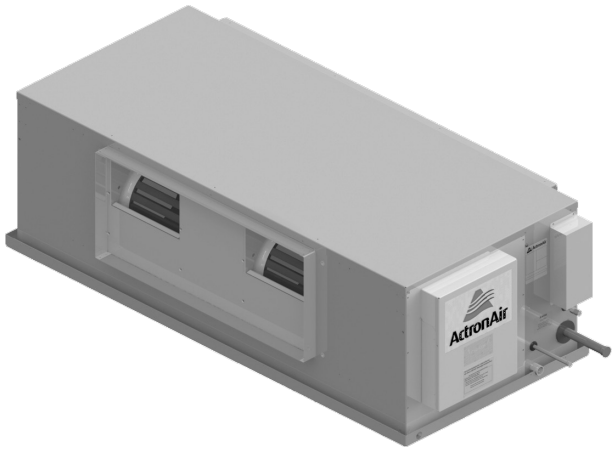
ESP Platinum QUE
Split Ducted Unit - 3 Phase
Installation and Commisioning Guide - Indoor



Model Numbers
ERQ2-16AS
ERQ3-18AS
ERQ5-21AS
ERQ5-24AS

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 Platinum Series air conditioning unit. 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" test procedures were conducted 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 and 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.

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 AS/NZS 3000:2018 (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.

IMPORTANT NOTES TO INSTALLER

- This indoor unit is designed to match only with a specific ActronAir outdoor unit as specified in the Technical Selection Catalogue.
- This unit is designed for use with R410A refrigerant only.
- The unit is supplied with factory charged dry air. Beware of the pressurised air charge when purging. Remove the caps from the connection points and purge the system only when the field pipe connections are ready to be completed.

⚠ DANGER

Hazardous Voltage - Risk of Electrocution.

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

⚠ WARNING

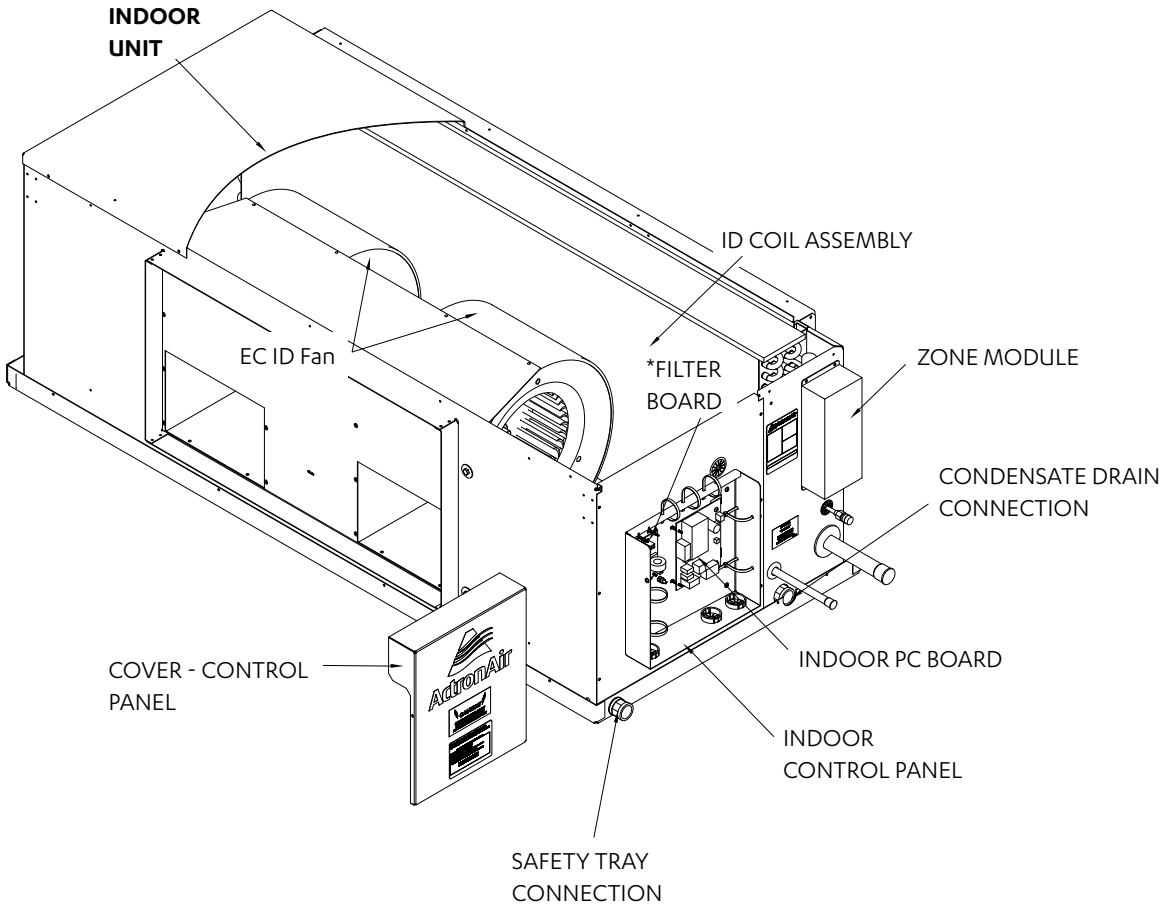
EC Motors and Inverter Drives are fitted with high power capacitors and can have dangerous residual voltages at motor terminals after power has been isolated. Wait at least 5 minutes after power isolation and test for any residual voltage before beginning service work.

