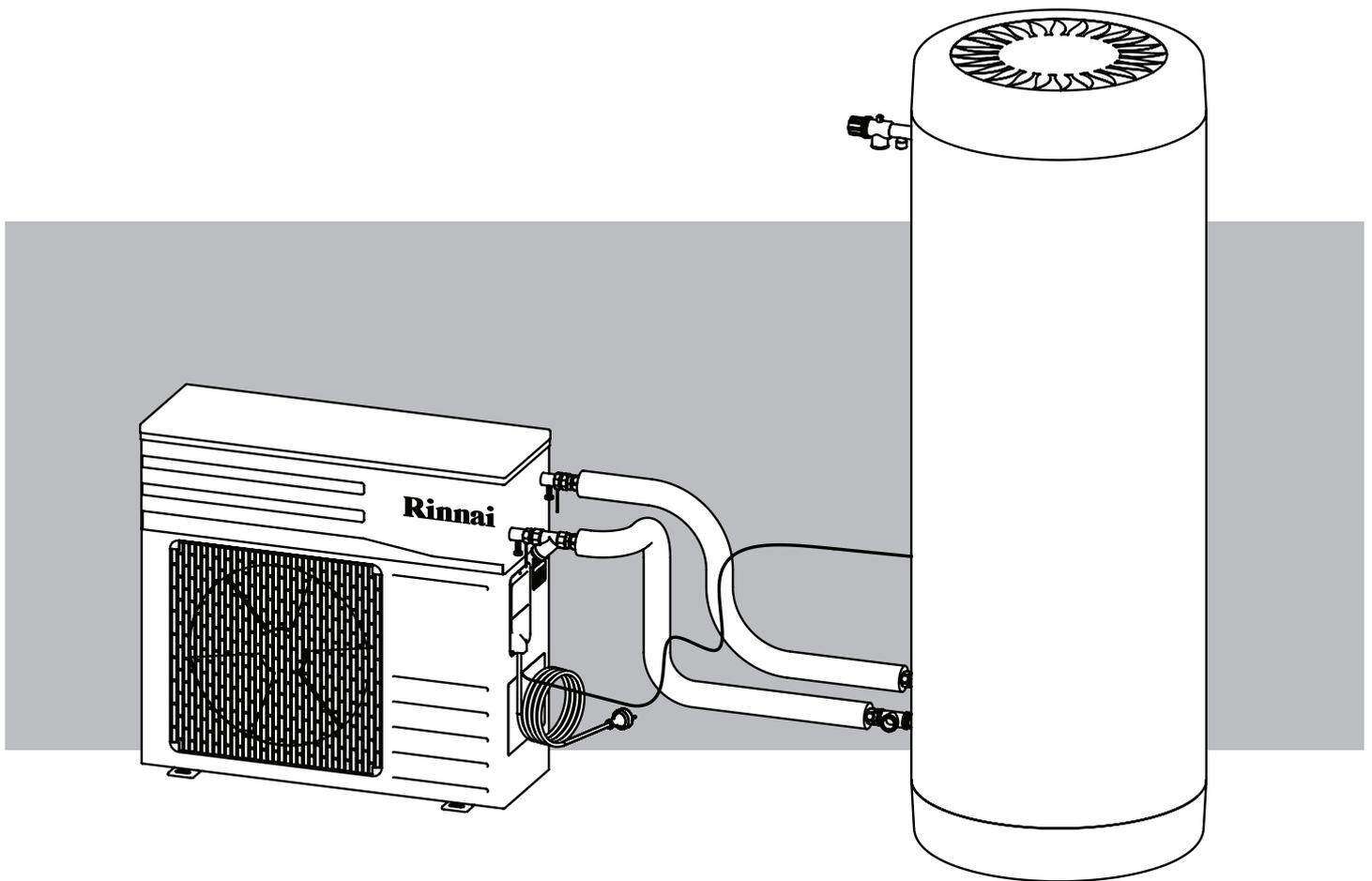


Rinnai

Operation / Installation Manual Rinnai Split Heat Pump Water Heater Model: EHP32-HPST265



This appliance must be installed in accordance with:

- Manufacturer's Installation Instructions
- Current AS/NZS 3000, AS/NZS 3500
- Local Regulations and Municipal Building Codes

This appliance must be installed, commissioned and serviced by an Authorised Person in accordance with all applicable local rules and regulations.

NOT SUITABLE AS A POOL OR SPA HEATER.



N10378



AS/NZS 3498
Lic. WMKA 00169
SAI Global



Australian
Standard

AS/NZS 2712
Lic. SMK 1849
SAI Global

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IMPORTANT INFORMATION & WARNINGS

SAFETY & REGULATORY INFORMATION



DO NOT operate this system before reading the manufacturers instructions.

This appliance must be installed, commissioned and serviced by an authorised person in accordance with all applicable local rules and regulations.

Access covers of water heating system components will expose 240V wiring and **MUST** be removed by an authorised person.

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 should be supervised to ensure they **DO NOT** play with the appliance.

Any power leads from the water heater system components **MUST BE** plugged into an external weatherproof electrical outlet. If the power supply cord of any water heating components is damaged, it **MUST BE** replaced by an authorised person in order to avoid a hazard, using genuine replacement parts available from Rinnai. Take care not to touch the power plugs with wet hands.

Care should be taken not to touch the pipe work as it may be **HOT!** The pipes between the heat pump and storage cylinder **MUST BE** copper, or alternative material pipes that may be supplied by Rinnai. Plastic pipe is **NOT** suited to the water temperatures and pressures that may occur in the system.

DO NOT place articles on or against this appliance.

DO NOT store chemicals or flammable materials near this appliance.

DO NOT operate with panels or covers removed from this appliance.

DO NOT activate heat pump unless cylinder is full of water.

DO NOT insert fingers or objects into the air inlet or outlet. When the fan is rotating at high speed it can cause injury.

NEVER use a flammable spray such as hair spray, lacquer, paint, etc near this unit as this may cause a fire.

NOTICE TO VICTORIAN CONSUMERS

This appliance must be installed by a person licensed with the Plumbing Industry Commission.

Only a licensed person will have insurance protecting their workmanship.

So make sure you use a licensed person to install this appliance and ask for your Compliance Certificate.

For Further information contact the Plumbing Industry Commission on 1800 015 129.

IMPORTANT INFORMATION & WARNINGS

SCALDS HAZARDS



HOT WATER CAN CAUSE SCALDS.

CHILDREN, DISABLED, ELDERLY AND THE INFIRM ARE AT THE HIGHEST RISK OF BEING SCALDED.

FEEL WATER TEMPERATURE BEFORE BATHING OR SHOWERING.

