

# Rinnai | WARRANTY

As the purchaser of a high quality Rinnai water heater you are provided with the following conditional warranty\*

HDC1500i, HDC1500e, HDC1200i, HDC1200e	Heat exchanger and all other parts	
	Parts	Labour
	5 Years	1 Year

\* Excludes damage caused by frost and hard water. Terms and conditions apply - contact Rinnai for full details

## Our commitment to you

Our innovative products are designed with the environment in mind, with low emission technology and high efficiencies, as well as a host of other great features.

Rinnai is committed to delivering efficient, well designed and engineered lifestyle solutions offering a host of benefits including versatility, safety, control, water conservation and guaranteed reliability.

Backed with extensive warranties and after sales service teams, Rinnai is proud to be the No.1 choice for Continuous Flow Hot Water. In addition, our range of Solar Hot Water Systems boast market leading efficiencies.



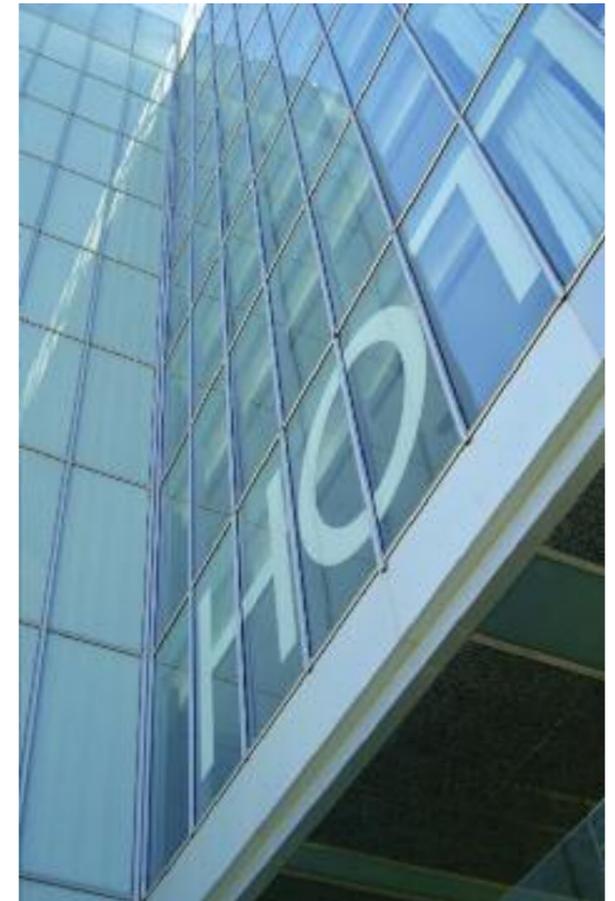
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# Rinnai | CONDENSING WATER HEATERS

EXPERIENCE OUR INNOVATION

Available NOW



Versatile, technologically advanced, temperature priority hot water for commercial applications

# Rinnai | HOT WATER BUFFER SYSTEMS

In situations where a very large demand of hot water is required Rinnai Buffer Packs offer a cost effective solution.

Using a manifold arrangement of either internal or external Rinnai Heavy Duty Condensing water heaters and a stainless steel buffer vessel, demands in excess of 20,000 litres per hour can be satisfied. Rinnai's stainless steel buffer vessels do not require electric immersion heating elements.

The manifold system offers the additional benefit of operational cover should a water heater fail; easy access and isolation of a unit for servicing.

Rinnai's gas fired buffer packs represents a very competitive and energy efficient hot water solution for larger heavy duty applications.

A Rinnai buffer system includes:

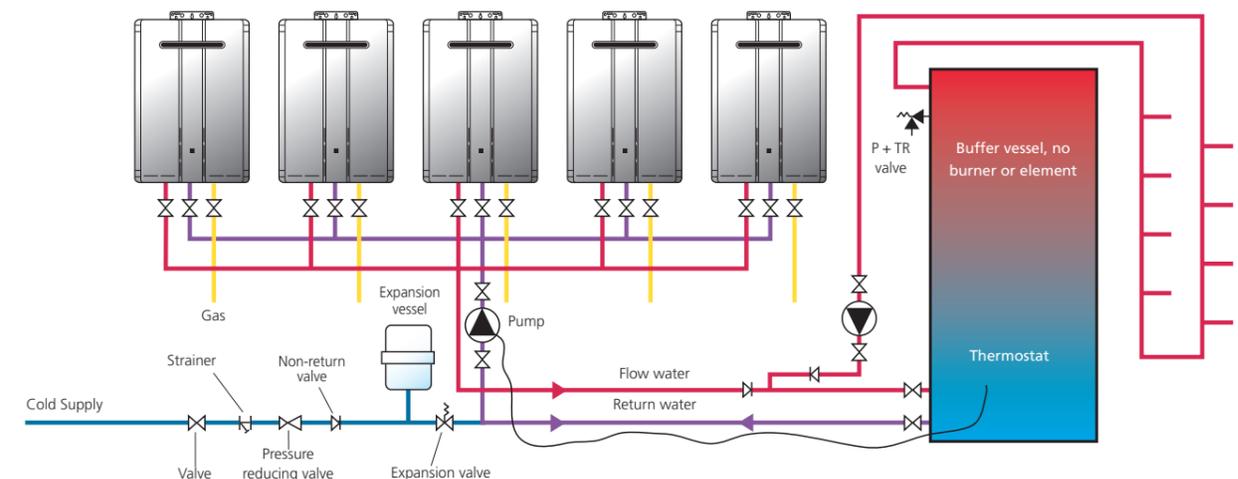
- A number of Heavy Duty Condensing water heaters (larger systems available on request)
- An equal number of standard flue kits (internal heaters only)
- An equal number of pipe cover boxes (external heaters only)
- An equal number of HD continuous flow water heater valve packs,
  - ball valves for cold water, hot water, gas
- 1 hot water buffer vessel, - 300L stainless steel, 500L stainless steel, or 800L
- 1 hot water buffer vessel valve pack, - double check valve, two ball valves
- 1 primary pump with valves
- 1 unvented kit (1in or 1½ in pipework),
  - 1 isolation valve
  - 1 pressure reducing valve with gauge
  - 1 strainer
  - 1 double check valve
  - 1in safety relief valve, 6 bar
- Expansion vessel, 50L or 80L
- 2 drain cocks, ½ in
- 1 tundish 1¼ in
- 1 temperature and pressure relief valve
- 1 control thermostat
- 1 overheat thermostat
- Delivery to site

Rinnai are proud to have been associated with very large prestigious water heating projects worldwide.

- Stainless steel vessel - very long life
- Less stored hot water than traditional systems
- Modular system - built-in redundancy
- Solutions for the largest industrial and commercial projects



Rinnai Condensing Water Heaters can be used to maintain the temperature in a large buffer vessel. This approach could be used where the hot water requirement exceeds the flow capacity of the manifolded units, or where there is an intermittent demand for hot water in buildings such as hotels, hospitals, apartments, etc.



“Limitless applications”



Pipe Cover Boxes omitted for clarity

Note: Where external water pipework runs are used, these must be insulated and must be protected by the Pipe Cover Box.

# Rinnai | CONDENSING WATER HEATERS

## RINNAI HOT WATER SYSTEM - Technologically advanced, temperature prioritised hot water

Rinnai water heaters will never run out of hot water

- As long as electricity, water, and gas supplies are connected, hot water is available when hot water taps are open
- DIP switches to enable temperature setting
- All Rinnai HDC internal water heaters are room-sealed, power flue appliances. The external weatherproof models have forced exhaust. This makes them compact, saving both floor and wall space
- For safety, the over-temperature protection will switch off the heater should the water temperature exceed by 3°C above its set-point
- Low operating noise level of 50 db(A)
- Integral frost protection to the water heater (power must be left ON)
- LED displays the status of the water heater with diagnostic codes

Status monitoring for easier diagnostics

The status monitor has three conditions:

- The water heater is off (no water flowing): The LED is blank
- The water heater is on (heating water): The LED displays the set temperature
- The water heater should be on, but is not (water is flowing, heater is not on): The LED will flash a diagnostic code



