QUIETSIDE

User/Installation Manual

Split Wall-Mounted Air Conditioner

MODEL | QSCE-093/QSCC-093
QSCE-123/QSCC-123
QSCE-183/QSCC-183
QSCE-243/QSCC-243

Please read the user/installation manual carefully before using the product

SG164Eng

Foreword

Air conditioners are units that should have the professional technicians do the installation for you.
This Instruction Manual is the universal-purpose version for the models of split wall-mounted air conditioners manufactured by our Co. The appearance of the units that you purchase might be slightly different from the ones described in the Manual, but it does not affect your proper operations and usage.
Please read carefully the sections corresponding to the specific model you choose, and keep the Manual properly so as to facilitate your reference at later time.

Addition to the user manual:

The appliance is not intended for use by young children or infirm persons without supervision;
Young children should be supervised to ensure that they do not play with the appliance.

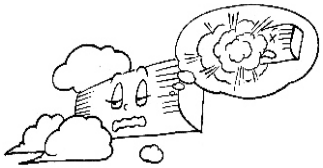
Contents

Please read the "Instruction Manual" carefully prior to the use of your air conditioner so as to ensure proper operations.

Instructions for Installation

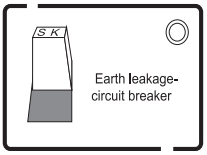
- Make sure to have the professional after-sale service persons of our company or the authorized dealers to install the units before you use.

1. The units are not to be installed at places where there might be leakage of combustible gases.



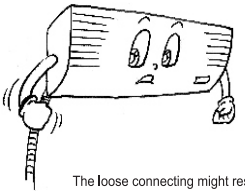
In case that the leaked gas accumulates around the units, there might occur the accident of fire hazards.

Make sure that the earth leakage-circuit breaker is installed.



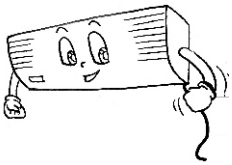
Absence of the earth leakage-circuit breaker might lead to electric shock and some other hazards.

After the connecting of the wires between the indoor unit and the outdoor unit, check whether the connecting is loose or not by pulling the wire with a little force.



The loose connecting might result in fire hazard.

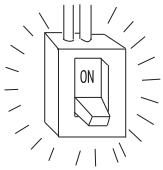
Make sure that the air conditioner is properly grounded.



The grounding wire on the air conditioner should be tightly connected to the ground of the power source. Improper grounding might cause electric shocks or other hazards.

Instructions for Operation

Never try to stop the operation of the air conditioner by operate the switch.

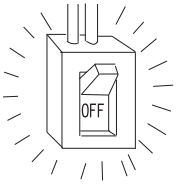


Such performance might cause electric shocks or fire hazards.

Do not press, stretch, damage, heat or modify the power line.

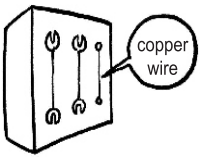
It might cause electric shocks, overheating, fire hazards, etc. If the power line wire is damaged or needs to be replaced due to some other reasons, please make sure to have dealer or the authorized maintenance people to do the replacement.

Do not operate the switch by wet hands.



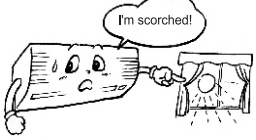
It might cause electric shocks.

Never use the fuse with incorrect capacity or any other metal wires.



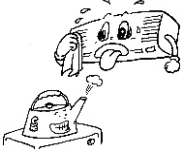
The use of metal or copper wires for fuse might cause operational failures or fire hazards.

Try to avoid the sunlight and hot air from entering the room.



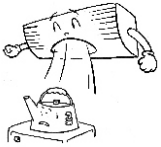
During the cooling operation, curtains or window-blinds should be used to shade off the sunlight.

Try to minimize the generation of heat during the operation of cooling.



Place the heating sources out of the room.

Do not use combusting apparatuses in the air-conditioned room.

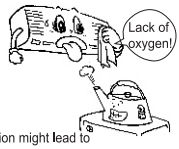


It might lead to the incomplete combustion of these apparatuses.

Do not place insecticides or paints and other flammable sprays near the air conditioner, or spray them directly at the air conditioner.

It might cause fire hazards.

When it is necessary to use the air conditioner and the combusting apparatuses in the same room, air ventilation has to be made from time to time.



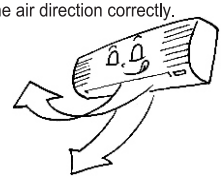
Insufficient ventilation might lead to lack of oxygen or some other dangers.

Prior to the maintenance of the air conditioner, please cut off the power supply first. Never do the cleaning of the units when the fan is in high-speed operations.

Do not insert sticks or bars into the air vents.

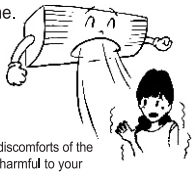
As the fan is in high-speed operation, the insertion might lead to accidents.

Adjust the air direction correctly.



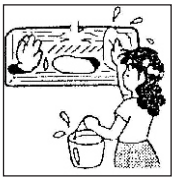
Properly adjust the up/down and left/right directions of the air flow so as to get the even room temperature.

Do not keep exposed to the cool air for long time.



It might cause discomforts of the body, which is harmful to your health.

Do not clean the air conditioner with water.

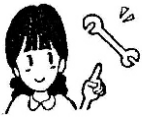


It might cause electric shocks.

Do not attach, hang or stack articles on the air conditioner.

It might lead to the falling down of the air conditioner unit, which will result in accidents or injuries.

Check the supporting structures of the units carefully.



In case of damages, the supporting structures should be immediately repaired so as to avoid falling down of the unit, which might cause human injuries or other accidents.

Do not sit on the outdoor unit or place any other objects on it.

The falling down of the unit or the objects might cause human injuries and other accidents.

Do not use the following substances:

Hot water (over 40℃ or 104˚F)
The use of hot water will deform the air conditioner or make it fade in color.
Gasoline, paint diluent, benzene and polishing agents, etc.
These substances will deform the air conditioner or cause scratches.

Put down the power when the unit is not in use for long time so as to ensure safety.

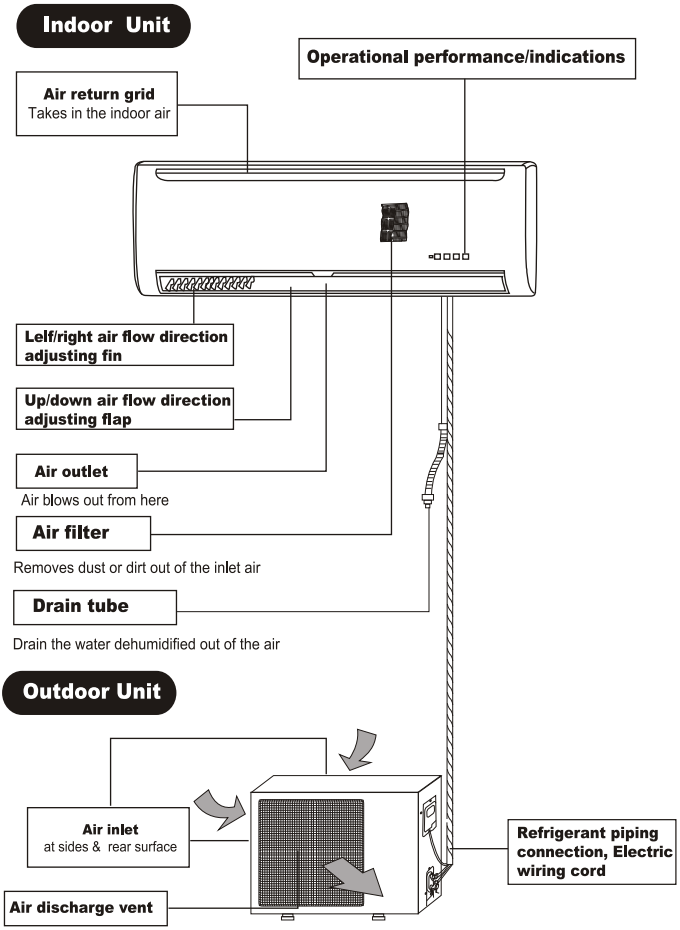
When the plug is to be pulled out, make sure that the switch of the air conditioner is turned off.

