



# Certificate of Compliance

**Certificate:** 1090716 (113206)

**Master Contract:** 189893

**Project:** 1740323

**Date Issued:** 2005/12/06

**Issued to:** Rinnai America Corporation

103 International Dr  
Peachtree City, GA 30269  
USA  
Attention: Don Emen

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicator 'US'*



**Issued by:** Michael Sharkey

**Authorized by:** Richard Fort, Manager of Certification Services

## **PRODUCTS**

**CLASS 2922 82** - ROOM HEATERS (GAS) - Unvented-Certified to U.S. Standards

Class 2922-82 Room Heaters (GAS) Unvented

Natural Gas

RCE-606A-N, RCE-606TRA(II)-N, RCE-590A-US-N, RCE-592ACPA-US-N

Liquefied Petroleum Gases

RCE-606A-P, RCE-606TRA(II)-P, RCE-590A-US-P, RCE-592ACPA-US-P

The 'US' indicator adjacent to the CSA Mark signifies that the product has been evaluated to the applicable ANSI/UL Standards, for use in the U.S.. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



CSA INTERNATIONAL

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**APPLICABLE REQUIREMENTS**

ANSI Z21.11.2-2002, ANSI Z21.11.2a-2003, ANSI Z21.11.2b-2004 Gas-Fired Room Heaters, Volume II, Unvented Room Heaters

**MARKINGS**

All markings and printed instructions are in compliance with the above mentioned requirements. Samples are contained in the main certification report.



## *Supplement to Certificate of Compliance*

**Certificate:** 1090716

**Master Contract:** 189893

*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
1740323	2005/12/06	Updated rating plates. Print Numbers 156A, 158A, 291A & 340A.
1696159	2005/09/26	Alternate const - Plasmacluster Air Cleaner Added, Model Number RCE-592ACPA-US-(N,P). Drawings 293 - 344.
1691037	2005/07/12	Update to Z21.11.2b-2004 Standard. Front pages of manuals updated - 77A7 (RCE-606TRAIL), 157A (RCE-606A), 290A (RCE-590A). Rating plate stampings are also being updated - 075A6 for RCE-606TRAIL, 146 for RCE-606A & 291 for RCE-590A.
1599964	2004/11/03	Update to ANSI Z21.11a-2003
1547876	2004/06/22	Alternate Filter, NO2 testing

### **History**

1547876 06/11/04 Added new models RCE-590A-US-(N,P).

1329679 01/24/03 Dropped RCE-606TRA models and updated RCE-606A and RCE-606TRAIL models to ANSI Z21.11.2-2000 standard per mfr. letter dated April 30, 2002. Updated to ANSI Z21.11.2a-2001 and Z21.11.2b-2002 addenda per mfr. letter dated October 17, 2002. Print Nos. 155-158.

1245439 October 25, 2001 Changed Rinnai America Corp. address from 1662 Lukken Industrial Drive, West, LaGrange, Georgia 30240 to 103 International Drive, Peachtree City, Georgia 30269 per mfr.'s 9/7/01 letter.

1134118 11/1/00 Reformat Report, replaced pages 0075A6 (Revised Print No. RC-606-45) and page no. 077A6R (Revised Print No. RC-606-48X04(00)).

1090716 May 16, 2000 Original Certification, Formerly Report No. C2740011; Extension of Module EI-184 to Model No. RCE-606TRA-II.



# Descriptive and Test Report

**MASTER CONTRACT:** 189893

**REPORT:** 1090716

**PROJECT:** 1740323

- Edition 1:** May 16, 2000 ; Project 1090716 - Cleveland  
Issued by Gregory A. Prosser ; Reviewed by: Rick Fort
- Edition 2:** 11/1/00 ; Project 1134118 - Cleveland  
Issued by Gregory A. Prosser ; Reviewed by Rick Fort
- Edition 3:** October 25, 2001 ; Project 1245439 - Cleveland  
Issued by Robert Loria
- Edition 4:** 2003/01/24; Project 1329679 - Cleveland  
Issued by: Michael Sharkey; Reviewed by: Rick Fort
- Edition 5:** 2004/06/11 ; Project 1547876 - Cleveland  
Issued by: James BeHarry; Reviewed by: Rick Fort
- Edition 6:** 2004/11/15 ; Project 1599964 - Cleveland  
Issued by: James BeHarry; Reviewed by: Rick Fort
- Edition 7:** 2005/07/12; Project 1691037 - Cleveland  
Issued by: Michael Sharkey; Reviewed by: Richard Fort
- Edition 8:** 2005/09/16; Project 1696159 - Cleveland  
Issued by: Michael Sharkey; Reviewed by: Richard Fort
- Edition 9:** 2005/12/06; Project 1740323 - Cleveland  
Issued by: Michael Sharkey; Reviewed by: Richard Fort

