

Zhejiang Oulun Electric Co.,Ltd.

TEST REPORT

SCOPE OF WORK

ENERGY EFFICIENCY TESTING - PORTABLE AIR CONDITIONER

REPORT NUMBER

220812099GZU-001

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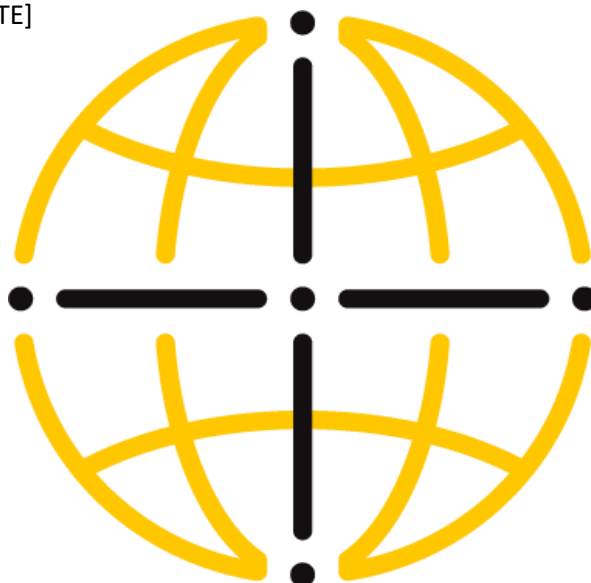
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14

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Guangzhou, Guangdong, China

Applicant/Manufacturer: Zhejiang Oulun Electric Co.,Ltd.
Address: No. 22 Hengyi Road, Linping District, Hangzhou, 311100,
Zhejiang, P.R.China

Manufacturing site: Zhejiang Oulun Electric Co.,Ltd.
Address: No. 22 Hengyi Road, Linping District, Hangzhou, 311100,
Zhejiang, P.R.China

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Guangzhou, Guangdong, China

Product: Portable air conditioner
Brand Name: See model remark on page 7 & 8 & 9
The product covered by this report is a household, indoor
use, cord connected portable air conditioner.

Model(s): See model remark on page 7 & 8 & 9
Model Similarity: See model remark on page 7 & 8 & 9
Ratings: 115V, 60Hz,
Date of receipt of sample(s): 11-Aug-22
Date Range of Test: 15-Aug-2022&16-Aug-2022
Test standard(s) or criteria(s): ANSI/AHAM PAC-1-2015
10 CFR Part 430 Subpart B, Appendix CC
IEC 62301 Edition 2.0, 2011-01
California Code of Regulations: Title 20, Division 2, Chapter
4, Article 4, § 1605.3. State Standards for Non-Federally-
Regulated Appliances

Conclusion: Refer to page 13.

Prepared by: Jacky Liang
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Photos:

Photo 1 - Front view



Photo 2 - Rear view



Photo 3 - Left view



Photo 4 - Right view



Photo 5 - Top view



Photo 6 - Nameplate

None

Product Details

Item	Data
Model Number of Unit Under Tested	OL-BA012C-08CD/C
Serial Number	NA
Condition of Sample(s)	Prototype
Product Type	Single-duct
Refrigerant	R32
Standby and Off	Standby mode only

Critical Components

Name	Manufacturer / trademark	Type / model	Technical data
Compressor	GUANGDONG MEIZHI COMPRESSOR LTD(GMCC)	KSM95E12UDZL	115VAC,60Hz R32
Capacitor for Compressor	NINGGUO HUILI ELECTRIC CO.,LTD	CBB65	70μF 250VAC
ALT.	Various	Various	70μF, 250VAC
Down fan Motor	Zhejaing Oulun Electric Co.,Ltd.	YDK-50-6	115VAC 60Hz
Down fan Motor Capacitor	NINGGUO HUILI ELECTRIC CO.,LTD	CBB61	8μF 250VAC
Alternative	Various	Various	8μF, 250VAC
Upper fan Motor	Zhejaing Oulun Electric Co.,Ltd.	YDK95-35-6C	110-120VAC 60Hz
Upper fan Motor Capacitor	NINGGUO HUILI ELECTRIC CO.,LTD	CBB61	10μF 250VAC
Alternative	Various	Various	10μF, 250VAC

NOTE

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

Model Remark

All models are identical except for the model numbers, brand names, external view and cooling only/heat pump. The first * represents the product appearance code, which can be any capital letter from A-Z; the second * represents the product top cover code, which can be any capital letter from A-Z. The model OL-BA012C-08CD/C with brand name EURGEEN was selected for testing.

