Installation & Operation Manual

All-in-One Heat Pump Water Heater

Model: APAIO200
APAIO270

App No NSW29118

IMK32348
AS/NZS 2712

WaterMark
WM-032348
AS 3498

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1. Safety Precautions

Before attempting to install this unit please ensure you have read the safety precautions and fully understand them. This product must only be installed by a qualified professional in the plumbing, mechanical and/or electrical industry.

Warning

1.1. This appliance must be installed, commissioned, and serviced by an authorised person in accordance with all applicable national/local rules and regulations which include:

a) The Plumbing Code of Australia (PCA)
b) AS/NZS 3500.4 – Plumbing and drainage Heated water services
c) AS/NZS 3000 – Electrical installation
d) AS/NZS 2712.2007 – Solar and Heat Pump Water Heaters: Design and Construction
e) AS/NZS AS 3498—2009 – Water heaters and hot-water storage tanks
f) The power cord chosen must be compliant with AS/NZS 3191 and the nominal cross-sectional area should be 1.5 mm2 or more and should handle at least 15A (2 core and earth)

1.2. Warning: for continued safety of this appliance it must be installed, operated and maintained in accordance with the manufacturer's instructions

1.3. Warning: This Appliance may deliver water at high temperature refer to the Plumbing Code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.

1.4. Household electrics must have a reliable earth connection.

1.5. This product must be protected with a residual current device of adequate rating.

1.6. Do not interfere with any permanent instruction, labels or warning plate attached to the external cover of this heat pump.

1.7. Always comply with local wiring regulations.

1.8. Maintenance and repair work must only be undertaken by trained and qualified personnel.

1.9. The electrical connection to this product must be via a 15A RCD/MCB or RCBO with a test button function.

1.10. The final electrical connection must be via a double pole isolating switch located close to the unit. The isolating switch must never be covered up.

1.11. A duo valve must be installed on the cold water supply pipe for maintenance purposes.

1.12. This appliance should never be used by children.

1.13. If the power supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified personnel in order to avoid a hazard.

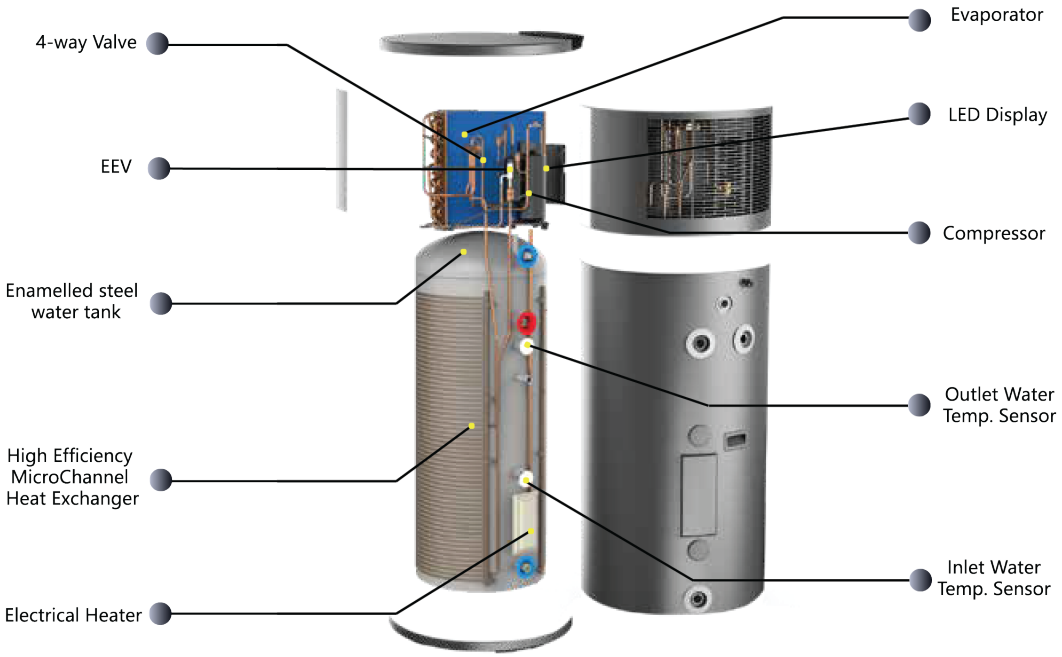
1.14. The heat pump shall be installed outdoors only.

1.15. If the hot water system is not used for two weeks or more, a quantity of highly flammable hydrogen gas may accumulate in the water heater. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes or until discharge of gas ceases. Use a sink, basin or bath outlet only. Appliances such as a dishwasher, washing machine or similar are not suitable. During this procedure, there must be no smoking, open flame, or any electrical appliance operating nearby. If hydrogen is discharged through the tap, it will probably make an unusual sound as it escapes – this is normal.

