



For those who only want the Best!

High Efficiency Ductless Mini Split System Air Conditioner / Heat Pump

Owner's Manual



Thank you for choosing this high quality Pioneer air conditioning / heat pump system for your needs. To ensure satisfactory operation for many years to come, it is imperative that certain installation and maintenance procedures must be followed carefully. Installation of your system requires highly specialized training and certain special tools. Therefore, please hire a well trained technician to perform the installation tasks. Provide a copy of this manual to the installer to follow the instructions written herein. Also keep the manual in a safe place for future reference for usage and maintenance information. If lost or misplaced, please contact your supplier for a downloadable copy.

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In line with the manufacturer's policy of continual product improvement, the aesthetic and dimensional characteristics, as well as the technical data and the accessories of this appliance may be changed without notice.

SAFETY RULES AND BASIC RECOMMENDATIONS FOR THE INSTALLER

- ⚠ Please read this manual entirely before installing and using this appliance and follow all instructions and general safety rules carefully. High voltages and pressures existing within this unit can cause serious harm to persons or property or even death. Only properly licensed and highly trained technicians should install this appliance. Improper installation will cause irreversible damages and serious safety risks.
- ⚠ Installation must be performed according to all applicable and current national and local codes, regulations and laws.
- ⚠ During the installation, the area within the indoor and outdoor sections of this split system must be restricted to all unauthorized personnel to avoid any accidents.
- ⚠ Both indoor and the outdoor units must be firmly fixed to the proper parts of the building's structure.
- ⚠ Air always contains some level of humidity. Any air left within the system or entering into the system will cause insufficient performance and irreversible internal compressor damage.
- ⚠ Installer must carry out cycle tests and monitor and record of all related operational data before leaving the scene.
- ⚠ Sensitive components in this unit are protected by a fuse installed on the electronic card located in the indoor unit. Rating of this fuse is 5 Amps / 250 V. When needed replace with another fuse with the same rating only.
- ⚠ System power should be attached to the outdoor unit, through a properly rated independent power circuit, protected by a properly rated circuit breaker and a service disconnect switch box, located near the outdoor unit.
- ⚠ Ensure that the incoming voltage corresponds with the required power written on the rating plate. Make all connections tightly and waterproof to avoid risk of electrical shocks or fire due to insufficient contact.
- ⚠ All power wires, breakers and other components used to supply power to the unit must be approved for such use and properly rated for the load.
- ⚠ Always disconnect power before servicing.
- ⚠ Do not locate the system components within two feet of any inflammable substances, pressurized containers and moisture containing items.
- ⚠ Refrigerant leakage can be dangerous for humans and animals. Area must be well ventilated in case of a suspected refrigerant leakage.
- ⚠ Do not discard the packing materials improperly into the environment. All packing materials are recyclable. Do not discard the system components improperly to avoid possible environmental pollution by chemicals inside.
- ⚠ Operate and regularly maintain the system as instructed in this manual. Since not all possible conditions and situations can be properly outlined in this manual, as with any electrical appliance, use common sense and caution during operation and maintenance. Do not attempt to repair this appliance without hiring a qualified technician.
- ⚠ Warranty is valid only when the equipment is installed properly by licensed HVAC contractors and the warranty registration card must be properly filled out and sent to the manufacturer.
- ⚠ System components must be installed where they can be accessed for maintenance and repairs easily. Sufficient clearances must be provided at all directions for removal of various panels.
- ⚠ System carries sufficient refrigerant, charged into the outdoor unit as shipped. Service valves were closed. When using the standard accessory piping kit, there is no need to adjust the included refrigerant amount. In case the refrigerant lines are extended or trimmed by more than 5 feet, the refrigerant amount must also be adjusted up or down accordingly. System must be properly evacuated before releasing the refrigerant. All connections must be checked for leaks.
- ⚠ Indoor unit removes humidity from the air while cooling, generating significant amount of condensate water. The water should be properly disposed off, through proper drainage piping.
- ⚠ For any other questions or concerns, always consult with a properly trained HVAC technician. Do not allow repairs or changes to your system by unlicensed and untrained persons.
- ⚠ Contact the dealer for other questions.

SAFETY RULES AND BASIC RECOMMENDATIONS FOR THE USER

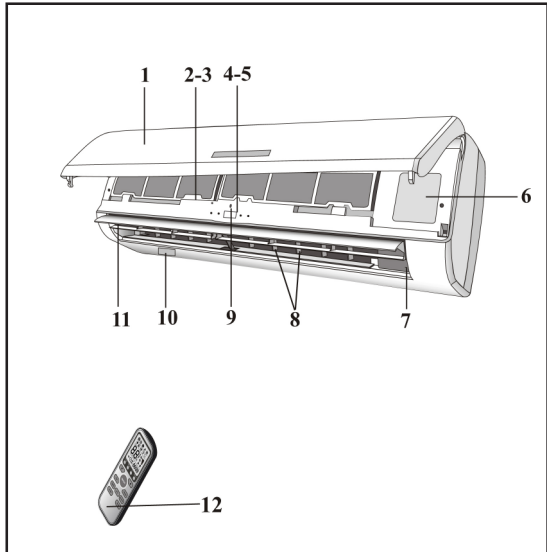
- ⚠ Please do not attempt to install this product yourself. Installation is complex and requires high level of training and very specific tools. Performance, safety, and longevity levels fully depend on the quality of the installation.
- ⚠ Owner performed maintenance should be limited to washing the indoor unit's air filters and hosing off the outdoor unit's heat exchanger regularly. Any other maintenance and deeper cleaning should be performed by trained personnel only.
- ⚠ Always disconnect power to the entire system by turning off the main breaker before cleaning or maintenance.
- ⚠ Do not use the system for any purpose other than air conditioning and heating the space it is installed within.
- ⚠ Do not use the air conditioner without the air filters properly installed and regularly cleaned, at least once every 2 weeks or more often as needed. Ignoring this important factor will cause expensive repairs and cleaning to the heat exchangers.
- ⚠ External surfaces of the indoor and outdoor units can be cleaned by warm water and mild soap, while power is disconnected. Do not drip water inside.
- ⚠ If any vibrations, abnormal sounds, smells, smoke or fumes are noticed, immediately shut down the power and call a technician for service.
- ⚠ Never insert your hand, fingers or any other objects into any of the openings.
- ⚠ Operate the air conditioner only using the remote controller, except in an emergency, you may also use the emergency button as mentioned later.
- ⚠ Do not allow the cold or hot discharge air to be blown directly and continually on people, pets, plants or other sensitive objects.
- ⚠ For extended unutilized periods, shut down the power at the breaker. Cover the outdoor unit to prevent from excessive accumulation of dust and debris and from other perils. Remove the batteries from the remote controller.
- ⚠ Do not use the remote controller too often to turn the unit on and off. Instead set the thermostat at a comfortable temperature and leave the system to perform as programmed automatically to keep the space at the desired comfort levels.
- ⚠ Turn off the system during thunderstorms.
- ⚠ Do not allow children play with or operate the system without adult supervision.
- ⚠ Please remember, indoor fan runs continually in cooling mode, while the compressor cycles on or off as needed to maintain the set temperature. This is normal and required for proper sampling of the room air temperature across the temperature sensors located in the indoor section. Power consumed by the indoor unit is totally insignificant and should not cause any economical concerns.
- ⚠ Do not discard the packing materials before assuring the units inside were not damaged during transportation. All packing materials are recyclable. Do not discard the system components or packing improperly to avoid environmental pollution.
- ⚠ Operate and regularly maintain the system as instructed in this manual. Since not all possible conditions and situations can be properly outlined in this manual, as with any electrical appliance, use common sense and caution during operation and maintenance. Do not attempt to repair this appliance without hiring a qualified technician.
- ⚠ Warranty is valid only when the equipment is installed properly by licensed HVAC contractors and the warranty registration card has been properly filled out and sent to the manufacturer.
- ⚠ Keep the area near the outdoor unit clean from snow, mud, leaves and other debris. Do not plant any bush within the required clearances shown in the diagrams in the following pages.
- ⚠ Do not cover the indoor or the outdoor units while they may be operational or powered on.
- ⚠ Keep all windows and doors closed while the system is operating. Excessive humidity in the room air will cause unit sweat condensate water, which may drip on your floors and furniture.
- ⚠ Use low fan speed mode for quieter operation but select high fan speed mode for high performance.
- ⚠ Do not have this unit installed illegally and without a required permit from your building department. Check for compliance with all local codes, ordinances and homeowners association rules.
- ⚠ For any other questions or concerns, always consult with a properly trained HVAC technician. Do not allow repairs or changes to your system by unlicensed and untrained persons.
- ⚠ Contact the dealer for other questions.

