



Technical Report No.: 64.181.25.06624.01 Rev.00

Date: 2025-12-03

Client: Name: FOSHAN GUANGTENG NEW ENERGY CO.,LTD
Address: Building 2, Jilong Zhizao Industrial Park, No.52 Xilian Road, Leliu, Shunde, 528322 Foshan, Guangdong, PEOPLE'S REPUBLIC OF CHINA
Contact person: Mr. Kelvin Xu

Manufacturer: Name: FOSHAN GUANGTENG NEW ENERGY CO.,LTD
Address: Building 2, Jilong Zhizao Industrial Park, No.52 Xilian Road, Leliu, Shunde, 528322 Foshan, Guangdong, PEOPLE'S REPUBLIC OF CHINA

Factory: Name: FOSHAN GUANGTENG NEW ENERGY CO.,LTD
Address: Building 2, Jilong Zhizao Industrial Park, No.52 Xilian Road, Leliu, Shunde, 528322 Foshan, Guangdong, PEOPLE'S REPUBLIC OF CHINA

Test object: Product: DC INVERTER HEAT PUMP
Model: GT-SKR080KBDC-M32T
Trade mark: --

Test specification: EN 14825:2022
 EN 14511-3:2022

Purpose of examination: • Testing and evaluation (visual / partial) according to the test specification
 (EU) No 813/2013
 EU 2016/2282:2016-11-30

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

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details please see Testing, Certification, Validation and Verification Regulations, chapter A-3.3.

Doc No.: ITC-TTW0902.02E – Rev.17

1 Description of the test object

1.1 Function

Manufacturer's specification for intended use:

The appliance is air to water heat pump.

Manufacturer's specification for predictive use:

According to user manual

1.2 Consideration of the foreseeable use

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

1.3 Technical Data

Model :	GT-SKR080KBDC-M32T
Rated Voltage (V) :	380-415V, 3N~
Rated Frequency (Hz) :	50
Rated Power (W) :	see the nameplate
Rated Current (A) :	see the nameplate
Protection Class :	Class I
Protection Against Moisture :	IP X4
Construction :	Stationary
Supply connection :	<input type="checkbox"/> Non detachable cord <input checked="" type="checkbox"/> Permanent connection to fixed wiring
Operation mode:	<input checked="" type="checkbox"/> Continuous operation; <input type="checkbox"/> Intermittent operation; <input type="checkbox"/> Short time operation;
Refrigerant/charge (kg) :	R32 / 3.00kg
Declared parameters :	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Warmer <input type="checkbox"/> Colder
Sound power level dB(A) :	N/A
Series No :	KSN0170S01672

2 Order

2.1 Date of Purchase Order, Customer's Reference

Date of Purchase Order: 2025-11-04

Customer's Reference: FOSHAN GUANGTENG NEW ENERGY CO.,LTD

2.2 Test Sample(s)

• Reception date(s): 2025-11-04

• 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

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

2.3 Date(s) of Testing

2025-11-10 to 2025-11-28

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 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 no results with measurand stated in this report, no decision rule has been applied.



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) The appliance is Air to Water Heat Pump Unit, including a whole compression type refrigerant circuit to heat water in another circuit. The appliance was for cooling and heating water function, this report only for heating capacity test.
- 2) The main power is supplied by a 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.

