



2020-06-12

TEST REPORT

THIS REPORT IS RENDERED TO NINGBO HAN DIAN ELECTRIC APPLIANCE CO., LTD, AND PERTAINS TO THE ENERGY EFFICIENCY TESTING FOR HOUSEHOLD REFRIGERATORS.

Applicant Name and Address: NINGBO HAN DIAN ELECTRIC APPLIANCE CO., LTD
East Guanhaiwei Industrial Zone, Cixi, Ningbo, 315314, Zhejiang, China

Manufacturer: NINGBO HAN DIAN ELECTRIC APPLIANCE CO., LTD
East Guanhaiwei Industrial Zone, Cixi, Ningbo, 315314, Zhejiang, China

Listed Brand: KEG

Product Tested: KS-48R

Relevant Standard: ENERGY STAR Program Requirements Product Specification for Residential Refrigerators and Freezers Version 5.0
10CFR Part 430, Appendix A to Subpart B- July 18, 2016
California Code Of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1609: Appliance Efficiency Regulations
CAN/CSA-C300-15

Date of Test: 2020-5-1 to 2020-5-5

Report No.: 4789464277-001

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Testing Report

Project No.: 4789464277

File No.: EV33889

Test Summary:

Testing project of household refrigerators and the tested model is KS-48R. The test items include Volume Measurement and Energy Consumption Test.

The fresh food compartment volume measured is 47L(1.7ft³) according to 10CFR429.72.

The energy consumption test result of tested model **KS-48R** is: sample 001# is 168kWh/year, sample 002# is 167kWh/year and the Energy Consumption calculated is 168kWh/year according to 10CFR429.14.

Test Standard of Requirement:

ENERGY STAR® Program Requirements Product Specification for Residential Refrigerators and Freezers Version 5.0

10CFR Part 430, Appendix A to Subpart B- July 18, 2016 - Uniform Test Method for Measuring the Energy Consumption of Refrigerators, Refrigerator-Freezers, and Miscellaneous Refrigeration Products
California Code Of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1609: Appliance Efficiency Regulations;

CAN/CSA-C300-15 Energy performance and capacity of household refrigerators, refrigerator-freezers, freezers, and wine chillers

Test Laboratory/Location:

NINGBO HAN DIAN ELECTRIC APPLIANCE CO., LTD
East Guanhaiwei Industrial Zone, Cixi, Ningbo, 315314, Zhejiang, China

Test Sample Description:

Sample Card No, Ratings and principal characteristics:

Model	KS-48R	
Sample Card	S001	S002
Received Date	2020-4-30	2020-4-30
Rating	115V,0.6A,60Hz	
Compressor Manufacturer	L35C5L HUAYI Compressor (Jingzhou) Co., Ltd	
Refrigerant	R600a, 18g	
Configuration Code	Refrigerators	
Defrost Code	Manual defrost	
Product Category	11A. Compact all-refrigerators– manual defrost.	



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Model: KS-48R

Date of Test: 2020-5-5

1. VOLUME MEASUREMENT

1.1 Gross Interior Volume:

Compartment	Average Height (mm)	Average Width (mm)	Average Depth (mm)	Qty.	Gross Volume (L)
Fresh food cabinet	404	378	375	1	57.27
Door compartment	404	378	15	1	2.29

1.2 Volume to be deducted:

Description	Average Height(mm)	Average Width(mm)	Average Depth(mm)	Qty.	Volume (L)
Control box	70	93	97.2	1	0.63
Evaporator	3	280	215	1	0.18
Evaporator cover	68	280	2	1	0.04
Compressor compartment	166	378	160	1	10.04
Cabinet molded projection-1	15	9	115	2	0.03
Cabinet molded projection-2	15	9	180	3	0.07
Cabinet molded projection-3	190	9	23	2	0.08
Cabinet molded projection-4	27	375	23	1	0.23
Cabinet molded projection-5	56	9	234	1	0.12
Door molded projection-1	378	18	54	2	0.73
Door molded projection-2	15	320	23	1	0.11
Door molded projection-3	11	326	70	1	0.25
Door molded projection-4	11	170	70	1	0.13
Door molded projection-5	15	140	70	1	0.15

1.3 Net Interior Volume:

Compartment	Net Volume L (ft ³)
Fresh Food (Gross volume – Deductions)	46.7 (1.65)
Freezer (Gross volume – Deductions)	N/A
Total Volume	47 (1.7)



