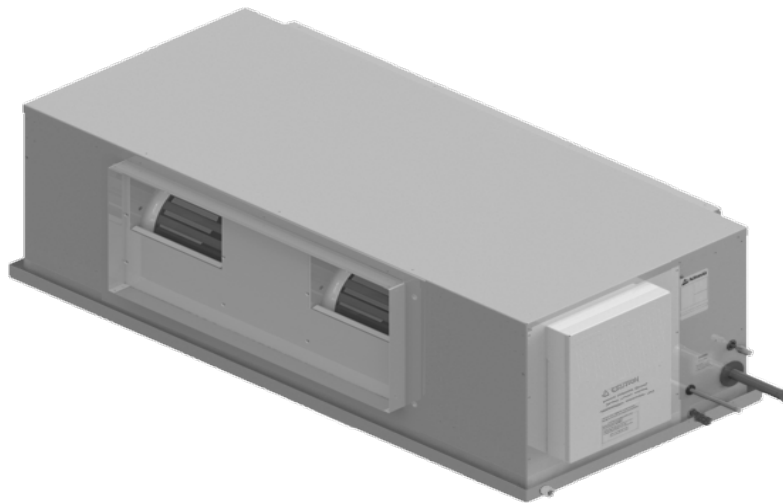


Classic Series 2 Split Ducted Unit

Installation and Commissioning Guide - Indoor



Model Numbers

Single Fan Coil	Split Fan Coil**
EVA100S*	EAA130S & EFA130S
EVA130S	EAA150S & EFA150S
EVA150S	EAA170S & EFA170S
EVA170S	EAA200S & EFA200S
EVA200S	EAA230S & EFA230S
EVA230S	

* Above unit illustration shown is an EVA130S unit.
EVA100S has a single fan configuration.

** Split fan coil has a separate coil and fan section.

IMPORTANT NOTE:

Please read this manual carefully before installing or operating your air conditioning unit.

That's better. That's Actron.



ActronAir

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01. Introduction

CONGRATULATIONS on your purchase of an ActronAir air conditioning system! This unit has been designed and engineered to provide optimum air conditioning and to achieve maximum energy efficiency.

Your air conditioning system has been manufactured from the highest quality materials. Numerous “in house” and “external” inspection and test procedures were conducted to your air conditioning to ensure satisfactory operation.

01.01. Information About This Guide

This guide provides installation instructions, specific to your split ducted indoor unit. Read this manual thoroughly and take into consideration all specifications and instructions to ensure correct installation and safe operation of your air conditioning system.

IMPORTANT

Keep this document for future reference. Ensure all technicians that work on the unit can refer to this manual at any time.

01.02. Product Inspections

Check your air conditioning unit and all items against the invoice upon receiving your shipment. Inspect the unit, components and accessories for any sign of damage. If there is any damage to the unit, contact ActronAir Customer Care Department immediately on: **1300 522 722** to obtain a Goods Return Number.

Check the unit nameplate to verify the model, serial number, electrical rated specifications are correct.

01.03. Codes, Regulations And Standards

The installer and/or contractor assumes responsibility to ensure that unit installation complies with the relevant council, state / federal codes, regulations and building code standards. All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided with the unit.

01.04. Important Safety Symbols And Labels

Safety Symbols and labels appear at appropriate sections throughout this manual to indicate immediate or potential hazards. Pay full attention and comply to the safety information and instructions. Failure to follow safety instructions increases the risks of personal injury, death and/or property damage. Damages to the product as a result of such failure may void warranty.

ActronAir has endeavoured to provide sufficient safety warnings and recommendations, however current and prevailing WH&S regulations must be observed and will take precedent whenever performing the installation instructions discussed in this manual.

02. Safety Instructions

- Only licensed HVAC technicians* should install and service this air conditioning equipment. Improper service or alteration by an unqualified technician could result in significant and major damage to the product or property which may render your warranty null and void. Such unqualified service could also lead to severe physical injury or death. Follow all safety instructions in this literature and all warning labels that are attached to the equipment.
- Prevailing WH&S regulations must be observed and will take precedence to the safety instructions contained on this manual. Safe work practices and environment must be the paramount importance in the performance of all the service procedures.
- Ensure that unit installation complies with relevant council regulations and building code standards.
- All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided.
- Secure the fans against accidental contact. Beware of pinch point and sharp edges which can cause cutting injury.
- Always wear appropriate PPE, remove any dangling jewellery and protect long hair by wearing a cap.
- Make sure that safety guards and panel covers are always firmly secured and not damaged.
- This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.
- Installer must incorporate a means of electrical disconnection (isolator) in the sub mains fixed wiring in accordance with the latest edition of the AS/NZS 3000 (also known as Australian Wiring Rules).
- Secure the power cords and control cables that goes in/out the unit. Use the cable ties provided in the control box.

*Qualifications required will be appropriate Electrical, Refrigeration and Refrigerant Handling License and Training dependent on local State/Territory regulations.

DANGER

Hazardous Voltage - Risk of Electrocutation.

TURN-OFF the power from main isolator before proceeding with any service work of the unit. Observe proper LOCK-OUT/TAGOUT (LOTO) procedures for electrical appliances in order to prevent accidental switching-on of the power supply.

CAUTION

Beware of Rotating Fans!

Ensure that indoor and outdoor fans are isolated and have come to a complete stand still before servicing the equipment.

Beware of pinch point and sharp edges which can cause cutting injury. Secure the fans against accidental contact.

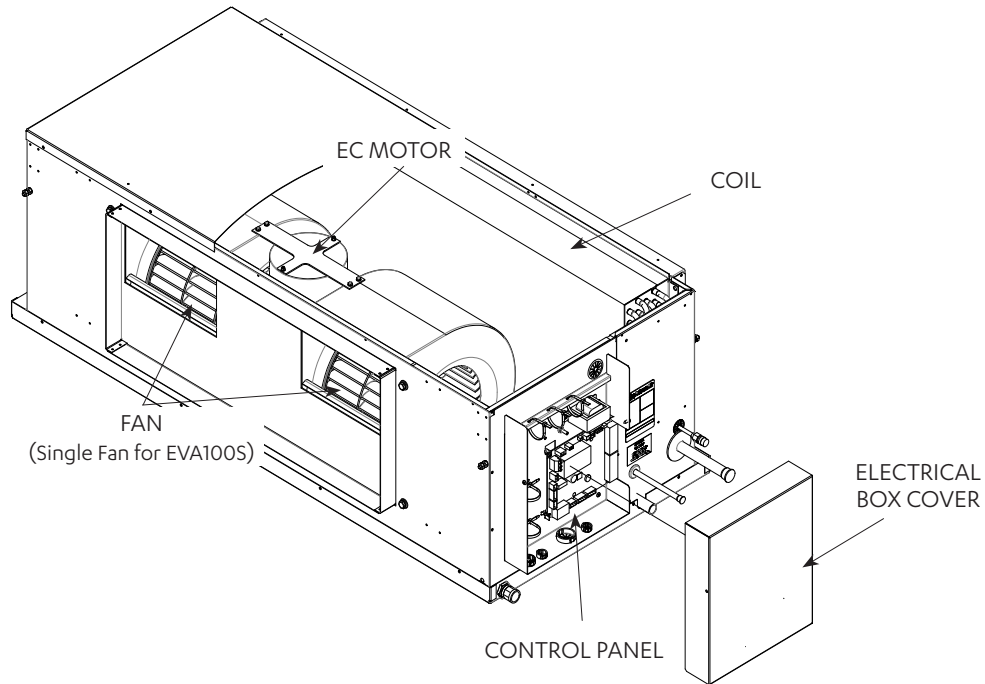
Always wear appropriate PPE and remove any dangling jewellery and protect long hair by wearing a cap. Ensure that no loose clothing can be caught / entangled in moving parts.

VISUAL INSPECTION AND WORK ASSESSMENT

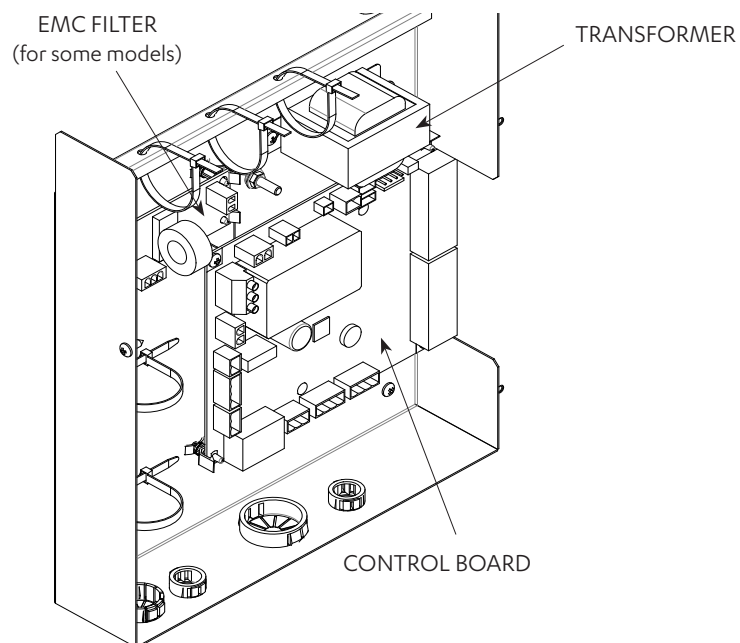
Work areas and conditions must first be assessed and evaluated for any potential hazardous conditions. It is also important to be familiar with the unit parts and components before proceeding with any service task.

03. Components Overview

03.01. Indoor Unit Components Overview

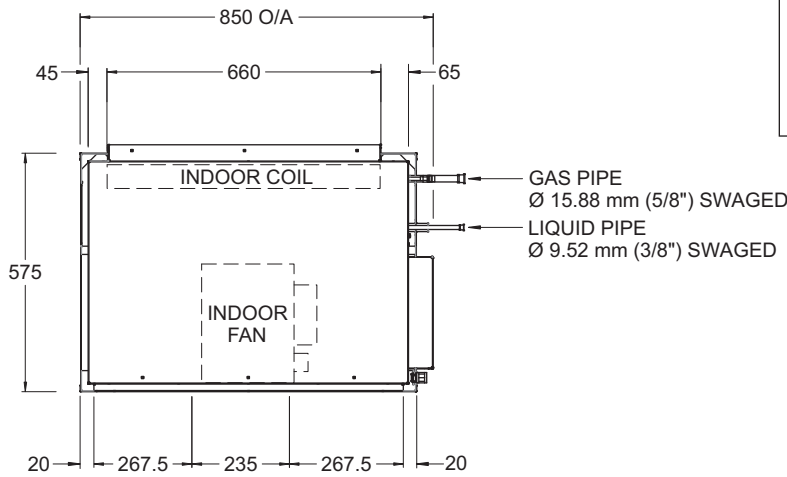


03.02. Indoor Unit Electrical Panel Overview



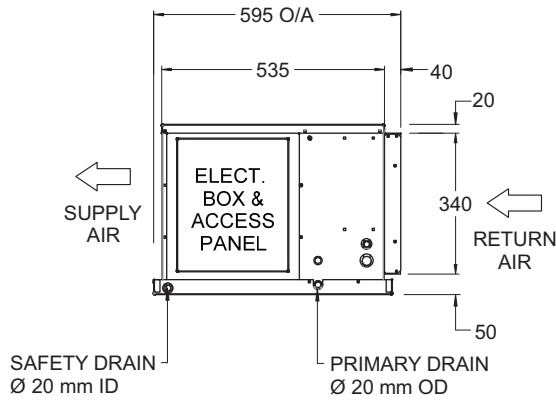
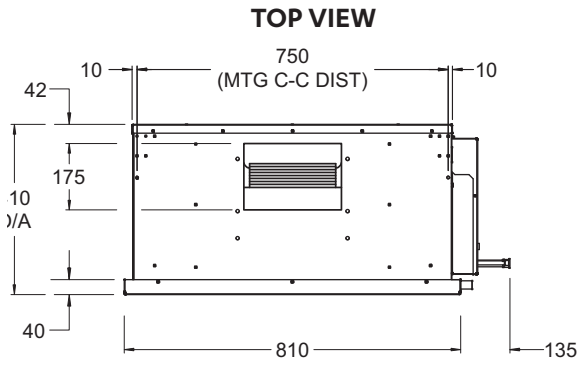
04. Unit Dimensions and Clearances

04.01. EVA100S

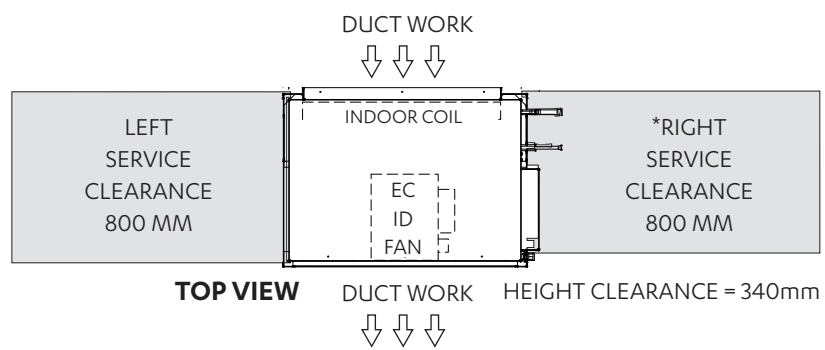


OVERALL NOMINAL DIMENSION (H X W X D)
= 410 X 850 X 595
SUPPLY DUCT (H X W) = 175 X 235 (NO FLANGE)
RETURN DUCT = 340 X 660
CONDENSATE DRAIN CONNECTION = 20mm OD

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EVA100S	37



FRONT VIEW SIDE VIEW
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES



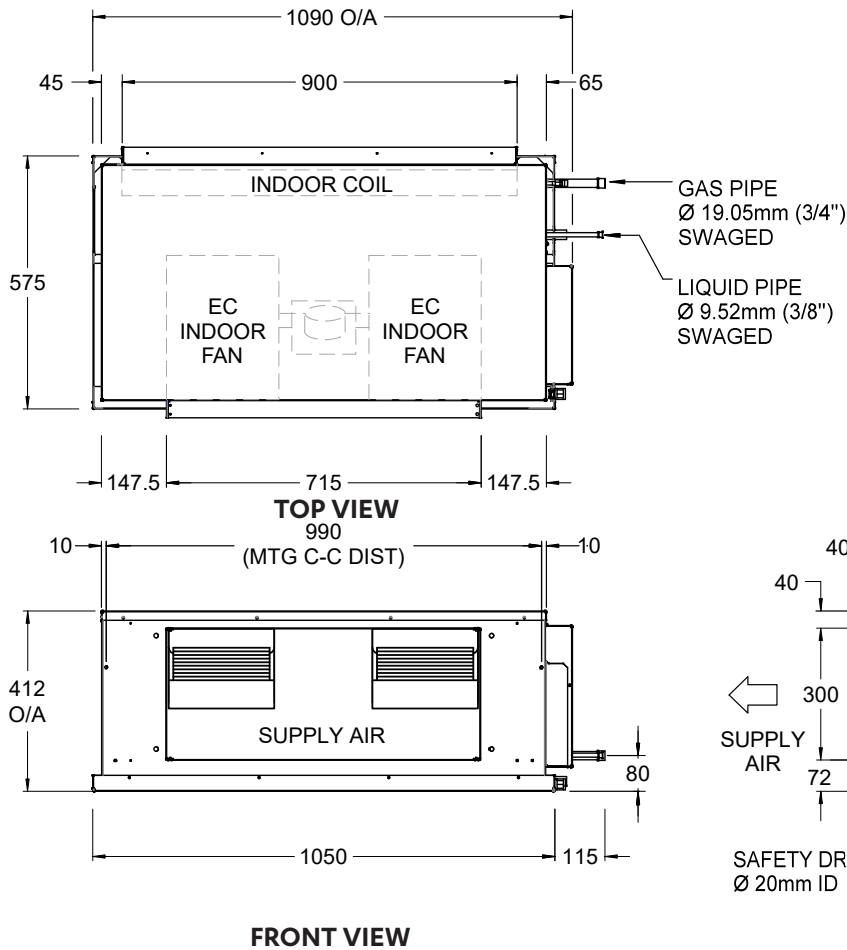
* Electrical box and/or pipe connections are located on the Right side of the indoor unit.

