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
- No recirculating pumps and pipe runs – reducing heat losses and improving running efficiencies
- 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 like a close coupled solar water heater where solar heats the lower part of the cylinder and electric boost (continuous or off peak) maintain full tank temperature

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
- Fully replaceable glass
- 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 & Equinox 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
- Equinox 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 Equinox are warranted to -6°C except in VIC, NSW and ACT where warranty is determined by postcode.

E-Frost Collectors
E-Frost is warranted to -12°C 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.

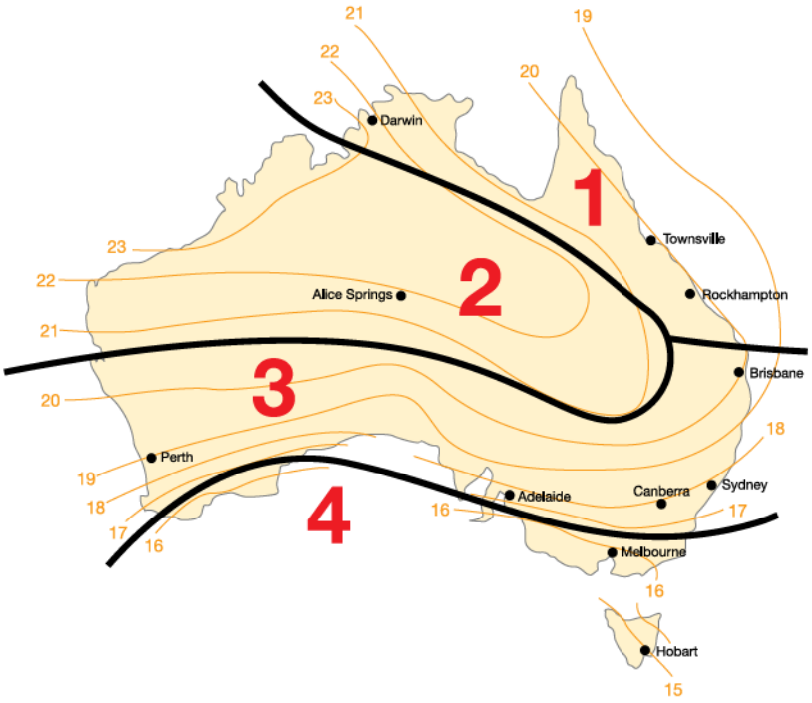
Solar Rebates

Government Rebates

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

Solar Zones

The number of RECs 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 RECs than if it were installed in Hobart. For the purposes of REC 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

It is 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 RECs rebate?

Ultimately the RECs 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 REC rebate declaration form that is supplied with each system which transfers the RECs 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 RECs) 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:

- Conversions from Electric Systems to Solar Systems
- Gas Boosted systems only
- Regional/Rural areas only
- Concession Card holders
- Minimum RECs contribution (eg minimum 20 RECs)
- Residency restrictions
- Domestic applications only

RECs and Rinnai Solar Systems

The following tables show the awarded RECs 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					RECs Zones Excelsior & Excelsior FTC Collectors				RECs Zones E-Frost Collectors			
Description		Size	Booster	Collectors	1	2	3	4	1	2	3	4
Split System Gas	System B	250L	S20	2	42	44	42	36	37	39	37	31
	System C	250L	S26	2	42	44	42	36	37	39	37	31
	System D	315L	S26	2	42	44	42	36	37	39	37	30
	System E	315L	S26	3	49	48	49	43	44	44	44	37
Split System Electric	System F	250L	3.6kW	2	32	31	32	26	30	29	30	25[1]
	System G	315L	3.6kW	2	32	31	32	26	29	29	29	24[1]
	System H	315L	3.6kW	3	35	33	35	30	33	32	33	29
Close Coupled Electric	System I	180L	3.6kW	1	21	21	21	17[1][2]	Not available for use with Close Coupled Systems			
	System J	330L	2.4kW	2	35	33	35	30				
	System K	330L	3.6kW	2	35	33	35	30				
Close Coupled Gas	System L	180L	S20	1	29	29	29	24				
	System M	330L	S26	2	43	45	43	37				

