



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

INSTALLATION INSTRUCTIONS & USER'S MANUAL

DC INVERTER MULTIPLE ZONE (59)2 EC SYMPHONY CHOIR CEILING CASSETTE INDOOR UNIT

For Model Numbers:

WMMS-12EC-V2B(59)2

WMMS -18EC-V2B(59)2

WMMS -24EC-V2B(59)2



Consumes less energy, more comfort



Thank you for choosing this YMGI product. Please read the user's manual carefully before installation/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.

Service: 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.

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 is also 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 of 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, such as a currently licensed electrician. 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, by NEC and your state/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

This document and the information contained therein are the sole property of YMGI Group and shall not be used or reproduced in whole or in part, without the written permission of YMGI Group. YMGI Group reserves the right to revise this manual at any time and to make changes to its content without obligation to notify anyone about any modifications, revisions or changes.

⚠ 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/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, operation, service or natural disasters of any kind.

⚠ WARNING

Do not connect power to the unit until all wiring, tubing and all unit inspections and tests 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, 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 big box and retail stores 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 does not 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 in the near future. These problems can cost more to fix than any upfront savings. **YMGI warranty does not 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.
- 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.
- Hiring an HVAC technician that is offering their services as a "side job" rather than a licensed HVAC company may pose possible risk. This may result in an incomplete or unsatisfactory installation, no guarantee for workmanship, maintenance or 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 provided 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 permanent.
- It is possible for a licensed contractor/technician to make a mistake during the installation. YMGI does not 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, 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, it 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 (the owner) 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 YMGI 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 listed above.
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 one qualified 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 copper line causing contamination. Label the copper lines 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 are 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/loose 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 a 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 its filter, carefully pour some clear water onto the up-right aluminum coil surface to test if the water can drain freely out of each of the indoor unit's 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 and all the necessary inspections made, 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 the 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 does not 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 is 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 and 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, mailed 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: **10-years** on the **compressor** and **5-year** on **PARTS ONLY**. There is **no labor coverage**.

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

Compressor: YMGI will warrant the compressor of a YMGI-validated and approved warranty filing, for a period of 10 years from the date of successful installation at its original installation location.

Parts: YMGI will warrant parts of a YMGI-validated and approved warranty filing, for 5 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 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 a successful installation at the 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.
- 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 out completely by the installing technician and signed by both the installing company's 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 does not 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 needed for warranties 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 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 5-year on parts and a 10-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.
5. YMGI is continually improving products with various engineering changes and these changes are made without prior notice. Such improvements or changes include but are not limited to product specification, appearance, functionality, size, packaging, etc. These improvements or changes will not void the limited warranty stated herein. YMGI is the final authority concerning this warranty policy.





YMGI GROUP
Innovative, Competitive, Efficient & Convenient

LIMITED PRODUCT WARRANTY REGISTRATION CARD / FORM

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

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

Outdoor Serial Number (One Outdoor Unit, One Registration Card/Form): _____	Indoor Serial Number: _____ For Multi Zone Units	Unit #1 _____	Unit #5 _____
		Unit #2 _____	Unit #6 _____
		Unit #3 _____	Unit #7 _____
		Unit #4 _____	Unit #8 _____

Contact Where the Units are Installed:
 Name: _____ Phone: _____ Fax: _____
 Address: _____ Email: _____
 City: _____ State (Province): _____ Country: _____

Contact of the Installing HVAC Contractor/Technician: Technician Full Name (Print): _____ HVAC Technician's Company Name: _____ Address: _____ Currently Licensed or Certified HVAC Technician License or Certification Number: _____ License Approved or Certified by: _____ Official Phone # to Check the License Validity: _____	YMGI-Recommended Contractor/Technician: Phone/Fax: _____ Email: _____ City:State (Province): _____
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List for Installing HVAC Technician to Double Check Installation Quality, and Warranty Processing Purpose (if not filled by technician, or not filled fully, warranty will void)

- Are you the only one to install whole system? If not, % of installation done by you (HVAC technician).
- What had been done, prior to your arrival?
- Did you read the User Manual and Installation Instruction, before you started the installation?
- Who unpacked the unit and accessory boxes to check for damage?
- Supply electrical power V/Ph/Hz measured at wiring terminal block of Indoor unit: _____ outdoor unit: _____
- Incoming electrical power V/Ph/Hz measured at terminal blocks of indoor unit: _____ outdoor unit: _____
- Wire gauge, length and terminal colors between circuit breaker/disconnect switch to outdoor unit: _____
- Wire gauge, length and terminal colors between each indoor and outdoor unit: Unit A _____ Unit B _____ Unit C _____ Unit D...
- The size of HVAC circuit breaker/fuse or disconnect switch to the outdoor unit: _____
- Are the inter-connecting wires and copper lines between indoor and outdoor units installed/covered/protected by line set covers, or anything else?
- What is the refrigerant pipe length between each indoor unit and the outdoor unit? Unit A _____ Unit B _____ Unit C _____ Unit D...
- Where is/are the indoor unit(s) located? Unit A _____ Unit B _____ Unit C _____ Unit D...
- What is the elevation difference between each indoor unit and the outdoor unit? Unit A _____ Unit B _____ Unit C _____ Unit D... (indoor unit above outdoor unit +, below -)
- Did you check the indoor unit for condensate leakage and refrigerant leakage, before and after connecting them?
- Where is the outdoor unit located? Is the outdoor unit anchored to Ground wall balcony roof other location or pad ground or secured onto wall bracket?
- Have you checked to make sure there is no cross-piping and no cross-wiring between any two indoor units (zones)? How did you do it, who was with you?
- Were the refrigerant pipe ends capped or taped seal, prior to running them through structures to keep debris from entering the copper lines?
- Have you checked and run cooling or heating, one unit by one unit, all working fine?
- Did you charge the inter-connection copper pipes and indoor unit with nitrogen to check for positive leakage (pressures 150-200PSI), before conducting vacuuming leakage check?
- Did you vacuum correctly to check the connecting pipes and indoor unit for leakage, what was the micron gauge reading, for how many minutes?
- Did you check if the compressor can be started and stopped in a correct (design) manner?
- If copper length were not made to the supplied or recommended refrigerant pipe length, how much refrigerant added or deducted?
- Measured refrigerant pressures at outdoor service suction valve, when unit was st. Heat pump (PSI): _____ Cooling (PSI): _____ Outdoor Ambient Temp. (°F): _____
- 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
- Have you checked all unit functions, with customer's witness, and all functions are correct?
- Did you show the user how to operate the unit? Did he/she understand you?
- Do you provide regular one-year free technical service for this installation?
- Do you list the working details in the invoice and leave a copy to the customer?

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

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





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

1. Expertise and Safety:

They have the training and experience to accurately and safely install and service your equipment. The equipment runs with high-pressure refrigerant, oil and electrical current. The copper lines must be installed properly to prevent leakage and foreign substances from contaminating the refrigerant system.

2. You will save money in the long run:

If any problem occurs with the unit that has been fully installed by a currently licensed or certified technician/contractor, contact the original licensed or certified HVAC technician to evaluate the unit as they have the training and experience to correct the problem quickly and efficiently. A technician may be unwilling to repair an issue on a unit that they did not install. If you do find a technician willing to perform this service, there is an increased possibility of higher service fees, increased service visits, or delayed service from that technician.

3. It's the law!

The federal, state and/or local government and authorities have various governing laws or regulations, guidelines, ordinances, etc. These laws may require only licensed or certified professionals can install and service this type of high pressure HVAC equipment.

SUGGESTIONS TO AID YOU IN HIRING AN HVAC CONTRACTOR:

1. Hire a currently practicing, licensed/certified HVAC professional technician/contractor. Technicians, who are no longer practicing (retired, etc.) in this field, may not have current technical knowledge or may lack experience on the equipment you have purchased.
2. Hiring a licensed technician to install your unit as a "side job" rather than 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 installing equipment that has been purchased by someone other than 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 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 progress. 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, 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 room temperature too low. Keeping the temperature difference between indoor and outdoor unit within 41°F (5°C).
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 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.



BRIEF INTRODUCTION TO MINI SPLIT CEILING CASSETTE SYSTEM

Ceiling Mount Cassette Systems are designed for high performance, easy installation and service. Each system consists of one or several indoor units and one outdoor unit, which are connected by one set or several sets of interconnected refrigerant pipes and electric wires.

As shown in the following sample picture, air is drawn through the center grilles/filters and then discharged at 4 vents in 4 directions. In cooling mode, air passing through coil is cooled; in heating mode, air passing through coil is heated.



Sample Ceiling Cassette 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)

The electrical and thermal power for the whole system comes from the outdoor unit. 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.

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



Offices, Restaurants, Gyms, etc.



Homes

NOTES:

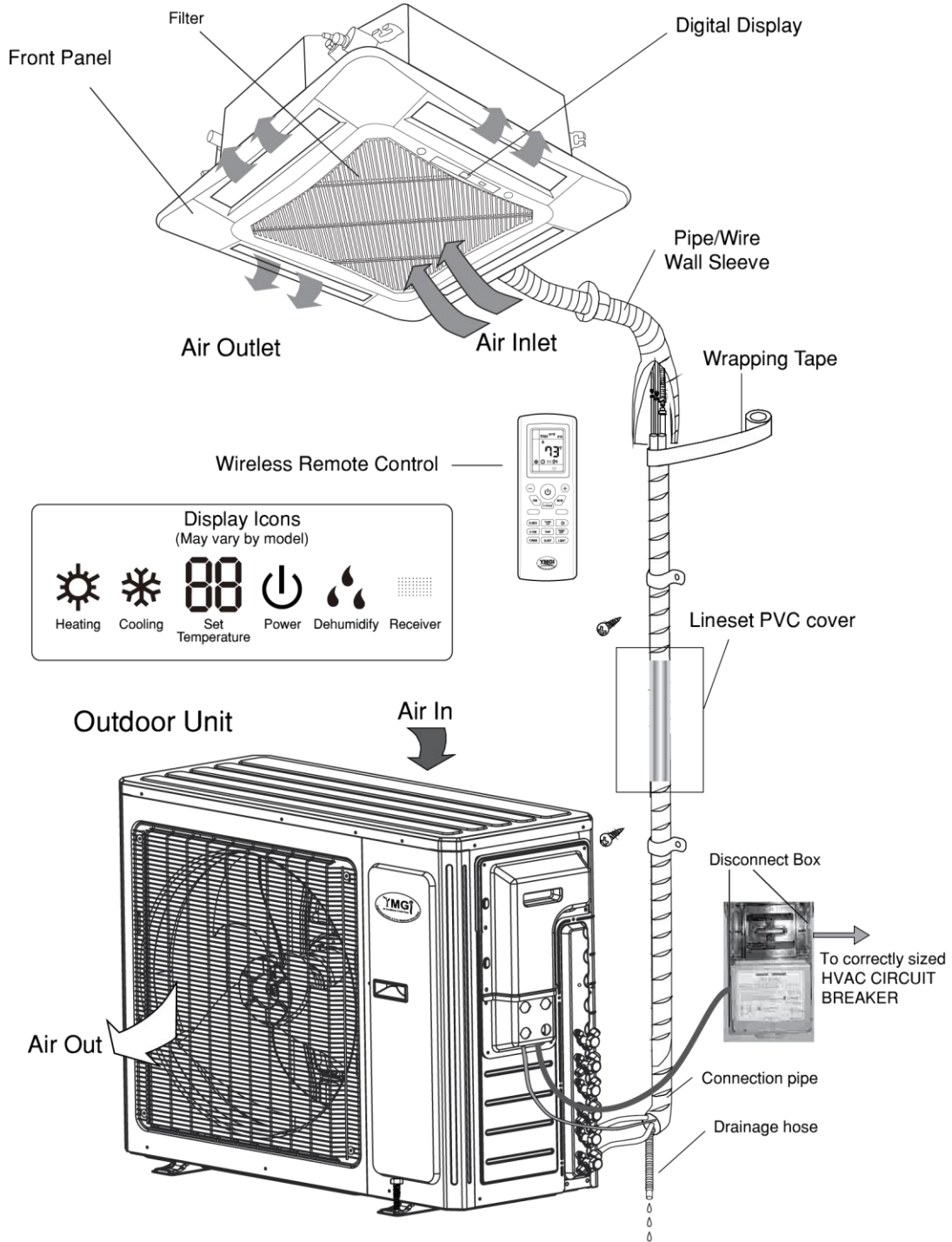
Since ductless system is not designed to incorporate or use with ducted return or discharge tunnels, one single-zone unit SHOULD NOT be used to take care of the cooling or heating load of more than one-story room. Several single-zone ductless systems or multiple-zone ductless systems shall be proper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

These units are designed for applications at:

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

Indoor Unit Diagram

Indoor Unit
Console EC Indoor Unit



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



Specification Sheet

Items	Unit / Conditions	WMMS-12EC-V2B(59)2	WMMS-18EC-V2B(59)2	WMMS-24EC-V2B(59)2
Power Supply	Voltage/Ph/Hz	208-230/1/60	208-230/1/60	208-230/1/60
	Allowed Voltage Range	187-253V	187-253V	187-253V
Cooling Capacity (Btu/h)	High/Standard/Low	13900/12000/5200	20800/17200/6200	26500/22800/9600
Heating Capacity (Btu/h)	ID 70/60, OD 47/43F	13000	18100	27400
	ID 70/60, OD 17/15F	11600	16200	23800
	ID 70/60, OD 17/5F	9000	13100	20600
SEER	Btu/h.W	16	16	16
HSPF	Btu/h.W	8.2	8.2	8.2
Dehumidifying Capacity	Pints/Hr.	2.96	3.8	5.28
Air Flow (CFM)	High/Medium/Low	353/312/245	353/312/245	694/522/366
Air-throw (Ft.)	Horizontal Installation	25-18 Upon Mounting Height/Speed/Temp.		
External Static Pressure	Water In.	0	0	0
Sound Level	Pressure dB(A) (H/M/L)	39/37/35	39/37/35	45/43/41
	Power dB(A) (H/M/L)	49/47/45	49/47/45	55/53/51
Fan Motor	Model	FN11T-2	FN11T-2	FN35B-1
	Shaft	Single	Single	Single
	Speed (RMP, H/M/L)	700/600/515	700/600/515	570/520/280
	Output (W)	11	11	50
	Input (W)	50	50	165
	Capacitor (uF)	1	1	3
Fan Wheel	Type-Piece	Centrifugal-1	Centrifugal-1	Centrifugal-1
	Diameter x Height (In.)	11.1 x 5.8	11.1 x 5.8	17.7 x 4.4
Swing/Step Motor	Model	MP35CB	MP35CB	MP35CB
	Piece	2	2	2
	Output (W)	2	2	2
Input Power of Elec. Heater	Type-W	NA	NA	NA
Electrical Protection Fuse	PCB / Transformer	T3.15A 250V / 0.2A		
Evaporator Coil	Type	Aluminum Fin/Inner Grooved Copper Tube		
	Color	Blue		
Copper Line Connections	Sealed by Dry Nitrogen	Yes	Yes	Yes
	Flare/Nut-Liquid + Gas	1/4" + 3/8"	1/4" + 1/2"	1/4" + 5/8"
Drain Hose Connection	OD (In.)	1.22	1.22	1.22
Condensate Pump	Installed-Lift (In.)	Yes-25	Yes-25	Yes-25
Refrigerant Environmental Friendly	R410A	Yes	Yes	Yes
Filter	Type-Feature	Standard-Washable	Standard-Washable	Standard-Washable
	Size W x H (In.) / Qty.	13.56 x 13.13 / 1	13.56 x 13.13 / 1	21.38 x 21.34 / 1
Clean Coil Surface	Anti-Mildew Function	Yes	Yes	Yes
Pre-heating Function	Anti-Cold Blowing	Yes	Yes	Yes
Memory of Previous Set-ups	Power is Lost/Resumed	Yes	Yes	Yes
Auto-Restart Function	If Power is Resumed	Yes		
Unit Dimensions	Net L x W x H (In.)	22.4 x 22.4 x 9.1	22.4 x 22.4 x 9.1	33.1 x 33.1 x 9.4
	Package L x W x H (In.)	33.4 x 28.7 x 12.2	33.4 x 28.7 x 12.2	37.8 x 37.8 x 12.2
Unit Weight	Net (LBs)	39.7	39.7	66
	Packaged (LBs)	50.7	50.7	84
Face Panel Dimensions	Net L x W x H (In.)	25.6 x 25.6 x 2	25.6 x 25.6 x 2	37.4 x 37.4 x 2.4
	Package L x W x H (In.)	28.7 x 26.4 x 4	28.7 x 26.4 x 4	40.9 x 40.4 x 4.5
Face Panel Weight	Net (LBs)	5.5	5.5	14
	Packaged (LBs)	8.1	8.1	22

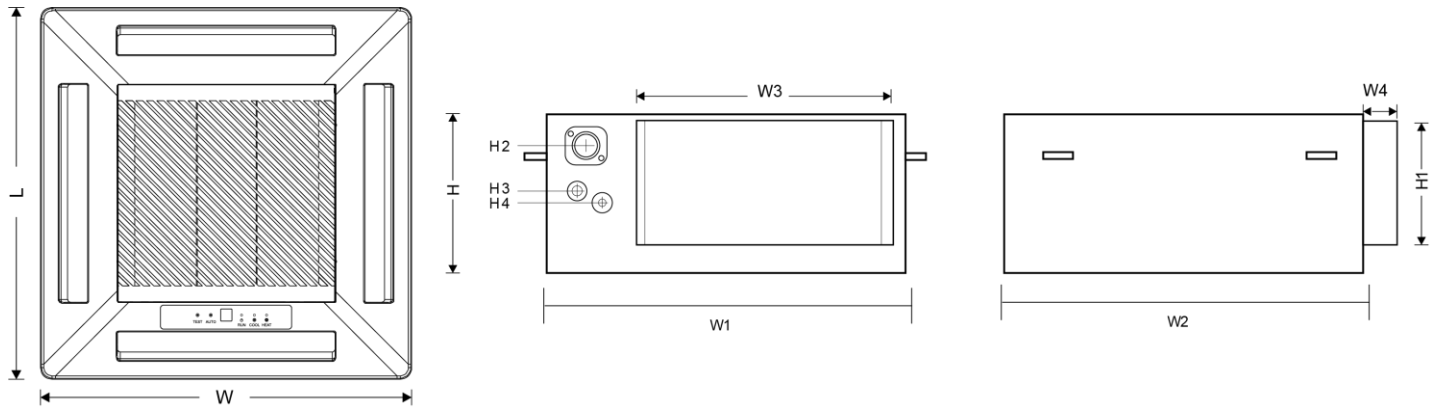
Notes:

1. Performance rated for matched system at standard conditions-cooling ID 80/67°F, OD 95°F; heating ID 70/60°F, OD 47/43°F, 25 ft. copper lines and IDU 7ft. above ODU. Unit performance varies when weather changes from the standard one.
2. Select equipment capacity sizes per space load calculation schedule and cooling & heating hours. Not to over size or under size equipment.
3. Watch unit operation during extreme weather conditions in summer and winter. Wind baffle helps system cooling & heating performance in low ambient temperature ranges.
4. Heating capacities up to 85% @ 17°F ambient temperature, up to 60% @ -4°F varying upon geographic location and actual installation.



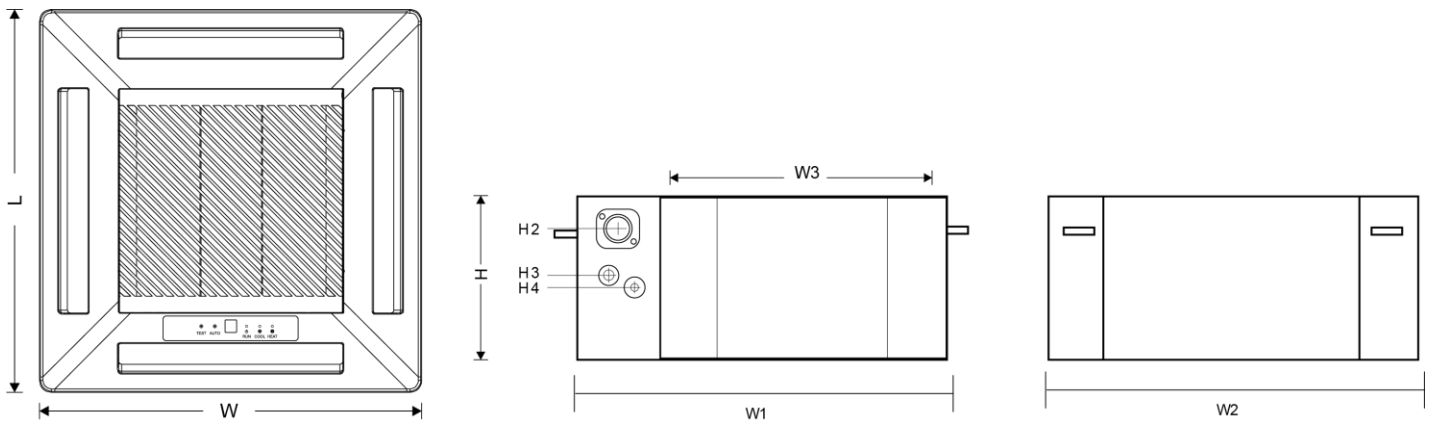
UNIT DIMENSIONS

12k and 18k Btu/h units



Model	L	W	W1	W2	W3	W4	H	H1	H2	H3	H4
WMMS-12EC-V2B(59)2	25 19/32"	25 19/32"	23 5/8"	23 5/8"	16 3/8"	2 1/2"	9 3/32"	7 1/16"	1 27/32"	4 3/8"	5 5/32"
WMMS-18EC-V2B(59)2	25 19/32"	25 19/32"	22 13/32"	22 13/32"	16 3/8"	2 1/2"	9 3/32"	7 1/16"	1 27/32"	4 3/8"	5 5/32"

24k Btu/h units



Model	L	W	W1	W2	W3	W4	H	H1	H2	H3	H4
WMMS-24EC-V2B(59)2	37 13/32"	37 13/32"	33 3/32"	33 3/32"			9 13/32"		1 27/32"	4 3/8"	5 5/32"

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

INSTALLATION NOTES

⚠ CAUTION

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

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

⚠ CAUTION

CAUTION & SUGGESTIONS TO FOLLOW PRIOR TO INSTALLATION

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
















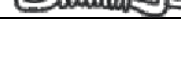
BASIC REQUIREMENTS FOR THE INSTALLATION LOCATION

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

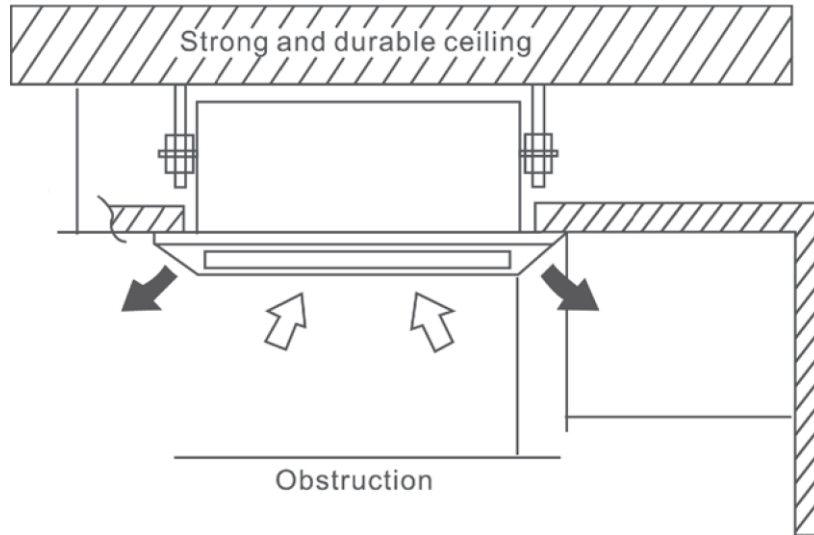
SELECTION OF INDOOR UNIT INSTALLING LOCATION

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

INSTALLATION ACCESSORIES

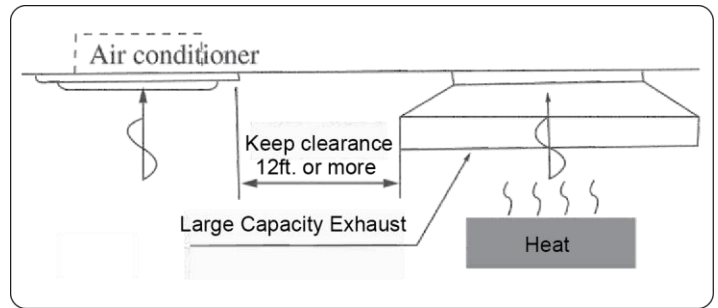
No.	Name	Image	Quantity		Notes
1	Drainage hose		1		For indoor side pipe joint
2	Clamp		1		For hole
3	Nylon fastener		4	L=200	
4	Washer		10	10	
5	Paper template for installation		1		
6	Screws		4	ST4.8*13-F	Use for Paper pad for installation
7	Heat preservation Sponge for pipe		2		Encase the tie-in
8	Big sealing pad		1	5*160*300	
9	Sealing pad		1	5*45*300	v
10	Small sealing pad		2	3*30*150	
11	Sealing bar		1	120*65*25	
12	PVC tape		2		
13	Screws		8	ST4.2 9.5PA	
14	Remote control		1		For mounting the remote control unit
15	Battery		2	AAA 1.5V	For remote control
16	Power control wire		1		