Instructions for Removal and Repair

- When removal or repair is needed, please contact the dealer or authorized maintenance & installation people.
- In case of any abnormal occurrences (smell of burning), please stop the operation at once, cut off the power supply and contact the dealer or authorized maintenance people.

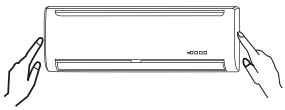
【The name of each part and its function】

Because there are many models,features and appearance will vary,we only introduce the follow pattern,Others please refer to using.



Unit operation section

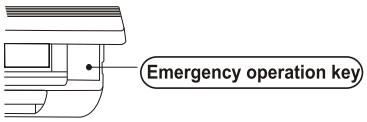
How to open



Lightly push both sides of the air inlet grid at the bottom and pull it to this side till a resistance is felt.

How to close

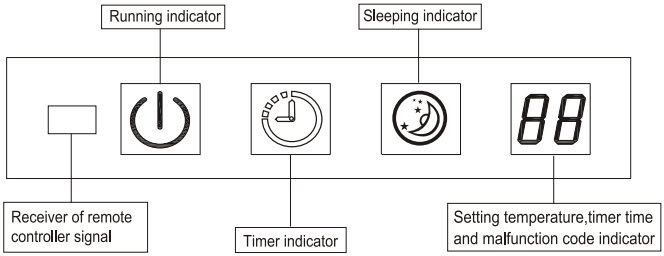
Push down the air inlet grid and then push both sides of air inlet grid at the bottom.



This button can be used as an emergency measure to turn on/off unit when remote controller is not available.

● **Note: Do not open the grid at an angle over 60 degrees. Do not operate the units with too much force.**

Indications



Above figure shows all indications for the purpose of the explanation but practically only the partinent parts are indicated.The indicator may be changed,but it does not affect your operation.

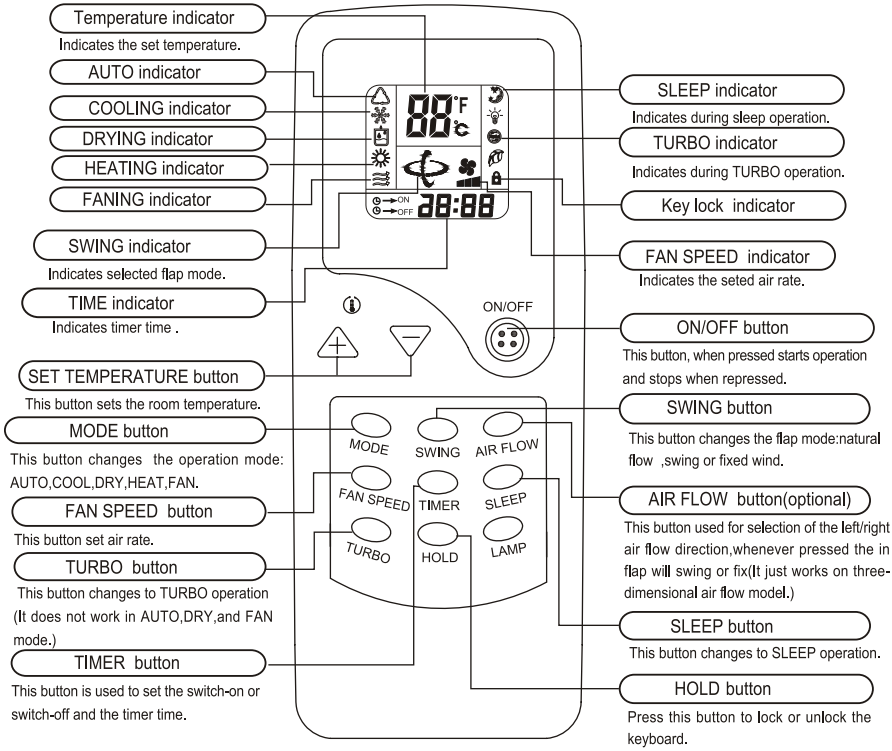
【Operation and indication sections of remote controller】

Attention:

The remote controller are the general one used for many types of air-conditioner in our company, we beg your forgiveness that we would not introduce the button or indicator which is not applicable for units you purchased.

The "LAMP" button are applicable for special latest developed new models only instead of normal models.

The "AIR FLOW" button is an optional function button,it just works on those models with three-dimensional air flow function.

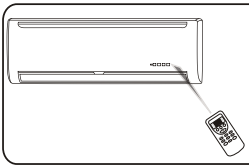


NOTE:

○ Above figure shows all indications for the purpose of explanation, but practically only the pertinent parts are indicated.When air-conditioner is cooling-only model, the HEATis for FAN.

○ When TURBO operation is selected,room temperature is not controlled with operation being continually.If you feel the room temperature is too cool or too heat,please cancel the TURBO operation.

Transmission procedure



When each button on the remote controller is pressed with the remote controller pointing toward the air conditioner unit, signal is sent. When the signal is received correctly, the receiving sound is emitted from the unit.

【Use of remote controller】

OPERATING MACHINE IN SELECTED MODES

1. Point the remote controller at the unit,press the ON/OFF button,then press the MODE button,select the needed mode: ATUO,COOL,DRY,HEAT,or FAN.
2. Press the SET TEMPERATURE button to increase or decrease the readings until the needed temperaure is displayed.The room set temperature range is from 16˚C-32˚C(61˚F-90˚F).
   (It would be automatically set at 25˚C(76˚F) and unadjustable in AUTO and DYR mode.)
3. Press the FAN SPEED button to choose the air rate you want:Low(display indicates" "),Med(display indicates " ",Hi(display indicates" ",Auto(display" "indicator flashing).
   (It would be automatically set at low speed and unadjustable in DRY mode.)
4. Press the SWING button to choose the up/down air flow direction you want:natural flow(display indicates " "),swing(display" " indicator flashing) ,fixed wind(display indicates " ").
   (It would be automatically set at fixed wind air flow direction in DRY mode.)

TURBO OPERATION

Press TURBO button during COOL or HEAT operation,the air rate can be setted in HIGH for max cooling and heating.
Press the TURBO button again can release the TURBO operation.
Note: during TURBO operation,the air rate cann't be changed.

ADJUSTING LEFT/RIGHT AIR FLOW DIRECTION

Methods 1:Manually adjust
Adjust the direction by moving directly the left/right air flow direction adjusting fin by hand.
Caution:when adjust the direction,stop air conditioner.

Methods 2:Horizontal & vertical auto swing(three-dimensional air flow model)
Adjust the direction by remote controller.Press the AIR FLOW button,the air swinging fins will constantly make the left/right swinging or fixed direction in air delivery.

TIMER OPERATION

Set turning off time
Set the time for the unit to turn off and when it is time,the air conditioner will automatically stop operating.
1. During the operation of the air conditioner, press the TIMER button and the air conditioner will enter the timed switch-off mode.
2. Continuely press the TIMER button to set the needed time for switching off the machine. The timer can make the setting in the range from 1-24 hours.Every the button is pressed,indication change is the following sequence:
   1 → 2 → ..... → 24 → cancel (no indication)→ 1.
3. After the setting of the timed switch-off, the digits shown on the display screen will go down by 1 for every elapsed hour. The displayed digits indicate the remaining time prior to the timed switch-off.

Set turning on time
Set the time for the unit to turn on and when it is time,the air conditioner will automatically start operating.
1. When the air conditioner is in the standby mode, press the TIMER button and the air conditioner will enter the timed switch-on mode.
2. Continuely press the TIMER button to set the needed time for switching on the machine. The timer can make the setting in the range from 1-24 hours.Every the button is pressed,indication change is the following sequence:
   1 → 2 → ..... → 24 → cancel (no indication)→ 1.
3. After the setting of the timed switch-on, the digits shown on the display screen will go down by 1 for every elapsed hour. The displayed digits indicate the remaining time prior to the timed switch-on.

Releasing procedure

When the indication on display screen is 24 hour,press the TIMER button again to delete the timed mode.

SLEEP OPERATION

Use this mode to reduce operation sound when sleeping,etc.

Press the SLEEP button,the air flow sound from the indoor unit is decreased.

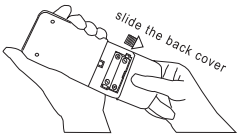
Press the SLEEP button again can release the mode.

