

airconics

ERV INSTALLATION MANUAL v1.0

All persons must read this manual in full before commencing any installation, maintenance or repair tasks

If questions arise during works, please refer to this manual in the first instance

Applicable models: ERV-P15B, ERV-P25B, ERV-P35B,
ERV-P50B, ERV-P50BHS

Excludes "ION" models with high voltage electro-static dust collection fitted



IMPORTANT!

Please Read Before Starting

This information is provided for use only by authorized installers/technicians with regards to Airconics brand residential ERV systems with a model number specified in this installation manual and purchased either via Airconics NZ directly or through an authorized reseller/distributor. Airconics NZ carries no responsibility or liability for any system purchased either second hand or outside of its authorized reseller/distributor network, or installed in any manner contrary to those outlined in the corresponding installation manual.

No part of this document shall override any consumer protections as set out under the New Zealand Consumer Guarantees Act

For safe installation, operation & maintenance you must:

- Carefully read this instruction booklet in its entirety before beginning
- Follow each installation, service or repair step exactly as shown and adhering to all relevant AS/NZS standards and Building Code requirements
- Ensure all wiring and electrical steps to the installation are undertaken by a qualified and registered electrician only and that these are done in accordance with current AS/NZS 3000 "Wiring Rules" and all other AS/NZS standards applicable to the individual installation circumstances
- Pay close attention to all warning and caution notices given in this manual and on the product itself:



WARNING!

This notice and symbol refers to a hazard or unsafe practice which can result in severe personal injury or death



CAUTION

This notice and symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage



ELECTRICAL HAZARD EXISTS

This notice and symbol refers to an electrical hazard which can result in severe personal injury or death

In Case of Improper Installation, Service or Repair

Airconics NZ and its authorized resellers/distributors shall in no way be responsible for improper installation, maintenance service, or repair, including failure to follow the instructions in this document. All liability for remediation due to improper installation, service or repair rests solely with the equipment installer/technician.

Unsure? Reach out before starting

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem or non-standard installation, contact your authorized reseller/distributor or Airconics NZ for additional instructions.

Notice: In instances where desired install location does not meet the criteria set out in this document, contact Airconics directly for written permission to ensure appliance warranty will be valid.

Appliance Storage



CAUTION

- The appliance shall be stored in a well-ventilated area without excess moisture to prevent degrading/corrosion of the appliance and its internal components.
- The appliance shall be stored so as to prevent mechanical damage from occurring.

Transport & Handling



CAUTION

- Two or more persons may be required to carry out the installation work.
- Be careful when picking up and moving the unit. Get a partner or colleague to help, and bend your knees when lifting to reduce strain on your back.
- Wear gloves as sharp edges around the appliance case can cut your skin.

Wiring & Electrical Work



WARNING!



ELECTRICAL HAZARD EXISTS

**ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.
ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN IS PERMITTED TO WIRE THIS SYSTEM.**

- Do not supply power to the unit until all wiring and ducting is completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this appliance. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate earthing/grounding can cause accidental injury or death.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- Provide a 10A power outlet to be used exclusively for each unit.
- To prevent possible hazards from insulation failure, the unit must be properly earthed/grounded.
- 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 aging or continual vibration.
- This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
- Damage to appliance by improper wiring will void warranty.
- No other electrical fitting or equipment is permitted to be connected in any way to the appliance or associated control systems. Integration with any Air Conditioning system is to be via Airconics supplied (or approved - in writing) relay kit.
- If appliance has been powered, power must be disconnected for 5 minutes before opening any cover/lid and before performing any install, service, or repair tasks.

Work in Ceilings & Confined Spaces



WARNING!

- Ensure all persons involved with any manner of work relating to this appliance are trained and competent in safe work practices including; secure/sturdy places to stand/place weight, how to safely climb/crawl through confined spaces and how to mitigate heat exhaustion risks.

Additional Warnings



WARNING!

- This product must not be installed or used in a modified or disassembled condition under any circumstances. Modified or disassembled unit may cause fire, electric shock or injury.
- Airconics do not permit cleaning inside the appliance by users. Engage authorized dealer or technician for internal cleaning. Users are only permitted to perform regular maintenance - cleaning/replacement of filters and cleaning of ERV heat exchanger - if strictly following instructions under maintenance section of user manual.
- In case of malfunction of this appliance, do not repair by yourself. Contact the authorized sales or service dealer for repair information and official Airconics parts supply.
- Do not sit items on top of the appliance, lean or sit on, or place any weight on it.

Additional Cautions



CAUTION

- Do not place hands inside any part of the appliance while it is powered. You may get injured.
- Do not stick any object into the appliance while it is powered. You may get injured and the appliance may be damaged.
- Do not power the unit or operate without all ducting connected in a manner which will prevent persons or foreign objects from accessing any internal part of the appliance.
- Do Not Operate the appliance without filters and ERV heat exchangers installed.

Before Installation



WARNING!



CAUTION

Select an installation location for the appliance which is;

- Inside the building envelope, completely weather tight and dry – this appliance is not IP rated for external moisture or weather sealed in any manner
- Strong and sturdy enough to support the weight of the suspended unit, without causing any adverse effect to the structure
- Ensure unit is properly levelled and secure to prevent abnormal vibration from twisting/distortion
- Sufficient sound deadening to prevent any noise disturbance to persons nearby
- Provides easy access for maintenance or repairs in the future and adheres to required minimum clearances as set out in this manual

Notice: In an Area with High Winds - Provide a suitable air baffle for air intake & exhaust.

Notice: In a Snowy Area – Ensure air intake and exhaust are located in a manner in which they cannot become blocked by snow, or draw snow into the duct work or appliance. Consider that a low temperature cut out device may be necessary as heat recovery may be limited when air intake temperature is very low – discuss this with Airconics.

Notice: In instances where desired install location does not meet the above criteria, contact Airconics directly for written permission to ensure warranty will be valid.

Before Servicing & Repairs



WARNING!



CAUTION

- Contact the sales dealer or service dealer for a repair in the first instance. If additional assistance is required, contact Airconics NZ directly.
- Be sure to isolate power (appliance unplugged, breaker locked out, or mains switched off - not just switched off at socket) and wait at least 5 minutes until it is discharged before performing any service, maintenance or repair task. Follow prove-test-prove protocols.
- Keep your fingers and clothing away from any moving parts.
- Only official equipment, and parts - including filters - provided by Airconics NZ are permitted to be used with the appliance, unless specific written instructions are given by Airconics to use third party parts/components.
- Do Not Operate the appliance without filters and ERV heat exchangers installed.
- Where electrical components are being changed, it is the responsibility of the technician/electrician to ensure they are fit for the purpose and to the correct specification. At all times the Airconics maintenance and service guidelines shall be followed except where technician/electrician believes these may be incorrect, in which case contact Airconics before commencing. If in doubt, contact Airconics for assistance.
- 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.
 - That no live electrical components and wiring are exposed while performing any tasks.
 - That there is continuity of earth bonding.
 - During repairs to sealed or enclosed components, all electrical supplies shall be disconnected from the equipment prior to any removal of covers etc.
 - Particular attention shall be paid to the following to ensure that by working on components, the casing is not altered in any way such that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
 - Ensure that appliance and internal component(s) are mounted securely.
 - Ensure that casing, seals or sealing materials have not degraded such that they no-longer serve the original purpose.
 - Replacement parts shall be in accordance with the manufacturer's specifications.
- Clean up and fit all covers, panels and close lid securely before reinstating power supply. Remembering to check that no foreign objects including metal scraps, loose duct work, insulation, offcuts or loose wiring have been left inside the unit. Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.

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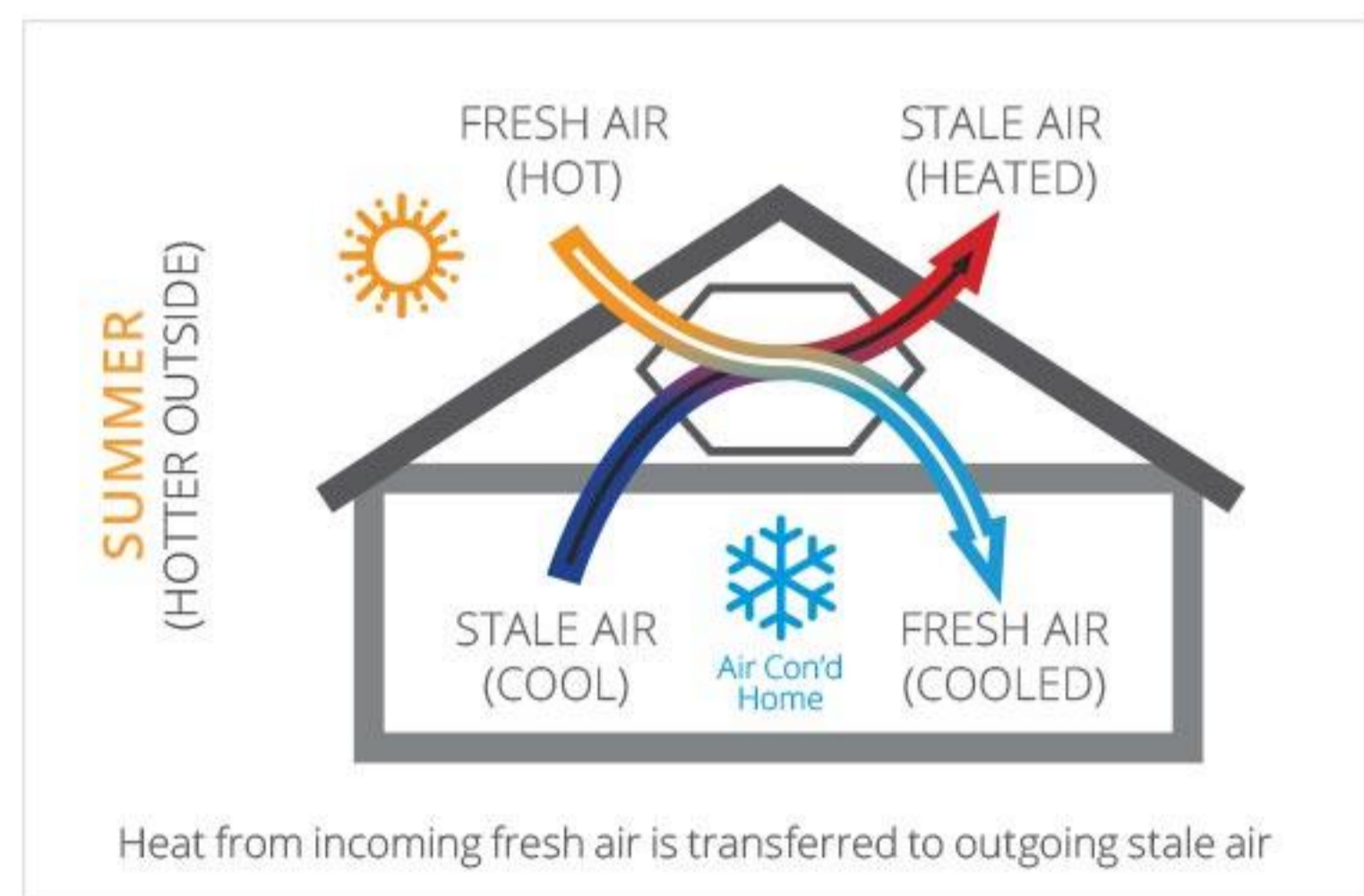
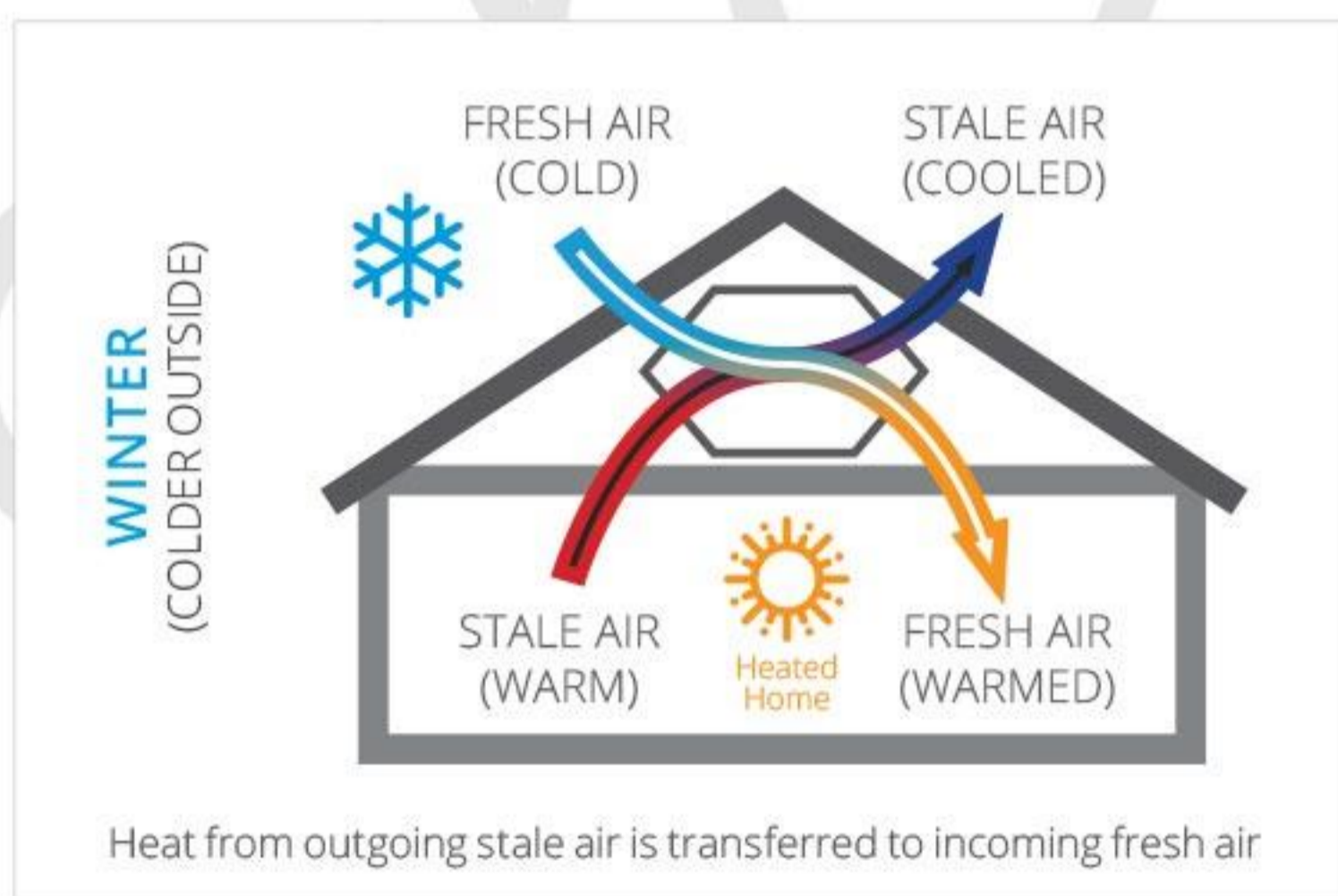
1. Product Overview & Key Parts Diagrams

Overview

Airconics ERV ventilations systems work by extracting equal amounts of stale and damp air from the home, and introducing fresh outside air. This cycle of air through the home improves air quality and results in the removal of moisture and condensation. Our large, resin core heat exchangers work to retain as much of the heat from the outgoing air as possible.