NOTES:

- Do not scale drawing. All dimensions are in mm unless specified.
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.
 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

THIRD ANGLE PROJECTION

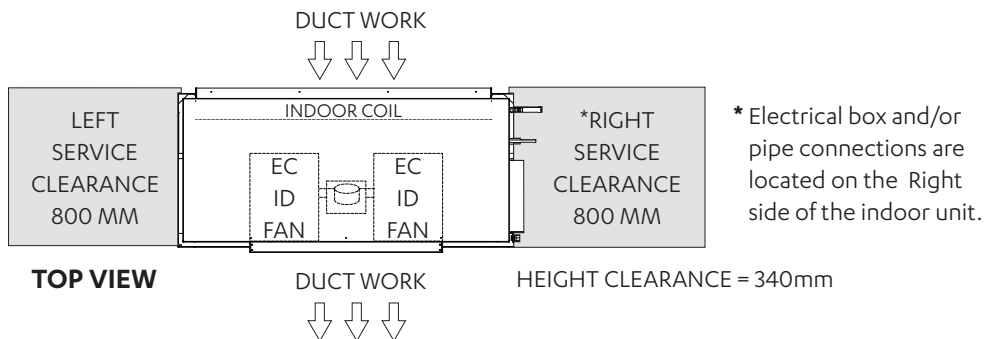
04.02. EVA130S



OVERALL NOMINAL DIMENSION (H X W X D)
 = 412 X 1090 X 615
 SUPPLY DUCT (H X W) = 300 X 715
 RETURN DUCT = 340 X 900
 CONDENSATE DRAIN CONNECTION = 20mm OD

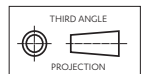
UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EVA130S	49

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES

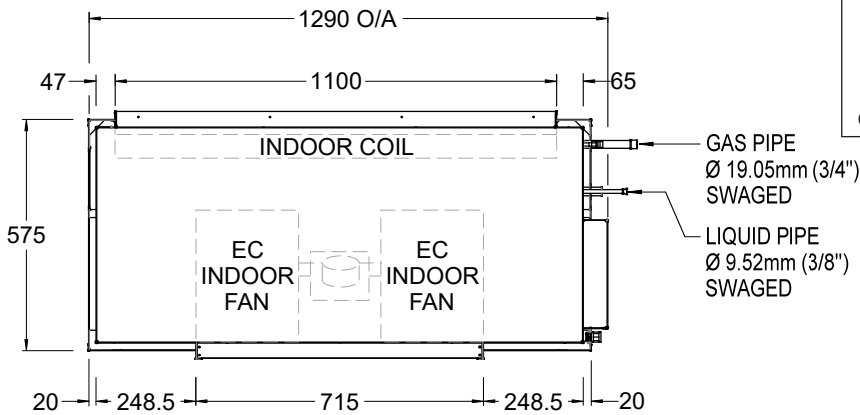


NOTES:

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 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

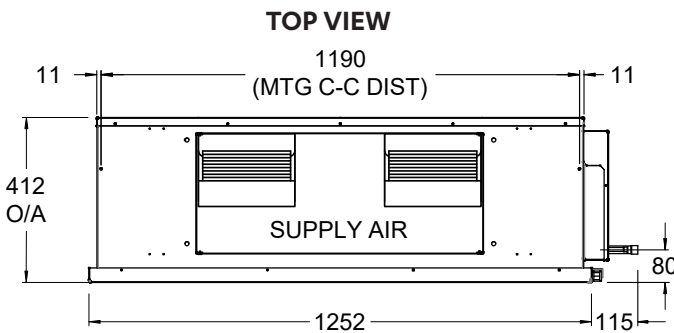


04.03. EVA150S / EVA170S

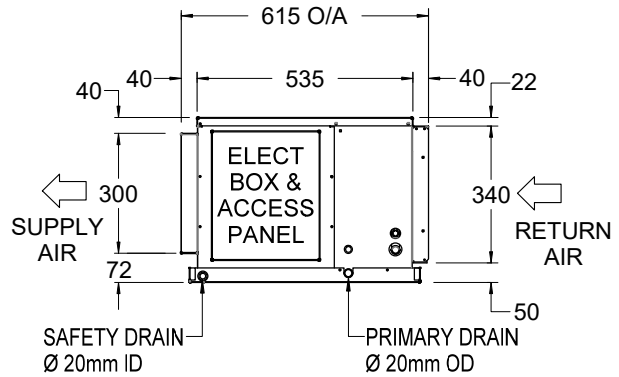


OVERALL NOMINAL DIMENSION (H X W X D)
= 412 X 1290 X 615
SUPPLY DUCT (H X W) = 300 X 715
RETURN DUCT = 340 X 1100
CONDENSATE DRAIN CONNECTION = 20mm OD

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EVA150S	53
EVA170S	56

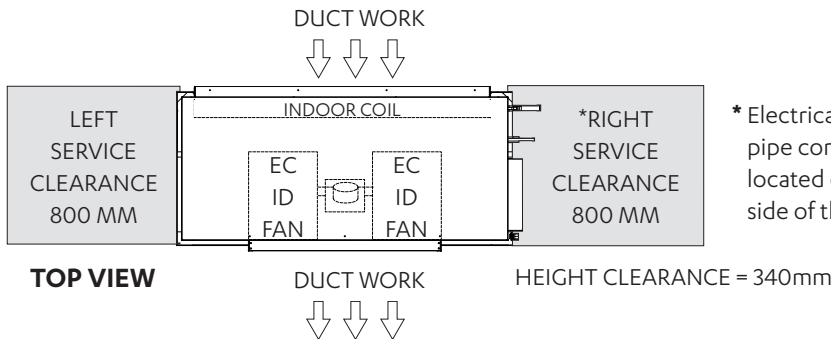


FRONT VIEW



SIDE VIEW

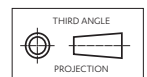
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES



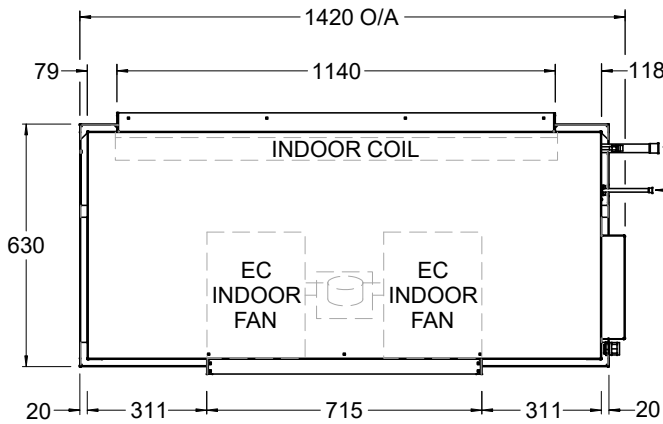
* Electrical box and/or pipe connections are located on the Right side of the indoor unit.

NOTES:

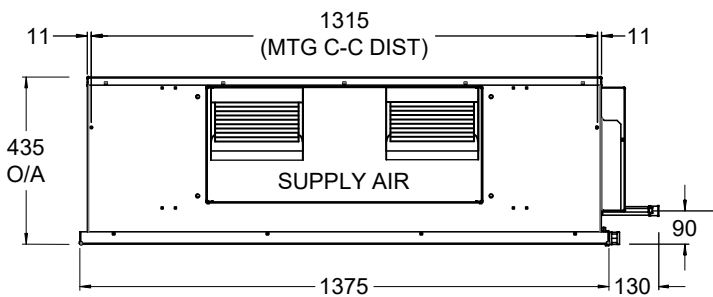
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 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.



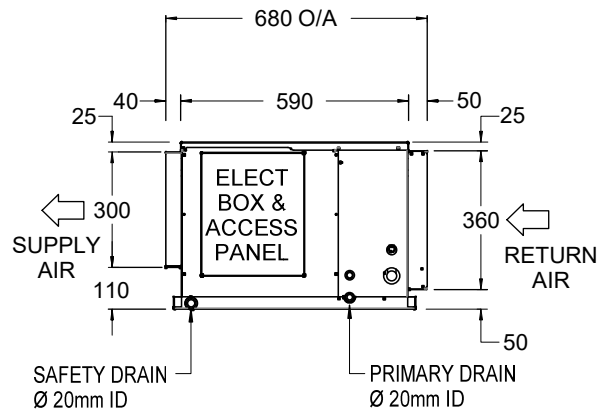
04.04. EVA200S



TOP VIEW



FRONT VIEW

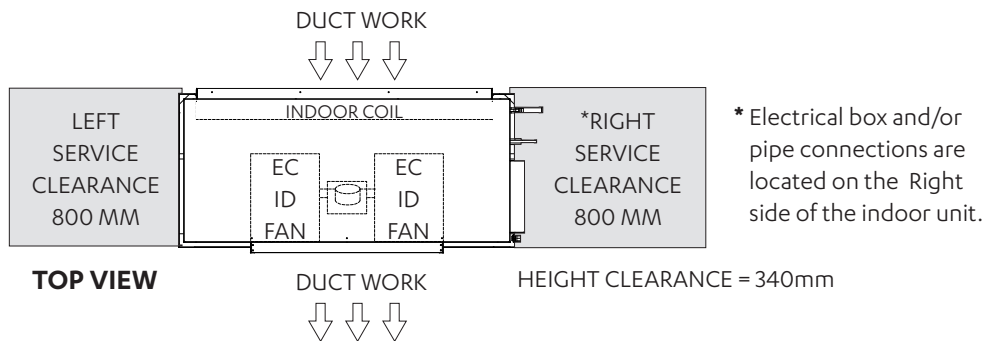


SIDE VIEW

OVERALL NOMINAL DIMENSION (H X W X D)
 = 435 X 1420 X 680
 SUPPLY DUCT (H X W) = 300 X 715
 RETURN DUCT = 360 X 1140
 CONDENSATE DRAIN CONNECTION = 20mm OD

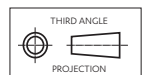
UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EVA200S	72

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES

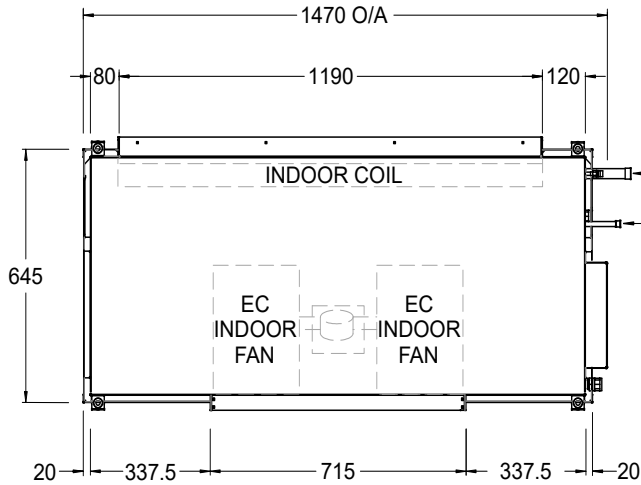


NOTES:

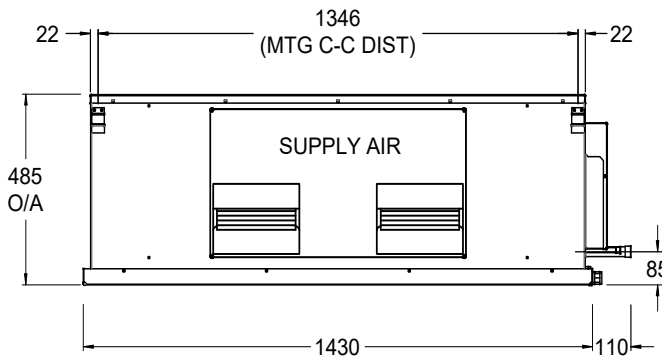
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 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.



04.05. EVA230S



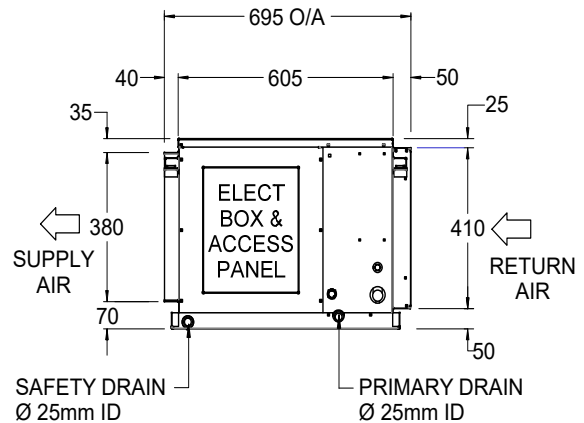
TOP VIEW



FRONT VIEW

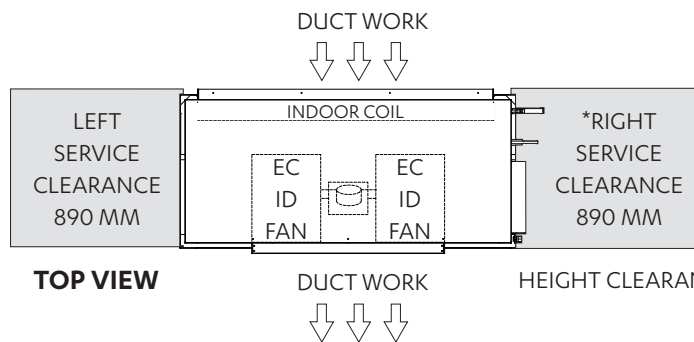
OVERALL NOMINAL DIMENSION (H X W X D)
= 485 X 1470 X 695
SUPPLY DUCT (H X W) = 380 X 715
RETURN DUCT = 410 X 1190
CONDENSATE DRAIN CONNECTION = 20mm OD

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EVA230S	78



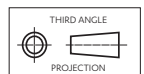
SIDE VIEW

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES



TOP VIEW

* Electrical box and/or pipe connections are located on the Right side of the indoor unit.