R290 Warning

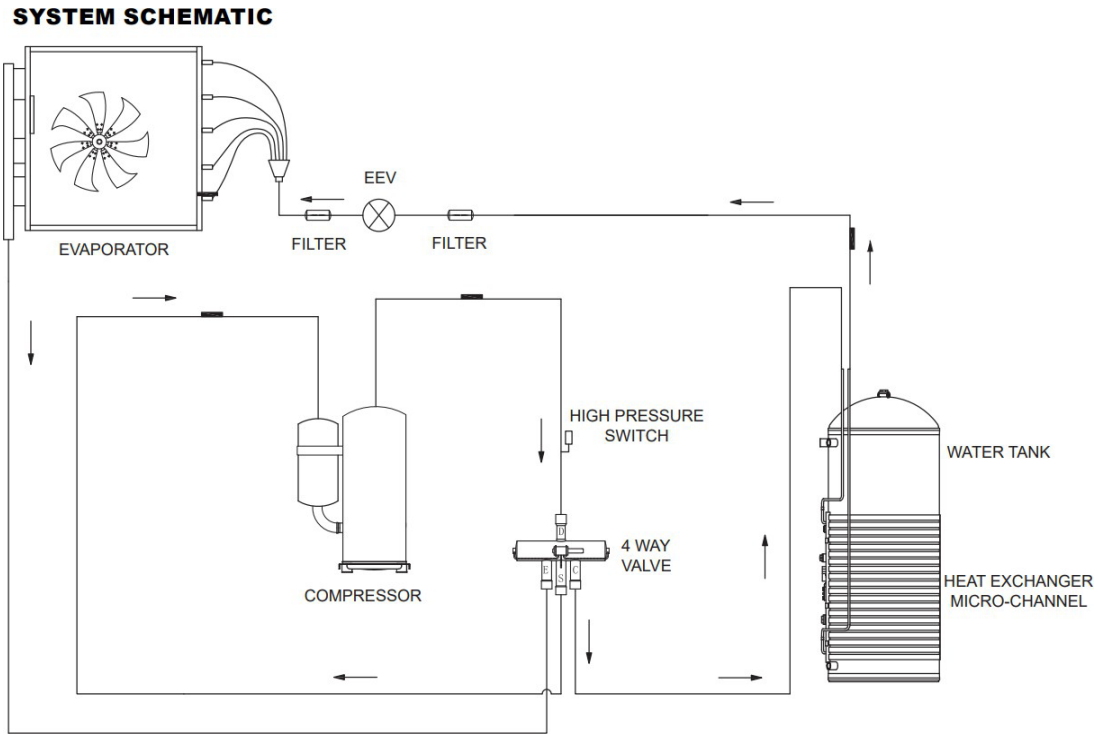
- This appliance uses R290 (propane) refrigerant, which is a flammable gas and must be serviced by an authorised person.
- WARNING Risk of fire/flammable material. If the refrigerant is leaking, switch off the unit at the mains and contact the service agent.
- DO NOT store chemicals or flammable materials near this appliance.
- NEVER use a flammable spray such as hair spray, paint, etc near this unit as this may cause a fire.
- Avoid risk of injury from contact with refrigerant if you notice a leak.
- If you suspect the refrigerant is leaking then:
    - Do not smoke.
    - Do not operate electrical equipment.
    - Isolate the device.
- End of life recycling: the refrigerant must not enter the atmosphere. Only have the refrigerant removed by qualified professional.
- The heat pump is designed for external installation only.

2. Components & Features



All in one Heat Pump Hot Water system including enamelled steel tank, & high efficiency micro channel heat exchanger. Touch Screen controller provides the user with easy access to the timer function and parameters to ensure the full flexibility of the heat pump is utilised.

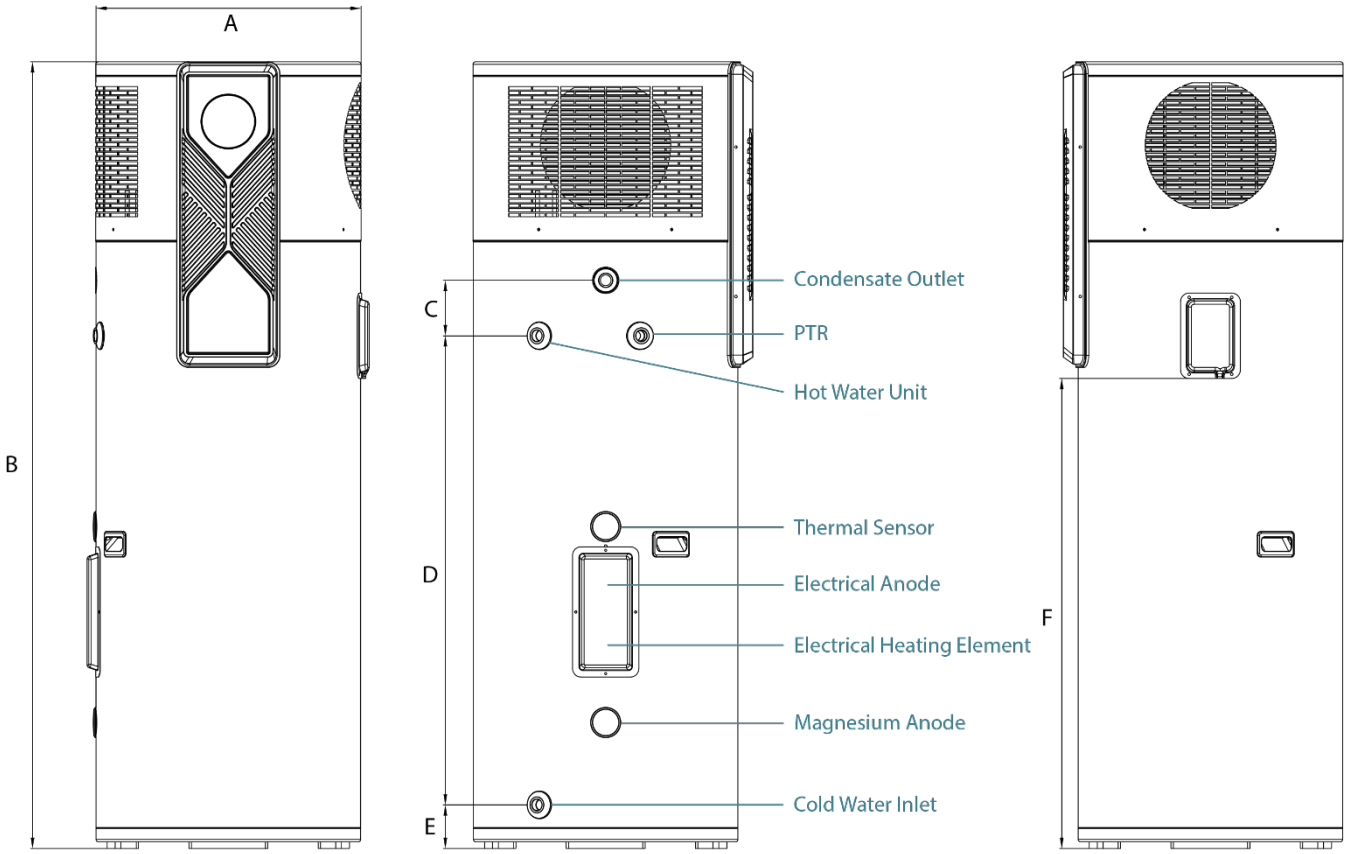
Refrigeration Circuit



NOTE:

All the pictures in this manual are for illustration purposes only. Please refer to local wiring and plumbing regulations. If in doubt of anything in this manual, contact your local service agent.

