Rinnai

REFERENCE GUIDE

Hot Water

Experience Our Innovation

Rinnai

CONTENTS

Experience our Innovation

For 40 years Australians have been enjoying the comfort, convenience and reliability of Rinnai gas appliances. 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 ongoing innovation - delivering efficient, well designed and engineered lifestyle solutions offering a host of benefits including versatility, safety, control, water conservation as well as 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 Australia. In addition, our innovative range of Solar Hot Water Systems boast market leading efficiencies that ultimately enjoy higher Government rebates.

Through innovation, we will endeavour to continue offering superior ranges of home appliances that provide a clear insight into what the future holds for Australian homes

About this Brochure

This 'Hot Water Reference Guide' is to be used in conjunction with the consumer brochure. The contents of this brochure are more of a technical nature and it has been produced in relevant technical sections rather than by specific product pages as in the consumer brochure.

It is designed to be a quick reference guide to questions that may be asked to ensure selection of the best hot water solution for an application.

Need additional help?

Please contact Rinnai Customer Care on 1300 555 545
Monday to Friday 8.00am – 5.30pm EST

Certifications

The Australian Gas Association

Quality System
Quality Endorsed Company
ISO 9001 Lic 4983
SAI Global

WaterMark™

N10378

Rinnai Solar

Range Overview – Hot Water

Rinnai has an extensive range of hot water systems that cater for both domestic & commercial applications. Each range has specific and unique benefits which are explained both below and throughout this brochure.

Gas Continuous Flow

- Only heats the water when it is needed
- Highly efficient and compact allowing flexibility in installation options
- Additional Water Controllers add precise temperature control for convenience & safety as well as a host of other benefits
- Designed with low burner settings making them the most compatible with lower flow rated (WELS) showers & basin outlets
- Largest range of models suiting varied domestic, builders & commercial markets
- Available in 60ºC preset or 50ºC adjustable to True 50ºC at the Tap
- Internal, Enviro (high efficiency condensing) and Inbuilt Smartstart models available
- Extensive accessory options – Recess Boxes, Pipe Covers, Flue Diverters, Smartstart® and Security Brackets

INFINITY 26

HANDY HINT

By adding 2 or more Water Controllers, the Parts & Labour warranty is automatically increased from 3 to 5 years

Solar Systems

- Utilises the energy from the sun to pre-heat the water
- Benefits of low running costs and low greenhouse emissions
- Close Coupled roof or split ground mounted systems
- Choice of superior quality long-life Stainless Steel with extensive warranties or durable Vitreous Enamelled steel cylinders
- Selection of Solar Collectors in both Standard & Frost Tolerant (FTC) configurations, and the E-frost Collector for Split Systems installed in high frost areas
- Full range of sizes to suit all domestic applications & climates
- Choice of 3 gas booster sizes to suit small to large homes
- Internal solar booster also available
- Choice of electric element sizes enabling easy changeover from old electric systems
- Substantial Government rebates and incentives apply for most domestic installations


Solar Split System

HANDY HINT

Gas Boosted Systems are awarded far higher rebates than Electric Boosted Systems and this should always be considered when deciding on the system type and comparing costs.


Solar Close Coupled System

HOTFLO Mains Pressure Electric Storage

- Full range of capacities to suit all requirements - 25 to 400 litres
- Flexibility of various element sizes with dual handed connections making them ideal for replacing older systems
- High quality durable Vitreous Enamel steel construction
- Flexibility - suitable for internal and external use
- Thermostatically controlled with safety temperature shut off for added safety and peace of mind

HOTFLO Electric Storage Tanks

HOTFLO Mains Pressure Gas Storage

- Fast recovery time
- Efficient 4 star energy rating
- Quick, easy no fuss installation
- Can be installed with left or right handed coupling
- Available in 2 standard sizes, perfect for emergency changeover getting you back up and running fast
- Rinnai quality and durability

HOTFLO Gas Storage Tanks

HANDY HINT

Always err on the high side when sizing electric systems. Under sizing can result in a lack of hot water and very unhappy customers!

Commercial Hot Water Systems

- Heavy Duty Continuous Flow units – smaller Commercial applications
- Manifold Packs – multiple units plumbed together with a maximum flow rate sized to suit a set number of outlets (ie shower block with pre-set outlet temperature)
- Demand Duo – single or multiple units manifolded together in conjunction with storage cylinders. Stored hot water assists with 'peak demand' periods like mornings in a hotel.
- Warm Water Systems designed for flow & return installations
- Commercial Solar pre-heat systems
- Natural draft common flues available for internal models

Rinnai Demand Duo System

Range at a glance

Rinnai has the largest range of Continuous Flow water heaters in Australia today. As the company that developed the Continuous Flow technology, we now have 6 dedicated ranges designed for specific applications.

The table below highlights the basic differences between the ranges as a general guide:

	Rinnai INFINITY	Rinnai Enviro	Rinnai 26 Smartstart®	Rinnai Builders Series	Rinnai Heavy Duty (HD-Series)	Rinnai Solar-Series
Range						
External Models	5	2	1	3	2	2
Internal Model	1	-	-	-	1	1
Efficiency	5.6 - 6.2 Star	6.8 and 7.0 Star Equiv	5.8 Star	5.8 - 6.2 Star	5.6 - 6.1 Star	N/A
Primary Use	Domestic	Domestic Builders, Projects & Commercial	Domestic	Builders & Projects	Commercial	Solar Boost Only
Water Controller	Compatible	Compatible	Compatible	Compatible	Compatible	Not Compatible
Status Monitor	26Plus Only	Yes	No	No	Yes	No
Colour	Euro White	Star Metallic	Euro White	Dune	Titanium	Dune
Pre-Set Temp	50°C & 60°C	60°C	50°C	50°C & 60°C	50°C & 75°C	70°C

Selection Guide & Sizing

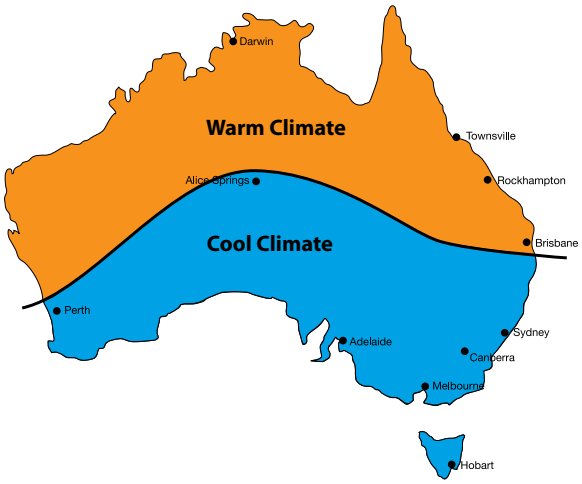
To ensure that the best Continuous Flow unit is installed in any application, we recommend breaking it down to 6 basic considerations

1. How many Showers are there?

Selecting a Continuous flow system is easy! The simplest way to identify your hot water needs is by the number of shower outlets in your home. Output based on number of showers ensures temperatures and pressure stability when you need it most. Rinnai has comfort and luxury in mind with Enhanced Combustion Technology (ECT) ensuring you get the most out of your low flow shower rose.

2. What is Geographical location?

Ambient water temperature greatly affects the amount of hot water demanded from the system. Please refer to the map and table below as a guide only.



Temperature map zoning based on seasonal ambient water temperatures

Applicable Models		INFINITY 16	INFINITY 20	INFINITY 26	INFINITY 26i	Enviro 26	26 SmartStart	INFINITY 32	Enviro 32
No. of shower outlets*	Warm	1	1-2	1-3	1-3	1-3	1-3	1-4	1-4
No. of shower outlets*	Cool	1	1	1-2	1-2	1-2	1-2	1-3	1-3

*Sizing assumes AAA or "3 star" outlets. For non WELS rated or WELS rated fixtures with higher flow outlets (AA, A, 2 star or 1 star rated) a larger size appliance or additional appliance may be required to delivery adequate performance. Consult with your hot water specialist.

3. The type of shower roses installed?

Most States and Territories have legislation where new homes must have a minimum of 3 Star rated (9 litre/min) shower roses installed. Many older homes however, still have higher flow rated showers.

HANDY HINT

We recommend to replace shower roses with low flow rated (WELS approved) fixtures to assist with water conservation. Rinnai Continuous Flow models are more suited to lower flow rates than other units on the market.

4. Is there a large bath or spa?

If there is a large bath or spa that needs filling, then regardless of the number of bathrooms or showers, we'd recommend the larger 26 or 32 litre.

5. Design of the house? (The distance to the furthest tap)

Where are the bathrooms and other 'wet areas' in relation to the hot water system? The further away the shower, the longer it takes to get the hot water. Typically if the distance to an outlet is 15m or greater you could be looking at a time delay for the hot water of approximately 10-15 seconds.

As a general rule, Rinnai recommend:

- Units are best installed closest to the Kitchen – but with consideration to Bathroom locations
- New homes could consider two smaller units if hot water is required at opposite ends of home
- For long hot water runs, install a Rinnai Smartstart® pre-heat flow and return system
- Consider using a Rinnai 25 Litre under cabinet plug in tank for kitchen

6. Is it an Internal or External Installation?

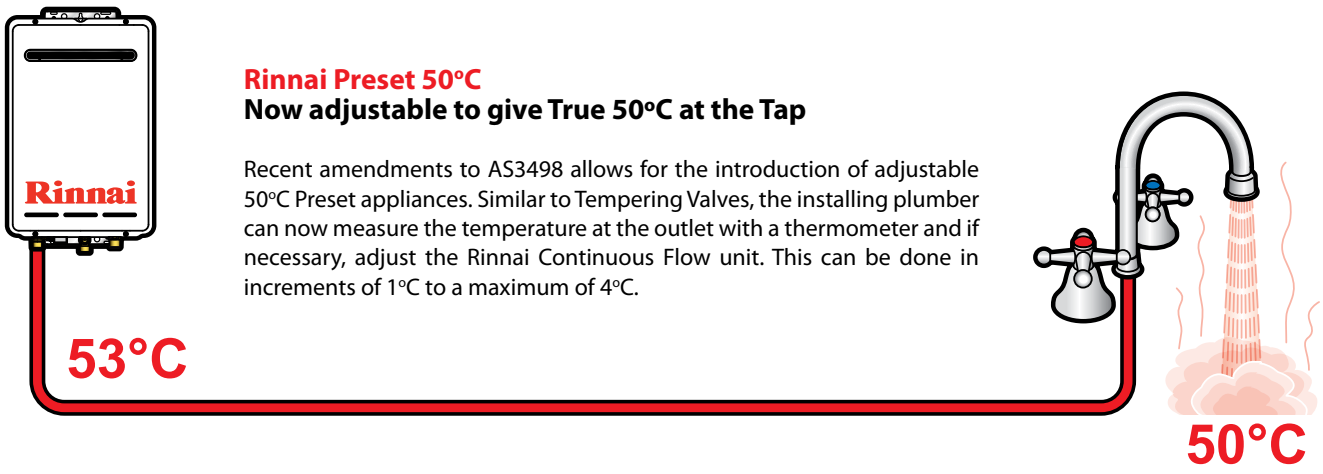
Most installations are external. This is by far the least expensive alternative with the unit readily accessible for servicing. Alternatively Rinnai have internal units which can be placed inside the house, in a cupboard or even in the ceiling cavity. All Rinnai internal units require a flue to be installed to atmosphere. For further details of the flueing requirements, please refer to pages 9 to 11.

Hot Water Delivery Temperature

AS/NZS3500 regulates that the temperature allowed in areas used primarily for personal hygiene (Bathrooms, Ensuites and Powder Rooms) must be limited to a maximum of 50°C in domestic installations. There are 2 ways to achieve this with Rinnai Continuous Flow appliances:

1. **Preset 60°C Appliances** – The installing plumber supply's and installs an approved Tempering Valve on the hot water branch line to the bathrooms etc set at a maximum of 50°C. This then allows for the hotter 60°C water to be supplied to the kitchen & laundry which is best for cutting greases and rinsing. Whilst this requires the additional expense of a Tempering Valve, it is Rinnai's preferred method of installation as it gives the end-user the best hot water solution.

2. **Preset 50°C Appliances** – This is where the unit is factory set to 50°C and the entire house is supplied at this temperature. This is adequate in most domestic situations, but any temperature losses in the pipe work due to poor or old insulation can result in lower temperatures being delivered at the outlet. This is usually noticeable in the kitchen when trying to wash dishes with (say) 46 or 47°C. Previously there was no way of overcoming this other than re-insulating supply lines until now.



Rinnai Preset 50°C
Now adjustable to give True 50°C at the Tap

Recent amendments to AS3498 allows for the introduction of adjustable 50°C Preset appliances. Similar to Tempering Valves, the installing plumber can now measure the temperature at the outlet with a thermometer and if necessary, adjust the Rinnai Continuous Flow unit. This can be done in increments of 1°C to a maximum of 4°C.

HANDY HINT

Instructions on how to adjust the temperature are located on the back of the front panel inside the unit.

Water Controllers

Why install Water Controllers?

