

Technical Report No.: 64.181.25.00790.01 Rev.00

Date: 2025-07-03

Client: **Name:** Guangdong JNOD New Energy Technology Co., Ltd.

Address: 5th Building WISDOM CREATE WEALTH Industrial Park, Xingtan, Shunde 528325, Foshan, Guangdong, People's Republic of China

Contact person: Mr. Huang Weiping

Manufacturer: **Name:** Guangdong JNOD New Energy Technology Co., Ltd.

Address: 5th Building WISDOM CREATE WEALTH Industrial Park, Xingtan, Shunde 528325, Foshan, Guangdong, People's Republic of China

Factory: **Name:** Guangdong JNOD New Energy Technology Co., Ltd.

Address: 5th Building WISDOM CREATE WEALTH Industrial Park, Xingtan, Shunde 528325, Foshan, Guangdong, People's Republic of China

Test object: **Product:** Heating Hot Water Heat Pump

Model: J12HWH

Trade mark: --

Test specification: EN 16147:2017+A1:2022
 EN 12102-2:2019

Purpose of examination: • Testing and evaluation (visual / partial) according to the test specification

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

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1. Description of the test object

1.1 Function

Manufacturer's specification for intended use:

The appliance is an air/ water heat pumps with electrically driven compressor including a domestic hot water storage tank, for indoor used.

Manufacturer's specification for predictive use:

According to the 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(s)	:	J12HWH
Rated Voltage (V)	:	220-240V~
Rated Frequency (Hz)	:	50
Rated Power (W)	:	see the nameplate
Rated Current (A)	:	see the nameplate
Auxiliary heater power (kW)	:	see the nameplate
Protection Class	:	<input checked="" type="checkbox"/> Class I; <input type="checkbox"/> Class II; <input type="checkbox"/> Class III
Degree of Protection	:	IP X1
Construction	:	<input checked="" type="checkbox"/> Stationary <input type="checkbox"/> Portable <input type="checkbox"/> Hand-held <input type="checkbox"/> Open-frame
Supply connection	:	<input type="checkbox"/> Non detachable cord <input checked="" type="checkbox"/> Permanent connection to fixed wiring <input type="checkbox"/> Appliance inlet
Operation mode	:	<input checked="" type="checkbox"/> Continuous operation; <input type="checkbox"/> Intermittent operation; <input type="checkbox"/> Short time operation;
Rated capacity (L)	:	see the nameplate
Net Weight (kg)	:	120kg
Refrigerant	:	R290 / 0.15kg
Noise (dB(A))	:	N/A
Series No.	:	UKJ12HWH250515-001

2. Order

2.1 Date of Purchase Order, Customer's Reference

- Date of Purchase Order: 2025-06-17
- Customer's Reference: Guangdong JNOD New Energy Technology Co., Ltd.

2.2 Test Sample(s)

- Reception date(s): 2025-06-18
- Location(s) of reception:
For Energy test and Noise 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 2025-06-18 to 2025-07-01

2.4 Location(s) of Testing Same as 2.2

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.

Test results refer to Appendix No.1: Format of test results.



4. Remark

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 No.1: Format of test results
- Appendix No.2: Marking plate
- Appendix No.3: Photo documentations
- Appendix No.4: Construction data form
- Appendix No.5: Test equipment list

6. Test History

1. The appliance is an air/ water heat pumps with electrically driven compressor including a domestic hot water storage tank, for indoor used.
2. The appliance is supplied by a 3-pole supply cord connecting to fixed wiring.
3. The test was performed according to test specifications and the standard EN 16147 requirements, the unit were performed on the condition below:

Item	Installation or setting
Air duct	duct length is for inlet and outlet together less than 2 m
Load profile	L
Thermostat set point temperature	53 °C
Temperature of the incoming cold water	10 °C
Test voltage	230 V, 50 Hz
Type of heat source	Outdoor air (placed indoor side)
Heat source Air Dry(wet) bulb temperature	7 °C (6 °C) Average climate
Ambient temperature of heat pump	20 °C
Ambient temperature of storage tank	20 °C
Operating setting	Heat pump only