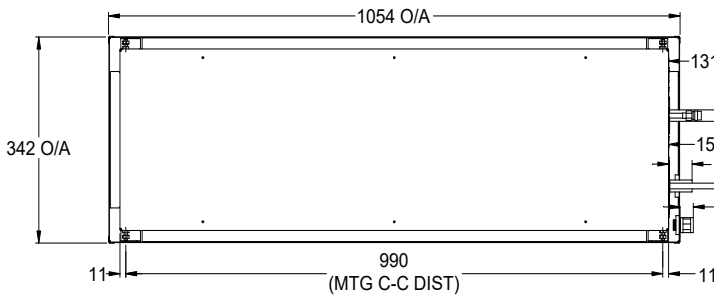
NOTES:

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 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

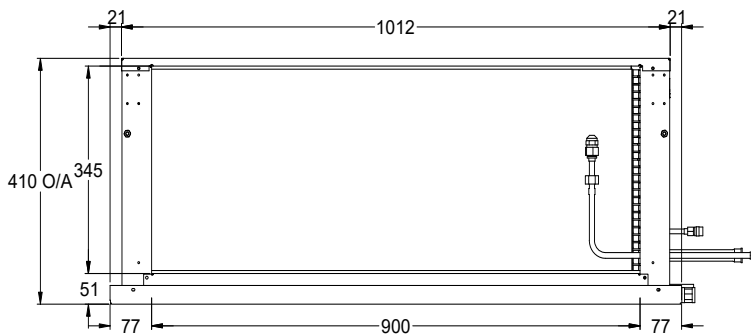
05. Two-Piece Fan Coil

05.01. Coil Section

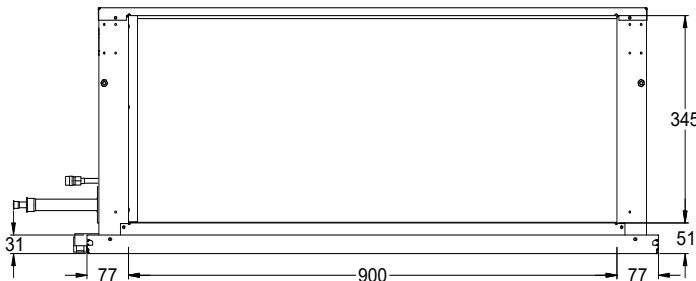
EAA130S



TOP VIEW

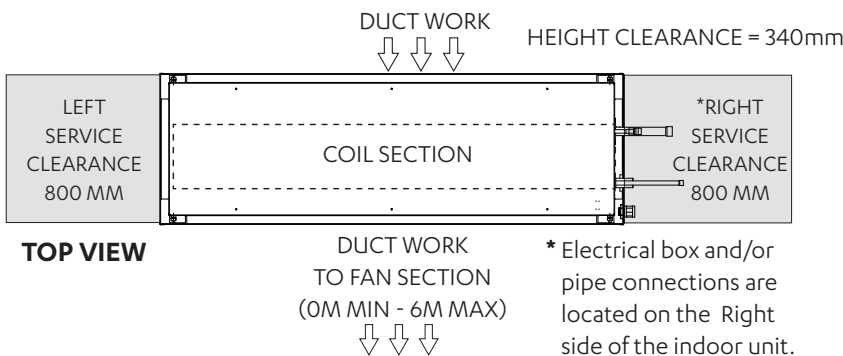


FRONT VIEW - SUPPLY AIR



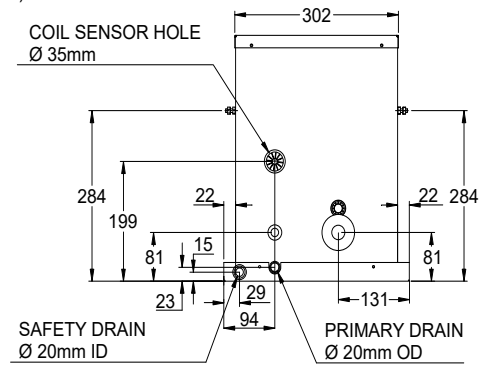
REAR VIEW - RETURN AIR

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES



TOP VIEW

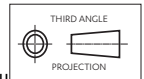
OVERALL NOMINAL DIMENSION
(H X W X D)
= 410 X 1054 X 342
SUPPLY DUCT (H X W) = 345 X 900
RETURN DUCT = 345 X 900



SIDE VIEW

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EAA130S	24

NOTES:



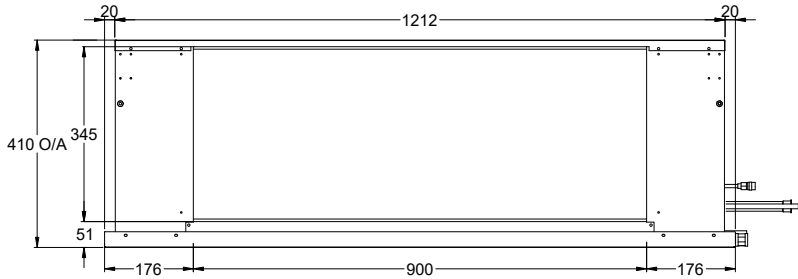
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- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.
 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

EAA150S / EAA170S

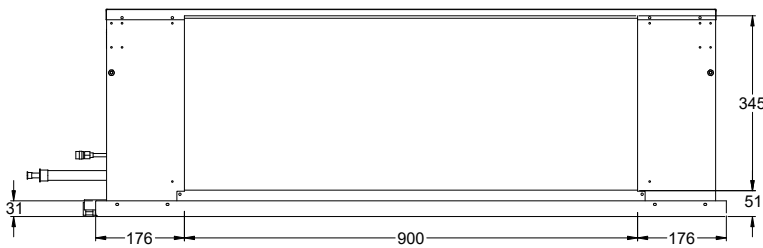
OVERALL NOMINAL DIMENSION (H X W X D)
= 410 X 1252 X 342
SUPPLY DUCT (H X W) = 345 X 900
RETURN DUCT = 345 X 900



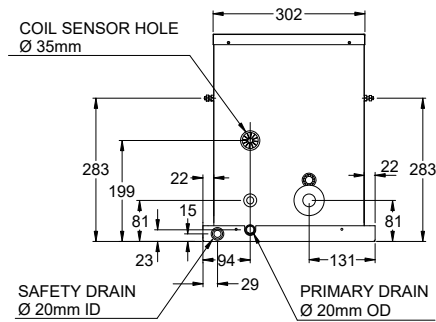
TOP VIEW



FRONT VIEW - SUPPLY AIR



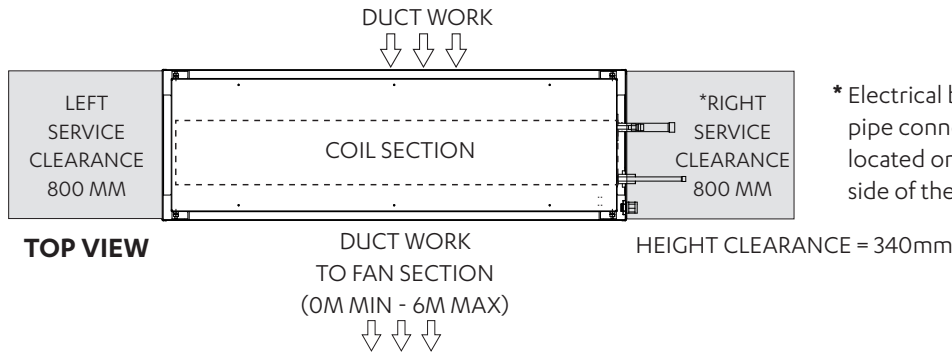
REAR VIEW - RETURN AIR



SIDE VIEW

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EAA150S	27
EAA170S	29

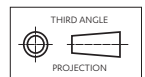
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES

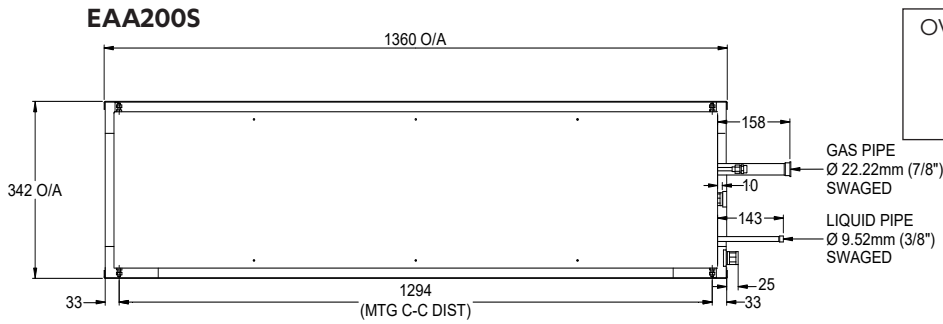


* Electrical box and/or pipe connections are located on the Right side of the indoor unit.

NOTES:

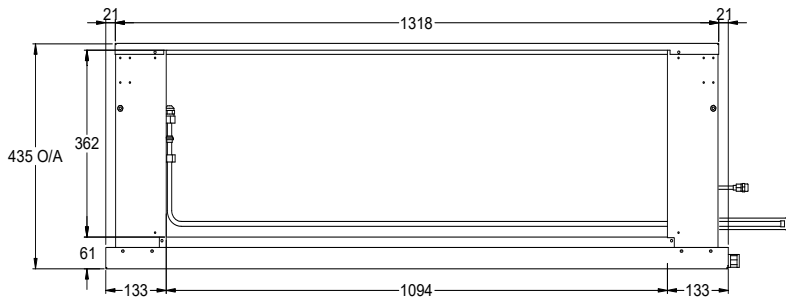
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 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.



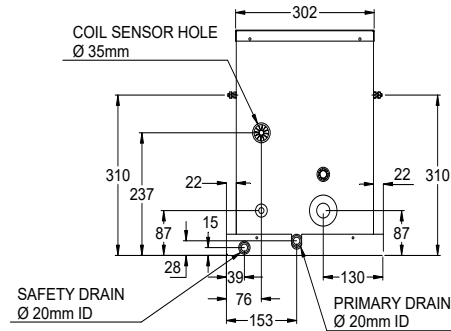


TOP VIEW

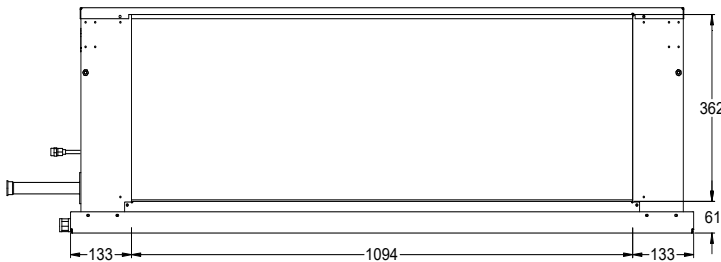
OVERALL NOMINAL DIMENSION (H X W X D)
= 435 X 1360 X 342
SUPPLY DUCT (H X W) = 362 X 1094
RETURN DUCT = 362 X 1094



FRONT VIEW - SUPPLY AIR



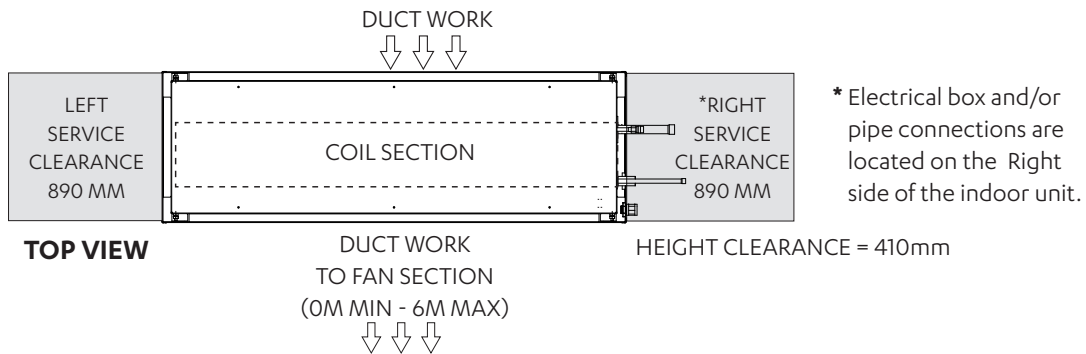
SIDE VIEW



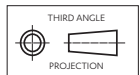
REAR VIEW - RETURN AIR

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EAA200S	39

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES

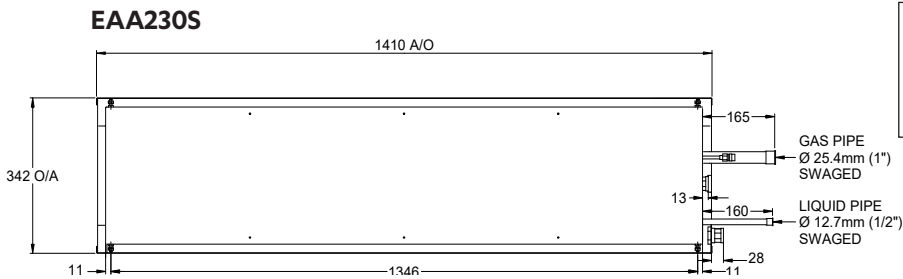


TOP VIEW

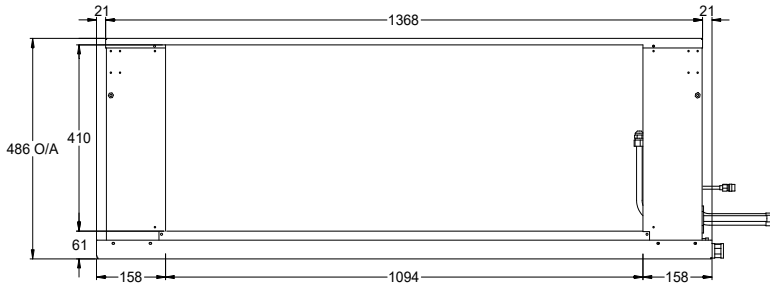


NOTES:

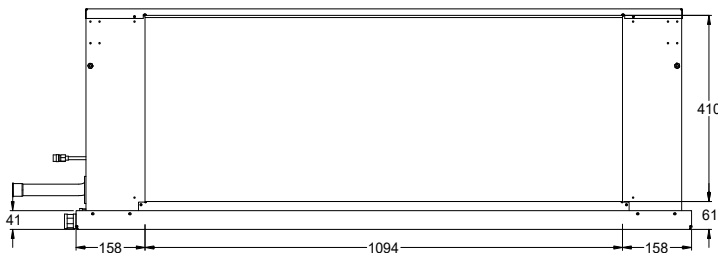
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 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.



TOP VIEW

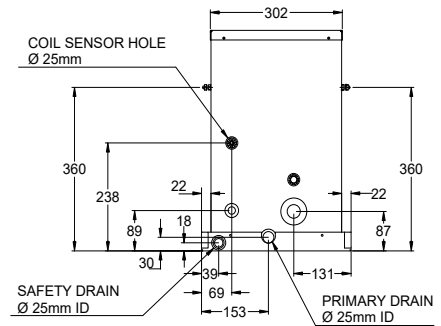


FRONT VIEW - SUPPLY AIR



REAR VIEW - RETURN AIR

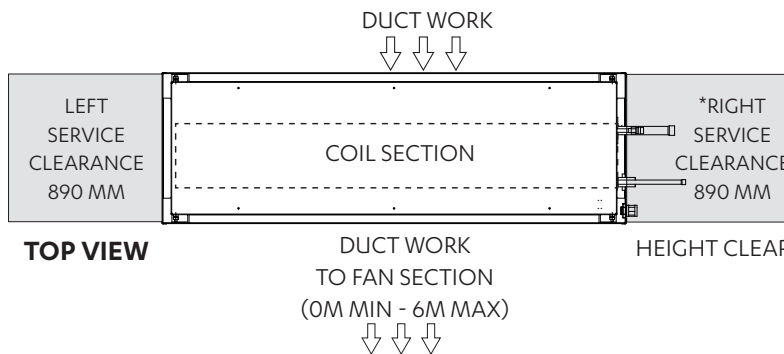
OVERALL NOMINAL DIMENSION (H X W X D)
= 486 X 1410 X 342
SUPPLY DUCT (H X W) = 410 X 1094
RETURN DUCT = 410 X 1094



SIDE VIEW

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EAA230S	43

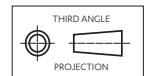
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES



* Electrical box and/or pipe connections are located on the Right side of the indoor unit.