You need to know:

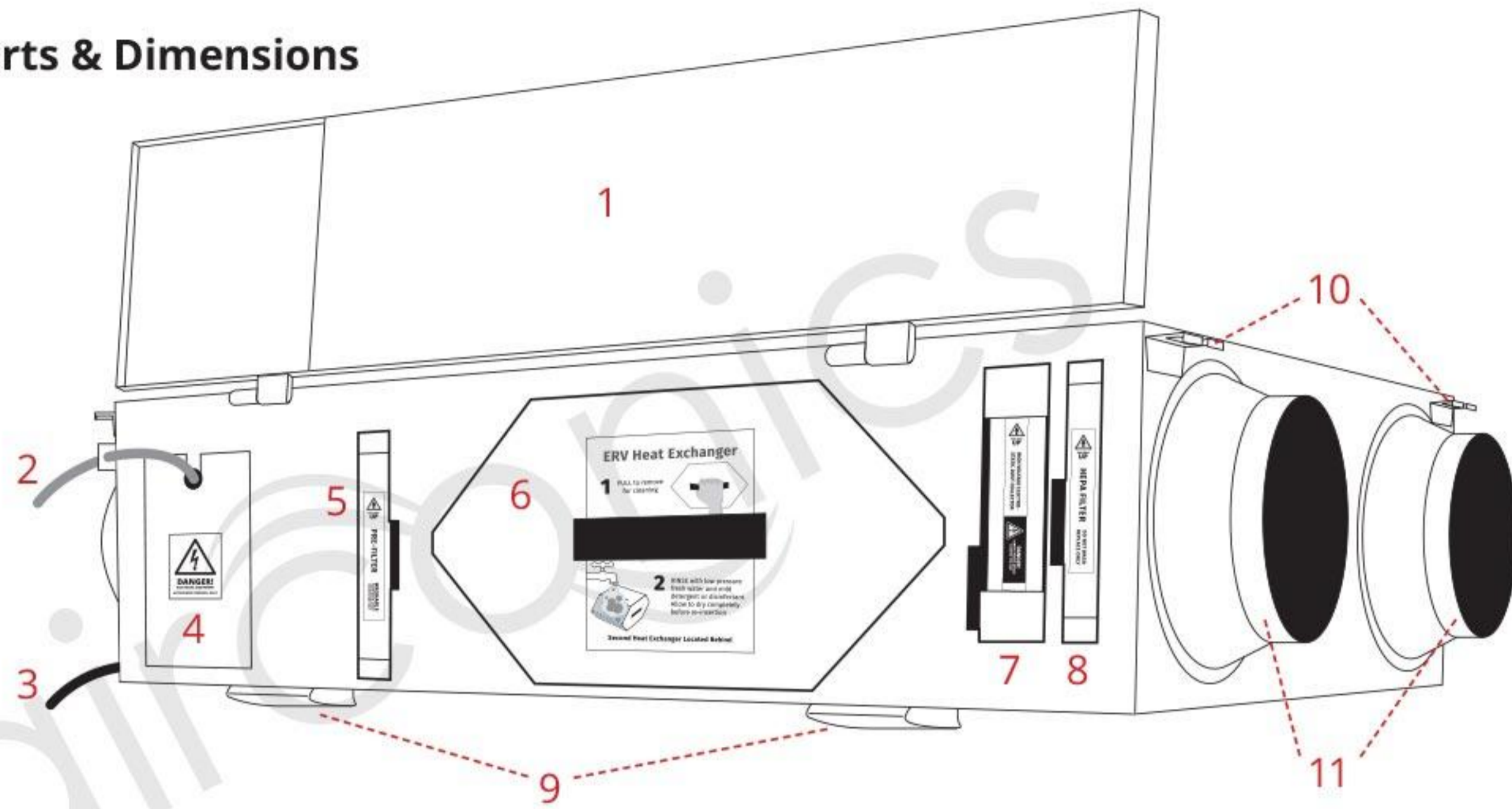
- Two separate air streams:
 1. Extracts stale and moist air
 2. Introduces filtered fresh outside air
- Incoming air is fresh from outside, filtered with HEPA H13 filters to remove dust, pollen & fine particulates
- Meets the NZ building code NZS4303:1990 "Ventilation for acceptable indoor air quality"
- Works well in both older homes and in modern homes with a tight building envelope. By circulating fresh air throughout the home, you can eliminate condensation and improve indoor air quality
- In winter, usable heat is recovered from the extracted air and transferred to the fresh incoming air. In summer, heat is transferred from fresh air to the outgoing stale air
- Airconics balanced pressure ERV "heat recovery" ventilation systems with resin heat exchanger are tested at 86-94% efficiency*



Note: This is a ventilation system, not an air conditioner/heat pump. It facilitates the efficient transfer of heat between incoming & outgoing air. Meaning that when you are heating your home in winter, fresh outside air (cold) will come in pre-warmed by the heat recovered/transferred from outgoing (warm) stale air. It also means when you are cooling your home in summer, fresh outside air (hot) will come in pre-cooled as heat from the incoming fresh air is transferred to the outgoing (cool) stale air. Incoming fresh air will not be the same temperature as extracted stale air.

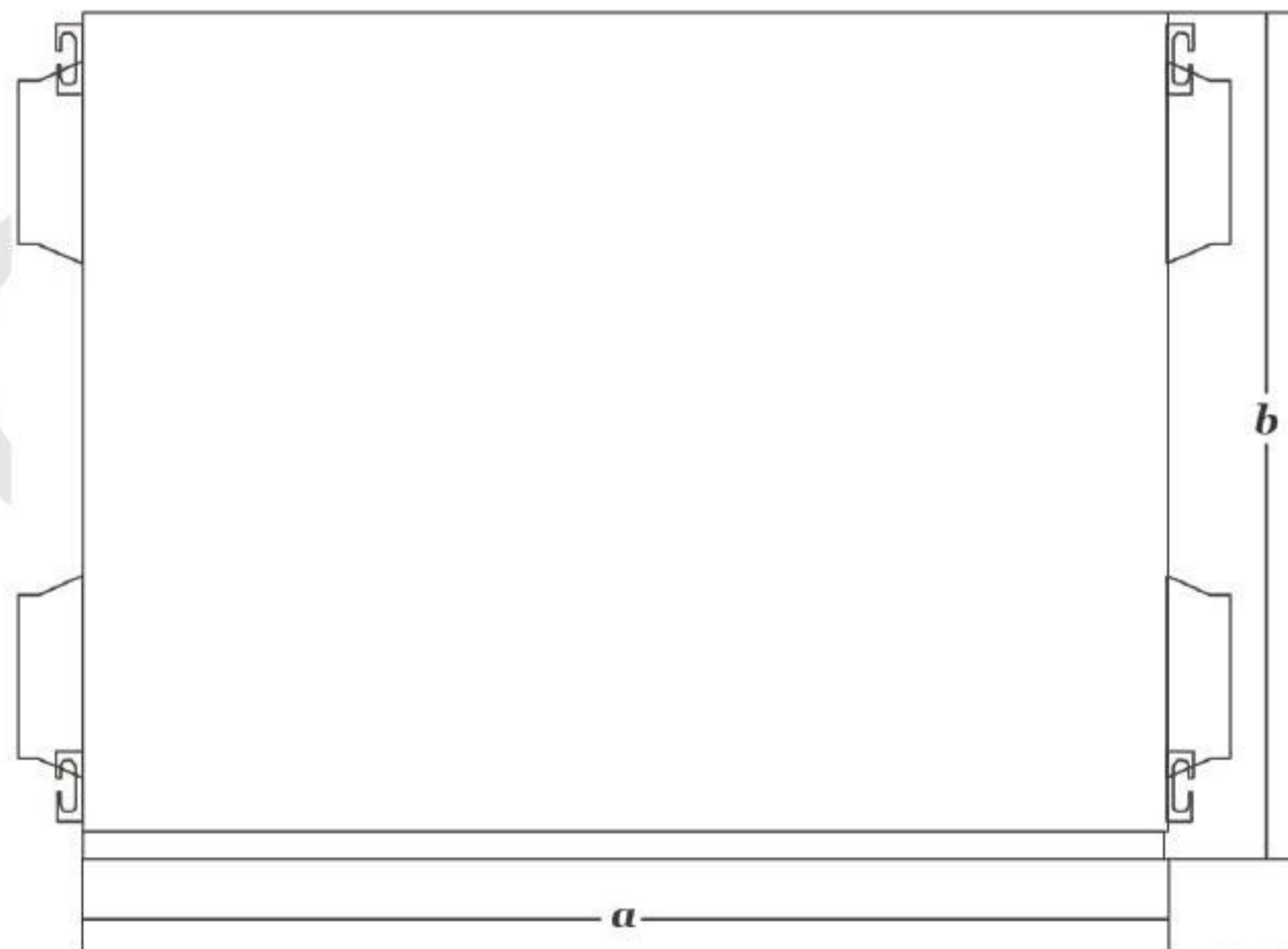
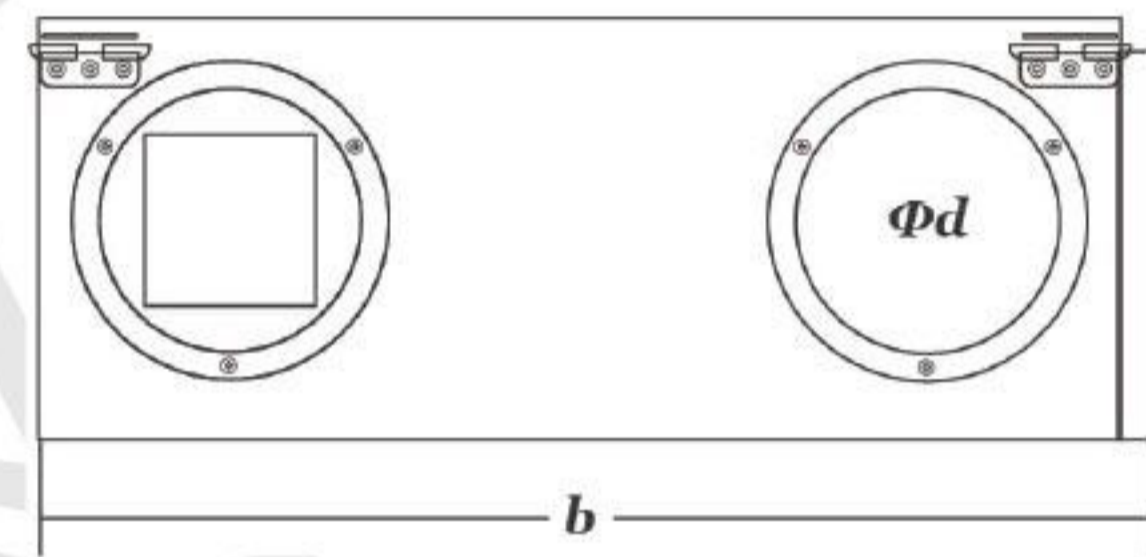
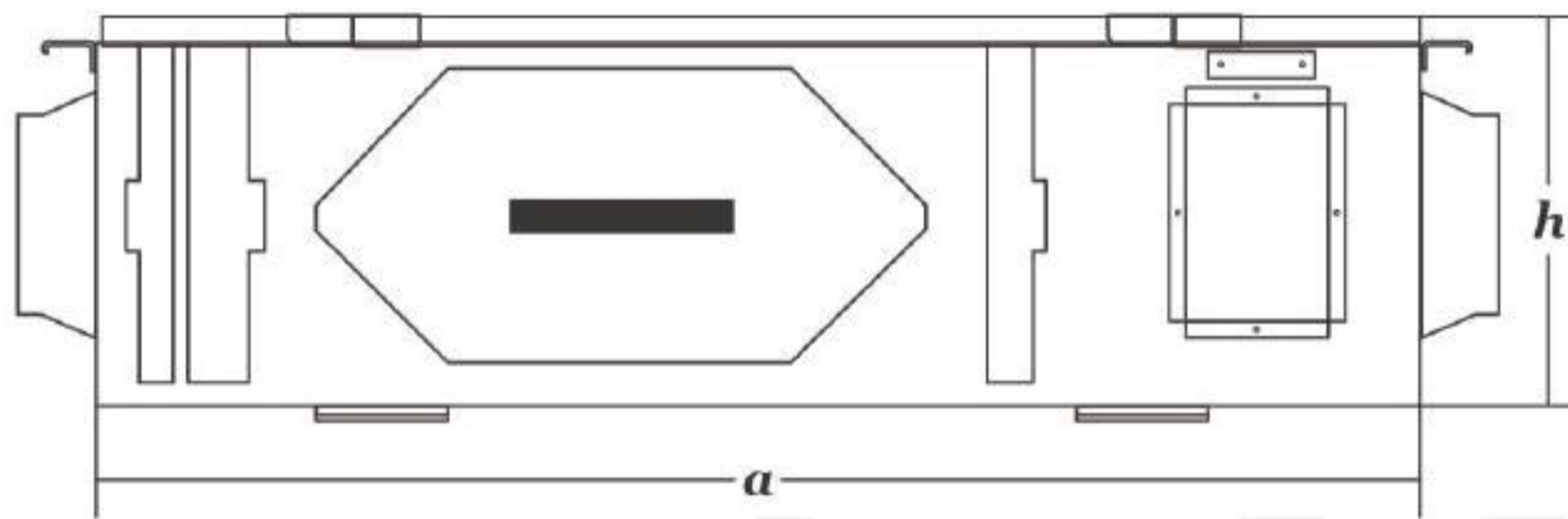
*ERV-P15B & ERV-P25B models are slightly higher efficiency at 88-96% & 87-95% respectively. ERV-P50BHS High Static Pressure model is tested at 84-87% efficiency.

