YMGI, Engineered Comfort Products for A Sustainable and Efficient Green World!

INSTALLER'S INSTRUCTION & USER'S MANUAL

Floor/Ceiling Mount Mini Split Systems
SYMPHONY SOLO DC INVERTER SINGLE ZONE (58)4 EU
18k-48k, 18-23 SEER Cooling and Heat Pump

Model Numbers:
WMMS-18C-V2B(58)4
WMMS-24C-V2B(58)4
WMMS-30C-V2B(58)4
WMMS-36C-V2B(58)4
WMMS-42C-V2B(58)4
WMMS-48C-V2B(58)4
WMMS-60C-V2B(58)4

WMMS-18EU-V2B(58)4
WMMS-24EU-V2B(58)4
WMMS-30EU-V2B(58)4
WMMS-36EU-V2B(58)4
WMMS-42EU-V2B(58)4
WMMS-48EU-V2B(58)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.

Copyright

⚠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 an 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 prior to the negative leak check.
5. Not conducting a positive leak check by charging the system with dry-nitrogen 350 PSI to hold for 3+ hours, and performing soap bubble testing.
6. Not conducting a negative leak check by evacuating the copper lines for 30 minutes for each zone. Vacuum must be held at 500 microns or better for at least 60 minutes, starting 60-minute timer after the vacuum pump is turned off.
7. Not selecting the correct size of 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 60 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 aid in ensuring 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.

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: **7-years** on the **compressor** and **2-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 an YMGI-validated and approved warranty filing, for a period of 7 years from the date of successful installation at its original installation location.

Parts: YMGI will warrant parts of an YMGI-validated and approved warranty filing, for two years 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 2-year on parts and a 7-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.

LIMITED PRODUCT WARRANTY REGISTRATION FORM

Top Portion and Keep Copy A is for YMGI Internal records. Copy B is for Installer to Fill out and Mail back to YMGI. Bottom Copy C for Customer records.

For YMGI Use Only								
	Date:		Shipping Packing List Number:		Registration Card Serial No.			
	Did the Company Pay YMGI:		Unit(s) Work Successfully:	Yes/No	Date Completed Registration Card Received:			
	Installation Invoice Attached to the Registration Card		Hired YMGI Recommended HVAC Contractor/Technician?		Warranty Approved		Warranty Denied	

Outdoor Unit Serial Number :	Indoor Unit Serial Numbers:				
		Unit 1		Unit 6	
		Unit 2		Unit 7	
		Unit 3		Unit 8	
		Unit 4		Unit 9	
		Unit 5		Unit 10	

Contact at Installation Location:

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

Contact of the Installing HVAC Contractor/Technician:

Technician Full Name (Print):		Phone:		Fax:	
HVAC Technician's Company:		Email:			
Company Address:		City:		State (Province):	
Currently Licensed/Certified HVAC Technician License or Certification Number:		License Approved/ Certified by:			
Official Phone # to Check the License Validity:					

Checklist for Installing HVAC Technician to Verify Installation Quality, and for Warranty Processing Purpose (If not filled out completely by technician, warranty will be voided)

1) Did you install the whole system? If not, please note below.

Yes	No	% 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 Instructions before starting the installation?

Yes		No	

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? (Bedroom, kitchen, etc.)

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

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

Yes		No	

15) Where is the outdoor unit located?

Is the outdoor unit anchored to ground or secured onto wall bracket?

Ground wall balcony roof other location or pad	Yes	No

16) Have you checked to make sure there is no cross-piping and/or cross-wiring between any two indoor units (zones)? What was your procedure?

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

18) Have you checked both cooling and heating on all indoor units individually to ensure proper function?

Yes		No	

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

Yes		No	

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 the compressor's start and stop sequences to determine proper functionality?

Yes		No	

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 stabilized.

Heat pump (PSI):	Cooling (PSI):	Outdoor Ambient Temp. (°F):

24) What were the measured temperatures (probe not touching any metal):

At cooling: indoor return air	°F	Discharge air	°F	and outdoor	°F
At heating: indoor return air	°F	Discharge air	°F	and outdoor	°F

25) Have you checked all unit functions with customer present, and all functions are working correctly?

Yes		No	

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

Yes	No	Yes	No

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

Yes		No	

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

Yes		No	

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 omission of facts, and I authorize YMGI to verify the details provided above, and make its decision on warranty. I understand our filing or filling out of the warranty card/form DOES NOT imply automatic warranty approval, because warranty is approved only to qualified and successful installations by a qualified HVAC technician. I understand that the warranty (if approved) is a standard 5 year compressor and 1 year parts only, and does not include any labor coverage. I agree to and will follow all the contents contained in the Limited Product Warranty Policy of YMGI, and no 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 out 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.
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.

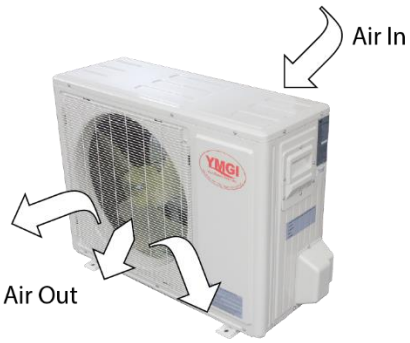
DO NOT use the unit in cool or dry mode for prolonged periods where humidity is higher than 90%.

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

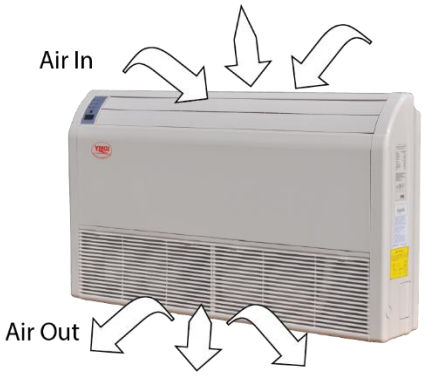
BRIEF INTRODUCTION TO MINI SPLIT WALL MOUNT SYSTEM

Mini Split Floor/Ceiling Mount Systems are designed for high performance, easy installation and service. Each system consists of one indoor unit and one outdoor unit, which are connected by one set of interconnection refrigerant pipes and electrical wires.

As shown in the following sample picture of outdoor unit, air is drawn through the coil from the rear side and then discharged from the front side. In cooling mode, air passing through coil is heated; in heating mode, air passing through coil is cooled.



Outdoor unit



Indoor unit

Sample Floor/Ceiling Mount Mini Split System (For Continuous Engineering Improvement and Various Marketing Needs and Actual Part Availability, Unit Appearance Subject to Change or Update Continuously without Prior Notice)

Outdoor unit(s) provides the electrical and thermal power for the whole system. Electrical and thermal components such as compressors and motors and heat exchange coils and others, are incorporated into the cabinet in an optimized order. They can be either hung on the wall or installed on the ground. Once stacking or bracket kit is used, some outdoor units can be stacked 2 or 3 units high, depending upon unit size and applications. Air is discharged horizontally, quietly and smoothly. These units are a perfect fit in locations where installation and applications of general up-flow condensing units are limited, such as apartments, condos, lofts, multi-families and high-rise buildings and others named or unnamed.

Indoor unit(s) delivers the thermal and acoustical comfort to the rooms. Air is drawn through the coil from the front or topside and then discharged from the bottom. In cooling mode, air passing through coil is cooled; in heating mode, air passing through coil is heated. Air is filtered or treated by the built in mechanism (washable or enzyme equipped or electrostatic powered filter, varies from model to model), before being delivered into the room, with more than enough comfort and care, at a wide angle (swing or not, varies from model to model).

Apartments

Hotels

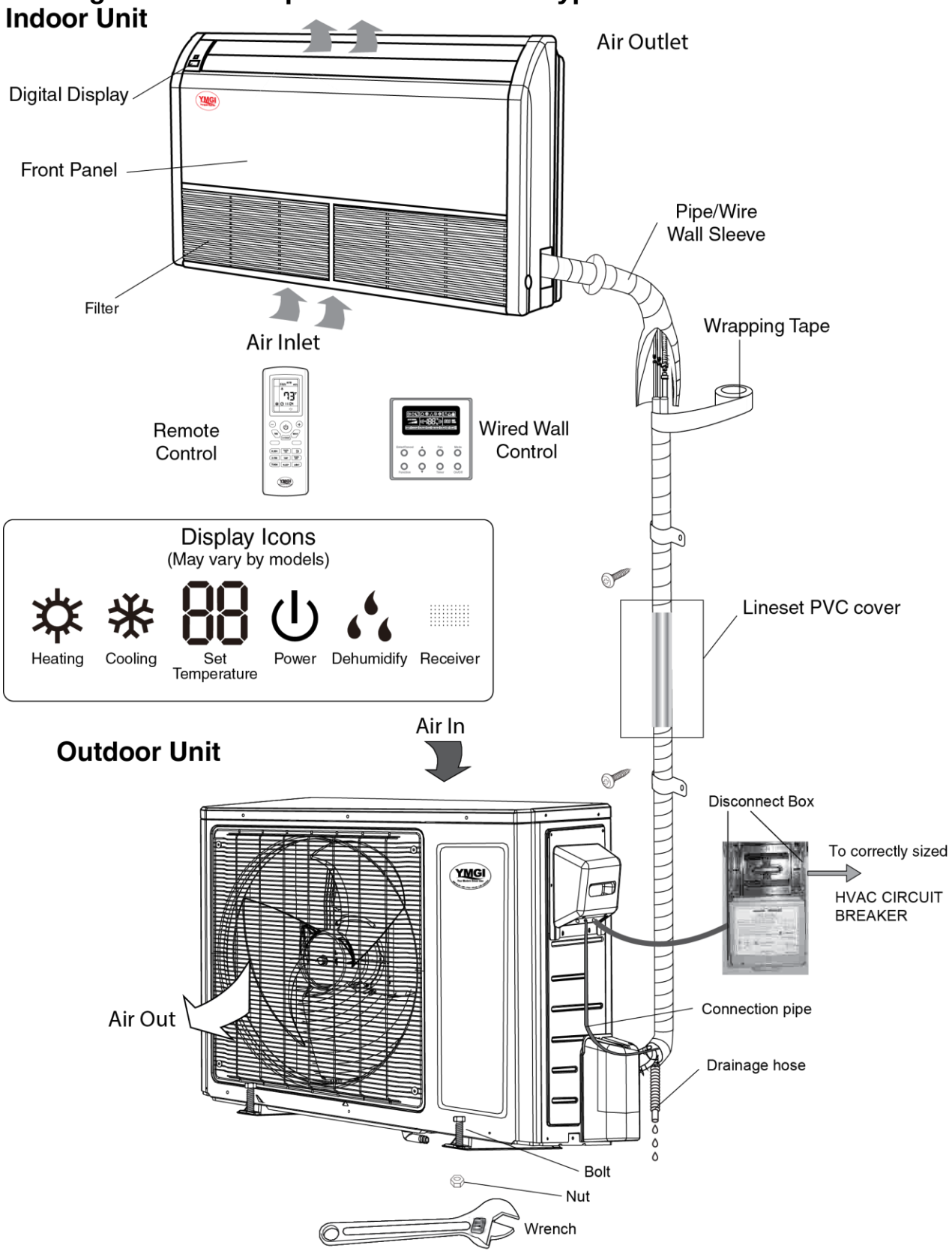
Homes

NOTES: Since ductless system is not designed to incorporate or use with ducted return or discharge tunnels, one single-zone unit SHALL NOT be used to take care of the cooling or heating load of more than one-story room. Several single-zone ductless systems or multiple-zone ductless systems shall be proper in this regard.

