YMGI: Engineered Comfort Products for An Efficient and Sustainable Green World!

INSTALLER'S INSTRUCTION & USER'S MANUAL

DC INVERTER MULTIPLE ZONE (59)4 EW SYMPHONY CHOIR WALL MOUNT INDOOR UNIT

WMMS-09EW-V2B(59)4

WMMS-12EW-V2B(59)4

WMMS-18EW-V2B(59)4

WMMS-24EW-V2B(59)4

Thank you for choosing this YMGI product. Please read the owner's manual carefully before installation and operation and retain for your records and future reference. If you need a replacement copy, please contact your local agent or visit www.ymgigroup.com to download a current electronic version.

NOTICE

This product is designed and manufactured to be free from any defects in material and workmanship during normal use and maintenance. Installation, operation, maintenance and repair must follow all standards and professional practices for regular cooling and heating equipment, such as NEC, State, or Local Codes and all related documents/manuals provided by YMGI. Failure to follow and adhere to all codes and documentation can cause damage to equipment, property even personal injury.

Installer: Currently licensed/certified HVAC technicians only. Must Read the manual and all provided documents prior to installation. Complete and fill out all required information on the warranty registration card.

User: Retain this manual and all supplied documents for your records and future reference.

Servicer: Use this manual for information concerning servicing and maintenance of this product.

SAFETY WARNING

Only qualified technicians should install and service this equipment. The installation, startup, operation and servicing of this equipment can be hazardous and requires a HVAC professional who has been trained, licensed and certified. Installations, adjustments or any equipment alterations done by an unqualified person could result in serious injury and even death. When working on the equipment, observe all precautions in the provided documents, on the tags, stickers, and labels that are attached to or placed on the equipment.

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Introduction

Read this manual carefully, making sure you understand all the instructions, practices and procedures contained in this manual. Be sure you are familiar with all the safety advisories that appear throughout this manual. Your personal safety depends upon your observance of all precautions contained in this manual.

Safety advisories appear throughout this manual and your personal safety and the proper operation of this appliance depend upon the strict observance of these precautions.

The 3 types of advisories are defined in the following table:

⚠WARNING	Indicates a potentially hazardous situation which if not avoided could result in serious injury or even death.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only. It can also be used to call attention to important details within this manual.

Important Environmental Concerns

Studies have shown that certain man-made chemicals can affect the earth's stratospheric ozone layer when released into the atmosphere. Refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs), may affect the ozone layer. Not all refrigerants have the same potential impact on the environment. YMGI Group advocates for the responsible handling of all refrigerants including industry replacements for CFCs such as HCFCs and HFCs.

Responsible Refrigerant Practices

YMGI Group believes that responsible refrigerant practices are important to our customers, the HVAC/R industry and the environment. All HVAC/R technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants, the equipment and tools necessary to perform these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. HVAC/R technicians must know the applicable laws and follow them.

Disposal Notice

Do not dispose this product or its components as unsorted municipal waste, as they contain items that may require special treatment. Contact your local waste management company for details.

⚠WARNING

Proper Field Wiring and Grounding Required!

Failure to follow established electrical codes can result in death, serious personal injury and property damage. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you MUST follow the requirements for field wiring installation and grounding as described in this manual and by NEC and your state and local electrical codes.

⚠WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in serious injury or even death. Technicians must take the necessary precautions to protect themselves from potential electrical, mechanical, and chemical hazards and MUST follow all precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing or servicing this unit, technicians MUST put on all PPE recommended for the work being undertaken. ALWAYS refer to appropriate Material Safety Data Sheets (MSDS) and Occupational Safety and Health Administration (OSHA) guidelines for proper PPE.
- When working with or around hazardous chemicals, ALWAYS refer to the appropriate MSDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection, and handling recommendations.

If there is a risk of arc or flash, technicians MUST put on all PPE in accordance with NFPA 70E or other country-specific requirements for arc flash protection, PRIOR to servicing the unit.

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⚠WARNING

- Instructions for installation and use of this product are provided by the manufacturer.
- Installation must be performed by authorized and licensed personnel only and in accordance with all the requirements of this manual, the NEC, CEC and any state and local codes.
- For safe operation of this unit, please read and follow all instructions carefully.
- The total operation capacity of the indoor units should not exceed 120% of the total capacity of the outdoor units if all indoor units must operate at their peak capacities all the time. Otherwise, the heating and cooling operation will be diminished and less efficient which could damage the units.
- Any person responsible for system operation or system maintenance should retain this manual for reference.
- If the unit fails to operate normally, please contact your authorized system installer or HVAC professional as soon as possible and provide the following information:
  - Data on the unit (model number, serial number and owner's name).
  - A detailed description of the unit's problem before and after the problem occurred.
- To avoid personal injury or property damage, do not disassemble the unit yourself. If disassembly is required to check the unit, contact your authorized system installer or HVAC professional as they have the experience and training necessary to perform this task.

Note: Each unit has been thoroughly tested to ensure it operates correctly before leaving the factory.

Basic Cautions and Warnings

⚠ CAUTION

All units shall be installed by an experienced HVAC licensed contractor or technician. Read all manuals before installation, startup and operation.

⚠ CAUTION

All NEC, state, local codes and installation instructions must be followed for all units, otherwise, the unit warranty will be void and could result in serious damage to people or property.

⚠WARNING

YMGI Group is not responsible for any damage or loss due to Do-It-Yourself (DIY), self-installation or any improper installation, improper operation, improper service or natural disasters of any kind.

⚠WARNING

Do not connect power to the unit until all wiring, tubing and all unit inspections and testing have been completed. Ground the unit according to the instructions and adhering to NEC, state and local codes.

⚠WARNING

All wiring connections must be correct and secure. Loose wire(s) or improper contacts may cause arcs or overheating which can result in a fire hazard.

Note From YMGI – Must Read

Dear Customers, Purchasers, Installers, and Contractors

Thank you for choosing a YMGI product.

All YMGI's products are fully tested and have passed rigorous safety, performance and manufacturing standards before being packed and shipped. YMGI only uses suppliers that meet our strict standards for high quality and performance for all parts. YMGI also recognizes a quality installation is equally important therefore your system must be installed by a licensed HVAC professional. A quality installation ensures your unit will operate at its highest efficiency and peak performance for many years of worry free comfort; while a poor installation can result in unit failure and cause the unit to operate inefficiently, either immediately or over time, resulting in costly repairs.

Because a quality installation is so critical, YMGI provides detailed information in our manuals which will aid the installing technician and the owner of the unit(s).

At YMGI our goal is to ensure that your YMGI units are installed properly and correctly from the beginning.

The YMGI equipment you purchased is either a split-type or a self-contained cooling/heating system. These types of systems require a certified and licensed HVAC professional technician for proper installation. Only a certified and licensed HVAC professional technician will have the knowledge, experience, and attention for all required details to perform a complete and successful installation. This equipment is different from a window or portable type air conditioners you can purchase from local retail stores such as Home Depot, Lowe's, Sears, etc. which the manufacturer may not require certified and licensed personnel to install.

Reading and following YMGI Group recommendations and requirements contained in the following pages and other documents, is the first step to help ensure a smooth installation and proper operation of your unit for many years.

⚠WARNING
YMGI doesn't recommend nor allow any do-it-yourself (DIY) installation (partially or fully). Due to the complexity of the installation of this product most DIY installations usually have problems, either immediate or near future. These problems can cost more to fix than any upfront savings. **YMGI warranty doesn't cover any DIY units.**

If you have any questions about your unit or if the unit has a problem, you should first check the manual. If you can't find a solution, then contact your local installer or service technician to schedule a service appointment. The technician can physically inspect the unit. If at the time of inspection, the installer or service technician has any questions about the unit, they can contact YMGI technical support division directly at:

Toll Free Number: (866)833-3138 or Email: techsp@ymgigroup.com

IMPORTANT: YMGI Group is the MEDIA AUTHORITY:

YMGI Group, located in O'Fallon, MO 63366 is the author of all media produced for its products and is the only party able to give any additional explanation for any data, definitions and or descriptions found within any of its media, including but not limited to YMGI product brochures, manuals, pamphlets, catalogs, and videos. YMGI's distributors, installers, dealers, agents, customers or any other third parties will not supersede YMGI in anyway concerning YMGI-published materials and their meaning. Any concerns or questions arising from YMGI distributors, installers, dealers, agents, customers or any other third parties, should be presented directly to YMGI. YMGI will respond to any concerns or questions, if necessary, about any of its media in writing.

NOTICE

- Be sure to only hire a certified and currently licensed HVAC Company to complete 100% of the installation so that all details of the installation are performed correctly and completely.
- Be sure to have ONLY the licensed HVAC professional perform all aspects of the installation. Factory Warranty will be void if any portion of the installation is not performed by a licensed HVAC contractor/technician. DIY or partial DIY will also void ALL factory warranties.
- When hiring an HVAC technician that is offering their services as a "side job" and not hiring a licensed HVAC company may pose possible risk. This may result in an incomplete or unsatisfactory installation, no guarantee for workmanship and lack of maintenance and further service to your unit.
- Have the installation technician read in full the installation manual and all supplied documents for the product model you purchased. Details within the documentation contributes greatly to the success and quality of the installation. Experience with other manufacturers may not be applied fully to another manufacturer, although there will be similarities there will also be differences. Ignoring the provided installation procedures is an act of negligence and may cause unit failure or damage which could be irrevocable and permanent.
- It is possible for a licensed contractor/technician to make a mistake during the installation. YMGI doesn't supervise nor is able to control the contractor/technician's installation. It is critical that the installer take each variable into account during the initial installation. This will ensure a complete and professional installation and that all units work properly.

⚠WARNING

The following will damage the unit and its key components resulting in loss of factory warranty:

1. Any foreign substances introduced into the system because of failure to seal the ends of the refrigeration piping before pulling the piping through any structures at time of installation.
2. Not installing an oil P-trap in the copper suction line where the indoor unit is located 18 feet or more below the outdoor unit.
3. Cross piping and/or cross wiring of any units including more than one single zone or a multi zone system.
4. Not conducting a positive leak check by charging the system with dry-nitrogen and performing soap bubble testing.
5. Not conducting a negative leak check by evacuating the copper lines for 30 minutes. Vacuum must be held at 500 microns or better for at least 5 minutes, starting 5-minute timer after the vacuum pump is turned off.
6. Not conducting a positive leak check prior to the negative leak check.
7. Not selecting the correct size wire or circuit breaker.
8. Not answering ALL questions in the technician's checklist located inside the warranty registration form.

⚠WARNING

The following may be overlooked, ignored, or considered unimportant during your installer's installation, but will cause your unit to underperform and may cause unit failure.

1. Any kinks in or improper bending of the copper piping.
2. Any poorly formed flares or not centering the flare with the flare nut, or not tightening all connections.
3. Not trial testing each indoor unit individually.
4. Not reading technical data (temp/time/pressure/current) after the system is stabilized (normally the compressor needs to run at least 10 minutes before reading the data). If the data is read too early may lead to inaccurate assessments about the unit.

In an effort to help protect our customers from possible faulty installations that can lead to premature unit failure, YMGI provides the above information for you and the technician. You can observe while your system is being installed, even though your observation is not a guarantee your system is being or has been installed properly and professionally. With the information provided above, you will know some things to look for and questions you can ask. If at any time you feel there may be an issue with the installation, please have your technician contact YMGI at (866)833-3138 x 703 with any questions, issues or concerns you may have.

INSTALLING TECHNICIAN/CONTRACTOR'S RESPONSIBILITIES

1. Discuss with the customer detailed information about the structure to be conditioned, local weather (typical design, extreme temperature/humidity conditions, cooling and heating hours), previous and existing HVAC equipment (if any), usage and dependence on new HVAC equipment or YMGI products.
2. Performing a cooling/heating load calculation by using commercially available professional programs/methods such as Right-J (Manual J) for residential HVAC applications and Right-CommLoad (ASHRAE RTS/CLTD) for light commercial and commercial HVAC applications.
3. Contact your YMGI distributor/sales department or contact the manufacturer directly to obtain additional information to fully understand your YMGI products, including but not limited to product features, cooling/heating performance at standard ratings/conditions and extreme conditions, allowed indoor and outdoor temperature and humidity ranges, installation, operation, maintenance, service, warranty, parts and any other issues pertaining to YMGI products.
4. Select the correct (most suitable) YMGI product unit models and accessories necessary for your HVAC applications and list them in the proposal/quote, in writing, on company's quotation form or letter head, based upon the information you collected from 1), 2) and 3).
5. List your currently valid HVAC license number and EPA number in your proposal/quote.
6. Make sure you are the only party to perform the entire installation and you will not sub-contract any part of the installation to any non-licensed parties or persons. You will be solely responsible for the entire installation that you have been contracted.
7. Make sure you have all the materials you need to properly, completely and correctly finish the installation. The YMGI units and accessories may be just a portion of what you will need for the project. When support issues arise, remember YMGI employees and YMGI distributors/sales, dealers and agents are not installers and may only provide suggestions. You are the only decision maker to determine what other materials you need to complete the installation.
8. When connecting electrical wires, follow all NEC, state and local codes and ensure the installation of all YMGI units and accessories meet these requirements.
9. Connect the unit to a correctly sized electrical power source. If the unit is installed in an area where lightning or storms occur frequently, a correctly sized and type of power surge protector must be installed between the outdoor unit and the power source.
10. Select the correct types and sizes of HVAC circuit breakers, disconnect switch boxes, wires and conduit from circuit breaker to disconnect box and then from disconnect box to outdoor unit.
11. Select the proper location for installing indoor units and outdoor units with all factory requirements being followed (cooling/heating air inlets and outlets are not blocked or restricted, mounting structure is secure, installation for convenience is considered, allow adequate clearance for maintenance/service and all applicable codes are met).
12. Cap/tape the two ends of every copper line before running them through any structure to keep any foreign substances from entering the pipe causing contamination. Label them A-A, B-B, C-C, D-D, or any other identifying marks on each pair of copper lines and wiring cable sets to keep from cross-piping or cross-wiring in multiple zone installations or where pipes for different single zone systems are close to one another.
13. Secure the wiring cables that connect between the indoor unit and outdoor unit, following all applicable NEC, state and local codes for your installation. If there is no special NEC, state or local codes to govern how these wires are to be installed, you can tape/cable tie them along with insulated copper line.
14. Tighten all pipe and wire connections ensuring there is no leakage or false connections.
15. Conduct a positive pressure leakage test, checking each of the inter-connecting copper lines between each indoor unit and outdoor unit by charging with dry-nitrogen at the outdoor unit's service port (note: do not back-seat stopping valve). A liquid soap solution shall be applied at all pipe connections to check for leakage. A 1/4" - 5/16" hose/valve adaptor may be needed if you have a 1/4" traditional manifold hose connection.
16. If there is no positive leaking, then conduct a negative pressure leakage test, checking all inter-connecting copper lines between each indoor unit and outdoor unit by pulling vacuum at the outdoor unit's service port (note: do not back-seat stopping valve) and checking that the vacuum level of 500 Microns can be held for at least 20 minutes.
17. If there is no leakage found at any of the refrigeration pipe connections, flip up the indoor unit's face panel and remove filter, carefully pour some clear water onto the up-right aluminum coil surface to test if the water can drain out of each the indoor unit's freely without finding any leakage.
18. If there is water leakage found, locate the source of the leak and correct it. Only after everything is clear, engage the correct electrical power to the system.
19. Then back-seat stopping valves of the outdoor unit to release refrigerant from the outdoor unit into the inter-connecting pipes and indoor unit.
20. Make sure both the indoor unit and outdoor unit are powered on correctly, operating the indoor unit in fan mode first. Then move on to test cooling, dehumidifying/drying, heating and other modes.
21. Read refrigerant pressures and pipe/valve temperatures only after the system is stabilized (normally 10 minutes after cooling/heating mode is started successfully). Record this data into the technician checklist in the lower half section of the Limited Product Warranty Registration Card/Form.
22. Adjust refrigerant charging level (remove refrigerant if pipe is shorter, the temperature is colder; add refrigerant if pipe is longer the temperature is warmer), following the manufacturer's instructions. If the average pipe length is shorter or longer than 25' and pressure/temperature readings at the outdoor unit service valves are not falling into normal ranges.
23. Explain to the user/owner about proper unit operation and maintenance. Leave your contact information to allow them to reach you. If the customer finds the unit doesn't work properly and cannot resolve the issue themselves, check the customer's units/parts/accessories and correct the issue if there is one. Communicate with YMGI-technical support line at (866)833-3138 x 703, if further help necessary.

Following these requirements will help ensure that the units to be installed meet general HVAC practicing standards and necessary factory requirements. Finding any possible problems early, preventing any further damage to the unit will help to ensure a properly working unit for many years.

