AVALUX
POOL CO.

HEAT PUMP

Keeping your pool perfect,
season after season

Installation & Owner's Manual

Welcome

CONGRATULATIONS and thank you for choosing the Avalux Swimming Pool Heat Pump.

This manual contains important information relating to the safe installation, commissioning, operation, maintenance and troubleshooting of your heat pump. Please read these instructions carefully before installing or operating the unit and retain this manual for future reference.

Following the instructions and maintenance requirements in this manual will help ensure safe operation, optimal performance and long service life.

While every effort has been made to ensure the information contained in this publication is accurate and complete at the time of printing, Avalux Pool Co. reserves the right to make changes without notice and accepts no liability for errors or omissions.

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Foreword

1.1 Purpose of This Manual

This manual provides essential information for the safe installation, operation, servicing and decommissioning of this heat pump system.
It is intended to ensure:

- Safe use of the appliance
- Correct installation practices
- Compliance with applicable standards and regulations
- Protection of persons, property and the equipment

Important

These instructions do not purport to cover all possible conditions, equipment variations, or situations that may occur during installation, operation, or maintenance. Should a situation arise that is not adequately covered by this manual, seek advice from a suitably qualified installer, service technician, electrician or Sunlover Heating before proceeding.

1.2 Sections for Different Users

This manual is divided into sections for different users:

- Installers
  Licensed tradespeople responsible for installation and commissioning.
- Operators (End Users)
  Persons using the system in normal operation.
- Service Technicians
  Qualified personnel performing maintenance, repair or decommissioning.

1.3 Important Installation and Repair Notice

Installation must be carried out by appropriately trained and qualified personnel in accordance with all local regulations and the national wiring rules.

Servicing and refrigerant handling must only be performed by qualified technicians, observing all safety instructions as outlined in **Section 13 – Safety Instructions (Service & Repair Technicians).**

Warning

Failure to follow the instructions in this manual may result in death or serious injury, property damage or equipment failure.

1.4 Maintenance Requirements

This appliance is not a maintenance-free product. It requires routine inspection and maintenance to ensure safe operation, optimal performance, and long service life. Failure to carry out regular maintenance may result in reduced efficiency, faults, premature wear, or potential safety risks. In addition, failure to maintain the unit in accordance with these instructions may affect warranty coverage. **Refer to Section 12 – Maintenance Requirements** for detailed maintenance instructions and required intervals.

1.5 Retain This Manual

This manual must be provided to the owner and/or operator of the equipment and retained for future reference.

Safety Precaution

2.1 Instructions and Symbols

Ensure all safety instructions are read and understood prior to installing, operating, or servicing the unit. The following ISO symbols and signal words are used throughout this manual, and on the heat pump itself to identify hazards according to their level of severity and to provide specific installation and service guidance.

	DANGER	Indicates an imminent hazard that will result in death or serious injury if not avoided. This signal word is reserved for the most extreme situations.
	WARNING	Indicates a potentially hazardous situation that could result in death or serious injury if not avoided.
	CAUTION	Indicates a potentially hazardous situation that could result in minor or moderate injury if not avoided. This also may be used to alert against unsafe practices.
	NOTICE	Indicates a situation that could result in equipment damage or property damage if not avoided.
	IMPORTANT	Indicates important information that must be understood and followed.
	TIP	Provides useful information to assist with installation, operation, or maintenance. These tips help improve efficiency, performance, or ease of use.
	FLAMMABLE REFIGERANT	This symbol indicates that the appliance contains flammable refrigerant. If the refrigerant leaks and is exposed to an external ignition source, there is a risk of fire.
	ELECTRIC SAFETY WARNING	This symbol indicates a risk of electric shock. Always isolate the power supply before cleaning, inspection, or servicing.
 	READ INSTRUCTIONS	This symbol indicates that the instruction manual must be read and understood before installing or operating the appliance.
	SERVICE REQUIREMENT	This symbol indicates that the equipment requires servicing or maintenance. Qualified service personnel should refer to the manufacturer's instructions.
	RECYCLING CAUTION	This symbol indicates that the appliance must be disposed of at an appropriate facility for recovery and recycling in accordance with local regulations.

3.1 Installation Safety (For Installers)

The appliance is primarily intended for installation outdoors; however, it may be installed indoors providing that all relevant air clearance and ventilation requirements are met (Refer to Section 6 – Pre-Installation).

The installation must comply with:

- Local electrical and plumbing regulations;
- Relevant building codes; and
- Any other applicable standards.

Ensure the following:

- The unit is sitting level and is securely mounted on a stable surface capable of supporting its weight;
- The installation location allows adequate ventilation;
- The unit is not installed in areas where an ignition source may be present; and
- All plumbing connections and condensate drainage pipework are correctly installed to prevent water leakage.

Electrical Safety

The electrical installation must be completed by a qualified electrician in accordance with the AS/NZS 3000 Wiring Rules.

- The heat pump must be connected to a dedicated sub-circuit which is 30mA RCD protected.
- A disconnection switch which has at least 3mm clearance in all poles must be incorporated in the fixed wiring.
- The appliance must be properly earthed.

3.2 Refrigerant Safety (For Installers)

Refrigerant Safety (General Awareness)

- This appliance contains a flammable refrigerant. Ensure adequate ventilation around the unit at all times.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater).
- Be aware that refrigerants may not contain an odour.
- If a refrigerant leak is suspected, ensure the following:
    - Turn off the unit immediately
    - Isolate electrical power
    - Contact a qualified technician
- Do not use means to accelerate the defrosting process or to clean the heat pump, other than those recommended by the manufacturer.
- Do not pierce or burn the unit.

3.3 Safe Operation (For Users)

⚠ Warning

- This appliance is not intended for use by young children or infirm persons without supervision. Please ensure that young children are supervised to ensure they do not play with the appliance. Incorrect operation may result in injury or equipment damage.
- Do not operate the unit if a fault or error code is present.
- Do not insert fingers or objects into the fan grille or evaporator (radiator) fin coil.
- Do not operate the unit with wet hands.
- Do not unplug or disconnect power during operation.
- Do not allow water to enter electrical components.

⚠ Caution

- Do not place any hazardous materials close to the unit. Pool acid and other chemical containers must be stored well away from the heat pump to prevent fumes and fluids from damaging the evaporator fin coil and other components.
- Turn off power before cleaning the heat pump cabinet.
- Where applicable, the appliance shall be stored so as to prevent mechanical damage from occurring.

Specifications

Important

The data shown applies only to the Avalux heat pump and does not include any auxiliary equipment. Product specifications were accurate at the time of printing but may change without notice.

For the latest product information, visit the Avalux Pool Co website or contact an Avalux dealer.

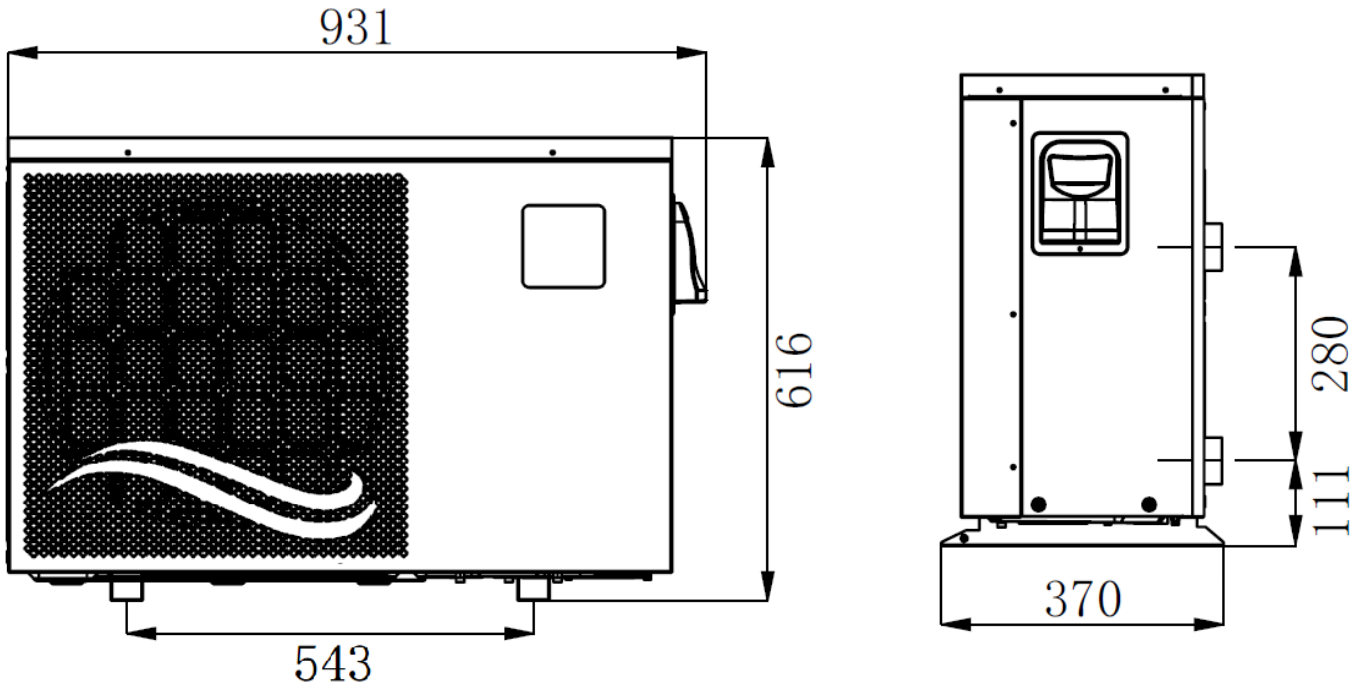
4.1 Performance Data

				AL9	AL13	AL19	AL24	AL28	AL28T	AL35T
Performance Data	Air 27°C Water	Heating Capacity	kW	1.5 ~ 9.0	2.0 ~ 12.8	2.7 ~ 18.9	2.9 ~ 23.8	4.6 ~ 27.7	5.2 ~ 27.7	5.7 ~ 34.7
		Consumed Power	kW	0.1 ~ 1.3	0.2 ~ 1.8	0.2 ~ 2.7	0.2 ~ 3.3	0.4 ~ 4.0	0.4 ~ 3.9	0.3 ~ 5.1
		COP		15.2 ~ 6.9	15.2 ~ 6.9	15.3 ~ 6.8	16.1 ~ 7.1	16.3 ~ 6.7	16.4 ~ 7.0	16.4 ~ 6.7
	Air 15°C Water	Heating Capacity	kW	0.9 ~ 6.3	1.7 ~ 8.6	2.3 ~ 11.8	4.2 ~ 17.7	5.8 ~ 20.5	6.0 ~ 20.3	6.3 ~ 23.2
		Consumed Power	kW	0.1 ~ 1.3	0.3 ~ 1.8	0.3 ~ 2.4	0.5 ~ 3.4	0.7 ~ 4.0	0.8 ~ 3.8	0.8 ~ 4.6
		COP		7.7 ~ 4.9	6.9 ~ 4.8	8.0 ~ 5.0	8.1 ~ 5.2	8.0 ~ 5.1	8.0 ~ 5.3	8.1 ~ 5.1
	Air 35°C Water	Cooling Capacity	kW	1.8 ~ 3.0	2.4 ~ 3.4	4.2 ~ 7.3	4.7 ~ 11.7	5.5 ~ 13.4	5.5 ~ 13.5	5.8 ~ 14.3
		Consumed Power	kW	0.7 ~ 1.2	0.8 ~ 1.1	1.2 ~ 2.3	1.4 ~ 3.9	1.7 ~ 4.6	1.7 ~ 4.7	1.9 ~ 5.1
		EER		2.7 ~ 2.5	3.1 ~ 3.0	3.4 ~ 3.2	3.4 ~ 3.0	3.3 ~ 2.9	3.3 ~ 2.9	3.1 ~ 2.8
Technical Specifications	General	Operating Air Temperature	°C	-7~43						
		Refrigerant		R32						
		IPX rating		IPX4						
		Airflow	m3/h	2470	2850	3563	5035	5035	4275	4275
		Sound Pressure at 1m	dB(A)	40~52	42~54	44~56	45-56	45-58	45-57	45-60
		Net Dimension *(L x W x H)*	mm	888 x 360 x 618	888 x 360 x 618	1048 × 450 × 770	1160 × 490 × 862	1160 × 490 × 862	1160 × 490 × 862	1160 × 490 × 862
		Shipping Dimensions *(L x W x H)*	mm	970 × 410 × 630	970 × 410 × 630	1130 × 480 × 780	1210 × 510 × 880	1210 × 510 × 880	1210 × 510 × 880	1210 × 510 × 880
		Net / Shipping Weight	kg	51 / 57	54 / 60	67 / 74	78 / 88	100 / 117	103 / 120	130 / 153
	Power	Power Supply	V/Ph/Hz	230-240/1/50				400-415/3N/50		
		Max Run Current *(per phase)*	amp	9.9	10.6	15.7	22.5	23.9	10.2	11.7
	Fan	Direction		Horizontal						
		Quantity		1	1	1	1	1	1	1
		Rotate Speed	RPM	500 ~ 700	500 ~ 850	500 ~ 750	400 ~ 800	400 ~ 800	400 ~ 800	400 ~ 800
	Water	Connection	mm	40						
		Water Flow *(min)*	L/min	42	58	70	110	135	135	160
		Pressure Drop *(max)*	kPa	2.8	3	6	14	17	17	20