NOTE:

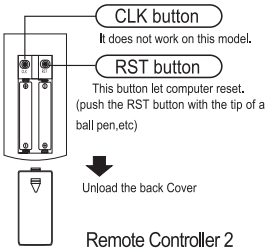
- Use the sleep mode when you are going to bed.If this mode is used in the day,the capacity is reduced since the ambient temperature is too high.(COOL MODE).
- During the operation of cooling,the room temperature will be raised gradually by $2^0C(4^\circ F)$ higher than the setting after the machine begins to operate in the sleeping mode.
- During the operation of heating mode,the room temperature will be dropped gradually $5^0C(9^\circ F)$ lower than the setting after the machine begins to operate in the sleeping mode.

REPLACEMENT OF BATTERIES

- When the signal from the remote controller becomes weak and the indoor unit can not receive it properly;or the indications on the display screen becomes blurred,please slide the back cover and replace with two new batteries.
- The positive and negative poles must match the installation positions.
- New batteries of the same type have to be used for replacement.
- If the remote controller is not to be used for long time,take out the batteries so as to prevent the leakage of the electrolyte from damaging the controller.
- If when the remote controller is at abnormal state,you can take out the batteries on the back cover to clear off the display.



Remote Controller 1



Remote Controller 2

【Features of Heating Operations】

Basic principles and performances

○ The machines absorb heat from the outdoor air and transfer it indoors so as to heat the room air. The heating capabilities through this principle of heat pump go up/down with the increase/decrease of the temperatures of the outdoor air.

○ It only needs a fairly short time for such hot air circulation system to raise the room temperature.

○ When the outdoor air temperature is very low, the system can be used together with other heating devices. But good ventilation should be maintained to ensure safety and prevent accidents.

Defrosting

When the outdoor air temperature is very low and humidity is very high, frosting will occur to the heat exchanger of the outdoor unit, which has negative impacts upon the efficiency of the heating performance. In such case, the automatic defrosting function will come into play. The heating operation will be stopped for 5-10 minutes to do the defrosting.

○ The fans of both the outdoor and indoor units are stopped.

○ During the defrosting, the outdoor unit might generate some steam. It is caused by fast defrosting, which is not a performance failure.

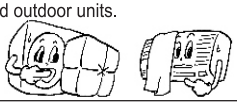
○ Upon the completion of the defrosting process, the heating operation is resumed.

【Methods of Maintenance】

The air conditioner must be turned off power before the maintenance is to be carried out.

Before the season of operation

1. Check if there are any blocking materials in the intake and outlet vents of the indoor and outdoor units.



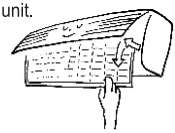
2. Check if the installation stand is corroded or rusty.
3. Check if the machine is properly grounded.

4. Check if the air filter is clean.
5. Connect to the power source.
6. Put batteries in the remote controller.

During the season of operation

The cleaning of the air filter screen (Standard intervals should be once every two weeks).

1. Remove the air filter screen from the unit.
   - Gently press the two lower ends of the grid and open it.
   - Gently pull up the air filter screen and take it out in the direction of your body.



2. Clean the air filter screen.

   if the screen is very dirty, please use lukewarm water (about 30°C or 86°F) to clean it. Air it dry after the cleaning.

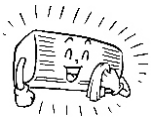
   Note:
   - Do not use boiling water to clean the screen.
   - Do not bake the screen dry over a fire.
   - Do not exert too much force in pulling and stretching the screen.

3. Install the air filter screen.

To operate the air conditioner without the air filter screen on will cause the interior of the machine dirty which might lead to poor performances or damages to the units.

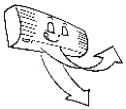
Clean the air conditioner

- Use a soft and dry cloth to rub the air conditioner, or use a vacuum cleaner to clean it.
- If the air conditioner is very dirty, use a piece of cloth and soak it with neutral home-use detergent to do the cleaning.



After the season of operation

1. Set the temperature at 30°C or 86°F and operate in the fan status for about half a day.

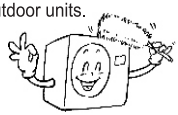


To make the interior of the units dry

2. Stop the operation of the machine and turn off the power switch.

The air conditioner will consume about 5W of electric power after the machine is turned off. For the purpose of energy saving and safety, it is advisable to pull the plug out during the non-operational seasons.

3. Clean and install the air filter screen.
4. Clean the indoor and outdoor units.

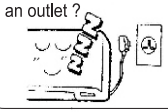


5. Take the batteries out from the remote controller.

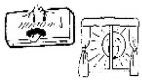
Note:
If the air filter screen is blocked by dust or dirt, the performance of cooling and heating will be affected, with the operation noise and power consumption increased. Therefore, the air filter screen should be cleaned regularly.

【Treatment at service call】

Please check the following before requesting after-sale service from your dealer .

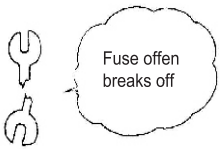
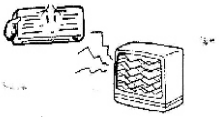
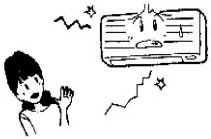
The air conditioner does not operate at all .		
Is the power plug in an outlet ? 	Is the time set to "ON" position ? 	Is there a power failure or a blown fuse ? 

Poor cooling or heating performance .		
Is the room temperature setting suitable ? suitable TEMP 	Are the air filters clean (Not clogged)? 	Are the window (s) and door (s) opened ? 

Poor cooling performance .		
Is direct sunlight entering the room ? 	Is there a heat source in the room ? 	Are there too many people in the room ? 

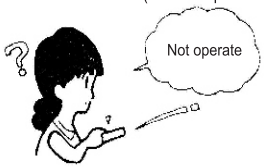
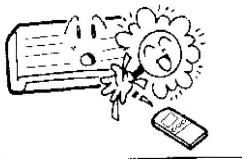
Cases requiring immediate contact with the professional contractor

Pull out the power plug immediately and inform to your distributor in the following situations:

Fuse or breaker often breaks off	Malfunction is observed TV , radio or other devices .	Abnormal noise is heard during operation .
		

When faulty operation movement is observed when the RUN button is pressed , even after power reset for 3 minutes and restarting the operation but same error code appear .

【We hope you will know the following when using the unit】

The unit can not be restarted just after shut down . (RUN lamp is illuminating) 	Restart is stopped for 3 minutes after shut down to protect the unit .  Three-minute protection timer incorporated in the microcomputer actuates automatically . Except that power is connected , this function does not actuate .
Air is not blown out at starting of heating operation.	Air blow is stopped to prevent blowing out of cold air until the indoor heat exchanger is warmed .(2 to 5 min) (HOT KEEP)
The unit will not stop blowing out the air immediately after shut down at COOL operation(some model).	Because the unit is doing mould proofing operation and indoor fan motor runs at low speed .The louver will not close down until after 30 seconds.
Air is not blown out for 6 to 12 min , at heating operation .	When outdoor temperature is low and humidity is high , the unit sometimes performs defrosting automatically . Please wait . During defrosting , water or steam are raising from the outdoor unit .
Air is not blown out at DRY operation .	Indoor fan is sometimes stopped to prevent vapor of dehumidified moisture and save energy .
Mist is blown out at COOL operation .	This phenomenon sometimes occurs when the temperature and humidity of the room are very high , but it will disappear with the lowering of the temperature and humidity .
Cracking noise is heard . 	This is caused by the refrigerant that is circulating inside the unit.
Cracking noise is heard .After a power stoppage or after disconnecting the power supply plug.	This is caused by heat expansion or contraction of plastics.
Operation can not be restarted even if the power is recovered.	The memory circuit of the microcomputer is cleared. Operate the remote controller again to restart the operation .
Remote control signals are not received .	Remote control signals may not be received when signal receiver on the air conditioner body is exposed to direct sunlight or strong lighting . In that case , interrupt the sunlight or darken the lighting. 
Moisture may form on the air outlet grilles .	If the unit is operated for a long period of time with the high humidity , moisture may form on the air outlet grilles and drip down .

