

Portable Air Conditioners Test Report

CSA Master Contract Number:	302422
CSA Project Number:	80191067

Test Location:	Zhejiang Oulun Electric Co., Ltd.
Address:	Building 1-8, No 22 Hengyi Street, Tangqi Town, Linping District, Hangzhou, 311100, Zhejiang, China.

Customer Name:	Zhejiang Oulun Electric Co., Ltd.
Customer Address:	Building 1-8, No 22 Hengyi Street, Tangqi Town, Linping District, Hangzhou, 311100, Zhejiang, China.

Model Number:	OL-A016AA06RN3/F
Model Family:	OL-A016**06N3/* , OL-A016**06RN3/*
Serial Number:	S202311A01606R001,S202311A01606R002
Brand Name:	EURGEEN
Manufacturing Date:	NA
Manufacturer:	Zhejiang Oulun Electric Co., Ltd.

CSA Sample (Material) Number:	
Date Sample Received:	December 3, 2023
Test Start Date:	December 5, 2023
Test Finish Date:	December 6, 2023
Test Station Number:	

Applicable Standards:
10 CFR Part 430 Appendix CC to Subpart B
ANSI/AHAM PAC-1-2015
IEC 62301 Edition 2.0,2011-01

Number of Pages (including Cover):	9
Number of Attachments:	0

Tested By:	Liu Bolong
Project Holder:	Helen Li

All test measurements conform to the "Accuracy Method" as outlined in IEC-CTL Guide 115.
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Reviewed By:	Aaron Cheng
Signature:	Aaron Cheng
Title:	Certifier
Date:	2023/12/11

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Product Identification:

Product Description:	Single duct air conditioner
Refrigerant	R32
Mass of refrigerant (oz)	6
Standby and Off	Standby mode only
Heating function	Yes
Condensate removal feature	Auto-evaporation

Critical Components

Name/Model	Manufacturer / trademark	Technical data
Compressor: KSN78E11VBZC1	GUANGDONG MEIZHI COMPRESSOR LTD	115V, 60Hz, R32
Capacitor of compressor: C65R	SHENG YE ELECTRIC CO LTD	50μF, 250 V
Alternative: Various	Various	50μF, 250 V
Evaporator Fan motor: YSK95-65-4C	Zhejiang Oulun Electric Co., Ltd.	110-120V, 60Hz
Capacitor of Evaporator fan motor: CBB61	NINGGUO HUILI ELECTRIC CO LTD	15μF, 250V
Alternative: Various	Various	15μF, 250V

Additional Product Notes:

OL-A016**06RN3/* is an air conditioner, with cooling mode and heating mode.

1) The first * represents the product appearance code, marked with the letters A~Z;

2) The second * represents the product top cover code, marked with the letters A~Z;

3) The third * indicates single additional function (represented by letter A-Z), combined function (represented by letter A-Z combination) or no additional function (blank) of the product;

OL-A016**06N3/* is identical to OL-A016**06RN3/* except 4-way removed, with only cooling mode kept.

The model OL-A016AA06RN3/F was chosen as the representative model for testing.

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Test conditions-single duct

Dry-bulb temperature of inlet air ,indoor side	80	°F
Wet-bulb temperature of inlet air,indoor side	67	°F
Dry-bulb temperature of inlet air ,outdoor side	80	°F
Wet-bulb temperature of inlet air,outdoor side	67	°F

Test conditions-dual duct,Condition A

Dry-bulb temperature of inlet air ,indoor side	80	°F
Wet-bulb temperature of inlet air,indoor side	67	°F
Dry-bulb temperature of inlet air ,outdoor side	95	°F
Wet-bulb temperature of inlet air,outdoor side	75	°F

Test conditions-dual duct,Condition B

Dry-bulb temperature of inlet air ,indoor side	80	°F
Wet-bulb temperature of inlet air,indoor side	67	°F
Dry-bulb temperature of inlet air ,outdoor side	83	°F
Wet-bulb temperature of inlet air,outdoor side	67.5	°F

Electrical Input

Test Voltage:	115	Volts
Test Frequency:	60	Hz

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Test data

Section 1-Cooling capacity test data				
Items	Unit	Sample 1	Sample 2	Sample 3
Barometric pressure	PSIA	14.785	14.784	-
Indoor fan speed mode	--	High	High	-
Applied voltage	V	115.45	115.45	-
Frequency	Hz	60.00	60.00	-
Current input to test unit	A	7.63	7.60	-
Power input to test unit	W	849.51	849.45	-
Dry-bulb temperature of inlet air ,indoor side	°F	80.08	80.06	-
Wet-bulb temperature of inlet air,indoor side	°F	66.92	66.94	-
Dry-bulb temperature of outlet air,indoor side	°F	55.44	55.76	-
Wet-bulb temperature of outlet air,indoor side	°F	53.17	53.49	-
Dry-bulb temperature of inlet air ,outdoor side	°F	80.06	80.06	-
Wet-bulb temperature of inlet air,outdoor side	°F	66.92	66.92	-
Dry-bulb temperature of outlet air ,outdoor side	°F	112.46	112.244	-
Wet-bulb temperature of outlet air,outdoor side	°F	78.782	78.548	-
Total Cooling Capacity,indoor side	Btu/hr	8479.40	8393.18	-
Sensible cooling capacity,indoor side	Btu/hr	5678.32	5650.65	-
Latent cooling capacity,indoor side	Btu/hr	2801.08	2742.53	-
Section 2-Airflow test data				
Items	Unit	Sample 1	Sample 2	Sample 3
Volumetric flow rate of outlet air,indoor side	CFM	195.83	197.75	-
Volumetric flow rate of outlet air,outdoor side	CFM	233.17	233.27	-
Section 3-Duct Heat Transfer				
Items	Unit	Sample 1	Sample 2	Sample 3
The outer diameter of duct, d	ft	0.492	0.492	-
The extended length of duct, L	ft	4.101	4.101	-
The surface average temperature of duct, t1	°F	105.62	104.90	-
The surface average temperature of duct, t2	°F	105.98	105.62	-
The surface average temperature of duct, t3	°F	101.84	101.48	-
The surface average temperature of duct, t4	°F	103.46	103.64	-
Section 4-Energy Consumption under the operating mode				
Items	Unit	Sample 1	Sample 2	Sample 3
Off-Cycle, P _{OC}	W	0.900	1.000	-
Inactive or Off, P _{OM}	W	0.400	0.500	-