These units are designed for applications at:

- **Residential**
- **Light commercial**
- **Institutional**
- **Industrial**
- **Commercial**
- **Hospital**

System Diagram and Compatible Indoor Unit Types



Notes: Actual unit/ part appearance and installation may vary from illustration.
Subject to continuous improvement and change without notice.

PIPE SIZE **REFRIGERANT LINE LENGTHS** ft. (m)

Unit Size (Btu/H)	Liquid Line in (mm)	Suction/Gas Line in (mm)	Min Line Length ft. (m)	Max. Pre-Charge Line Length ft. (m)	Max Line Length ft. (m)	Max Elevation (ID over OD) ft. (m)
18,000	1/4 (6)	1/2 (12)	10 (3)	25(7.5)	164 (50)	49 (15)
24,000	3/8 (10)	5/8 (15)	10 (3)	25(7.5)	164 (50)	49 (15)
30,000	3/8 (10)	5/8 (15)	10 (3)	25(7.5)	164 (50)	49 (15)
36,000	3/8 (10)	5/8 (15)	10 (3)	25(7.5)	164 (50)	49 (15)
42,000	3/8 (10)	5/8 (15)	10 (3)	25(7.5)	164 (50)	49 (15)
48,000	3/8 (10)	5/8 (15)	10 (3)	25(7.5)	230(70)	49 (15)

Notes: Insulate both refrigerant lines, separately.

REFRIGERANT CHARGE

Unit Size (Btu/H)	Refrigerant Type	Factory System Charge oz. (kg)*	Additional Charge oz./ft. (g/m)
18,000	R410A	49.4 (1.4)	0.3 (30)
24,000	R410A	77.6 (2.2)	0.6 (60)
30,000	R410A	84.6 (2.4)	0.6 (60)
36,000	R410A	123.2 (3.5)	0.6 (60)
42,000	R410A	130.5 (3.7)	0.6 (60)
48,000	R410A	141.8 (4.0)	0.6 (60)

*Precharge amount for up to 25-ft of refrigerant pipe.

INDOOR UNIT ELECTRICAL REQUIREMENTS

Unit Size (Btu/H)	Voltage	Min Circuit Amps (MCA)	Max Overcurrent Protection (MOCP)	Main Power Wire Size (AWG)
18,000	208/230v - 1ph 60hz	1.0	15	14
24,000	208/230v - 1ph 60hz	1.0	15	14
30,000	208/230v - 1ph 60hz	2.0	15	14
36,000	208/230v - 1ph 60hz	2.0	15	14
42,000	208/230v - 1ph 60hz	2.0	15	14
48,000	208/230v - 1ph 60hz	3.0	15	14

OUTDOOR UNIT ELECTRICAL REQUIREMENTS

Unit Size (Btu/H)	Voltage	Min Circuit Amps (MCA)	Max Overcurrent Protection (MOCP)	Main Power Wire Size (AWG)
18,000	208/230v - 1ph 60hz	17.0	25	10
24,000	208/230v - 1ph 60hz	24.0	40	10
30,000	208/230v - 1ph 60hz	24.0	40	10
36,000	208/230v - 1ph 60hz	29.0	45	8
42,000	208/230v - 1ph 60hz	31.0	50	8
48,000	208/230v - 1ph 60hz	45.0	70	6

Communication Cable: Recommended cable - 18/2 AWG stranded bare copper conductors THHN 300V unshielded wire Note: Use shield cable if installation is in close proximity of RF and EMI transmitting devices.

System Specifications

System		WMMS-18KU-V2B(58)4	WMMS-24KU-V2B(58)4	WMMS-30KU-U2B(58)4	WMMS-36KU-U2B(58)4	WMMS-48KU-U2B(58)4
Power Supply	V/Ph/Hz	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60
Power Voltage Allowed Min./Max.	V	187 / 253	187 / 253	187 / 253	187 / 253	187 / 253
Surge Protector In Incoming Power Supply	Field-Install	Recommended	Recommended	Recommended	Recommended	Recommended
Cooling Capacity	Btu/h	17100	23800	28200	34000	48000
Capacity Range	Btu/h	5400-19800	8200-27800	8200-31400	10800-39000	20400-50500
Cooling Power Input Max.	W	1750	2500	3700	4600	5500
Heating Capacity @ 47 °F	Btu/h	19100	27200	31200	41000	54500
Heating Power Input Min./Stand./Max.	Btu/h	4700-23200	8200-30600	8200-33600	9800-49500	17500-61500
Heating Power Input Max.	W	1900	2750	3500	4800	5400
Heating Capacity @ 17 °F	Btu/h	10900	15700	18000	23400	28600
SEER		17.0	16.0	17.0	16.0	16.0
EER		11.0	10.7	10.4	10.4	8.7
COP	W/W	3.6	3.4	3.5	3.2	3.5
HSPF		9.5	10.0	9.0	9.0	9.0
Gas Pipe Size	in.	1/2	5/8	5/8	5/8	5/8
Liquid Pipe Size	in.	1/4	3/8	3/8	3/8	3/8
Indoor Unit Model		WMMS-18EU-V2B(58)4	WMMS-24EU-V2B(58)4	WMMS-30EU-U2B(58)4	WMMS-36EU-U2B(58)4	WMMS-48EU-U2B(58)4
Air Flow Volume	CFM	431 / 585	490 / 705	620 / 880	800 / 1115	935 / 1350
Dehumidifying Volume	/hr	0.76	0.99	1.23	1.51	1.99
Fan Motor Power Output	HP	1/5	1/5	1/5	1/5	1/3
Fan Motor FLA	A	0.6	0.6	1.4	1.4	2.1
Evaporator Form		Aluminum Fin-Copper Tube	Aluminum Fin-Copper Tube	Aluminum Fin-Copper Tube	Aluminum Fin-Copper Tube	Aluminum Fin-Copper Tube
Set Temperature Range	°F	61-86	61-86	61-86	61-86	61-86
Sound Pressure Level	dB (A)	32 / 42	40 / 48	38 / 46	46 / 53	46 / 55
Sound Power Level	dB (A)	32 / 42	40 / 48	38 / 46	46 / 53	46 / 55
Max. Over Current Protection	A	15	15	15	15	15
Min. Current (MCA)	A	1.0	1.0	2.0	2.0	3.0
Indoor Unit Dimensions	in.	48 x 27.5 x 8.875	48 x 27.5 x 8.875	55.875 x27.5 x 9.625	55.875 x27.5 x 9.625	66.875 x 27.5 x 9.625
Outdoor Unit Model		WMMS-18C-V2B(58)4	WMMS-24C-V2B(58)4	WMMS-30C-U2B(58)4	WMMS-36C-U2B(58)4	WMMS-48C-U2B(58)4
Compressor Type		DC Inverter Driven Rotary	DC Inverter Driven Rotary	DC Inverter Driven Rotary	DC Inverter Driven Rotary	DC Inverter Driven Rotary
Compressor RLA	A	12.0	18.0	18.0	21.2	35.5
Fan Motor Power Output	HP	1/6	1/6	1/6	2/9	2 x 1/6
Fan Motor FLA	A	1.5	1.5	1.5	2.0	2 x 2.0
Max. Over Current Protection	A	25	40	40	45	70
Min. Current (MCA)	A	17.0	24.0	24.0	29.0	45.0
Outdoor Unit Air Flow Volume	CFM	2590	2590	2590	2590	2590
Condenser Fin / Tube Structure		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube	Aluminum Fin-copper Tube	Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
Maximum Allowable Pressure	PSIG	624	624	624	624	624
Throttling Method		Electron expansion valve	Electron expansion valve	Electron expansion valve	Electron expansion valve	Electron expansion valve
Defrosting Method		Automatic Defrosting	Automatic Defrosting	Automatic Defrosting	Automatic Defrosting	Automatic Defrosting
Sound Pressure / Power Level	dB (A)	56 / 56	57 / 57	58 / 58	63 / 63	59 / 59
Cooling Operation Ambient Temp. Range	°F	0 ~ 118	0 ~ 118	0 ~ 118	0 ~ 118	0 ~ 118
Heating Operation Ambient Temp. Range	°F	0 ~ 75	0 ~ 75	0 ~ 75	0 ~ 75	0 ~ 75
R410A Refrigerant Factory Charge	ozs	49.6	78.4	84.8	123.2	140.8
Factory Charge for Pipe Length	ft.	25	25	25	25	25
Gas Additional Charge	oz/ft.	0.3	0.6	0.6	0.6	0.6
Outdoor Unit Dimensions (WHD)	in.	37.6 x 27.5 x 14.1	38.625 x 31.125 x 15.5	38.625 x 31.125 x 15.5	43.625 x 43.25 x 15.75	37.75 x 53.125 x 14.75

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

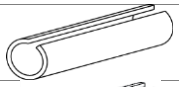
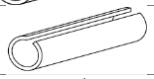
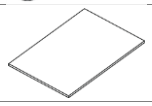
4. **Trial Running Units and Inspection**
   Clamp Meter
   Manifold
   Infrared Thermometer

⚠ CAUTION

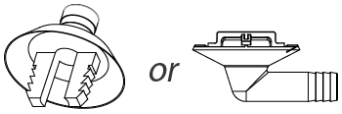
The refrigerant pipe, drain pipe and electrical wiring for this unit should be installed by a qualified HVAC professional only.

