

HD210 | Specification Guide

Heavy Duty Continuous Flow Hot Water

This ground breaking technology is the first of its kind to be used in water heating in Australia. The unique design incorporates two innovative Stainless Steel heat exchangers to achieve the maximum heating output from every mega joule of gas, resulting in an outstanding thermal efficiency of 97%



Features

- 97% thermal efficiency
- Revolutionary surface burner technology – An Australian first
- Dual Stainless Steel heat exchangers
- Renowned Japanese design quality and components
- Manufactured in Rinnai's own state of the art facility
- 57kW output capacity
- Heat exchange bypass technology maintains the perfect temperature with reduced pressure loss
- Compatible with Rinnai sophisticated Cascade staging system
- In-built controller displays set water temperature and system status
- Building Management System (BMS) fault option
- Flue lengths up to 42 metres for internal versions
- Push button control on the PCB making initial installation set-up a breeze
- High altitude function allowing installation up to 2000 metres above sea level
- High temperature safety cut-out
- Low pressure loss
- Natural Gas or LPG models available
- Anti-frost protection down to a low -20°C
- 50°C and 75°C pre-set temperatures available

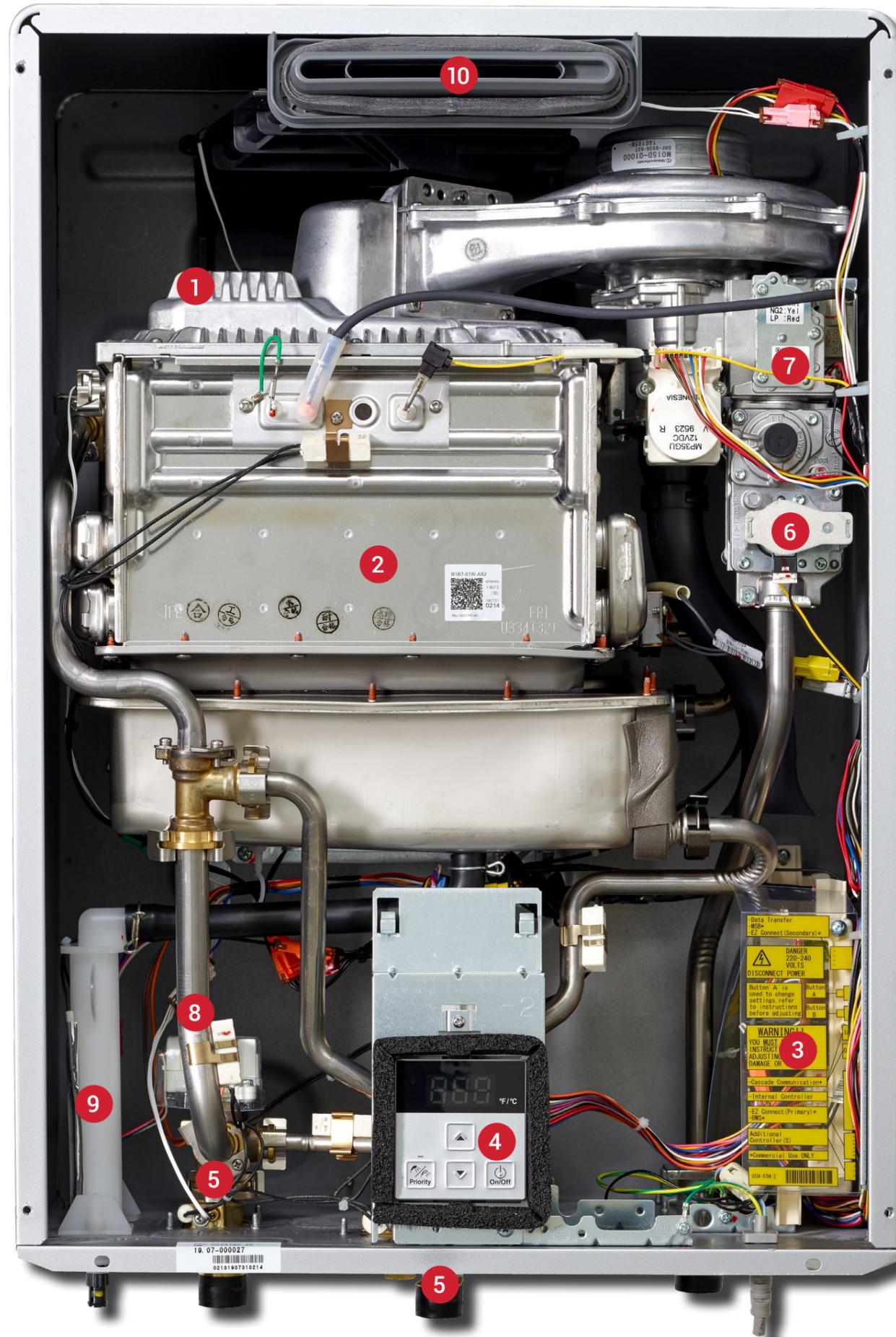


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The HD210 at a glance



HD210i



1. Surface burner

This ground-breaking technology is located above both heat exchangers and modulates in conjunction with the intelligent inbuilt controls to optimise efficiency every time water requires heating. This innovation achieves an astonishing thermal efficiency of 97%. An Australian first