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

Tested by: Yongxin Huang, Project Handler
printed name, function & signature

Approved by: Plum Li, Designated Reviewer
printed name, function & signature



Appendix No.1: Format of test results

Outdoor air (placed indoor side) Average climate (Table 1 to Table 7):

Table 1: Filling and storage [stage B]		
Measured quantity	Unit	Recorded data
Rated volume of the hot water storage tank V_m	l	180.0

Table 2: Filling and heating up period [stage C]		
Measured quantity	Unit	Recorded data
Heat source, Ambient DB/WB	°C	7.01/6.02
Ambient temperature of storage tank	°C	19.99
Test Voltage	V	230.01
Test Frequency	Hz	50
Heating up electrical energy consumption: W_{eh-HP}	kWh	2.171
Heating up time: t_h	s	23101

Table 3: Standby power input [stage D]		
Measured quantity	Unit	Recorded data
Heat source, Ambient DB/WB	°C	7.01/6.02
Ambient temperature of storage tank	°C	19.99
Test Voltage	V	230.01
Test Frequency	Hz	50
Total electrical energy consumption during the last on-off-cycle: W_{es-HP}	kWh	0.491
Duration of the last on-off-cycle of the heat pump: t_{es}	s	68130
Standby power input: P_{es}	kW	0.026

Table 4: Water draw-offs and COP calculation [stage E]		
Measured quantity	Unit	Recorded data
Heat source, Ambient DB/WB	°C	7.01/6.02
Ambient temperature of storage tank	°C	19.99
Test Voltage	V	230.01
Test Frequency	Hz	50
Load profile time in hours: t_{TC}	H	38.30
Total useful energy content during the load profile: Q_{LP}	kWh	11.679
Useful energy during one single draw-off: Q_{HP-tap}	kWh	11.560
Calculated heat energy produced by electrical resistance heater during the whole load profile: Q_{EL-LP}	kWh	0.119

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Total electrical energy consumption during the whole load profile: W_{EL-LP}	kWh	3.952
Total measured electrical energy consumption: $W_{EL-M-LP}$	kWh	4.205
Standby power input: P_{es}	kW	0.026
Coefficient of performance: COP_{DHW}	--	2.955

Table 5: Reference hot water temperature and volume of mixed water at 40 °C [stage F]

Measured quantity	Unit	Recorded data
Heat source, Ambient DB/WB	°C	7.01/6.02
Ambient temperature of storage tank	°C	19.99
Test Voltage	V	230.01
Test Frequency	Hz	50
Time from starting the draw-off until θ'_{WH} is less than 40°C: t_{40}	s	837
Reference hot water temperature: θ'_{WH}	°C	51.86
Maximum volume of mixed water at 40°C: V_{40}	l	195

Table 6: Water heating energy efficiency (η_{wh})

Measured quantity	Result	Remark
Declared load profile:	L	--
Total electrical energy consumption during the smart period of the smart cycle Q_{elec}^{smart} ***	N/A	No smart control function
Total useful energy content during the smart period of the smart cycle Q_{LP}^{smart} ***	N/A	No smart control function
Smart control factor SCF *	N/A	No smart control function
Smart control compliance smart	0	No smart control function
Standby heat loss: P_{stby} (kW)***	0.065	--
Ambient correction term: Q_{cor} (kWh)***	-0.359	--
Reference energy of the load profile: Q_{ref} (kWh)***	11.655	--
Daily electrical energy consumption: Q_{elec} (kWh)***	3.944	--
Water heating energy efficiency (smart=0): η_{wh} *	122.7 %	--
Water heating energy efficiency (smart=1): η_{wh} *	N/A	No smart control function
Water heating energy efficiency classes:	A+	(According (EU) No 812/2013 ANNEX II Table 1)
Annual electrical energy consumption (AEC) (kWh/a)****	835	--

