



Technical Report No. 64.181.19.04265.01 Rev.00

Dated 2019-08-30

Client: Name: Foshan Guangteng New Energy Co., Ltd

Address: Section 2, Yongfeng Industrial Zone, Lunjiao, Shunde, Foshan, Guangdong, China

Contact person: Kelvin Xu

Manufacturing place: Manufacturer's name: Foshan Guangteng New Energy Co., Ltd

Address: Section 2, Yongfeng Industrial Zone, Lunjiao, Shunde, Foshan, Guangdong, China

Factory's name: Foshan Guangteng New Energy Co., Ltd

Address: Section 2, Yongfeng Industrial Zone, Lunjiao, Shunde, Foshan, Guangdong, China

Test subject: Product: DC INVERTER HEAT PUMP

Type: GT-SKR015KBDC-M10, GT-SKR015KBDC-S10, GT-SKR020KBDC-M10, GT-SKR020KBDC-S10, GT-SKR030KBDC-M10, GT-SKR030KBDC-S10, GT-SKR040KBDC-M10, GT-SKR040KBDC-S10, GT-SKR050KBDC-M10, GT-SKR050KBDC-S10

Trade name: GUANGTENG

Test specification: EN 14825:2016

(EU) No 813/2013

Purpose of examination: Test according to the test specification

EU 2016/2282:2016-11-30

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

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1 Description of the test subject

1.1 Function

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

1.2 Consideration of the foreseeable misuse

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

1.3 Technical Data

Model :	GT-SKR015KBDC-M10, GT-SKR015KBDC-S10, GT-SKR020KBDC-M10, GT-SKR020KBDC-S10, GT-SKR030KBDC-M10, GT-SKR030KBDC-S10, GT-SKR040KBDC-M10, GT-SKR040KBDC-S10, GT-SKR050KBDC-M10, GT-SKR050KBDC-S10
Rated Voltage (V) :	380-415V, 3N~ for GT-SKR050KBDC-M10,GT-SKR050KBDC-S10; others for 220-240V~
Rated Frequency (Hz) :	50
Rated Power (W) :	N/A
Rated Current (A) :	7.1A for GT-SKR015KBDC-M10, GT-SKR015KBDC-S10; 10.4A for GT-SKR020KBDC-M10, GT-SKR020KBDC-S10; 12.8A for GT-SKR030KBDC-M10, GT-SKR030KBDC-S10; 15.9A for GT-SKR040KBDC-M10, GT-SKR040KBDC-S10; 8.0A for GT-SKR050KBDC-M10, GT-SKR050KBDC-S10
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 (g) :	R410A ,charge see nameplate
Declared parameters :	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Warmer <input type="checkbox"/> Colder
Sound power level dB(A) :	NA
Series No :	N/A

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2 Order

2.1 Date of Purchase Order, Customer's Reference

2019-07-20 , Kelvin Xu

2.2 Receipt of Test Sample, Condition, Location

2019-07-20

GZ-Lans Experimental Technology Co., Ltd. Laboratory

Address: Room F2, No.10, Mubei East Road, Xintang Street, Tianhe District, Guangzhou, Guangdong, China

2.3 Date of Testing

2019-07-20 to 2019-08-30

2.4 Location 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 Remarks to Factory

N/A

4.2 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.

4.3 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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6 Summary

- 1) The appliance is Inverter Air Source Water Heat Pump, its 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 for GT-SKR050KBDC-M10,GT-SKR050KBDC-S10 are supplied by a 5-pole supply cable not with plug which not supply by manufactory. The main power for other models are supplied by a 3-pole supply cable not with plug which not supply by manufactory.
- 3) The models GT-SKR015KBDC-M10, GT-SKR020KBDC-M10, GT-SKR030KBDC-M10, GT-SKR040KBDC-M10, GT-SKR050KBDC-M10 respectively same as GT-SKR015KBDC-S10, GT-SKR020KBDC-S10, GT-SKR030KBDC-S10, GT-SKR040KBDC-S10, GT-SKR050KBDC-S10 except different model name .
- 4) The test are carried out at modes GT-SKR015KBDC-M10, GT-SKR020KBDC-M10, GT-SKR030KBDC-M10, GT-SKR040KBDC-M10 and GT-SKR050KBDC-M10 as representative.
- 5) Water enthalpy method was adopted in this report.
- 6) Standby mode power, off mode power and thermostat-off mode power were tested according to clause 9 of standard EN 14825:2016.

