



TEST REPORT

ENERGY EFFICIENCY - LARGE AIR CONDITIONER

Report No.: E-18OC0156DTGS
Testing Laboratory/Address: Bureau Veritas Consumer Products Services (Guangzhou) Co., Ltd, Science City Branch
Rm.101, G5 Building, South China Advanced Materials Innovation Park, No. 31, Kefeng Rd., Guangzhou Science City, Guangzhou, 510663, China
Applicant/Address: Rheem Manufacturing Company
5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA
Manufacturing site/Address: Same as the applicant
Testing Location/Address:

Product Description: The product covered by this report is a multiple split air conditioner.
Brand Name: RHEEM
Model(s): SAVR-H140/4R1C
Model Similarity: NA
Ratings: 220-240V~, 50/60Hz
Date of Receipt of Sample(s): 20-Nov-2017
Date Range of Test: 21-Nov-2017
Test standard(s) or Criteria(s): UAE 5010-5:2016
UAE.S ISO 15042:2011
ISO 15042:2011
Conclusion: The product tested comply with the requirements of UAE 5010-5:2016.
Issue Date: 14-Jan-2019
Revise Date: 29-Mar-2019

Prepared by: Hardy LIU
Title: Engineer

Approved by: Jeff ZHANG
Title: Performance Manager

Signature: _____

Signature: _____

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The Accreditation only attests the technical capability of the testing laboratory for the tests covered by the accreditation.

Photos:

Photo 1 - outdoor unit





Photo 2 - compressor

Photo 3 - fan motor





Photo 4 - rating label

	
Made in China	
<i>The new degree of comfort!</i>	
DC Inverter Type Heat Pump	
Air Conditioner (Outdoor Unit)	
Product Type	SAVR-H140/4R1C
Electric Shock Prevention	Class I
Power Supply	220-240V~50Hz/60Hz
Rated Cooling Capacity (T1/T3)	48000/43000Btu/h 14.1/12.6kW
Rated Heating Capacity	55500Btu/h 16.2kW
Cooling (T1/T3) / Heating Current	16.46/19.48/17.66A
Cooling (T1/T3) / Heating Power	3.69/4.39/3.98kW
EER (T1/T3)	13.00/9.80 (Btu/h) / W
COP	4.07W/W
Max. Input Current	32.00A
Max. Input Power	7.05kW
Max. Suction/Discharge Pressure	1.2MPa/4.2MPa
Refrigerant	R410A
Refrigerant Quantity	4.1kg
Water-proof Quantity	IPX4
Noise	57dB (A)
Net Weight	93kg
Date	YY.MM
No.	WUJ65XXXXXXXXXX
	
Rheem Manufacturing Company	
5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA	



Product Details

Item	Data
Model Number of Unit Under Tested	outdoor unit: SAVR-H140/4R1C*1 indoor unit: SAVRMD-H036/R1XS*4
Serial Number	N/A
Condition of Sample(s)	Prototype
Type	Multiple split system
Refrigerant	R410A
Mass of refrigerant (kg)	4.1
Outdoor Side Heat Exchanger	Air
Indoor Side Heat Exchanger	Air
Equipped With a Supplementary Heater?	No
Capacity Control	Variable
Rated Cooling Capacity at T1 [Btu/h]	48000
Rated Cooling Capacity at T1 [kW]	14.10
Rated Cooling Input Power at T1 [W]	3690
Rated EER at T1 [Btu/(W·h)]	13.00
Rated Cooling Capacity at T3 [Btu/h]	43000
Rated Cooling Capacity at T3 [kW]	12.60
Rated Cooling Input Power at T3 [W]	4390
Rated EER at T3 [Btu/(W·h)]	9.80
Dimension of the Unit W*H*D [m*m*m]	-
Weight of the Unit [kg]	-

Critical Components

Name	Manufacturer / trademark	Type / model	Technical data
DC Motor-compressor	Zhuhai LanDa Compressor Co., Ltd.	QXAS-F428zX450L	Supplied by DC inverter, R410A
DC fan motor	GUANGDONG WELLING MOTOR MANUFACTURING CO., LTD.	ZKFP-69-8-3	DC310V, 69W, Class 120(E)
Alt.	WOLONG ELECTRIC GROUP CO.,LTD.	ZWB178D60A	DC310V, 69W, Class 120(E)

NOTE

"Various" means any type, from any manufacturer that complies with the "Technical data and securement means" can be used.