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Calculation

Items	Unit	Sample 1	Sample 2	Sample 3
The surface area of duct, A_{duct}	square foot	6.34	6.34	-
T_{duct_SD}	$^{\circ}F$	104.2	103.9	-
Q_{duct_SD}	Btu/h	460.28	454.58	-
$pws(t^*)$	$PSIA$	0.48749	0.48376	-
Humidity ratio at saturation, Ws^*	--	0.02121	0.02104	-
Average humidity ratio of condenser outlet air, wco_SD	$lbw/lbda$	0.01331	0.01315	-
Average density of the condenser outlet air, pco_SD	lbm/ft^3	0.06920	0.06923	-
Dry air mass flow rate of infiltration, $\dot{m}_{sd}$	lb/m	15.923	15.939	-
Sensible heat added to the room by infiltration air, Qs_{95}	Btu/h	3627.55	3631.10	-
Sensible heat added to the room by infiltration air, Qs_{83}	Btu/h	690.17	690.84	-
Latent heat added to the room by infiltration air, Ql_{95}	Btu/h	2939.65	2942.53	-
Latent heat added to the room by infiltration air, Ql_{83}	Btu/h	-344.65	-344.99	-
Total infiltration air heat, $Q_{infiltration_95}$	Btu/h	6567.20	6573.62	-
Total infiltration air heat, $Q_{infiltration_83}$	Btu/h	345.52	345.86	-
Adjusted Cooling Capacity, ACC_{95}	Btu/h	1451.91	1364.98	-
Adjusted Cooling Capacity, ACC_{83}	Btu/h	7673.60	7592.75	-
Seasonally Adjusted Cooling Capacity, $SACC$	Btu/h	6429.26	6347.19	-
Total annual energy consumption attributed to all modes except cooling- AEC_T	$kWh/year$	1.33	1.56	-
Annual energy consumption in cooling mode, AEC_{SD}	$kWh/year$	637.14	637.09	-
Combined energy efficiency ratio, $CEER_{SD}$	$Btu/hr \cdot W$	7.55	7.45	-

t_values

n	90%	95%	97.5%	99%
2	3.078	6.314	12.71	31.82
3	1.886	2.920	4.303	6.965
4	1.638	2.353	3.182	4.541
5	1.533	2.132	2.776	3.747
6	1.476	2.015	2.571	3.365

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Conclusion-single duct

<i>Items</i>	<i>Unit</i>	<i>Sample 1</i>	<i>Sample 2</i>	<i>Sample 3</i>
Seasonally Adjusted Cooling Capacity, SACC	Btu/h	6429.26	6347.19	-
Power input to test unit	W	849.514	849.453	-
Combined energy efficiency ratio, CEER _{SD}	Btu/hr·W	7.55	7.45	-

<i>Items</i>	<i>Unit</i>	<i>Result</i>
Sampling size	pcs	2
Mean of SACC	Btu/h	6388.23
Mean of Power Input	W	849.48
Mean of CEER _{SD}	Btu/hr·W	7.50
UCL/1.1 regard to Power input	-	772.4
LCL/0.9 regard to CEER _{SD}	-	7.99
Represented Value of SACC	Btu/h	6400
Represented Value of Power input	W	849
Represented Value of CEER _{SD}	Btu/hr·W	7.5
DOE limit of CEER _{SD}	Btu/hr·W	6.66
Verdict	-	Pass

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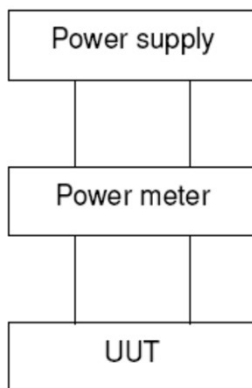
Test Instruments

Inventory No.	Instrument Type	Model	Last Cal. Date	Next Cal. Date
OL-RD-DF5HP003	5HP Lab	/	2023/12/4	2024/12/3

Measurement conditions for standby and off mode test

Operating condition	Stand-by	Off-mode
Method used	Accumulated energy approach	Accumulated energy approach
Comments	Following the cooling capacity test, the unit is stopped with the control of the device. After 10 minutes, the power consumption is measured.	NA

Testing circuit for standby and off mode test



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Photos

Photo 1-Front view of tested unit



Photo 2-Rear view of tested unit



Photo 3-Compressor



Photo 4-Control Panel