SCALDS FROM HOT WATER TAPS CAN RESULT IN SEVERE INJURIES TO YOUNG CHILDREN.

SCALDS OCCUR WHEN CHILDREN ARE EXPOSED DIRECTLY TO HOT WATER WHEN THEY ARE PLACED INTO A BATH WHICH IS TOO HOT.

ALWAYS.....

Test the temperature of the water with your elbow before placing your child in the bath, also carefully feel water before bathing or showering yourself.

Supervise children whenever they are in the bathroom.

Make sure that the hot water tap is turned off tightly.

CONSIDER.....

Installing child proof tap covers or child resistant taps (both approaches will prevent a small hand being able to turn on the tap).

Installing tempering valves or thermostatic mixing valves which reduce the hot water temperature delivered to the taps. Your local plumbing authority may already require that these be fitted. Contact your installer or local plumbing authority if in doubt.

NEVER.....

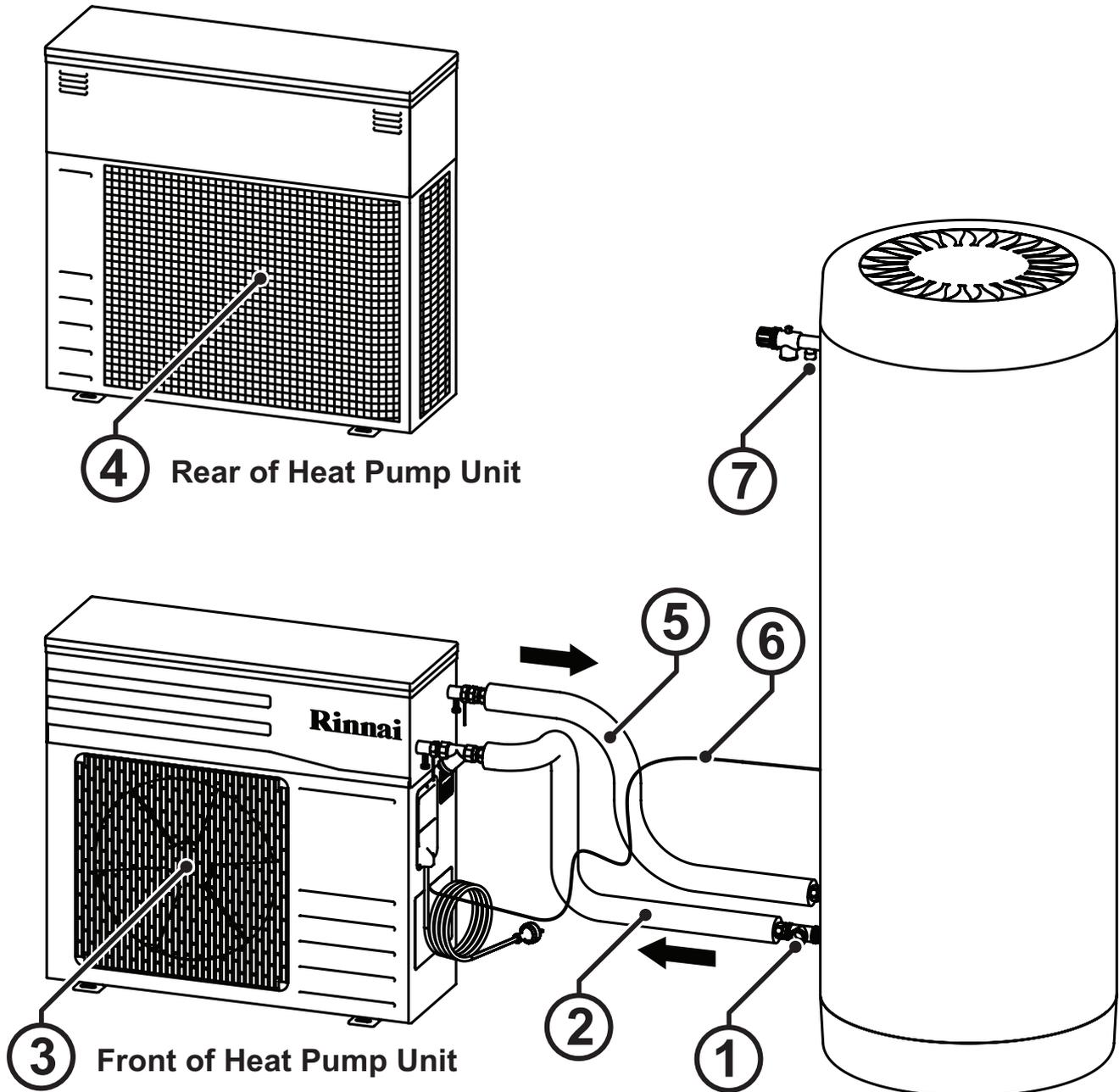
Leave a toddler in the care of another child. They may not understand the need to have the water temperature set at a safe level.

IMPORTANT INFORMATION & WARNINGS

OPERATION PRINCIPLE

A heat pump operates by transferring energy from the ambient outside air into the water. Electricity is used to operate the system, but not to heat the water. Because of this, less electricity is needed to heat the water.

The Rinnai split system comprises a separate heat pump module and water storage tank. The heat pump unit includes a circulation pump which draws water from the storage tank and returns it to the tank at a higher temperature. A temperature sensor in the tank is used to control the heat pump operation to achieve suitable tank temperatures.



1. Cold water inlet connection
2. Water from storage tank to heat pump unit
3. Outlet air
4. Inlet ambient air
5. Water from heat pump unit to storage tank
6. Storage Cylinder temperature sensor lead
7. Hot water outlet connection

IMPORTANT INFORMATION & WARNINGS

SAFETY DEVICES

The water heating system is supplied with various safety devices including temperature sensors, overheat sensors and switches and a Pressure & Temperature Relief (PTR) valve. These devices must not be tampered with or removed. The water heating system must not be operated unless each of these devices is fitted and is in working order.



DO NOT tamper with or remove safety devices.

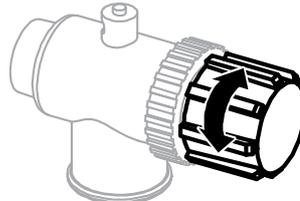
DO NOT operate the water heater unless all safety devices are fitted and in working order.

DO NOT block or seal the PTR Valve and drain pipe.

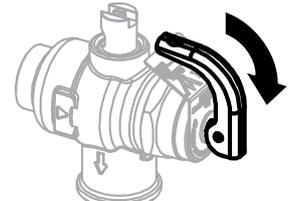
Pressure & Temperature Relief (P&TR) Valve

This valve is located near the top of the water heater and is essential for safe operation. It is normal for the valve to release a small quantity of water through the drain line during heating.