Rinnai strongly recommend installing Controllers to allow you to take full advantage of all the benefits available. Water Controllers, depending on the model selected, enable the following additional benefits with any Continuous Flow model with the exception of Solar Boost units:

All Controllers:

- Eliminate temperature fluctuations if someone else turns on another tap
- Allow the user to pre-set safe temperatures
- Enable precise temperature control up to 50°C in the Bathrooms and up to 60°C in the Kitchen
- Conserve water usually wasted juggling the hot & cold taps
- Installing 2 Controllers extends the Parts & Labour warranty of the Rinnai INFINITY from 3 years to 5 years
- Activate the Rinnai Smartstart® pre-heat function (see page 16 for details)
- Install up to 4 Controllers (some limitations apply, see below)

Universal (Wired) Controllers

- Ideal for new homes and renovations where easy access to running wires is appropriate
- Are a cost effective model with basic functionality including temperature control & room priority transfer
- Available in Grey only

Universal Wireless Controllers:

- Enable Controllers to be easily fitted into new homes & extensions
- Ideal for retrofitting into existing homes
- Same functions as the 'wired' Universal Controllers
- Additional Child Lock function for added safety
- Requires a transceiver to be connected to the hot water unit
- Additional Wireless Controllers can operate on the same transceiver
- Available in Silver only

Deluxe Controllers:

- Enable Controllers to be easily fitted into new homes & extensions
- Master Controller usually installed in the Kitchen
- Separate Bathroom Controllers
- All functions as per Universal Controller

Deluxe functions include:

- Automatic bath fill function (Bathroom controller only)
- Shower saver feature - preset desired litres (Bathroom controller only)
- Digital clock
- Speaker & volume controls
- Available in White or Silver

HANDY HINT

Regardless of whether Water Controllers are installed or not, to comply with AS3498- delivery of 50°C to ablution areas, a 50°C preset unit or 60°C unit with a tempering valve must be installed.

Maximum number of Water Controllers

A maximum of 4 Water Controllers can be fitted to all Rinnai Continuous Flow water heaters. Any combination of Universal Wireless or Wired or Deluxe Water Controllers can be used with the following provisions:

1. Only ONE Deluxe Master Water controller can be installed
2. Up to TWO Deluxe Bathroom Water Controllers
3. The FOURTH Water Controllers MUST BE a Universal Controller (Wired or Wireless)

Internal Flueing

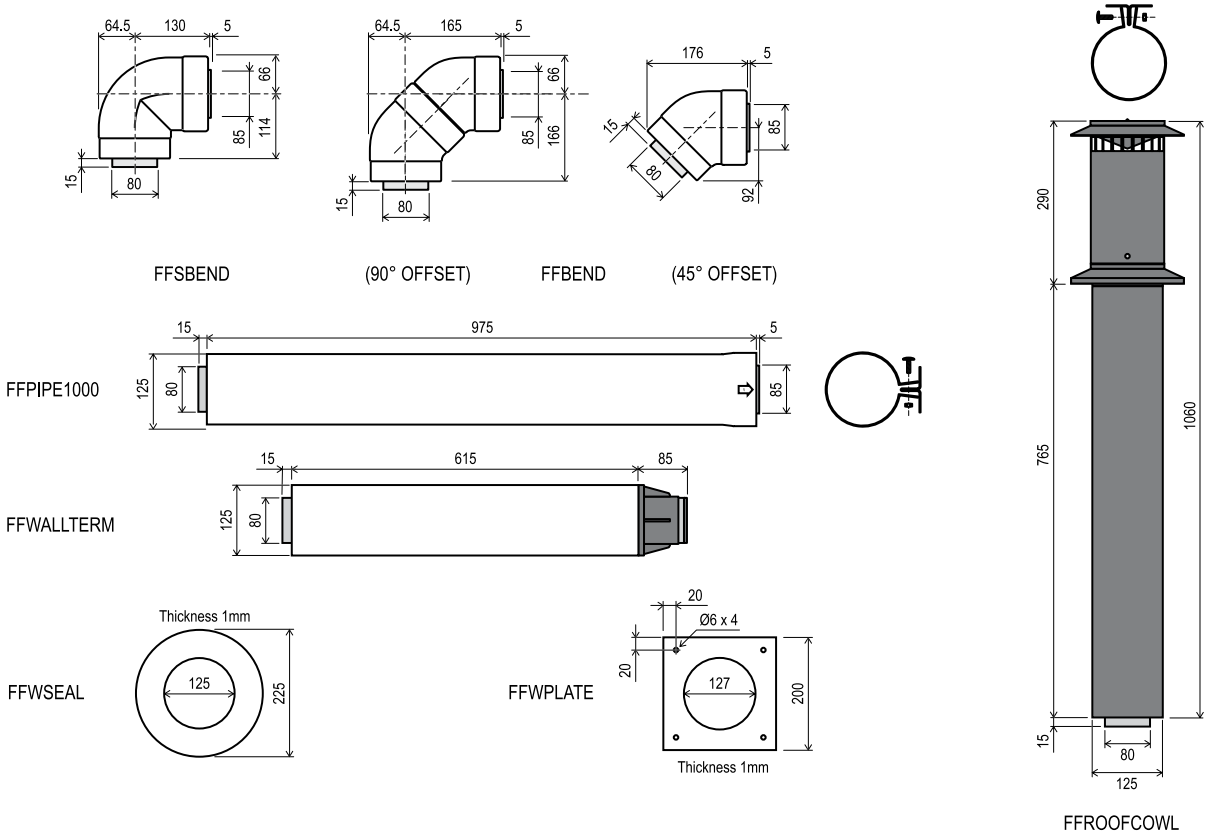
Rinnai offer three 26 litre internal models - the Rinnai INFINITY 26i domestic unit, the HD200i commercial model and the S26i solar booster. Ideal for replacement of existing internal hot water systems or simply used when limited space is available externally in applications such as apartments and townhouses. It is a balanced flue, room sealed appliance, drawing combustion air from the outside.

There are 4 flueing options that enable the installation of an internal Continuous Flow model virtually anywhere:

1. **Vertical Direct Flueing** - Straight up through the ceiling and penetrating the roofline
2. **Horizontal Direct Flueing** - 90º bend off top of unit, backwards or sideways through the wall
3. **Horizontal Extended Flueing** - Identical to horizontal flueing but with additional components to extend the length of the flue
4. **Combination Flueing** - Mixture of both horizontal and vertical flues

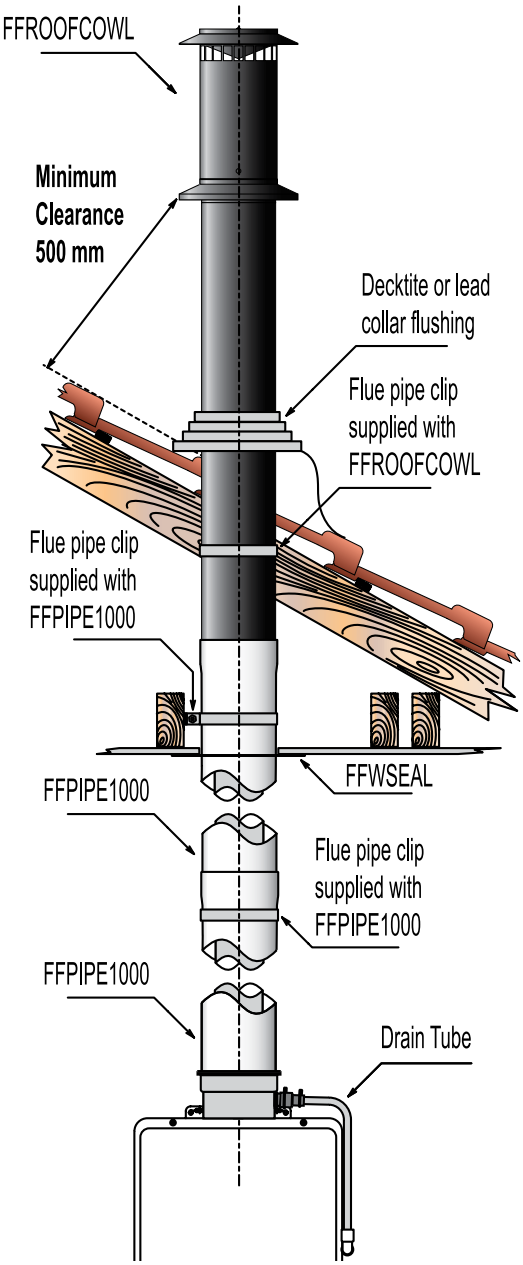
Flue Components

All Rinnai Internal Flue systems are made up from individual components. All components must be ordered separately.



Dimensions in mm

Description	Code Number
Starter Bend	FFSBEND
Universal 45/90 Degree Bend	FFBEND
Flue Pipe 1000mm length	FFPIPE1000
Horizontal Flue Terminal	FFWALLTERM
Vertical Flue Terminal	FFROOFCOWL
Ceiling Ring	FFWSEAL
Wall Plate	FFWPLATE



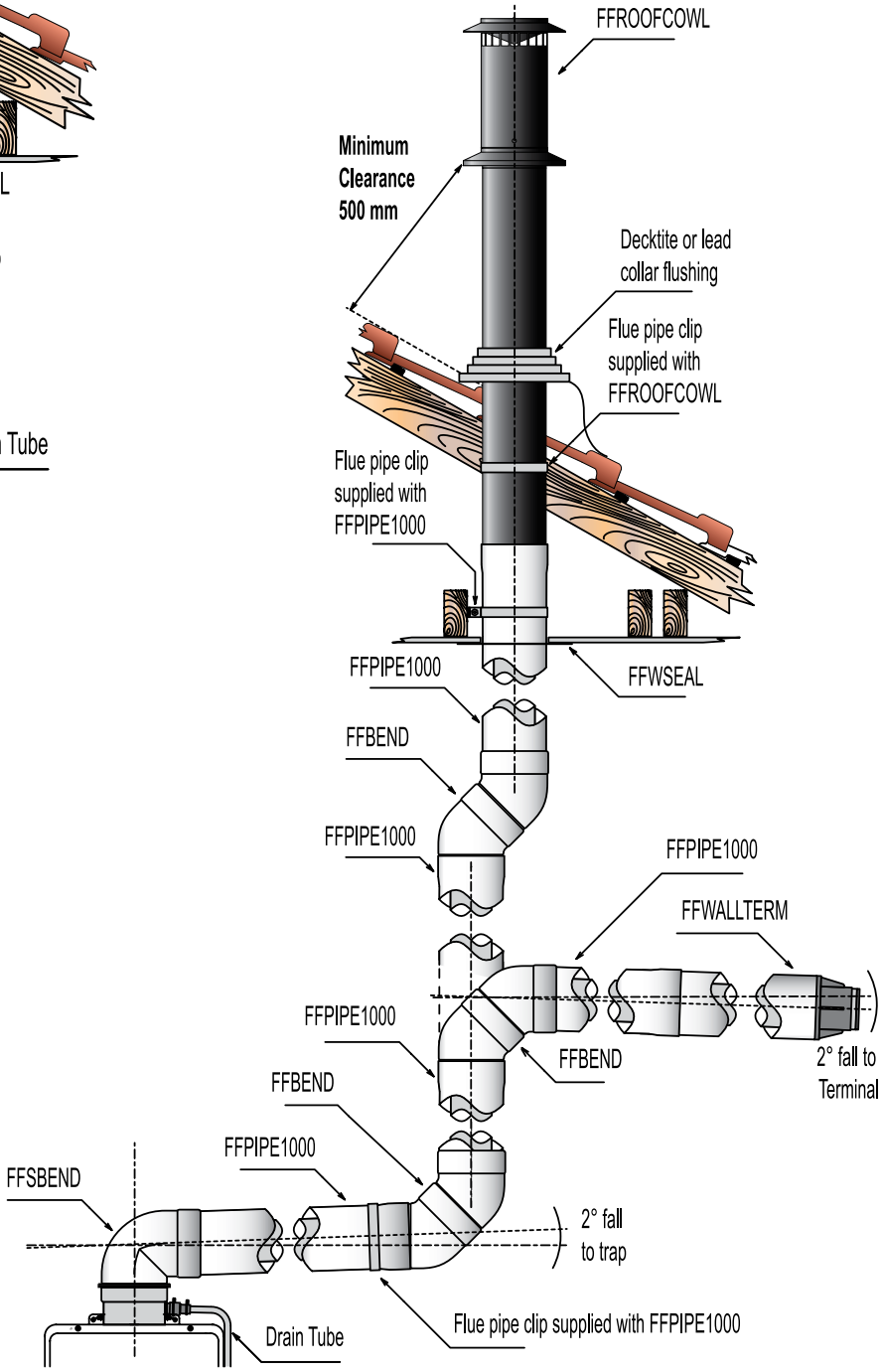
Vertical Direct Flueing

This is the most common system sold with flueing directly above the unit penetrating the roof line in a single storey home.

The following components will be required in these combination:

- Vertical Flue Terminal with roof cowl
- Additional Flue lengths (if required)
- Ceiling/Wall Ring (Cover plate)

Note: For vertical installations over 1.5m a condensate drain tube is also required.



