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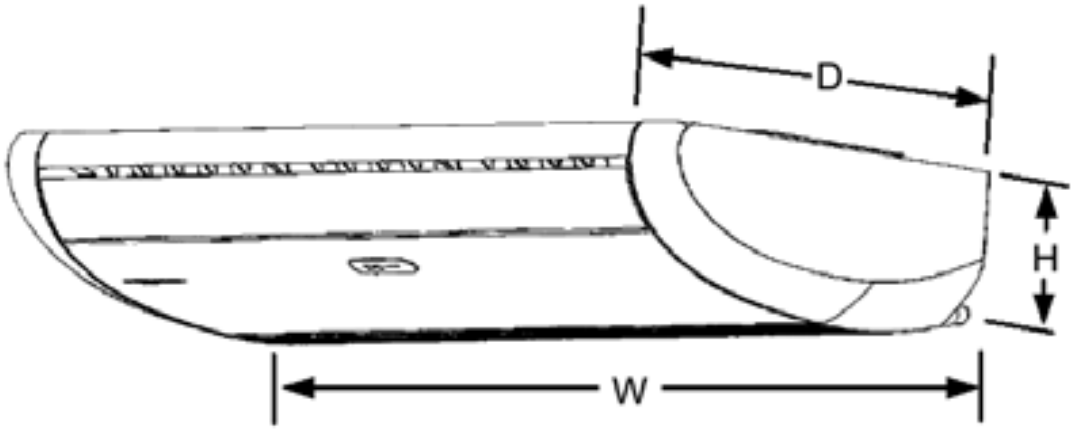
Carrier International Sdn. Bhd. Malaysia

INSTALLATION AND START-UP INSTRUCTIONS

42XQ/XQA
50/60Hz

UNDERCEILING/CONSOLE FAN COIL UNIT

42XQ : Cooling only direct expansion Fan Coil Unit (Wireless Remote Control)
42XQA : Cooling only direct expansion Fan Coil Unit (Wired Remote Control)





42XQ



42XQA

MODEL	W (mm)	D (mm)	H (mm)	Weight (kg)
42XQ/XQA 020/004*	1020	625	232	23
42XQ/XQA 025/006*				23.5
42XQ/XQA 030/007*/008*	1200			26.1
42XQ/XQA 040/010*				27.2
42XQ/XQA 050/012*	1650			37.6
42XQ/XQA 060/014*				40.1

*Model code for Thailand market only (50Hz)

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1 INTRODUCTION

This manual is intended for technicians in the network of accredited Carrier installers, who are appropriately trained and qualified, to assist them with installation and maintenance procedure. It must be stressed that any repair or servicing work may be dangerous if it is performed by unauthorized persons. Only professionals accredited and trained technical personnel may install, start-up and perform any maintenance on the equipment discussed in this manual. Please contact the nearest Carrier representatives if you still need additional information after reading this manual!

2 SAFETY INTRODUCTIONS

The new indoor units in conjunction with the outdoor units have been designed to offer safe and reliable service if operated within the specifications dictated for the project. However, due to this design, the issues relating to the installation, initial start-up and maintenance must be rigorously observed.

ATTENTION !!!

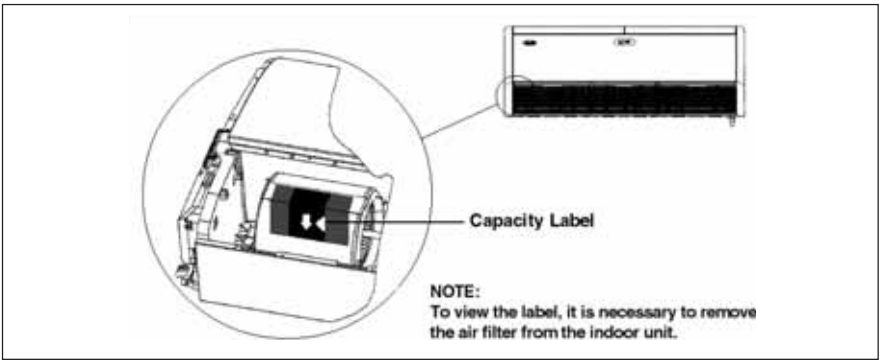
- *Always keep a fire extinguisher close to the working location. Check the extinguisher periodically to verify that it is completely full and work perfectly.*
- *Whenever working on the equipment, always pay attention to all safety notices written on the labels attached to the units.*
- *Always follow all the applicable safety standards and use personal clothing and equipment. Wear gloves and protective goggles whenever handling the units or the refrigerant of the system.*
- *Check the weights and dimensions of the units to ensure appropriate and safe handling.*

ATTENTION !!!

- *Learn to use oxyacetylene equipment safely. Leave the equipment in a ertical position inside the vehicle and also at the job site.*
- *Use dry nitrogen to pressurize and check for leaks in the system. Use a good regulator. Take care not to exceed 200 psig of testing pressure in the rotating.*
- *Before performing work on any of the units, always disconnect the pressure feed.*
- *Never insert your hands or any object into the units when the fan is running.*

2.1 Capacity Label

The capacity label is located inside the indoor unit. In addition to the model and serial number, this label provides technical data about the indoor unit, such as: voltage, frequency, phase, refrigeration capacity, power consumption and current.



3 RECEIVING AND INSPECTING THE UNITS

- To prevent damage during movement or transportation, do not remove the units from their packaging until they arrive at the final installation location.
- Prevent ropes, chains or other equipment from leaning on the units.
- Respect the stacking limits indicated on the packaging of the units.
- Do not swing the outdoor unit during transportation or tilt it at more than 15º to the vertical plane.
- To retain the guarantee, prevent the units from being exposed to possible work accidents, and arrange for their immediate transfer to the place of installation or another safe location.
- When unpacking the units and removing the protective expanded polystyrene (isopor) packaging, do not throw away this polystyrene immediately, because they may be used as protection against dust or other harmful agents until the work and/ or installation is complete and the system is ready to be brought into operation.

ATTENTION !!!

Never hang or load the indoor unit by the plastic sides.
Secure it to the metal parts as shown in Figure 2.

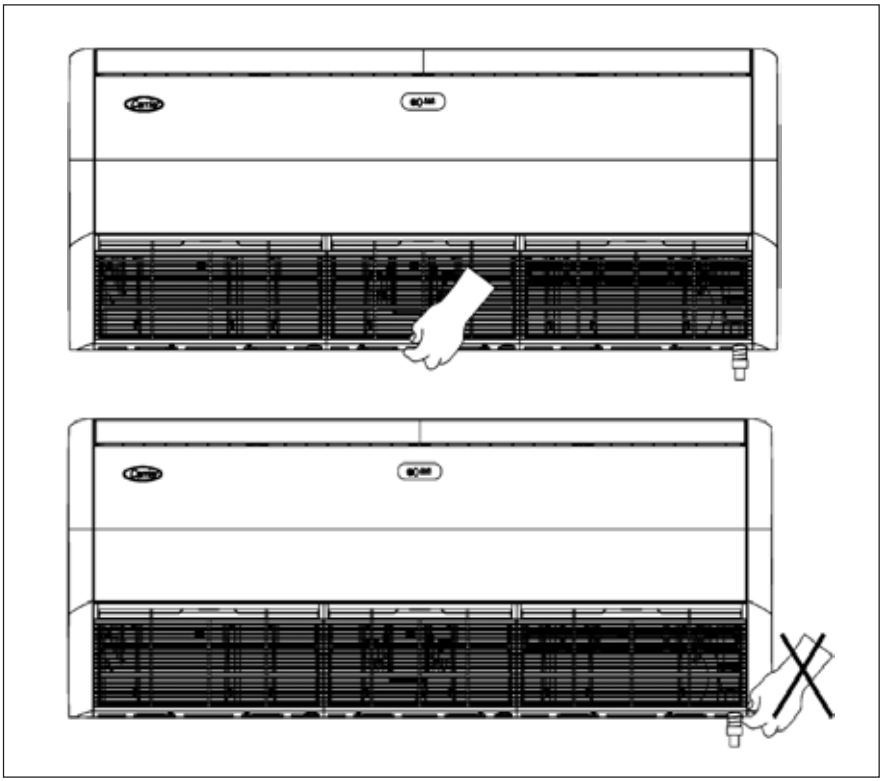


Fig. 2 - Handling the indoor unit

4 INSTALLATION

4.1 General Recommendations

First of all, consult the applicable standards or regulatory codes for installing the equipment in the selected location to ensure that the envisages system is compliant with these standards and regulations.

In addition, prepare a careful plan of the positions of the units to prevent possible interference with any kind of pre-existing (or scheduled) equipment or facilities, such as electrical installations, water mains, sewerage systems, etc.

Install the units so that they are free of any kind of obstructions of the air intakes or air discharges.

Select locations equipped with access spaces to facilitate different types of repairs or servicing work and to leave room for the routine of pipes (copper pipes which interconnect the units, electrical wiring and drainage).

Check that the external location is free of dust or other suspended particulate matter which could possibly obstruct the vanes of the outdoor unit.

It is essential for the indoor unit to posses a hydraulic line to drain off the condensate.

This hydraulic line must have a diameter of no less than 3/4" and, after the discharge, must posses a siphon to guarantee the perfect capture and sealing of the air. During the initial start-up, this siphon must be prefilled with water to prevent air being suctioned from the drainage pipe.

Draining the outdoor unit only becomes necessary when it is installed in a high position and constitute a dripping risk.