INSTALLATION CLEARANCE



LOCATION

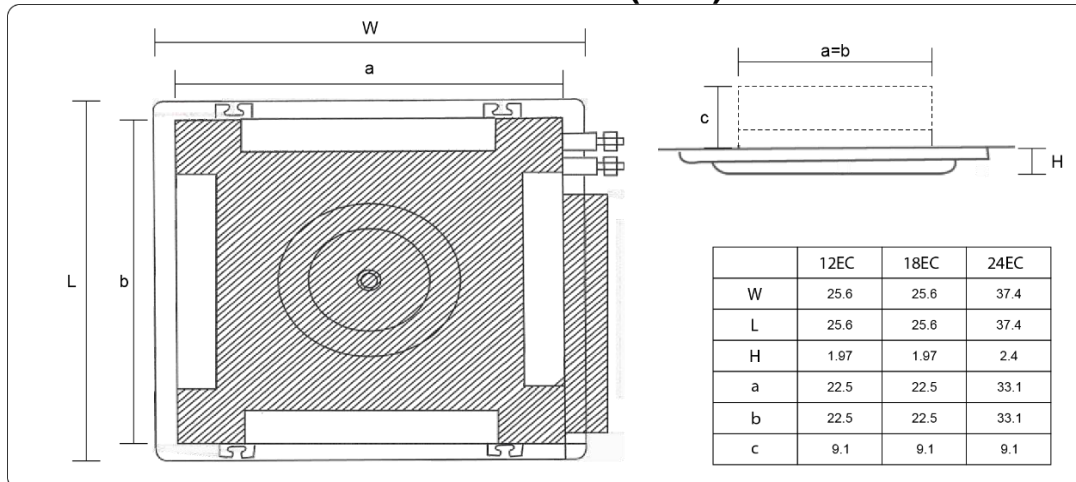
- 1) Do not place object near the air outlet so that conditioned air can reach the whole room.
- 2) Be sure to install the indoor unit firmly and horizontally.
- 3) Select a place that can support 4 times the weight of the indoor unit and will not increase noise and vibration.
- 4) Select a place easy to drain water and connect with the outdoor unit.
- 5) Make sure there is enough space for maintenance and make sure the distance between the unit and ground is 1.8m or more.
- 6) Make sure the suspension bolt pitch can hold 4 times the weight of the indoor unit, otherwise, you should strengthen the suspension bolt pitch.



Notes:

1. Keep enough distance from the kitchen heat sources.
2. The appliance should not be installed in a laundry.

CEILING OPENING AND SUSPENSION BOLT (M10) PITCH DEMENSION



HANGING PREPARATIONS

Firmly fasten the hanging bolts as shown in Fig.4 or by another method

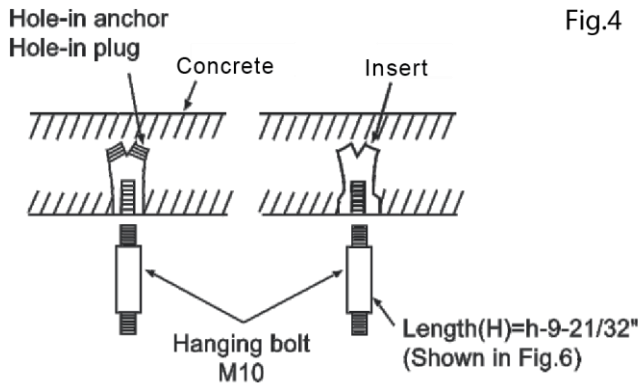


Fig.4

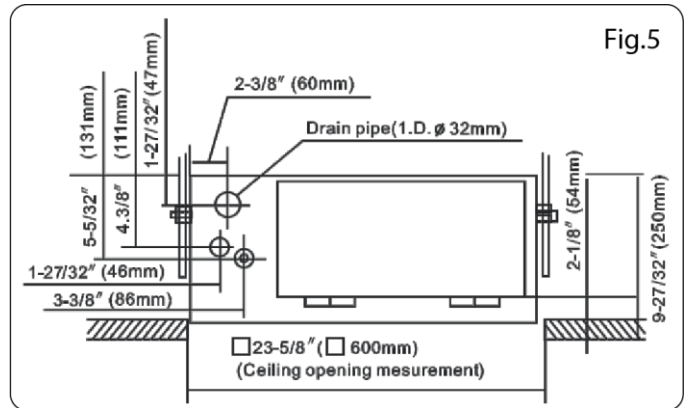


Fig.5

HANGING PREPARATIONS

- 1) Install special nut A then special nut B onto the hanging bolt. (Fig.6)
- 2) Raise the body and mount its hooks onto the hanging bolt between the special nuts. (Fig.6)
- 3) Turn special nut B to adjust the height of the body. (Fig.6)
- 4) Use a level, or vinyl hose filled with water, to adjust the unit to level.

⚠ WARNING

Tighten the bolts to a secure position

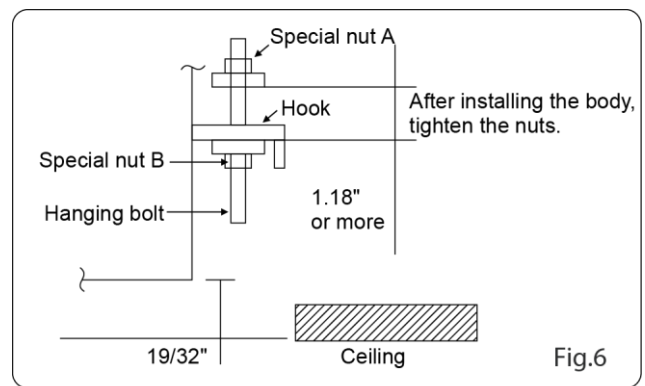
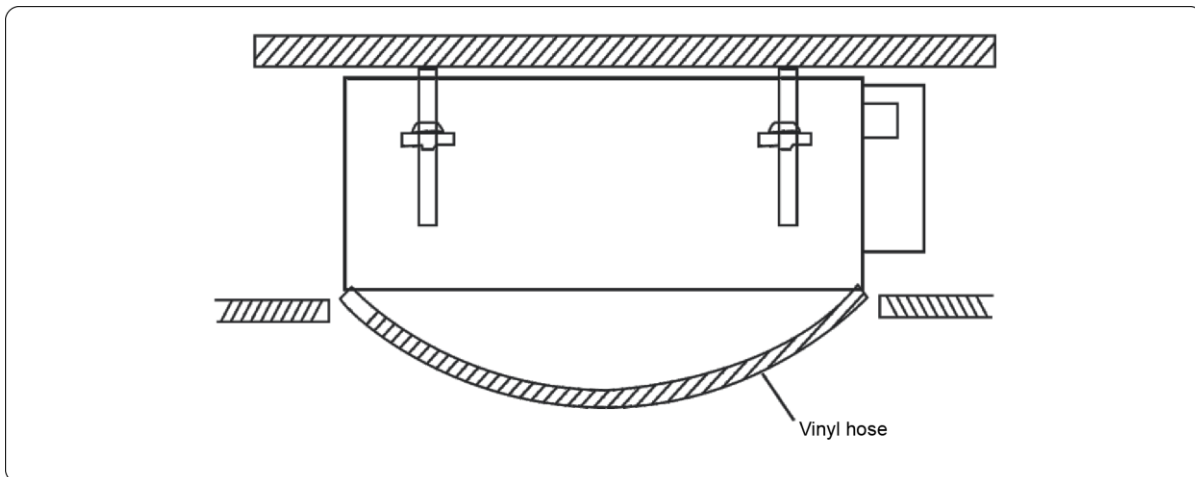
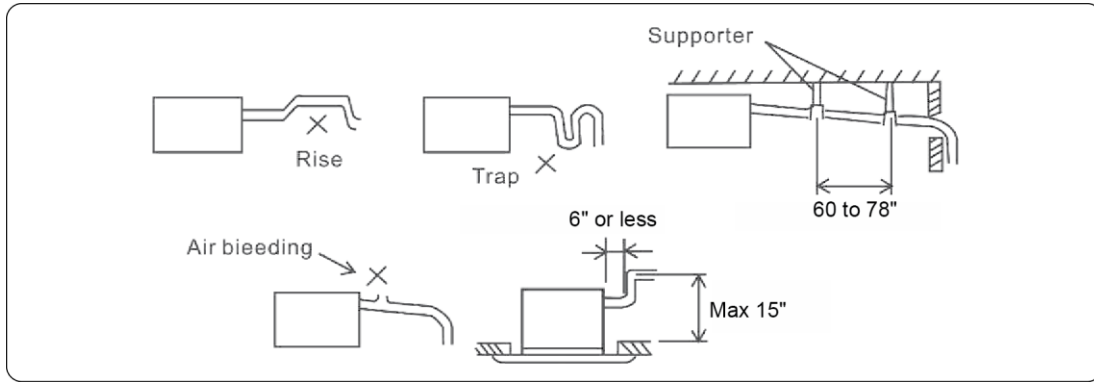


Fig.6

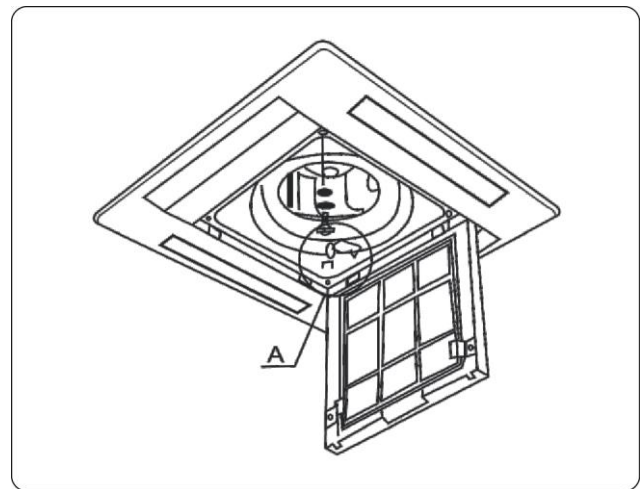
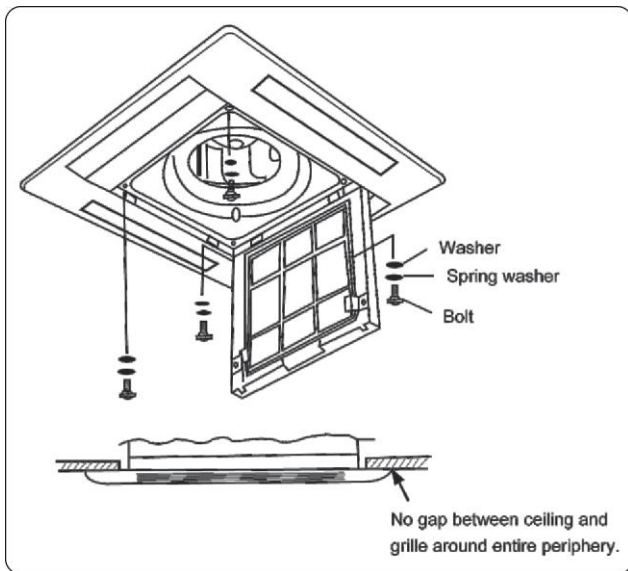


INSTALLING DRAIN PIPE

- Install the drain pipe with a downward gradient (1/50 to 1/100) so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe (VP25) (outside diameter 1-1/4") and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
- When the pipe is long, install supporters.
- Always heat insulate the indoor side of the drain pipe.
- When desiring a high drain pipe height, raise it up to 15" or less from the ceiling within a range of 6" from the body. Arise dimension over this range will cause leakage.



BOLTING THE GRILLE ASSEMBLY TO THE BODY

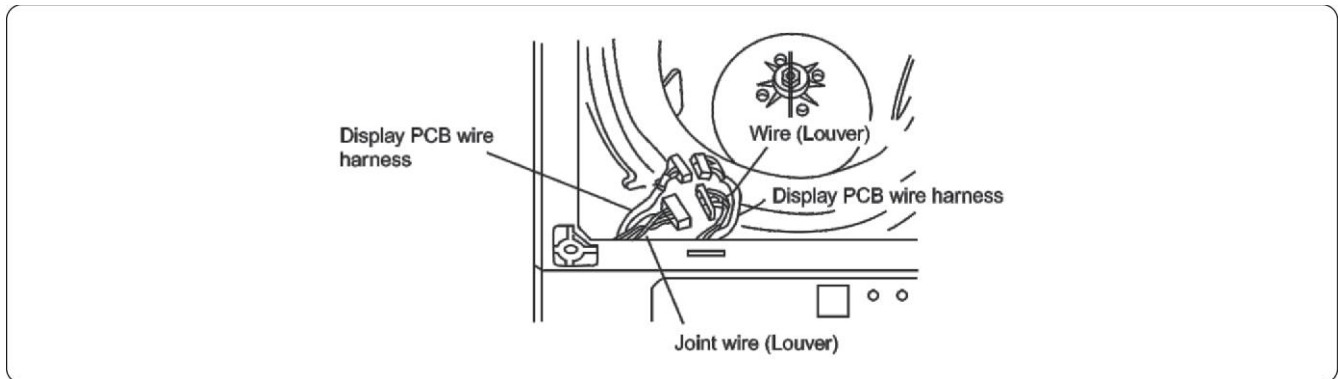


Install the grille assembly to the body with the four bolts, spring washers, and washers.