However, continuous leakage of water from the valve and its drain line may indicate a problem with the water heater.



Twist cap until water flows from drain line



Lift lever until water flows from drain line (Lower lever gently!)



Never block the outlet of the PTR valve or its drain line for any reason. The easing gear must be operated at least every 6 months to remove lime deposits and verify that it is not blocked. Failure to do this may result in the water heater failing.

If the valve does not discharge water when the easing gear lever is opened, or does not seal again when the easing gear is closed, attendance by an authorised person must be arranged without delay. The P&TR valve is not serviceable.

EXCESSIVE DISCHARGE FROM SAFETY DEVICES

Pressure & Temperature Relief (P&TR) Valve

It is normal and desirable that this valve allows a small quantity of water to be discharged during the heating cycle. If it discharges more than a bucket of water during a 24 hour period or discharges continuously there may be another problem.

If the valve dribbles continuously, try easing the valve gear for a few seconds as described above. This may dislodge any foreign matter and alleviate the problem.

If the valve discharges at high flows, especially at night, it may be as a result of the water pressure exceeding the design pressure of the water heater. Ask your installer to fit a Pressure Limiting Valve (PLV).



NEVER replace the P&TR valve with one which has a higher pressure rating than is specified for your water heater.

Expansion Control Valve (ECV) - if fitted

It is normal and desirable that this valve allows a small quantity of water to be discharged during the heating cycle. If it discharges more than a bucket of water during a 24 hour period or discharges continuously there may be another problem.

If the valve leaks continuously, try easing the valve gear for a few seconds. This may dislodge any foreign matter and alleviate the problem. If this does not alleviate the problem contact Rinnai.

Operate the easing gear regularly to remove any lime deposits and to verify that it is not blocked.

IMPORTANT INFORMATION & WARNINGS

TURNING 'OFF' THE WATER HEATING SYSTEM

If you plan to be away for only a few nights, we suggest you leave the water heating system switched on. If it is necessary to switch off the water heater, do so by switching off the electric power supply to the heat pump unit.



DO NOT turn power off to the heat pump unit if snow or frost conditions are expected as components in the system may be damaged by freezing. If power needs to be turned off or power failure occurs and freezing conditions are expected, the water needs to be drained from the heat pump unit. Follow the procedure described below in the section "DRAINING AND FILLING". It is not necessary to drain the storage cylinder.

TURNING 'ON' THE WATER HEATING SYSTEM

1. Switch on the electric supply to the heat pump unit. Water heating will now occur as required. It may take a number of hours before hot water is available.

DRAINING AND FILLING

1. Draining or filling of the complete system normally only occurs during installation or servicing and must be carried out by an authorised person.
2. Draining water from the heat pump unit is necessary if the power will be shut off to the unit and snow or frost conditions are expected. It is not necessary to drain the storage cylinder for this purpose. **Arrange for an authorised person to carry out this task.**

WATER QUALITY

The water quality of most public supplies is suitable for the water heater system. The water quality from bore wells is generally unsuitable for the water heating system. Refer to separate 'Warranty Terms & Conditions' document for water quality parameters and how they affect the warranty conditions. If in doubt about water quality, have it checked against the parameters listed in the warranty conditions. The system is not suitable as a pool or spa heater.

MAINTENANCE

Operate the easing gear of the P&TR as described under "SAFETY DEVICES" - "Pressure & Temperature Relief (P&TR) Valve" on page 4 and the easing gear of the ECV as described under "EXCESSIVE DISCHARGE FROM SAFETY DEVICES" - "Expansion Control Valve (ECV) - if fitted" on page 4.

SERVICING & REPAIR

Rinnai's servicing network personnel are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance needs service, ring one of the service contact numbers on the back of this booklet.

The pressure and temperature relief valve and expansion control valve (if fitted) must be replaced by an authorised person at intervals not exceeding 5 years or more frequently in areas where the water is classified as scaling water.

If the power supply cord or plug to the heat pump unit is damaged, they must be replaced by an authorised person in order to avoid a hazard. The power supply cord and plug must be replaced by a genuine replacement part available from Rinnai.

TROUBLE SHOOTING GUIDE

Use the following trouble shooting guide to avoid the need for an unnecessary service call.

Insufficient or No Hot Water	
Problem	Remedy
Heat Pump Unit	<ul style="list-style-type: none"> • Ensure the heat pump is plugged into the power point and turned on.(note that the compressor will not start up for 3 minutes after power is turned on). • Check to ensure the electric isolating switch at the switchboard (usually marked "Hot water or water heater" is turned on. • Check to ensure the electric fuses for the heat pump are intact.
Excessive hot water consumption	<ul style="list-style-type: none"> • Often end users are surprised at the amount of hot water used, especially when showering. If the amount of hot water used during the day exceeds the storage capacity of the cylinder, it is likely there will be insufficient hot water.
Pressure & Temperature Relief (P&TR) Valve continually discharging water	<ul style="list-style-type: none"> • It is normal and desirable that this valve allows a small quantity of water to be discharged during the heating cycle. If it discharges more than a bucket of water during a 24 hour period or discharges continuously there may be another problem. • If the valve dribbles continuously, try easing the valve gear for a few seconds as described in "EXCESSIVE DISCHARGE FROM SAFETY DEVICES" on page 4. This may dislodge any foreign matter and alleviate the problem. • If the valve discharges at high flows, especially at night, it may be as a result of the water pressure exceeding the design pressure of the water heater. Ask your installer to fit a Pressure Limiting Valve (PLV).
Expansion Control Valve (ECV) continually discharging water	<ul style="list-style-type: none"> • It is normal and desirable that this valve allows a small quantity of water to be discharged during the heating cycle. If it discharges more than a bucket of water during a 24 hour period or discharges continuously there may be another problem. • If the valve leaks continuously, try easing the valve gear for a few seconds as described in "EXCESSIVE DISCHARGE FROM SAFETY DEVICES" on page 4. This may dislodge any foreign matter and alleviate the problem. If this does not alleviate the problem contact Rinnai.
Ambient conditions too hot	<ul style="list-style-type: none"> • To protect the components of the heat pump unit it may not operate when the ambient temperature is higher than 45°C.
Air inlet or outlet of heat pump blocked	<ul style="list-style-type: none"> • To protect the components of the heat pump unit, it will not operate is there is insufficient air flow through the unit. Remove any obstructions from the air inlet and outlet.

SERVICING & REPAIR

No Water From The Tap

<i>Problem</i>	<i>Remedy</i>
Restriction in the hot tap or failure of the cold water supply to the water heater	<ul style="list-style-type: none"> • Check for water flow at the other taps and that the cold water isolation valve is fully open.