Key Parts & Dimensions



- | | | |
|-------------------------------|-----------------------------------|------------------------------|
| 1 - Front Lid/Cover | 5 - Washable Pre-Filter | 9 - Lid/Cover Locking Clips |
| 2 - Comms/Control Cable | 6 - Washable ERV Heat Exchanger | 10 - Hanging Brackets |
| 3 - Power Cable (3-Pin Plug) | 7 - Electrostatic Dust Collector* | 11 - Duct Connection Spigots |
| 4 - Electrical Terminal Cover | 8 - HEPA Filter | |

*not fitted to all models

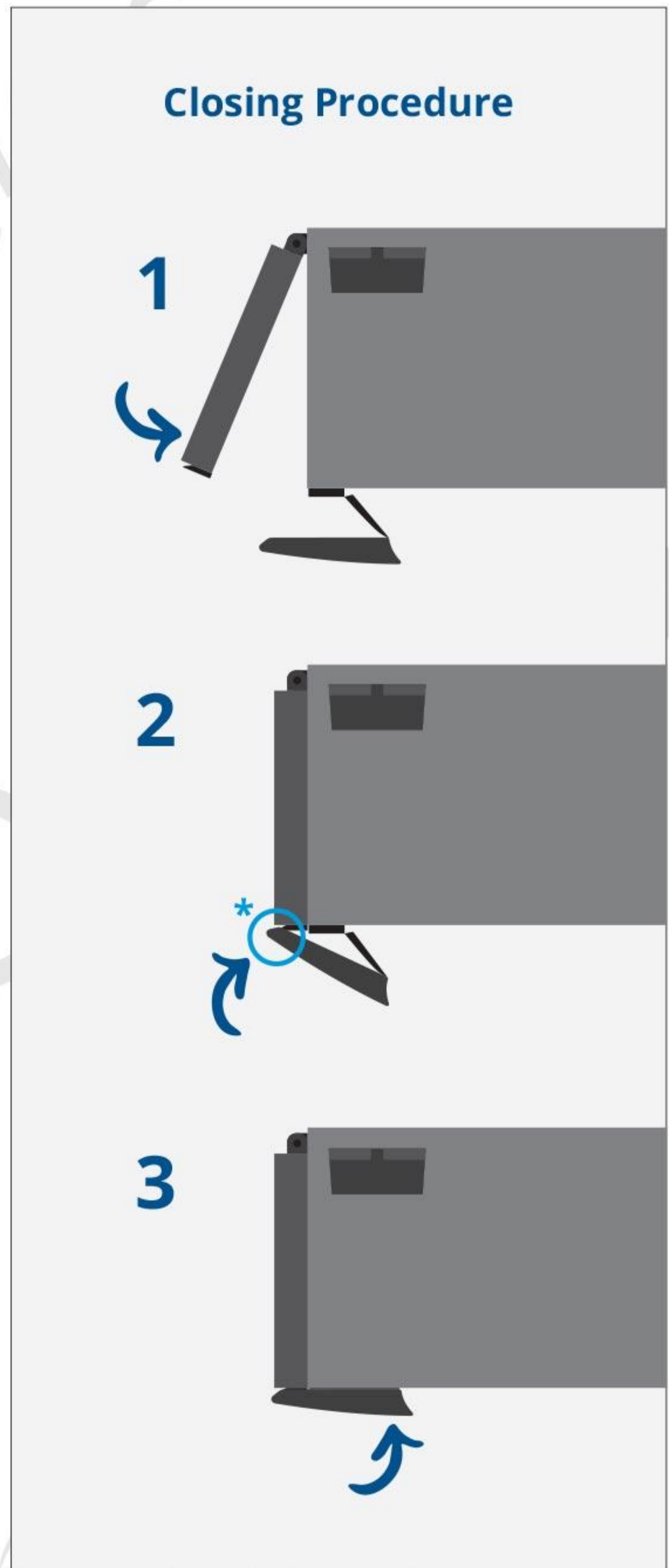
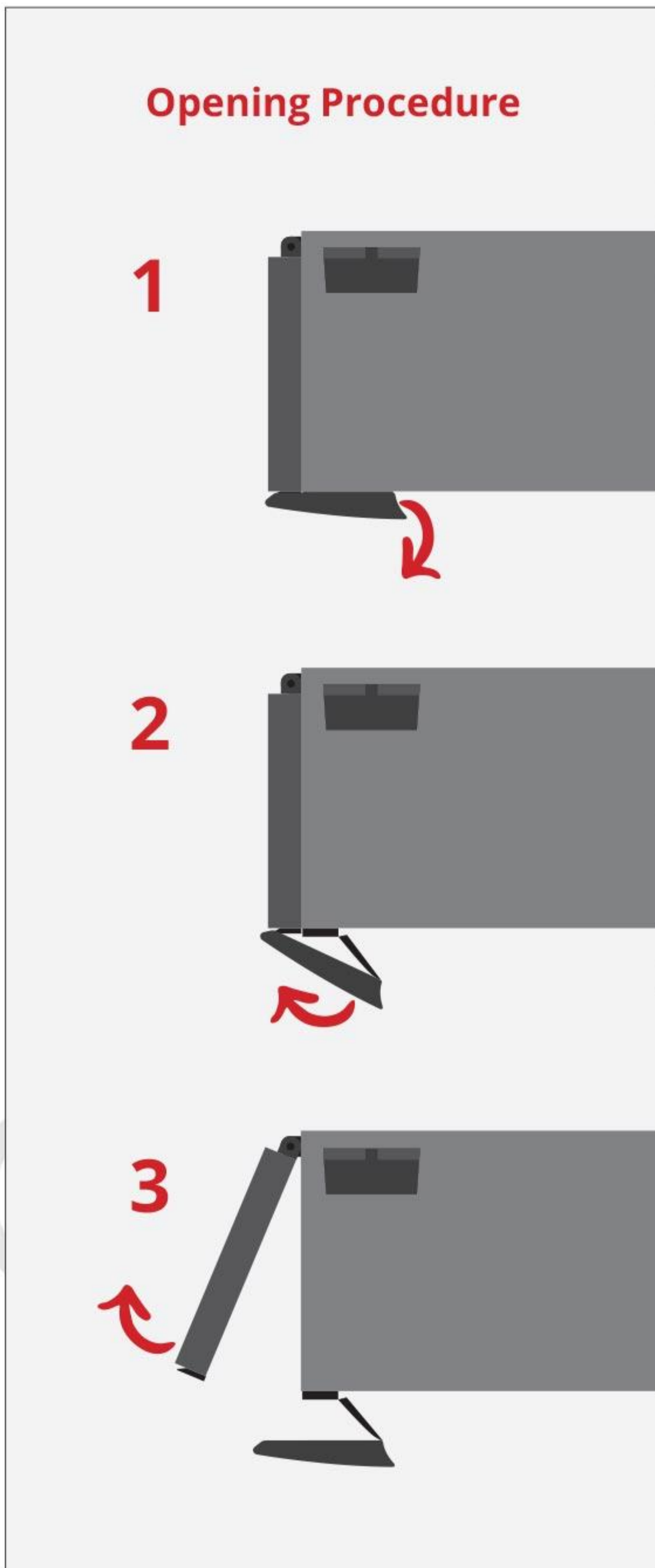


Note:

- In some models the order of electrical terminals, filters and heat exchanger modules is reversed/mirrored
- Unit length (a) excludes depth of removable spigots and mounting brackets

Model	Appliance Dimensions			Spigot Size		
ERV-P15B	780mm (a)	x	514mm (b)	x	186mm (h)	120mm (Ød)
ERV-P25B	866mm (a)	x	643mm (b)	x	228mm (h)	150mm (Ød)
ERV-P35B	880mm (a)	x	688mm (b)	x	260mm (h)	150mm (Ød)
ERV-P50B	1110mm (a)	x	845mm (b)	x	260mm (h)	200mm (Ød)
ERV-P50IONS+	1110mm (a)	x	845mm (b)	x	260mm (h)	200mm (Ød)
ERV-P50BHS	1110mm (a)	x	845mm (b)	x	260mm (h)	200mm (Ød)

2. Opening & Closing The Front Cover/Lid



IMPORTANT

- * Always ensure clip is correctly aligned with plastic part on lid before closing. Poor alignment will result in broken clip.

3. Installation: Site Selection & Clearance Requirements

Site Selection Requirements

Select an installation location for the appliance which is;

- Inside the building envelope, completely weather tight and dry – this appliance is not IP rated for external moisture or weather sealed in any manner
- Strong and sturdy enough to support the weight of the suspended unit, without causing any adverse effect to the structure
- Ensure unit is properly levelled and secure to prevent abnormal vibration from twisting/distortion
- Sufficient sound deadening to prevent any noise disturbance to persons nearby
- Provides easy access for maintenance or repairs in the future and adheres to required minimum clearances as set out in this manual

Notice: In an Area with High Winds - Provide a suitable air baffle for air intake & exhaust.

Notice: In a Snowy Area – Ensure air intake and exhaust are located in a manner in which they cannot become blocked by snow, or draw snow into the duct work or appliance. Consider that a low temperature cut out device may be necessary as heat recovery may be limited when air intake temperature is very low – discuss this with Airconics.

Notice: In instances where desired install location does not meet the above criteria, contact Airconics directly for written permission to ensure warranty will be valid.

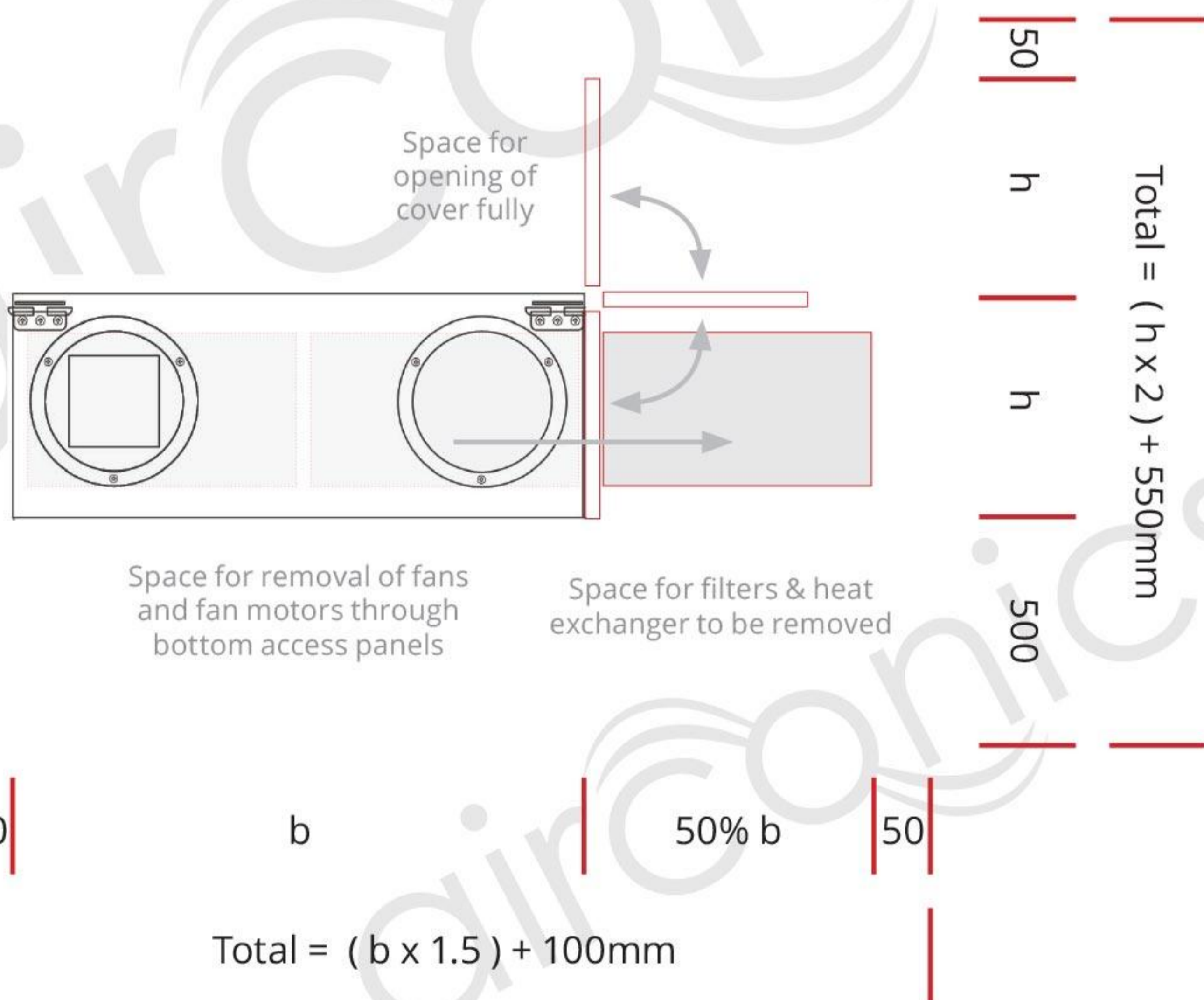
Notice: Ensure all of install team have read Caution & Warning notices at the beginning of this manual.