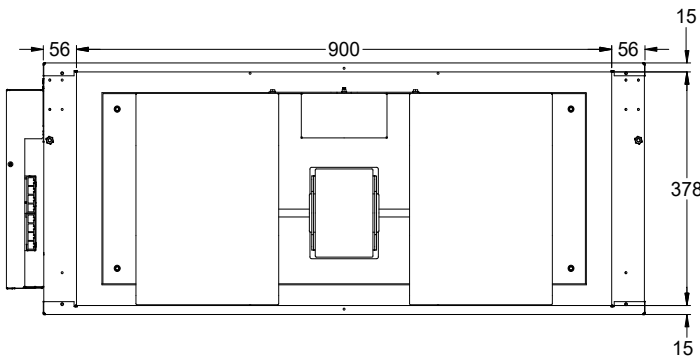
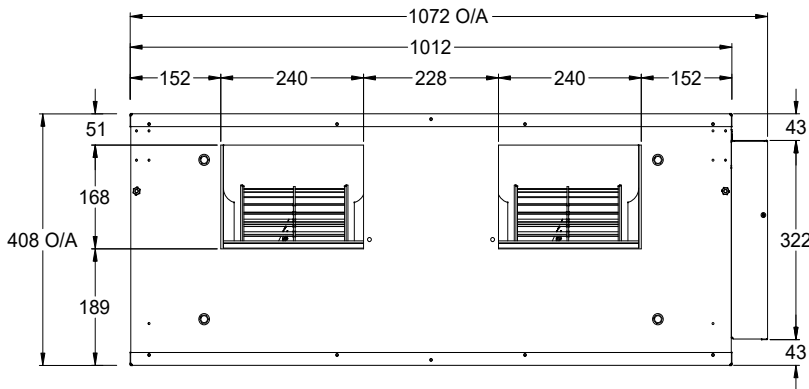
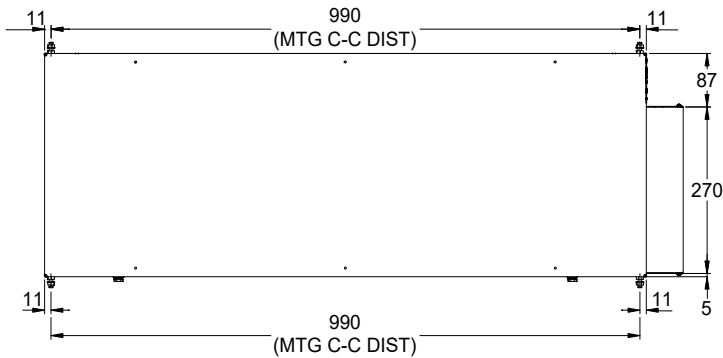
NOTES:

- Do not scale drawing. All dimensions are in mm unless specified.
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.
 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

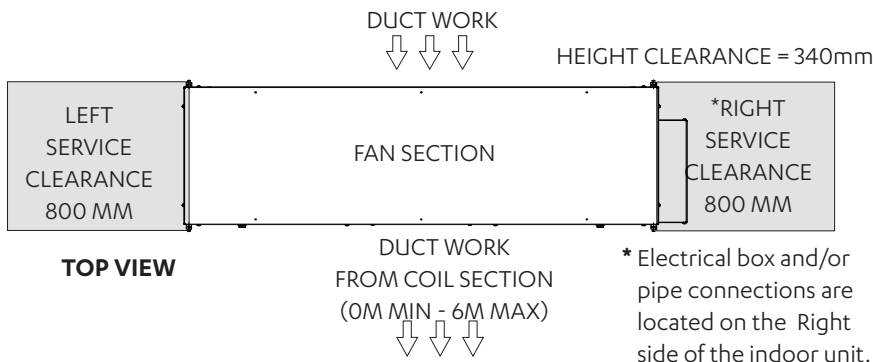


05.02. Fan Section

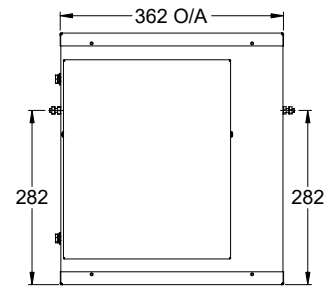
EFA130S / EFA150S / EFA170S



MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES

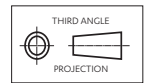


OVERALL NOMINAL DIMENSION (H X W X D)
 = 408 X 1072 X 362
 SUPPLY DUCT (H X W) = 168 X 708
 RETURN DUCT = 378 X 900



SIDE VIEW

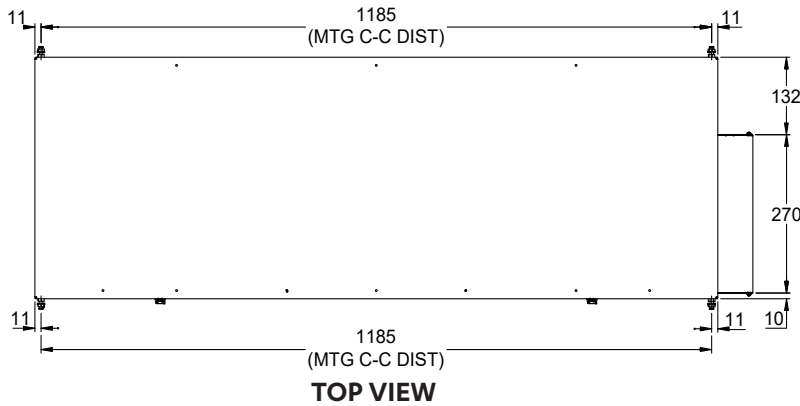
UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EFA130S / EFA150S / EFA170S	31



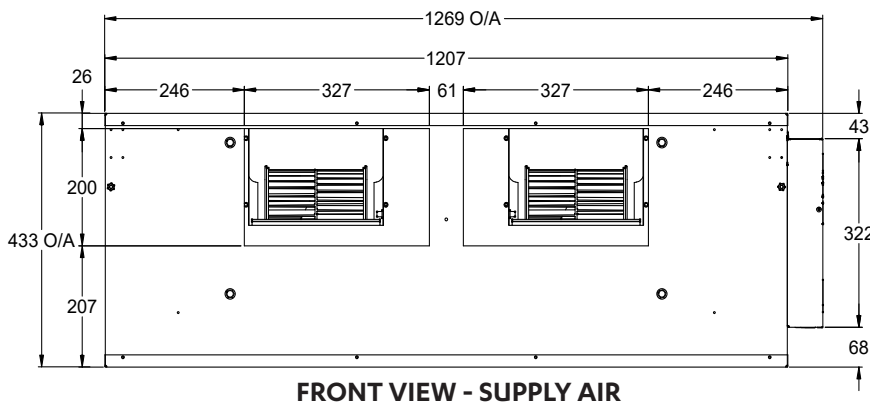
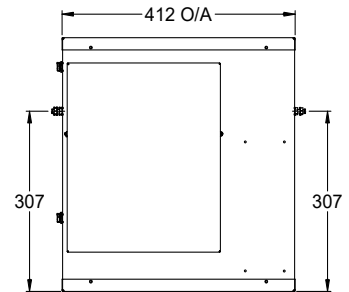
NOTES:

1. Do not scale drawing. All dimensions are in mm unless specified.
2. Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
3. Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.
 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

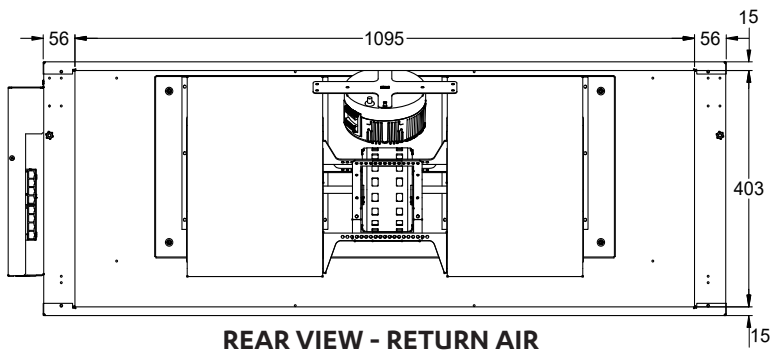
EFA200S



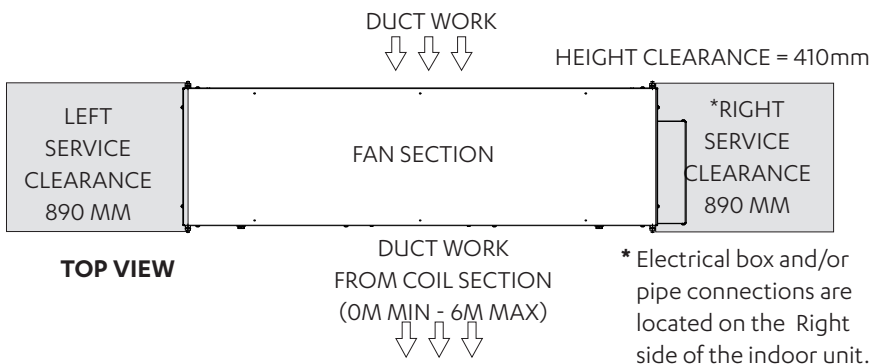
OVERALL NOMINAL DIMENSION (H X W X D)
= 433 X 1269 X 412
SUPPLY DUCT (H X W) = 200 X 714
RETURN DUCT = 403 X 1095



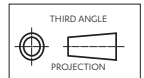
UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EFA200S	41



MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES

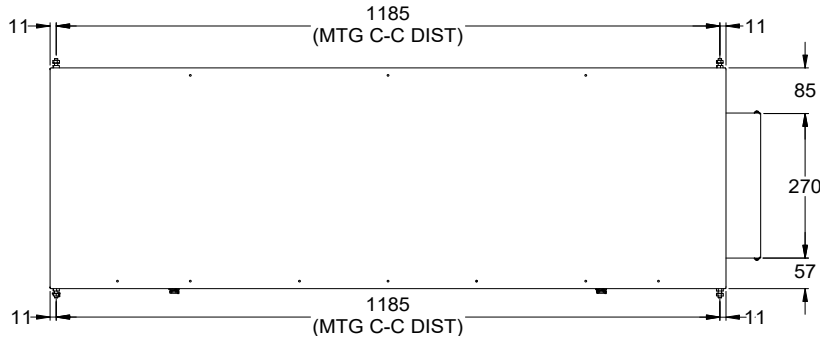


NOTES:

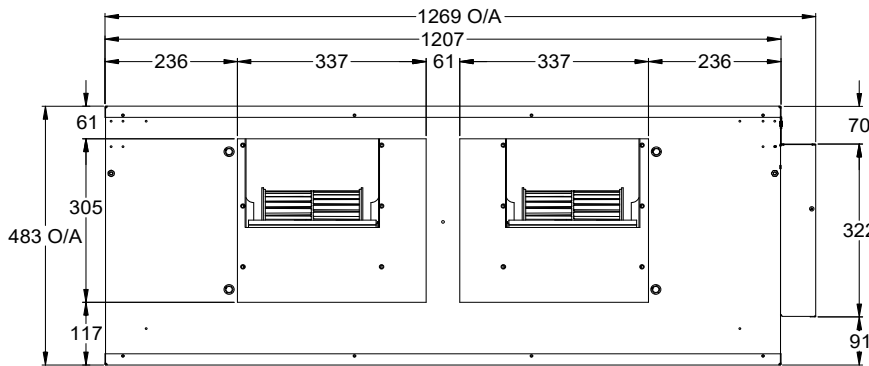


- Do not scale drawing. All dimensions are in mm unless specified.
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.
 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

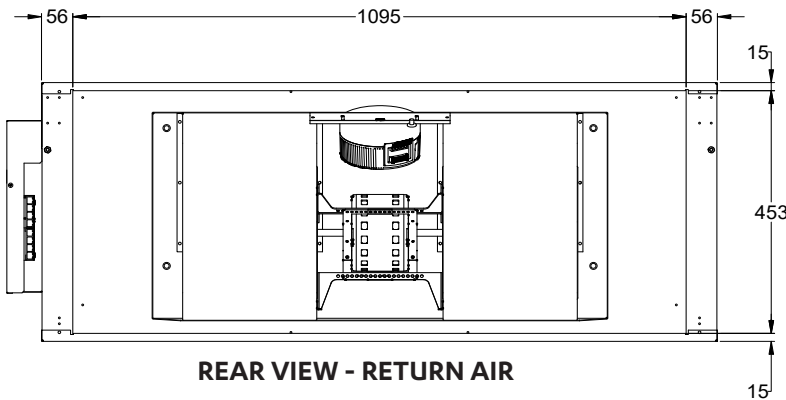
EFA230S



TOP VIEW

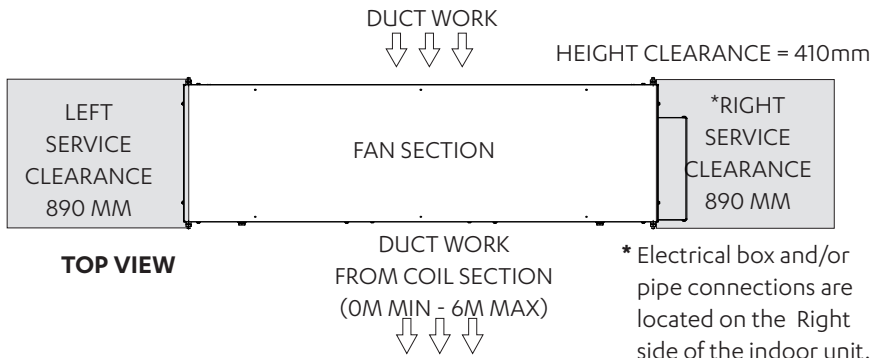


FRONT VIEW - SUPPLY AIR



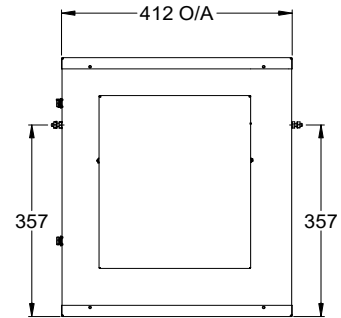
REAR VIEW - RETURN AIR

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES



TOP VIEW

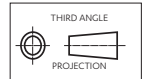
OVERALL NOMINAL DIMENSION (H X W X D)
= 483 X 1269 X 412
SUPPLY DUCT (H X W) = 305 X 734
RETURN DUCT = 453 X 1095



SIDE VIEW

UNIT MODEL NUMBER	UNIT WEIGHT (kg)
EFA230S	43

NOTES:



- Do not scale drawing. All dimensions are in mm unless specified.
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.
 - Left Service Clearance can be 100mm minimum if Right Service Clearance is applicable.
 - Right Service Clearance can be 600mm minimum if Left Service Clearance is applicable.
 - Height Service Clearance can be 100mm minimum if Right Service Clearance is applicable.

06. Installation Instructions

The installation instructions provided below are intended as a guide only and does not supersede the relevant council, state and federal codes, regulations and building code standards. Compliance and consultation with the authorities having jurisdiction with the installation of this equipment is the responsibility of the installer. ActronAir will not be held liable for any damages or costs as a result of the installer's failure to comply. Please refer to the matching outdoor unit Installation and Commissioning Guide for further information and details.