Capacity test

Item	Unit	T1	T3	52°C
Barometric pressure	<i>kPa</i>	102.6	102.6	102.6
Voltage	<i>V</i>	230.6	230.5	206/255
Frequency	<i>Hz</i>	50	50	50
Total power input	<i>W</i>	3299	4015	-
Speed control setting of the fan speed	-	High	High	High
Rotational speed of the fan	<i>r/min</i>	-	-	-
External resistance to airflow	<i>Pa</i>	30.1	29.5	29.5
Dry-bulb temp. of air entering, indoor side	°C	27.01	28.99	32.02
Wet-bulb temp. of air entering, indoor side	°C	19.00	18.99	23.05
Dry-bulb temp. of air leaving, indoor side	°C	19.61	22.23	-
Wet-bulb temp. of air leaving, indoor side	°C	16.40	16.60	-
Dry-bulb temp. of air entering, outdoor side	°C	35.00	46.01	50.59
Wet-bulb temp. of air entering, outdoor side	°C	26.15	26.74	24.28
Indoor side airflow rate, standard	<i>m³/h</i>	5182.9	5152.1	-
Total Cooling Capacity	<i>Btu/h</i>	45897	41901	-
Energy Efficiency Ratio (EER)	<i>Btu/(W·h)</i>	13.91	10.44	-

Remark: During the test at 52°C outdoor dry bulb temperature for at least two hours, the equipment operated without any indication of damage.



Report No. E-18OC0156DTGS

Conclusion

		Tested	Rated	Ratio	Limit	Verdict
Cooling Capacity Condition T3	Capacity (Btu/hr)	41901	43000	0.974	≥ 0.92	Pass
	Power Input (W)	4015	4390	0.915	≤ 1.10	Pass
	EER (Btu/W·hr)	10.435	9.80	1.065	NA	NA

MEPS

	Tested	MEPS	Verdict
UAE (T3)	9.80	8.3	Pass



Report No. E-18OC0156DTGS

Revision Summary

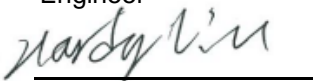
Date/ Proj # Site ID	Project Handler/ Reviewer	Item	Description of Change
22-Jan-2019	Hardy Liu/ Jeff Zhang	Cover Page	Added standard UAE.S ISO 15042:2011.
29-Mar-2019	Henry Deng/ Jeff ZHANG	Photos Page	Rating label updated.
		Details page	Revised rated power and rated EER for T1.



TEST REPORT

ENERGY EFFICIENCY - LARGE AIR CONDITIONER

Report No.: E18DE0019DTGS
Testing Laboratory/Address: Bureau Veritas Consumer Products Services (Guangzhou) Co., Ltd, Science City Branch
Rm.101, G5 Building, South China Advanced Materials Innovation Park, No. 31, Kefeng Rd., Guangzhou Science City, Guangzhou, 510663, China
Applicant/Address: Rheem Manufacturing Company.
5600 Old Greenword Road, Fort Smith Arkansas, 7 Province
Manufacturing site/Address: Same as applicant address.
Testing Location/Address:
Product Description: The product covered by this report is a multiple split air conditioner.
Brand Name: RHEEM
Model(s): SAVR-H450/5R1MC
Model Similarity: NA
Ratings: 380-415V 3N~50/60Hz
Date of Receipt of Sample(s): 16-Nov-2018
Date Range of Test: 16-Nov-2018
Test standard(s) or Criteria(s): UAE 5010-5:2014
UAE.S ISO 15042:2011
Conclusion: This report is only list testing result, no verdict.
Issue Date: 10-Dec-2018
Revise Date: NONE

Prepared by: Hardy LIU
Title: Engineer
Signature: 


Approved by: Jeff ZHANG
Title: Performance Manager
Signature: 

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The Accreditation only attests the technical capability of the testing laboratory for the tests covered by the accreditation.

