

How do you get the  
best of both worlds?  
Easily. Buy Beasley **Solar Gas**



**BEASLEY SOLAR**  
QUALITY HOT WATER SYSTEMS

# Save Money and the Environment

## The benefits of solar; the efficiency of gas

Water heating is the major consumer of energy in most homes. Using solar energy to heat the water in your home can reduce energy bills dramatically, even in colder climates, and will reduce the emission of Greenhouse Gases. Replacing an electric water heater with a Solar water heater will reduce Greenhouse Gas emissions by approximately 3 tonnes per year, equivalent to taking a small car off the road.

When a Beasley solar water heater is combined with the new Rinnai Infinity 26 continuous flow gas heater, you have the most efficient style of solar gas heater available. The Beasley solar heater works as a pre-heater, collecting energy from the sun whenever it is available, even in the middle of winter, and storing it in the large capacity, well insulated stainless steel tank. When you turn the hot tap on, the water from the pre-heater passes through the Rinnai Infinity 26 Solar Boost heater, which boosts the temperature to more than 60 degrees C. If the temperature of the water in the pre-heater is already above 60 degrees C, the gas burner does not need to come on at all.

As a consequence, with the Beasley Solar Gas you obtain the maximum possible contribution from the sun, and use the minimum possible amount of gas.

## Why continuous flow gas instead of gas storage?

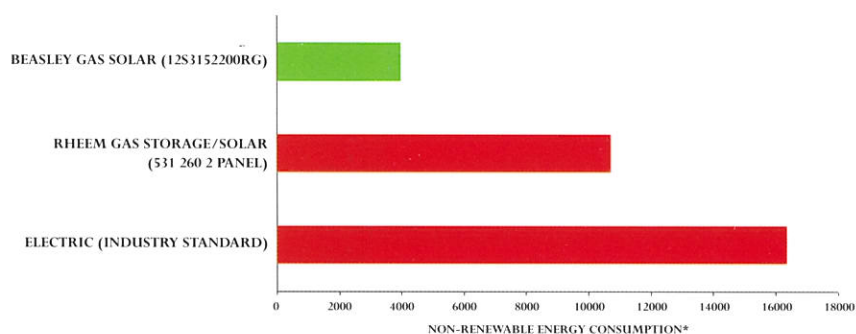
Because for non-renewable energy consumption the combination of the solar pre heater and the Rinnai Infinity 26 continuous flow gas heater is **150% more efficient than an old fashioned gas storage heater with a solar boost:**

- storage gas heaters generally have low levels of gas operating efficiency as measured by the AGA star rating system, (3.5 stars compared to the Rinnai's 5.2 stars), and can run out of hot water if consumption exceeds the small tank capacity. The Rinnai *never* runs out of hot water.
- Gas storage heaters are particularly inefficient when they are used with solar panels. They generally have a central flue in a small tank, and all the water in the tank is continually reheated when the temperature drops below the thermostat setting. Because the tank is small, and continually being re-heated by the gas, there is little room left for the water to be heated by the solar panels. As consequence, more gas is used than should be, and much of the investment in the solar panels is wasted.
- Some manufacturers of solar gas storage systems attempt to overcome these problems by installing a timer so that the thermostat cannot operate during the day. However this means that:
  - some of the time available during the day for solar gain is lost,
  - the tank ends up full of hot water heated by gas overnight, which leaves no room for solar gain the next day, and in addition,
  - once the timer fails, the system operates solely as a gas heater, with no solar gain at all provided. This may not become apparent to the owner for many years.
  - even with a timer solar gas storage systems can be inefficient. For example, in the SEAV ratings a Rheem 531 260 2 panel system provides only **53%** solar contribution compared to **87%** for the Beasley 12S 315 2 panel system.

In the Beasley Solar Gas system, all of the large tank volume is available to store solar energy, without interference from outside heating, and the only water that is heated by gas, if any, is that amount actually passing into the taps. The Beasley Solar Gas uses less than half of the gas used by the average solar gas storage heater (refer graph).

## The new Beasley Solar Gas brings you the best of both worlds

COMPARATIVE NON-RENEWABLE ENERGY USAGE\* (MJ pa)



\*based on AS4234 (two solar panels) and AS4552/AG102

As a result of the efficiency of the design and the Government initiatives, the high performance Beasley Solar Gas can be installed at a very reasonable price. Thereafter, it provides ongoing cost savings and a continual contribution to the improvement of the environment.

## Measuring solar contribution

Solar water heaters are awarded Renewable Energy Certificates (RECs) by the Australian Greenhouse Office according to how much energy they save compared to a conventional electric heater. Each REC awarded is equivalent to the saving of 1000 kilowatt-hours over a 10 year period.

The amount of energy saved differs between regions in Australia, depending on the amount of radiation and the operating conditions. Melbourne is in Solar Zone 4, while Sydney, Brisbane, Perth, Adelaide and Canberra are in Zone 3.