High Electricity Bill

<i>Problem</i>	<i>Remedy</i>
Excessive hot water consumption	<ul style="list-style-type: none"> • See entry under the heading 'Insufficient hot water'
High Electricity Tariffs	<ul style="list-style-type: none"> • The electricity tariff will determine the running costs of the system. It is important the end user is aware of the applicable tariffs. Contact your electricity supplier to confirm what these tariffs are.

Water Flow Fluctuations

<i>Problem</i>	<i>Remedy</i>
One or more hot taps opened at the same time	<ul style="list-style-type: none"> • More than one or two hot taps in use at the same time may cause a decrease in the hot water flow from the taps. • Is there more than one or two hot taps open, or are appliances such as a dishwasher or washing machine, in use at the same time? • Ensure only one or two hot taps are on at one time.

Water Hammer

<i>Problem</i>	<i>Remedy</i>
Hot and cold water plumbing in the premises	<ul style="list-style-type: none"> • Have a plumber check clipping of hot and cold water pipe work and install a pressure limiting valve and water hammer arrestor as required.

Heat Pump Ices Up

<i>Problem</i>	<i>Remedy</i>
Defrosting function	<ul style="list-style-type: none"> • The heat pump has a built in defrosting function which may operate and remove any ice.

SPECIFICATIONS & DIMENSIONS

SYSTEM SPECIFICATIONS	Rinnai Split Heat Pump Water Heater model: EHP32-HPST265		
Connections	Storage Cylinder - Cold inlet	ISO 7.1 ¾" RP	
	Storage Cylinder - Hot Outlet	ISO 7.1 ¾" RP	
	Storage cylinder – return from heat pump module	ISO 7.1 ¾" RP	
	Storage Cylinder - P&TR Valve connection	ISO 7.1 ½" RP	
	Heat pump module – connections to & from storage cylinder	ISO 7.1 ¾" RP	
	P&TR Valve	ISO 7.1 ½" RP	
Pressure & Temperature Relief (P&TR) Valve <i>(Supplied)</i>	Setting	850 kPa	
	Rating	10 kW	
Expansion Control Valve (ECV) <i>(To be supplied by installer)</i>	Setting	700 kPa	
Max Supply Pressure	With ECV	550 kPa	
	Without ECV	680 kPa	
Pressure Limiting Valve (PLV) <i>(To be supplied by installer)</i>	Rating	500 kPa	
Maximum length of piping between heat pump & storage cylinder. <i>(To be supplied by installer)</i>	For each pipe	4 metres of ½" copper tube to Australian Standard AS1432	
EHP32 Heat Pump Module	Rated Input	1.9 kW	
	Maximum Water Pressure	850 kPa	
	Maximum Energy Output <i>(This value is the maximum possible from the unit and should be used to ensure the P&TR valve is suitably sized)</i>	6.0 kW	
	Refrigerant Type / Mass	R134A / 750 g	
	Ingress Protection	IP24	
	Net Weight	54 kg	
	Power Supply	240 V, 50 Hz.	
	Startup Protection	When the power is first turned on to the heat pump or power is cut then restored, the unit will not start for 3 minutes to protect the condenser.	
	Defrosting Function	When the condenser temperature reaches 0°C, the defrosting mode will operate for 10 minutes or until the condenser temperature reaches 10°C.	
	Protection Systems	The heat pump has protection systems that will stop the operation of the unit if: <ul style="list-style-type: none"> • The air inlet or outlet are blocked • Voltage is out of nominal range of 207V to 255V • Over pressure or over temperature in the refrigerant system 	
Refrigerant Compressor oil	Type: NEO 32	Quantity: 520 ml	
HPST265 Storage Cylinder	Net Weight	56 kg	
	Weight Filled	321 kg	
	Insulation of piping between heat pump & storage cylinder. <i>(To be supplied by installer)</i>	Ultraviolet and weather resistant closed cell elastomeric insulation, minimum thickness 13mm, thermal conductivity 0.045 W/(m.K) or less (Armacell HT/Armaflex or equivalent).	

Table 1.