SECTION 1

LIMITED PRODUCT WARRANTY

Once the installation and successful testing of the system has been completely performed by a qualified licensed/certified HVAC technician/contractor, the registration card/form is filled out completely and correctly, and filed along with a valid installation invoice from the contractor within 7 days of the original installation, the following standard **Limited Product Warranty** is qualified: **5-years** on the **compressor** and **1-year** on **PARTS ONLY**. There is **no labor coverage**.

YMGI products are designed and manufactured free from defects in workmanship, and materials for normal use. However, if for any reason, including occasionally transporting between YMGI factories/warehouses and your delivery location, you discover the unit has issues, YMGI Group will help field a solution by following YMGI's established warranty procedures:

Compressor: YMGI will warrant the compressor of a YMGI-validated and approved warranty filing, for a period of 5 years from the date of successful installation at its original installation location.

Parts: YMGI will warrant parts of a YMGI-validated and approved warranty filing, for one year from the date of successful installation at original installation location.
All warranty compressors and parts replaced will become the sole property of YMGI Group and must be returned to YMGI Group upon request. Warranty parts may be new or refurbished. All parts are tested and approved before shipping.
At no time does YMGI Group warrant labor cost of any type. Warranty will start from the date of successful installation at original installation location, or 90 days as of original shipping date from YMGI Group, whichever comes first.

This is a standard limited liability warranty and DOES NOT cover the following:

- Any damage or repairs to properties, or persons as an incident of or consequence of improper faulty transportation, installation, operation, maintenance or service.
- Any damage caused by frozen or broken water hoses or refrigeration pipes in the event of equipment failure.
- Any damage due to floods, fire, wind, lightening, accidents, corrosive atmosphere or any other conditions beyond the control of YMGI Group.
- Any damage due to interruption or inadequate electrical service to equipment.
- Any products that are installed outside the US or Canada.
- Any unit that has been moved from its original installation address.
- Any labor costs associated with the installation or service of the unit.
- Poor unit performance due to improper unit selection (SEER, Unit size).

To validate the above warranties, ALL of the following conditions must all be fulfilled:

1. The unit was fully (100%) and successfully installed by a licensed or certified HVAC technician.
2. The unit was installed following all NEC, state and local codes.
3. The unit was installed following all the information within the Instructions and User Manuals provided by YMGI Group.
4. ALL fields, especially the technician-checklist, of the **Limited Warranty Registration Card/Form** were filled completely by the installing technician and signed by both the installing company technician and the unit owner.
5. The **Limited Warranty Registration Card/Form** and a copy of the original installing company's invoice have been received by YMGI Group-Warranty Dept., POB 1559, O'Fallon, MO 63366, within 7 days of successful installation.

No warranty filing will be validated or approved, if any one of the above conditions are not met.
Product registration doesn't guarantee the validity of this limited warranty statement.

Steps to follow for warranty part replacement:

1. The installing or service technician must contact YMGI tech support at 1-866-833-3138 ext. 703 from the installation location to check and confirm with YMGI Technical support the exact part(s) needed to fix the problem(s).

2. YMGI will check the customer's warranty filing. There will be no charge for parts with a validated and approved warranty. Any parts that have not been validated and approved or have an invalid warranty filing resulting in an unapproved warranty request, will be charged accordingly.

3. ***YMGI will ground ship out the parts ASAP. Expedited shipping is available at the customer's expense.***

4. Replacement parts that have an approved warranty registration are to be warranted for the remainder of the 1-year on parts and a 5-year compressor warranty. Purchasing of replacement parts without a valid warranty filing or unapproved warranty request, will be sold as is and are not covered by any warranty.

   YMGI is continually improving products with various engineering changes and these changes are made without prior notice. Such improvements or changes include but are not limited to product specification, appearance, functionality, size, packaging, etc. These improvements or changes will not void the limited warranty stated herein. YMGI is the final authority concerning this warranty policy.

YMGI GROUP

Innovative, Competitive, Efficient & Convenient

LIMITED PRODUCT WARRANTY REGISTRATION CARD / FORM

YMGI to Fill Top Portion, at Shipping, and Keep Copy A; Center Copy B for Installer to Fill and Mail back to YMGI; Bottom Copy C for Customer to Fill and Keep

For YMGI Use Only

The Company the Unit Was Sold Though: _____	Shipping Packing List Number: _____	Registration Card Serial No. _____
Did the Company Pay to YMGI: _____	HVAC Contractor/ Technician--Name _____	Date the Filled Registration Card YMGI Received: _____
Installation Invoice Attached to the Registration Card _____	Hired YMGI-Recommended HVAC Contractor/Technician? _____	Unit(s) Work Successfully (Yes/No): _____ Warranty Approved Warranty Denied

Outdoor Serial Number (One Outdoor Unit, One Registration Card/Form):

Indoor Serial Number: For Multi Zone Units

Unit #1 _____ Unit #5 _____
Unit #2 _____ Unit #6 _____
Unit #3 _____ Unit #7 _____
Unit #4 _____ Unit #8 _____

Contact Where the Units are Installed:

Name: _____ Phone: _____ Fax: _____
Address: _____ Email: _____
City: _____ State (Province): _____ Country: _____

Contact of the Installing HVAC Contractor/Technician:

Technician Full Name (Print): _____
HVAC Technician's Company Name: _____
Address: _____

YMGI-Recommended Contractor/Technician:

Phone:Fax: _____
Email: _____
City:State (Province): _____

Currently Licensed or Certified HVAC Technician License or Certification Number: _____ License Approved or Certified by: _____
Official Phone # to Check the License Validity: _____

List for Installating HVAC Technician to Double Check Installation Quality, and Warranty Processing Purpose (if not filled by technician, or not filled fully, warranty will void)

1) Are you the only one to install whole system? If not, % of installation done by you (HVAC technician).

2) What had been done, prior to your arrival?

3) Did you read the User Manual and Installation Instruction, before you started the installation?

4) Who unpacked the unit and accessory boxes to check for damage?

5) Supply electrical power V/Ph/Hz measured at wiring terminal block of Indoor unit: outdoor unit:

6) Incoming electrical power V/Ph/Hz measured at terminal blocks of indoor unit: outdoor unit:

7) Wire gauge, length and terminal colors between circuit breaker/ disconnect switch to outdoor unit:

8) Wire gauge, length and terminal colors between each indoor and outdoor unit: Unit A Unit B Unit C Unit D...

9) The size of HVAC circuit breaker/fuse or disconnect switch to the outdoor unit:

10) Are the inter-connecting wires and copper lines between indoor and outdoor units installed/covered/protected by line set covers, or anything else?

11) What is the refrigerant pipe length between each indoor unit and the outdoor unit? Unit A Unit B Unit C Unit D...

12) Where is/are the indoor unit(s) located? Unit A Unit B Unit C Unit D...

13) What is the elevation difference between each indoor unit and the outdoor unit? Unit A Unit B Unit C Unit D... (indoor unit above outdoor unit +, below -)

14) Did you check the indoor unit for condensate leakage and refrigerant leakage, before and after connecting them?

15) Where is the outdoor unit located? Ground wall balcony roof other location or pad Is the outdoor unit anchored to ground or secured onto wall bracket?

16) Have you checked to make sure there is no cross-piping and no cross-wiring between any two indoor units (zones)? How did you do it, who was with you?

17) Were the refrigerant pipe ends capped or taped seal, prior to running them through structures to keep debris from entering the copper lines?

18) Have you checked and run cooling or heating, one unit by one unit, all working fine?

19) Did you charge the inter-connection copper pipes and indoor unit with nitrogen to check for positive leakage (pressures 150-200PSI), before conducting vacuuming leakage check?

20) Did you vacuum correctly to check the connecting pipes and indoor unit for leakage, what was the micron gauge reading, for how many minutes?

21) Did you check if the compressor can be started and stopped in a correct (design) manner?

22) If copper length were not made to the supplied or recommended refrigerant pipe length, how much refrigerant added or deducted?

23) Measured refrigerant pressures at outdoor service suction valve, when unit was st.
Heat pump (PSI): Cooling (PSI): Outdoor Ambient Temp. (^{O}F):

24) What were the measured temperatures (probe not touching any metal):
At cooling: indoor return air ^{O}F, discharge air ^{O}F, and outdoor ^{O}F
At heating: indoor return air ^{O}F, discharge air ^{O}F, and outdoor ^{O}F

25) Have you checked all unit functions, with customer's witness, and all functions are correct?

26) Did you show the user how to operate the unit? Did he/she understand you?

27) Do you provide regular one-year free technical service for this installation?

28) Do you list the working details in the invoice and leave a copy to the customer?

Installation Finished and Unit Works Successfully.
Print Name of Installation HVAC Technician:
Signature:

Date and time:

Installation Finished and Unit Works Successfully.
Print Name of Owner:
Signature:

Date and time:

By signing above, I acknowledge the liability and responsibility for any false statement or not telling all the facts, and I authorize YMGI to check the details of the filled above, and make its decision on warranty. I understand our filing or filling the warranty card/form DOESN'T mean automatic warranty approval, because warranty is approved only to those qualified and successful installations by qualified HVAC technician. I know the warranty, if approved, is a standard 5-year compressor and 1-year other parts only, without any labor coverage. I agree to and will follow all the contents contained in the Limited Product Warranty Policy that YMGI, not other entity, stated in public, including but not limited to manuals, web site, email, etc.

Important Note: A copy of the installing HVAC company's invoice to show all their work details, your payment proof, center copy B of this registration card filled after a successful installation, all three (3) MUST be mailed together to Warranty Dept., **YMGI Group, POB 1559, O'Fallon, MO 63366**, for warranty processing. Customer keeps bottom copy C. YMGI will check against copy A that was kept at YMGI.

WHY DOES YMGI GROUP REQUIRE INSTALLATION AND SERVICE TO BE PERFORMED 100% BY CURRENTLY LICENSED OR CERTIFIED HVAC TECHNICIANS/CONTRACTORS?

1. **Expertise and Safety:**
   They have the training and experience to accurately and safely install and service your equipment. The equipment runs with high-pressure refrigerant, oil and electrical current. The copper lines must be installed properly to prevent leakage and foreign substances from contaminating the refrigerant system.
2. **You will save money in the long run:**
   If any problem occurs with the unit that has been fully installed by a currently licensed or certified technician/contractor, contact the original licensed or certified HVAC technician to evaluate the unit as they have the training and experience to correct the problem quickly and efficiently. A technician may be unwilling to repair an issue on a unit that they did not install. If you do find a technician willing to perform this service, there is an increased possibility of higher service fees, increased service visits, or delayed service from that technician.
3. **It's the law!**
   The federal, state and/or local government and authorities have various governing laws or regulations, guidelines, ordinances, etc. These laws may require only licensed or certified professionals can install and service this type of high pressure HVAC equipment.

SUGGESTIONS TO AID YOU IN HIRING AN HVAC CONTRACTOR:

1. Hire a currently practicing, licensed/certified HVAC professional technician/contractor. Technicians, who are no longer practicing (retired, etc.) in this field, may not have current technical knowledge or may lack experience on the equipment you have purchased.
2. Hiring a licensed technician to install your unit as a "side job" and not hiring a licensed HVAC company may pose possible risk. This may result in an incomplete or unsatisfactory installation, no guarantee for workmanship and lack of maintenance and further service to your unit.
3. Hire a technician/contractor who services customers in your local area and one you are familiar with. Local contractors have a faster response time and it will be easier for you to determine if they are reputable.
4. Use only a reputable licensed/certified HVAC installation professional to prevent any unexpected charges because of unethical business practices.
5. Check their references, verify they provide professional service for their customers. N.A.T.E or A.C.C.A certified technicians are strongly recommended.
6. Some contractors/technicians may not feel comfortable about installing equipment that has been purchased by someone other than themselves. They prefer to purchase and install the equipment themselves. You can contact YMGI directly to check and see if there are contractors in your area who have installed our products or any similar products.
7. Ask for a detailed quote for the complete installation project. A flat rate quote is the safest contract for both you and the contractor.
8. Local HVAC technicians may charge you on a project basis or on an hourly basis. It has been our general experience; **a full single head installation normally can cost $800 to $1500**. These costs are estimates, and your actual costs may differ due to your specific job requirements and installation location.
9. Number of hours can vary depending upon each individual situation, some factors are, but not limited to:
   - Difficulty or complexity of securely installing the indoor unit.
   - Difficulty or length of the inter-connecting pipes and wires to be installed.
10. A successful installation is dependent on all these suggestions and all the necessary steps are followed.
11. If the contractor(s)/technician(s) are experienced with the systems/brands you purchased. **You might save on the installation cost, but remember to always ask for and verify references.**
12. The contracts should list and detail all work to be performed and the standards they will follow. Some contractors are willing to include a 1-year installation/service warranty at no extra charge. Check to see if this is an available option. If available, make sure it is included in the contract.
13. Verify and confirm the installation is completed and all the unit functions have been tested and working properly. All items on the checklist should be checked and clearly marked in the warranty registration card/form, prior to paying the contractor in full.

The cost of not having your unit professionally installed can be more expensive than the additional cost of hiring a certified contractor. Protect your investment and warranty eligibility by doing it right the first time.

⚠WARNING

Safety Precautions

1. Follow these instructions to complete the necessary installation process. Carefully read this manual before installation and unit startup or servicing.
2. Wire size of power cord should be properly sized to meet the required electrical loads. Should the power cord get damaged, the power cord should be replaced with a manufacturer approved cable.
3. After connecting the power cord, attach the electric box cover and secure properly.
4. Always meet the nitrogen charge requirements when welding pipes.
5. Never short-circuit or cancel the pressure switch as this will result in damage to the unit.
6. Connect the wired controller before energizing, otherwise the wired controller cannot be used.
7. Before using the unit, verify the piping and wiring are correct. This will avoid water leakage, refrigerant leakage, electric shock, or fire etc.
8. Do not insert fingers or objects into the air outlet or inlet grille.
9. Open a door or window for ventilation for allowing fresh air to enter the room to avoid depleting the oxygen while gas/oil supplied heating equipment is used during the installation.
10. Never start up or shut off the unit by means of directly plugging into or unplugging the power cord from the power outlet.
11. Turn off the unit after it runs at least five minutes, otherwise it will influence the oil return of the compressor.
12. Do not allow children to operate this unit.
13. Do not operate this unit with wet hands.
14. Turn off the unit or disconnect the power supply before cleaning the unit. This will avoid possible electric shock or personnel injury.
15. Never spray or splash water towards the unit. This can cause a malfunction in the unit or can result in electric shock.
16. Do not expose the unit to moist or corrosive environments.
17. While operating in cooling mode, do not set the indoor unit's room temperature too low. Keeping the temperature difference between indoor and outdoor unit within 41°F (5℃).
18. YMGI Group recommends that only properly trained and authorized personnel be allowed to repair or service the unit. Improper repairs or servicing can result in electric shock or fire hazards. Please contact YMGI Group if you need help locating a qualified repair or service technician.
19. Before installation, check the power supply to ensure it is sufficient to meet and is in accordance with the requirements specified on the nameplate of the unit. Ensure the power overload is functioning correctly and make sure it is properly maintained.
20. Installation must be performed only by an authorized installer or HVAC professional in accordance with the requirements set by the NEC and CEC. Do not attempt to install the unit yourself. Improper handling may result in water leakage, electric shock, fire, and voiding of the warranty.
21. Be sure to use only approved accessories and parts to prevent water leakage, electric shock and fire.
22. Make sure the unit is grounded properly prior to connecting to power source, to avoid electric shock. Do not connect the ground wire to a gas pipe, water pipe, lightning rod or telephone line.
23. Energize the unit for 8 hours before operation. Turn off or disconnect the power within 24 hours to prevent short-cycling (to protect the compressor).
24. If refrigerant leakage happens in a confined space during installation, ventilate immediately. Poisonous gases can occur if the refrigerant gas is exposed to fire.
25. Volatile liquids, such as paint thinners or solvents if exposed to the unit's surface will cause damage to the surface finish. Only use a soft cloth along with a mild non-abrasive detergent to clean the outer casing of the unit.
26. If the unit does not operate normally or if you notice any type of burning odor, power off the unit and turn off the main power supply, then immediately contact your YMGI authorized repair service center or HVAC professional.

NOTICE

YMGI Group will not be responsible for any personal injury or any property damage caused by improper or incorrect installation, improper service or maintenance or by not following the instructions listed in this manual.

DO NOT pull on the power supply cords or refrigeration lines that are connected to the indoor and outdoor units. Install the power supply cords and secure them into position. PVC line set cover is recommended for the outdoor unit to protect against rain, sunlight and accidental damage.

DO NOT allow cold air to blow directly onto people for a prolonged period, as this could make people cold and uncomfortable.

DO NOT undersize any of the power supply wires.

DO NOT connect several units to a single breaker. Don't undersize or oversize the circuit breaker. A poorly sized circuit breaker can cause unit failure and even fire.