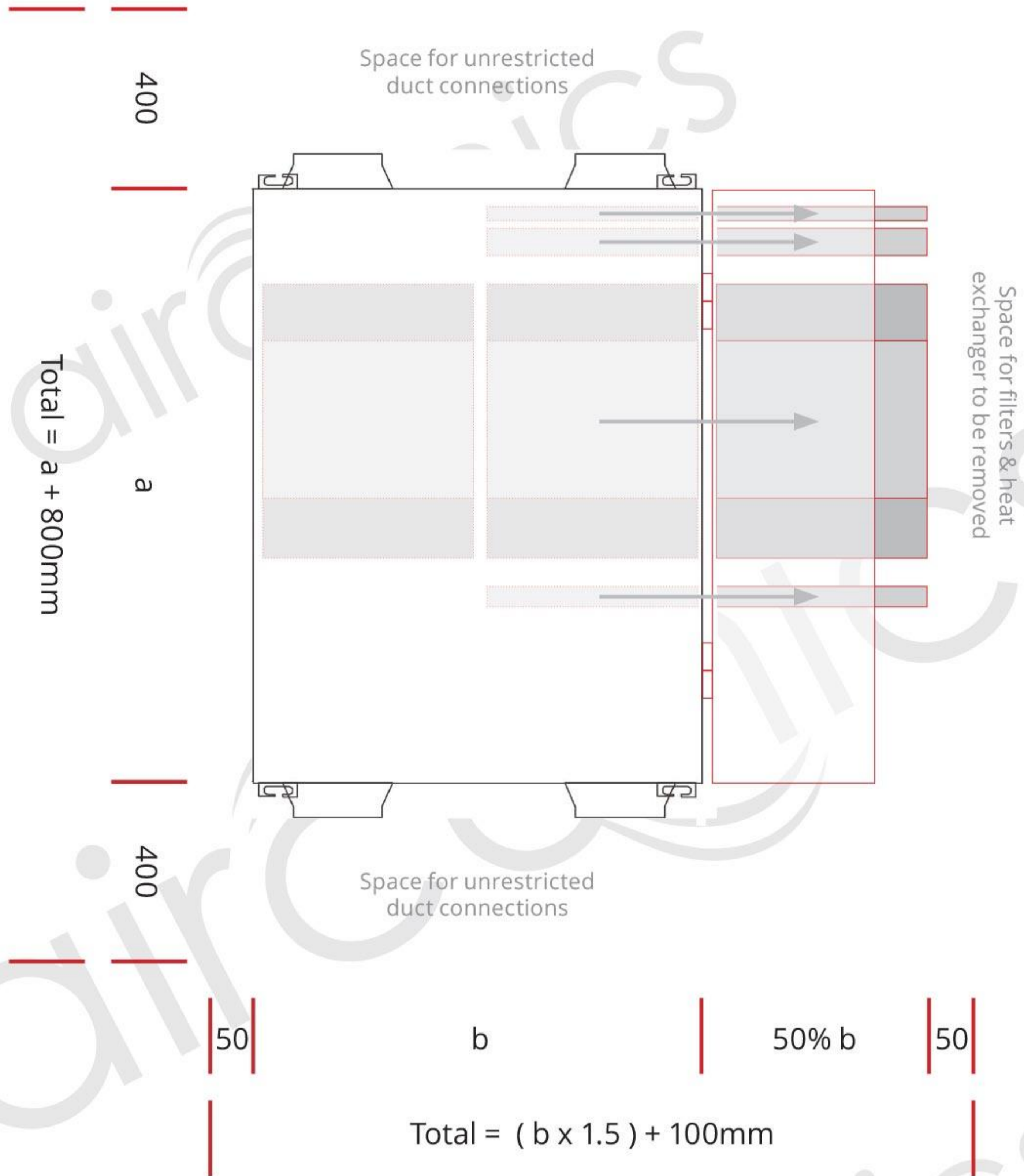
Clearance Requirements

These are specified to ensure that during/after installation it will be possible to;

- Allow the front cover/lid to fully open
- Allow unrestricted access to electrical terminals
- Allow space for heat exchangers and filters to slide in and out of appliance for servicing
- Allow access underneath for fan motor removal if needed (removed via bottom panel)
- Allow space for slight movement without touching framing to prevent vibration
- Allow space for duct connection without restriction

Model	Appliance Dimensions			Spigot Size		
ERV-P15B	780mm (a)	x	514mm (b)	x	186mm (h)	120mm (ød)
ERV-P25B	866mm (a)	x	643mm (b)	x	228mm (h)	150mm (ød)
ERV-P35B	880mm (a)	x	688mm (b)	x	260mm (h)	150mm (ød)
ERV-P50B	1110mm (a)	x	845mm (b)	x	260mm (h)	200mm (ød)
ERV-P50IONS+	1110mm (a)	x	845mm (b)	x	260mm (h)	200mm (ød)
ERV-P50BHS	1110mm (a)	x	845mm (b)	x	260mm (h)	200mm (ød)





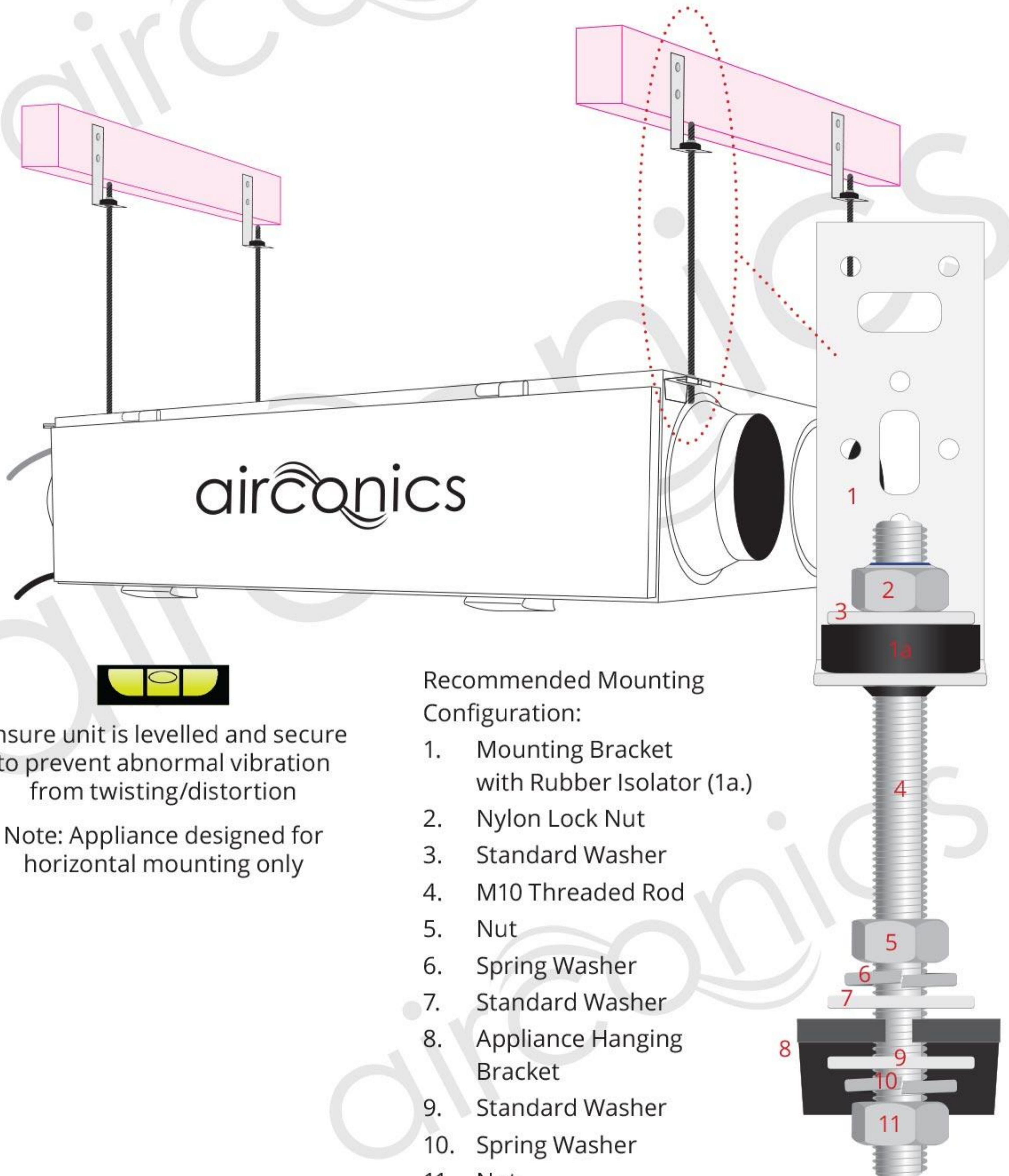
Note:

- In some models the order of electrical terminals, filters and heat exchanger modules is reversed/mirrored
- Unit length (a) excludes depth of removable spigots and mounting brackets

4. Installation: Mounting The Appliance

Mounting Requirements

The following details are best practice but may not be suitable for all installation locations. In all situations we recommend the use of rubber isolators to reduce noise from any vibration through timber framing. The most straight forward way to achieve this is with metal mounting brackets containing a rubber isolator, TEK screwed to framing timber. Ensure nuts are tight enough that they will not become loose over time.



5. Installation: Electrical Requirements



WARNING!



ELECTRICAL HAZARD EXISTS

**ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.
ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN IS PERMITTED TO WIRE THIS SYSTEM.**

Notice: Ensure all of install team have read Caution & Warning notices at the beginning of this manual.

Appliance Supplied with;

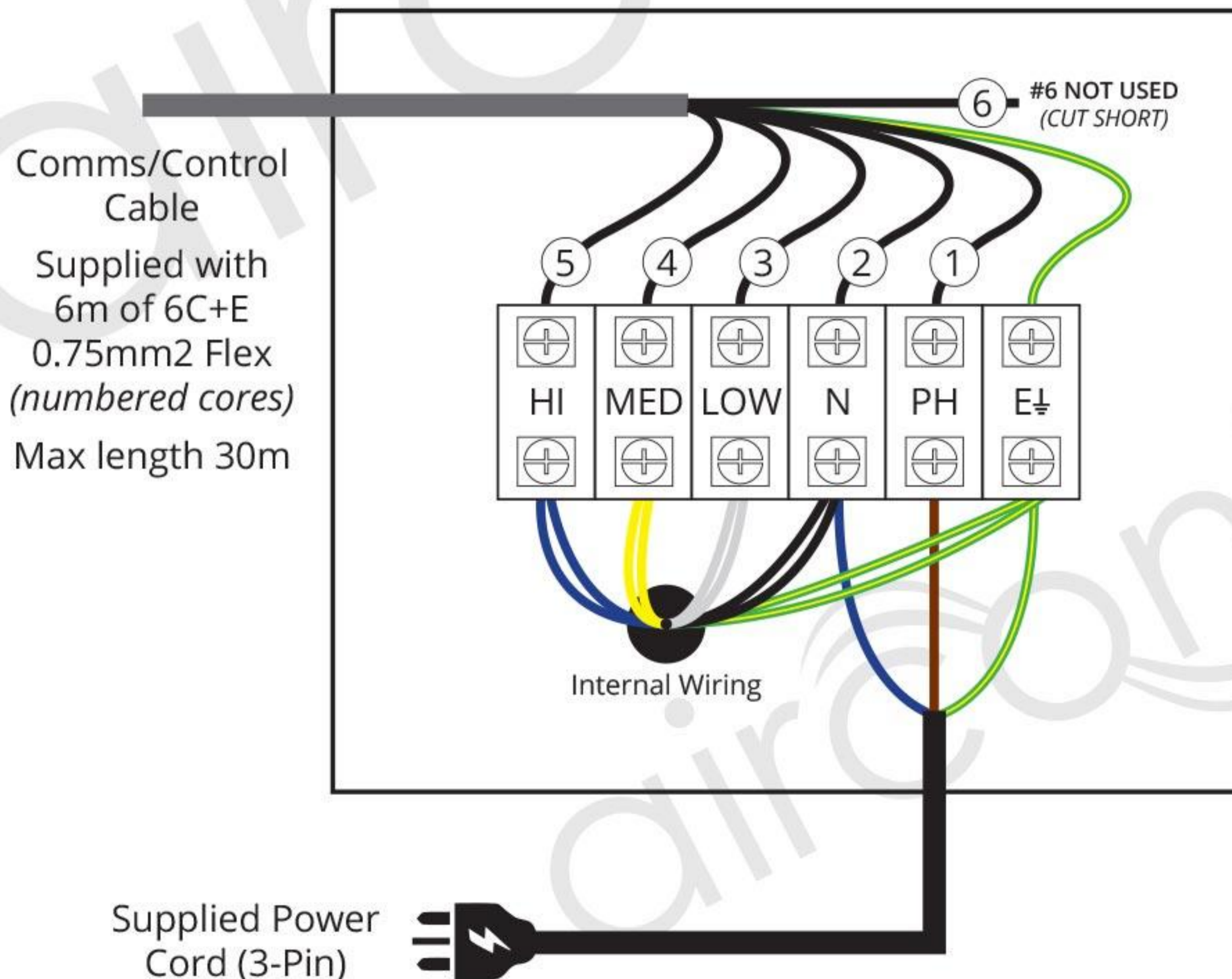
- Power cord & 3-Pin plug
- 6m of flex (6C+E 0.75mm²) to reach control panel or ducted A/C integration relay
Note: If more than 6m length is required, the supplied 6m should be replaced with flex of the same specification (not joined/extended). Max length 30m.

Supply Requirements;

- 230V, 50Hz, Single-Phase
- Standard NZ 10A power outlet for the exclusive use of the appliance.
Recommend dedicated 10A RCD protected circuit. Note: RCD protection is compulsory on models with ION high voltage electro-static dust collection installed.