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

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Tested by:   « William Liang »
Project Handler

Reviewed by:   « Tony Xie »
Designated Reviewer



Appendix I Test results

Table 1.	Heating mode(Low temperature application):						P
Model	GT-SKR015KBDC-M10						
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	A	W		Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh}-16)$	88	N/A	N/A	-7(-8)	a / 34	
B	$(+2-16)/(T_{designh}-16)$	54	N/A	N/A	2(1)	a / 30	
C	$(+7-16)/(T_{designh}-16)$	35	N/A	N/A	7(6)	a / 27	
D	$(+12-16)/(T_{designh}-16)$	15	N/A	N/A	12(11)	a / 24	
E	$(TOL-16)/(T_{designh}-16)$				TOL	a / 35.3	
F	$(T_{bivalent}-16)/(T_{designh}-16)$				Tbiv	a / 34	
G	$(-15-16)/(T_{designh}-16)$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions.							
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
Complete Cycles	--	0	0	0	0	0	0
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	229.4	229.7	229.7	229.7	229.3	229.4
Current input of the unit	A	6.84	3.74	3.04	2.58	7.79	6.84
Power input of the unit	kW	1.557	0.822	0.663	0.561	1.707	1.557
Test conditions indoor unit							
Inlet Water temperature, DB	°C	30.02	27.19	24.46	21.50	31.50	30.02
Outlet Water temperature, DB	°C	34.00	29.19*	26.99	24.05	35.41	34.00

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Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-6.64	2.00	6.99	12.00	-9.92	-6.64
Air inlet temperature, WB	°C	-7.43	1.00	5.96	11.60	-10.29	-7.43
Summary of the results							
Total heating capacity	kW	4.880	3.398	3.113	3.137	4.785	4.880
Effective power input	kW	1.578	0.843	0.684	0.582	1.727	1.578
Coefficient of performance (COP)	--	3.09	4.03	4.55	5.39	2.77	3.09
Compressor frequency	Hz	72	38	30	30	80	72
Water flow	m ³ /h	1.49	1.49	1.49	1.49	1.49	1.49
Remark: * In part load condition, outlet temperature data is recorded by a full average complete cycle's data.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	5.517	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	5.517	4.785	2.77	0.00	1.00	2.77	
F	4.880	4.880	3.09	0.00	1.00	3.09	
A	4.880	4.880	3.09	0.00	1.00	3.09	
B	2.970	3.398	4.03	0.99	0.87	4.03	
C	1.910	3.113	4.55	0.99	0.61	4.52	
D	0.849	3.137	5.39	0.99	0.27	5.25	
CR: part load divided by capacity;							

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Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.020
Standby mode [P_{SB}]	kW	0.020
Crankcase heater [P_{CK}]	kW	0.038
Off mode [P_{OFF}]	kW	0.020
Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.03
SCOP:	kWh/kWh	4.02
Q_H :	kWh/year	11397
Q_{HE} :	kWh/year	2838
$\eta_{s,h}$	%	157.6
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 2)	--	A++



Appendix I Test results

Table 2	Heating mode(Low temperature application):						P
Model	GT-SKR020KBDC-M10						
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	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 34	
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 30	
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 27	
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 24	
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 35.3	
F	$(T_{bivalent-16})/(T_{designh-16})$				Tbiv	a / 34	
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions.							
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
Complete Cycles	--	0	0	0	0	0	0
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	229.1	219.4	219.5	229.7	229.1	229.1
Current input of the unit	A	10.71	5.95	4.04	3.37	11.09	10.71
Power input of the unit	kW	2.468	1.288	0.853	0.732	2.557	2.468
Test conditions indoor unit							
Inlet Water temperature, DB	°C	29.92	27.04	24.58	21.54	31.30	29.92
Outlet Water temperature, DB	°C	34.05	30.02	26.89	23.98	35.26	34.05

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Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-6.99	2.01	7.02	12.11	-9.87	-6.99
Air inlet temperature, WB	°C	-8.05	1.01	6.03	11.15	-10.94	-8.05
Summary of the results							
Total heating capacity	kW	7.336	5.304	4.123	4.347	7.014	7.336
Effective power input	kW	2.513	1.333	0.898	0.777	2.602	2.513
Coefficient of performance (COP)	--	2.92	3.98	4.59	5.60	2.70	2.92
Compressor frequency	Hz	78	42**	30	30	80	78
Water flow	m ³ /h	1.52	1.52	1.52	1.52	1.52	1.52
Remark: * In part load condition, outlet temperature data is recorded by a full average complete cycle's data. ** In part load condition, the compressor frequency have been smallest.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	8.293	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	8.293	7.014	2.70	0.00	1.00	2.70	
F	7.336	7.336	2.92	0.00	1.00	2.92	
A	7.336	7.336	2.92	0.00	1.00	2.92	
B	4.466	5.304	3.98	0.99	0.84	3.97	
C	2.871	4.123	4.59	0.99	0.70	4.57	
D	1.276	4.347	5.60	0.99	0.29	5.46	
CR: part load divided by capacity;							

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Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.020
Standby mode [P_{SB}]	kW	0.020
Crankcase heater [P_{CK}]	kW	0.038
Off mode [P_{OFF}]	kW	0.020
Conclusions:	Unit	Value
SCOP _{on} :	kWh/kWh	3.98
SCOP:	kWh/kWh	3.97
Q_H :	kWh/year	17134
Q_{HE} :	kWh/year	4311
$\eta_{s,h}$	%	156.0
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A++



