

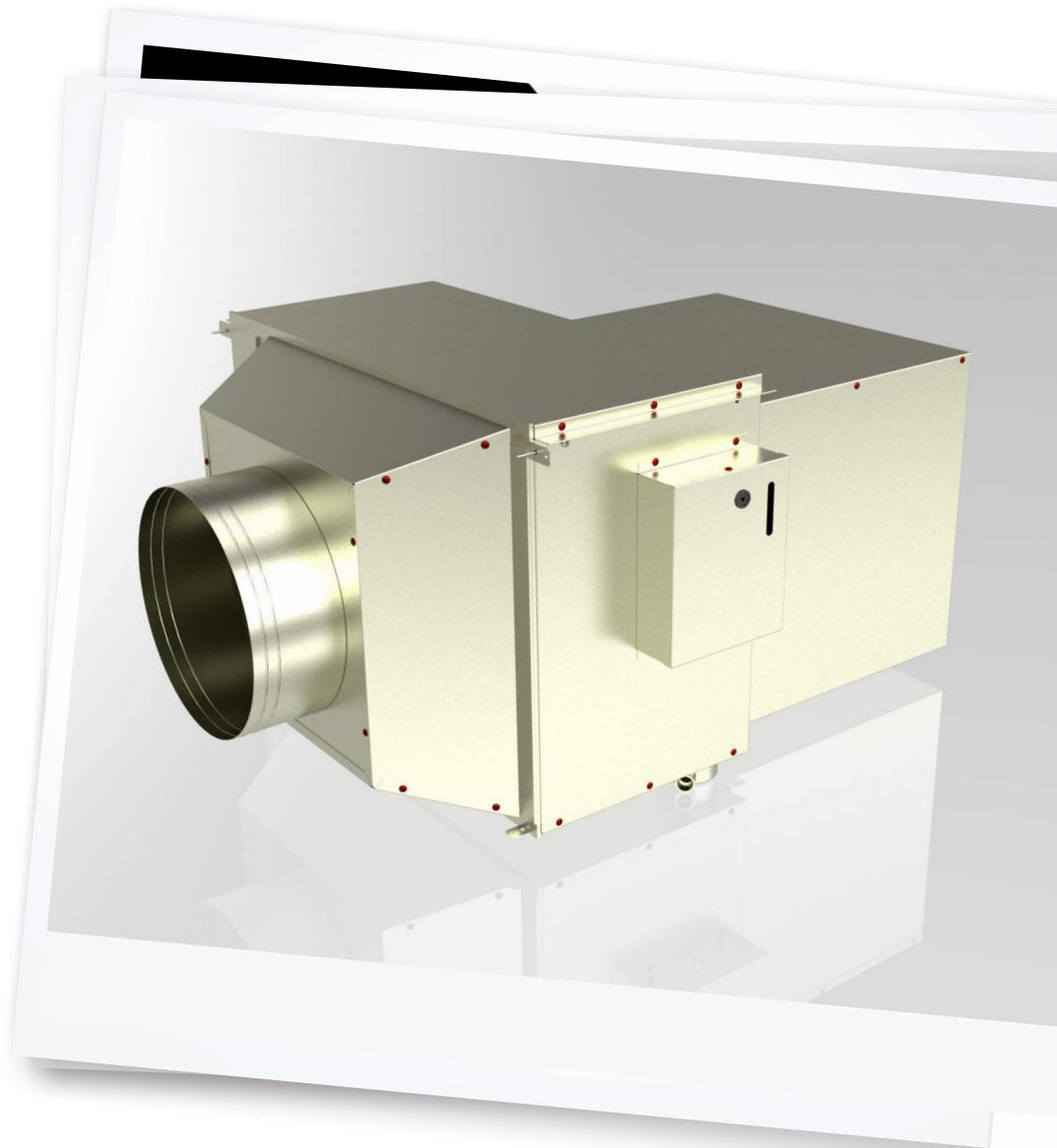
**Rinnai**

Specifying guide

---

# iHeat

Combined water and central heating system



## Important:

This guide has been developed to walk you through the steps and actions required to determine if installation of a Rinnai iHeat central heating system is suitable, and if it will meet the needs of the customer.