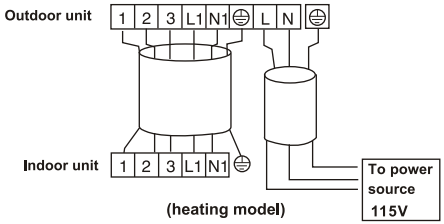
Points of attention

- HACR type breaker should be utilized along with proper installation;
- Make sure of the applicable voltage and cables or wires for the specific model to be used, before doing the connections;
- Read the prompts at the terminal board for wiring. Make sure the wiring is done correctly.
- Pay attention to the poles of the signal terminal and connect the terminals to match the identification numbers.
- When the wiring connections are wrong, the compressor will not work.
- The connecting wires are not supplied.
- The provision for connection of one of the wiring systems that in accordance with the National Electric Code shall be had.ANSI/NFPA 70-1990 would be acceptable for it.
- **2500W/2600W/3500W MODEL:**The connecting wires specification is 14 AWG,VW-1(orTHHW),copper core and 90˚C (or 194˚F) .Their set screw diameter is 4 mm.The power sourc is 115V,60Hz and 1phase.Minimum circuit ampacity of the wiring systems is 20A.
- **5100W/6600W/7000W MODEL:**The connecting wires specification is 14 AWG,VW-1(orTHHW),copper core and 105˚C(or 221˚F) .Their set screw diameter is 4 mm.The power sourc is 230V,60Hz and 1phase.Minimum circuit ampacity of the wiring systems is 20A.

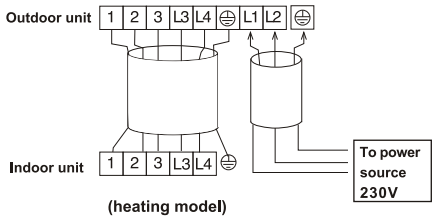
Connection of wires for outdoor unit

QSCE-093/QSCC-093、QSCE-123/QSCC-123 MODEL:

Method (Suitable for non-quick coupler)



QSCE-183/QSCC-183、QSCE-243/QSCC-243 MODEL:



QSCE-093/QSCC-093、QSCE-123/QSCC-123、QSCE-183/QSCC-183、QSCE-243/QSCC-243 MODEL:

Interconnecting Wiring

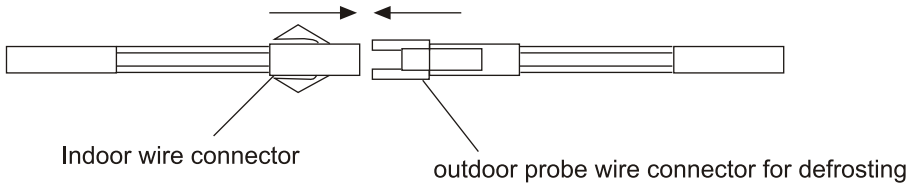
Gauge	14 AWG Power & 14 AWG Shielded Communication
Number of interconnecting Wires	3x14 AWG Power & 3x14 AWG Control = 6 Total

Note:

- The environment conditions must be taken into consideration when the connections of power cable are made (such as the ambient temperature, direct exposure to heat/direct exposure to sunlight);
- The specifications for the power cable refer to the minimum values of the metal core wires. Taking into consideration the voltage losses, the core wire of power cable must be one size larger than the specifications;
- The grounding wire must be connected to the indoor units and outdoor units;
- The laying of power cables must be done by qualified electricians and comply with the regulations of the local power supply authorities and with the standards of the electric appliances;

Caution:

If you purchase the heat pump model,you should connect the indoor wire connector with outdoor probe wire connector for defrosting,see below figure:



Installation and Maintenance Manual

Report all Shipping Damage to Carrier IMMEDIATELY, Check units and box exterior for damage

Note to Installer

This manual to is to aid the qualified HVAC contractor in the Installation and Maintenance of this Quietside R410a Ductless Mini Split
Please read and understand these instructions prior to installing the unit, failure to comply with these instructions may result in improper installation, operation and maintenance, possibly resulting in fire, electrical shock, property damage, personal injury or death

Installers please retain this manual for future reference, please pass warranty registration to end user
If Technical Assistance is required during installation or start up, please visit our website at
www.quietside.com
or call 866 243 6498 to speak to a Technical Service Assistant
When calling please have the Model numbers and Serial numbers available

Safety Instructions

WARNING

Read all the Instructions, Install and apply the system per those instructions
Use the unit only in the manner described in this manual

1. Check Rating Plate for correct system voltage before installing the unit
   Installing and operating a unit with the incorrect voltage may result in malfunction or other issues and **will void the warranty**

2. Units must be connected to a correctly grounded Electrical Supply

3. Do not use the units if they have been dropped or otherwise damage or installed incorrectly

The manufacturer of the unit will not be liable for any damages caused by failure to comply with the installation and operating instructions in this manual
The unit Rating Plate contains pertinent information to the unit operation, please refer to it as required

This symbol is an indication of Important Safety Information

DANGER

Completely read all Instructions prior to assembling installing, operating, or working on these units
Inspect all parts for damage prior to installation and start up
Units must be installed by a Qualified HVAC Contractor

Installation and Maintenance Manual

Installer Supplied Items

Refrigerant Line Set : Flare Connection only, suitable for R410A with both lines insulated, max length 50ft
Units manufactured prior to May 2007 do not include the female flare nuts for the refrigerant line sets
Main System Breaker : Sized per unit requirements, to be mounted adjacent to Outdoor unit
High Voltage Interconnect Wiring : 14 AWG wiring from Outdoor unit to Indoor unit for Power and Control
Mounting Hardware : Wall Anchors, Condenser Pad etc
Refrigerant : R410A required for additional line set charge
Condensate Piping : Per local codes to remove condensate from the indoor unit

Items for Consideration

Application
Check the application of the unit prior to installation, certain applications require additional components or installation parameters

Computer or Data Server Rooms,
These require ballpark sizing of approximately 12,000 Btu/h Capacity per 250 SqFt of room size
The units will be running 24/7, so a Low Ambient Head Pressure Controller (See accessories), a Crankcase Heater and possibly a Wind Baffle (Field Supplied for cooling below 32 DegF) **must** be installed

Offices and Commercial Spaces, Churches etc
These require ballpark sizing of approximately 12,000 Btu/h Capacity per 400 SqFt of room size
The units could have the possibility of providing cooling with ambient's below 65 DegF, so a Low Ambient Head Pressure Controller (See accessories) is required as is a Crankcase Heater (field supplied)

Residential, Bedrooms, Family Rooms etc
These require ballpark sizing of approximately 12,000 Btu/h Capacity per 600 SqFt of room size
Low Ambient is typically not needed, unless a home office application is required.
Heat Pumps are a great application, however the units do not feature any back up resistance heat, so we do not recommend their use as a primary source of heat in areas where the winter temperatures fall below 25 DegF.

Installation
Determine the best location for mounting the Indoor unit, it must be located a minimum of 4 ft from the floor
Pay attention to the air circulation in the room, 9 & 12k units throw air 15ft, 18 & 24k units throw air 25ft, ensure no obstacles to airflow exist

Locate the Indoor and Outdoor units as close together as possible, maximum line set run and lift **CANNOT BE EXCEEDED**, then determine how the Interconnect piping, wiring and condensate hose is to be run

Unit	Max Line Set Run	Max Vertical Lift	Line Sizes
QSCE-09/12	50 Feet	20 Feet	1/4" & 1/2"
QSCE-18/24	50 Feet	20 Feet	3/8" & 5/8"
QSHE-09/12	50 Feet	20 Feet	1/4" & 1/2"
QSHE-18/24	50 Feet	20 Feet	3/8" & 5/8"

Ensure that all panels can be removed for service as required

Certification
All Quietside Ductless Mini Splits are certified by UL under UL standard 1995 in both Canada and the US
Performance is certified by our certification under the ARI 210/240 Program

Installation and Maintenance Manual

Controls and Components

Units are supplied with a wireless remote controller, which communicates with the unit Microprocessor controller
The return air temperature sensor mounted on the unit then controls the unit operation
Heat Pump units require the defrost sensor connecting between the Outdoor & Indoor units prior to operation
Several modes of operation are available to the end user depending on the type of comfort required
All unit operating functions are controlled via the remote controller
Unit operating modes are : Auto, Cool, Dry, Fan and Heat (Heat Pump only)

Optional Controls and Components

Low Ambient Controller : ICM 326H must be used in Data Room or Commercial applications
For a wiring diagram please contact Quietside or follow general diagram supplied with ICM Controller
Probe must be located in the fin pack or on a return bend that measures approx 100 DegF during normal operation