Products External Dimension



Size(mm) / Model	A	B	C	D	E	F
APAIO200	626	1565	130	802	136	838
APAIO270	626	1880	130	1029	136	1066

3. General Information

3.1 Specifications

Model No.	APAIO200	APAIO270
Heating Capacity at Air 20°C /15°C,	Water Temperature from 15°C to 55°C	
Heating Capacity (kW)	2.78	2.78
Max Power Input (W)	3000	3000
COP	4.15	4.15
Power Supply	220V~240V/50Hz	220V~240V/50Hz
Heat Pump Max Power Input (W)	1200	1200
Heat Pump Max Current (A)	5.3	5.3
Electric Heater (W)	1800	1800
Electric Heater Current (A)	7.5	7.5
Refrigerant	R290/400g	R290/400g
Net Dimension (mm)	Φ626×1565	Φ626×1880
Package Dimension (mm)	700×700×1667 (with pallet)	700×700×1982 (with pallet)
Net Weight (Kg)	104	118
Gross Weight (Kg)	115	130
Noise (dB)	43	43
Water tank volume (L)	200	270
Working temperature range (°C)	-7~43	-7~43

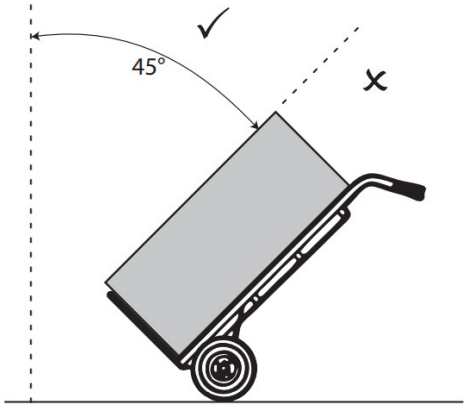
4. Installation

4.1. Choose a suitable location

a. Unit must be installed outdoors only
b. The placement must have enough space for installation and maintenance
c. Fan inlet and outlet must have no obstruction and keep strong wind off
d. The support surface must be flat (ie horizontal) and be able to support the heat pumps' weight. A base designed to minimise noise and vibration is ideal
e. The noise and exhausting air don't create nuisance to neighbors' normal life
f. The location has free ventilation
g. If the product is installed in a location where there is a possibility of frost, then all precautions must be taken to ensure all pipework is sufficiently insulated.

4.2. Transporting the product.

a. This heat pump is heavy and requires at least two people to lift it with the assistance of lifting equipment.
b. It is always recommended to lift the product with all its packaging in place.
c. Do not move the heat pump at the angle more than 45° (diagram below)



Never tilt unit more than 45° from vertical

d. Care and consideration should be taken into account when moving the unit as any marks caused by inappropriate handling are not deemed as defects and are not covered under warranty.

4.3. The Installation of Heat Pump

a. Base

- The unit should be installed on a concrete plinth or stable structure capable of sustaining weights in excess of 400kg. The supporting structure must not shift over time (due to water drainage etc.). A concrete base of at least 50mm depth, and a minimum dimension of 600 x 600mm is required

- Please ensure that all four feet are supported by the base being used otherwise warranties may be voided.

- Proper drainage should be observed for any overflow in accordance with AS/NZS 3500.4

- After installation the unit must be completely vertical and level as to ensure that condensate can be properly drained. If the system is installed at a level with a tilt of more than 3 degrees, warranties may be voided.

- If property damage is likely to occur due to water leakage, a safe tray (overflow tray) must be installed.

b. Air Flow

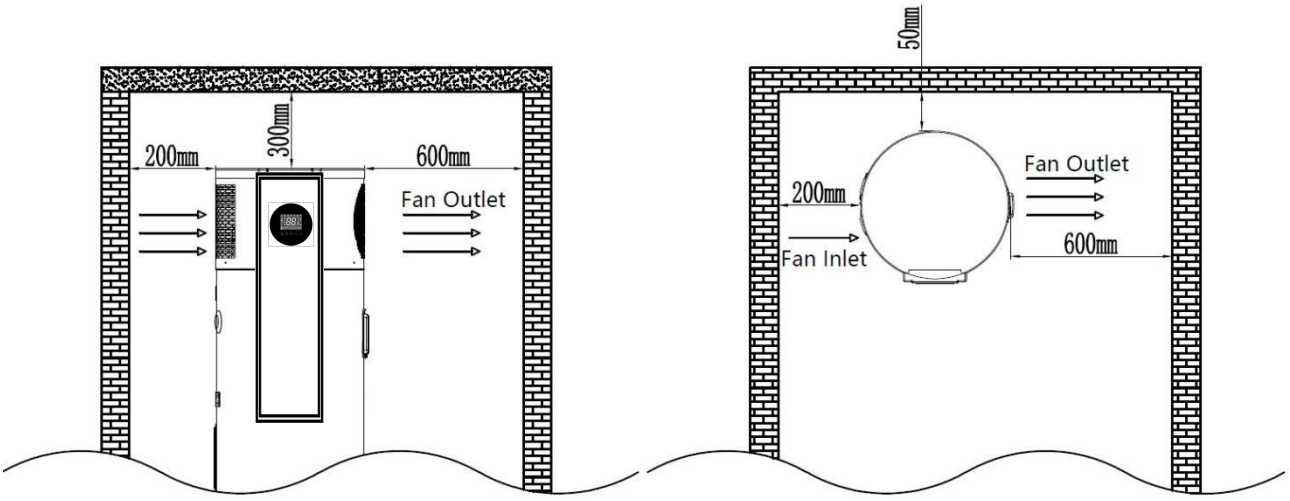
- This unit is designed for external operation only and requires a free flow of air to operate efficiently.

- Avoid installation in areas where falling debris such as leaves is prevalent as this may result in air vents being blocked or the unit being damaged.

- Avoid placing the system in locations with multiple walls or structures.

