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

INSTALLER'S INSTRUCTION & USER'S MANUAL

Recessed Fan Coil Mini Split Systems
SYMPHONY SOLO DC INVERTER SINGLE ZONE (58)4 EF
18k-48k, 18-23 SEER Cooling and Heat Pump

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

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

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

NOTICE

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

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

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

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

SAFETY WARNING

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

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Introduction

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

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

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

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

Important Environmental Concerns

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

Responsible Refrigerant Practices

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

Disposal Notice

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

⚠WARNING

Proper Field Wiring and Grounding Required!

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

⚠WARNING

Personal Protective Equipment (PPE) Required!

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

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

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

Copyright

⚠WARNING

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

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

Basic Cautions and Warnings

⚠ CAUTION

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

⚠ CAUTION

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

⚠WARNING

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

⚠WARNING

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

⚠WARNING

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

Note From YMGI – Must Read

Dear Customers, Purchasers, Installers, and Contractors

Thank you for choosing an YMGI product.

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

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

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

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

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

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

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

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

IMPORTANT: YMGI Group is the MEDIA AUTHORITY:

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

NOTICE

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

⚠WARNING

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

1. Any foreign substances introduced into the system because of failure to seal the ends of the refrigeration piping before pulling the piping through any structures at time of installation.
2. Not installing an oil P-trap in the copper suction line where the indoor unit is located 18 feet or more below the outdoor unit.
3. Cross piping and/or cross wiring of any units including more than one single zone or a multi zone system.
4. Not conducting a positive leak check prior to the negative leak check.
5. Not conducting a positive leak check by charging the system with dry-nitrogen 350 PSI to hold for 3+ hours, and performing soap bubble testing.
6. Not conducting a negative leak check by evacuating the copper lines for 30 minutes for each zone. Vacuum must be held at 500 microns or better for at least 60 minutes, starting 60-minute timer after the vacuum pump is turned off.
7. Not selecting the correct size of wire or circuit breaker.
8. Not answering ALL questions in the technician's checklist located inside the warranty registration form.