4.2 Basic Installation Procedures

INDOOR UNIT

Selection of the location

⇩

Selection of the installation profile

⇩

Drilling the wall - Ceiling/Positioning

⇩

Positioning of the interconnection pipes

⇩

Installation of the drain pipes

⇩

Assembly

OUTDOOR UNIT

Selection of the location

⇩

Installation of the drain pipes

⇩

Assembly

INTERCONNECTION

Connection the interconnection pipes

⇩

Electrical Interconnection

⇩

Final Finishing

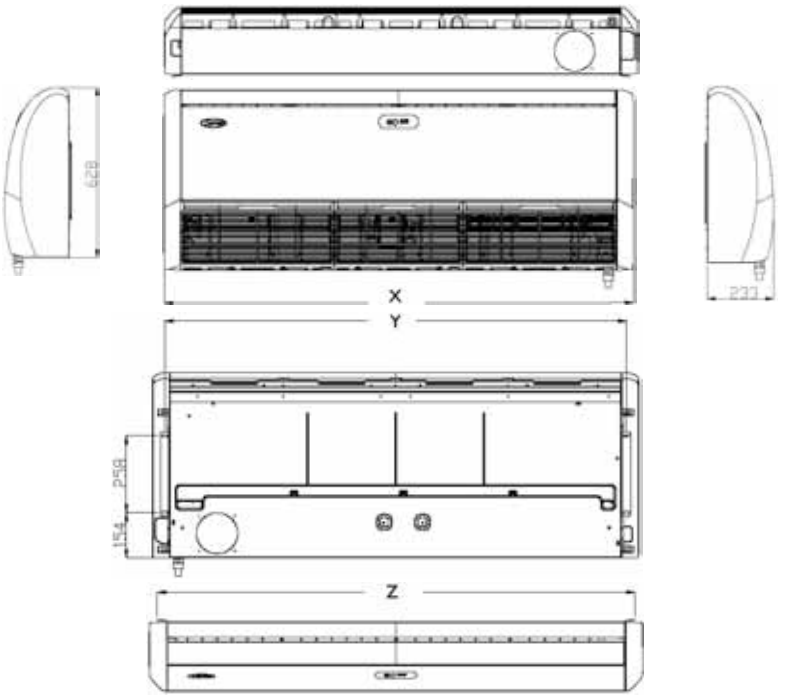
4.3 Installing the Indoor Units

4.3.1 GENERAL RECOMMENDATIONS

Before performing the installation, read these instructions carefully to ensure that you are familiar with the specifications of the unit.
The dimensions and weight of the unit can be found in the cover page.

The rules presented below are applicable to all installations:

a) Prepare a careful plan of the positions of the units to prevent possible interference with any kind of pre-existing (or scheduled) equipment or facilities, such as electrical installations, water mains, sewerage systems, etc.
b) Install the unit where it is free of any kind of obstruction of the air circulation, both in the air intake and the air discharge.
c) Select a location with sufficient space to permit repairs and general maintenance work.
d) The location must permit the routing of the pipes (system pipes, electrical wiring and drainage).
e) The unit must be level after installation.



Model No.	Dimensions (mm)		
	X	Y	Z
42XQ/XQA 020, 025 & 004*, 006*	1020	934	964
42XQ/XQA 030, 040 & 007*, 008*, 010*	1200	1114	1144
42XQ/XQA 050, 060 & 012*, 014*	1650	1564	1594

*Model code for Thailand market only (50Hz)

Fig. 4 - Dimensions of the Indoor Unit

4.3.2 PLACEMENT AT THE LOCATION

a) The unit must only be installed at the following positions: Horizontal under the ceiling, vertical on the wall. (See Fig. 5 and 6).
b) The unit's position must permit the uniform circulation of air throughout the entire environment (Fig. 7).
c) The indoor unit comes factory supplied with (2) fixation support for installing it suspended from the ceiling or fixed to the adjacent wall (Fig. 8).

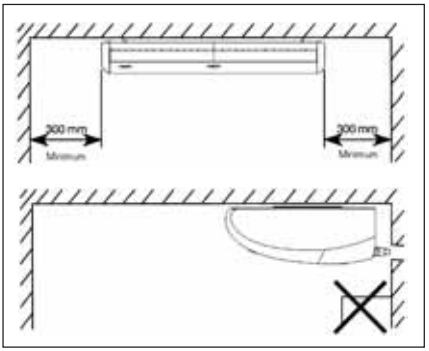
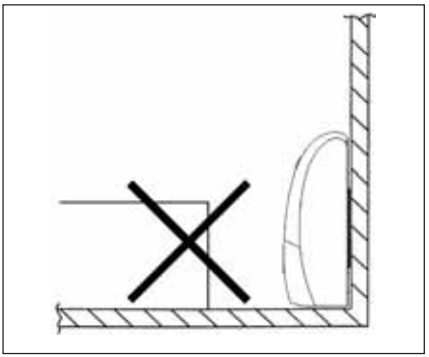


Fig. 5 - Underceiling assembly

NOTE

To fix the indoor unit in place, it is necessary to remove its side covers as described in subsection 4.3.3.

d) Fig. 8 indicates the position of the supports. Install the fixation supports in the ceiling using assembly screws, nuts and washers.


Fig. 6 - Wall assembly (console)

NOTE

Avoid placing the indoor unit in locations in the vicinity of obstacle to the airflow which is necessary for the correct functioning of the equipment.

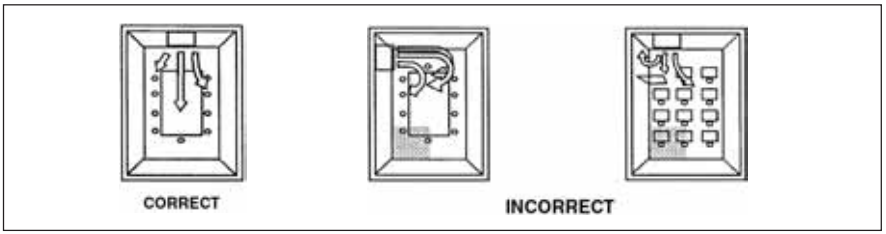


Fig. 7 - Position of the indoor unit in the environment

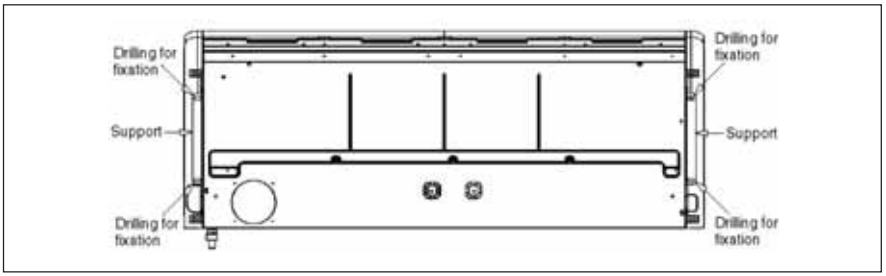


Fig. 8 - Supports and drilling for fixation

4.3.3 REMOVING THE SIDES

- Fig. 9 shows the position of the screws to be removed to disassemble the plastic sides of the indoor unit.
- To access the two screws indicated by the number ❶, it is necessary to remove the air filters from the ends.
- To access the screw shown in the detail (present on both sides), with the number ❷, it is necessary to lift up the horizontal deflector.
- The right side gives access to the connections of the suction, expansion and drainage pipes, whereas the left side gives access to the electrical box and the electrical connections.

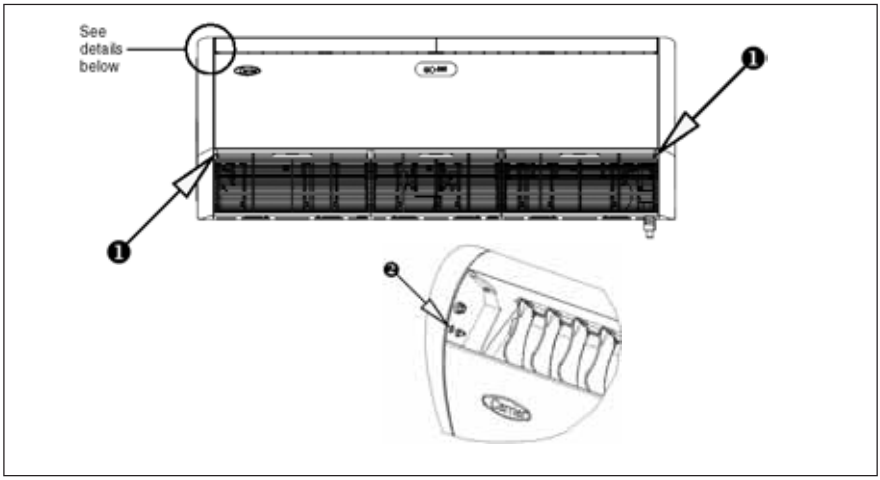


Fig. 9 - Position of the screws for side removal

4.3.4 REMOVING THE GRILLES

Fig. 10 shows the position of the screws to be removed to disassemble the grilles which gives access to the ventilation system assembly.

Before removing the grilles, it is necessary to remove the side covers first. Then remove the filters and the three screws which hold the upper part of each grilles - indicated by the number ❶ on the illustration. The lower part of the grilles is only slotted into the indoor unit.

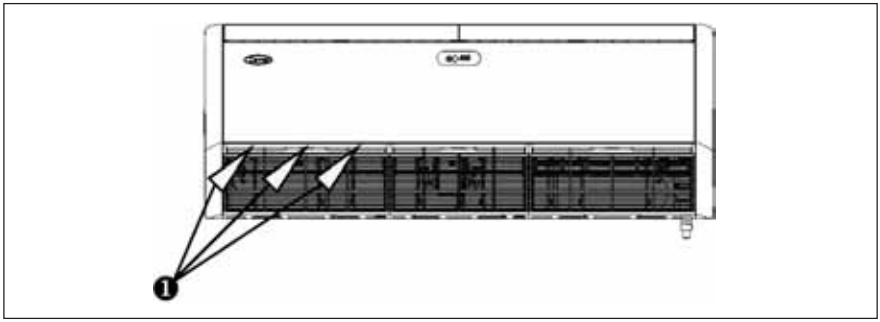


Fig. 10 - Position of screws for grille removal

4.3.5 DRAINING OF THE CONDENSATE

Depending on whether the unit is installed on the wall (console) or ceiling (underceiling), the pipes for draining off the condensate and also the interconnection pipes must be routed differently.