The Beasley Solar Gas range of so' heaters have been awarded with RECs ranging up to 46 RECs in Zone 3 (39 in Zone 4) for a 315 litre tank, 3 panel split system. According to the AGO modelling, this system will use 46,000 kWhours less energy than an electric water heater over a period of 10 years. Electricity prices vary between States, but at a price of 15 cents per kWh, the savings would amount to \$690 per year.

Solar water heaters with an in-line gas boost use much less energy for supplementary heating than do electric water heaters or solar gas storage heaters, as demonstrated by the graph below.

## Government support

Federal and State Governments in Australia recognise the benefit to the environment which is provided by gas boosted solar water heaters. The Federal Government has legislated for the creation of RECs by the owner of the solar heater when it is installed in a new home, or when it replaces an electric water heater. The RECs may be sold to electricity retailers, at a price which varies with supply and demand. As at March 2003, the price available was \$35 per REC, which reduced the price of the Beasley Solar Gas 315 litre 3 panel split system by \$1610 when installed in Zone 3. Your Beasley dealer will advise you of the current value of RECs.

Many of the State Governments provide rebates for the purchase of a solar water heater, under certain conditions, in addition to the amounts available from the sale of RECs. The rebates vary between \$300 and \$700. Details are available from your Beasley dealer. In Victoria, a rebate of up to \$1500 is available, but the owner is required to transfer the RECs to the Victorian Government.



# Product Features

- Highest quality 316 marine grade stainless steel storage tank, which avoids the need for the regular replacement of anodes required with mild steel tanks
  - A tank especially designed to accommodate the efficient entry of hot water from the panels
  - A tank insulated to a level 20% better than the required MEPS standard, to ensure that the heat stored from the sun is not lost overnight
  - High performance full copper solar collectors with an Amcro selective surface to retain heat energy
  - Brass compression fittings with copper olives to eliminate the costly maintenance caused by leaking synthetic seals
  - Extruded marine grade aluminium collector case for corrosion resistance and appearance
  - New 5.2 Star Rinnai Infinity 26 instantaneous gas heater especially designed to minimise gas usage when boosting solar, avoiding the need for costly and inefficient heating of the storage tank
- Warranty 7 years on solar tank and panels, three years on Rinnai components and 10 years on the heat exchanger. The warranty card provides full details of warranty conditions.

The Rinnai Infinity 26 is the most efficient continuous flow heater currently on the Australian market:

- It heats water only on demand, thereby saving gas and money
- It is highly efficient, saving up to 30% on gas purchases compared to a gas storage heater, and more than 60% when combined with solar
- AGA approved gas Energy Rating of 5.2 stars
- Provides excellent water flow for all household needs
- Compact design for easy installation

The Rinnai Infinity 26 is designed and engineered to sense the temperature and flow rate of the water, and to ensure that the water leaving the heater is raised to the appropriate temperature.

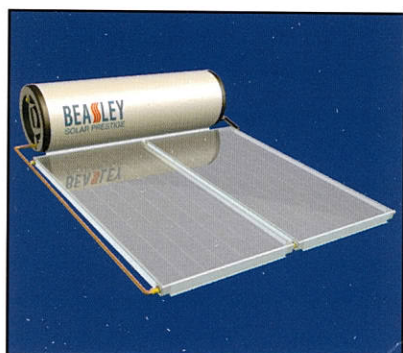
As with all hot water systems, tempering valves should be fitted after the heater to reduce the water to a temperature appropriate to the point of use in the home. RMC recommends a Heatgard 20HP tempering valve (not included with heater).

## Product Range

There is a range of Beasley Solar Gas products to suit all requirements:

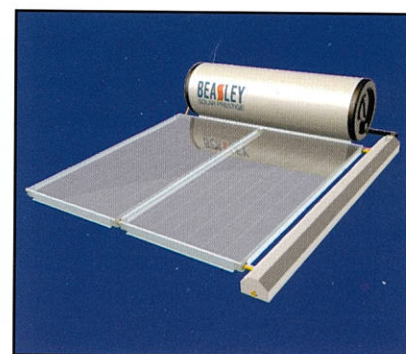
### Solar Gas Close-Coupled Systems

In the close-coupled model, the solar tank is mounted above the collectors on the roof, and the water rises by the natural thermosiphon principle through the collectors into the tank, and is recirculated through the panels until the water reaches the required temperature. Whenever a hot tap is turned on, the hot water stored in the tank passes through the Rinnai Infinity 26 mounted on the wall below, and receives supplementary heating if it is required. The close coupled solar gas system is technically very efficient, and it has no pump or sensors to be maintained. A special 'TA' safety control keeps the water hot but prevents it from overheating. Sizes range from 180 litres to 480 litres storage capacity.