Lifting The Unit

The installation instructions provided, in Section 07, adhere to WH&S regulations for safe and secure lifting practices in order to prevent physical injury.

Suggested lifting procedures are outlined in Section 07 as a reference guide to safely lift and transport the unit, however, this does not over rule the industry WH&S practices.

Location

This unit is intended for indoor installation only. It is highly recommended that this indoor unit and accessories, particularly zone barrels, be mounted in the roof cavity.

Mount the unit in a stable and rigid support wherein the weight is properly distributed, such as roof joist and rafters. Take into consideration the minimum service access clearances provided in the unit drawings.

Locate the indoor unit away from the areas where noise is a critical factor. Use rubber mounting pad (not supplied) in order to minimize the transfer of noise and vibration into building structures.

An optional hanging bracket assembly and rubber grommet (supplied as standard with EVA230S) is also available to secure the indoor unit into the roof rafters. This installation configuration is most suitable for installation that require the unit to be rigidly secured up from the roof joist.

Condensate and Safety Tray Drainage

An integrated safety drain tray is provided as a standard inclusion to your indoor unit in order to reduce the potential of condensate damage to the roof. Drain Kit (not included on EVA230S) is provided for the condensate drain to be externally trapped from the indoor unit. Suggested condensate and safety tray drainage instructions are provided at the proceeding page for your reference.

Supply Air and Return Air Duct

The indoor unit is supplied with duct flange (except EVA100) as standard in order to facilitate the system's duct connection into the unit. Supply and return air duct works must be adequately sized to meet the system's air flow and static pressure requirements. Refer to the unit drawing for supply air and return air duct dimensions, specific to your requirement.

NOTE

Fit a flexible duct connection in between the unit and the duct system, where noise and vibration is a critical consideration.

Return Air Filter

Air filters must be provided in the return air side of the unit to maintain the efficiency and prolong the operation of the unit. These are also paramount to satisfy requirement for a clean and hygienic room condition. Return Air filters must be placed in an easily accessible location for service and maintenance.

NOTES

- Return Air filters are not supplied with the unit as individual air filtration requirements vary.
- Ensure that filters are cleaned / replaced regularly.

Air Plenums / Duct Plates (Optional)

Supply Air and Return Air plenums and duct plates (twin-spigot) are available as an option in order to facilitate your duct system connection to the indoor unit. The supply air plenums come in 1-way, 2-way and 3-way options, which offer a wider solutions to your different air distribution requirements.

Split Fan Coil System (Optional)

The ActronAir innovative 2-piece fan coil system provides a solution to your difficult and tight roof space installation requirement. This versatile system has a separate fan and coil sections. Each of the compact and lightweight section is simply installed in two separate locations and joined by flexible duct system. Air ducts are attached to each section of the split fan coil by both of the supply air plenum and the twin spigot duct plate.

Fan Coil With Vertical Discharge (Optional)

An upright Fan Coil with vertical supply air discharge is also available wherein installation applications require the placement of the unit down in a closet, basement or garage. Please refer to the Technical Catalogue of your indoor unit for dimensions, installation details and specifications.

Field Pipe Connections

Specifications and installation requirements for field pipe connections are contained in the Installation and Commissioning Guide of the outdoor unit that matches your indoor unit. Please refer to this guide and thoroughly understand the procedures for safe and correct indoor and outdoor connection.

Field Electrical Connection

The power supply and control communication data to the indoor unit are supplied via the outdoor unit. Please refer to the wiring diagram supplied with the outdoor unit for specifications.

All electrical work must be performed by a licensed electrician and must conform with the wiring diagram and all relevant electrical authorities.

07. Unit Lifting Procedures

07.01. Crane Lifting Method

WARNING

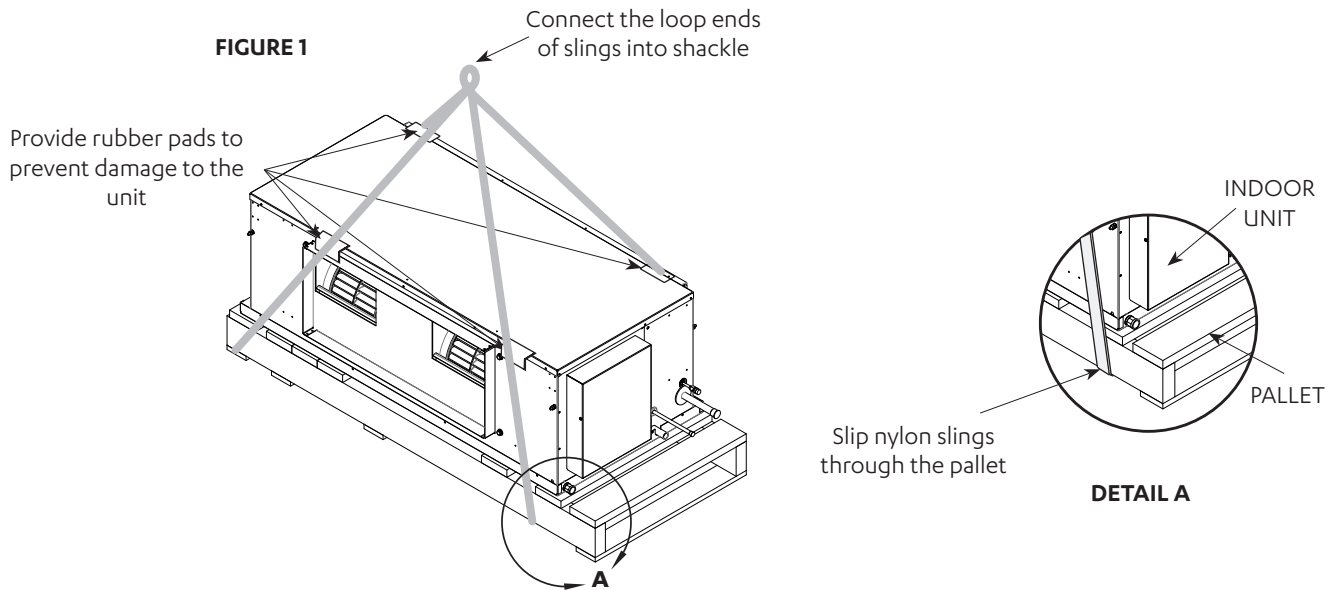
WH&S regulations must be observed and will take precedence during lifting process.
Do not use pipes or tube coming out from the unit to lift the unit.

DANGER

Make sure rigging equipment, accessories and plant are sufficiently and safely capable to lift the unit in order to prevent potential damage to property, severe personal injury or death. Please check unit weight and weight distribution points on unit drawing dimensions section.

NOTES

- Crane lifting method is recommended for high rise lifting.
- Refer to catalogue for unit weight before selecting shackles and slings.
- Lifting procedure and unit model shown are suggestions and for illustration purposes only.
- It is highly recommended that installer observe current industry safe rigging and lifting procedure.



Equipment Required For Crane Lifting:

- 1 x Shackle
- 2 x Nylon Slings
- 4 x Rubber pads

NOTE

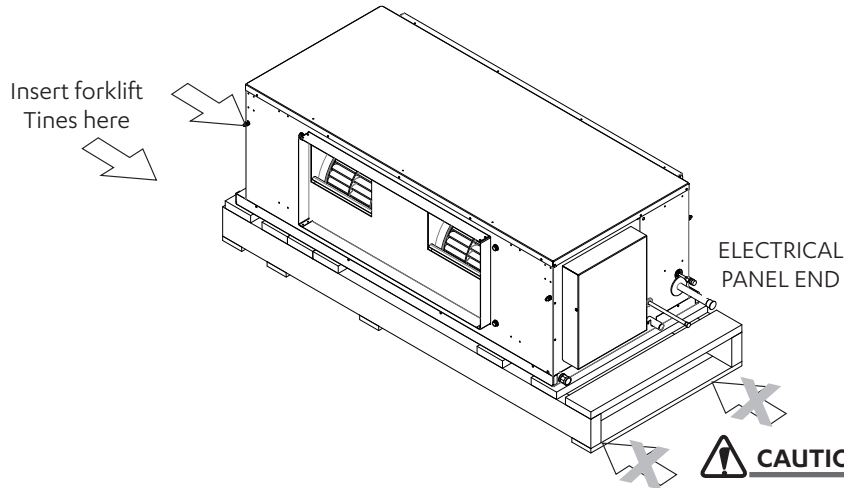
Refer to catalogue for unit weight before selecting shackles and slings.

Procedure:

1. Slip nylon slings through the pallet as shown in Fig. 1.
2. Use Bow or Dee shackle to connect the slings.
3. Ensure slings are protected by rubber pads or similar if slings are draped across unit edges, corners, or air grilles . This will prevent the unit from being damaged during lifting.
4. Test lift the unit to determine exact unit balance and stability before hoisting it to the installation location.

07.02. Fork Lift Method

FIGURE 2



CAUTION

DO NOT LIFT UNIT from this end in order to prevent damage to electrical panel and pipes.

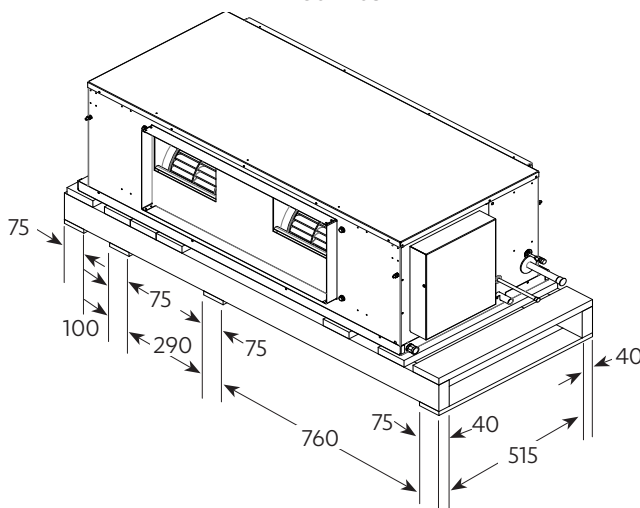
Procedure:

1. To move the unit around with a forklift, insert the fork tines through the unit feet assembly, as shown in Fig. 2.
2. Do not lift the unit through the electrical panel end of the unit (See illustration for location of electrical panel end).

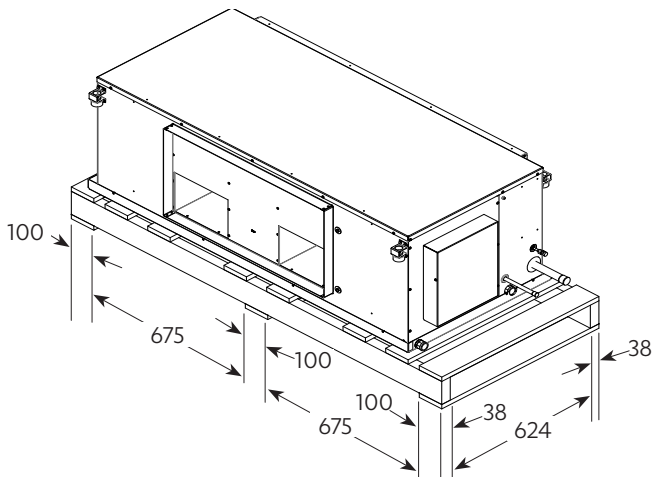
CAUTION

Length of fork lift tines must pass the unit middle section, in order to safely carry the unit.

EVA130-170S



EVA200-230S



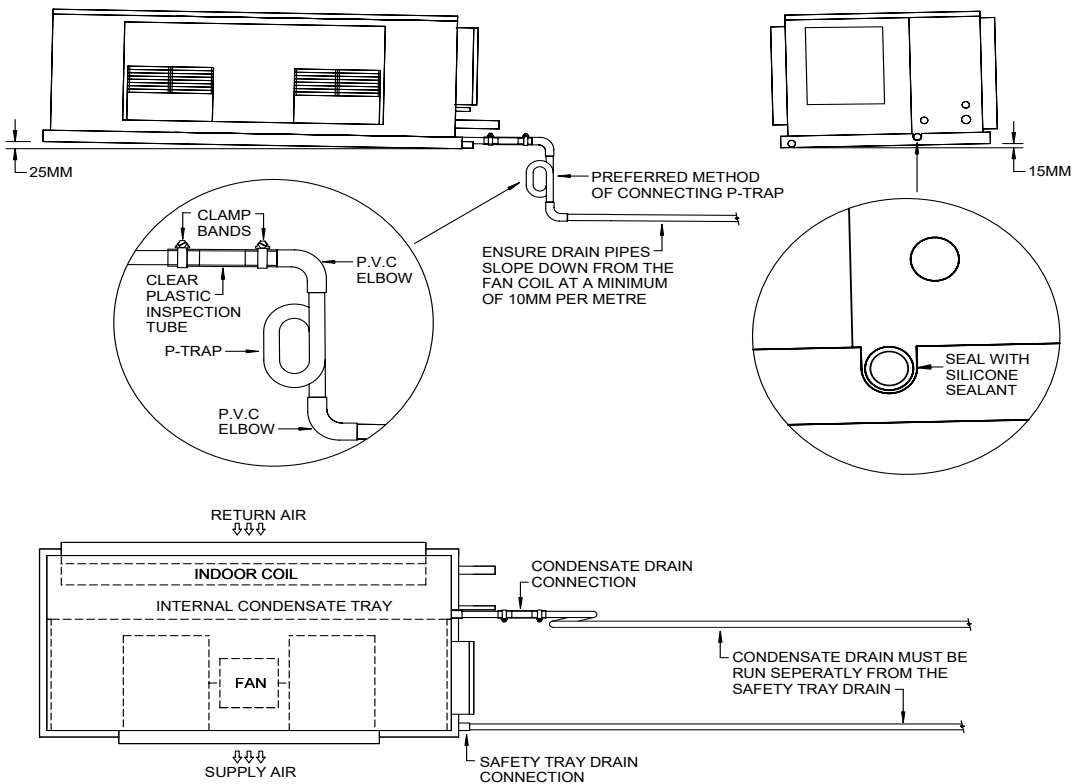
PALLET FORK LIFTING HOLE DIMENSIONS
ALL DIMENSIONS IN MM.

08. Safety Drain Tray

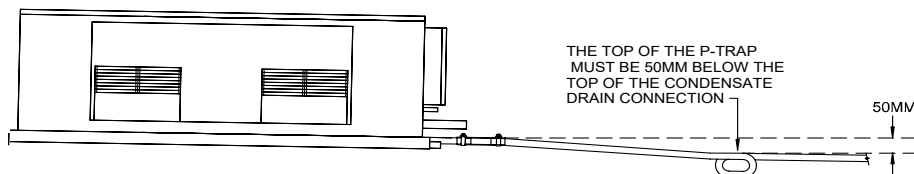
NOTES

- Do not use pipes or tube coming out from the unit to lift the unit.
- Support drain line for long pipe run.
- Refer to unit dimension page for specification of drain connectors.
- Test condensate drain installation to ensure that water flows freely and does not leak. Also check that the drain tray does not overflow.
- All drawings are for illustration purposes only. Actual unit may vary depending on the model.