Fig. 11, 12 and 13 show the installations on the wall and ceiling and where these pipes must be routed, as well as where it is necessary to break the indentation in the right-hand side cover of the indoor unit.

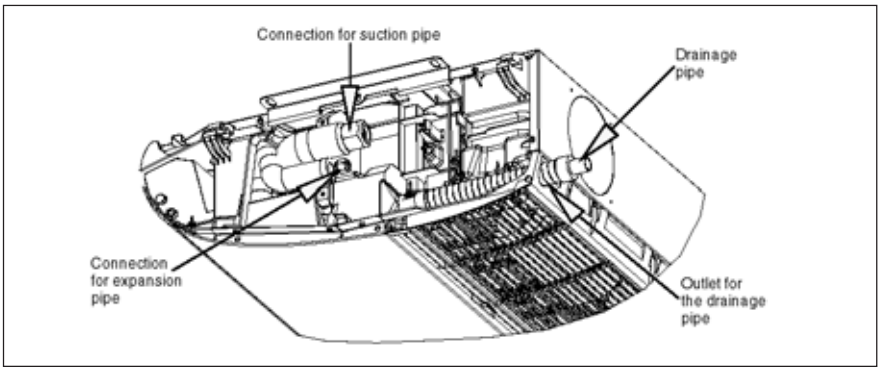
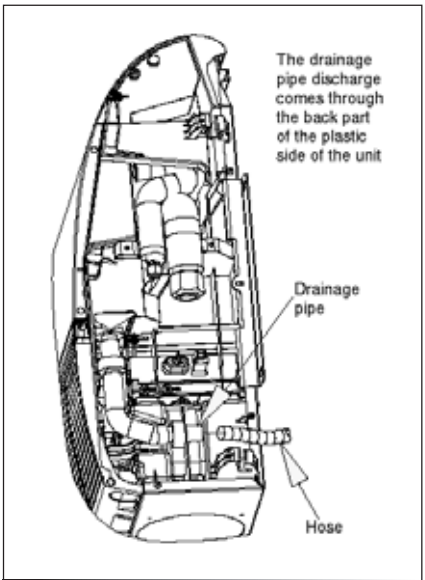


Fig. 11 - Drainage pipes for underceiling assembly



NOTE

Insulate the drainage pipe to a minimum thickness of 5mm to prevent into the device.

Fig. 12 - Drainage pipes for wall assembly

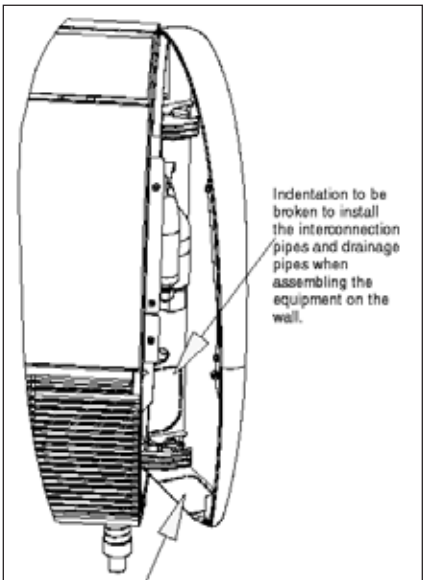


Fig. 13 - Indentations for pipe discharge

To guarantee efficient drainage:

a) Ensure that the unit is level, with **a slight inclination towards the drainage side** - approximately 2º (Fig. 14).
b) The unit uses gravity drainage. However, the drainage pipe must have a downward slope. Avoid the situation shown in Fig. 15.

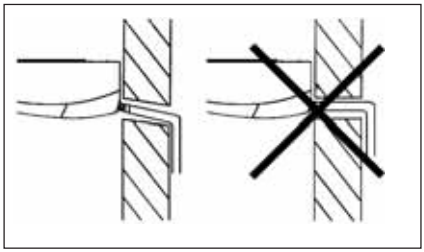


Fig. 14 - Drainage inclination

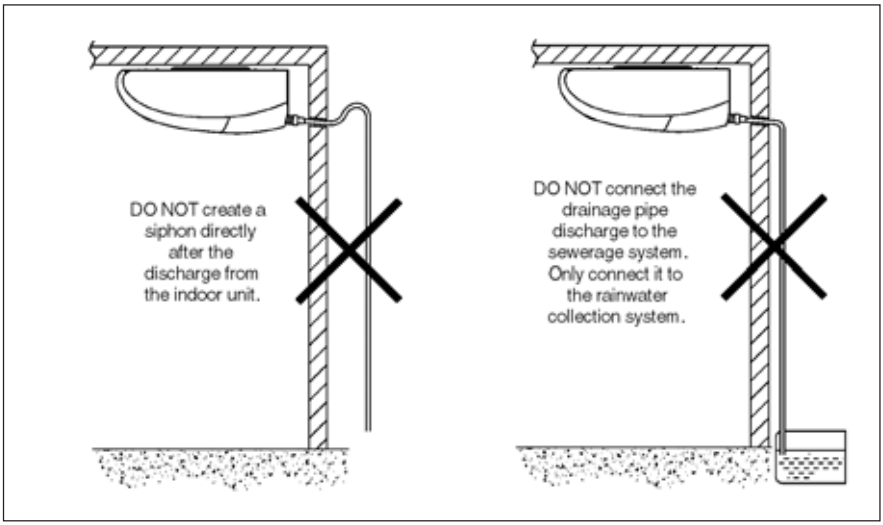


Fig. 15 - Inefficient drainage scenarios

5 INTERCONNECTION PIPES

5.1 Suspending and Mounting the Interconnection Pipes

Always insist that the interconnection pipes are fixed appropriately by means of supports or crossbeams, preferably both.

Insulate them using circular neoprene rubber and then wrap finishing tape around them (Fig. 16).

IMPORTANT !!!

Since the expansion system is located in the outdoor unit, it is necessary to create the insulation of the expansion pipe which interconnects the indoor unit and the outdoor unit.

Test all of the welded and flanged connections for leaks (maximum testing pressure: 200 psig). Use a pressure regulator in the nitrogen cylinder. If convenient, route the electrical interconnection together with the copper pipes as shown in Fig. 16.

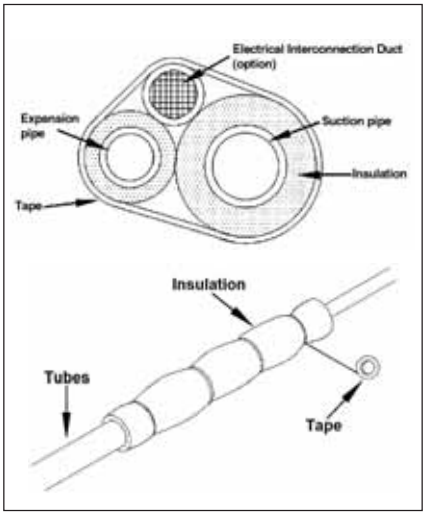


Fig. 16 - Interconnection Pipes

5.2 Evacuating the Interconnection Pipes

The outdoor units with 20, 25 and 30,000 btu/h are produced in the factory **preloaded** with the refrigerant necessary for use in a system with interconnection pipes up to 7.5m long, i.e. the load for the outdoor unit, the load for the indoor unit and the load necessary to join an interconnection pipe up to 7.5m long.
The outdoor units of 40, 50 and 60,000 Btu/h are produced in the factory with **1kg holding charge**.

For more information regarding the additional gas load, refer to the table below:

(50Hz)

Model 42XQ / XQA	Diameter of Suction Connections			Diameter of Expansion Connections			Diameter of Suction Pipes		Diameter of Expansion Pipes		Max Change Drop in Level (m)	Additional Gasload Above 8m** (g/m)
	Indoor	Outdoor		Indoor	Outdoor		0-15	15-25	0-15	15-25		
020	5/8"	1/2"		3/8"	1/4"		5/8"		1/4"		7	8
004*	1/2"	1/2"		1/4"	1/4"		5/8"		1/4"		7	8
025/006*	5/8"	5/8"		3/8"	1/4"		5/8"		1/4"		7	12
030	3/4"		3/4"	3/8"		3/8"	3/4"		3/8"		7	19
007*/008*	5/8"		3/4"	3/8"		3/8"	3/4"		3/8"		7	19
040/010*	3/4"		3/4"	3/8"		3/8"	3/4"	3/4"	3/8"	3/8"	7	80
050/012*	3/4"		3/4"	3/8"		3/8"	3/4"	3/4"	3/8"	3/8"	7	85
060/014*	3/4"		3/4"	3/8"		3/8"	3/4"	3/4"	3/8"	3/8"	7	90

Note : * Model code for Thailand market only. Outdoor unit connection for reference only, refer to specified outdoor unit installation manual for outdoor unit pipe size.
** Gas load in additional to the normal load for a pipe 7.5m long.

(60Hz)

Model 42XQ / XQA	Diameter of Suction Connections		Diameter of Expansion Connections		Max Change Drop in Level (m)	Additional Gasload Above 8m** (g/m)
	Indoor	Outdoor	Indoor	Outdoor		
020	5/8"		3/8"		7	8
025	5/8"		3/8"		7	12
030	3/4"		3/8"		7	19
040	3/4"		3/8"		7	80
050	3/4"		3/8"		7	85
060	3/4"		3/8"		7	90

Note : ** Gas load in additional to the normal load for a pipe 7.5m long. Refer to specified outdoor unit installation manual for outdoor unit pipe size.

