

# RADIANT HOT WATER

## Owner's Manual

### RADIANT®

#### Heat Pump Water Heater

Model: R2FHG1000C



Installation Details

Owner's Information

Warranty

For advice, repairs and service, call:

1300 365 115 (Australia)

0800 729 389 (New Zealand)



Carefully remove all packaging and transit protection from the heater before installation. Dispose of the packaging responsibly using re-cycling facilities where they exist.

Specifications and materials may change without notice.  
Effective for Radiant Heat Pump water heaters manufactured and sold after 1st Jan 2009.

# **RADIANT HOT WATER**

Owner's Manual – Radiant® Heat Pump

## **Contents**

Welcome To Radiant Hot Water	1
Installation Details	2
Plumbing Connections	5
Electrical Connection	8
Installation Checklist	10
Commissioning The System	11
Operational Diagrams	12
Commissioning Checklist	13
Owner's Instructions	14
Troubleshooting	17
System Maintenance	19
Safety Information	20
Service Information	21
Warranty	22
Warranty Card	25

Radiant® is a registered trademark of Dux Manufacturing Limited.  
© Dux Manufacturing Limited 2011. All rights reserved.

# RADIANT HOT WATER

Owner's Manual – Radiant® Heat Pump

## Welcome To Radiant Hot Water

Your decision to purchase a Radiant Hot Water system will reward you for many years to come.

Since 1915, the Dux range has seen continuous research and development, resulting in many breakthroughs in the efficiency, reliability and longevity of hot water systems.

Radiant water heaters are manufactured in Australia in a state-of-the-art facility, using a Quality Endorsed Company production system.

This is your assurance that you have purchased the highest quality water heater available, one that will provide continuous hot water for all your needs – safely, economically, and for many years to come.

To be upfront about it, we want Radiant to be your brand of choice. So you can depend on us to provide more than just a hot water system.

You can rely on Radiant products and choose them with confidence. We'll make sure you have the information, the quality and the innovation you're looking for, including the latest energy-saving alternatives. If you should ever have a problem – and we'll bet you won't – you'll find that we're easy to get hold of, friendly to talk to and quick to act. Our service is all about providing anything you need as soon as you need it.

Go with Radiant and you'll have a dependable, economical, efficient hot water system designed to perform well, year after year. And that's a promise.



This water heater must be installed by a licensed tradesperson, and in accordance with:

- AS/NZS3500.4.2 “National Plumbing and Drainage Code Hot Water Supply Systems – Acceptable Solutions”.
- AS/NZS3000.
- Local authority regulations.
- Outside Australia and New Zealand, please refer to local plumbing and building codes and regulations.
- Notice to Victorian customers from the Victorian Plumbing Industry Commission – this water heater must be installed by a licensed person as required by the *Victorian Building Act* (1993). Only a licensed person will give you a compliance certificate, showing that the work complies with all the relevant Standards and only a licensed person will have insurance protecting their workmanship for 6 years.

**Note:** This water heater and heat pump components are not suitable for pool heating.

All warranty is voided if the unit is laid on its side for storage or transport. It must be stored and transported in a near vertical position at all times, with no exceptions.

This water heater is designed for direct connection to water supply pressures of no greater than:

### **250 Litre Model – 800kPa**

Where the mains pressure can exceed or fluctuate beyond the pressure shown above, a pressure limiting device (complying with AS1357) must be fitted in the cold water inlet supply. This device must be installed after the isolating valve and set below the pressure shown above. Note during periods of lower demand, water pressure may increase.

**Caution:** This water heater delivers hot water at temperatures exceeding 50°C. Refer to AS/NZS3500 and local regulations regarding the need for additional temperature control of hot water delivery.

### **Safety**

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children and animals should be supervised to ensure that they do not interfere with the appliance.

# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump Installation Details

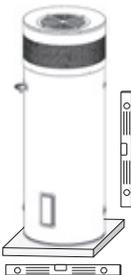
### Location

The water heater should be located as close as possible to the most frequently used hot water outlet. Ensure that the data plate is clearly visible and provide adequate access for service to the element, thermostat, relief valve and anode.

**Note:** All models are equipped with 2 sacrificial anodes, accessible through the top cover. Allow 50% of the height of the water heater for clearance above to replace the anodes.

The water heater has a plastic base which is resistant to water damage, but it is recommended that a concrete plinth be installed under the water heater to protect the heater when subjected to wet conditions and to allow free circulation of air. A properly drained overflow tray must be used where property damage could occur from water spillage. (See AS/NZS3500.4.2 for further details.)