Rinnai Sunmaster					RECs Zones Enduro & Equinox Collectors				RECs Zones E-Frost Collectors			
Description		Size	Booster	Collectors	1	2	3	4	1	2	3	4
Split System Gas	System 1	175L	S20	1	28	28	28	23	23	23	23	19[2]
	System 2	175L	S26	1	28	28	28	23	23	23	23	19[2]
	System 3	215L	S20	2	42	44	42	36	36	38	36	30
	System 4	215L	S26	2	42	44	42	36	36	38	36	30
	System 5	270L	S26	2	43	44	43	36	36	38	36	30
Split System Electric	System 6	200L	3.6kW	2	20	20	20	16[1][2]	20	20	20	16[1][2]
	System 7	315L	3.6kW	2	30	30	30	25[1]	28	29	28	22[1]
	System 8	315L	3.6kW	3	33	33	33	28	32	32	32	27

[1] Not suitable for Victorian 5 Star Homes (3 or more bedroom criteria) [2] Not eligible for Federal Government Electric to Solar rebate scheme

How much can I get?

As can be seen from the above table, Rinnai Solar Systems are typically awarded between 20 to 42 RECs. Each REC has a $ value that fluctuates according to market demand, which needs to be checked at the time of purchase. If a REC was valued at (say) $37, your rebate for Rinnai systems would be anywhere between $740 and $1554.

At the time of printing this brochure, the Federal Government is also offering an additional $1000 to switch from an electric system to Solar. In some States there are additional rebates on top of this again!

Correct Sizing

Correct Sizing is vital for optimum performance

Number of Occupants

The number of users 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 determines the volume of available solar heated hot water (Choice of 20 or 26 litres)
- 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 re-heated water:
  - Normal (peak) tariff continually re-heats
  - Off-peak will generally not re-heat until overnight
- Prestige 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 would 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:
Equinox Collector - R18801741
E-Frost Collector - 18801743

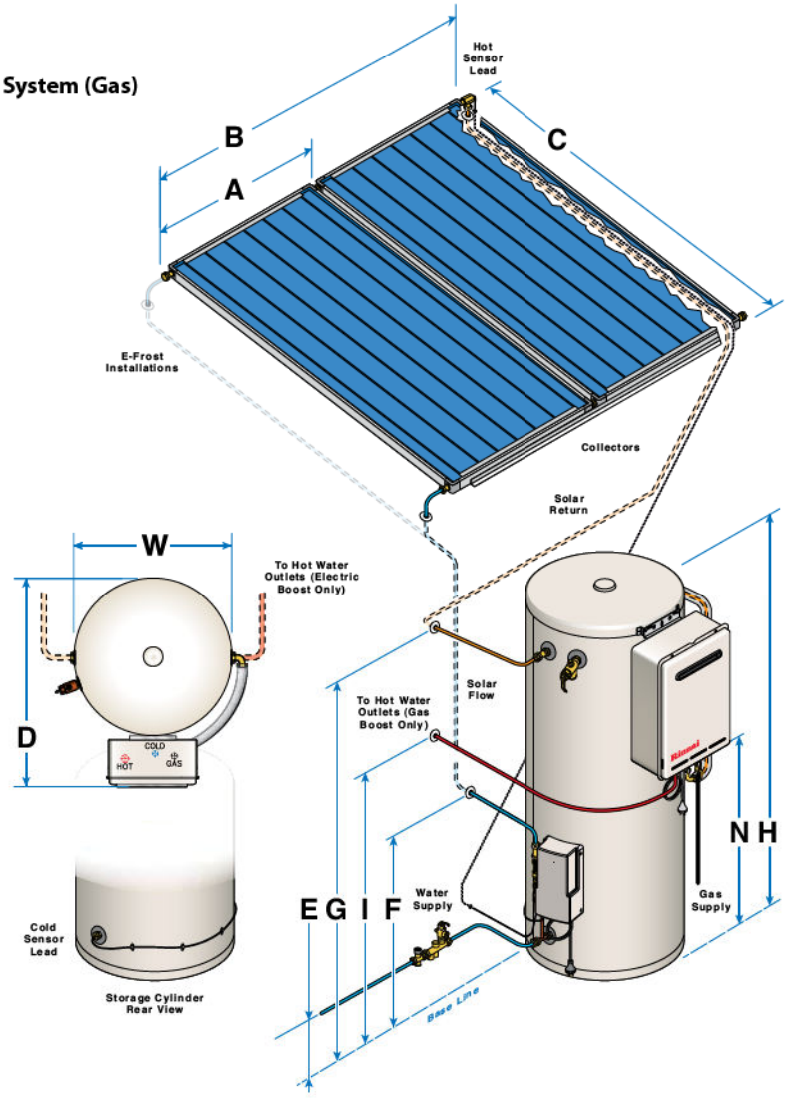
Nominate N (Natural Gas) or L (LPG) after the code to specify gas type