⚠WARNING

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

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

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

INSTALLING TECHNICIAN/CONTRACTOR'S RESPONSIBILITIES

1. Discuss with the customer detailed information about the structure to be conditioned, local weather (typical design, extreme temperature/humidity conditions, cooling and heating hours), previous and existing HVAC equipment (if any), usage and dependence on new HVAC equipment or YMGI products.
2. Performing a cooling/heating load calculation by using commercially available professional programs/methods such as Right-J (Manual J) for residential HVAC applications and Right-CommLoad (ASHRAE RTS/CLTD) for light commercial and commercial HVAC applications.
3. Contact your YMGI distributor/sales department or contact the manufacturer directly to obtain additional information to fully understand your YMGI products, including but not limited to product features, cooling/heating performance at standard ratings/conditions and extreme conditions, allowed indoor and outdoor temperature and humidity ranges, installation, operation, maintenance, service, warranty, parts and any other issues pertaining to YMGI products.
4. Select the correct (most suitable) YMGI product unit models and accessories necessary for your HVAC applications and list them in the proposal/quote, in writing, on company's quotation form or letter head, based upon the information you collected from 1), 2) and 3).
5. List your currently valid HVAC license number and EPA number in your proposal/quote.
6. Make sure you are the only party to perform the entire installation and you will not sub-contract any part of the installation to any non-licensed parties or persons. You will be solely responsible for the entire installation that you have been contracted.
7. Make sure you have all the materials you need to properly, completely and correctly finish the installation. The YMGI units and accessories may be just a portion of what you will need for the project. When support issues arise, remember YMGI employees and YMGI distributors/sales, dealers and agents are not installers and may only provide suggestions. You are the only decision maker to determine what other materials you need to complete the installation.
8. When connecting electrical wires, follow all NEC, state and local codes and ensure the installation of all YMGI units and accessories meet these requirements.
9. Connect the unit to a correctly sized electrical power source. If the unit is installed in an area where lightning or storms occur frequently, a correctly sized and type of power surge protector must be installed between the outdoor unit and the power source.
10. Select the correct types and sizes of HVAC circuit breakers, disconnect switch boxes, wires and conduit from circuit breaker to disconnect box and then from disconnect box to outdoor unit.
11. Select the proper location for installing indoor units and outdoor units with all factory requirements being followed (cooling/heating air inlets and outlets are not blocked or restricted, mounting structure is secure, installation for convenience is considered, allow adequate clearance for maintenance/service and all applicable codes are met).
12. Cap/tape the two ends of every copper line before running them through any structure to keep any foreign substances from entering the pipe causing contamination. Label them A-A, B-B, C-C, D-D, or any other identifying marks on each pair of copper lines and wiring cable sets to keep from cross-piping or cross-wiring in multiple zone installations or where pipes for different single zone systems are close to one another.
13. Secure the wiring cables that connect between the indoor unit and outdoor unit, following all applicable NEC, state and local codes for your installation. If there is no special NEC, state or local codes to govern how these wires are to be installed, you can tape/cable tie them along with insulated copper line.
14. Tighten all pipe and wire connections ensuring there is no leakage or false connections.
15. Conduct a positive pressure leakage test, checking each of the inter-connecting copper lines between each indoor unit and outdoor unit by charging with dry-nitrogen at the outdoor unit’s service port (note: do not back-seat stopping valve). A liquid soap solution shall be applied at all pipe connections to check for leakage. A 1/4” - 5/16” hose/valve adaptor may be needed if you have a 1/4” traditional manifold hose connection.
16. If there is no positive leaking, then conduct a negative pressure leakage test, checking all inter-connecting copper lines between each indoor unit and outdoor unit by pulling vacuum at the outdoor unit’s service port (note: do not back-seat stopping valve) and checking that the vacuum level of 500 Microns can be held for at least 60 minutes.
17. If there is no leakage found at any of the refrigeration pipe connections, flip up the indoor unit’s face panel and remove filter, carefully pour some clear water onto the up-right aluminum coil surface to test if the water can drain out of each the indoor unit’s freely without finding any leakage.
18. If there is water leakage found, locate the source of the leak and correct it. Only after everything is clear, engage the correct electrical power to the system.
19. Then back-seat stopping valves of the outdoor unit to release refrigerant from the outdoor unit into the inter-connecting pipes and indoor unit.
20. Make sure both the indoor unit and outdoor unit are powered on correctly, operating the indoor unit in fan mode first. Then move on to test cooling, dehumidifying/drying, heating and other modes.
21. Read refrigerant pressures and pipe/valve temperatures only after the system is stabilized (normally 10 minutes after cooling/heating mode is started successfully). Record this data into the technician checklist in the lower half section of the Limited Product Warranty Registration Card/Form.
22. Adjust refrigerant charging level (remove refrigerant if pipe is shorter, the temperature is colder; add refrigerant if pipe is longer the temperature is warmer), following the manufacturer's instructions. If the average pipe length is shorter or longer than 25' and pressure/temperature readings at the outdoor unit service valves are not falling into normal ranges.
23. Explain to the user/owner about proper unit operation and maintenance. Leave your contact information to allow them to reach you. If the customer finds the unit doesn't work properly and cannot resolve the issue themselves, check the customer's units/parts/accessories and correct the issue if there is one. Communicate with YMGI-technical support line at (866)833-3138 x 703, if further help necessary.

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

LIMITED PRODUCT WARRANTY

Once the installation and successful testing of the system has been completely performed by a qualified licensed/certified HVAC technician/contractor, the registration card/form is filled out completely and correctly, and filed along with a valid installation invoice from the contractor within 7 days of the original installation, the following standard **Limited Product Warranty** is qualified: **7-years** on the **compressor** and **2-year** on **PARTS ONLY**. There is **no labor coverage**.

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

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

Parts: YMGI will warrant parts of an YMGI-validated and approved warranty filing, for two years from the date of successful installation at original installation location.

