

# **Rinnai Silent Servant Heater**

**2003**

**Sales/Service  
Presentation**

# Code Limitations

Check Federal, State and local codes in your state, before using vent-free products. Some areas of the country do not allow vent-free products.

International Fuel Gas Code Standard 620-6 "Prohibited Use" states that; "One or more unvented room heaters shall not be used as a sole source of comfort heating in any dwelling unit". Refer to the International Fuel Gas Code and International Fuel Gas Standard, Chapter 6, section 6-11, standard 620-2 for conformation of the above statement.

**Code pertaining to bathroom installations.** Refer to the 2000 International Fuel Gas Code, section 303.3 "Prohibited locations". under Exception 3. for prohibited use when installing unvented heaters in a bathroom. It states, "A single wall mounted unvented room heater equipped with an oxygen depletion safety shutoff system and installed in a bathroom provided that the input rating does not exceed 6000 Btu per hour (1.76kW) and the bathroom is not a confined space".

**Code pertaining to bedroom installations.** Refer to the 2000 International Fuel Gas Code, section 303.3 "Prohibited locations". under Exception 4. for prohibited use when installing unvented heaters in a bedroom. It states, "A single wall mounted unvented room heater equipped with an oxygen depletion safety shutoff system and installed in a bedroom provided that the input rating does not exceed 10,000 Btu per hour (2.93kW) and the bedroom is not a confined space".

You are responsible for ensuring the product being installed meets all building codes. Please check with local code officials if you have any questions related to vent-free products.

Vent-Free heaters six thousand Btu's or less may be installed in bathrooms where local codes allow. Heaters installed in a bathrooms **MUST** be wall mounted.

Vent-Free heaters ten thousand Btu's or less may be installed in bedrooms/sleeping quarters where State codes allow. Heaters installed in a bedrooms/sleeping quarters **MUST** be wall mounted.

# RCE-229A Silent Servant

Ledger Plate Explanation, Optional Items Offered, Warranty

The letters **“RCE”** indicates this is a **“Rinnai Convection Heater”**.

The RCE-229A unit uses an optional wall mount bracket, model number RC-229-550

The RCE-229A fan is a standard item on all fan convector heaters. The fan is a squirrel cage fan capable of delivering 46 CFM's on low up to 64 CFM's on high speed.

This unit is suitable for use in bathrooms as long as local or state codes allows vent-free heaters. Heaters installed in bathrooms must be wall mounted using the RC-229-550 wall bracket kit.

This product carries a three year parts and labor warranty.



# RCE-329A Silent Servant

Ledger Plate Explanation, Optional Items Offered, Warranty

The letters **“RCE”** indicates this is a **“Rinnai Convection Heater”**.

The RCE-329A unit uses an optional wall mount bracket, model number RC-329-550

The RCE-329A fan is a standard item on all fan convector heaters. The fan is a squirrel cage fan capable of delivering 53 CFM's on low up to 92 CFM's on high speed.

This unit is suitable for use in bedrooms as long as local or state codes allows vent-free heaters. Heaters installed in bedrooms must be wall mounted using the RC-329-550 wall bracket kit.

This product carries a three year parts and labor warranty.

## Specification for the Silent Servant Series RCE-329A

Btu input 10,000 high fire  
3,000 low fire

The above unit incorporates a seven stage gas valve that modulates in Btu values from 10,000 down to 3,000 Btu's.

Efficiency 99.9%

Dimensions Height 17  $\frac{7}{16}$ "  
Depth 8"  
Width 16  $\frac{9}{16}$ "

Weight 17.6 Lbs.

Clearances Front 30"  
Side 2"  
Top 2"  
Bottom 0"  
Back 2"

Gas inlet connection  $\frac{1}{2}$ " FNPT

Vent-Free heaters ten thousand Btu's are less may be installed in bedrooms where local codes allow.

# RCE-429A Silent Servant

Ledger Plate Explanation, Optional Items Offered, Warranty

The letters **“RCE”** indicates this is a **“Rinnai Convection Heater”**.

The RCE-429A unit uses an optional wall mount bracket, model number RC-329-550

The RCE-429A fan is a standard item on all fan convector heaters. The fan is a squirrel cage fan capable of delivering 53 CFM's on low up to 92 CFM's on high speed.

This unit is not suitable for use in bathrooms or bedrooms/sleeping quarters.

The RCE-429A can be wall mounted using the RC-329-550 wall bracket kit.

This product carries a three year parts and labor warranty.

## Specification for the Silent Servant Series RCE-429A

Btu input	14,000 high fire 5,200 low fire
-----------	------------------------------------

The above unit incorporates a seven stage gas valve that modulates in Btu values from 14,000 down to 5,200 Btu's.

Efficiency	99.9%
------------	-------

Dimensions	Height	17 <sup>7</sup> / <sub>16</sub> "
	Depth	8"
	Width	16 <sup>9</sup> / <sub>16</sub> "

Weight	17.6 Lbs.
--------	-----------

Clearances	Front	30"
	Side	2"
	Top	2"
	Bottom	0"
	Back	2"

Gas inlet connection	1/2" FNPT
----------------------	-----------

This unit is not allowed to be installed in bathrooms or bedroom/sleeping quarters since it exceeds the maximum Btu's allowed in those areas.