Solar Rough in Diagram

Sunmaster Split Systems

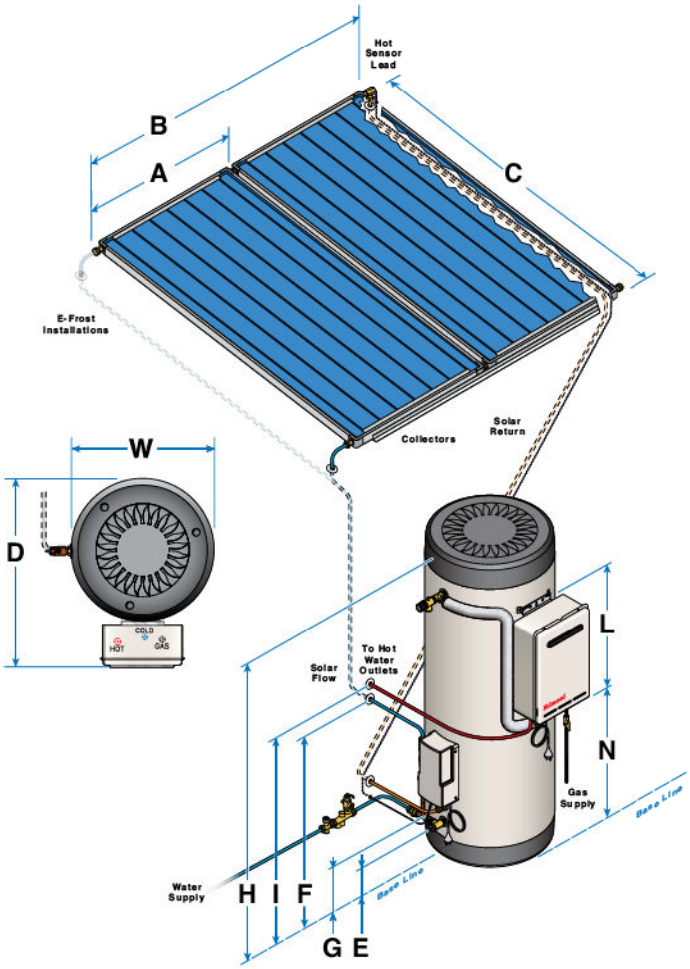
Sunmaster Split Systems- Enamel Tanks		175 Lt Gas Boost 160 Lt Electric Boost	215 Lt Gas Boost 200 Lt Electric Boost	270Lt Gas Boost	315Lt Electric Boost
A	Collector Width	1025	1025	1025	1025
B	Width of two Collectors	2100	2100	2100	2100
C	Length of Solar Collectors	1940	1940	1940	1940
H	Height of Cylinder	1530	1825	1265	1510
D	Depth of Cylinder with Booster	709*	709*	879	N/A
W	Cylinder Diameter	515	515	685	685
E	Left Hand Side Cold Water Inlet	150	150	210	260
F	Cold Water Flow to Collector	665	665	725	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

Sunmaster Split System (Gas)