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

INDOOR UNIT COMPONENTS OVERVIEW

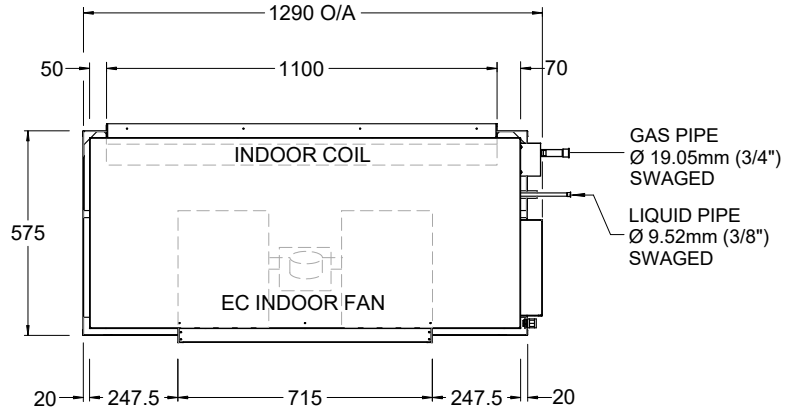


* Applicable to ERQ5-21AS and ERQ5-24AS only.

04. Indoor Unit Dimensions / Clearances

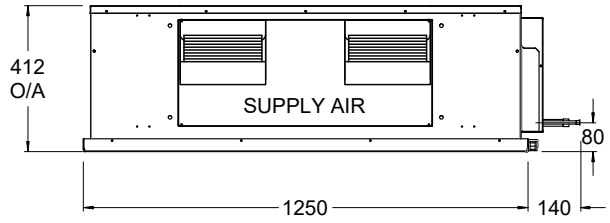
04.01. Unit Dimensions and Weights

ERQ2-16AS / ERQ3-18AS

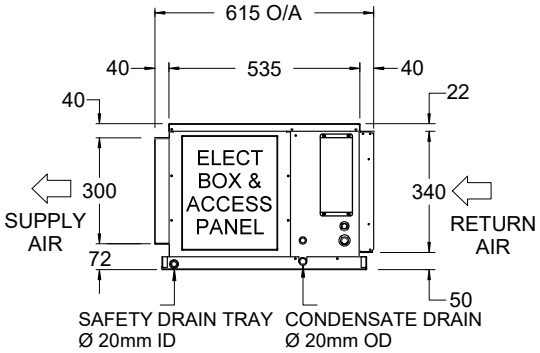


TOP VIEW

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
DRAIN CONNECTION = 20mm OD



FRONT VIEW



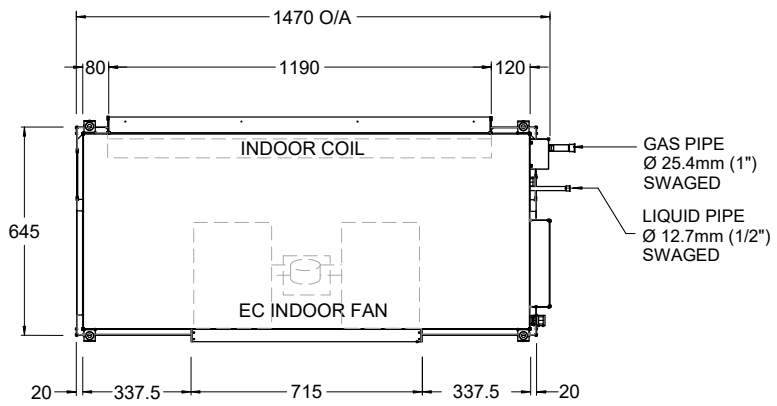
SIDE VIEW

NOTE

- All dimensions are in mm unless specified.
- Do not scale drawing.

