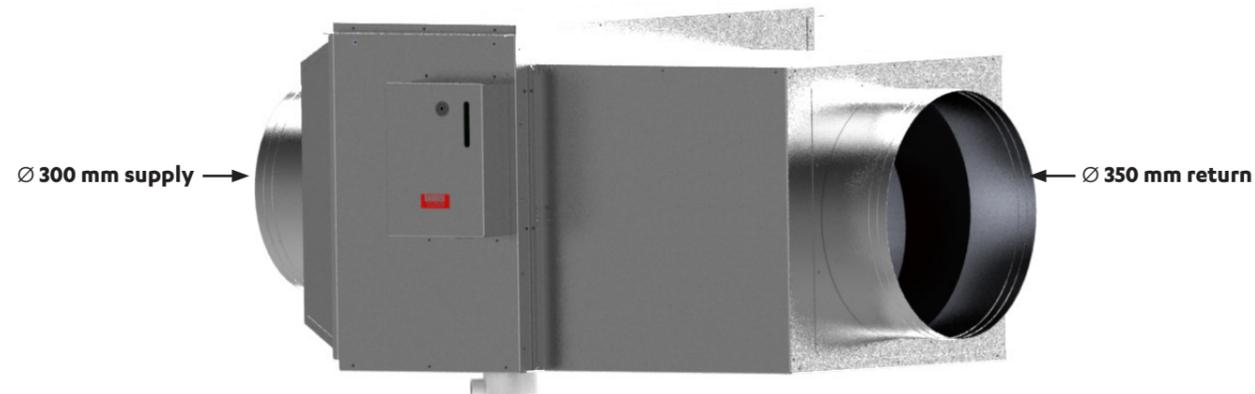


iHeat ducting guidelines and ducting suppliers

This document is intended for specifiers and installers who are interested in installing a Rinnai iHeat central heating system.

Specifying ducting in a house should always be done in conjunction with a site visit. While an up-to-date house plan can show the major elements of a building, it often doesn't have sufficient details to precisely specify the length of the ducting required. Elements such as steel beams, renovation changes, and installation access can only be fully understood with a site inspection. This needs to be completed by a [Rinnai iHeat listed installer](#), and making use of the Rinnai iHeat specifying guide (and checklist within the guide).

iHeat supply and return duct size



The Rinnai iHeat has a powerful 600 W 3-speed fan. The volume of air this fan can deliver is controlled via DIP switch settings on the PCB. On the highest speed setting it can deliver up to 800 L/sec with a minimal amount of ducting connected to the supply end. The speed settings on the fan are important to use when balancing the system as the noise level and volume of the air flow through the ducts is directly affected by the speed of the fan.

iHeat DIP switch default setup

SW3 / SW4: Fan LO speed		
	Nominal output @ 75 °C	Nominal fan speed
OFF/OFF	10 kW	600
OFF/ON	8 kW	450
ON/OFF	6 kW	300
ON/ON	12 kW	750

SW1 / SW2: Fan HI speed		
	Nominal output @ 75 °C	Nominal fan speed
OFF/OFF	16 kW	1150
OFF/ON	14 kW	900
ON/OFF	18 kW	1300
ON/ON	20 kW	1450

← Off On →

SW1 SW2 SW3 SW4 SW5 SW6 SW7 SW8

FAN HI SPEED

FAN LO SPEED

SW5 MUST BE left

SW7 MUST BE left

SW8 MUST BE left

OFF = simultaneous heating + hot water (typical setup)
ON = hot water priority*

* SW6: ON would be used where a continuous flow unit is on the smaller side—priority in the building would be given to hot water demand.

Outlet vents One outlet vent is average in a standard bedroom 16 m² to 20 m², living spaces will require two or more. Heat loss in a home can be due to many factors; window area, type of insulation, draughts, and the age of the home—living rooms/open plan areas with a lot of glass will require multiple outlet vents. The outlet vents should be positioned towards the outer edges of the room. Placement of furniture, bed position etc. needs consideration when specifying the outlet vents as the customer could feel a draught under certain conditions (i.e. a high fan speed with a minimum of three vent ducts open). Access above the outlet vent also needs to be considered.

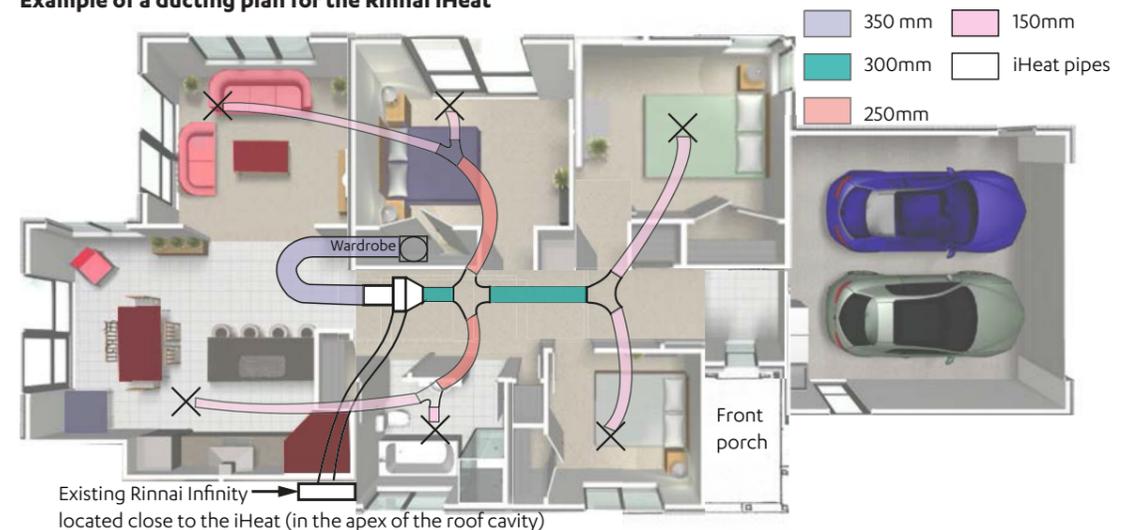
Return air intake To be a minimum of 1500 mm²—best centrally located in the house. Where outlet vents are in the ceiling the return air intake ideally should be mounted at floor level for even air flow and distribution.