Appliance Wiring Configuration:

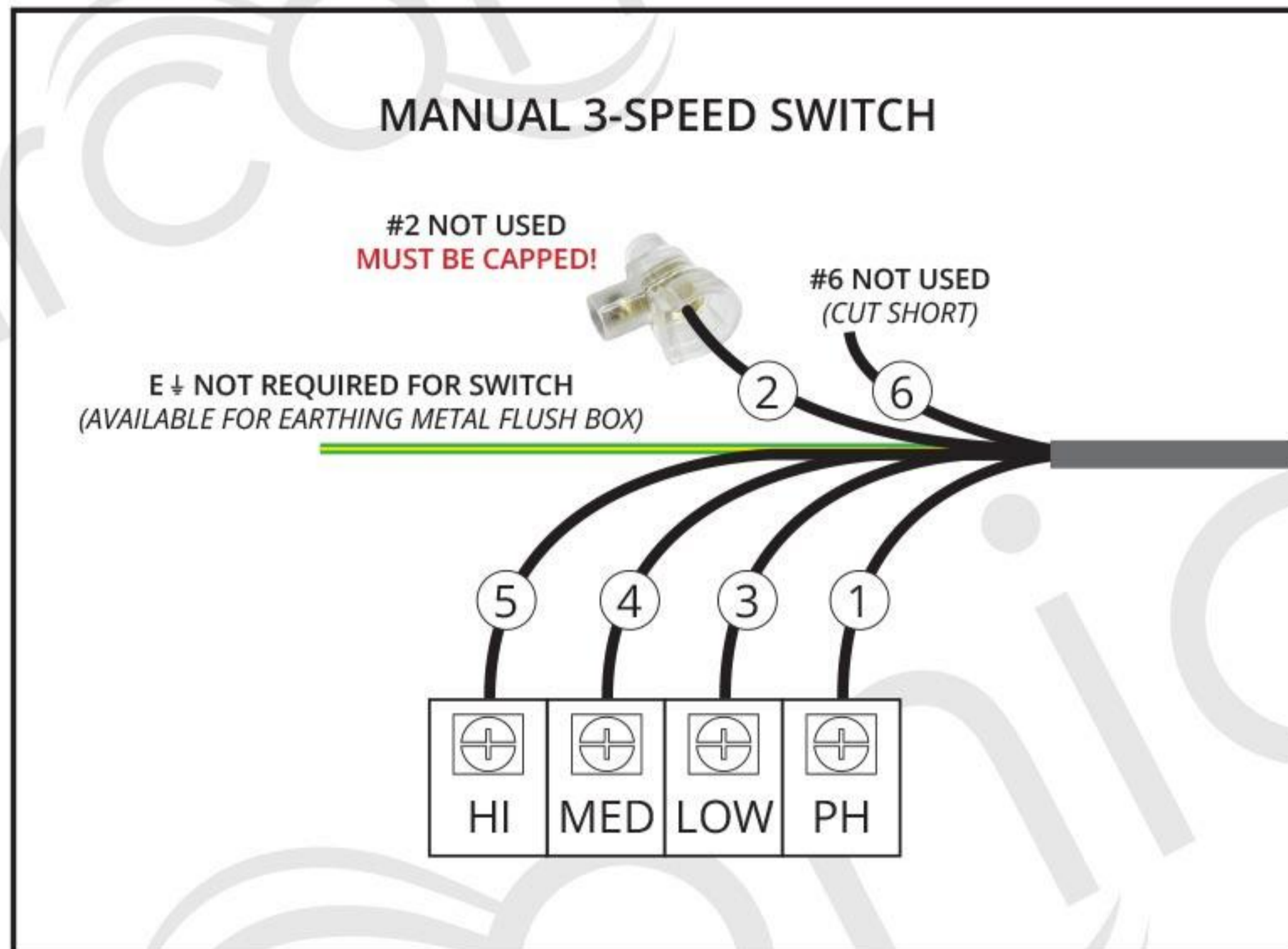
(excludes "ION" models with high voltage electro-static dust collection fitted)



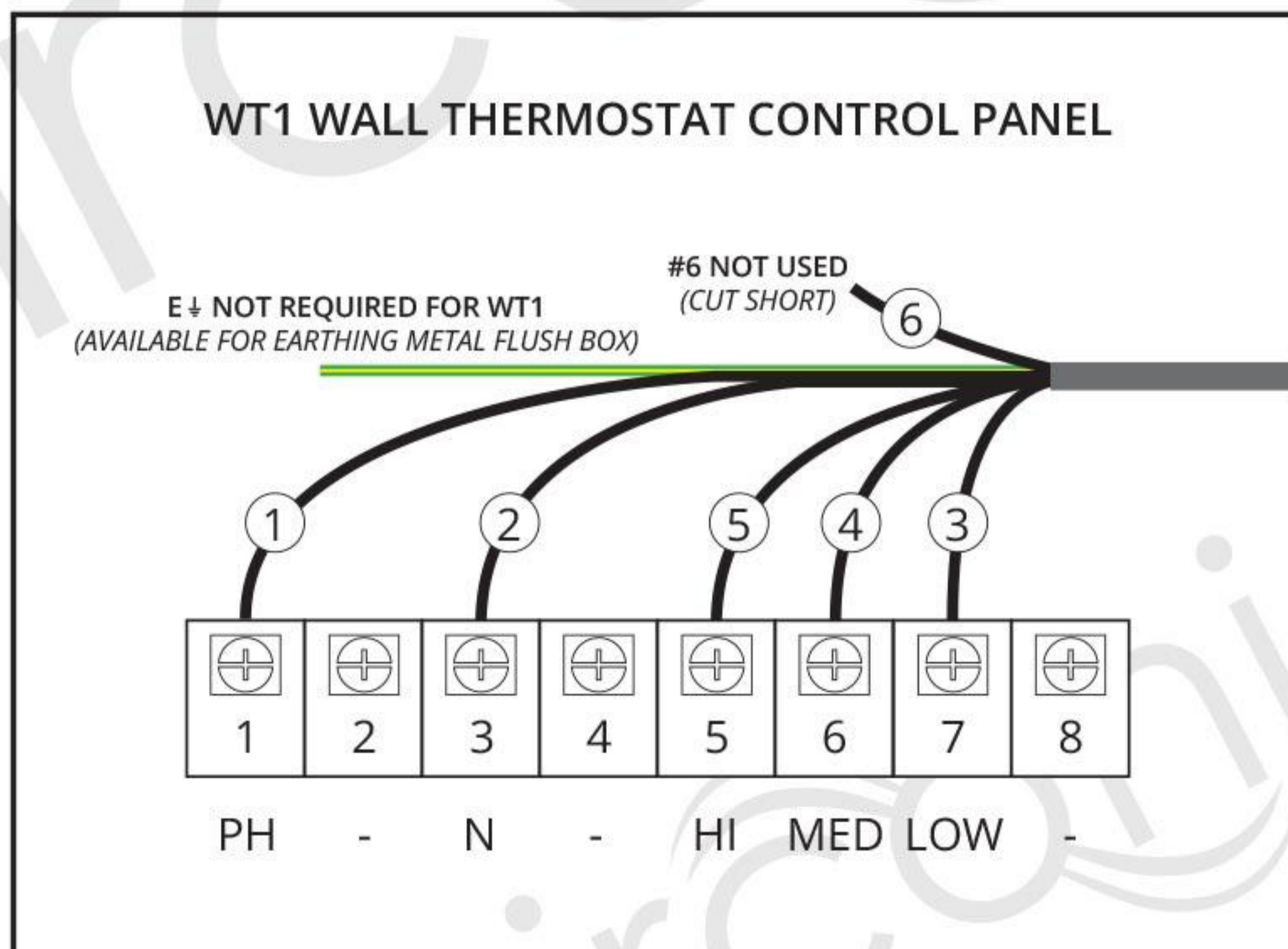
Control Panel Wiring Configuration:

(excludes "ION" models with high voltage electro-static dust collection fitted)

Note: For applications where appliance is integrating with a ducted air conditioner and the air conditioner control panel is to be used to control the ventilation appliance, a "Ducted A/C Integration Relay Kit" is required. Contact your Airconics dealer for information about this. Relay kits come with wiring instructions.



Comms/Control Cable
Supplied with
6m of 6C+E
0.75mm² Flex
(numbered cores)
Max length 30m



Comms/Control Cable
Supplied with
6m of 6C+E
0.75mm² Flex
(numbered cores)
Max length 30m

6. Installation: Integrating With Ducted A/C



CAUTION

Do Not Integrate with a Ducted Air Conditioner (A/C) without first consulting A/C documentation to confirm that doing so is not prohibited or outside of manufacturer specifications. Airconics is in no way responsible for damage as a result of prohibited connection or improper wiring.

There are two (2) standard methods of integration;

1. - Supply air from Airconics ventilation appliance connects to return side of ducted A/C
- Install and use Airconics control panel to operate ventilation appliance independently of A/C control panel
2. - Supply air from Airconics ventilation appliance connects to return side of ducted A/C
- Install Airconics ducted A/C Integration Relay Kit (where one is available for particular A/C brand/model) to operate ventilation appliance using ventilation function within the A/C control panel

Integration Method Considerations;

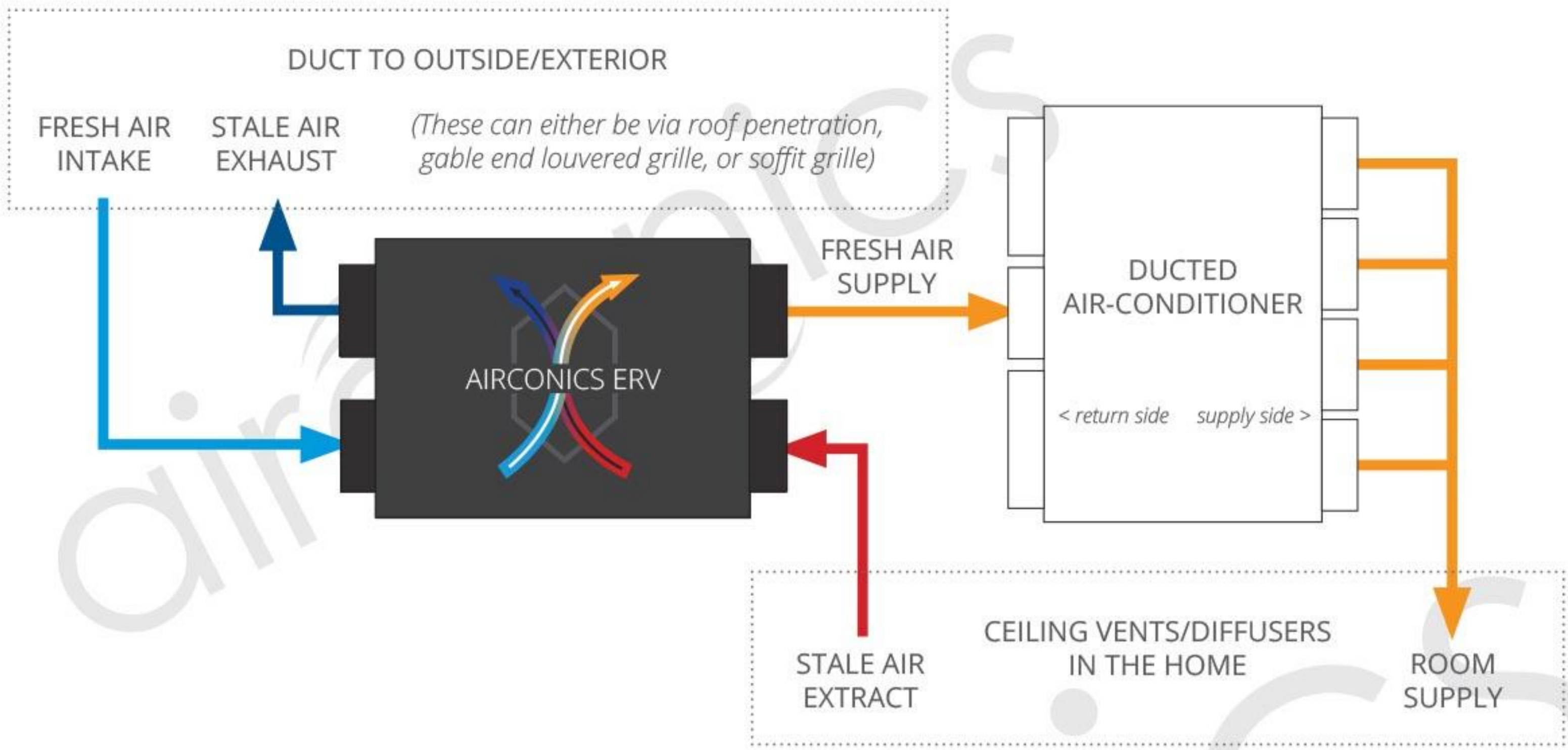
- Method 1.
 - Using Airconics control panel to operate ventilation appliance independently of A/C control panel allows for fan speed control of Airconics appliance.
 - In some cases, to ensure fresh air supply is properly distributed throughout the home it will be necessary to simultaneously run the ducted A/C on fan-only when Airconics ventilation appliance is operating and heating or cooling is not required.
- Method 2.
 - Integrating with ducted A/C control means ventilation will operate when ducted A/C is operating and ventilation setting is enabled.
 - Means one less control panel on the wall and may be simpler for home owner/users.
 - Ventilation will operate on whichever fan speed the installer selects during installation and will require installer to swap wiring if a change in fan speed is desired.

Duct Configuration for Integration:

- Fresh air supply is to feed directly into A/C return plenum. It is prohibited to connect fresh air supply to supply side of A/C.
- Ensure the ventilation spigot is included in the A/C plenum design. Spigot size on plenum must match spigot size on ventilation appliance - see system design table page 20.
- Ducting is to be insulated (min R0.6). Take care not to create restriction - tight bends etc.
- Typical configuration diagram on next page.

Notice: Follow the intake, exhaust & extract guidelines specified under stand alone installation on pages 18-20

Typical Duct Configuration for Integration with Ducted A/C:



7. Installation: Stand Alone Ventilation System



CAUTION

Before commencing installation, ensure site selection & clearance requirements (section 3.) are met and that all of install team have read Caution & Warning notices at the beginning of this manual.

Consideration needs to be given to locations for extract & supply air streams (in the home), and to locations for air intake & exhaust (ducted to outside).

Note: There are maximum number of outlets & extracts, and max duct lengths to furthest outlet and extract specified for each model in the system specifications. These can also be found on system design table page 20.