NOTE

For lengths of up to 8m, an additional gas load is NOT necessary.

Since the interconnection pipes are created on site, it is essential to clean and evacuate the pipes and the indoor and outdoor units.

NOTE

Cleaning must be performed by circulating nitrogen through the pipes of the system. Cleanliness is extremely important because it prevents dirt resulting from the installation from getting inside the pipes and causing problems later.

The access points are the service valves on the outdoor unit.
The valves leave the factory in the closed position to keep the refrigerant in the outdoor unit.
To perform the evacuation, keep the valve in the closed position and connect the manifold hose to the valve and the other end to the vacuum pump.
It is recommended to proceed with the evacuation of the two connections of the service valves simultaneously.
The range to be reached must be located between 250 and 500 microns.

ATTENTION !!!

Never load liquid into the suction service valve. When you want to do this, use a service valve for the expansion pipe.

NOTE

- *After creating the vacuum, add positive pressure with R-22 so that the vacuum is broken.*

To proceed with loading the refrigerant, simply keep the service valve in the factory position (closed) and connect the manifold hose to the valve (Schrader valve) of the service valve.

IMPORTANT !!!

Do not forget to purge the air from the hose.

5.3 Adjusting the Gas Load

To adjust the refrigerant load in the machines, superheat can also be used as a perimeter. (Consider a range of 5 to 7°C)

SUPERHEAT

1. ***Definition:***
   Difference between the suction temperature (Ts) and the saturated evaporation temperature (Tes).
   SA = Ts - Tes

2. ***Measuring equipment required:***
   - Manifold.
   - Bulb thermometer or electronic thermometer (with temperature sensor).
   - Insulation tape or foam.
   - Pressure - Temperature conversion table for R-22.

3. ***Measuring steps:***

1° - Bring the bulb or sensor of the thermometer into contact with the suction pipe 15cm from the intake of the condenser. The surface must be clean and the measurement is performed on the upper part of the pipe to prevent incorrect readings. Cover the bulb or sensor with foam to insulate it from the ambient temperature.
2° - Install the manifold on the suction pipe (low pressure gauge).
3° - Once the operating conditions have become stabilized, read the gauge pressure of the suction pipe. Obtain the saturated evaporator temperature (Tes) by consulting the R-22 table.
4° - Read the suction temperature (Ts) shown on the thermometer. Take several readings and calculate their average, which will be the adopted temperature.
5° - Subtract the saturated evaporation temperature (Tes) from the suction temperature. The difference represents the superheat.
6° - If the superheat is between 5 & 7°C, the refrigerant load is correct. If it is below this range, too much refrigerant is being injected into the evaporator, and it is necessary to remove refrigerant from the system. If the superheat is high, too little refrigerant is being injected into the evaporator, and it is necessary to increase the refrigerant in the system.

4. ***Calculation example***:
   - Suction pipe pressure (pressure gauge)..75 psig
   - Saturated evaporation temperature (table)..7°C
   - Suction pipe temperature (thermometer)..13°C
   - Superheat (subtraction).....6°C
   - Superheat OK - correct load

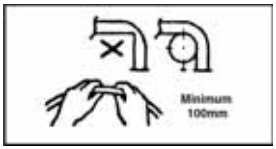
ATTENTION !!!

Before starting to operate the equipment, after adding the additional refrigerant load (if necessary), open the service valves on the outdoor unit.

5.4 Gap Between the Units

In the event that there is a gap of more than 5m in the level of the units and the indoor unit is at the lower level, a siphon for a 3m gap must be installed in the suction pipe (see Fig. 17).

In installations where the indoor unit and the outdoor unit are at the same level or where the indoor unit is at higher level, it is necessary to install a siphon followed by an inverted “U” after the discharge from the indoor unit, in the suction pipe. The upper level of this siphon must be at the same level as the highest point of the indoor unit.



When bending the pipes, the bending radius cannot be less than 100mm.

IMPORTANT !!!

Respect the equivalent maximum distance indicated for the pipes, giving consideration to the fact that it is the result of adding the equivalent distances of the pipe curves in a straight line.

IMPORTANT !!!

The equivalent length limits and gap indicated for the units must be respected.

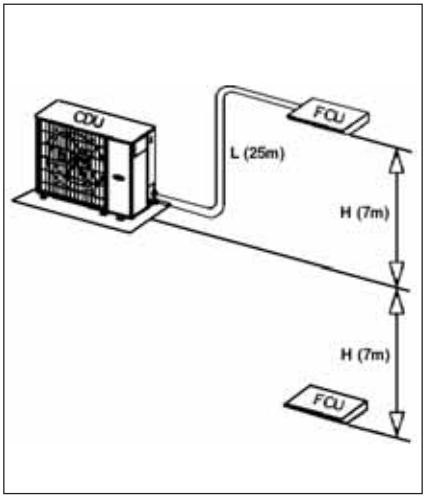


Fig. 17 - Gap between the units

5.5 Interconnection Junctions

The indoor and outdoor units have flange-nut type connections on the fluid and suction discharge connections coupled to the respective service valves. See Fig. 18.

When we remove the nut from the valve body (Fig. 19), we find a hexagonal central cavity. If necessary, use a suitable Allen key to change the position of the service valve (clockwise to close, anti-clockwise to open).

CAUTION !!!

The service valves must be opened only after performing the connection pipes and additional load; otherwise there is a risk of losing the entire refrigerant load in the outdoor unit.

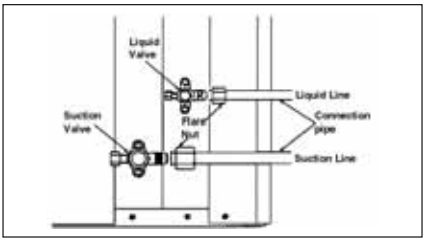


Fig 18 - Service valve of the suction and fluid pipes

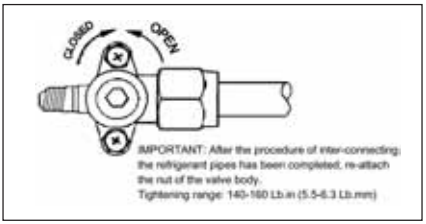


Fig. 19 - Service valve without the protection nut

To make the connection between the refrigerant pipes of the respective service valves, proceed as follows:

a) If necessary, weld the pipes that link the outdoor and indoor units with phoscopper solder and solder flux to prevent the formation of copper oxide. Release nitrogen flow during the welding.

b) Attach the nuts which are pre-fitted in the connections of the indoor and outdoor units to the ends of the suction and fluid pipes.

c) Once item “b” has been performed, create the flanges at the end of the pipes. Use a flange at the end of the pipes. Use a flange of a suitable diameter.

d) Connect the two flange nuts to the respective service valves.

IMPORTANT !!!

Avoid loosening the connections after tightening them to prevent loss of refrigerant.

Flanging procedure
Cut the copper pipe to the appropriate size using a pipe cutter.
It is recommended to cut approximately 30 to 40mm more than the estimated size.

IMPORTANT !!!

Remove the burrs from the end of copper pipe using a suitable tool (of the rosqueira type), keeping in mind that a copper burr in the refrigeration circuit could cause serious damage to the compressor. This procedure is very important and must be performed with great care.

NOTE

When removing the burrs, make sure that the end of the pipe is turned downwards to prevent any particles falling inside the pipe.

Remove the flange nut from the unit and position it with care in the copper pipe. Create the flange at the end of the pipe using a flange.

Insert a plug or seal the flanged pipe with adhesive tape to prevent dust or humidity entering the pipe until it is used.

Take care to place refrigeration oil on the surfaces in contact between the flanged end and the joint, before connecting them together. This is done to prevent any loss of refrigerant.

To achieve a good joint, keep the coupling pipe and the “flare” pipe firmly connected while performing a slight manual threading. Then press firmly.

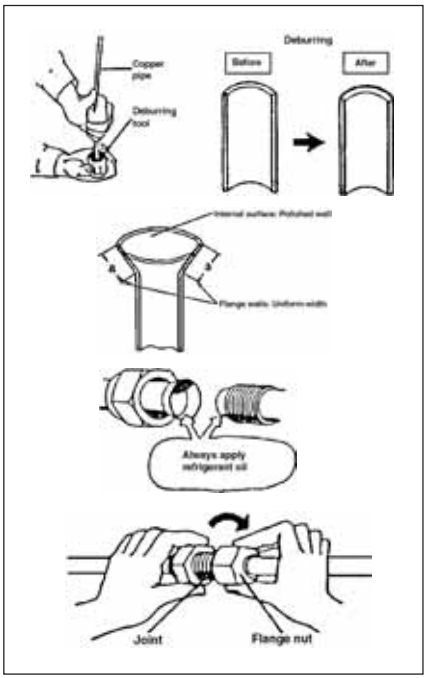


Fig. 20

6 EXPANSION SYSTEM

For the capacities 20,000 to 30,000 Btu/h, the expansion is performed via a capillary located in the outdoor unit.
For 40,000 Btu/h and above, the expansion is performed in the indoor unit by means of a system called the “piston”.

NOTE

The expansion system kit accompanies the indoor unit models 40, 50 and 60,000 Btu/h and must be positioned in the indoor unit according to the adjacent illustration.

