

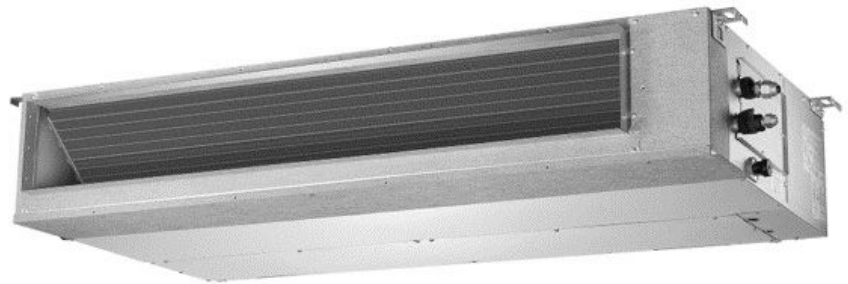
UltraSlim Ducted Split System Air Conditioner

Owner's Manual



Model Numbers

LRC-071CS / LRE-071CS
LRC-100CS / LRE-100CS
URC-125CS / LRE-125CS
URC-140CS / LRE-140CS
LRC-170CS / LRE-170CS



IMPORTANT NOTE:

Please read this manual carefully before installing or operating your air conditioning unit. Make sure to save this manual for future reference.



CAUTION:

The system is charged with flammable refrigerant, safety checks are necessary to ensure that the risk of ignition is minimised.

That's better. That's Actron.



ActronAir

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READ SAFETY PRECAUTIONS

Incorrect system operations due to ignoring instructions can cause serious damage or injury. The seriousness of potential damage or injuries is classified as either a **WARNING** or **CAUTION**.



CAUTION

Failure to observe a caution may result in injury or equipment damage.



WARNING

Failure to observe a warning may result in death or serious injury.

01. General Information

CONGRATULATIONS on your purchase of an ActronAir 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” inspections and test procedures were conducted to your air conditioning unit to ensure satisfactory operation.

This guide provides operation instructions specific to your split indoor unit. Read this manual thoroughly to ensure safe operation of your air conditioning system.

02. Safety Instructions

- Only licensed HVAC technicians* should 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.
- 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.

*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 and maintenance 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. Extreme care and caution must be observed should there be a need to work on live circuit.

WARNING

- If any abnormal situation arises (like burning smell), turn off the power supply and call your HVAC technician for instructions to avoid electric shock, fire or injury.
- **DO NOT** let the indoor unit or the controller get wet. It may cause electric shock or fire.
- **DO NOT** insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- **DO NOT** use a flammable spray such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.

⚠ CAUTION

- **DO NOT** inspect the unit by yourself. Ask a qualified HVAC technician to perform the inspection.
- To prevent product deterioration, do not use the air conditioner for preservation purposes (storage of food, plants, animals, works of art, etc.).
- **DO NOT** touch the evaporator coils inside the indoor unit. The evaporator coils are sharp and may cause injury.
- **DO NOT** place items that might be affected by moisture damage under the indoor unit. Condensation can occur at a relative humidity of 80%.
- **DO NOT** expose heat-producing appliances to cold air or place them under the indoor unit. This may cause incomplete combustion or deformation of the unit due to the heat.
- If the air conditioner is used together with other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- **DO NOT** climb onto or place objects on top of the outdoor unit.
- **DO NOT** operate the air conditioner when using fumigant insecticides. The chemicals may become layered with the unit and endanger those who are hypersensitive to chemicals.
- **DO NOT** let children play with the air conditioner.

⚡ DANGER

- **DO NOT** operate the air conditioner in a wet room (e.g. bathroom or laundry room) nor with wet hands. It may cause electric shock. This can cause electrical shock and cause the product to deteriorate.

⚠ WARNING

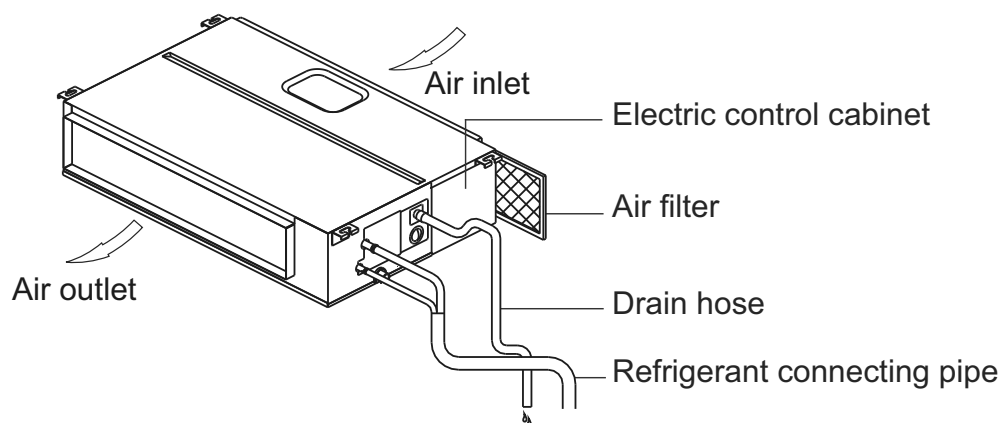
This air-conditioning unit contains R-32 refrigerant (CLASS A2L) which is mildly flammable.