Extract Guidelines:

- This is the stream of damp/stale air extracted from the home.
- Typically 1-2 extract vents. Larger systems may have 3.
- Adhere to maximum extract duct length on system design table (page 20).
- Location should be near moisture sources, however the ventilation appliance is not designed to replace primary bathroom and kitchen extracts. The appliance must not handle heavily moisture laden or oily air so it is prohibited to connect appliance ducting directly to bathroom extracts or range hoods.
- If extracting near a bathroom, the extract point should be in the adjoining room or hallway. Primary bathroom extract must continue to be used when showering/bathing.
- If extracting near a kitchen, the extract point should be minimum of 2 metres from cook tops/range. Primary kitchen extract/range hood must continue to be used when cooking.
- **Notice: DO NOT extract near heat sources.** Resin heat exchanger is not designed for high heat and must not handle air above 40°C. MINIMUM distance between extract point and fireplace is 5 metres. MINIMUM distance between extract point and air conditioner or radiator is 3 metres.
- All ducting and air splitters to be insulated.

Supply Outlet Guidelines:

- This is the stream of fresh air to be distributed throughout the home.
- Number of supply outlets should not exceed max number specified on system design table (page 20).
- Adhere to maximum duct length to furthest outlet(s) on system design table (page 20).
- Outlet locations should be away from extract points and away from doorways which provide a path for air to travel back to extract points. This is key as the more the air must circulate through a room before it is drawn back to the extract point, the more effective the ventilation system will perform.
- Arrange ducting and select air splitters thoughtfully to push more air to larger areas or to damp parts of the home.
- All ducting and air splitters to be insulated.

Stale Air Exhaust Guidelines:

- This is the stream of damp/stale air being exhausted from the appliance to outside of the home.
- The shorter this duct, the better. Ideally 6m or less but should not exceed 10m.
- Air can be exhausted via roof vent, gable end grille or soffit grille.
- Take care that this duct is not restricted in any way. Restricted ducting may place undue stress on fan motors and void warranty.
- If type of outlet/grille used restricts air flow, increasing outlet/grille size to counter this, then reducing duct back to original size (see spigot sizes on system design table) is both permitted and encouraged.
- There must be a minimum of 3m between exhaust air outlet/grille and fresh air intake.
- All ducting to be insulated.

Fresh Air Intake Guidelines:

- This is the stream of fresh air being drawn into the appliance from outside the home.
- DO NOT draw air from any place other than outside the home - ceiling cavity air is not permitted to be used.
- Take care to select a position for the fresh air intake that is;
 - A minimum of 3m away from exhaust air outlet/grille
 - Not near sewer/waste water breather/vent pipe (recommend 3m)
 - Will not draw in smoke, fumes or exhaust air from a nearby fireplace, gas appliance (such as a water heater) or from any other appliance/equipment/machinery
- The shorter this duct, the better. Ideally 6m or less but should not exceed 10m.
- Air can be drawn in via roof vent, gable end grille or soffit grille.
- Take care that this duct is not restricted in any way. Restricted ducting may place undue stress on fan motors and void warranty.
- If type of intake/grille used restricts air flow, increasing intake/grille size to counter this, then reducing duct back to original size (see spigot sizes on system design table) is both permitted and encouraged.
- All ducting to be insulated.

Notice: In an Area with High Winds - Provide a suitable air baffle for air intake & exhaust.

Notice: In a Snowy Area – Ensure air intake and exhaust are located in a manner in which they cannot become blocked by snow, or draw snow into the duct work or appliance. Consider that a low temperature cut out device may be necessary as heat recovery may be limited when air intake temperature is very low – discuss this with Airconics.

8. Installation: System Design Specification Table

This table is provided as an aid to installers planning an installation. "Max" outlet/extract/duct length figures provided are recommendations based on maintaining air flows using flexible insulated ducting as is most common in NZ.

Max home size may be disregarded if working to a specific desired Air Changes Per Hour (ACH) figure.

Max number of outlets may be disregarded when integrated with a ducted A/C (follow A/C manufacturer guidelines instead) as the A/C will handle distribution of supply air. All other Extract/Outlet/Exhaust/Intake guidelines still apply when integrating.

Specification	ERV-P15B	ERV-P25B	ERV-P35B	ERV-P50B	ERV-P50IONS+	ERV-P50BHS
Static Pressure	115Pa	132Pa	140Pa	160Pa	160Pa	420Pa
Air Volume (high fan) m ³ /h	150 m ³ /h	250 m ³ /h	350 m ³ /h	500 m ³ /h	500 m ³ /h	500 m ³ /h
Air Volume (high fan) l/s	41 l/s	69 l/s	97 l/s	138 l/s	138 l/s	138 l/s
Max Home Size m ² (@ 2.4m)	60 m ²	100 m ²	145 m ²	208 m ²	208 m ²	208 m ²
Max no. Outlets	x 3	x 4	x 4	x 6	x 6	x 8
Max Duct to Furthest Outlet	8m	10m	12m	15m	15m	20m
Max no. Extracts	x 1	x 2	x 2	x 2	x 2	x 3
Max Duct to Furthest Extract	6m	6m	8m	10m	10m	12m
Duct Connection Spigot	120mm	150mm	150mm	200mm	200mm	200mm

When planning your installation, take particular note of:

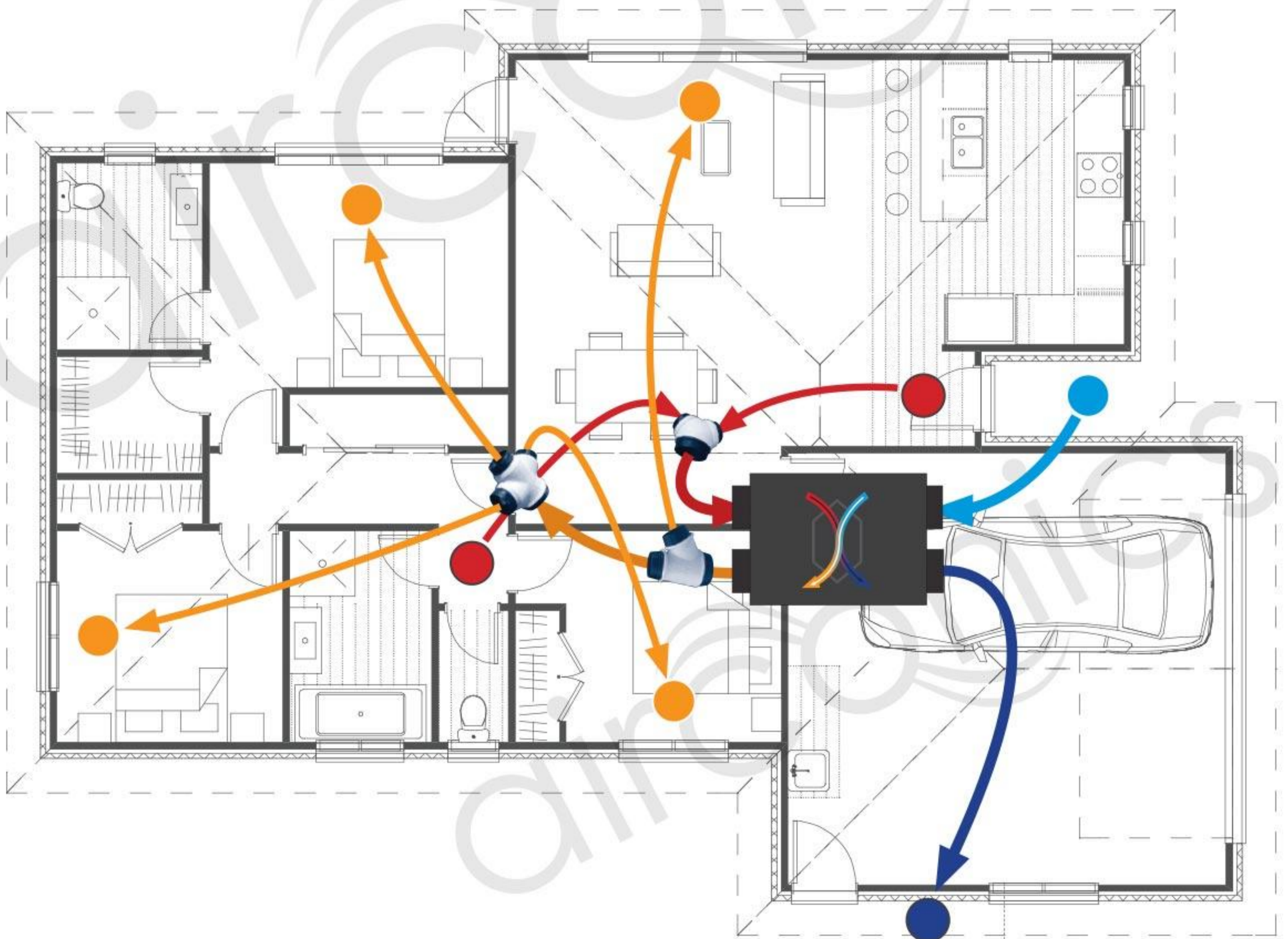
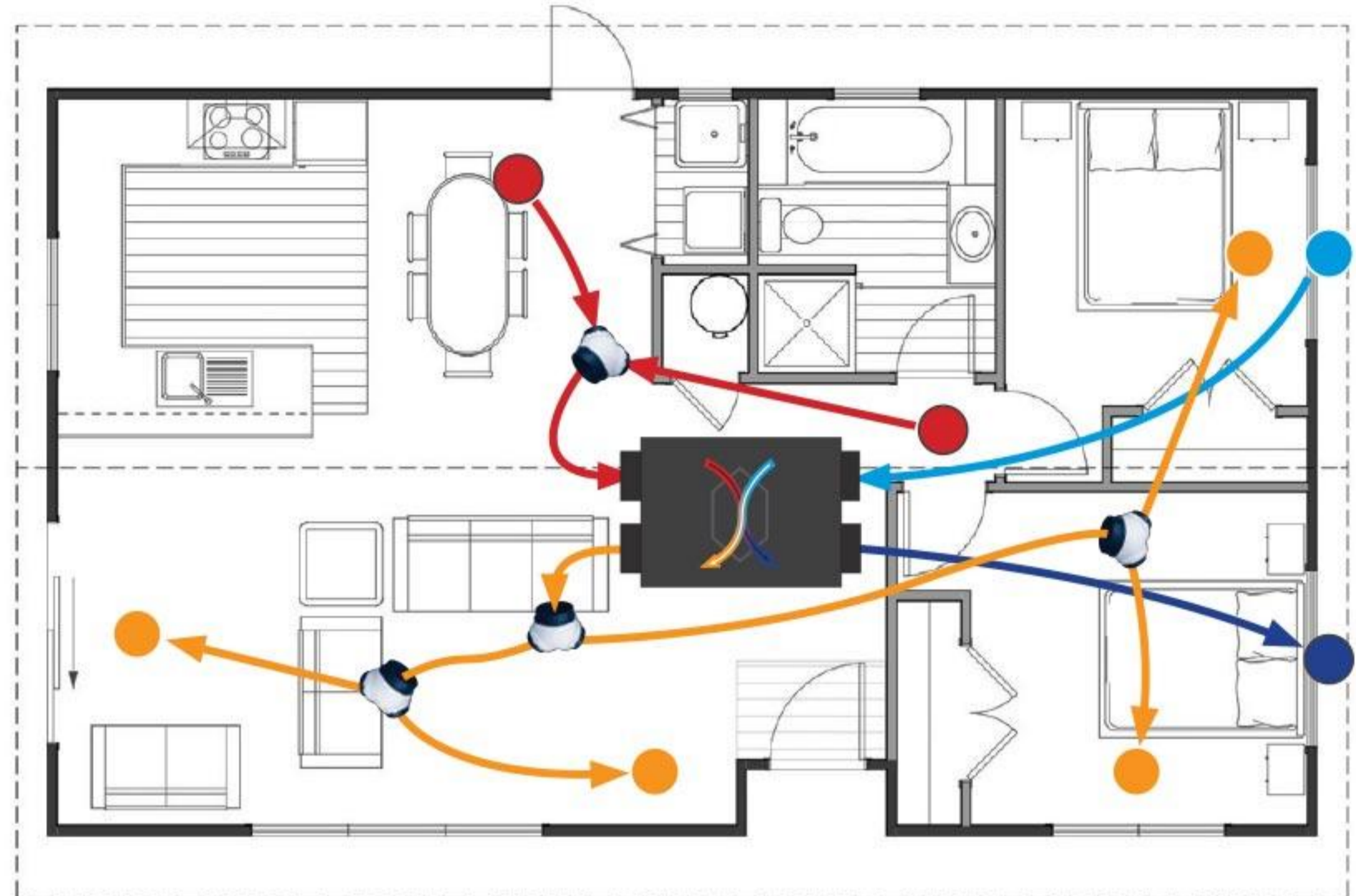
- Max numbers of and max distances to furthest outlets/extracts
- All guidelines on pages 18-19 around ensuring extracts maintain minimum distances to heat sources, bathrooms and cooking appliances, and that air intake maintains minimum distances to sewer breathers and gas appliance vents etc
- Mounting Clearances
- All Hazards, Warnings & Cautions in this document.

9. Installation: Typical Duct Layouts (Stand Alone)

Indicative illustrations only. Not to scale. Adhere to all guidelines in this document.

Key

- Extracts
- Outlets (Supply)
- Exhaust
- Fresh Air Intake



10. Installation: Duct Connection Basics

- Recommend PPC reinforced aluminium tape for connecting duct to appliance spigots.
- Ducts should be supported near where they connect to appliance to prevent tension from weight of duct causing disconnection in the future, and to ensure unrestrictive duct curve.
- For ALL connections & joins, roll the outer layer of the duct and the insulation back to tape the internal duct first. Then pull the insulation and outer layer back over the internal duct and tape the outer layer.
- For joining two lengths of duct together without using a joiner, first roll the outer layer & insulation back. Tuck one of the inner ducts inside the other by at least 50mm. Tape the join with plenty of overlap each side. Take care not to pull the tape too tight so that the duct does not collapse/distort out of shape. Pull the outer layers back into position and use the aluminium tape for the outer join, also taking care not to pull the tape too tight which would flatten the insulation inside, rendering it less effective.