Condensate Pump : Field Installed Mini Pump, Quietside recommend the Aspen brand of Condensate Pump, follow their wiring diagram recommendations. This pump is installed externally to the unit

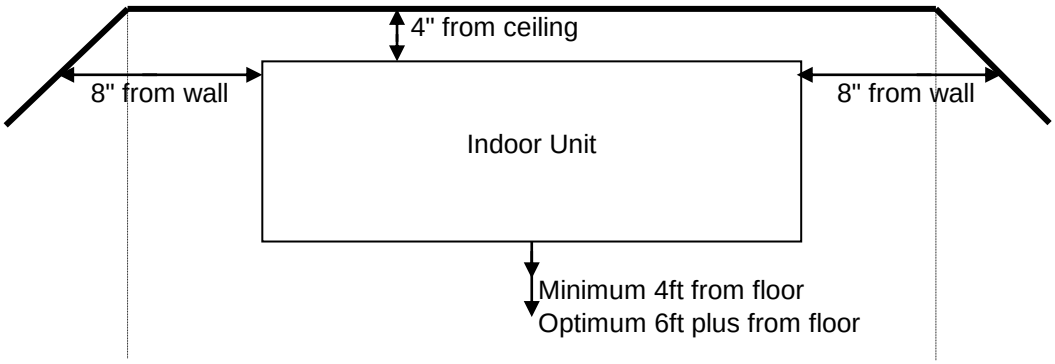
Unit Installation

⚠ CAUTION

Follow Instructions, failure to follow instructions may cause possible malfunction and void any warranty

Step 1
Remove Indoor and Outdoor units from the carton/box
Indoor unit carton contains Remote Control, Batteries and 25ft Defrost Sensor interconnect wire (HP only)
Ensure these are kept in a safe place during the installation process.

Step 2
Locate area to Install Indoor unit
Indoor unit must be located a minimum of 4ft from the floor and 4" from the ceiling
Choose an area where the wall is plumb and determine how to best to run the unit interconnects

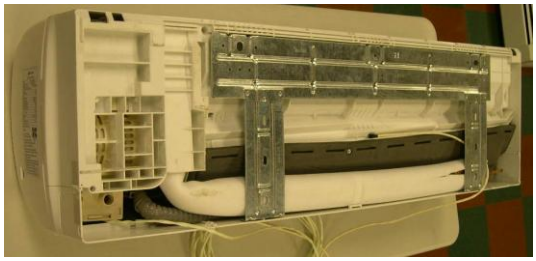


Ensure no obstacles to Airflow are directly in front of the unit, for a minimum of 12ft for 9/12,000 Btu/h units and 16ft for 18/24,000 Btu/h units
Do not install the Indoor unit units in areas exposed to high humidity (RH of 80% plus), direct sunlight and direct heat from stoves or other devices

Installation and Maintenance Manual

Unit Installation (Cont)

Step3
Drill Hole for Line Set etc



Remove mounting bracket from the rear of the Indoor unit, then use a Phillips head screwdriver to remove the unit pipe strap, and if unit is a heat pump the defrost sensor also must be taken from the retainer so that it can be connected to the Outdoor unit.

Using the wall templates provided position the unit on the wall
Drill a ø 2 5/8" or 3" hole through the wall using templates provided
Angle the wall penetration slightly down towards the outside to assist in draining the condensate from the unit

If mounting the unit on an inside wall, use the knockouts provided on the LHS and RHS of the unit to route the piping and wiring connections through

Step 4
Install Mounting Bracket

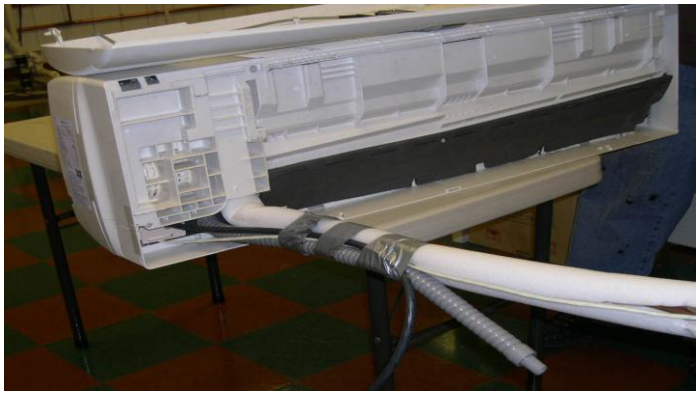
Locate and secure the mounting bracket to the wall, the Indoor unit weighs a maximum of 50lbs, use wall anchors and mount to a wall stud to ensure that the wall is capable of holding the weight of the unit
Use a level to ensure mounting bracket is leveled, so condensate can drain properly

Step 5
Prepare Unit Line Set Connections
Rotate refrigerant line stubs set gently through 90° (if mounting on an outside wall), for other line set configurations align the stubs as required

Tip : Use Duct tape to tape the Condensate hose (make sure it is below the Line set stubs) and the Defrost Sensor (Heat Pump Only), this makes it easier to guide them though the hole drilled in the wall

Also if possible feed the 14 AWG Interconnect wiring between Indoor and Outdoor (Maximum # of wires required is 6) through the unit electrical connection (if required by local codes an liquid-tite electrical connector can be attached to the rear of the unit). Open front cover of unit and pull wire through wire chase.
This step will allow installation of the unit without removing the front cover completely from the unit.

Note :
Condensate hose is taped below line set stubs
Wrap Duct tape to the end of the condensate hose for easier installation

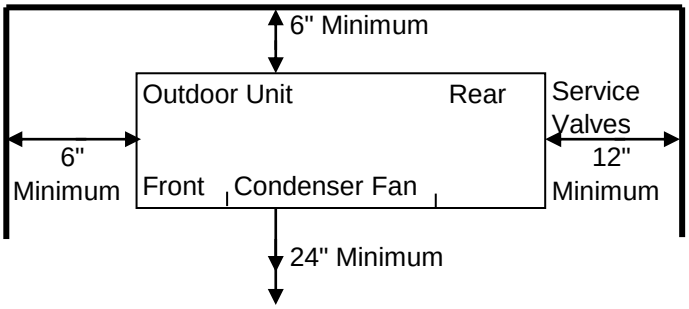


Installation and Maintenance Manual

Unit Installation (Cont)

Step 6
Install unit on Mounting Bracket
Feed the line set stubs/condensate hose/wiring connections through the hole in the wall, then locate the unit key slots onto the tabs on the mounting bracket. Bottom of the unit then latches onto the mounting bracket. Indoor unit is now installed, it should be plumb, level and flush with the wall. If it is not check that the line set stubs are completely through the wall penetration, and the wall is plumb

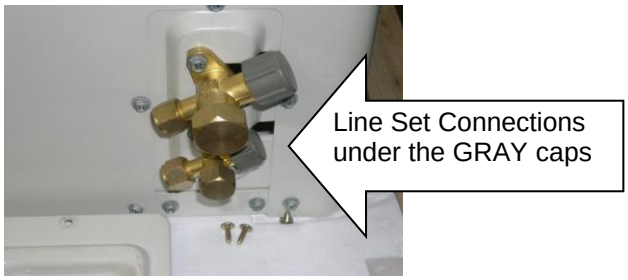
Step 7
Locate Outdoor unit
Clearances for the Outdoor unit are :



Install the Outdoor unit on a Condenser Pad or if a Heat Pump use feet to raise unit up approx 6" to allow for defrost to drain away

Do not install the Outdoor unit in a location exposed to high winds (field fabricated and installed wind baffle may be required).
Ensure location does not impede access around unit and pose a disturbance to neighboring areas

Step 8
Refrigerant Line Set Piping
Interconnecting line set between the Outdoor unit and the Indoor unit, **MUST** have both refrigerant lines insulated as condensing device is located in the Outdoor unit
Gently bend the line set stubs from the Indoor unit to the desired position
Using 2 x 10"/12" Crescent wrenches remove the flare nuts from the Indoor unit line stubs.
Indoor unit has a holding charge of a dry gas, check for release of this to ensure that no leaks are present
Use a small amount of vacuum pump oil on the male flare threads to ease installation. Connect the line set to the stubs. Using the 2 wrenches, 1 on the male & 1 on the female tighten the flare nuts
DO NOT INSTALL A LIQUID LINE SIGHT GLASS OR FILTER DRIER IN THE SYSTEM
Run the line set to the Outdoor unit, avoid tight bends and kinking the lines. Quietside does not recommend brazing line sets together or to the unit connections
If line set length is in excess of that required, cut line set and re-flare or coil excess vertically to facilitate oil return to the compressor