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Model: KS-48R

Date of Test: 2020-5-1 to 2020-5-2

2. ENERGY CONSUMPTION TEST

2.1 Test Result of Sample 1:

	Test 1	Test 2
Sample No.	S001	
Type of Unit	Refrigerator	
Distance of Unit Back to Wall, mm	50.8	
Ambient Temperature (°F)		
– 1 ft above the top of cabinet, left side	89.8	90.0
– 1 ft above the top of cabinet, right side	89.9	90.3
– 3 ft above the supporting platform, left side	90.1	90.0
– 3 ft above the supporting platform, right side	89.3	89.4
– 2 inch above the supporting platform, left side	90.3	90.1
– 2 inch above the supporting platform, right side	90.0	90.2
Voltage	115.0	115.1
Frequency, Hz	60	60
Thermostat Setting	Median	Warmest
Start Time	2020-5-1 08:31:30	2020-5-2 11:35:00
First Cycle On Time (duration)	04min 00sec	02min 30sec
First Cycle Off Time (duration)	05min 30sec	06min 30sec
End Time	2020-5-1 11:38:00	2020-5-2 14:38:30
Target Standardized Refrigerator Temperature (°F)	39	
TR Average Fresh Food Temperature (°F)	33.46	42.37
T Test Period (min.)	186.5	183.5
EP Energy Consumption during test period (kWh)	0.0720	0.0515
ET Test Cycle Energy Consumption per day (kWh/day)	0.5559	0.4041
E(D) Average Energy Consumption (kWh/day)	0.4615	
E(Y) Average Energy Consumption (kWh/year)	168	



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Model: KS-48R

Date of Test: 2020-5-1 to 2020-5-2

2.2 Test Result of Sample 2:

	Test 1	Test 2
Sample No.	S002	
Type of Unit	Refrigerator	
Distance of Unit Back to Wall, mm	50.8	
Ambient Temperature (°F)		
– 1 ft above the top of cabinet, left side	90.5	90.5
– 1 ft above the top of cabinet, right side	90.7	90.2
– 3 ft above the supporting platform, left side	90.1	90.6
– 3 ft above the supporting platform, right side	90.5	90.3
– 2 inch above the supporting platform, left side	90.5	90.7
– 2 inch above the supporting platform, right side	90.5	90.6
Voltage	115.0	115.0
Frequency, Hz	60	60
Thermostat Setting	Median	Warmest
Start Time	2020-5-1 05:29:00	2020-5-2 11:34:00
First Cycle On Time (duration)	05min 30sec	02min 30sec
First Cycle Off Time (duration)	05min 30sec	07min 30sec
End Time	2020-5-1 08:49:00	2020-5-2 14:40:00
Target Standardized Refrigerator Temperature (°F)	39	
TR Average Fresh Food Temperature (°F)	31.59	42.63
T Test Period (min.)	200.0	186.0
EP Energy Consumption during test period (kWh)	0.0797	0.0516
ET Test Cycle Energy Consumption per day (kWh/day)	0.5738	0.3995
E(D) Average Energy Consumption (kWh/day)	0.4568	
E(Y) Average Energy Consumption (kWh/year)	167	



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3. Photo of Tested Sample:





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4. Thermostat Setting:

Median



Warmest






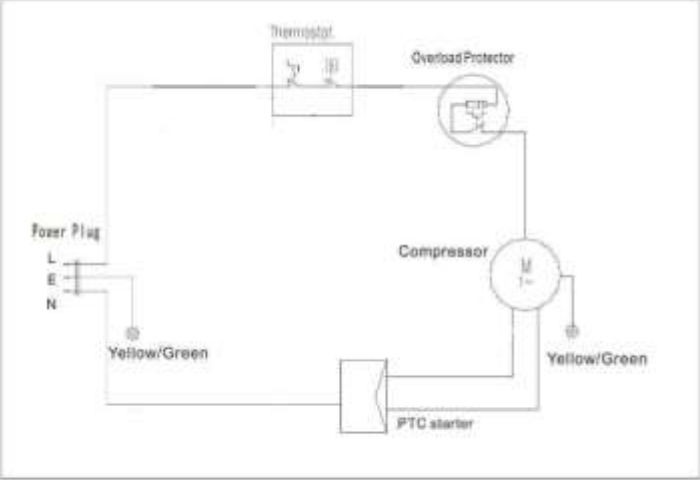
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5. Nameplate of Tested Sample:

 **Refrigerator**



TECHNICAL DATA	
Model	KS-48R
RATED VOLTAGE	115 V~
RATED FREQUENCY	60Hz
RATED CURRENT	0.6A
REFRIGERANT/AMOUNT	R600a/18g
INSULATION BLOWING GAS	C ₆ H ₁₀
TOTAL NET VOLUME	47L
ENERGY CONSUMPTION	0.55kWh/24h
HIGH SIDE	1.5MPa
LOW SIDE	0.4MPa

Ningbo Han Dian Electric Appliance Co., Ltd.



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6. TC Locations:



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