This guide has been written based on the assumption that you have completed the Rinnai online iHeat specifying course available at [www.rinnaitraining.co.nz](http://www.rinnaitraining.co.nz).



For more information about buying, using, and servicing of Rinnai appliances call: 0800 RINNAI (0800 746 624)

Rinnai New Zealand Limited  
105 Pavilion Drive, Mangere, Auckland  
PO Box 53177, Auckland Airport, Auckland 2150

Phone: (09) 257 3800, Fax: (09) 257 3899  
Email: [info@rinnai.co.nz](mailto:info@rinnai.co.nz)  
Web: [www.rinnai.co.nz](http://www.rinnai.co.nz)  
[www.youtube.com/rinnainz](http://www.youtube.com/rinnainz)

# contents:

Customer site summary .....	4
How to use this guide.....	4
Current hot water system.....	5
Installation of the Rinnai iHeat .....	6
Customer expectations .....	7
Rinnai iHeat specifying checklist.....	9

# Customer site visit summary

Spending time in the planning stages and discussing the heating requirements with the customer will ensure the correct system is specified and that the Rinnai iHeat can be successfully installed.

The following areas should be covered off during the customer site visit.

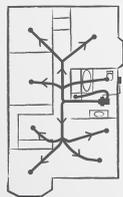
- **Determining the current hot water system**  
What hot water system currently exists at the property, where is it located, what is the static water pressure, and is water quality an issue?
- **Assessing if a Rinnai iHeat system can be installed at the property**  
Can the system be positioned in a location that meets the clearance and access requirements, and in a location where the operating noise of the Rinnai Infinity and/or Rinnai iHeat won't be a nuisance? Can all the components of the system (ducting, ceiling diffusers, floor vents, thermostat, return air intake) be located in positions that allow effective operation of the central heating system? Is the manhole large enough for all the Rinnai iHeat components to fit through?
- **Understanding customer expectations**  
What does the customer need, want, and expect of the system? Is the Rinnai iHeat system, based on the site visit, a suitable heating solution for the customer?

## How to use this guide



This guide is intended to provide a summary of what needs to be completed during a site visit. It is based on the assumption that you have successfully completed the Rinnai online iHeat specifying course available at [www.rinnaitraining.co.nz](http://www.rinnaitraining.co.nz).

### Customer floor plans



Throughout the iHeat online specifying course we suggest that details such as pipe lengths, iHeat position, thermostat location, diffuser/vent position etc. are recorded on a copy of the customer floor plans.

Before visiting the customer it is advisable to establish if the floor plans are available—if not, we recommend sketching a layout of the house so the important Rinnai iHeat system configuration information can be recorded at the time of the visit.

# Current hot water system

The Rinnai iHeat utilises the power of the Rinnai Infinity continuous flow water heater to heat the home—gathering information on the current hot water system is critical in determining the correct setup for the Rinnai iHeat.

## **Is there an existing Rinnai continuous flow hot water unit at the property?**

If there is an existing Rinnai Infinity continuous flow hot water unit<sup>1</sup>, what is the model and REU number? The REU number can be found recorded on the side of the unit on the data plate. Capturing this information will allow you to determine the age and size of the unit, and whether it is capable of providing both hot water and heat to the house. For example, a Rinnai Infinity 16 litre unit, in most cases, will be too small to provide both hot water and heating to the house. In some instances, depending on the age of the unit, a service of the existing Rinnai Infinity may need to be coordinated and included as part of the quote.

## **Where is the continuous flow hot water unit positioned?**

The continuous flow hot water unit will be coming on for longer periods of time. For example, the Rinnai Infinity might run for five minutes every fifteen minutes throughout the night. Ensure the location and operating noise of the unit will not affect the customer and/or neighbour—ensure this is discussed with them. If it is an existing installation then the occupants can try operating a hot water tap very late at night or early in the morning to see how they feel about the noise the Rinnai Infinity makes.

## **What is the geographical location?**

The capacity of the unit is affected by cold outside temperatures as this affects the temperature of the incoming water. For example, a Rinnai Infinity VT26 will only be able to deliver 18.6 litres per minute at a 35 °C rise if the outside temperature falls to 5 °C. This needs to be factored when assessing if the current continuous flow unit can provide both hot water and heating to the house. The Rinnai iHeat may need to be set to non-simultaneous operation to give priority to hot water in the house.