DO NOT wire or open a unit while the unit is running. Make sure to disconnect the power supply and switch off all circuits prior to inspecting or servicing the unit. Inspecting and servicing the unit while the power supply is connected, and the circuits are switched on could cause an electrical shock or fire.

DO NOT install the indoor unit near any cooking surfaces, in direct sunlight or any ventilation systems. Poor placement could decrease efficiency and waste energy.

DO NOT install the unit in places where there is exposure to flammable materials or gas.

DO NOT apply chemical solvents, flammable insecticides, or abrasive materials directly on the unit. Clean the unit only with a soft dry cloth.

DO NOT install the unit in a damp laundry room or near flammable gas. All units must be protected by a certified electrical circuit breaker in accordance with all safety and electrical codes.

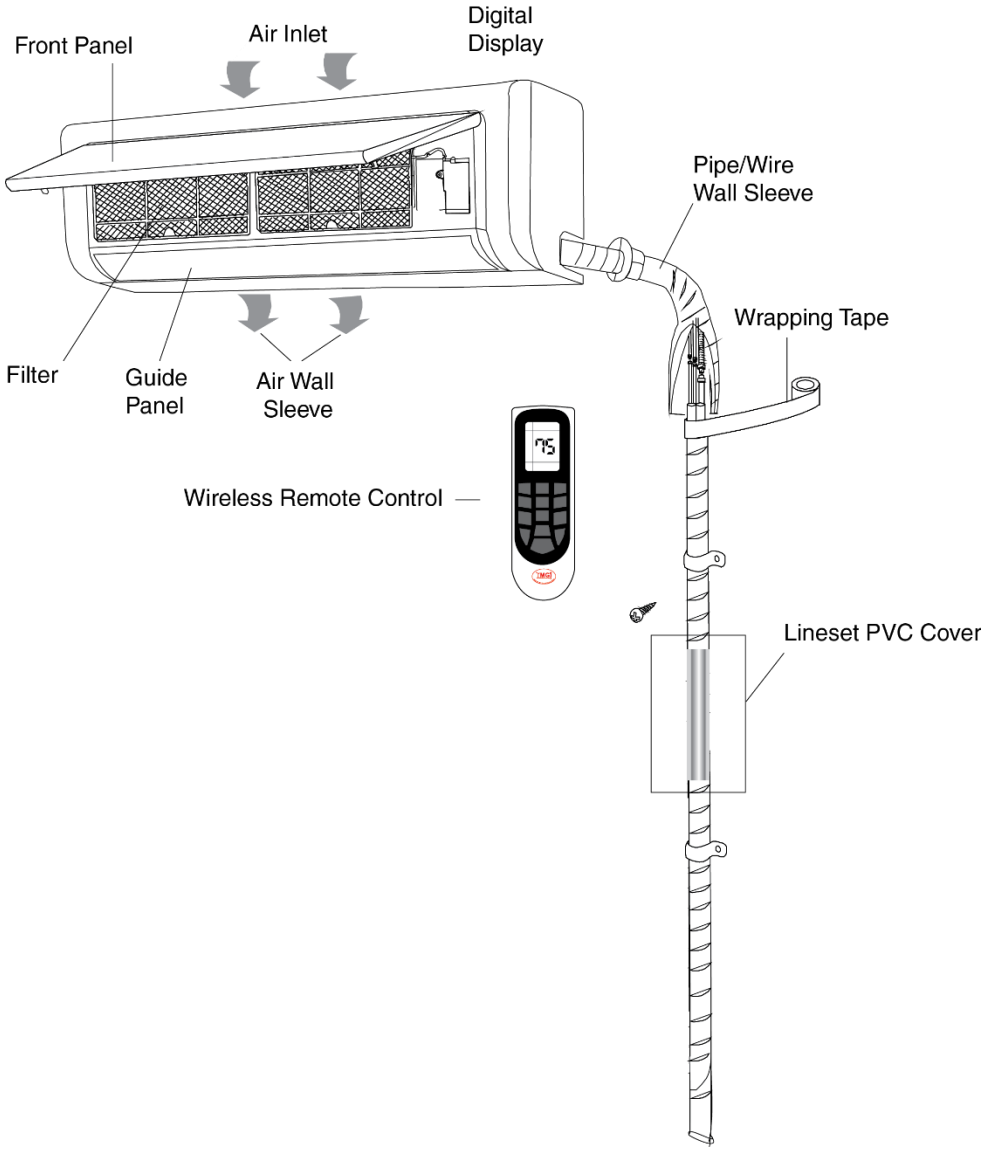
DO NOT use the system for anything other than what it was designed.

DO NOT store or install the units near food, paint, or other chemicals.

DO NOT use the unit in cool or dry mode for prolonged periods where humidity is higher than 90%.

DO NOT operate the unit for prolonged periods without refreshing ambient air. Open a door or window periodically to allow in fresh air.

Indoor Unit Diagram



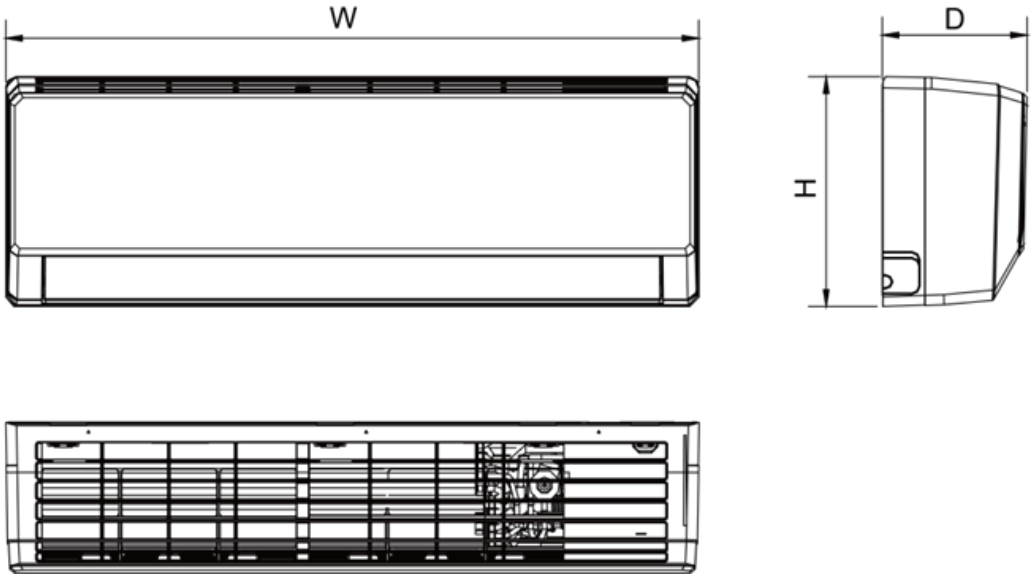
Rated Operating Condition

	Indoor Side Condition		Outdoor Side Condition	
	Dry Bulb Temp C°(F°)	**Wet Bulb Temp C°(F°)**	**Dry Bulb Temp C°(F°)**	**Wet Bulb Temp C°(F°)**
Rated Cooling	27(80.6)	19(66.2)	35(95)	24(75.2)
Rated Heating	20(68.0)	15(59.0)	7(44.6)	6(42.8)

Specification Sheet

Items	Unit / Conditions	WMMS-09EW-V2B(59)4	WMMS-12EW-V2B(59)4	WMMS-18EW-V2B(59)4	WMMS-24EW-V2B(59)4
Power Supply	Voltage / Ph / Hz	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60
	Allowed Voltage Range	187-253	187-253	187-253	187-253
Cooling Capacity	High / Med / Low	9600 / 9000 / 3100	13000 / 12000 / 3100	20000 / 18000 / 7160	27300 / 22000 / 6800
Heating Capacity (Btu/h)	Max./Stand./Min.	14000 / 13000 / 2400	12000 / 11000 / 1900	23500 / 19800 / 7300	30700 / 23000 / 6800
	ID 70/60, OD 47/43 °F	9500	13000	18700	27400
	ID 70/60, OD 17/15 °F	8800	11600	16600	23600
	ID 70/60, OD 17/5 °F	8000	9100	13800	20600
SEER	Btu/h.W	23	22	20	20
HSPF	Btu/h.W	9.0-8.0	8.9-8.0	9.0-8.0	9.0-8.0
Dehumidifying Capacity	Pints/Hr.	1.69	2.96	3.8	4.23
Air Flow (CFM)	Low / High	171 / 377	171 / 400	339 / 559	530 / 706
Air-throw (Ft.)	Horizontal Installation	35-30 Upon Mounting Height/Speed/Temp.			
External Static	Water In.	0	0	0	0
Sound Level	Pressure dB(A) (L/H)	26 / 43	28 / 45	35 / 47	36 / 48
Fan Motor	Model	FN20V-ZL	FN20V-ZL	FN60B-ZL	FN60B-ZL
	Shaft	Single	Single	Single	Single
	Speed (RMP, H/M/L)	1350 / 1050 / 750	1400 / 1050 / 800	1400 / 1050 / 800	1300 / 900 / 850
	Output (W)	20	20	20	35
	RLA (AMP)	0.1	0.1	0.4	0.4
	Capacitor (uF)	/	/	/	/
Fan Wheel	Type-Piece	Cross Flow-1	Cross Flow-1	Cross Flow-1	Cross Flow-1
	Diameter x Width (In.)	Ø 3.6x 25.4	Ø 3.6x25.4	Ø 4.2x 28	Ø 4.2x 32
Swing/Step Motor	Model	MP24BA	MP24BA	MP35CJ	MP35CJ
	Piece	1	1	1	1
	Output (W)	1.5	1.5	2.5	2.5
Input Power of Ele.	Type-W	NA	NA	NA	NA
Electrical Protection	PCB / Transformer	T3.15A 250V / 0.2A	T3.15A 250V / 0.2A	T3.15A 250V / 0.2A	T3.15A 250V / 0.2A
Evaporator Coil	Type	Aluminum Fin/Inner Grooved Copper Tube			
	Color	Blue	Blue	Blue	Blue
Copper Line Connections	Sealed by Dry Nitrogen	Yes	Yes	Yes	Yes
	Flare/Nut-Liquid + Gas	1/4" + 3/8"	1/4" + 3/8"	1/4" + 1/2"	1/4" + 5/8"
Drain Hose Connection	OD (In.)	Ø 0.67	Ø 0.67	Ø 0.67	Ø 0.67
Condensate Pump	Installed-Lift (In.)	NA	NA	NA	NA
Filter	Type-Feature	Washable Particulate	Washable Particulate	Washable Particulate	Washable Particulate
	Qty.	2	2	2	2
Clean Coil Surface	Anti-Mildew Function	Yes	Yes	Yes	Yes
Pre-heating Function		Yes	Yes	Yes	Yes
Remember Presets	Power is Lost/Resumed	Yes	Yes	Yes	Yes
Auto-Restart Function	If Power is Resumed	Yes	Yes	Yes	Yes
Unit Dimensions	Net WxHxD (In.)	33.4 x 11.4 x 8.2	33.4 x 11.4 x 8.2	38.2 x 11.8 x 8.8	42.4 x 12.8 x 9.7
	Package WxHxD (In.)	36.1 x 14.3 x 10.9	36.1 x 14.3 x 10.9	40.9 x 15.0 x 12.0	45.0 x 16.1 x 13.2
Unit Weight	Net (LBs)	22.0	22.0	27.6	34.2
	Packaged (LBs)	26.5	26.5	34.4	41.9

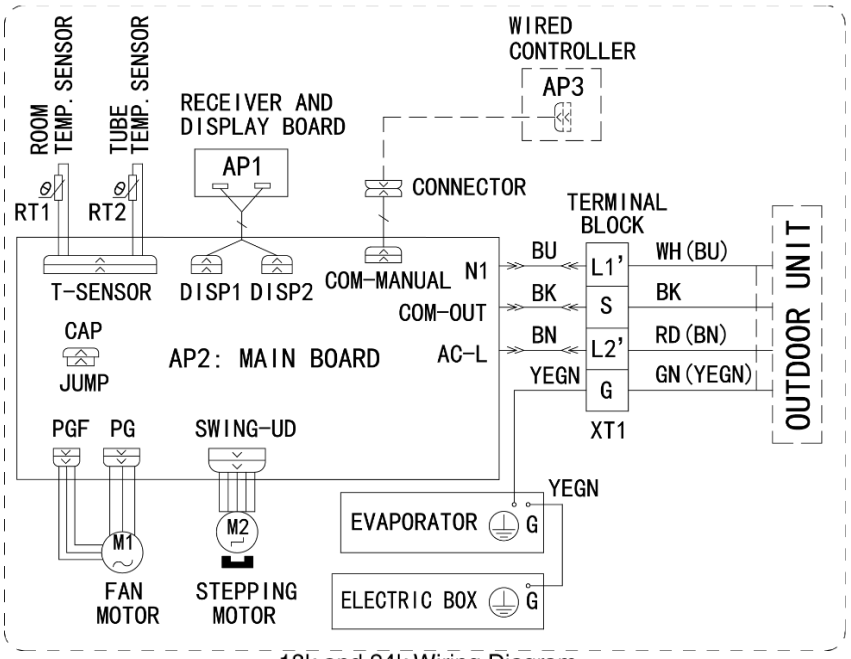
UNIT DIMENSIONS



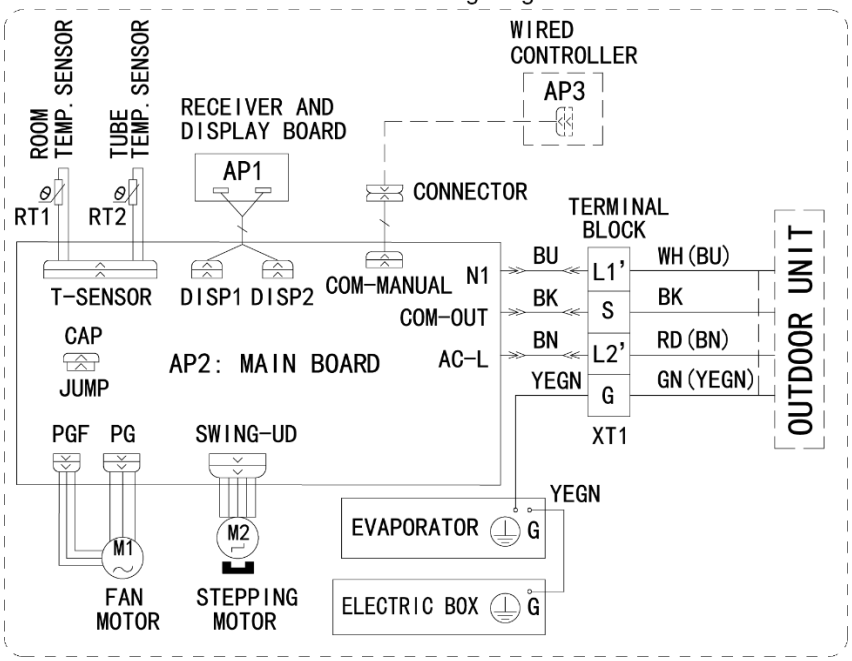
Model	W inches	H inches	D inches
WMMS-09EW-V2B(59)4 WMMS-12EW-V2B(59)4	33.4	11.4	8.2
WMMS-18EW-V2B(59)4	38.2	11.8	8.8
WMMS-24EW-V2B(59)4	42.4	12.8	9.7

Electrical Installation

9k and 12k Wiring Diagram



18k and 24k Wiring Diagram



Model	Power Supply	MCA(A)	MOP(A)
WMMS-09EW-V2B(59)4	208/230V-1ph-60Hz	1	15
WMMS-12EW-V2B(59)4		1	15
WMMS-18EW-V2B(59)4		1	15
WMMS-24EW-V2B(59)4		1	15

RECOMMENDED TOOLS FOR INSTALLATION

1. Mounting Indoor & Outdoor Units and Running Piping/Wiring

- Ruler
- Stud-Finder
- Dry-Wall Saw
- Electric Drill
- 3” Hole Saw
- Drill Extension
- Hammer Drill and Bit
- Measuring Tape
- Level
- Flash Light
- Screw Driver (Phillips and Flat)
- Hammer
- Knife
- Scissors
- Goggled Glasses
- Mask
- Gloves
- Ladder

2. Refrigeration Related Work

- Flat Surface Wrench (Two)
- Flare-Nut Tool Set
- Hex Head Key Set
- Torch for AC Application
- Heat Absorption Flux
- Nitrogen
- Soap Bubble
- Vacuum Pump
- Helium Leakage Check
- Manifold