2. Heat exchangers

Manufactured with quality and durability in mind, these two stainless steel heat exchangers effectively work as one, applying as much heat as possible to the water as it flows through. The intelligent design and construction, in conjunction with the surface burner, provide the maximum heating available while keeping footprint and pressure loss to a minimum. Residual heat from flue gases is recaptured and used to pre-heat the water while the surface burner modulates accordingly.

3. PCB Controller

The brains behind the unit is built to last. Encapsulated in a special epoxy it can withstand any commercial hot water application while intelligently managing the hot water delivery with extreme accuracy. Over 40 years of Rinnai engineering is behind the intelligence of the PCB and it is continually being improved with added features

- Push button control for easy installation and commissioning
- BMS fault connectivity
- High altitude setting allowing installation up to 2000m above sea level
- Plug and play cascade staging system

4. Touch button control

Not just a status monitor – the inbuilt controller makes commissioning a breeze with the easy to read display. Initial setup is made simple through the various menus allowing you to optimise the heaters delivery temperature, altitude setting, gas type and mode to name but a few. The controller displays the set water temperature and system status during operation.

5. Water servo and bypass assembly

This simple yet precisely engineered assembly of high-quality stainless steel and brass components communicates directly to the PCB. Using multiple measuring inputs and employing servo motor technology, the PCB makes multiple decisions and adjustments to ensure the precise water temperature is safely delivered.

6. Gas control valve

Ground-breaking surface burner technology requires stable and consistent gas supply, and that is exactly what this sophisticated control valve provides. It adopts multiple safeguards to ensure the correct amount of gas is delivered to the burner ensuring unparalleled performance and energy efficiency.

7. Gas type control

Historically gas continuous flow water heaters required time consuming modifications to change to operate on either natural gas or Liquid Petroleum Gas. The sophisticated gas control valve assembly makes this a thing of the past. A simple change of a unique component is all it takes. In less than a minute you are ready to go!

8. Water transfer pipes

Both of the heat exchangers are manufactured in stainless steel, therefore it makes perfect sense to do the same with the water transfer pipes. Each section of pipe has been designed to offer minimal pressure loss with high corrosion resistance.

9. Condensate control

Condensate is naturally produced when heating water using highly efficient condensing technology. As such it needs to be managed correctly, and a simple and effective trap is included, to allow the safe collection and release of the condensate.

10. Flue terminal

The flue terminal is cleverly constructed to expel combustion products safely while trapping as much heat as possible in the heat exchanger to aid efficiency. The flue terminal designs are quite different between the external and internal water heaters.

- **External** – Manufactured in a durable and corrosion resistant plastic to withstand the harsh Australian climate when employed in demanding commercial applications.
- **Internal** – A room sealed appliance using a co-axial flue design with a massive maximum flue run of up to 42 metres. Offering installation flexibility that once again has never been seen before.