Wireless unit connection wire wiring

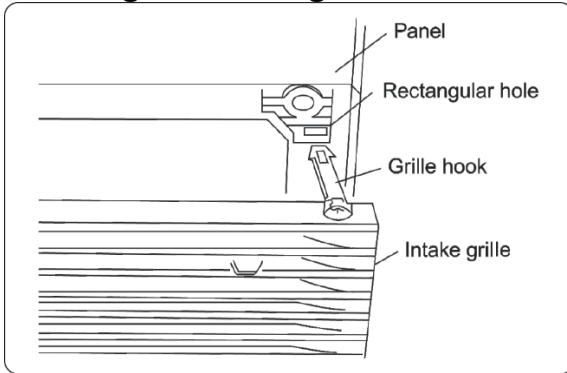
1. Connect the connector in accordance with the part A detail.
2. Then clamp the lead wire with clamp so that it does not touch the rotating parts.

Part A detail view



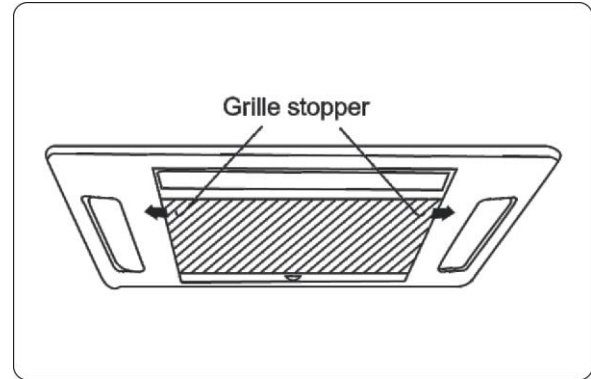
INSTALLING/REMOVING THE INTAKE GRILLE

1. Installing the intake grille

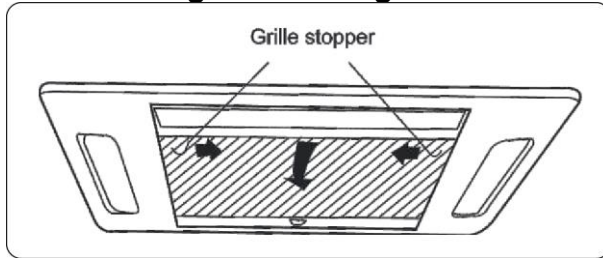


1. Fully insert the intake grille hooks into the rectangular holes in the panel.

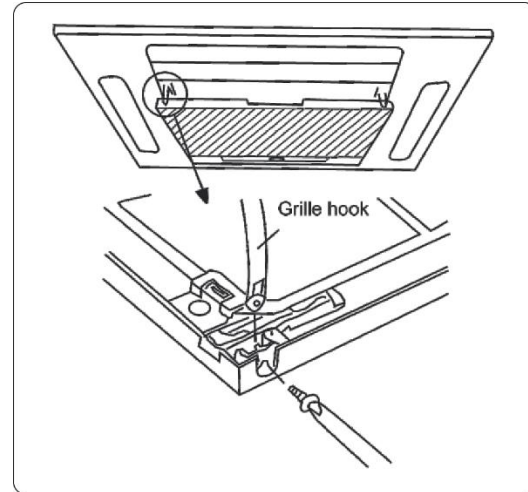
2. Removing the intake grille



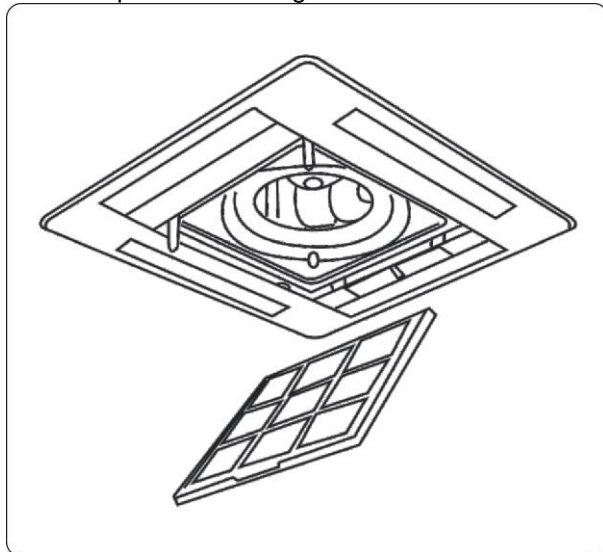
2. Close the intake grille, then slide the grille stoppers outward.



- 1) Slide the two grille stoppers inward, and then open the intake grille.



- 2) Remove the grille hook screws, and then open the intake grille.



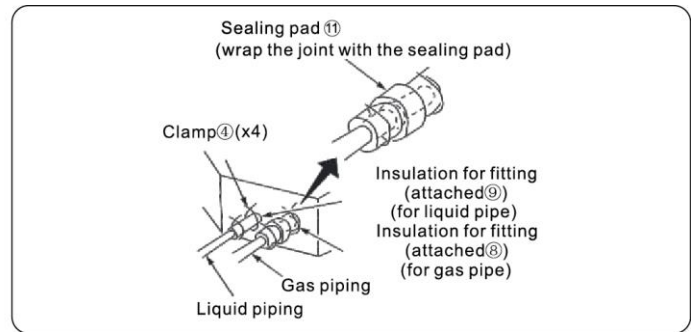
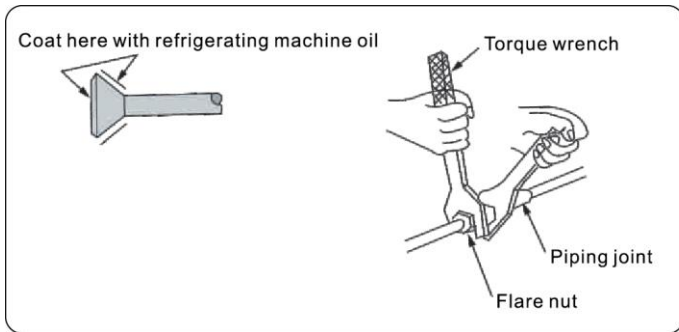
- 3) Open the intake grille so that it is at a 20° to 40° angle, and then remove the grille.

⚠ CAUTION

- 1) The louver angle cannot be changed if the power is not on. If moved by hand, it may be damaged.
- 2) The grille assembly is directional relative to the air conditioner body.
- 3) Install so that there is no gap between the grille assembly and the air conditioner body.

CONNECTION OF REFRIGERANT PIPE

- Be sure to use both a spanner and torque wrench together as shown in the drawing, connecting or disconnecting pipes to/from the unit.
- Refer to table 1 to determine the proper tightening torque (over tightening may damage the flare and cause leaks.)
- When connecting the flare nut, coat the flare both inside and outside with refrigerating machine oil and initially tighten by hand 3 or 4 turns.
- Check the pipe connector for gas leaks, then insulate it as shown in the drawing below.
- Use sealing pad (part #11) to wrap joint between gas pipe and the insulation (part #8).
- The enclosure of the appliance shall be marked by word, or by symbols, with the direction of the fluid flow.



Tightening torque table:

Pipe size	Tightening torque (N·m)	Pipe size	Tightening torque (N·m)
Φ6.25 (1/4")	15~20	Φ12.7 (1/2")	50~55
Φ9.52 (3/8")	30~40	Φ15.9 (5/8")	60~65

FINISHED INSTALLATION ABOVE CEILING



Mounting-Threaded Rod Hung on Truss



Mounting-Threaded Rod Hung on Rafters

ELECTRICAL WIRING

Power supply and wiring requirement

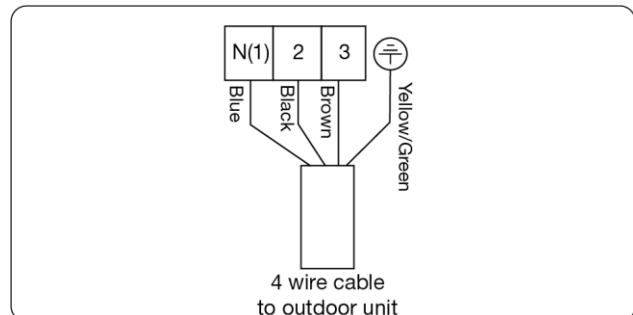
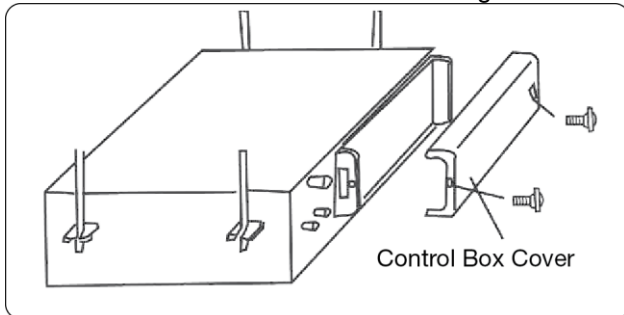
1. Power frequency of air conditioner should be 60 Hz, voltage: AC 208/230V. If voltage is over, may cause damage to electric equipment. Voltage that is too low, this may cause the compressor to shake, causing damage to the cooling system.
2. User power supply should be provided to a reliable grounded connection. (see grounding requirement)

Electrical connection requirement

1. Should have a reliable grounded connection (see ground connection requirements)
2. Wire screws should be firmly tightened. Any damaged screw should be replaced. (Self-tapping screws should NOT be used on an electrical connection.)
3. The provided wire should be used. Do not change the wire, length and or the ends of it. If you need to adjust, please contact the local service center.
4. Please do not connect the plug with the non-plug wire by yourself.
5. Indoor and outdoor electrical connecting wire should not be pulled too tightly or twisted.

INDOOR UNIT CONTROL BOX & WIRING TERMINALS

Remove the control box cover and install the connection cord to the wiring terminals. Must match terminal number for each wire at both indoor unit and outdoor unit wiring terminal.



Notes:

- The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
- An all-pole disconnection device which has at least 3mm separation distance in all pole and a residual current device (RCD) with the rating of above 10mA shall be incorporated in the fixed wiring according to the national regulation.

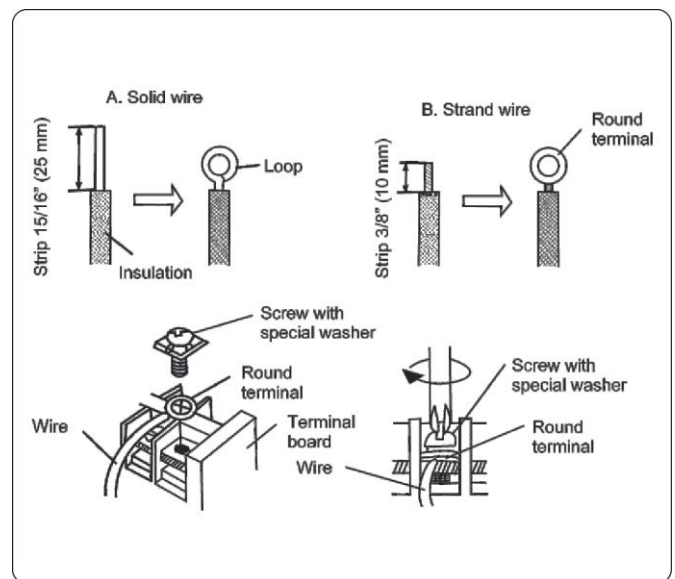
HOW TO CONNECT WIRING TO THE TERMINALS

For solid core wiring (or F-cable)

1. Cut the end of the wire using wire cutters, then strip the insulation about 15/16" (25mm) to expose the solid wire.
2. Using a screwdriver, remove the terminal screw(s) on the terminal board.
3. Using needle nosed pliers, bend the solid wire to form a loop suitable for the terminal screw.
4. Shape the loop wire properly, place it between the terminal boards, and tighten the terminal screw to hold the solid wire loop securely.