Brand Name	Model Number
EURGEEN	OL-BA012C-08CD/C
	OL-BA012*-08CD/*
Serenelife	SLPAC240W
	SLPAC242B
Homcom	823-008
Electactic	A4212-12K
	A42SZ12-12K
	A4215-12K
	A4215-13K
	A42SZ15-13K
	A42SZ15-12K
	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
ZAFRO	A4212-12K
	A42SZ12-12K
	A4215-12K
	A4215-13K
	A42SZ15-13K
	A42SZ15-12K
	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
Kismile	A4212-12K
	A42SZ12-12K
	A4215-12K
	A4215-13K
	A42SZ15-13K
	A42SZ15-12K
	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C

Brand Name	Model Number
KISSAIR	A4212-12K
	A42SZ12-12K
	A4215-12K
	A4215-13K
	A42SZ15-13K
	A42SZ15-12K
	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
R.W.FLAME	A4212-12K
	A42SZ12-12K
	A4215-12K
	A4215-13K
	A42SZ15-13K
	A42SZ15-12K
	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
COWSAR	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
	A4212-12K
Antarctic Star	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
	A4212-12K
Free Village	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
	A4212-12K
Rintuf	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
	A4212-12K

Brand Name	Model Number
Joy Pebble	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
	A4212-12K
Fornido	A4212-12K-JP
	A4212-12K-CS
	A4212-12K-HF
	OL-BA012C-08CD/C
	A4212-12K

Cooling Capacity Test

Item	Unit	Sample 1	Sample 2	Sample 3
Date of Test	-	15/Aug/2022	16/Aug/2022	--
Barometric pressure	PSIA	14.532	14.561	--
Fan speed	-	High	High	--
Applied voltage	V	115.6	115.7	--
Frequency	Hz	60.0	60.0	--
Current input to test unit	A	9.89	9.94	--
Power input to test unit	W	1133.0	1138.0	--
Dry-bulb temperature of indoor inlet air	°F	80.08	80.06	--
Wet-bulb temperature of indoor inlet air	°F	67.01	67.08	--
Dry-bulb temperature of indoor outlet air	°F	59.25	59.56	--
Wet-bulb temperature of indoor outlet air	°F	56.23	56.46	--
Dry-bulb temperature of outdoor inlet air	°F	80.08	80.06	--
Wet-bulb temperature of outdoor inlet air	°F	67.05	66.96	--
Dry-bulb temperature of outdoor outlet air	°F	120.38	120.90	--
Wet-bulb temperature of outdoor outlet air	°F	81.45	81.81	--
Volumetric flow rate of indoor outlet air	CFM	308.9	308.6	--
Volumetric flow rate of outdoor outlet air	CFM	239.5	233.2	--
Total Cooling Capacity	Btu/hr	10464.60	10348.60	--
Sensible cooling capacity	Btu/hr	7069.66	6960.48	--
Latent cooling capacity	Btu/hr	3394.94	3388.12	--

Duct Heat Transfer

Item	Unit	Sample 1	Sample 2	Sample 3
The outer diameter of duct, d	foot	0.492	0.492	--
The extended length of duct, L	foot	3.281	3.281	--
The surface area of duct, A _{duct}	square foot	5.071	5.071	--
The surface temperature of duct, t ₁	°F	102.6	102.0	--
The surface temperature of duct, t ₂	°F	112.6	112.6	--
The surface temperature of duct, t ₃	°F	109.4	109.2	--
The surface temperature of duct, t ₄	°F	106.9	109.0	--
T _{duct_SD}	°F	107.9	108.2	--
Convection coefficient, h ()	Btu/h per square foot per °F	3	3	--
Average evaporator inlet air dry-bulb temperature-T _{ei}	°F	80	80	--
Q _{duct_SD}	Btu/h	422.81	428.56	--