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

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

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

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

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

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

Steps to follow for warranty part replacement:

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

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

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

4. Replacement parts that have an approved warranty registration are to be warranted for the remainder of the 2-year on parts and a 7-year compressor warranty. Purchasing of replacement parts without a valid warranty filing or unapproved warranty request, will be sold as is and are not covered by any warranty.

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

LIMITED PRODUCT WARRANTY REGISTRATION FORM

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

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

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

Contact at Installation Location:

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

Contact of the Installing HVAC Contractor/Technician:

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

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

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

Yes	No	% of installation done by you (HVAC technician).

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

3) Did you read the User Manual and Installation Instructions before starting the installation?

Yes		No	

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

5) Supply electrical power V/Ph/Hz measured at wiring terminal block of

Indoor unit:		Outdoor unit:	

6) Incoming electrical power V/Ph/Hz measured at terminal blocks of

Indoor unit:		Outdoor unit:	

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

8) Wire gauge, length and terminal colors between each indoor and outdoor unit:

Unit A	Unit B	Unit C	Unit D

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

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

11) What is the refrigerant pipe length between each indoor unit and the outdoor unit?

Unit A	Unit B	Unit C	Unit D

12) Where is/are the indoor unit(s) located? (Bedroom, kitchen, etc.)

Unit A	Unit B	Unit C	Unit D

13) What is the elevation difference between each indoor unit and the outdoor unit?

Unit A	Unit B	Unit C	Unit D

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

Yes		No	

15) Where is the outdoor unit located?

Ground wall balcony roof other location or pad	Is the outdoor unit anchored to ground or secured onto wall bracket? Yes	No

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

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

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

Yes		No	

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

Yes		No	

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

21) Did you check the compressor's start and stop sequences to determine proper functionality?

Yes		No	

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

23) Measured refrigerant pressures at outdoor service suction valve, when unit was stabilized.

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

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

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

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

Yes		No	

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

Yes	No	Yes	No

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

Yes		No	

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

Yes		No	

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

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

By signing above, I acknowledge the liability and responsibility for any false statement or omission of facts, and I authorize YMGI to verify the details provided above, and make its decision on warranty. I understand our filing or filling out of the warranty card/form DOES NOT imply automatic warranty approval, because warranty is approved only to qualified and successful installations by a qualified HVAC technician. I understand that the warranty (if approved) is a standard 5 year compressor and 1 year parts only, and does not include any labor coverage. I agree to and will follow all the contents contained in the Limited Product Warranty Policy of YMGI, and no other entity, stated in public, including but not limited to manuals, web site, email, etc.

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

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

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

SUGGESTIONS TO AID YOU IN HIRING AN HVAC CONTRACTOR:

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

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

⚠WARNING

Safety Precautions

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

NOTICE

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

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

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

DO NOT undersize any of the power supply wires.

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

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

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

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

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

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

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

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

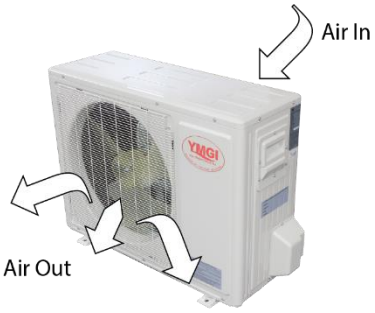
DO NOT use the unit in cool or dry mode for prolonged periods where humidity is higher than 90%.

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

BRIEF INTRODUCTION TO MINI SPLIT CEILING CASSETTE SYSTEM

Mini Split Recessed Fan Coil Systems are designed for high performance, easy installation and service. Each system consists of one indoor unit and one outdoor unit, which are connected by one set of interconnecting refrigerant pipes and electrical wires.