NAMES AND DESCRIPTIONS OF THE MAJOR COMPONENTS

INDOOR UNIT:

1. Front Panel
2. Standard Air Filter
3. Optional Air Filter
4. LED Display
5. Infrared Receiver
6. Terminal Block Cover
7. Ionizer (Optional)
8. Internal Air Deflectors
9. Emergency Start Button
10. Rating Label
11. Auto Swing Louvers
12. Remote Transmitter

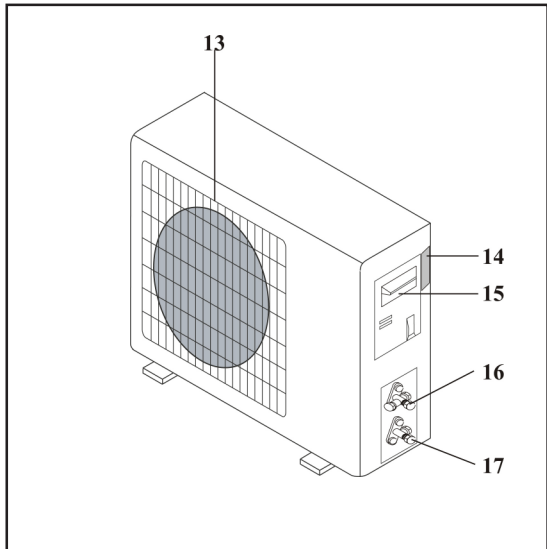
This indoor section must be installed indoors, preferably on an external wall, and inside the space to be heated or cooled.



OUTDOOR UNIT:

13. Air Outlet Grille
14. Rating Label
15. Terminal Cover
16. Liquid Valve
17. Suction Valve

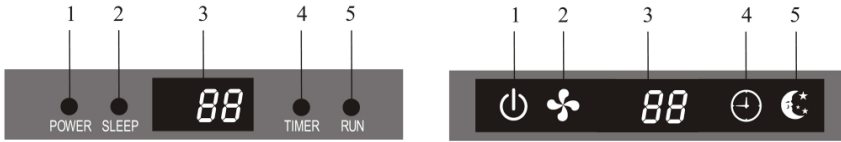
This outdoor section must be installed outdoors, on a concrete slab, flat roof, or on an external wall using suitable brackets. Do not install it in enclosed spaces.



This split system air conditioner consists of 2 major components as illustrated above, which are connected to each other with a pair of insulated copper refrigeration tubes and a set of 3 separate electrical connecting cables. Often referred to as the piping kits, these connection kits are available in different lengths and sizes depending on the model and the application.

Note: Above are simplified illustrations showing common components of the system and the appearance of an actual unit may be slightly different depending on the design.

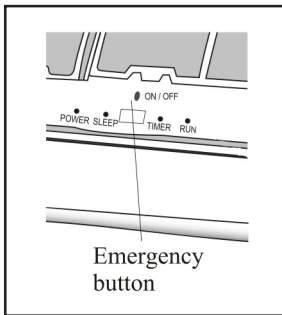
INDOOR UNIT DISPLAY



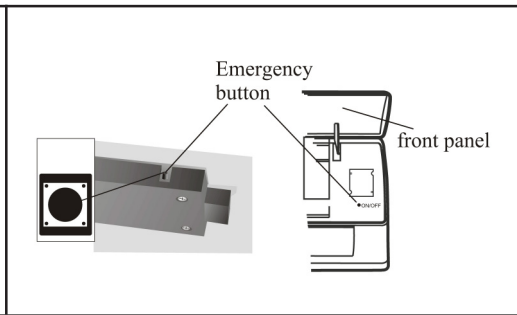
No.	Led		Function
1	POWER	⏻	Shows that the unit is powered
2	SLEEP	☾	SLEEP mode
3	Temperature display (if present)	88	Indicates the set temperature in °C or ° F
4	TIMER	⌚	TIMER mode
5	RUN	🌀	Unit working

EMERGENCY START AND AUTO-RESTART FUNCTIONS

Location of the Emergency Start Button
009 and 012 Models



018 and 024 Models



EMERGENCY START-STOP:

If the remote transmitter is lost, the system can be used in Emergency Mode by using the Emergency Start Button.

- Press the Emergency Start button once to place the system into FORCED COOLING mode (single short beep).
- Press the Emergency Start button once more to place the system into FORCED HEATING mode (two short beeps).
- Press the Emergency Start button once to turn the system OFF (single long beep).

After 30 minutes of running any forced mode, system automatically will switch to FEEL Mode (Explained later).

AUTO RESTART FUNCTION:

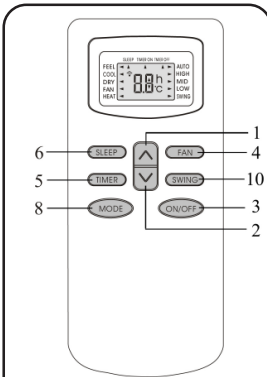
Following a power failure or brownout, the system settings stay stored in the memory and the system restarts automatically and operates using the latest settings.

Factory default setting for Auto Restart Function is ON.

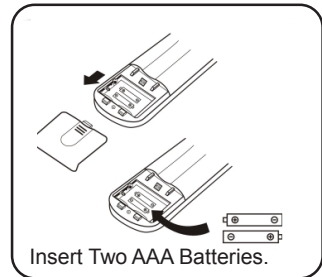
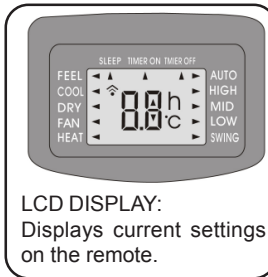
- To turn OFF the auto restart function, disconnect the power to the system, then reconnect power while holding down Emergency Start button. Keep the button pressed for 10 seconds more, until hearing four short beeps.
- To turn the auto restart function back ON again, repeat the same procedure as outlined above, until hearing three short beeps.

REMOTE CONTROLLER FUNCTIONS AND SETTINGS

No.	Button	Function
1	▲ (TEMP UP)	Increase the temperature or time by 1 unit
2	▼ (TEMP DN)	Decrease the temperature or time by 1 unit
3	ON/OFF	To switch the conditioner on and off.
4	FAN	To select the fan speed of auto/low/mid/high
5	TIMER	To set automatic switching-on/off
6	SLEEP	To activate the function "SLEEP"
8	MODE	To select the mode of operation
10	SWING	To activate or deactivate of the movement of the "DEFLECTORS" .

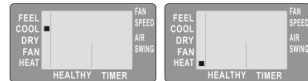


REMOTE CONTROL:
Controls all of the available functions of your system with convenience from a remote distance. Wall unit beeps each time to indicate a signal was received from the remote.

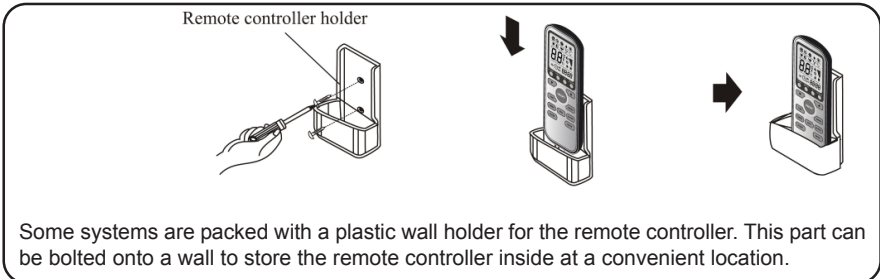


IMPORTANT WARNING - SETTING THE REMOTE FOR INITIAL USE AND AFTER REPLACING BATTERIES.

REMOTE CONTROL CAN BE SET AS COOL ONLY OR HEAT-COOL.



When the batteries are inserted, LCD screen will flash signs next to HEAT and COOL alternately. Pressing any button while the COOL sign is flashing sets the remote as Cool Only. Pressing any button while HEAT sign is flashing sets as Heat-Cool. If you do not press any button, flashing stops and controller sets up as default to Heat-Cool Function..

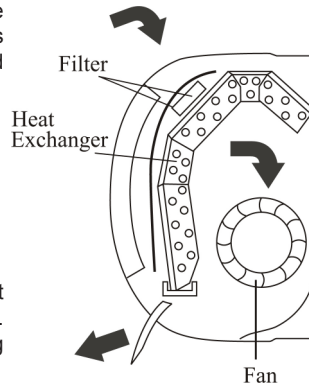


MODES OF OPERATION

System is designed to create comfortable climate conditions based on the user's choices for the area it is installed in. Several modes of operation are available and can be set as needed. These are:

- Air Conditioning (Straight Cooling).
- Heating (Reverse Cycle / Heat Pump).
- Dehumidifying (Dry Mode for humidity control).
- Ventilating (Fan Only mode for air circulation).
- Auto (Automatic switch-over mode)
- FEEL Mode (Default comfort settings).