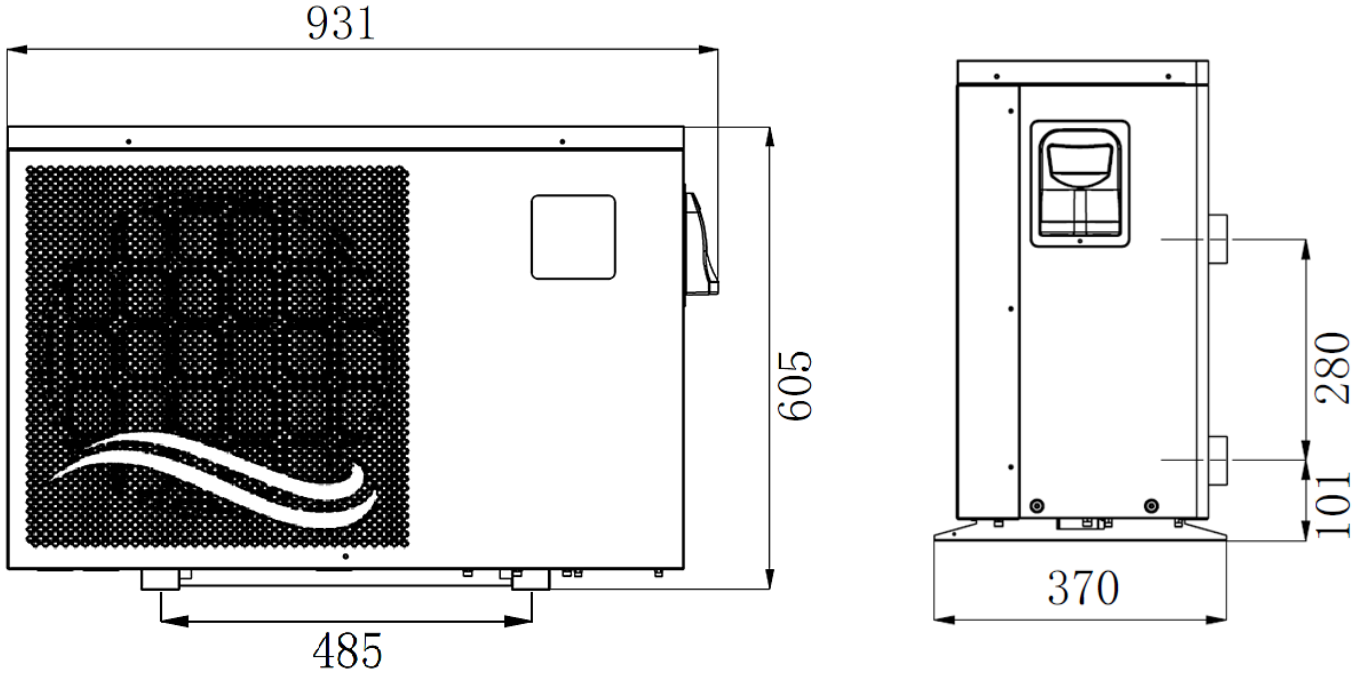
Specifications

4.2 Dimensions

Model: AL9



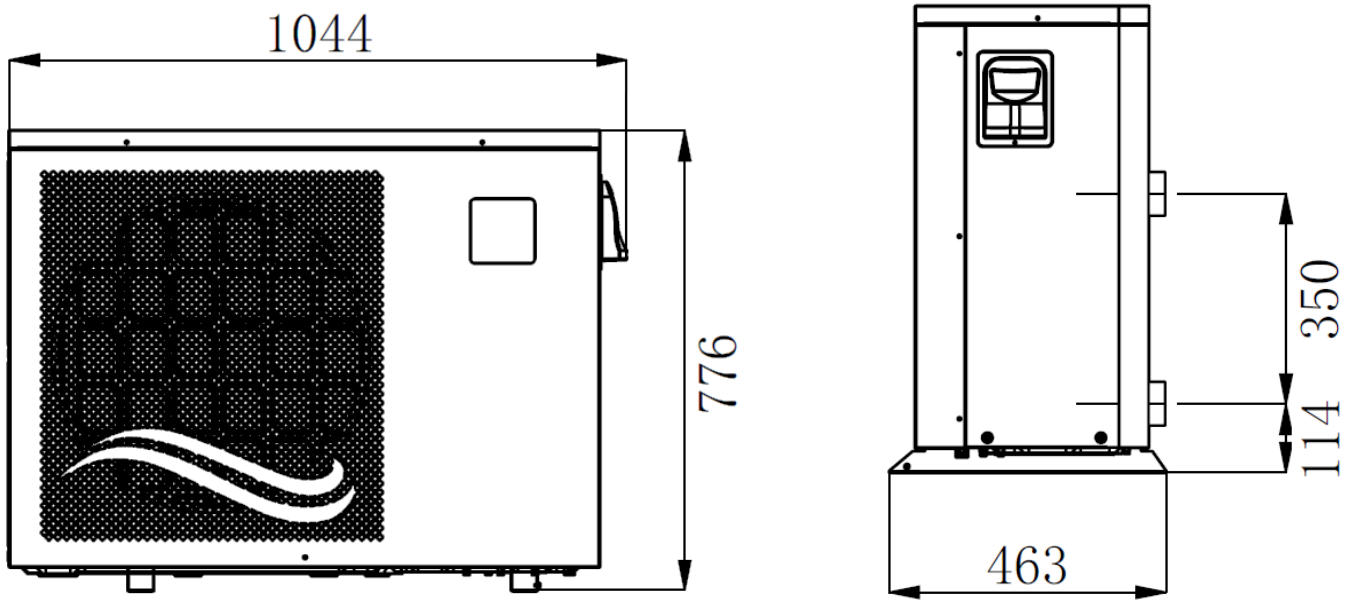
Model: AL13



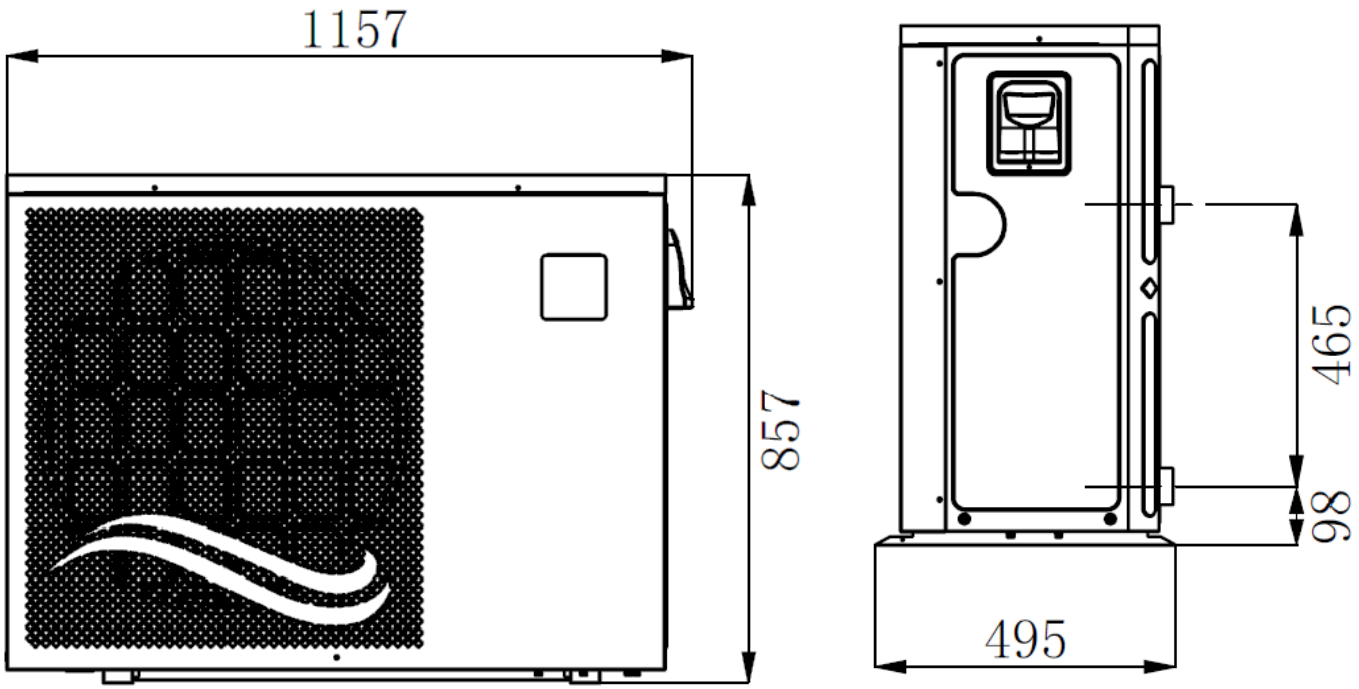
Specifications

4.2 Dimensions *(continued)*

Model: AL19



Model: AL24 / AL28 / AL28T / AL35T

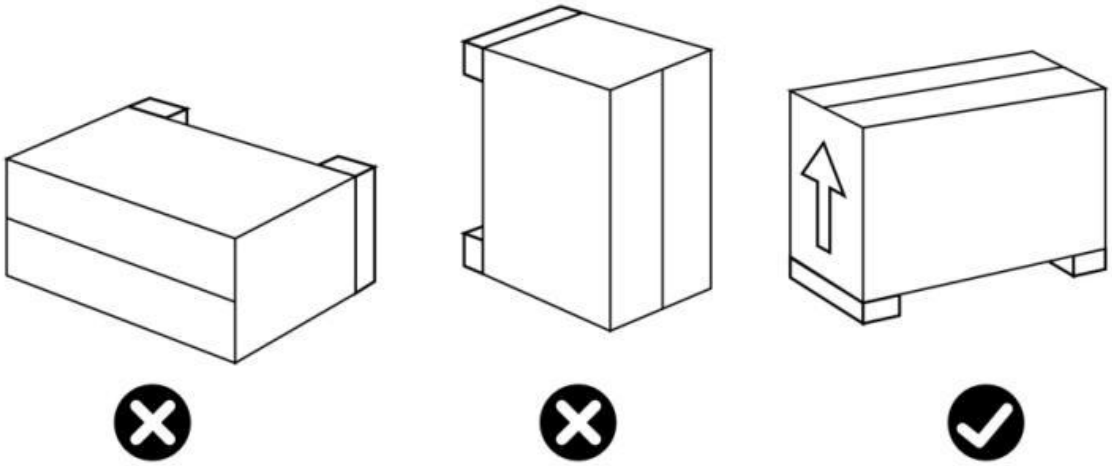


Transportation

5.1 Handling Requirements

Notice

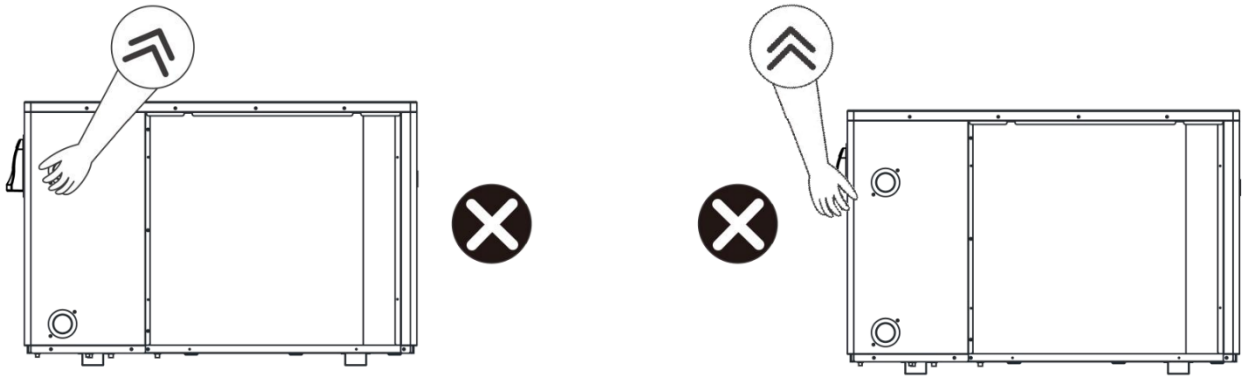
The heat pump must be transported and stored upright at all times to protect the compressor, refrigerant circuit and other internal components. Tilting, laying the unit down or storing it incorrectly may cause damage that is not covered under warranty.



The unit must remain upright at all times

Notice

If the heat pump needs to be moved on site after unboxing, do not lift or carry it by the water unions or electrical panel cover fittings. This may damage the internal heat exchanger, unions or panel cover.



Do not lift the unit by the water fittings or electrical panel cover

Pre-Installation

Before installing the heat pump, confirm that the installation site, services and system design comply with the requirements outlined in this section. The following information supports a well-planned installation that promotes correct operation, optimal performance, safe use and long-term serviceability.

Installation Location

Air Clearance

Mounting Surface

Condensate Management

Water Flow

Service Access

6.1 Installation Location

The heat pump must be installed in a suitable outdoor location that allows for safe operation, adequate airflow and long-term reliability.
The following requirements must be considered when selecting an installation location:

Electrical Safety

The heat pump has an IPX4 ingress protection rating and AS/NZS 3000 (The Wiring Rules) stipulates that it **must be installed more than 2.0m from the water's edge**. Consult with your electrician for any other site-specific electrical requirements that may be applicable to you.

General Requirements

- The unit must be installed outdoors in a well-ventilated area. The unit must be positioned to avoid recirculation of discharged air.
- Do not install the unit in enclosed or confined spaces, such as sheds, under decks or within plant enclosures, unless appropriate mechanical ventilation is provided.

Environmental Conditions

- Do not install the unit in areas where flammable gases or vapours may be present.
- Avoid locations exposed to corrosive environments, including chemical storage areas or coastal environments without appropriate protection.
- The unit should not be exposed to direct discharge of rainwater, such as from roof run-off or without adequate drainage control.
- Ensure the installation area remains clean, dry and free from debris, which may obstruct airflow or damage the unit.

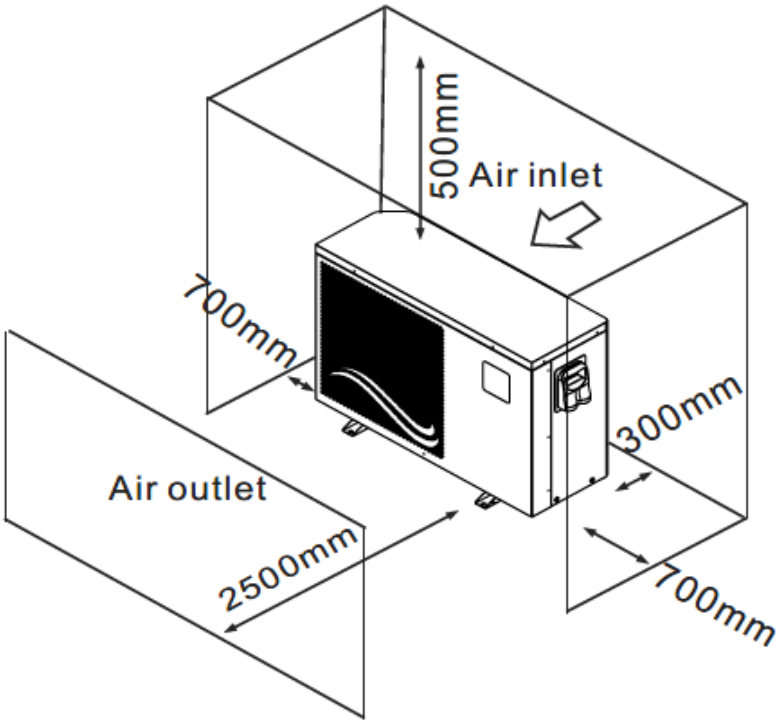
Positioning Considerations

- Position the unit as close as practical to the pool or spa to minimise heat loss or gain through the pipework.
- Locate the unit where maintenance and servicing can be carried out safely and conveniently.
- During operation, the heat pump will discharge condensate water. Install the unit where condensate can drain with sufficient fall to a suitable drainage point.
- Avoid locations where operating noise or cold air discharge may affect occupants or neighbouring properties.