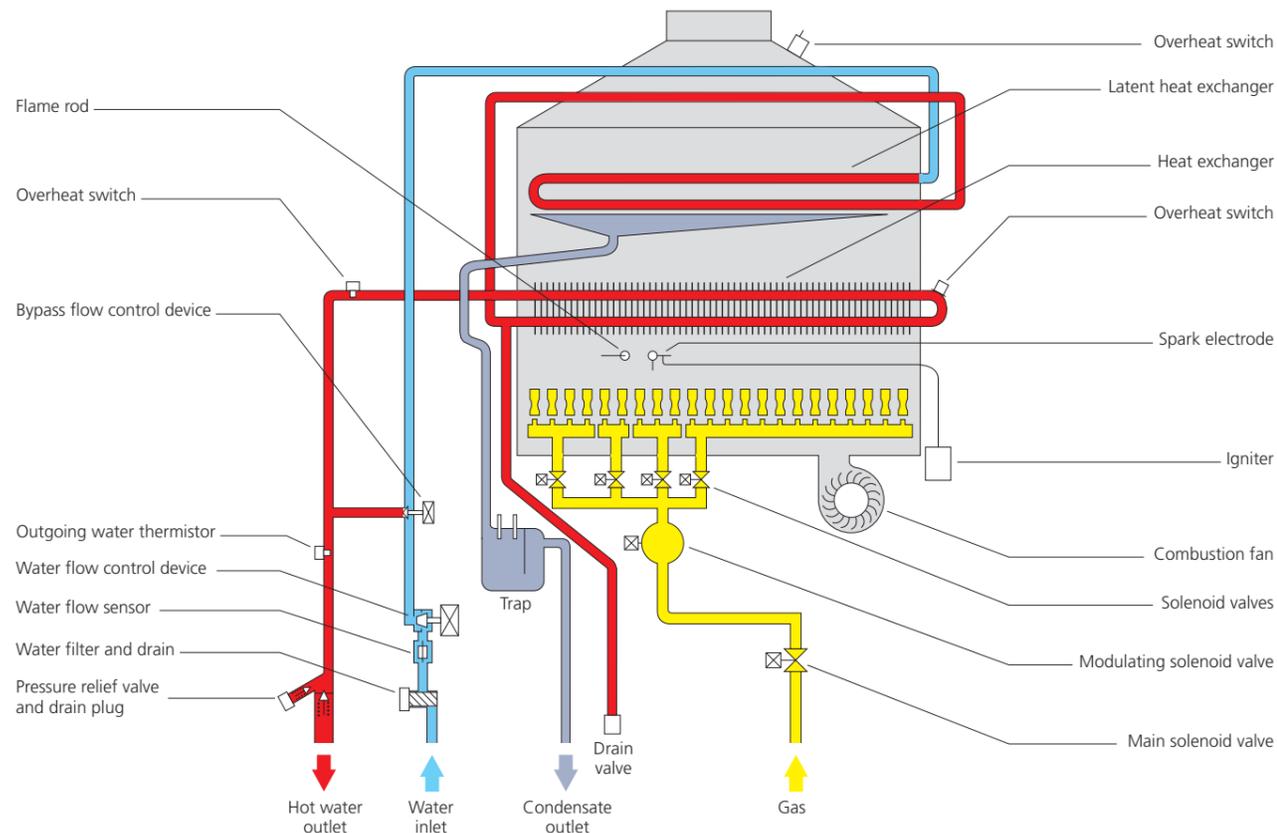
## BMS INTERFACE - optional

BMS Error Indication Switch Part Number 210-592-000

The Rinnai HDC Error Indication Switch is a volt-free normally open switch which will shift to a closed position when there is an active error in the water heater.