For strand wiring

1. Cut the wire end using wire cutters, then strip the insulation to about 3/8" (10mm) to expose the solid wire.
2. Using a screwdriver, remove the terminal screw(s) on the terminal board.
3. Using a round terminal fastener or plier, securely clamp a round terminal to each stripped wire end.
4. Position the round terminal wire, replace and tighten the terminal screw using a screwdriver.



ATTENTION:

An all-pole disconnection switch, with a contact separation of at least 3mm at all poles, should be connected in fixed wiring.

TEST AND CHECK ITEMS AFTER INSTALLATION

TEST OPERATION

1. Prepare for test

- 1) Do not turn on the power switch before all installation is finished.
- 2) Connect wires correctly and firmly.
- 3) Open the check valve.
- 4) Remove all dust.

2. Testing

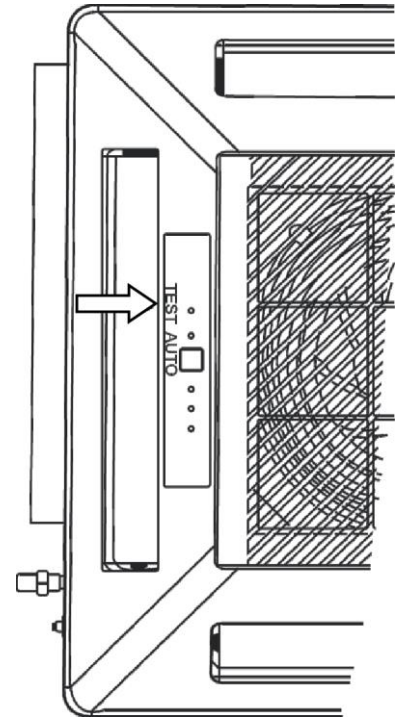
- 1) Turn on the power switch and press "ON/OFF" button.
- 2) Press "MODE" button to select COOL, HEAT, FAN, etc. to test whether it operates normally.

3. Emergency operation

- 1) When the unit is stopped, you can press the "AUTO" button on cover NO II, then the unit is in AUTO mode. The air conditioner selects COOL, HEAT, DRY, FAN modes automatically.
- 2) When operating, press the "AUTO" button, the air conditioner will stop.

NOTE:

The "TEST" button on the No. 2 cover is specifically for testing the air conditioner. When pressing it, the air conditioner will be forced to operate or stop. Do not press it when the air conditioner is in normal operation.



For the following items, take special care during construction and check after installation is finished.

Items to check	If not properly done, what is likely to happen	Check
Is the indoor unit fixed firmly?	The unit may drop, vibrate or make noise.	
Is the gas leak test finished?	It may result in insufficient cooling.	
Is the unit fully insulated?	Condensate water may drip.	
Does drainage flow smoothly?	Condensate water may drip.	
Does the power supply voltage correspond to that shown on the nameplate	The unit may malfunction or the components burn out.	
Are wiring and piping correct?	The unit may malfunction or the components burn out.	
Is the unit safely grounded?	Risk of electric leakage.	
Is wiring size according to specifications?	The unit may malfunction or the components burn out.	
Is something blocking the air outlet or intake of the indoor or outdoor units?	It may result insufficient cooling.	
Have records of refrigerant piping length and additional refrigerant charge been made?	Volume of refrigerant charge in the system is not correct.	

Note to the installer:

Be sure to instruct the customer how to operate the system and show him/her the attached operating manual.

SAFETY PRECAUTIONS

READ THE FOLLOWING CAREFULLY BEFORE OPERATION

⚠WARNING

- ⚠ Avoid direct air flow to your body, and avoid excessive heating or cooling that may make you uncomfortable or harm your health.
- ⚠ Check whether the installed unit stand is solid after the unit has operated for an extended time. If a worn-out stand is left unfixed, the unit could fall and damage property or harm people.
- ⚠ Do not remove protection grill nets from the outdoor unit. Do not put hands or insert objects or debris into the air outlet vent of the unit.
- ⚠ Do not stand or put objects on top of the outdoor unit. Unit could fall over, causing damage to the unit, or serious injury.
- ⚠ If there is something abnormal (e.g. a burning smell), cut the power to the system immediately and contact service center.
- ⚠ Do not spray any paints or pesticides on or near the unit, or it may cause fire.
- ⚠ If room air smells stuffy, air the room out by opening doors and windows. Close curtains and/or blinds when operating the unit to prevent conditioned air from leaking.
- ⚠ Never use wrong amperage rated wiring for installation. Use of iron wire or copper wire may cause the unit to break down or could potentially cause fire.
- ⚠ Do not check or attempt to repair the unit while it is operating. Serious injury or property damage may result.
- ⚠ Do not use space heaters or other heat sources near the air conditioner. It will affect the cooling performance.
- ⚠ Never place objects near the air intakes or air outlets of the unit. It may affect performance or stop operation of the unit.
- ⚠ Do not splash water directly to indoor unit. It may cause harm, or result in electric shock.
- ⚠ Do not throw or drop the remote control. Do not press the buttons of the remote control with sharp or pointed objects. Doing so could damage or break the remote control.

ABOUT MODE CLASH/CONFLICT BETWEEN INDOOR UNITS

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

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

Note:

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

CONNECT REFRIGERANT PIPES BETWEEN THE INDOOR AND OUTDOOR UNITS

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

REFRIGERANT PIPES

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

Refrigerant Valve and Pipe Size/Length

Btu/h	Valve Size	Line Sizes at Different Lengths	
	Liquid Gas	15 – 30 ft.	31 – 75 ft.
12K	1/4", 3/8"	1/4", 3/8"	1/4", 1/2"
18K	1/4", 1/2"	1/4", 1/2"	1/4", 5/8"
24K	1/4", 5/8"	1/4", 5/8"	3/8", 5/8"

Running Interconnecting Refrigerant Lines:

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

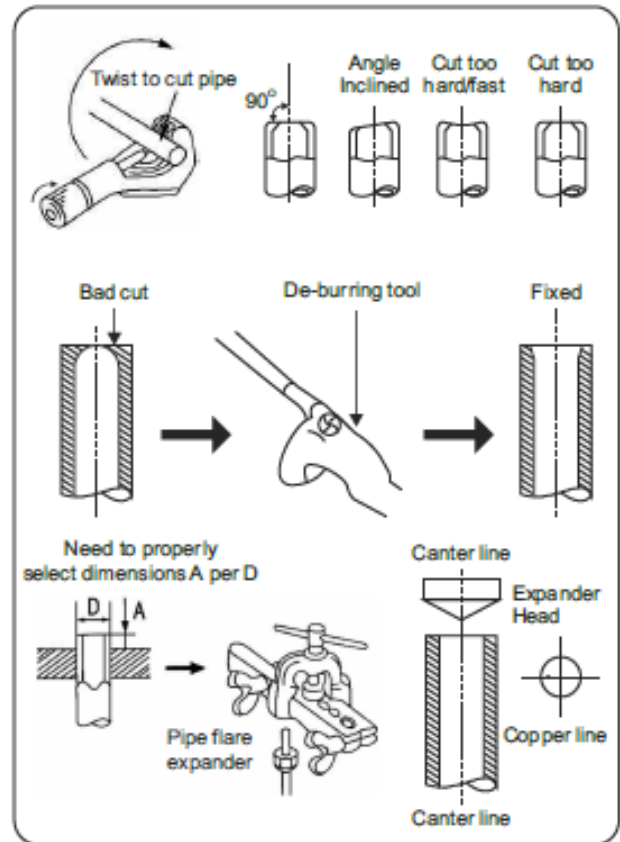
CUT REFRIGERANT PIPE

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

CONNECT REFRIGERANT PIPES:

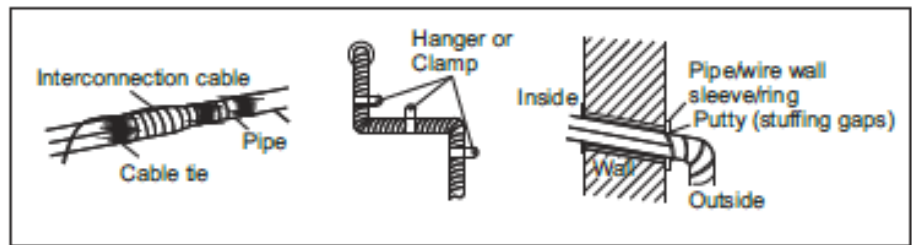
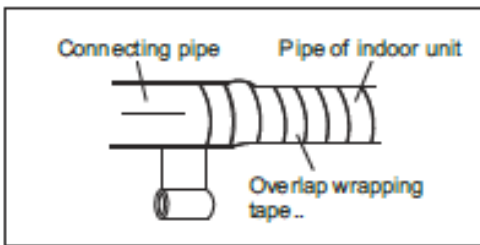
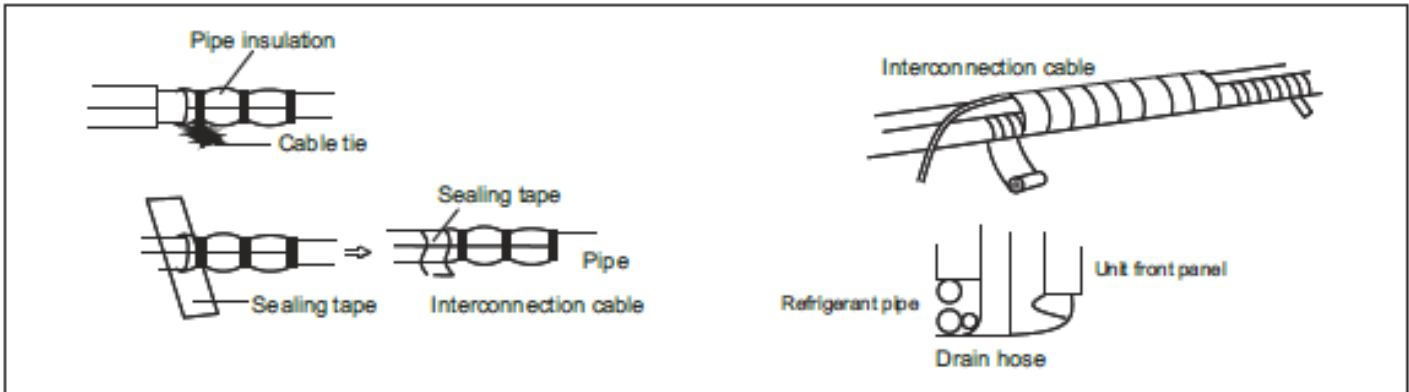
Connect Copper Pipes-Flare/Nut Connection at both Indoor and Outdoor Units

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



CONNECT REFRIGERANT PIPES BETWEEN INDOOR AND OUTDOOR UNITS

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



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

PIPING GUIDE

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

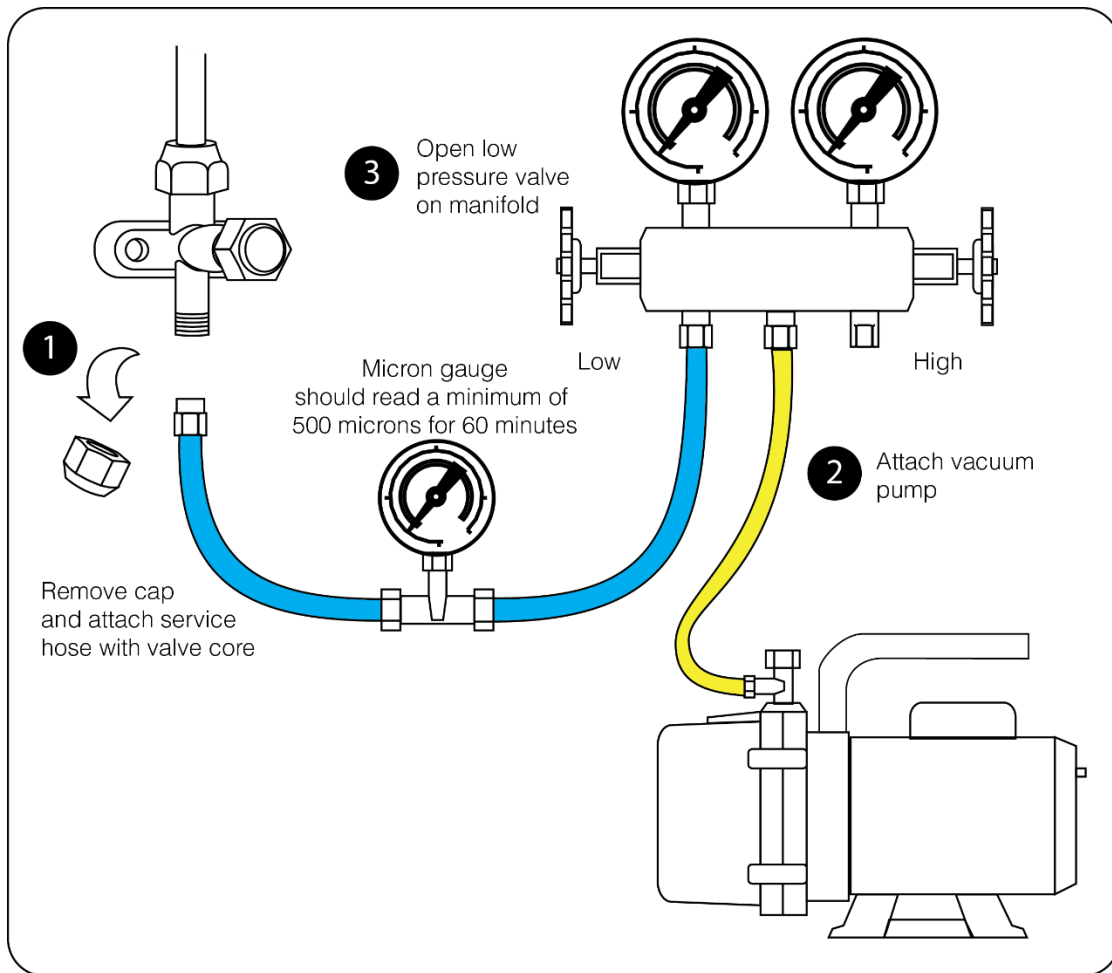
VACUUM TESTING AND CHARGING

CHECK LEAKAGE BEFORE CHARGING IDU

VACUUM REFRIGERANT PIPES

Evacuate the pipes between indoor and outdoor units, using vacuum pump and manifold/gauge set, to a minimum of 500 microns (service valves remain front seated). Turn off manifold valve (low) to check if the vacuum level is maintained for a minimum of 60 minutes. Be certain there is no pressure in the system when repairing a leak.