6.2 Air Clearance

For optimal performance and to prevent damage, the heat pump requires a continuous supply of fresh air while operating.

The unit draws large volumes of ambient air through the rear and left-hand side, then discharges air through the front fan cowl. It must not be installed indoors or in an enclosed space unless adequate ventilation is provided, as this can reduce performance and may damage the unit.



Minimum air clearance requirements

Important

In enclosed areas, discharged refrigerated air can recirculate back into the unit, reducing performance, efficiency and potentially causing the evaporator coil to ice up.

6.3 Mounting Surface

The heat pump must be installed on a solid, level base using the supplied anti-vibration feet. Installation on suitably rated wall brackets is acceptable, provided anti-vibration mountings are used.

Notice

Do not install the unit on surfaces subject to movement, subsidence or deterioration over time. Ensure the unit is adequately supported at all times and that no undue stress is applied to connected pipework.

6.4 Condensate Drainage

During operation, the heat pump will produce condensate water (just like an air conditioner). This is normal, and condensate volumes may be significant in high-humidity conditions.

The heat pump must therefore be installed in a location that provides continuous fall to an appropriate drain, preventing water pooling and reducing slip hazards.

A condensate drain barb is supplied with the unit and should be fitted to the outlet hole under the left side of the base. The stepped barb accepts both 13mm and 19mm ID hose, allowing condensate to be directed to the drain.

6.5 Water Flow

The heat pump may be installed inline with the pool filtration system or on a dedicated heating circuit. When installed inline, it must be positioned after the filter and before the sanitiser and/or chemical dosing point.

Refer to the unit specifications to confirm that the selected pump and plumbing circuit can provide the required water flow.

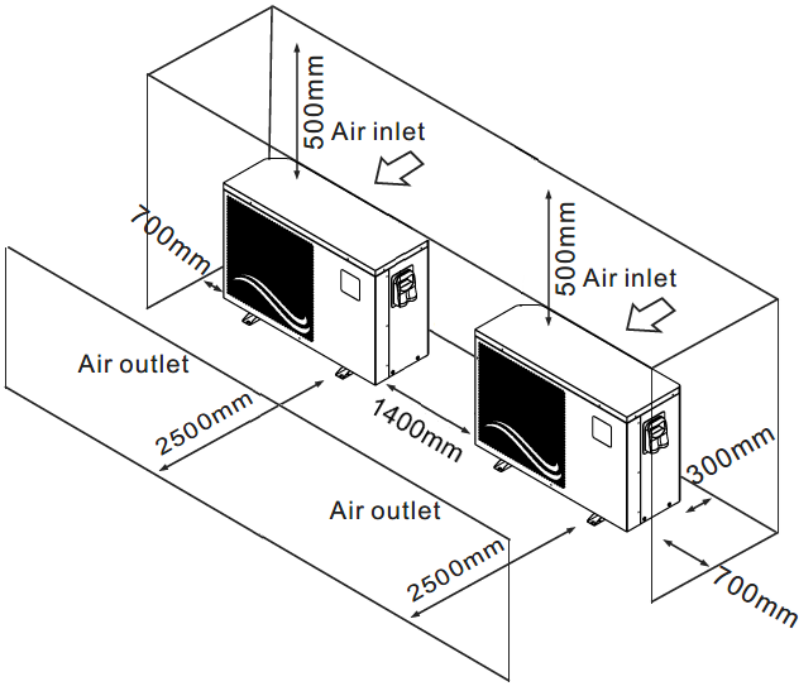
A water bypass arrangement must be installed to allow the heat pump flow rate to be adjusted correctly.

6.6 Service Access

The unit must be installed in a location that provides safe access for routine maintenance, servicing, repair work and electrical isolation.

6.7 Multiple Unit Installations

Installations with multiple heat pumps require additional planning to ensure adequate air clearance, balanced water flow, correct plumbing layout and suitable electrical control arrangements. ***Refer to Appendix A - Multiple Unit Installations for further guidance.***



Multiple Unit Installation

Unpacking & Preparation

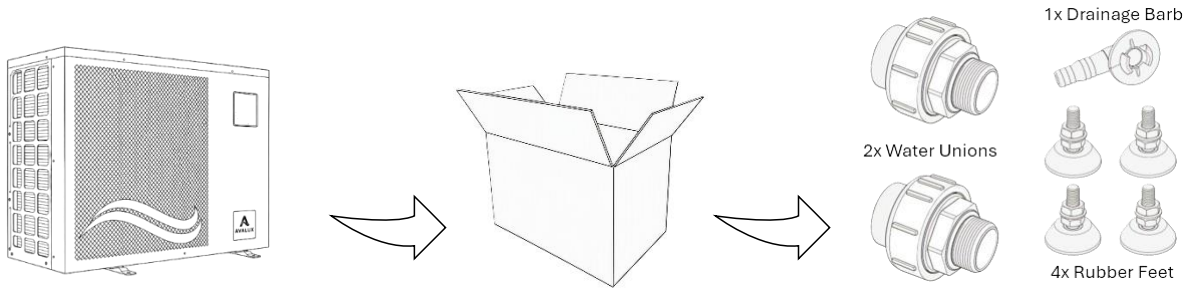
Warning

Installation must be carried out by appropriately trained and qualified personnel in accordance with all local regulations and the national wiring rules.

7.1 Unboxing the unit

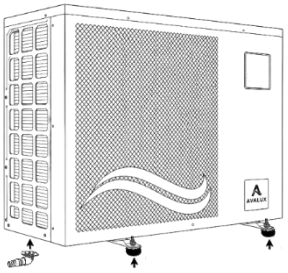
On receipt of the heat pump, inspect the packaging carefully. If any damage is visible, notify your supplier immediately and take photographs for future reference.

Remove the packing straps, then carefully lift the carton off the heat pump. Remove the protective plastic bag and locate the accessories supplied in the separate box within the packaging.



7.2 Installing the anti-vibration feet and condensate barb

Fit the four rubber feet to the unit. Then install the condensate drain barb into the outlet hole beneath the left-hand side of the base (for some models the barb may be pre-fitted to the unit).

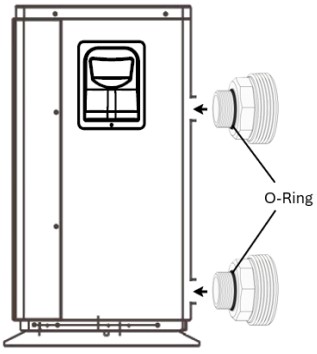


Tip

When mounting the heat pump on a wall bracket or similar fixture, the supplied feet are not required; however, the unit must be supported on suitable anti-vibration dampers.

7.3 Installing the water unions

Fit one large o-ring to each water union and apply a light coating of silicone grease to the rubber surface. Install each union and tighten firmly until the o-ring is fully compressed.



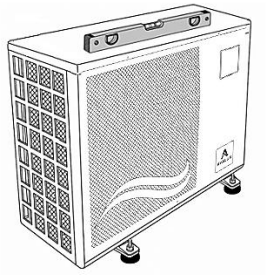
Notice

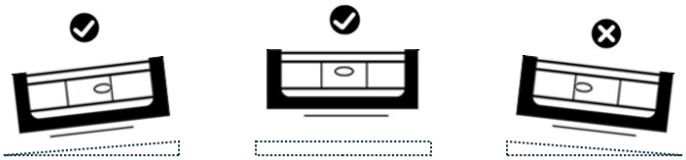
Avalux Pool Co recommends applying 3-4 wraps of white PTFE plumbing tape to these threads. Although the o-ring provides the primary seal, water hammer and lateral loads on the plumbing may compress the o-ring over time. Thread tape provides additional support and helps stabilise the connection.

7.4 Positioning & Levelling

Carefully position the heat pump on a level, stable mounting surface capable of supporting the weight of the unit.

Place a spirit level on the top lid and adjust or shim the feet as required until the unit sits level or preferably with a slight fall towards the condensate drain on the left-hand side.

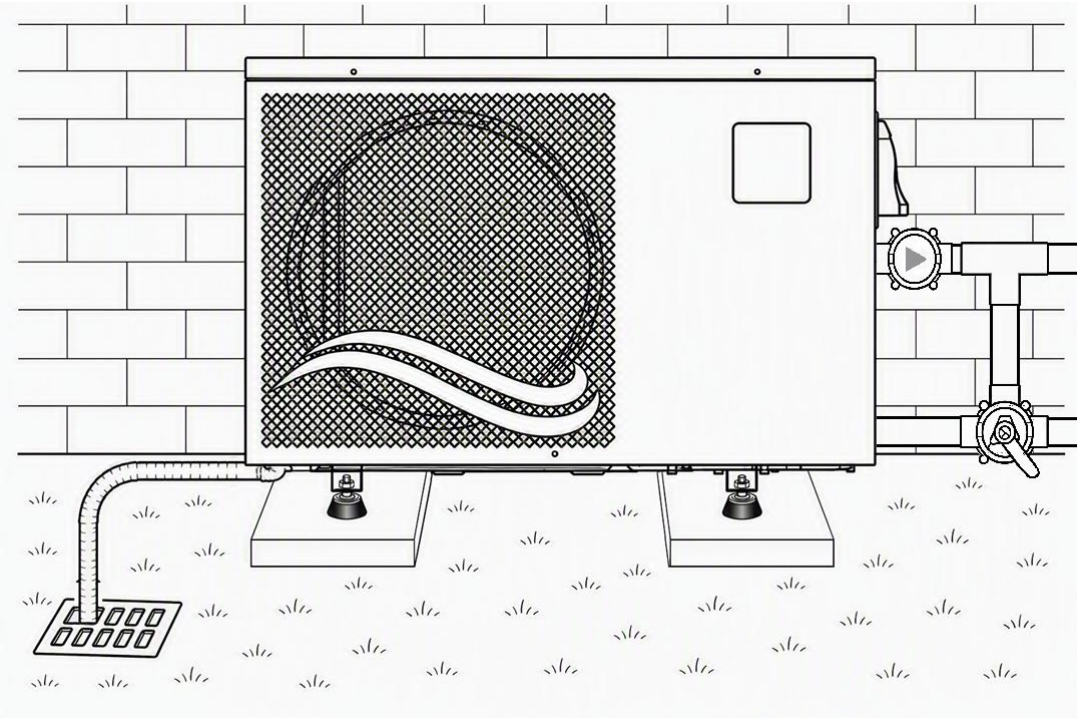




A slight fall towards the condensate drain is preferred

7.5 Condensate Management

Install the unit so condensate can drain through the condensate drain barb to a suitable drain. Connect a hose to the drain barb and route it with sufficient fall to allow water to flow freely without backing up. The stepped barb accepts both 13mm and 19mm ID hose.



Always direct condensate to a suitable drainage point

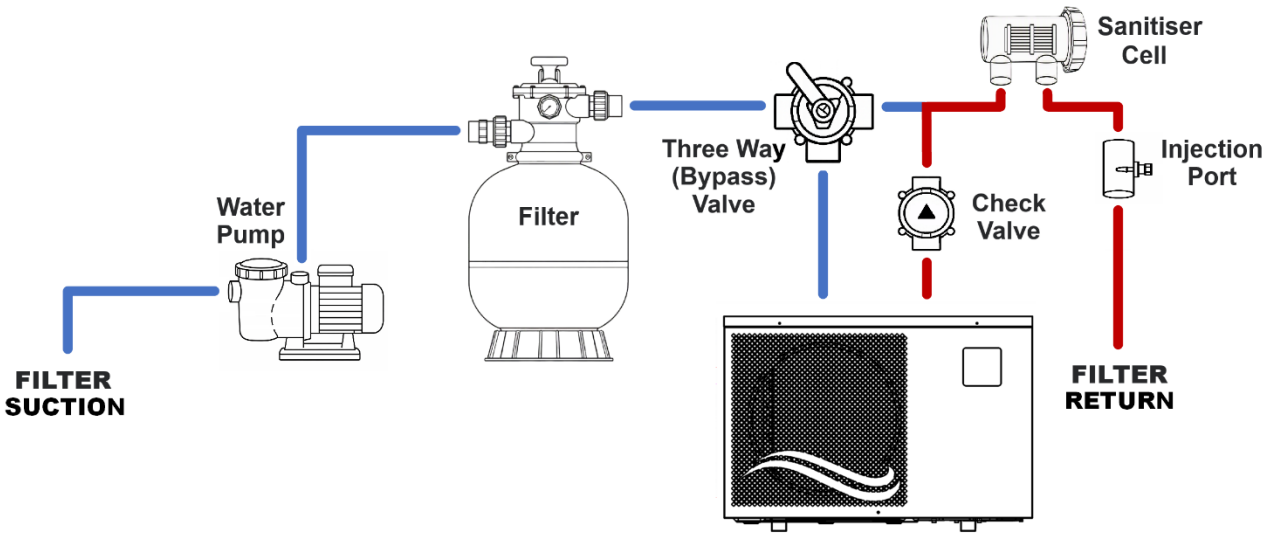
Plumbing Connections

8.1 Installation Schematic

The heat pump may be installed using either of the following arrangements:

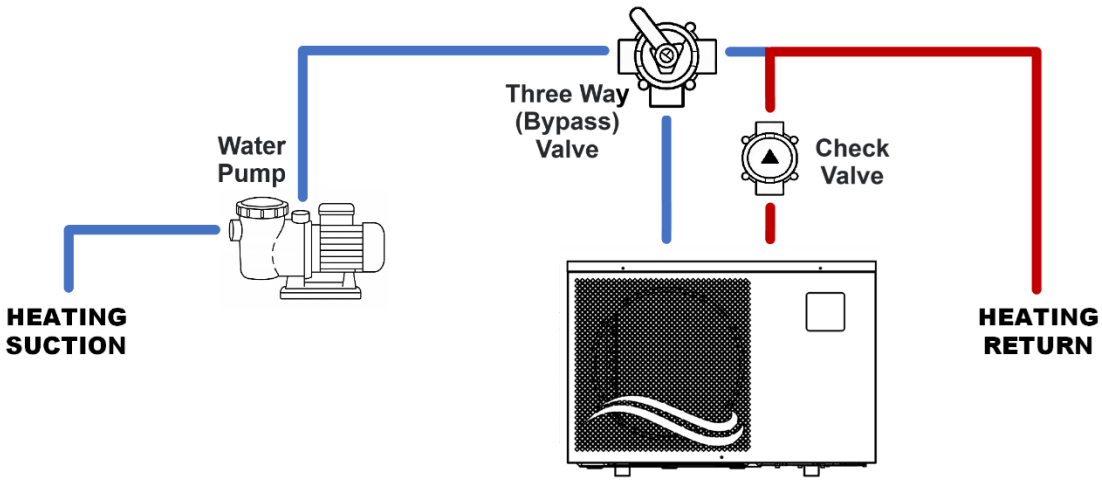
Inline with filtration

The heat pump is fed water via the main filter pump, installed downstream of the filter and upstream of any sanitiser or chemical dosing equipment.