STANDARD PARTS

Indoor Unit Accessories

No.	Name	Appearance	Qty	Usage
1	Nut with Washer		8	Secures the hook on the cabinet of the unit
2	Remote Controller and Battery		1+2	Controls the indoor unit
3	Cable Clamp		4	Fastens the insulation blanket
4	Pipe Insulation		1	Insulates the gas pipe
5	Pipe Insulation		1	Insulates the liquid pipe
6	Template		2	For drilling holes for mounting indoor unit
7	Flare Nut		1	Connects the gas pipe
8	Flare Nut		1	Connects the liquid pipe

Outdoor Unit Accessories

No.	Name	Appearance	Qty	Usage
1	Drain Plug		3	Plugs the unused drain hole
2	Drainage Connecter		1	Connects with field supplied drain pipe

INSTALLATION SITE INSTRUCTIONS

Indoor Unit

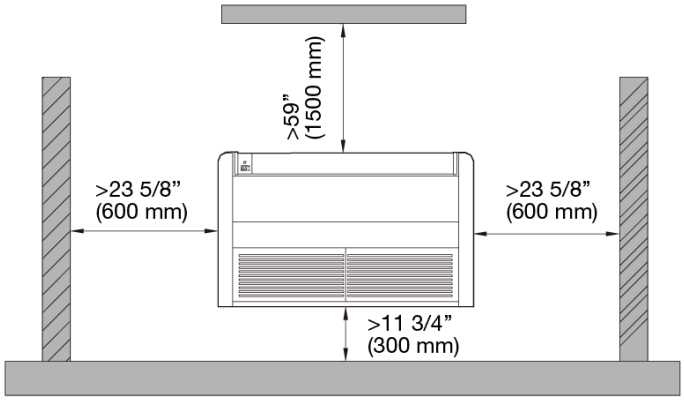
⚠WARNING

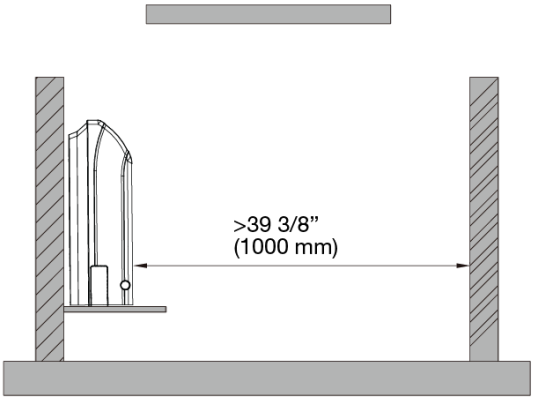
The unit must be installed in a location which can withstand four times the weight of the unit.
Inadequate support may result in serious property damage and injuries.

Select a site that allows for the following:

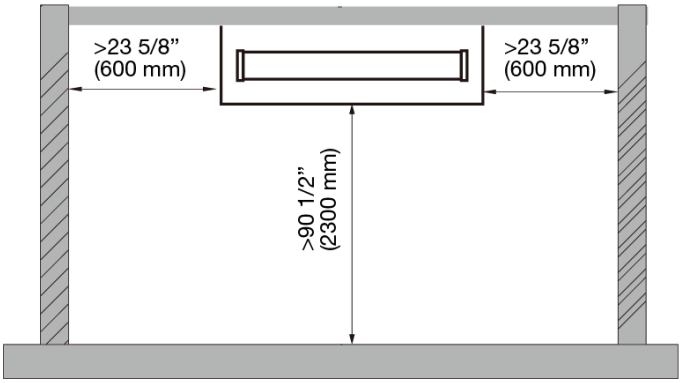
- Ensure the installation complies with the installation minimum dimensions and meets the minimum and maximum connecting piping length and maximum change in elevation.
- Air inlet and outlet should be clear of obstructions, ensuring proper airflow throughout the room.
- Condensate can be easily and safely drained.
- All connections can be easily made to outdoor unit.
- Indoor unit is out of reach of children.
- A structure strong enough to withstand four (4) times the full weight of the unit.
- Filter can be easily accessed for cleaning.
- Leave enough free space to allow access for routine maintenance.
- Do not install in a laundry room or by a swimming pool due to chemicals corroding indoor unit coil.

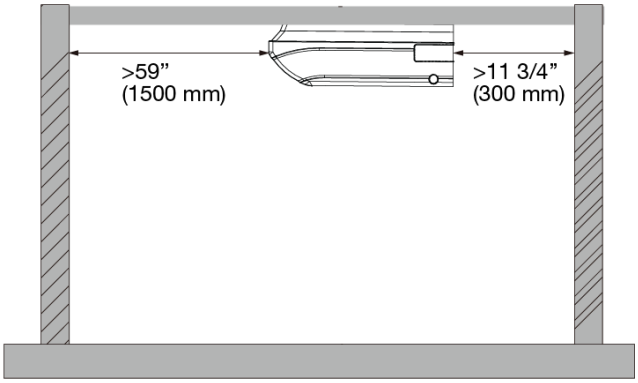
Unit: inches (mm)





Unit: inches (mm)





INSTALLATION SITE INSTRUCTIONS

Outdoor Unit

Select a site that allows the following:

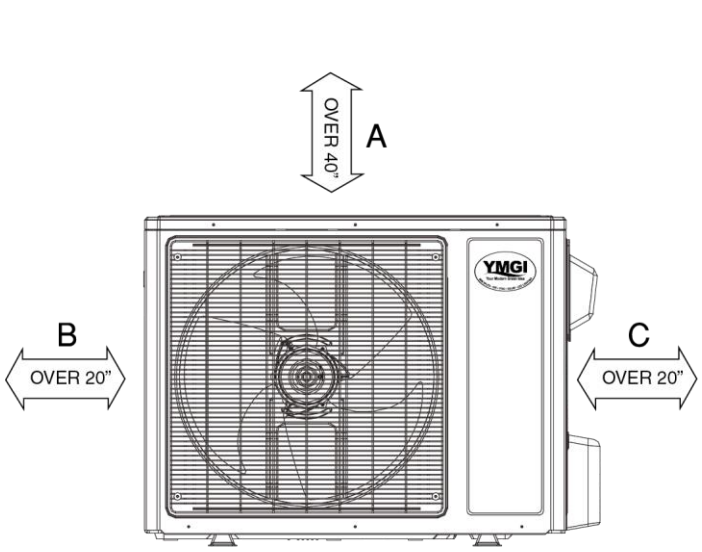
⚠WARNING

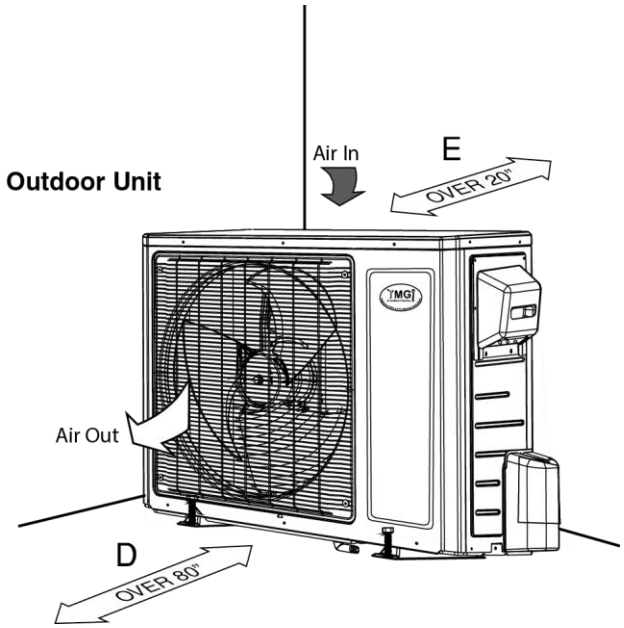
The unit should be installed level on a pad that can support twice the weight of the unit.
If the outdoor unit will be exposed to strong winds, it must be adequately secured.

⚠ CAUTION

Do not install the unit at a location where the distance exceeds the maximum pipe length indicated in the table. The maximum length of the connection pipe is listed in the System Requirements section.

1. Install the outdoor unit at a location that is capable of withstanding twice the weight of the unit.
2. Install the outdoor unit where it is convenient to connect refrigerant lines to the indoor unit.
3. Install the outdoor unit where the condensate water can be drained unobstructed during the heating mode to a safe location.
4. Do not locate the unit where the noise may be objectionable to neighbors
5. Provide the space shown below, so that the air flow is not blocked and future service and maintenance can be performed.

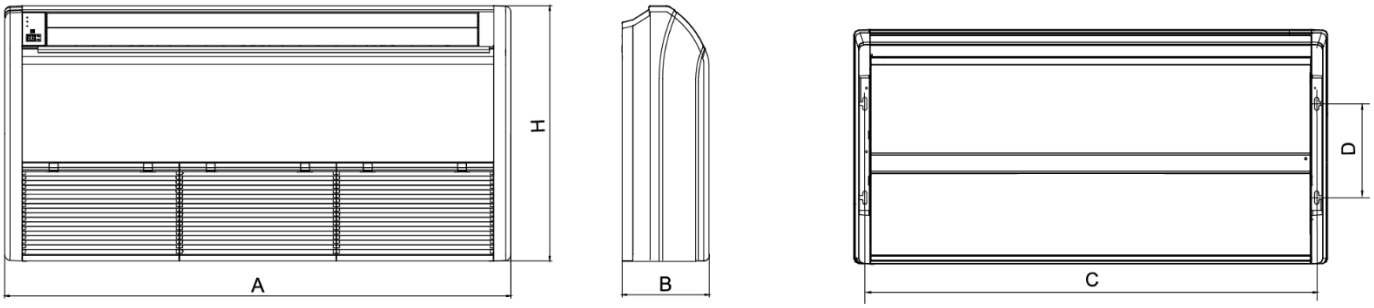




Outdoor Unit	Minimum Distances in (mm)
A	40 (1000)
B	20 (500)
C	20 (500)
D	80 (2000)
E	20 (500)

INDOOR UNIT INSTALLATION

Indoor Unit Dimensions



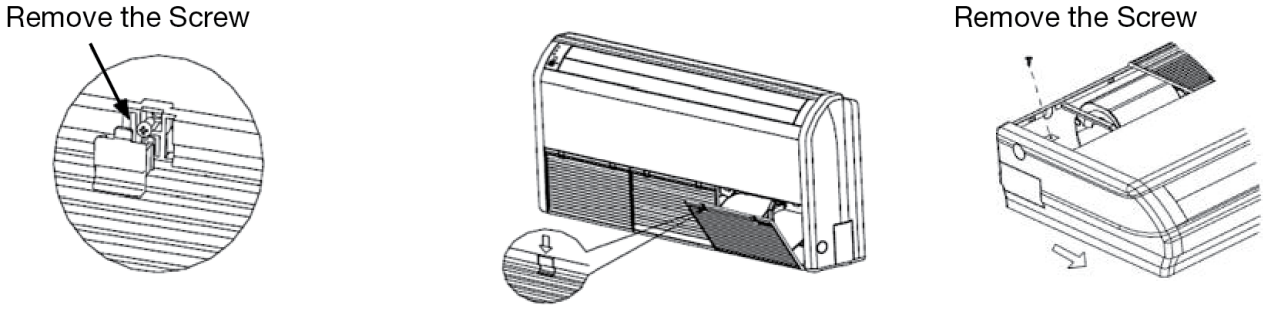
INDOOR UNIT DIMENSIONS Inches (mm)