Photos:

Photo 1 - outdoor unit




Photo 2 - compressor

Photo 3 - outdoor fan motor



Photo 4 - rating label

Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		DC Inverter Type Heat Pump Air Conditioner(Outdoor Unit)		 The Art of Comfort Made in China
MODEL	SAVR-H450/5R1MC	RATED COOLING CAPACITY (T1/T3)	45.0/39.0kW 154000/133000Btu/h	
PROTECTION GRADE	IPX4 / Class I	RATED HEATING CAPACITY	45.0kW 154000Btu/h	
POWER SUPPLY	380-415V 3N ~50/60Hz	COOLING (T1/T3)/HEATING CURRENT	20.30 / 26.28 / 17.94A	
REFRIGERANT	R410A / 16kg	COOLING (T1/T3)/HEATING POWER	11.81 / 15.30 / 10.44kW	
MAX. SUCTION/DISCHARGE PRESSURE	1.4MPa / 4.2MPa	MAX. INPUT CURRENT/POWER	40.60A / 23.40kW	
NOISE	45-61dB(A)	EER (T1/T3)	13.05/8.70(Btu/h)/W	
N. W/G. W	330kg /345kg	COP	4.31W/W	
PRODUCTION DATE	YY.MM	BAR CODE	E0015XXXXXXXXXX	



Product Details

Item	Data
Model Number of Unit Under Tested	outdoor unit: SAVR-H450/5R1MC*1 indoor unit: SAVRMD-H056/R1XS*9
Serial Number	N/A
Condition of Sample(s)	Prototype
Type	Multiple split system
Refrigerant	R410A
Mass of refrigerant (kg)	16
Outdoor Side Heat Exchanger	Air
Indoor Side Heat Exchanger	Air
Equipped With a Supplementary Heater?	No
Capacity Control	Variable
Rated Cooling Capacity at T1 [Btu/h]	154000
Rated Cooling Capacity at T1 [kW]	45.00
Rated Cooling Input Power at T1 [W]	11810
Rated EER at T1 [Btu/(W·h)]	13.05
Rated Cooling Capacity at T3 [Btu/h]	133000
Rated Cooling Capacity at T3 [kW]	39.00
Rated Cooling Input Power at T3 [W]	15300
Rated EER at T3 [Btu/(W·h)]	8.70
Dimension of the Unit W*H*D [m*m*m]	-
Weight of the Unit [kg]	-

Critical Components

Name	Manufacturer / trademark	Type / model	Technical data
DC Motor-Compressor	Johnson Controls-Hitachi Wanbao Compressor (Guangzhou) Co., Ltd.	AA55PHDG-D1Y2	Supplied by DC inverter, R410A
Outdoor DC fan motor	Panasonic Motor (HangZhou) Co., Ltd. Panasonic Appliances Motor (Hangzhou) Co., Ltd.	DMSBB8PAK	DC310 V, 450 W, Class 120(E)
Alternative	ZHONGSHAN BROAD-OCEAN MOTOR CO., LTD.	ZW924D000001	DC310 V, 450 W, Class 120(E)

NOTE

“Various“ means any type, from any manufacturer that complies with the "Technical data and securement means" can be used.

Capacity test

Item	Unit	T1	T3	56°C
Barometric pressure	<i>kPa</i>	-	-	-
Voltage	<i>V</i>	-	-	230.19
Frequency	<i>Hz</i>	-	-	49.99
Total power input	<i>W</i>	-	-	6060.00
Speed control setting of the fan speed	-	-	-	-
Rotational speed of the fan	<i>r/min</i>	-	-	-
External resistance to airflow	<i>Pa</i>	-	-	-
Dry-bulb temp. of air entering, indoor side	°C	-	-	27.02
Wet-bulb temp. of air entering, indoor side	°C	-	-	22.75
Dry-bulb temp. of air leaving, indoor side	°C	-	-	-
Wet-bulb temp. of air leaving, indoor side	°C	-	-	-
Dry-bulb temp. of air entering, outdoor side	°C	-	-	56.05
Wet-bulb temp. of air entering, outdoor side	°C	-	-	30.24
Indoor side airflow rate, standard	<i>m³/h</i>	-	-	-
Total Cooling Capacity	<i>Btu/h</i>	-	-	-
Energy Efficiency Ratio (EER)	<i>Btu/(W·h)</i>	-	-	-

During the test period at 56°C outdoor dry bulb temperature for at least two hours, the equipment operated without any indication of damage.



Test curve