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



Outdoor unit

Indoor unit

Sample Recessed Fan Coil Mini Split System

(Due to Continuous Engineering Improvement and Various Marketing Needs and Actual Part Availability, Unit Appearance Subject to Change or Update Continuously without Prior Notice)

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

Indoor unit(s) delivers the thermal and acoustical comfort to the rooms. Air is drawn through the coil from the rear or back side and then discharged from the front. 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 filters (washable or enzyme equipped or electrostatic powered filter, varies from model to model), before being delivered into the room, with more than enough comfort and care, at a wide angle (swing or not, varies from model to model).

Apartments

Hotels

Homes

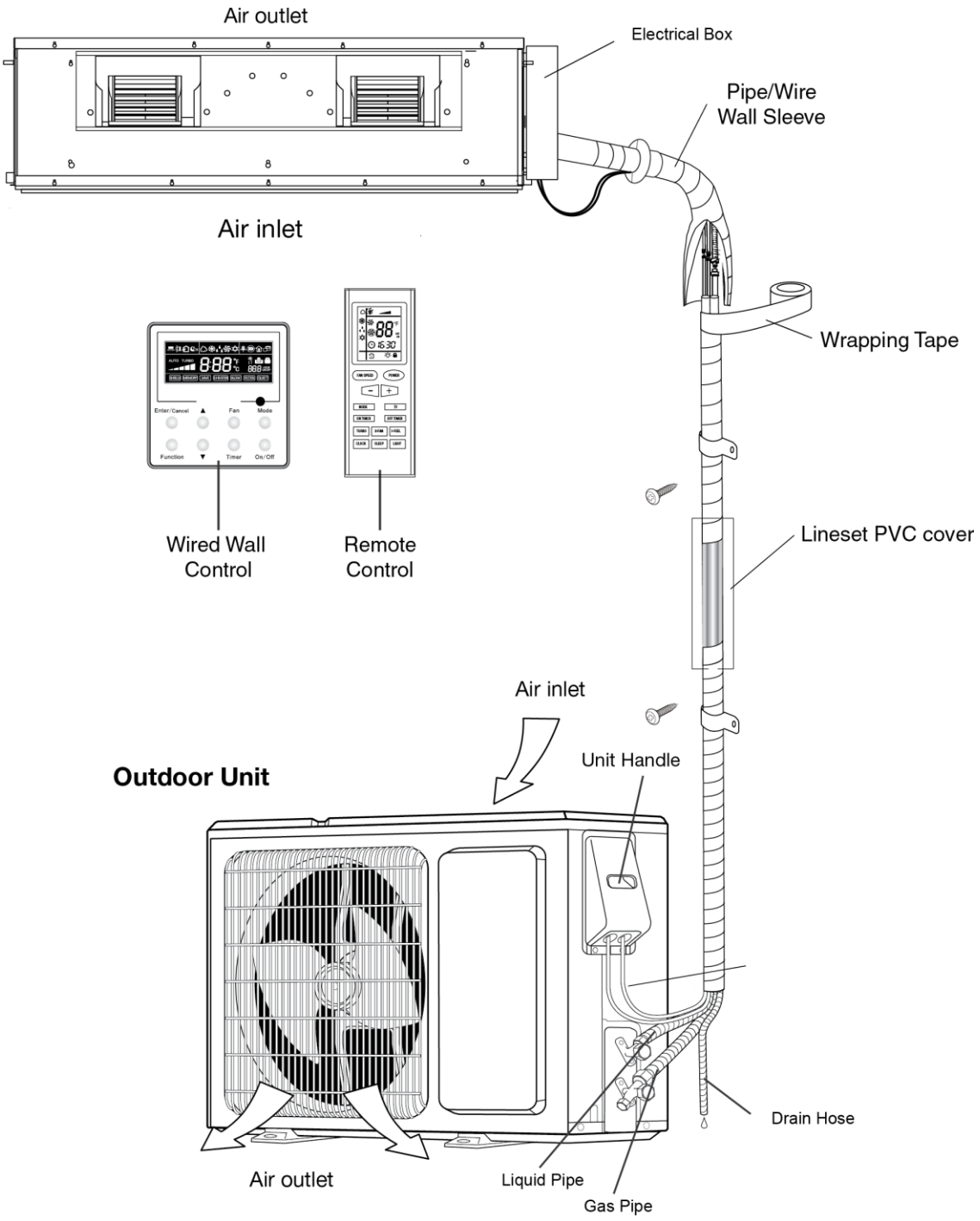
NOTES: Since ductless systems are not designed to incorporate or use ducted returns or discharge tunnels, one single-zone unit SHOULD NOT be used to take care of the cooling or heating load of more than one-story room. Several single-zone ductless systems or multiple-zone ductless systems would be proper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