Appendix I Test results

Table 3	Heating mode(Low temperature application):						P
Model	GT-SKR030KBDC-M10						
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	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh}-16)$	88	N/A	N/A	-7(-8)	a / 34	
B	$(+2-16)/(T_{designh}-16)$	54	N/A	N/A	2(1)	a / 30	
C	$(+7-16)/(T_{designh}-16)$	35	N/A	N/A	7(6)	a / 27	
D	$(+12-16)/(T_{designh}-16)$	15	N/A	N/A	12(11)	a / 24	
E	$(TOL-16)/(T_{designh}-16)$				TOL	a / 35.3	
F	$(T_{bivalent}-16)/(T_{designh}-16)$				Tbiv	a / 34	
G	$(-15-16)/(T_{designh}-16)$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions.							
2. Tested data/correction data(Average):							
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)	A7/W27 (35%)	A12/W24 (15%)	A(-10)/W35.3 (100%)	A(-7)/W34 (88%)
	--	A	B	C	D	E	F
Data collection period	hh: min:sec	3:00:00	3:00:00	1:10:00	1:10:00	3:00:00	3:00:00
The heat pump defrosts	--	Yes	Yes	No	No	Yes	Yes
Complete Cycles	--	1	1	0	0	1	1
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	218.9	219.3	219.5	219.5	218.8	218.9
Current input of the unit	A	16.06	7.60	5.24	4.46	16.21	16.06
Power input of the unit	kW	3.526	1.666	1.129	0.950	3.560	3.526
Test conditions indoor unit							
Inlet Water temperature, DB	°C	29.64	27.14	24.60	21.28	30.95	29.64
Outlet Water temperature, DB	°C	33.25*	29.60*	27.03	24.02	34.36*	33.25*

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Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-6.90	2.36	7.23	12.03	-9.75	-6.90
Air inlet temperature, WB	°C	-7.22	1.01	6.01	10.54	-9.94	-7.22
Summary of the results							
Total heating capacity	kW	10.490	6.981	5.976	6.741	10.085	10.490
Effective power input	kW	3.583	1.723	1.186	1.008	3.618	3.583
Coefficient of performance (COP)	--	2.93	4.05	5.04	6.69	2.79	2.93
Compressor frequency	Hz	80	40	30	30	80	80
Water flow	m³/h	2.10	2.10	2.10	2.10	2.10	2.10
Remark: * In part load condition, outlet temperature data is recorded by a full average complete cycle's data.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	11.859	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	11.859	10.085	2.79	0.00	1.00	2.79	
F	10.490	10.490	2.93	0.00	1.00	2.93	
A	10.490	10.490	2.93	0.00	1.00	2.93	
B	6.386	6.981	4.05	0.00	0.91	4.05	
C	4.105	5.976	5.04	0.99	0.69	5.02	
D	1.824	6.741	6.69	0.99	0.27	6.51	
CR: part load divided by capacity;							

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Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.020
Standby mode [P_{SB}]	kW	0.020
Crankcase heater [P_{CK}]	kW	0.038
Off mode [P_{OFF}]	kW	0.020

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.17
SCOP:	kWh/kWh	4.16
Q_H :	kWh/year	24500
Q_{HE} :	kWh/year	5883
$\eta_{s,h}$	%	163.6
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A++

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Appendix I Test results

Table 4	Heating mode(Low temperature application):						P
Model	GT-SKR040KBDC-M10						
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	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 34	
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 30	
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 27	
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 24	
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 35.3	
F	$(T_{bivalent-16})/(T_{designh-16})$				Tbiv	a / 34	
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions.							
2. Tested data/correction data(Average):							
General test conditions/ Part-Load	Unit	A(-7)/W34 (88%)	A2/W30 (54%)	A7/W27 (35%)	A12/W24 (15%)	A(-10)/W35.3 (100%)	A(-7)/W34 (88%)
	--	A	B	C	D	E	F
Data collection period	hh: min:sec	3:00:00	1:10:00	1:10:00	1:10:00	3:00:00	3:00:00
The heat pump defrosts	--	Yes	No	No	No	Yes	Yes
Complete Cycles	--	1	0	0	0	1	1
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	218.6	219.1	219.4	219.4	218.6	218.6
Current input of the unit	A	18.51	9.58	5.91	4.95	18.36	18.51
Power input of the unit	kW	4.074	2.077	1.238	1.024	4.039	4.074
Test conditions indoor unit							
Inlet Water temperature, DB	°C	29.68	26.70	24.76	21.01	31.25	29.68
Outlet Water temperature, DB	°C	33.80	29.85	27.00	23.74	34.98*	33.80