Combination Flueing (Vertical and Horizontal)

(Multiple bends with a vertical or horizontal flue termination)

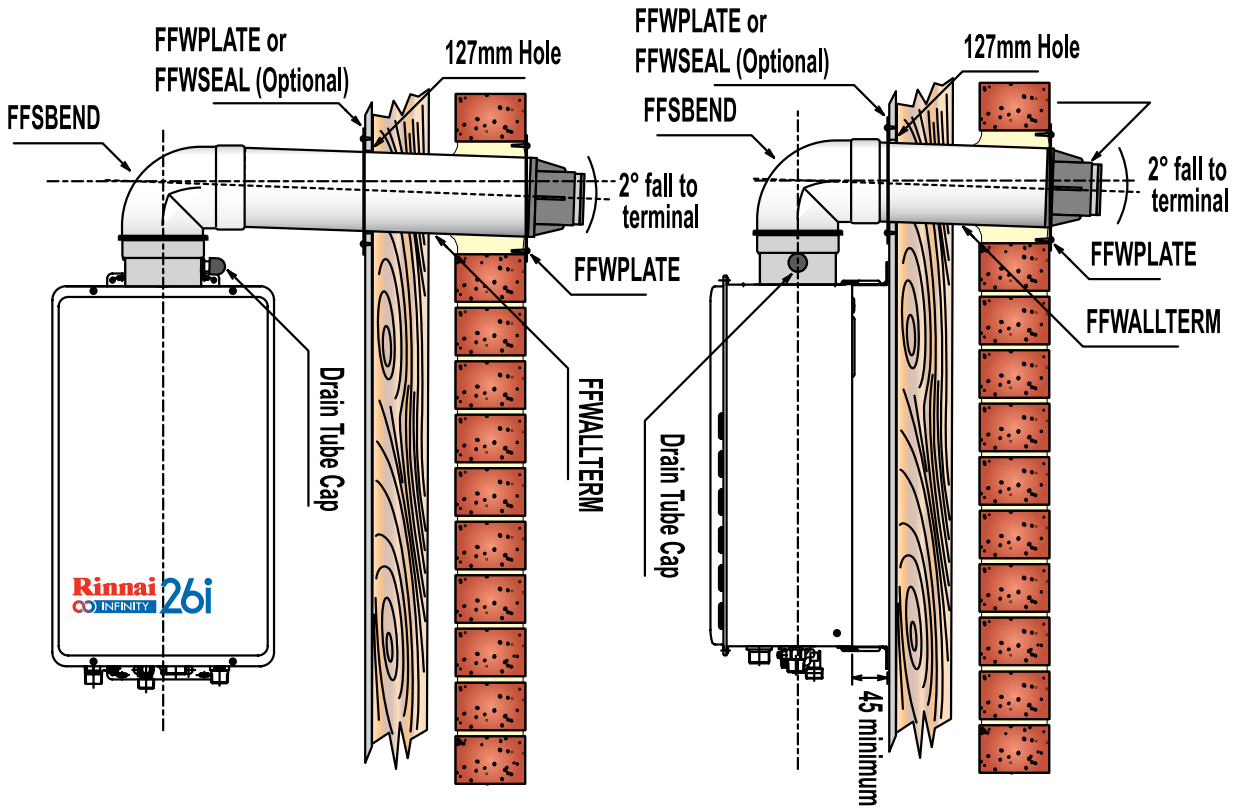
The flexibility of the various Rinnai flueing components enables our Continuous Flow internal models to be installed virtually anywhere, using a roof or wall terminal, extension pieces (mounted vertically and horizontally), bends, adaptors and condensate traps as required.

Horizontal Direct Flueing

The second most common system where the Continuous Flow model is flued directly out through a back or side wall.

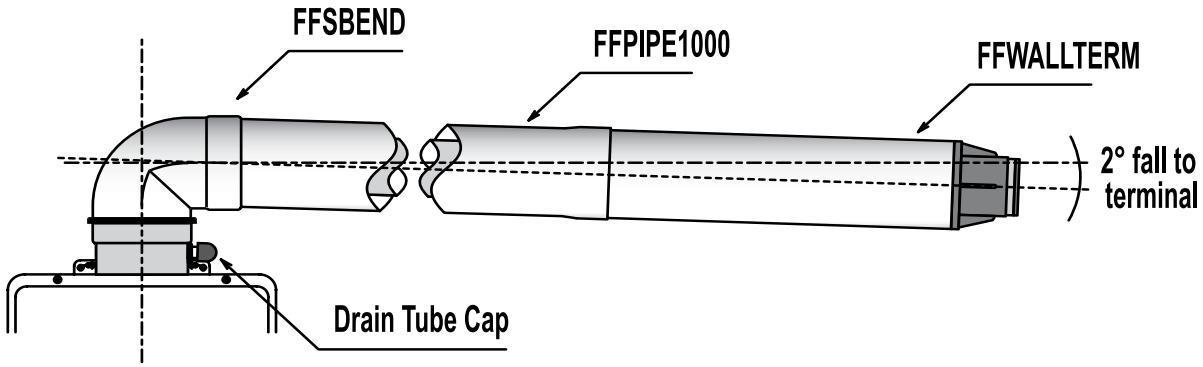
For this installation you will require the following components:

- 90° Bend & Starter
- Horizontal Flue Terminal (in desired lengths)
- External Wall plate
- Ceiling/Wall Ring (Cover plate



Horizontal Extension Flueing

This option is used when the water heater is mounted against an internal wall and flueing needs to extend horizontally to exit an external wall. Rinnai flueing components must be used together with extension pieces and bends as required.



Important Flueing Rules

1. Installations can consist of both horizontal and vertical runs to a maximum length of 9 metres
2. Installations can have a maximum of three 90° bends.
3. For any installation over 1.5 metres in height, a condensate tube must be installed

Flow Rate Characteristics

In response to market trends and as part of our continuous improvement processes, Rinnai have developed new technologies that allow our Continuous Flow models to operate over a wider range of conditions. Collectively known as "Enhanced Combustion Technology" (ECT), these new technologies result in even lower minimum gas and water flow rates, a tangible benefit to our domestic Continuous Flow customers in the trend towards saving water and energy.

Our core Rinnai INFINITY Continuous Flow products have the lowest minimum gas rates on the market. This means that at the lowest possible burner settings the following two enhanced features are realised:

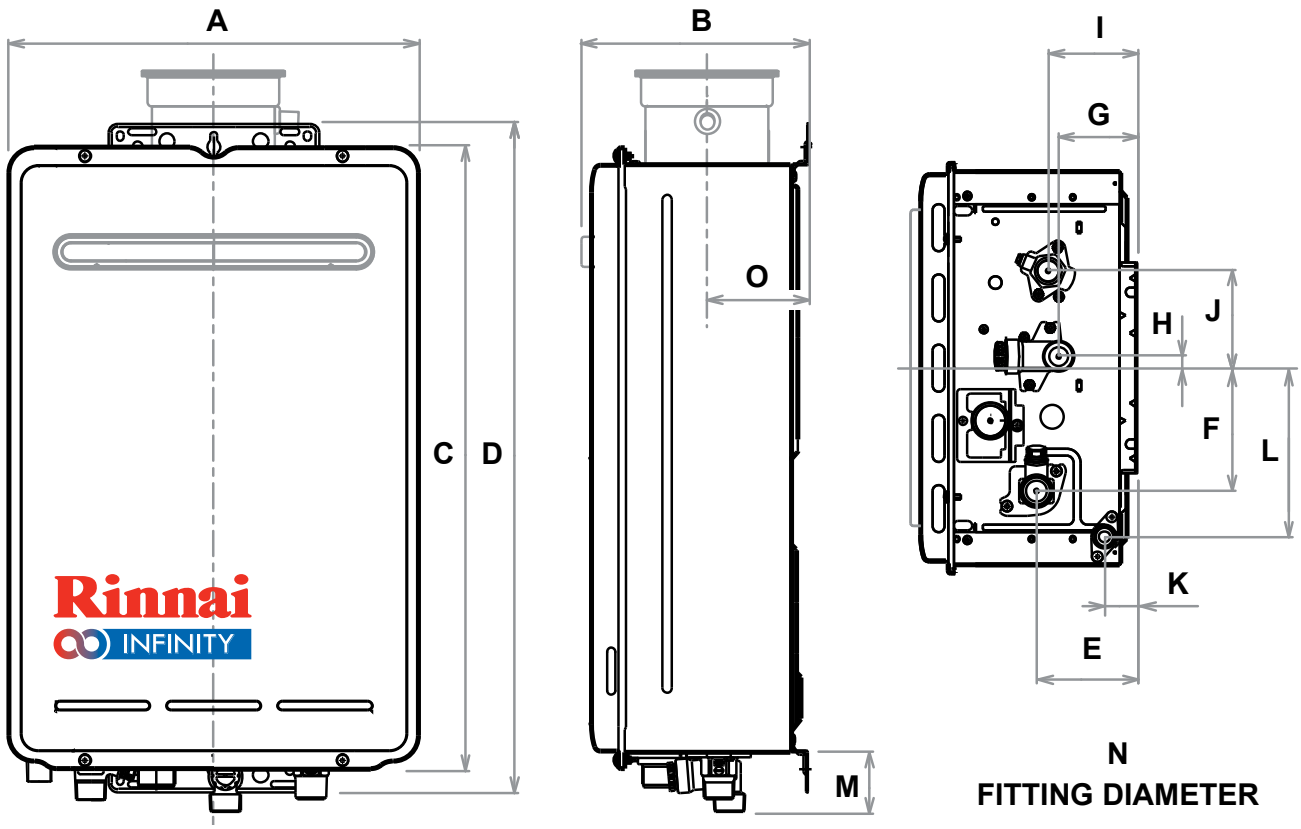
a) They operate at lower flow rates which makes them more compatible with 3 star (7.5-9.0 l/min) low flow water saving fixtures

b) They can operate at far higher ambient incoming water temperatures. This is particularly of benefit to the northern States of Australia and some inland areas where the water temperature from the ground can be as high as 30°C

Many Rinnai Continuous Flow models have variable flow rates that can exceed the commonly known flow rate. i.e. a Rinnai INFINITY 20 can actually give a maximum flow rate of 24 litres per minutes with a temperature rise of only 20°C. Ambient water temperatures vary immensely throughout Australia and often higher flow rates can be achieved with our models. This commonly applies when in use with Water Controllers set at showering temperatures between 37 and 42°C.

HANDY HINT

Cold Water (Ambient Temperature) + Temperature Rise = Outlet Temperature



Continuous Flow Specifications

Model			INF16	B16	S20	INF20	B20	B24	S26	INF26	INF26 SS	INF26 Plus	HD200e	INF26i S26i	HD200i	ENVIRO 26	ENVIRO 32	INF32 S32	HD250e
Factory Pre-Set Temps	°C		50 60	50 60	70	50 60	50 60	50 60	70	50 60	50	60	50 75	50 60*	50 75	60	60	50 60*	50 75
Colour (W=White, D=Dune M=Metallic, T=Titanium)			W	D	D	W	D	D	D	W	W	M	T	W	T	M	M	W	T
Min Water Pressure (kPa) Max 1000 (kPa)			120	120	120	160	160	140	160	200	200	190	190	140	140	250	250	190	190
Gas Rate	NG	Min	10.9	10.9	10.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8	15.7	16	16	10	10	21	21
		Max	125	125	125	160	160	188	188	199	199	199	199	195	195	172	211	250	250
	LPG	Min	11.3	11.3	11.3	14.7	14.7	14.7	14.7	14.7	14.7	14.7	15.7	16	16	10.9	10.9	21	21
		Max	125	125	125	160	160	188	188	199	199	199	199	195	195	172	211	250	250
Flow Rate (L/Min)	25°C Rise		16	16	16	20	20	24	24	26	26	26	26	26	26	26	32	32	32
	20°C Rise		20	20	20	24	24	26	26	26	26	30	32	32	32	35	37	37	37
Star Rating			6.2	6.2	N/A	5.9	5.9	5.8	N/A	5.8	5.8	5.8	5.9	6.1	6.1	7.0	6.8	5.6	5.6
Width		A	350	350	350	350	350	350	350	350	470	355	350	350	350	470	470	470	470
Depth		B	194	194	194	194	194	194	194	194	239	202	251	234 ~274		283	283	244	244
Height		C	530	530	530	530	530	530	530	530	600	503	600	600	600	670	670	600	600
Height Inc Brackets		D	571	571	571	571	571	571	571	571	644	571	636	641	641	722	722	644	644
Hot Water Outlet From Wall		E	87	87	87	87	87	87	87	87	83	87	96	91~ 131		115	115	115	115
Hot Water Outlet From Centre		F	105	105	105	105	105	105	105	105	47	105	110	110	110	100	100	61	61
Cold Water inlet From Wall		G	68	68	68	68	68	68	68	68	119	68	75	70 ~ 110		75	80	99	99
Cold Water inlet From Centre		H	10	10	10	10	10	10	10	10	49	10	27	27	27	13	28	52	52
Gas Connection From Wall		I	77	77	77	77	77	77	77	77	79	77	104	99 ~ 139		104	104	61	61
Gas Connection Line From Centre		J	83	83	83	83	83	83	83	83	142	83	89	89	89	103	103	110	110
Condensate/Return Line From Wall		K									108					138	138		
Condensate/Return Line From Centre		L									166					195	195		
Gas Connection Length From Base		M	40	40	40	40	40	40	40	40	40	40	41	41	41	40	40	41	41
Cold Connection Length From Base			50	50	50	50	50	50	50	50	50	50	51	51	51	50	50	51	51
Hot Connection Length From Base			39	39	39	39	39	39	42	42	42	42	42	42	42	41	41	42	42
Gas Ø		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Cold Ø			15	15	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Hot Ø			15	15	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Condensate/Return Ø											20					15	15		
Flue Spigot Centre from Wall		O												95-135					

* S26i and S32 preset to 70°C for Solar boosting

Continuous Flow Accessories

Rinnai offer a comprehensive range of accessories that assist with the installation of Continuous Flow models.

Recess Boxes

When installing a Rinnai Continuous Flow unit in a new home or renovation, you should consider using a recess box. These boxes allow you to virtually hide the hot water system into the cavity enabling a smooth and neat finish to the job. All are available in full and semi-recessed options.