Taping method for joining two lengths of duct without joiner



Air Splitter Selection:

- All air splitters should be insulated.
- The design/type of Air Splitters selected for your installation can be used to aid in even distribution of air without relying solely on dampers for balancing. In BTO & DBTO type splitters, more air will naturally flow through the centre/top spigot than a side spigot. As such, use centre/top spigots to supply larger rooms/areas or longer duct runs.
- On larger systems with 200mm spigots, use the air splitter to change duct size. For example use a 200/150/150 Y-Branch to join 2x 150mm extracts with a 200mm duct connected to the appliance.



Air Splitter
Y-Branch Type



Air Splitter
BTO Type



Air Splitter
DBTO Type

11. Maintenance: Overview & Frequency

It is essential to regularly clean filters and ERV heat exchangers to ensure the appliance will continue to operate safely and effectively. Blocked filters may result in damage to fan motors which would not be covered by warranty. Record maintenance in the last section of this manual.



WARNING!



CAUTION

Before Commencing Any Maintenance:

- If accessing ceiling cavity to perform maintenance tasks, ensure all persons doing so are trained and competent in safe work practices including; secure/sturdy places to stand/place weight, how to safely climb/crawl through confined spaces and how to mitigate heat exhaustion risks.
- Be sure to isolate power (appliance unplugged, breaker locked out, or mains switched off - not just switched off at socket) and wait at least 5 minutes until it is discharged before performing any maintenance.
- Only official equipment, and parts - including filters - provided by Airconics NZ are permitted to be used with the appliance, unless specific written instructions are given by Airconics to use third party parts/components.
- Once completed; clean up and fit all covers, panels and close lid securely before reinstating power supply. Remembering to check that no foreign objects have been left inside the unit. Marking to the equipment continues to be visible and legible.
- Do Not Operate the appliance without filters and ERV heat exchangers installed.

Notice to End Users:

End users are permitted to perform these regular maintenance tasks - cleaning/replacement of filters (excluding ION high voltage electro-static dust collector if fitted) and cleaning of ERV heat exchanger - provided they have read this manual in full, wear PPE, and are capable of doing so safely. Airconics do not permit cleaning inside the appliance, or cleaning of ION high voltage electro-static dust collector by users. Engage authorized dealer or technician for ION & internal cleaning if required.

Maintenance Frequency:

Frequency of maintenance will depend on environmental conditions of specific install.

First maintenance check should be performed after 3-months of operation as some locations may have environmental conditions that cause filters to become clogged more quickly. After this a judgement can be made as to ongoing frequency.

In most circumstances pre-filter should be cleaned 6-monthly, with 12-monthly replacement of HEPA filter and cleaning of ERV heat exchanger.

Maintenance Steps:

1. Isolate power and wait 5 minutes
2. Open front cover/lid (procedure can be found on page 9)
3. Remove filter/heat exchanger and clean/replace as detailed on following pages
4. Ensure any washed items are completely dry before reinstating
5. Close front cover/lid (procedure can be found on page 9)
6. Reinststate power supply

12. Maintenance: Pre-Filter

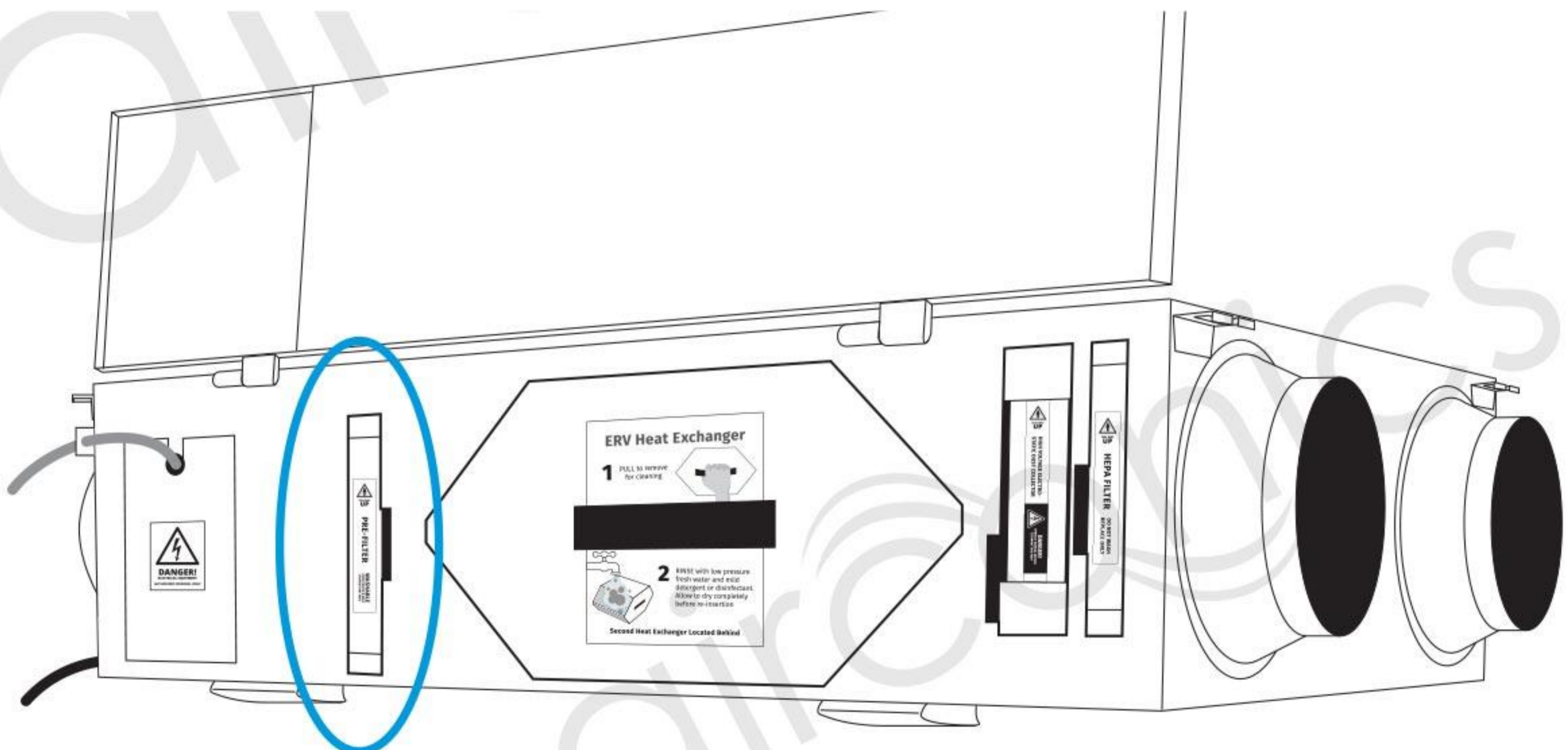
Before accessing or cleaning the Pre-Filter, please ensure you have read “Maintenance: Overview & Frequency” on page 10. Note that the Pre-Filter and HEPA Filter are not covered by warranty as they are consumable parts. Filter degradation and lifespan are affected differently by the environmental conditions of each install. Wear PPE during maintenance.



- This filter is washable but will need replacing if the structure of the filter material changes
- To wash, first rinse with warm running water*
- If additional cleaning is needed the filter can be soaked for 10mins in warm water with a small amount of mild dish soap, then rinsed with warm running water*
- Do not use general household cleaning products (especially surface sprays) as these can leave a residue that may affect performance, impede air flow, or degrade filter material
- If required filter can be sprayed with either Aironics Disinfectant or GreenLeaf Coil & Duct Disinfectant (no alternative brands are recommended)

- Allow to dry completely before reinserting
- Ensure filter is reinserted in the same orientation as it was originally installed
- Only reinstate power supply to the appliance after filters & heat exchangers are reinstated, and covers/lids are properly fitted/latched

* Notice: Warm running water must NOT be above 40°C or pressurized



Pre-Filter Location

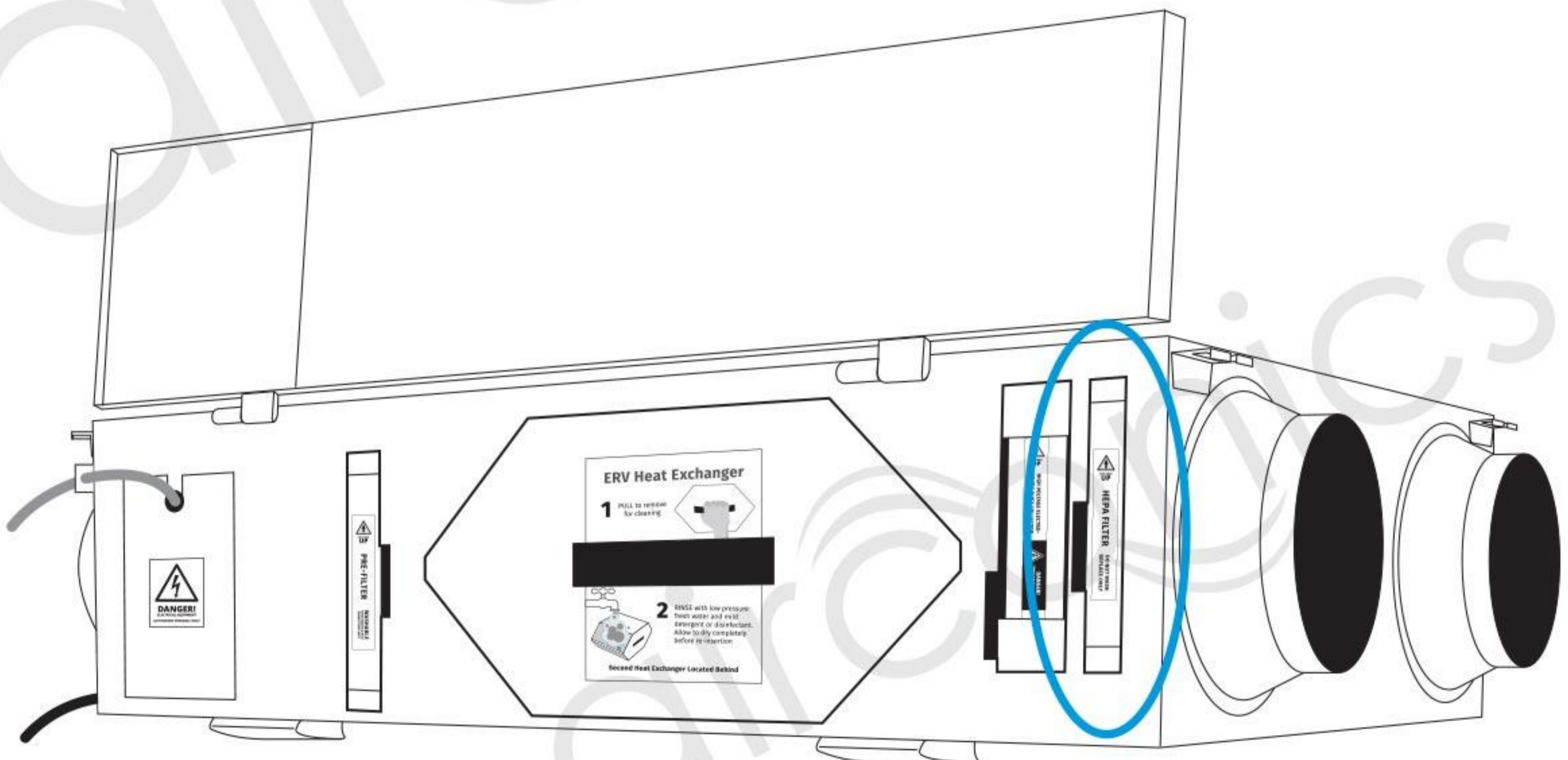
Note: In some models the order of electrical terminals > pre-filter > heat exchanger > ION high voltage electro-static dust collector > HEPA filter is reversed/mirrored

13. Maintenance: HEPA Filter

Before accessing or replacing the HEPA Filter, please ensure you have read “Maintenance: Overview & Frequency” on page 23. Note that the Pre-Filter and HEPA Filter are not covered by warranty as they are consumable parts. Filter degradation and lifespan are affected differently by the environmental conditions of each install. Wear PPE during maintenance.