Doc No.: ITC-TTW0902.02E – Rev.17

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

Tested by: Yongxin Huang, Project Handler

printed name, function & signature

Yongxin Huang

Approved by: Plum Li, Designated Reviewer

printed name, function & signature



Appendix I Test results

Table 1.	Heating mode (Low temperature application):						P	
Model	GT-SKR080KBDC-M32T							
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/>	Average	<input type="checkbox"/>	Warmer	<input type="checkbox"/>	Colder
1. Test conditions:								
Condition	Part Load Ratio in %		Outdoor heat exchanger		Indoor heat exchanger			
	Formula	Average climates	Inlet dry (wet) bulb temperature (°C)		Inlet/outlet water temperatures (°C)			
A	$(-7-16)/(T_{designh-16})$	88	-7(-8)		a / 34			
B	$(+2-16)/(T_{designh-16})$	54	2(1)		a / 30			
C	$(+7-16)/(T_{designh-16})$	35	7(6)		a / 27			
D	$(+12-16)/(T_{designh-16})$	15	12(11)		a / 24			
E	$(TOL-16)/(T_{designh-16})$		TOL		a / 35.3			
F	$(T_{bivalent-16})/(T_{designh-16})$		T _{biv}		a / 34			
G	$(-15-16)/(T_{designh-16})$	N/A	-15		N/A			
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions, the capacity is 21.414kW, the power is 4.812kW, the COP is 4.45kW/kW.								
2. Tested data/correction data(Average):								
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)	A7/W27 (35%)	A12/W24 (15%)	A(-10)/W35.3 (100%)	A(-7)/ W34 (88%)	
	--	A	B	C	D	E	F	
Data collection period	hh: min:sec	1:10:00	1:10:00	1:10:00	1:10:00	1:10:00	1:10:00	
The heat pump defrosts	--	No	No	No	No	No	No	
Electrical Properties								
Voltage	V	397.5	397.7	397.6	397.5	397.5	397.5	
Current input of the unit	A	7.62	3.67	2.69	2.62	7.77	7.62	
Power input of the unit	kW	4.798	2.047	1.457	1.424	4.902	4.798	
Compressor frequency	Hz	72	38	30	31	76	72	

Doc No.: ITC-TTW0902.02E – Rev.17

Appendix I Test results

Test conditions User Side							
Water flow	m³/h	3.67	3.67	3.67	3.67	3.67	3.67
Inlet Water temperature	°C	30.46	27.78	25.64	23.42	31.71	30.46
Outlet Water temperature	°C	34.05	29.99	27.81	26.29	35.31	34.05
Test conditions Source Side							
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Air inlet temperature, DB	°C	-7.03	2.01	7.03	12.04	-10.02	-7.03
Air inlet temperature, WB	°C	-8.04	1.01	6.04	11.05	-11.04	-8.04
Summary of the results							
Total heating capacity	kW	15.429	9.551	9.324	12.346	15.489	15.429
Effective power input	kW	4.910	2.160	1.569	1.537	5.014	4.910
Coefficient of performance (COP)	kW/kW	3.14	4.42	5.94	8.03	3.09	3.14
Remark: -							

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.012
Standby mode [P _{SB}]	kW	0.012
Crankcase heater [P _{CK}]	kW	0.041
Off mode [P _{OFF}]	kW	0.012

Doc No.: ITC-TTW0902.02E – Rev.17

Appendix I Test results

3.Calculation/conclusion for SCOP:						
Tdesignh(°C):	-10	Tbiv(°C) :	-7			
Pdesignh(kW):	17.442	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	17.442	15.489	3.09	0.90	1.00	3.09
F	15.429	15.429	3.14	0.90	1.00	3.14
A	15.429	15.429	3.14	0.90	1.00	3.14
B	9.392	9.551	4.42	0.90	0.98	4.42
C	6.038	9.324	5.94	0.90	0.65	5.63
D	2.683	12.346	8.03	0.90	0.22	5.91
CR: part load divided by capacity;						

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.52
SCOP:	kWh/kWh	4.51
Q _H :	kWh/year	36035
Q _{HE} :	kWh/year	7990
η _{s,h}	%	177.4
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A+++

Appendix I Test results

Table 2.	Heating mode (Medium temperature application):						P	
Model	GT-SKR080KBDC-M32T							
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/>	Average	<input type="checkbox"/>	Warmer	<input type="checkbox"/>	Colder
1. Test conditions:								
Condition	Part Load Ratio in %		Outdoor heat exchanger		Indoor heat exchanger			
	Formula	Average climates	Inlet dry (wet) bulb temperature (°C)		Inlet/outlet water temperatures (°C)			
A	$(-7-16)/(T_{designh-16})$	88	-7(-8)		a / 52			
B	$(+2-16)/(T_{designh-16})$	54	2(1)		a / 42			
C	$(+7-16)/(T_{designh-16})$	35	7(6)		a / 36			
D	$(+12-16)/(T_{designh-16})$	15	12(11)		a / 30			
E	$(TOL-16)/(T_{designh-16})$		TOL		a / 55.3			
F	$(T_{bivalent-16})/(T_{designh-16})$		T _{biv}		a / 52			
G	$(-15-16)/(T_{designh-16})$	N/A	-15		N/A			
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 47/55 conditions, the capacity is 17.151kW, the power is 6.029kW, the COP is 2.84kW/kW.								
2. Tested data/correction data(Average):								
General test conditions/ Part-Load	Unit	A(-7)/W52 (88%)	A2/W42 (54%)	A7/W36 (35%)	A12/W30 (15%)	A(-10)/ W55.3 (100%)	A(-7)/ W52 (88%)	
	--	A	B	C	D	E	F	
Data collection period	hh: min:sec	1:10:00	1:10:00	1:10:00	1:10:00	1:10:00	1:10:00	
The heat pump defrosts	--	No	No	No	No	No	No	
Electrical Properties								
Voltage	V	397.6	397.7	397.5	397.5	397.8	397.6	
Current input of the unit	A	9.38	4.09	3.66	3.22	10.32	9.38	
Power input of the unit	kW	6.001	2.321	2.039	1.771	6.645	6.001	
Compressor frequency	Hz	72	30	31	32	77	72	