Independent heating circuit

The heat pump is fed water via a dedicated pump and plumbing circuit.



The unit can operate passively in response to water flow, or can command water pump operation via a dry contact with connection to a compatible LuxLink device ***(Refer to 9.4 – Water Pump Control).***

Tip

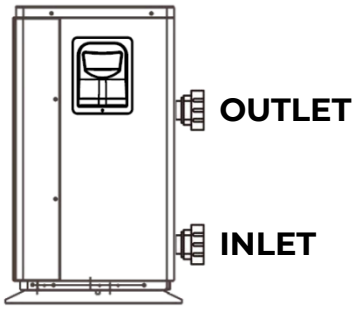
For installations with multiple heat pumps, refer to Appendix A - Multiple Unit Installations.

Plumbing Connections

8.2 Water Connections

The heat pump must be connected to the pool or spa circulation system using correct plumbing practices to ensure reliable operation and to prevent damage to the heat exchanger.

- Water must enter through the bottom connection and exit through the top connection.
- The supplied water union tails are designed to accept 40mm PVC-U pressure pipe.
- Pipe ends must be cut square, deburred, cleaned, primed and solvent welded using a suitable Type P pressure adhesive.
- Allow sufficient curing time in accordance with the adhesive manufacturer's instructions before pressurising the system.



Notice

Prime the pipe only. Do not apply priming fluid to the union tails.

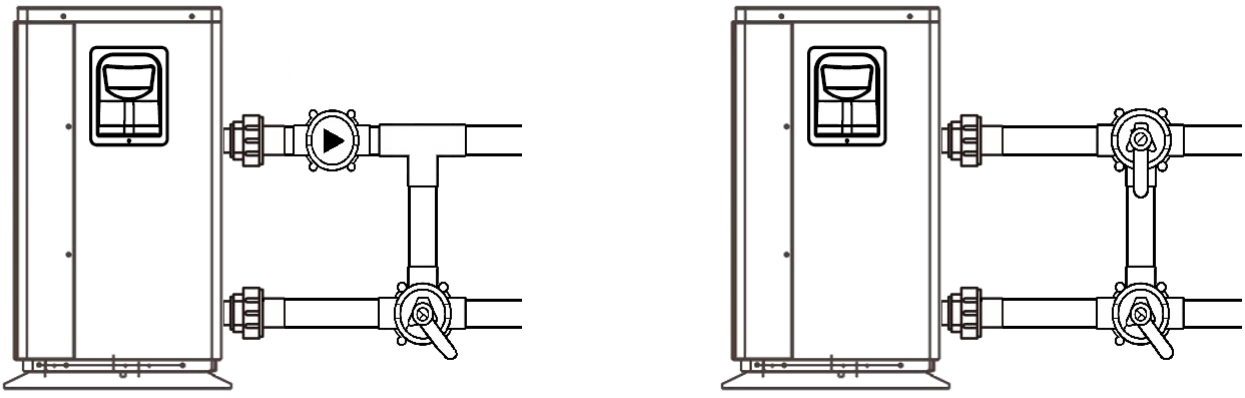
Tip

The external diameter of the union tails will accept 50mm couplings; however, this is not recommended as it prevents removal of the union nuts for service and maintenance.

8.3 Water Flow Control

A bypass arrangement is required to correctly adjust water flow through the heat pump. This typically uses a three-way diverter valve to direct water through or around the unit, with a check valve fitted on the outlet side. The bypass also allows the heat pump to be isolated for servicing or repair.

Alternatively, three-way valves may be fitted to both the inlet and outlet circuits, with a bypass pipe installed between them.



Typical water bypass examples

8.4 Support and Protection

All pipework must be adequately supported to prevent strain on the water unions. Do not allow lateral loads, misalignment or water hammer to be transferred to the connections.

Electrical Connections

Electrical Safety

- The electrical installation must be completed by a qualified electrician in accordance with the AS/NZS 3000 Wiring Rules and local regulatory requirements.
- The heat pump must be connected to a dedicated sub-circuit which is 30mA RCD protected.
- A disconnection switch which has at least 3mm clearance in all poles must be incorporated in the fixed wiring.
- The appliance must be properly earthed.

9.1 Power Cable Selection

Notice

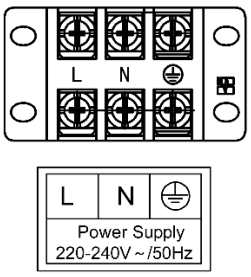
This table is provided as a guide only. Cable sizing must be assessed by a licensed electrician in accordance with the Wiring Rules and the specific requirements of the installation site. The data is based on typical installations with short cable runs.

Model	Electricity Supply *(Volts / Phase / Hz)*	Max Run Current *(amps – per phase)*	Min Power Cable *(mm^2)*	Min Circuit Breaker *(amps)*
AL9	220-240 / 1 / 50	9.9	3 x 2.5	16
AL13	220-240 / 1 / 50	10.6	3 x 2.5	16
AL19	220-240 / 1 / 50	15.7	3 x 2.5	20
AL24	220-240 / 1 / 50	22.5	3 x 4.0	25
AL28	220-240 / 1 / 50	23.9	3 x 6.0	32
AL28T	400-415 / 3 / 50	10.2	5 x 2.5	16.0
AL35T	400-415 / 3 / 50	11.7	5 x 2.5	16.0

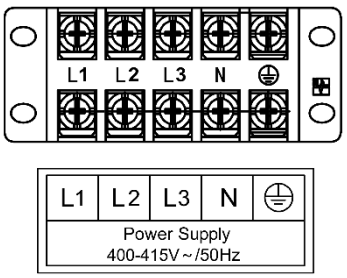
9.2 Power Supply Wiring

Access to the supply connection point is via the electrical access panel located on the side of the unit.

1. Remove the access panel to expose the electrical connection terminals.
2. Install a suitable conduit gland to one of the cable entry points.
3. Route the supply cable and flexible liquid-tight conduit through the gland and into the terminal enclosure.
4. Connect the active, neutral and earth conductors to the designated terminals in accordance with the wiring diagram.
5. Ensure that:
   - All terminals are securely tightened;
   - The cable is properly clamped to provide adequate strain relief; and
   - No exposed conductors are visible outside of the terminal connections.
6. Refit the electrical access panel securely and ensure the cable routing back to the isolating switch is correctly installed. Supply cabling must be adequately supported and protected from mechanical damage, and must be routed clear of sharp edges, hot surfaces and any moving components.



Single Phase Units



Three Phase Units

Caution

Do not drill, cut or modify the heat pump cabinet. Doing so may damage internal components, including refrigerant pipework or electrical wiring, and may void the warranty. Only use the designated cable entry points provided.

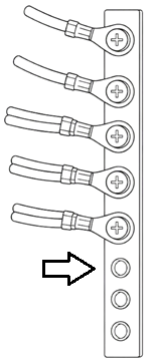
9.3 Earthing and Equipotential Bonding

The incoming mains protective earthing conductor must be connected to the designated heat pump earthing terminal.

Where equipotential bonding is required, the bonding conductor may be terminated at the same earthing point using a terminal rated for multiple conductors, or connected via a suitable approved earthing connector, such as a rated BP connector.

Alternatively, the chassis grounding bar adjacent to the mains connection terminals may be used. This grounding bar serves as the earthing point for internal conductors and provides vacant positions suitable for an M4 machine screw and eyelet terminal (as shown).

All earthing and bonding connections must remain mechanically secure, electrically continuous, accessible for inspection, and protected against corrosion or inadvertent loosening.



Grounding Bar

9.4 Water Pump Control

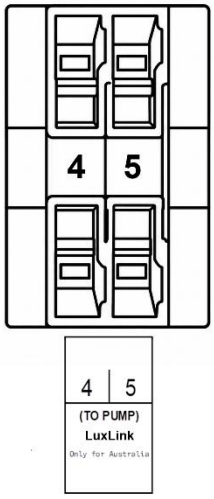
The heat pump provides two methods for automatic circulation pump control. The preferred method is via the voltage-free dry contact output, which allows pump operation to be managed by a compatible LuxLink device, such as a chlorinator or independent pump controller.

Alternatively, a controlled 230 V auxiliary output is provided for direct operation of a suitable circulation pump. Refer to the following sections for connection details and wiring requirements.

(Option A)

Dry Contact Control (LuxLink or Similar Control Interface)
Auxiliary Terminals 4/5

The heat pump is equipped with a voltage-free dry contact output for control of a circulation pump via a compatible LuxLink device. This option is intended for installations where pump operation is managed by external equipment, such as an independent pump controller, pool chlorinator, or automation system.



Dry Contact Output

⚠ Warning

The electricity supply must be switched off and isolated prior to removing the access panel or making any connection.

1. Remove the electrical access panel located on the side of the unit to expose the auxiliary connection terminals.
2. Route the cable through one of the access panel grommets and connect the conductors to the 'LuxLink' spring-cage terminals ***(see AUX terminal connection tips on page 20).*** Tug test all connections and secure the cable to provide adequate strain relief.
3. Refit the electrical access panel securely. Route the cable back to the compatible controller neatly, ensuring it is kept clear of sharp edges, hot surfaces and moving components.

9.4 Water Pump Control *(continued)*

(Option B)

Direct Load Control (230 V Output)
Auxiliary Terminals 1/2/3

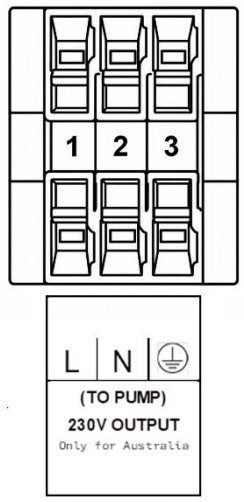
The heat pump is equipped with a controlled 230V auxiliary output that can be used to automatically operate a circulation pump when heating or cooling is required. Connections are made via spring-cage terminals within the electrical compartment and accept conductors up to 2.5 mm².

The maximum recommended load connected to this circuit is 6 Amps. Any load connected to the auxiliary output is in addition to the heat pump's own electrical consumption and must be considered when sizing supply cabling, circuit protection, and the overall electrical installation.

Installation of this circuit must be carried out by a licensed electrician in accordance with AS/NZS 3000 Wiring Rules and all applicable local regulations. Avalux Pool Co recommends protecting the auxiliary output circuit with a dedicated 6Amp MCB, with cabling terminating at a suitable weatherproof outdoor GPO located adjacent to the heat pump.

This arrangement allows the circulation pump to be easily disconnected for servicing and maintenance.

Direct hardwiring of a circulation pump cable into the heat pump is not recommended.



230v Pump Output

⚠ Warning

The electricity supply must be switched off and isolated prior to removing the access panel or making any connection.

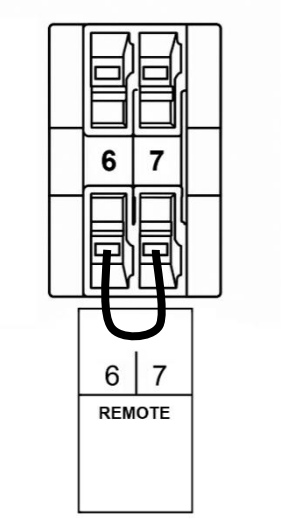
1. Remove the access panel to expose the electrical connection terminals.
2. Install a suitable conduit gland to one of the cable entry points.
3. Route the auxiliary pump supply cable and flexible liquid-tight conduit through the gland and into the terminal enclosure.
4. Connect the active, neutral and earth conductors to the designated pump output terminals in accordance with terminal labelling ***(see AUX terminal connection tips on page 20)***.
5. Ensure that:
   - You tug test all connections to confirm that each cable is correctly terminated;
   - The cable is properly clamped to provide adequate strain relief; and
   - No exposed conductors are visible outside of the terminal connections.
6. Once wiring is complete, refit the electrical access panel securely and verify that all cables are correctly routed and restrained. Any outlet supplied from the heat pump's auxiliary output should be clearly labelled as a controlled circulation pump outlet to avoid inadvertent connection of other equipment.

Electrical Connections

9.5 Remote Control

A voltage-free ON / OFF control input is available for remote control of the heat pump via a compatible automation system, which will control the heat pump remotely using a heater interlock relay. The circuit must be closed for the heat pump to operate

Removing the factory-fitted wire loop from these terminals will inhibit heat pump operation. The loop is replaced with a two-core cable connected to the automation controller, which uses an internal relay to close the circuit when heat pump operation is required.



Remote Control Input Loop
(remove and replace with automation cable)

Warning

The electricity supply must be switched off and isolated prior to removing the access panel or making any connection.

1. Remove the electrical access panel located on the side of the unit to expose the electrical connection terminals.
2. Route the automation cable through one of the access panel grommets and connect the conductors to the 'Remote' screw terminals. Tighten both terminals securely and secure the cable to provide adequate strain relief.
3. Refit the electrical access panel securely. Route the cable back to the compatible controller neatly, ensuring it is kept clear of sharp edges, hot surfaces and moving components.

Tip

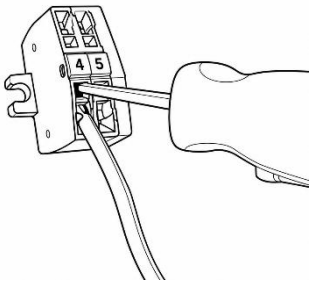
When the heat pump is first powered up, specific onboard settings are required to ensure that the heat pump will operate correctly in response to the remote command ***(Refer to Appendix B – Automation & Remote Control for detailed instructions).***

9.6 AUX Terminal Connection Tips

Tip 1 – Operation of Spring-Cage Terminals

Insert a small flat-blade screwdriver into the terminal release opening located directly below the terminal number. Gently lift the screwdriver **upwards** to open the spring-cage terminal, then insert the conductor into the bottom opening. Flexible conductors may be installed with or without ferrules.

Remove the screwdriver after the conductor has been fully inserted, then gently tug the cable to verify a secure connection.



Opening the Terminal

Tip 2 – Use of Wire Ferrules

The fitment of wire ferrules to the end of voltage-free connection cables, such as LuxLink and Remote control cables, is recommended. Ferrules simplify conductor insertion and help provide a more secure and reliable connection for small-gauge cables.