Indoor air is recirculated through filters and the heat exchanger by a powerful yet quiet cross flow fan. Discharged air can be directed at a specific direction using the internal deflectors and external motorized flaps.

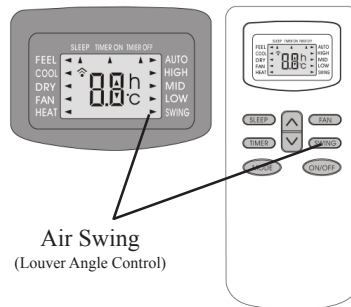
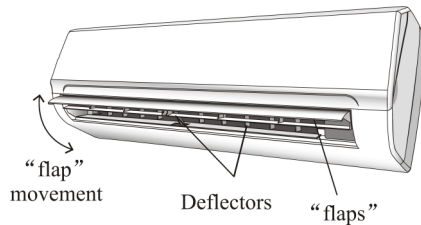


SWING LOUVER OPERATION

Discharged air direction can be remotely controlled by pressing the SWING button on the remote. Pressing the SWING button once will activate Automatic Air Sweep mode, and the horizontal air deflectors will start moving up and down to constantly change the direction of the discharged air in a sweeping action, for optimum air distribution. An arrow, next to the word SWING on the LCD screen will illuminate to confirm the swing mode is ON.

Pressing the SWING button again will cancel the Automatic Air Sweep mode and the flaps will stop swinging and stay at their specific position at the time the button is pressed.

If a fixed discharge position is desired for the flaps, instead of the sweeping action, flaps can be stopped at that desired angle using the SWING button.



Recommended fixed flap angle for the COOL and FAN modes is an high / horizontal angle for reaching across the room.

Recommended fixed angle for HEAT and DRY modes is a low / downward angle to prevent creating air draft effect on people.

Never adjust the Auto Swing flaps by hand to prevent damage to the delicate driver motors.

Manually adjust the internal deflectors to direct the air in the right or left direction as desired. Do not attempt to adjust the deflectors while the system is ON to prevent accidents.

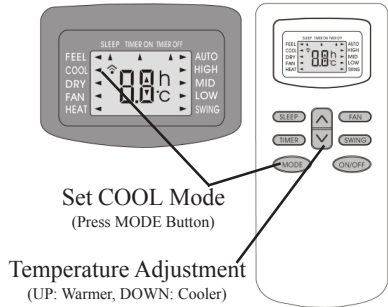
MODES OF OPERATION

COOLING MODE OPERATION

Pressing the MODE button until the arrow next to the COOL sign on the LCD screen illuminates, will set the system function to COOLING mode.

In cooling mode the desired room temperature can be adjusted by pressing the UP and DOWN arrow buttons. Display will adjust the set temperature in 1°F increments, each time these buttons are pressed.

System starts if the set temperature is at least 1°F less than the actual room temperature and cools the room until set temperature is obtained. During cooling, a significant amount of humidity is also removed from the air automatically, for obtaining better comfort levels.

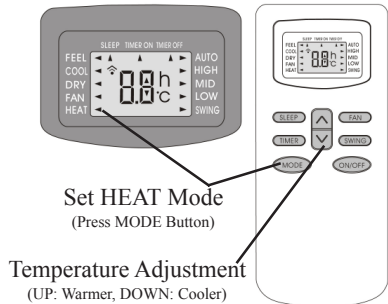


HEATING MODE OPERATION

Pressing the MODE button until the arrow next to the HEAT sign on the LCD screen illuminates, will set the system function to HEATING mode.

In heating mode the desired room temperature can be adjusted by pressing the UP and DOWN arrow buttons. Display will adjust the set temperature in 1°F increments, each time these buttons are pressed.

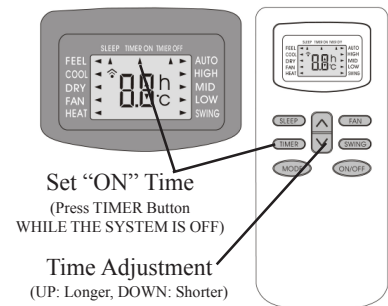
System starts if the set temperature is at least 1°F more than the actual room temperature and heats the room until set temperature is obtained. Hot Start function in the software delays the air flow from the indoor unit until the indoor unit's heat exchanger is sufficiently warmed up to prevent cold air draft. Additionally, the system software, utilizing a self learning logic, will constantly monitor and automatically activate a suitable defrost cycle when necessary, to melt down any ice accumulation on the outdoor unit's heat exchanger. Defrost cycle is entered into automatically and can not be overridden by the user. During defrost cycle, which can last between 2~10 minutes, the indoor fan stops running automatically. At the end of the defrost cycle, the system returns to heating mode and continues the normal heating operation.



TIMER "ON" SETTINGS

To set the system to automatically start, after a certain time elapses (between 1/2 hour to 24 hours), press the TIMER button WHILE THE SYSTEM IS IN OFF MODE. Remember to set the desired operation mode (COOL or HEAT) and the fan speed, prior to setting the ON timer, then turn off the system and set the ON timer.

To cancel ON timer, press TIMER button again. In case of power failure timer settings cancel out.

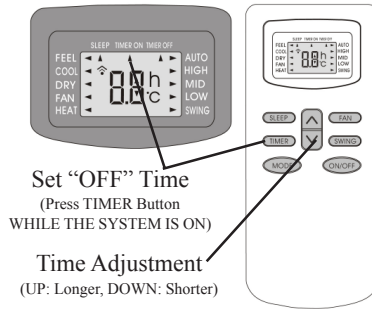


MODES OF OPERATION

TIMER “OFF” SETTINGS

To set the system to automatically stop, after a certain time elapses (between 1/2 hour to 24 hours), press the **TIMER** button WHILE THE SYSTEM IS IN ON MODE. System will run with current setting and turn itself OFF automatically after the set time elapses.

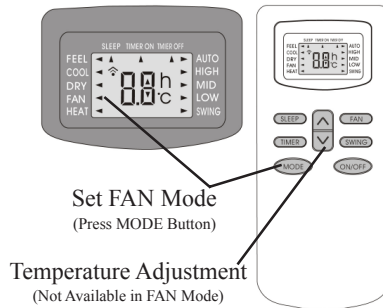
To cancel OFF timer, press **TIMER** button again. In case of power failure timer settings cancel out.



FAN ONLY (VENTILATION) MODE

Pressing the **MODE** button until the arrow next to the **FAN** sign on the LCD screen illuminates, will set the system function to **FAN ONLY** (Ventilation) mode.

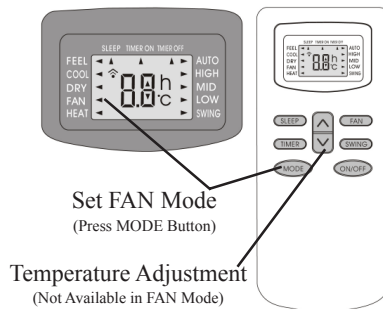
In **FAN** mode outdoor unit is entirely deactivated and only the indoor unit's fan runs without any cooling or heating effect. Temperature adjustment button is also deactivated. However, fan speed can still be adjusted as desired.



DRY (DEHUMIDIFICATION) MODE

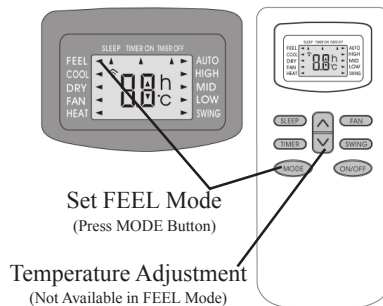
Pressing the **MODE** button until the arrow next to the **DRY** sign on the LCD screen illuminates, will set the system function to **DRY** (Dehumidification) mode.

In **DRY** mode, system operates based on its internally programmed software instructions and temperature setting and the fan speed buttons are deactivated. Entire **DRY** operation is automatically controlled.



FEEL (AUTO CONTROL) MODE

Pressing the **MODE** button until the arrow next to the **FEEL** sign on the LCD screen illuminates, will set to system function to **FEEL** (Auto Control based on below pre-programmed instructions) mode. Temperature setting button is inactivated.



Ambient temp	Operation mode	Auto temp.
< 68°F	HEATING (FOR HEAT PUMP TYPE) FAN (FOR COOL ONLY TYPE)	73.4°F
68°F ~78.8°F	DRY	64.4°F
> 78.8°F	COOL	73.4°F

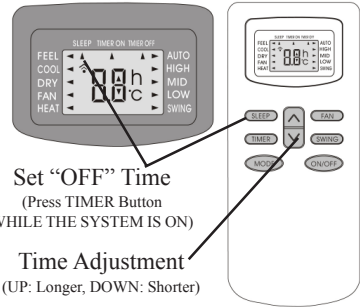
MODES OF OPERATION

SLEEP FUNCTION SETTINGS

Pressing the SLEEP button will illuminate the arrow next to the SLEEP sign on the LCD screen and set the SLEEP function on. Pressing it once more will cancel the SLEEP mode. SLEEP mode can be set while running COOL or HEAT Modes.

