


Technical Report No.: 64.181.20.05243.01 Rev.00

Date: 2020-11-20

Client: Name: AQUATECH SOLAR TECHNOLOGIES PTY LTD
Address: 94-96 Kortum Drive Burleigh Heads QLD 4220, Australia
Contact person: Simon Baird
Manufacturing place: Manufacturer's name: AQUATECH SOLAR TECHNOLOGIES PTY LTD
Address: 94-96 Kortum Drive Burleigh Heads QLD 4220, Australia
Factory's name: GUANGDONG SUNRAIN AIR SOURCE ENERGY CO., LTD.
Address: NO.73 DEFU ROAD, XINGTAN TOWN, SHUNDE DISTRICT, FOSHAN CITY, GUANGDONG PROVINCE, CHINA
Test subject: Product: PRODUCT-SOLAR-AIR-HOT WATER HEAT PUMP
Type: RAPID/X6, Dynamic/X8
Trade name: 
Test specification: ISO 3745:2012 with the client specified operation condition

Purpose of examination: Test according to the test specification

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

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Doc No.: ITC-TTW0902.02E – Rev.7

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 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 :	RAPID/X6, Dynamic/X8
Rated Voltage (V) :	220-240V~
Rated Frequency (Hz) :	50
Rated Power (W) :	700
Rated Current (A) :	N/A
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) :	R290 /350g
Declared parameters :	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Warmer <input type="checkbox"/> Colder
Sound power level dB(A) :	N/A
Series No :	N/A

2 Order

2.1 Date of Purchase Order, Customer's Reference

2020-11-09 Simon Baird

2.2 Receipt of Test Sample, Condition, Location

2020-11-09

For Noise test:

Vkan Certification & Testing Co., Ltd

Address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, P.R.China

2.3 Date of Testing

2020-11-19 to 2020-11-19

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 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

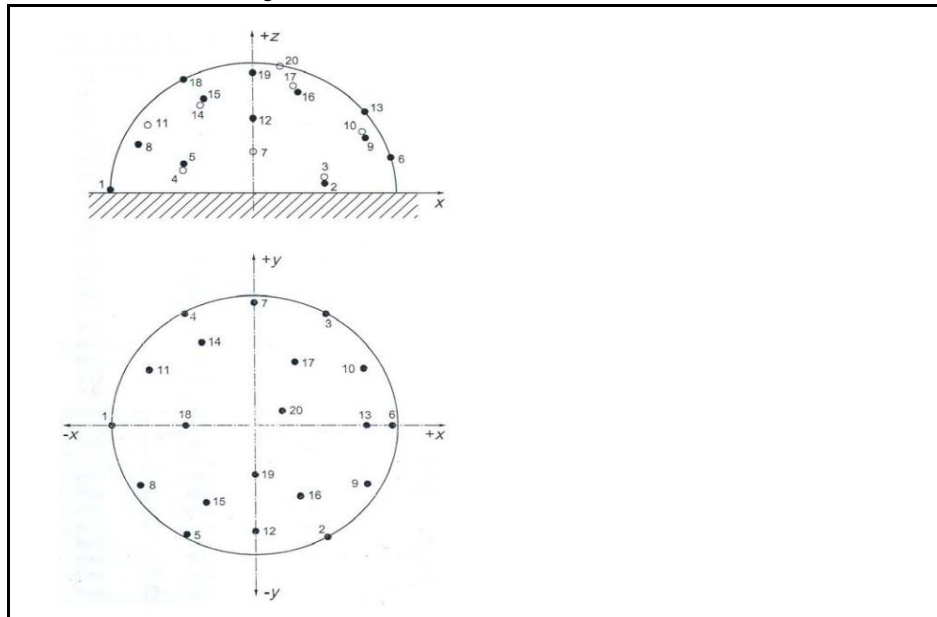
- Appendix I Test results
- Appendix II Marking plate
- Appendix III photo documentation
- Appendix IV Construction data form
- Appendix V Test equipment list

6 Summary

- 1) The appliance is Air Source Heat Pump, including a whole compression type refrigerant circuit to heat water in another circuit.
- 2) The main power is supplied by a 3-pole supply cable not with plug which not supply by manufactory.
- 3) Water enthalpy method was adopted in this report.
- 4) According to the manufacturer's application and according to the standard ISO 3745:2012 requirements, the unit was tested on below conditions:

Test standard: ISO 3745:2012	
Ambient temperature (°C)	
Dry bulb	Wet bulb
20	15

- 5) Measurement surface figure:



- 6) The model RAPID/X6 is same as Dynamic/X8 except for model's name. And the test are carried out at models RAPID/X6.

Doc No.: ITC-TTW0902.02E – Rev.7

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

Tested by: William Liang, Project Handler

printed name, function & signature

Approved by: Tony Xie, Designated Reviewer

printed name, function & signature



Appendix I Test results


Table 1.	Sound power level measurement(Medium temperature application)		P
Model	RAPID/X6		
	Product type :	Air to Water	
	Outdoor heat exchanger, Air temperature DB/WB (°C):	20.0 /15.0	
	Voltage (V):	230	
	Frequency (Hz):	50	
	Working condition class :	Class A	
	Acoustical environment :	Hemi-anechoic room	
	Windshield type :	Sponge	
	Measured position amount :	20	
	Water flow (m³/h):	-	
Measured quantity	L _{WA,indoors} (dB(A))	L _{WA,outdoors} (dB(A))	Remark
Sound pressure level $\hat{L}_{p(ST)}$ ****	--	42	--
Spheres radius r *	--	3.3m	--
Sound power level L _{WA} ****	--	61	--
Setting of controls: according to user manual.			
Duct connection:--			
Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer			