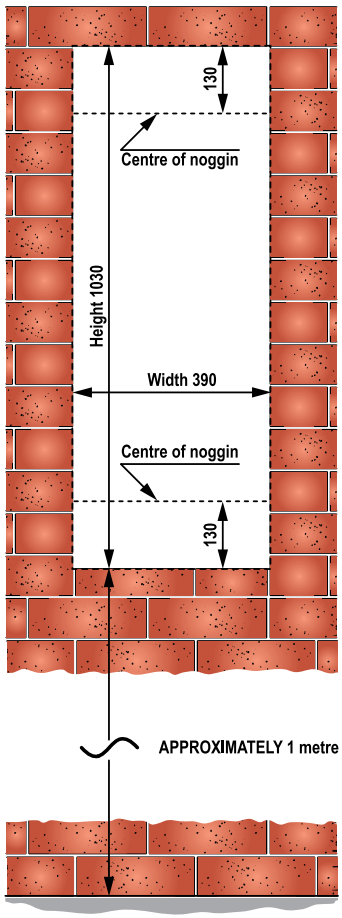
There are 3 types of recess boxes:

1. Smartbox® – suits all external Continuous Flow units except the larger INF32, Envirosmart & Commercial models
2. RBOX02 – suits INF32, HD200e & HD250e
3. RBOX05 - suits Enviro 26 & 32

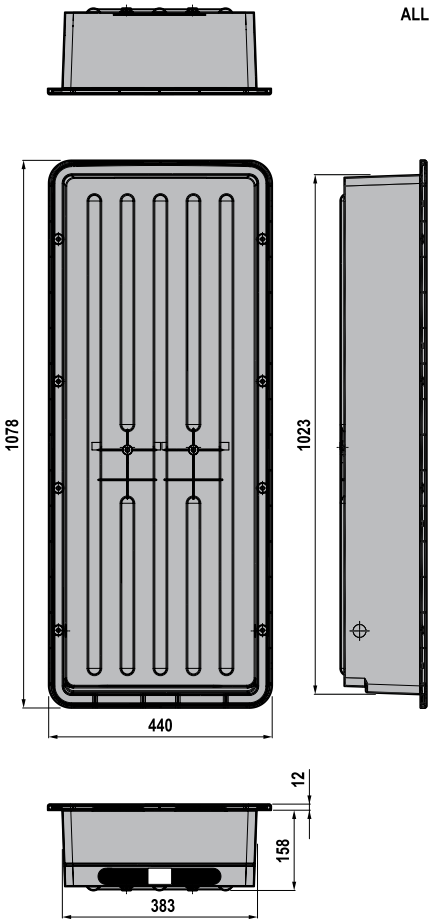
Smartbox®

- Ideal for new homes or major renovations
- Save precious space by utilising the existing wall cavity
- Made from durable ABS plastic
- Suits any application:
- Brick: compatible for use with brick ties
- Rendered: complete with off-set spacers
- Weatherboard: used with semi-recess frame
- Full or semi recess options available
- Supplied standard in neutral DUNE colour – UV stabilised
- Fully paintable to blend with any colour scheme
- Not suitable for the INFINITY 32, Commercial units or Enviro models

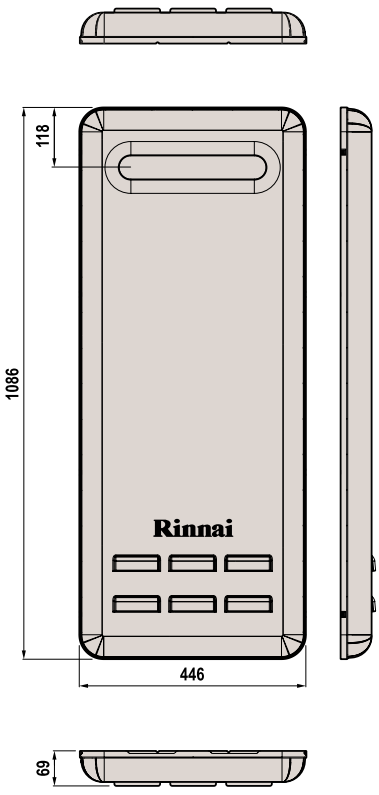
ALL MEASUREMENTS ARE IN MM UNLESS OTHERWISE STATED



OPENING



Smartbox INSERT (SBOX1)



Smartbox COVER (SBOXC)

RBOX02 & RBOX05 (Galvanised Recess Boxes)

The RBOX02 recess Box is for use with the larger INFINITY 32, HD200e & HD250e Continuous Flow water heaters and is suitable for brick constructions only. The RBOX05 is suitable for the INFINITY 26 Enviro and the INFINITY 32 Enviro.

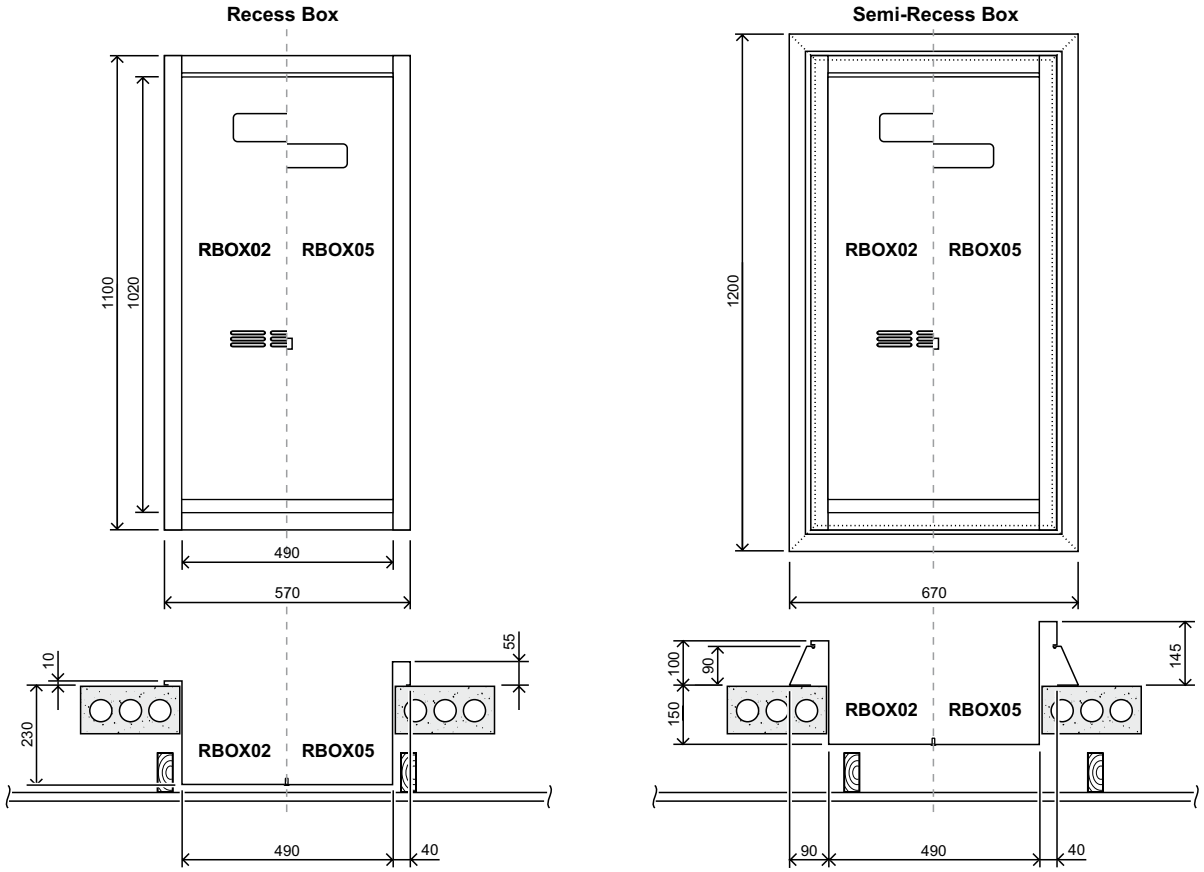
Recess Boxes are usually installed as follows;

New Homes or Extensions

- As the brickwork is being laid
- Usually installed before the plumbing rough-in
- Secured by fold-out brick ties incorporated in the box

Existing installations

- By cutting an opening in the brickwork
- Strengthening with a lintel as necessary
- Secured by drilling holes in the sides and fix in position with suitable flush headed masonry anchors



Model	Suits	Material	Opening Dimensions (mm)			Wall Protrusion (mm)	Recess	Code
			Width	Height	Depth			
Smartbox	INFINITY 16, 20 & 26, 26Plus B16, B20 & B24 Solar S20 & S26	ABS Plastic	385-395	1025-1050	160	69	Full	SBOX
					95	125	Semi	SBOXF*
RBOX02	INFINITY 32 INFINITY 26 Smartstart Commercial HD200e Commercial HD250e	Galv. Steel	495-530	1020-1050	230	10	Full	RBOX02
					140	100	Semi	RBOX02F*
RBOX05	INFINITY Enviro 26 & 32	Galv. Steel	495-530	1020-1050	230	55	Full	RBOX05
					140	145	Semi	RBOX02F*

* Ordered in addition to the full Recess Box

Rinnai INFINITY 26 Smartstart®

Introducing Australia's first dedicated 26 litre 'water saving' hot water system. Utilising Rinnai patented technology, the Smartstart® was developed specifically to reduce water wastage whenever a hot tap is turned on.

- Allows user to pre-heat the water in the pipes before the tap is turned on
- Simply activated by the 'preheat' button on any Rinnai Water Controller
- Takes a minute or two to warm up depending on the size of the installation
- Saves literally tens of thousands of litres of water over the life of the hot water system

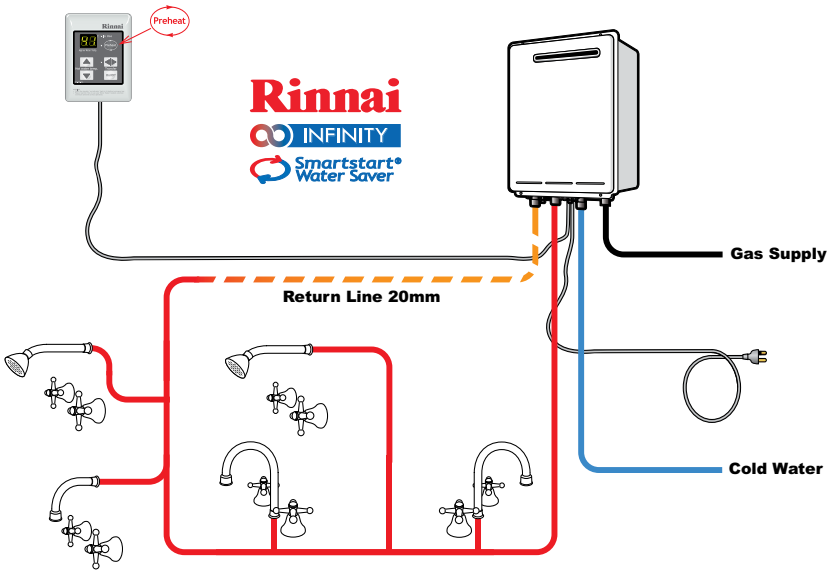
Plumbing is designed as a 'ring-main' or flow and return loop around the house. In existing homes, a return line can be plumbed in from the furthest point back to the Rinnai Continuous Flow unit.

Operation overview

The Smartstart® system heats the water in the pipework water connected between the water heater and the hot water outlets before any outlets are opened using the 'flow and return' pipework principle. This results in water savings and reduced waiting time for heated water delivery from the outlet when opened.

Traditional 'flow and return' systems usually keep the water in the pipework heated continuously. The Smartstart® system however, automatically shuts off after one pass of the ring main. This results in significant energy savings because water is not heated unnecessarily whilst retaining the benefits of traditional flow and return systems.

The Rinnai INFINITY 26 Smartstart® is a fully integrated unit with the pump and sensors built into the box. Also available is the separate Smartstart® box which is compatible with all Rinnai continuous flow models including Solar Boosters*.



Maximum length of loop is 60 metres. Return line must be 20mm.

Please note: The diagram above shows a Typical Smartstart® Installation. All Smartstart® installations require at least one Rinnai Water Controller to be installed to activate the system. All Rinnai Water Controllers are compatible. For further information on Water Controllers please refer to page 9 of this brochure.

HANDY HINT

It is always advisable to plumb the loop towards the kitchen tap first if at all possible. This reduces waiting time at this high use outlet.

* A separate activation switch is required as Solar units are not compatible with Water Controllers.

Pipe Covers

Pipe Covers can be easily attached to most Rinnai Continuous Flow Hot Water units to:

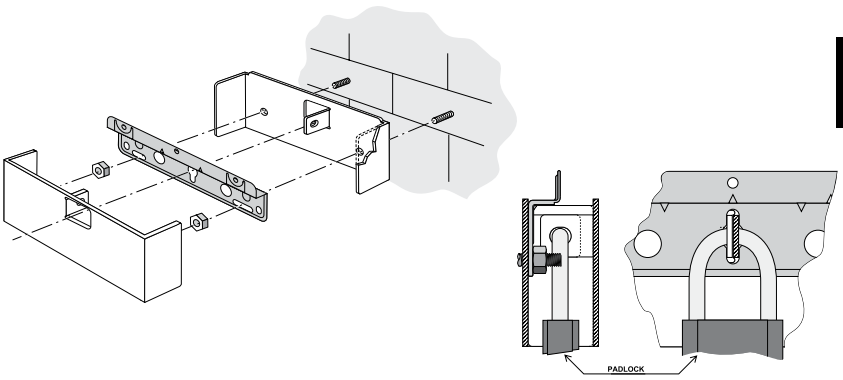
- Cover the pipes, valves and even the external power point
- Provides a clean and smooth finish to the installation
- Two pipe covers can be joined together to hide longer pipe work under the unit as required

Suits	Width	Height	Depth	Colour	Code
INFINITY 26Plus	350mm	450mm	180mm	Star Metallic	PCD01
INFINITY 16, 20 & 26	350mm	400mm	160mm	Euro White	PC11
INFINITY 26 Smartsart & 32	470mm	400mm	210mm	Euro White	PCV02
B16, B20 & B24	350mm	450mm	210mm	Dune	PC11D
INFINITY Enviro 26 & 32	466mm	450mm	274mm	Star Metallic	PCD07

Security Bracket

Secure your investment with Rinnai's quick and easy to install security bracket.

- Assists in the protection of any Rinnai Continuous Flow model from theft if it is located in an exposed area
- Particularly applicable to new homes during the building process
- The bracket fits over the unit wall mounting bracket covering the holes where the unit is secured to the wall
- A standard padlock and key is required (purchased separately)
- Padlock shank diameter not to exceed 6mm with an overall length greater than 50mm



HANDY HINT

For extra security fully enclosed security cage also available

Sideways Flue Diverter

Where confined or narrow spaces might normally exclude a Rinnai Continuous Flow water heater from being installed, our sideways flue diverter is available. Manufactured from durable stainless steel, the sideways flue diverter forces the flue gases sideways. This can help overcome many of the restrictions when the hot water system is installed on balconies with only one opening.