Ducting The return air duct needs to be a minimum of Ø 350 mm x 6 m to reduce any noise heard through the ducting coming from the fan. Try and keep the ducting runs as straight as possible to minimise the overall length and to maintain smooth arcs in the bends. This assists in keeping an even air flow through the ducting.

The ducting diameter of the iHeat's main supply duct needs to be consistent with the Ø 300 mm supply from the unit. Outlet vents commonly have a 150 mm diameter spigot. Where an outlet vent is positioned more than 6 m from the main trunk, run a length of 250 mm or 200 mm duct between the main trunk and a 6 " duct for the outlet vent.

Doorways If the iHeat is going to be used with doorways completely closed, the doors will need to be shortened at the bottom to allow air to travel back to the return air intake. A door stop or child safety foam stopper is a simple and inexpensive way to keep the door slightly open and maintain a good airflow throughout the home.

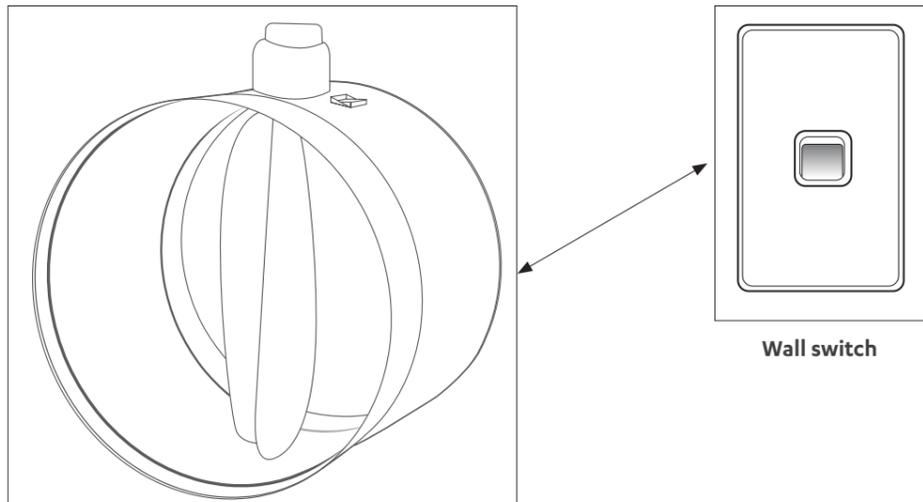
Example of a ducting plan for the Rinnai iHeat



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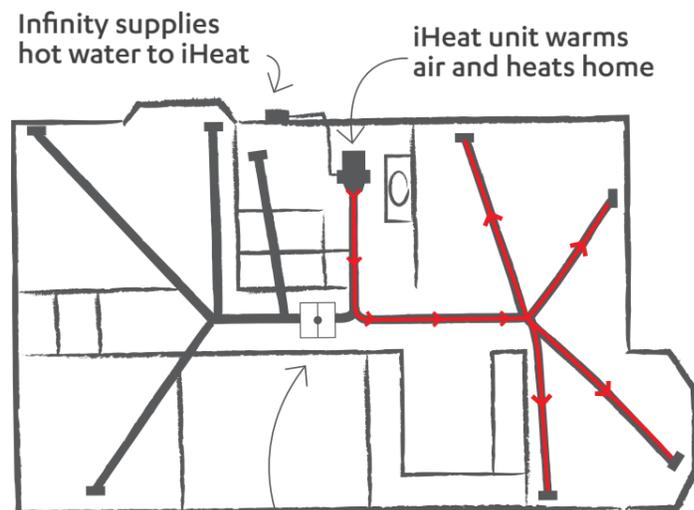
Zoning

It is possible to zone some areas of the home with motorised dampers (release and restrict the flow of air from zone to zone), which are available from the ducting suppliers listed on this page. These will require a licensed electrician to install, and are operated by a wall switch.



Motorised inline damper available in a range of diameters—24 V or 240 V

Zoning air-flow diagram



Zoning system: Only heating the areas you are using.

Ducting suppliers

The following companies provide specification and sales services for ducting and ventilation. Ducting kits are available for the Rinnai iHeat from these suppliers. The house plans and the checklist from the Rinnai iHeat Specifying Guide should be sent directly to the ducting supplier when seeking advice and/or ducting assistance.

Smooth-Air Products Ltd

Contact: Andy Mackie, Branch Manager - Auckland
Email: andy@smooth-air.co.nz
Phone: 09 579 3257
Mobile: 027 836 2127
Website: www.smooth-air.co.nz



Securimax

Contact: Darren Wirths - Product Specialist
Email: darrenw@simx.co.nz
Phone: 09 259 1660
Mobile: 021 543 567
Website: www.simx.co.nz



Weiss

Contact: Steve Coubrough - Product Specialist
Email: steve.c@weiss.co.nz
Phone: 09 274 4113
Mobile: 021 399 901
Website: www.weiss.co.nz