NOTE

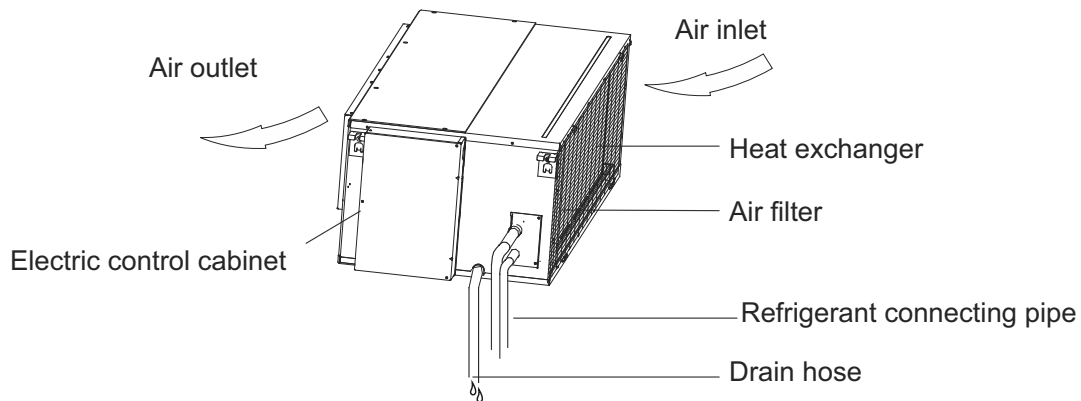
- Service, maintenance, repairs and decommissioning of this unit must be performed by a licensed HVAC technician; qualified to handle R-32 refrigerant.
- R-32 refrigerant is odourless, if the refrigerant gas comes into contact with fire, it may emit a poisonous gas.
- Do not continuously operate open flames and ignition sources in the room.

03. Unit Parts

LRE-071CS / LRE-100CS / LRE-125CS



LRE-140CS / LRE-170CS



04. Operating Conditions

Operating Temperature

Optimal performance for the **COOL**, **HEAT**, and **DRY** modes can be achieved in the following temperature ranges. When your air conditioner is used outside of these ranges, certain safety protection features will activate and cause the unit to perform less than optimally.

	COOL Mode	HEAT Mode	DRY Mode
Room Temperature	17°C to 32°C	0°C to 30°C	17°C to 32°C
Outdoor Temperature	-0°C to 50°C	-20°C to 24°C	0°C to 50°C

05. Features

Compressor Protection

- The compressor cannot restart for 3 minutes after it stops.

Hot Start

- The unit is designed not to blow cold air during **HEAT** mode, when the indoor heat exchanger is in one of the following conditions and the set temperature has not been reached.
 - a. When heating has just started.
 - b. When the system is in defrost.
 - c. Low temperature heating.
- The indoor or outdoor fan stop running when the system is in defrost.

Defrosting

- Frosting may occur on the outdoor unit during a heat cycle when outdoor temperature is low and humidity is high resulting in lower heating efficiency in the air conditioner.
- Under these conditions, the air conditioner will stop heating operations and start defrosting automatically.
- The defrost period may vary from 4 to 10 minutes, depending the outdoor temperature and the amount of frost buildup on the outdoor unit.

NOTE

During this time a defrost indicator will display on your control - check the Wall Control user manual for more information.

Auto-Restart

In the event of a power failure, the unit will restart automatically in its last programmed setting once power is restored.

NOTE

Lightning or any electronic interference nearby may cause the unit to malfunction. If this happens, reset the power mains (isolator). Press the ON/OFF button on the wired controller to restart operation.