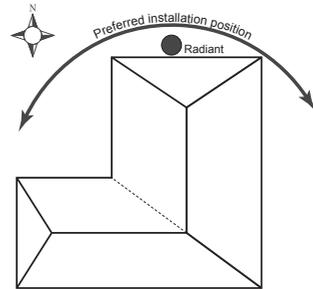
**Note:** The warranty does not cover consequential damage due to leakage of the water heater.



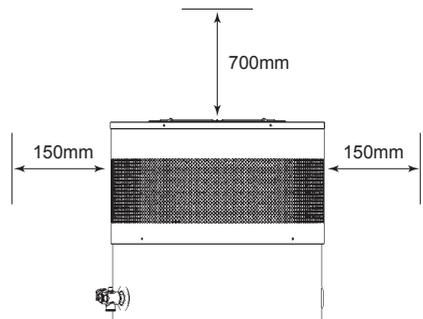
### Preferred Location

If possible, the location selected for the heat pump should be on the warm side of the home.

The selected location must have free ambient air flow to prevent cooler discharged air being drawn back into the heat pump.



Allow sufficient clear space so as not to impede this air flow. Allow 700 mm clearance above the Radiant Heat Pump and allow 150mm clearance to either side of the Radiant Heat Pump as a general rule.



# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump Installation Details

### Noise Considerations

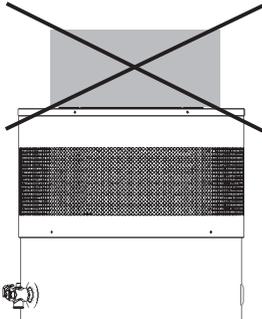
The selected location must consider noise impact on living areas, especially bedrooms, inside the house. Although the running noise level is very low (51 dB(A)) it can be expected that the heat pump will run during the night.

The installer can assist in choosing the appropriate location for the Radiant Heat Pump.

### Air Flow

Ensure the unit is placed in an area where debris such as leaves and paper etc. will not collect and block the air outlet on the top of the unit.

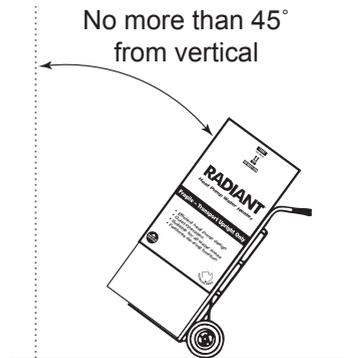
**Important:** Do not put any objects on top of the Radiant Heat Pump unit.



### Transportation

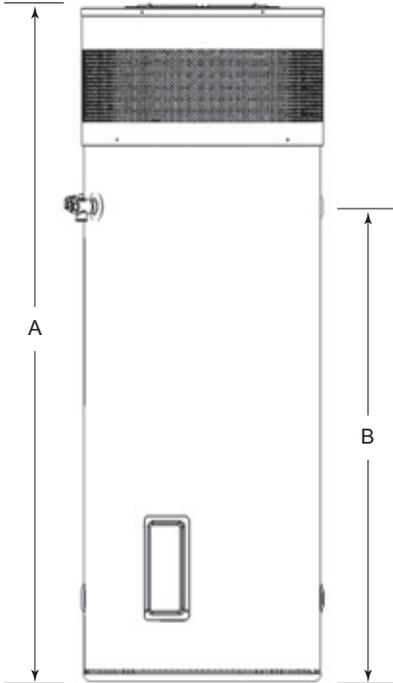
Ensure the Radiant Heat Pump is always stored and transported in an upright position.

**Note:** All warranty is voided if the unit is laid on its side for storage or transport. It must be stored and transported in a near vertical position at all times, with no exceptions.



# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump Plumbing Connections



### Storage Tank Installation

Install and connect the storage tank to the household water reticulation system as per local plumbing regulations and codes.

Install a condensation drain line in a continuous fall away from the heat pump to a safe and legal point of discharge. Usually this would be a garden bed or similar location.

### Installation Dimensions Table (mm) – 250 Litre

Tank Height (A)	1755
Tank Diameter	635

#### Height (from base of heater)

Hot Water Outlets (B)	1231
Cold Water Inlets	215

#### Minimum top clearances

Sides	150
Top	700

All measurements approximate only.

Specifications and material are subject to change without notice.

### Cold Water Connection

An approved isolating valve, non-return valve, line strainer (optional but recommended), and union must be fitted between the supply main and the RP<sup>3</sup>/<sub>4</sub>/20 socket in the water heater. All fittings must be approved by the relevant installation Authority.