# RCE-606 Silent Servant

Ledger Plate Explanation, Optional Items Offered, Warranty

The letters **“RCE”** indicates this is a **“Rinnai Convection Heater”**.

The RCE-606 series unit is designed to be floor mounted.

The RCE-606 series fan is a standard item on all fan convector heaters. The fan is a squirrel cage fan capable of delivering 99 CFM's on low up to 198 CFM's on high speed.

This unit is not suitable for use in bathrooms or bedrooms/sleeping quarters.

This product carries a three year parts and labor warranty.

## Specification for the Silent Servant Series RCE-606 Series

Btu input	24,000 high fire Nat. gas 5,000 low fire Nat. gas 21,000 high fire LP gas 5,500 low fire LP gas
-----------	--

The above unit incorporates a seven stage gas valve that modulates in Btu values from the above high fire rate down to the listed low fire rate for each gas type.

Efficiency	99.9%
------------	-------

Dimensions	Height	17 1/2"
	Depth	7 3/4"
	Width	22 1/2"

Weight	22.7 Lbs.
--------	-----------

Clearances	Front	30"
	Side	2"
	Top	2"
	Bottom	0"
	Back	2"

Gas inlet connection	1/2" FNPT
----------------------	-----------

This unit is not allowed to be installed in bathrooms or bedroom/sleeping quarters since it exceeds the maximum Btu's allowed in those areas.

# Proper Procedure for Checking Thermocouple Output on the RCE606 Series

**NOTE**; Service must be performed by a certified installer, service agency or gas technician.

Set your voltage meter to a DC milli-volt scale. This scale should be able to read above 35 milli-volts. Insert your meter leads into each of the receptacles as shown below in example #1. The receptacle is located at the bottom right side of the heater, just below the air filter for the electrical compartment.

Next you will need to fire the heater. When the unit is in operation your milli-volt output should be between 16 to 35 milli-volts. Milli-volts readings below sixteen can cause the unit to shut down on error code 12's. If your readings is below the above recommendation, please ensure the thermocouple is properly mounted and check to ensure the thermocouple bracket is not loose. See example #2 below for location of thermocouple.

If the thermocouple is firmly attached and secure try pushing in on the thermocouple from the end with a screw driver. While pushing in on the thermocouple Mount watch your milli-volt reading on the unit to see if it increases. If so, stop When the reading is around fourteen to twenty milli-volts on low fire.

Example #1



Connect meter leads here  
To check milli-volt output.

Example #2



Thermocouple and bracket. Push in here if needed after following the above procedure. Located inside unit on left side.

# Proper Procedure for Checking Thermocouple Output on the RCE-229A, 329A and 429A Series Heaters

**NOTE**; Service must be performed by a certified installer, service agency or gas technician.

Set your voltage meter to a DC milli-volt scale. This scale should be able to read above 35 milli-volts. Insert your meter leads into each of the receptacles as shown below in example #1. The receptacle is located at the bottom right side of the heater, just below the air filter for the electrical compartment.

Next you will need to fire the heater. When the unit is in operation your milli-volt output should be between 16 to 35 milli-volts. Milli-volts readings below sixteen can cause the unit to shut down on error code 12's. If your readings is below the above recommendation, please ensure the thermocouple is properly mounted and check to ensure the thermocouple bracket is not loose. See example #2 below for location of thermocouple.

If the thermocouple is firmly attached and secure try pushing in on the thermocouple from the end with a screw driver. While pushing in on the thermocouple Mount watch your milli-volt reading on the unit to see if it increases. If so, stop When the reading is around fourteen to twenty milli-volts on low fire.

Example #1



Connect meter leads here to check thermocouple output.

Example #2



Thermocouple and bracket. Push in here if needed after following the above procedure. Located inside unit on front of burner housing.

# Servicing Silent Servant Product

There's very little service required on the Silent Servant brand of heaters. Below you will find three items that can be checked and/or cleaned in the event you are experiencing problems with you appliance.

**NOTE**; Service must be performed by a certified installer, service agency or gas technician.

- 1. Gas control valve** – The gas valve can be checked by verifying the manifold gas pressure listed in the Owner's manual of the unit being serviced. The proper gas pressure setting procedure can be found on our web site at [www.rinnai.us](http://www.rinnai.us) under technical information. At that site you can look under the "Heater" folder, find the model number of the product you are servicing and click on it. In this folder you will find the gas pressure setting procedure needed. Ensure you match the complete model number of the product being serviced to the model number on the heater's rating plate down to the dots and dashes.
- 2. Burner Assembly** – The burner assembly is made of stainless steel and should never fail if the unit is not over fired for any reason. I would recommend that the burner compartment be blown out with compressed air 120 psi once a year. This is to clean out any foreign matter that may have been drawn into the combustion chamber. DO NOT use low pressure blowers as they do not generate enough air pressure to properly clean the burner. See parts breakdown in the Owner's manual for directions on how to remove the burner's top plate in order to excess the burner. It is a good idea to blow out around the burner orifices during this process also.
- 3. Annual Cleaning** – Rinnai recommends that you blow out all compartments and the fan assembly once a year. No other service is required.

# Web Site Information

Please visit our web site at [www.rinnai.us](http://www.rinnai.us) for additional technical information on all of our products. The information found at this site can be viewed 24/7, even from the customer's home.