Infiltration Air Heat Transfer

Item	Unit	Sample 1	Sample 2	Sample 3
Average volumetric flow rate, V_{co_SD}	CFM	239.49	233.20	--
Dry bulb of the condenser outlet air	°F	120.380	120.902	--
Wet bulb of the condenser outlet air	°F	81.446	81.806	--
$p_{ws}(t^*)$	PSIA	0.5318459	0.5381012	--
Humidity ratio at saturation, W_s^*	-	0.0236268	0.0238659	--
Average humidity ratio of condenser outlet air, w_{co_SD}	lb_w/lb_{da}	0.0144695	0.0146655	--
Average density of the condenser outlet air, ρ_{co_SD}	lb_m/ft^3	0.0670408	0.0671065	--
Dry air mass flow rate of infiltration, $\dot{m}_{sd}$	lb/m	15.827	15.423	--
Specific heat of dry air, c_{p_da}	$Btu/lb_m \cdot ^\circ F$	0.24	0.24	--
T_{ia_95}	°F	95	95	--
T_{ia_83}	°F	83	83	--
T_{indoor}	°F	80	80	--
C_{p_wv}	$Btu/lb_m \cdot ^\circ F$	0.444	0.444	--
w_{ia_95}	lb_w/lb_{da}	0.01410	0.01410	--
w_{ia_83}	lb_w/lb_{da}	0.01086	0.01086	--
w_{indoor}	lb_w/lb_{da}	0.0112	0.0112	--
H_{fg}	Btu/lb_m	1061	1061	--
Sensible heat added to the room by infiltration air, Q_{s_95}	Btu/h	3605.59	3513.54	--
Sensible heat added to the room by infiltration air, Q_{s_83}	Btu/h	685.99	668.47	--
Latent heat added to the room by infiltration air, Q_{l_95}	Btu/h	2921.86	2847.26	--
Latent heat added to the room by infiltration air, Q_{l_83}	Btu/h	-342.56	-333.82	--
Total infiltration air heat, $Q_{infiltration_95}$	Btu/h	6527.4	6360.8	--
Total infiltration air heat, $Q_{infiltration_83}$	Btu/h	343.4	334.7	--

CEER

Item	Unit	Sample 1	Sample 2	Sample 3
Cooling capacity, Capacity _{SD}	Btu/h	10464.60	10348.60	--
Adjusted Cooling Capacity, ACC ₉₅	Btu/h	3514.35	3559.24	--
Adjusted Cooling Capacity, ACC ₈₃	Btu/h	9698.37	9585.38	--
Seasonally Adjusted Cooling Capacity, SACC	Btu/h	8461.57	8380.15	--

Operating mode

Item	Unit	Sample 1	Sample 2	Sample 3
Temperature of indoor side	°F	80.08	80.06	--
Applied voltage	V	115.0	115.0	--
Frequency	Hz	60.0	60.0	--
Off-Cycle, P _{OC}	W	1.14	1.14	--
Inactive or Off, P _{OM}	W	0.65	0.65	--

Calculation

Item	Unit	Sample 1	Sample 2	Sample 3
Cooling Mode (h)	h	750	750	--
Off-Cycle (h)	h	880	880	--
Inactive or Off (h)	h	1355	1355	--
Total annual energy consumption in off-cycle-AECoc	kWh/year	1.00	1.00	
Total annual energy consumption in inactive or off mode-AECim or AECom	kWh/year	0.88	0.88	
Total annual energy consumption attributed to all modes except cooling-AECT	kWh/year	1.88	1.88	--
Annual energy consumption in cooling mode, AECSD	kWh/year	849.75	853.50	--
Combined energy efficiency ratio, CEER _{SD}	Btu/hr · W	7.45	7.35	--

Conclusion

Item	Unit	Sample 1	Sample 2	Sample 3
Seasonally Adjusted Cooling Capacity, SACC	<i>Btu/h</i>	8461.57	8380.15	--
Power input to test unit	<i>W</i>	1133.0	1138.0	--
Combined energy efficiency ratio, CEER _{SD}	<i>Btu/hr·W</i>	7.45	7.35	--

Item	Unit	Value
Sampling size	-	2
Mean of SACC	<i>Btu/h</i>	8420.86
Mean of CEER _{SD}	<i>Btu/hr·W</i>	7.40
UCL/1.1 regard to Power input	-	1046.6
LCL/0.9 regard to CEER _{SD}	-	7.86
Represented Value of SACC	<i>Btu/h</i>	8400
Represented Value of CEER _{SD}	<i>Btu/hr·W</i>	7.4
DOE & CEC Energy Efficiency Standards	<i>Btu/hr·W</i>	7.4
Verdict		Pass

Revision Summary

[illegible]

--The End--