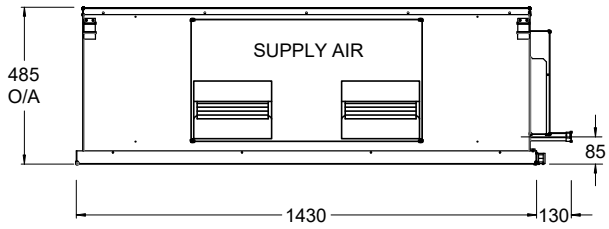
Unit Model Number	Unit Weight (kg)
ERQ2-16AS	54
ERQ3-18AS	54

ERQ5-21AS / ERQ5-24AS

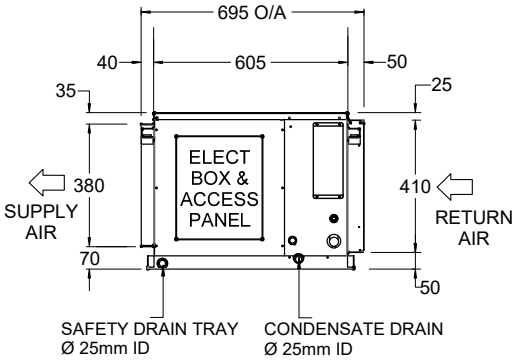


TOP VIEW

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
DRAIN CONNECTION = 25mm ID



FRONT VIEW



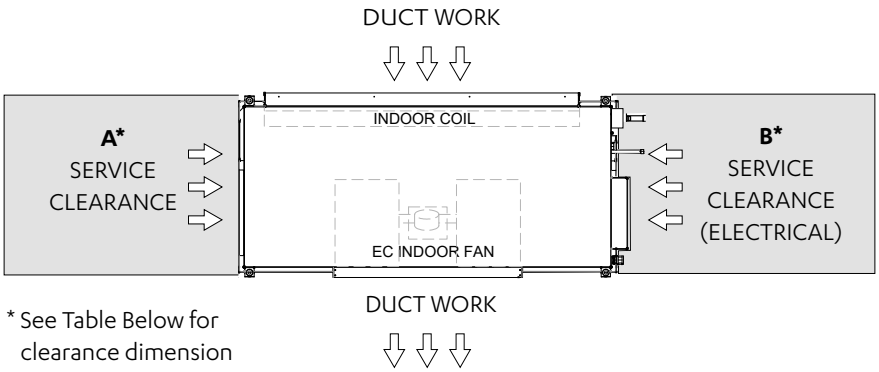
SIDE VIEW

NOTE

- All dimensions are in mm unless specified.
- Do not scale drawing.

Unit Model Number	Unit Weight (kg)
ERQ5-21AS	76
ERQ5-24AS	80

04.02. Minimum Service Access Areas and Airflow Clearances



* See Table Below for clearance dimension

Model	A	B	Height Clearance
ERQ2-16AS / ERQ3-18AS	800	800	340
ERQ5-21AS / ERQ5-24AS	890	890	410

NOTES

- Do not scale drawing. All dimensions are in mm unless specified. Refer to corresponding unit dimensional drawing for mounting hole details.
- Service Access Areas and Spaces for Airflow Clearances given above are suggested minimums 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 areas and spaces for airflow clearances are the responsibility of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access and space for airflow.

05. Installation Instructions

The installation instructions provided below are intended as a guide only and do 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.

05.01. Lifting the Unit

The installation instructions provided, in Section 06, adhere to WH&S regulations for safe and secure lifting practices in order to prevent physical injury.

Suggested lifting procedures are outlined in Section 06 as a reference guide to safely lift and transport the unit, however, this does not over rule the industry WH&S practices.

05.02. 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.

A hanging bracket assembly and rubber grommet (optional on other units) are also provided to secure the indoor unit into the roof rafters. This configuration is most suitable for installations that require the unit to be rigidly secured up from the roof joist.

05.03. Condensate and Safety

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. A drain kit (supplied with some units) is required for the condensate drain to be externally trapped from the indoor unit. Suggested condensate and safety tray drainage instructions are provided in Section 07 of this document for your reference.

05.04. Supply Air and Return Air Duct

The indoor unit is supplied with a duct flange 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.

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

05.05. Supply Air and Return Air Plenums (Optional)

Supply Air plenums and Duct Plates (twin-spigot) are available 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.

05.06. 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 the requirement for a clean and hygienic room condition. Air filters must be placed in an easily accessible location for service and maintenance.

IMPORTANT NOTES TO INSTALLER

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

05.07. Field Pipe Connection

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. ActronAir highly recommend all field pipes to be insulated.

05.08. Electrical Field 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.

06. Unit Lifting Procedures

⚠ WARNING

WH&S regulations must be observed and will take precedence during lifting process.

⚠ 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.

06.01. Crane Lifting Method

⚠ NOTE

- 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 and sound rigging and lifting procedure.