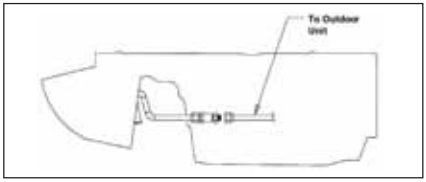


Fig. 21 - Installing the expansion system kit

This system with a piston according to Fig. 22 contains a small part with a fixed calibrated orifice which is easily removed, on the inside of a nipple for connecting the 3/8" flange nut to the fluid pipe.

The application characteristics of the PISTON are used due to the more precise content of the mass flow of refrigerant gas to the inside of the indoor unit compared to the capillary pipe system, for example. In addition to this, the PISTONS are easy to maintain.

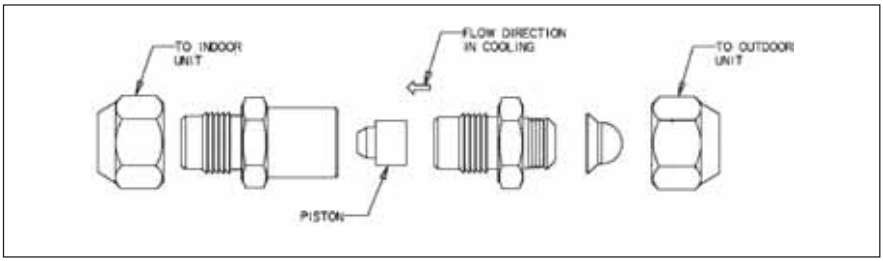


Fig. 22

7 ELECTRICAL INSTALLATION AND DIAGRAMS

7.1 Electrical Installation Instructions

⇨ For all indoor connections (between the units) and outdoor connections (power supply and unit), low-voltage electrical installations must be observed. The **main power supply and control** cables must be made of copper and/or aluminium, with PVC-type insulation for a minimum temperature of 70ºC.

⇨ The maximum distance between the two voltage points is 50m. For values above 50m, it is recommended to verify the specification of new gauges and must comply with local codes.

⇨ For the cable gauge values of the **main power supply**, presented in the tables, the use of copper and/or aluminium cables was considered, with insulation of the PVC 70ºC type and conductors loaded according to the local codes.

⇨ For the **control power supply** cables between the units, the use of a minimum 1.5mm² (70ºC) gauge is recommended.

7.2 Electrical Box 42XQ

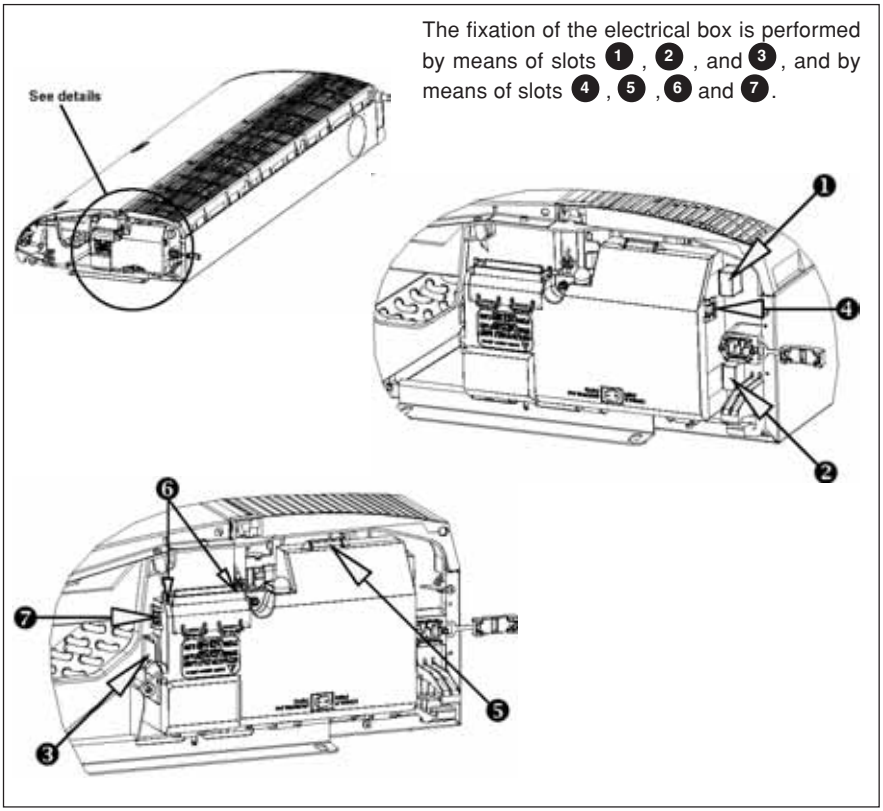


Fig. 23 - Slots and fixation of the electrical box of indoor unit

Electrical wiring

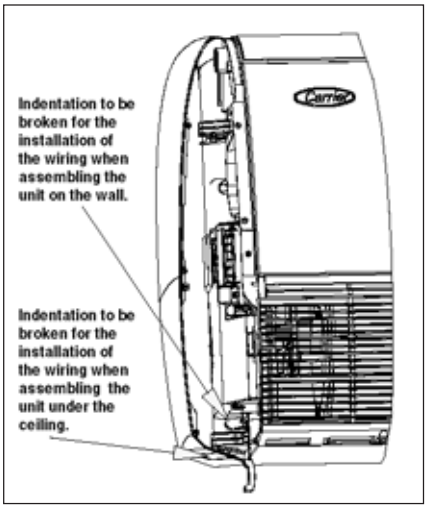


Fig. 24 - Indentation of wiring output

Depending on whether the unit is installed on the wall (console) or the ceiling (underceiling), the electrical wiring of the indoor unit must be routed differently.

Fig. 24 shows the positions where the existing indentation in the left-hand side cover of the indoor unit must be broken to route the wiring.

7.3 Changing the Wireless Remote Control to a Wired Remote Control

To modify the option to use the indoor unit from the **wireless** remote control to the **wired** remote control, the following steps must be followed - according to the illustrations on the following pages:

- Disconnect the intermediate plug which links the three-way cable of the board to the display, indicated by the number (1), and connected to the main board.
- This cable will remain loose inside the indoor unit.
- Connect the intermediate plug to the three-way cable of the wired remote control, indicated by the number (2).

NOTE

The Split Space is factory fitted to operate with the Wireless Remote Control kit.

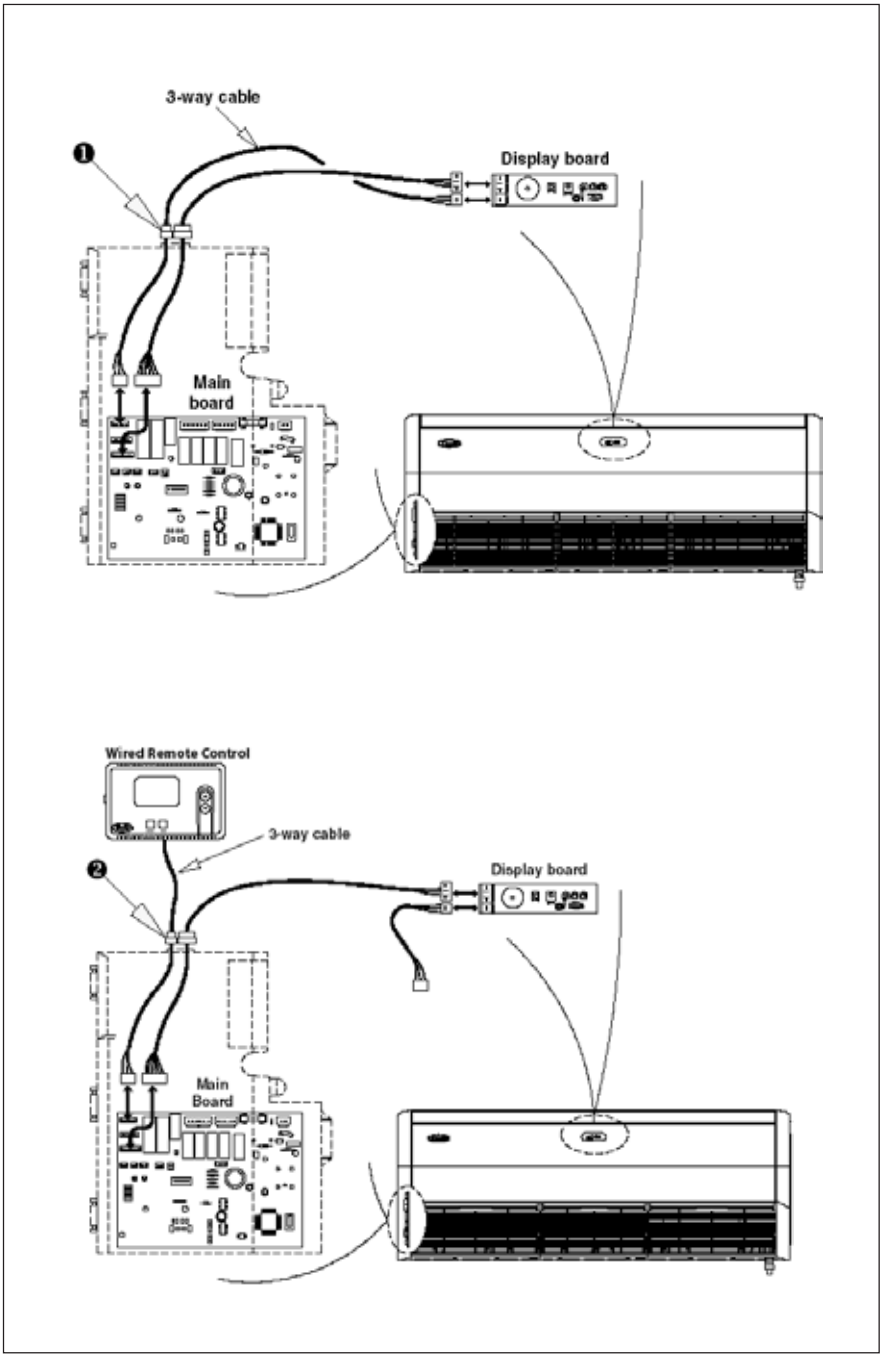
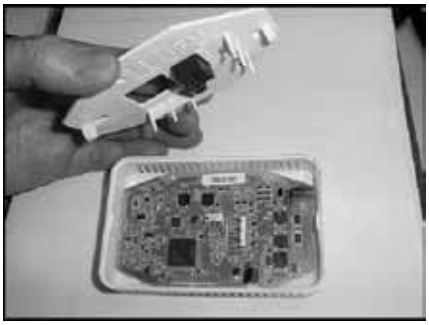


Fig. 25 - Changing the remote control use option (external connections)

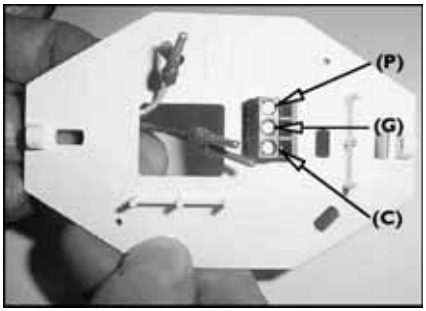
Internal connection of the wired remote control:

- Remove the rear cover of the wired remote control to connect the threeway cable.