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Supplementary information:
 Number of brine pump considered: no
 Setting of controls: Heating mode, thermostat set point temperature: 53°C
 Remark:
 Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

Table 7: Other performance		
Measured quantity	Unit	Recorded data
Rated heat output: P_{rated}	kW	1.060
Seasonal coefficient of performance: $SCOP_{DHW}$	-	2.955

Table 8: Noise tests data:			
	Heat source, Ambient DB/WB..... (°C):	7.00 °C / 6.00 °C	
	Ambient temperature of storage tank (°C):	20 °C	
	Voltage (V):	230V~	
	Frequency (Hz):	50Hz	
	Working condition class.....:	Class A	
	Acoustical environment.....:	Hemi-anechoic	
	Windshield type.....:	Sponge	
	Measured position amount	9	
	Water flow (m³/h):	--	

Measured quantity	LWA, Indoor unit	LWA, Outdoor unit	Remark
Averaged sound pressure level L_p^{****}	33 dB(A)	-	-
Measurement distance d^*	1.0m	-	-
Sound power level L_{WA}^{****}	49 dB(A)	-	-

Supplementary information: --
 Setting of controls: Heating mode
 Remark:
 1. Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer

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Appendix No.1: Format of test results

Table 9: Other tests	
Clause 8.1 Temperature operating range	
(Test 1: minimal heat source temperature)	
Comment	Test Response
From the machine starting conditions - i.e. - the machine was brought to the operating conditions declared by the manufacturer for the heating mode- i.e. Tair= -5.00 °C, T inlet water 10 °C, T outlet water 60.00 °C. Once these conditions were obtained, Immediately after the heat pump stops the first time, 50 % of the nominal tank volume is tapped, the hot water flow rate is the maximum flow rate of the declared load profile and the hot water temperature is measured 58.50 °C. During the test, no warning or alarm were showed. No damage was recorded on the machine during and after the test.	Passed
(Test 2: maximal heat source temperature)	
Comment	Test Response
From the machine starting conditions - i.e. - the machine was brought to the operating conditions declared by the manufacturer for the heating mode- i.e. Tair= 45.00 °C, T inlet water 10 °C, T outlet water 60.00 °C. Once these conditions were obtained, Immediately after the heat pump stops the first time, 50 % of the nominal tank volume is tapped, the hot water flow rate is the maximum flow rate of the declared load profile and the hot water temperature is measured 59.20 °C. During the test, no warning or alarm were showed. No damage was recorded on the machine during and after the test.	Passed
Clause 8.3 Safety devices checking test	
(Shutting off the heat transfer medium flows)	
a) blocking of the heat source system	
Comment	Test Response
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 1 hour, the air flow rate was restored and the machine started to operate normally. During the test, no warning or alarm were showed. No damage was recorded on the machine during and after the test.	Passed
b) blocking the heat transfer medium flow of the heat sink system	
Comment	Test Response
The water flow rate was shutted off trough manual and automatic valves of the test rig. The machine switched off at least 1 hour and during the whole test no error appeared on the user interface of unit. Once the water flow rate was restored, the machine restarted automatically. No damage was recorded on the machine during and after the test.	Passed
(Complete power supply failure)	
Comment	Test Response
The power supply was cut off for about 10 seconds. The unit restarted automatically as soon as the power supply was reactivated, during this test, the unit was not damaged.	Passed

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Clause 8.4 Condensate draining	
Comment	Test Response
The draining of condensate shall be observed, when operating at the standard conditions given in Table 4 and Table 5. During the tests no condensed water shall drip, run or blow off the unit except through the drain.	Passed

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Appendix No.2: Marking plate