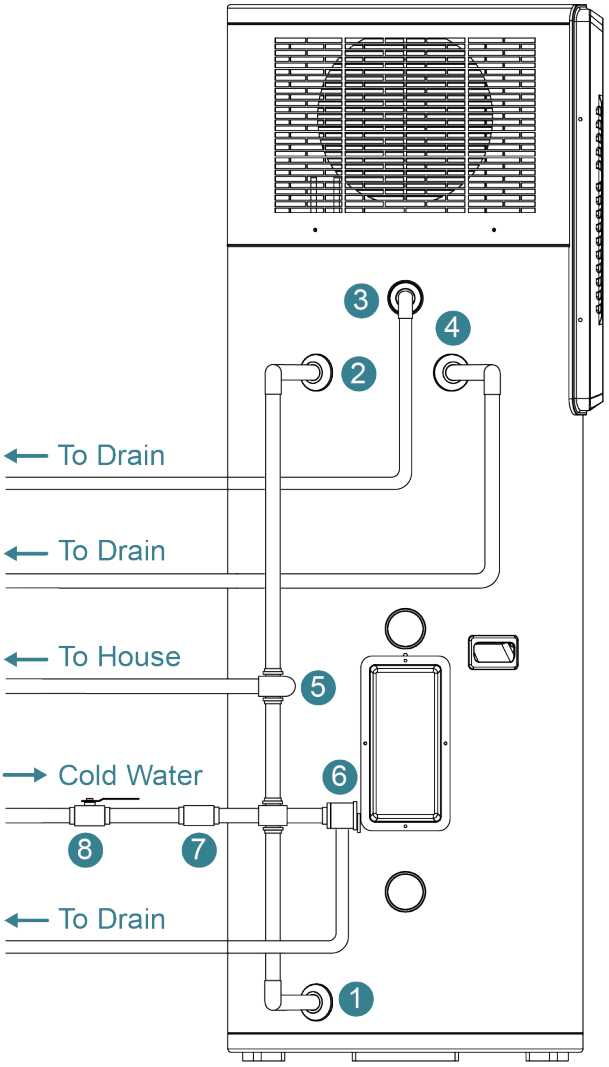
- Always maintain optimum clearances from all structures.

- All clearances shown in the below diagram must be adhered to - 300mm vertically to any fixtures/eaves, 200m to the air intake (left of the unit when facing the controller) & 600mm to the air outlet on the opposite side. There must be a minimum of 50mm clearance from the back of the unit to the wall. Failure to adhere to all requirements will void the manufacturer's warranty and will cause the heat pump to not operate correctly or efficiently.



- The unit should be installed so that the control interface is accessible to users and that there is clear access to the electrical panel at the back of the system.

5. Plumbing Connections



1. Cold Water Inlet
2. Hot Water Outlet
3. Condensate Drain
4. PTR Valve 850kPa
5. Tempering Valve
6. Expansion Valve 700kPa (if required)
7. Pressure Limiting Valve 500kPa
8. Isolation Valves

5.1. Plumbing Connection Diagram

The plumbing of system is shown above.

- The water inlet/outlet port connections are G 3/4”
- All pipework must be sufficiently insulated with a minimum 13 mm closed cell insulation that is UV rated.

- The process of heat extraction from the atmosphere through evaporator coils results in the production of water in the form of condensation. To collect this water by-product a condensate tray is located on top of the water storage tank. Overflow from this tray runs out through the condensate drain. The systems' condensate drain is connected by a 1/2-inch copper elbow. Drain the condensate from the elbow to the nearest storm water via suitable piping. If not drained properly, the condensate line may become blocked as well produce algae and moss growth.

- The condensate line should be free of kinks and as the water is gravity fed, this should be installed vertical or with fall to ensure the free flow of water. Connecting any other pipe directly to the condensate line without an air gap will void warranties.

- Ensure the drain is clear of any air locks.

- The minimum cold-water pressure must be 200 kPa

- Pressure and Temperature Relief Valve (PTR valve)
  A PTR valve rated to 850kPa and 99℃ is supplied with the system, and is to be fitted to the tank. It is a requirement that the lever on pressure & temperature relief valve (PTR) be operated once every 6 months to ensure reliable operation. It is important to raise and lower the lever gently and be careful as the water released will be hot.

  DANGER: Failure to operate the relief valve every 6 months to ensure correct operation may result in the heat pump exploding. Continuous leakage of water from the valve may indicate a problem with the valve, or the water heater itself.
  Also ensure that the PTR valve and discharge point is installed in line with local plumbing regulations. Ensure PTR line is not discharged where it can cause damage or be a nuisance.

- Pressure Limiting Valve

  A pressure limiting valve rated to 500kPa must be installed on the cold inlet into the tank in accordance with AS 3500.

- Tempering valve

  To reduce the risk of scalding injury a tempering valve must 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.

  WARNING: SCALDING OCCURS AT 50^{O}C. THIS APPLIANCE IS CAPABLE OF PRODUCING HOT WATER AT WELL ABOVE 50 ^{O}C. A TEMPERING VALVE MUST BE INSTALLED AS PER YOUR LOCAL GOVERNMENT AND REGULATORY REQUIREMENTS.

- Expansion control valve

  The local requirements must be checked with the installer to see if this is required as part of the installation. This should be rated no more than 700 kPa.

- Non return isolation valve

  It is highly recommended that this is installed to allow the hot water system to be isolated from the rest of the homes water supply, making servicing, draining and replacing the unit easy.

Filling and commissioning the Hot Water System

After installation of all plumbing fittings you can fill the system. Turn on the cold water supply to the tank and open a hot water tap inside the house. Once all of the air is bled out of the hot water tap, shut this off. Open the PTR valve on the heat pump just to make sure all air is released from the tank.

Always ensure the tank is completely full before turning on the electrical supply. Operating the unit when the tank is empty can result in damages to the electric element.

6. Electrical Connections

6.1. The electrical connections must be completed by a qualified and trained professional and in accordance with the local and national regulations AS3000.