Note: Suits B24, S26, INFINITY26, INFINITY26Plus, INFINITY 26 Smartstart® and HD200e models only.

Conditions & Clearances
Full installation instructions are contained when purchasing the product however, there are a number of important conditions and clearances for the location of the Rinnai Continuous Flow unit installed with a Flue Diverter.

Please contact the Rinnai HelpLine on 1300 555 545 for further information

Rinnai Solar Hot Water Systems

Range at a glance

Close Coupled Systems

Where the Storage Cylinder and the Solar Collectors (panels) are coupled together and the installation is on the roof. A choice of an electric boost element in the cylinder or a gas booster installed usually on the side of the house completes the system.

Benefits:

- Technically very efficient, economical to install and low maintenance
- Shorter pipe length between cylinder & collectors, minimising heat loss
- No electricity required to operate pumps to recirculate the water through the collectors
- Space saving in that it eliminates the need for a storage tank at ground level – ideal for courtyard homes or small blocks
- Supplied standard in Titanium colour
- Wide range of Colorbond® colours available. Ask your Rinnai Solar consultant for selection

Split Systems

Where the Storage Cylinder and the Solar Collectors are literally split and installed separately. A choice of an electric boost element in the cylinder or an in-line gas booster which can be installed on the side of the cylinder, or remote mounted on a wall.

Benefits:

- Easy installation on roofs
- Streamlined appearance - minimal impact on the aesthetics of your roof line with only the Collectors visible
- Split Systems do not require reinforcement of the roof structure, as the weight associated with water storage is at ground level
- Split System cylinder can be installed internally or externally
- Collectors and the tank do not need to be installed at the same time – ideal during construction of new homes and major renovations

What is the Booster?

The booster is simply a backstop to make sure you always have hot water available, such as during cloudy or rainy weather or during the winter months. It also operates should you exhaust the stored water on those occasions when an extra family stays for a weekend!

Electric Boost

- Bottom element cylinders connected to off peak receive the most solar energy when hot water is used in the morning. Solar energy reheats the water and is topped up overnight by the electric booster if required
- Continuous tariff suits bottom element tanks where water is used all day and both solar and electric energy reheat the water
- Mid element tanks are offered in Prestige 250 and 315 split systems and operate so that there is always some of the tank available for solar heating

Gas Boost

- The in-line gas booster detects the temperature of the solar pre-heated water from the cylinder. Gas boosting automatically operates, only when necessary to maintain full delivery temperature
- Regardless of whether your hot water is used in the mornings or evenings, gas boosting is the most efficient, convenient and cost effective boost option

Gas boosters operate only on demand and have the additional benefit of never running out of hot water

HANDY HINT

NEW 26i Internal Model also available

The Rinnai Solar Hot Water Systems are separated into 2 ranges:

Rinnai Prestige

- Highest quality Stainless Steel cylinders
- Supplied with high efficiency Excelsior Solar Collectors
- Available in both Close Coupled and Split Systems
- Available in both Gas or Electric Boost

Storage Cylinders

- Long lasting commercial grade Stainless Steel construction
- Specifically designed for solar ensuring maximum heat retention
- Do not require a sacrificial anode saving on maintenance costs

Excelsior Solar Collectors

- Highly efficient all copper Collector with a selective surface maximising energy from the sun
- Full aluminium casing for corrosion resistance
- Available in both standard and frost tolerant versions (see below)

Rinnai Sunmaster

- High quality Vitreous Enamel lined steel cylinders
- Supplied with high efficiency Enduro or Equinox (FTC) Collectors
- Available as Split Systems only in both gas or electric boost

Modular System

- Components supplied separately allowing you to select your own system
- Collectors and cylinder can be installed at separate times which is ideal for working around construction timetable

Storage Cylinders

- Cost effective glass lined (Vitreous Enamel) tanks
- Tall slimline design with a smaller footprint for minimal aesthetic impact

Enduro & Enduro FTC Solar Collectors

- Highly efficient aluminium fin solar absorber to maximise efficiency
- 8 Riser tubes per collector for effective transfer of solar energy to the water
- Full aluminium casing for corrosion resistance
- Enduro FTC Collector has added feature of Frost Protection (see below)

Frost Protection

If you live in a frost prone area, it is important that you specify suitable solar collectors. In VIC, NSW and ACT for example, it is mandatory to install FTCs/E-Frost in certain areas as determined by listed post codes. For further information, please talk to your solar specialist or refer to the full warranty conditions on-line at **www.rinnai.com.au**

Standard Collectors
Excelsior and Enduro are not warranted for any damage due to freezing or frost

FTC Collectors
Excelsior FTC and Enduro FTC are warranted to -5ºC except in VIC, NSW and ACT where warranty is determined by postcode.

E-Frost Collectors
E-Frost is warranted to -12ºC except in VIC, NSW and ACT where warranty is determined by postcode.

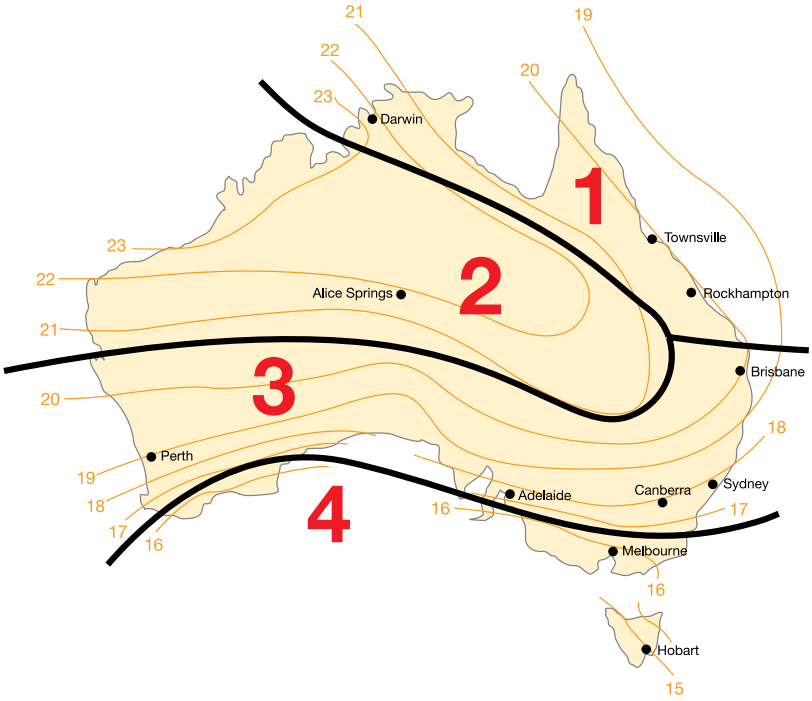
NOTE: In Apline areas such as Bogong, Falls Creek Mount Buffalo, Mount Buller, Mount Hotham, Mt Baw Baw, Lake Mountain, Charlotte Pass, Mt Selwyn, Mt Kosciusko, Perisher Blue and Thredbo, there is no warranty for damage caused by frost, freezing or snow cover for any Rinnai Solar Collector.

Government Rebates

The Australian Greenhouse Office awards (Small - Scale Technology Certificates) STCs according to how much energy each Rinnai Solar system saves compared with a conventional electric water heater. The Federal Government legislation states that STCs are applicable when a solar system is installed in a new home or replaces an existing hot water system.

Solar Zones

The number of STCs awarded to a particular Rinnai Solar System varies according to the amount of energy saved relative to an electric water heater installed in the same location. This is influenced by the amount of local solar gain and the local operating conditions. Darwin, for example, has more solar gain than Hobart, hence a particular system installed in Darwin will be assigned a higher number of STCs than if it were installed in Hobart. For the purposes of STC assessment, Australia is divided into 4 solar zones as shown in the map.



HANDY HINT

To assist with calculating the rebates available, Rinnai has an on-line Rebate estimator with the latest rebates and values.

See www.rinnai.com.au

SOLAR REBATE ESTIMATOR

HANDY HINT

If you are unsure where the boundaries lie between zones, Please refer to the Australian Government website www.orer.gov.au and follow the Solar Water Heater link to find a post code listing.

How to claim the STCs rebate?

Ultimately the STCs awarded to any system are traded/sold on the open market at a price which fluctuates according to supply and demand. The simplest way is to fill out the STC rebate declaration form that is supplied with each system which transfers the STCs to Rinnai. In return we will pay you the market rate which is current at that time less a small admin fee. Alternatively, you can speculate on the market value and sell them at a later stage either to us or another authorised trader.

Additional Rebates/Incentives

From time to time both the Federal and State Governments as well as some local councils offer rebates (additional to STCs) as an incentive to install Solar Hot Water systems. These are often conditional and must always be checked before purchase.

Conditions for additional rebates sometimes include:

- Gas Boosted systems only
- Regional/Rural areas only
- Concession Card holders
- Minimum STCs contribution (eg minimum 20 STCs)
- Residency restrictions
- Domestic applications only

STCs and Rinnai Solar Systems

The following tables show the awarded STCs for a selection of the most popular systems that Rinnai sell. If your particular system is not shown, please contact Rinnai on 1300 555 545 or simply refer to the on-line Rebate Estimator which has the ability to custom build a system.

Rinnai Prestige					STCs Zones Excelsior & Excelsior FTC Collectors				STCs Zones E-Frost Collectors			
Description		Size	Booster	Collectors	1	2	3	4	1	2	3	4
Split System Gas	System B	250L	S20	2	36	41	36	31	27	30	28	34
	System C	250L	S26	2	36	41	36	31	27	30	38	24
	System D	315L	S26	2	36	40	35	31	26	29	27	24
	System E	315L	S26	3	41	44	43	37	37	41	37	32
Split System Electric	System F	250L	3.6kW	2	26	27	25	21	16	17	16	14[1]
	System G	315L	3.6kW	2	26	27	24	22[1]	24	25	22	19[1]
	System H	315L	3.6kW	3	28	29	28	25	27	28	26	23
Close Coupled Electric	System I	180L	3.6kW	1	19	20	19	17	Not available for use with Close Coupled Systems			
	System J	330L	2.4kW	2	40	43	39	34				
	System K	330L	3.6kW	2	40	43	39	34				
Close Coupled Gas	System L	180L	S20	1	24	28	24	21				
	System M	330L	S26	2	39	43	39	34				

Rinnai Sunmaster					STCs Zones Enduro & Enduro FTC Collectors				STCs Zones E-Frost Collectors			
Description		Size	Booster	Collectors	1	2	3	4	1	2	3	4
Split System Gas	System 1	175L	S20	1	23	27	23	21	14	16	15	13
	System 2	175L	S26	1	23	27	23	21	14	16	15	13
	System 3	215L	S20	2	38	42	38	33	33	38	32	28
	System 4	215L	S26	2	38	42	38	33	33	38	32	28
	System 5	270L	S26	2	37	41	37	32	28	30	28	25
Split System Electric	System 6	200L	3.6kW	2	18	19	18	16[1]	18	17	17	14[1]
	System 7	315L	3.6kW	2	28	30	26	22	17	17	16	12[1]
	System 8	315L	3.6kW	3	30	31	31	25	30	29	28	23

[1] Not suitable for Victorian 5 Star Homes (3 or more bedroom criteria)

How much can I get?

As can be seen from the above table, Rinnai Solar Systems are typically awarded between 12 to 44 STCs. Each STC has a $ value that fluctuates according to market demand, which needs to be checked at the time of purchase. If a STC was valued at (say) $37, your rebate for Rinnai systems would be anywhere between $444 and $1628.

In some States, additional rebates apply.

Correct Sizing

Correct Sizing is vital for optimum performance

Number of Occupants

The number of potential users (ie bedrooms) in any installation is extremely important as it directly affects the size of unit that is required. Nobody likes a cold shower so it is vital that any system is correctly sized for an application. Please talk to your Rinnai Hot Water Specialist about the best model to suit your needs.

Below we have outlined some of the considerations for various Rinnai Solar Systems:

Gas Boosted Solar

- Sizing parameter – Number of bedrooms in the home
- The storage cylinder capacity and the number of solar collectors determines the volume of available solar heated hot water
- The Gas Booster is always available as a backup, therefore hot water will never run out
- Undersized system could mean the system is relying on the gas booster more often – increasing running costs
- Insufficient Solar Collectors would also reduce the solar gain causing reliance on the gas booster

Electric Boosted Solar

- Sizing Parameter – Number of Bedrooms in the home
- The Storage Cylinder size determines the amount of hot water available regardless of whether solar generated or electric boosted
- Hot water can run out if not correctly sized
- Choice of electricity tariff affects availability of hot water:
  - Normal (peak) tariff continually heats
  - Off-peak will generally not heat until overnight
- The Prestige range offers mid element cylinders to balance the solar and electric boost used

Tips on selecting the best Rinnai System

To correctly select a Rinnai Solar System for a home, a number of lifestyle factors need to be considered.

1. **What Solar Zone is applicable for the installation?**

   This determines the amount of solar energy that will be available and can influence the number of collectors that should be installed.

2. **Is Gas available?**

   Natural Gas boosting is the cheapest to run and the most environmentally friendly form of boosting for a Solar System. Rinnai recommends that gas boosting should always be the first choice if available. Alternatively, both LPG & Electric boosting are also economical to run with correctly sized systems.

3. **Is there limited space available?**

   This can determine whether space is available at ground level for a Split System storage cylinder. If limited, then a Close Coupled roof mounted system may be the most appropriate.