Model	A	B	C	D	H	Weight (lbs)
WMMS-18EU-V2B(58)4	48” (1220 mm)	8 7/8” (225 mm)	45 5/8” (1158 mm)	11” (280 mm)	27 1/2” (700 mm)	86
WMMS-24EU-V2B(58)4	48” (1220 mm)	8 7/8” (225 mm)	45 5/8” (1158 mm)	11” (280 mm)	27 1/2” (700 mm)	88
WMMS-30EU-V2B(58)4	55 7/8” (1420 mm)	9 5/8” (245 mm)	53 1/4” (1354 mm)	11” (280 mm)	27 1/2” (700 mm)	106
WMMS-36EU-V2B(58)4	55 7/8” (1420 mm)	9 5/8” (245 mm)	53 1/4” (1354 mm)	11” (280 mm)	27 1/2” (700 mm)	106
WMMS-42EU-V2B(58)4	55 7/8” (1420 mm)	9 5/8” (245 mm)	53 1/4” (1354 mm)	11” (280 mm)	27 1/2” (700 mm)	**110**
WMMS-48EU-V2B(58)4	66 7/8” (1700 mm)	9 5/8” (245 mm)	64 3/8” (1634 mm)	11” (280 mm)	27 1/2” (700 mm)	130

Preparing Indoor Unit for Installation

Begin the indoor unit installation by removing the air inlet grille and both side panels from unit as follows:

1. Remove the air inlet grille from the indoor unit to access screws that secure the side panels by unhooking grille latches and removing screws.
2. Locate and remove the screw securing the right side panel. Remove the right side panel by sliding it up and off as shown in the figure below.
3. Repeat the procedure to remove the left side panel



Laying Out Indoor Location

The Universal Floor/Ceiling units allow for wall or ceiling mounting. Follow the instructions for the desire type of installation.

Wall Mounting Installation

1. Determine the mounting location on the wall for the indoor unit. Follow the selection criteria in the previous section.

2. Locate the factory supplied installation template included in carton and attach to the wall.

3. Verify the installation template is level right to left and is a minimum 11 3/4 inches above the floor. Mark the 4 mounting holes for the indoor unit. Also mark the condensate drain and refrigeration pipe hole.

   NOTE: Depending on the installation, the refrigeration pipes and condensate drain hose may exit from the rear or bottom of the unit.

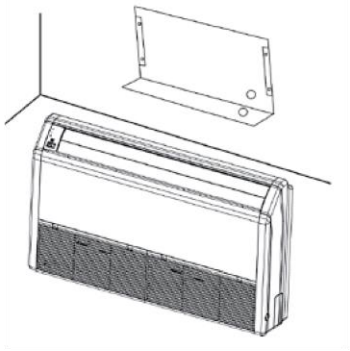
4. Drill 4 mounting holes and insert anchor bolts (field supplied) into drilled holes.

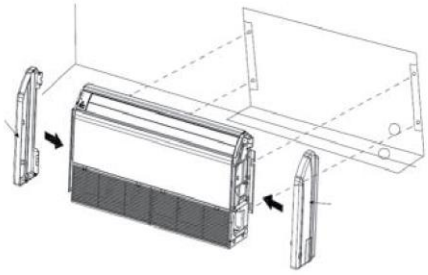
   NOTE: It is recommended to install screw anchors for sheet rock, concrete block, brick and such type of walls.

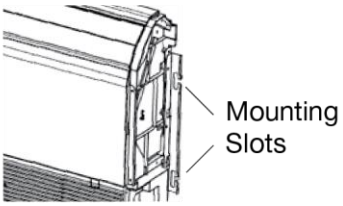
5. Verify indoor unit mounting by carefully lifting unit and setting it on the 4 anchor bolts using the factory provided slots on the side brackets as shown in figure right

6. Carefully remove indoor unit from anchor bolts in order to begin making piping connections.

   NOTE: Do not reinstall air inlet grille or side panels until instructed.







Ceiling Mounting Installation

1. Determine the mounting location on the ceiling for the indoor unit. Follow the selection criteria in the previous section.

2. Locate the factory supplied installation template included in carton and attach to the ceiling.

3. Mark and drill the 4 mounting holes for the indoor unit.

4. Depending on the type of ceiling, attach the threaded hanger bolts securely to the support stud. Before lifting the indoor unit to the installation location, insert the upper nuts, flat washers (with insulation), flat washers (without insulation), lower nuts and double locking nuts on the threaded hanger bolts.

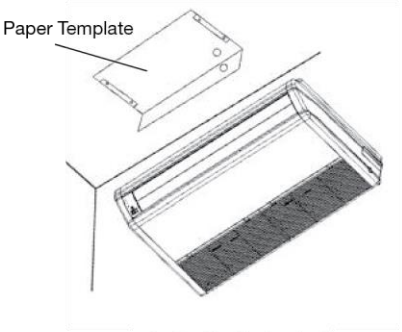
   NOTE: The hanger bolts, nuts, and washers are field supplied. Install the washer with cushion so that the insulation faces downward.

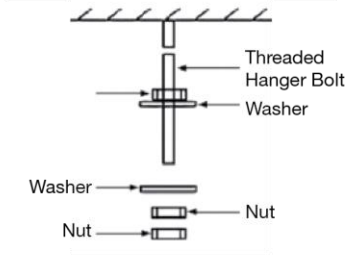
5. Verify indoor unit mounting by carefully lifting unit and setting it on the 4 hanger bolts (between the two washers) using the factory provided slots on the side brackets as shown in figures right.

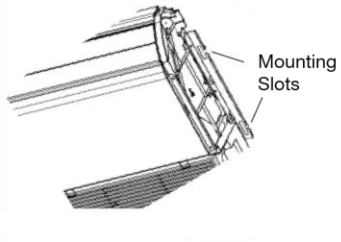
6. Confirm that the indoor unit main body is level horizontally as shown in figure bottom right. Adjust mounting nuts as needed.

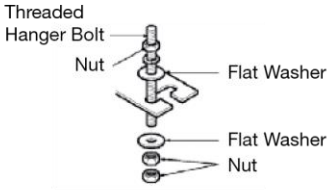
7. After checking the positioning of the indoor unit, securely tighten the hanger nuts to fasten the indoor unit in place.

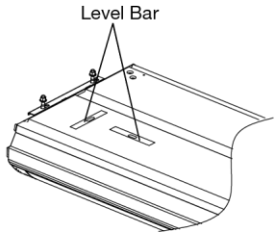
   NOTE: Do not reinstall air inlet grille or side panels until instructed.







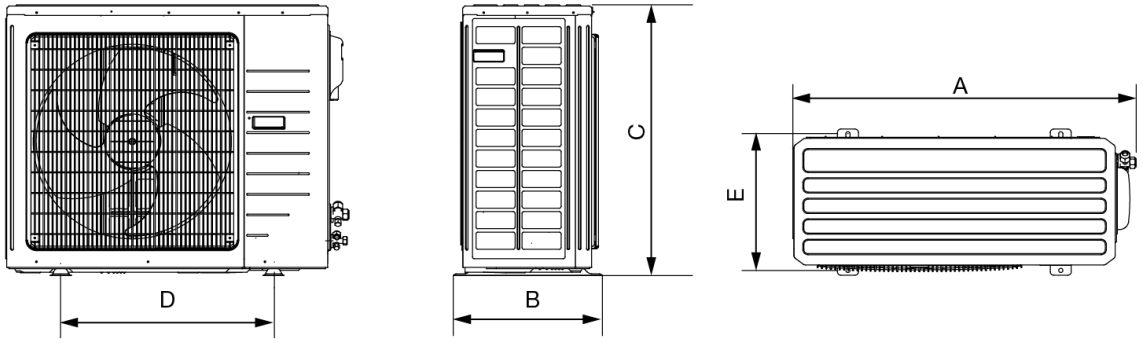




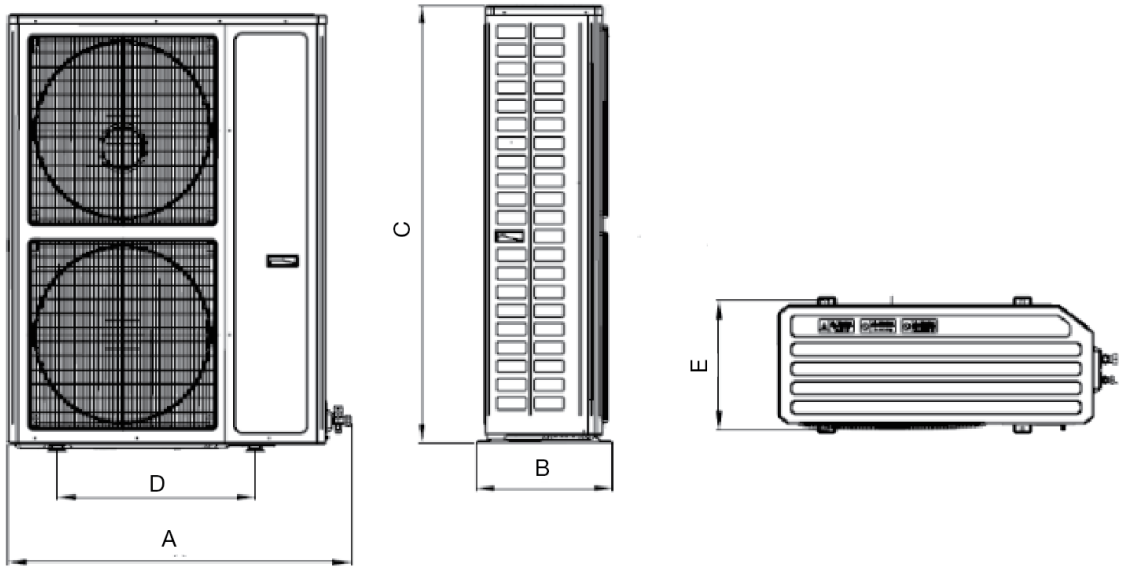
⚠WARNING

The unit should be located with the unit support feet firmly on the equipment pad.
If the outdoor unit is exposed to wind, it must be properly secured.