- This product must be wired on a dedicated circuit protected by a 15A circuit breaker
- The circuit must be connected to a reliable earth electrode connected to the unit
- The testing of the circuit and final connections are the responsibility of the trained installer

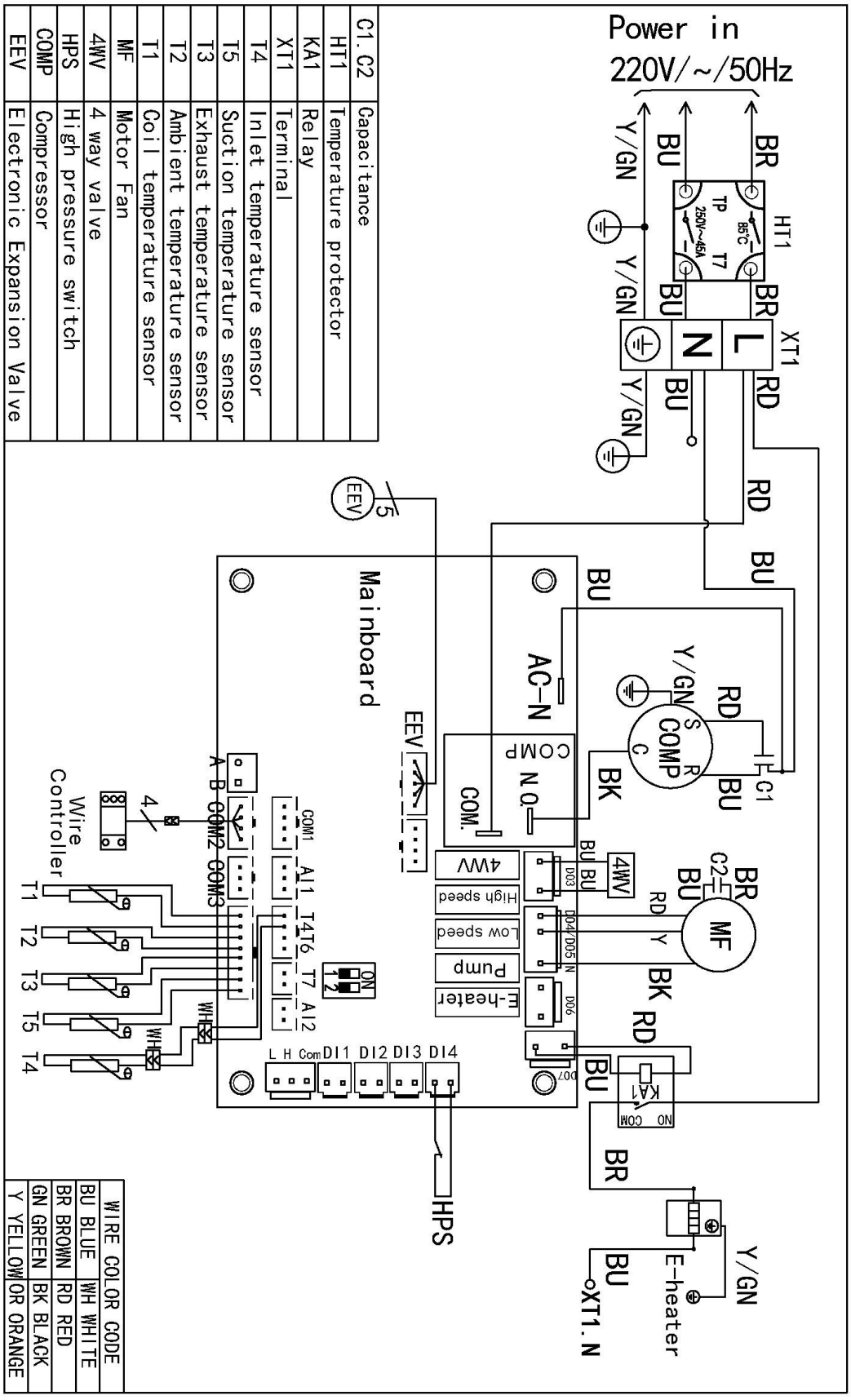
6.2. Power Specification

Item / Model	Power supply	Cable Size (mm2)		Protection Device RCBO Type (B)		Earth Leakage
APAIO200 APAIO270	220V/50Hz	L&N Conductors	PE Conductor	Rating (A)	TYPE	30mA
		Φ 2.5mm	**Φ 2.5mm**	**15**	**B**	

Note: Final connection is via a 15A isolating switch in close proximity to the heat pump

- The unit is not supplied with a 3-pin plug.
- Instead of using a 3-pin plug, hard wiring of system to a 15A isolator switch is highly recommended.
- Before any work can commence ensure that the heater is isolated from the power supply at the switchboard.
- If a power cable is damaged, it shall be replaced by a qualified professional to avoid risks

6.3. Wiring diagram



7. Controller

7.1. General Overview

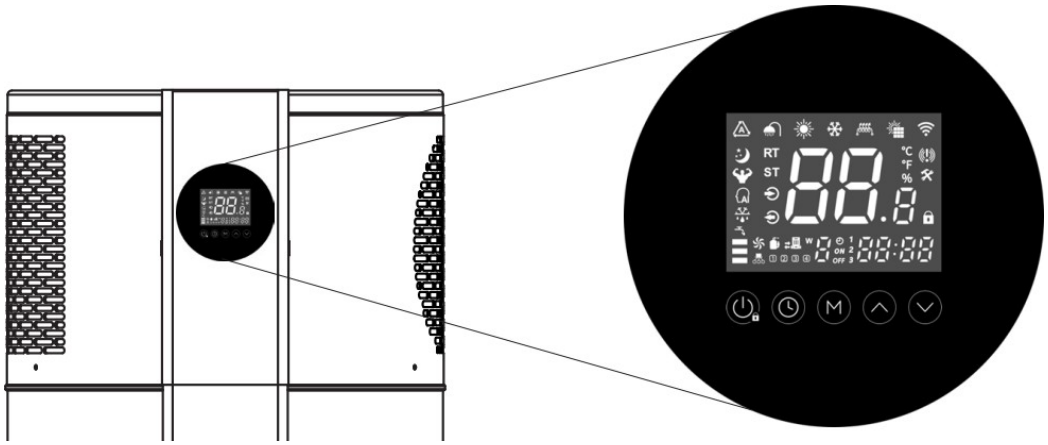
a. Operating conditions:

- Voltage:220V~±10%,50Hz±1Hz.
- Ambient temperature: -7~+43°C
- Storage temperature: -20~+70°C
- Relative humidity: 0~95%RH
- Temperature accuracy: ±1°C

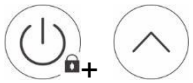
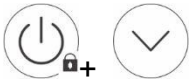
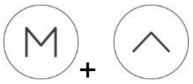
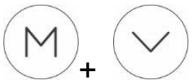
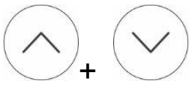
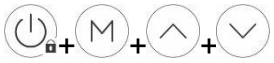
b. Main features