4. **Is the area prone to frost or sub-zero temperatures?**

   If you live in a frost prone area, it is important that you specify suitable solar collectors. In VIC, NSW and ACT for example, it is mandatory to install FTCs/E-Frost in certain areas as determined by listed post codes. For further information, please talk to your solar specialist or refer to the full warranty conditions on-line at **www.rinnai.com.au**

Rinnai Solar System Sizing Tables

Vitreous Enamel Split Systems - Gas

Solar Zone(s)	Number of Bedrooms	System Performance	Tank Storage Capacity (Litres)	No of Solar Collectors	Booster Size	Rinnai Sunmaster System
1, 2 & 3	1 to 3	Good	175	1	S20	1
		Best			S26	2
	2 to 3	Good	175	1	S26	2
		Best	215	2	S20	3
	3 to 4	Good	215	2	S20	3
		Best			S26	4
	3+	Good	215	2	S26	4
		Best	270			5
4	1 to 3	Good	175	1	S26	2
		Best	215	2	S20	3
	2 to 3	Good	215	2	S20	3
		Best			S26	4
	3 to 4	Good	215	2	S26	4
		Best	270			5
	3+	Best	270	2	S26	5

Vitreous Enamel Split Systems - Electric

Solar Zone(s)	Number of Bedrooms	Tank Storage Capacity (Litres)	No of Solar Collectors	Booster Size	Rinnai Sunmaster System
1, 2 & 3	1 to 3	200	2	3.6	6
	3 to 4	315	2	3.6	7
	3+	315	3	3.6	8
4	1 to 2	200	2	3.6	6
	2 to 3	315	2	3.6	7
	3+	315	3	3.6	8

Stainless Steel Split Systems - Gas

Solar Zone(s)	Number of Bedrooms	System Performance	Tank Storage Capacity (Litres)	No of Solar Collectors	Booster Size	Rinnai Prestige System
1, 2 & 3	1 to 3	Best	250	2	S20	B
	2 to 3	Good	250	2	S20	B
		Best			S26	C
	3 to 4	Good	250	2	S26	C
		Best	315			D
	3+	Good	315	2	S26	D
		Best		3		E
4	1 to 3	Good	250	2	S20	B
		Best			S26	C
	2 to 3	Good	250	2	S26	C
		Best	315			D
	3+	Good	315	2	S26	D
		Best		3		E

Stainless Steel Split Systems - Electric					
Solar Zone(s)	Number of Bedrooms	Tank Storage Capacity (Litres)	No of Solar Collectors	Booster Size	Rinnai Prestige System
1, 2 & 3	1 to 3	250	2	3.6kW	F
	3 to 4	315	2	3.6kW	G
	3+	315	3	3.6kW	H
4	1 to 2	250	2	3.6kW	F
	2 to 3	315	2	3.6kW	G
	3+	315	3	3.6kW	H

Stainless Steel Close Coupled - Gas					
Solar Zone(s)	Number of Bedrooms	Tank Storage Capacity (Litres)	No of Solar Collectors	Booster Size	Rinnai Prestige System
1, 2 & 3	1 to 3	180	1	S20	L
	3+	330	2	S26	M
4	1 to 2	180	1	S20	L
	2 to 4	330	2	S26	M

Stainless Steel Close Coupled - Electric					
Solar Zone(s)	Number of Bedrooms	Tank Storage Capacity (Litres)	No of Solar Collectors	Booster Size	Rinnai Prestige System
1, 2 & 3	1 to 3	180	1	3.6kW	I
	3 to 4	330	2	2.4kW	J
	3+	330	2	3.6kW	K
4	1 to 2	180	1	3.6kW	I
	2 to 3	330	2	2.4kW	J
	3+	330	2	3.6kW	K

Ordering Sunmaster Solar

Rinnai Sunmaster Solar systems are ordered as separate components as shown in the below table. This is particularly suitable for installation in new homes and major renovations as it allows for supply of the various components at different stages of completion. Alternatively, all components can be ordered for a single delivery for existing homes & replacements.

Gas	System 1		System 2		System 3		System 4		System 5	
	Gas 175L, S20 1 Collector		Gas 175L, S26 1 Collectors		Gas 215L, S20 2 Collectors		Gas 215L, S26 2 Collectors		Gas 270L, S26 2 Collectors	
Components	Order Code	Qty	Order Code	Qty	Order Code	Qty	Order Code	Qty	Order Code	Qty
Storage Cylinder	SG175	1	SG175	1	SG215	1	SG215	1	SG270	1
Solar Collectors (Std)	R18801740*	1	R18801740*	1	R18801740*	2	R18801740*	2	R18801740*	2
Collector Installation Kit	R33202739	1	R33202739	1	R33202740	1	R33202740	1	R33202740	1
Pump Kit	SGPKIT2	1	SGPKIT2	1	SGPKIT2	1	SGPKIT2	1	SGPKIT3	1
Gas Booster	S20#	1	S26#	1	S20#	1	S26#	1	S26#	1

Electric	System 6		System 7		System 8	
	Electric 200L, 2 Collectors, 3.6kW		Electric 315L, 2 Collector, 3.6kW		Electric 315L, 3 Collector, 3.6kW	
Components	Order Code	Qty	Order Code	Qty	Order Code	Qty
Storage Cylinder	SE200S36	1	SE315S36	1	SE315S36	1
Solar Collectors (Std)	R18801740*	2	R18801740*	2	R18801740*	3
Collector Installation Kit	R33202740	1	R33202740	1	R33202741	1
Pump Kit	USKIT1	1	USKIT1	1	USKIT1	1

* Collector shown is standard Enduro (Non Frost Tolerant).
Please substitute the following codes for Frost Tolerant collectors:
Enduro FTC Collector - R18801741
E-Frost Collector - 18801743

Nominate N (Natural Gas) or L (LPG) after the code to specify gas type

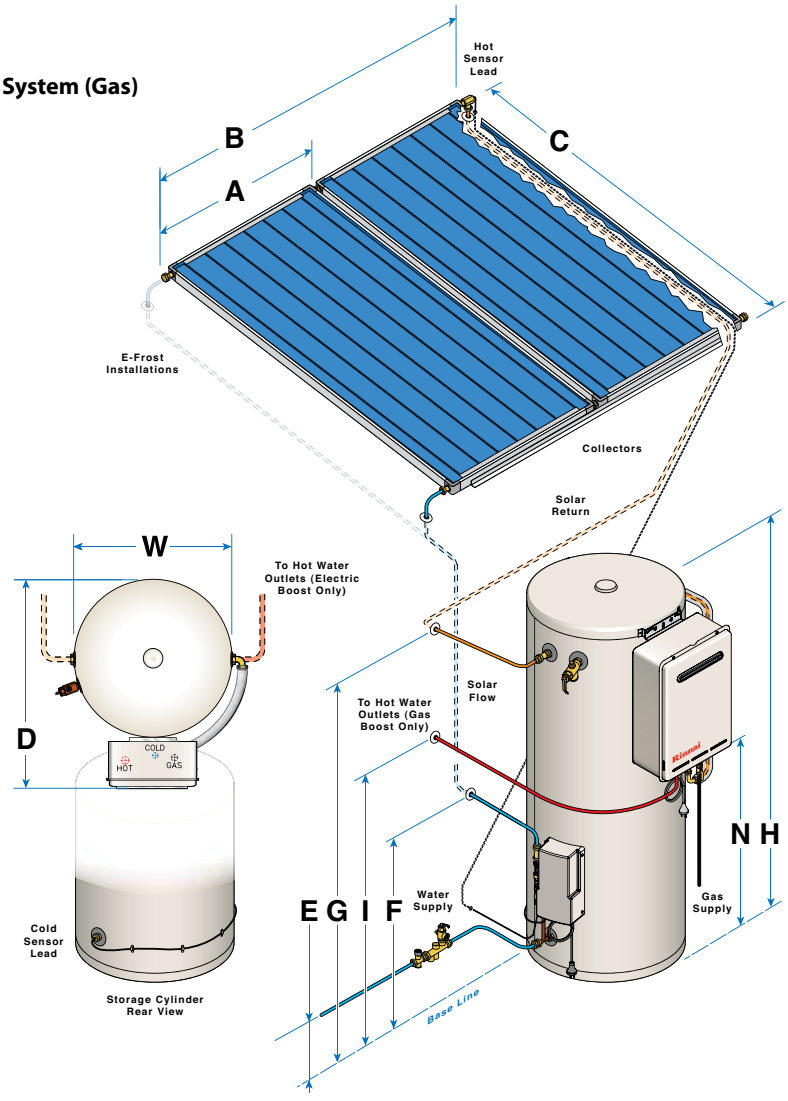
Solar Rough in Diagram

Sunmaster Split Systems

Sunmaster Split Systems- Enamel Tanks		175 Lt Gas Boost 160 Lt Electric Boost	215 Lt Gas Boost 200 Lt Electric Boost	270Lt Gas Boost	315Lt Electric Boost
A	Collector Width	1025	1025	1025	1025
B	Width of two Collectors	2130	2130	2130	2130
C	Length of Solar Collectors	1940	1940	1940	1940
H	Height of Cylinder	1530	1825	1265	1510
D	Depth of Cylinder with Booster	710*	710*	880	N/A
W	Cylinder Diameter	515	515	685	685
E	Left Hand Side Cold Water Inlet	235	235	260	260
F	Cold Water Flow to Collector	750	750	775	775
G/H	Hot Water Return from Collector	1310	1605	985	1200
I	Hot Out (Gas Boost)	885	1180	620	N/A
K	Hot Out (Electric Boost)	1310	1605	N/A	1200
L	Height of Gas Boost	530*	530*	530	N/A
M	Width of Gas Boost	350*	350*	350	N/A
N	Right Hand Side Gas Supply	960	1255	695	N/A

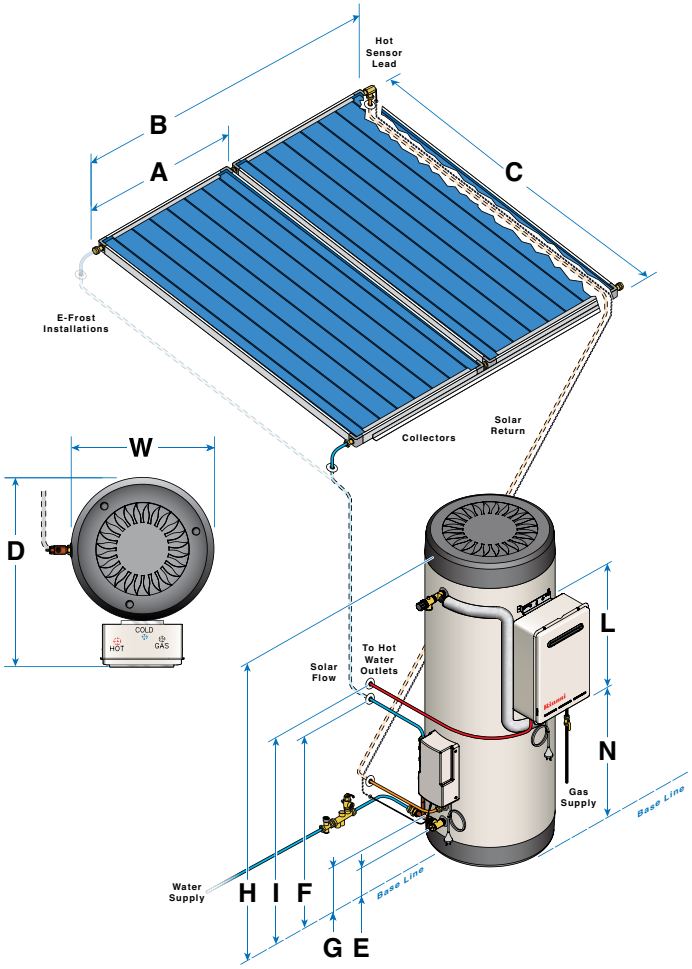
* Gas boosted systems only

Sunmaster Split System (Gas)

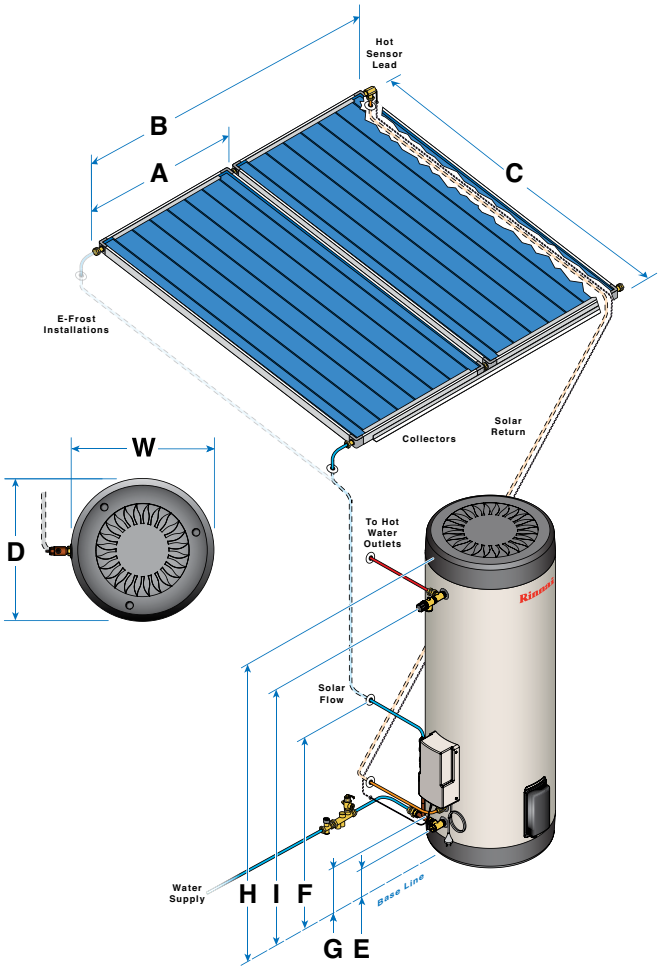


Prestige Split Systems

	Split Systems Stainless Steel	Electric Boost			Gas Boost	
		160 Lt	250 Lt	315 Lt	250 Lt	315 Lt
A	Collector Width		1025		1025	
B	Width of two Collectors		2174		2174	
C	Length of Solar Collector		1964		1964	
H	Height of Cylinder	1205	1700	2090	1700	2090
D	Depth of Cylinder with Booster		N/A		795	
W	Cylinder Diameter		600		600	
E	Cold Water inlet		210		210	
F	Cold Water Flow to Collector		725		725	
G	Hot Water Return from Collector		300		300	
I	Hot Water Flow To House (From Gas Boost)		N/A		845	1235
K	Hot out	995	1490	1880	N/A	
L	Height of Gas Boost				530	
M	Width of Gas Boost		N/A		350	
N	Right Hand Side Gas Supply				870	1260