Optimal Operation

To achieve optimal performance, please note the following:

- Adjust the temperature to achieve the highest possible level of comfort. **DO NOT** adjust the unit to excessive temperature levels.
- While cooling, close the blinds or curtains to avoid direct sunlight.
- Doors and windows should be kept closed to keep cool or warm air in the room.
- Set an **ON/OFF TIMER** and use **SLEEP/ECONOMY** feature.
- Do not place any object near the air inlet or air outlet, as the efficiency of the air conditioner may be reduced and the air conditioner may stop running.
- Clean the air filter periodically, otherwise cooling or heating performance may be reduced.

06. Care and Maintenance

NOTES

Apart from filter cleaning, all other general maintenance and care of systems should be undertaken by a licensed technician.

Service, maintenance, repairs and decommissioning of this unit must be performed by a licensed HVAC technician; qualified to handle R-32 refrigerant.

Maintenance Procedures

This section describes the procedures that must be performed as a part of normal maintenance program. Regular servicing of equipment by licensed technician is highly recommended. Regular servicing of your unit helps in maintaining its optimum performance and reliability. **The checklist and service periods provided on this manual are guides only, as some sites may require more frequent servicing.** Always disconnect electrical power to the unit before performing these procedures. It is always a safe practice to observe all safety warnings and cautions when conducting maintenance tasks.

WARNING

Hazardous Voltage !

Always make sure that all power supply, including remote controls, are disconnected before performing maintenance. Observe proper LOCK-OUT/TAG-OUT procedures to ensure that power cannot be inadvertently energised. Failure to disconnect power before maintenance procedures can result in serious injury and/or death.

DANGER

Live Electrical Connections!

It may be necessary to work with live electrical components on certain maintenance tasks. Only licensed electricians and qualified technicians are allowed to perform these tasks.

Beware of Rotating Fan Blades!

Always make sure that all power supply, to the Outdoor Fans are turn Off and isolated.

Observe WH&S safety procedures, do not wear loose clothing and any jewellery when working near the fans.

Wear PPE whenever performing any maintenance procedures.

Observe all necessary procedures when working in a confined space.

Annual Maintenance Checklists

- Perform general maintenance inspections.
- Perform scheduled start-up checks.
- Leak test refrigerant circuits.
- Inspect contacts of all contactors and relays. Replace all worn contacts as required.
- Inspect, clean and tighten all electrical connections.
- Check fans for balanced operation. Make sure that there are no loose screws / bolts, no fan blades interference and no damage to the fans and guards.
- Inspect the air filters, clean or replace as required.
- Clean and repaint any corroded panel section.
- Ensure no blockage of airflow through variable speed drive.

Preparation For Periods of Non-Use

If you plan to not use your air conditioner for an extended period of time, do the following:

- Run the appliance on **FAN** mode for 12 hours in a warm room to dry all its components. Presence of moisture for a long period of time may lead to mold formation.
- Turn off the appliance and turn off power via the main power isolator.
- Clean the air filter and dry filter before storing. Reinstall filter before re-using the air conditioner. Contact your installer for detail on cleaning the filter.

Maintenance – Pre-Season Inspection

After long periods of non-use, or before periods of frequent use, do the following:

- Use a dry cloth to wipe off the dust accumulated on the rear air intake grille in order to avoid the dust being dispersed from the indoor unit.
- Check that the air filter is installed.
- Check if the air outlet or inlet is blocked after the air conditioner has not been used for a long time.
- Turn on the main power isolator at least 12 hours prior to operating the unit.

 **CAUTION**

- Any unit repairs, maintenance and cleaning of outdoor unit should be performed by qualified HVAC technician.
- Filter cleaning can and should be regularly performed by product owner as required.

 **WARNING**

- If the refrigerant leaks, turn off the air conditioner and any combustible heating devices, ventilate the room and call your HVAC technician immediately. Refrigerant can be toxic. DO NOT use the air conditioner until the leak is repaired.
- When the air conditioner is installed in a small room, measures must be taken to prevent the refrigerant concentration from exceeding the safety limit in the event of refrigerant leakage. Concentrated refrigerant causes a severe health and safety threat.

07. Troubleshooting



SAFETY PRECAUTIONS

If ANY of the following conditions occurs, turn off your unit immediately!

- Any cables are damaged or abnormally warm
- You smell a burning odour
- The unit emits loud or abnormal sounds
- A power fuse blows or the circuit breaker frequently trips
- Water or other objects fall into or out of the unit

DO NOT ATTEMPT TO FIX THESE YOURSELF! CONTACT AUTHORISED SERVICE PROVIDER IMMEDIATELY!

The following problems are not a malfunction and in most situations will not require repairs.