Doc No.: ITC-TTW0902.02E -- Rev.7

Appendix II Marking plate

Nameplate

Model: RAPID/X6




Product Manufactured & Complies with Australian Standards
PRODUCT- SOLAR-AIR-HOT WATER HEAT PUMP SYSTEM

AUSTRALIAN STANDARDS AUS/NZS 2712 LICENCE: SMK40937
 AUSTRALIAN STANDARDS PLUMBING AS-3498 LICENCE:WMK 26182
 AUSTRALIAN STANDARDS THERMAL PERFORMANCE AS4234
 AUSTRALIAN STANDARDS TANK-CONTAINER AS4692.1
 AUSTRALIAN STANDARDS ELECTRICAL COMPONENT SAFETY AS 3350.2.40
 AUSTRALIAN STANDARDS COMPONENT DESIGN AS1677
 AUSTRALIAN STANDARDS WATER-COMPONENTS-METALIC END S-FITTINGS 3688

MODEL TYPE: RAPID/X6 **DATE OF MANUFACTURE:**
IN - NUMBER:KDC50-200A1 **FREQUENCY/VOLTAGE:** 220V-240V ; 50Hz/60Hz
POWER INPUT-RATED: 700W **INPUT CURRENT:** Single Phase 240Volt AC Supply
MAXIMUM POWER INPUT: 900W **ELECTRIC HEATING ELEMENT:** 1800W
PROTECTION CLASS: IPX4


PN (AIR 35 DEG/WATER 50 DEG): 2.0MPa
 REFRIGERANT - TYPE: R290
 REFRIGERANT - CHARGE: 350g
 OPERATING PRESSURE-MAXIMUM: 2.35MPa
 MAXIMUM ALLOWABLE PRESSURE: 3.0MPa
 OPERATING PRESSURE-MINIMUM: 0.2MPa



DHW-cylinder:
 MAXIMUM OPERATING PRESSURE: 850kPa
 MAXIMUM OPERATING TEMPERATURE HEAT PUMP: 60 DEGREES CELSIUS
 MAXIMUM OPERATING TEMPERATURE ELEMENT: 70 DEGREES CELSIUS
 CAPACITY CYLINDER: 210 LITRES
 HEATPUMP-TANK- MATERIALTYPE:VITEROUS ENA

MADE IN CHINA UNDER LICENCE FOR AQUATECH SOLAR TECHNOLOGIES PTY LTD
 ADDRESS - 2/94 -96 Korortum Drive Burleigh Qld 4200 PHONE - 1300 769 904 EMAIL - info@hydrothermhotwatersystems.com.au

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 ADDRESS - 2/94 -96 Korortum Drive Burleigh Qld 4200 PHONE - 1300 769 904 EMAIL - info@aquatechheatpumps.com

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Remark: 1. The model Dynamic/X8 is same as RAPID/X6 except for model's name.
 2. All model have two trade name.

Doc No.: ITC-TTW0902.02E – Rev.7

Appendix III photo documentaiton

Details of:	Over 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>	

Doc No.: ITC-TTW0902.02E – Rev.7

Appendix IV Construction data form

Model: RAPID/X6 and Dynamic/X8		
Part		Technical data
1. Compressor		
	Manufacture:	GMCC
	Type:	DSM165V12UDZ
	Rated capacity:	220V-240V; 50HZ; 765W
	Serial-number:	N/A
2. Condenser		
	Manufacture:	Zhejiang New Jinchen Machinery Co., Ltd
	Type:	Micro-channel
	Heat exchanger:	Wrap around
	Dimension (mm):	1530(L)mmX620(H)mmX2(D)mm
3. Evaporator		
	Manufacture:	Guangzhou AoTai Refrigeration Equipment Co., Ltd
	Type:	Finned-coil heat exchanger
	Heat exchanger:	3 rows
	Dimension (mm):	420(L)mmX340(H)mmX93(D)mm
4. Fan motor		
	Manufacture:	Foshan Xindi Motor Co., Ltd
	Type:	YDK-30A-4R
	Fan type:	Axial
5. Main control board		
	Manufacture:	Elitech
	Type:	S-3K15-M-V1.1
	Specification:	220-240V; 50Hz
6. Heater		
	Manufacture:	ZheJiang Sacon Electrical Co., Ltd
	Type:	Incoloy800
	Specification:	220-240V; 50/60Hz; 1,8KW

Doc No.: ITC-TTW0902.02E – Rev.7

Appendix V Equipment List

No.	Type	Manufacture	Model	Equipment ID	Calibration Due Date
1	Anechoic rooms (indoor side: hemi-anechoic rooms)	NC-036-2	-	Guangzhou Kinte	2023-10-07
2	Anechoic rooms (outdoor side: hemi-anechoic rooms)	NC-036-2	-	Guangzhou Kinte	2023-10-07
3	Calibrator	HJ-000095	4231	B & K	2021-06-15
4	PULSE system	VGDY-0184	3660C	B & K	2021-04-12
5	Power meter	KA-0008	8705B	Qingdao Qinzhi	2021-01-18
6	Long steel tape	HJ-000150	5m	-	2021-01-02
7	Temperature measurement system	NC-036-1	-	-	2021-06-23
8	Atmospheric pressure meter	HJ-000165	-	-	2021-11-05
9	Constant temperature water system	VGDS-0448	-	-	2021-04-19

-- End of Report --