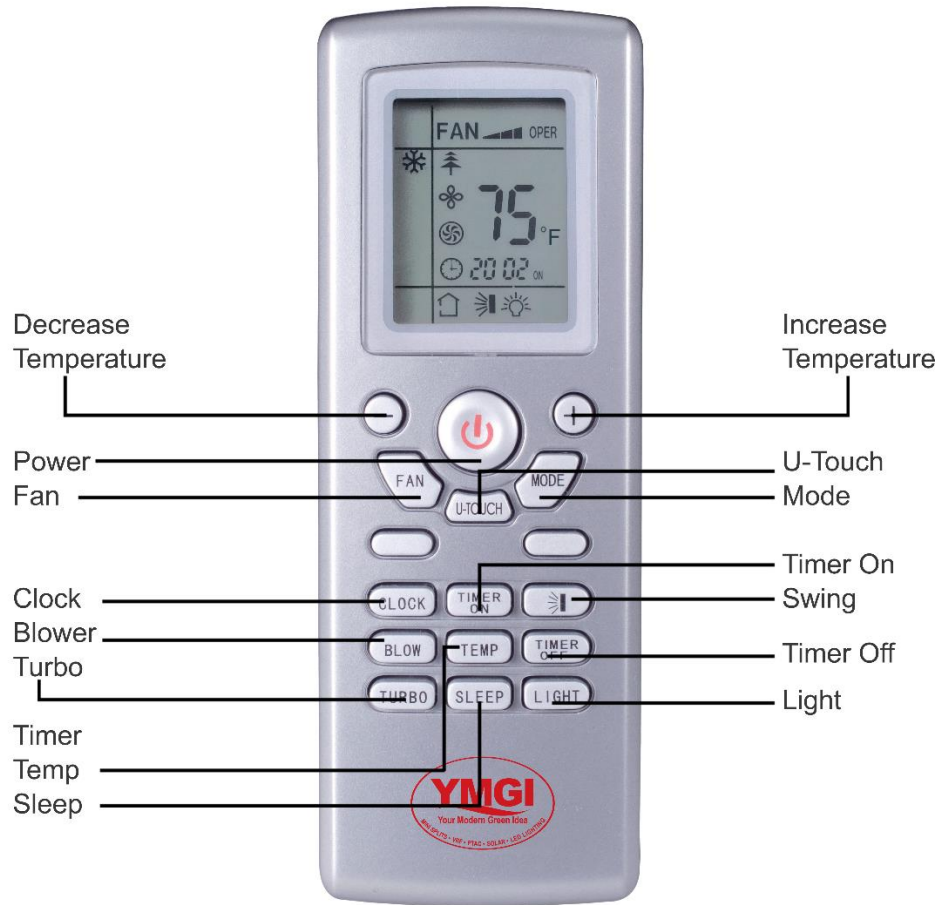
Vacuum and Check Leakage before Releasing Refrigerant from Outdoor Unit to Indoor Unit



For Multi-Zone systems repeat this process for each zone with indoor units attached to it.

If all zones are not being used, check the flared nuts on the unused valves, and ensure that they are tightened to avoid any potential system leaks.

Buttons on Remote Controller



Introduction for icons on display screen

	Set Temperature Indicated		Timer / Set On or Off Time
	Fan Speed Indicated		U-Touch Function is active
	Cooling is turned On		Set Indoor Temperature (thermometer appears inside house unit display will show room temperature)
	Fan is turned On		Current Indoor Temperature
	Turbo Mode is turned On		Swing Function is active
	Dehumidify is turned On		Unit Display is turned On
	Heat is turned On		Fresh Air Feature is turned On
	Auto is turned On		

REMOTE CONTROL FUNCTIONS

Basic Functions

Cooling Mode

- Fan motor and swing works in COOLING MODE
- Indoor unit will run under the original status when outdoor unit malfunctions or stops operating due to run protection, malfunction displays.
- The fan motor will stop when modes conflict. (If the system is set to heat, and you attempt to run your indoor unit to cool, or vice versa.)

The temperature setting range is 61-86°F under the COOLING mode.

Dehumidify Mode

- Fan motor runs at LOW speed, SWING functions normally.
- Indoor unit will run under the original status when outdoor unit malfunction or stop to run protection, malfunction displays.
- The temperature setting range is 61-86°F under the DRY mode.

Fan Mode

- In this mode, only indoor the Fan is running. Under auto fan speed, it will run by cooling auto fan.

Heating Mode

- When the unit is initially powered on in HEAT mode, the unit will preheat before the fan begins to blow, so it does not blow cold air into the room.
- When the Outdoor Unit is shut off in HEAT mode, the Indoor Unit will continue to run and blow residual heat out before powering off completely.
- Indoor fan motor will stop when the unit is in DEFROST MODE or the system need to perform an Oil Return function. This process takes approximately 3 minutes to complete.
- In the event of a compressor or overheat malfunction, the indoor fan motor will continue to run, to blow out residual heat before the unit shuts down.
- The temperature setting range is 61-86°F under the mode.

Auto Mode

In AUTO mode, the unit will automatically set the room temperature to 77°F, and maintain that temperature. In this mode, the unit will select the cooling, heating running mode or fan mode automatically according to changes of the ambient temperature.

For multi-zone systems we do not recommend this mode of operation unless all of the Indoor Units are set to AUTO mode, as it will create Mode Conflicts if you attempt to run any of your other Indoor units in COOLING or HEATING mode.

Mode Conflicts

All Indoor Units on a system MUST run in the same mode, either all COOLING or all HEATING. With a 2 (or more) Indoor Unit system, you cannot run one Indoor Unit in COOLING Mode and one in HEATING. Attempting to do this will create a mode conflict, and you will receive an E7 Error Message on your Indoor Unit Display.



Also, if you have set the TIMER ON function, and the mode for that Indoor Unit conflicts with other Indoor Units operating when the TIMER ON function attempts to turn the system on, it will also create a Mode Conflict and shut down the Indoor Unit.

To correct a Mode Conflict issue, turn all of the Indoor Units off, and restart them all in the same mode.

In the event a restart doesn't clear the error, you may need to shut power off to the entire HVAC system, wait approximately 10 minutes and restart the system, making sure all Indoor Units are in the same Mode.

Beep

When the system is the Indoor Unit will BEEP when it receives a command from the REMOTE CONTROL.

Auto Button

Press the button when turn off the unit, the unit runs by auto mode, indoor fan motor runs under auto fan speed, turn on swing. Press auto button under the unit is ON, it will OFF.

Auto Fan Speed Control

Under COOL, HEAT, FAN modes, the Indoor Unit fan will set the Fan speed to Hi, Medium or Low automatically based on changes of the ambient temperature. In FAN mode the AUTO FAN speed will set to low. The fan speed will shift every 3.5 minutes.

Sleep Function

In COOLING and FAN modes, the SLEEP function works as follows:

During the 1st Hour, the Set Temperature will be allowed to increase 1°F. In the 2nd Hour the Temperature will increase 2°F. The Indoor unit will remain at that temperature. The Temperature will not exceed 86°F even after setting the SLEEP function.

In HEATING mode, the Set Temperature will be allowed to decrease 1°F. In the 2nd Hour the Temperature will decrease 2°F. The Indoor unit will remain at that temperature. The Temperature will not exceed 61°F even after setting the SLEEP function.

The set temperature will not change when FAN or AUTO mode are selected, and SLEEP mode is selected.

TIMER Function

The TIMER ON/OFF function uses a 24 hour clock, so 1:00 PM will display as 13:00, 2:00 PM will display as 14:00, etc. In order for the TIMER ON/OFF to operate correctly you will need to set the CLOCK on the REMOTE CONTROL.

CLOCK

- Press the CLOCK button on your REMOTE CONTROL. The CLOCK ICON will blink. When it is blinking you can use the TEMPERATURE INCREASE (+) or TEMPERATURE DECREASE (-) buttons to set the CLOCK to the current time.
- Once you have the clock set to the correct time, press the CLOCK button a second time. The CLOCK ICON will stop blinking.

TIMER ON

When the unit is OFF the REMOTE CONTROL will turn on in whichever mode you had selected when the Indoor Unit was last running.





To set the **TIMER ON** push the **TIMER ON** button on your remote control. When the word “ON” is blinking, you can use your **TEMPERATURE INCREASE** or **TEMPERATURE DECREASE** **BUTTONS** to set the time for your Indoor Unit to turn on.

Example: If you would like your Indoor Unit to turn on at 8:00 AM, you would set the **TIMER ON** time to 8:00. If you would like your Indoor Unit to turn on at 3:00 PM, you would set the **TIMER ON** time to 15:00.

The timer functions will run every day. To stop the **TIMER ON** function, press the **TIMER ON** button one time. When you see the word “ON” is not displayed next to the current time on the **CLOCK**, the **TIMER ON** function is inactive.

TIMER OFF

To set the **TIMER OFF** push the **TIMER OFF** button on your remote control. When the word “OFF” is blinking, you can use your **TEMPERATURE INCREASE** or **TEMPERATURE DECREASE** **BUTTONS** to set the time for your Indoor Unit to turn on.

Example: If you would like your Indoor Unit to turn on at 5:00 PM, you would set the **TIMER OFF** time to 17:00. If you would like your Indoor Unit to turn on at 1:00 AM, you would set the **TIMER ON** time to 1:00.

The timer functions will run every day. To stop the **TIMER OFF** function, press the **TIMER OFF** button one time. When you see the word “OFF” is not displayed next to the current time on the **CLOCK**, the **TIMER OFF** function is inactive.

When both times are set on your **REMOTE**, you will see **ON/OFF** next to the **CLOCK** on the **REMOTE CONTROL** display.

You can set the **TIMER ON** and **TIMER OFF** buttons independently. If you set the **TIMER ON** button with no **OFF** time, the Indoor Unit will run until manually turned off. If you set the **TIMER OFF** button with no **ON** time, the unit will shut down at the set time, and remain off until manually turned on.

Memory Function

Your **REMOTE CONTROL** will store: **MODE**, **SWING**, **LIGHT**, **TEMPERATURE**, **FAN SPEED**, and **TIME**. It will not store **TIME ON** or **TIME OFF** settings.

In the event that your system loses power, or is shut off, when power is restored, it will restart with the stored settings.

U-TOUCH Function

The **U-TOUCH** function is an easy way for you to stay comfortable. When you are in a room, and are comfortable, press the **U-TOUCH** button, and the system will run at the current ambient temp detected by **REMOTE**. The **REMOTE** will automatically communicate with the Indoor Unit every 10 minutes, and adjust to keep the Indoor Unit settings to keep the area near the **REMOTE CONTROL** at the exact temperature settings as when it was activated.

If the **REMOTE CONTROL** is out of range or loses contact with the Indoor Unit, after 10 minutes, the system will turn off **U-TOUCH** and resume normal function at the previous settings.

If **U-TOUCH** is not in use, all ambient temperatures will be sampled using the sensor on the Indoor Unit.