These units are designed for applications at:

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

INSTALLED SYSTEM DIAGRAM

Unit and Main Components

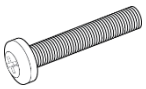
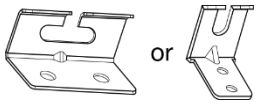
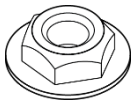
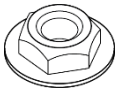
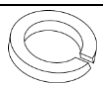
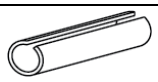
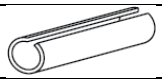
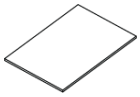


Notes: Actual unit/ part appearance and installation may vary from illustration. Subject to continuous improvement and change without notice.

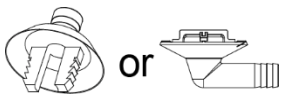
⚠ CAUTION

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

Indoor Unit Accessories (Field Supplied)

No.	Name	Appearance	Qty	Usage
1	Wired Controller		1	To control the indoor unit
2	Screw		2	To fix the base plate of wired controller and installation hole of the wall together
3	Hanger		4	To mount the indoor unit (except for WMMS-36EF-V2B(58)4 and WMMS-42EF-V2B(58)4
4	Screw		4	To attach the hook on the cabinet of the unit. (apply to WMMS-48EF-V2B(58)4
5	Nut with Washer		8	To attach the hook on the cabinet of the unit. For use with: WMMS-18EF-V2B(58)4, WMMS-24EF-V2B(58)4, WMMS-30EF-V2B(58)4
6	Nut with Washer		4	To be used together with the hanger bolt for installing the unit
7	Nut		4	To be used together with the hanger bolt for installing the unit
8	Washer		4	To be used together with the hanger bolt for installing the unit
9	Insulation		1	To insulate the gas pipe
10	Insulation		1	To insulate the liquid pipe
11	Fastener		4	To fasten the sponge
12	Sponge		2	To insulate the drain pipe
13	Nut		1	To connect liquid pipe
14	Nut		1	To connect gas pipe

Outdoor Unit Accessories (Field Supplied)

