







Test Report issued under the responsibility of:


SGS Fimko Ltd.


TEST REPORT IEC 60335-2-40 Safety of household and similar electrical appliances Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers	
Report Number :	GZES180901540601
Date of issue	2019-01-16
Total number of pages	159 pages
Name of Testing Laboratory preparing the Report	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch
Applicant's name	Rheem Manufacturing Company
Address	5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA
Test specification:	
Standard	IEC 60335-2-40:2018 in conjunction with IEC 60335-1:2010, AMD1:2013, AMD2:2016
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60335_2_400
Test Report Form(s) Originator	VDE Testing and Certification Institute
Master TRF	Dated 2018-04-05
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Test item description	Outdoor unit of Split-type Air Conditioner
Trade Mark	 <p>The new degree of comfort.™</p>
Manufacturer	Same as applicant
Model/Type reference	SAVR-H***/5R1MC (***=250, 280, 330, 400, 450)
Ratings	380 V - 415 V; 3N; 50/60 Hz; Class I; IPX4 SAVR-H250/5R1MC: 20,2 A; 12,5 kW; R410A/14,0 kg SAVR-H280/5R1MC: 21,1 A; 13,2 kW; R410A/14,0 kg SAVR-H330/5R1MC: 24,4 A; 15,1 kW; R410A/14,0 kg SAVR-H400/5R1MC: 39,3 A; 22,6 kW; R410A/16,0 kg SAVR-H450/5R1MC: 40,6 A; 23,4 kW; R410A/16,0 kg


Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	SGS-CSTC Standards Technical Services Co., Ltd. Shunde Branch
Testing location/ address :		Building 1, European Industrial Park, No. 1, Shunhe South Road, Wusha, Daliang, Shunde District, Foshan, Guangdong, China
Tested by (name, function, signature) :		Clause Wang <i>Clause Wang</i> Project engineer
Approved by (name, function, signature) .. :		Mike Liu <i>Mike Liu</i> Reviewer
<hr/>		
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	N/A
Testing location/ address :		
Tested by (name, function, signature) :		
Approved by (name, function, signature) .. :		
<hr/>		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	N/A
Testing location/ address :		
Tested by (name + signature) :		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
<hr/>		
<input type="checkbox"/>	Testing procedure: CTF Stage 3:	N/A
<input type="checkbox"/>	Testing procedure: CTF Stage 4:	N/A
Testing location/ address :		
Tested by (name, function, signature) :		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment):																																																									
1. Attachment 1 – Photo documentation – 19 pages																																																									
2. Attachment 2 – Connection diagram – 1 page																																																									
Summary of testing:																																																									
Tests performed (name of test and test clause):		Testing location:																																																							
IEC 60335-2-40:2018 IEC 60335-1:2010 + A1:2013 + A2:2016 Full tests were carried on outdoor unit SAVR-H450/5R1MC with matched indoor units. Tests of clause 10, 11, 13, 19, 29 and 30 were carried out on outdoor unit SAVR-H330/5R1MC, SAVR-H280/5R1MC with matched indoor units. Tests of clause 10 were carried out on all models.		CBTL																																																							
Summary of compliance with National Differences (List of countries addressed):																																																									
None																																																									
Copy of marking plate:																																																									
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.																																																									
<table border="1"> <tr> <td colspan="2">Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA</td> <td colspan="2" style="text-align: center;">DC Inverter Type Heat Pump Air Conditioner (Outdoor Unit)</td> <td colspan="2" style="text-align: center;"> The new dream of comfort Made in China</td> </tr> <tr> <td>MODEL</td> <td>SAVR-H250/5R1MC</td> <td>RATED COOLING CAPACITY (T1/T3)</td> <td colspan="3">25.2/22.2kW 86000/76000Btu/h</td> </tr> <tr> <td>PROTECTION GRADE</td> <td>IPX4 / Class I</td> <td>RATED HEATING CAPACITY</td> <td colspan="3">25.2kW 86000Btu/h</td> </tr> <tr> <td>POWER SUPPLY</td> <td>380-415V 3N~50/60Hz</td> <td>COOLING (T1/T3)/HEATING CURRENT</td> <td colspan="3">9.69 / 11.12 / 9.54A</td> </tr> <tr> <td>REFRIGERANT</td> <td>R410A / 14kg</td> <td>COOLING (T1/T3)/HEATING POWER</td> <td colspan="3">5.64 / 6.47 / 5.55kW</td> </tr> <tr> <td>MAX. SUCTION/DISCHARGE PRESSURE</td> <td>1.4MPa / 4.2MPa</td> <td>MAX. INPUT CURRENT/POWER</td> <td colspan="3">20.20A / 12.50kW</td> </tr> <tr> <td>NOISE</td> <td>45-58dB(A)</td> <td>EER (T1/T3)</td> <td colspan="3">15.25/11.75(Btu/h)/W</td> </tr> <tr> <td>N. W./G. W</td> <td>230kg /240kg</td> <td>COP</td> <td colspan="3">4.54W/W</td> </tr> <tr> <td>PRODUCTION DATE</td> <td>YY.MM</td> <td>BAR CODE</td> <td colspan="3">E0011XXXXXXXXXX</td> </tr> </table>				Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		DC Inverter Type Heat Pump Air Conditioner (Outdoor Unit)		 The new dream of comfort Made in China		MODEL	SAVR-H250/5R1MC	RATED COOLING CAPACITY (T1/T3)	25.2/22.2kW 86000/76000Btu/h			PROTECTION GRADE	IPX4 / Class I	RATED HEATING CAPACITY	25.2kW 86000Btu/h			POWER SUPPLY	380-415V 3N~50/60Hz	COOLING (T1/T3)/HEATING CURRENT	9.69 / 11.12 / 9.54A			REFRIGERANT	R410A / 14kg	COOLING (T1/T3)/HEATING POWER	5.64 / 6.47 / 5.55kW			MAX. SUCTION/DISCHARGE PRESSURE	1.4MPa / 4.2MPa	MAX. INPUT CURRENT/POWER	20.20A / 12.50kW			NOISE	45-58dB(A)	EER (T1/T3)	15.25/11.75(Btu/h)/W			N. W./G. W	230kg /240kg	COP	4.54W/W			PRODUCTION DATE	YY.MM	BAR CODE	E0011XXXXXXXXXX		
Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		DC Inverter Type Heat Pump Air Conditioner (Outdoor Unit)		 The new dream of comfort Made in China																																																					
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Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		<h2>DC Inverter Type Heat Pump Air Conditioner(Outdoor Unit)</h2>		 The new degree of comfort Made in China
MODEL	SAVR-H280/5R1MC	RATED COOLING CAPACITY (T1/T3)	28.2/24.9kW 96000/85000Btu/h	
PROTECTION GRADE	IPX4 / Class I	RATED HEATING CAPACITY	28.2kW 96000Btu/h	
POWER SUPPLY	380-415V 3N ~ 50/60Hz	COOLING (T1/T3)/HEATING CURRENT	12.05 / 13.58 / 10.89A	
REFRIGERANT	R410A / 14kg	COOLING (T1/T3)/HEATING POWER	7.01 / 7.90 / 6.34kW	
MAX. SUCTION/DISCHARGE PRESSURE	1.4MPa / 4.2MPa	MAX. INPUT CURRENT/POWER	21.10A / 13.20kW	
NOISE	45-58dB(A)	EER (T1/T3)	13.70/10.75(Btu/h)/W	
N. W / G. W	230kg / 240kg	COP	4.45W/W	
PRODUCTION DATE	YY.MM	BAR CODE	E0012XXXXXXXXXX	

Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		<h2>DC Inverter Type Heat Pump Air Conditioner(Outdoor Unit)</h2>		 The new degree of comfort Made in China
MODEL	SAVR-H330/5R1MC	RATED COOLING CAPACITY (T1/T3)	33.3/30.6kW 114000/104000Btu/h	
PROTECTION GRADE	IPX4 / Class I	RATED HEATING CAPACITY	33.3kW 114000Btu/h	
POWER SUPPLY	380-415V 3N ~ 50/60Hz	COOLING (T1/T3)/HEATING CURRENT	14.90 / 16.59 / 13.18A	
REFRIGERANT	R410A / 14kg	COOLING (T1/T3)/HEATING POWER	8.67 / 9.65 / 7.67kW	
MAX. SUCTION/DISCHARGE PRESSURE	1.4MPa / 4.2MPa	MAX. INPUT CURRENT/POWER	24.40A / 15.10kW	
NOISE	45-61dB(A)	EER (T1/T3)	13.15/10.80(Btu/h)/W	
N. W / G. W	256kg / 271kg	COP	4.34W/W	
PRODUCTION DATE	YY.MM	BAR CODE	E0013XXXXXXXXXX	

Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		<h2>DC Inverter Type Heat Pump Air Conditioner(Outdoor Unit)</h2>		 The new degree of comfort Made in China
MODEL	SAVR-H400/5R1MC	RATED COOLING CAPACITY(T1/T3)	40.0/35.7kW 136000/122000Btu/h	
PROTECTION GRADE	IPX4 / Class I	RATED HEATING CAPACITY	40.0kW 136000Btu/h	
POWER SUPPLY	380-415V 3N ~ 50/60Hz	COOLING(T1/T3)/HEATING CURRENT	17.95 / 22.64 / 15.27A	
REFRIGERANT	R410A / 16kg	COOLING(T1/T3)/HEATING POWER	10.44 / 13.17 / 8.89kW	
MAX. SUCTION/DISCHARGE PRESSURE	1.4MPa / 4.2MPa	MAX. INPUT CURRENT/POWER	39.30A / 22.60kW	
NOISE	45-61dB(A)	EER(T1/T3)	13.05/9.25(Btu/h)/W	
N. W/G. W	330kg /345kg	COP	4.50W/W	
PRODUCTION DATE	YY.MM	BAR CODE	E0014XXXXXXXXXX	

Rheem Manufacturing Company 5600 Old Greenwood Road, Fort Smith, Arkansas, 72903, USA		<h2>DC Inverter Type Heat Pump Air Conditioner(Outdoor Unit)</h2>		 The new degree 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	

Test item particulars : Outdoor unit of Split-type Air Conditioner	
Classification of installation and use : Stationary appliance	
Supply Connection : Terminal :	
Possible test case verdicts: - test case does not apply to the test object : N/A - test object does meet the requirement..... : P (Pass) - test object does not meet the requirement : F (Fail)	
Testing :	
Date of receipt of test item : 2018-09-26	
Date (s) of performance of tests : 2018-09-26 to 2019-01-16	
General remarks: "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator. This document is issued by the Company subject to its General Conditions of Service, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx . Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 3 months only.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-2-40:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) : Ningbo AUX Electric Co., Ltd. 1166 Mingguang North Road, Jiangshan Yinzhou District, Ningbo, 315191 Zhejiang, China	

General product information:

The appliances are outdoor unit of split-type air conditioner which can be used assembled with one or more indoor units (multi-split system) intended for household use only, the refrigerant was R410a. The outdoor unit shall be assembled with the circuit breakers according to instruction manual and the circuit breakers were not supplied with the appliance. The indoor unit and outdoor unit connected to supply main respectively. Only the connection refrigerating pipes and low-voltage interconnection cord connected between indoor units and outdoor unit.

Outdoor units are similar with each other in construction except for different capacity output and other differences listed in below table. Further details refer to photo documentation.

Model	LxWxH (mm)	Compressor	Number of compressor	Number of fan motor
SAVR-H250/5R1MC	990×765×1635	AA55PHDG-D1Y2	One	One
SAVR-H280/5R1MC	990×765×1635	AA55PHDG-D1Y2	One	One
SAVR-H330/5R1MC	1340×765×1635	AA55PHDG-D1Y2	One	Two
SAVR-H400/5R1MC	1340×765×1635	AA55PHDG-D1Y2	Two	Two
SAVR-H450/5R1MC	1340×765×1635	AA55PHDG-D1Y2	Two	Two