- Touchscreen
- Displays the current water temperature & set point temperature as standard, but can also query coil, ambient, exhaust temperatures etc
- Power cut memory function (clock still works for a limited time in the event of a power cut)
- Timer function on/off.
- Automatic defrosting.
- Error code display (if in fault) and ability to query historical errors
- Anti-freezing function
- PV function available

7.2. Controller interface display and instruction of icons



Name	Symbol	Function
On/off key		1. On/off key (hold for 1 second) 2. Return key 3. Escape key 4. Unlock key (hold for 5 seconds)
Clock key		1. Setting the clock, press this key to enter the clock setting mode. Press once to switch between the hour and minute selection 2. Setting the timer (press the key and hold for 3s) 3. When in the timer setting mode, pressing & holding this key for 3s will cancel the current timer setting
Mode key		1. Press the key to change operation mode
Up key		1. Press this key to change the temperature setting from main screen, or parameter value/selection value 2. Press the key and hold for 3s to query the system status/ parameter 3. Page up

Down key		1. Press this key to change the temperature setting from main screen, or parameter value/selection value 2. Press the key and hold for 3s to query the system status/ parameter 3. Page down
Combination key		Press and hold the two keys for 5s, enter into manual intelligent distribution network connection by manual
		Press and hold the two keys for 5s, enter into manual AP distribution network connection
		When the heat pump is running, press these and hold these two keys for 3s to turn ON/OFF boost mode (turns ON/OFF heating element)
		When the heat pump is running, press and hold these two keys for 5s to start/stop defrost mode
		Press and hold these two keys for 3s to enter Ventilation mode (on high speed). Press again to run in low speed, press again to exit Ventilation mode
		Press and hold these 3 keys for 5 seconds to turn ON/OFF sterilization mode
		Power on within 5 minutes and don’t turn on the heat pump, press the four keys and hold for 5s, restore the factory setting

Symbol	Status	Meaning
	Light up	In heating mode (if not illuminated, heat pump is off or NOT in heating mode)
	Light up	Heating element ON
	Flash for 1s	Running in Boost mode
	Flash for 2s	Running in sterilization mode
	Flash	Searching for WIFI connection
	Light up	WIFI connection successful
	Light up	Water temperature
	Light up	Water set point temperature
	Light up	Degree Centigrade
	Light up	N/A for this model
	Light up	N/A for this model
	Light up	N/A for this model
	Flash	Heat pump OFF and in refrigerant recovery mode

	Light up	Defrost mode
	Light up	Maintenance mode
	Light up	Heat pump has an error
	Light up	Screen locked
	Light up	Compressor running
	Light up	High fan speed
	Light up	Low fan speed
	Flash for 1s	Ventilation mode: high fan speed
	Flash for 2s	Ventilation mode: low fan speed
	Display	Error code display
	Light up	Timer ON
	Display	In timing ON period
	Flash	Setting timing ON
	Display	In timing OFF period
	Flash	Setting timing OFF

	Light up / Not bright	Timer number 1/2/3
	Display	Week

7.3. Lock and unlock:

When the controller is in the normal display mode and there is no button operation for more than 60 seconds it will automatically lock. Press the on/off key for 5 seconds to unlock - a beep will confirm.

7.4. Turn ON/OFF the Heat Pump:

When the controller is in the normal display mode, press on/off key for more than 1 second to switch the controller to the power ON or OFF mode.

7.5. Water Temperature Set

With the controller unlocked and in the normal display mode, press the up or down key to increase or decrease the water temperature setting value. In accordance with Australian Government guidelines the heat pump is programmed to revert back to a temperature setpoint of 55oC every 24 hours to enhance efficiency. As such, a setpoint of 55^{o}C is advised

7.6. Operation mode selection:

With the controller in the main interface display, press the Mode key to show the current operating mode. Pressing the Mode key again will switch between the different operating modes. This function will time out after 8 seconds, and revert back to the normal display. The system default mode is Standard (STAN), which will be the selected mode on start up.

Operation Modes List:

No.	Mode	Symbol
01	Standard Mode - this mode uses the heat pump only to achieve desired temperatures	STAN
02	Boost Mode - this mode uses both the heat pump & the electric element to achieve the desired temperatures quicker. The heat pump will stay in Boost mode until it is manually switched back to Standard	HYBL
03	Electric Mode - this mode uses the electric element ONLY, not the heat pump. This mode should be used ONLY in the event of a failure within the heat pump part of the unit.	ELE

7.7. Clock settings:

With the controller in the main interface display, press the Clock key to enter the time setting interface. Pressing the clock key again will select the Hour - use the up or down keys to select. Press the clock key again to change selection to minutes and repeat. Push the clock key again to confirm the time and return to the main display within the time setting interface, the operation will time out if no button is pressed in 60 seconds

7.8. Setting the Timer:

The timer allows 3 seperate on/off periods per day (per 24 hour period)

While in the controller main interface display, press and hold the Clock key for 3 seconds to enable/disable and set the timer functions.

The setting process will start with Timer 1 flashing. Press the clock key to highlight the hour field, then use the up and down keys to enter your desired start time (hour) for time period

1. Once selected, pressing the clock key with move to the minute field - again, select your desired start time (minutes) for time period 1. Once the start time is set, press the clock key to enter the end time for time period 1 by using the same process above - set the desired end time for period 1 in hours then minutes and using the clock key to confirm. After completion of time period 1 the controller will automatically move to time periods 2 & 3 allowing you to set these with the same process. If a time period is not required simply set the start and end time the same which will discard the time period.

7.9. Forced defrosting:

When the controller is in the main interface display and the heat pump is ON, press and hold the Mode and Down buttons together for 5 seconds to activate or deactivate the "Forced Defrost" function. The symbol " " will light up when the "Forced Defrost" is ON.

NOTE – the unit has an automatic defrost cycle. When necessary the unit will automatically reverse it's function to prevent ice/frost from forming on the coil.

7.10. Boost Mode:

When the controller is in the main interface display and the heat pump in heating mode, press and hold the power and up buttons together for 3 seconds to enable or disable the boost mode. When the boost mode is enabled the heat pump unit and heating element both run. The " " will flash initially, then remain on to indicate the element is on. Once the set temperature is reached, the " " will revert back to flashing at 1 second intervals to show the heat pump is in boost mode. Turning off the heat pump will exit boost mode.