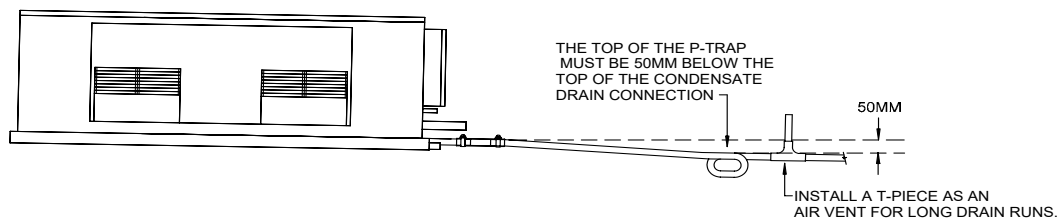
Suggested Minimum Slope To Ensure Correct Drainage



Suggested P-Trap Connection With Limited Height Clearance



Suggested P-Trap Connection With Long Drain Runs

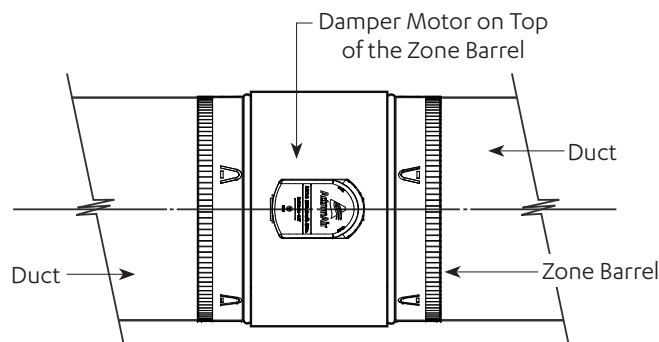


09. Zone Barrel Installation Instructions

In the installation of zone barrels, extra caution must be taken as damper motors are **IP20 Rated and MUST NOT BE INSTALLED IN AN AREA WHERE CONDENSATION WILL BE AN ISSUE.**

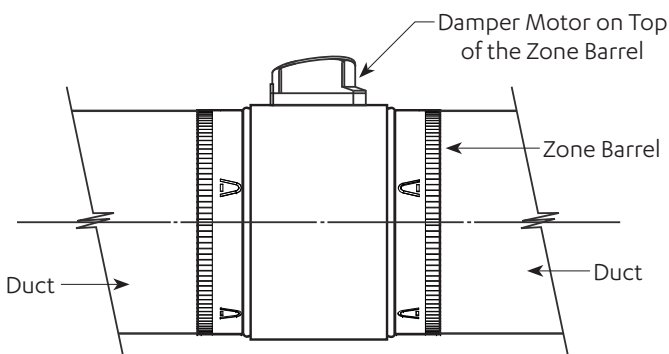
It is highly recommended that indoor units and accessories, particularly zone barrels, be mounted in the roof cavity. Mounting of zone barrels should be horizontally positioned ensuring that the damper motor is located on the upper half of the barrel's centreline (positions that range from 9 o'clock to 3 o'clock), as shown below:

It is also recommended that only ActronAir 24V zones be connected to this system using RJ45 cable connections. Warranty may be void if third party zones cause damage to the system.



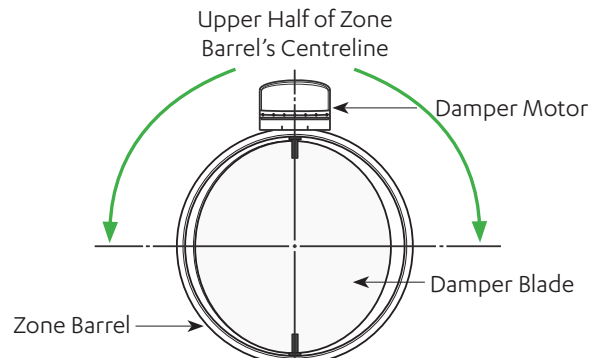
TOP VIEW

PREFERRED LOCATION



SIDE VIEW

RECOMMENDED LOCATION



FRONT VIEW

10. Electrical Installation

All electrical work must be carried out by a qualified technician. Make sure all wiring is in accordance with local wiring rules. Wiring connections should be made in accordance with the wiring diagram provided.



DANGER

Live Electrical Supply !

During installation of your air conditioning unit, it may be necessary to work in close proximity to live electricity. Only qualified technicians are allowed to perform these tasks.

Follow all electrical safety precautions when exposed to live electrical components.



CAUTION

Static Sensitive Electronic Devices !

- DO NOT handle electronic devices unless you are wearing an Anti-Static Wrist Strap that is connected to a GOOD EARTH. Failure to protect the electronic devices from static electricity may cause unreparable damage.
- Static damaged electronic devices are NOT COVERED for replacement under warranty.

Wiring Diagram

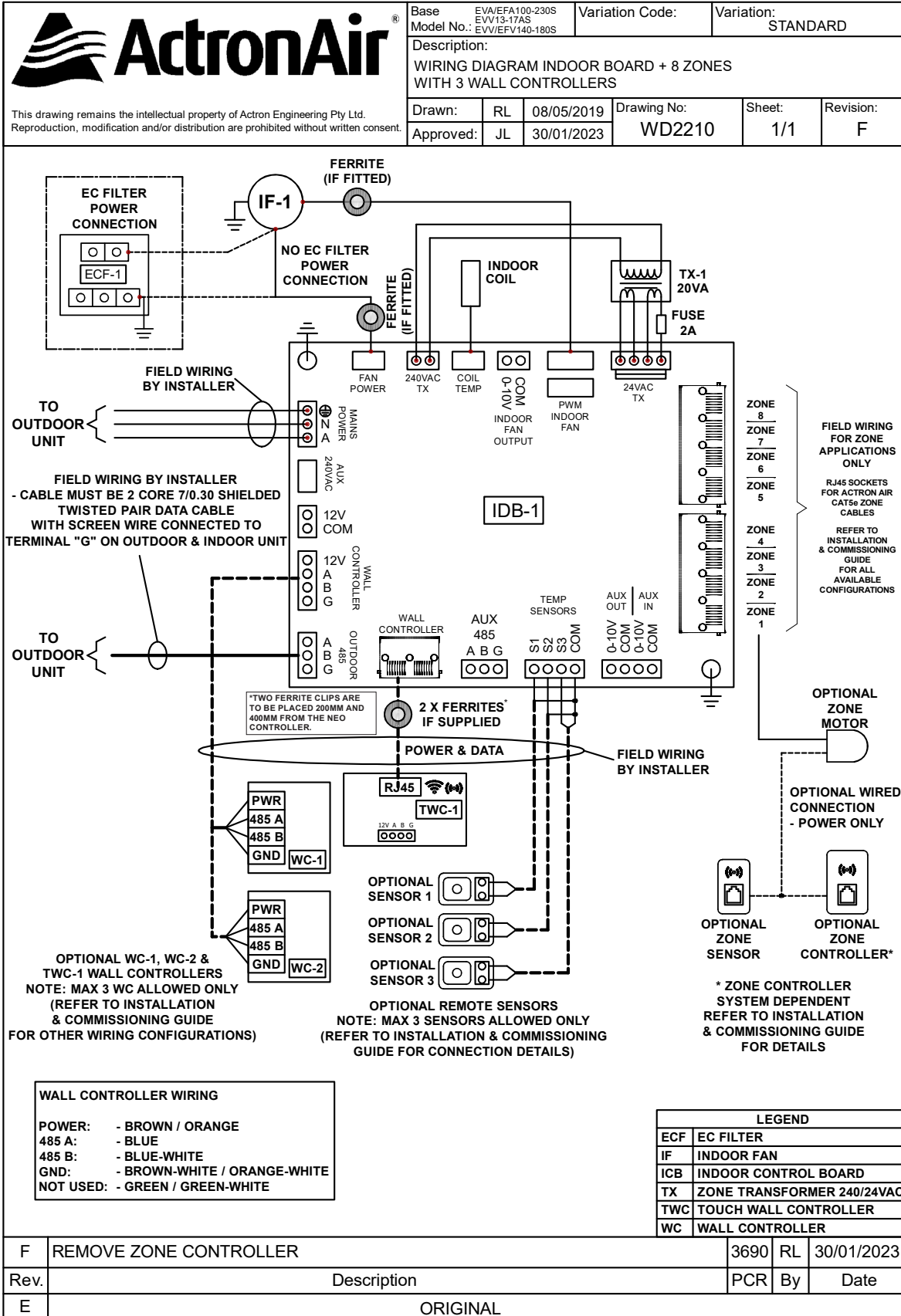
The wiring diagrams specific for your air conditioning system are located on the inside panel of the control panel lid. Always refer all wiring installation, servicing and troubleshooting of this equipment to this diagram to ensure correct electrical connections are satisfied.

Supply Power Requirements and Procedures

It is the installer's responsibility to provide power supply wiring to the sub-mains isolator. Wiring should conform to the current electrical authority regulations and all wiring connections to be as per electrical diagram provided with the unit.

- Confirm that the power supply available is compatible with the unit nameplate ratings. The supply power must be within +10% to -6% of the rated voltage as per AS60038.
- Protect electrical service from over current and short circuit conditions in accordance with the latest edition of the AS/NZS 3000 "Australian / New Zealand Wiring Rules". Size protection devices according to the electrical data of the unit.
- Complete the unit power supply wiring onto the sub-mains isolator.
- Secure the power cords and control cables that goes in/out the unit. Use the cable ties provided in the control box.
- Provide proper unit earthing in accordance with local and national codes.

11. Wiring Diagram



12. Split Unit Electrical Connection

NOTE

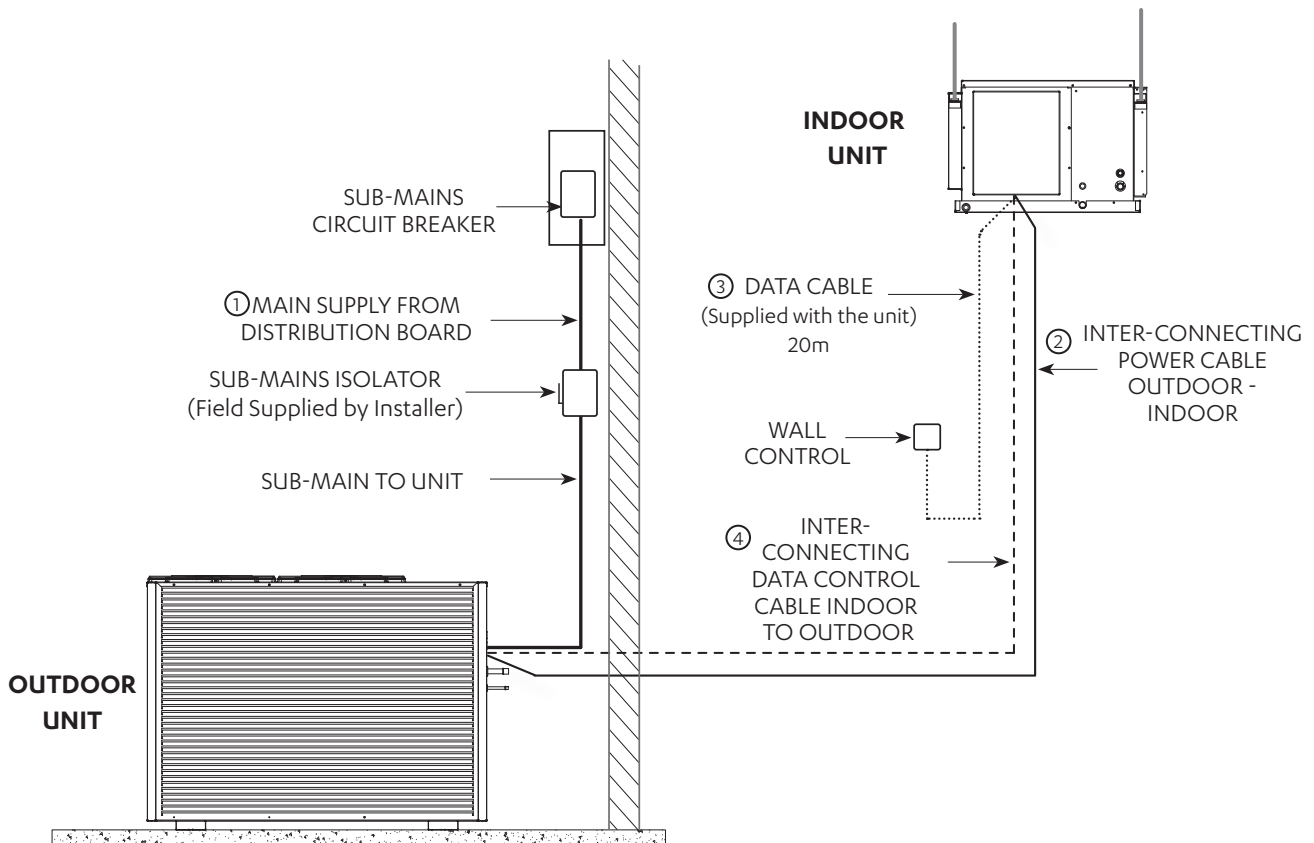
To minimise noise interference, Data and Power cable clearance should be maintained as much as possible.

DETAILED WIRING DIAGRAM IS PROVIDED WITH THE UNIT.

Outdoor Unit: Located at the back of electrical/compressor access panel.

Indoor Unit: Located at the back of electrical box cover.

- ① MAINS WIRING (230/400VAC)
(Single Phase + Neutral + Earth) 50Hz
(Three Phase + Neutral + Earth) 50Hz
- ② INTER-CONNECTING POWER CABLE (230VAC)
(Single Phase + Neutral + Earth) 50Hz
- ③ DATA CABLE TO WALL CONTROL
(Cat5e UTP (AWG 24) Data Cable)
- ④ EXTRA LOW VOLTAGE DATA CONTROL WIRING
(2 Core Shielded Twisted Pair 7/0.30 (0.5mm²) Data Cable)



2 Core Twisted Data Cable Shielding Instructions

(ActronAir Part Number: AEDC2)

NOTES

- Maintain the twist of the core wires up to the Green Terminal Plug.
- Maximum strip length of outer insulation to the Green Terminal Plug is 50mm.
- Make sure the cable colours used for the Data Terminal in Outdoor Unit match the Data Terminal in Indoor unit.

Outdoor Unit Data Terminal (Green Plug)

“Terminal A” - White Wire

“Terminal B” - Black Wire

“Terminal G” - Shield Wire

Indoor Unit Data Terminal (Green Plug)

“Terminal A (+)” - White Wire

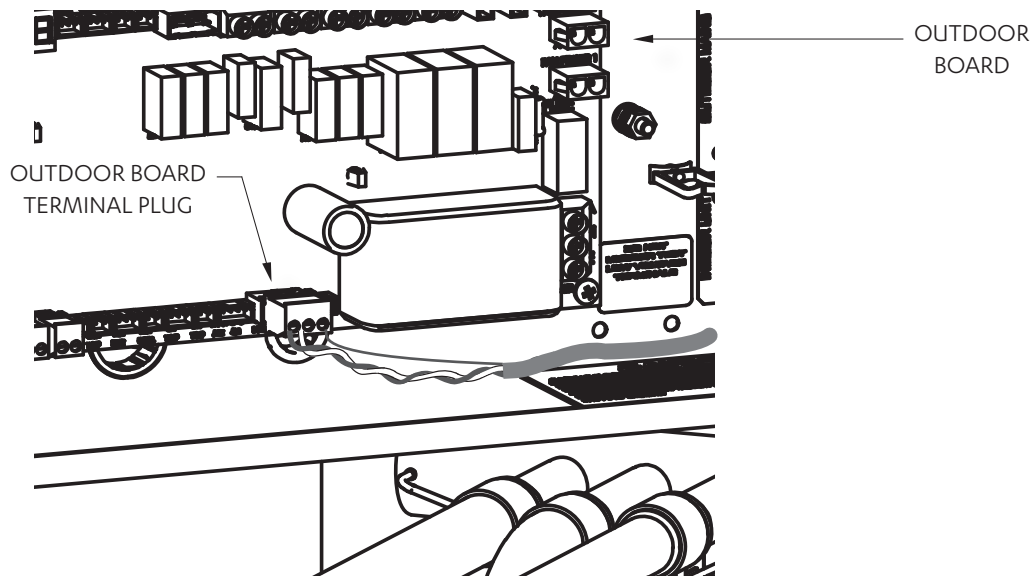
“Terminal B (-)” - Black Wire

“Terminal G” - Shield Wire

Insert data cable through the lower snap bushing and first cable tie on the right hand side of the electrical panel.