Installing the Line Set on the Indoor unit stubs

Installation and Maintenance Manual

Unit Installation (Cont)

Step 9
Evacuation
Gauges can now be attached to the service ports -
SERVICE PORTS HAVE A 5/16" CONNECTION TO THE GAUGE SET SO AN ADAPTOR IS REQUIRED
Once the gauges are attached the line set can be leak checked using Nitrogen at 300 Psig
Evacuate the unit down to a minimum of 200 Microns, break vacuum with Nitrogen to further leak check
Re-evacuate the system down to 200 Microns or lower
This is an R410A System it is essential that a deep vacuum be pulled on the system to remove all traces of moisture

Step 10
Main Power Wiring

⚠ DANGER

Electrical Wiring should be done in accordance with all National Electrical Code (NEC) and local state/city building codes

Tip : Small Electrical Screwdriver is required for unit terminals
Breaker size and wiring must be sized for the rating plate amperage, MCA and MOP
If a smaller than required breaker is used possibility of unit damage etc could occur
Use only HACR type breakers, each system installed must have a separate branch circuit with an individual breaker/fuse

	QSCE-09	QSCE-12	QSCE-18	QSCE-24
Breaker Size	15A	15A	15A	20A
RLA	6.7A	8.8A	5.3A	8.6A
MCA	8.2A	10.8A	6.5A	10.6A

	QSHE-09	QSHE-12	QSHE-18	QSHE-24
Breaker Size	15A	15A	15A	20A
RLA	6.9A	9.0A	5.5A	8.6A
MCA	8.4A	11.0A	6.8A	10.6A

A local disconnect should be installed adjacent to the Outdoor unit in accordance with National and Local Codes
The Outdoor unit provides power for the Indoor unit, no disconnect is required between the Outdoor and Indoor units
Line voltage from the disconnect should be wired to N - L (115V Unit)
L1 - L2 (208/230V Unit)
Remove RHS Knockout on the terminal access panel for whip/wiring connection
Ground connection must be made to the terminal plate

Tip : For easier access to the Terminals in the Outdoor unit remove the lower access panel to install whip and sealtite connectors for conduit

Local Disconnect
and Whip Connected

Heat Pump unit terminals
L1 - L2 : Power from Breaker
L3 - L4 : Power to Indoor unit
1 Compressor Signal
2 Reversing Valve
3 Outdoor Fan

Installation and Maintenance Manual

Unit Installation (Cont)

Step 11
Controls Wiring

⚠ DANGER

Electrical Wiring should be done in accordance with all National Electrical Code (NEC) and local state/city building codes

ALL CONTROLS WIRING BETWEEN INDOOR AND OUTDOOR UNIT IS HIGH VOLTAGE
MINIMUM 14 AWG WIRE MUST BE USED
Remove terminal covers from Indoor unit and wire to the terminals, small electrical screwdriver required
Control wiring from the Outdoor Unit must be a point to point i.e. the terminal that the wire is attached to on the Outdoor unit must be the same terminal it is wired to in on the Indoor unit

This is extremely important : Switching the L3 - L4 or N1 - L1 wires over will allow the Indoor unit to operate but it will not provide controls signals for the Outdoor unit so that the compressor will not operate
Ground connection should be made to ground screw marked in Indoor unit

If unit is a Heat Pump, the Defrost Sensor must be connected from the Indoor unit to the Defrost Sensor in the Outdoor unit. Standard lead length is 25ft, if a longer length is required then cut the lead and extend it using 18 AWG thermostat wire. Sensor is resistance based using 3.5V DC

Defrost Sensor wire/connection in Outdoor unit is accessed by removing top panel from unit, wire is coiled on base of unit

Control Wiring at Outdoor unit (Heat Pump unit shown)
Note use of colored wire (supplied with Line Set) and defrost sensor connected (Heat Pump only)

Ground wires connected to the terminal plate
Indoor and Outdoor units must be grounded

Step 12
Condensate Hose

⚠ CAUTION

Unit is provided with approximately 18" of Condensate Hose

Hose connection is sized to accept a 3/4" OD or 5/8" ID Clear Plastic Hose to then extend to building drain
All condensate hose extensions should be in accordance with local building codes
Remember water only flows downhill to ensure positive draining from the unit
Check using water for a positive flow of Condensate

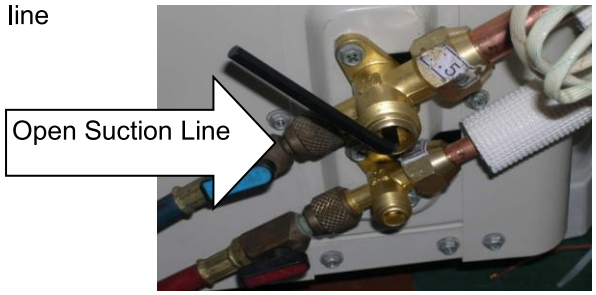
The basic system installation is now complete
The unit is now ready for start up -
Use this time to ensure that worksite is tidy. Quietside recommend the use of Slimduct products to hide the refrigerant line set interconnects - available from your Quietside distributor

Installation and Maintenance Manual

Unit Start Up

With the refrigerant system completely evacuated the system can now be opened to allow the refrigerant charge in the Outdoor unit to be released into the line set

The Service Valves require a 6mm and a 5mm Allen wrench respectively to undo the valve stems
Remove the BRASS caps from the Service Valves
Open the SUCTION line Valve first to prevent any possible oil logging of the Capillary tube
This can occur if the liquid line valve is opened first with the rest of the system in a deep vacuum
Then open the "LIQUID or EXPANDED GAS" line



Unscrew both valve stems until they come to a stop against the valve body, replace the Brass Caps and then tighten the caps to prevent leaks

Energize the breaker to allow system to be powered

Start Indoor unit, Cooling mode is only allowed when the Outside Ambient Temperature is above 65 DegF to prevent damage to the compressor
Unit has a 3 minute time delay for the compressor start up operation

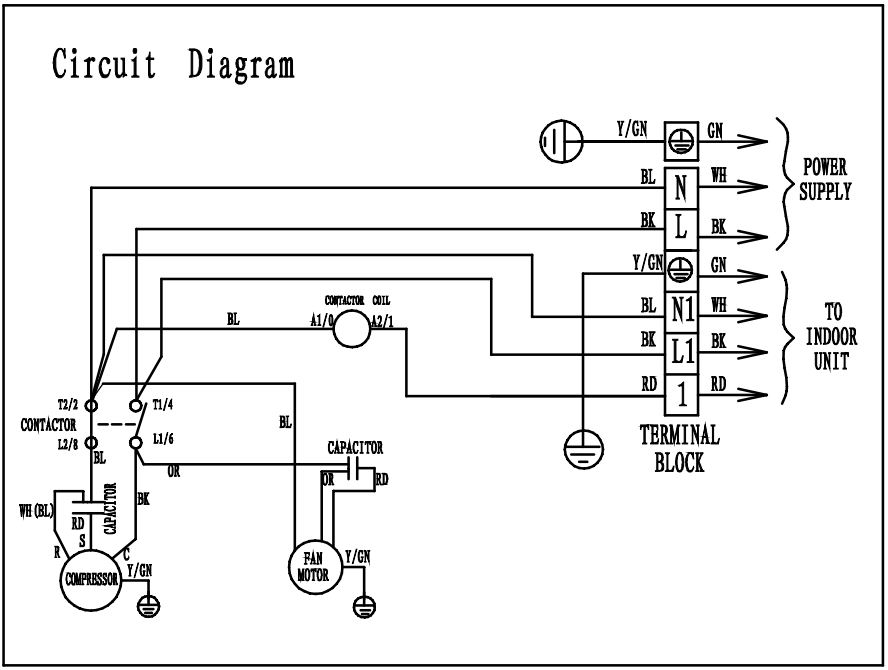
Unit is charged with enough R410A refrigerant for a line set of 25ft length
For longer line set lengths additional charge must be WEIGHED in per the following table