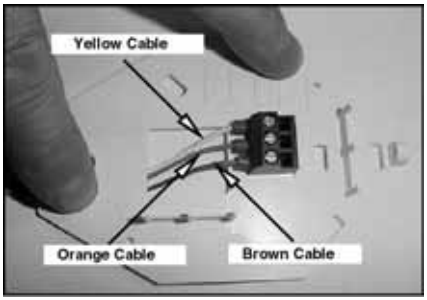


- The terminals are located in the rear part of the cover:

  Terminal (P) - Yellow
  Terminal (G) - Orange
  Terminal (C) - Brown



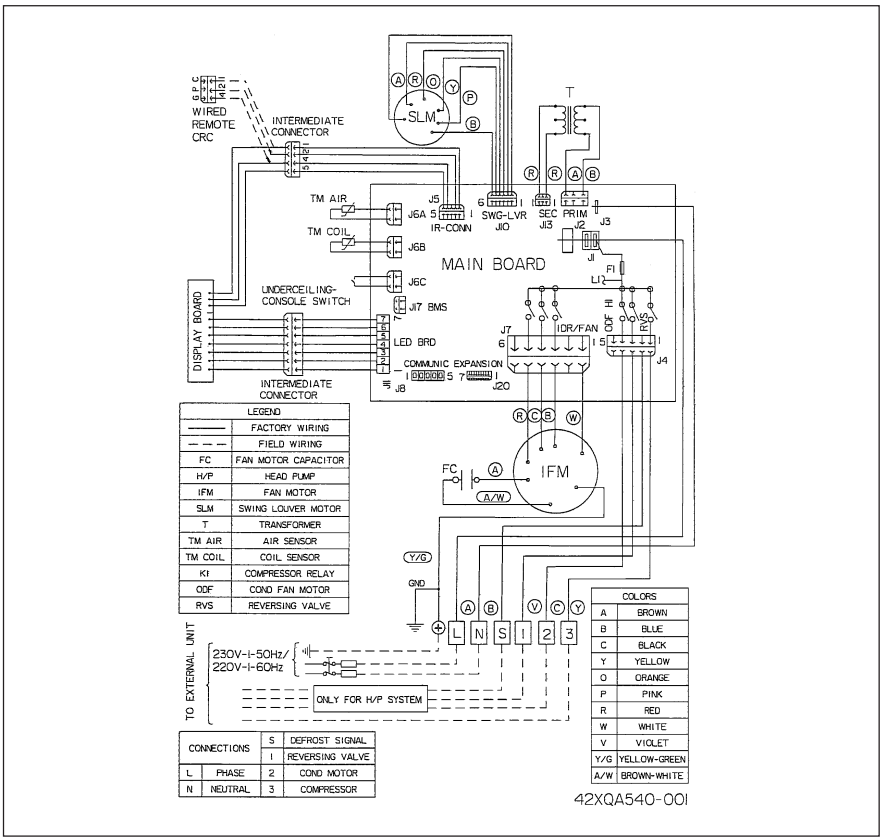
- Insert the cables in the terminals according to the correspondence of the colors.



- Reattach the cover and close the wired remote control.



7.4 Electrical Diagram for Indoor Unit (220-240V output signal to compressor)



LEGEND	
———	FACTORY WIRING
– – –	FIELD WIRING
FC	FAN MOTOR CAPACITOR
H/P	HEAD PUMP
IFM	FAN MOTOR
SLM	SWING LOUVER MOTOR
T	TRANSFORMER
TM AIR	AIR SENSOR
TM COIL	COIL SENSOR
K1	COMPRESSOR RELAY
ODF	COND FAN MOTOR
RVS	REVERSING VALVE

CONNECTIONS			
		S	DEFROST SIGNAL
		I	REVERSING VALVE
L	PHASE	2	COND MOTOR
N	NEUTRAL	3	COMPRESSOR

COLORS	
A	BROWN
B	BLUE
C	BLACK
Y	YELLOW
O	ORANGE
P	PINK
R	RED
W	WHITE
V	VIOLET
Y/G	YELLOW-GREEN
A/W	BROWN-WHITE

Fig. 26

Electrical interconnection in the Terminal Plate of the Indoor Unit 42XQ

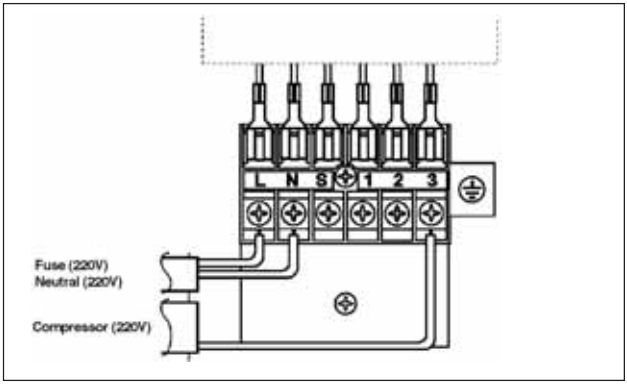


Fig. 27

7.5 Electrical Diagram for Indoor Unit (24V output signal to compressor)

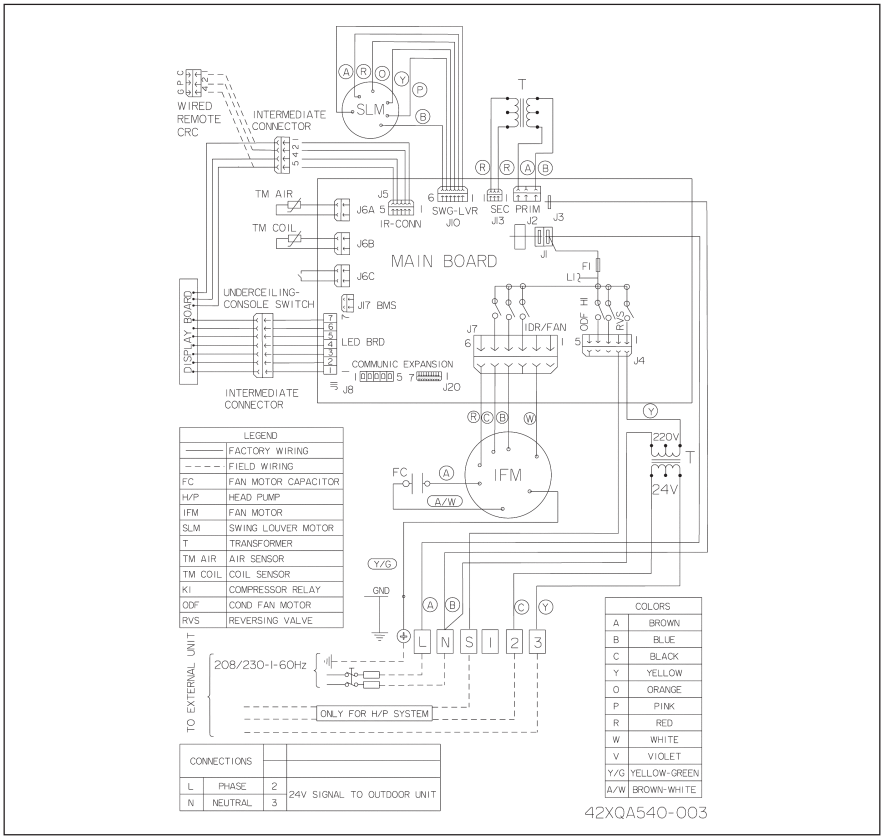


Fig. 28

Electrical interconnection in the Terminal Plate of the Indoor Unit 42XQ

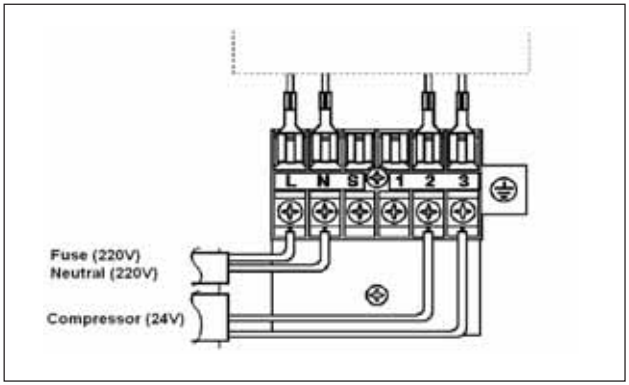
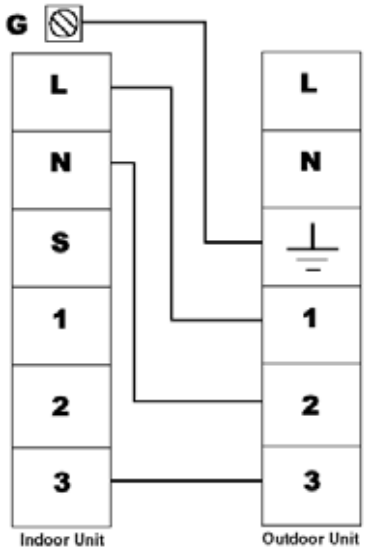