# RADIANT HOT WATER

Owner's Manual – Radiant® Heat Pump

## Plumbing Connections

**Note for S.A. and W.A.:** It is a state requirement that a pressure relief valve be fitted on the cold water supply line between the non-return valve and the water heater.

### Hot Water Connection

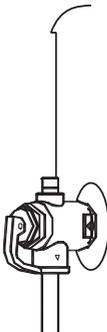
The hot water line should be connected to the RP $\frac{3}{4}$ /20 socket as shown on the Installation diagram. For the most economical operation of the water heater, it is recommended that all hot water lines are insulated with high temperature, UV resistant 13mm closed cell insulation. Please check local regulations regarding the use of hot water supply pipe work that are not made of copper.

### Pressure & Temperature Relief Valve

The Pressure & Temperature Relief Valve is supplied loose with the water heater.

**The valve rating is:**

**250L Model – 1000kPa**



The relief valve must be installed directly into the top socket marked “RELIEF VALVE”. The drain line from this valve must run in a continuously downward direction with the discharge end left permanently open to atmosphere. The Pressure & Temperature Relief Valve supplied with the water heater is not intended to enable connection of the water heater to supplementary energy sources such as solar panels or slow combustion stoves (refer AS/NZS 3500.4.2 for guidance on these types of installations).

**Warning:** A separate drain line must be run for this relief valve. It is not permitted to couple drain lines from relief valves into a single common drain line.

### Water Quality

Your Radiant water heater has been manufactured to suit all water conditions in “All Water Areas” present in Australia. Please note that harsh water supplies can have a detrimental effect on a water heater and its life expectancy. If you are unsure about your water quality, you can obtain information from your local water supply authority.

Water can also contain material known to create lime scale where lime scale can build up and block safety fittings. One measure of this water quality is known as the saturation index, if the saturation index is greater than 0.40 and therefore subject to lime scale an expansion control valve should be fitted to the unit.

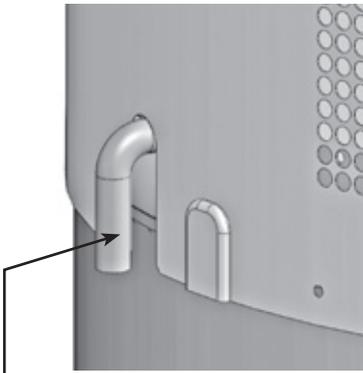
# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump Plumbing Connections

### Condensation Drain

All heat pump water heaters will create condensation from the evaporator coil. The more humid the air, the more condensation it will create.

The evaporator coil in the Radiant Heat Pump is located at the top of the unit, conforming to the outside of the tank. When condensate is created, it runs into the “Condensate Tray” which sits on top of the storage tank. This then runs out through the “Condensate Drain” which is a feature of the tray. A copper elbow is attached to this drain allowing easy access for the plumber to attach the condensate drain line away from the heater. The Radiant Heat Pump louvre now incorporates a condensate drain cover, to offer protection to the drain.



Copper elbow joined to the condensate drain

**Caution:** DO NOT braze the copper elbow to a condensate drain line, as this will result in damage to the louvre section, as well as causing potential damage to other components.

### Filling the system with water

Once the system plumbing is completed for the household and the Radiant Heat Pump has also been connected, the tank can be filled with water and pressurised.

**Caution:** The water heater must be filled with water before turning on the electricity supply.

**Caution:** If the water heater is left in an operating condition and unused for two weeks or more, a quantity of hydrogen (which is highly flammable) may accumulate in the top of the water cylinder. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes at a sink, basin or bath, but not a dishwasher, clothes washer or other appliance. During this procedure, there must be no smoking, no open flame or any other electrical appliance operating nearby. If hydrogen is discharged through the tap it will probably make an unusual sound similar to that of air escaping.

## Electrical Connection

### Electrical Connection

The unit is designed for connection to

- CONTINUOUS TARIFF, single phase 240 volt AC supply.
- Tariff 33 (QLD only), single phase 240 volt AC supply.

The electrical connection must comply with local supply authority regulations and AS3000.

For the Electrician the access cover may be removed by undoing the two screws on the cover and sliding the cover downward to disengage it from the case.