## **Are there existing Rinnai Infinity controllers in the house?**

If there are existing Rinnai Infinity water controllers in the house these will need to be disconnected—they will not work with the Rinnai iHeat system. This is because the preset temperature of the Rinnai Infinity needs to be raised above 55 °C to get the required output for the central heating system, and to run the bio safe operation.

Check with the customer that they are happy with disconnecting the controllers. The customer will need to decide if they want to remove the controllers, or have them disconnected if they do not want the expense of remedial work to patch walls etc. (if they have wired controllers). Controllers can easily be temporarily disconnected to allow the homeowner to experience operation without them. **NB:** Be sure to turn off the power to the Rinnai Infinity when disconnecting controllers.

## **What is the static pressure of the cold water supply to the property?**

Is the cold water supply to the property greater than 500 kPa? If yes then a pressure limiting valve must be installed—this will ensure the pump in the Rinnai iHeat system does not fail.

Installation of a pressure limiting valve will affect the water pressure in the house. Ensure this is explained and agreed by the customer before recommending that a Rinnai iHeat is installed. This reduced pressure can be demonstrated by connecting a pressure gauge to an outside tap, then operating a cold tap until the running pressure reaches 500 kPa. Then ask the customer to test the shower pressure.

## **Water quality**

The Rinnai iHeat cannot be installed in areas where hard and/or aggressive water is a problem. If the customer is unsure about the water quality, please get them to contact Rinnai to obtain details of an authorised agency able to test the water for compliance to Rinnai standards.

<sup>1</sup>The Rinnai iHeat system has been designed and tested for optimum performance with a Rinnai Infinity continuous flow water heater. Other continuous flow water heaters may also be suitable, but this would require checking with the manufacturer as their warranty may prohibit this type of installation. If a customer is still happy to continue with an installation that utilises another type of continuous flow water heater, it is important that they understand that any Rinnai iHeat faults, caused by a faulty continuous flow water heater, will not be covered by warranty.

# Installation of the Rinnai iHeat

In most instances installation of a Rinnai iHeat will be possible, but there may be a number of compromises and/or work-arounds that need to occur in the home. For example, some wardrobe space may need to be utilised to house the ducting, or some furniture may need to be rearranged to accommodate positioning of the vents.

## Can the Rinnai iHeat unit be positioned to meet clearance and access requirements?

Will the Rinnai iHeat be positioned in the ceiling space or underneath the house, and will a mounting kit be required? Can the unit be positioned to ensure clearance and access requirements are met. Clearances required:

- above unit: 450 mm minimum
- sides of unit: 750 mm minimum
- front and behind unit 1 m minimum

The Rinnai iHeat should be positioned so that the diagnostic LEDs are easily visible through the window of the PCB. Avoid positions that make access to the iHeat and removing components (panels etc.) difficult. Where the appliance has not been sited in accordance with the installation requirements, or installed where service access is difficult, a service charge will apply.

If applicable, is there sufficient space to run the drain line, and can it be installed so the homeowner can easily establish if they have a leak?

## Pipe runs

Where possible the Rinnai iHeat should be positioned to minimise the length and complexity of the hot water connection between the Rinnai iHeat and the Rinnai Infinity. Short, simple plumbing runs with minimal bends and fittings minimise heat loss in the pipes and gives a higher water flow, optimising heating efficiency and power output of the Rinnai iHeat.

## Ducting



Performance of a Rinnai iHeat installation is critically dependent on the design of the ducting network. The important guidelines for duct installation are to avoid anything that increases resistance to the air flow, keep the ducts runs as short as possible, and reduce the number of duct bends.

**NB:** Minimum length of return air duct is 6 m.

## Return air intake



The return air intake is a large vent where return air re-enters the system for recirculation. It needs to be positioned centrally in the building or central to the ducting outlets, in an area that cannot be closed off, or be obstructed, i.e. if it's in a hallway that a door does not obstruct it. **NB:** The return air intake MUST be fitted with a filter (this is mandatory in order to maintain the warranty).