Doc No.: ITC-TTW0902.02E – Rev.17

Appendix I Test results

Test conditions User Side							
Water flow	m ³ /h	1.83	1.83	1.83	1.83	1.83	1.83
Inlet Water temperature	°C	45.98	38.26	33.68	28.98	49.24	45.98
Outlet Water temperature	°C	52.04	41.99	38.11	33.96	55.31	52.04
Test conditions Source Side							
Barometric pressure	kPa	99.85	99.85	99.85	99.80	99.75	99.85
Air inlet temperature, DB	°C	-7.05	2.02	7.01	12.01	-10.01	-7.05
Air inlet temperature, WB	°C	-8.04	1.01	6.02	11.01	-11.04	-8.04
Summary of the results							
Total heating capacity	kW	12.951	7.988	9.483	10.657	12.984	12.951
Effective power input	kW	6.037	2.360	2.080	1.811	6.686	6.037
Coefficient of performance (COP)	kW/kW	2.15	3.39	4.56	5.89	1.94	2.15
Remark: -							

Electric power consumptions	Unit	Value
Thermostat-off mode [P _{TO}]	kW	0.012
Standby mode [P _{SB}]	kW	0.012
Crankcase heater [P _{CK}]	kW	0.041
Off mode [P _{OFF}]	kW	0.012

Doc No.: ITC-TTW0902.02E – Rev.17

Appendix I Test results

3.Calculation/conclusion for SCOP:						
Tdesignh(°C):	-10	Tbiv(°C) :	-7			
Pdesignh(kW):	14.641	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	14.641	12.984	1.94	0.90	1.00	1.94
F	12.951	12.951	2.15	0.90	1.00	2.15
A	12.951	12.951	2.15	0.90	1.00	2.15
B	7.883	7.988	3.39	0.90	0.99	3.39
C	5.068	9.483	4.56	0.90	0.53	4.19
D	2.252	10.657	5.89	0.90	0.21	4.29
CR: part load divided by capacity;						

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	3.35
SCOP:	kWh/kWh	3.34
QH:	kWh/year	30248
QHE:	kWh/year	9045
$\eta_{s,h}$	%	130.8
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A++

Appendix II Marking plate

Nameplate

Model: GT-SKR080KBDC-M32T

DC INVERTER HEAT PUMP	
Model No.	GT-SKR080KBDC-M32T
Heating capacity (A7/W35)	22.00kW (9.06-27.5kW)
Rated input (A7/W35)	4.83kW (2.49-6.04kW)
Cooling capacity (A35/W7)	16.4kW (9.00-18.00kW)
Rated input (A35/W7)	5.86kW (3.20-6.40kW)
Power supply	380-415V/3Ph/50Hz
Rated current	10.1A
Max input current	17.0A
Max exhaust pressure	4.2MPa
Max suction pressure	2.8MPa
CO2 equivalent	2.025T
Max water temperature	60°C
Max DHW temperature	55°C
Degree of protection	IPX4
Shockproof level	I
Earth requirement	≤0.1Ω
Net weight	165kgs
Dimension	1260*520*1475mm
Water connection	1 Inch
Noise level	≤56dB(A)
Working ambient temperature	-20°C~43°C
Refrigerant/weight	 R32/3000g
Test condition: A7/W35:air temp. DB/WB=7°C/6°C, Water inlet/outlet temp.=30°C/35°C A35/W7:air temp. DB/WB=35°C/24°C, Water inlet/outlet temp.=12°C/7°C For outdoor use only.Install & service by licensed mechanic only	
    	