### Solar Gas Frost Protected Close-Coupled Systems

Close coupled systems can also be used in frost areas with the addition of a Beasley Heat Transfer Module (HTM). With these systems, the collectors are filled with a Glycol mixture to prevent freezing, and the heat from the panels is transferred into the water in the tank through the heat exchanger. The water from the tank is passed through the Rinnai Infinity 26 mounted on the wall below to boost the temperature if required. Sizes range from 180 litres to 480 litres storage capacity.



### Solar Gas Split Systems

Split systems have only their collectors mounted on the roof. The stainless steel tank, with the Rinnai Infinity 26 mounted on it, is located on the ground. A small and very efficient pump circulates the water from the tank through the panels to collect the heat energy from the sun. The pump is automatically regulated by a controller according to the temperature in the panels and the tank. The controller also acts as a frost protector by sending warm water from the tank into the panels when it senses that the panels are reaching freezing temperature. When the hot tap is turned on, the water passes from the tank out through the Rinnai Infinity 26 to boost it to the required temperature.

The split system is provided with the Rinnai Infinity 26 and the controller mounted on the tank, and pipework prepared for quick installation to the mains water supply, to the panels, and to the gas supply. The pipework is designed for either lefthand or righthand installation, to suit all locations. Size range from 160 litres to 315 litres storage capacity.





# Product Specifications

## Split System, pumped

Model Number	1601RG	1602RG	3152RG	3153RG
Tank capacity	160 l	160 l	315 l	315 l
Number of panels	1	2	2	3
Solar savings Zone 3*	81%	95%	87%	95%
RECs Zone 3	24	33	38	46
RECs Zone 4 (Melb)	19	28	31	39
Panel length	1940 mm	1940 mm	1940 mm	1940 mm
Panel width	1025 mm	2100 mm	2100 mm	3175 mm
Weight on roof(full)	35 kg	70 kg	70 kg	105 kg
Tank height	1170 mm	1170 mm	2070 mm	2070 mm
Tank diameter	600 mm	600 mm	600 mm	600 mm
Relief valve pressure	850 kpa	850 kpa	850 kpa	850 kpa
Inner Cylinder	316 marine grade stainless steel			
Gas Boost Capacity	Maximum 26 litres per min at 25°C rise			
Gas input low	16 Mj/h			
Gas input high	199 Mj/h			
Gas Energy Rating	5.2 stars			



WaterMark  
AS 3498  
Lic. No. W169  
Standards Australia



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## AUSTRALIAN STANDARDS

Beasley product and approved components have been  
tested in accordance with Australian Standards: AS 27,  
AS 3498, AS 2984, AS 3142, AS 2535, AS 3855, AS 42

## Close coupled, frost protection

Model Number	1801H 2000RG	1802H 2000RG	3302H 2000RG	3303H 2000RG	4803H 2000RG
Tank capacity	180 l	180 l	330 l	330 l	480 l
Number of panels	1	2	2	3	3
Solar saving Zone 3*	78%	94%	82%	92%	80%
RECs Zone 3	24	32	34	41	41
RECs Zone 4 (Melb)	18	27	27	35	35
System length	2510 mm	2510 mm	2510 mm	2510 mm	2510 mm
System width	1660 mm	2570 mm	2570 mm	3645 mm	3645 mm
System height	550 mm	550 mm	550 mm	550 mm	550 mm
Weight on roof(full)	290 kg	325 kg	510 kg	545 kg	720 kg
Relief valve pressure	850 kpa	850 kpa	850 kpa	850 kpa	850 kpa
Inner cylinder	316 marine grade stainless steel				
Gas Boost Capacity	Maximum 26 litres per min at 25°C rise				
Gas input low	16 Mj/h				
Gas input high	199 Mj/h				
Gas Energy Rating	5.2 stars				

## Close coupled, no frost protection

Model Number	1801 RG	1802 RG	3302 RG	3303 RG	4803 RG	4804 RG
Tank capacity	180 l	180 l	330 l	330 l	484 l	484 l
Number of panels	1	2	2	3	3	4
Solar saving Zone 3*	80%	95%	85%	94%	84%	92%
RECs Zone 3	25	32	35	43	43	47
RECs Zone 4 (Melb)	19	28	29	37	38	43
System length	2450 mm	2450 mm	2450 mm	2450 mm	2450 mm	2450 mm
System width	1420 mm	2435 mm	2435 mm	3500 mm	3500 mm	4535 mm
System height	550 mm	550 mm	550 mm	550 mm	550 mm	550 mm
Weight on roof(full)	265 kg	300 kg	485 kg	520 kg	700 kg	735 kg
Relief valve pressure	850 kpa	850 kpa	850 kpa	850 kpa	850 kpa	850 kpa
Inner cylinder	316 marine grade stainless steel					
Gas Boost Capacity	Maximum 26 litres per min at 25°C rise					
Gas input low	16 Mj/h					
Gas input high	199 Mj/h					
Gas Energy Rating	5.2 stars					

\* As measured by SEAV

**Sales Enquiries: 1300 360 343 (nearest dealer)**

Distributed by

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