7.11. Manual sterilization:

When the controller is in the main interface display and the heat pump is ON, press and hold the power, clock and down buttons together for 5 seconds to enter manual sterilization mode. The symbol " will flash for 2 seconds to indicate Manual Sterilization mode, then will stay lit to indicate the heating element is on. The water will be heated to 61^{O}C, then maintained between 60^{O}C - 61^{O}C for 32 minutes after which the unit will automatically exit sterilization mode.

NOTE – the unit has an automatic sterilization/legionella control cycle whereby the unit will heat the water to a required setpoint one a week between the hours of 1-7am. After this cycle is finished the unit will revert back to it last operating mode

7.12. Trouble Shooting:

Error code	Error Description	Possible Causes
E05	Refrigerant system high pressure protection	High pressure switch is broken/connection is loose
E09	Communication failure	Signal wire connection is loose or damaged Magnetic field interference PCB is damaged
E12	Exhaust temperature too high	Lack of refrigerant/Fluorine system leak
E15	Tank temperature sensor failure	Sensor failure/connection is loose
E16	Coil temperature sensor failure	Sensor failure/connection is loose
E18	Exhaust temperature sensor failure	Sensor failure/connection is loose
E21	Ambient temperature sensor failure	Sensor failure/connection is loose
E29	Suction temperature sensor failure	Sensor failure/connection is loose

If any of the above arise, please contact your installer or supplier

7.13. Status Query Menu:

With the power on and the main interface display showing, press and hold the up or down buttons for 3 seconds to enter the status query menu. Scroll through the values by using the up or down buttons. Push the on/off key to exit the status query interface.

No.	Name	Value
04	EEV open	Measured Value
05	Coil temp.	^{O}C
06	Ambient temp.	^{O}C
07	Suction temp.	^{O}C
08	Exhaust temp.	^{O}C
09	Water Inlet temp.(Water tank)	^{O}C

More status queries are available. Contact your supplier for full list if required.

8. Commissioning

Commissioning Check List

System Location

- ☐ The unit is installed on a suitable base.
- ☐ Enough room has been allowed for service and maintenance of the water heater.
- ☐ The system has been installed in a location that allows enough ventilation.
- ☐ The location is free from any corrosive materials or chemicals.
- ☐ The location is free from any excessive dust or material that can become airborne.

Hydraulic Connections

- ☐ Temperature and pressure relief valve (PTR valve) is properly installed with a discharge pipe plumbed to suitable discernable discharge point.
- ☐ Check that all plumbing connections including piping, valves and fittings are properly installed and free of leaks.
- ☐ The system is completely filled with water and all air is drained from the tank and piping.
- ☐ The tempering valve has been installed per manufacturer's instructions and the output water temperature is in the range required by local authorities.
- ☐ The condensate drain line is installed and plumbed to suitable drain point.
- ☐ All hot water lines are appropriately insulated and protected from UV degradation.

Electrical Connections

- ☐ The water heater is connected to a supply that has a voltage between 220 - 240 VAC.
- ☐ All hard wiring complies with all local applicable codes and the requirements of this guide.
- ☐ The water heater and electrical supply are properly grounded.
- ☐ A correctly sized overload protection device has been installed.

9. Maintenance

9.1. Draining and flushing the system

The system must be completely drained of water before any plumbing work is commenced. This will prevent damage to the storage tank in the event of a vacuum or excessive pressure forming in the storage tank.
The heat pump hot water system should be drained and flushed every five years during a major service of the unit.

a. Turn off and isolate the power supply to the electrical element.

b. Turn off the water supply to the water heater.

c. Release excess pressure from the tank by manually opening the pressure & temperature relief valve.

d. With the pressure & temperature relief valve open, drain the tank out of the flexible drain pipe

9.2. Relief valves

The lever on the relief valves should be operated at least every six months. Failure to do so may result in failure of the tank. If water does not discharge freely from the valves they should be checked and possibly replaced. The relief valves and relief valve drain lines must not be blocked. Some water may discharge during each heating cycle

Every five years, all safety valves should be replaced to ensure continued life and operational safety of the system. In location where the portable water has a Total Dissolved Solids (TDS) of greater than 600 ppm it is recommended to replace all safety valves every 3 years.

9.3. Anode replacement

The high quality vitreous enamel lined low carbon steel tanks have a sacrificial anode for long tank life. This anode should be inspected every couple of years and be replaced

when it has worn out. As a minimum it is recommended that the anode be changed every 5 years.

9.4. Condensate discharge pipe

Check the pipe regularly for cleanliness. Any obstruction may cause poor condensate flow or cause the accumulation of water in the heat pump plastic base.

9.5. Cleaning the evaporator

The evaporator is integral to the optimum performance of the appliance.

It is recommended to clean the evaporator fins once every year using a soft-haired brush. If any of the fins are bent, carefully realign then using a suitable comb.

9.6. Hydraulic circuit

Check the watertightness of all connections and pipes for signs of any water leaks.

WIFI CONNECT – Connect your Heat Pump via the TUYA SMART HOME APP

1. Make sure the system is powered off (control screen is blank)
2. Download the TUYA SMART HOME APP

3. Turn Controller on and make sure it is unlocked and the WIFI symbol is flashing

4. Click add device
5. Select Larger Home Appliances
6. Select Smart Heat Pump (WIFI)
7. Select your WIFI network & enter your password
8. Confirm the WIFI symbol is flashing fast
9. Wait for the App to connect

Once connected, the WIFI symbol will remain solid

10. Warranty

It is recommended that homeowners keep receipts, invoices, warranties and any installation record forms where applicable in a safe place. Proof of purchase/ ownership will be required for any warranty claims.

10.1. Warranty Period

Your heat pump is covered by a six year warranty. For the first year the warranty covers parts and labour. The remaining 5 years is a parts only warranty.

10.2. Eligibility requirements to make a claim

- The person(s) making the claim must be the product owner or have consent to act on behalf of the owner.
- The product must have its original serial numbers and/ or rating labels where applicable.
- The warranty period begins from the date of installation of the component(s). In the event that proof of installation cannot be provided, the period begins from date of purchase. In the event that this is also not available, the warranty will begin from date of manufacture of the product

10.3. General warranty conditions

10.3.1. This Warranty is for domestic & residential use of the hot water heating system only. Any application with hot water consumption above 700 L/day is considered NON-residential. Domestic is defined per below:

a. Units installed in any domestic dwelling.
b. Hot water consumption below 700 Liters per day.