SPECIFICATIONS & DIMENSIONS

DIMENSIONS & CLEARANCES

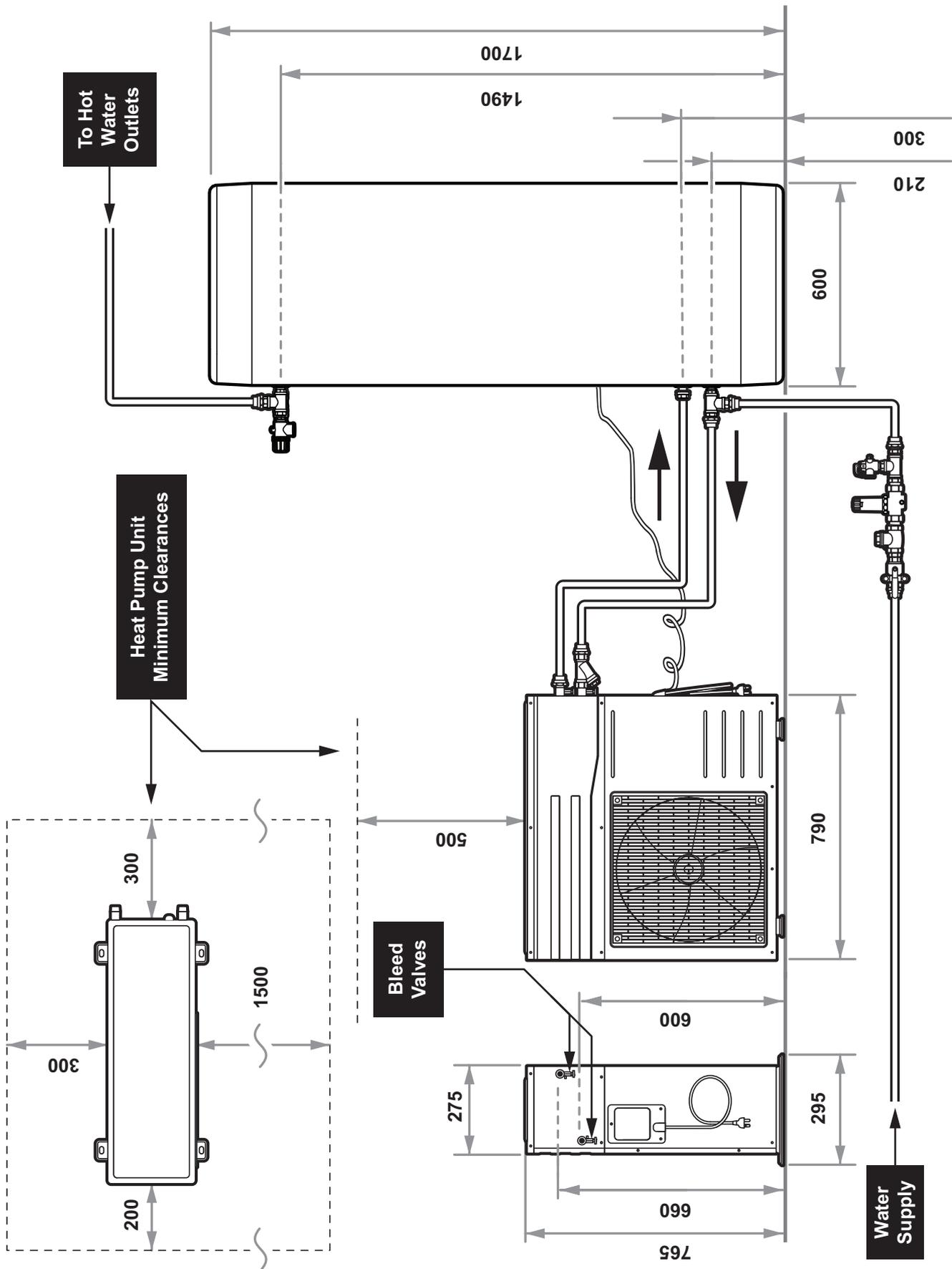


Fig.1

INSTALLATION GENERAL



Installation and commissioning must be performed by authorised persons. Systems must be installed in accordance with these instructions and all regulatory requirements which exist in your area including those in relation to manual lifting, working at heights and on roofs. Applicable publications and regulations may include:

- AS/NZS 3500.4 Heated Water Services
- AS/NZS 3000 Wiring rules
- Building Codes of Australia (BCA)
- Local Occupational Health and Safety (OH&S) regulations
- Any other relevant regulations

This appliance is not suitable for use as a domestic spa pool or swimming pool heater.

Heat pumps and hot water storage cylinders are heavy and bulky items. Australian States and Territories have a Principal Occupational Health and Safety (OH&S) Act which contains requirements relating to the handling of large, bulky or awkward items. Persons installing heat pump system must be aware of their responsibilities and be adequately trained and qualified, in accordance with local OH&S requirements.

LOCATION

The heat pump module **MUST BE** installed externally.

The storage cylinder may be installed internally or externally. In most cases it will be installed externally adjacent to the heat pump module.

The storage cylinder should be placed as close as practicable to the most frequently used hot water outlet point or points to minimize the delay time for hot water delivery. This will usually be the kitchen tap. For installations where the distance between the storage cylinder and the outlets is considerable, a flow and return system can be used which minimize the waiting time for hot water delivery.

It is recommended that all components are installed at ground or floor level. The storage cylinder **MUST BE** installed in a vertically upright position. All components **MUST BE** accessible without the use of a ladder or scaffold.

The storage cylinder **MUST NOT** be installed in roof spaces.

Ensure the pressure and temperature pressure relief (P&TR) valve and any access covers have sufficient clearances and are accessible for service and removal. The information on the rating plates must also be readable.

The storage cylinder **MUST BE** installed in freestanding mode on a level and stable base. For external installations, the storage cylinder should be mounted on a concrete base at least 50mm thick or on well seasoned, evenly spread hardwood slats with a thickness of at least 25mm. Where property damage can occur as a result of water leakage, the storage cylinder **MUST BE** installed with a safe tray (overflow tray) and drain in accordance with AS 3500.4. Ensure the storage cylinder **DOES NOT** stand on wet surfaces.

The heat pump module **MUST BE** installed in freestanding mode on a level and stable base. The heat pump module should be mounted on a concrete base or evenly spread hardwood slats. Ensure the heat pump module **DOES NOT** stand on wet surfaces.

The air inlet and outlet of the heat pump module **MUST BE** away from areas with strong wind and **MUST BE** be provided with sufficient clearances as per those shown in Fig. 1 on page 9.

The heat pump module **MUST BE** raised from the ground to enable any condensate to drain away.

The heat pump module requires an AC 240 V power supply. A weatherproof 240 V, 10A earthed power point must therefore be provided adjacent to the module. Extension leads and power boards **MUST NOT** be used.

The storage cylinder **MUST BE** positioned close enough to the heat pump to ensure that the connecting pipe lengths **DO NOT** exceed 4 metres per pipe.

INSTALLATION GENERAL

WATER QUALITY

The water quality of most public supplies is suitable for the water heater. Water quality from bore wells is generally unsuitable. Refer to the 'Warranty Conditions' for water quality parameters and how they affect warranty. If in doubt about water quality, have it checked against the parameters listed in the warranty conditions.

In a scaling water supply, calcium carbonate and possibly other compounds are deposited out of the water onto any hot metallic surface and form a scale.

Scaling water is defined as having a total hardness in excess of 200 mg/litre (expressed as Calcium Carbonate) or a Saturation Index in excess of +0.4. Scale deposits may form onto the metallic surfaces of the PTR valve and may prevent it from operating properly. To prevent this, an expansion control valve (ECV) must be fitted on the cold water line after the non-return valve in areas of scaling water. ECVs' must be fitted in South Australia and Western Australia to comply with local regulations.

Refer to the 'Warranty Conditions' for water quality parameters and how they affect warranty. If in doubt about water quality, have it checked against the parameters listed in the warranty conditions. If sludge or foreign matter is present in the water supply, a suitable strainer or filter should be incorporated in the water supply to the storage cylinder.

Connection to a low pressure gravity or cylinder water supply

If the water heater is supplied by a low pressure gravity or cylinder water supply, the bottom of the supply cylinder must be at least one meter above the highest hot water outlet and care must be taken to avoid air locks. Pipe sizing and valve selection must be performed to allow for the water supply pressure.

STORAGE TEMPERATURE

To meet regulatory requirements the thermostat control on the heat pump water heater is factory preset to 60°C and cannot be altered.

SANITARY FIXTURES DELIVERY TEMPERATURE

Water temperatures over 50°C can cause severe scalds. Children, disabled and the elderly are at the highest risk of being scalded.

Local regulations and/or the requirements of AS/NZS 3500.4 must be considered regarding the temperature limitations of hot water supplied to areas used primarily for personal hygiene. The temperature is limited to 45°C for early childhood centres primary and secondary schools and nursing homes or similar facilities for young, aged, sick or people with disabilities and 50°C for all other buildings. To comply with these requirements, a temperature limiting device, such as a tempering or thermostatic mixing valve, will be required on all 'new' installations.

