



2018-1-17

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-91R

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
CEC-400-2017-002
CAN/CSA-C300-15

Date of Test: 2017-11-29 to 2017-12-6

Report No.: 4788236769

Report Prepared by:

Kenny Zhu

Project Engineer

Tel: 86-512-68758622

Fax: 86-512-68084099 ext. 66622

Email: Kenny.Zhu@ul.com

Report Approved by:

Ben Gu

Project Engineer

Tel: 86-020-32131282

Fax: 86-020-83486777 ext. 67282

Email: Ben.Gu@ul.com

THIS MESSAGE AND ANY DOCUMENTS ACCOMPANYING IT IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL, AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received the communication in error, please notify us immediately by return fax and advise whether you have destroyed the original message or are returning it to us through the mail.



Testing Report

Project No.: 4788236769

File No.: EV33889

Test Summary:

Testing project of household refrigerators and the tested model is KS-91R. The test items include Volume Measurement and Energy Consumption Test.

The total fresh food compartment volume calculated is 91L (3.2ft³) according to 10CFR429.72.

The energy consumption test result of tested model **KS-91R** is: sample 001# is 217kWh/year, sample 002# is 206kWh/year, sample 003# is 209kWh/year, and the Energy Consumption calculated is 211kWh/year according to 10CFR429.14 and Annex B of CAN/CSA-C300-15.

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

CEC-400-2017-002 Appliance Efficiency Regulations

CAN/CSA-C300-15 Energy Performance and Capacity of Household Refrigerators, Refrigerator-freezers, and Freezers

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-91R		
Sample Card	001#	002#	003#
Received Date	2017-11-28	2017-11-28	2017-11-28
Rating	115V,1.0A,60Hz		
Compressor	VY35R16G		
Manufacturer	Jiangsu Baixue Electric Appliances Co., Ltd		
Refrigerant	R600a, 21g		
Configuration Code	Refrigerator		
Defrost Code	Manual defrost		
Product Category	Type 11A. Compact all-refrigerators– manual defrost.		



Testing Report

Project No.: 4788236769

File No.: EV33889

Model: KS-91R

Date of Test: 2017-11-29

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	730	375	378	1	103.48
Door compartment	730	375	12	1	3.29

1.2 Volume to be deducted:

Description	Average Height(mm)	Average Width(mm)	Average Depth(mm)	Qty.	Total (L)
Control box	105	50	72	1	0.38
Evaporator	3	540	270	1	0.44
Evaporator cover	100	120	3	1	0.04
Compressor compartment	200	378	165	1	12.47
Cabinet molded projection-1	10	10	260	8	0.21
Cabinet molded projection-2	10	10	100	6	0.06
Cabinet molded projection-3	10	10	140	2	0.03
Cabinet molded projection-4	10	10	190	2	0.04
Water tray	18	358	50	1	0.32
Door molded projection-1	670	18	40	2	0.96
Door molded projection-2	18	320	55	1	0.32
Door molded projection-3	18	320	35	2	0.40

1.3 Net Interior Volume:

Compartment	Net Volume L (ft ³)
Fresh Food (Gross volume – Deductions)	91.1 (3.22)
Freezer (Gross volume – Deductions)	N/A
Total Volume	91 (3.2)



Testing Report

Project No.: 4788236769

File No.: EV33889

Model: KS-91R

Date of Test: 2017-12-2 to 2017-12-4

2. ENERGY CONSUMPTION TEST

2.1 Test Result of Sample 1:

	Test 1	Test 2
Sample No.	001#	
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	90.0	90.0
– 1 ft above the top of cabinet, right side	89.7	89.6
– 3 ft above the supporting platform, left side	90.1	90.1
– 3 ft above the supporting platform, right side	89.8	89.8
– 2 inch above the supporting platform, left side	89.4	89.8
– 2 inch above the supporting platform, right side	89.7	89.3
Voltage	115.1	115.2
Frequency, Hz	60.0	60.0
Thermostat Setting	Median	Warmest
Start Time	2017-12-2 18:03:49	2017-12-4 6:32:49
First Cycle On Time (duration)	04min 00sec	02min 30sec
First Cycle Off Time (duration)	05min 00sec	06min 00sec
End Time	2017-12-2 21:03:49	2017-12-4 9:37:49
Target Standardized Refrigerator Temperature (°F)	39	
TR Average Fresh Food Temperature (°F)	37.83	46.67
T Test Period (min.)	180.0	185.0
EP Energy Consumption during test period (kWh)	0.0774	0.0563
ET Test Cycle Energy Consumption per day (kWh/day)	0.6192	0.4382
E(D) Average Energy Consumption (kWh/day)	0.5952	
E(Y) Average Energy Consumption (kWh/year)	217	