Sleep mode adjusts the set temperature to cope with the body's natural temperature changes during sleep for comfortable night temperatures.

If the SLEEP mode is activated, while the system is running in COOL mode, the set temperature will be automatically increased by 2°F within 1 hour and by 4°F within 2 hours. Similarly, if the SLEEP mode is activated, while the system is running in HEAT mode, the set temperature will be automatically decreased by 2°F within 1 hour and by 4°F within 2 hours. SLEEP mode will turn the system OFF automatically after 10 hours of running in sleep mode.



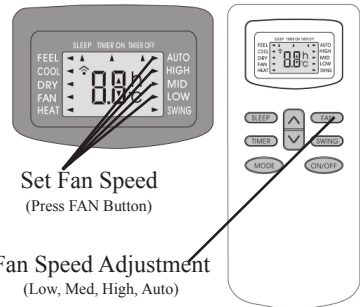
Set "OFF" Time
(Press TIMER Button
WHILE THE SYSTEM IS ON)

Time Adjustment
(UP: Longer, DOWN: Shorter)

FAN MOTOR SPEED SETTINGS

Pressing the FAN button will change the fan motor's speed to provide different amount of air flow, while the system is running Cool, Heat, Feel or Fan Only Modes. The arrow next to either AUTO, HIGH, MED, LOW on the LCD screen will illuminate to correspond with the currently set fan speed.

Higher fan speed will cause slightly higher noise. AUTO speed is automatically controlled depending on the current conditions.



Set Fan Speed
(Press FAN Button)

Fan Speed Adjustment
(Low, Med, High, Auto)

SYSTEM PROTECTIONS

Any time the system is stopped, it will not restart until after a 3 minute safety time delay is elapsed. Same time delay is also automatically activated after Mode Changes.

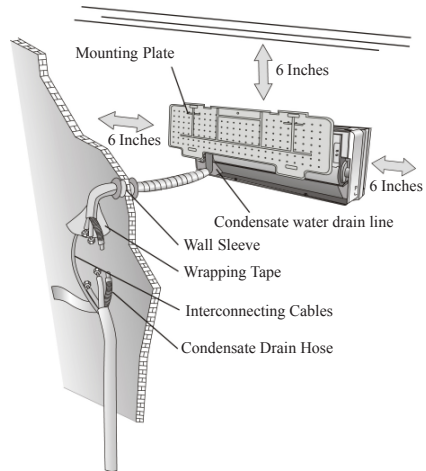
Additionally, the system is protected from damage, under certain extreme running conditions as listed below. If any of these conditions is reached, the protective devices will stop the system.

No.	MODE	
1	Heating	Outdoor air temperature is over 75°F
		Outdoor air temperature is below -45°F
		Room temperature is over 81°F
2	Cooling	Outdoor air temperature is over 109°F
		Room temperature is below 70°F
3	Dry	Room temperature is below 64°F

INSTALLATION INSTRUCTIONS - Selecting the locations

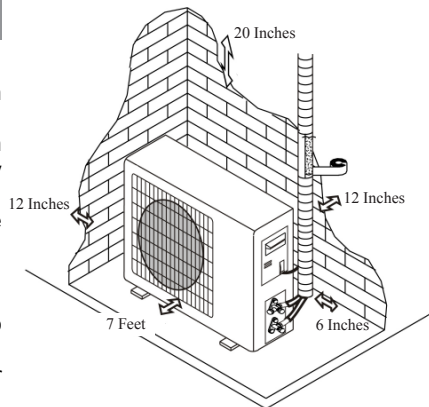
INDOOR SECTION

- Indoor unit should only be installed indoors, and on a sturdy wall. Installing on an external wall, simplifies the installation significantly.
- Air inlet and outlet ports of the indoor section at the installed position should be clear of any obstructions.
- Location should be chosen to be at a central location within the space for better air distribution within the entire space.
- Choose the location away from direct sunlight.
- Choose the location to be closest possible to the location of the outdoor section.
- Choose the location where the condensate water can be discarded through the drain line.
- Assure the minimum shown clearances are observed around the unit.
- Assure the unit can be easily accessed for filter cleaning and other maintenance.



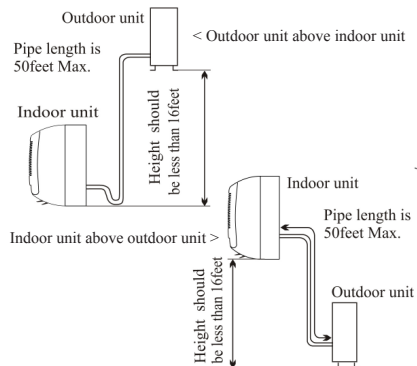
OUTDOOR SECTION

- Outdoor unit should only be installed outdoors, and on a sturdy slab, flat roof or on suitable brackets against an external wall.
- Air inlet and outlet ports of the outdoor section at the installed position should be clear of any obstructions, hedges, bushes, plants.
- Location should be at an area where the operating noise will not disturb the neighbors.
- Choose the location away from direct sunlight.
- Choose the location away from strong winds.
- Choose the location to be closest possible to the location of the indoor section.
- Choose the location where snow, mud or other debris do not accumulate within the area.
- Assure the minimum shown clearances are observed around the unit.
- Assure the unit can be easily accessed for cleaning and other maintenance.



MAX PIPE LENGTH AND HEIGHT

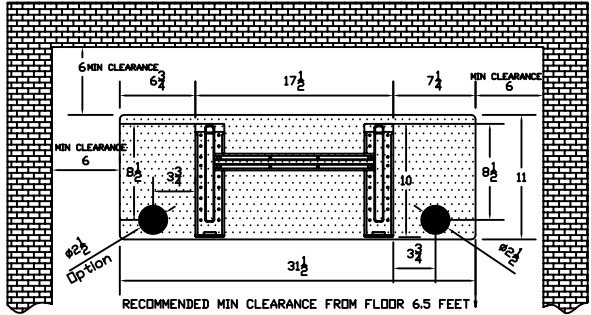
- Total maximum piping length should not exceed 50 feet straight.
- Total altitude difference between the indoor and outdoor sections should not exceed 16 feet.
- Either the indoor or the outdoor unit can be placed higher than another.
- Refrigerant amount must be adjusted based on the pipe length and other factors.



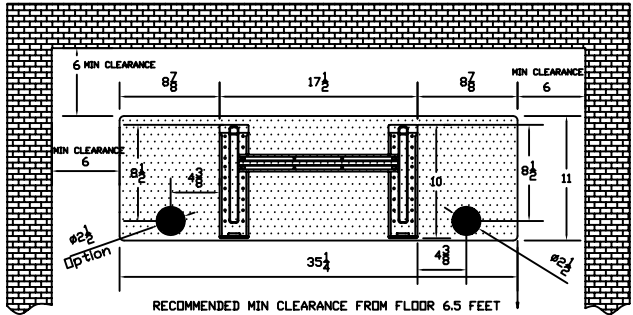
INSTALLATION INSTRUCTIONS - Indoor Unit Installation

- Indoor unit should only be installed indoors, and on a sturdy wall. Screw the mounting plate securely, using plastic anchors for concrete walls and standard screws for hollow walls, assuring the screws are located where the studs are.
- Use at least 6 pieces of 2 inch long screws.
- Observe all shown clearance in drawings on all sides from other walls or fixed objects.
- Minimum installation height of 7 ft. above the floor is recommended for better air distribution.
- Use a level to assure a perfect square position when installing the mounting plate on the wall for proper condensate water drainage.