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

RECESSED FAN COIL SYSTEMS - SPECIFICATIONS

Unit Specifications and Engineering Submittal

System		WMMS-18KF-V2B(58)4	WMMS-24KF-V2B(58)4	WMMS-30KF-U2B(58)4	WMMS-36KF-U2B(58)4	WMMS-48KF-U2B(58)4
Power Supply	V/Ph/Hz	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60	208-230 / 1 / 60
Power Voltage Allowed Min./Max.	V	187 / 253	187 / 253	187 / 253	187 / 253	187 / 253
Surge Protector In Incoming Power Supply	Field-Install	Recommended	Recommended	Recommended	Recommended	Recommended
Cooling Capacity	Btu/h	17100	23800	28200	34000	48000
Capacity Range	Btu/h	5400-19800	7400-29000	8200-29600	10800-39000	20400-49500
Cooling Power Input Max.	W	1750	2500	3700	4500	5600
Heating Capacity @ 47 °F	Btu/h	18800	27200	31200	41000	54500
Heating Power Input Min./Stand./Max.	Btu/h	4700-23200	8200-32400	8200-33600	9800-49500	17500-58000
Heating Power Input Max.	W	1900	2750	3500	4600	5500
Heating Capacity @ 17 °F	Btu/h	10900	16700	16700	24600	30600
SEER		16.0	16.0	16.0	16.0	16.0
EER		11.0	10.7	8.6	10.4	9.3
COP	W/W	3.3	3.4	3.0	3.2	3.1
HSPF		9.5	10.0	9.0	9.00	9.00
Gas Pipe Size	in.	1/2	5/8	5/8	5/8	5/8
Liquid Pipe Size	in.	1/4	3/8	3/8	3/8	3/8
Indoor Unit Model		WMMS-18EF-V2B(58)4	WMMS-24EF-V2B(58)4	WMMS-30EF-U2B(58)4	WMMS-36EF-U2B(58)4	WMMS-48EF-U2B(58)4
Air Flow Volume	CFM	362/585	570 / 820	587 / 820	950/1175	900 / 1470
Dehumidifying Volume	/hr	0.66	0.9	1.04	1.28	1.80
Fan Motor Power Output	HP	1/10	1/5	1/5	1/3	3/4
Fan Motor FLA	A	0.6	1.3	2.0	2.1	4.0
Evaporator Form		Alum. Fin-Copper Tube	Alum. Fin-Copper Tube	Alum. Fin-Copper Tube	Alum. Fin-Copper Tube	Alum. Fin-Copper Tube
Set Temp. Range	°F	61-86	61-86	61-86	61-86	61-86
Sound Pressure Level	dB (A)	28 / 39	40 / 46	40 / 46	44 / 52	41 / 53
Sound Power Level	dB (A)	28 / 39	40 / 46	40 / 46	44 / 52	41 / 53
Max. Over Current Protection	A	15	15	15	15	15
Min. Current (MCA)	A	1.0	2.0	2.0	3.0	5.0
Indoor Unit Dimensions	in.	40.88x 29.0 x 10.5	50.38 x 22.0 x 10.5	50.38 x 22.0 x 10.5	48.25 x 30.5 s 11.375	52.75 x29.5 x 13.75
Outdoor Unit Model		WMMS-18C-V2B(58)4	WMMS-24C-V2B(58)4	WMMS-30C-U2B(58)4	WMMS-36C-U2B(58)4	WMMS-48C-U2B(58)4
Compressor Type		DC Inverter Driven Rotary	DC Inverter Driven Rotary	DC Inverter Driven Rotary	DC Inverter Driven Rotary	DC Inverter Driven Rotary
Compressor RLA	A	12.0	18.0	18.0	21.2	35.5
Fan Motor Power Output	HP	1/6	1/6	1/6	2/9	2 x 1/6
Fan Motor FLA	A	1.5	1.5	1.5	2.0	2 x 2.0
Max. Over Current Protection	A	25	40	40	45	70
Min. Current (MCA)	A	17.0	24.0	24.0	29.0	45.0
Outdoor Unit Air Flow Volume	CFM	2590	2590	2590	2590	2590
Condenser Fin / Tube		Alum. Fin-Copper Tube	Alum. Fin-Copper Tube	Alum. Fin-Copper Tube	Alum. Fin-Copper Tube	Alum. Fin-Copper Tube
Max. Allowable Pressure	PSIG	624	624	624	624	624
Throttling Method		Electron expansion valve	Electron expansion valve	Electron expansion valve	Electron expansion valve	Electron expansion valve
Defrosting Method		Automatic Defrosting	Automatic Defrosting	Automatic Defrosting	Automatic Defrosting	Automatic Defrosting
Sound Pressure / Power Level	dB (A)	56 / 56	57 / 57	58 / 58	63 / 63	59 / 59
Cooling Operation Ambient Temp. Range	°F	0 ~ 118	0 ~ 118	0 ~ 118	0 ~ 118	0 ~ 118
Heating Operation Ambient Temp. Range	°F	0 ~ 75	0 ~ 75	0 ~ 75	0 ~ 75	0 ~ 75
R410A Refrigerant Factory Charge	ozs	49.6	78.4	84.8	123.2	140.8
Factory Charge for Pipe Length	ft.	25	25	25	25	25
Gas Additional Charge	oz/ft.	0.3	0.6	0.6	0.6	0.6
Outdoor Unit Dimensions (WHD)	in.	37.6 x 27.5 x 14.1	38.625 x 31.125 x 15.5	38.625 x 31.125 x 15.5	43.625 x 43.25 x 15.75	37.75 x 53.125 x 14.75