Fig. 29

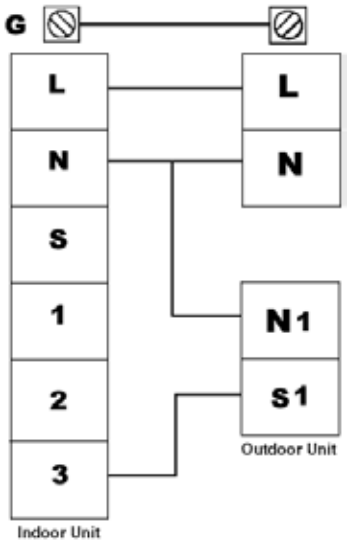
7.6 Electrical Diagram and Cold-Cycle Interconnection Diagram (50Hz Cooling only)

ELECTRICAL INTERCONNECTION

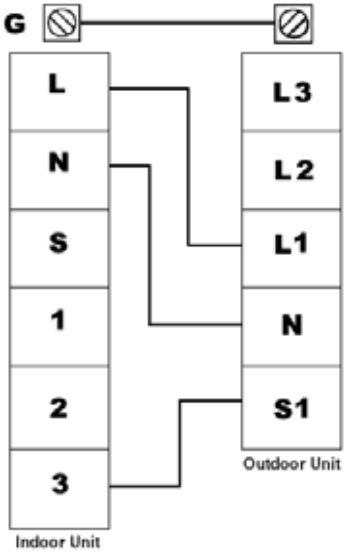
42XQ/XQA 020 & 025



42XQ/XQA 030



42XQ/XQA 040, 050 & 060



8 CONFIGURING THE SYSTEM

The indoor units leave the factory configured for cooling only. If a cooling and heating system is installed, it is necessary to change the configuration of the equipment.

The installer is able to configure the system used in the user interfaces (wireless or wired remote control). The wireless remote control must be configured if necessary.

On-site configuration by the installer via the wireless remote control and wired remote control is obligatory for cooling-only systems. The configuration of the system must only be performed by a qualified installer, with respect for the steps described from Section 8.3 onwards:

8.1 Changing the Configuration of the Unit from Underceiling to Console

NOTE

The indoor units leave the factory configured for underceiling installation.

In the case of wall installation, it is sufficient to change the position of the button on the outside of the electronic box on the right-hand side of the indoor unit (see Fig. 30).

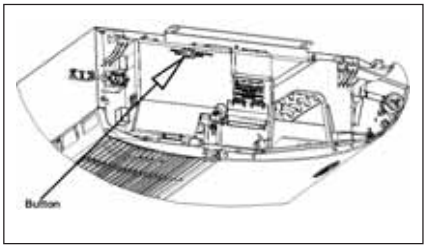
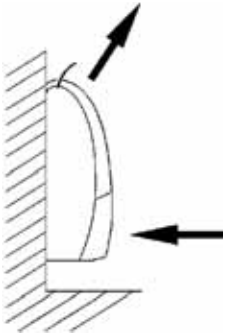


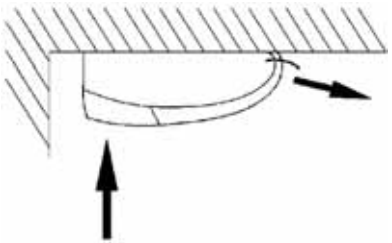
Fig. 30 - Button for changing the configuration

8.2 Positioning the Air Deflectors according to the Wall or Underceiling Configuration

Wall installation - Cooling



Underceiling installation - Cooling



NOTE

The horizontal deflector assumes the cooling or heating positions automatically during the selection of the respective operating modes.

8.3 Configuring the Unit

- Check all the electrical connections (instructions and diagram of the electrical connections).
- Insert the batteries into the remote control and leave it disconnected.
- Connect the system to the electrical current.
- Press the button M and of the remote control and keep them pressed down for at least 5 seconds.
- The clock digits show the first configuration item (rAdr = remote address) and the temperature digits show the default value of the respective configuration item (Ab = control of both indoor units).
- Press the button M repeatedly until "UCFG" appears.
- Press the buttons ∧ or ∨ to change the default value (HP) to the new value (AC).
- Press the button to send the new configuration to the unit.
- Press the button ⏻ to exit the configuration menu.

To see other available configuration options, consult the table.

Item	Viewfinder display	Explanation	Description
1	"rAdr"	"A": remote unit A "b": remote unit B "Ab": remote units A and B	Remote address of indoor unit A. Remote address of indoor unit B. Default address of the two units.
2	"UCFG"	"HP": Heatpump "AC": Cooling only	Default address and heatpump. Changes the cooling-only address.
3	"UAdr"	1-240 with an increment of 1	Address of the CNN unit. Default = 1.
4	"ZONE"	1-240 with an increment of 1	Zone number. Default = 0.
5	"GFdn"	1-240 with an increment of 1	GFD number. Default = 1.
6	"A St"	"OFF" : Shutdown mode "On" : Automatic restart	Select the function mode after an electrical power failure.

NOTE

If no button is pressed for 30 seconds, the remote control automatically exits the configuration menu and the entire procedure must be restarted.

8.4 Configuring the Wireless Remote Control

- Insert the batteries into the remote control and leave it disconnected.
- Connect the system to the electrical current.
- Press the button ∧ and the remote control and keep them pressed down for at least 5 seconds.
- The clock digits show the first configuration item (CH = remote address) and the temperature digits show the default value of the respective configuration item (Ab = control of both indoor unit).
- Press the button M repeatedly until "rc" appears.
- Press the buttons ∧ or ∨ to change the default value (HP) to the new value (AC).
- Press the button to send the new configuration to the unit.
- Press the button ⏻ to exit the configuration menu.

To see other available configuration options, consult the table.

Display Item	Explanation	Description on the viewfinder
"CH"	"A" : remote unit A	Remote address of indoor unit A.
	"b" : remote unit B	Remote address of indoor unit B.
	"Ab" : remote units A and B	Default address of the two units.
"tU"	"C" : degree Celsius	Temperature.
	"F" : degree Fahrenheit	The default is °C.
"rc"	"HP" : Heatpump	Default address and heatpump.
	"AC" : Cooling only	Changes the address to cooling only.
"HR"	17 - 32 : 17°C - 32°C	Maximum heating temperature in °C.
	63 - 90 : 63°F - 90°F	Maximum heating temperature in °F.
"CR":	17 - 32 : 17.22°C - 32.22°C	Minimum Cooling temperature in °C.
	63 - 90 : 63°F - 90°F	Minimum Cooling temperature in °F.
"CL"	12 : 12 : 12-hour clock (AM/PM)	Time format (AM = morning; PM =
	24 : 24 : 24-hour clock	afternoon). The default is 12 : 12.

NOTE

If the selection is changed from "rc" (functioning in the heatpump) to cooling only and the remote control is automatic function mode or heating mode, the function mode is set to cold.

NOTE

If no button is pressed for 30 seconds, the remote control automatically exits the configuration menu and the entire procedure must be restarted.

8.5 Configuring the Wired Remote Control (CRC)

To enter the system configuration:

- Keep the buttons ⓐ and ⓥ pressed down (at the same time) for 5 seconds, while the CRC is in off mode. After 5 seconds, a “20” appears; this shows that the user is adjusting the first item in the software configuration.
- To check the value of the configuration item “20”, press the button  .
- To change the value, use the button ⓐ and ⓥ .
- Once the desired value has been selected, press the button  to send the configuration data to the unit. Only the currently displayed value is transmitted.
- Once the  button has been pressed, the CRC switches to display the configuration menu.
- To switch to the next setting, press the button  again and “20” is displayed.
- Press the button ⓐ and the display changes to “21”.
- The button  will toggles the display between the software configuration index (i.e. “20”, “21”, etc.) and the configuration value.
- The buttons ⓐ and ⓥ change the index or value, i.e. whichever is currently being displayed.
- Items 20-24 of the Unit Configuration are available at this point.

Item	Value	Description
20	1. Heatpump 0. Only A/C	Configuration of the unit **Use as default Heat/Cool**
21	1-199 in increments of 1	CNN address of the unit **Use as default 1**
22	0-199 in increments of 1	Zone Number **Use as default 1**
23	1-199 in increments of 1	GFD number **Use as default 1**
24	0: Start-up in Off mode 1: Start from last mode	Automatic Reset **Use as default “On”**

Entering an installer configuration:

- Keep the button  pressed down for 5 seconds, while the CRC is in Off mode. After 5 seconds, a “10” appears; this shows that the user is setting the first item in the software configuration.
- To check the value of the configuration item “10”, press the button  . The remote configuration value of the Heat/Cool versus Cool is displayed together with the icon “SET TEMP” to indicate that the number displayed refers to the configuration data.
- To change the remote configuration Heat/Cool versus Cool, use the keys ⓐ and ⓥ .
- To switch to the next setting, press the button  again and “10” is displayed.
- Press the button ⓐ and the display changes to “11”.
- The button  will toggles the display between the software configuration index (i.e. “10”, “11”, etc.) and the configuration value.
- The button ⓐ and ⓥ change the index or value, i.e. whichever is currently being displayed.

