



Rinnai



Geoflo Hybrid²²

Geothermal Heating, Cooling
and Hot Water



geoflo hybrid²²
by Rinnai



Environmentally responsible climate control down under

Harnessing the abundant free renewable energy right under your feet

Everyday the ground absorbs approximately half of the sun's energy that reaches earth and stores it at a steady temperature at specific depths. Rinnai's Geoflo Hybrid²² Geothermal system harnesses this free renewable energy source from the ground to reliably deliver highly efficient energy boosting to your home's heating and cooling needs.

In addition to heating and cooling, the Geoflo Hybrid²² technology diverts surplus energy to the generation of essentially free hot water for your home.

Geoflo Hybrid²²

Rinnai's gift to the planet



At Rinnai we are all about comfort, efficiency and technology that helps protect our environment.

For over 50 years, Rinnai has supplied Australian homes and commercial premises with a range of appliances that help people lead comfortable, safe and efficient lifestyles.

Being driven to create comfort means that we really care about our environment, products and your experience from start to finish. We're focused on developing our technology and our level of quality is second-to-none, so you can rest assured knowing Rinnai will deliver.

How Geoflo Hybrid²² works

Incredibly effective and simple to operate

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The Geothermal Hybrid System

1. Ground Loop Heat Exchanger

A highly trained licensed geo drilling team drills, installs and seals the ground loop heat exchange mechanism for years of reliable operation, and charges the system with a proprietary heat exchange medium which is 100% environmentally benign. This mechanism is protected by a proprietary conductive casing providing optimum performance during all seasons. Depth of the ground loop can vary from 40 to 100m deep according to heat transfer demand and local soil conductivity, density and aqueous saturation levels.

2. Heat Pump Unit

The Geoflo Hybrid²² energy exchange unit is thermally insulated and mounted adjacent an external wall, and integrates the geothermal energy feed. This is controlled by an Australian designed AI (Artificial Intelligence) brain that is enclosed in the outdoor unit. This monitors operations and displays parameters for easy installation, commissioning and diagnostics. The AI design also includes Rinnai noise mitigation technology providing whisper quiet operation (so your neighbours won't complain about noisy fans at the fence line), and smooth adaptive startup technology to protect sensitive components such as compressors.

3. Free hot water heating*

There is abundant renewable energy capture in the Rinnai Geoflo Hybrid²² design. The energy that is surplus to the heating and cooling of your home is captured and diverted by Rinnai's unique technology to provide free heating of your home's hot water needs.

*When the Geoflo hybrid is in operation, surplus energy is supplied to your hot water storage tank delivering free hot water heating.

4. Indoor Fan Coil Unit

A variable speed supply air fan inside the home, is much like a traditional airconditioned system. It automatically adjusts air flow to provide optimum capacity and comfort at your choice of indoor set point temperatures. The indoor unit is electronically computed to achieve greater efficiency and whisper quiet indoor operation.

5. Artificial Intelligent Brain

With your home or office Wi-Fi connection, you are able to control your indoor thermostat from anywhere. Or with the Total Connect Comfort app, you can monitor or control your heating and cooling system using your smartphone or android from anywhere and at any time you choose. Back home, you'll like the look of the Rinnai Geoflo Hybrid²² thermostat's colourful, high-definition touch screen. All round, and all year round, the Rinnai Geoflo Hybrid²² system is a winner for your home comfort and the environment.

6. All that and single phase too

Traditional 22 kW climate systems must have 3 phase power supplied, costing thousands of dollars to the householder. The Geoflo Hybrid²² system generates 22 kW but magically only requires single phase power. Very elegant Rinnai technology.

Heating and cooling that doesn't cost the earth

Features and Benefits



Works in any climate

Rinnai's Geoflo Hybrid²² is a highly efficient hybrid geothermal system that uses free energy from the ground to transfer energy to the warm or cold air into all homes and buildings as well as generating essentially free domestic hot water.

Conventional heat pumps heat room air and hot water very slowly when outside air temperatures are low, below around 10°C and down to as low as -5°C, as in cold nights and winter conditions. However, irrespective of the outside temperature, the Rinnai Geoflo Hybrid²² heats your room and heats your hot water rapidly because the ground temperature is always at a high stable 17°C. This provides a higher COP (coefficient of performance) and a higher thermodynamic efficiency than conventional reverse cycle inverter systems and heat pumps.

Supremely Efficient

Rinnai's Geoflo system is an incredibly quiet and efficient way to heat and cool your premises and deliver your hot water needs.

Because the stable temperature of the Earth is used, you can sustainably reduce your heating and cooling running costs by up to 50%. Best of all, geothermal systems can be installed in a wide variety of home or business applications in virtually any location.



Renewable

Because the earth is heated by the sun, the energy captured from the earth by the Rinnai Geoflo Hybrid²² is free, renewable and clean.



Lower Energy Costs

With energy costs rising dramatically, the price of heating and cooling a home and heating hot water is a high portion of your energy costs. The Rinnai Geoflo Hybrid²² system can save the average household up to 50% per year in traditional energy running costs.



Quiet

Designed with consideration in mind, the Rinnai Geoflo Hybrid operates with minimal use of external fans, ensuring peace and quiet for both you and your neighbours.



Compact

The compact size of the system means it can be conveniently incorporated into the design of a new home or retrofitted into most existing homes.