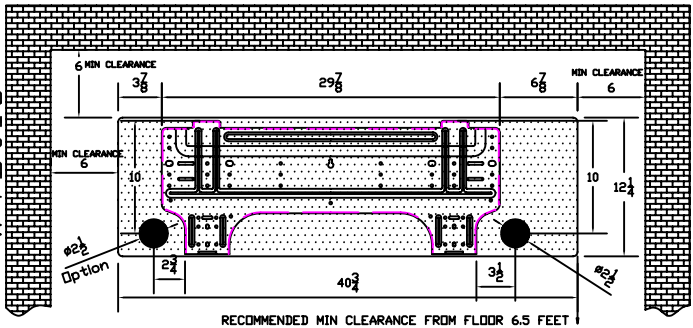
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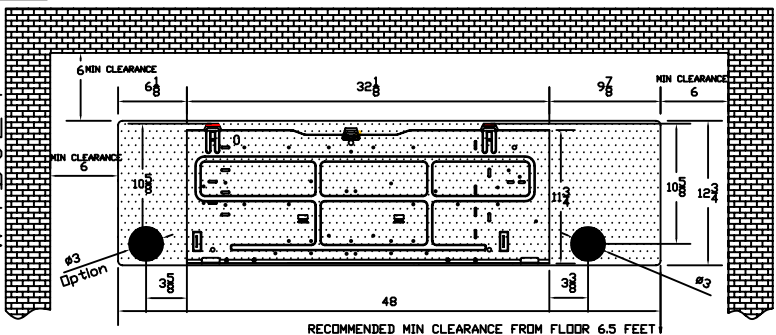
WYD012



WYD018



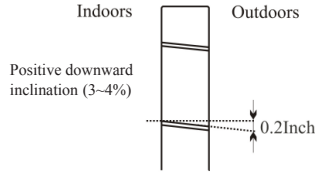
WYD024



INSTALLATION INSTRUCTIONS - Indoor Unit Installation

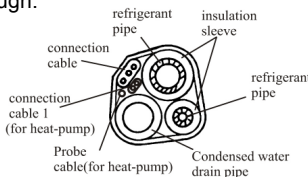
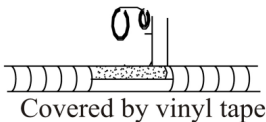
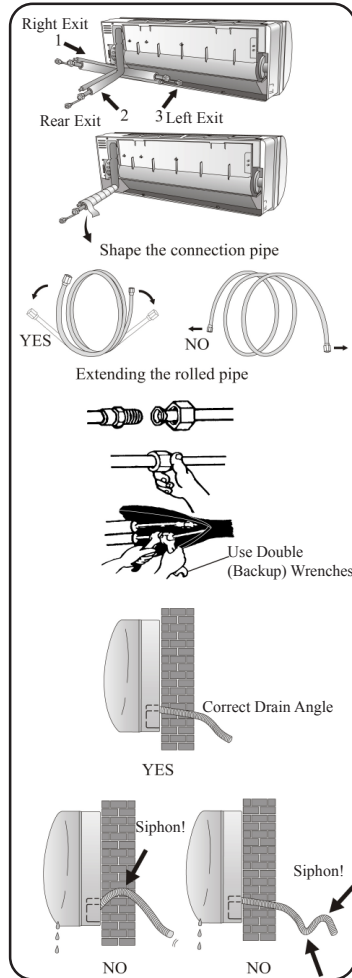
PIPE HOLE DRILLING

- One 3" diameter hole, to accommodate the refrigerant lines, drain tubing and interconnecting cabling to pass through is usually drilled behind the indoor unit, based on the exact location of the connector pipes on the back side of the indoor unit. Please use careful judgement to locate the location of the hole in relation to the mounting plate, based on the location of the connection pipes.
- Insert the accessory plastic wall sleeve through the hole to assure a smooth surface.

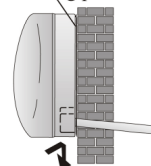


CONNECTING REFRIGERANT LINES

- Refrigerant pipes can be attached to the indoor unit from 3 different directions. Most common location is by approaching from across the rear, in a perpendicular angle. Where this is not possible, the pipes can be entered from either the left or the right side panel of the indoor unit by removing the knockouts on panels.
- If the rear approach routing is used, swing out the connector pipes of the indoor unit to obtain a perpendicular angle, while supporting the part of the connector pipes attached to the unit, to avoid causing internal cracks at the heat exchanger's header.
- Keep the plastic caps on until ready to make your connections to avoid contamination.
- Uncoil the refrigerant lines as shown in the drawing by rolling on a flat surface, not by pulling apart. Use extreme care not to cause any kinks and collapses on the copper pipes that will restrict the refrigerant flow and cause deficiencies. Avoid sharp bends.
- If the copper pipes are bent or shaped too many times, they will become stiff and brittle.
- Be extremely gentle when bending the copper tube set to avoid kinks and collapses.
- Attach the copper line set to the indoor unit's connector pipes, using double (backup) wrenches, and using the correct torque to avoid the likelihood of leaks.
- Bundle all pipes, wires and the drain hose together using the provided wrapping tape. Assure the drainage hose is located at the lowest / bottom position within the bundle. Assure not to create any siphons, wrong inclination angles or pinched areas on the drain line.
- Use the provided sealing putty to seal the pipe hole entirely to avoid passage of air through.



mounting plate

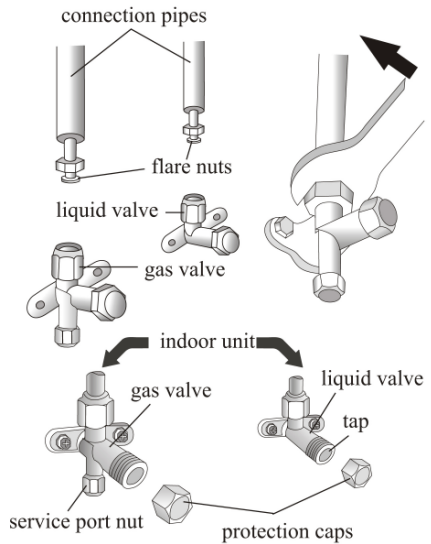
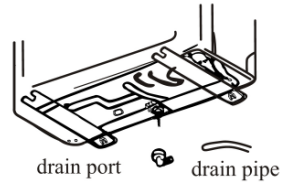


INSTALLATION INSTRUCTIONS - Outdoor Unit Installation

- Outdoor unit should only be installed outdoors, and on a sturdy slab, or on top of a flat roof, or on suitable brackets that are mounted to an exterior wall.
- Observe all shown clearance in drawings on all sides from other walls or fixed objects.
- Do not install in narrow or enclosed spaces or frequently flooded areas.
- Use the vibration absorber pads provided with the unit to reduce operational sounds.
- Assure to properly and strongly fix the unit to a solid structural part of the building.
- Different size units have different size feet and mounting hole locations.
- Use the provided drain port and attach a PVC drain pipe to the bottom of the casing only if the outdoor unit is hung high on a wall and where the water dripping is not desirable (usually applicable for installation on tall buildings to avoid water dripping on sidewalks). Otherwise this is not necessary for simpler backyard or rooftop installations.

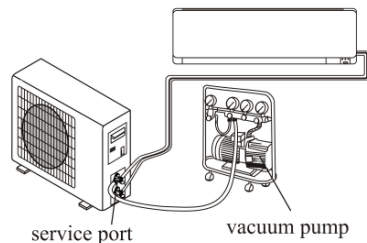
CONNECTING REFRIGERANT LINES

- Do not remove the plastic covers on the outdoor units valves and at the end of the line set, until you are ready to connect them together to avoid contamination.
- Route to approach the ends of the line set to the corresponding valves on the outdoor unit, by shaping the copper lines gently to avoid kinks and sharp angles.
- Remove the plastic caps on mating ends and quickly screw the brass flare nuts on the line set to the corresponding brass valve on the outdoor unit. Use proper torque to tighten the flare nuts to prevent any possibility of a refrigerant leakage. While application of less than required torque can cause leaky connections, application of excessive torque can crack the flares on the copper tubes and just as risky for causing leaks. Use extreme caution.
- Recommended way is to use an adjustable torque wrench with the settings provided later.



EVACUATION PROCEDURES

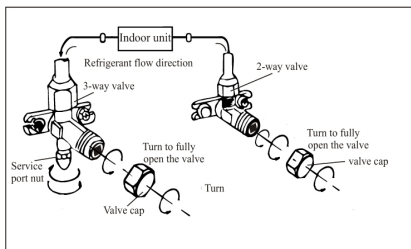
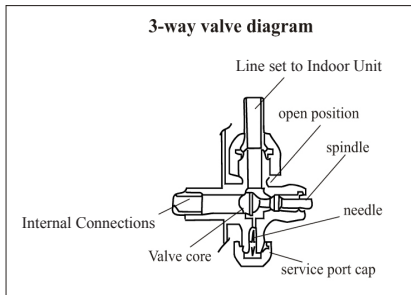
- MOST CRITICAL ASPECT OF THE ENTIRE INSTALLATION IS THE EVACUATION.
- Air that remains in the line set and the indoor unit must be entirely evacuated using proper vacuum pump and charging gauge set.
- Air naturally contains some degree of humidity, which creates acid when combined with the oil and other chemicals in the refrigeration system. Acid, weakens the varnish insulation on the motor windings on the compressor and cause premature and irreversible compressor failure.
- The larger (Gas side) service valve is equipped with a service port. The size of the service port is SAE 5/16". Use a gauge set with 5/16" hoses or utilize a port adapter to hook up the low side gauge hose to the service set.



INSTALLATION INSTRUCTIONS - Outdoor Unit Installation

EVACUATION PROCEDURES (cont'd.)