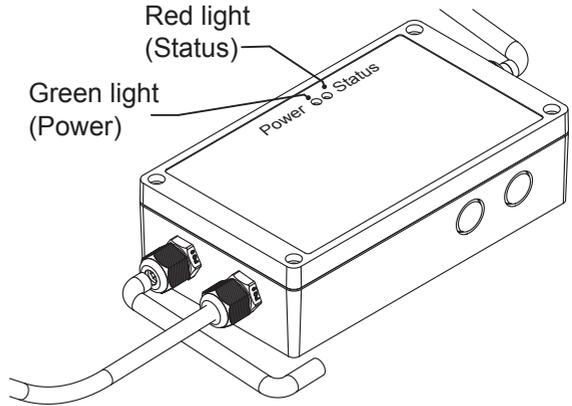
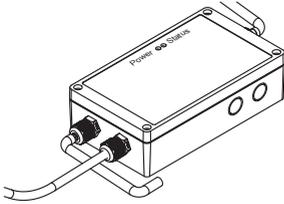
**Note:** This water heater is fitted with a thermostat and over-pressure cut-out switch. Under no circumstances should the water heater be operated without both these devices being in the circuit. Replacement must be carried out only by a qualified electrician or the manufacturer.

**Danger:** The operation of the thermal cut-out indicates a possibly dangerous situation. Do NOT reset the thermal cutout until the water heater has been serviced by a qualified person.

**Caution:** Water heater must be filled with water before turning on the electricity supply.

**Electrician:** Press the reset button on thermostat to ensure over-temperature cut-out is set.

### Hotlogic Operational Codes



Power LED (Green)	Status LED (Red)	Explanation
Alternating		Power on initialisation (LEDs blink alternately)
On	Off	Power on
On	On	Fan on (compressor on/off)
Flashing	Off	Ambient sensor error (possible tank sensor error)
Off	Flashing	Tank sensor error
Flashing	Flashing	Over Pressure Switch tripped

## Installation Checklist

1. Always transport the Radiant Heat Pump in the upright position, if you lay it on its side, the refrigeration system may be compromised and the system may fail.
2. Avoid installing the unit near a bedroom window.
3. The Radiant Heat Pump produces water condensation, so make sure the unit is installed on a flat surface and that a drain line is installed from the condensation drain port so as to conduct the water to a suitable drainage point.
4. Tempering Valves are a requirement – ensure they are commissioned correctly. Incorrect commissioning can lead to a lack of hot water delivery. The use of a Reliance brand tempering valve is recommended.
5. It is recommended that all hot water lines are insulated with high temperature, UV resistant 13mm closed cell insulation.
6. Ensure there is no obstruction on top of the Radiant Heat Pump that will block the air outlet.
7. When the system is turned on, check the Hotlogic's status lights (inside the top cover) to help you determine operational status.  
  
If it is not displaying the green power LED, refer to the table of Hotlogic Operational Codes on page 9 to determine the best course of action.
8. The Radiant Heat Pump is designed for connection to:
  - CONTINUOUS TARIFF, single phase 240 volt AC supply.
  - Tariff 33 (QLD only), single phase 240 volt AC supply.

When both the plumbing and electrical connections have been completed, the system is ready to run.

Before applying power to the system, ensure that the system is full of water and pressurised.

Turn on the power supply. The Hotlogic control system will then check the unit's operating parameters. If conditions are suitable and there is enough energy available in the surrounding air, the fan and compressor will turn on. The Radiant Heat Pump is self regulating, so there are no internal adjustments to be made during commissioning.

The Radiant Heat Pump has a 30 second delay built in after the power is switched on before the compressor and fan come on.

### Conditioning cycle

When the Radiant Heat Pump is operated for the first time, it runs through what is known as a conditioning cycle. Once this has occurred, it is important to conduct a draw off of hot water, and allow the unit to re-heat prior to testing water temperature.

Do the following:

1. After filling the tank with water, allow time for the initial heat up cycle.
2. Once its first heat up cycle is complete, empty approximately 60 litres of hot water from the tank through the PTR valve outlet.
3. Then allow the water in the tank to re-heat.
4. Once the re-heat cycle is complete, measure the water temperature at the PTR outlet again.
5. The temperature will be approximately 60°C.

If for any reason the Radiant Heat Pump does not start, the water is cold, or the Hotlogic unit is not displaying any LED lights, an electrician should test that power is available to the heat pump.

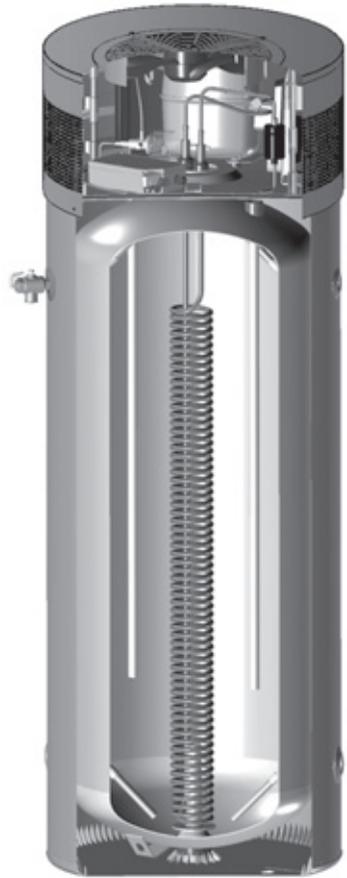
**Note:** There are no installer serviceable parts within the heat pump module.

# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump Operational Diagrams



Refrigeration View



Cut-through View



Main Component View

## Commissioning Checklist

1. The Radiant Heat Pump produces water condensation, so make sure the unit is installed on a flat surface, and ensure you install a condensate drain from the condensate drain port down the side of the water heater.
2. Tempering Valves are a requirement – ensure they are commissioned correctly. Incorrect commissioning can lead to a lack of hot water delivery.
3. Make sure the all copper pipes are lagged with high temperature closed cell 13mm minimum insulation.
4. Ensure there is no obstruction on top of the Radiant Heat Pump that will block the air outlet.
5. When the system is turned on, check that the Hotlogic unit (inside the top cover) is displaying the green power LED.  
  
If it is not displaying the green power LED, refer to the table of Hotlogic Operational Codes on page 9 to determine the best course of action.

### Safety

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children and animals should be supervised to ensure that they do not interfere with the appliance.

### How Does The Heat Pump Module Work?

A heat pump uses complex thermodynamic principles to extract energy from ambient air and transfer this energy to water that is in contact with the unit's immersed heat exchanger. The heat pump's operational principles are similar to those used in a normal domestic refrigerator, except in reverse. In a refrigerator, heat energy is drawn from inside the refrigerator (making things cold), concentrated by the compressor, then dissipated to the atmosphere via the condenser coil located on the back of the refrigerator cabinet.

In a Radiant Heat Pump system, outside air is drawn into the unit and across an evaporator coil by a fan. The evaporator coil captures the energy in the air and transfers that to cold liquid refrigerant, contained inside the evaporator, causing the refrigerant to increase in temperature and evaporate into a warm gas.

The warm gas on exiting the evaporator passes into a compressor where compression causes the temperature of the gas to increase further, becoming a superheated (hot) gas.

The superheated gas is pumped from the compressor to a water immersed condenser coil, where it gives up its heat energy to the water. When the superheated gas gives up energy, it condenses back to a liquid, and on exiting the condenser coil, it passes through an expansion control valve (TX valve).

The TX valve acts as an automatically adjusting tap that controls the amount of liquid refrigerant that is allowed to pass, once more, into the evaporator. This is necessary to constantly match the amount of liquid entering the evaporator to the available energy in the air passing through the evaporator so that the entire liquid refrigerant that enters evaporates and exits as a gas only.

### How Do I Operate The System?

The operation of your water heater is fully automatic, so you only need to connect the water and electricity supply and then turn on the electricity.

The heat pump module is electrically connected to the storage tank and will start automatically when the water temperature in the storage tank falls below 55°C and continue to run until the water temperature of the complete tank

has been increased to 60°C or slightly above. To condition the unit properly allow the heat pump to go through one heat up cycle, before use, in that case allow 24 hours before using the hot water.

### **How Long Will The Heat Pump Run Each Day?**

The length of time that the Radiant Heat Pump will run each day will vary, depending on the amount of hot water being used by the household and the average outdoor ambient temperature.

Generally the Radiant Heat Pump will run longer in winter and at night, when the outside air temperature contains less energy.

### **What Is The Radiant Heat Pump De-Icing Function?**

During colder temperatures (below 0°C), and dependant on the level of humidity, ice can begin to form on the evaporator coil, which has the potential to affect the system's performance.

Operating through the patented Hotlogic controller, the system instinctively determines when conditions conducive to icing exist. At this time the de-icing process commences, removing ice from the evaporator and allowing the Radiant Heat Pump to continue to heat water.

The de-icing cycle interrupts the flow of heated refrigerant, whilst still allowing the fan to run, continuing to draw air through the louvres. It is this airflow

which de-ices the evaporator. Once de-icing has occurred, the system allows the refrigerant to flow, and heating continues.

### **Why Is There Condensation Coming From The Unit?**

Condensation production is normal for all devices that use refrigeration principles. Air conditioners are a good example of systems that produce water condensation.

Condensation occurs when relatively warm moist air passes through the cold evaporator. Moisture contained in the air condenses (deposits) onto the evaporator fins, then runs down into the drainage system located under the evaporator. It is this water that you see flowing from the condensate drain of the system.