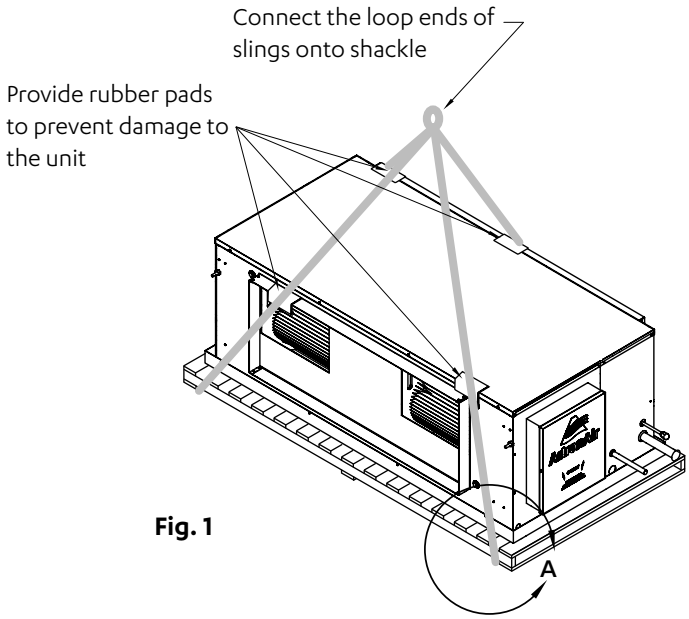
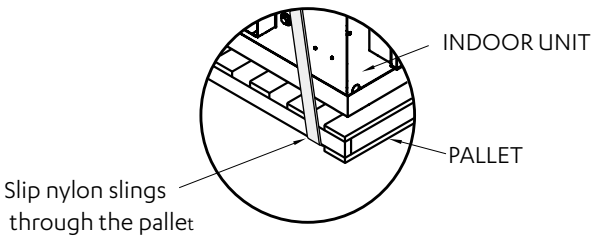


Fig. 1



DETAIL A

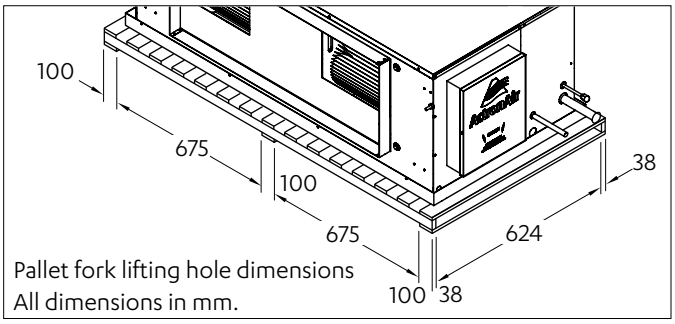
EQUIPMENT REQUIRED FOR CRANE LIFTING: 1 x shackle ; 2 x nylon slings; 4 x rubber pads

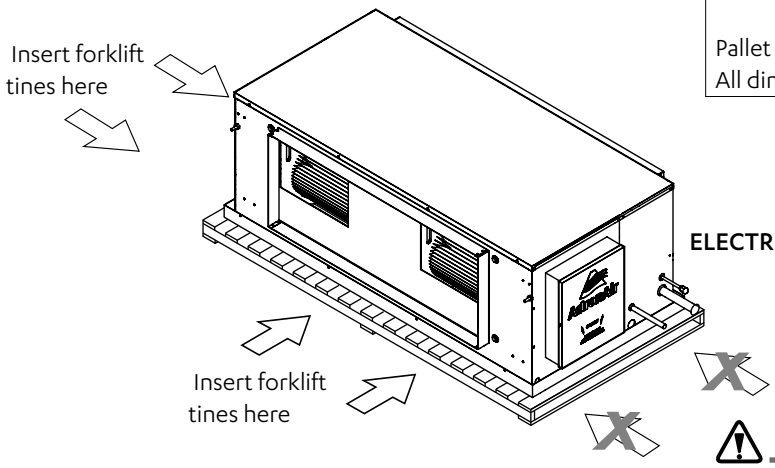
Procedure:

1. Slip nylon slings through the pallet as shown in Fig. 1.
2. Use a 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.

06.02. Fork Lift Method

Fig. 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 pallet, 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

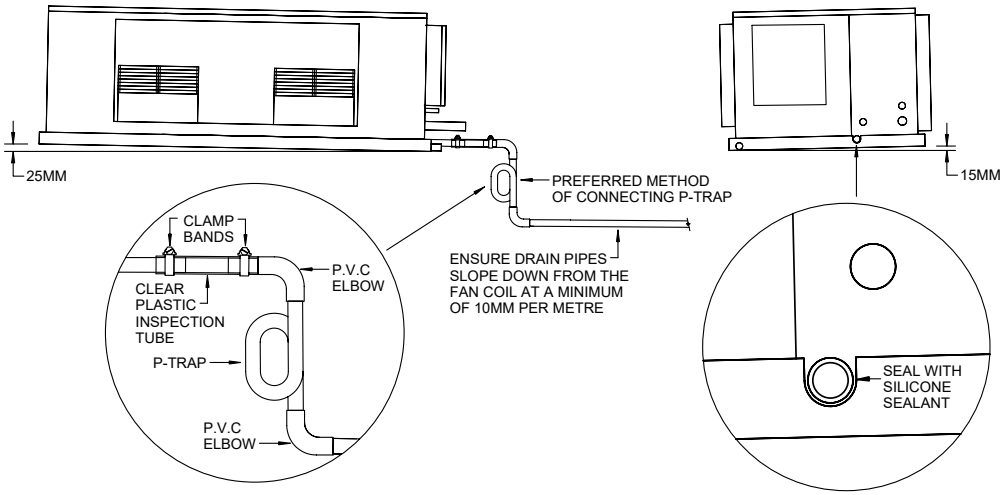
Length of fork lift tines must pass the unit middle section, in order to safely carry the unit.