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Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-6.93	2.06	7.10	12.05	-10.16	-6.93
Air inlet temperature, WB	°C	-6.97	0.93	6.06	10.82	-10.15	-6.97
Summary of the results							
Total heating capacity	kW	12.126	8.843	6.296	7.682	11.029	12.126
Effective power input	kW	4.164	2.167	1.328	1.114	4.129	4.164
Coefficient of performance (COP)	--	2.91	4.08	4.74	6.90	2.67	2.91
Compressor frequency	Hz	80	45	30	30	80	80
Water flow	m³/h	2.40	2.40	2.40	2.40	2.40	2.40
Remark: * In part load condition, outlet temperature data is recorded by a full average complete cycle's data.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	13.707	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	13.707	11.029	2.67	0.00	1.00	2.67	
F	12.126	12.126	2.91	0.00	1.00	2.91	
A	12.126	12.126	2.91	0.00	1.00	2.91	
B	7.381	8.843	4.08	0.99	0.83	4.07	
C	4.745	6.296	4.74	0.99	0.75	4.72	
D	2.109	7.682	6.90	0.99	0.27	6.72	
CR: part load divided by capacity;							

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Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.020
Standby mode [P_{SB}]	kW	0.020
Crankcase heater [P_{CK}]	kW	0.038
Off mode [P_{OFF}]	kW	0.020

Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.12
SCOP:	kWh/kWh	4.11
Q_H :	kWh/year	28319
Q_{HE} :	kWh/year	6883
$\eta_{s,h}$	%	161.6
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A++



Appendix I Test results

Table 5	Heating mode(Low temperature application):						P
Model	GT-SKR050KBDC-M10						
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	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)	
A	$(-7-16)/(T_{designh}-16)$	88	N/A	N/A	-7(-8)	a / 34	
B	$(+2-16)/(T_{designh}-16)$	54	N/A	N/A	2(1)	a / 30	
C	$(+7-16)/(T_{designh}-16)$	35	N/A	N/A	7(6)	a / 27	
D	$(+12-16)/(T_{designh}-16)$	15	N/A	N/A	12(11)	a / 24	
E	$(TOL-16)/(T_{designh}-16)$				TOL	a / 35.3	
F	$(T_{bivalent}-16)/(T_{designh}-16)$				Tbiv	a / 34	
G	$(-15-16)/(T_{designh}-16)$	N/A	N/A	N/A	-15	N/A	
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 30/35 conditions.							
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
Complete Cycles	--	0	0	0	0	0	0
Barometric pressure	kPa	101.02	101.01	101.01	101.02	101.01	101.02
Voltage	V	397.4	397.7	397.8	397.9	397.4	397.4
Current input of the unit	A	7.64	4.21	2.91	2.54	8.46	7.64
Power input of the unit	kW	4.777	2.356	1.585	1.378	5.341	4.777
Test conditions indoor unit							
Inlet Water temperature, DB	°C	29.72	26.98	24.46	21.36	30.83	29.72
Outlet Water temperature, DB	°C	34.01	30.01	26.92	23.98	35.19	34.01

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Appendix I Test results

Test conditions outdoor unit							
Air inlet temperature, DB	°C	-6.94	2.04	7.05	12.08	-10.00	-6.94
Air inlet temperature, WB	°C	-7.96	1.10	6.10	11.14	-11.01	-7.96
Summary of the results							
Total heating capacity	kW	14.047	9.911	8.065	8.582	14.269	14.047
Effective power input	kW	4.861	2.440	1.669	1.462	5.425	4.861
Coefficient of performance (COP)	--	2.89	4.06	4.83	5.87	2.63	2.89
Compressor frequency	Hz	74	40	30	30	80	74
Water flow	m ³ /h	2.80	2.80	2.80	2.80	2.80	2.80
Remark: * In part load condition, outlet temperature data is recorded by a full average complete cycle's data.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	15.879	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	15.879	14.269	2.63	0.00	1.00	2.63	
F	14.047	14.047	2.89	0.00	1.00	2.89	
A	14.047	14.047	2.89	0.00	1.00	2.89	
B	8.550	9.911	4.06	0.99	0.86	4.06	
C	5.497	8.065	4.83	0.99	0.68	4.81	
D	2.443	8.582	5.87	0.99	0.28	5.73	
CR: part load divided by capacity;							

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Appendix I Test results

Electric power consumptions	Unit	Value
Thermostat-off mode [P_{TO}]	kW	0.020
Standby mode [P_{SB}]	kW	0.020
Crankcase heater [P_{CK}]	kW	0.038
Off mode [P_{OFF}]	kW	0.020
Conclusions:	Unit	Value
SCOPon:	kWh/kWh	4.09
SCOP:	kWh/kWh	4.08
Q_H :	kWh/year	32807
Q_{HE} :	kWh/year	8037
$\eta_{s,h}$	%	160.3
Seasonal space heating energy efficiency classes: (According (EU) No 811/2013 Table 1)	--	A++



Appendix II Marking plate

Nameplate	
Model: <u>GT-SKR015KBDC-M10</u>	
DC INVERTER HEAT PUMP	
Model No.	GT-SKR015KBDC-M10
Heating capacity (A7/W35)	6.00kW (3.0-7.0kW)
Rated input (A7/W35)	1.45kW (0.8-1.9kW)
Cooling capacity (A35/W7)	4.50kW (2.0-5.0kW)
Rated input (A35/W7)	1.60kW (0.8-2.1kW)
Power supply	220-240V/1Ph/50Hz
Rated current	7.1A
Max input current	13.5A
Max exhaust pressure	4.2MPa
Max suction pressure	2.8MPa
Refrigerant	R410A/2000g
Max water temperature	60°C
Max DHW temperature	55°C
Degree of protection	IPX4
Shockproof level	I
Earth requirement	≤0.1Ω
Net weight	75kgs
Dimension	1070*500*805.5mm
Water connection	1 Inch
Noise level	≤54dB(A)
Working ambient temperature	-25°C ~ 43°C
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	

Remark:

- 1.The model GT-SKR015KBDC-M10 is same as GT-SKR015KBDC-S10 except for model name.
- 2.The height of CE marking shall be higher than 5mm and the height of WEEE marking shall be higher than 7mm.