18k-36k



42k-48k



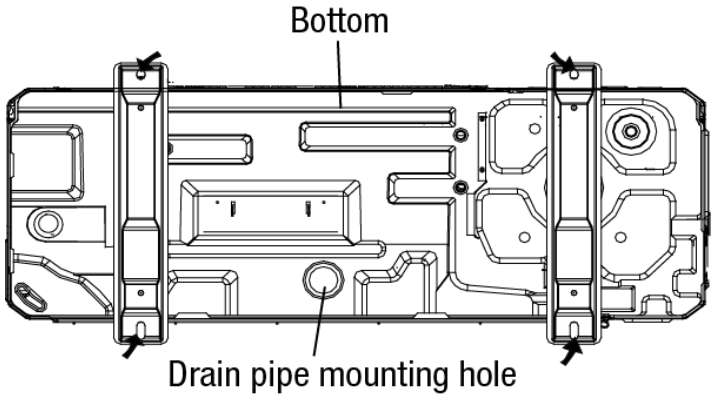
Model	A	B	C	D	E
WMMS-18EU-V2B(58)4	37-5/8” (955)	15-5/8” (396)	27-1/2” (700)	22” (560)	14-1/8” (360)
WMMS-24EU-V2B(58)4	38 5/8“ (980)	16-3/4” (427)	31 1/8” (790)	24” (610)	151/2” (395)
WMMS-30EU-V2B(58)4	38 5/8“ (980)	16-3/4” (427)	31 1/8” (790)	24” (610)	151/2” (395)
WMMS-36EU-V2B(58)4	43-5/8” (1107)	17-3/8” (440)	43-1/4” (1100)	24-7/8” (631)	15-3/4” (400)
WMMS-42EU-V2B(58)4	43-5/8” (1107)	17-3/8” (440)	43-1/4” (1100)	24-7/8” (631)	15-3/4” (400)
WMMS-48EU-V2B(58)4	37-3/4” (958)	16-1/4” (412)	53-1/8” (1349)	22-1/2” (572)	14-3/4” (376)

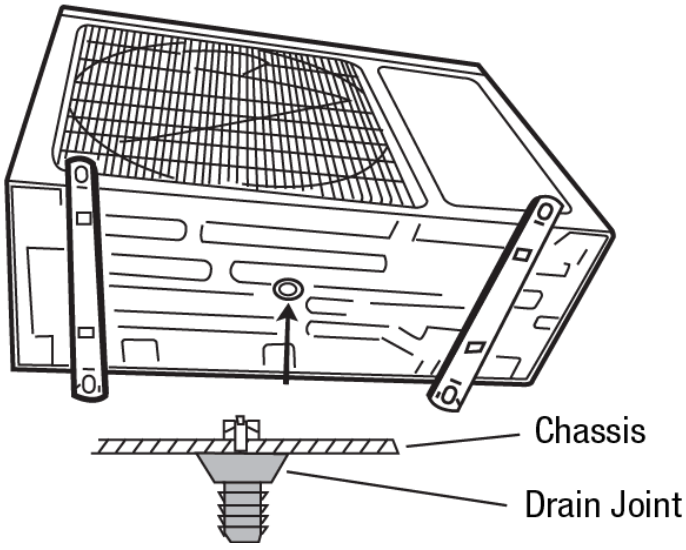
OUTDOOR UNIT INSTALLATION

Condensate Drainage of the Outdoor Unit

The outdoor unit should be installed with a drain pipe to drain condensate water during the heating mode.

1. Insert the drain joint (included) into the selected hole located on the bottom of the base pan and then connect the drain hose (field supplied) to the drain joint.
2. All other holes must be sealed with plugs (included) to avoid water leaks, except for the drain pipe mounting hole.
3. Route drain hose to safe location for disposing of condensate water.



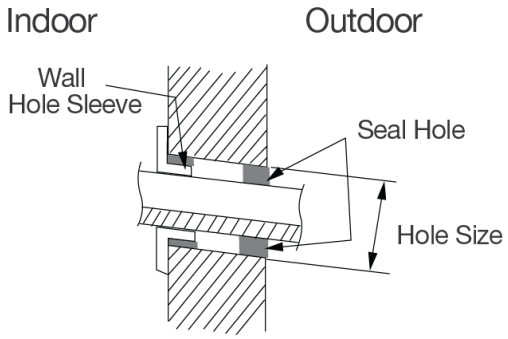


PIPING INSTALLATION

Refrigerant Piping

Drill Hole in Wall

1. Locate and mark proper location for the wall hole.
2. Cut the 2 3/4” wall hole with a 5° to 10° downward slant to the outdoors.
3. Insert a wall sleeve (field supplied) into hole to prevent damage to refrigerant pipes, insulation, condensate drain hose and wiring.
4. Proper weather proofing of the wall surface and wall sleeve is essential to assure a trouble-free installation. Apply sealant, caulking or equivalent weather proofing material around the perimeter of the wall sleeve (interior & exterior) to eliminate outdoor air and water leaks into the indoor space.



Wall Hole Diagram

NOTE: Expandable foam insulation may be added to fill large wall gaps. Apply per manufacturer's instructions.

Piping Preparation

1. Do not open service valves or remove protective caps on pipes until instructed by this manual.
2. Keep tubing free of dirt, sand, moisture and contaminants.
3. Insulate each refrigerant pipe and condensate hose with minimum 3/8” (10 mm) wall thermal pipe insulation.

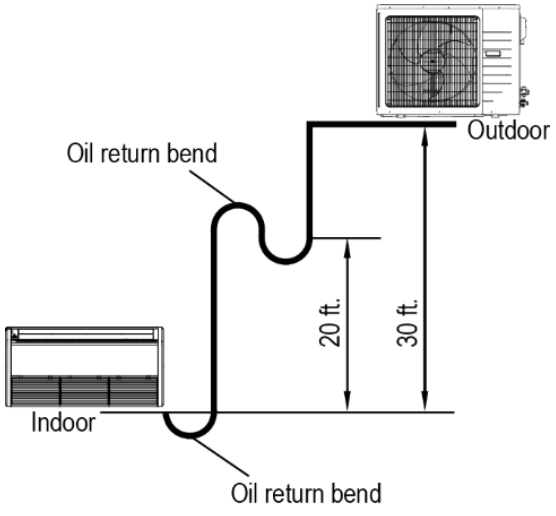
⚠ CAUTION

Insulate entire interior section of condensate hose to prevent sweating which may cause water stains or wall damage.

4. Bind refrigerant pipes and communication cable together with cable ties at 12-inch intervals.
5. Include the condensate hose in bundle for exterior portion only.

Indoor Unit below Outdoor Unit Application

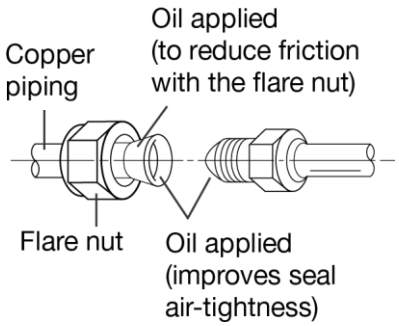
When height difference between indoor unit and outdoor unit is more than 30 feet, an oil return bend should be added for every 20 feet of connection pipe as shown.

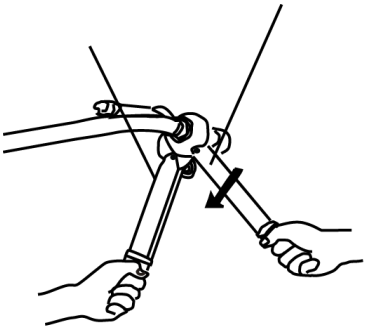


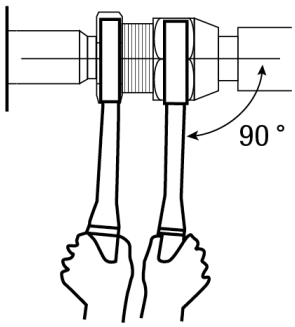
PIPING INSTALLATION

Indoor Unit Pipe Connections

1. Feed refrigerant pipes, drain hose and communication cable assembly through wall hole from outdoor to the Floor/Ceiling indoor unit.
2. Pull the piping assembly to the indoor unit. Carefully bend refrigerant pipes to meet indoor unit connection ports. Use proper tools to avoid kinks.
3. Add a small amount of refrigerant oil to Copper piping (to reduce friction Oil applied both ends of the flare fittings. with the flare nut)
4. Starting with either refrigerant pipe, carefully center the pipe to the indoor unit connection port then hand tighten the flare nut.
5. Repeat procedure with remaining pipe. air-tightness)
6. Tighten both flare nuts using a standard wrench and a torque wrench as shown below.







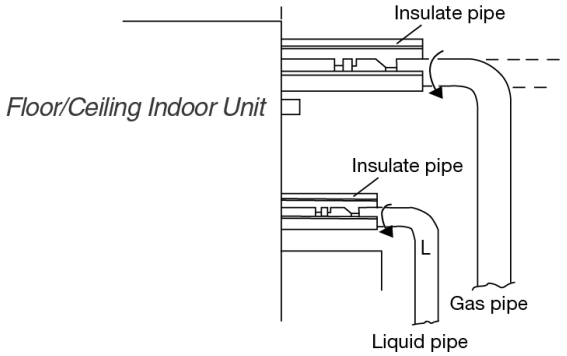
7. Carefully tighten flare nuts to correct torque level referring to the Torque Table below.

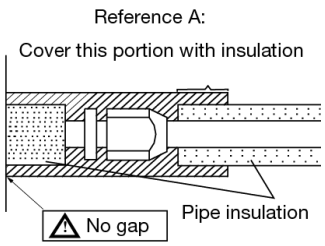
Pipe Diameter	Nut Size	Tightening Torque	
inch (mm)	inch (mm)	Ft.-lbs	N-m
1/4 (6)	1/4 (17)	11 to 22	15 to 30
3/8 (9.5)	3/8 (22)	26 to 29	35 to 40
1/2 (12.7)	1/2 (25)	33 to 37	45 to 50
5/8 (16)	5/8 (29)	44 to 48	60 to 65

⚠ CAUTION

Over tightening may damage flare connections and cause leaks.