Connect core wires and shield wire into the Outdoor Board green terminal plug marked “INDOOR A, B and G”.

(Refer to unit wiring diagram for complete wiring connection details).



Circuit Breaker Size and Cable Size Requirement			
Model	Circuit Breaker Size	Cable Size * (mm ²)	
	Amps	MAIN	O.D. to I.D.
CRA100S / EVA100S	25.0	4.0	1.0
CRA130S / EVA130S / EFA130S CCA130S / EVA130S / EFA130S	32.0	6.0	1.0
CRA150S / EVA150S / EFA150S CCA150S / EVA150S / EFA150S	32.0	6.0	1.0
CRA170S / EVA170S / EFA170S CCA170S / EVA170S / EFA170S	40.0	10.0	1.0
CRA130T / EVA130S / EFA130S	16.0	2.5	1.0
CRA150T / EVA150S / EFA150S	20.0	2.5	1.0
CRA170T / EVA170S / EFA170S CCA170T / EVA170S / EFA170S	20.0	2.5	1.0
CRA200T / EVA200S / EFA200S CCA200T / EVA200S / EFA200S	20.0	2.5	1.0
CRA230T / EVA230S / EFA230S CCA230T / EVA230S / EFA230S	25.0	4.0	1.0

* Suggested Minimum Cable Size should be used as a guide only, refer to AS/NZS 3000 “Australian / New Zealand Wiring Rules” for more details.

13. Maximum Cable Lengths

13.01. Wall Controller Options

Maximum of three (3) wall controllers in below combinations is allowed on unit. See below table.

Combinations	Wall Controllers		
	WC1	WC2	WC3
1st Option	NEO		
2nd Option	NEO	NEO	
3rd Option	NEO	NEO	LR7-1 / LC7-2
4th Option	NEO	LR7-1 / LC7-2	
5th Option	NEO	LR7-1 / LC7-2	LR7-1 / LC7-2
6th Option	LR7-1 / LC7-2		
7th Option	LR7-1 / LC7-2	LR7-1 / LC7-2	
8th Option	LR7-1 / LC7-2	LR7-1 / LC7-2	LR7-1 / LC7-2

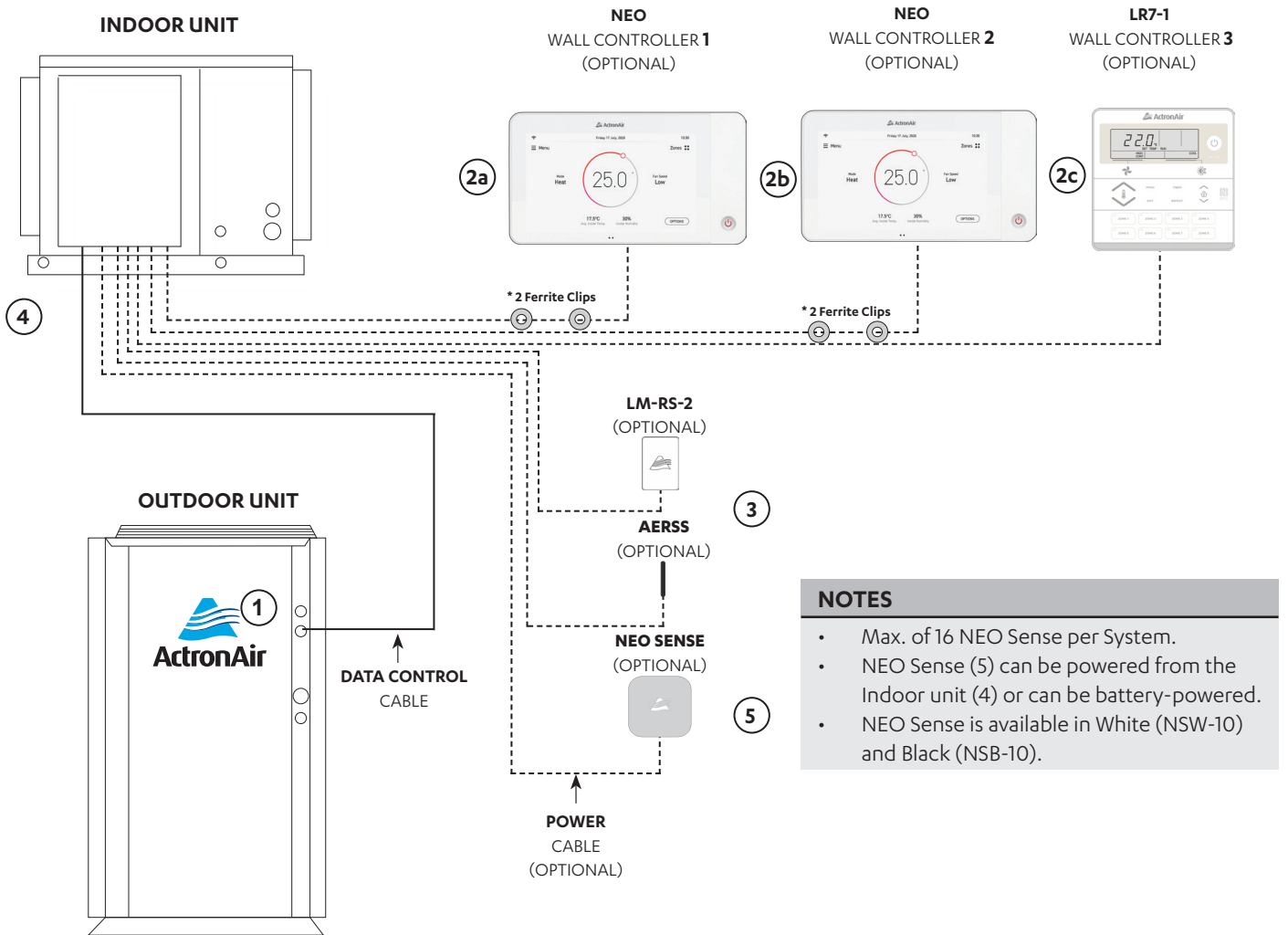
NOTES

- NEO - Available in White (NTW-1000) and Black (NTB-1000) colours.
- LR7-1 and LC7-2 - Available in White and Grey colours.
- In the instance of a combination of NEO and LR7-1 / LC7-2 being connected together, the NEO will always need to be addressed as C1.

13.02. Wiring Configuration : Recommended

NOTES

- Diagram shown below is a general representation only. Refer to individual unit wiring diagram for complete wiring connection details.
- Long runs beside Mains cables or TV antenna cables should be avoided.
- Wiring configuration for LR7-1 and LC7-2 wall controller is the same.
- Daisy connection is not allowed for the NEO wall controller.
- Two Ferrite Clips*, if supplied, are to be placed 200mm and 400mm from the NEO controller respectively.



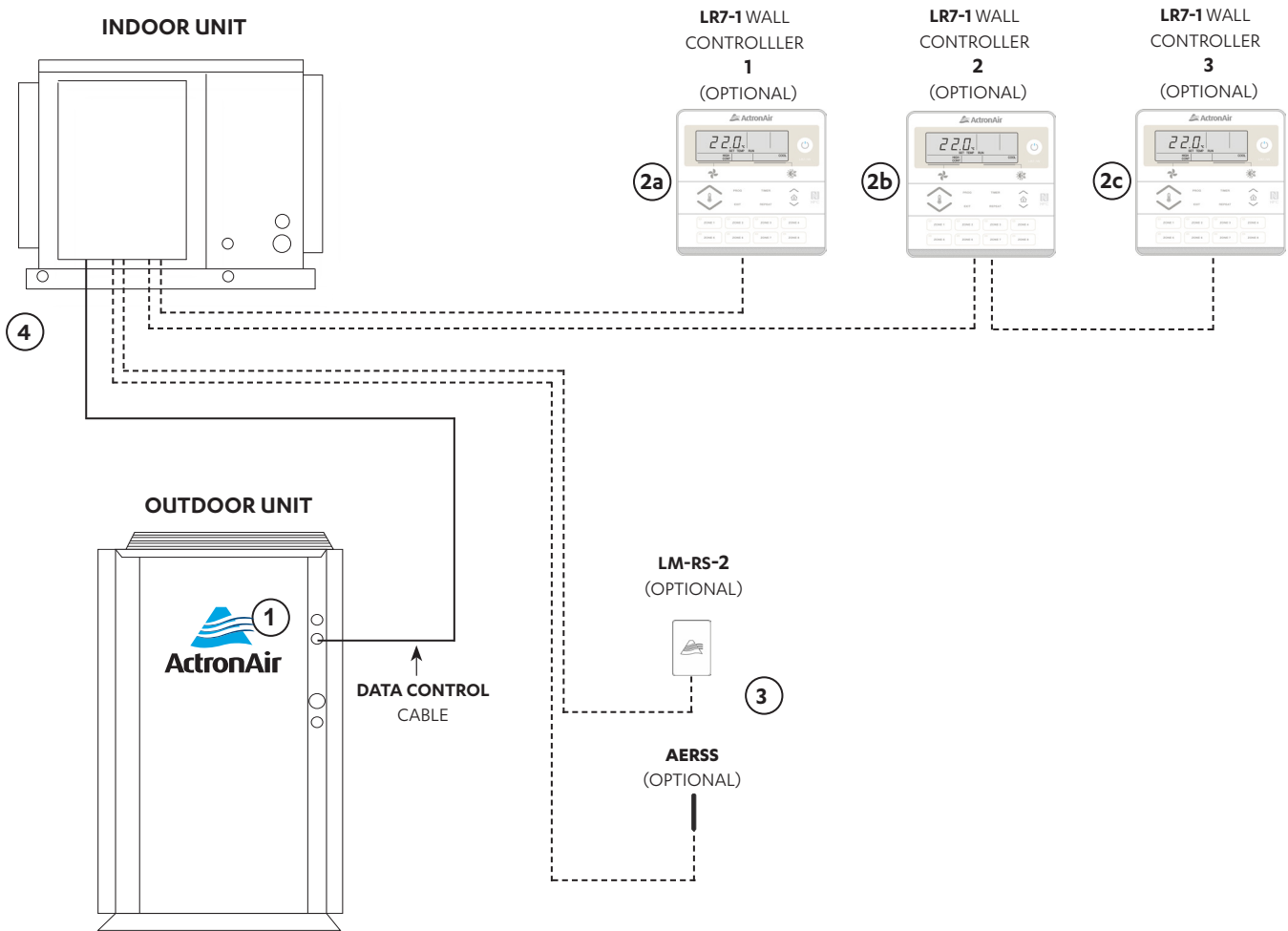
NOTES

- Max. of 16 NEO Sense per System.
- NEO Sense (5) can be powered from the Indoor unit (4) or can be battery-powered.
- NEO Sense is available in White (NSW-10) and Black (NSB-10).

Item	Description	Maximum Cable Length
1 to 4	Outdoor PCB to Indoor PCB	100 m
4 to 2a, 4 to 2b	Indoor PCB to Wall Controller	90 m
4 to 2c	Indoor PCB to Wall Controller 3	100 m
4 to 3	Indoor PCB to Remote Sensor	100 m
4 to 5	Indoor PCB to ZC and ZS	100 m

Description	Cable Type
Indoor to Wall Controller	Cat5e UTP (AWG 24) Data Cable
Indoor to Remote Sensor	Cat5e UTP (AWG 24) Data Cable
Indoor to Outdoor Data Cable	2 Core (1 Pair) Twisted Pair, 7/0.30 (0.5mm ²) Shielded Data Cable

13.03. Alternate Wiring Configuration



NOTES

- Diagram shown above is a general representation only. Refer to individual unit wiring diagram for complete wiring connection details.
- Long runs beside Mains cables or TV antenna cables should be avoided where possible.
- Wiring configuration for LR7-1 and LC7-2 wall controller is the same.

Item	Description	Maximum Cable Length
1 to 4	Outdoor PCB to Indoor PCB	100 m
4 to 2a	Indoor PCB to Wall Controller 1	100 m
4 to 2c	Indoor PCB to Wall Controller 3 (last controller)	75m total (Daisy Chain)**
4 to 3	Indoor PCB to Remote Sensor	100 m

** Maximum Daisy Chain connection is up to 2 wall Controls.

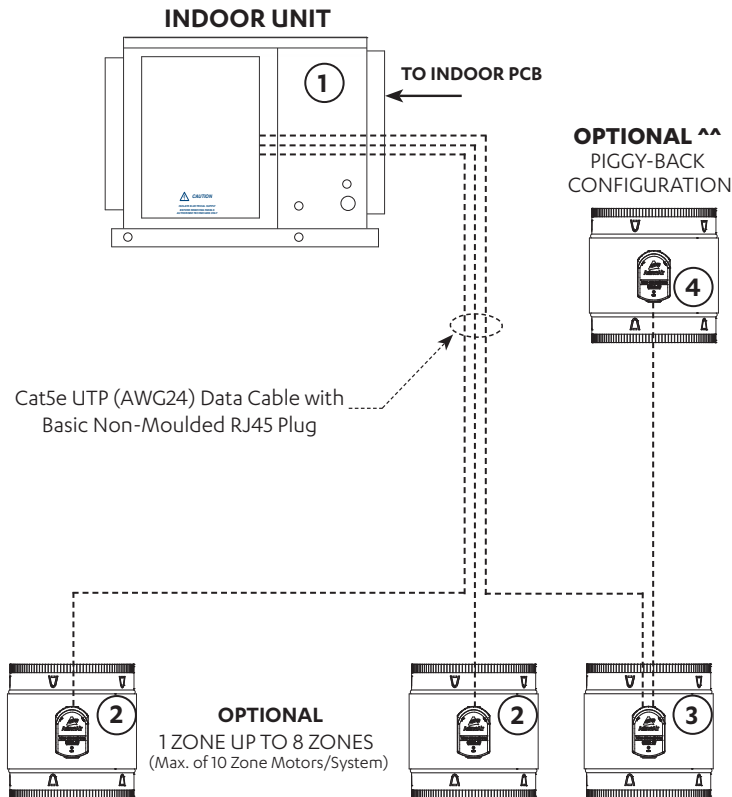
Description	Cable Type
LR7-1 Field Control Wiring	Cat5e UTP (AWG 24) Data Cable
Indoor to Remote Sensor	Cat5e UTP (AWG 24) Data Cable
Indoor to Outdoor Data Cable	2 Core (1 Pair) Twisted Pair, 7/0.30 (0.5mm ²) Shielded Data Cable

14. Cable Length - Zoning

14.01. LR7-1 / LR7-2

NOTES

- All drawings are for illustration purposes only. Actual unit may vary depending on the model.
- Refer to individual unit wiring diagram for complete wiring connection details.