Doc No.: ITC-TTW0902.02E – Rev.17

Appendix III photo documentation

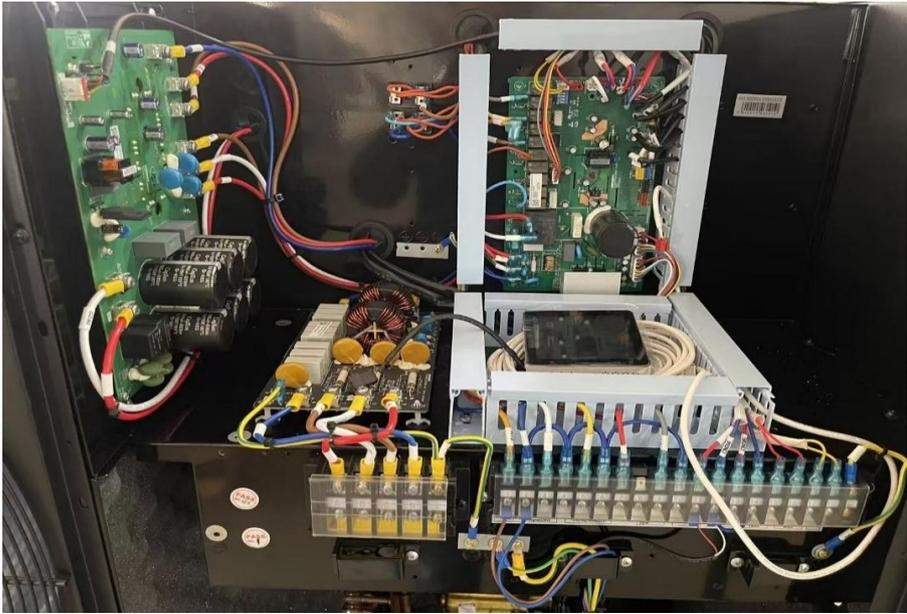
Details of:	Overall view
<p>View:</p> <ul style="list-style-type: none"> <input type="checkbox"/> General <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom 	

Details of:	Compressor
<p>View:</p> <ul style="list-style-type: none"> <input type="checkbox"/> General <input type="checkbox"/> Front <input type="checkbox"/> Rear <input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Top <input type="checkbox"/> Bottom 	

Doc No.: ITC-TTW0902.02E – Rev.17

Appendix III photo documentation

Details of:	Fan Motor
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Main Control Board
View:	
<input type="checkbox"/> General	
<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Doc No.: ITC-TTW0902.02E - Rev.17

Appendix IV Construction data form

Part		Technical data
1. Compressor		
	Manufacture:	Shanghai Highly Electrical Appliances Co., Ltd.
	Type:	GTH550SKRC8FQ
	Serial-number:	HZZN5H0B2MC8
	Specification:	DC161V; R32
2. Condenser		
	Manufacture:	Zhejiang Sanhua Board Exchange Technology Co., Ltd.
	Type:	JX-060B-76HZ-4.5
	Heat exchanger:	Plate heat exchanger
	Dimension(mm):	526×119×154 mm
3. Evaporator		
	Manufacture:	Foshan Huize Heat Exchange Equipment Co., Ltd.
	Type:	/
	Heat exchanger:	Finned heat exchanger
	Dimension(mm):	1400×714×65mm
4. Fan motor		
	Manufacture:	Guangdong Welling Motor Manufacturing Co., Ltd.
	Type:	ZKFP-85-8-97
	Fan type:	3 blade
	Specification:	DC310V; 65W
5. Main control board		
	Manufacture:	Shenzhen MEGMEET Electrical Co., Ltd.
	Type:	HiPlus 12000-VZM
	Specification:	220-240V~; 50Hz
*(Alternative)		
	Manufacture:	Guangzhou Pulp Electronics Co., Ltd.
	Type:	K.LK050091H.01
	Specification:	220-240V~; 50Hz

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



Appendix V Equipment List

No.	Type	Manufacture	Model	Equipment ID	Calibration Due Date
1	Heat pump energy efficiency testing system	/	10HP	2017JO0001	2026-11-07
2	Electromagnetic flowmeter	KROHNE	OPTIFLUX4100C	H17221264	2026-11-07

-- End of Report --