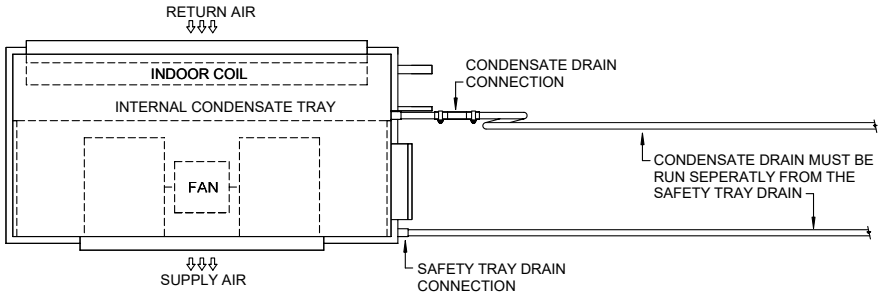
07. Safety Drain Tray

NOTE

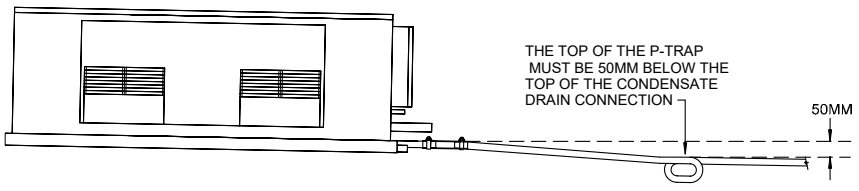
- Refer to indoor unit dimension page for specification of drain connectors .
- Test condensate drain installation to ensure that the water flows freely and does not leak. Also check that the drain tray does not overflow.

Suggested Minimum Slope to Ensure Correct Drainage

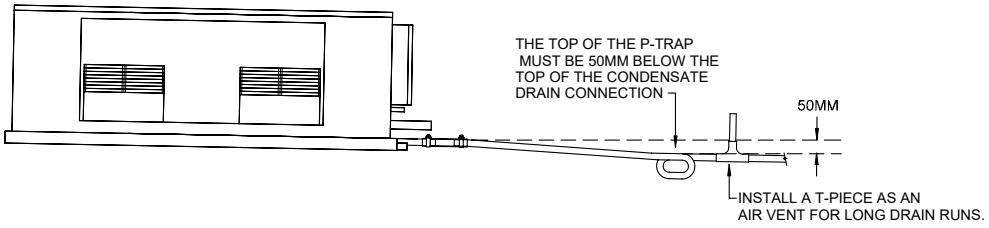




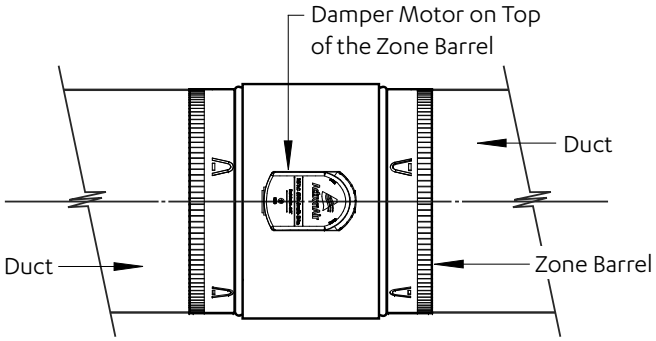
Suggested P- Trap Connection with Limited Height Clearance