The amount of condensation will vary with the humidity of the location, so the amount of condensate that flows from the module will also vary (see the section on condensate drain page 18).

### **Does The Heat Pump Need Sunlight To Operate?**

Heat pump water heaters extract their energy from the surrounding air and not from sunlight. For this reason they can efficiently produce hot water any time day or night and even on cloudy or overcast days. It is not uncommon for your system to operate during the night.

**Caution:** All water heaters have the ability to produce hot water in a surprisingly short time. To reduce the risk of scald injury, it is mandatory under the requirements of Australian Standards AS3500 that an Australian Standards approved temperature control valve be fitted to the hot water supply pipe work. This valve should be checked at regular intervals to ensure its operation and settings remain correct.

### **What Should I Do During Holidays?**

If you are going to be away for a week or more, it is advisable to turn off the electricity supply to the system. While there is no damage likely if the electricity is left on, you will consume energy through storage tank heat losses which can be avoided.

**Warning:** If the hot water system is not used for two weeks or more, a quantity of hydrogen gas, which is highly flammable, may accumulate in the water heater. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes at a sink, basin

or bath, but not a dishwasher, clothes washer, or other appliance. During this procedure, there must be no smoking, open flame or any other electrical appliance operating nearby. If hydrogen is discharged through the tap, it will probably make an unusual noise similar to air escaping.

### **What Should I Check Before Making A Service Call?**

If, after checking the troubleshooting points in the following section, the problem has not been identified, please contact the distributor from whom you purchased the system.

**Note:** It is important to know that there are no user serviceable components in the system, and as such, it is recommended that no covers be removed and no adjustments made to the system settings by anyone other than an authorised representative.

### Troubleshooting

#### **Pressure & Temperature Relief Valve (PTR)**

It is not unusual for the PTR Valve to allow a small quantity of water to escape during the heating cycle. The amount of discharge will depend on hot water usage.

#### **Continuous Trickle (PTR)**

This is most likely due to a build up of foreign matter. In this case, try gently raising the easing lever on the Pressure & Temperature Relief Valve for a few seconds, then release gently. This may dislodge a small particle of foreign matter and rectify the fault.

#### **Steady Flow (PTR)**

This may be caused by excessive water supply pressure, a faulty PTR Valve, or a faulty thermostat. Turn off the electricity supply, turn off the water, and contact your Radiant agent.

#### **No Hot Water**

- Is the Pressure & Temperature Relief Valve discharging too much water?
- Do you have the correct size water heater for your requirements? Sizing details are available from your Radiant supplier.
- Is one outlet (such as the shower) using more hot water than you think?
- Carefully review the family's hot water usage and if necessary check the shower flow rates with a

bucket, measuring the amount of water used over that period of time. If it is not possible to adjust water usage patterns, an inexpensive flow control valve can easily be fitted to the shower outlet.

- Consider that during night time heating, the time taken to heat the tank can take longer (because there is less energy in the air) so you may find that the tank has not fully recovered from a period of heavy usage during the previous evening.
- Consider that often the hot water usage of showers, washing machines and dishwashers can be under-estimated. Review these appliances to determine if your daily usage is greater than the storage volume of your water heater. If, for example, you have a 315 litre storage tank and you are using 450 litres of water, it is possible that there will be certain times of the day where there is insufficient hot water. It is also advisable to inspect tap washers etc. for leakage and replace if necessary.

#### **High Electricity Bills**

- Is the Pressure & Temperature Relief Valve discharging too much water?
- Is one outlet (such as the shower) using more hot water than you think?
- Is there a leaking hot water pipe or

dripping hot water tap? A small leak can waste a large quantity of hot water.

- Replace faulty tap washers and have your plumber rectify any leaking pipe work.

### **Condensation Is Dripping From Inside The Unit**

Check that the discharge location of the condensate drain has not been blocked, thereby restricting the condensation flow away from the heat pump.

### **The Radiant Heat Pump Does Not Run**

Check that the power supply is turned on and that the house circuit breakers or fuses are on and operational.

# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump System Maintenance

The heat pump water heater is designed to eliminate system maintenance other than that detailed in this *Owner's Manual*.

Personally inspecting or servicing any part of the system is not recommended.

Should you decide to personally inspect the system, it is essential that you observe all normal safety practices.

**Most importantly, the electricity supply must be turned OFF.**

Every 5 years, you should contact the local service agent to replace all safety valves and anodes to ensure continued system life and operational safety. In locations where the potable water has a TDS greater than 600 ppm, this service is recommended every 3 years.