Turbo Function

The TURBO function can only be used in COOLING or HEATING modes. When the TURBO function is engaged, the Indoor Unit Fan will go to High speed, and signal the Outdoor Unit to go to high output to quickly cool off or warm up your room.

Swing (up and down) Function

After turning on the system, the Indoor Unit will automatically point itself to position D under heating mode, and position L under any other mode. There are 7 positions that the guide louver can be set to.

When in COOLING Mode, the SWING Function operates to blow COOL air upward, as cold air falls. When the SWING Function is activated, the guide louver will pivot between positions L1 and D1.

In HEATING Mode, the SWING Function operates to blow WARM air downward, as warm air rises. When the SWING Function is activated, the guide louver will pivot between positions L and D.

When the Indoor Unit is switched off, the louver will close to position 0.

The SWING can only be activated when the SWING Function is turned on while the fan is running on the Indoor Unit.

Unit Display

The Display on the Indoor Unit will only show current settings when the LIGHT function is turned ON.

If the Indoor Unit shows nothing on the display, press the light button to see your current settings.



COOLING: Temperature is indicated and POWER and COOLING icons are lit

HEATING: Temperature is indicated and POWER and HEATING icons are lit

DEHUMIFY: Temperature is indicated and POWER and DEHUMIDIFY icons are lit

FAN: Temperature is indicated and POWER icon is lit

AUTO: Temperature is indicated and POWER icon is lit.

Remote Control Display

Basic Display

When the system is turned OFF, the REMOTE will display only the time and the temperature.

When the system is turned ON, the display will show the current settings of the system. The following graphic demonstrates each function and the icon that will appear on the REMOTE CONTROL when it is selected.

Dual-8 Display

The DUAL 8 Display will show the current temperature setting. The setting range is 61-86°F. It will display 77°F in AUTO mode.

When checking the room temperature, the temperature range for the sensor is 32-86°F on the indoor temperature displays.

Fan Speed Display

Press the FAN SPEED button to select the air flow speed you want:



- Low: Remote displays ■
- Med: Remote displays ■■
- Hi: Remote displays ■■■
- Auto: Remote displays ■■■■ icon blinks

Indoor Unit Malfunction Lamp Display

If your system has a malfunction, it will display on the Indoor Unit Display. In the event that multiple malfunctions occur with your unit, the display will cycle through the Error Codes on the Indoor Unit Display at half second intervals.

The indoor temperature sensor malfunction is not inspected during defrost, or oil return period.

Error Codes

Malfunction Name	Dual-8 Display	Running Lamp	Heating Lamp	Cooling Lamp
The system is abnormal (anti-high temp. power off, cooling overload)	H4		Blink 4 times	
Compressor overload protection	H3		Blink 3 times	
Module protection	H5		Blink 5 times	
High-pressure protection	E1	Blink once		
Anti-freeze protection power-off	E2	Blink twice		
Discharge temperature protection	E4	Blink 4 times		
Low voltage over-current protection	E5	Blink 5 times		
Mode clash	E7	Blink 7 times		
Communication malfunction	E6	Blink 6 times		
Defrost or heating oil return	H1		Blink once	
The indoor ambient temperature sensor is open, short circuit	F1			Blink once
Any indoor evaporator temperature sensor is open, short circuit	F2			Blink twice
The outdoor ambient temperature sensor is open, short circuit	F3			Blink 3 times
The outdoor condenser temperature sensor is open, short circuit	F4			Blink 4 times
The outdoor discharge temperature sensor is open, short circuit	F5			Blink 5 times
Fail to start up	H7		Blink 7 times	
PFC malfunction	HC		Blink 6 times	
Compressor demagnetizing protection	HE		Blink 14 times	
The malfunction below need used by to be remote control, it will display when press sleep button 6 times continuously in 3S, and exit inspection state (it is not valid under auto mode) automatically in 5min, or will exit when press sleep button 6 times continuously in 3S.				
Cooling overload down frequency	F6			Blink 6 times
Unit overflow down frequency	F8			Blink 8 times
Compressor discharge down frequency	F9			Blink 9 times
Unit AC voltage decreasing down frequency	E0	Blink 10 times		
Heating anti-high temperature down frequency	H0		Blink 10 times	
Anti-cool air protection	E9	Blink 9 times		
Cooling oil return	F7			Blink 7 times

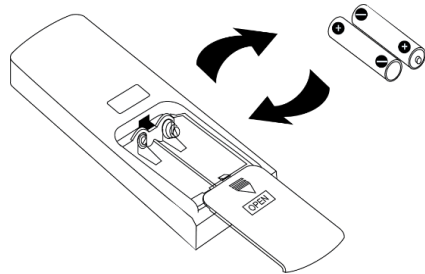


Operation Guide

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

CHANGING BATTERIES AND NOTICES

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



NOTE:

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

NOTES:

- When changing the batteries, do not use old or different batteries that could cause the remote control to malfunction. Use the remote in its receiving range. Remote should be used 36 inches away from a TV set or stereo.
- If the wireless remote control cannot operate normally, please take the batteries out, wait 30 seconds and reinsert them. If the remote still doesn't operate normally, please replace the batteries.
- If the wireless remote control will not be used for an extended period, it is recommended to remove the batteries. Leaving the batteries in could cause them to leak. This can cause damage to the remote control.

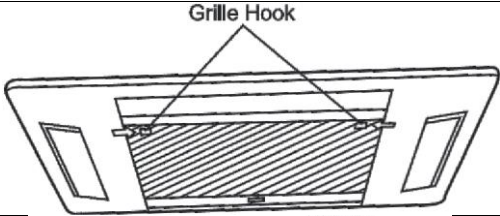
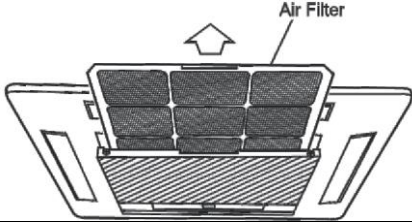
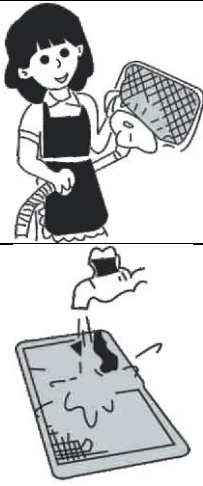
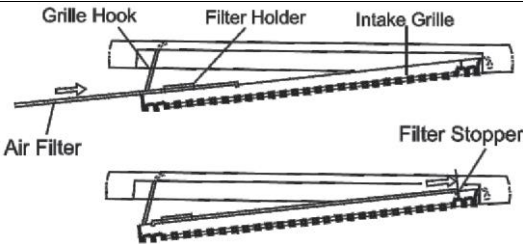
CLEANING AND CARE

⚠ CAUTION

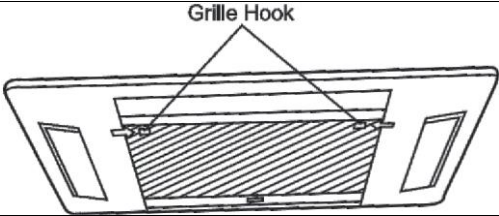
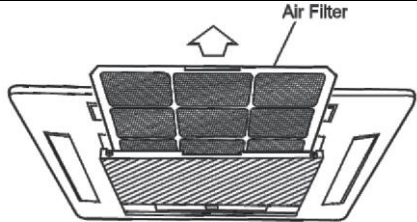
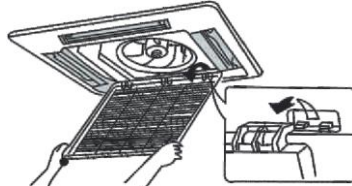

- Turn the unit power off and unplug the power cord before cleaning the air conditioner. Failure to do so can result in electric shock.
- Never sprinkle water on the indoor unit for cleaning because it can cause an electric shock.
- Volatile liquids (e.g. thinner or gasoline) will damage the air conditioner.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

CLEANING THE AIR FILTERS

(RECOMMENDED ONCE EVERY THREE MONTHS)

<p>1. Open the air intake grille and use a Phillip's head screwdriver to remove the two screws.</p> <p>Slide both knobs simultaneously towards center as shown and then pull them downward slowly.</p>	
<p>2. Remove the air filters.</p> <p>Slide knobs on the back of the air intake grille outward and remove the air filter.</p> <p>Then remove three air filters on it.</p>	
<p>3. Clean the air filter.</p> <p>If filters are not dirty, you can just vacuum or wash the air filter with clean water.</p> <p>If the air filters are very dirty. Use mild detergent and water. Leave the air filter to dry naturally in a shady place.</p> <ul style="list-style-type: none"> • Do not clean with hot water. • Do not dry over a heat source. • Do not run the air conditioner without the air filter. • The suction grille must be opened carefully, at the air intake. 	
<p>4. Place the air filters back in the unit.</p> <ul style="list-style-type: none"> • Replace the air filter into its holder. • Make sure the air filter makes contact with the filter stopper when it is replaced into its holder. 	
<p>5. Shut the air intake grille.</p>	

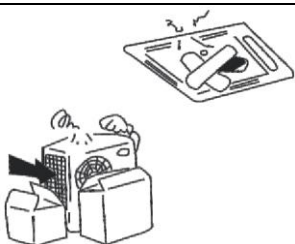
How to Clean the Air intake

<p>1. Open the air intake grille and use a Phillip's head screwdriver to remove the two screws.</p> <p>Slide both knobs simultaneously towards center as shown and then pull them downward slowly.</p>	
<p>2. Remove the air filters.</p> <p>Slide knobs on the back of the air intake grille outward and remove the air filter.</p> <p>Then remove three air filters on it.</p>	
<p>3. Open the grille at a 45 Degree angle and then lift, it up to take away.</p>	
<p>4. Wash with water.</p> <p>When the air intake grille is very dirty, use soft brush and neutral detergent. Shake off water and air dry in a shady place.</p> <p>Attention: Do not wash with hot water.</p>	
<p>5. Replace the air filter.</p>	
<p>6. Replace the grille</p>	
<p>7. Close the suction grille</p>	

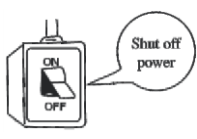
NOTE:

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

Before Starting the Unit for the First Time in the Season

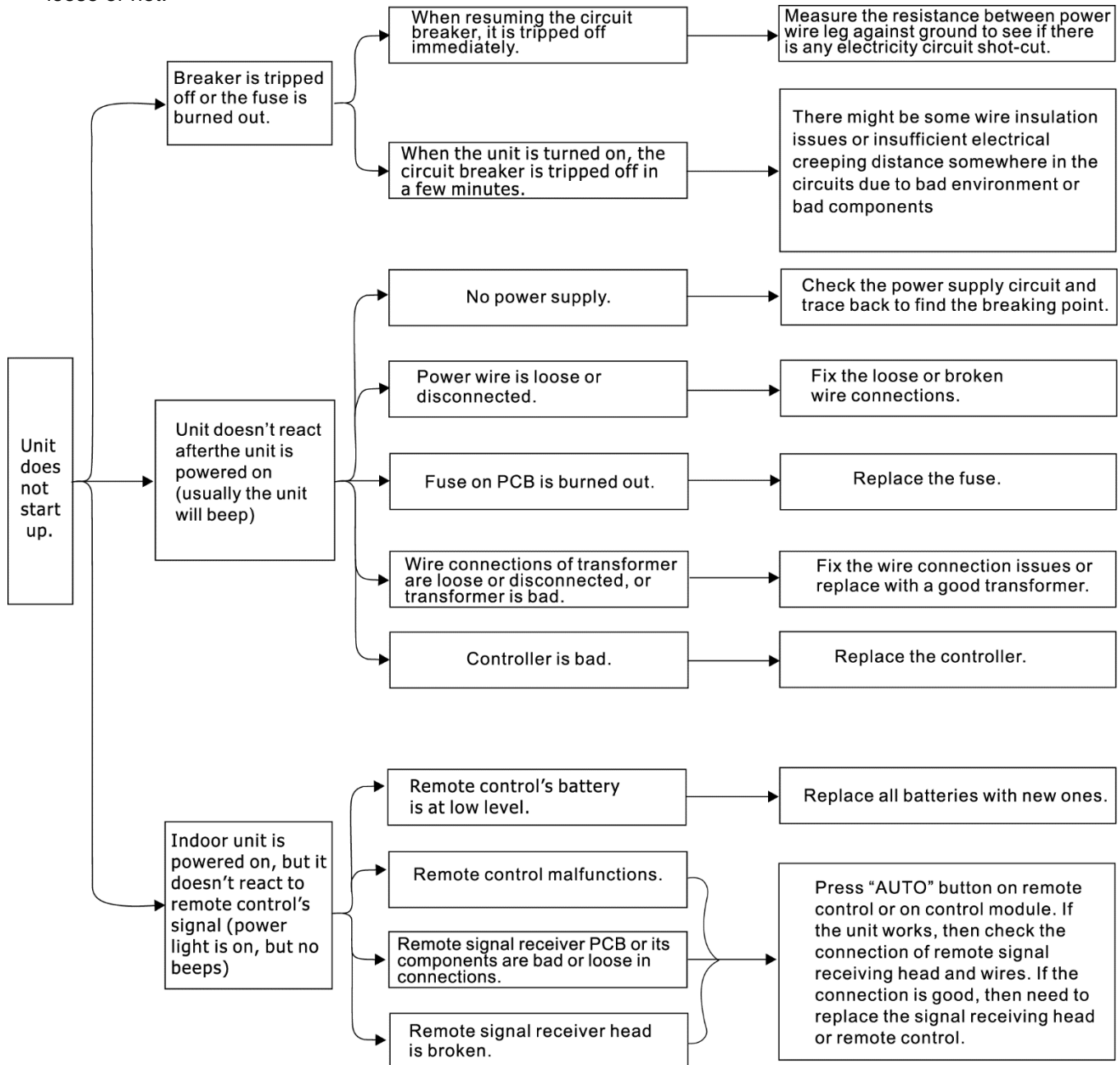
<ol style="list-style-type: none"> 1. Check to make sure no objects obstructing the intakes and outlets on both the indoor and outdoor units. 2. Check to make sure ground wire is connected and that it is not damaged. 3. Check to make sure air filter has been cleaned. 4. Turn on the power 6 hours before starting the air conditioner. 	
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End of Season Cleaning