Configuration Item 10

H - The CRC permits and displays the following modes: Disconnected (off), Ventilation (fan), Automatic (auto), Cold (cool), Dehumidification (dry) and Hot (heat).

C - The CRC permits and displays the following modes: Disconnected (off), Ventilation (fan), Cold (cool) and Dehumidification (dry).

Configuration Item 11

On - Cancellation of the active environment sensor. The units are controlled according to the air temperature read from the CRC.

Off - Cancellation of the non-active environment sensor. All the units are controlled according to the ambient air sensors located in their respective units.

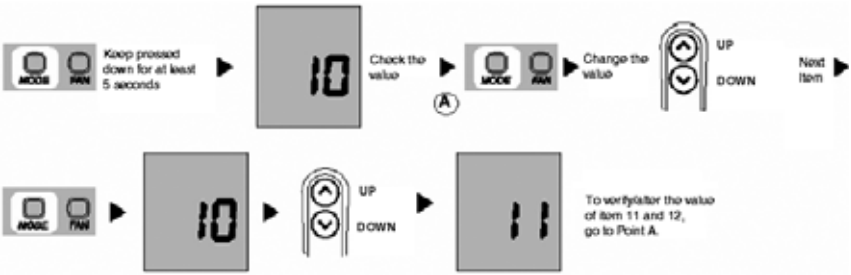
Configuration Item 12

C - Indicates that all of the temperatures are displayed in °C.

F - Indicates that all of the temperatures are displayed in °F.

The desired temperature (setpoint) is automatically readjusted to the default startup values of 22°C for “C” mode and 72°F for “F” mode, whenever this configuration item is modified.

Item	Value	Description
10	**H**	Remote Heat/Cool
	C	Remote, Cooling only
11	**ON**	Cancellation of the Active Ambient sensor.
	OFF	Checks and displays the temperature of the ambient of the CRC control. Cancellation of the Inactive Ambient sensor. Does not display the temperature of the ambient air of the CRC and checks the thermistor(s) of the ambient air temperature - New Modular DFS.
12	**C**	Temperature displayed in °C
	F	Temperature displayed in °F



Press the button FAN to exit the Configuration Setup Mode. This mode is exited automatically after no button has been pressed for 10 seconds. If a configuration value has been modified, the last value displayed is the new value of the CRC configuration. The only way to abort a configuration change is to change the value back to its original value.

Selecting the DEFLECTOR mode (louver)

To enter the deflector model selection:

- Check that the CRC is ON and keep the button pressed down for 5 seconds. Then the selected setting of the deflector is displayed.
- Pressing the buttons Ⓐ and Ⓥ permits the user to modify the setting of the deflector between oscillating and auto. The two settings are displayed as follows:

"S" with the Oscillating Deflector icon - represents the Oscillating Deflector
"A" with the Auto Deflector icon - represents the Automatic Deflector

The fan icon is also displayed in Deflector mode.
Press the key to exit the Deflector mode selection. This mode is exited automatically after no button has been pressed for 10 seconds.
If the deflector setting has been modified, the last value displayed is the new deflector setting for the system. The only way to abort a deflector change is to change the value back to its original value.

ATTENTION !!!

If the units are grouped together in CRC, all of the units will end up with the same deflector value.

NOTE

Selecting DEFLECTOR mode is not available in OFF mode.

8.6 Function Test

- Perform the function test after the units have been installed in the location and after performed a test to detect any gas leaks.
- Check all of the electrical connections (instructions and diagram of the electrical connections).
- Insert the batteries into the remote control and leave it disconnected.
- Connect the system to the electrical current.
- Press the ^ button and the remote control and keep them pressed down for at least 5 seconds. The clock digits show the first configuration item (Src = service test).
- After completing the test, press the button Ⓘ to exit the configuration menu.

8.7 Selecting the Addresses of the Units

If the two indoor units are being installed in the same room and it is desired that they should operate independently, it is necessary to provide an individual address for each unit, so that each of them can function by means of its own remote control.

Configuring the Unit

- Press the button M and the remote control and keep them pressed down for at least 5 seconds.
- The clock digits show the first configuration item (rAdr = remote address) and the temperature digits indicate the default value of the respective configuration item (Ab = control of both indoor units).
- Press the button to send the new configuration to the unit.
- Press the button ⏻ to exit the configuration menu.

Configuring the remote control

- Press the button ∧ and the remote control and keep them pressed down for at least 5 seconds.
- The clock digits show the first configuration item (CH = remote address) and the temperature digits show the default value of the respective configuration item (Ab = control of both indoor units).
- Press the buttons ∧ or ∨ to change the default value (Ab) to the new value (A) or (b).
- Press the button to send the new configuration to the unit.
- Press the button ⏻ to exit the configuration menu.

8.8 Emergency Operation

The emergency button (see Fig. 31) may be used in the event that the wireless remote control does not work (for example, if the batteries are discharged or the remote control is lost). To activate emergency mode, keep the emergency button pressed down for at least 5 seconds.

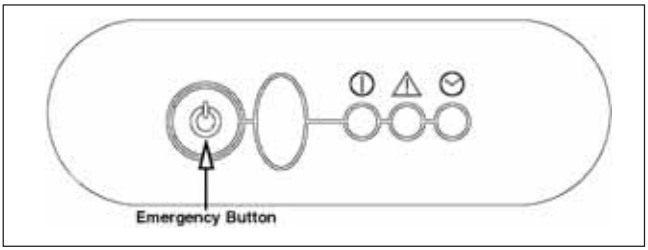


Fig. 31

With emergency mode activated, the unit maintains the ambient temperature at 22°C as well as the following conditions:

- Operating mode: automatic;
- Fan speed: automatic;
- Airflow direction vanes: automatic;
- Timer mode: deactivated.

To deactivate emergency mode, keep the emergency button pressed down for at least 5 seconds (if the problem with the latter has been solved).

8.9 Error Codes

In normal operation, the green LED, indicated by the signal receiver symbol ⏻ is illuminated. When a malfunction occurs in the unit, the LED will flash at 5-second intervals. The error code is shown by the number of times the LED flashes. A pause of 5 seconds between the cycles in which the LED flashes.

Error Code	Description
3	Ambient temperature sensor error.
4	Indoor unit coil sensor error.
8	Low voltage error.
9	Compressor malfunction.
10	EEPROM malfunction.
12	Incomplete address / zone information.

Error identification:

Error code	Type of Error	Description
3	Ambient temperature sensor error	Temperature sensor outside the operating range for more than 20 seconds (less than -30ºC and more than 100ºC).
4	Indoor unit coil sensor error	Temperature sensor outside the operating range for more than 20 seconds (less than -30ºC and more than 100ºC).
8	Low voltage error	The control checks whether the unit is configured correctly for 220V AC.
9	Compressor malfunction	If the sensor temperature of the indoor unit coil does not fluctuate within the range ± 2ºC, during the compressor cycle period of 5 minutes, the control triggers this error.
10	EEPROM error in circuit board	If any data is saved incorrectly in the circuit (through the Comfort Zone), any address or zone is misconfigured, the control triggers this error.
12	Incorrect address/zone information for the unit	If in an installation of several units (through the Comfort Zone), any address or zone is misconfigured, the control triggers this error.

9 INITIAL START-UP

The table below defines the limits and conditions for the application and operation of the units.

Table of Conditions and Limits for Application and Operation

Location	Maximum Permitted Value	Procedure
1) External air temperature (Units with air condensation)	43°C	For temperature exceeding 43°C, consult your Carrier representative.
2) Voltage	Variation of ± 10% in relation to the nominal value	Check the installation and/or contact your local electrical power company.
3) Unbalancing of the network (48,000 and 60,000 Btu/h units)	Voltage: 2% Current: 10%	Check the installation and/or contact your local electrical power company.
4) Distance and vertical gap between the units	Refer technical spec	For greater distances, consult your Carrier representative.

Before starting up the unit, observe the above conditions and the following items:

- Check that all of the electrical connections are securely connected;
- Check that there are no leaks of refrigerant;
- Confirm that the force discharge is compatible with the electrical specifications of the unit;
- Ensure that the compressors can move freely above the vibration insulators of the outdoor unit;
- Ensure that all of the service valves are in the correct operating position (open);
- Ensure that area around the outdoor unit (condensing unit) is free of any obstructions the air intake and discharge;
- Confirm that perfect drainage occurs and that the drainage hose is not blocked.

ATTENTION !!!

The fan motors of the units are lubricated in the factory. DO NOT lubricate them again when installing the units. Before starting up the motor, verify that the propeller or turbine of the fan is not loose.

ATTENTION !!!

In outdoor unit assembled exclusively with Scroll-type compressors, the noise of these compressors must be heard after start-up. If this noise is high and the pressures are the same after start-up, invert the two feed phases! This procedure is compulsory and failure to perform it will invalidate the warranty of the equipment.

⚠ WARNING

DO NOT SWITCH ON/OFF FROM MAIN POWER
ISOLATING SWITCH OR WALL MOUNTED CONTACTOR.
USE ONLY SWITCHES ON WIRELESS OR WIRED
REMOTE CONTROL TO AVOID DAMAGE
TO OUTDOOR COMPRESSOR.

Carrier International Sdn. Bhd. Malaysia

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Manufacturer reserves the right to discontinue, or change at any time, specfications or designs without notice and without incurring obligations
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Ваш дилер —

Техноклимат Инжиниринг

Подберём оборудование по вашей смете. Если нужную модель сняли с производства, предложим аналог.

200+
брендов

15+
лет в отрасли

10 000+
поставок

Пришлите смету или название модели

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