Installers should explain to customers the merits of limiting the temperature of water supplied to areas used primarily for personal hygiene for installations which are not classified as 'new'.

Install temperature limiting devices in accordance with the instructions provided by the manufacturer.

INSTALLATION GENERAL

FITTINGS, VALVES & PIPES

Fittings Supplied with EHP32

Fitting Description	Filter ¾Rp x ¾Rp
Fitting Illustration	
Quantity	1

Table 2.

Fittings Supplied with HPST265

Fitting Description	P&TR Valve ½R	Restrictor ¾Rp x ¾R	Copper olive compression nut ¾G + Olive + nipple ¾R x ¾G	Nipple ¾R x ¾R	T adaptor ¾R x ½Rp x ½ G	Socket ¾Rp	T ¾Rp x ¾Rp x ¾Rp
Fitting Illustration							
Prt.No. / Qty	11004784 / 1	27801712 / 1	32201713 / 4	17201005 / 1	19001018 / 1	18601018 / 1	19001011 / 1

Table 3.

Fittings Supplied by installer

The following items are to be supplied by the installer:

- A cold water expansion control valve (ECV).
An ECV must be fitted in Western Australia and South Australia to the cold water supply to the storage cylinder to comply with local regulations. An ECV is recommended in all other geographical areas where the water supply has a tendency to cause scaling. This will reduce hot water discharge from the Pressure and Temperature Relief (P&TR) valve which minimises wear on this valve.
- A stop cock, non return valve and line strainer.
Combination valves incorporating two or more of these functions (such as 'Trio' valves) are suitable. These are fitted to the cold water supply to the storage cylinder by the installer.
- Cold water supply and hot water discharge pipe work to and from the storage cylinder
- An approved pressure limiting valve is required if the maximum rated water supply pressure in is exceeded see Table 1 "SYSTEM SPECIFICATIONS" on page 8 for details.
- Connecting ½ inch copper pipe work between the heat pump module and the storage cylinder connections. (Maximum of 4m for each length of pipe)
- Connecting copper pipe work insulation.

Water Pipes

All pipe work to hot water outlets should be insulated with Polythene foam or equivalent insulation to optimise performance and energy efficiency. Such insulation may be mandatory under local regulations. Insulation must be weatherproof and UV resistant if exposed.

Copper pipe work between heat pump module and storage cylinder must be insulated with Ultraviolet and weather resistant closed cell elastomeric insulation, minimum thickness 13mm, thermal conductivity 0.045 W/(m.K) or less (Armacell HT/Armaflex or equivalent).

Water pipe sizing should be performed in accordance with AS/NZS 3500.4.

To prevent damage to the storage cylinder when attaching pipe clips or saddles to the jacket, it is recommended that self drilling screws with a maximum length of 12mm are used. If drilling is required take extreme care not to penetrate the inner cylinder. Damage to the inner cylinder is not covered under warranty.

INSTALLATION PROCEDURE

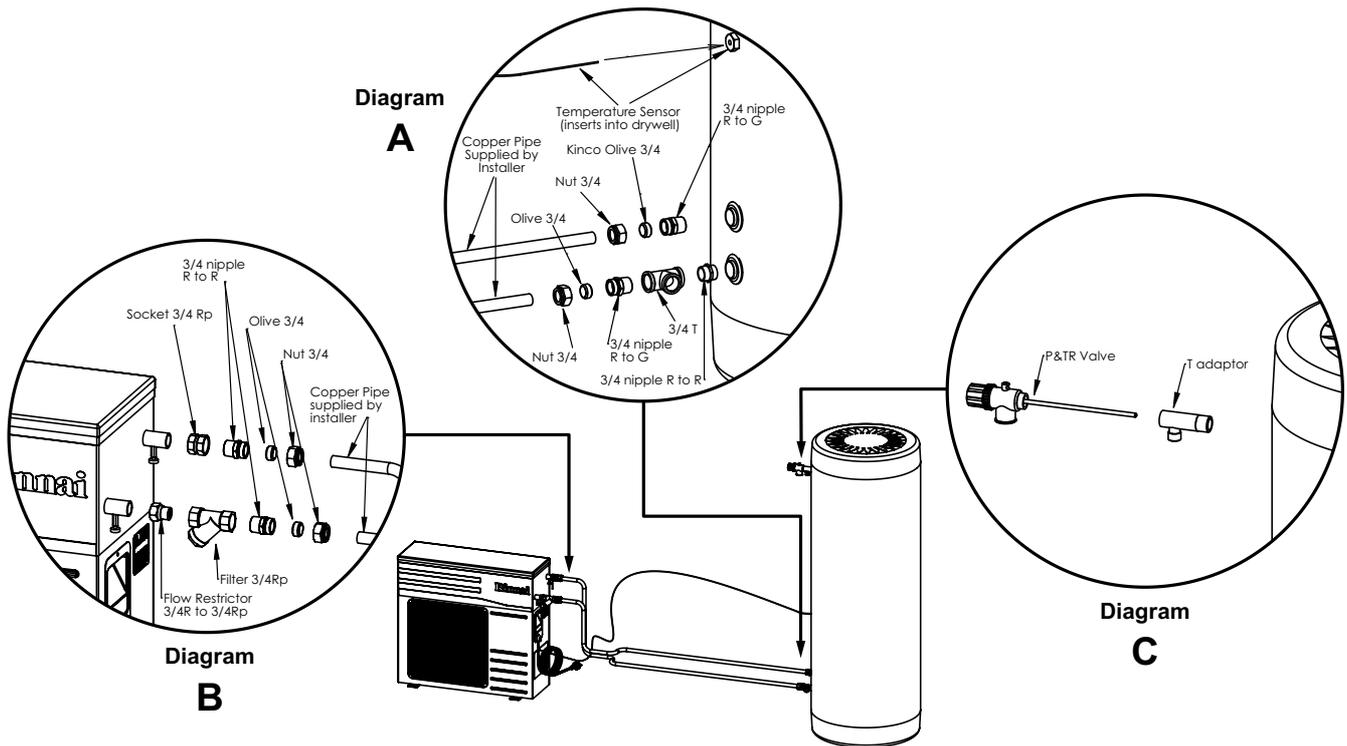


Fig. 2

1. Position the heat pump

- Position the heat pump in accordance with the section “LOCATION” on page 10.

2. Connect the P&TR valve

- Connect the P&TR valve to the uppermost fitting of the storage cylinder (refer to Diagram C of Fig. 2).
- The P&TR pressure rating must be suited for the cylinder as specified in table 1, page 8.
- The P&TR valve must be adequate for the thermal loading applied to the storage cylinder.
- The supplied P&TR valve input rating is 10.0 kW. The P&TR valve rating **MUST EXCEED** the total input from the heat pump.