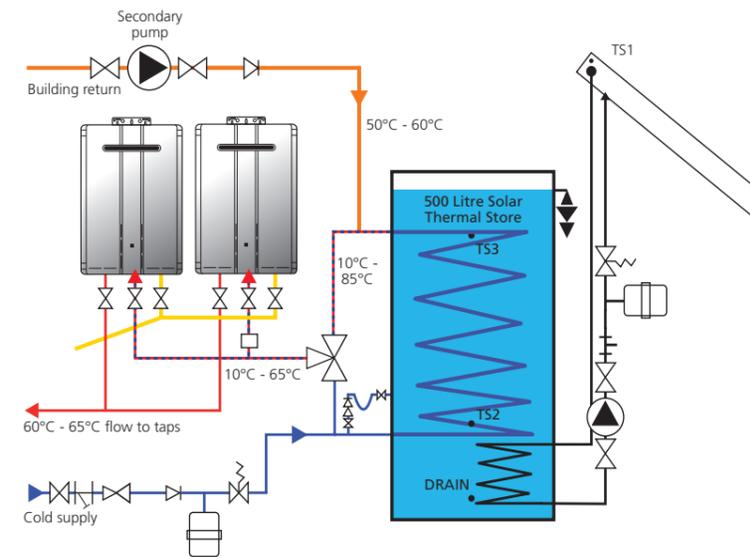
The switch is designed to be connected to a monitoring system, such as BMS (Building Management System), or another visual or audible error indication system.

## SCHEMATIC DIAGRAM

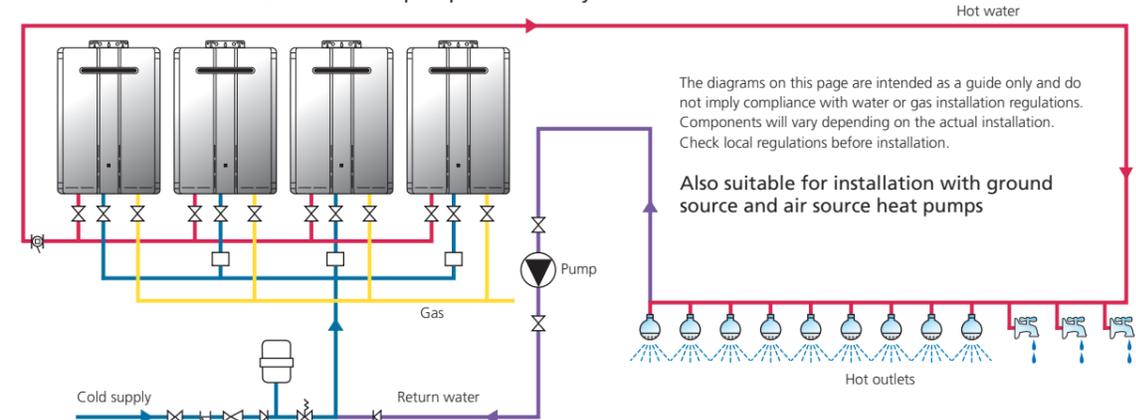


## INSTALLATION

### 2 x Rinnai HDC units, Solar and Secondary with Diverter Valve



### 4 x manifolded Rinnai HDC units with pumped secondary



## FOR HOT WATER BOOST APPLICATIONS

Fossil fuel is only used when the renewable thermal energy store is below its set-point. Thus reducing the dependency on fossil fuel and reducing CO<sub>2</sub> emission.

## CONDENSATE DISPOSAL

Rinnai HDC units may generate condensate at a rate of up to 5 litres per hour, as a by-product of their highly efficient heat recovery.

This condensate must be drained via a pipe to a suitable point of discharge.

The condensate is mildly acidic and therefore copper tube and fittings must not be used as they will corrode. Instead, Rinnai recommend plastic pipes and fittings, such as Unplasticised Polyvinyl Chloride (UPVC) or Polyethylene (PE) which is commonly used for irrigation piping.

Note: Rinnai recommends that the acidic condensate is neutralised prior to discharging to waste. For more details please telephone 01928 531870.

## PLASTIC FLUE AND ACCESSORIES FOR CONDENSING WATER HEATERS

### Standard horizontal flue kit

For use where installations terminate horizontally. **Contents:** 80/125mm Wall Terminal (950mm), 87° Bend, White Wall Gasket, Black Wall Gasket, **Code:** 952 - 220 - 001

### Vertical flue terminal

For use where installations terminate vertically. **Contents:** 80/125mm Roof Terminal (950mm) **Code:** 952 - 220 - 007