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Appendix II Marking plate

Nameplate

Model: GT-SKR020KBDC-M10

DC INVERTER HEAT PUMP	
Model No.	GT-SKR020KBDC-M10
Heating capacity (A7/W35)	10.20kW (5.0-11.2kW)
Rated input (A7/W35)	2.45kW (1.2-2.9kW)
Cooling capacity (A35/W7)	7.80kW (3.8-8.5kW)
Rated input (A35/W7)	2.78kW (1.4-3.5kW)
Power supply	220-240V/1Ph/50Hz
Rated current	10.4A
Max input current	19.7A
Max exhaust pressure	4.2MPa
Max suction pressure	2.8MPa
Refrigerant	R410A/1800g
Max water temperature	60°C
Max DHW temperature	55°C
Degree of protection	IPX4
Shockproof level	I
Earth requirement	≤0.1Ω
Net weight	81kgs
Dimension	1115.2*500*805.5mm
Water connection	1 Inch
Noise level	≤54dB(A)
Working ambient temperature	-25°C~43°C
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	

Remark:

- 1.The model GT-SKR020KBDC-M10 is same as GT-SKR020KBDC-S10 except for model name.
- 2.The height of CE marking shall be higher than 5mm and the height of WEEE marking shall be higher than 7mm.

Appendix II Marking plate

Nameplate

Model: GT-SKR030KBDC-M10

DC INVERTER HEAT PUMP	
Model No.	GT-SKR030KBDC-M10
Heating capacity (A7/W35)	13.00kW (6.4-15kW)
Rated input (A7/W35)	3.17kW (1.62-3.90kW)
Cooling capacity (A35/W7)	9.10kW (4.2-11.2kW)
Rated input (A35/W7)	3.21kW (1.72-4.79kW)
Power supply	220-240V/1Ph/50Hz
Rated current	12.8A
Max input current	25A
Max exhaust pressure	4.2MPa
Max suction pressure	2.8MPa
Refrigerant	R410A/2100g
Max water temperature	60°C
Max DHW temperature	55°C
Degree of protection	IPX4
Shockproof level	I
Earth requirement	≤0.1Ω
Net weight	102kgs
Dimension	1110*470*860mm
Water connection	1 Inch
Noise level	≤54dB(A)
Working ambient temperature	-25°C~43°C
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	

Remark:

- 1.The model GT-SKR030KBDC-M10 is same as GT-SKR030KBDC-S10 except for model name.
- 2.The height of CE marking shall be higher than 5mm and the height of WEEE marking shall be higher than 7mm.



Appendix II Marking plate

Nameplate

Model: GT-SKR040KBDC-M10

DC INVERTER HEAT PUMP	
Model No.	GT-SKR040KBDC-M10
Heating capacity (A7/W35)	15.20 (7.1-16.5)kW
Rated input (A7/W35)	3.75 (2.08-4.85)kW
Cooling capacity (A35/W7)	11.00 (5.3-14.3)kW
Rated input (A35/W7)	3.92 (2.15-6.08)kW
Power supply	220-240V/1Ph/50Hz
Rated current	15.9A
Max input current	21.8A
Max exhaust pressure	4.2MPa
Max suction pressure	2.8MPa
Refrigerant	R410A/2500g
Max water temperature	60°C
Max DHW temperature	55°C
Degree of protection	IPX4
Shockproof level	I
Earth requirement	≤0.1Ω
Net weight	109kgs
Dimension	1110*470*1000mm
Water connection	1 Inch
Noise level	≤56dB(A)
Working ambient temperature	-25°C ~ 43°C
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	

Remark:

- 1.The model GT-SKR040KBDC-M10 is same as GT-SKR040KBDC-S10 except for model name.
- 2.The height of CE marking shall be higher than 5mm and the height of WEEE marking shall be higher than 7mm.