## Ceiling diffusers and floor vents



Take into account the layout of the home and where furniture is positioned. Diffusers should not be mounted directly over dining tables, lounge suites, beds, or other areas where people are at rest for long periods.

## Thermostat

The best position for the thermostat is one that most accurately represents the average temperature in the area, typically in the living area. It should be placed away from sources of heat or draughts (e.g. windows, doors, and appliances that generate heat). The temperature of other areas may be hotter or cooler than desired depending on the balancing of the ducting.

Another position for the thermostat is close to the return air intake, which will typically be in a central hall area. This position regulates the average temperature of all rooms. In either case the thermostat should be located at a convenient height for adjustment and optimal viewing.

# Customer expectations

Understanding what the customer needs and wants out of the system will ensure no nasty surprises down the track. Out of all the steps this is the most important as Rinnai wants to deliver a heating system that meets all expectations.

## What are the heating requirements?

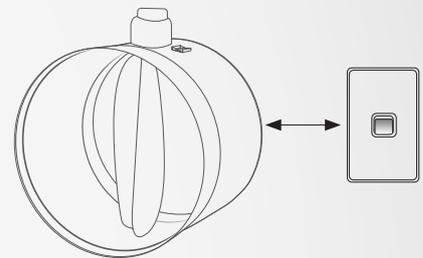
How large is the house, what areas require heating, and how many outlets are required? Explain to the customer how the Rinnai iHeat system works, and ensure they are comfortable with possible compromises that may be required in order to install the Rinnai iHeat. For example, disconnection of existing water controllers, a possible loss in water pressure, space being taken up by ducting, increased operation of the Rinnai iHeat and operating noise due to the longer running periods etc.

Also discuss with the customer the requirement of regular annual maintenance, the expected running costs, how the thermostat works, the bio safe operation, and what to do with the system over summer.

## Is zoning required?

Zoning of ducting in an installation could reduce running costs. Inline motorised dampers, switched on and off using a wall switch, can be used in the ducting system to zone off areas in the house that are unoccupied. For example, upstairs/downstairs in a two storey house, and zoning off living areas overnight while bedroom areas stay open.

Zoning needs to be incorporated at the beginning of the ducting plan—kits are available from ducting suppliers. A licensed electrician will be required to complete the installation.



Rinnai iHeat

---

# Specifying checklist

This checklist is designed as a prompt to ensure all the important aspects of determining if a Rinnai iHeat is suitable are checked and discussed with the customer. You can choose to record some of the information in this guide, or develop your own system to capture all the required information.

# Rinnai iHeat specifying checklist

## Customer details

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

## Hot water system

- Current hot water system evaluated to ensure it is capable of providing hot water AND heating to the building.

Infinity model(s): \_\_\_\_\_

REU number(s): \_\_\_\_\_

- If applicable, due to age and/or condition, servicing of the water heater arranged and included in the quote.
- If applicable, where controllers are installed, the customer has been advised these can no longer be used if a Rinnai iHeat is installed.
- Rinnai Infinity location and increased operating noise discussed with the customer—Rinnai Infinity located where noise will not be a nuisance to the customer and/or neighbour(s).

## Water supply

- Static pressure of the cold water supply checked.
- If a pressure limiting valve is required, the consequences of reduced pressure has been discussed and demonstrated to the customer.
- Where water quality may be an issue, customer advised to contact Rinnai to discuss water testing.

## Rinnai iHeat installation

- Rinnai iHeat position determined and checked to ensure clearance and access requirements are met, including manhole size so components can be easily moved into place.
- Pipe runs, ducting plan (including zoning requirements if applicable), thermostat location, and diffuser/vent positioning discussed with the customer and noted on the floor plan.
- If applicable, if longer pipe runs and larger pipe sizing is required, an extra expansion chamber is included in the quote.
- Return air intake position determined and noted on the floor plan.
- Return air intake filter specified and quoted (this is mandatory in order to maintain the warranty).



**General**

- Diffuser/vent style discussed and agreed with the customer.
- Customer advised of the requirement for annual maintenance, expected running costs, how the system/thermostat operates, and the bio safe operation.
- Customer advised of any potential compromises that may need to be made to install the system.

## Additional notes







Experience our innovation

**Rinnai.co.nz** | **0800 746 624**

<http://www.youtube.com/rinnainz>