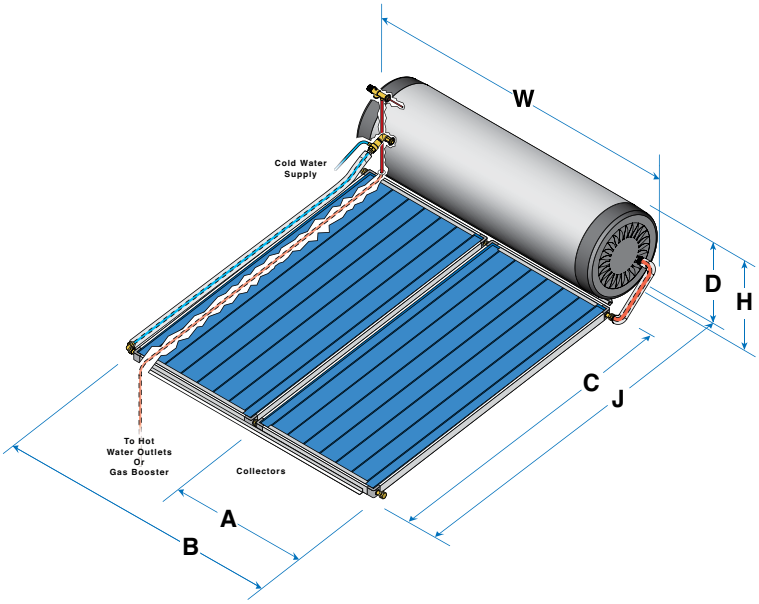
Prestige Split System (Gas)



Prestige Split System (Electric)

Prestige Close Coupled Systems

	Close Coupled Stainless Steel	Gas & Electric	
		180 Lt	330 Lt
A	Collector Width	1047	
B	Width of two Collectors	2174	
C	Length of Solar Collector	1964	
J	Overall Length of System	2560	
H	Height of Cylinder (installed)	610	
D	Diameter	600	
W	Cylinder Length / Width	1200	2090



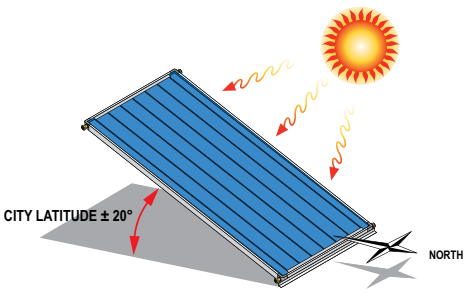
Rinnai

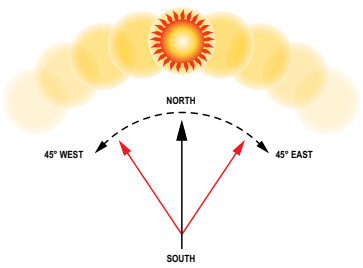
Solar Collector Dimensions

Characteristics		Enduro	Enduro FTC	Excelsior	Excelsior Frost Tolerant	E-Frost
Code		SP200A	SP200A FTC	EXT	EXT FTC	E-Frost
Type		Flat Plate				Flat Plate/Heat Pipe
Construction	Waterways	Copper				
	Absorber	Aluminium	Aluminium	Copper	Copper	Aluminium
	Selective Surfaces	High Performance				
Maximum Operating Pressure		850 kPa				
Casing Material		Aluminium				
Weight empty		33kg	36kg	35kg	38kg	35kg
Weight full		34.3kg	37.3kg	36.5kg	39.5kg	36kg
Volume of Water		1.3 litres	1.3 litres	1.5 litres	1.5 litres	1 litres
Potential Solar Output at PTR relief conditions		1.25kW	1.25kW	1.25kW	1.25kW	1.25kW
Approx Roof Space Required L X W (mm)	1 Collector	1940 x 1025	1940 x 1025	1964 x 1047	1964 x 1047	1940 x 1025
	2 Collector	1940 x 2130	1940 x 2130	1964 x 2174	1964 x 2174	1940 x 2130
	3 Collector	1940 x 3235	1940 x 3235	1964 x 3301	1964 x 3301	1940 x 3235

Solar Panel Installation Direction

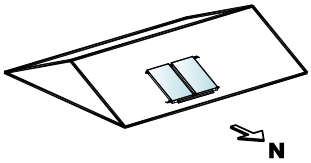
The solar collectors should face as close as possible to North.





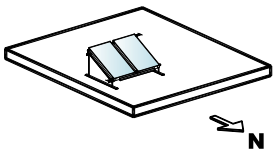
Latitudes of Australian Cities	
City	Latitude
Adelaide	35°S
Alice Springs	24°S
Darwin	12°S
Brisbane	27°S
Canberra	35°S
Hobart	42°S
Melbourne	38°S
Perth	32°S
Sydney	34°S

Solar Collector Installation



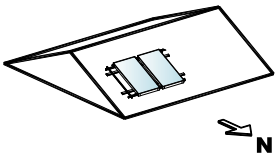
Standard "Pitch Roof" installation – Split System Collectors

The below sketches show the standard frames supplied for a normal angled roof installation. These components are supplied with the installation kits.



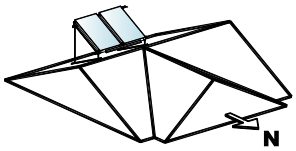
Flat Roof Installations

The below sketch shows the frame required for all flat roof installations. It is ordered in addition to the appropriate installation kit and vary depending on the type of system installed.



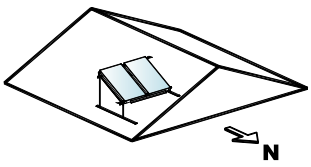
Cyclone Frame Installations

For Cyclone prone areas it is often mandatory but in any event, it is highly recommended to use a cyclone frame. These have a different configuration to the standard frames and are made in much stronger materials.



Reverse & Side Pitch Installations

In addition to the above frames, you can also order Reverse & Side Pitch adaptor kits that suit both Close Coupled & Split Systems. These are ordered in addition to the applicable Flat Roof Frame.



HOTFLO Hot Water Storage Systems

Range at a glance

Mains Pressure Systems

They are simply a storage cylinder that holds water at a pre-set temperature with the use of thermostatic control. As hot water is used, it is replaced with cold water which is then heated. Hot Water delivery is at mains pressure or the maximum allowable pressure should the home have a pressure limiting device installed.

Rinnai HOTFLO Range

Our quality HOTFLO range of electric and gas tanks are available in various storage capacities ranging from a compact 25 Litre right up to the large 400 Litre model. We also have a complete range of element sizes minimising changeover costs.

- Economical Vitreous Enamel lined steel tank with a 7 year warranty (5 year warranty for 25 and 50 litre tanks)
- Inbuilt anode protection - extends the life of the tank
- Dual handed - allows increased flexibility of installation
- Flexibility - suitable for internal (electric only) and external use
- Foam Insulation exceeds MEPS* (Minimum Energy Performance Standard), reducing heat loss and running costs
- Thermostatically controlled with safety temperature shut off for added safety and peace of mind

Selecting the correct Electric Storage system

Step 1 - Tariff

- Determine which tariff that is going to be used
- If using both Peak & Off-peak use the sizing guide for Off-peak

Step 2 - Climate

- Refer to the Climate Map on page 7 to reference whether the installation is in a warm or cool climate

Step 3 - Number of persons

- Determine the number of persons living in the home
- Also consider additional demand if it is a larger home with spare bedrooms

Tank Size	No. of persons - Peak Electric (Continuous Tariff)		No. of persons - Off-peak Electric	
	Warm Climate	Cool Climate	Warm Climate	Cool Climate
50 Litres	1	1	Not Recommended	Not Recommended
80 Litres	2 to 3	1 to 2	1 to 2	Not Recommended
125 Litres	3 to 4	2 to 3	2 to 3	1 to 2
160 Litres	4 to 5	3 to 4	3 to 4	2 to 3
200 Litres	6 to 7	4 to 5	4 to 5	3 to 4
250 Litres	7 to 8	5 to 6	5 to 6	4 to 5
315 Litres	8 to 9	6 to 7	6 to 7	5 to 6
400 Litres	10+	8 +	8+	6+

Electric Storage Recovery Times

The recovery times for all storage tanks is based on 3 factors:

1. The volume of water
2. The size of the electric element
3. The set temperature

Element size	Litres per hour heated by 50°C
1.2kW element heats	20.6 litres
2.4kW element heats	41.2 litres
3.6kW element heats	61.9 litres
4.8kW element heats	82.5 litres

Selecting the correct Gas Storage system

Step 1 - Unit of measure

- Unlike electric hot water systems which are sized on the basis of total volume, Gas storage is calculated via First Hour Capacity (FHC)
- FHC is based on tank volume and heat-up rate to calculate the 'usable' hot water in litres

Step 2 - Climate

- Refer to the Climate Map on page 7 to reference whether the installation is in a warm or cool climate

Step 3 - Number of Persons

- Determine the number of persons living in the home
- Also consider additional demand if it is a larger home with spare bedrooms
- Remember, that the system only needs one hour to recover

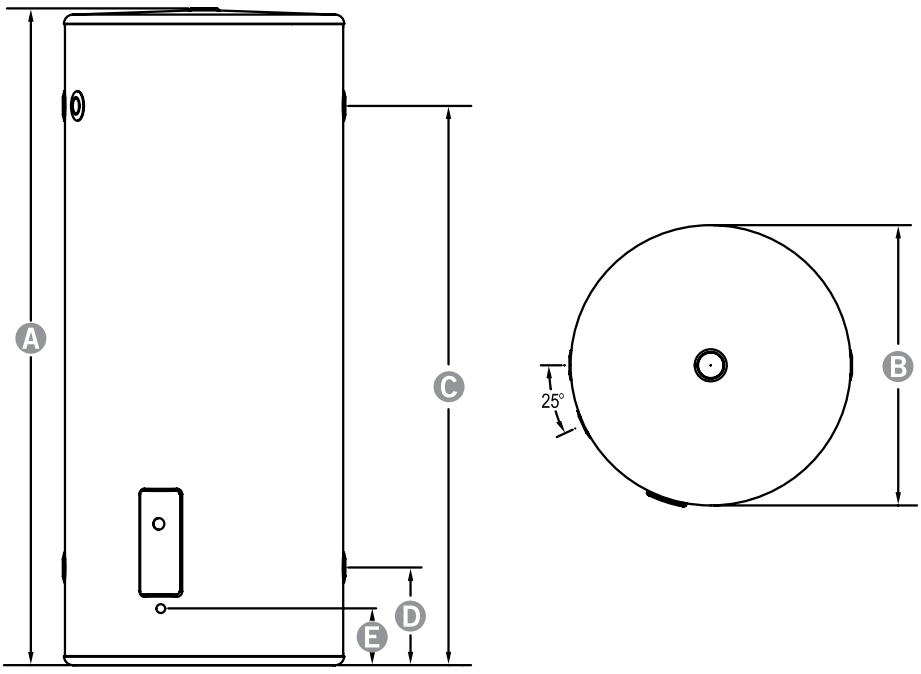
Tank Size	FHC	Warm Climate	Cool Climate
135 Litres	270	1 - 4	1 - 5
170 Litres	305	1 - 5	1 - 6

Specifications

HOTFLO Electric Storage

Note: All Rinnai HOTFLO electric storage water heaters are single element.

Specifications	Model		RIN25	RIN50	RIN80	RIN125	RIN160	RIN250	RIN315	RIN400
	Tank Capacity (L)		31	53	90	128	164	259	324	416
	Hot Water Delivery (L)		25	50	80	125	160	250	315	400
	Weight Empty (Kg)		17	22	40	48	59	88	103	114
	Heating Elements Available (kW)		-	-	-	-	-	-	-	-
			2.4	2.4	2.4	2.4	2.4	-	-	-
			-	3.6	3.6	3.6	3.6	3.6	3.6	3.6
			-	-	-	-	4.8	-	-	-
Dimensions (mm)	Total Height	A	452	694	925	1062	1317	1444	1754	1703
	Total Width	B	405	405	490	532	532	617	617	705
	Inlet Height	C	247	524	175	206	206	215	215	240
	Outlet Height	D	153	158	750	857	1112	1231	1541	1466
	Electrical Entry	E	67	67	80	116	116	125	125	150
	Relief Valve Setting (kPa)		1000						850	
	Expansion Control Valve Setting		850						700	
Max Supply Pressure	With Expansion Control Valve		680						550	
	Without Expansion Control Valve		800						680	
	When these pressures are exceeded, install a Pressure Limiting Valve (PLV)								-	
	Water Connections		RP ¾ 20mm							
	Ingress Protection Rating (AS1939)		IPX4							
	Power Supply		AC 240 V 50 Hz							