Nameplate

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Appendix II Marking plate
Model: GT-SKR050KBDC-M10

DC INVERTER HEAT PUMP	
Model No.	GT-SKR050KBDC-M10
Heating capacity (A7/W35)	18.30 (8.70-20.3)kW
Rated input (A7/W35)	4.60 (2.2-5.3)kW
Cooling capacity (A35/W7)	14.00 (5.7-15.2)kW
Rated input (A35/W7)	4.95(2.35-6.52)kW
Power supply	380-415V/3Ph/50Hz
Rated current	8.0A
Max input current	12.8A
Max exhaust pressure	4.2MPa
Max suction pressure	2.8MPa
Refrigerant	R410A/3300g
Max water temperature	60°C
Max DHW temperature	55°C
Degree of protection	IPX4
Shockproof level	I
Earth requirement	≤0.1Ω
Net weight	130kgs
Dimension	1165*470*1270mm
Water connection	1 Inch
Noise level	≤56dB(A)
Working ambient temperature	-25°C ~ 43°C
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	

Remark:

- 1.The model GT-SKR050KBDC-M10 is same as GT-SKR050KBDC-S10 except for model name.
- 2.The height of CE marking shall be higher than 5mm and the height of WEEE marking shall be higher than 7mm.

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Appendix III photo documentaiton


Details of:	Overall view for GT-SKR015KBDC-M10, GT-SKR015KBDC-S10
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Details of:	Compressor for GT-SKR015KBDC-M10, GT-SKR015KBDC-S10
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

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Appendix III photo documentaiton


Details of:	Fan motor for GT-SKR015KBDC-M10, GT-SKR015KBDC-S10
View:	
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<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 for GT-SKR015KBDC-M10, GT-SKR015KBDC-S10
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	

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Appendix III photo documentaiton


Details of:	Overall view for GT-SKR020KBDC-M10, GT-SKR020KBDC-S10
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:	Compressor for GT-SKR020KBDC-M10, GT-SKR020KBDC-S10
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	

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Appendix III photo documentaiton


Details of:	Fan motor for GT-SKR020KBDC-M10, GT-SKR020KBDC-S10
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Details of:	Main control board for GT-SKR020KBDC-M10, GT-SKR020KBDC-S10
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

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Appendix III photo documentaiton

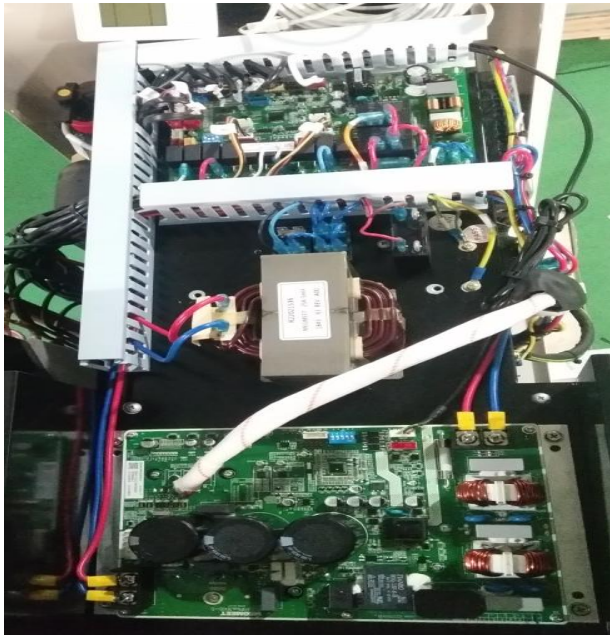
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<input type="checkbox"/> Left	
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Details of:	Compressor for GT-SKR030KBDC-M10, GT-SKR030KBDC-S10
View:	
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<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

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Appendix III photo documentaiton


Details of:	Fan motor for GT-SKR030KBDC-M10, GT-SKR030KBDC-S10
View:	
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<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 for GT-SKR030KBDC-M10, GT-SKR030KBDC-S10
View:	
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<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
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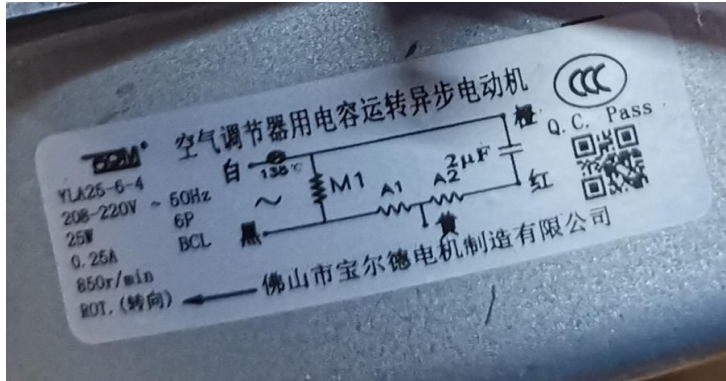
Appendix III photo documentaiton