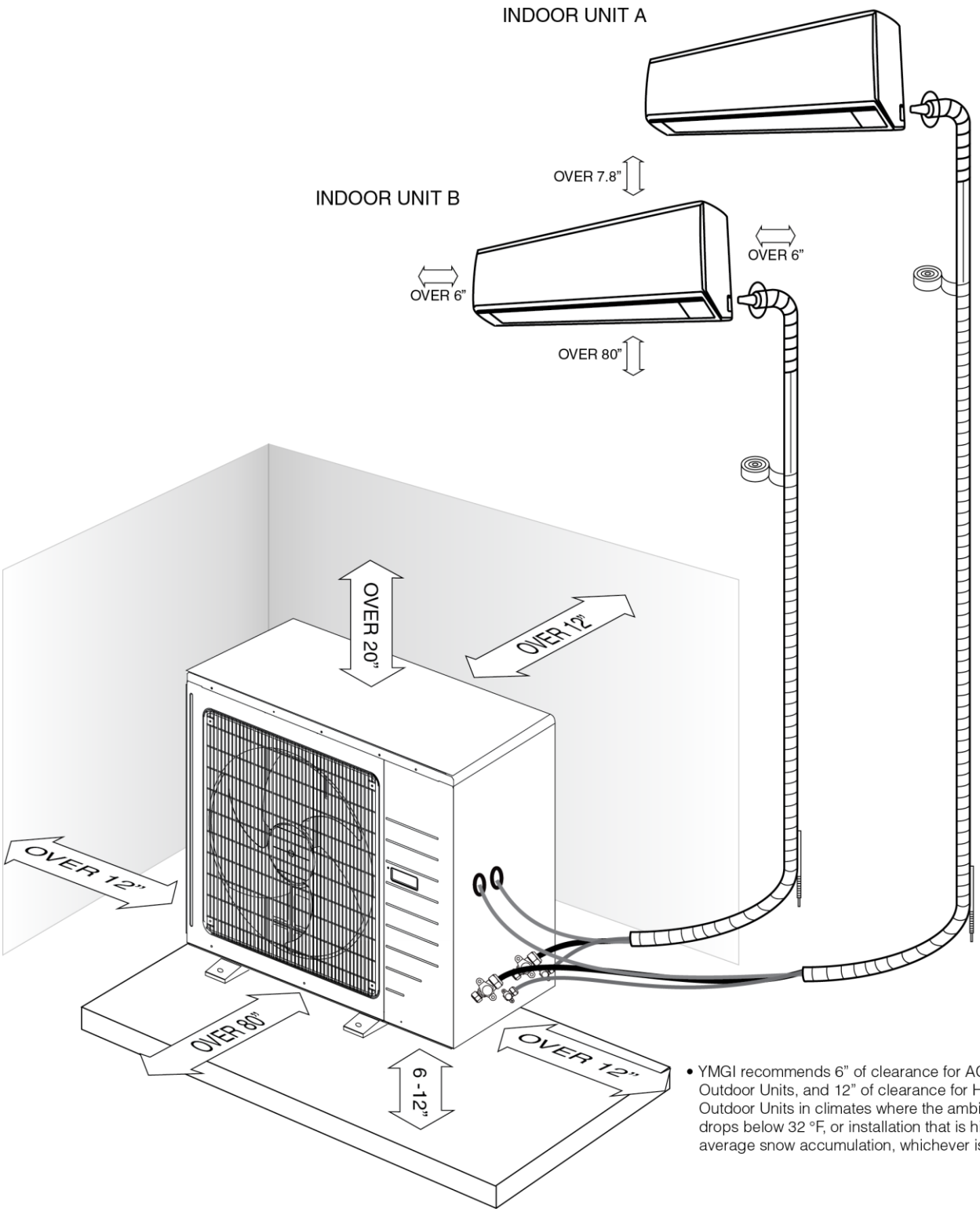
3. Electrical Related Installation

- Wire Cutter
- Wire Stripper
- Sharp Plier
- Cable Ties
- Black Tape for Electrical Use
- Electrical Meter

4. Trial Running Units and Inspection

- Clamp Meter
- Manifold
- Infrared Thermometer

SYSTEM LAYOUT & INSTALLATION CLEARANCE



• YMGI recommends 6" of clearance for AC only Outdoor Units, and 12" of clearance for Heat Pump Outdoor Units in climates where the ambient air temperature drops below 32 °F, or installation that is higher than average snow accumulation, whichever is greater.

SYSTEM LAYOUT & INSTALLATION CLEARANCE
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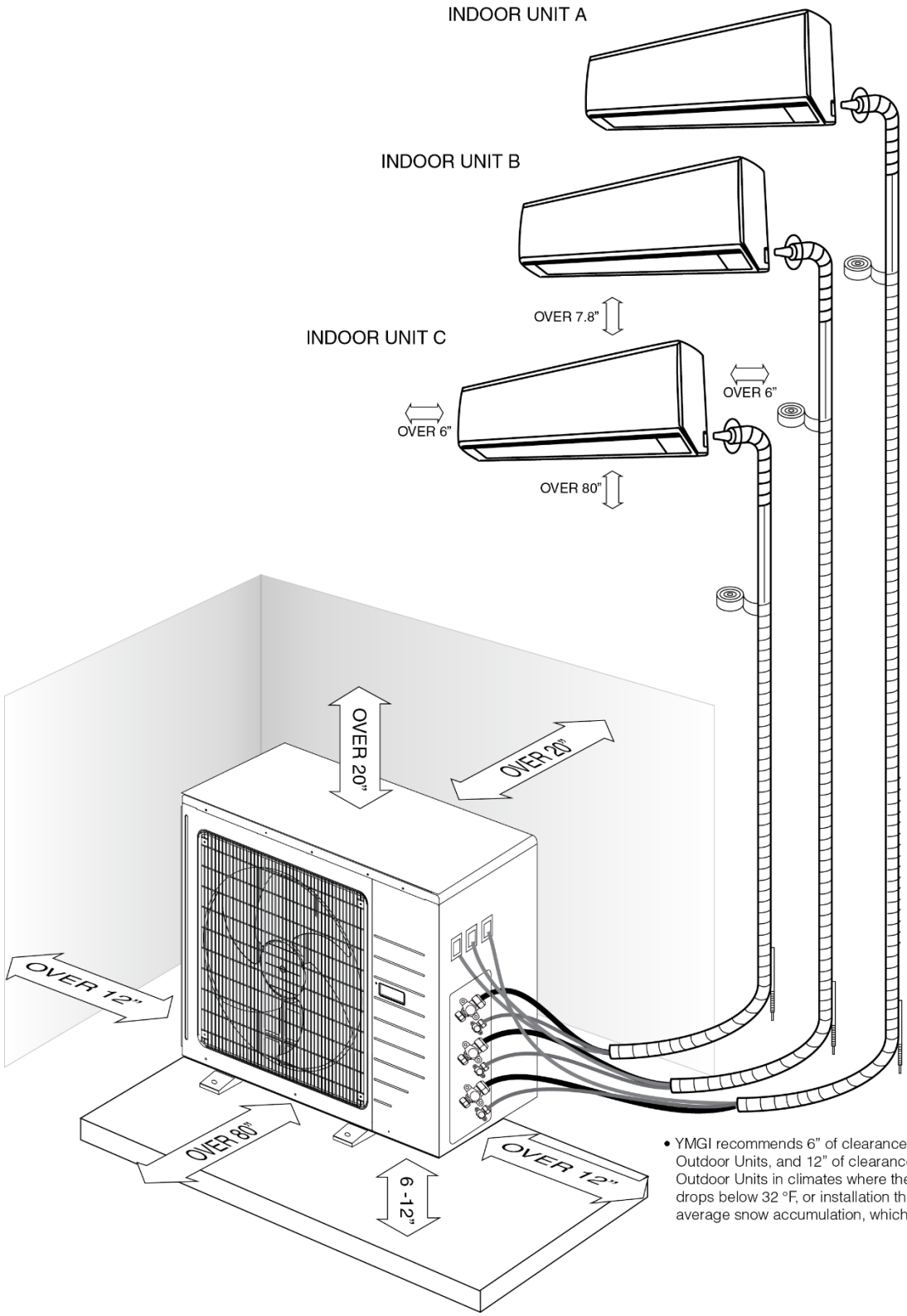

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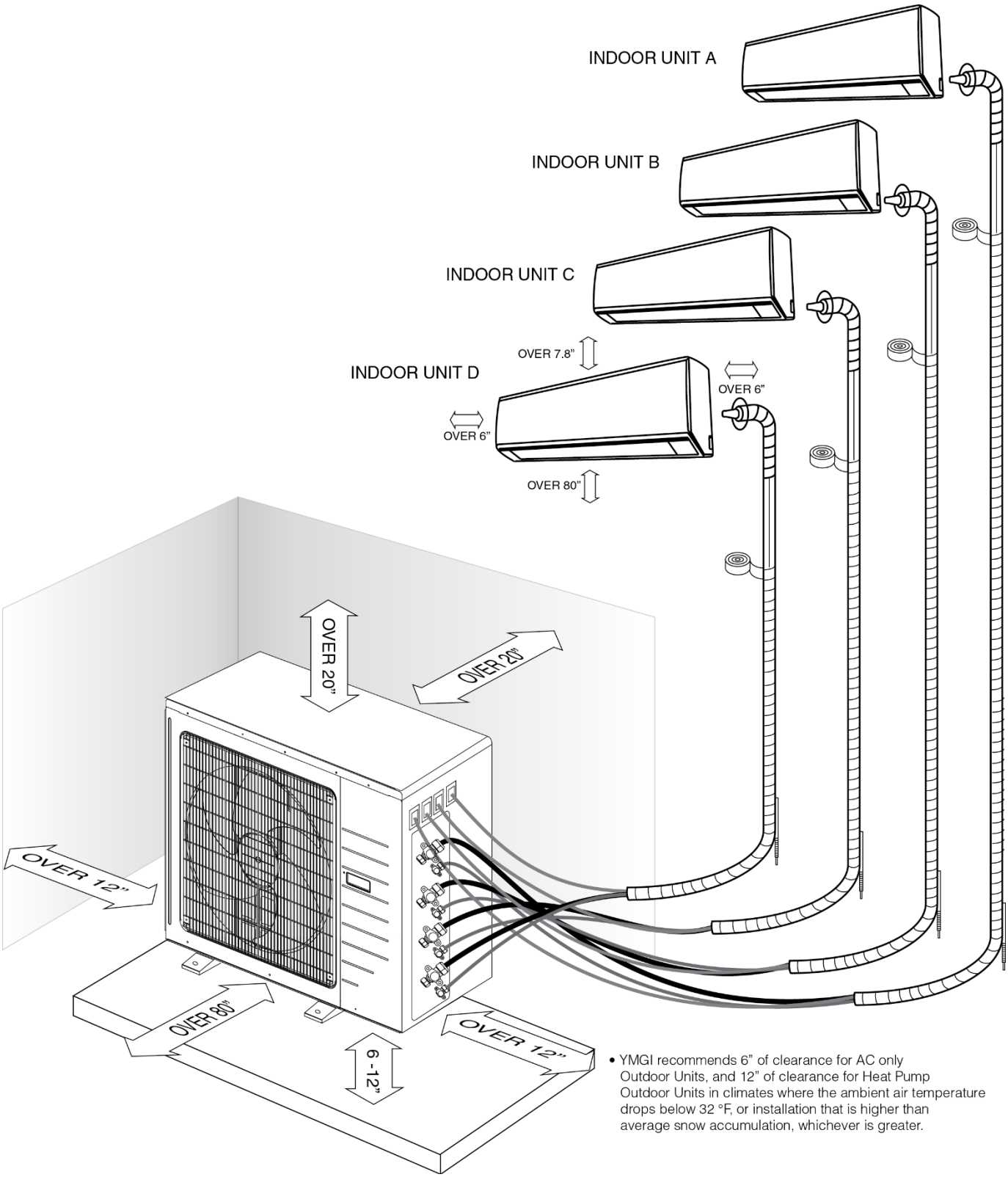

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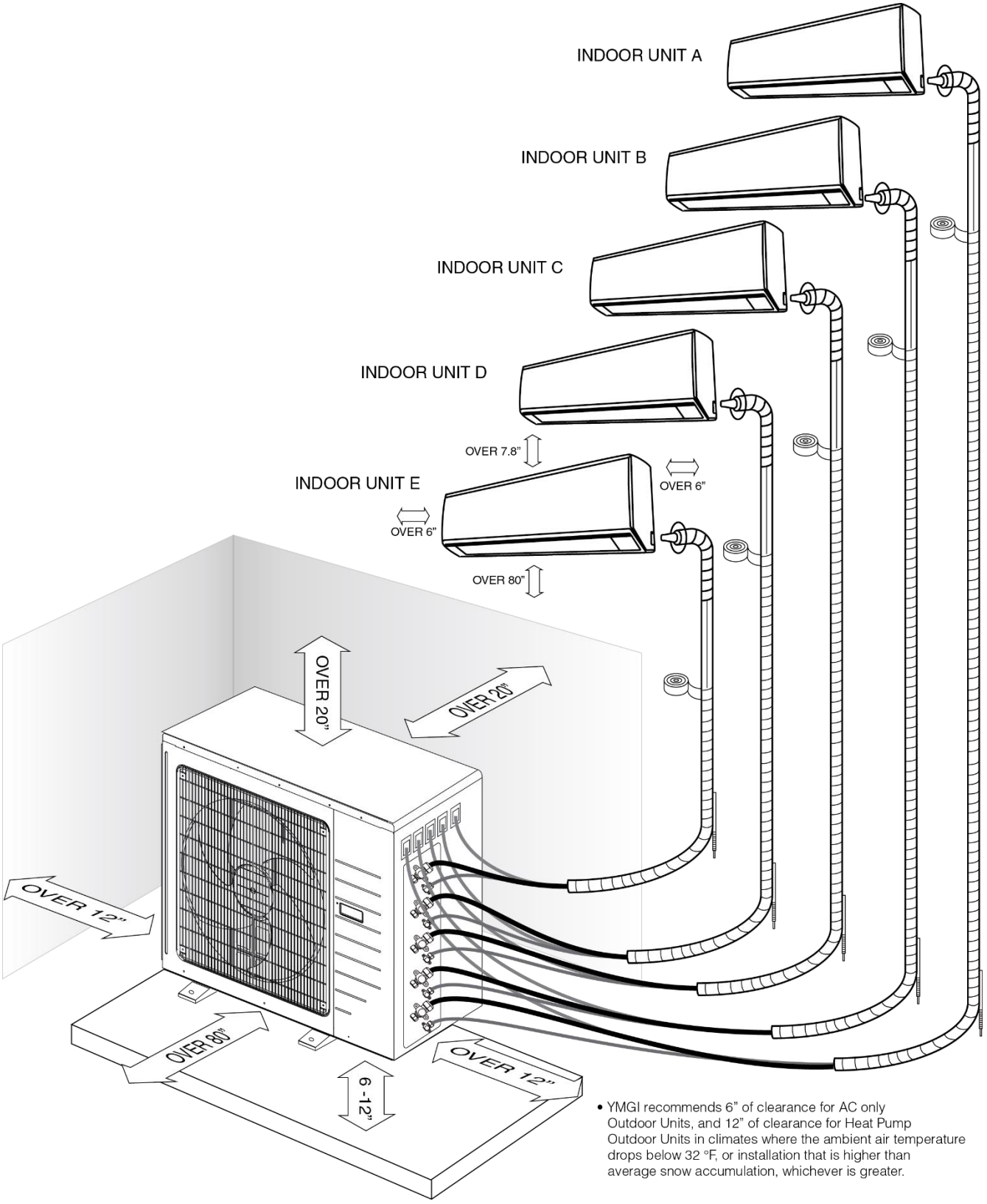

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⚠ CAUTION

All Units Shall Be Installed by Licensed Contractors or Technicians.
Read Manuals before Installation.

- The location and structure should also be convenient for both installation and service.
- The location should NOT be where discharge air and noise could annoy a neighbor.
- The location should NOT be where drain may cause any damage to property or annoy a neighbor.
- The location should NOT be where brazing work may cause fire or smoke to the surrounding materials.
- The location should NOT be near flammable gases.
- The location should NOT be in or close to corrosive gases.
- The location should NOT be where children can access.

⚠ CAUTION

CAUTION & SUGGESTIONS TO FOLLOW PRIOR TO INSTALLATION

- Check the unit for damage and missing parts or accessories. If there is damage is found or parts are found missing, call the distributor right away.
- Spin fan wheels or blades to check if they can rotate freely. If the fan wheel scratches the housing, call the distributor right away and do not proceed with the installation until it is fixed.
- Check the unit to make sure no foreign materials have been left inside the unit.
- Check to be sure you have all the additional parts and accessories that are required for the installation and those provided with the unit.
- It is strongly recommended to only use YMGI supplied or approved parts and accessories.
- Be sure a properly sized circuit breaker is installed for the electric power suppling the units.
- Pre-build the support platform on the ground or bracket for the wall before or during construction and before installation.
- Read installation instructions for all units thoroughly.
- Ask rep./distributor/YMGI Group anything you are not sure about.
- Get your tools and parts ready and start the installation.