Testing Report

Project No.: 4788236769

File No.: EV33889

Model: KS-91R

Date of Test: 2017-12-3 to 2017-12-4

2.2 Test Result of Sample 2:

	Test 1	Test 2
Sample No.	002#	
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	90.0	90.0
– 1 ft above the top of cabinet, right side	89.9	89.9
– 3 ft above the supporting platform, left side	90.0	90.0
– 3 ft above the supporting platform, right side	89.8	89.7
– 2 inch above the supporting platform, left side	89.8	89.8
– 2 inch above the supporting platform, right side	89.9	89.8
Voltage	115.0	115.1
Frequency, Hz	60.0	60.0
Thermostat Setting	Median	Warmest
Start Time	2017-12-3 20:06:19	2017-12-4 20:08:19
First Cycle On Time (duration)	05min 00sec	03min 00sec
First Cycle Off Time (duration)	05min 30sec	07min 30sec
End Time	2017-12-3 23:14:19	2017-12-4 23:12:19
Target Standardized Refrigerator Temperature (°F)	39	
TR Average Fresh Food Temperature (°F)	35.92	45.41
T Test Period (min.)	188.0	184.0
EP Energy Consumption during test period (kWh)	0.0814	0.0567
ET Test Cycle Energy Consumption per day (kWh/day)	0.6235	0.4437
E(D) Average Energy Consumption (kWh/day)	0.5651	
E(Y) Average Energy Consumption (kWh/year)	206	



Testing Report

Project No.: 4788236769

File No.: EV33889

Model: KS-91R

Date of Test: 2017-12-4 to 2017-12-6

2.3 Test Result of Sample 3:

	Test 1	Test 2
Sample No.	003#	
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	90.1
– 1 ft above the top of cabinet, right side	90.0	90.0
– 3 ft above the supporting platform, left side	90.4	90.0
– 3 ft above the supporting platform, right side	90.4	90.5
– 2 inch above the supporting platform, left side	90.2	90.2
– 2 inch above the supporting platform, right side	90.5	90.6
Voltage	114.3	114.4
Frequency, Hz	60.0	60.0
Thermostat Setting	Median	Warmest
Start Time	2017-12-4 23:26:08	2017-12-6 18:40:08
First Cycle On Time (duration)	04min 00sec	02min 30sec
First Cycle Off Time (duration)	06min 00sec	07min 00sec
End Time	2017-12-5 02:34:38	2017-12-6 21:45:38
Target Standardized Refrigerator Temperature (°F)	39	
TR Average Fresh Food Temperature (°F)	38.10	47.68
T Test Period (min.)	188.5	185.5
EP Energy Consumption during test period (kWh)	0.0772	0.0527
ET Test Cycle Energy Consumption per day (kWh/day)	0.5898	0.4091
E(D) Average Energy Consumption (kWh/day)	0.5728	
E(Y) Average Energy Consumption (kWh/year)	209	



Testing Report

Project No.: 4788236769

File No.: EV33889

3. Photo of Tested Sample:





Testing Report

Project No.: 4788236769

File No.: EV33889

4. Thermostat Setting:

Median



Warmest





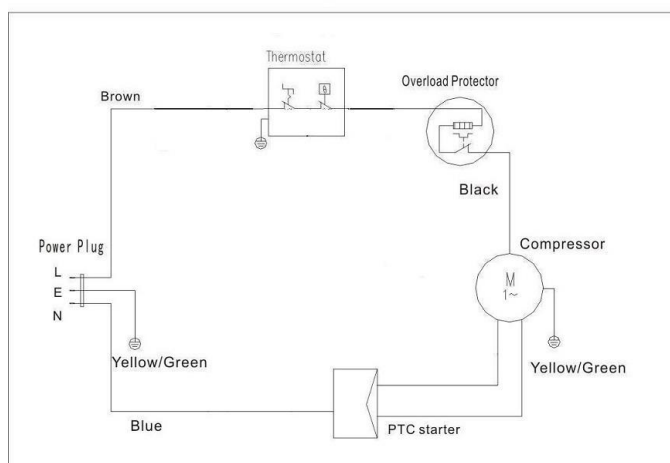
Testing Report

Project No.: 4788236769

File No.: EV33889

5. Nameplate of Tested Sample:

Refrigerator



TECHNICAL DATA	
Model	KS-91R
RATED VOLTAGE	115 V~
RATED FREQUENCY	60Hz
RATED CURRENT	1.0A
REFRIGERANT/AMOUNT	R600a/21g
INSULATION BLOWING GAS	C ₅ H ₁₀

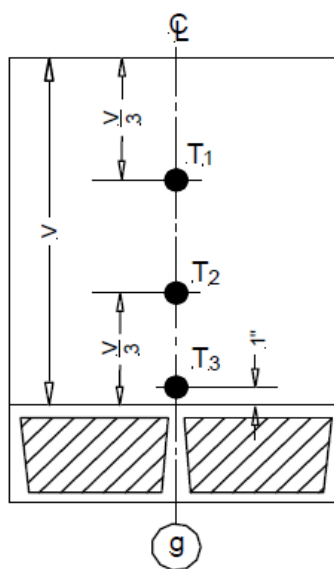


Testing Report

Project No.: 4788236769

File No.: EV33889

6. TC Locations:



END