Ferrule vs Bare Cable

Commissioning & Initial Start-Up

10.1 Pre-Start Checklist

Before operating the heat pump for the first time, confirm that the installation has been completed correctly and complies with the requirements of this manual.

Ensure the following:

- The unit is installed in a suitable outdoor location with adequate airflow clearance;
- The unit is level, stable, and provisions have been made to direct condensate to a suitable drainage point;
- Plumbing is complete, all joints are fully cured, and a bypass arrangement is installed;
- The system can deliver the minimum required water flow in accordance with the model specifications; and
- All electrical connections have been completed in accordance with AS/NZS 3000 Wiring Rules, including installation of an accessible isolating switch.

⚠ Caution

Do not operate the heat pump until all of the above conditions have been met.

10.2 Initial Start-Up

Prior to starting the heat pump, ensure the pool or spa is adequately filled with water and that the circulation pump is fully primed.

1. Set the bypass valve to allow full flow through the heat pump.
2. If the heat pump is not controlling the circulation pump, ensure the pump is manually switched on to provide water flow.
3. Switch on the heat pump electrical supply at the isolating switch and wait for the display to illuminate.
4. Tap the **Power** key to switch on the heat pump.
5. Tap the **Mode** key to select the desired operating mode (Heating, Cooling or Auto).
6. Use the **Up** and **Down** keys to adjust the desired water temperature, then tap the **Setting** key to save the selection.

Tip

The display will automatically enter screen saver mode after 60 seconds of inactivity (only the current mode symbol will be illuminated). Tap any key to wake the display.

10.3 Start-Up Sequence

When the heat pump is switched on, the following sequence will occur:

- The unit performs internal diagnostics and system checks for approximately 30 seconds. During this time, the heat pump may appear to be inactive;
- The circulation pump is then activated (when physically connected), followed by the fan.
- The heat pump samples water temperature for 60 seconds and determines if heating is required.
- If the sampled inlet water temperature **is 0.5°C or more below the setpoint**, the compressor will start and heating or cooling is commenced.

Note: If the sampled temperature has reached or exceeded the setpoint temperature, the heat pump will enter standby and sample again after 60 minutes. For commissioning purposes, adjust the setpoint temperature so it is above the current supply temperature and cycle power to exit standby.

Tip

If no water flow is detected within 45 seconds of the sampling period starting, the unit will stop and display an E03 fault message. This will clear automatically once adequate water flow is restored.

10.4 Calculating Target Temperature Differential

Correct water flow must be established to ensure efficient operation and prevent fault conditions. For optimal performance, the supply – return temperature differential should typically be between 1.0°C and 2.0°C, depending on ambient operating conditions.

Use the chart below to calculate the appropriate supply – return temperature differential target during initial commissioning, which should be carried out in Heating Mode.

Target Temperature Differential			
Mode	***Summer***	***Spring / Autumn***	***Winter***
Heating	1.5 ~ 2.0°C	1.2 ~ 1.8°C	1.0 ~ 1.5°C

10.5 Water Flow Adjustment

Set the water flow as follows:

1. Allow the heat pump to operate in Heating mode for approximately **15 minutes** before making any flow adjustments.
2. Tap and hold the **Mode** (M) key for 2 seconds to cycle between the **Supply** and **Return** Water Temperature values (as shown).
3. Take note of these values and compare to the chart above.
4. Adjust the bypass valve *(or variable pump speed – where applicable)* until the required temperature differential is achieved.

- **More water flow = lower temperature differential**
- **Less water flow = higher temperature differential**

*As an example, during **summer** ambient temperatures, the optimal water flow rate after 15 minutes of continuous operation will provide a supply – return differential of between 1.5°C and 2.0°C.*

10.6 User Settings

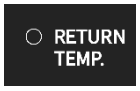
Once commissioning and flow adjustment are complete, set the time and any other desired operating parameters as outlined in Section 11 – Controller Operation.

Controller Operation

11.1 Control Panel Overview

Keys	
	Power ON / OFF
	Mode
	Up
	Down
	Setting
	Mute

Mode Symbols	
	Heating
	Cooling
	Automatic
	Defrosting
	Heat Pump OFF

Other Symbols	
	Return (**Outlet**) Water Temperature
	Supply (**Inlet**) Water Temperature
	Setpoint (**Desired**) Water Temperature
	Failure Status
	Mute (**Silent**) Mode Status

11.2 Key Functions

Switching the unit ON and OFF

Tap the **Power** key to switch the heat pump ON or OFF.

When switched **ON**, the controller will show the current setpoint temp in the bottom left of the display. When switched off, the '**OFF**' status is displayed.

ON Status

OFF Status

11.2 Key Functions *(continued)*

Changing the operating mode

The heat pump can operate in three modes. Tap the **Mode** key to cycle through the available operating modes:

	Heating Mode	The circulating water is heated until the set temperature is reached. It then periodically samples the water temperature and restarts heating if the temperature falls more than 1.0°C below the setpoint.
	Cooling Mode	The circulating water is cooled until the set temperature is reached. It then periodically samples the water temperature and restarts cooling if the temperature rises more than 1.0°C above the setpoint.
	Automatic Mode	The circulating water is heated or cooled until the set temperature is reached. It then periodically samples the water temperature and restarts heating or cooling if the temperature drifts more than 1.0°C above or below the setpoint.

Changing the desired water temperature

Use the **Up** and **Down** keys to adjust the desired water temperature.

Then, tap the **Setting** key to save the selection.

Setting the clock

Tip

It is critical to set the current time on the heat pump controller if you intend to operate the heat pump using on-board run timers. For heat pump installations running in response to water flow only, setting of the clock is not mandatory. The clock must be set using 24-Hour time.

Tap the **Setting** key to access the settings menu. The controller will display '**000**'.

Use the **Up** key to change the value to '**025**' then, tap the **Setting** key to continue.

Use the **Up** key to select parameter value ' ' then, tap the **Setting** key to continue.

The display will now show '**u01**' which is the current **Hour** setting.

Use the **Up** and **Down** keys to set the **Hour** (***24-hour time***) then, tap the **Setting** key to continue.

The display will now show '**u02**' which is the current **Minute** setting. Adjust the minutes using the **Up** and **Down** keys then, tap the **Setting** key to save and exit.

11.2 Key Functions *(continued)*

Setting the run timer

The controller supports a programmable ON / OFF run timer period.
When the run timer is activated, the heat pump will automatically switch ON and OFF at the nominated times.

Tip

It is critical to set the current clock time on the heat pump controller if you intend to operate the heat pump using run timers ***(see Setting the clock – page 23)***.

Tap and hold the **Mode** key for **5 seconds** to access the timer menu. The controller will enter the timer menu, with various parameters available:

Parameter Value	Description	Adjustment Range
u03	Timer ON Hour	0 – 23 Hours
u04	Timer ON Minute	0 – 50 Mins*
u05	Timer OFF Hour	0 – 23 Hours
u06	Timer OFF Minute	0 – 50 Mins*
u07	ON Timer Enabled	0 = Disabled | 1 = Enabled
u08	OFF Timer Enabled	0 = Disabled | 1 = Enabled

**Timer minutes are adjustable in 10-minute increments*

Once inside the menu, use the **Up** and **Down** keys to select the desired parameter.

To adjust the parameter, tap the **Setting** key and use the **Up** and **Down** keys to select the desired value. Tap the **Setting** key again to save the value.

Once the desired run timer settings have been implemented, tap the **Power** key to save and exit.

HAVING TROUBLE WITH CLOCK AND TIMER SETTINGS?

Visit the Avalux Pool Co website for the latest product information, troubleshooting guides, FAQs, and step-by-step instructional videos covering controller setup and programming.

11.2 Key Functions *(continued)*

Viewing current water temperature

The current water temperature values are displayed on the main interface.

Tap and hold the **Mode** key for 2 seconds to cycle between the **Supply** and **Return** Water Temperature values (as shown). The corresponding indicator will be illuminated.

Supply *(Inlet)* **Water Temperature**

Return *(Outlet)* **Water Temperature**

Tip

Correct water flow must be established to ensure efficient operation and prevent fault conditions. For optimal performance, the supply – return temperature differential should typically be between 1.0°C and 2.0°C, depending on ambient operating conditions (***Refer to 10.5 – Water Flow Adjustment***).

11.3 Other Features

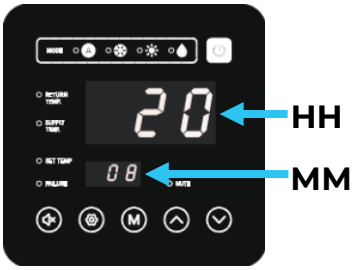
Keypad Lock

The controller is equipped with a keypad lock function that prevents unintended changes to operating settings. Once commissioning is complete and the desired operating parameters have been configured, Avalux Pool Co recommends enabling the keypad lock. This is particularly beneficial for automation systems utilising remote heater control, as adjustment of controller settings could affect the synchronisation of the heat pump.

To lock the keypad, tap and hold the **Power** key for 5 seconds.

The keypad will now show the current clock time. While the keypad is locked, only the **Up** and **Down** keys will be available for use. These keys can be used to cycle between a Clock and Temperature page. The display will default back to clock page after more than 5 seconds of inactivity.

To unlock the keypad, tap and hold the **Power** key for 5 seconds.



Clock Page

Temperature Page

Mute (Silent) mode

This feature reduces fan and compressor output to minimise operating noise. This reduced performance mode is recommended when low noise operation is required, such as when operating the unit at night.

To enable Mute mode, tap the **Mute** key. The Mute status icon MUTE will illuminate.

To deactivate Mute mode, simply press the **Mute** key again.

11.3 Other Features *(continued)*

Mute (Silent) mode timer

The controller supports a programmable mute timer period. When the mute timer is activated, the heat pump will automatically switch to mute mode during the nominated times. It is critical to set the current clock time on the heat pump controller if you intend to operate the mute timer ***(see Setting the clock – page 23)***.

Note: The heat pump must already be running for a mute timer to take effect. The heat pump will not physically switch ON or OFF in response to programmed mute timer periods.

Tap and hold the **Mute** key for 2 **seconds** to access the mute timer menu. The Mute indicator will be flashing, with various parameters available:

Parameter Value	Description	Adjustment Range
F14	Mute ON Hour	0 – 23 Hours
F15	Mute OFF Hour	0 – 23 Hours
F17	Mute Timer Enabled	0 = Disabled | 1 = Enabled

Failure Message Display

The controller continuously monitors the operation of the heat pump and will illuminate the Failure indicator if a status, warning, or fault code is detected.

When this occurs, a corresponding message will be shown at the bottom of the display to assist with fault identification.

Many messages relate to normal operating conditions or protective functions and do not necessarily indicate a fault with the heat pump itself. Where the failure indicator is illuminated, refer to ***Section 15 – Troubleshooting*** for a description of the displayed message and the recommended course of action.

Maintenance Requirements

12.1 Routine Maintenance

Regular maintenance is essential to ensure safe, reliable, and efficient operation of the heat pump. Routine inspection and servicing will help maintain performance, extend service life, and allow early detection of issues such as water leaks that may lead to equipment damage.

Pool environments in Australia and New Zealand often contain elevated levels of salt and minerals, which can accelerate corrosion of metal components if leaks are not promptly identified and rectified.

Heat pumps operate by extracting heat from the surrounding air, which results in moisture being condensed on the evaporator fin coil during normal operation (much like an air conditioner). This results in the production of significant volumes of condensate water, and the condensate drainage system must be regularly inspected and maintained to prevent blockages and internal water accumulation. During peak operation the unit may discharge several litres of condensate per hour.

Refer to the maintenance schedule in this section for recommended service intervals and required inspection tasks.

12.2 Finding a Service Agent

Routine maintenance, servicing, and repair of your heat pump can be carried out by an authorised Avalux Pool Co service agent. Many qualified local refrigeration and air conditioning technicians can also provide general heat pump servicing.

To locate a service provider in your area, visit **avaluxpoolco.com.au** and submit a service request.

12.3 Maintenance Schedule

Every 3 Months *(user or pool technician inspection)*

- Remove leaves, grass, and debris from the exterior of the heat pump and surrounding area.
- Visually inspect all plumbing and electrical cables for signs of wear or physical damage. Check to ensure there is no water leakage around all pipes and fittings.
- Operate the heat pump in heating mode until a sample of condensate water can be collected from the drain outlet. Test using a pool test strip to confirm the discharge is fresh water and free from chlorine or other pool chemicals.
- Compare against a pool water sample if required. **If chlorine, salt or other pool treatment chemicals are detected, immediately shut down the unit and arrange for service.**
- Treat the area surrounding the heat pump and pool equipment with a suitable outdoor surface spray to minimise pest and insect activity.

Every 6 Months *(user or pool technician inspection)*

[in addition to 3-month schedule]

- Inspect and clear any debris from the condensate drain barb and hose *(where equipped)*.
- Check the unit is installed level using a spirit level placed on the top panel. The unit should be level or slightly sloped towards the condensate drain *(left-hand side)*.

Important: If the unit slopes toward the right-hand side, water may pool around the compressor and fail to drain correctly, resulting in reduced service life.

- Adjust the height of the cabinet feet or install packers as required to achieve correct alignment.

12.3 Maintenance Schedule *(continued)*

Every 12 Months *(professional technician inspection)*

[in addition to 3-month & 6-month schedules]

- Inspect the two-piece barrel unions at the rear of the unit.
  - Lubricate and tighten inner and outer threads.
  - Check for any signs of water leakage and repair as required.
- Isolate electrical power before removing the lid and front panel assemblies.
- Inspect all electrical connections for signs of deterioration, corrosion, or damage.
- Check for any signs of water leakage from the heat exchanger assembly. Inspect and tighten fittings and flow switch as required.
- Clean the evaporator coil and base pan using a suitable coil cleaner, then rinse with fresh water.
- Remove and clean the condensate drain barb.
- Clean the cabinet using a mild detergent and damp cloth.
- Reassemble the unit and restore power.
- Clear any error codes if present.
- Operate the unit for at least 15 minutes.
- Check and adjust the bypass valve *(**Refer to 10.5 – Water Flow Adjustment**)*.
- Verify all user settings to confirm correct operation.

Safety Instructions (Service & Repair Technicians)

13.1 Introduction

Warning

This section is laid out in accordance with AS/NZS 60335.2.40. It is intended only for qualified service technicians, refrigeration and electrical service personnel. Do not attempt to service or repair this appliance unless you are appropriately trained and qualified.

13.2 General Work Requirements

Caution

All work must be carried out:

- Under controlled conditions;
- With appropriate risk assessment; and
- In accordance with manufacturer instructions and regulatory requirements.

