


Product Performance Test Reports



Sample Description

Product	:	Ducted type Air Conditioners
Brand	:	 "Rheem"
Brand Owner Name & Address	:	Rheem Manufacturing company 5600, Old Greenwood Road PO Box No. 17010, Fort Smith, AR72917,USA.
Manufacturer	:	Blue Star Limited.
Product Model Number	:	Indoor unit -RSIN-036T Outdoor unit - RSON-036NS
Product Serial Number	:	Indoor unit -RSIN-036T16K00001 Outdoor unit -RSON-036NS16K00001

According to manufacturer's declaration, the following products are identical to the tested model in all respects. The difference is only model number due to additional specification for Indoor units and Outdoor units below for trading purpose. Therefore, these models can be covered by this reports as well.

Model	Outdoor Model # RSON-036NS(++) may be followed by additional suffixes Indoor Model # RSIN-036T(++) may be followed by additional suffixes
	(++) Optional Suffix: C – Advance Controller B – Blue Fin G – Metallic Guard BG – Blue Fin with Metallic Guard O – Oil separator OB – Oil separator and Blue Fin OG – Oil separator and Metallic Guard OBG – Oil separator, Blue fin and Metallic guard
Model Similarity	Outdoor Ruud Model # USON-036NS except for Model Number and Brand Name Indoor Ruud Model # USIN-036T except for Model Number and Brand Name

Electrical Rating	:	380-415V, 50Hz, 3 Phase.
Rated Cooling Capacity (T3)	:	31300 Btu/hr
Test Reports Number	:	DIV/RND/PP/WD/17/14-01E-Rev-1
Date of Report Issue	:	25 May 2017
Reference Standard	:	UAE.S 5010-5:2016 New Regulation on Commercial & Central Air conditioners UAE.S ISO 13253:2011 Ducted air-conditioners and heat pumps – Testing and Rating for performance

Prepared And Checked By : For Blue Star Limited		Reviewed By : For Blue Star Limited
		
Ayyaj Shaikh Assistant Manager		Sunil Kumar Jain Deputy General Manager

Test Laboratory Details

Test Request No : DIV/RND/PP/WD/17/14
Testing Laboratory : 5TR Psychrometric Laboratory
R&D, Blue Star Limited, Village-Vasuri Khurd, Khanivali
Road, PO - Khupari, Wada, Maharashtra, -421312, India

Test Method

: Indoor Air-Enthalpy Method

Samples Status

Received Sample ID : WD16PED-73B-80A
Sample Received Date : 26 December 2016/14 January 2017
Received Sample Condition : The sample was received in good physical condition with all accessories as per packaging list.
Date(s) of performance : 27 January 2017

Test Result

: See the attached sheets

General Remark :

- This report is supplement to the test report number DIV/RND/PP/WD/17/14-01E dated 30/03/2017. Changes are made to product model number, serial number, Unit Brand Name as per declaration letter dated 17/05/2017 received from Project Team.
- The reference standard is changed to revised standard UAE.S 5010-5:2016 as there is no change in test condition related to Energy Efficiency Classifications declared Clause 4.1.
- The observations and test results in this report are relevant only to the sample tested.

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Installation:

The equipment was installed in accordance with the manufacturer's installation instructions, using recommended installation procedures and accessories.

The following interconnecting pipe sizes were used for connection between indoor and outdoor unit .

Gas line Ø 5/8 inch , liquid line 3/8 inch and length 7.5 meter .

Refrigerant : R410A, 2.85 Kg

Test Condition:

Items	Unit	-	Cooling capacity rating conditions-T3	Maximum cooling performance test conditions-T3
Dry – bulb temperature of air entering indoor side	°C	-	29.0	32.0
Wet – bulb temperature of air entering indoor side	°C	-	19.0	23.0
Dry – bulb temperature of air entering outdoor side	°C	-	46.0	52.0
Wet – bulb temperature of air entering outdoor side ^(a)	°C	-	24.0	31.0
Test voltage (V)	V	-	400.0	90 % and 110 % of rated voltage
Test frequency (Hz)	Hz	-	50.0	50.0
External Static Pressure (Pa)	Pa	-	37.0	37.0

Note: (a) The wet-bulb temperature condition shall be required only when testing air-cooled condensers that evaporate the condensate.

Air flow conditions :

The tests were conducted at the above standard rating conditions with the fan speed set to maximum speed.