Fault	Possible Causes
Unit does not turn on when pressing ON/OFF button	The unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
	Unit may be in Pre-Heat mode which may take up to 60 seconds
The unit changes from COOL mode to FAN mode	The unit changes its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will resume operating when the temperature fluctuates again.
The indoor unit emits white mist	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.
Both the indoor and outdoor units emit white mist	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.
The indoor unit makes noises	A squeaking sound is heard when the system is OFF or in COOL mode. The noise is also heard when the drain pump (optional) is in operation.
Both the indoor unit and outdoor unit make noises	A low hissing sound may occur during operation. This is normal and is caused by refrigerant gas flowing through both the indoor and outdoor units.
	A low hissing sound may be heard when the system starts, has just stopped running or is defrosting. This noise is normal and is caused by the refrigerant gas stopping or changing direction.
The outdoor unit makes noises	The unit will make different sounds based on its current operating mode.
Dust is emitted from either the indoor or outdoor unit	The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.
The indoor unit emits a bad odour	The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit's filters have become moldy and should be cleaned.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.

When troubles occur, please check the following points before contacting a repair company.

Fault	Possible Causes	Remedies
The unit is not working	Power failure	Wait for the power to be restored
	The power switch is off	Turn on the power
	The unit's 3-minute protection has been activated	Wait three minutes after restarting the unit
Poor Cooling Performance	Temperature setting may be higher than the ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty	Remove the filter and clean it according to instructions
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction and turn it back on
	Doors and windows are open	Make sure that all doors and windows are closed while operating the unit
	Excessive heat is generated by sunlight	Close windows and curtains during periods of high heat or bright sunshine
The unit starts and stops frequently	Setpoint is reached	Check that the setpoint is not reached
	Unit encounters an error	Check that the unit does not display any error
Poor Heating Performance	The outdoor temperature is lower than 7°C	The system may be in defrost, if the indoor fan is not running then wait 10min for defrost to complete
	Cold air is entering through doors and windows	Make sure that all doors and windows are closed during use

NOTE

If your problem persists after performing the checks and diagnostics above, turn off your unit immediately and contact ActronAir on 1800 119 229 for technical support or warranty.

08. Display Codes

When troubles occur, please check the following points before contacting a qualified service technician

Normal Display (not error code)

Display Codes	Operation Lamp	Timer Lamp	Causes
dF	-	-	Defrost
ON(3s)	-	-	Timer ON is set. Activation of Swing, Boost, Silence or UV-C lamp
OF (3s)	-	-	Timer OFF is set. Cancellation of Swing, Boost, Silence or UV-C lamp
CL	-	-	Filter cleaning reminder (power on display for 15 seconds)
CL	-	-	Active clean
nF	-	-	Filter replacement reminder (power on display for 15 seconds)
FP	-	-	Heating in room temperature under 8°C
FC	-	-	Forced cooling
AP	-	-	AP mode of WIFI connection
CP	-	-	Remote switched off

Error Codes

Error Codes	Causes
E2	Indoor Return air temperature sensor error
E3	Indoor coil temperature sensor error
EF	Low refrigerant
EE	High water level alarm
E5	Outdoor ambient temperature sensor error
E5	Outdoor coil temperature sensor error
E5	Compressor discharge temperature sensor error
ED	Outdoor unit EEPROM error
ED	Outdoor unit fan speed error
E4	Indoor coil outlet temperature sensor error
EB	Inverter module IPM error

09. Maintenance

Maintenance Procedures

This section describes the procedures that must be performed as a part of normal maintenance program. Regular servicing of equipment by licensed HVAC technician is highly recommended. Always disconnect electrical power to the unit before performing these procedures. It is always a safe practice to observe all safety warnings and cautions when conducting maintenance tasks.



Live Electrical Connections !

It may be necessary to work with live electrical components on certain maintenance tasks. Only licensed electricians and qualified technicians are allowed to perform these tasks.



Hazardous Voltage !

Always make sure that all power supply, including remote controls, are disconnected before performing maintenance. Observe proper LOCK-OUT / TAG-OUT (LOTO) procedures to ensure that power cannot be inadvertently energised. Failure to disconnect power before maintenance procedures can result in serious injury and/or death.

Annual Maintenance Checklists

- Perform general maintenance inspections.
- Perform scheduled start-up checks.
- Leak test refrigerant circuits.
- Inspect contacts of all contactors and relays. Replace all worn contacts as required.
- Inspect, clean and tighten all electrical connections.
- Check fans for balanced operation. Make sure that there are no loose screws/bolts, no fan blades interference and no damage to the fans and guards.
- Inspect the air filters, clean or replace as required.
- Clean and repaint any corroded panel section.
- Ensure no blockage of airflow through variable speed drive and drive fan is operating correctly.