BASIC REQUIREMENTS FOR THE INSTALLATION LOCATION

- Choose a location where there are no strong heat sources, vapors, flammable gas or volatile objects.
- Choose a location where there are no high-frequency waves being generated by radio equipment, welders and medical equipment.
- Choose a location where there are not a lot of salinities. Avoid exposure to ocean spray near coastal areas.
- Choose a location where there is no oil (machine oil) contained in the air.
- Choose a location where there is no Sulfur gas present, such as areas close to hot springs.
- Choose a location where there is no other special circumstance.

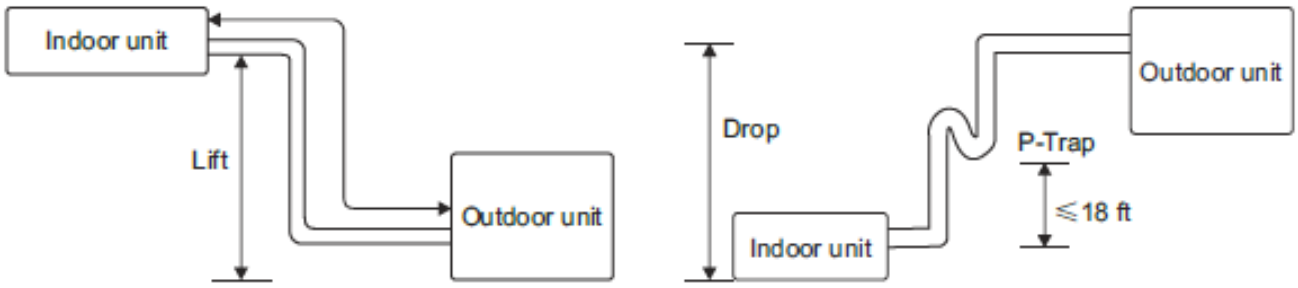
SELECTION OF INDOOR UNIT INSTALLING LOCATION

- The air inlet and outlet vent should be far from any obstructions, making sure that the air can be blown through the entire room.
- Select a location where the condensate water can be easily drained, and can be easily connected to the outdoor unit.
- Select a location where children cannot reach the unit.
- Select a location that is strong enough to support the full weight of the unit and the vibration which will allow the unit to operate more quietly.
- Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 80 inches or more from the floor.
- Select a place about 3 feet or more away from television or any other electric appliances.
- Select a place where the filter can be easily maintained.
- Make sure that the indoor unit is installed in accordance with the dimensioned diagram.

PIPING AND WIRING SIZES-UNITS

Unit	Connection Copper Pipe Sizes	Min./Max. Length	Wires from Outdoor to Indoor Unit	Min. Wire Size Outdoor – Indoor Units	Fuse is Factory Installed
09K	1/4” Liq. + 3/8” Gas	15-50	N(1)/2/3/G	18AWG	At Indoor Control Board
12K	1/4 Liq. + 3/8” Gas	15-50	N(1)/2/3/G	18AWG	At Indoor Control Board
18K	1/4 Liq. + 1/2” Gas *line set connection is 5/8”. Requires 1/2” adapter for 25’-50’ installations	15-75	N(1)/2/3/G	16AWG	At Indoor Control Board
24K	1/4 Liq. + 5/8” Gas	15-75	N(1)/2/3/G	16AWG	At Indoor Control Board

- The indoor unit and the outdoor unit can be at different heights either above or below each other. The height for the difference must follow the stated requirements shown in the table below.
- Keep bending of the piping line to a minimum to avoid any possible negative impacts on the performance of the units.
- Make a P-trap if the elevation drop difference is more than 25 inches, as illustrated below.



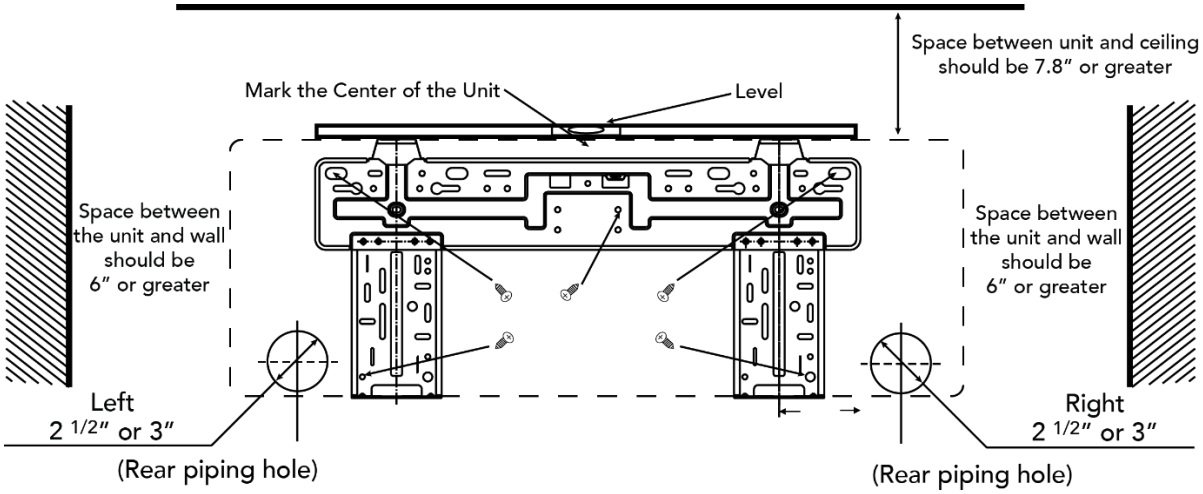
Refrigerant Pipe Min/Max. Length, Rise and Drop Height

Btu/h	Min. Length (ft.)	Max. Length (ft.)	Max Rise Height (ft.)	Max. Drop Height (ft.)
09K - 12K	15	50	20	28
18K - 24K	15	75	25	35

INSTALL THE WALL MOUNTING PLATE

- Prior to installing the mounting plate, check the unit and make sure the unit is in good condition and ready to install.
- Check to make sure the installation location is strong enough to hold the weight of the whole unit and is in a location that is convenient to install, maintain, service and close to the outdoor unit.
- Install the indoor unit. Use enough anchor bolts to secure the mounting plates to the wall for indoor units. The mounting plate should be level and secure and ready to receive the indoor unit.

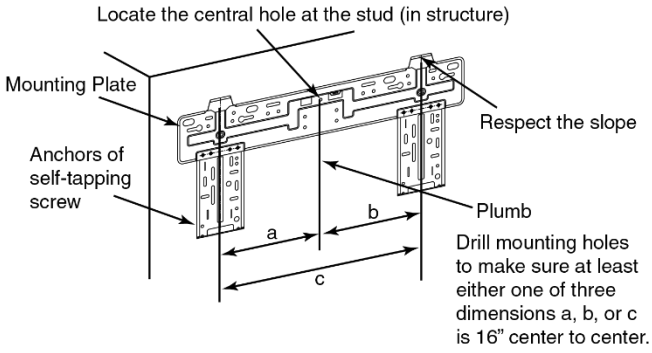
MOUNTING BRACKET CLEARANCE



Note: Actual mounting bracket may appear different than what is picture in the above illustration.

Install Mounting Plate and Drill Hole for Combination of Copper Line/Wire Cable/Drain Hose

NOTES:
Drywall anchors must be used in the holes, indicated by the solid arrows, to secure the mounting plate firmly and to hold the weight of the indoor unit. If more screws/anchors are required, make sure to use the same hole on each side of the mounting plate, and that additional screws are spaced at least 2 inches apart. It is recommended that the mounting plate is affixed to studs where possible. Minimum clearance, as shown, is required to ensure proper airflow and allows enough room for easy servicing.



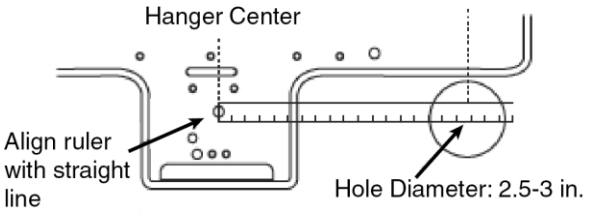
Steps to Mount Plate

- Mark all drill positions. At least 4 anchor holes are required, one at each perimeter corner of the plate. These are needed to secure the plate, where the bold arrows are pointing, as shown in the picture above. Refer to the specification sheet (page 15) for unit weight, so that enough anchors are used to support the unit.
- Pre-drill guiding holes which are marked for anchors or screws on the wall.
- Confirm the position of the holes and finish drilling to the depth required for anchors (NOT for screws).
- Align the mounting plate holes with the holes drilled on the wall and put anchors or screws into the holes to secure the mounting plate.

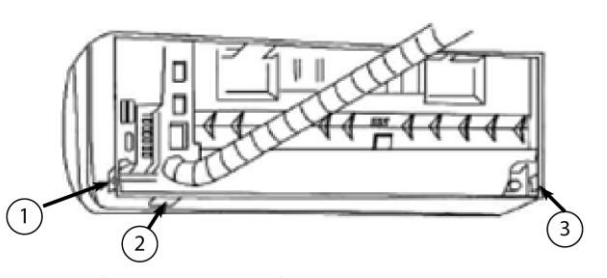
INSTALLATION OF INDOOR UNIT

DRILL 3 INCH HOLE FOR PIPING/WIRING/DRAIN

- Locate the center where the hole will need to be drilled.
- Drill the holes of 2.5 – 3 Inches in diameter. A down pitch of about 1/4 inch per foot, as illustrated, is needed for the hole, to drain the condensate properly.

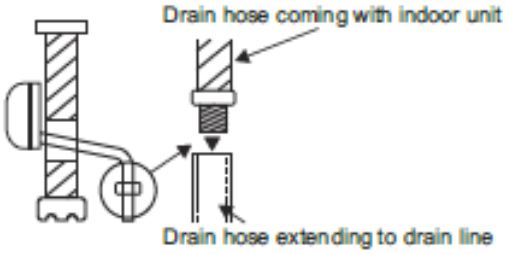


PREPARE INDOOR UNIT- COPPER LINE SET/DRAIN HOSE



- If pipes need to come out of the right side (facing the front of indoor unit) of the indoor unit, snap off portion (1) on plastic casing.
- If pipes need to come out of the bottom side (facing the front of indoor unit) of the indoor unit, snap off portion (2) on plastic casing.
- If pipes need to come out of the left side (facing the front of indoor unit) of the indoor unit, snap off portion (3) on plastic casing.
- If pipes need to be rerouted to a different direction from the one preset at factory (towards left side, if facing the front cover of indoor unit), lay down the indoor unit on soft cushion or foam. Don't rub the plastic casing.
- To keep from damaging the pipes, bend the copper tubing set gently and slowly (A 90° bend should take a minimum of 10 seconds), by firmly holding the pipe at the root of the original 90° bend. Don't rub the two copper lines while bending. It is better to cut off the insulation and bend the two pipes individually and not together. When you are done bending the piping, replace the insulation.
- If the pipes need to come out of the rear side (facing the front of the indoor unit) of the indoor unit, there is no need to snap off anything.

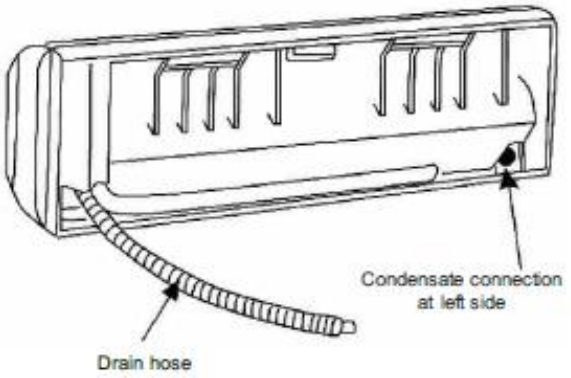
INSTALL THE INDOOR DRAIN PIPE



- The drain hose must be placed beneath the copper pipes and MUST NOT be kinked or bent sharply.
- Do not pull the drain hose too hard, as it may break.
- Before passing the drain hose through the hole, wrap it with insulation to keep it from possible damage.
- The copper pipe and the drain hose must be wrapped with piping wrap.
- The insulation pad (underlay) should be used where the pipe contacts the wall.

REFIT DRAIN HOSE FROM THE RIGHT TO THE LEFT SIDE

If the drain hose needs to be refitted from its original position (right side) to left side of the indoor unit, careful handling is necessary as not to damage the unit.

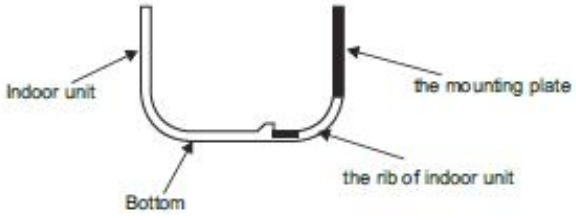


- Refitting method: remove the drain hose from its original position, without breaking the hose. Remove the plug at the left side. Apply water-resistant glue to fit the drain hose and the fitting before securing it.
- Apply water-resistant glue onto the plug and fit it back into the condensate connection at right side.

NOTES: One can use a clamp to further secure the connections.

HANG INDOOR UNIT

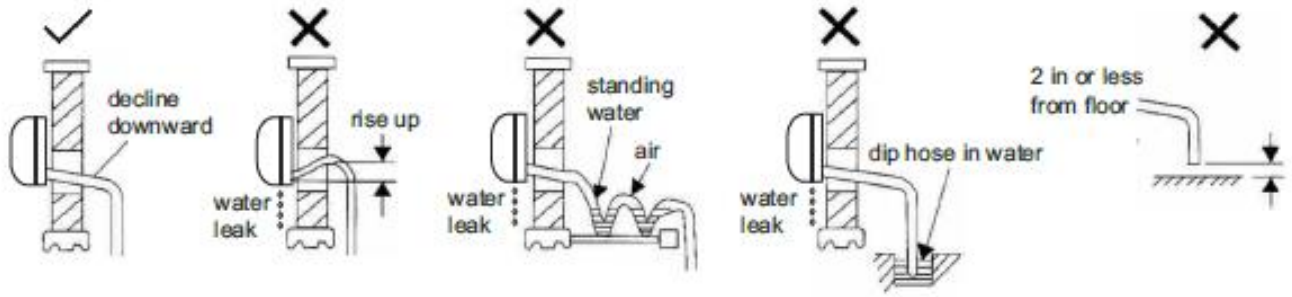
Run copper set/wire cables/drain hose through the wall hole and hang the indoor unit onto the mounting plate (place the hook on the mounting plate into the hanging rib at rear side of plastic casing).



- Gently snap the plastic casing bottom into the mounting plate.

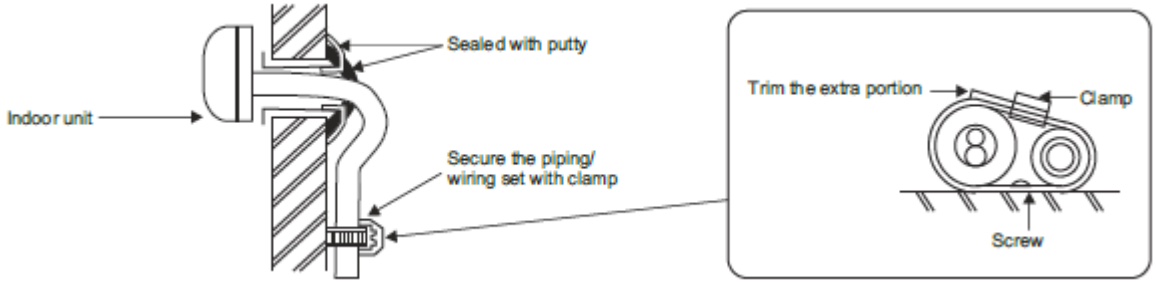
SHAPE THE DRAIN HOSE

- To drain the condensate easily, the drain hose should be angled downward (pitched towards the drain direction at 1/4" per foot).
- Figures below from the 2nd to 5th show some incorrect practices.
- The drain hose may be extended using a flexible hose and clamp.



STUFF AND SEAL THE HOLE FOR COPPER LINE SET/WIRE and CABLE/DRAIN HOSE

- Use putty to seal the wall hole.
- Use a clamp (pipe fastener) to secure the pipe at the specified location.



CONNECT REFRIGERANT PIPES BETWEEN THE INDOOR AND OUTDOOR UNITS

First, connect the copper tubes at indoor unit. Bend the pipes accordingly using pipe bending tools. Do NOT hand bend the pipes as this could cause a kink in the line. Extra length is required for future service.

REFRIGERANT PIPES

For a distance other than 25' between indoor and horizontal venting condensing units, refer to the following table for copper sizes.