## Safety Information

For safe performance this water heater is fitted with:

- an over-temperature energy cut-out thermostat.
- a combination Pressure & Temperature Relief Valve.

These devices must not be tampered with or removed. The water heater must not be operated unless both of these devices are fitted and in working order.

The element cover should be removed only by an electrician. The electrical power supply switch must be turned off and the fuse removed at the main electrical supply switchboard before the water heater's electrical cover is removed.

The Pressure & Temperature Relief Valve should be checked for adequate performance or replaced at intervals not exceeding 5 years, or less in areas where local regulations apply. The lever on the relief valve should be pulled to operate the valve at least once every 6 months.

**Note:** The pressure & temperature relief valve and the drain outlet pipe must not be sealed or blocked. It is normal for the valve to overflow during heating cycles.

### **Danger**

Failure to operate the relief valve easing lever at least once every six (6) months may result in a problem with the water heater and in some cases the tank may explode.

## Service Information

### Six Monthly Service – By Owner

Operate the Pressure & Temperature Relief Valve for approximately 10 seconds by operating the easing lever on the valve to ensure water is relieved to waste through the relief drain pipe. Check to ensure the valve closes correctly.

### Five Year Service – By Authorised Personnel Only

The five yearly services should be carried out by a licensed tradesperson, where it is recommended that this service be carried out by your local service agent.

The service should include the following:

- Replace the Pressure & Temperature Relief Valve.
- Replace the anodes (in areas of harsh or adverse water conditions, it is recommended that you carry out a more frequent check of your anodes' condition).
- Flush the water heater by doing the following:
  - (i) Turn off the power.
  - (ii) Turn off the cold water supply to the water heater at the isolating valve.

- (iii) Gently operate the easing lever on the Pressure & Temperature Relief Valve to release the pressure in the water heater.
- (iv) Disconnect the cold water inlet union to the heater and attach a drain hose.
- (v) Gently operate the Pressure & Temperature Relief Valve to let air into the heater and allow water to escape through the hose.
- (vi) To flush the heater, carry out steps (i) to (iv) above. Disconnect the hot water inlet union and attach a water supply hose to the heater. Turn on the water supply.
- (vii) Flush the heater until clear water appears, then reconnect all fittings, fill the heater and restore the electricity supply.

### Draining the Water Heater

To drain the water heater, follow steps i to v above until no more water escapes from the appliance.

### **Radiant Hot Water Unit**

#### **Manufactured by Dux Manufacturing Limited (“Dux”)**

#### **Terms of Warranty and Replacement Guarantee**

All Radiant water heaters manufactured and sold after 1 January 2011 are backed by a comprehensive one (1) year full parts and labour warranty (conditions apply – see below).

Furthermore, the Radiant tank includes a guarantee to replace your hot water unit if the inner cylinder fails within five (5) years (conditions apply – see below).

The terms of the Warranty and replacement guarantee are set out below.

#### **1 Year Comprehensive Warranty**

Your Radiant hot water system and its components are covered by a one (1) year (parts and labour) warranty against defective factory materials or workmanship from the date your hot water unit is installed or two (2) years from date of manufacture, whichever occurs first.

#### **2 Year Refrigerant Components Replacement Guarantee**

If a refrigerant component fails on a Radiant hot water unit, within a further one (1) year after the end of the initial warranty period, Dux will provide

a full refrigerant parts replacement guarantee for these components, at the nearest approved Dux agent or Dux office to the owner's home. Under this replacement guarantee, the transport, installation and labour costs of delivering the replacement components will be responsibility of the owner of the existing water heater.

#### **5 Year Replacement Guarantee**

If an inner cylinder fails on a Radiant hot water unit within a further four (4) years after the end of the initial one (1) year warranty period, Dux will provide a free replacement hot water unit at the nearest approved Dux agent or Dux office to the owner's home. Under this replacement guarantee, the transport, installation and labour costs of delivering the replacement hot water unit and removing and replacing the existing hot water unit will be the responsibility of the owner of the existing hot water unit.

#### **Scope of Warranty and Replacement Guarantee**

In addition to the guarantees implied by the Australian Consumer Law (“ACL”), Dux provides a warranty for the periods of time set out above (1 year plus a further 4 years), after the date of installation (or manufacture) of the hot water heater (“the Unit”), that the Unit is free from all defects in factory materials or workmanship under normal use.

If the Unit fails to conform to this warranty during the applicable period, Dux will replace any failed component or where necessary, in the absolute discretion of Dux, replace the Unit free of charge including reasonable labour costs incurred in normal business working hours.

**Note:** Where the date of completion of installation is not known, then this warranty will commence one (1) month after the date of manufacture (refer to the data label on the Unit).