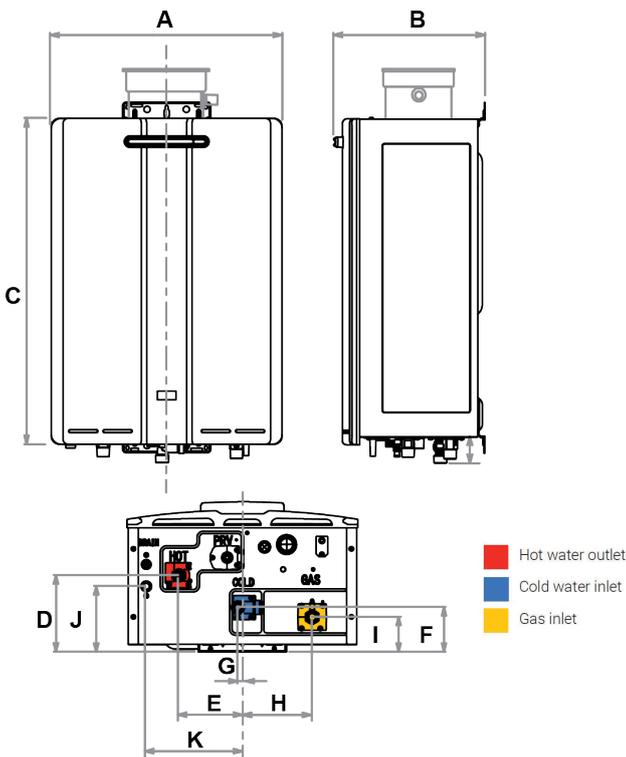


This appliance complies with AS3498:2009 SAI Global Lic W208

Selection

A continuous flow water heater never runs out of hot water. It will deliver the desired flow rate and energy output capacity relative to the temperature of the incoming water. Our in-house designed and built PCB communicates closely with the incoming water servo, bypass assembly and gas valve to measure, and modulate the unit ensuring the right temperature and flow is maintained, at all times.

| | | HD210 Capacity (kW) | | | | | | | | |
|-----------------------|----|---------------------|----|----|----|----|----|----|----|--|
| | | Flow Rate (l/min) | | | | | | | | |
| Temperature Rise (°C) | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 37 | |
| | 5 | 2 | 3 | 5 | 7 | 9 | 10 | 12 | 13 | |
| | 10 | 3 | 7 | 10 | 14 | 17 | 21 | 24 | 26 | |
| | 15 | 5 | 10 | 16 | 21 | 26 | 31 | 37 | 39 | |
| | 20 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 52 | |
| | 25 | 9 | 17 | 26 | 35 | 44 | 52 | | | |
| | 30 | 10 | 21 | 31 | 42 | 52 | | | | |
| | 35 | 12 | 24 | 37 | 49 | | | | | |
| | 40 | 14 | 28 | 42 | 56 | | | | | |
| | 45 | 16 | 31 | 47 | | | | | | |
| | 50 | 17 | 35 | 52 | | | | | | |
| | 55 | 19 | 38 | | | | | | | |
| 60 | 21 | 42 | | | | | | | | |
| 65 | 23 | 45 | | | | | | | | |
| 70 | 24 | 49 | | | | | | | | |
| 75 | 26 | 52 | | | | | | | | |



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TOTAL HOME COMFORT



| | |
|--------------------|------------|
| Flow at 20 °C rise | 37.0 l/min |
| Flow at 25 °C rise | 32.0 l/min |
| Flow at 35 °C rise | 23.0 l/min |
| Flow at 45 °C rise | 17.5 l/min |
| Flow at 50 °C rise | 16.0 l/min |
| Flow at 60 °C rise | 13.0 l/min |
| Flow at 75 °C rise | 10.5 l/min |

| Model | | HD210e | HD210i | |
|---------------------------------------|--------|--------|--------|------|
| Factory pre-set temperatures | °C | 75 | 75 | |
| | | 50 | 50 | |
| Max temperature setting | °C | 85 | 85 | |
| Min operating water flow rate (L/min) | | 2.4 | 2.4 | |
| Min water pressure (kPa) | | 300 | 300 | |
| Max water pressure (kPa) | | 1000 | 1000 | |
| Gas rate (MJ/h) | NG | Min | 15.9 | 15.9 |
| | | Max | 209 | 209 |
| | LPG | Min | 15.9 | 15.9 |
| | | Max | 209 | 209 |
| Thermal efficiency | % | 97.6% | 96.2% | |
| Max capacity | kW | 57.9 | 57.9 | |
| MECS compatibility | | Yes | Yes | |
| Inbuilt Controller | | Yes | Yes | |
| Electrical consumption | W | 154 | 150 | |
| Sound Level | dBA | 53 | 49 | |
| Width | A (mm) | 470 | 470 | |
| Depth (inc brackets) | B (mm) | 309 | 291 | |
| Height | C (mm) | 670 | 670 | |
| Hot water outlet (from wall) | D (mm) | 157 | 157 | |
| Hot water outlet (from centre) | E (mm) | 130 | 130 | |
| Cold water inlet (from wall) | F (mm) | 91 | 91 | |
| Cold water inlet (from centre) | G (mm) | 10* | 10* | |
| Gas connection (from wall) | H (mm) | 72 | 72 | |
| Gas connection (from centre) | I (mm) | 142 | 142 | |
| Condensation connection (from wall) | J (mm) | 135 | 135 | |
| Condensation connection (from centre) | K (mm) | 196 | 196 | |
| Hot/ Cold/Gas fitting diameter | (mm) | 20 | 20 | |
| Weight | (kg) | 29 | 29 | |

*Please note that this measurement is to the left of the centre line.

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