht : 0.0036 ton
*Heating working condition:	
Dry bulb temperature 7°C, Wet bulb temperat	
Inlet water temperature 30°C,Outlet water tem	perature 35°C
Guangzhou Sprsun New Energy Development Co., Ltd No. 15 Tangxi Road, Yinsha Industrial Park Guangzhou,China	

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Details of:	Overall view for CGK-030V4P-B
View: General Front Rear Right Left Top Bottom	

Details of:	Compressor for CGK-030V4P-B
View: General Front Rear Right Left Top Bottom	HIGHLY WHP07600PSDPC9KQ RoHS 900-7200r/min (at 3300r/min) 2023 04 28 R29C 20231H00001572 SHAMGHAI BIGHLY EDECTRICAL APPLIANCES CC LTC.

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Details of:	Fan Motor for CGK-030V4P-B
View: General Front Rear Right Left Top Bottom	水磁无刷直流电动机 (BLDC Motor) MWS116-8K-PD1 DC310V 116W 900r/min B CL. 8P エ苏曼洪威电气产品有限公司 Jiangsu Match-Well Electrical Products Co.,Ltd.

Details of:	Main Control Board for CGK-030V4P-B
View: General Front Rear Right Left Top Bottom	Main Control Board for CGR-030V4P-B

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Details of:	Water Pump for CGK-030V4P-B
View:	
☐ General	ASMINICE .
☐ Front	
☐ Rear	
□ Right	
☐ Left	
□ Тор	
□ Bottom	High Efficiency Circulation Pump Model: APMZ5-9-130S PWM1 Serial No.: 240335010532 Mm. 0.05 4 1 1 2 TF68 IPM4 Class F 230V 50/60Hz EEL00.21 Add.: Ruthshang Road 16, Economical development Zone, Shuyang City, Jangui Province, China BHIMGE PLIER INDUST ETYLANGSRUCO, A TO.

Details of:	Overall view for CGK-040V4P-B
View:	น้ำของที่ปัจจากที่ของกรีขี่ของกรีขี่ของก็ปัจจากกับกับกรีขี่ของกรีขี่ของกรีขี่ของกรีขี่ของกรีขี่ของกรีขี่ของกรีขี่ข
☐ General	
☐ Front	
☐ Rear	
□ Right	
☐ Left	
□ Тор	The state of the s
□ Bottom	

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Details of:	Compressor for CGK-040V4P-	-B
View: General Front Rear Right Left Top Bottom	HIGHLY WHP10200PSDPC9KQ 143 5V=== Roll 900-7200r/min(at 3300 mm) 2023.10.09a R290 W7XN5H08KB6J 本機造宜电器有限公司、SHANGHAI HIGHLY ELEUTRICAL APPLIANCES	€ (C) >014

Details of:	Fan Motor for CGK-040V4P-B
View: General Front Rear Right Left Top Bottom	水磁无刷直流电动机 (BLDC Motor) MWS116-8K-PD1 DC310V 116W 900r/min B CL. 8P 工

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Details of:	Main Control Board for CGK-040V4P-B
View: General Front Rear Right Left Top Bottom	

Details of:	Water Pump for CGK-040V4P-B
View:	SHIME
☐ General	
□ Front	
□ Rear	
□ Right	
□ Left	
□ Тор	
□ Bottom	High Efficiency Circulation Pump Model: APM25-9-1306 PVMM1 Sental No.: 240/3509/15/2 TF95 IP46 Class F 250V 60/00/4 EESIS-3: Add.: Ruinhers Read 18. Economics ESIS-3: Add.: Ruinhers Read 18. Economi

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Details of:	Overall view for CGK-050V4P-B
View: General Front Rear Right Left Top Bottom	The constitution of the co

□ Bottom □ Bottom	View: General Front Rear Right Left Top	HIGHLY WHP13300PSDPC8FQ 143.5V
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Fan Motor for CGK-050V4P-B
水磁无刷直流电动机(BLDC Motor) MWS116-8K-PD1 DC310V 116W 900r/min B CL. 8P エ苏曼淇威电气产品有限公司 Jiangsu Match-Well Electrical Products Co.,Ltd.

Details of:	Main Control Board for CGK-050V4P-B
View: General Front Rear Right Left Top Bottom	

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Details of:	Water Pump for CGK-050V4P-B
View: General Front Rear Right Left Top Bottom	High Efficiency Circulation Pump ModelAFF25-12-130EFPWM1 A02-231270203048 IP 44 TF 95°C Class F Max:1MPa MAGEIN CHIMA INDUSTRY (JUAN 03 0) 00.118

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Appendix IV Construction data form