	Added Charge required for a line set of			
Unit	30ft	35ft	40ft	45ft
QSCE-09 & 12	1.5oz	3.0oz	4.5oz	6.0oz
QSCE-18 & 24	2.5oz	5.0oz	7.5oz	10.0oz
QSHE-09 & 12	1.5oz	3.0oz	4.5oz	6.0oz
QSHE-18 & 24	2.5oz	5.0oz	7.5oz	10.0oz

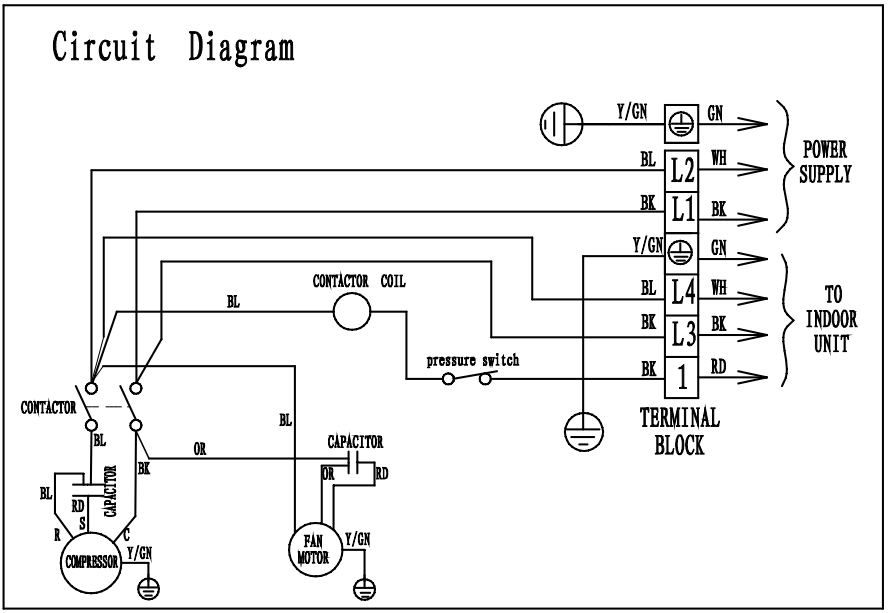
Standard Operation of the unit - Cooling
Indoor Temperature Split 30 DegF
Suction Pressure 115 Psig, approx 37 DegF
Suction Line Temperature 45 DegF
Schraeder connection on the "Liquid" line DOES NOT READ HEAD PRESSURE - it is an expanded gas pressure

Standard Operation of the unit - Heat Pump
Indoor Temperature Split 30 DegF
High Side Pressure 400 Psig, approx 117 DegF
(Measured at Liquid Line Schraeder)
Discharge (Liquid) Line Temperature 130 DegF