Refrigerant Valve and Pipe Size/Length

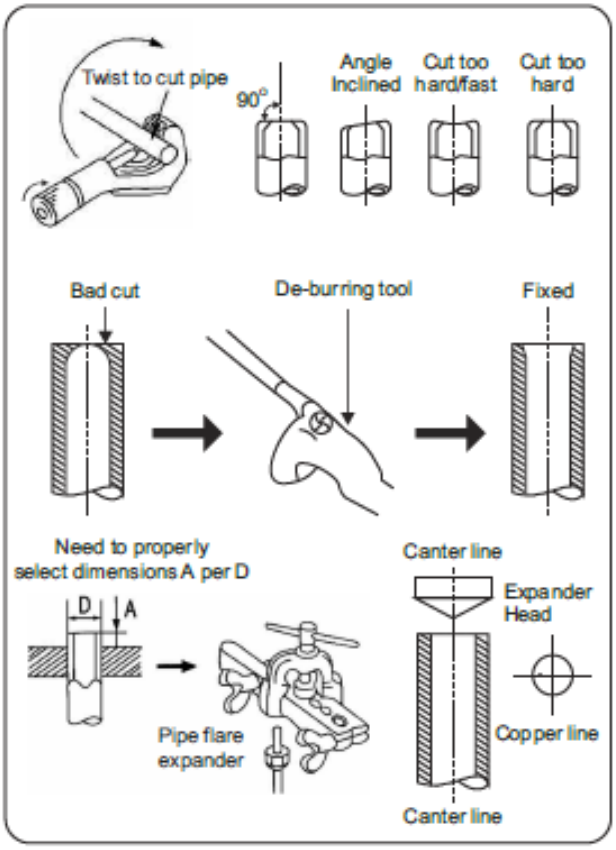
Btu/h	Valve Size	Line Sizes at Different Lengths	
	Liquid Gas	15 – 30 ft.	31 – 60 ft.
09K	1/4”, 3/8”	1/4”, 3/8”	1/4”, 3/8”
12K	1/4”, 3/8”	1/4”, 3/8”	1/4”, 3/8”
18K	1/4”, 1/2”	1/4”, 1/2”	1/4”, 1/2”
24K	1/4”, 5/8”	1/4”, 5/8”	3/8”, 5/8”

Running Interconnecting Refrigerant Lines:

Use clean refrigeration grade copper pipe only. Keep the copper lines from kinking and transmitting any noise to walls, cabinets, etc. Pipe length not to exceed 150 feet, elevation not to exceed 35 feet. Insulate both the liquid and gas copper lines with at least 3/8-inch-thick insulation tubes. Band, tape and secure the refrigerant lines. Support copper lines at a proper distance apart to keep the tubes from sagging.

CUT REFRIGERANT PIPE

Make sure where the pipe is to be cut is straight and smooth. Engage the cutting blade. The cutting blade must be straight and perpendicular to the pipe surface. Don't cut too fast or apply too much pressure. Turn and tighten the tube cutter slowly. Remove residual and de-bur the cut edge. The cut edge should be smooth and clean.



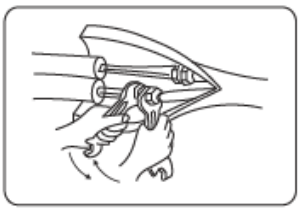
CONNECT REFRIGERANT PIPES:

Connect Copper Pipes-Flare/Nut Connection at both Indoor and Outdoor Units

Proper torque shall be applied to create a good connection at the female nut, flare and male nut, as recommended in the following table. Too much torque may damage and break the flare/nut seal. Too little torque may not ensure a good seal. ALWAYS use a pair of wrenches when tightening.

Refrigerant Pipe Flare/Nut Connection Tightening Torque

Flare Nut	Tightening Torque
1/4" – 3/8”	25 ft. lbs. (350 kg-cm)
1/4" – 1/2"	40 ft. lbs. (560 kg-cm)
1/2" – 3/4"	60 ft. lbs. (840 kg-cm)
7/8” – 1 1/8”	110 ft. lbs. (1540 kg-cm)

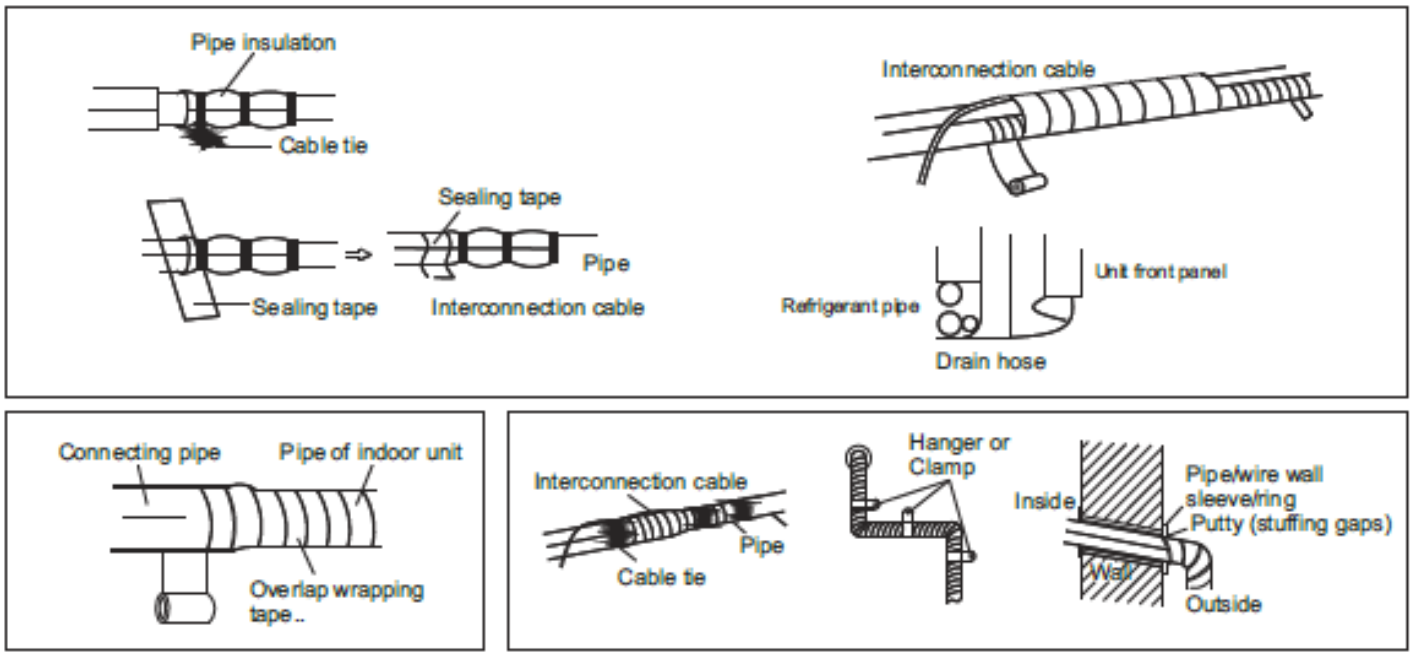


Connect Copper Pipes-Sweat Connection

In this case, wrap a wet rag around the pipe to protect the valves or other components from being overheated. When using flux, rub the tube surface with steel wool to remove any oxidation, then clean and dry to protect the system from any possible contamination.

CONNECT REFRIGERANT PIPES BETWEEN THE INDOOR AND OUTDOOR UNITS

Seal Copper Line Set/Wire and Cable/Drain Hose Line Combination



- Run cables along with the refrigerating copper line sets and secure them with tape, 6 feet apart.
- Wrap tape tight (cover a third of the width of the wrapping tape applied early) to ensure a good seal.
- Tape and seal the end of the wrapping tape.
- Shape the pipe combination gently, without causing kinking, sharp bends, or other damage to it.
- Fix the pipe combination securely on the external wall with proper clamps, 6 feet apart.
- Fill the gap between the wall hole and wall sleeve with putty to keep rain or dust entering inside.

PIPING GUIDE

Set the packed pipes in a vertical position and then unwind them slowly.			Do not unwind only one end of the coiled pipes.
Use pulley or a bending tool to ensure a safe bending radius.			Do not make any sharp or small radius bends.
May also use rolling wheel to reduce internal pipe tension and avoid possible deformation.			Do not bend long sections of pipe without using bending tools.
Use an elbow tool for consistent bending radius.			Do not make bends that are less than 90 degrees.
Maintain the minimum bending radius.			Do not bend shot pipes.

ABOUT MODE CLASH/CONFLICT BETWEEN INDOOR UNITS

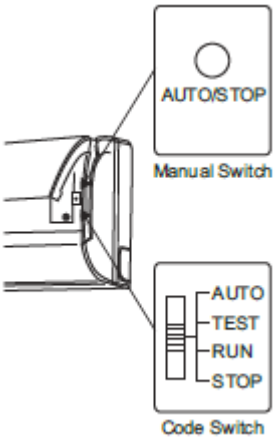
If any two indoor units are set to run the in the different modes, the indoor unit will have a mode clash or conflict. All indoor units will stop running and display a **Protection/Error code E7**, until the unit is turned off and then turned back on.

A mode conflict can be caused when some Indoor Units are set on **HEAT** Mode, while others on **COOL** Mode and/or **DRY** (Dehumidify) Mode and/or **FAN** Mode.

NOTE:
COOL mode is compatible with **DRY** and **FAN** mode. In other words, there will be no problem for some indoor units to run **COOL**, while others may run in any of the following modes: **COOL, DRY** (Dehumidifying) and **FAN**. No **Protection/Error** code will show up.

OPERATION AT EMERGENCY

If at any time the remote control becomes damaged or lost, you can switch to **Manual** mode on the indoor unit. This will allow the unit to run in **AUTO** mode only. While in **AUTO** mode the unit temperature cannot be switched. Contact your local service provider for instructions on replacing the remote control.



The manual switch can be operated as follow:

- **Operation:** When the unit has stopped running, press **ON/OFF** button, unit will enter **AUTO RUN** mode. The microcomputer will acquire the room temperature to select the (**COOL, HEAT, FAN**) mode automatically, to obtain the correct setting.
- **Stopping:** When the unit is running, press the **ON/OFF** button of the manual switch, the unit will stop working.

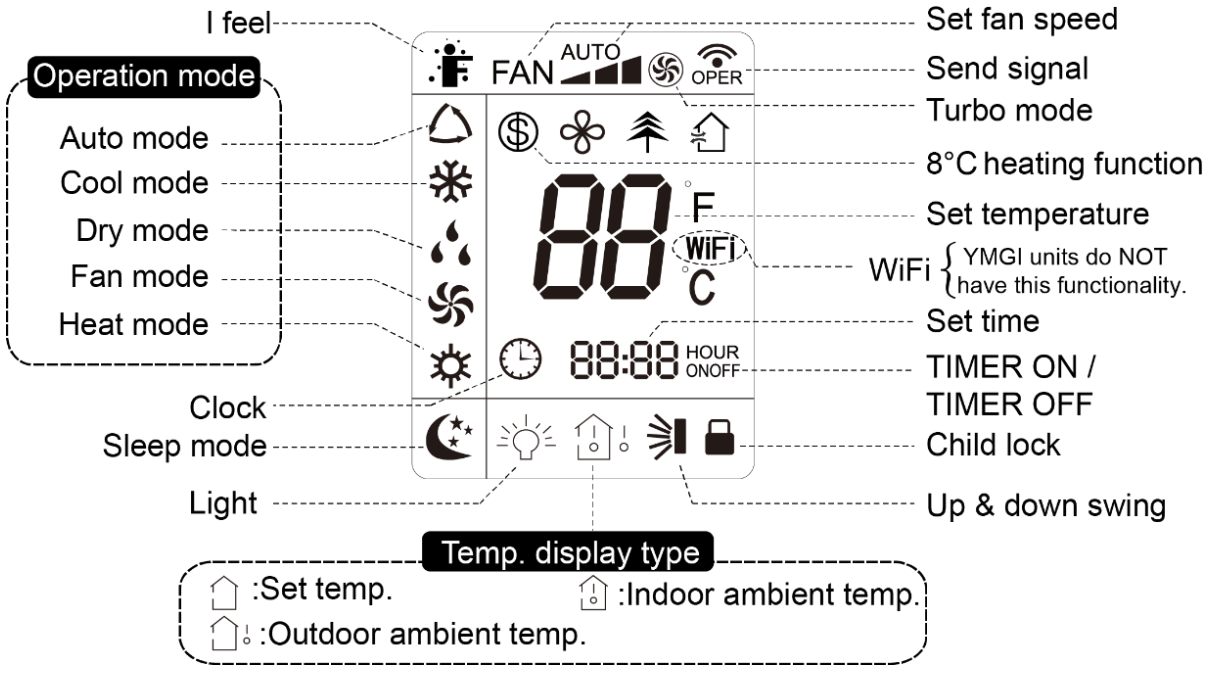
The code switch can be operated as follow:

- **Operation:** When the unit has stopped running, adjust the code switch to **AUTO**, the unit will enter **AUTO RUN** mode. The microcomputer will acquire the room temperature to select the (**COOL, HEAT, FAN**) mode automatically, to obtain the correct setting.
- **Stopping:** When the unit is running, adjust the code switch to the **STOP** position, the unit will stop working.

Buttons on Remote Controller

1. ON/OFF button
2. MODE button
3. FAN button
4. SWING button
5. TURBO button
6. ▲/ ▼ button
7. SLEEP button
8. TEMP button
9. I FEEL button
10. LIGHT button
11. CLOCK button
12. TIMER ON / TIMER OFF button

Introduction for icons on display screen



Introduction for buttons on remote controller

Note:

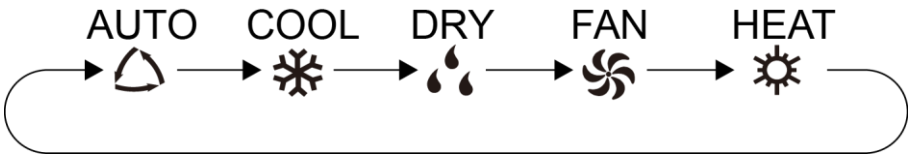
- This is a general use remote controller, it is used on multiple air conditioner models with multiple functions. If you press a button on the remote, for a function not available on your model, the unit will continue to run in its original settings.
- The air conditioner will make a sound when the power is turned on. Power indictor "⏻" is ON (red icon). After that, you can adjust settings for the air conditioner by the using remote controller.
- When the system is turned on, pressing a button on the remote controller, the signal icon "📶" will appear on the remote controller display. When a command is sent, the icon will blink once and the air conditioner will make a “beep” sound, which indicates the command has been sent to the air conditioner.
- Under off status, set temperature and clock icon will appear on the remote controller display. (If timer on, timer off and light functions are set, the corresponding icons will be displayed on the display of remote controller at the same time.) When turned on, the display will show the corresponding function icons.

ON/OFF button

This button turns on or turn off the air conditioner. After turning on the air conditioner, the operation indicator "⏻" on the indoor unit’s display is ON (green indicator. The color may be different for different models), and indoor unit will make a sound.

MODE button

Press this button to select your required operation mode.



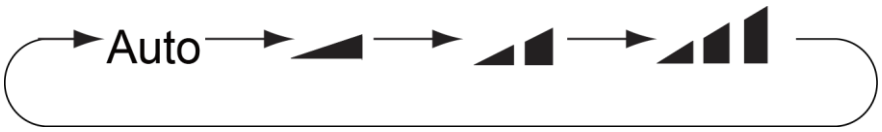
- When selecting auto mode, the air conditioner will operate to factory settings. The set temperature can’t be adjusted and will not appear on the display. Pressing the "FAN" button can adjust fan speed. Pressing the "SWING" button can adjust fan blowing angle.
- After selecting COOL mode, the air conditioner will operate in cool mode. The cool icon "❄"on indoor unit will be ON. Press "▲" or "▼" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press "SWING" button to adjust fan blowing angle.
- After selecting dry mode, the air conditioner will operate at low speed. Thee dry icon "💧" on indoor unit will be ON. Under dry mode, fan speed cannot be adjusted. Press "SWING" button to adjust fan blowing angle.
- When selecting fan mode, the air conditioner will only run the fan, with no cooling or heating. All indicators are OFF. Press "FAN" button to adjust fan speed. Press "SWING" button to adjust fan blowing angle.
- When selecting heating mode, the air conditioner operates under heat mode. Heat indicator "☼" on indoor unit will be ON. Press "▲" or "▼" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press "SWING" button to adjust fan blowing angle. (Cooling only units will not respond to heating mode signal. If you set the heat mode with the remote control, pressing ON/OFF button will start up the unit).

Note:

- To prevent cold air from blowing, after starting up heating mode, indoor unit will delay 1~5 minutes before blowing air (actual delay time is depend on indoor ambient temperature).
- Set temperature range available on the remote controller is 61~86 °**F**.