Avoid work in confined spaces unless adequate ventilation is provided.

Electrical Safety

Initial Electrical Safety Checks Shall Include:

- That the electrical supply circuit is switched off, isolated and tested to confirm that there is no voltage present;
- That capacitors are discharged: this shall be done in a safe manner to avoid the possibility of sparking;
- That no live electrical components and wiring are exposed while charging, recovering, or purging the system; and
- That there is continuity of the earth bonding

13.3 Checks to the Area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repairs to the refrigerating system, Steps **13.4 – 13.8** shall be completed prior to conducting work on the system.

Warning

Avoid work in confined spaces unless adequate ventilation is provided.

13.4 Work Procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

13.5 General Work Area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

13.6 Checking for Presence of Refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

13.7 Presence of a Fire Extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.

13.8 No Ignition Sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipework that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

13.9 Checks to the Refrigeration Equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using flammable refrigerants:

- The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- The ventilation machinery and outlets are operating adequately and are not obstructed;
- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

13.10 Checks to Electrical Devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment, so all parties are advised.

Initial safety checks shall include:

- That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- That no live electrical components and wiring are exposed while charging, recovering or purging the system; and
- That there is continuity of earth bonding.

13.11 Repairs to Sealed Components

Sealed electrical components shall not be repaired.

13.12 Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of ageing or continual vibration from sources such as compressors or fans.

13.13 Detection of Flammable Refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants:

- Electronic leak detectors shall be used to detect flammable refrigerants but, in the case of flammable refrigerants, the sensitivity can be inadequate, or can need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipework.

NOTE: Examples of leak detection methods are:

a. Bubble method,
b. Fluorescent agent method.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of the refrigerant shall be according to step 13.14 (below).

13.14 Refrigerant Removal and Circuit Evacuation (continued)

When breaking into the refrigerant circuit to make repairs, or for any other purpose, conventional procedures shall be used. However, it is important that best practice is used since flammability is a consideration.

The following procedure shall be adhered to:

1. Safely remove refrigerant following local and national regulations;
2. Evacuate;
3. Purge the circuit with dry nitrogen;
4. Evacuate;
5. Continuously flush with dry nitrogen when using flame to open circuit;
6. Open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders.

Purging of the refrigerant circuit shall be achieved by breaking the vacuum in the system with dry nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final dry nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipework are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

13.15 Charging Procedures

In addition to conventional charging procedures, the following requirements shall be followed:

1. Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them. Cylinders shall be kept upright;
2. Ensure that the refrigeration system is earthed prior to charging the system with refrigerant;
3. Label the system when charging is complete (if not already). Purge the circuit with dry nitrogen;
4. Extreme care shall be taken not to overfill the refrigeration system. Prior to recharging the system, it shall be pressure tested with dry nitrogen. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

13.16 Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

1. Become familiar with the equipment and its operation.
2. Isolate system electrically.
3. Before attempting the procedure ensure that:
    a. Mechanical handling equipment is available, if required, for handling refrigerant cylinders;
    b. All personal protective equipment is available and being used correctly;
    c. The recovery process is supervised at all times by a competent person;
    d. Recovery equipment and cylinders conform to the appropriate standards.
4. Pump down refrigerant system, if possible.
5. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
6. Make sure that cylinder is situated on the scales before recovery takes place.
7. Start the recovery machine and operate in accordance with manufacturer's instructions.
8. Do not overfill cylinders. (No more than 80 % volume liquid charge).
9. Do not exceed the maximum working pressure of the cylinder, even temporarily.
10. When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
11. Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

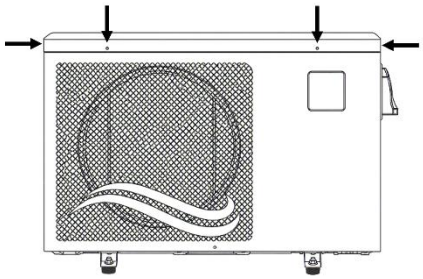
13.17 Labelling

Equipment shall be labelled stating that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

14.1 Service Access

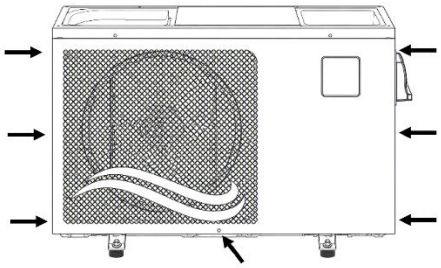
Removing the top lid

1. Remove the screws from the perimeter of the top lid assembly, as shown.
2. Carefully lift the top lid and set aside safely to prevent damage from occurring.



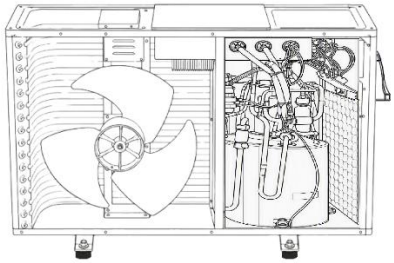
Removing the front panel

1. Remove the screws from the left, right and bottom of the front panel, as shown.
2. Slowly remove the panel and disengage the connector for the touchpad controller.
3. Set the panel aside safely to prevent damage from occurring.

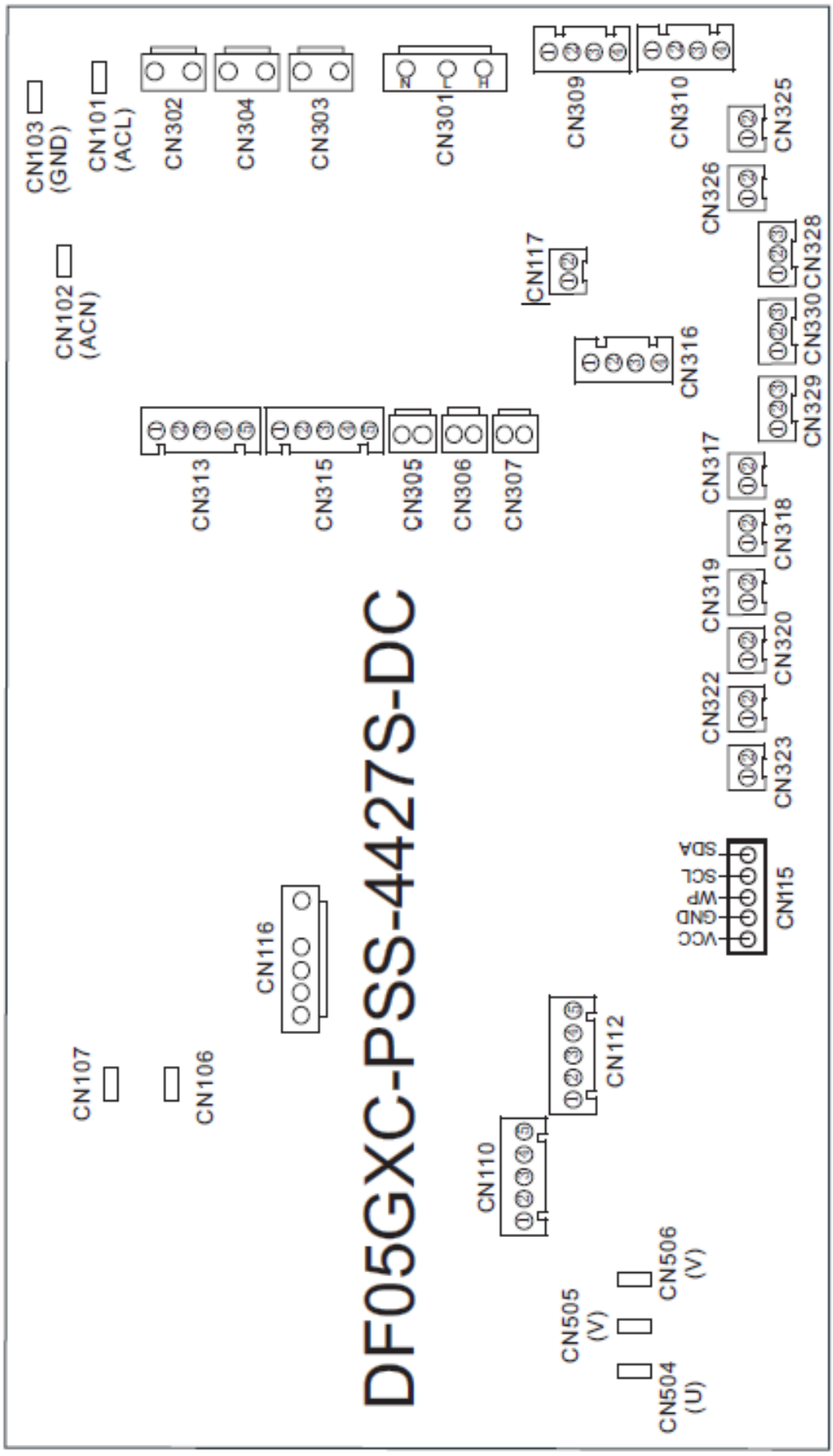


Reassembling the unit

1. Once servicing is complete, refit the front panel, touchpad controller connector and top lid in the reverse order of removal.
2. Verify all user settings to confirm correct operation.



14.2 PCB Schematic – AL9 / AL13 / AL19 Models

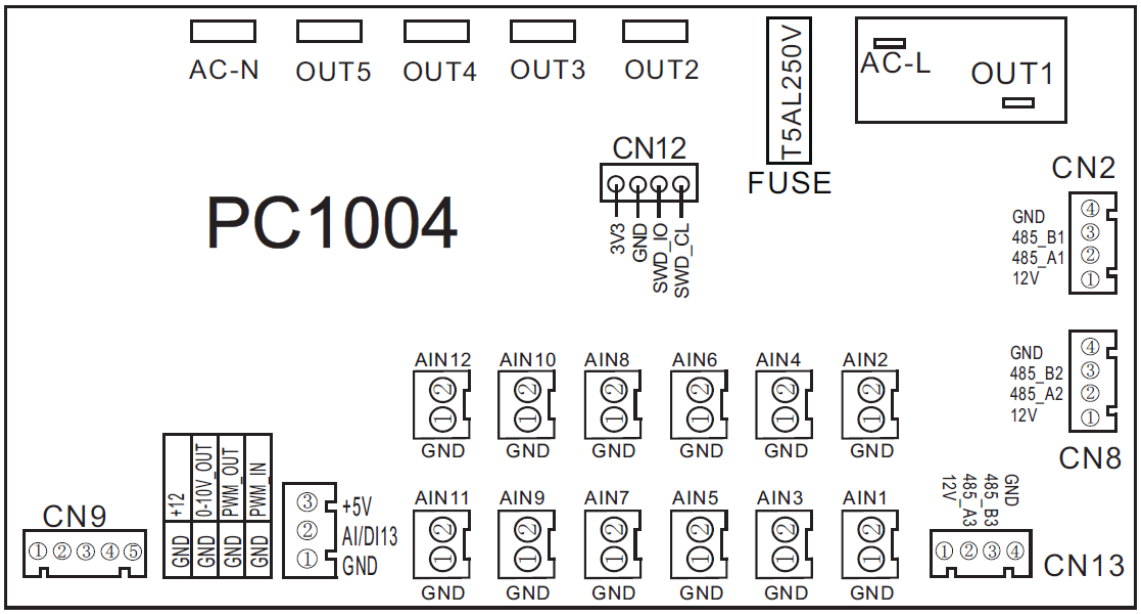


14.3 PCB Inputs & Outputs – AL9 / AL13 / AL19 Models

Connector	Reservation
CN504 (U)	Compressor
CN505 (V)	
CN506 (W)	
CN110	Drive debug port
CN112	Driver program port
CN116	DC fan motor
CN106	Resistance
CN107	Resistance
CN313	Electronic expansion valve #1
CN315	Electronic expansion valve #2
CN305	Water flow switch
CN306	High pressure switch
CN307	Low pressure switch
CN102	Neutral input
CN103	Ground input
CN101	Live input
CN302	Crankshaft heating belt
CN304	4-way valve

Connector	Reservation
CN303	Water pump relay output
CN301	Compressor heating belt
CN117	Reserved
CN316	Reserved
CN309	Keypad Controller & WiFi
CN310	RS485 External Communication
CN325	Inlet water temp sensor
CN326	Outlet water temp sensor
CN328	Refrigerant pressure sensor
CN330	Reserved
CN329	Reserved
CN317	System fan coil temperature
CN31 8	Exhaust temp sensor
CN319	Ambient temp sensor
CN320	Suction temp sensor
CN322	Reserved
CN323	Reserved
CN115	Reserved

14.4 PCB Schematic – AL24 / AL28 / AL28T / AL35T Models



14.5 PCB Inputs & Outputs – AL24 / AL28 / AL28T / AL35T Models

Connector	Reservation
OUT1	Reserved
OUT2	Water pump relay output
OUT3	4-way valve
OUT4	Reserved
OUT5	Reserved
AC-L	Live input
AC-N	Neutral input
AIN1	Remote switch SW1
AIN2	Water flow switch
AIN3	Low pressure switch
AIN4	High pressure switch
AIN5	Suction temp sensor
AIN6	Inlet water temp sensor
AIN7	Outlet water temp sensor
AIN8	Coil temperature sensor
AIN9	Ambient temp sensor

Connector	Reservation
AIN10	Mode switch SW2
AIN 11	Master-slave switch
AIN12	Exhaust temp sensor
AIN 13	Compressor current / pressure
PWM_IN	Reserved
PWM_OUT	Reserved
0_1 0V_OUT	Reserved
+5V	+5V (output)
+12V	+12V (output)
CN2	Inverter board communication
CN8	Keypad Controller, Fan PCB & WiFi communication
CN9	Electronic expansion valve #1
CN12	Reserved
CN13	RS485 External Communication

Troubleshooting

15.1 Introduction to Troubleshooting

If the heat pump is not operating as expected, first check the controller display for any message, protection or fault codes.

If a code is displayed, refer to the information below for code descriptions and the recommended courses of action.

If no code is displayed, refer to section 15.5 *(No Fault Code Troubleshooting)*.

For additional support, please contact your local distributor or contact Avalux Pool Co directly and we will direct you to your nearest service agent for assistance.

15.2 About Messages & Fault Codes

The controller continuously monitors the operation of the heat pump and will illuminate the **Failure** indicator if a message, protection, or fault code is detected.

When this occurs, a corresponding message will be shown at the bottom of the display to assist with fault identification.

If multiple messages or fault codes are active, use the **Up** and **Down** keys to cycle through each code displayed.

Many messages relate to normal operating conditions or protective functions and do not necessarily indicate a fault with the heat pump itself.