- First remove the brass service port cap and then hookup the low side (blue) hose of the charging manifold to the service port.
- Attach the common side (yellow) hose to the vacuum pump. Turn on the vacuum pump.
- Open the low side valve on the charging manifold all the way. Notice the changing sound of the vacuum pump that starts to suck.
- Run the vacuum pump for 30 minutes to obtain the necessary vacuum levels to evaporate all moisture trapped in the system and remove the air entirely. Keep an eye on the low side gauge to assure the max vacuum is achieved.
- Shut off the low side valve on the charging gauges to lock the vacuum in. Turn off the vacuum pump. Keep everything as is for 30 minutes and then check the low side gauge once more to assure the vacuum is holding up. Even the slightest increase on the gauge readings indicate a leak at one of the flare connections.



- After assuring that the vacuum is holding up, remove the hexagonal brass caps on both service valves of the outdoor unit to expose the valve cores (spindles) located underneath.
- Insert a proper sized Allen wrench into the center cavity of the valve core inside the larger (gas) valve. Turn counter clockwise for 1/4 turn and wait for 10 second to release a small test amount of refrigerant into the line set.
- Using soap and water mixture, check all 4 flare nuts you connected carefully for any refrigerant leaks. Retighten any leaky connections until the leak is completely stopped.
- After assuring that no more leaks exist in any of the pipe connections, open both of the valves by using proper sized Allen wrenches. Turn them counter clockwise until the valve cores are back seated fully (use common sense not to force them out beyond that point).
- Using soap and water mixture, once more check all 4 flare connections carefully for any refrigerant leaks. Retighten any leaky connections until the leak is completely stopped.
- Please remember to leak check the system using the same method, for one last time after startup and if possible while running HEAT mode (with even higher pressures).
- R410A refrigerant can not be topped off in case of a leak. Even for partial leaks, the entire remaining refrigerant must be removed and system must be re-evacuated and recharged.

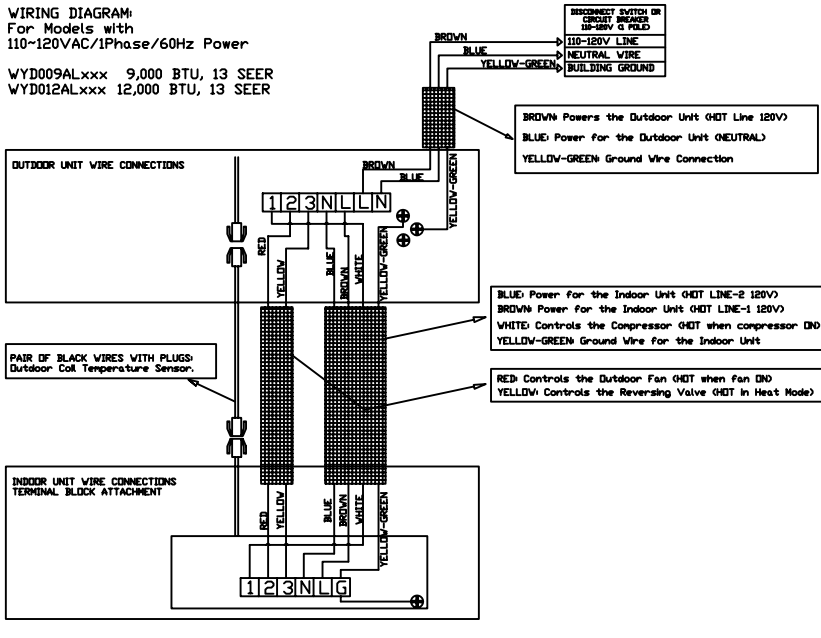
ALTERNATIVE EVACUATION PROCEDURES (Not recommended or Endorsed)

- Some sources mention using an alternative evacuation procedure, called bleeding or flushing, without properly utilizing a vacuum pump. Manufacturer does not recommend or endorse using these methods as it is usually illegal to vent refrigerant into the atmosphere.
- With this procedure, a small amount of refrigerant is released into the line set by opening the gas valve for 1/4 turn for 3-4 seconds and then closing it tight. Following the release of this small amount of refrigerant, the flare nut on the opposite (liquid) valve is loosened and the gas pressure is relieved into the air, flushing along some of the trapped air inside.
- Repeating this procedure for 3-4 times, usually removes most of the air trapped inside by sweeping it across the system. Both valves can then be opened after the loosened flare nut on the liquid valve is properly retightened. Proper leak checking must follow.
- This procedure is not environmentally friendly and may be illegal. Please do not attempt!

INSTALLATION INSTRUCTIONS - Electrical Connections

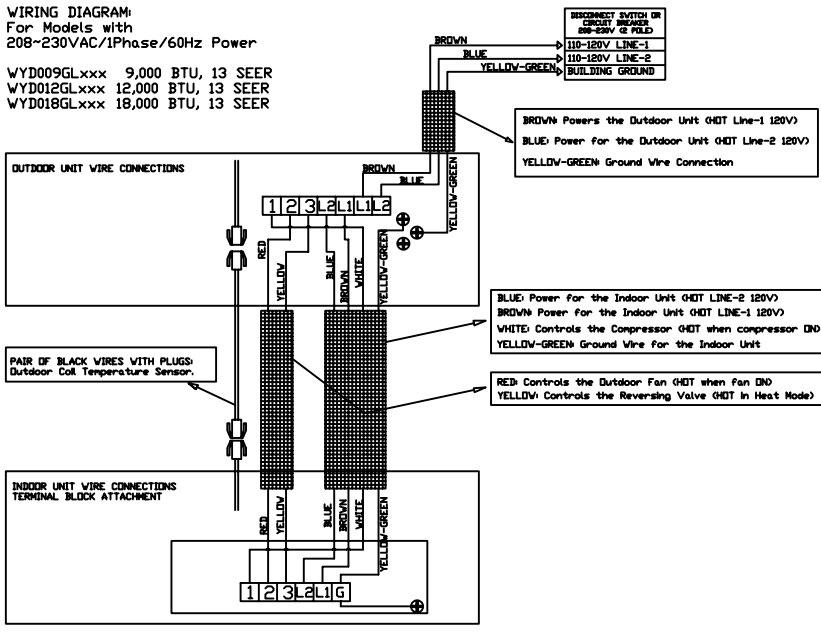
WIRING DIAGRAM:
For Models with
110~120VAC/1Phase/60Hz Power

WYD009ALxxx 9,000 BTU, 13 SEER
WYD012ALxxx 12,000 BTU, 13 SEER



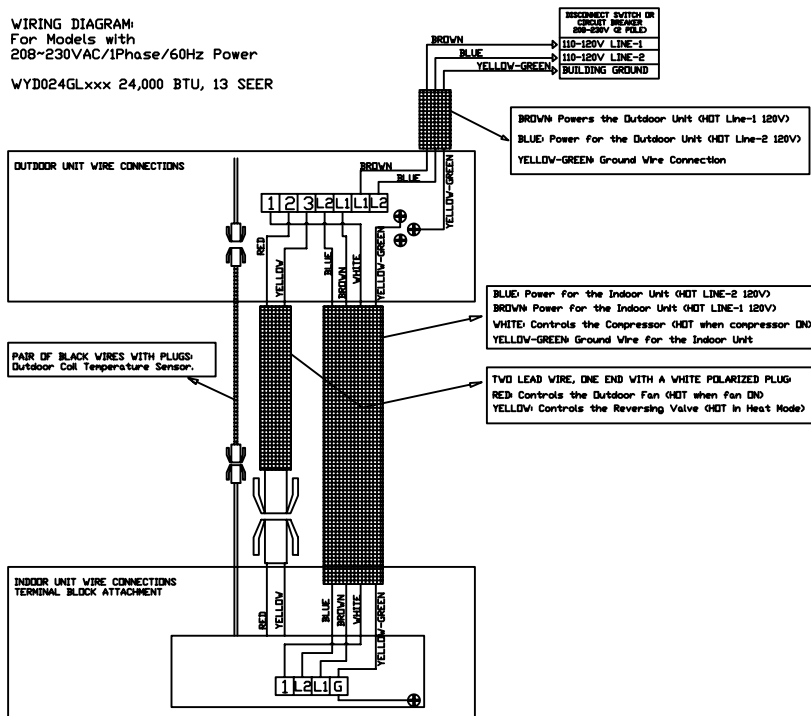
WIRING DIAGRAM:
For Models with
208~230VAC/1Phase/60Hz Power

WYD009GLxxx 9,000 BTU, 13 SEER
WYD012GLxxx 12,000 BTU, 13 SEER
WYD018GLxxx 18,000 BTU, 13 SEER