Suggested P- Trap Connection with Long Drain Running

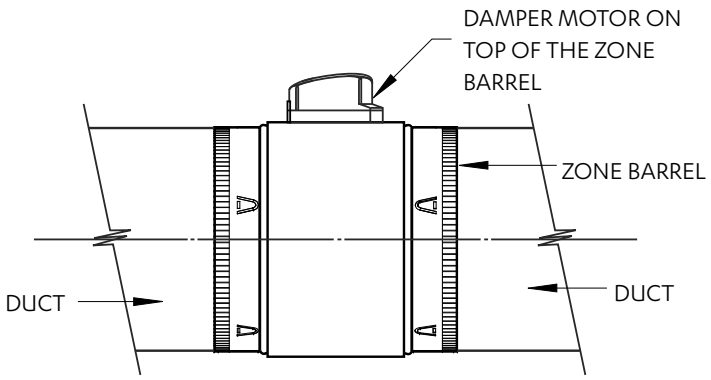


08. Zone Barrel Mounting Instructions



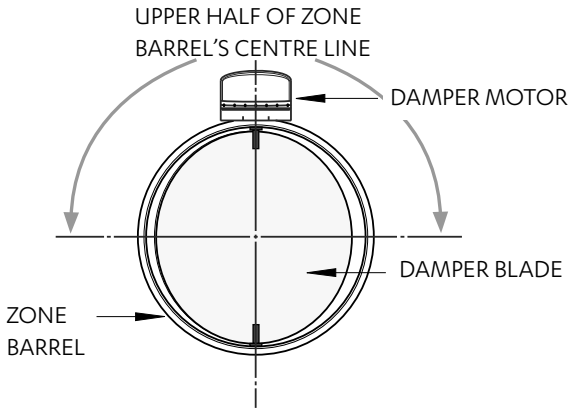
TOP VIEW

PREFERRED LOCATION



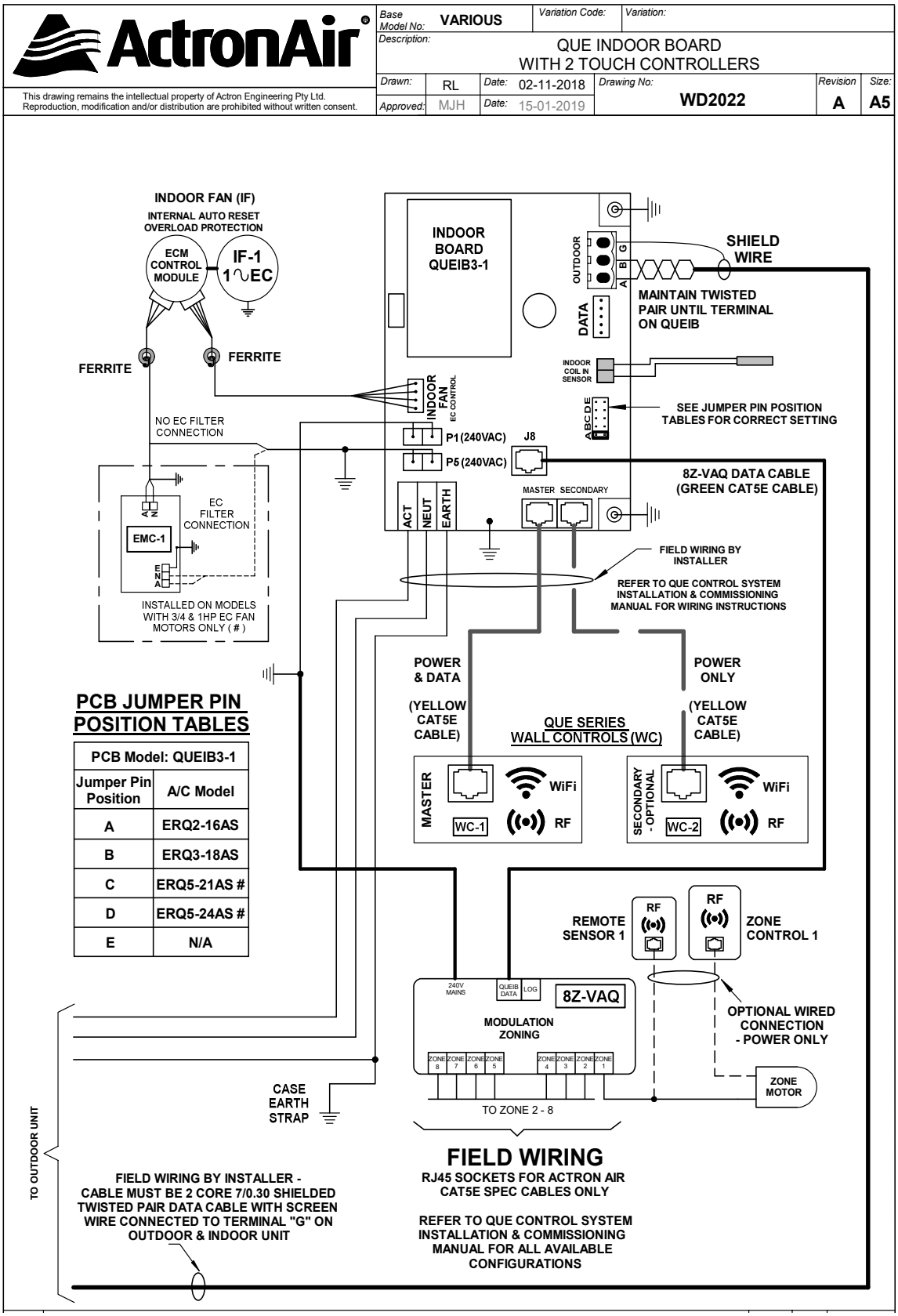
SIDE VIEW