Fault codes indicate an abnormal operating condition that typically requires investigation or service.

Refer to the tables in this chapter for a description of each code and the recommended course of action.

Contact a qualified service technician if the issue persists or further assistance is required.

Tip – E03 No Water Flow Message

The E03 message indicates that the heat pump is not detecting sufficient water flow.

In many installations this is completely normal. If the heat pump is connected to the pool filtration system, the E03 message will commonly be displayed whenever the circulation pump stops operating. Once water flow is restored, the message will automatically clear and the heat pump will resume normal operation.

- Check that the water circulation pump feeding the heat pump is running, restart the unit, and if E03 remains displayed:
- Check that all valves are open
- Verify that the circulation pump is fully primed and set to the appropriate speed (if applicable)
- Clean the filter and pump basket
- Confirm that the bypass valve is correctly adjusted
- Ensure adequate water flow is reaching the heat pump

If the condition persists, contact a qualified service technician to service the system.

15.3 Message & Protection Codes

Code	Description	Recommended Action
E01	High refrigerant pressure	Typically caused by insufficient water flow, resulting in excessive refrigerant temperature and pressure inside the heat exchanger. Check filter condition, bypass valve adjustment and supply – return temperature differential *(**Refer to 10.5 – Water Flow Adjustment**)*. Contact service technician if the fault persists.
E03	Insufficient water flow	Check circulation pump, filter and bypass settings *(**Refer to E03 tip** – previous page)*. For new installations, ensure that the unit is plumbed with water flowing in the correct direction.
E05	Anti-freeze protection 1	Normal protective feature. The unit will restart once the water or ambient temperature returns to the allowable operating range.
E06	Supply – return temperature differential too high	Check water flow, bypass valve adjustment and setpoint temperature.
E07	Anti-freeze protection 2	Normal protective feature. The unit will restart once the water or ambient temperature returns to the allowable operating range.
E19	Anti-freeze protection 3	Normal protective feature. The unit will restart once the water or ambient temperature returns to the allowable operating range.
E29	Anti-freeze protection 4	Normal protective feature. The unit will restart once the water or ambient temperature returns to the allowable operating range.
P82	High compressor discharge temperature	Check water flow and filter condition. Contact service technician if the fault persists.
TP	Ambient temperature outside operating limits	Normal protective feature. The unit will restart once the water or ambient temperature returns to the allowable operating range.

15.4 Service Fault Codes

Code	Description	Recommended Action
E02	Low refrigerant pressure	Switch off the unit and contact an authorised service technician.
E08	Controller communication fault	Restart the unit. Contact an authorised service technician if the fault persists.
E51	Compressor overcurrent fault	Restart the unit. Contact an authorised service technician if the fault persists.
E81	Fan control board communication fault	Restart the unit. Contact an authorised service technician if the fault persists.

Note: Fault codes are provided to support initial troubleshooting. Repairs must only be completed by suitably qualified personnel.

15.4 Service Fault Codes *(continued)*

Code	Description	Recommended Action
F01	Inverter overload protection	Restart the unit. Contact an authorised service technician if the fault returns.
F02	Inverter board communication fault	Restart the unit. Contact an authorised service technician if the fault persists.
F03	Intelligent power module protection	The unit will attempt automatic recovery. Contact an authorised service technician if the fault recurs.
F04	Compressor driver failure	Switch off the unit and contact an authorised service technician.
F05	DC fan fault	Restart the unit. Contact an authorised service technician if the fault persists.
F06	Intelligent power module overcurrent	Restart the unit. Contact an authorised service technician if the fault persists.
F07	Inverter DC voltage too high	Restart the unit. Contact an authorised service technician if the fault persists.
F08	Inverter DC voltage too low	Restart the unit. Contact an authorised service technician if the fault persists.
F09	Power supply voltage too low	Check whether other appliances are experiencing power supply issues. If multiple appliances are affected, contact your electricity provider or a licensed electrician. Otherwise, contact an authorised service technician.
F10	Power supply voltage too high	Check whether other electrical appliances are experiencing power supply issues. If multiple appliances are affected, contact your electricity provider or a licensed electrician. Otherwise, contact an authorised service technician.
F11	Power supply voltage sensing fault	Restart the unit. Contact an authorised service technician if the fault persists.
F12	Inverter internal communication fault	Restart the unit. Contact an authorised service technician if the fault persists.
F15	Intelligent power module over temperature	Ensure adequate airflow around the unit. Contact an authorised service technician if the fault persists.
F16	Compressor start fault	Restart the unit. Contact an authorised service technician if the fault persists.
F17	Power supply phase fault	Switch off the unit and contact a licensed electrician or authorised service technician to inspect the power supply.
F18	Intelligent power module current sensing fault	Restart the unit. Contact an authorised service technician if the fault persists.
F19	Inverter temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.

Note: Fault codes are provided to support initial troubleshooting. Repairs must only be completed by suitably qualified personnel.

15.4 Service Fault Codes *(continued)*

Code	Description	Recommended Action
F20	Inverter over temperature fault	Ensure adequate airflow around the unit. Contact an authorised service technician if the fault persists.
F22	Inverter over temperature warning	Ensure adequate airflow around the unit. Contact an authorised service technician if the fault persists.
F23	Compressor overcurrent fault	Restart the unit. Contact an authorised service technician if the fault persists.
F24	Power supply input overcurrent fault	Restart the unit. Contact an authorised service technician if the fault persists.
F25	Inverter EEPROM fault	Restart the unit. Contact an authorised service technician if the fault persists.
F26	Unit overload fault	Restart the unit. Contact an authorised service technician if the fault persists.
F27	Inverter power circuit protection	Switch off the unit and contact an authorised service technician.
F28	Inverter control voltage fault	Switch off the unit and contact an authorised service technician.
F31	Fan motor 1 fault	Restart the unit. Contact an authorised service technician if the fault persists.
F32	Fan motor 2 fault	Restart the unit. Contact an authorised service technician if the fault persists.
F51	EC fan feedback fault	Restart the unit. Contact an authorised service technician if the fault persists.
P01	Inlet water temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P02	Outlet water temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P04	Ambient temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P05	Coil 1 temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P07	Compressor suction temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P09	Antifreeze temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P15	Coil 2 temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
P81	Compressor discharge temperature sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.
PP	Refrigerant pressure sensor fault	Restart the unit. Contact an authorised service technician if the fault persists.

Note: Fault codes are provided to support initial troubleshooting. Repairs must only be completed by suitably qualified personnel.

15.5 No Fault Code Troubleshooting

Symptom	Possible Cause(s)	Recommended Action
Heat pump display is blank.	Power supply is switched off.	Verify that the heat pump isolator, circuit breaker and any external power switches are turned on.
	Phases are out of rotation *(three phase models only)*.	Switch off the unit and contact your installer or a licensed electrician to check the power supply phase rotation.
	Display is faulty or disconnected.	Contact an authorised service technician to inspect the display and wiring connections.
Heat pump display screen is unresponsive to key inputs.	Display lock function is active.	Tap and hold the Power key for approximately 5 seconds to unlock the display.
	Remote control circuit is open (operation inhibited).	Check automation cable connection and external controller settings to ensure that the external relay is closed *(**Refer to Appendix B – Automation & Remote Control**)*.
Heat pump display is on, but the unit will not start.	Unit is switched off.	Unlock the display and ensure the unit is switched on. Confirm that the applicable operating mode indicator is illuminated.
	Incorrect operating mode selected.	Verify that the correct operating mode has been selected. For heating operation, ensure the unit is set to Heating or Auto mode and that the target temperature is above the current water temperature.
	Water temperature has reached the setpoint and the unit is in standby.	This is normal operation. Wait for the next water sampling period or cycle power to the unit and retest.
	Remote control circuit is open (operation inhibited).	Check automation cable connection and external controller settings to ensure that the external relay is closed *(**Refer to Appendix B – Automation & Remote Control**)*.
Unit starts and stops frequently.	Incorrect water flow, incorrect bypass adjustment or setpoint temperature is too close to the current water temperature.	Check water flow, verify bypass valve adjustment and confirm the desired temperature setting.
Unit will not obey timers.	Incorrect clock or timer settings.	Check settings and ensure clock is set to 24-hour time.
Water around the base of the heat pump	Leaking plumbing connections or damaged pipework.	Test the water using a pool test strip. If chlorine, salt or other pool chemicals are detected, immediately arrange for a service technician to inspect all plumbing connections, unions and pipework for leaks.
	Condensation from the evaporator coil.	If the sample is confirmed to be fresh water, this is normal operation. Ensure adequate drainage is provided and drain paths remain clear.

15.5 No Fault Code Troubleshooting *(continued)*

Symptom	Possible Cause(s)	Recommended Action
Poor heating or cooling performance.	Incorrect operating mode selected.	Verify that the correct operating mode has been selected. For heating operation, ensure the unit is set to Heating or Auto mode and that the target temperature is above the current water temperature.
	Incorrect water flow, dirty filter or incorrect bypass adjustment.	Check water flow, clean the filter and verify the bypass valve is adjusted in accordance with the installation instructions.
	Insufficient run time.	Extend running hours.
	Insufficient air clearance or evaporator coil obstructed.	Ensure the required air clearances around the heat pump are maintained and inspect the evaporator coil for leaves, debris or other obstructions. If the evaporator coil appears dirty or blocked, arrange professional servicing.
	Insufficient heating or cooling capacity.	Conduct a heat load assessment and compare the heating or cooling demand against the unit performance specifications.
Heat pump operates but no water is flowing through the system	Water pump switched off or filtration system not operating.	Verify that the circulation pump is operating and water is flowing through the filtration system.
	Filter blocked or bypass incorrectly adjusted.	Clean the filter and verify the bypass valve adjustment.
	Valves closed or plumbing blockage.	Check that all isolation valves are open and contact an authorised service technician if a blockage is suspected.
Excessive operating noise	Loose panels, airflow restrictions or vibration transmitted through connected pipework.	Check that all panels are secure, remove airflow obstructions and ensure pipework is adequately supported.
	Heat pump is not installed on a level surface.	Verify that the heat pump is installed on a stable, level base. Re-level the unit if required to minimise vibration and compressor noise.
	Damaged fan, internal component vibration or mechanical fault.	Contact an authorised service technician.

Warranty

16.1 Warranty Introduction

This Warranty applies only to Products purchased and installed in Australia and New Zealand.

Australian Consumer Law

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.

16.2 Warranty Period

This Warranty commences on the date of purchase and applies only to the original Purchaser and the original installation location. This Warranty is not transferable.

25 Years	Titanium heat exchanger coil against corrosion *Casing of heat exchanger is covered for 2 years*
5 Years	Compressor
2 Years	All other parts
1 Year	Field labour
1 Year	Demonstration, refurbished, discontinued or otherwise previously unboxed unit/s
Commercial Installations	For commercial installations, including but not limited to health clubs, swim schools, motels, hotels, gyms and hydrotherapy centres, the Warranty Period for the complete Product is limited to twelve (12) months from the date of purchase.

16.3 Warranty Coverage

During the Warranty Period, the Company warrants that the Product will be free from defects in materials and workmanship when installed, operated and maintained in accordance with the instructions supplied with the Product.

This Warranty is subject to the terms, conditions and exclusions set out hereafter.

16.4 Warranty Remedies

If a defect in materials or workmanship is identified during the Warranty Period, the Company may, at its sole discretion:

- Repair the Product;
- Replace the Product;
- Repair or replace the defective component; or
- Arrange for the Product or defective component to be repaired or replaced by an Authorised Service Agent.

16.5 Labour Costs

This Warranty does not cover labour costs incurred more than twelve (12) months after the date of installation.

Any labour costs associated with diagnosing, removing, reinstalling, repairing or replacing the Product after this initial twelve (12) month period are the responsibility of the Purchaser.

16.6 Warranty Exclusions

This Warranty does not apply to defects, failures, damage, loss or expense arising from, or contributed to by:

a) Misuse, abuse, neglect, mishandling or accidental damage.
b) Operation using an incorrect, unstable or unsuitable electrical supply.
c) Incorrect, non-compliant or incompetent installation, including installation by a person not appropriately qualified for the work being undertaken.
d) Failure to operate, maintain or service the Product in accordance with the instructions provided in this manual.
e) Unauthorised repairs, alterations or modifications that affect the reliability, safety or performance of the Product.
f) Servicing or repairs carried out by an unauthorised person without the prior approval of the Company.
g) Damage, faults or unsatisfactory performance resulting from the use of accessories, components or equipment not approved by the Company.
h) Natural disasters or events beyond reasonable control, including hail, lightning, flood, fire, storm, earthquake or other acts of nature.
i) Corrosion, rust or deterioration of components other than the titanium heat exchanger coil caused by environmental conditions, including corrosive or coastal atmospheres.
j) Vermin, insect or pest infestation.
k) Relocation or reinstallation of the Product from its original installation site.
l) Damage, faults or performance issues resulting from incorrect application, improper sizing, unsuitable operating conditions or use outside the Product specifications.
m) Routine maintenance, consumable items or components replaced as part of normal maintenance activities.
n) Costs associated with transportation, delivery, handling, freight, removal, reinstallation or damage incurred during transit.
o) Service calls where no fault is found and the reported condition is determined to be normal operation or is addressed within the installation, operation or troubleshooting instructions contained in this manual.
p) Any fault, damage or deterioration not attributable to defects in materials or workmanship.
q) Damage caused by inadequate water flow, blocked filters, closed valves, improper bypass adjustment, freezing conditions, water chemistry outside recommended limits, or operation without adequate water circulation.

16.7 Making a Warranty Claim

For all warranty enquiries, please contact your local distributor or contact Avalux Pool Co directly and we will refer you to the nearest service agent for assistance.

To assist with processing your claim, please:

- Submit a request for assistance via our website.
- Provide the product model and serial number.
- Provide proof of purchase.
- Provide details of the issue, including photographs or videos where available.
- Allow reasonable access to the product for inspection and assessment if required.

Avalux Pool Co

Ph: **1800 Avalux** (1800 282 589)

Website: www.avaluxpoolco.com.au

Email: hello@avaluxpoolco.com.au

16.8 Warranty Definitions

“Company” refers to Avalux Pool Co, a division of Sunlover Heating Pty Ltd.

“Product” means the heat pump supplied by the Company.

“Purchaser” is the individual or organisation who buys the Heat Pump for their own use as a consumer or end user.

Appendix A (Multiple Unit Installations)

A.1 Overview

Where additional heating or cooling capacity is required, two or more heat pumps may be installed to operate as a single system.

Multiple-unit installations can provide increased capacity, improved system redundancy and greater flexibility when servicing equipment. However, additional consideration must be given to airflow, water flow, plumbing layout and control arrangements to ensure that all units operate efficiently and reliably.