INSTALLATION INSTRUCTIONS - Electrical Connections

WIRING DIAGRAM:
For Models with
208~230VAC/1Phase/60Hz Power
WYD024GLxxx 24,000 BTU, 13 SEER



INSTALLATION INSTRUCTIONS - Final Steps and Startup

- Wrap the entire line set, using the wrapping tape provided. Secure the line set to the structure using clamps or an accessory decorative PVC line cover kit (sold separately).
- Seal the exit hole on the wall, from the outside to prevent any air or water from entering.
- After assuring all electrical connections are properly secured, turn the breaker on. Check if the power light on the indoor unit's display comes on.
- Start the system. Test for all modes and functions for full operational availability.
- Check for abnormal sounds, vibrations or burning smells for both sections.
- Check the temperature of the supply air from the indoor unit to be approximately 15~20°F cooler than the room air in cooling and 15~20°F warmer than the room air in heating mode.
- Observe that the outdoor fan is running properly and feel the outdoor unit's discharge air to be warmer than the ambient air in cooling and cooler than the ambient in heating mode.
- If the standard accessory line set has been extended or trimmed by more than 5 feet, add or remove proper amount of refrigerant as indicated in the related table in this manual.
- Check for the pressure reading on the low side gauge attached to the service port. Adjust the refrigerant amount as necessary for proper operation, using temperature/pressure charts and superheat method. At 95°F Ambient temperature the suction line pressure should be between 115~125 PSI and the measured superheat should be between 5-7°F.
- If any freezing is observed on the service valves, this is an indication of low refrigerant.
- Record all required operational technical data on the warranty registration form.
- Have your licensed HVAC contractor fill out, sign and stamp the warranty registration form. Mail, fax or email it as instructed as soon as possible.

INSTALLATION INSTRUCTIONS - Initial Diagnostics

- For 110~120 Model systems, when the power is connected, the measured voltage between the L and N terminals of both Indoor and outdoor units should be 110~120 VAC.
- For 208~230 Model systems, when the power is connected, the measured voltage between the L1 and L2 terminals of both Indoor and outdoor units should be 208~230 VAC.
- When the compressor is running, the measured voltage between the 1 and G terminals of both Indoor and outdoor units should be 110~120 VAC. (G is ground lug in outdoor unit)
- When the outdoor fan is running, the measured voltage between the 2 and G terminals of both Indoor and outdoor units should be 110~120 VAC. (G is ground lug in outdoor unit)
- When the system is in HEAT mode, the measured voltage between the 3 and G terminals of both Indoor and outdoor units should be 110~120 VAC. (G is ground lug in outdoor unit)
- Always assure that same color coded wires connect to same numbered terminal positions at both the Indoor and Outdoor Units' terminal blocks and none are inverted or crossed.
- In case a component is not energized, check for continuity on the specific cable feeding that device all across its length. Core of the cable may have been pinched/broken.
- If power properly reaches the indoor unit and the indoor unit does not display any lights, check for the condition of the fuse located on the indoor unit's electronic controller card.
- If there is no cooling or heating effect, or the cooling or heating effect is weak, check to make sure the outdoor units valves are opened fully following a proper vacuuming/evacuation procedure. Check for the entire length of the piping set for kinks and collapses. Check and verify the pressure measured at the gas valve's service port. Check to make sure both service valves at the outdoor unit are cold (Approx 36~42°F) in cooling mode and hot (Approx 80~110°F) at heating mode. Assure that the surfaces of the valves, portions of the line set and/or the indoor unit's heat exchanger coil are not frozen.
- If there is water dripping from the indoor unit, assure that the drainage hose is properly routed, not kinked or collapsed, does not have any upward inclination or siphons. Observe that the condensate water is dripping from the end of the drain hose.
- If the discharge areas of the indoor unit is sweating in cooling mode, assure there are no open windows or doors that can create high indoor humidity conditions.

INSTALLATION SPECKS

MODEL capacity (Btu/h)	9k	12k	18k	24k
Liquid pipe diameter	1/4 "	1/4 "	1/4 "	3/8 "
Gas pipe diameter	3/8 "	3/8 "	1/2 "	5/8 "
Length of pipe with standard charge	16feet	16feet	16feet	16feet
Maximum distance between indoor and outdoor unit	50feet	50feet	50feet	50feet
Adjustment to refrigerant (if extended or trimmed by more than 5 feet)	0.22 ounces/feet	0.22 ounces/feet	0.35 ounces/feet	0.35 ounces/feet
Max. diff. in level between indoor and outdoor unit	16feet	16feet	16feet	16feet
Factory charged R410A refrigerant amount (for 16' line set)	2.10 Lbs.	2.25 Lbs.	4.40 Lbs.	5.85 Lbs.

Tightening Torques:

PIPE	TIGHTENING TORQUE [Pounds x feet]	CORRESPONDING STRESS (using a 8 inch wrench)	TIGHTENING TORQUE [Pounds x feet]
1/4 "	1.0 - 1.3	wrist strength	0.5 - 0.6
3/8 "	2.1 - 2.4	arm strength	1.7 - 2.0
1/2 "	2.4 - 3.0	arm strength	
5/8 "	5.3 - 5.4	arm strength	

WIRING SIZE

Model (Capacity BTU/h)	Wire Gauge				
	009	012	018	024	
Power Supply Cable	L (L1)	AWG-16	AWG-16	AWG-16	AWG-16
	N (L2)	AWG-16	AWG-16	AWG-16	AWG-16
	G	AWG-16	AWG-16	AWG-16	AWG-16
Interconnecting Cable Set	L (L1)	AWG-18	AWG-18	AWG-18	AWG-18
	N (L2)	AWG-18	AWG-18	AWG-18	AWG-18
	1	AWG-18	AWG-18	AWG-18	AWG-18
	2	AWG-18	AWG-18	AWG-18	AWG-18
	3	AWG-18	AWG-18	AWG-18	AWG-18
	G	AWG-18	AWG-18	AWG-18	AWG-18

TROUBLESHOOTING

MALFUNCTION	POSSIBLE CAUSES
System Does Not Operate	Power failure. Tripped circuit breaker.
	Disconnected wires or cables at terminal blocks.
	Blown fuse on indoor unit's electronic controller card.
	Abnormally high or low voltage on power circuit (protection activated).
	Automatic TIMER-ON function is set and pending start.
	Indoor or outdoor temperatures out of allowed range (protection activated).
	Start time delay protection (3 minute start delay activated).
Damaged indoor controller card.	
Insufficient Heating or Cooling Effect	Damaged indoor or outdoor fan motor.
	Wrong temperature settings or operating mode.
	Obstructed air flow at the inlet or outlet of the indoor Unit.
	Obstructed air flow at the Inlet or outlet of the outdoor Unit.
	Total or partial loss of refrigerant due to a leak.
	Air left in the system during installation due to improper evacuation.
	Fan speed setting is at LOW speed setting.
	Dirty air filters.
	Dusted and clogged heat exchangers in the indoor or outdoor unit.
	Other Sources of heating or cooling loads in the room.
Infiltrating outdoor air into the space, frequently opened doors, etc.	
Internal Compressor overload protection activated.	
No Response to the Remote Controller Commands	Remote controller is used from an extended distance.
	Do direct view of the infrared receiver due to obstacles.
	Fully or extensively depleted batteries.
	Defective remote controller.
HEAT Function Missing	Remote controller was setup as COOL ONLY. Read the instructions to reset.
Strange Odors	Dirty filters or dirty indoor heat exchanger.
Water Flow Noise	Backflow equalization of refrigerant after a run cycle (usually normal).
Fine Mist Discharged	Excessively cooled air while high humidity levels exist in the room.
Cracking Sound	Expansion or contraction of the casing in some extreme conditions.

In cases of noticing any abnormalities, such as unusual smells, sounds, or other conditions, immediately turn the power breaker off. Check for any easily diagnosable condition that may cause such issue. If the cause can not be determined or is not simple, call for service by qualified personnel. Do not attempt to repair the system by unqualified persons. Do not bypass or deactivate any safety devices. Do not alter or modify the system in any way. Do not use with low refrigerant levels as this will cause compressor failure.

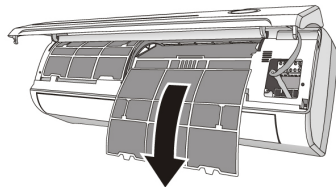
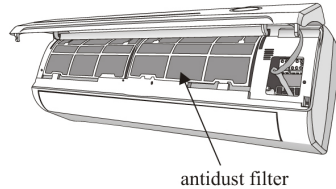
ERROR CODE	DESCRIPTION OF THE TROUBLE
E1	Indoor unit's room temperature sensor is defective (RUN lamp flashes once)
E2	Indoor unit's pipetemperature sensor is defective (RUN lamp flashes twice)
E6	Indoor unit's fan motor is defective (RUN lamp flashes six times)

REQUIRED MAINTENANCE PROCEDURES

- Periodic maintenance is essential for assuring the best performance and longevity from this high quality comfort system.
- Always turn the breaker off before performing any maintenance on any part of the system.