This warranty only applies to defects which have arisen solely from faulty materials or workmanship in the Unit and does not apply to other defects which may have arisen as a result of, without limitation, the following: accidental damage, abuse, misuse, maltreatment, abnormal stress or strain, harsh or adverse water conditions including excessive water pressure or temperature, or neglect of any kind of the Unit. Alterations or repair of the Unit other than by an accredited and licensed service agent or technician are not covered. Attachment of accessories or use of non genuine replacement parts other than those manufactured or approved by Dux are not covered by this extended warranty.

This warranty applies only to the Unit and does not cover any ancillary plumbing or electrical parts supplied by the installer such as pressure limiting

valve, tempering valve, line strainer, stop cocks, non-return valve, electrical switches, pumps or fuses, or faulty installation.

The Unit must be installed by a licensed plumber in accordance with information set out in the Owner's Manual and/ or Installer's Guide supplied with the Unit and/or any relevant statutory requirements.

In addition to this extended warranty, certain legislation (including the ACL) may give you rights which cannot be excluded, restricted or modified. This extended warranty must be read subject to such legislation and nothing in this warranty has the effect of excluding, restricting or modifying those rights.

If Dux fails to meet a guarantee implied by the ACL, your remedy for such failure may be limited to any one or more of the following:

- replacement of the Unit;
- repair of the Unit;
- refunding the cost of the Unit;
- payment of reasonable costs of having the Unit repaired;
- payment in respect of the reduced value of the Unit.

Any defective part of the Unit must be returned to the point of sale before replacement can be considered under the terms of this warranty. If the costs

of returning any defective parts are unreasonable, please contact Dux on 1300 365 115 (Australia) or 0800 729 389 (New Zealand) so that we can arrange a collection if appropriate.

Warranty claims can be made at the point of sale or by posting or faxing a warranty claim to Dux (contact details listed below) within one (1) month of the appearance of a defect. Warranty claims under this extended warranty must include the following details:

- Date of Purchase;
- Location of Purchase;
- Proof of Purchase;
- Contact Details
- Product Serial Number

### **Contact details**

Dux' contact details are as follows:

#### **Postal Address:**

Dux Manufacturing Limited  
PO Box 209  
Moss Vale, NSW, 2577  
Australia

#### **Telephone:**

1300 365 115 (Australia)  
0800 729 389 (New Zealand)

#### **Facsimile:**

(61 2) 4868 0257

#### **Web:**

<http://dux.com.au/>

**Note:** If the Unit is located in a position that does not comply with the installation instructions or relevant statutory requirements, then this extended warranty does not cover major dismantling or removal of cupboards, doors, walls or special equipment and/or excessive labour, at the determination of Dux, to make the Unit accessible for repair or replacement.

As required by legislation, including under the ACL, any claims for damage to furniture, carpets, walls, foundations or any other consequential loss either directly or indirectly due to defects of any kind in a Unit will only be met by Dux where the damage could be considered reasonably foreseeable.

Our goods come with guarantees that cannot be excluded under the ACL. You are entitled to a replacement or refund for a major failure and for compensation for any other loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

# RADIANT HOT WATER

## Owner's Manual – Radiant® Heat Pump Warranty Card

Inside the water heater carton you will find a warranty card – please fill in the details and return immediately. This will ensure prompt service under warranty, if required.

Product Warranty is applicable only in Australia and New Zealand.

See page 22 for terms of warranty.

*Privacy Act Amendment (2000):* If and whenever warranty service is required, your personal details will be given to an Authorised Dux Service Agent only for the express purpose of carrying out the arranged warranty service work agreed by you the client and Dux Manufacturing Limited.

### Your Details

For future convenience, fill in the following details and retain with your original invoice for your own records.

Surname:.....Given Name(s):.....

Address:.....

Town/Suburb:.....

State/Territory:..... Postcode:.....

Date of Purchase:..... Purchased From:.....

Model:..... Serial Number:.....

Date of Manufacture:.....

(Details on Data Label on water heater)

### Installer's Details:

Date of Installation:..... Installer's Name:.....

Address:.....

Installer's Signature:.....

### Service Details:

Date of Service:..... Serviced By:.....

Work Carried Out:.....

.....

.....

Signature of Service Agent:.....

# **RADIANT<sup>®</sup>** **HOT WATER**

Owner's Manual – Radiant<sup>®</sup> Heat Pump

# **RADIANT<sup>®</sup>**

## **Heat Pump Water Heater**



For advice, repairs and service, call:

1300 365 115 (Australia)

0800 729 389 (New Zealand)