For example, the maximum output from the EHP32 is 6.0 kW (see table 1, page 8.). This is less than 10.0 kW, hence the supplied P&TR valve is of sufficient capacity.

- Use Teflon thread tape on the valve, never use hemp or other sealing materials. Ensure the tape does not protrude past the end of the thread, which could result in it hanging over the end of the thread and blocking the water passage through the valve. The P&TR valve must be installed on the connection marked 'hot water outlet' near the top of the cylinder.
- Leave the valve outlet pointing down. Tighten the valve using the spanner flats - never use the valve body.

3. Connect fittings between heat pump module and storage cylinder.

- Refer to Diagrams A & B of Fig. 2.



If freezing or snow conditions are likely, and power is likely to be switched off from the system then provision needs to be made to allow the heat pump to be drained of water.

Isolation valves should be fitted between the storage cylinder and heat pump so the heat pump can be drained without the cylinder being drained as shown in Fig. 3.

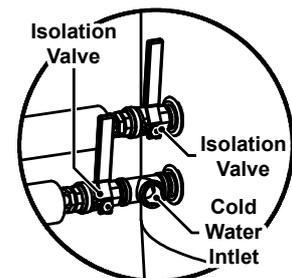


Fig. 3

INSTALLATION PROCEDURE

4. Connect Cold Water supply

- Connect cold water supply, Pressure Limiting Valve (PLV) and or Expansion Control Valve (ECV).
- Connect cold water supply to the inlet T on the storage tank (refer to Diagram A of Fig. 2 on page 13). Connect PLV and ECV if needed.
- A stop cock, non return valve and line strainer **MUST BE** fitted.

5. Connect Hot Water Discharge

- Connect the pipe work supplying hot water to the premises to the hot water discharge outlet of the T adaptor (refer to Diagram C of Fig. 2 on page 13).



A temperature limiting device may be required as detailed in the section “SANITARY FIXTURES DELIVERY TEMPERATURE” on page 11.

6. Insert Temperature Sensor Probe into sensor well

- The temperature sensor lead from the heat pump needs to be placed in the sensor well on the storage cylinder (refer to Diagram A of Fig. 2 on page 13 and Fig. 4).

It must be secured to prevent it falling out and sealed in place with thermoplastic putty or non acidic silicon sealant to prevent corrosion (non acidic silicon sealant does not contain acetic acid “vinegar” as the curing agent).

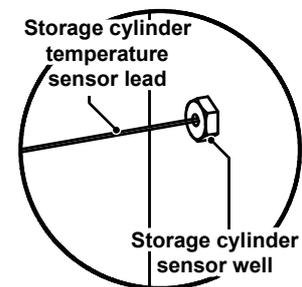


Fig. 4



It is important that this probe is installed as specified. Failure to do so will lead to malfunction or lack of hot water and is not covered by Rinnai warranty.

7. Connect Drain Lines to the P&TR and ECV

- Independent 15mm copper pipes must be fitted to the drain outlets of the P&TR and ECV. Each pipe must be open to atmosphere and run with a continual downward grade in a frost free environment to a visible discharge point. Drain lines must not exceed 9 metres in length.
- Valves or other restrictions must not be placed in the relief valve drain outlet line.



Some water will drip from lines during heating of water in the storage cylinder. It is recommended to discharge directly above a drain.

8. Connect Heat Pump module to electricity supply



The power supply to the heat pump module **MUST NOT** be activated until the system is filled with water.

- The heat pump must be connected using the supplied power lead to a weatherproof 240 V, 10A earthed power point as specified in the section “LOCATION” on page 10.
- It must be connected to a continuous tariff (not off peak).
- A Residual Current Circuit Breaker is recommended for the power supply to this appliance (this may be a mandatory requirement in some states or jurisdictions).

INSTALLATION PROCEDURE

9. Fill the system.



Ensure building occupants are warned to stay clear of the system components, and tap outlets since hot water or steam may be discharged from pipes or components.

- Open hot water tap at sink.
- Open the stop cock in the cold water main supply line.
- Allow the system to fill and the air to bleed through the tap.
- Turn off the hot tap at the sink when water flows freely without any air bubbles or air bursts.
- Bleed any remaining air from the P&TR valve.
- Open the air bleed valves on the heat pump module (Fig. 5).
- Turn on power to the heat pump unit.
- Open the top lid of the heat pump unit and locate the button marked FORCE. (PU will display in the indicator). This will cause the circulation pump to operate without the compressor.
- Once all the air is bled close the air bleed valves. Press FORCE again to turn off the pump. Replace the lid of the heat pump system.

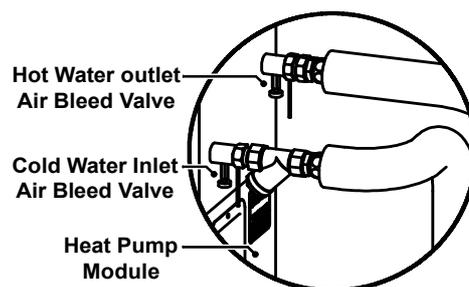


Fig. 5

- If leaks are detected turn off power to the heat pump, repair any leaks and repeat the filling process to remove any air.
- If leaks are detected turn off power to the heat pump, repair any leaks and repeat the filling process to remove any air.
- If no leaks are detected water heating can commence. The heat pump will start up after the 3 minute protection time.

10. System Checks

- Has the installation been completed as shown in Fig. 2 on page 13 and finished neatly?
- Has the temperature sensor lead been fitted into the storage cylinder and secured so it will not fall out?
- Have any Temperature Limiting Devices been installed and commissioned according to manufacturers instructions?
- Are the clearances specified in Fig. 1 on page 9 complied with to ensure suitable air flow through the system and access for servicing.

11. Finishing the Installation.

- After testing is completed explain to the householder the functions and operation of heat pump water heater components.
- Explain to the householder the need to drain the heat pump if freezing conditions are likely and power is likely to be shut off.
- Also explain to the householder the importance of carrying out Maintenance in accordance with this manual.
- Leave this Manual with the householder.

INSTALLATION PROCEDURE

12. Draining Instructions

Draining the heat pump module only

- Turn off power to the heat pump module.
- Close the cold water mains supply stop cock
- Close the isolation valves between the storage tank and heat pump.
- Disconnect the piping from the heat pump (as shown in Fig. 6) and allow the water to drain from the pipes.
- Reconnect the pipe work, but do not open the isolation valves until the heat pump is ready to be refilled.