INDOOR UNIT MAINTENANCE (Bi-

- Flip open the front cover, by pulling by both hands simultaneously, at the notches on either side of the panel as illustrated with the arrows.
- Lift the bottoms of both air filters out of their clips and then pull them downward to slide them off of their railings in the unit.
- Using warm water and mild detergent mixture (max temp 110°F) wash off all accumulated dust and use clean water to rinse. Lay them somewhere indoors to dry naturally.
- Reinsert properly back in the correct position, assuring they stay within their railings. Insert the bottom parts in their holding clips.
- Other optional filters may have been installed in the unit. Optional filters are not washable and must be replaced once in every 6 months.
- If the heat exchanger under the filter seems to be dusty as well, use a brush with soft bristles and sweep the dust off, between the aluminum fins. Edges of the fins are sharp. Do not touch the heat exchanger with bare hands. Do not disturb or bend the fins to block air flow. A vacuum cleaner may also be used to clean the dust. Assure not to touch any part of the unit with the vacuum cleaner's hose. Heat exchanger is a very delicate component.
- If the heat exchanger is too dusty to be easily cleaned, it needs to be professionally cleaned using special methods and materials. In this case call for service.
- Properly close the front panel, assuring to snap the locking pins back in their mating locks.



OUTDOOR UNIT MAINTENANCE

- The only required maintenance for the outdoor unit is regular washing.
- Using low pressure water from a garden hose, wash the outdoor unit's heat exchanger to remove any dust, salt, sand and other debris. Do not use pressurized water or a pressure washer as this will damage the delicate fins of the heat exchanger.
- Do not spray water inside the unit through the fan grill.
- Sweep and wash away all accumulated leaves and other debris from surroundings.
- In areas with heavy snow, frequently inspect the unit to assure it is not snowed in or blocked off at the air inlet and air outlet points (if operational for heating purposes).
- Trim the bushes and other vegetation growth that may interfere with the air flow.
- If the drain hoses are accessible, check for algae clogging, bug nests or other obstacles.

SEASONAL MAINTENANCE (Annually)

- If the system is to be used seasonally, perform the above maintenance procedures at the end of each season. Then run the system in FAN only mode for 1 hour to dry up the moisture from the heat exchanger and the drain pan. Finally, turn the power off from the breaker. If available, a suitable soft cover may be placed on the outdoor unit. However, always remember to remove the cover before operating the unit again to avoid internal damage.

LIMITED PRODUCT WARRANTY

Pioneer® Brand Environmental Control Apparatus

- 1) The quality product you have purchased carries a limited warranty issued by Parker Davis HVAC Systems, Inc. (herein referred to as PD), the supplier of Pioneer® branded HVAC products, as per the following details:
 - a) **One year limited parts warranty:** PD warrants to the original owner of its products that should they become defective due to the quality of the materials or workmanship, under normal use, for a period of one year from the date of the installation, PD, at its sole discretion, will repair or replace any defective part, without any cost for the repaired or replaced part.
 - b) **Additional Two Year Compressor Warranty:** PD further warrants to the original owner of its products that any compressor (if equipped), fails due to a defect in materials or workmanship, under normal use, during the two years following the initial one year warranty period, PD will provide a replacement compressor, without any cost for the compressor.
 - c) **Remaining Warranty:** Replaced parts or compressor shall carry the same warranty, for a period covering only the remainder of the original warranty period applicable for the entire product, in which the part has been replaced.
 - d) **Shipping Charges:** Shipping charges for any replacement part are the responsibility of the owner. In addition, although rarely practiced, PD reserves the right to demand for the defective part to be returned to PD, freight prepaid, before a replacement part can be sent out.
 - e) **Labor cost, materials and other costs:** Any labor costs and/or the costs for the supplies or materials used or purchased in the field for the replacement of the defective part remain the responsibility of the owner. No other costs, involved in diagnosis, transportation, servicing, repair, replacement, installation, removal, shipping, etc., are to be covered under this warranty. As most professional installers will guarantee their work, owner should seek if any such expenses would be covered by the installer instead.
- 2) **Obtaining Warranty Service:** To obtain warranty service, owner must contact with the installer to determine the cause of the failure and diagnose the system. Upon determination by the installer that the failure is caused by a defect covered under this warranty, the installer of the equipment or the owner, may contact PD and request warranty service. When contacting, the following forms and information must be provided:
 - a) Copies of the official warranty registration card, warranty acknowledgement letter received and any purchasing documents.
 - b) A report prepared by a qualified mechanic, indicating the nature of the defect, name and model number of the defective part, failure date, and if known, the reason for the failure and the remedy determined.
 - c) PD might ask for photos and other information it deems necessary prior to processing the warranty claim.
- 3) **Limitations for the warranty:** This warranty is further subject to below conditions:
 - a) Transfer of ownership or product: Only the original owner of the product, while the product is still installed in the original place of the first installation is eligible for warranty.
 - b) Any accidental or natural damages, negligence and misuse, improper or poor maintenance, alterations and modifications, repairs by unqualified persons, installation by unlicensed persons or contractors, installations that do not take place within 30 days of purchase date, electrical perils due to lightning and other fluctuations in the power supply, any other damages caused by acts of God, poor environmental conditions such contamination by high levels of salt or chemicals in the air, under sizing, over sizing, improper matching or improper selection of the equipment for the required application will render this warranty void.
 - c) Failure of operating the equipment strictly according to the conditions outlined in its manuals and providing maintenance with at required intervals will render this warranty void. Proper and regular maintenance, at least once annually, must be provided for the life of the equipment.
- 4) **The remedies provided above are the sole remedies for any failure of PD to comply with its obligations. Correction of any non-conformity in the manner and for the period of time provided above shall constitute complete fulfillment of all the liabilities of PD, whether the claims of the claimants are based in contract, in tort (including PD's negligence or strict liability) or otherwise with respect to or arising out of the products furnished hereunder. PD, its contractors, dealers, and supplier of any tier, shall not be liable in contract, in tort (including PD's negligence or strict liability) or otherwise for damage or loss of other property or equipment, loss of profits or revenue, loss of use of equipment or power system, cost of capital, cost of purchased or replacement power or temporary equipment (including additional expenses incurred in using existing facilities), claims of other's to the claimant, or for any special, indirect, incidental, or consequential damages whatsoever. The remedies of the owner set forth herein are exclusive and the liability of PD with respect to any claims, arising from the sale and use of the products sold under this agreement or anything done in connection therewith such as the performance of the breach thereof, or form the manufacture, sale, delivery, resale, or use of any product covered by or furnished under this agreement, whether in contract, in tort (including PD's negligence or strict liability) or otherwise shall not exceed the price of the product or parts on which such liability is based.**
- 5) This warranty is not transferable.
- 6) No person or entity is authorized to change the terms and conditions outlined in this warranty, in any respect, or to create any additional obligations or liabilities for any party involved.
- 7) This warranty supersedes any and all prior warranty agreements between the parties and constitutes the complete, final and exclusive understanding of the parties with respect to the subject matter. All prior negotiations, representations, or promises, whether oral or written, of either party shall be deemed to have been merged herein.
- 8) If any part of this warranty shall be invalidated for any reason, such part shall be deleted and the remainder shall be unaffected and shall continue in full force and effect.
- 9) This warranty shall be governed and construed solely according to the laws of the United States of America. Any action to interpret or enforce the terms or conditions of this warranty shall be brought only in a court of appropriate jurisdiction in Miami-Dade County, State of Florida, USA.
- 10) Some states of the USA allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental, special or consequential damages. Therefore, some of the above limitations or exclusions may not apply to you.
- 11) This warranty gives you specific legal rights, and in addition you may have additional rights, which vary from state to state in USA.

Anyone requiring further information or assistance concerning this warranty policy may contact us at:

Warranty Service Department
www.highSEER.com Online Store Division
Parker Davis HVAC Systems, Inc.
2260 NW 102nd Place
Doral, Florida 33172 – USA

INSTALLATION NOTES:

Installed By : _____
Address : _____
Phone Number : _____
Installation Date : _____
Power Supply Voltage : _____
Outdoor Temperature : _____
Indoor Temperature : _____
Supply Air Temp. : _____
Suction Line Pressure : _____
Superheat Measured : _____
Amperage Drawn : _____
Line Set Length : _____
Refrigerant Added : _____

COOL Mode Tested : _____
HEAT Mode Tested : _____
Indoor Fan Tested : _____
Outdoor Fan Tested : _____
Compressor Tested : _____

Subsequent Service / Maintenance Notes:



Pioneer is the world's renowned ductless air conditioning system

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