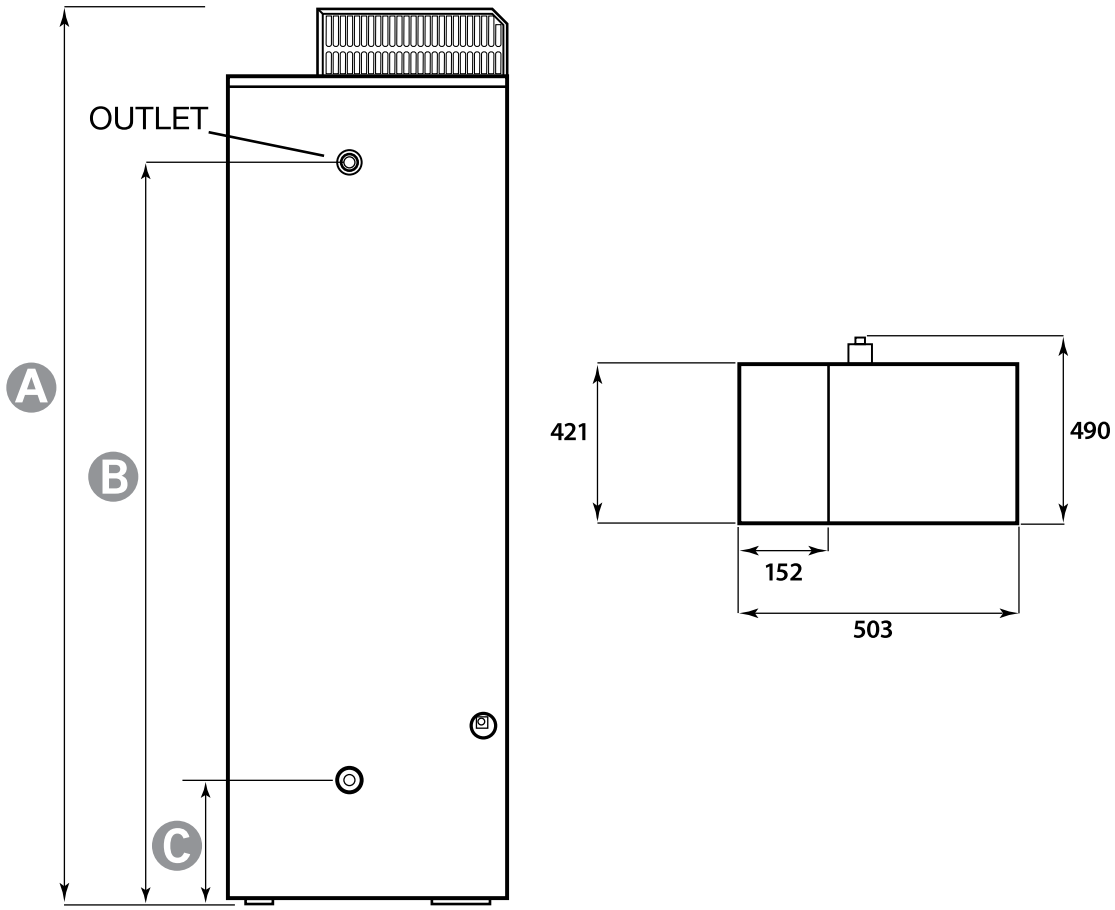
HOTFLO Gas Storage

Model	RIN135	RIN170
Tank Capacity (L)	135	170
Weight Empty (Kg)	72	86
Relief Valve Pressure (kPa)	1400	1400
Water Capacity in First Hour* (L)	270	305
ECV Pressure (kPa)	1200	1200
Max Supply Pressure without ECV	1120	1120
Max Supply Pressure with ECV	960	960

*Temperature rise at 45°C and inlet temperature of 15°C using Natural Gas

Dimensions [2]

Dimensions		RIN135	RIN170
Height	A	1601	1896
Hot Water Outlet	B	1327	1620
Cold Water Inlet	C	221	221



Commercial Hot Water Systems

The Rinnai Heavy Duty (HD) water heaters are suitable for single installation, Manifold Pack or Demand Duo installations. Each Commercial application require different quantities of hot water, therefore if you are unsure about sizing, please contact our National Commercial Project Division on 1300 555 545 for assistance.

Heavy Duty

Heavy Duty Units:

Rinnai Heavy Duty (HD) water heaters are high efficiency gas Continuous Flow units, available in three models: HD200e, HD250e and HD200i. Refer to page 13 of this brochure for specifications or the Rinnai Commercial Hot Water Reference Guide available to download online at rinnai.com.au

Applications include:

- Cafés
- Child Care Centres
- Hair Dressing Salons
- Small Amenities Blocks
- Butchers
- Factories
- Laundromats with domestic style top loader machines


Manifold Pack

Rinnai Manifold Packs

A Rinnai Manifold Pack consists of 2 to 6 Heavy Duty continuous flow water heaters plumbed together to allow higher flow rates than a single unit can provide.

Rinnai Demand Duo Systems

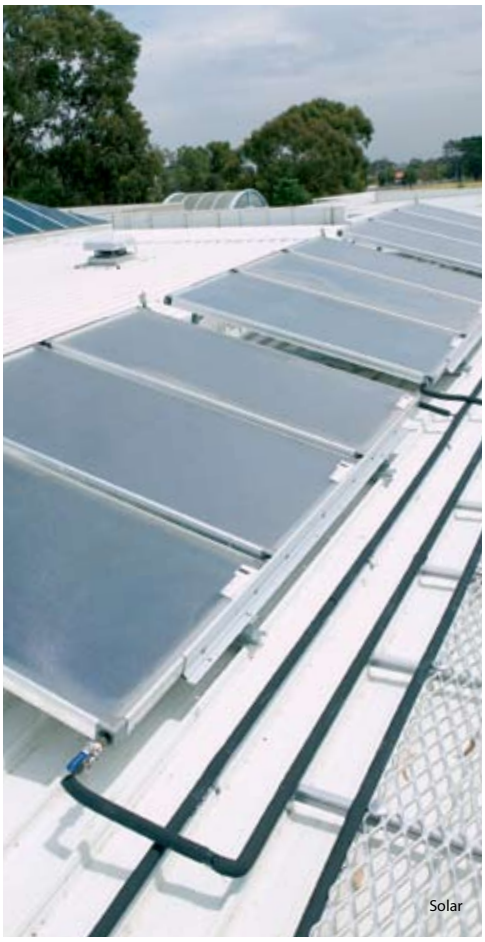
Rinnai Demand Duo is the combination of between 1 to 6 gas Continuous Flow water heaters with single or multiple storage cylinders. The storage cylinder allows a short period of high hot water flow rate, greater than the continuous flow rate of the HD water heater(s). i.e 'peak demand' applications such as:

- Hotels and Motels
- Apartment blocks and Student Accommodation
- Shower Blocks, Caravan Parks, Sports Clubs etc
- Commercial Kitchens
- Commercial Laundries


Demand Duo

Rinnai Commercial Solar Systems

Rinnai Commercial Solar hot water systems provide solar pre-heated water to the Rinnai Commercial gas hot water systems such as the Manifold Pack or Demand Duo system. The system is selected according to the daily hot water demand for the application, the required solar contribution, and what solar zone the system is located in.


Solar

Rinnai Common Flue System

Rinnai internal commercial hot water systems can now be flued into a single common natural draft flue. This allows both internal Demand Duo and internal Manifold Packs systems to be installed in existing buildings as well as new applications.

Note: Combustion air is drawn from the plant room.

Rinnai Warm Water Valve

The Rinnai Demand Duo Warm Water Valve is a system that is designed to accept 60ºC or more incoming hot water from a storage system and deliver a reduced constant outlet temperature across a full range of flow rates.

Applications include:
- Apartment buildings and hotels
- Hospitals and nursing homes

Approved to AS4032.1 as a Thermostatic Mixing Valve and AS4032.2 as a Tempering Valve. Also approved as a warm water system by NSW Health.

For further information or on site assistance please contact our National Commercial Project Division on 1300 555 545.


Common Flue

Warm Water Valve

Rinnai Service

Need help with an installation?

In most situations Rinnai retailers can assist with the installation of our appliances. Should this not be the case, Rinnai has an installation service available direct to the end-user. Any installation of a Rinnai appliance is a specialist process and requires trained professional installers to ensure safe and efficient operation of the appliance. This is particularly relevant for connection to gas, electrical changeovers and the installation of Solar Collectors. Our Rinnai installers are not only very familiar with our products, but are fully insured and OH&S compliant. Be confident in your installation by employing Rinnai Service.

For further information, please call 1300 555 545

Warranty

Continuous Flow Systems

Continuous Flow Water Heaters [3]		All INFINITY Models		Builders Range Models		Heavy Duty (HD) Models		Smart-Start® Water Saver	Water Controllers	Accessories[4]
		Heat Exchanger	All other components	Heat Exchanger	All other components	Heat Exchanger	All other components			
Domestic Use	Parts	12 Years	3 Years[2]	10 Years	3 Years[2]	12 Years	3 Years[2]	3 Years	3 Years	1 Year
	Labour	3 Years[2]	3 Years[2]	3 Years[2]	3 Years[2]	3 Years[2]	3 Years[2]	3 Years	3 Years	1 Year
Commercial Use	Parts	1 Year	1 Year	1 Year	1 Year	5 Years [1]	1 Year	1 Year	1 Year	1 Year
	Labour	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year

(1) One (1) year warranty on Heat Exchanger when pre-set to 85 or 95ºC. **(2)** 5 Years if two or more controllers are installed in domestic applications. **(3)** The models in this table are unsuitable for solar hot water applications. Any failure or service issue when installed in a solar hot water application is not covered by warranty. Exceptions to this are Heavy Duty models for Rinnai Demand Duo commercial applications using solar boosting and models in this table converted by Rinnai specifically for solar applications and for use in Rinnai solar hot water systems. See Conditions and Exclusions for more details. **(4)** Accessories include pipe covers, recess boxes, security brackets and flue diverters and coaxial flueing.

Solar Systems

Solar Hot Water Systems		Solar Compatible Continuous Flow Water Heaters - models S20 and S26 and other models converted by Rinnai for Solar applications[1] [3]		Storage Cylinders		Solar Collectors	Components [2]
		Heat Exchanger	All other components	Vitreous Enamel (Glass) Lined Sunmaster Range	Stainless Steel Prestige	Enduro Equinox Excelsior E-Frost	
Domestic Use	Parts	10 Years	3 Years[4]	5 Years	10 Years	7 Years	1 Year [4] [5]
	Labour	3 Years	3 Years	3 Years	3 Years	1 Year	1 Year
Commercial Use	Parts	5 Years	1 Year	1 Year	5 Years	5 years	1 Year
	Labour	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year

(1) The continuous flow models in this column are suitable only for solar hot water applications. Any failure or service issue when installed in a non solar hot water application is not covered by warranty. **(2)** Components include pumps, system controllers, sensors, thermostats, valves, electric heating elements and anodes where applicable. **(3)** Rinnai Infinity 26 Internal, HD200i, HD200e and HD250e models can be converted for solar applications by Rinnai by order request. **(4)** For Victorian installations only - 5 Year warranty on the solar circulating pump, solar controller and components within the continuous flow water heater in order to comply with State legislation. **(5)** For Queensland installations only - 2 Year warranty on the solar circulating pump in order to comply with State Government legislation where applicable.

Commercial and Other Hot Water Systems

Commercial and Electric Hot Water Systems		Rinnai Demand Duo and Rinnai Manifold Pack systems					Electric Hot Water Electric/Gas			
		Continuous Flow Water Heaters used as gas boosters in Demand Duo and Manifold Pack Systems - Heavy Duty (HD) Models[1]		S/Steel storage cylinders	Components [3]	Commercial Common Flue and Warm Water Systems[2]	Rinnai Roofmaster		Rinnai HOTFLO Electric & Gas	
		Heat Exchanger	All other components				Cylinder	Components [3]	Cylinder	Components [3]
Domestic Use	Parts	12 Years	3 Years	10 Years	1 Year	NA	7 Years	1 Year	7 Years[4]	1 Year
	Labour	3 Years	3 Years	3 Years	1 Year	NA	1 Year	1 Year	1 Years	1 Year
Commercial Use	Parts	5 Years	1 Year	5 Years	1 Year	3 Years	1 Year	1 Year	1 Year	1 Year
	Labour	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year	1 Year

(1) One (1) year warranty on Heat Exchanger when pre-set to 85 or 95ºC. **(2)** Excludes UV system. UV system warranty is covered by the UV system manufacturer **(3)** Components include pumps, system controllers, sensors, thermostats, valves, electric heating elements and anodes where applicable. (4) 25 and 50 Litre cylinders have 5 year warranty.

Definitions

Domestic Use:

The warranty periods that are allocated under "Domestic Use" are based on hot water usage patterns of a typical family.

Rinnai "Domestic Use warranty periods apply to:

1. Water heaters installed to supply heated water to domestic dwellings.
2. Water heaters installed to supply heated water to commercial installations such as motel units, hotel rooms, caravans, mobile homes, nursing homes, retirement village complexes and other care institutions and like accommodation provided that maximum delivery temperatures for gas boosted models do not exceed 75ºC and do not exceed 70ºC for electrically boosted models and that the hot water systems are not installed as component(s) of centralised bulk hot water systems and the installation does not incorporate building flow and return systems.

Commercial Use:

The warranty periods that are allocated under "Commercial Use" are for applications other than domestic use and include premises such as commercial and industrial buildings, cafes, caravan parks and sporting complexes, but not limited to these.

"Commercial Use" warranty applies to:

1. Water heater(s) supplying central shower blocks.
2. Water heater(s) supplying kitchens used for the bulk preparation of food.
3. Water heater(s) delivery temperatures pre-set to exceed 70ºC
4. Water heater(s) used in commercial or industrial heating processes.
5. Water heater(s) used in hydronic space heating installations.
6. Any application that uses Rinnai water heater(s) in conjunction with building flow and return systems.
7. Water heater(s) installed as component(s) of centralised bulk hot water system(s).

Full warranty conditions including exclusions, water purity, solar frost tolerant warranty and postcode conditions are available with the appliances and can be viewed on-line at **www.rinnai.com.au.**

Dimensions are subject to production tolerances and may vary slightly from those given.
Rinnai Australia Pty. Ltd. Reserves the right to make modifications and change specifications without notice.
We will however endeavour to communicate any major changes well before implementation.

RINNAI AUSTRALIA PTY. LTD
ABN 74 005 138 769

10-11 Walker Street Braeside VIC 3195
For further information visit
www.rinnai.com.au
or call 1300 555 545

47.12