8. Individually insulate each bare refrigerant pipe and joint as shown below to prevent sweating.

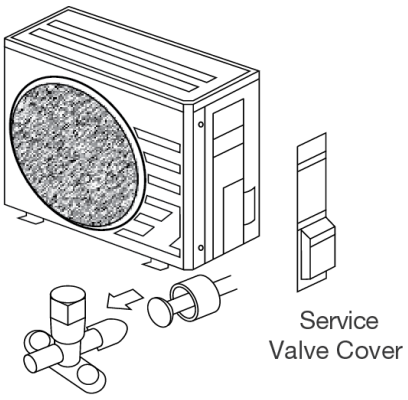


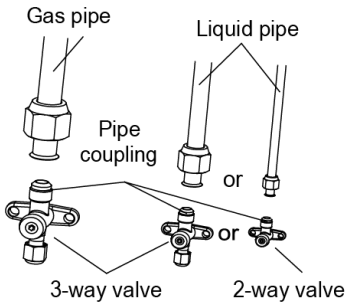


PIPING INSTALLATION

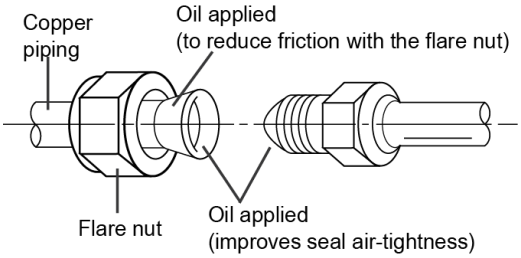
Outdoor Unit Pipe Connections

1. Remove service valve cover (if provided) to access the service valves and refrigerant ports.
2. Carefully bend and adjust length of refrigerant pipes to meet outdoor unit service valve connections with proper tools to avoid kinks.
3. Add a small amount of refrigerant oil to both ends of the flare fittings.
4. Starting with either refrigerant pipe, carefully piping (with the flare nut) to reduce friction center the pipe to the indoor unit connection port then hand tighten the flare nut.
5. Repeat procedure with remaining pipe.
6. Tighten both flare nuts using a standard wrench and a torque wrench as shown.
7. Carefully tighten flare nuts to correct torque level referring to the Torque Table below.



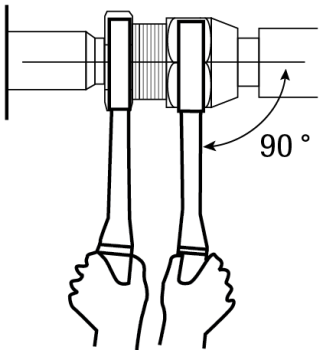


Pipe Diameter	Nut Size	Tightening Torque	
inch (mm)	**inch (mm)**	**ft-lbs**	**N-m**
1/4" (6 mm)	1/4" (17 mm)	11 to 22	15 to 30
3/8" (9.5 mm)	3/8" (22 mm)	26 to 29	35 to 40
1/2" (12.7 mm)	1/2" (25 mm)	33 to 37	45 to 50
5/8" (16 mm)	5/8" (29 mm)	44 to 48	60 to 65



⚠ CAUTION

Over tightening may damage flare connections and cause leaks.



PIPING INSTALLATION

Indoor Condensate Drain Piping

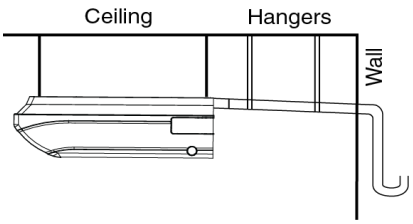
⚠WARNING

Observe all local sanitary codes when installing condensate drains.

The drain piping should be as short as possible with a constant downward slope. It is recommended to install the condensate drain system with hard polyvinyl chloride (PVC) pipe and matching connectors. Use piping of the same or greater diameter as the unit connection.

- The Floor/Ceiling drainage port diameter is 11/16-in (17-mm) OD.
- Pitch the condensate drain pipe at a gradual 2.5% pitch (Example: 1/4 in. drop over a 10 in. length) without obstructions. Use pipe hanger/brackets to support the condensate drain pipe from dropping.

Typical Drainage System

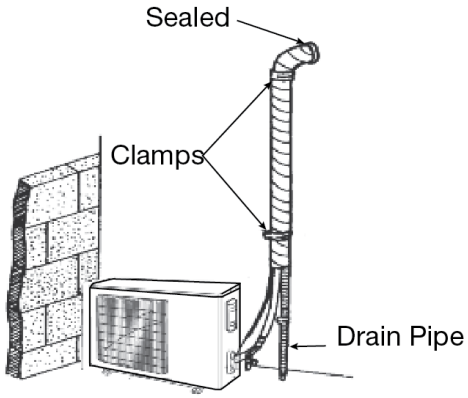


NOTE: Insulate condensate hose and/or pipes to prevent sweating which may cause water stains or wall damage.

If a gradual pitch from the drainage port is not obtainable, use an auxiliary condensate pump with float valve. A float valve is recommended to shut off the system if auxiliary pump fails.

Completing Condensate Drainage Piping

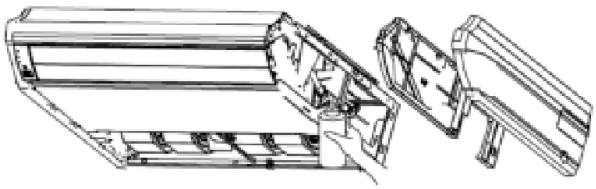
- Include the exterior section of condensate hose in the pipe/wire bundle.
- Fasten the refrigerant and condensate pipe assembly to the exterior wall for support.
- The drain pipe should terminate 6 inches above grade.



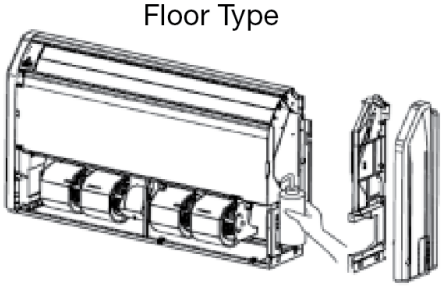
Test the Condensate Drainage Piping

- Find the drainage port with the air inlet grille and right side panel removed.
- Slowly add 20 to 24 oz. of water to the drain pan as shown below.
- Water must drain freely from the unit. If not, check the pipe slope or see if there are any pipe restrictions.
- Verify all piping joints are leak free.

Ceiling Type



Floor Type



POWER AND WIRING INSTALLATION

⚠WARNING

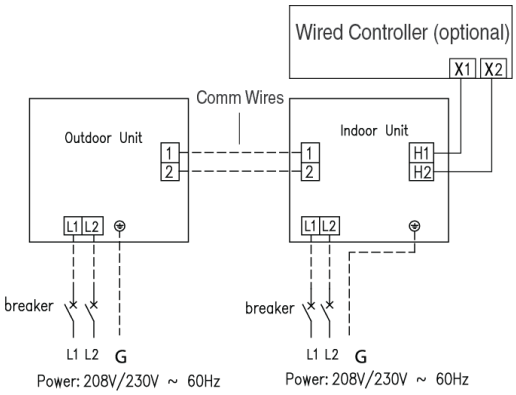
1. Before obtaining access to terminals, all electrical supply circuits must be disconnected.
2. Always use an independent circuit and provide an independent circuit breaker to supply power to the system.
3. Use a circuit breaker with adequate capacity to meet the requirements.
4. All circuit breakers or fuses for the indoor and outdoor units should be installed per the National Electric Code (NEC) and local regulations.
5. Electrical wiring must be completed in accordance with NEC, local laws, and regulations of the electric company so that the system will operate properly.
6. Provide a GFI circuit breaker at the electrical panel in accordance with the NEC and the local electrical company standards.
7. Connect the power supply firmly to the terminal block. Improper installation may cause a fire.

⚠ CAUTION

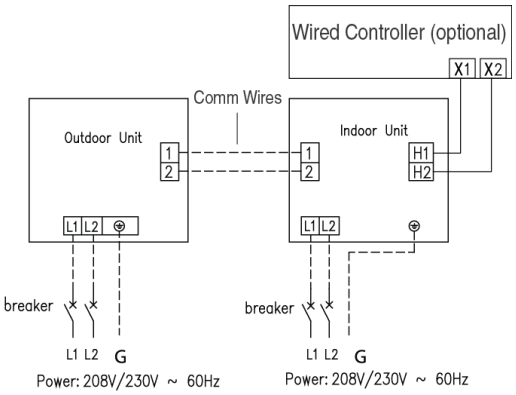
1. The main power supplies are high-voltage, while the communication wire and the Tether Controller are low-voltage. They should be installed separately to avoid electromagnetic interference.
2. High-voltage and low-voltage lines should pass through separate rubber rings at electric box covers.
3. If the indoor unit communication wire (to the outdoor unit) and power wire are connected incorrectly, the air conditioner may be damaged.
4. Ground both indoor unit and outdoor unit to earth ground in accordance with the applicable local and national codes.

POWER AND WIRING INSTALLATION

Electric Wiring between the Indoor and Outdoor Units



Single-phase units (18K-30K)



Single-phase units (36K-48K)

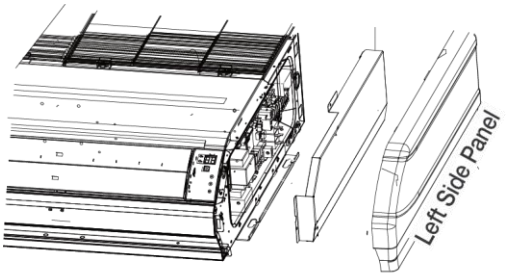
Indoor Unit Electrical Wiring

Remove the left side panel and the electric box cover, and then insert the communication wire and power wire into the terminal board.

Indoor Communication Wiring

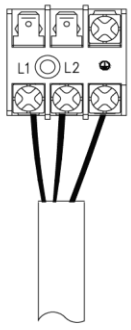
The recommended communication cable size is a minimum 18/2 AWG stranded bare copper conductors THHN 300V unshielded wire. Use shielded cable if installation is in close proximity of RF and EMI transmitting devices. Locate wire terminals #1 and #2. Connect communication cable from outdoor unit to terminals #1 and #2. Secure cable inside wire clamp/strain relief. Verify cable is secure, not loose and no external force on wires affects the connections at the terminals.

NOTE: Record wire colors and terminal references for use with Outdoor Unit wire connections.

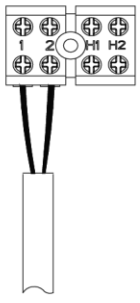


Indoor Unit Power Wiring

Locate wire terminals L1 and L2. Connect main electrical power outdoor unit to terminals L1 and L2. Connect ground wire to grounding screw. Secure electrical wires inside wire clamp/strain relief. Verify wires are secure, not loose and no external force on wires affects the connections at the terminals.



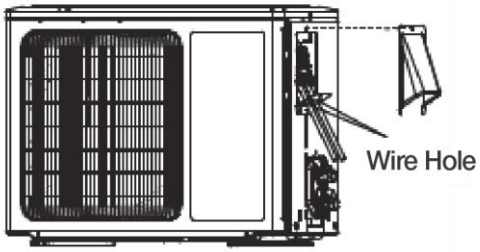
Power Supply Wires



Communication Wires

Tether Controller Wiring (Optional)

Use a minimum 18-2 AWG wire (field supplied) to connect Tether Controller to the indoor unit.
Route wire from Tether Controller into electrical box. Locate wire terminals H1and H2. Connect Tether Controller wires to H1and H2. Verify wires are secure, not loose and no external force on wires affects the connections at the terminals. Follow instructions provided with Tether Controller to complete the installation.