RECOMMENDED LOCATION



FRONT VIEW

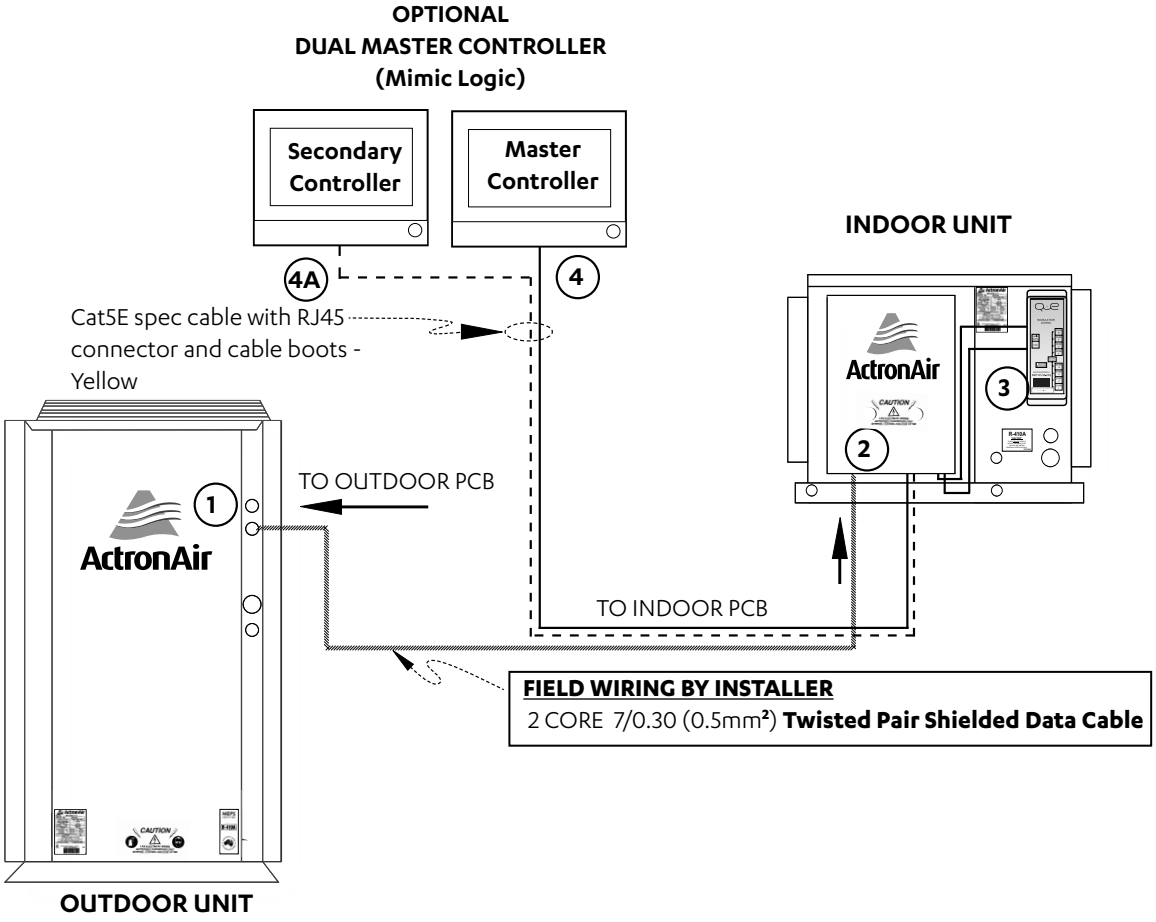
09. Indoor Unit Wiring Diagram



PCB JUMPER PIN POSITION TABLES

PCB Model: QUEIB3-1	
Jumper Pin Position	A/C Model
A	ERQ2-16AS
B	ERQ3-18AS
C	ERQ5-21AS #
D	ERQ5-24AS #
E	N/A