Contents: Certificate of Compliance - Page 1 to 2  
Supplement to Certificate of Compliance - Page 1  
Description and Tests - Pages 1 to 16  
Drawings - Markings - Instructions – Pages 001 through 344

## **PRODUCTS**

2922-82 ROOM HEATERS (GAS) Unvented

RCE-606 SERIES, RCE-590A Series, RCE-592ACPA Series

<b>Model Number For Use With Natural Gas</b>	<b>Maximum Input Rating</b>	<b>Minimum Input Rating Trade Name: Silent Servant</b>
RCE-606A-N	24,000	5,000
RCE-606TRA(II)-N	24,000	5,000
RCE-590A-N	20,000	5,000
RCE-592ACPA-US-N	20,000	4,000

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Telephone: 216.524.4990 1.800.463.6727 Fax: 216.642.3463 www.csa-international.org

**Model Number                      Maximum Input Rating                      Minimum Input Rating**  
**For Use With Liquefied Petroleum Gases**

**Trade Name:** Silent Servant

RCE-606A-P	21,000	5,500
RCE-606TRA(II)-P	21,000	5,500
RCE-590A-P	19,000	6,000
RCE-592ACPA-US-P	18,000	6,000

**MARKINGS**

All markings and printed instructions are in compliance with the above mentioned requirements. Samples are contained in the main certification report.

**ALTERATIONS**

No alterations were required.

**FACTORY TESTS**

Factory tests to be in accordance with the Manufacturing and Production Tests of the applicable requirement detailed in the Certificate of compliance.

**TEST**

See main archive for details of testing.

## DESCRIPTION

### MODEL NUMBER BREAKDOWN

- REC-606TRA - Basic Model
- REC-606TRAI - This model is similar in construction to the model REC-606TRA but with the testing switches reduced from 3 to 1. The functions provided by the eliminated switches are performed by the processor.
- RCE-606A - Similar to Model No. RCE-606TRAI with the exception of a new Fan Convectur Heater.
- RCE-590A - Similar to Model No. RCE-606TRAI with the exception of a new ionic filter.
- RCE-592ACPA - Similar to Model No. RCE-590A with Plasma Cluster Air Cleaner added.

Suffix:

- N - Natural gas  
P - Liquefied petroleum gases

### STANDARDS

ANSI Z21.11.2-2002, Z21.11.2a-2003, Z21.11.2b-2004 Gas-Fired Room Heaters, Volume II, Unvented Room Heaters

### CLEARANCES/INSTALLATIONS

For installation on combustible flooring with the following minimum clearances to combustible construction:

- Right side - 2.0 inches
- Left side - 2.0 inches
- Rear - 2.0 inches from rear of unit (0 inches from manual valve), 4.0" for RCE-592ACPA unit
- Ceiling - 2.0 inches

### ELECTRICAL RATING

120 Volts; Less than 3 Amps; 60 Hertz; 1 Phase

**GAS PRESSURES**

Manifold pressures:

RCE-606TRA & RCE-606TRAI	Natural gas – 4.2 inches w.c. LP gases – 9.1 inches w.c.
RCE-590A RCE-590A	Natural gas – 5.1 inches w.c. LP gases – 6.9 inches w.c.
RCE-592ACPA RCE-592ACPA	Natural gas – 5.1 inches w.c. (0.28 inches w.c. for min rate) LP gases – 6.2 inches w.c. (0.79 inches w.c. for min rate)

Minimum inlet supply pressures:

RCE-606TRA & RCE-606TRAI	Natural gas – 5.3 inches w.c. LP gases – 9.5 inches w.c.
RCE-590A RCE-590A	Natural gas – 5.9 inches w.c. LP gases – 7.9 inches w.c.
RCE-592ACPA RCE-592ACPA	Natural gas – 5.9 inches w.c. LP gases – 7.9 inches w.c.

**GAS CONTROL ASSEMBLIES**

Read columns vertically  
for complete assemblies

Used on Models: All Models

TYPE OF CONTROL	MFR. OF CONTROL	MFR. MODEL NUMBER	SIZE OF CONTROL	
			NATURAL	PROPANE/LP
Combination Control	Rinnai	PC-110	½ x flange	½ x flange
Automatic Control	Tiamugiken	C36L-1	X	X
Ignition System	Rinnai	ED-193	X	X
	R.B Controls	EI-184	X	X
Manual Valve	Jomar	T-204	½ x ½	½ x ½
Gas Filter	Mimasu	RCK-6808	X	X