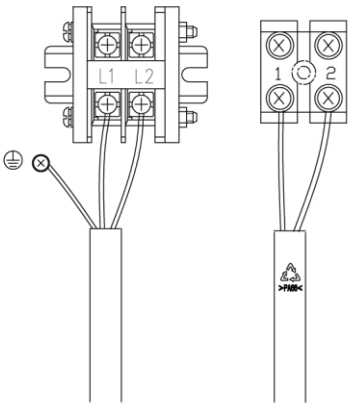


Complete Indoor Installation
Replace the electrical box cover, both right and left side panels and inlet air grille.

Outdoor Unit Electrical Wiring
Remove the large handle access plate on the 18K to 30K size or the front panel for the 36K to 48K size to access wire terminals.

Outdoor Communication Wiring
Connect communication cable from indoor unit to terminals #1 and #2. Maintain the same wire colors and terminal references as indoor unit wire connections.

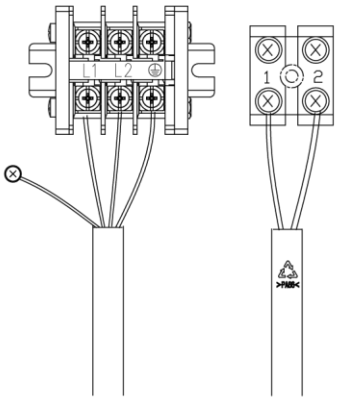
NOTE: Crossing communication wires will cause an E6 system malfunction code and possible damage.
Secure cable inside wire clamp/strain relief. Verify cable is secure, not loose and no external force on wires affects the connections at the terminals.



18-30k

Outdoor Unit Power Wiring
Insert main power wires through the wire holes on conduit mounting bracket. Secure main electrical power conduit with locking nuts to conduit mounting bracket. Locate wire terminals L1 and L2. Adjust wire lengths for proper connections to the outdoor unit terminal block.

Connect main electrical power outdoor unit to terminals L1 and L2. Connect Ground wire to ground terminal/screw. Secure electrical wires inside wire clamp/strain relief. Verify wires are secure, not loose and no external force on wires affects the connections at the terminals. Replace and secure electrical box cover to outdoor unit.

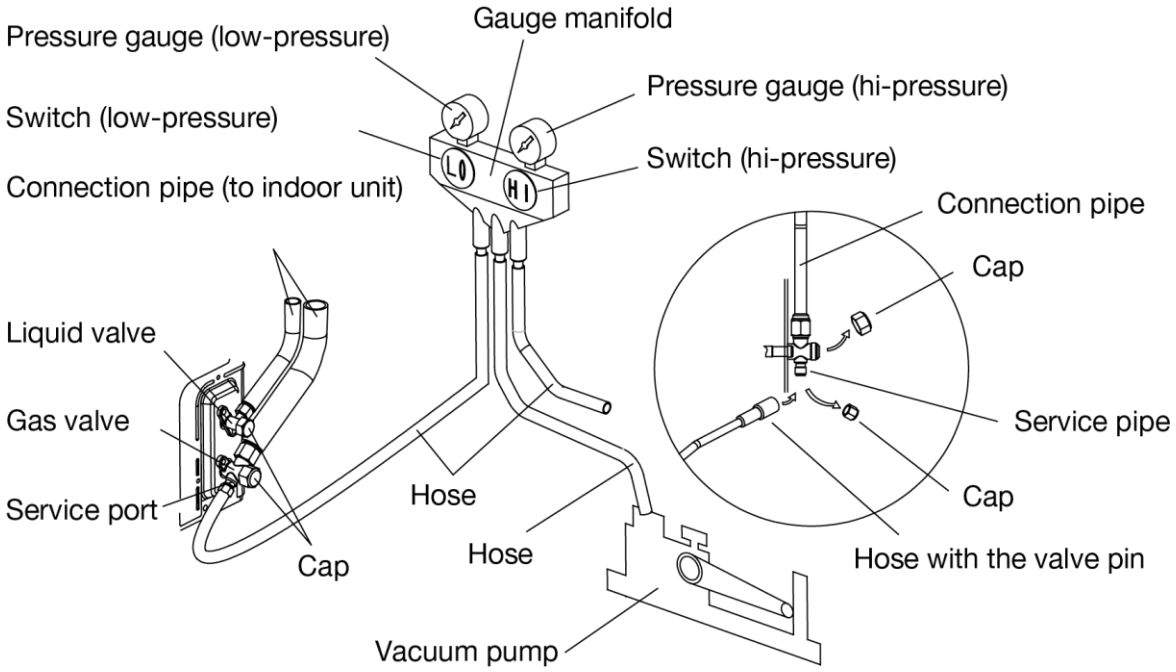


36-48k

NOTE: When connecting the power wire, make sure that the phase of the power supply matches with the exact terminal board. If not, the compressor will rotate reversely and run improperly.

TESTING AND INSPECTION

Pipe Testing



Leak Test

Refrigerant lines should be pressurized prior to evacuating system to check for leaks. Use only dry nitrogen with a pressure regulator for pressurizing unit. Pressurize with 150 psi of dry nitrogen. Apply soap and water to check whether the joints are leaky. A leak detector may also be used for a leakage test.

NOTE: You may want to perform leak testing and evacuation before wiring to save time, electrical connections can be completed while your vacuum pump is running.

⚠ CAUTION

Use vacuum pump, rather than refrigerant, to discharge air when installing the unit.

Additional Charge

Refrigerant for the pipe length of 25 feet has been charged at the factory. If the piping is greater than 25 feet additional charging is necessary. For the additional amount, see the table below.

Model	Additional Refrigerant oz./ft. (g/m)
18,000	0.3 (30)
24,000	0.6 (60)
30,000	0.6 (60)
36,000	0.6 (60)
42,000	0.6 (60)
48,000	0.6 (60)

TESTING AND INSPECTION

Vacuum Procedure

IMPORTANT:

Use a quality Micron Gauge to measure and validate the proper system vacuum level achieved. Do not rely on the scale of a “bourbon tube” type gauge set to validate the depth and quality of the vacuum.

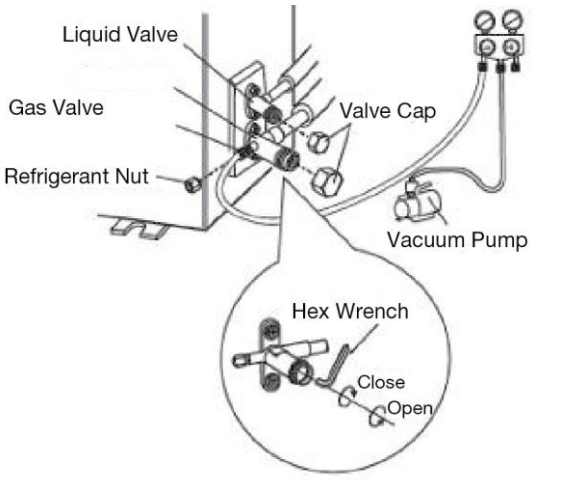
1. Remove the caps of the liquid valve, gas valve and service port.

2. Connect gauge manifold and micron gauge to the service ports provided at the liquid and suction service valves.
3. Connect a vacuum pump to the manifold gauge.

4. Open the lower pressure side of the manifold valve assembly and start the vacuum pump. The switch at the high pressure side of the manifold valve assembly should be kept closed, or evacuation does not fail.

5. Operate vacuum pump until a vacuum of 500 microns or less is achieved. The evacuation duration depends on the vacuum pump size and unit’s capacity, generally 20 minutes for the 9,000 Btu/H units, to 1 hour for a larger 36,000 Btu/H unit.

6. Close the manifold valves and shut off the pump.
    a. If vacuum holds below 700 microns for 15 minutes, the system can be considered dry and leak free. Go to step 5.
    b. If vacuum increases to 800 microns or greater, this is an indication of moisture in system or a leak exists. Identify leak and repair as necessary, after which repeat steps 4 and 5. If moisture is suspect, purge system use triple evacuation method using dry nitrogen.



7. Confirm that manifold valves are closed and disconnect the vacuum pump.

8. Open the service valves to the fully ‘back-seat’ position to let the refrigerant flow to the indoor unit and balance the pressure in system.

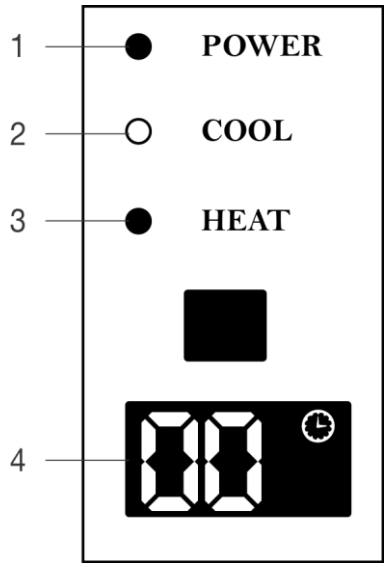
    Note: Do not allow air to enter the connection pipe when removing the hose.

9. Replace service valve caps and tighten.

TESTING AND INSPECTION

Overview of Display Panel

1. Power Indicator: Power indicator will be on after electrical power is turned on, while it will be off after disconnecting power.
2. COOL Indicator: COOL indicator will be on after COOL mode is activated while it will be off after COOL mode is turned off.
3. Heat Indicator: HEAT indicator will be on after HEAT mode is activated, while it will be off after HEAT mode is turned off.
4. Indoor set point and temperature display.



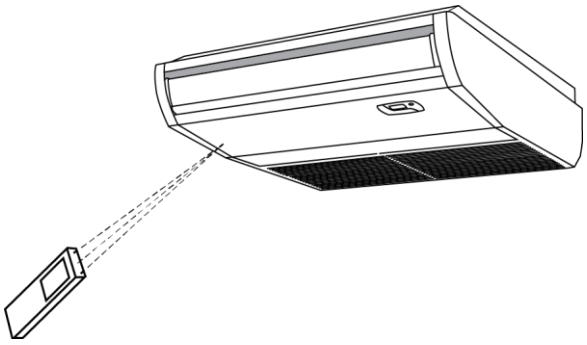
Start-up Checklist

☐ **Turn on main power to indoor and outdoor units.**

- Verify the system is not displaying an error code on the indoor unit display.

☐ **Point the Remote Controller at the Floor/Ceiling unit and Press the On button.**

- Verify the remote controller display turns ON and the Power Indicator lights up on the Floor/Ceiling unit.



☐ **Press the Mode button to Cooling.**

- Adjust the room set point to bring the system on in cooling mode. The system should start cooling mode within 3-5 minutes.
- Verify the set point lights up on the Floor/Ceiling unit display.
- Verify the outdoor fan and compressor are operating.
- Verify the indoor fan is operating.
- Verify the indoor discharge air is cooling the room.