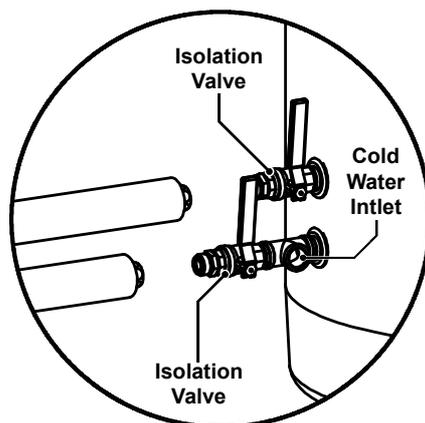


Fig. 6

Draining the heat pump module and storage cylinder

- Turn off power to the heat pump.
- Close the cold water mains supply stop cock
- Ensure any isolating valves between the heat pump and the storage cylinder are open.
- Open a hot tap to relieve pressure
- Disconnect the hot outlet near the top of the storage cylinder
- Disconnect the cold inlet near the bottom of the storage cylinder.
- The system will now drain completely.

WARRANTY

Warranty Terms

The benefits to the consumer given by this warranty are in addition to all other rights and remedies of the consumer under a law in relation to the goods or services to which the warranty relates.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable 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.

		Storage Cylinder	Heat Pump Module	
			Compressor	All Other Components
Domestic Use	Parts	10 Years	2 Years	1 Year
	Labour	3 Years	1 Year	1 Year
Commercial Use	Parts	5 Years	1 Year	1 Year
	Labour	1 Year	1 Year	1 Year

Table A

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.

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) used in commercial or industrial heating processes.
4. Water heater(s) used in hydronic space heating installations.
5. Any application that uses Rinnai water heater(s) in conjunction with building flow and return systems.
6. Water heater(s) installed as component(s) of centralised bulk hot water system(s).

Warranty Conditions

1. All terms of this warranty are effective from date of completion of installation of the appliance(s) and the attending service person reserves the right to verify this date by requesting proof of purchase or a copy of the certificate of compliance prior to the commencement of any warranty work. Where the date of completion of installation is not known, then this warranty will commence 2 months after the date of manufacture. The date of manufacture is stated on the dataplate of the appliance. Note: Certificate of compliance must be issued by the installer by law in all States and Territories of Australia.
2. All Rinnai water heating components must be installed, commissioned, serviced, repaired and removed in accordance with the manufacturers installation instructions, current AS/NZS 3000, AS/NZS 3500, local regulations and municipal building codes by persons authorised by local regulations to do so.
3. All Rinnai water heaters must be operated and maintained in accordance with manufacturers operating instructions.

WARRANTY

4. Any inspection, service, repair replacement activities associated with warranty on Rinnai products must be authorised by Rinnai Australia before commencement.
5. Where the appliance has not been sited in accordance with the installation instructions or installed such that normal service access is difficult, a service charge will apply. If at the discretion of the attending service person, access is deemed dangerous, service will be refused. Any work required to gain reasonable access to the appliance will be chargeable by the attending service person (for example, removal of cupboards, doors, walls, or the use of special equipment to move components to floor level, but not limited to these).
6. Rinnai Australia reserve the right to have the installed product returned to the factory for inspection.
7. Where a failed component is replaced under warranty, the balance of the original warranty remains effective. The replacement part or appliance does not carry a new warranty.
8. This warranty applies to water heaters connected to a water supply where the water chemistry and impurity levels DO NOT exceed the limits specified in Table B. The water supply from water utilities generally complies with these requirements.

Total Dissolved Solids (TDS) mg/litre or ppm	Hardness (as CaCO ₃) mg/litre or ppm	Saturation Index (langelier)	pH	Dissolved CO ₂ mg/litre or ppm	Chlorides mg/litre or ppm
600	200	+0.4 to -1.0 @ 65°C	5.5 to 9.5	Not Applicable	300

Table B

Warranty Exclusions (All Hot Water Systems)

The following exclusions apply to all Rinnai water heating systems. They may cause the warranty to become void and will result in a service charge and costs of parts (if required):

1. Accidental damage and acts of God.
2. Failure due to abuse or misuse, improper maintenance or failure to maintain
3. Failure due to incorrect or unauthorised installations.
4. Failure or damage caused by alterations, service or repair work carried out by persons other than Rinnai Service persons or service agents.
5. Where it is found that there is no fault with the water heater and the issues is related to the plumbing installation or is due to the failure of water, electric or gas supplies or corrosive atmosphere.
6. Where the water heater has failed directly or indirectly as a result of excessive water pressure, negative water pressure (partial vacuum) or water pressure pulsation.
7. Operating the water heater and components when not completely filled with water.
8. This warranty does not apply to water heaters connected to water supplies if the water chemistry and impurity levels exceed the limits specified in Table B. Examples of water supplies where chemistry and impurity levels may exceed the limits specified in Table B include but are not limited to private bores, private dams and water from water utilities where the chemistry is deliberately altered by parties other than the water utility before supplying the water heater.
9. This warranty does not apply to damage caused by sludge and/or sediment in the water supply.
10. Labour costs incurred due to a Rinnai Service person or service agent performing checks which should have been carried out by the customer in accordance with the Customer Instructions and where no defect is found.

Additional Warranty Exclusions For Heat Pump Systems

The following exclusions apply to Rinnai heat pump water heating systems and components only. They may cause the warranty to become void and will result in a service charge and costs of parts (if required).

1. All frost damage of systems where electric power supply failure results in the Rinnai Frost Protection System being unable to operate when required.
2. Lack of water heating performance as a result of installation in postcode areas other than those listed in the table on the following page.

WARRANTY

Recommend Installation Areas By Postcode

800-2327	2425-2574	3292	5237-5240	5303
2331	2578	3305	5242	5304
2334	2648	3380	5243	5308
2335	2672-2675	3400	5245	5310-5340
2356	2717	3402	5246	5342-5346
2361	2737-2757	3488-3490	5253	5353-5357
2371	2759-2774	3494-3512	5254	5374
2372	2821-2825	3580	5256-5261	5400
2386-2388	2828	3891	5264-5266	5421
2397-2402	2829	3892	5275	5433
2405-2421	2831-2840	4000-5223	5276	5453-5491
2423	2873-2899	5232	5278-5291	5495-6799

Rinnai

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Rinnai has a Service and Spare Parts network with personnel who are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance requires service, please call our Hot Water Service Line.

Internet: www.rinnai.com.au E-mail: enquiry@rinnai.com.au

National Help Lines

Sales & Service

Tel: 1300 555 545* Fax: 1300 555 655*

Spare Parts & Technical Info

Tel: 1300 366 388* Fax: 1300 300 141*

**Cost of a local call Higher from mobile or public phones.*

Hot Water Service Line

Tel: 1800 000 340