### Additional parts for the flue system

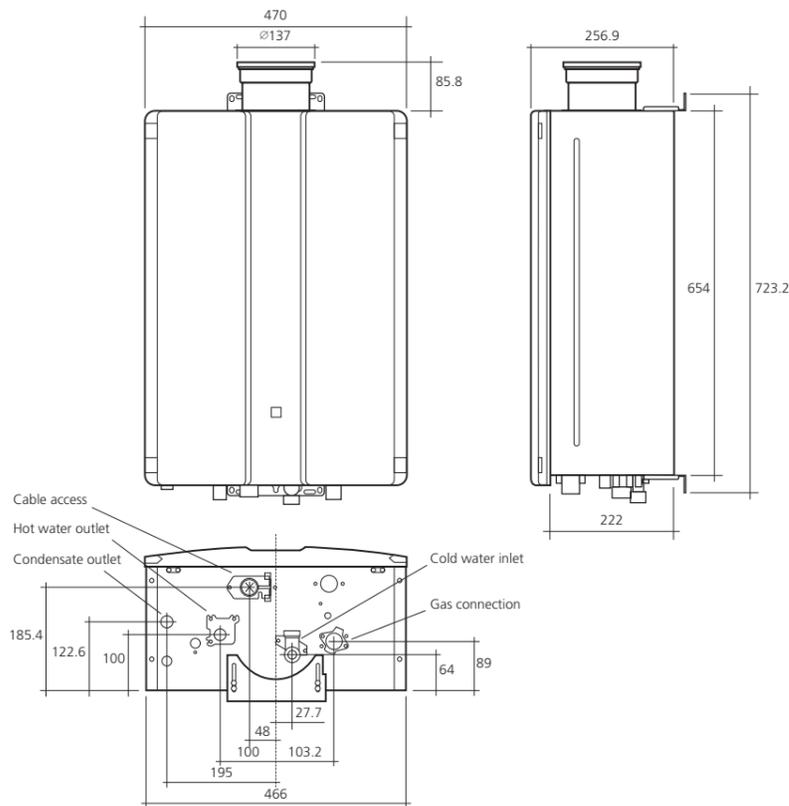
250mm Flue Extension	Code 952 - 220 - 004
500mm Flue Extension	Code 952 - 220 - 005
1000mm Flue Extension	Code 952 - 220 - 006
87° Bend	Code 952 - 220 - 003
45° Bend	Code 952 - 220 - 002
Roof Attic Pipe Clamp (125mm)	Code 952 - 026 - 010

Standoff Pipe Clip (125mm)	Code 952 - 026 - 012
Flat Roof Flashing (125mm)	Code 952 - 026 - 008
Pitched Roof Flashing 5° - 25° (125mm)	Code 952 - 026 - 017
Pitched Roof Flashing 25° - 45° (125mm)	Code 952 - 026 - 011
Pitched Roof Flashing 35° - 55° (125mm)	Code 952 - 026 - 018