All installation and maintenance requirements contained within this manual continue to apply unless stated otherwise. Each unit should be commissioned individually with water flow and temperature differential adjustments made in accordance with ***Section 10 – Commissioning & Initial Start-Up.***

A.2 Installation Requirements

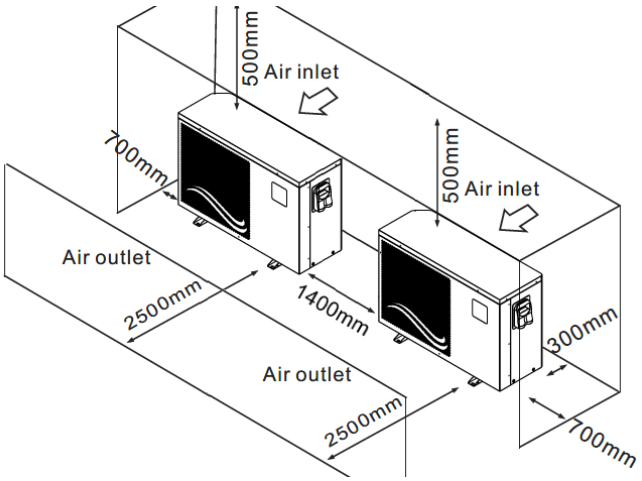
The same installation requirements apply for each individual heat pump, including:

- Suitable outdoor installation location;
- Stable and level mounting surface;
- Condensate management;
- Safe service access;
- Electrical isolation; and
- Minimum air clearance requirements.

Airflow Considerations

When multiple heat pumps are installed adjacent to one another, it is essential that the airflow paths of neighbouring units do not interfere with each other.

Each heat pump draws large volumes of ambient air through the rear and left-hand side of the cabinet and discharges heated or cooled air through the front fan outlet.



Important

In enclosed areas, discharged refrigerated air can recirculate back into the unit, reducing performance, efficiency and potentially causing the evaporator coil to ice up.

Appendix A (Multiple Unit Installations)

A.3 Plumbing Requirements

Multiple heat pumps operating as a single heating or cooling system should be connected using a parallel plumbing arrangement.

Parallel plumbing promotes balanced water flow through each heat pump and allows individual units to be isolated for servicing without interrupting operation of the remaining equipment.

Water Flow Requirements

When sizing the circulation system, ensure adequate water flow is available for all connected heat pumps.

Calculate the total minimum flow requirement as follows:

Total Flow Requirement = Minimum Flow per Unit × Number of Heat Pumps

Example:

- Heat Pump minimum flow requirement = 110 L/min
- Number of units = 2

Minimum system flow requirement:

110 × 2 = 220 L/min

Bypass Arrangements

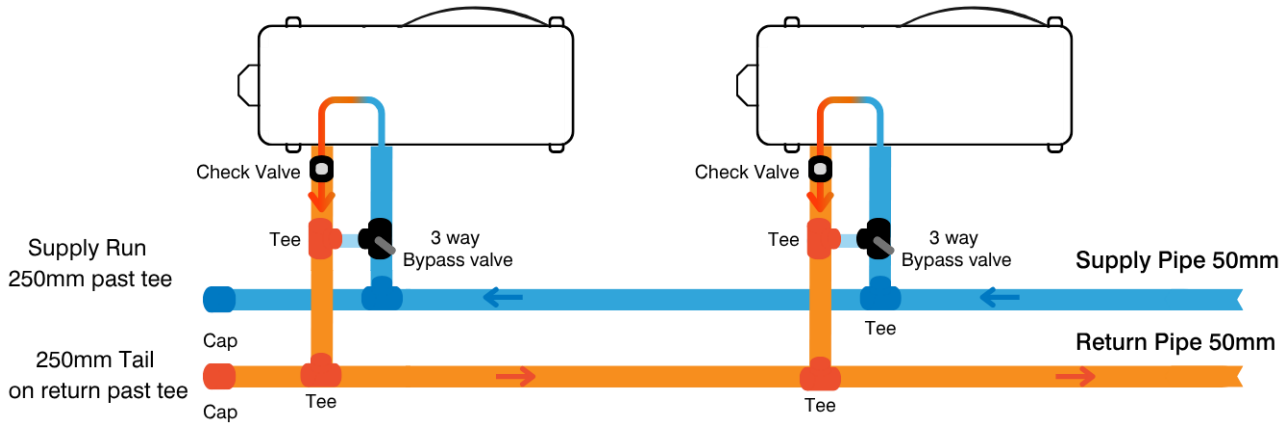
Each heat pump shall be fitted with its own bypass arrangement.

This allows:

- Individual adjustment of flow rates
- Accurate commissioning
- Isolation for servicing
- Continued operation of remaining units if one unit is removed from service

Typical Parallel Plumbing Schematic

(twin heat pump system shown)



Appendix A (Multiple Unit Installations)

A.4 Electrical Control Requirements

Independent Operation

Where multiple heat pumps are connected in parallel and no external automation or remote controller is used, each heat pump may operate independently using its own onboard controller settings.

In this arrangement:

- No communication wiring is required between units.
- Each heat pump samples water temperature independently.
- Each heat pump starts and stops based on its own setpoint and operating mode.

External Control Operation (Automation Systems)

Where heating or cooling operation is controlled by an external system, multiple heat pumps should be configured using a **master – slave arrangement.**

In this arrangement:

- Heat Pump 1 acts as the **Master**.
- Heat Pump 2 acts as the **Slave**.
- Additional units may be connected in the same manner.

Master – Slave Controller Settings

As the external control system will take over thermostat control, each unit must be configured for on-demand cooling or heating:

For heating applications:

- Set all units to **Heating** mode.
- Set all units to the **highest** available temperature setpoint.

For cooling applications:

- Set all units to **Cooling** mode.
- Set all units to the **lowest** available temperature setpoint.

Tip

Setting the onboard temperature settings to ‘max’ (heating) or ‘min’ (cooling) ensures that operating decisions are controlled solely by the external automation system. When the externally controlled temperature setpoint is reached, the heat pump will be remotely shut down.

Appendix A (Multiple Unit Installations)

A.4 Electrical Control Requirements (continued)

Wiring Arrangement

- Remove the factory-fitted wire loop from the **Remote** terminals on Heat Pump 1 (Master) and install the automation cable *(**Refer to 9.5 Remote Control**)*.
- Connect the **LuxLink** dry contact output terminals on Heat Pump 1 *(**Refer to 9.4 – Water Pump Control**)* to the **Remote** terminals on Heat Pump 2 (Slave), as shown in the wiring schematic below.

Ensure all wiring is adequately supported and protected from mechanical damage.

Sequence of Operation

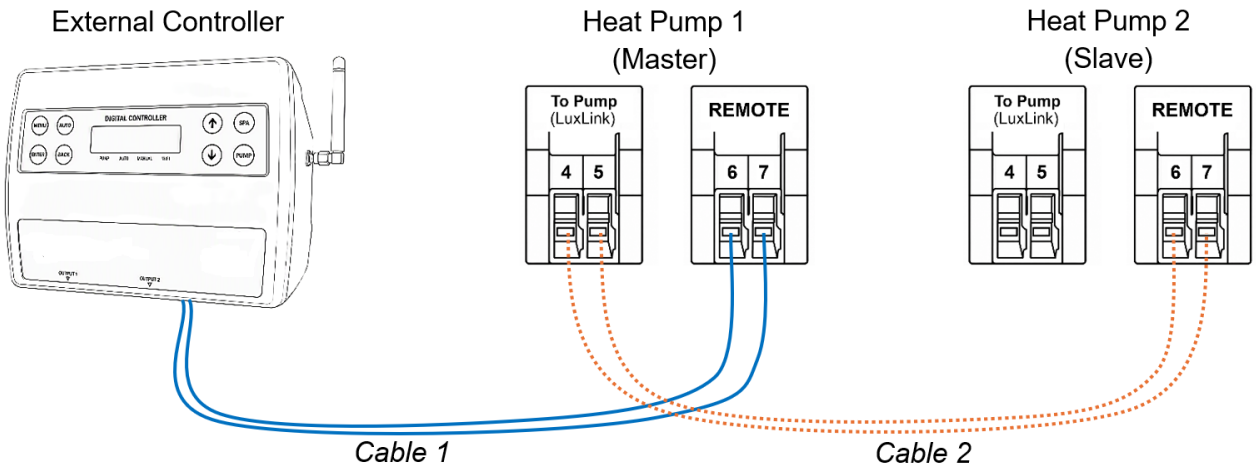
When heating or cooling is required:

1. The automation controller closes the remote-control circuit;
   [30 second delay]
2. Heat Pump 1 (Master) starts;
3. Heat Pump 1 activates its LuxLink output and closes the remote-control circuit for Heat Pump 2 (Slave);
   [30 second delay]
4. Heat Pump 2 starts

When heating or cooling is no longer required:

1. The automation controller opens the remote control circuit.
   [30 second delay]
2. Heat Pump 1 shuts down.
3. LuxLink output is switched off.
   [60 second delay]
4. Heat Pump 2 shuts down.

Master – Slave Wiring Schematic



Appendix B (Automation & Remote Control)

B.1 Overview

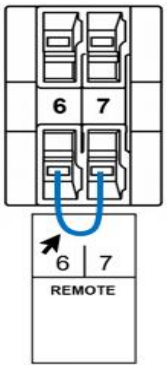
Avalux Heat Pumps are compatible with most pool and spa automation systems used for heating and cooling applications.

Each heat pump is supplied with a factory-fitted wire loop installed across the Remote terminals inside the electrical compartment. This loop forms a closed circuit which permits normal operation.

When the circuit is opened, heat pump operation is inhibited.

For remote control applications, the factory-fitted loop can be removed and replaced with a two-core cable connected to a voltage-free relay within the automation controller.

The automation system then controls heat pump operation by opening and closing the remote circuit as required.



Factory-fitted Loop

B.2 Controller Settings

When remotely controlled, the heat pump effectively becomes a slave device, with temperature control performed by the external automation system.

To ensure correct operation, the heat pump must be configured so that it is always available to operate whenever the remote circuit is closed by the automation system.

Heating Applications

Configure the heat pump controller as follows:

- Heating mode
- Powerful performance mode
- Highest available temperature setpoint
- No run timers enabled

Cooling Applications

Configure the heat pump controller as follows:

- Cooling mode
- Powerful performance mode
- Lowest available temperature setpoint
- No run timers enabled

Tip

Refer to Section 11 – Controller Operation for applicable controller settings instructions.

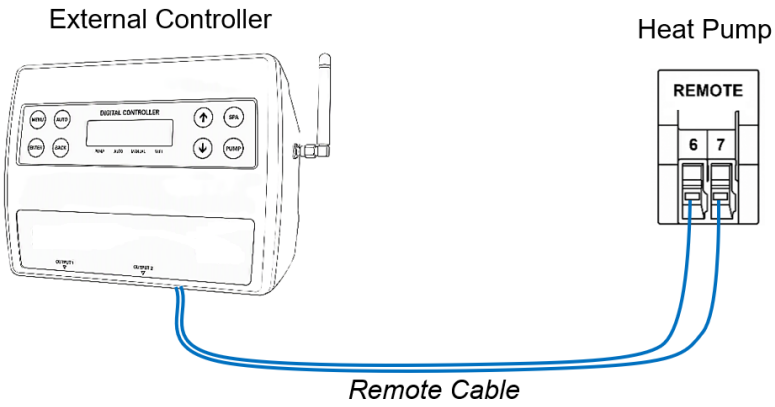
Appendix B (Automation & Remote Control)

B.3 Remote Cable Connection

Remove the factory-fitted wire loop from the Remote terminals and install the automation cable ***(Refer to 9.5 Remote Control)***.

Use a suitable two-core control cable and ensure all wiring is adequately supported and protected from mechanical damage.

Remote Wiring Schematic



B.4 Verification and Synchronisation

Once installation is complete, verify correct operation of both the heat pump and automation controller.

When the remote circuit is open (OFF), heat pump operation is inhibited regardless of the ON / OFF state shown on the heat pump display.

For successful remote operation, the heat pump must be configured so it is ready to operate whenever the remote circuit closes.

Step 1: Prepare the Heat Pump

Unlock the controller and switch the heat pump ON.

Confirm that all settings are in accordance with **B.2 – Controller Settings.**

Step 2: Confirm Start-Up Operation

Switch on the heating system via the automation controller.

Allow any external sampling cycle or controller delays to complete (signalled within the automation system display or app).

Once the heater relay closes and the automation system shows the heater as active:

- Wait approximately 60 seconds
- Confirm the heat pump commences its normal start-up sequence
- Verify the fan and compressor have started in succession **(Refer to 10.3 – Start-Up Sequence).**
- Allow the heat pump to operate in Heating mode for approximately 15 minutes.
- Check and adjust the bypass valve *(**Refer to 10.5 – Water Flow Adjustment**)*.

Tip

For many automation controllers, a two or three-minute sampling period is performed before the heater relay closes. Once the relay is activated, a green heat pump icon is displayed within the automation app.

B.4 Verification and Synchronisation (continued)

Step 3: Confirm Shut-Down Operation

Switch off the heat pump via the automation controller.

Verify that:

- The remote circuit opens
- The heat pump enters its shutdown sequence
- Heat pump operation ceases after approximately 60 seconds.

Tip

Where multiple heat pumps are configured in accordance with **Appendix A – Multiple Unit Installations**, a delay may be observed between units as they start or stop in succession.

Step 4: Keypad Lock

Once correct operation has been verified, the heat pump controller settings must remain unchanged.

Changes to operating mode, temperature setpoint, timers or ON / OFF status may prevent correct operation of the automation system.

Tap and hold the **Power** key for 5 seconds to lock the keypad.

The display will now show the current time and this will help prevent unintended changes to the heat pump onboard settings ***(Refer to 11.3 – Other Features for further guidance)***.

Important

When handing over a remotely controlled installation, ensure the end user understands that system control is performed primarily by the automation controller. Any changes to heat pump controller settings may result in loss of synchronisation and unnecessary service call-outs.

Notes

Please record the information below during installation as this will be required for any service or warranty related work that may be required.

Model No:			
Serial No:			
Purchase Date:			
Dealer / Installer name:			
Warranty Registered Online:	Yes / No	Date Registered	/ / 20

Online Warranty Registration

Registering your Avalux Heat Pump is fast and easy, providing peace of mind that you've got great backup support for the life of your pool heating!

- Scan QR code,
- No need to create an account,
- Fill in your details,
- Upload a photo of the serial number,
- Submit.

https://avaluxpoolco.com.au/warrantyregistration

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