Preconditions :

The test was conducted under the selected conditions with no changes made in fan speed or system resistance. Test conditions were maintained for not less than 1 h before recording data for the capacity test.

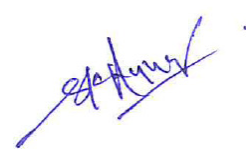
Duration of test :

Cooling Capacity Test (T3 Condition)

- The test data shall be recorded for 30 min at 5-min interval to get seven consecutive set of readings and the average of these seven set of data is used as test result.

Maximum Cooling Performance Test (T3 Condition)

- The equipment shall be operated continuously for 2 h after the specified air temperatures and established in accordance with the tolerances as per standard. There after, all power to the equipment shall be cut off for 3 min and then restored. The operation of the equipment may be restarted either automatically or through the use of a remote controller or similar device. The test shall continue or 60 min after the equipment restarts.



Energy Efficiency Classifications -

As per Clause 4.1 of standard UAE.S 5010-5:2016

The minimum allowable value of the EER as in table 1:

Table - 1

Rated Capacity	Minimum Energy Efficiency (EER) (Btu.h /watt) T3
CC < 135000	8.10
135000 ≤ CC < 240000	7.90
240000 ≤ CC < 760000	7.50
760000 ≤ CC	7.20

For evaluation the following condition will followed:

The testing cooling capacity = 95 % × the rated cooling capacity

The testing power consumption = 110% × the rated power consumption

Test Result Summary : Cooling Capacity Test T3

Description	Rated	Measured	Verify Limits
Cooling capacity (Btu/hr)	31300	31415.8	≥ 29735
Power Input (W)	3850	3859.8	≤ 4235
EER (Btu/W.hr)	8.13	8.14	----

The product meets requirement as per standard -UAE.S 5010-5:2016 clause 4.1, Table 1

Controlling Cooling Temperatures :

It is verified from the Controller settings of the Air conditioner that the minimum cooling set temperature is +20 Deg.C

-The cooling temperature as per clause 6.1 of UAE.S 5010.5:2016 is checked in the remote assembled with product and instruction manual.



Unit Name Plate Details:


DUCTED SPLIT TYPE AIR CONDITIONER(OUDOOR UNIT)

MODEL NO: RSON-036NS
 VOLTS:380-415
 DESIGN PRESSURE HIGH: 450 PSIG 3102 kPa
 DESIGN PRESSURE LOW: 250 PSIG 1723 kPa
 WEIGHT OF UNIT: 86.0 Kg

SERIAL NO:RSON-036NS16K00001
 PHASE:3 HERTZ:50

RSON-036NS

MATCHED INDOOR UNIT:	RSIN-036T/TC
TEST CONDITION	T3
RATED CURRENT(A)	8.5
RATED POWER(W)	3850
RATED CAPACITY (Btu/h)	31300
E.E.R (Btu/Watt.h)	8.13
REFRIGERANT: R410A CHARGE (Kg)	2.85


 RHEEM MANUFACTURING COMPANY
 5600,OLD GREENWOOD ROAD
 PO BOX NO 17010, FORT SMITH, AR72917,USA

IP RATING: IPX4
 MADE IN INDIA

Picture Number 1 :Outdoor Unit


DUCTED SPLIT TYPE AIR CONDITIONER(INDOOR UNIT)

MODEL NO:RSIN-036T
 VOLTS:220-240
 INDOOR CURRENT:1.4A
 DESIGN PRESSURE HIGH: 450 PSIG 3102 kPa
 DESIGN PRESSURE LOW: 250 PSIG 1723 kPa
 WEIGHT OF UNIT: 58.0 Kg

SERIAL NO:RSIN-036T16K00001
 PHASE:1 HERTZ:50

RSIN-036T

MATCHED OUTDOOR UNIT:	RSON-036TS/ TSBG/TSB/TSG	RSON-036NS/ NSBG/NSB/NSG
	TSO/TSOBG/ TSOB/TSOG	/NSO/NSOBG/ NSOB/NSOG
TEST CONDITION	T3	T3
RATED CURRENT(A)	16.8	8.5
RATED POWER(W)	3800	3850
RATED CAPACITY (Btu/h)	31400	31300
E.E.R (Btu/Watt.h)	8.26	8.13
REFRIGERANT: R410A CHARGE (Kg)	2.85	2.85


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IP RATING: IPX0
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Picture Number 2 :Indoor Unit


General Unit Picture :



Picture Number 3: Overall view of indoor unit



Picture Number 4 : Overall view of outdoor unit

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