FAN button

Pressing this button can set fan speed cycle: auto (AUTO), low ( ), medium ( ), high ( ). Auto

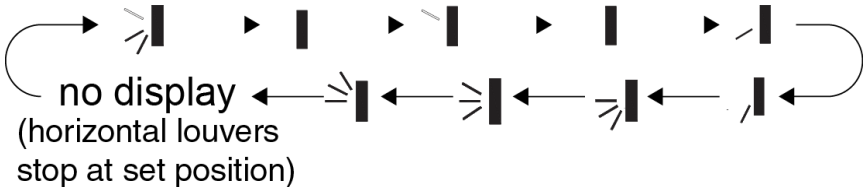


Note:

- Under AUTO speed, air conditioner will select proper fan speed automatically according to factory settings.
- Fan speed under dry mode is low speed.

SWING button

Press this button can select up & down swing angle. Fan blowing angle can be and selected cycled through as below:



When selecting " ", the air conditioner is blowing the fan automatically. The horizontal louver will automatically swing up & down at maximum angle.

- When selecting " , , , , ", the air conditioner is blowing the fan at a fixed position. Horizontal louver will stop at a fixed position.
- When selecting " , , , ", the air conditioner is blowing the fan at a fixed position. Horizontal louver will blow air at a fixed position.
- Hold " " button above 2s to set your required swing angle. When it reaches your desired angle, release the button.

Note:

, , , may not be available. When air conditioner receives this signal, the air conditioner will turn on the fan automatically.

TURBO button

Under COOL or HEAT mode, press this button to turn for quick COOL or quick HEAT mode. " " icon is displayed on remote controller. Press this button again to exit turbo function and " " icon will disappear.

▲/▼ button

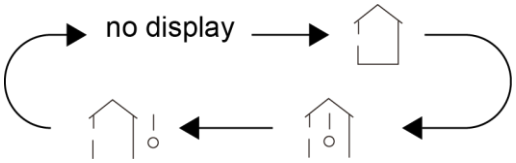
- Press "▲" or "▼" button once to increase or decrease set temperature by 1°C (1°F). Holding "▲" or "▼" button, 2s later, set temperature on remote controller will change quickly. Release the button after finishing adjusting the setting, the temperature indicator on indoor unit will change accordingly. (Temperature canot be adjusted under auto mode)
- When setting TIMER ON, TIMER OFF or CLOCK, press "▲" or "▼" button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons)

SLEEP button

Under COOL, HEAT or DRY mode, press this button to start up sleep function. " " icon is displayed on remote controller. Press this button again to cancel sleep function and " " icon will disappear.

TEMP button

By pressing this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:



- When selecting " " or no display with remote controller, temperature indicator on indoor unit displays set temperature.
- When selecting " " with remote controller, temperature indicator on indoor unit displays indoor ambient temperature.
- When selecting " " with remote controller, temperature indicator on indoor unit displays outdoor ambient temperature.

Note:

- Outdoor temperature display is not available for some models. At that time, indoor unit receives " " signal, while it displays indoor set temperature.
- If you turn off the unit while you have "" selected, the room temperature will briefly display when the unit is powered on again.
- The default display is the set temperature when turning on the unit. There is no display in the remote controller.
- Only for the models whose indoor unit has dual-8 display.
- When selecting the display of indoor or outdoor ambient temperature, indoor temperature indicator displays corresponding temperature and automatically returns to display set temperature after three to five seconds.

I FEEL button

- Press this button to start I FEEL function and " " will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to close I FEEL function and " " will disappear.
- Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature.

LIGHT button

Press this button to turn off display light on indoor unit. " " icon on remote controller disappears. Press this button again to turn on display light. " " icon is displayed.

CLOCK button

Press this button to set clock time. " " icon on remote controller will blink. Press "▲" or "▼" button within 5s to set clock time. Each press of "▲" or "▼" button, clock time will increase or decrease 1 minute. If you hold "▲" or "▼" button for 2s, the time will change quickly. Release this button when reaching your required time.

Note:

- Clock time adopts 24-hour mode.
- The interval between two operations cannot exceed 5s. Otherwise, remote controller will quit setting status. Operation for TIMER ON/TIMER OFF is the same.

TIMER ON / TIMER OFF button

TIMER ON button

- "TIMER ON" button can set the time for timer on. After pressing TIMER ON button, the " 🕒 " icon disappears and the word "ON" on remote controller blinks. Press "▲" or "▼" button to adjust TIMER ON setting. After each pressing "▲" or "▼" button, TIMER ON setting will increase or decrease 1 min. Hold "▲" or "▼" button for 2s and the time will change quickly until reaching your required time. Press "TIMER ON" to confirm it. The word "ON" will stop blinking and remain on the display. The " 🕒 " icon resumes displaying.
- Cancel TIMER ON: Under the condition that TIMER ON is started up, press "TIMER ON" button to cancel it.

TIMER OFF button

- "TIMER OFF" button can set the time for timer off. After pressing the TIMER OFF button, the " 🕒 " icon disappears and the word "OFF" on remote controller blinks. Press "▲" or "▼" button to adjust TIMER OFF setting. After each pressing "▲" or "▼" button, TIMER OFF setting will increase or decrease 1 min. Hold "▲" or "▼" button, 2s later, the time will change quickly until reaching your required time. Press "TIMER OFF" and the word "OFF" will stop blinking and remain on the display. The " 🕒 " icon resumes displaying.
- Cancel TIMER OFF. Under the condition that TIMER OFF is started up, press "TIMER OFF" button to cancel it.

Note:

- Under ON and OFF status, you can set TIMER OFF or TIMER ON simultaneously.
- Before setting TIMER ON or TIMER OFF, please adjust the clock time.
- After starting up TIMER ON or TIMER OFF, set the constant circulating valid. After that, air conditioner will be turned on or turned off according to setting time. The ON/OFF button has no effect on setting. If you don't need this function, please use remote controller to cancel it.

Function introduction for combination buttons

Energy-saving function

Under cooling mode, press "TEMP" and "CLOCK" buttons simultaneously to start up or turn off energy-saving function. When energy-saving function is started up, "SE" will be displayed on the remote controller, and air conditioner will adjust the set temperature automatically according to factory settings to reach to the best energy-saving effect. Press "TEMP" and "CLOCK" buttons simultaneously again to exit energy-saving function.

Note:

- Under energy-saving function, fan speed is defaulted to auto speed and it cannot be adjusted.
- Under energy-saving function, set temperature cannot be adjusted. Press "TURBO" button and the remote controller won't send signal.
- Sleep function and energy-saving function can't operate at the same time. If energy-saving function has been set under cooling mode, pressing the sleep button will cancel energy-saving function. If sleep function has been set under cooling mode, starting the energy-saving function will cancel sleep function.

8 ℃ Heating function

Under heating mode, press "TEMP" and "CLOCK" buttons simultaneously to start up or turn off 8℃ heating function. When this function is started up, " ⓢ " and "8℃" will be shown on remote controller, and the air conditioner keep the heating status at 8℃. Press "TEMP" and "CLOCK" buttons simultaneously again to exit 8℃ heating function.

Note:

- Under 8℃ heating function, fan speed is defaulted to auto speed and it cannot be adjusted.
- Under 8℃ heating function, set temperature cannot be adjusted. Press "TURBO" button and the remote controller won't send signal.

- Sleep function and 8℃ heating function CANNOT operate at the same time. If 8℃ heating function has been set under cooling mode, pressing the sleep button will cancel 8℃ heating function. If sleep function has been set under cooling mode, starting the 8℃ heating function will cancel sleep function.
- Under ℉ temperature display, the remote controller will display 46℉ heating.

Child Lock function

- Press "▲" or "▼" simultaneously to turn on or turn off child lock function. When child lock function is on, " 🔒 " icon is displayed on remote controller. If you operate the remote controller, the " 🔒 " icon will blink three times without sending signal to the unit.

Temperature display switchover function

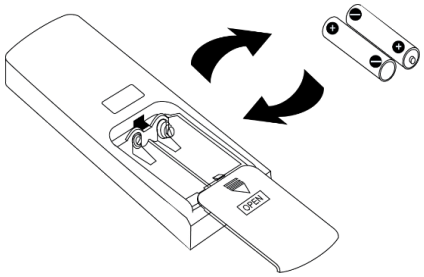
Under OFF status, press "▼" and "MODE" buttons simultaneously to switch temperature display between °C and °F.

Operation Guide

1. After installation is complete, press "ON/OFF" button on remote controller to turn on the air conditioner.
2. Press "MODE" button to select your required mode: AUTO, COOL, DRY, FAN, HEAT.
3. Press "▲" or "▼" button to set your required temperature. (Temperature can't be adjusted under auto mode).
4. Press "FAN" button to set your required fan speed: auto, low, medium and high speed.
5. Press "SWING" button to select fan blowing angle

CHANGING BATTERIES AND NOTICES

1) Press slightly along the arrowhead direction to push the back cover open on the remote control.
2) Take out the old batteries. (As show in figure)
3) Insert two new AAA1.5V dry batteries, and pay attention to the polarity. (As show in figure)
4) Attach the back cover of wireless remote control. (As show in figure)



NOTE:

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.
- Signal may be experience interference in rooms where there are fluorescent lamps or wireless telephones. The remote controller should be kept close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

NOTES:

- When changing the batteries, do not use old or different batteries that could cause the remote control to malfunction. Use the remote in its receiving range. Remote should be used 36 inches away from a TV set or stereo.

- If the wireless remote control cannot operate normally, please take the batteries out, wait 30 seconds and reinsert them. If the remote still doesn't operate normally, please replace the batteries.

- If the wireless remote control will not be used for an extended period, it is recommended to remove the batteries. Leaving the batteries in could cause them to leak. This can cause damage to the remote control.

CLEANING AND CARE

⚠ CAUTION

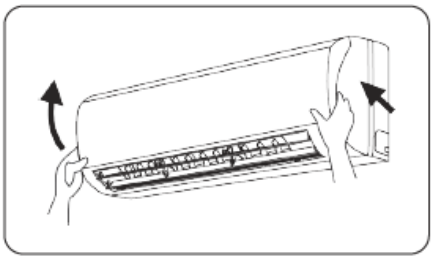
- Turn the unit power off and unplug the power cord before cleaning the air conditioner. Failure to do so can result in electric shock.
- Never sprinkle water on the indoor unit for cleaning because it can cause an electric shock.
- Volatile liquids (e.g. thinner or gasoline) will damage the air conditioner. Wipe the units with a dry soft cloth, or a cloth slightly moistened with water or a mild nonabrasive cleanser.

CLEANING THE FRONT PANEL

(MAKE SURE TO REMOVE IT FROM THE UNIT OFF BEFORE CLEANING)

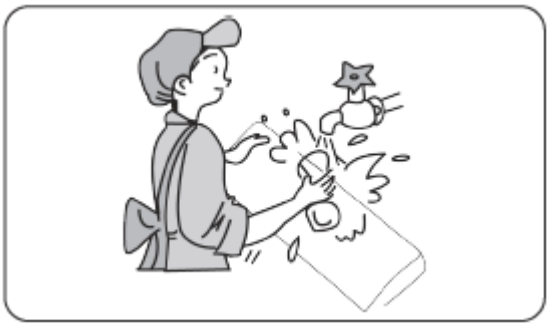
Take off the front panel

Along the direction of arrows, lift the front panel up, meanwhile hold both slots of the front panel and remove.



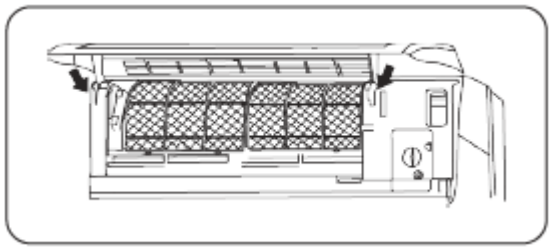
Washing

Clean with a soft brush, water and neutral detergent and then dry it. (Note: Before cleaning the unit, please remove the display box first, then wash the panel. (If the unit has displayed on the front panel.) Never use water that has a temperature above 113°F to wash the panel or it could cause deformation or discoloration.)



Reinstall front panel

Place two supports of the front panel into the slots, along the direction of arrows to cover and clasp the front panel. As shown in figure.

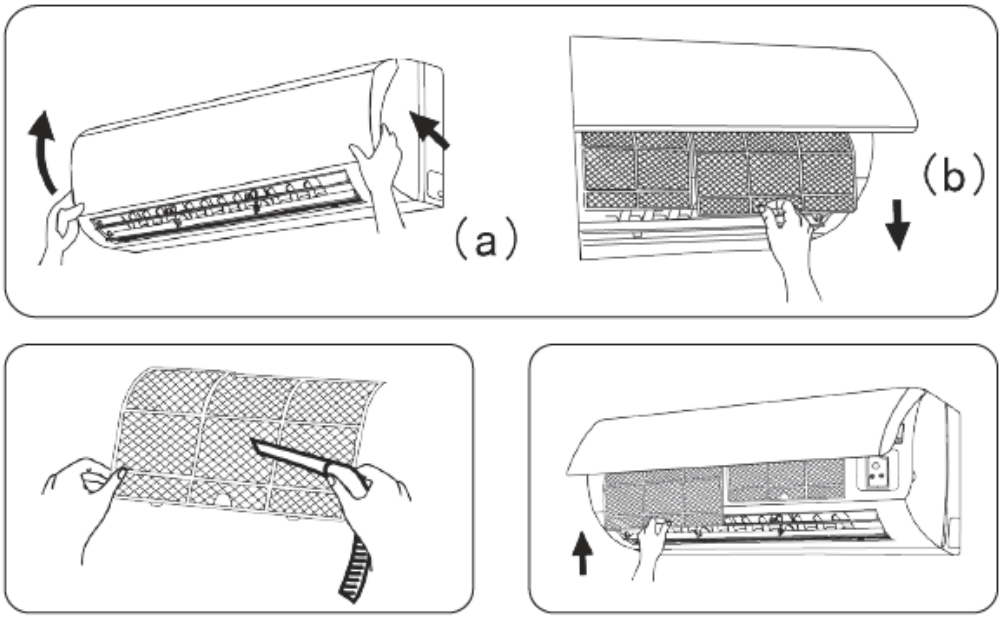


CLEANING THE AIR FILTERS

(RECOMMENDED ONCE EVERY THREE MONTHS)

Note

If the unit is in a dusty area, the air filters should be cleaned more often. After removing the filter, be sure to avoid touching the fins on the indoor unit as this can cause injury.



To Remove the Air Filter

By holding onto the bottom slot of the air filter slightly push the filter in an upward at a slight angle and pull downward carefully.

Cleaning

To clean the dust adhering to the filters, you can either use a vacuum cleaner, or wash them with warm water and a neutral detergent, the water should be below 113°F. When the filters have been cleaned, dry them air dry completely out of direct sunlight.

NOTE: Never use water hotter than 113°F to wash the unit or the filters as this can discolor and/or deform the unit. Never dry the filters by a fire or open flame as this can be dangerous. Always air dry the filters.

Reinsert the filters

Reinsert the filters aligning with the arrow head, then cover the surface panel and clasp it.

CHECKING BEFORE COOLING/HEATING SEASON COMES:

1. If the unit is still connected to the correct electric power V/Ph/Hz.
2. If the unit is still securely fastened.
3. If the batteries of remote control are good.
4. If the filter is loaded and clean
5. If the intake and discharge vents are clear from any obstructions.

MAINTENANCE AFTER USING

1. Turn main power off, by disconnecting electrical power disconnect switch.
2. Clean filter and unit.
3. Cover the unit to keep dust or moisture out of the unit.

PROTECTION AND ERROR CODES

If an error occurs, the error code will be displayed on the indoor unit display, wall mounted controller, or the main board of the outdoor unit.