Sustainable

Because of the stability of sub-ground temperatures, you can sustainably reduce your heating and cooling running costs even regardless of the outside weather.



Simple maintenance

With few moving parts, the Rinnai Geoflo Hybrid²² requires minimal ongoing maintenance and service.



Warranty

Have peace of mind knowing you are protected by a Rinnai 5 year limited warranty on the whole system with an optional 5 year extended warranty on the geothermal well system, at a modest cost. For full terms and conditions visit rinnai.com.au.



Drilling

The installation of the Geoflo Hybrid²² ground loop is encapsulated in a small diameter well (approx 125mm), which is installed by highly trained technicians. Ground Loops are encased in a thermally active and flexible casing protecting your system and providing years of efficient life..

Drilling down to the facts

4 reasons why geothermal is the smarter choice for you

1 Renewable clean energy

Geothermal energy is extremely affordable and can assist to cut electricity consumption by up to 50% in comparison to a traditional ducted reverse cycle inverter air conditioning system. Geothermal system heating and cooling performance is maintained during extreme climate conditions eliminating high seasonal energy costs.

2 Very quiet

When looking for a heating and cooling system that is virtually noise free, look no further than geothermal. The reduction in moving parts and high noise generating components in the Rinnai Geoflo Hybrid²², delivers smooth quiet operation, devoid of the higher Db noise levels of older technologies. That keeps neighbours and families comfortable and renders the environment more peaceful.

3 Flexible design

Geothermal heat pump systems are designed with the user in mind. They are designed to be installed in either new or retrofit applications. And since the hardware requires considerably less space than traditional HVAC systems and ancillary equipment, you can instantly save storage footprint in your home by switching to a geothermal system.

4 Very durable

Geothermal systems have a relatively low level of moving parts. With high durability and reliability geothermal systems are becoming the way of the future for many homeowners who want low energy costs and environmental solutions that deliver greener outcomes.





Specifications

So simple yet incredibly effective

| System Overview | | | |
|---|---------------------------|-----------------------------|-------------------------|
| Model Name | | Geoflo Hybrid ²² | |
| Power Supply | | V - Ph - Hz | 220- 240V, 1phase, 50Hz |
| Cooling | Rated Capacity | kW | 19.7* |
| | Rated Input Power | kW | 4.8 |
| | EER | W/W | 4.1 |
| Heating | Rated Heating Capacity | kW | 18.0** |
| | Rated Heating Input Power | kW | 4.50 |
| | COP | W/W | 4.6 |
| Supplementary Hot Water Energy Output (Use To size PTR) | | kW | 10.00*** |
| Supplementary Hot Water COP/ | | | 3.9 |
| Average Water Production Rate | | L/h | 150*** |
| Refrigerant | | | R410A |
| Refrigerant Pipe – Suction | | mm / inch | 19mm - 3/4" |
| Refrigerant Pipe - Liquid | | | 9.5mm - 3/8" |
| Hot Outlet and Cold Return Connections | | | ISO 7.1¼" RP3/4 |
| Condensing Unit | | | |
| Model Name | | DONSGHW18Z2 | |
| Compressor Type | | Inverter Twin Rotary | |
| Oil Type | | Polyester (POE) | |
| Breaker & wire size selection | | Amps | 40 A |
| Maximum Input Current | | | 32 A |
| Dimensions (W x D x H) | | mm | 1257 x 508 x 1395 |
| Weight (Net) | | kg | 206 |
| Operating Temperature Limits | | °C | -15 - 50 |
| Sound Power Level | | dBA | 67 |
| Indoor Fan Coil Unit | | | |
| Model Name | | DINLR17Z72 | |
| Maximum Input Current Breaker & wire size selection | | Amps | 10 |
| Rated Load Amps (RLA) | | Amps | 3 |
| Maximum Input Power | | kW | 600 |
| Dimensions (W x D x H) | | mm | 1400 x 858 x 440 |
| Weight (Net) | | kg | 75 |
| Air Flow @ 150 Pa | | L/s | 1100 |
| Maximum External Static Pressure | | Pa | 200 |
| Return Air Duct Connection (L x W) | | mm | 1188 x 385 |
| Supply Air Duct Connection (L x W) | | mm | 1188 x 385 |
| Rated Moisture Removal | | L/h | 3.3 |
| Heat Pump Storage Tank | | | |
| Model Name | | EHFA 250S36 / EHFA 315S36 | |
| Cylinder Height | | mm | 1770 |
| Cylinder Diameter | | mm | 605 |
| Storage Tank Booster Heating Element Size | | kW | 3.60 |
| Weight Empty | | kg | 92 |
| Cold / Hot connection | | Inch | ISO 7.1¼" RP |
| Rating of PTR Valve supplied | | kW | 10 |
| Heat Pump Flow & Return connection | | Inch | ISO 7.11/2" RP |

* Rated Cooling Capacity (890 L/s Air Flow @ 60 Pa ESP - AS / NZS 3823.2

** Rated Heating Capacity (902 L/s Air Flow @ 60 Pa ESP - AS / NZS 3823.2

*** Rated Energy Output (Ambient 20 °C , Temperature rise from 20°C to 45°C)- AS / NZS 5125.1

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TOTAL HOME COMFORT



HOT WATER

HEATING

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