Item	Description	Maximum Cable Length * ^
1 to 2	Indoor PCB to Zone Barrels	100m
1 to 4	Maximum Cumulative Cable Length** (per zone - 8 zone)	100m
3 to 4	Zone Barrel 3 to Zone Barrel 4*** (Piggy Back)	95m

* Suggested Maximum Cable Length

Long runs beside Mains cables or TV antenna cables should be avoided where possible.

** Maximum Cumulative Cable Length per individual zone must not exceed 100 m per zone.

1 to 4 (Optional 4 Zones Piggy-Back Configuration), if 1 to 3 is 75m, then 3 to 4 must be 25m to make a total of 100m.

*** Recommended maximum cable length, providing total of preceding cable connections are only 5m.

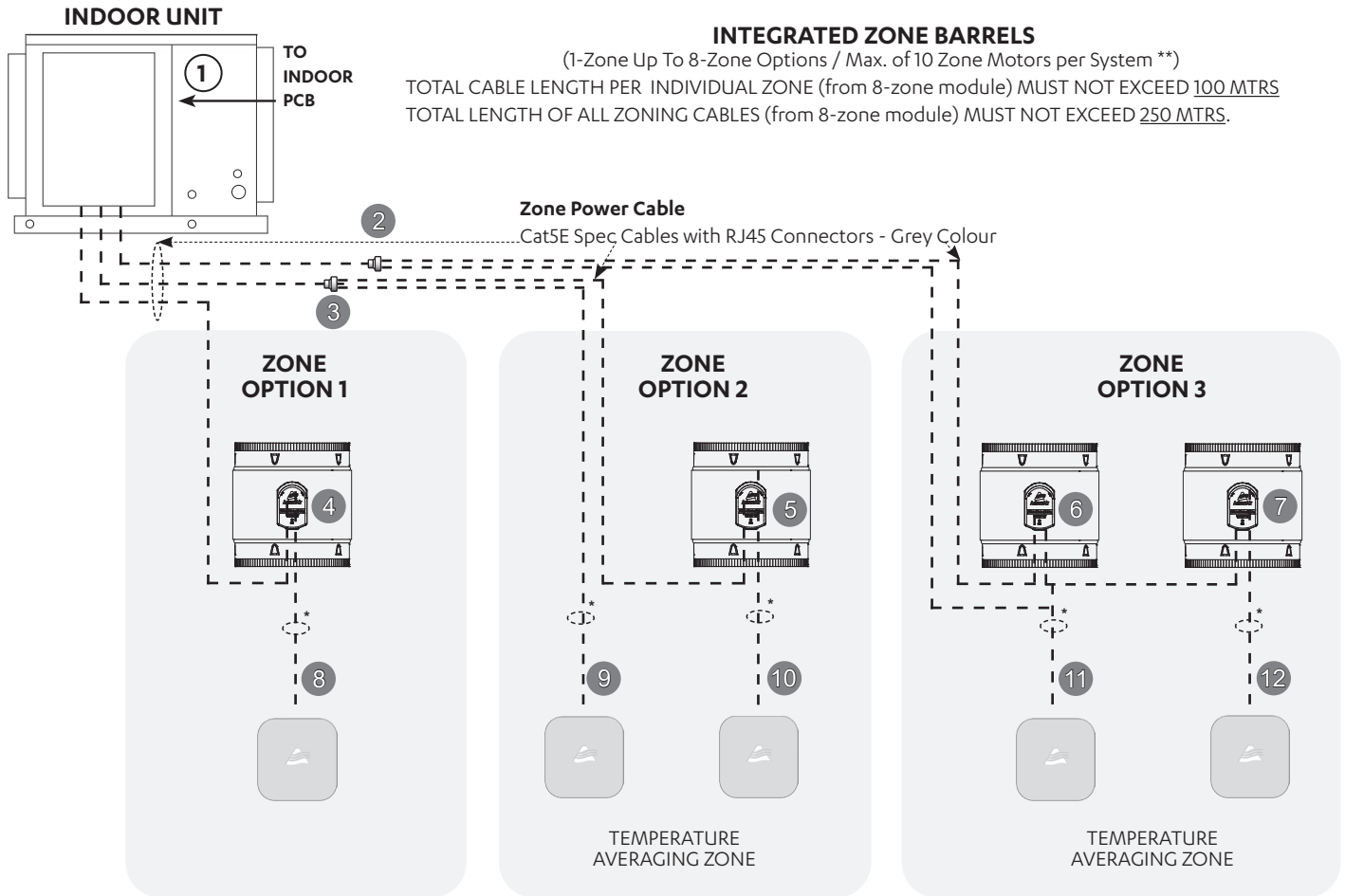
^ **Total Cumulative length of all the aggregate cable must not exceed 500 meters.** Consult ActronAir for longer cable length requirement.

^^ 10 Zone Barrels are allowed and a maximum of 4 Zone Barrels are allowed per individual zone.

14.02. Neo Zone Controller / Neo Zone Sensor

NOTES

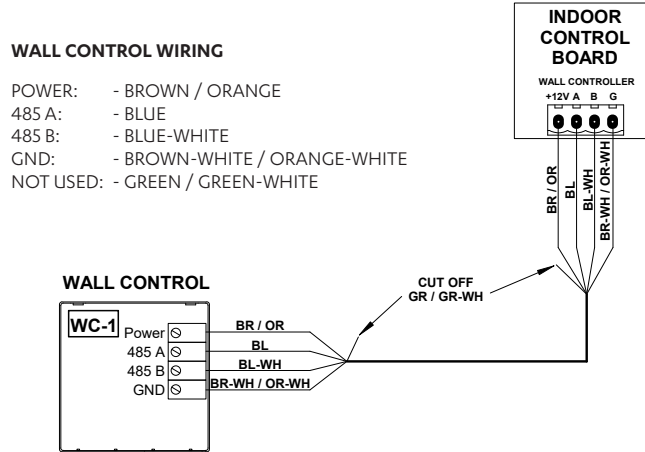
- All drawings are for illustration purposes only. Actual unit may vary depending on the model.
- Refer to individual unit wiring diagram for complete wiring connection details.
- * All Zone Device Power Cable : Cat5E Spec Cables with RJ45 Connectors and Cable Boots - Green Colour
- ** Total Cumulative length of all the aggregate cable must not exceed 250 meters. Consult ActronAir for longer cable length requirement.



ITEM	DESCRIPTION	MAXIMUM CABLE LENGTH
1 to 2 1 to 3	8-zone module to 3-way cable joiner (P.N. 4070-012)	0.175m
1 to 8	8-zone module to zone controller	100m
4 to 8 5 to 10 7 to 12	zone barrel motor to zone device	50m
3 to 9 2 to 11	3-way cable joiner to zone device	50m

15. Wiring Connections

15.01. LR7-1 and LC7-2 Wall Control Wiring Connections

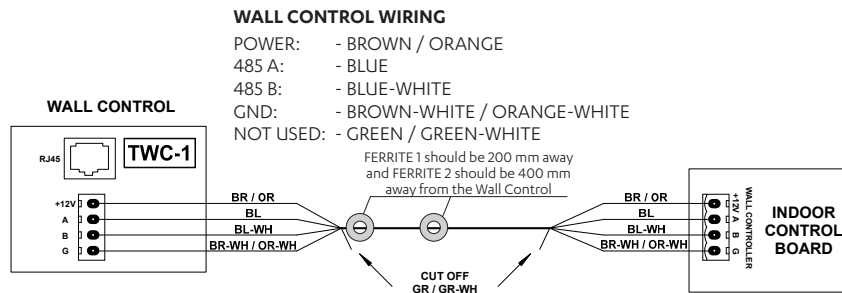


15.02. NEO Wall Control Wiring Connections

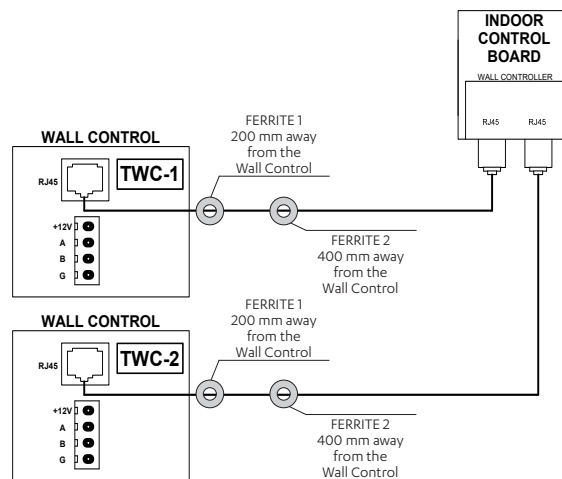
NOTES

Two Ferrite Clips, if supplied, are to be placed 200mm and 400mm from the NEO controller respectively.

15.02.01. NEO Hard Wiring



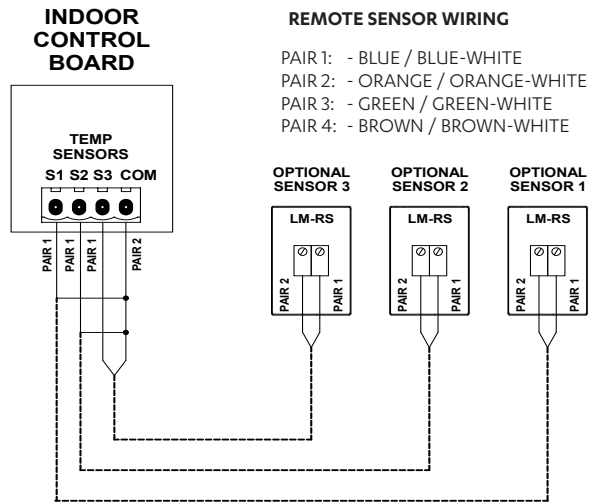
15.02.02. NEO RJ45 Wiring



15.03. LM-RS-2 Optional Sensor Wiring Connections

NOTE:

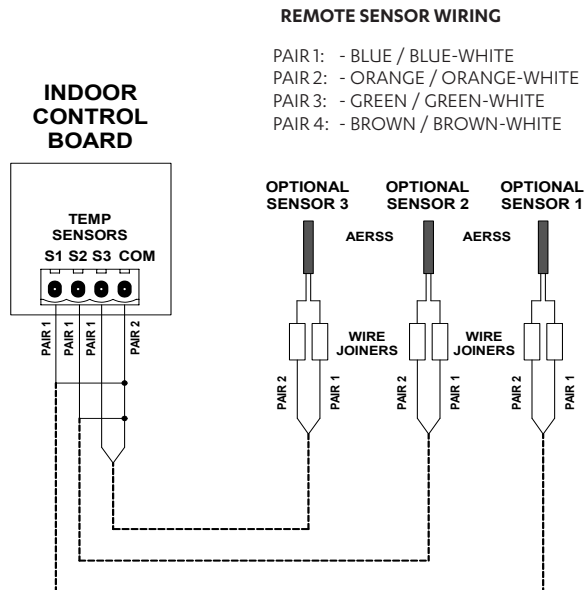
- PAIR 1 AND 2 USED FOR ILLUSTRATION PURPOSES ONLY.
- CUT OFF AND TERMINATE ANY UNUSED PAIRS TO ENSURE NO WIRING IS LEFT EXPOSED



15.04. AERSS Optional Duct Sensor Wiring Connections

NOTE:

- PAIR 1 AND 2 USED FOR ILLUSTRATION PURPOSES ONLY.
- CUT OFF AND TERMINATE ANY UNUSED PAIRS TO ENSURE NO WIRING IS LEFT EXPOSED



16. Zone Commissioning

When the unit is powered on, a zone detection will automatically occur. This will take 2 minutes to complete. A zone detection can also be manually triggered on the LR7-1/LC7-2 controller by pressing the ON/OFF button and Zone 1 button for 3 seconds. If a zone detection is triggered manually, all the Zone LED lights will flash until the zone detection is complete.

If the zone cannot be toggled between open and closed after a zone detection is complete, the zone has not been detected, the zone motor connections and motor will need to be inspected further.

Automatic zone configuration:

Once the power will reset, Inzone Board will perform the automatic zone detection in three possible installed ways:

Case 1: Single zone system (No zone barrel connected)

- All zones should appear as OFF in Wall Controller Menu 14.
- Last Zone Protection will be disabled
- All wall controller zone lights are OFF.

Case 2: Multi zone system (Only zones motors no common zones)

- Only detected zones should appear to be ON, in Wall Controller Menu 14.
- Last Zone Protection will be enabled for zone 1 only (unless changed from the Wall Controller).
- Only detected zones are toggleable.

Case 3: Multi zone system (Common zones and zone barrel)

- Plug zone motors into InZone Board, skipping the number of ports required for common zones. E.g. for a system with 2 common zones and 2 zone motors, plug the zone motors into Zone 3 and Zone 4.
- The Common zones shall appear open but are not toggleable.
- Other zones other than common zones follow the same functionality as the zone motors above.
- User can also assign the sensor to the common or dump zones.

Manual zone detection:

Activation: Hold the **ON/OFF** button and **Zone 1** for 3 seconds.

When zone detection is manually performed all zone lights will flash.

NOTES

- If **Zone 1** is not detected then zone light will always be ON and will not be allowed to toggle.
- Other than **Zone 1** if any other zone is not detected, then wall controller light will remain OFF.
- The unit will remain in standby during a zone detection. After a zone detection is complete, the unit will resume operation in its previous mode.

17. Maintenance Frequency Checklist

Regular servicing of equipment by a qualified technician is recommended every 12 months for residential applications and every quarter for commercial applications. Regular servicing of your unit helps in maintaining its optimum performance and reliability. **The following checklist and service periods are provided as a guide only, as some sites may require more frequent servicing.**

Electrical											
Parts	Service Period								Detail of Service Check	Service Methods	
	1 Mth	3 Mth	6 Mth	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs			
Printed Circuit Boards				✓						Visual Inspection	Tighten Terminals as necessary on printed circuit boards
Electrical Connections				✓						Check all electrical terminals, mains, communications, etc	Re-tighten if loose.

Indoor Unit											
Parts	Service Period								Detail of Service Check	Service Methods	
	1 Mth	3 Mth	6 Mth	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs			
Casing / Panels and Frames				✓						Visual check for damage, rust and dust accumulation.	For highly corrosive environment, wash panels quarterly with water and neutral detergent solution. Wax panels. Repair / re-paint where required.
Insulation				✓						Visual check for insulation conditions.	Repair / replace insulation material.
Fan				✓						Visual check for run out of balance and dust attached	Clean off dust as necessary to negate possibility of fan running out of balance
Motor				✓ Ω						Visual check on wiring. Insulation resistance check to be carried out annually	Measure insulation resistance. Reading should be more than 1MΩ.
Heat Exchanger				✓						Check for clogging by dust. Check for leaks / damage.	Clean air inlet side as necessary. Straighten any bent fins using fins comb.
Drain Pan/ Condensation line				✓						Check for obstructions and free flow of water	Clean to eliminate obstructions/ sludge and check condition of pan. Pour water to ensure flow
Filter*		✓								Check for clogging by dust.	Clean Filter
Temperature Readings				✓						Measure air on and air off	Place temperature probe in return and supply air of unit.
Damper Motors (if fitted)				✓						Visual inspection of motors open/closing. Ensure no obstructions	Drive motors opened and closed. Ensure correct operation

* Service period for filter cleaning may vary depending on operating time and surrounding environment.



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