Model: CGK-030V4P-	<u>B</u>	
Part		Technical data
1. Compressor		
	Manufacture:	Shanghai Highly Electrical Appliance Co., Ltd.
	Type:	WHP07600PSDPC9KQ
	Serial-number:	20231H0001572
	Specification:	R290
2. Condenser		
	Manufacture:	Jiangsu Yuanzhuo Equipment Manfactur Co.,Ltd
	Type:	ZL62FA-26AD-CG
	Heat exchanger:	Plate heat exchanger
	Dimension(mm):	526(L)mmX119(H)mmX63(D)mm
3. Evaporator		
	Manufacture:	Guangzhou Aotai Refrigeration EquipmentCo.,Ltd.
	Type:	03KK-CP-01
	Heat exchanger:	Finned-coil heat exchanger
	Dimension(mm):	660.4(L)mmX764(H)mmX356.8(D)mm
4. Fan motor		
	Manufacture:	Jiangsu Match-Well Electrical Products Co., Ltd.
	Type:	MWS116-8K-PD1
	Fan type:	3 blade
	Specification:	DC310V; 116W
5. Main control board		
	Manufacture:	Guangdong Chico Electronic Inc.
	Type:	CG248075
	Specification:	220-240V~; 50Hz
6. Water pump		
	Manufacture:	SHIMGE PUMP INDUSTRY(JIANGSU)CO.,LTD.
	Type:	APM25-9-130S PWM1
	Specification:	230V~; 50/60Hz
*(Alternative)		
· ,	Manufacture:	Shinhoo
	Type:	GPA25-9HW
	Specification:	230V~; 50Hz

Remark: * means the test results were not performed on the alternative components.

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Appendix IV Construction data form

Model: <u>CGK-040V4P-B</u>					
Part		Technical data			
1. Compressor					
	Manufacture:	Shanghai Highly Electrical Appliance Co., Ltd.			
	Type:	WHP10200PSDPC9KQ			
	Serial-number:	W7XN5H08KB6J			
	Specification:	DC143.5V; R290			
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 EquipmentCo.,Ltd.			
	Type:	04KK-CP-01			
	Heat exchanger:	Finned-coil heat exchanger			
	Dimension(mm):	675.4(L)mmX914(H)mmX356.8(D)mm			
4. Fan motor					
	Manufacture:	Jiangsu Match-Well Electrical Products Co., Ltd.			
	Type:	MWS116-8K-PD1			
	Fan type:	3 blade			
	Specification:	DC310V; 116W			
5. Main control board					
	Manufacture:	Guangdong Chico Electronic Inc.			
	Type:	CG248075			
	Specification:	220-240V~; 50Hz			
6. Water pump					
	Manufacture:	SHIMGE PUMP INDUSTRY(JIANGSU)CO.,LTD.			
	Type:	APM25-9-130S PWM1			
	Specification:	230V~; 50/60Hz			
*(Alternative)					
*	Manufacture:	Shinhoo			
	Type:	GPA25-9HW			
	Specification:	230V~; 50Hz			

Remark: * means the test results were not performed on the alternative components.

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Appendix IV Construction data form

Model: <u>CGK-050V4P-B</u>					
Part		Technical data			
1. Compressor					
	Manufacture:	Shanghai Highly Electrical Appliance Co., Ltd.			
	Type:	WHP13300PSDPC8FQ			
	Serial-number:	20231H0002839			
	Specification:	DC143.5V; R290			
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:	05KK-CP-01			
	Heat exchanger:	Finned-coil heat exchanger			
	Dimension(mm):	660.4(L)mmX1318.5(H)mmX356.8(D)mm			
4. Fan motor					
	Manufacture:	Jiangsu Match-Well Electrical Products Co., Ltd.			
	Type:	MWS116-8K-PD1			
	Fan type:	3 blade			
	Specification:	DC310V; 116W			
5. Main control board					
	Manufacture:	Guangdong Chico Electronic Inc.			
	Type:	CG248075			
	Specification:	220-240V~; 50Hz			
6. Water pump					
	Manufacture:	SHIMGE PUMP INDUSTRY(JIANGSU)CO.,LTD.			
	Type:	APF25-12-130E FPWM1			
	Specification:	230V~; 50/60Hz			
*(Alternative)					
	Manufacture:	Shinhoo			
	Type:	GPA25-11H			
	Specification:	230V~; 50Hz			

Remark: * means the test results were not performed on the alternative components.

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Appendix V Equipment List

No.	Туре	Manufacture	Model	Equipment ID	Calibration Due Date
1	Heat pump energy efficiency testing system	PINXIN	10HP	2017J00001	2024-11-15
2	Electromagnetic flowmeter	KROHNE	OPTIFLUX4100C	H17221264	2024-11-19
3	Hemi-anechoic room(B)	Guangzhou Kinte	5.2m×4.4m×4.6m	NC-036-3	2028-10-06
4	Dynamic signal analysis system	_	HAHI2022	VGDY-2137	2025-01-08
5	Calibrator	B & K	4231	HJ-000095	2024-07-06
6	AC source Supply	YANGHONG	AFC-33030TS	VGDS-0637	2024-11-02
7	Long steel tape	_	5m	HJ-000062	2024-09-11
8	Temperature measurement system	_	Special	NC-036-1	2025-06-03
9	Atmospheric pressure meter	_	_	HJ-000165	2024-11-21
10	Constant temperature water system	B & K	Special	VGDS-0448	2025-04-12
11	Windscreen	B & K	WS002-5	_	_

-- End of Report --

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