Error & Status Display List						Indoor Unit (Floor/ Ceiling) 88 Display	Wired Controler Display	Indoor and/ or Outdoor Unit Error
Errors of Residential Air Conditioners	Errors of Commercial Air Conditioners	Outdoor Unit 88 Display	Indicating LED Flashing Times					
			Running LED	Cooling LED	Heating LED			
/	Defrosting Mode 1	08	/	/	/	/	/	Outdoor
/	Defrosting Mode 2	0A	/	/	/	/	/	Outdoor
/	Whole Unit Running Normally	ON	/	/	/	/	/	Outdoor
Short/open circuit of the liquid valve temperature sensor	(Liquid Valve) Inlet Tube Temp Sensor Error	See Table 16	/	Flash 19 times	/	b5	b5	Outdoor
Short/open circuit of the gas valve temperature sensor	(Air Valve) Outlet Tube Temp Sensor Error	See Table 16	/	Flash 22 times	/	b7	b7	Outdoor
Refrigerant insufficiency or blockage protection (available for the residential outdoor unit)	/	F0	/	Flash 10 times	/	F0	F0	Outdoor
Short/open circuit of the indoor ambient temperature sensor	Indoor Ambient Temp. Sensor Short/ Open-Circuit	See Table 16	/	Flash once	/	F1	F1	Indoor
Short/open circuit of the indoor evaporator	Indoor Evaporator Temp Sensor Short/ Open-Circuit	See Table 16	/	Flash twice	/	F2	F2	Indoor
Short/open circuit of the of the outdoor ambient temperature sensor	Outdoor Ambient Temp Sensor Error	F3	/	Flash 3 times	/	F3	F3	Outdoor
Short/open circuit of the temperature sensor at the midway of the condenser coil (for the commercial unit)	Outdoor Mid-Coil Temp Sensor Error	F4	/	Flash 4 times	/	F4	F4	Outdoor
Short/open circuit of the outdoor discharge temperature sensor	Outdoor Discharge Air Temp Sensor Error	F5	/	Flash 5 times	/	F5	F5	Outdoor
Oil returning in cooling	Oil Return for Cooling	F7	/	/	/	/	/	Outdoor
System high pressure protection	High Pressure Protection	E1	Flash once	/	/	E1	E1	Outdoor
Anti-freezing protection	Shutdown for Whole Unit Anti-Freeze Protection	E2	Flash twice	/	/	E2	E2	Indoor
System low pressure protection (reserved)	Low Pressure Protection	E3	Flash 3 times	/	/	E3	E3	Outdoor
Compressor discharge high temperature protection	High Discharge Temp Protection	E4	Flash 4 times	/	/	E4	E4	Outdoor
Communication error between the indoor and outdoor units	Communication Error	See Table 16	Flash 6 times	/	/	E6	E6	Outdoor & Indoor
Mode conflict	Mode Conflict	See Table 16	Flash 7 times	/	/	E7	E7	Indoor
Overload protection	Overload Protection	E8	Flash 8 times	/	/	E8	E8	Outdoor
Anti cold blow protection	/	E9	/	/	/	/	/	Indoor
	Indoor Unit Water Full Error		/	Flashing	Flashing	E9	E9	Indoor
Trial run/trial operation	Trial Run	dd	Quick Flashing	Quick Flashing	Quick Flashing	dd	dd	Outdoor
Refrigerant recovery mode	Refrigerant Recovery Mode	Fo	Quick Flashing	Quick Flashing	/	Fo	Fo	Outdoor
Drive module resetting(for the commercial unit)	IPM Reset	Lc	Flash 3 times	Flash 3 times	Flash 3 times	Lc	Lc	Outdoor

Phase over-current protection	Compressor Current Protection	P5	/	/	Flash 15 times	P5	P5	Outdoor
Drive board communication error(for the commercial unit)	Communication Error between the Inverter Drive and the Main Controller	P6	Flash 16 times	/	/	P6	P6	Outdoor
Short/open circuit of the of the module temperature sensor	Radiator Temp Sensor Error	P7	/	/	Flash 18 times	P7	P7	Outdoor
Module temperature protection	Radiator Overheat Protection	P8	/	/	Flash 19 times	P8	P8	Outdoor
AC contact protection (for the commercial unit)	AC Contactor Protection	P9	Flash 3 times	Flash 3 times	Flash 3 times	P9	P9	Outdoor
Circuit sensor error	Current Sensor Error	Pc	Flash 3 times	Flash 3 times	Flash 3 times	Pc	Pc	Outdoor
Transducer connection protection (for the commercial unit)	Sensor Connection Protection	Pd	Flash 3 times	Flash 3 times	Flash 3 times	Pd	Pd	Outdoor
AC current protection(input side)	AC Current Protection (Input Side)	E5	Flash 3 times	Flash 3 times	Flash 3 times	E5	E5	Outdoor
Temperature drift protection (for the commercial unit)	Temp Drift Protection	PE	Flash 3 times	Flash 3 times	Flash 3 times	PE	PE	Outdoor
Drive board ambient temperature sensor error (for the commercial unit)	Drive Board Ambient Temp Sensor Error	PF	Flash 3 times	Flash 3 times	Flash 3 times	PF	PF	Outdoor
DC link high voltage protection	Low Voltage Protection	PL	Flash 3 times	Flash 3 times	Flash 3 times	PL	PL	Outdoor
DC link low voltage protection	Over Voltage Protection	PH	Flash 3 times	Flash 3 times	Flash 3 times	PH	PH	Outdoor
/	AC Input Voltage Anomaly	PP	Flash 3 times	Flash 3 times	Flash 3 times	PP	PP	Outdoor
Capacitor charging error	Charging Circuit Error	PU	/	/	Flash 17 times	PU	PU	Outdoor
Defrosting or oil returning in heating	Oil Return for Heating or Defrosting	H1	/	/	Flash once	H1	❄	Outdoor
/	Forced Defrosting	H1	Quick Flashing	/	/	H1	H1	Outdoor
Compressor thermal overload protection.	Compressor Overheat Protection	H3	/	/	Flash 3 times	H3	H3	Outdoor
Modulecurrent protection(namely IPM protection)	IPM Protection	H5	/	/	Flash 5 times	H5	H5	Outdoor
Compressor desynchronizing	Motor Desynchronizing	H7	/	/	Flash 7 times	H7	H7	Outdoor
PFC Protection	PFC Error	Hc	/	/	Flash 6 times	Hc	Hc	Outdoor
Too high power protection (available for the residential outdoor unit)	/	L9	Flash 20 times	/	/	L9	L9	Outdoor
Compressor startup failure	Startup Failure	Lc	/	/	Flash 11 times	Lc	Lc	Outdoor
Compressor phase failure/ reverse protection	Phase Loss	Ld	Flash 3 times	Flash 3 times	Flash 3 times	Ld	Ld	Outdoor
Compressor rotation failure(for the commercial unit)	Compressor Stalling	LE	Flash 3 times	Flash 3 times	Flash 3 times	LE	LE	Outdoor
Over speed (for the commercial unit)	Over-Speed	LF	Flash 3 times	Flash 3 times	Flash 3 times	LF	LF	Outdoor
Short/open circuit of the temperature sensor at the inlet of the condenser coil (for the commercial unit)	/	A5	Flash 3 times	Flash 3 times	Flash 3 times	oE	A5	Outdoor

Short/open circuit of the temperature sensor at the outlet of the condenser coil (for the commercial unit)	/	A7	Flash 3 times	Flash 3 times	Flash 3 times	oE	A7	Outdoor
Memory card error	/	EE	/	/	/	/	/	Outdoor
Frequency limitation/ degradation for module circuit protection (for phase circuit)	/	En	Flash 3 times	Flash 3 times	Flash 3 times	En	En	Outdoor
Frequency limitation/ degradation for module temperature protection	/	EU	/	Flash 6 times	Flash 6 times	EU	EU	Outdoor
Frequency limitation/ degradation for overload	/	F6	/	Flash 6 times	/	F6	F6	Outdoor
Frequency limitation / degradation for circuit protection of the whole unit	/	F8	/	Flash 8 times	/	F8	F8	Outdoor
Frequency limitation/ degradation for module circuit protection (for phase circuit)	/	F9	/	Flash 9 times	/	F9	F9	Outdoor
Frequency limitation/ degradation for anti-freezing protection	/	FH	/	Flash twice	Flash twice	FH	FH	Outdoor
Compressor demagnetizing protection	/	HE	/	/	Flash 14 times	HE	HE	Outdoor
Indoor and outdoor units unmatched	/	LP	Flash 19 times	/	/	LP	LP	Outdoor & Indoor
Compressor phase circuit detection error	/	U1	/	/	Flash 12 times	U1	U1	Outdoor
DC link voltage drop error	/	U3	/	/	Flash 20 times	/	/	Outdoor
Communication Line Misconnected or Expansion Valve Error	Communication Line Misconnected or Expansion Valve Error	dn	Flash 3 times	Flash 3 times	Flash 3 times	dn	dn	Outdoor

The words in gray means the corresponding function is unavailable.

Error Code	Content	Error Code	Content	Error Code	Content
L0	Indoor Unit Error	L9	Quantity of Group Control Indoor Units Setting Error	d8	Water Temperature Sensor Error
L1	Indoor Fan Protection	LA	Indoor Units Incompatibility Error	d9	Jumper Cap Error
L2	E-heater Protection	LH	Low Air Quality Warning	dA	Indoor Unit Network Address Error
L3	Water Full Protection	LC	Outdoor-Indoor Incompatibility Error	dH	Wired Controller Circuit Board Error
L4	Wired Controller Power Supply Error	D1	Indoor Unit Circuit Board Error	dC	Capacity DIP Switch Setting Error
L5	Anti-freezing Protection	D3	Ambient Temperature Sensor Error	dE	Indoor Unit CO_2 Sensor Error
L7	No Master Indoor Unit Error	D4	Inlet Pipe Temperature Sensor Error	C0	Communication Error
L8	Power Insufficiency Protection	D6	Outlet Pipe Temperature Sensor Error	AJ	Filter Cleaning Reminder
db	Special Code: Project Debugging Code	dL	Outlet Air Temperature Sensor Error		

CHECKING UNITS PRIOR TO CONTACTING YOUR TECHNICIAN

⚠WARNING

Do not attempt to repair the air conditioner yourself. An Incorrect repair may cause electric shock or fire, so please contact an authorized service center for professional repair.

Problem Handling

The conditions listed below are not classified into errors.

Conditions		Causes
The unit does not run	After restarting the unit after it has stopped.	The overload protection switch of the unit has delayed unit startup for three minutes.
	As soon as power is turned on	The unit will be on standby for approximately one minute
The unit blows out mist	When the cooling operation starts.	The high humidity indoor air is cooled quickly causing condensation
The unit generates noise	The unit “clatters” on start up.	This sound is generated during the initialization of the electronic expansion valve.
	The unit “swishes” during cooling operation.	The sound is generated when refrigerant gas runs inside the unit.
	The unit “swishes” when it is on or after running.	The sound is generated when refrigerant gas stops flowing.
	The unit “swishes” when it is on or after running.	The sound is generated when the drainage system operates.
	The unit “squeaks” when it is on or after running.	The sound is produced by friction generated by the skin plates that can swell and contract due to temperature changes.
The unit blows out dust.	When the unit is restarted after not being used for prolonged period.	Dust that has settled inside the unit is being blown out.
The units emits odor.	When the unit is running.	Odors absorbed in the filters are blown out again. Check the filters.

Following checks prior to contacting an authorized service center may save you time and costs.

Phenomenon	Normal or Abnormal
The unit doesn't deliver cooling or heating, immediately after the unit is restarted (remote control or power resuming).	If the unit is powered off, and then restored, it will not run the compressor until 3 minutes later. This is normal 3-minutes restarting protection due to high internal refrigerant pressure.
The unit emits a smell.	For a new unit, some of the odor is normal. For any bad or abnormal odor, shut off the unit and check the unit and the area around the unit for anything visible that could cause the odor. Call a technician if necessary.
Hearing the sound of "water flow" inside the unit.	Normally this is due to refrigerant flowing through the coils.
Mist is blowing out of the unit.	Normally this happens during cooling startup period, when the indoor air is hot and humid.
Hearing creaking noise during unit starting or shutting off.	Normally this is caused by the expansion or contraction of components due to temperature changes.
The unit doesn't operate at all.	1) Is power shut off or lost? 2) Is the TIMER set up? 3) Is the circuit breaker engaged, or tripped? 4) Is the fuse connected, or blown? 5) Is the voltage too high or low? 6) Is the flow control or other switches breaking the circuit? 7) Is the unit under the 3-minute restarting protection period? 8) Does the remote control have power?

Unit doesn't respond to remote control.	1) Dose the remote control have battery power? 2) Is the remote control pointing at sunshine or bright lights? 3) Is the remote control signal blocked? 4) Is the remote control too far away from indoor unit? 5) Is the fuse on indoor unit blown? 6) Is the indoor unit powered on? 7) Is the indoor unit transformer good? 8) Is the indoor unit control board good?
Cooling (heating) is weak.	1) Is the set temperature too high or too low? 2) Is the filter dirty? 3) Is the air vent blocked? 4) Is the unit undersized? 5) Is there a window or door opened? 6) Is the unit refrigerant at a lower level? 7) Is the outdoor temperature too hot or cold? 8) Is fan speed set at a low speed?
Indoor unit doesn't blow air.	1) Is the unit in 3-minutes restarting protection period? 2) In heating mode, the indoor fan motor will not rotate before the indoor coil is hot enough. This is a normal anti-cold air blowing function. 3) Is the outdoor unit defrosting? 4) Is the unit in fan-pausing period for dehumidification mode? 5) Is the filter dirty? 6) Is the fan motor setting screw loose? 7) Is the fan capacitor bad? 8) Is the fan motor bad?
Condensate forms at air discharge louver.	This is normal when the conditioned cool air is mixed with the warm/hot and humid indoor air. Condensate may go away gradually once the indoor air is dehumidified and cooled down.
Water drips out of the indoor unit.	1. Is indoor air too warm and humid? 2. Is the condensate drain hose/connection leaking? 3. Is the condensate drain hose clogged or restricted? 4. Is the condensate drain hose insulated? 5. Is the 3" hole at exterior wall staffed or sealed?
Phenomenon	**Normal or Abnormal**
Noise is heard at the indoor unit.	1. Is the fan motor or compressor relay energized? 2. Is it due to temperature change that causes part expansion or contraction?

Stop all unit operations, disconnect power and contact your service technician in the following situations:

1. Harsh sound is heard
2. Bad odor is detected;
3. Water is leaking out of the indoor unit;
4. Circuit breaker trips or fuse is blown a few times;
5. Wires or connections are very hot;
6. Oil or refrigerant leakage is found;
7. Unit vibrates abnormally;
8. Any other abnormal situations.

Check before Contacting Service Center
Please check the following items before contacting the maintenance serviceman.

Condition	Cause	Corrective Actions
Unit does not run	Broken fuse or open breaker	Change the fuse or close the breaker
	Power off	Restart the unit with main power on
	Insufficient battery voltage in remote control	Change with new batteries
	Remote control out of range	Use remote within 8 meters of unit
Unit stops shortly after starting	Clogged inlet/outlet of indoor or outdoor unit	Clear blockage
Cooling or Heating is abnormal	Clogged inlet/outlet of indoor or outdoor unit	Clear blockage
	Improperly set temperature	Adjust settings using the remote or wired controller
	Fan speed is too low	
	Improper airflow direction	
	Opened door or window	Make sure room is closed up
	Direct sunlight	Curtains or blinds over windows are recommended.
	Too many people in the room	
	Too many heat sources in the room	Turn off or remove any electronics or heat generating devices
	Dirty filter screen	Clean filters

Note: If the air conditioner still runs abnormally after the above check and handling, please contact the maintenance serviceman at the local appointed service center and also give a description of the error occurred as well as the model of the unit.

USER NOTES AND INSTALLATION/SERVICE/MAINTENANCE NOTES

INSTALLATION NOTES

Put down whatever questions you have or problems you have seen as a unit history:

No	Date	Notes	Asked Your Technician for Help?	Contact YMGI Tech. for Help?

USER NOTES

Put down whatever questions you have or problems you have seen as a unit history:

No	Date	Installation Company Name, Technician Name, Phone & HVAC License #	Job Not Performed by Technician	Technician Checklist Completed Fully?

SERVICE / MAINTENANCE NOTES

No	Date	Company Name, Technician Name, Phone & HVAC License #	Service or Maintenance Performed

YMGI is dedicated to designing, manufacturing and distributing the highest quality, energy saving and environmentally friendly air conditioner and heat pump products, while providing the best service and support to all of our customers. Our mission is to help build a sustainable, efficient and green world.

YMGI Symphony-Ductless & Ducted Heat Pump & Heat Recovery:

- **Symphony SOLAR DC Inverter**
  (56) Single PV, (79) Single PH
- **Symphony SOLO DC Inverter**
  (57)2,3 Single Zone 16 SEER, 09-24K Btu/h
  (58)2-Single Zone 16-22 SEER, 09-36K Btu/h
  (58)4, (78)1-Single Zone 18-23 SEER, 09-36K Btu/h
- **Symphony CHOIR DC Inverter**
  (59)2 DC Inverter Multiple Zone 16 SEER, 2x09K to 5x12K Btu/h
  (59)2S-DC Inverter Multiple Zone 16 SEER 6x09K to 9x09K Btu/h
  (59)4-DC Inverter Multiple Zone 21 SEER 5x09K to 5x12K Btu/h
- **Symphony VRF - DC Inverter HP or Heat Recovery up to 64 zones.**
- **Symphony HARMONY-Packaged Self-Contained**
  42”x16” PTAC/PTHP Electric Heater or Hot Water Coil, and 26” TTWA
- **Symphony CONDUCTOR-Split Type Condensing Units**
  Side Discharge SHCR & VPAK

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