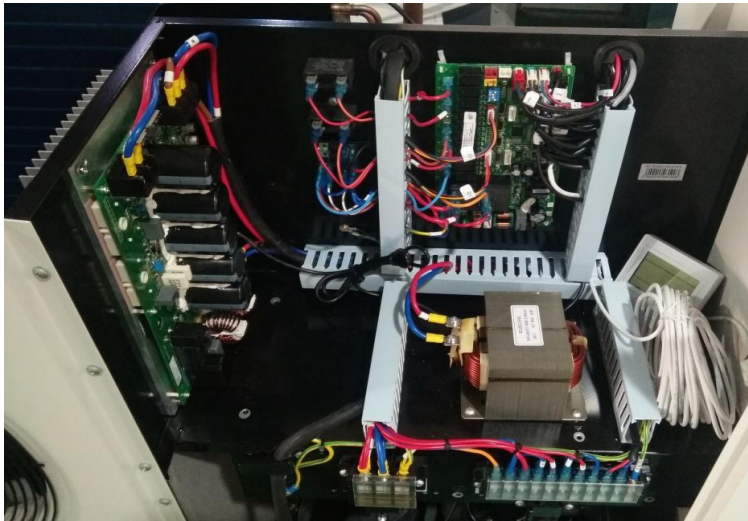
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<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Compressor for GT-SKR040KBDC-M10, GT-SKR040KBDC-S10
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	

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Details of:	Fan motor for GT-SKR040KBDC-M10, GT-SKR040KBDC-S10
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

Details of:	Main control board for GT-SKR040KBDC-M10, GT-SKR040KBDC-S10
<p>View:</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p>	

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Appendix III photo documentaiton

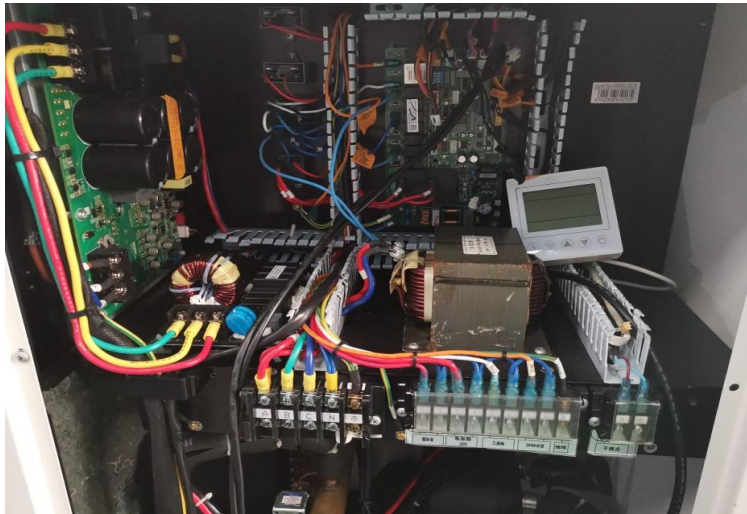
Details of:	Overall view for GT-SKR050KBDC-M10, GT-SKR050KBDC-S10
View:	
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<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

Details of:	Compressor for GT-SKR050KBDC-M10, GT-SKR050KBDC-S10
View:	
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<input type="checkbox"/> Front	
<input type="checkbox"/> Rear	
<input type="checkbox"/> Right	
<input type="checkbox"/> Left	
<input type="checkbox"/> Top	
<input type="checkbox"/> Bottom	

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Appendix III photo documentaiton

Details of:	Fan motor for GT-SKR050KBDC-M10, GT-SKR050KBDC-S10
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 for GT-SKR050KBDC-M10, GT-SKR050KBDC-S10
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	

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Appendix IV Construction data form

Part	Technical data	
Model: GT-SKR015KBDC-M10 and GT-SKR015KBDC-S10		
1. Compressor		
	Manufacture:	SHANGHAI HITACHI ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP05600AEKQA7JT6B
	Rated capacity:	5600W
	Serial-number:	N/A
2. Condenser		
	Manufacture:	SWEP A DOVER COMPANY
	Type:	V26THx20/1P-SC-M
	Heat exchanger:	Plate heat exchanger
	Dimension:	119(L)mmX376(H)mmX49,4(D)mm
3. Evaporator		
	Manufacture:	Foshan Huize Heat Exchange Equipment Co., Ltd.
	Type:	finned
	Heat exchanger:	Finned-coil heat exchanger
	Dimension:	1040(L)mmX800(H)mmX38(D)mm
4. Fan motor		
	Manufacture:	Foshan Powered Motors Manufacturing Co., Ltd
	Type:	YLA70-6-4
	Fan type:	3 blade
5. Main control board		
	Manufacture:	SHENZHEN MEGMEET ELECTRICAL CO., LTD
	Type:	NA
	Specification:	220-240V; 50Hz

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Model: GT-SKR020KBDC-M10 and GT-SKR020KBDC-S10



Appendix IV Construction data form

1. Compressor		
	Manufacture:	SHANGHAI HITACHI ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP09100AEDPC9EQ
	Rated capacity:	9100W
	Serial-number:	N/A
2. Condenser		
	Manufacture:	SWEP A DOVER COMPANY.
	Type:	V25THx22/1P-SC-M
	Heat exchanger:	Plate heat exchanger
	Dimension:	119(L)mmX376(H)mmX56,5(D)mm
3. Evaporator		
	Manufacture:	Foshan Huize Heat Exchange Equipment Co., Ltd.
	Type:	finned
	Heat exchanger:	Finned-coil heat exchanger
	Dimension:	1040(L)mmX800(H)mmX38(D)mm
4. Fan motor		
	Manufacture:	Foshan Powered Motors Manufacturing Co., Ltd
	Type:	YLA70-6-4
	Fan type:	3 blade
5. Main control board		
	Manufacture:	SHENZHEN MEGMEET ELECTRICAL CO., LTD
	Type:	NA
	Specification:	220-240V; 50Hz