<ol style="list-style-type: none"> 1. Turn off power. 2. Clean the filter and the body of the unit. 3. Clear any dust. 4. If there is any rust deep inside the outdoor unit, may need to use an extended head cleaning tool. 	
--	---

TROUBLE SHOOTING

- Preparation before service
 - Step 1: Confirm the model of the inverter A/C which needs repairing. Then find list of main parts that can be easily damaged, and the part numbers of major components, especially the controller of outdoor unit;
 - Step 2: Based on the malfunction reported by user, determine the parts that will need to be replaced, and bring tools with you for maintenance.
 - Step 3: You should not only bring the common tools, such as screwdrivers, wrenches, etc., but also you should bring universal meter and ammeter with you.
- During the maintenance, take care not to touch any terminals before the voltage between P and N of power module is measured less than 50V to avoid electric shock.
- Before or after the maintenance, check whether the user power socket, terminal block on indoor/ outdoor unit and all connectors on main board (especially the main board of outdoor unit, power module and PFC module) are loose or not.



Check these items shown below before contacting service center

Phenomenon	Cause	Corrective Measures
The system does not operate at all	Power off or fuse broken	Change fuse or replace fuse
	Power off	It will restart when power is on
	Loose plug	Put the plug into place
	Batteries for remote installed incorrectly	Faulty Batteries / Install batteries properly
	Out of the remote controlling range	Keep distance in 8m or less
The system stops right after it is started	Object at the air intake and air outlet of the air conditioner	Remove them
Cooling and/ or heating is abnormal	Object at the air intake and air outlet of indoor and outdoor units	Remove them
	Wrong temperature setting	Refer to REMOTE CONTROLKEY NAMES AND FUNCTIONS
	Low fan speed	Refer to REMOTE CONTROLKEY NAMES AND FUNCTIONS
	Air direction is not correct	Refer to REMOTE CONTROLKEY NAMES AND FUNCTIONS
	Doors or windows are open	Close them
	Direct sunshine	Close the curtain or blind.
	Too many people in the room	
	Too many heating sources	
	Dirty air filter	Clean it

Note: If trouble still exists after checking the above items, please contact service center.

NORMAL OCCURRENCES

Normal Occurrence	When normal occurrence happens	Cause and remedy of normal occurrence
The unit does not operate when	Restart right after stopping	Once the unit is stopped, it stays idle for about 3 minutes to protect the compressor and the unit from any potential damage Wait for 1 minute
	Press SET TEMP and then release immediately.	
	Power is switched on	
Mist is emitted	When cooling	Room air is chilled rapidly and becomes foggy
Outdoor unit is hot	After the unit is stopped	Compressor is emitting heat to get ready for restarting
Noise	Buzz is heard at starting	It's the starting sound of thermostat and will turn low after 1 minute
	Sound of hiss like running water can be heard during operation	This is caused by the refrigerant flowing inside the unit
	A "shhh" sound which is heard at the start or immediately after stopping unit operation, or that is heard at the start or immediately after the stop of defrosting operation.	This is the noise of refrigerant caused by refrigerant flow stop and flow change
	A continuous low "shah" sound is heard when the system is in cooling operation, or when it stops.	The noise is heard when the drainage pump is in operation. There is no need to do anything
	Cracking noise can be heard during or after operation	This is caused by the panel expanding or contracting due to temperature change in some structural parts
Dust from the units	Starting operation after not using for a long time	Dust entered into the unit and blown out at re-starting. Clean filter and coil
Discharged air smells	During operation	This is caused by the odors in the room which have been left or kept on the filter or coil, clean the filter and coil

PROTECTION AND ERROR CODES

ERROR OR PROTECTION CODE INDICATION

NO.	Error or protection codes	LED Indication		
		LED (red)	LED (yellow)	LED (green)
1	Compressor high pressure protection unit stop	Blink once		
2	Indoor unit anti-freezing protection	Two times		
3	Low-pressure protection unit stop	Three times		
4	Air exhaust protection unit stop	Four times		
5	Over current protection unit stop	Five times		
6	Communication malfunction unit stop	Six times		
7	Unit modes conflict	Seven times		
8	Jumper malfunction	Fifteen times		
9	Defrosting/Heating oil return		Blink once	
10	Compressor overload protection unit stop		Three times	
11	System Unit malfunction		Four times	
12	IPM modular protection unit stop		Five times	
13	PFC protection unit stop		Six times	
14	Compressor malfunction		Seven times	
15	Water spill protection		Eight times	
16	Indoor ambient temp. sensor malfunction			Two times
17	Indoor pipe temp. sensor malfunction			Three times
18	Outdoor ambient temp. sensor malfunction			Four times
19	Outdoor pipe temp. sensor malfunction			Five times
20	Outdoor air exhaust temp. sensor malfunction			Eleven times
21	E2 PROM Error			Eleven times
22	Wire control ambient temp. sensor malfunction			Blink once

PROTECTION AND ERROR CODES

ERROR OR PROTECTION CODE INDICATION

When the Indoor unit is controlled by wired controller, error or protection codes are as follows:

NO.	Meaning	Code Indicated on display
1	Compressor high pressure protection unit stop	E1
2	Indoor unit anti-freezing protection	E2
3	Low-pressure protection unit stop	E3
4	Air exhaust protection unit stop	E4
5	Over current protection unit stop	E5
6	Communication malfunction unit stop	E6
7	Unit modes conflict	E3
8	Jumper malfunction	E3
9	Defrosting /Heating oil return	Defrost
10	Compressor overload protection unit stop	E5
11	System Unit malfunction	F2
12	IPM modular protection unit stop	E5
13	PFC protection unit stop	E5
14	Compressor malfunction	E9
15	Water spill protection	E9
16	Indoor ambient temp. sensor malfunction	F0
17	Indoor pipe temp. sensor malfunction	F1
18	Outdoor ambient temp. sensor malfunction	F3
19	Outdoor pipe temp. sensor malfunction	F2
20	Outdoor air exhaust temp. sensor malfunction	F4
21	E2 PROM Error	E3
22	Wire control ambient temp. sensor malfunction	F5

ERROR CODE LIST

No.	Malfunction name	Red light (running LED)	Yellow light (heating LED)	Green light (cooling LED)	Floor ceiling dual 8	Display of wire controller	Display of wire controller for duct type unit	
1	High pressure protection of system	Blink once			E1	Yes	E1	
2	Antifreezing	Blink twice			E2	Yes	E2	
3	Low pressure protection of system	Blink 3 times			E3	Yes	E3	
4	Discharge protection	Blink 4 times			E4	Yes	E4	
5	Low voltage overcurrent protection	Blink 5 times			E5	Yes	E1	
6	Communication malfunction	Blink 6 times			E6	No	E6	
7	Mode shock	Blink 7 times			E7	No	E2	
8	Malfunction of jumper cap	Blink 15 times			C5	No	E3	
9	Defrosting/heating oil return		Blink once		H1	Yes	Defrost	
10	Overload protection of compressor		Blink 3 times		H3	Yes	E5	
11	System is abnormal		Blink 4 times		H4	No	F4	
12	Module protection		Blink 5 times		H5	No	E3	
13	PFC protection		Blink 6 times		HC	No	E5	
14	Indoor Unit Water Full		Blinking	Blinking	E9	Yes	E9	
15	Out-of-step malfunction of compressor including erase malfunction		Blink 7 times		H7	No	H8	
16	Water overflow protection		Blink 8 times		H8	Yes	H8	
17	Indoor ambient temperature sensor is open circuit or short circuit			Blink once	F1	Yes	F0	
18	Indoor evaporator temperature sensor is open circuit or short circuit		Blink 5 times	Blink twice	F2	Yes	F1	
19	Outdoor ambient temperature sensor is open circuit or short circuit			Blink 3 times	F3	Yes	F3	
20	Outdoor condenser temperature sensor is open circuit or short circuit			Blink 4 times	F4	Yes	F2	
21	Discharge temperature sensor is open circuit or short circuit			Blink 5 times	F5	Yes	F4	
22	The reserved outdoor unit displays E2			Blink 11time	HA	No	No	
23	Malfunction of ambient temperature sensor on wire controller	Display the malfunction of indoor ambient temperature sensor when using this temperature sensor (Green light: blink once)					Yes	F5

TROUBLESHOOTING

When there's malfunction or protection, the display screen of indoor unit or LED will display corresponding code and LED on main board of outdoor unit will also display warnings. Please refer to the function parts as before for details. When protection or malfunction has been eliminated, the display will resume normal status.

Analysis or disposal for some display malfunction

No	Malfunction name	Indicator			Dual 8 nixie tube	Wire controller	Causes and troubleshooting
		Red light (running LED)	Yellow light (heating LED)	Green light (cooling LED)	Dual 8 for floor ceiling unit	Wire controller display method for duct type unit	
1	Malfunction of jumper cap	Blink 15 times			C5	E3	The jumper cap is missed or bad on main board of indoor unit. Please check or replace the correct jumper or the main board of indoor unit.
2	Water overflow protection		Blink 8 times		H8	H8	There's a connection malfunction at WATER-D on main board, or the water overflow switch is bad. Please check or replace it.
3	Indoor ambient temperature sensor is open circuit or short circuit			Blink once	F1	F0	The temperature sensor at ROOM on indoor main board has malfunction, please check or replace it.
4	Indoor evaporator temperature sensor is open circuit or short circuit			Blink twice	F2	F1	The temperature sensor at TUBE or TUBE-I or TUBE-O on indoor main board has malfunction. Please check or replace it.
5	Malfunction of ambient temperature sensor on wired controller	Display the malfunction of indoor ambient temperature sensor when using this temperature sensor. (Green light: blink once)				F5	Replace the wire controller.

Notes:

- For ceiling cassette indoor units, floor standing type indoor unit, the wired wall mount controller is optional. If the unit hasn't been installed with the wired controller, the error codes listed above will not be displayed.
- Ceiling Cassette indoor unit only has 3 indicators, no dual 8 display on the unit.
- Only the ceiling cassette indoor unit has the water overflow error protection. Floor ceiling type and duct type indoor fans are not built with this error protection.



USER NOTES AND INSTALLATION/SERVICE/MAINTENANCE NOTES

INSTALLATION NOTES

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

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

USER NOTES

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

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

SERVICE / MAINTENANCE NOTES

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





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

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

- **Symphony SOLAR DC Inverter**
(56) Single PV, (79) Single PH 12-18K Btu/h
(86) Single Zone All DC 09-24K Btu/h
(55) Multi Zone Solar VRF 3, 4, 8, 16, and 24 Ton.
- **Symphony SOLO DC Inverter**
(57)2,3 Single Zone 16 SEER, 09-36K Btu/h
(58)4, (78)1-Single Zone 18-23 SEER, 09-36K Btu/h
- **Symphony CHOIR DC Inverter**
(46)2 DC Inverter Multiple Zone 15 SEER, 2x09K and 2x12K Btu/h
(59)2S-DC Inverter Multiple Zone 16 SEER 6x09K to 9x09K Btu/h
(59)4-DC Inverter Multiple Zone 21 SEER 2x09K to 5x12K Btu/h
- **Symphony VRF - DC Inverter HP, Heat Recovery, and Solar. Up to 64 zones.**
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42"x16" PTAC/PTHP Electric Heater or Hot Water Coil, and VPAK
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