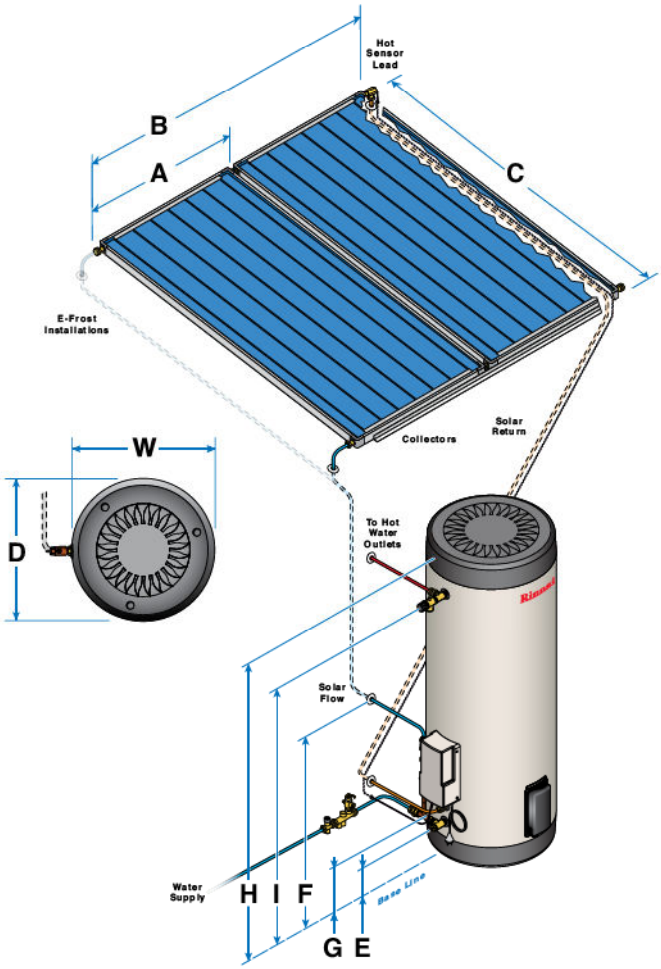


Prestige Split Systems

	Split Systems Stainless Steel	Electric Boost			Gas Boost		
		160 Lt	250 Lt	315 Lt	160 Lt	250 Lt	315 Lt
A	Collector Width	1025			1025		
B	Width of two Collectors	2100			2100		
C	Length of Solar Collector	1940			1940		
-	Weight (Empty)	48	66	80	44	56	68
H	Height of Cylinder	1205	1700	2090	1170	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	N/A			530		
M	Width of Gas Boost				350		
N	Right Hand Side Gas Supply				N/A	870	1260



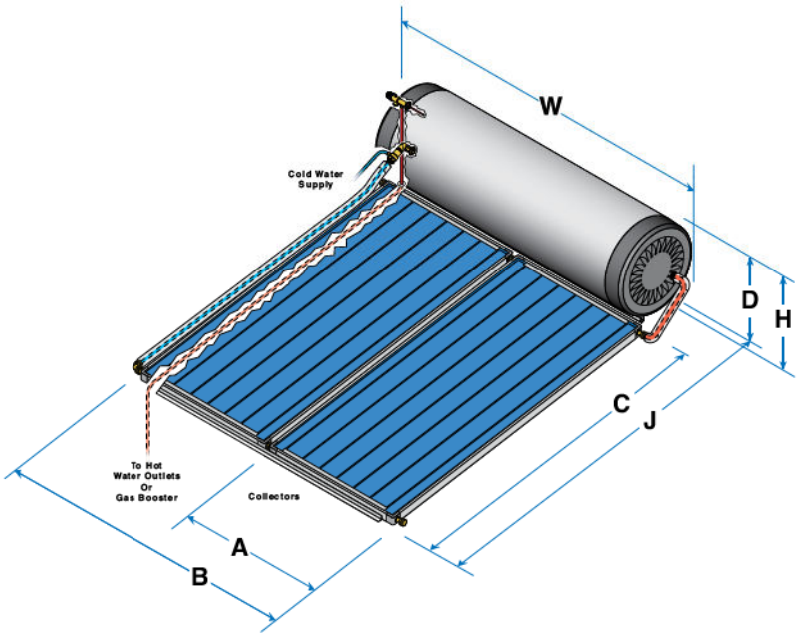
Prestige Split System (Gas)



Prestige Split System (Electric)

Prestige Close Coupled Systems

	Close Coupled Stainless Steel	Gas & Electric	
		180 Lt	330 Lt
A	Collector Width	1025	
B	Width of two Collectors	2100	
C	Length of Solar Collector	1940	
J	Overall Length of System	2580	
-	Weight (Empty)	44	68
H	Height of Cylinder (installed)	640	
D	Diameter	600	
W	Cylinder Length / Width	1205	2090
E	Side Cold Water inlet	N/A	
F	Cold Water Flow to Collector	N/A	
G	Hot Water Return from Collector	N/A	
I	Hot Water Flow to House (From Gas Boost)	N/A	
K	Hot out (to Cold in Gas Boost)	N/A	
-	Height of Gas Boost	530	
-	Width of Gas Boost	350	
N	Right Hand Side Gas Supply	N/A	



Solar Collector Dimensions

Characteristics		Enduro	Equinox Frost Tolerant	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 2100	1940 x 2100	1964 x 2144	1964 x 2144	1940 x 2100
	3 Collector	1940 x 3175	1940 x 3175	1664 x 3241	1664 x 3241	1940 x 3175