Cleaning the Condenser Coils

Clean the coils at least once a year or more frequently if unit is located in a dusty and dirty environment, in order to maintain your system's proper operating performance. High discharge pressures are good indication that the coils need cleaning. When using detergent or solvents to clean the coils, follow the manufacturer's instructions to avoid potential damage to the coils and to the unit.

To clean the refrigerant coils, use a soft brush and water spray, such as garden hose or pressure washer with low pressure nozzle.



DANGER

Beware of Rotating Fan Blades !

- Always make sure that all power supply, to the Outdoor Fans are turned-off and isolated.
- Observe WH&S safety procedures, do not wear loose clothing and any jewellery when working near the fans.
- Wear PPE whenever performing any maintenance procedures.
- Observe all necessary procedures when working on a confined space.



CAUTION

Do Not Use High Alkaline Detergent !

When using detergent for coil cleaning, ensure that the alkaline level is no higher than 8.5, which can cause corrosion damage to the coils.

Coil Cleaning Procedures

- Disconnect power to the unit.
- Remove the louvered panels from the unit to gain access to the air inlet side of the coils.
- Use a soft brush to remove loose dirt and debris from both sides of the coils.
- Straighten bent coil fins with fin comb.
- Prepare the detergent solutions according to the manufacturer's instructions.
- Spray solution at a 90° angle to the coils, keeping a minimum nozzle spray angle of 15°, with at least a 1800mm distance from the coils and 600 psi pressure.
- Spray leaving air side of the coils first then the air inlet side. Allow the solution to stand on the coils for five minutes.
- Rinse both sides of the coils with cool clean water.
- Inspect the coils, if they are still dirty, repeat the cleaning procedure.
- Clean and wipe dry the outer and inner sides of the unit, the refrigerating parts and other components.
- Ensure that the condensate drain lines are not blocked.
- Reinstall all unit panels, covers and guards.
- Restore electrical power to the unit.

10. 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 Frequency				Detail of Service Check	Service Methods
	1 Mth	3 Mth	6 Mth	1 Yr		
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.
Magnetic Contactor				✓	Check for loose terminal connections.	Tighten electrical terminals. Remove any dust.

Indoor Unit						
Parts	Service Frequency				Detail of Service Check	Service Methods
	1 Mth	3 Mth	6 Mth	1 Yr		
Casing/Panels and Frames				✓	Visual check for damage, rust and dust accumulation.	For highly corrosive environment, wash panels quarterly with water & 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 Megger. 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 & free flow of water.	Clean to eliminate obstructions/ sludge & check condition of pan. Pour water to ensure free flow.
Filter*	✓				Check for clogging by dust.	Clean / Replace Filter.
Temperature Readings				✓	Measure air on & air off.	Place temperature probe in return & supply air of unit.

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

Outdoor Unit						
Parts	Service Frequency				Detail of Service Check	Service Methods
	1 Mth	3 Mth	6 Mth	1 Yr		
Casing/Panels and Frames				✓	Visual check for damage, rust and dust accumulation.	For highly corrosive environment, wash panels quarterly with water & 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 accumulation.	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. 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.
Condensate Drain Line (if available)				✓	Check for obstructions & free flow of water.	Clean to eliminate obstructions/ sludge & check condition of drain line. Pour water to ensure free flow.
Compressor				✓ Ω	Check for high / low pressure. Measure insulation resistance. Check compressor for abnormal noise/vibrations.	Measure insulation resistance. Should be more than 1MΩ. Ensure to isolate first the VSD from the compressor before measuring insulation resistance.
Compressor drive				✓	For variable drive compressor check full operation of drive from minimum hertz to maximum, check fan operation of drive.	Check compressor amperage & running frequency feedback from outdoor board seven segment display.
				✓	Ensure drive fresh air path is clear and drive fan is operating correctly.	Check ventilation holes on top and bottom of drive cover are clear of leaves, pebbles or dirt.
Refrigeration Operational Readings				✓	Make note of operational reading in test cool/heat mode.	Check operating pressures, record super heat & sub-cool values.
Safety Devices				✓	Check calibration of safety devices.	Check resistance of sensors, pressure cut in / cut out of pressure controls.
Faults				✓	Check for any previous fault history on unit.	Investigate any causes for previous faults, reset fault history.



ActronAir

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