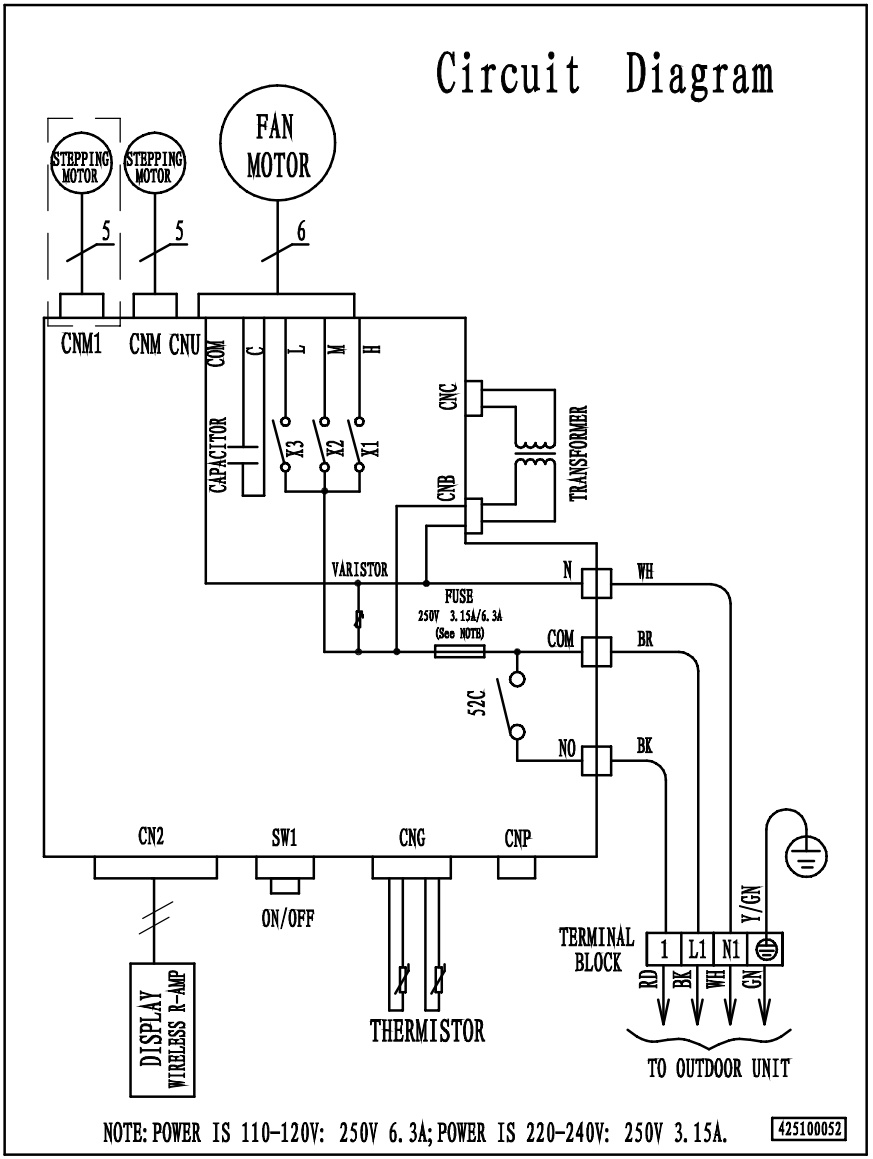
QSCC-093/QSCC-123



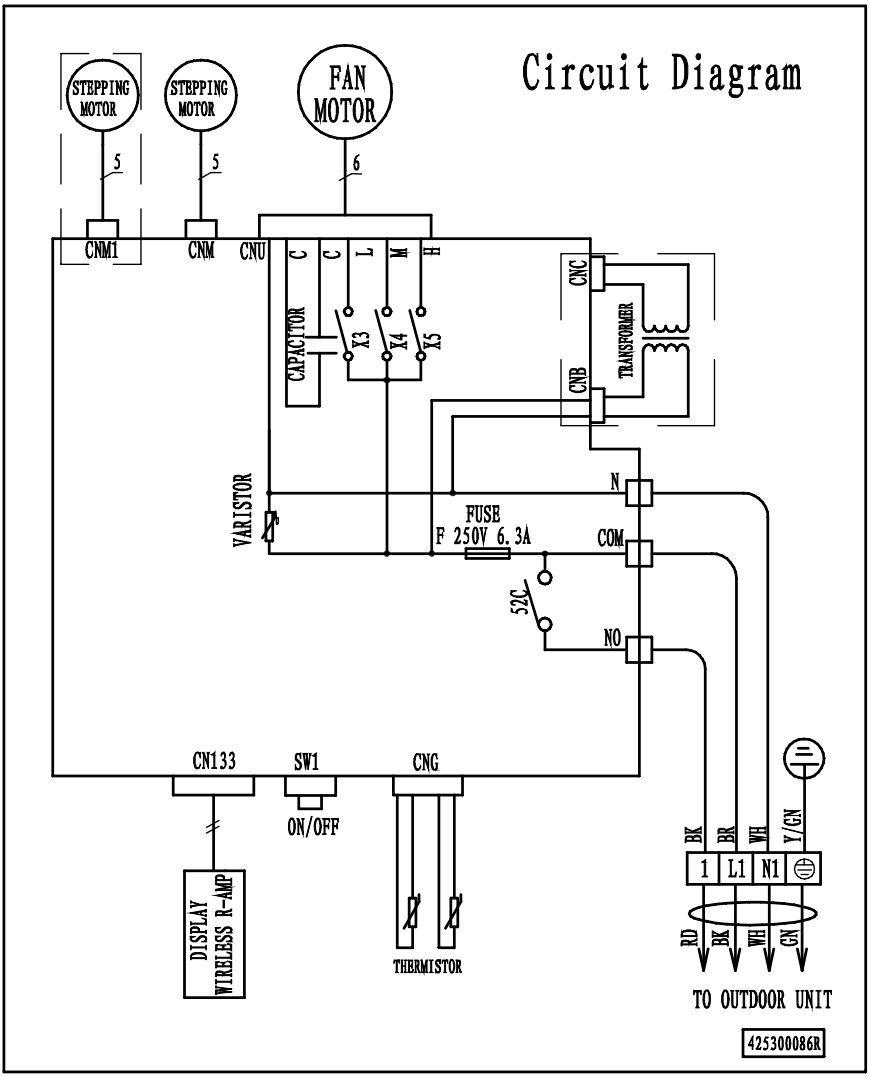
QSCC-183/QSCC-243



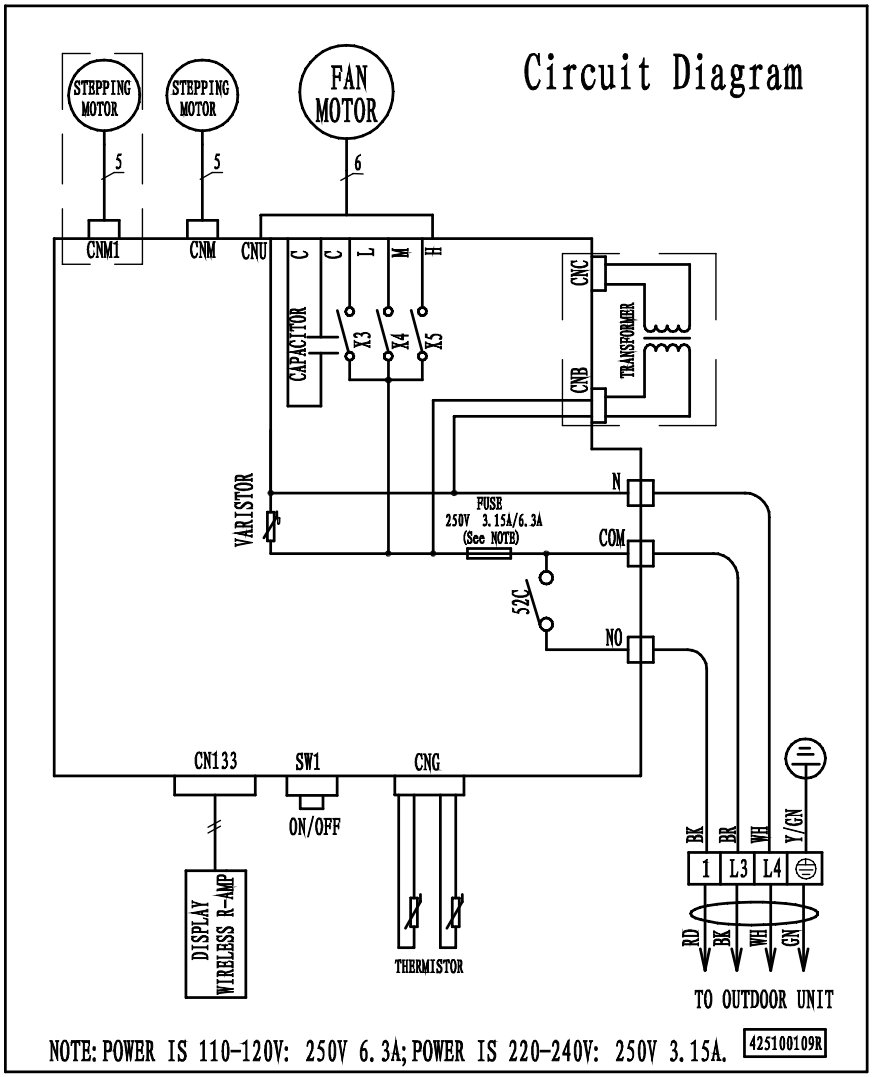
QSCE-093


Circuit Diagram
STEPPING MOTOR
STEPPING MOTOR
FAN MOTOR
5
5
6
CNM1
CNM
CNU
COM
C
L
M
H
CAPACITOR
X3
X2
X1
CNC
CNB
TRANSFORMER
VARISTOR
FUSE
250V 3.15A/6.3A
(See NOTE)
N
WH
COM
BR
52C
NO
BK
CN2
SW1
CNG
CNP
ON/OFF
DISPLAY
WIRELESS R-AMP
THERMISTOR
TERMINAL BLOCK
1
L1
N1
Y/GN
RD
BK
WH
GN
TO OUTDOOR UNIT
NOTE: POWER IS 110-120V: 250V 6.3A; POWER IS 220-240V: 250V 3.15A.
425100052

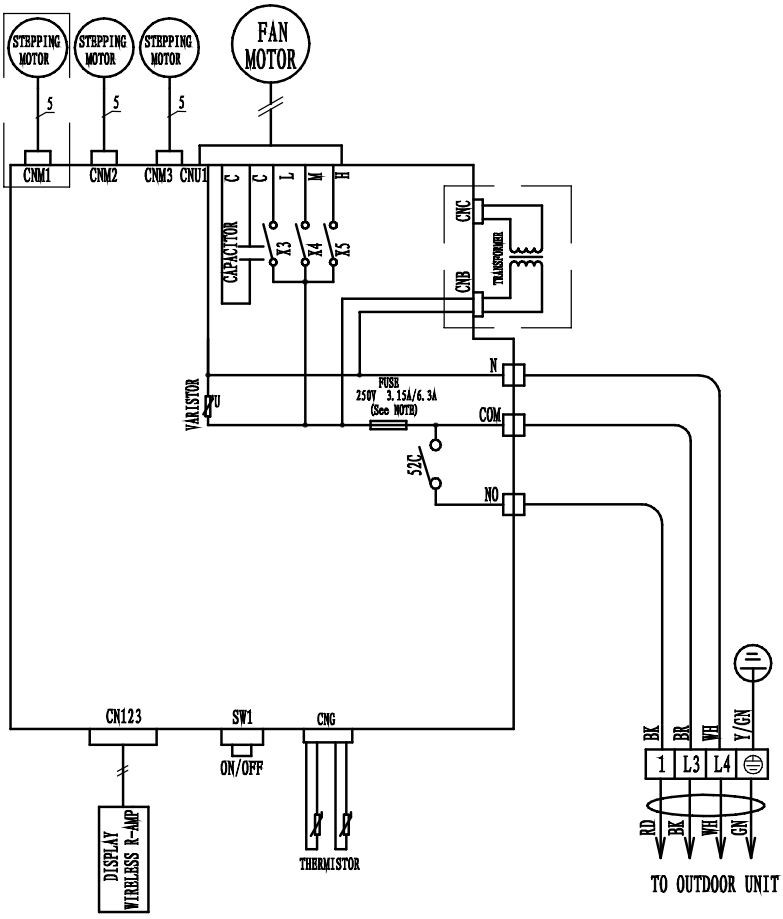
QSCE-123


Circuit Diagram
STEPPING MOTOR
STEPPING MOTOR
FAN MOTOR
5
5
6
CNM1
CNM
CNU
C
C
L
M
H
CAPACITOR
X3
X4
X5
CNC
CNB
TRANSFORMER
VARISTOR
FUSE
F 250V 6.3A
N
COM
NO
52C
CN133
SW1
CNG
ON/OFF
DISPLAY
WIRELESS R-AMP
THERMISTOR
BK
BR
WH
Y/GN
1
L1
N1
RD
BK
WH
GN
TO OUTDOOR UNIT
42530086R

QSCE-183


Circuit Diagram
STEPPING MOTOR
STEPPING MOTOR
FAN MOTOR
5
5
6
CNM1
CNM
CNU
C
C
L
M
H
CAPACITOR
X3
X4
X5
CNC
CNB
TRANSFORMER
VARISTOR
FUSE
250V 3.15A/6.3A
(See NOTE)
N
COM
NO
52C
CN133
SW1
CNG
ON/OFF
DISPLAY
WIRELESS R-AMP
THERMISTOR
BK
BR
WH
Y/GN
1
L3
L4
RD
BK
WH
GN
TO OUTDOOR UNIT
NOTE: POWER IS 110-120V: 250V 6.3A; POWER IS 220-240V: 250V 3.15A.
425100109R

Circuit Diagram



NOTE: POWER IS 110-120V: 250V 6.3A; POWER IS 220-240V: 250V 3.15A.

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