GAS CONTROL ASSEMBLIES

Read columns vertically  
for complete assemblies

Used on Models: RCE-606A

TYPE OF CONTROL	MFR. OF CONTROL	MFR. MODEL NUMBER	<u>SIZE OF CONTROL</u>	
			NATURAL	PROPANE/LP
Combination Control Seiki	Rinnai	C36D-3-6-S	½ x flange	½ x flange
Ignitor	Nippon	RC-223-55	X	X
Ignition Module	R.B. Controls	EI-184	X	X
Flame Valve	Hayakawa	RC-511-66-2	X	X

**GAS CONTROL ASSEMBLIES**

Read columns vertically  
for complete assemblies

Used on Models: RCE-590A / RCE-592ACPA

TYPE OF CONTROL	MFR. OF CONTROL	MFR. MODEL NUMBER	SIZE OF CONTROL	
			NATURAL	PROPANE/LP
Combination Control	Rinnai	PC-117	½ x flange	½ x flange
	Rinnai	C36U-6-S		
Ignitor	Fuji	RC-328-32-2	X	X
	Fuji	RC-460-190		
Ignition Module	R.B.	EI-184	X	X
	Controls	EI-181-1		
Flame Sensor	Hayakawa	RC-511-166-3	X	X
PC Board	RB	ED-359	X	X
		ED-415		

**ELECTRICAL EQUIPMENT**

**BLOWER MOTOR:**

<b>Manufacturer:</b>	<b>Model Number:</b>	<b>Ratings:</b>
Shinano Kenshi Co.	RC-506-1021	100v/60hz, 3.33hp,1155 rpm
Shinano Kenshi Co.	RC-606-82	100v/60hz, 3.33hp,1090 rpm
Shinano Kenshi Co.	RC-592-1015	100v/60hz, 0.25A, 860 rpm
Shinano Kenshi Co.	RC-592-1016	100v/60hz, 0.27A, 1180 rpm

**MOTOR CAPACITOR:**

<b>Manufacturer:</b>	<b>Model Number:</b>	<b>Ratings:</b>
Shizuki Denki		10amps @ 220v

**TRANSFORMER:**

<b>Manufacturer:</b>	<b>Model Number:</b>	<b>Ratings:</b>
NMB (Used on RCE-506A)	ET-183	120v/60hz/1ph, 100v @ .3amp, 10v @ 35mA, 25v @ 200mA, 12.5vdc @ 200mA
NMB (Used on RCE-606TRA)	ET-200	120v/60hz/1ph
Tamura (used on RCE-606A)	ET-257	120v/60hz/1ph
Tamara (used on RCE-592ACPA)	ET-315	120v/60hz/1ph

**FAN/LIMIT CONTROL:**

<b>Manufacturer:</b>	<b>Model Number:</b>	<b>Ratings:</b>
Nishinbou Co., Ltd.	RC-501-67-2	100v/60hz

**SWITCHES & RELAYS:**

<b>Manufacturer:</b>	<b>Model Number:</b>	<b>Ratings:</b>
Asahi Keiki Co., Ltd.	ES-01169	5v/.5mA/60hz
Omuron	G5N-1A	12vDC
Matsusita	ALD112A92K1	277vAC/ 3A

**WIRING:**

<b>Manufacturer:</b>	<b>Type:</b>
Furukawa Denkai	PVC, 22AWG,300volts,105°C
Hanshin Densen	PVC, 22AWG,300volts,105°C
Hitachi Densen	PVC, 22AWG,300volts,105°C
Yukita Densen	PVC, 22AWG,300volts,105°C

**AUTOMATIC VALVE:**

<b>Manufacturer:</b>	<b>Model Number:</b>	<b>Ratings:</b>
Taimugiken	C36L-1	90vdc/60hz

**BUSHINGS, SPLICING DEVICES, CONNECTORS**

<b>Manufacturer:</b>	<b>Model Number:</b>
Nichiatsu Morex	EL,XL,SM,SH,XH Nylon 5199 Nylon

**SUPPLY CORD:**

<b>Manufacturer:</b>	<b>Ratings:</b>
Korea KDK	PVC,18AWG,10Amps @ 125v,50mm
Ta An Electric (Taiwan)	SJT,18AWG,10Amps @ 125V,1800mm 105°C

**BLOWER WHEEL:**

<b>Manufacturer:</b>	<b>Size:</b>
Nishinbou Co., Ltd.	RC-501-68; RC-501-67-2 housing 334.6mm x 110mm, 44 blades
Nishinbou Co., Ltd.	RC-501-68 wheel 13.0 x 4.3, housing 13.0 x 6.3 x 5.7, 44 Blades.
Maeno Industry (RCE-592ACPA) Nippon Kobunshi (RCE-592ACPA)	RC-592-17, Housing 13.0" x 6.3" x 5.7", 44 blades RC-361-046, 47 Blades

**GROUNDING:**

Grounded inside of unit at chassis bottom.