# Rinnai | CONDENSING WATER HEATERS

## DIMENSIONS

### Internal Condensing Heater

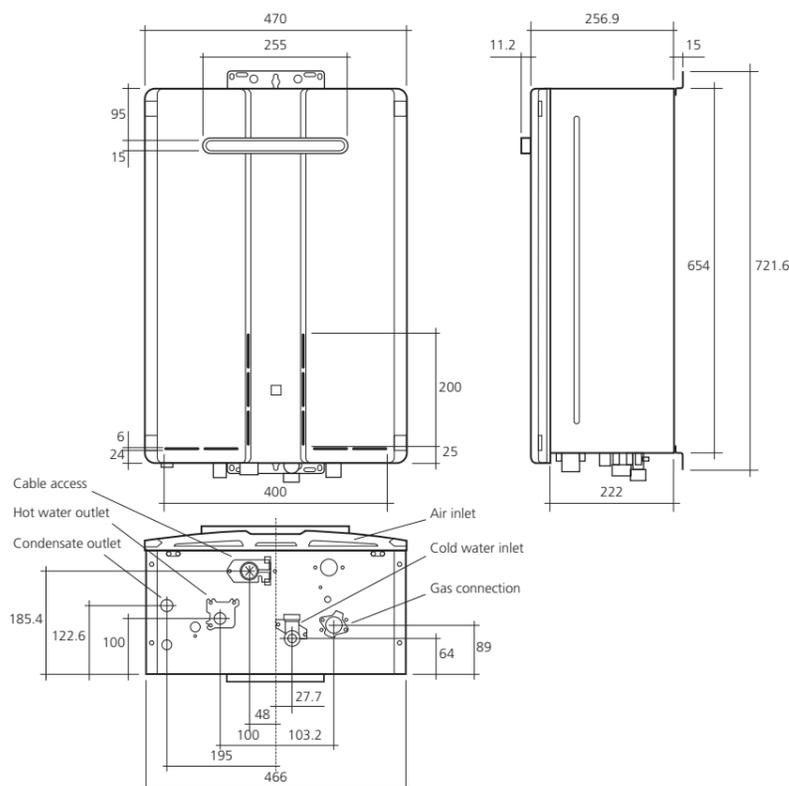


## SPECIFICATION

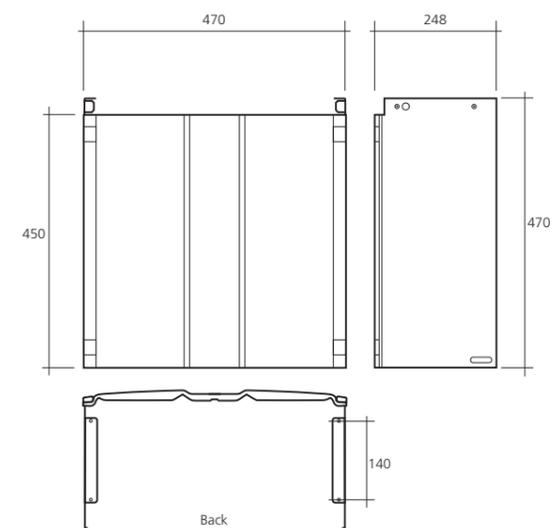
Model	HDC1500i (internal) HDC1500e (external)	HDC1200i (internal) HDC1200e (external)
Installation depending on model	Internal or external	
Fuel	Natural Gas or LPG *	
Control	Modulating	
Output (nominal)	2.27 kW to 56 kW (NG) 2.75 kW to 62 kW (LPG)	2.27 kW to 45.9 kW (NG) 2.75 kW to 52.7 kW (LPG)
Exhaust type	Internal - Forced Room Sealed (Concentric) External - Direct Forced Exhaust (No Flue Required)	
Ignition	Electronic	
Burner	Stainless steel	
Low NOX	Less than 50ppm for all heaters	
Weight	31 kg	
Water flow rate	1.5** to 37 L/min	1.5** to 35 L/min
Minimum operating water pressure	1.0 Bar	
Noise level	50 db(A)	
<b>Connections</b>		
Gas	3/4 bsp	
Water Inlet	3/4 bsp	
Water outlet	3/4 bsp	
Condensate outlet	1/2 bsp	
Electrical Supply	230V AC 50Hz 1ph	

\* Separate models available for Natural gas or LPG fuel.  
\*\* Minimum flow rate based on temperature set point and inlet conditions.

### External Condensing Heater



## Pipe cover



Note: Where external water pipework runs are used, these must be insulated and must be protected by the Pipe Cover Box.

# Rinnai | CONDENSING WATER HEATERS

## Finite resources – infinite solutions

The Rinnai Corporation, manufacturer of the world's number one selling brand of on-demand, instantaneous water heaters is proud to introduce the next generation of gas water heaters. These new products incorporate the latest in condensing water heating technology for superior energy-efficiency and supreme performance.

At Rinnai, we are committed to providing to you the highest quality product with minimal impact on the environment and without compromising on hot water comfort.

## Innovation

Rinnai's unique condensing technology incorporates two heat exchangers to achieve optimum water heating generated from every cubic metre of Natural Gas or LPG. These compact wall mounted water heaters capture residual heat from its flue gases and transfers it into the water being heated.

\* In accordance with BS EN 677

## Energy efficient

HDC1500i/e 104.5% net efficiency\*  
HDC1200i/e 105.5% net efficiency\*

The condensing process delivers up to 95% thermal efficiency, which translates to significant energy savings when compared to standard tankless water heaters.

## Renewables ready when you are

- Saves space, water, energy and time
- Never runs out of hot water
- Limitless application
- Compact design with internal and weather-proof external models
- Suitable for use as a temperature booster for solar thermal and heat-pump



External weatherproof model

Internal model