10. Maximum Cable Lengths



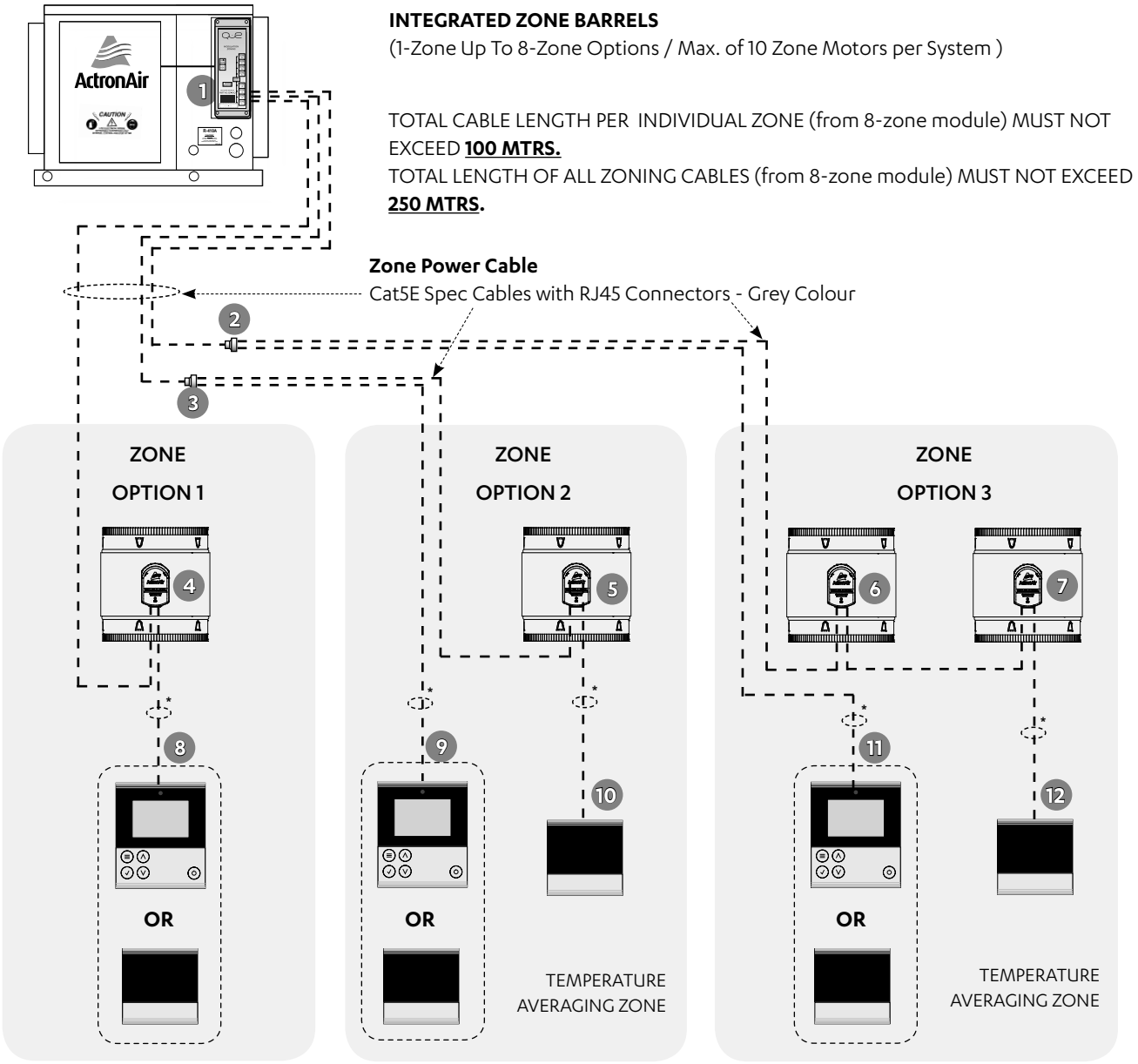
Item	Description	Maximum Cable Length *
1 to 2	Outdoor PCB to Indoor PCB	60 m
2 to 3	Indoor PCB to QUE Module (factory fitted)	0.175 m
2 to 4	Indoor PCB to Master Wall Controller	30 m
2 to 4A	Indoor PCB to Secondary Wall Controller	30 m

* Long runs beside mains cables to TV antenna cables should be avoided where possible. To minimise noise interference, Data and Power cable clearance should be maintained as much as possible.

NOTE

Diagram shown above is a general representation only. Refer to individual unit wiring diagram for complete wiring connection details

11. Maximum Cable Lengths - Zoning



INTEGRATED ZONE BARRELS
(1-Zone Up To 8-Zone Options / Max. of 10 Zone Motors per System)

TOTAL CABLE LENGTH PER INDIVIDUAL ZONE (from 8-zone module) MUST NOT EXCEED **100 MTRS.**
TOTAL LENGTH OF ALL ZONING CABLES (from 8-zone module) MUST NOT EXCEED **250 MTRS.**

Zone Power Cable
Cat5E Spec Cables with RJ45 Connectors - Grey Colour

* All Zone Device Power Cable : Cat5E Spec Cables with RJ45 Connectors and Cable Boots - Green Colour

Item	Description	Maximum Cable Length
1 to 2 and 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 and 7 to 12	zone barrel motor to zone device	20m
3 to 9 and 2 to 11	3-way cable joiner to zone device	20m

12. 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		
Isolators/Printed Circuit Boards				✓					Visual Inspection	Tighten Terminals as necessary on isolators and printed circuit boards
Electrical Connections				✓					Check all electrical terminals, mains, communications, etc	Re-tighten if loose.

INDOOR SECTION

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 to earth with insulation tester. Insulation resistance 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.

13. Key Parts List

			ESP PLATINUM MODELS			
			ERQ2-16AS	ERQ3-18AS	ERQ5-21AS	ERQ5-24AS
Item	Description	Part Number	Quantity	Quantity	Quantity	Quantity
1	EC ID Fan	2520-330	1	1	---	---
	EC ID Fan	2520-334	---	---	1	---
	EC ID Fan	2520-313	---	---	---	1
2	Indoor Coil Assembly	1040-254	1	1	---	---
	Indoor Coil Assembly	1040-274	---	---	1	---
	Indoor Coil Assembly	1040-273	---	---	---	1
3	Coil Piston	4540-090	1	---	---	---
	Coil Piston	4540-128	---	1	1	1
4	ID PC Board	2020-167	1	1	1	1
5	Zone Module	8Z-VAQ	1	1	1	1
6	Filter Board	4080-013	---	---	1	1
7	Yellow Cat5e Cable 10m	4070-028	1 per controller	1 per controller	1 per controller	1 per controller

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That's better. That's Actron.

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