Nameplate

Heating Hot Water Heat Pump	
Model name	J12HWH
Power supply	220-240V/~/50Hz
Capacity ¹	1.5 kW
Power input ¹	0.4 kW
COP ¹	3.75
Capacity ²	2.25 kW
Power input ²	0.51 kW
COP ²	4.40
Max. power input	11.58 kW
Max. current	50.5 A
Refrigerant type / charge	R290/150 g
ELE. power input (hot water / heating)	3 kW / 8 kW
Max. outlet water temp.	75 °C
Max. operating pressure (high / low side)	2.8 / 1.0 MPa
Rated water pressure	0.7 MPa
Storage tank volume	180L+65L
Water piping connections	G1 "
Rated water flow	2.5 m³/h
Hot water pressure relief valve	0.7 MPa
Pressure relief valve for heating	0.3 MPa
Sound power level	49 dB(A)
Net dimensions (L × W × H)	Φ640*1910 mm
Running temp. range	-7~45 °C
Net weight	120 kg
Unit protection class (with air inlet duct)	IPX1
Capacity and power input based on the following conditions: 1: Ambient temperature 20°C, Heat source temperature 7°C/6°C, Water temperature from 15°C to 53°C. 2: Ambient temperature 20°C, Heat source temperature 7°C/6°C, Inlet water temperature 30°C, Outlet water temperature 35°C.	
Hermetically sealed system, leak tested Contains fluorinated greenhouse gases covered by the Kyoto protocol	
   	

Appendix No.3: Photo documentations

Details of:	General view
<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:	Internal view
<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 No.3: Photo documentations

Details of:	Compressor
<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:	Fan motor
<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 No.3: Photo documentations

Details of:	Main controller
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	

Appendix No.4: Construction data form

Part		Technical data
1. Compressor	Manufacture	GMCC
	Type	RDSN89V11TZZ
	Serial-number	G01351263AC0
	Rated input	220-240V~; 50Hz; R290 with a capacitor 15μF/450VAC
2. Condenser	Manufacture	Danfoss (Jiaxing) Plate Heat Exchanger Co., Ltd.
	Type	12L-EZ-22
	Heat exchanger	Plate heat exchanger
	Dimension	154mm*76mm*34mm
3. Evaporator	Manufacture	Guangdong Spiker Air Conditioning Equipment Co., Ltd.
	Type	J12HWH-3-01
	Heat exchanger	Finned heat exchanger
	Dimension	420mm*336mm*36.38mm
4. Fan motor of evaporator	Manufacture	Jiangmen LT Motor Co.,Ltd.
	Type	RD45HK
	Specification	DC310V; 34W
5. Controller	Manufacture	Foshan Shunde Zhuojing Electronics Technology Co., Ltd.
	Type	JND-HWHAllnONE-P
6. Heater	Manufacture	Zhaoqing Meiri Electric Appliance Co., Ltd.
	Type	MR-1940004
	Specification	3,0kW; 220V~; 50Hz

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Appendix No.5: Test equipment list

Equipment	Brand / Manufacturer	Model	ID No.	Calibration due date
30HP Enthalpy difference laboratory (Water system)	Guangzhou Linxin	/	/	2026-04-15
Noise Meter and PULSE Sound Power	B&K / Brüel & Kjær Sound & Vibration Measurement A/S.	3560-B-010 PULSE	202444CK0032-3	2026-06-26
Power Analyzer	HIOKI/ HIOKI E.E. CORPORATION	3334	200844CK0084	2026-06-26
Atmospheric Pressure Meter	FENGYANG/TIANJIN FENGYANG INSTRUMENT INDUSTRIAL AND TRADING CO. LTD	DYM3	200944BK0273	2025-11-11
'1/2" Free-field Microphone	B&K / Brüel & Kjær Sound & Vibration Measurement A/S.	4190-L-001	202444CK0032-4 202444CK0032-5 202444CK0032-6 202444CK0032-7 202444CK0032-8 202444CK0032-9 202444CK0032-10 202444CK0032-11 202444CK0032-12	2026-06-26
Hygrometer	UNI-T	UT332	201444CK0004SD	2025-11-10
Tape Measure	0-3000mm	3m	201444CK0026SD	2025-11-21

--- End of Report ---