- This filter is not washable - replace with a genuine Airconics supplied HEPA filter only
- HEPA filter lifespan will vary from install to install based on environmental conditions (amount of fine particulates, dust & pollen in the air)
- Filter should be checked 3-months after install to assess how clogged it is and plan a maintenance schedule
- Replacement in most situations will be 12 monthly, however some environments may require much more frequent replacement
- Only reinstate power supply to the appliance after filters & heat exchangers are reinstated, and covers/lids are properly fitted/latched



HEPA Filter Location

Note: In some models the order of electrical terminals > pre-filter > heat exchanger > ION high voltage electro-static dust collector > HEPA filter is reversed/mirrored

14. Maintenance: ERV Heat Exchangers

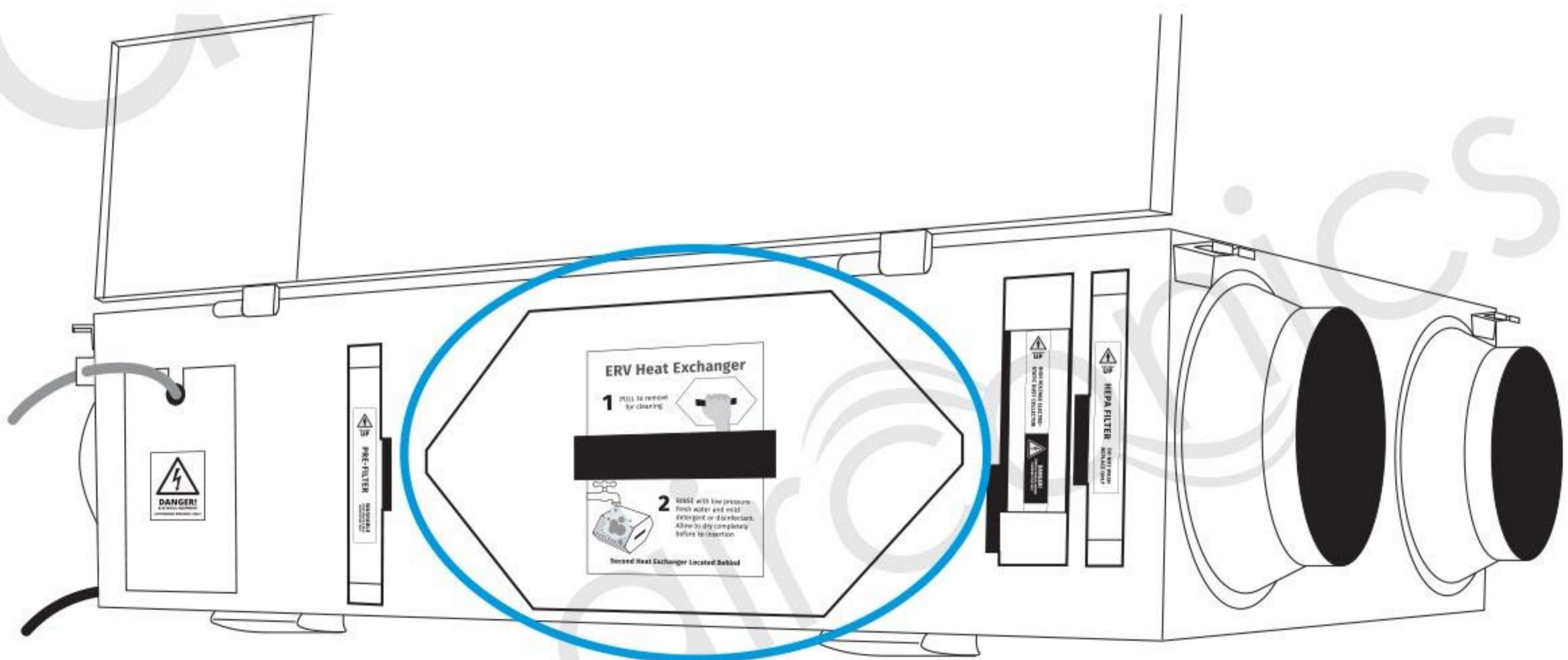
Before accessing or cleaning the ERV Heat Exchangers, please ensure you have read “Maintenance: Overview & Frequency” on page 10. Note that the heat exchangers are made with delicate, fine layers of resin which may stiffen over time and should be handled gently. Damage caused by rough handling is not covered by warranty. Wear PPE during maintenance.



- To wash, first rinse with warm running water*
 - If additional cleaning is needed the heat exchangers can be soaked for 10mins in warm water with a small amount of mild dish soap, then rinsed with warm running water*
 - Do not use general household cleaning products (especially surface sprays) as these can leave a residue that may affect performance, impede air flow, or degrade heat exchanger
 - If required it can be sprayed with either Airconics Disinfectant or GreenLeaf Coil & Duct Disinfectant (no alternative brands are recommended)
 - Allow to dry completely before reinserting
 - Ensure heat exchangers are inserted in the same orientation as originally installed
- Only reinstate power supply to the appliance after filters & heat exchangers are reinstated, and covers/lids are properly fitted/latched

* Notice: Warm running water must NOT be above 40°C or pressurized

Note: Second heat exchanger is located behind first. Heat exchangers may require a “wiggle” while sliding out as the rivets around the housing can catch slightly on the inside edges of the appliance case.



ERV Heat Exchangers Location

Note: In some models the order of electrical terminals > pre-filter > heat exchanger > ION high voltage electro-static dust collector > HEPA filter is reversed/mirrored

15. Maintenance: ION High Voltage Electro-Static Dust



WARNING!



CAUTION



ELECTRICAL HAZARD EXISTS

ION High Voltage Electro-Static Dust Collector is NOT permitted to be cleaned by end users. The information on this page is provided for installer/technician servicing only.

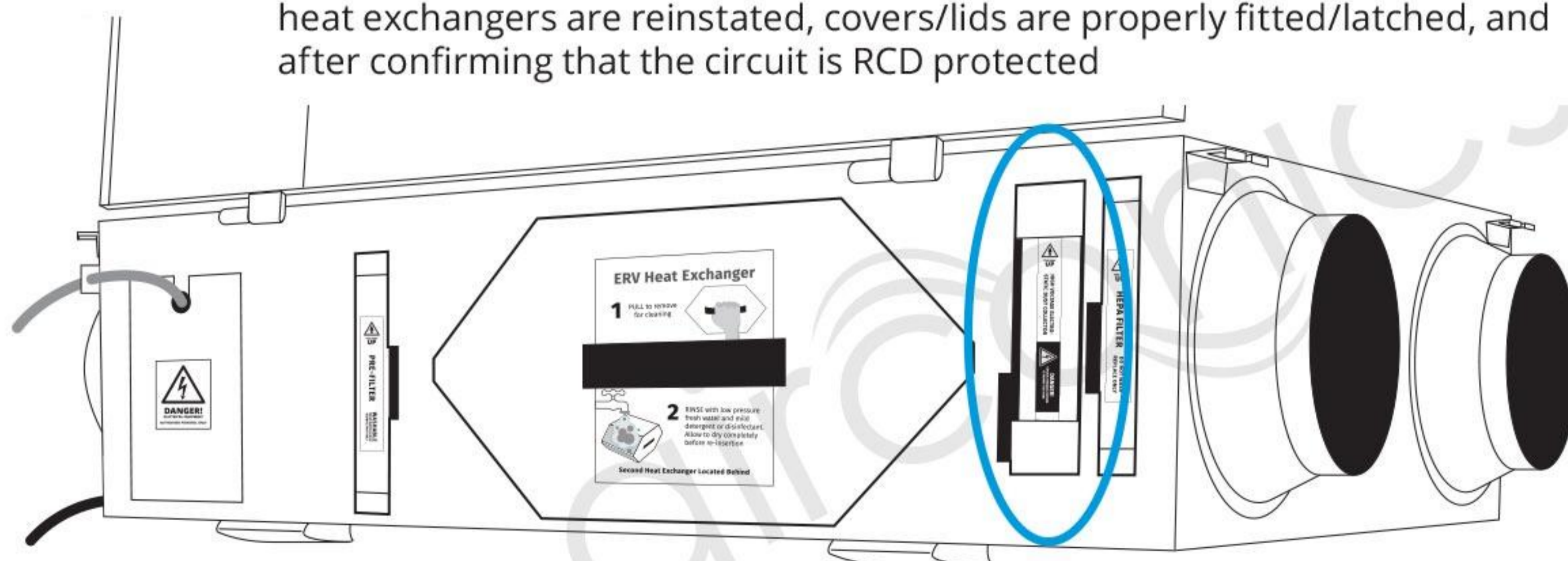
Please ensure installer/technician read "Maintenance: Overview & Frequency" on page 23. Wear PPE during maintenance.



Note: This ION High Voltage Electro-Static Dust Collector is only installed in some models. Models containing this ION module must be installed on a dedicated 10A RCD protected circuit. If not RCD protected, disconnect power supply and rectify before reinstating.

- ION Dust Collector maintenance frequency will vary from install to install based on environmental conditions (amount of fine particulates, dust & pollen in the air)
- ION Dust Collector should be checked 3-months after install to assess how dirty it is and plan a maintenance schedule
- Cleaning in most situations will be 12 monthly, however some environments may require much more frequent cleaning

- Ensure power is isolated for 5 minutes before removal
- Carefully slide the ION module out and unplug it
- To clean, first dust the sides of the module with a soft dry brush
- Then blow compressed air through it to remove internal dust
- Visually confirm that the fine metal pins inside are still straight and have not been bent or are near the surrounding metal parts - straighten if needed
- Plug the ION module back in, taking care to maintain correct polarity
- Only reinstate power supply to the appliance after ION module, filters and heat exchangers are reinstated, covers/lids are properly fitted/latched, and after confirming that the circuit is RCD protected



ION Dust Collector Location

Note: In some models the order of electrical terminals > pre-filter > heat exchanger > ION high voltage electro-static dust collector > HEPA filter is reversed/mirrored

16. Troubleshooting

Checking if filters or heat exchangers need cleaning is permitted for end users provided they have read the maintenance section of the installation or user manual and are competent to perform the maintenance safely. All other checks are to be performed by an installer/technician, not by the end user. Read installation manual in full before commencing any tasks and follow all guidelines, cautions, & warnings.

No air flow / limited air flow:

1. Check if filters need cleaning/replacing
2. Check if heat exchanger needs cleaning/replacing
3. Check if ducting has fallen off or has restrictions
4. Check that air intake is not blocked
5. Check if it is due to low fan speed setting on control panel or improper fan wiring at terminal block and at control panel
6. Ascertain if both fan motors are functioning
7. Listen for abnormal fan noise and check for loose fan wheel or bearing problem
8. Contact Airconics for advice

Control panel display is blank:

1. Check if appliance has power
2. Check comms/control cable connections are correct at both ends
3. Check comms/control cable for damage (inspect for rodent or mechanical damage and confirm continuity of each core)
4. Contact Airconics for advice

Abnormal sound:

First, please listen closely to ascertain where sound is coming from

- If abnormal sound is coming from appliance casing

1. Check if appliance is securely mounted - nuts/fixings all tight
2. Check if appliance levelled and not distorted/twisted

- If abnormal sound is coming from vibration through appliance to structure/framing

3. Install rubber isolating mounts to reduce vibration
4. Reinforce the structure or move appliance to a more sturdy location

- If abnormal sound is coming from fan(s)

5. Check if fans are over-worked due to blocked duct or clogged filters/heat exchangers
6. Check if fan mounting has become loose
7. Check for loose fan wheel or bearing problem

- If abnormal sound is coming from inside ducting

8. Check for loose material or duct "flapping" at joins
9. Check for restrictions in ducting (tight bends, collapsed/squashed etc)
10. Contact Airconics for advice

17. 5-Year Warranty Terms & Conditions

Warranty Statement

No part of these terms & conditions shall override any consumer protections as set out under the New Zealand Consumer Guarantees Act

This Airconics NZ warranty is valid only in NZ and applies to official Airconics brand residential ERV systems with a model number specified in this installation/user manual and purchased either via Airconics NZ directly or through an authorized reseller/distributor. Airconics NZ carries no responsibility or liability for any system purchased either second hand or outside of its authorized reseller/distributor network, or installed in any manner contrary to those outlined in the corresponding installation manual.

Appliance is warranted against failure from manufacturing defect or part failure for five (5) years from the date of installation which is to be verifiable via end user proof of purchase invoice/ESC/COC. In the event that the property in which the appliance has been installed is sold, the remainder of the warranty may be transferred to the new property owner provided the new property owner has been given a copy of the proof of purchase and followed maintenance procedures and other guidelines as set out in the installation and user manuals.

This warranty is for normal use only and excludes any defect or injury caused by, or resulting from misuse, abuse, neglect, accidental damage, improper power supply or voltage, vermin infestation, any alteration not approved in writing by Airconics directly, or any installation which does not follow the guidelines in the installation manual, not attributable to manufacturing defect or faulty parts.

Warranty Exclusions:

- a. Acts of God, misuse, negligence, natural disaster, environmental intrusion (including, but not limited to: Hail, Snow, Freezing, Lightning, Flood, Fire, High Wind)
- b. Rust or damage caused by corrosive atmosphere (including, but not limited to: Salt and Sulfur)
- c. Where installed in a manner contrary to the guidelines set out in the appliance installation manual or by persons not qualified to do so
- d. Where serviced in a manner contrary to the guidelines set out in the appliance installation manual or by persons not qualified to do so
- e. Where repaired in a manner contrary to the guidelines set out in the appliance installation manual or contrary to repair documents or instructions provided by Airconics, or without seeking those documents to follow, or where repaired by persons not qualified to do so
- f. Where unauthorised parts, filters or "add on" equipment are used
- g. Failure due to improper maintenance - refer to maintenance section of operating manual for requirements
- h. No fault found service calls where the perceived problem is explained within the Installation Manual or Appliance User Guide or Control Panel User Guide
- i. Consumable items (eg. Filters)
- j. Other parts or components required for installation but not supplied as part of the appliance package (including, but not limited to: ducting, air splitters, diffusers)
- k. Other connected equipment not manufactured by Airconics

If warranty service is required you should:

- a. Contact the original installer in the first instance
- b. Provide a copy of this Warranty Statement with the installation information at the bottom of this page completed, records of servicing & maintenance performed, and with a copy of proof of purchase

Installation Manual, User Guides & Warranty Statement should be retained by the end user at all times.

If you require any assistance regarding warranty conditions, or have any other enquiry please contact:

Airconics NZ
38 Lombard Street, Central, Palmerston North 4410
Phone: 06 354-9936 or 0800 Y B COLD
Email: patrick@airconics.co.nz

Purchase & Installation Particulars (please complete)

Model Number: _____

Serial Number: _____

Supplier Name & Address: _____

Supplier Phone: _____

Installer Name & Address: _____

Installer Phone: _____

Install Date: _____

Purchaser/Home Owner: _____

Address of Installation: _____

Please retain proof of purchase and store with this document to validate warranty.

Please keep maintenance or service work records on the following pages.

18. Maintenance, Service & Repair Record

Date: ____ / ____ / ____ Company: _____

Representative/Persons: _____ Contact Ph: _____

Details of work performed: _____

Date: ____ / ____ / ____ Company: _____

Representative/Persons: _____ Contact Ph: _____

Details of work performed: _____

Date: ____ / ____ / ____ Company: _____

Representative/Persons: _____ Contact Ph: _____

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Details of work performed: _____

Maintenance, Service & Repair Records

Date: ____ / ____ / ____ Company: _____

Representative/Persons: _____ Contact Ph: _____

Details of work performed: _____

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Representative/Persons: _____ Contact Ph: _____

Details of work performed: _____

Date: ____ / ____ / ____ Company: _____

Representative/Persons: _____ Contact Ph: _____

Details of work performed: _____

ATTENTION INSTALLERS

Please leave ALL supplied installation and user manuals with the end user. These may be required for future service/maintenance/repair work.

If further information is needed please visit
www.airconics.nz