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Model: <u>GT-SKR030KBDC-M10 and GT-SKR030KBDC-S10</u>		
1. Compressor		

Appendix IV Construction data form

	Manufacture:	SHANGHAI HITACHI ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP11500AEDPC9EQ
	Rated capacity:	12670W
	Serial-number:	N/A
2. Condenser		
	Manufacture:	SWEP A DOVER COMPANY
	Type:	V25THx26/1P-SC-M
	Heat exchanger:	Plate heat exchanger
	Dimension:	119(L)mmX526(H)mmX73(D)mm
3. Evaporator		
	Manufacture:	Foshan Huize Heat Exchange Equipment Co., Ltd.
	Type:	finned
	Heat exchanger:	Finned-coil heat exchanger
	Dimension:	1000(L)mmX750(H)mmX44(D)mm
4. Fan motor		
	Manufacture:	Foshan Powered Motors Manufacturing Co., Ltd
	Type:	YLA70-6-4
	Fan type:	3 blade
5. Main control board		
	Manufacture:	SHENZHEN MEGMEET ELECTRICAL CO., LTD
	Type:	NA
	Specification:	220-240V; 50Hz

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Appendix IV Construction data form

Model: GT-SKR040KBDC-M10 and GT-SKR040KBDC-S10		
1. Compressor		
	Manufacture:	SHANGHAI HITACHI ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP13100AEDPC9EQ
	Rated capacity:	14820W
	Serial-number:	N/A
2. Condenser		
	Manufacture:	SWEP A DOVER COMPANY
	Type:	V25THx32/1P-SC-M
	Heat exchanger:	Plate heat exchanger
	Dimension:	119(L)mmX526(H)mmX88(D)mm
3. Evaporator		
	Manufacture:	Foshan Huize Heat Exchange Equipment Co., Ltd.
	Type:	finned
	Heat exchanger:	Finned-coil heat exchanger
	Dimension:	960(L)mmX1000(H)mmX44(D)mm
4. Fan motor		
	Manufacture:	Foshan Powered Motors Manufacturing Co., Ltd
	Type:	YLA25-6-4
	Fan type:	3 blade
5. Main control board		
	Manufacture:	SHENZHEN MEGMEET ELECTRICAL CO., LTD
	Type:	NA
	Specification:	220-240V; 50Hz

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Appendix IV Construction data form

Model: <u>GT-SKR050KBDC-M10 and GT-SKR050KBDC-S10</u>		
1. Compressor		
	Manufacture:	SHANGHAI HITACHI ELECTRICAL APPLIANCES CO., LTD.
	Type:	WHP15600AEDPC9EQ
	Rated capacity:	17200W
	Serial-number:	N/A
2. Condenser		
	Manufacture:	SWEP A DOVER COMPANY
	Type:	V25THx44/1P-SC-M
	Heat exchanger:	Plate heat exchanger
	Dimension:	119(L)mmX526(H)mmX103(D)mm
3. Evaporator		
	Manufacture:	Foshan Huize Heat Exchange Equipment Co., Ltd.
	Type:	finned
	Heat exchanger:	Finned-coil heat exchanger
	Dimension:	1040(L)mmX1200(H)mmX38(D)mm
4. Fan motor		
	Manufacture:	Foshan Powered Motors Manufacturing Co., Ltd
	Type:	YLA70-6-4
	Fan type:	3 blade
5. Main control board		
	Manufacture:	SHENZHEN MEGMEET ELECTRICAL CO., LTD
	Type:	NA
	Specification:	220-240V; 50Hz

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Appendix V Equipment List

No.	Type	Manufacture	Model	Equipment ID	Calibration Due Date
1	R&A performance measuring system	GEI	20kW	-	2020-08-03
2	Temperature and humidity meter	VAISALA	HMD42	H5110021	2020-08-03
3	Platinum resistance	YINUO	Pt100	TS124A032	2020-05-22
4	Platinum resistance	YINUO	Pt100	TS124A031	2020-05-22
5	Platinum resistance	YINUO	Pt100	7430F	2020-05-22
6	Platinum resistance	YINUO	Pt100	7434F	2020-05-22
7	Flowmeter	YOKOGAWA	AXF015G	S5M201965	2020-05-22
8	Flowmeter	YOKOGAWA	AXF025G	S5M201999	2020-05-22
9	Flowmeter	YOKOGAWA	AXF040G	S5M805005	2020-05-22
10	Pressure transmitter	MICRO	MPM489	240502	2020-08-04
11	Pressure transmitter	MICRO	MPM489	240503	2020-08-04
12	Water pressure difference transmitter	MICRO	MDM3051	291459	2020-08-04
13	AC source Supply	YANGHONG	YF-3600	-	2020-01-02

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