☐ **Press the Mode button to Heating.**

- Adjust the room set point to bring the system on in heating mode. The system should start heating mode within 3-5 minutes.
- Verify the new set point lights up on the Floor/Ceiling unit display.
- Verify the outdoor fan and compressor are operating.
- Verify the indoor fan is operating.
- Verify the indoor discharge air is heating the room.

☐ **Press the OFF button on the Remote Controller.**

- Verify Remote Controller display turns OFF and the system shuts OFF.

TROUBLESHOOTING

PROBLEM	CAUSE/SOLUTION
System does not restart.	**Cause:** The system has a built-in three-minute delay to prevent short and/or rapid cycling of the compressor. **Solution:** Wait three minutes for the protection delay to expire.
Indoor unit emits unpleasant odor when started	**Cause:** Typically unpleasant odors are the result of mold or mildew forming on the coil surfaces or the air filter. **Solution:** Wash indoor air filter in warm water with mild cleaner. If odors persist, contact a qualified service professional to clean the coil surfaces.
You hear a “water flowing” sound.	**Cause:** It is normal for the system to make “water flowing” or “gurgling” sounds from refrigerant pressures equalizing when the compressor starts and stops **Solution:** The noises should discontinue as the refrigerant system equalizes after two or three minutes.
A thin fog or vapor coming out of the discharge register when system is running.	**Cause:** It is normal for the system to emit a slight fog or water vapor when cooling extremely humid warm air. **Solution:** The fog or water vapor will disappear as the system cools and dehumidifies the room space.
You hear a slight cracking sound when the system stops or starts.	**Cause:** It is normal for the system to make “slight cracking” sounds from parts expanding and contracting during system starts and stops. **Solution:** The noises will discontinue as temperature equalizes after 2 or 3 minutes.
The system will not run.	**Cause:** There are a number of situations that will prevent the system from running. **Solution:** Check for the following: • Circuit breaker is “tripped” or “turned off.” • Power button of controller is not turned on. • Controller is in sleep mode or timer mode. • Otherwise, contact a qualified service professional for assistance.
The unit is not heating or cooling adequately.	**Cause:** There are a number of reasons for inadequate cooling or heating. **Solution:** Check the following: • Remove obstructions blocking airflow into the room. • Clean dirty or blocked air filter that is restricting airflow into the system. • Seal around door or windows to prevent air infiltration into the room. • Relocate or remove heat sources from the room.
Water leakage from the outdoor unit.	**Cause:** It is normal for the outdoor unit to generate condensate water in the reverse cycle heating and defrost mode. **Solution:** This is normal. No action is required.
Water leaking from the indoor unit into the room.	**Cause:** While it is normal for the system to generate condensate water in cooling mode, it is designed to drain this water via a condensate drain system to a safe location. **Solution:** If water is leaking into the room, it may indicate one of the following. • The indoor unit is not level right to left. Level indoor unit. • The condensate drain pipe is restricted or plugged. All restrictions must be removed to allow continuous drainage by gravity. • If problem persists, contact a qualified service professional for assistance.
The unit will not deliver air.	**Cause:** There are a number of system functions that will prevent air flow. **Solution:** Check for the following: • In heating mode, the indoor fan may not start for three minutes if the room temperature is very low. This is to prevent blowing cold air. • In heat mode, if the outdoor temperature is low and humidity is high, the system may need to defrost for up to 10 minutes before beginning a heating cycle. • In dry mode, the indoor fan may stop for up to three minutes during the compressor off delay. • Otherwise, you should contact a qualified service professional for assistance.

DIAGNOSTIC CODES

The U-Match System has on board diagnostics. The indoor unit and Tether Controller will display error codes. The following is a summary of the codes with explanation:

Error Codes

No.	Error Code	Malfunction Name	Origin of Malfunction	Description
1	E1	High Pressure Protection	High Pressure Switch	If outdoor unit detects the high pressure switch is cut off for 3-sec successively, high pressure protection will occur. All the loads (except the 4-way valve in heating mode) will be switched off. In this case, all the buttons and remote control signals except ON/OFF button will be disabled and system won't be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
2	E2	Indoor Coil Freeze Protection	Indoor Evaporator Temperature Sensor	If indoor unit detects the evaporator temperature is lower than protective temperate value after the unit has been running for a period of time under cooling or dry mode, the unit will report this fault, in which case the compressor and outdoor fan motor will be stopped. The unit will not run until evaporator temperature is higher than the protective temp. value and the compressor is stopped for 3-mi
3	E3	Low Pressure Protection	Low Pressure Switch	If outdoor unit detects low-pressure switch is open during ON or standby state within 30-sec successively the unit will report a low pressure protection. If the fault occurs 3 times successively within 30-min, the unit will not recover automatically.
		Low Refrigerant Protection		If the unit reports low refrigerant level within 10-min after turning ON the unit, the unit will stop operation. If the fault occurs successively 3 times, the unit cannot be recovered automatically.
		Refrigerant Recycling Mode		If the unit enters refrigerant recovery mode through special operation, E3 will be displayed. After exiting refrigerant recovery mode, the code will disappear.
4	E4	Compressor High Discharge Temperature Protection	Compressor Discharge Temperature	If outdoor unit detects the discharge temperature is higher than protective temperature value, the unit will report high discharge temperature protection. If the protection occurs over 6 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to reset this protection.
5	E6	Communication Malfunction	Communication Failure between Indoor and Outdoor Main Board	If the outdoor unit does not receive data from indoor unit, communication malfunction will be reported. If there is communication abnormality between display board and indoor unit, communication malfunction will be reported.
6	E8	Low Indoor Airflow	Indoor Fan Motor	If the indoor unit does not receive signal from indoor fan motor for 30-sec successively when the fan motor is operating, indoor fan motor malfunction will be reported. In this case, the unit can automatically resume operation after stopping. If the malfunction occurs 6 times within one hour, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this malfunction.
7	E9	Condensate Overflow Protection	Overflow Switch	If indoor unit detects the condensate overflow switch warning for 8-sec successively, the system will enter condensate overflow protection. The unit will shut off and will not recover automatically. Switch unit off and then switch it on to eliminate this malfunction.
8	F0	Indoor Ambient Temperature Sensor at Return Air Inlet Malfunction	Indoor Ambient Temperature Sensor	If indoor unit detects the indoor ambient temperature sensor is open circuit or short circuit for 5-sec successively, indoor ambient temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If indoor ambient temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit will operate normally.
9	F1	Indoor Evaporator Coil Temperature Sensor Malfunction	Evaporator Coil Temperature Sensor	If indoor unit detects the evaporator temperature sensor is open circuit or short circuit for 5-sec successively, evaporator temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If evaporator temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit will operate normally.

10	F2	Indoor Condenser Coil Temperature Sensor Malfunction	Condenser Coil Temperature Sensor	If outdoor unit detects the condenser coil temperature sensor open circuit or short circuit for 5-sec successively, condenser coil temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If condenser temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit will operate normally.
11	F3	Outdoor Ambient Temperature Sensor Malfunction	Outdoor Ambient Temperature Sensor	If outdoor unit detects the outdoor ambient temperature sensor open circuit or short circuit for 5-sec successively, outdoor ambient temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If outdoor ambient temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit will operate normally.
12	F4	Compressor Discharge Temperature Sensor Malfunction	Compressor Discharge Temperature Sensor	If outdoor unit detects the compressor discharge temperature sensor is open circuit or short circuit for 5-sec successively after the compressor has been operating for 3-min, outdoor discharge temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears.
13	F5	Wired Controller Temperature Sensor Malfunction	Wired Tether Controller Temperature Sensor	If the wired Tether Controller detects open circuit or short circuit of its temperature sensor for 5-sec successively, wired controller temperature sensor malfunction will be reported.
14	ee	Outdoor Drive Memory Chip Malfunction	Outdoor Drive Board	If the memory chip of outdoor drive circuit board fails, the unit will not start. The unit will not recover automatically. If thermo junction cannot be eliminated after switching off the unit and then energizing the unit several times, replace the outdoor drive circuit board.
15	H3	Compressor Overload Protection	Compressor Overload Switch	If outdoor unit detects the compressor overload switch open within 3-sec successively, the unit will report compressor overload protection. If the fault occurs successively 3 times, the unit will not recover automatically. Switch off the unit or re-energize the unit to eliminate this protection.
16	H4	Overload Protection	Evaporator Temperature, Condenser Temperature	If indoor unit detects the evaporator coil temperature is higher than protective temperature value, the unit will report overload protection The unit will restart operation after evaporator temperature is lower than the protective temperature value and the compressor is stopped for 3-minutes. If the protection occurs over 6 times, the unit will not recover automatically. Switch off the unit or re-energize the unit to eliminate this protection.
17	H5	IPM Module protection		IPM Module protection, could be caused by overcharged refrigerant/high pressure (bad manifold gauge), restricted refrigerant flow or kinks on refrigerant pipes.
18	H6	Outdoor Fan Motor Malfunction	Outdoor Fan Motor	If outdoor unit does not receive feedback signal from outdoor fan motor for 30-sec successively when the fan motor is operating, an outdoor fan motor malfunction will be reported. In this case, the unit can automatically resume operation after stopping. If the malfunction occurs 6 times within one hour, the unit will not recover automatically. Switch off the unit or re-energize the unit to eliminate this malfunction.
19	U7	Reversing or 4-way Valve Malfunction	Reversing/ 4-way Valve	After the compressor starts operation in heating mode, if the outdoor unit detects the difference between evaporator temperature and indoor ambient temperature is lower than the protective value for 10-min successively, Reversing Valve Malfunction will be reported and the outdoor unit will stop operation. If the malfunction occurs 3 times, the unit will not recover automatically. Switch off the unit or re-energize the unit to eliminate this malfunction.
20	P6	Main Control and Drive Communication Malfunction	Communication Failure Between Indoor and Outdoor Main Board	If the outdoor main control board does not receive data from drive board, communication malfunction between main control and drive will be reported. The malfunction will be eliminated automatically.
21	EE	Outdoor Main Control Memory Chip Malfunction	Outdoor Main Control Board	If the memory chip on the outdoor main control board fails, the unit will not start. The unit will not recover automatically. If thermo junction cannot be eliminated after switching the unit off and on for several tries, replace the outdoor main control board.

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?	Did You Ask 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 & HCAC License #	Job Not Performed by Technician	Technician Checklist Completed Fully?

SERVICE / MAINTENANCE NOTES

No.	Date	Contents of Service / Maintenance	Technician's Company Name, Technician Name, Phone & HCAC License #



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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