10.3.2. To the extent that a claim falls under the 'Parts Only' Warranty Period, the Warranty covers the repair and/or replacement of such failed component in domestic use free of charge. However, the transport, installation and labor costs of repairing the component or delivering the replacement component and removing and replacing the existing component will be the responsibility of the customer of the existing component.

10.3.3. To the extent that a claim falls under the 'Parts and Labor' Warranty Period, the Warranty covers the repair and/or replacement of such failed component in domestic use and any associated labor costs free of charge. Please note the cost of freight may be charged to the customer.

10.3.4. HSA reserves the right to alter the design, components or construction to its domestic hot water system or custom design. Such alterations shall not constitute a defect in design or construction under this Warranty.

10.3.5. Any claim under this Warranty must include full details of the defect and/or damage to the hot water system or component(s) in domestic use. All claims must be made within one (1) month of the detection of the defect.

10.3.6. To the extent permitted by law, HSA shall not be liable under this Warranty for any consequential loss or damage or any incidental expenses resulting from any breach of this warranty, including but not limited to, claims for damage to buildings, roofs, ceilings, walls, foundations, gardens, personal belonging or household effects, fixtures and fittings, or any other consequential loss, damage or inconvenience, either directly or indirectly due to leakage from the hot water system or component(s) in domestic use or any other matter related to the system or its operation.

10.3.7. The benefits conferred by this Warranty are in addition to all other rights and remedies in respect of the hot water system or component(s) in domestic use, which the purchaser has under the Competition and Consumer Act 2010 and consumer protection legislation of the States and Territories. Nothing in this Warranty has the effect of excluding, restricting or modifying those rights.

10.3.8. Goods presented for repair may be replaced by refurbished goods of same type rather than being repaired. Refurbished parts may be used to repair/replace the goods.

10.3.9. HSA will not accept responsibility for any costs associated with attendance and repair of the appliance by third parties not authorised by HSA and will not settle any invoices arising from this.

10.4. Heat pump warranty conditions

10.4.1. All heat pump hot water system must be installed by a licensed installer.

10.4.2. Only a licensed professional must install, commission or service the hot water system.

10.4.3. All the hot water system must be installed in accordance with Manufacturer's Installation Instructions and in accordance with local regulations, municipal building codes and current AS/NZS 3000, AS/NZS 3500, AS 3498 and AS/NZS 5601

10.4.4. If the hot water system has not been installed in accordance with Manufacturer's Installation Instructions or installed as to be easily accessible for servicing, a service charge may apply and warranty may be void.

a. The integration with tank and controller should follow the instructions in the installation manual.
b. The operational conditions should not exceed from those specified in the installation manual (i.e. -10 to 43 ˚C).
c. The storage tank MUST have a 850 kPa PTR valve installed, while the main cold pressure to the hot water system is limited by a 500 kPa PLV.
d. Electricity supply to the heat pump unit must be accordance with the relevant Australian standards as well as guidelines in the installation manual (i.e. 240V supply and 15A circuit breaker).

This warranty does not cover faults or issues to any components including but not limited to the below:

- accidental damage or damage caused by third parties including damage caused by animals and insect infestations
- corrosion to the unit & casing caused by salty water/air, fire, floods, extreme weather conditions of acts of God.
- damage caused by power surges or faulty electrical supply
- damage caused by connection to anything other than standard water supply, such as springs, bores, dams, rivers etc
- any issues related to excessive water pressure or negative (vacuum) pressure

10.4.5. Water quality must be within limits specified below table.

Total Dissolved Solids	< 600 mg/L or ppm
Total Hardness (CaCO3)	< 200 mg/L or ppm
Electrical Conductivity	850 µS/cm
Chloride	< 300 mg/L or ppm
pH Level	Min 6.5 to Max. 8.5
Magnesium	< 10 mg/L or ppm
Sodium	< 150 mg/L or ppm
Iron	< 1mg/L or ppm
Alkalinity (as CaCO3)	< 200 mg/L or ppm
Dissolved (free) CO2	< 25 mg/L or ppm

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 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.

hydronic systems australia

HSA - MELBOURNE
Head Office & Showroom
11 Fiveways Blvd
Keysborough VIC 3173
P: 1300 001 800

HSA - SYDNEY
Showroom & Warehouse
Unit G7, Alexandria Industrial Estate
35-39 Bourke Road, Alexandria NSW 2015
P: 02 7209 6235

Registration Form

DATE OF REGISTRATION

☐☐ / ☐☐ / ☐☐

For standard warranty, complete this form and return to:
Hunt Heating Registration Department, Reply Paid 87857, Keysborough VIC 3175

PERSONAL INFORMATION

Prefix : **First Name :**

Surname :

Telephone : **Mobile :**

Email Address :

Address :

Suburb : **State :**

Postcode :

Date of Install : ☐☐ / ☐☐ / ☐☐

INSTALLER DETAILS

Business Name :

Prefix : **First Name :**

Surname :

Telephone :

Address :

Suburb : **State :**

Postcode :

PIC Licence No : **Certificate of Compliance No :**

Brand : **Model :**

Serial No :

Important Data Protection Information
If you provide us with information about another person, you confirm that they have appointed you to act for them, to consent to the processing of their personal data including sensitive personal data and that you have informed them of our identity and the purposes (as set out in the Important Data Protection Information displayed when you register your appliance) for which their personal data will be processed.

You are entitled to ask for a copy of the information we hold about you (for which we may charge a small fee) and to have any inaccuracies in your information corrected.
For quality control and training purposes, we may monitor or record your communication with us.

If your personal details change, if you change your mind about any of your marketing preferences or if you have any queries about how we use your information, Please contact us at 11 Fiveways Boulevard, Keysborough VICTORIA 3173

Hunt Heating will use the personal information that you provide for:
• Customer Service • Administration • To analyse your purchasing preferences • Marketing purposes
We would like to send you information about our own offers and services, as well as those of selected third parties via post, telephone or email.
If you agree to being contacted in any of these ways, please tick the relevant boxes.
Post ☐ Telephone ☐ Email ☐ We may keep your information for a reasonable period for these purposes.
If you do not wish to recieve information about our offers or services, please tick this box ☐
If you do not wish to recieve information from selected third parties, please tick this box ☐

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