RECOMMENDED TOOLS FOR INSTALLATION

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

- Ruler (Not Shown)
- Stud-Finder
- Dry-Wall Saw
- Electric Drill
- 3" Hole Saw
- Drill Extension
- Hammer Drill and Bit (Not Shown)
- Measuring Tape
- Level
- Flash Light
- Screw Driver (Phillip's and Flat)
- Hammer
- Knife
- Scissors
- Safety Glasses
- Dust Mask
- Gloves
- Ladder

2) Refrigeration Related Work

- Individual wrench Set (Use Two at One Time)
- Flare-Nut Tool Set (Not Shown)
- Hex Head Allen Wrench Sets (Metric and Imperial)
- Brazing Rods and Brazing Torch
- Outfit for AC Application (Not Shown)
- Brazing Flux
- Nitrogen Cylinder for Positive Pressure Leakage Check (Not Shown)
- Soap Bubble for Positive Pressure Leakage Check (Not Shown)
- Vacuum Pump for Negative Pressure Leakage Check
- Helium Refrigerant for Minor Leakage Check (Not Shown)
- Manifold

3) Electrical Related Installation

1. Wire Cutter
2. Wire Stripper
3. Sharp Plier
4. Cable Ties
5. Black Tape for Electrical Use
6. Electrical Meter

4) Trial Running Units and Inspection

- Clamp Meter (Not Shown)
- Manifold
- Infra Thermometer (Not Shown)

INSTALLATION SITE SELECTION

Indoor Unit

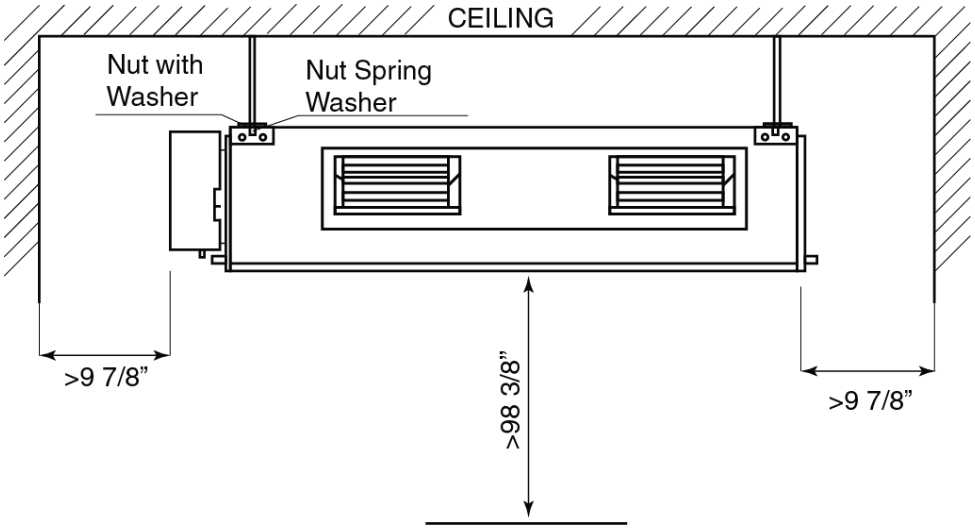
Selection of the Installation Location

⚠WARNING
• The unit must be installed in a location strong enough to withstand the weight of the unit, and be fixed securely, otherwise the unit could topple or fall off.
• Do not install where there is a danger of combustible gas leakage.
• Do not install the unit near heat source, steam, or flammable gas.
• Children under 10 years old must be supervised not to operate the unit.

Decide the installation location with the customer as follows:

Indoor Unit

1. Install the unit at a location that is strong enough to withstand the weight of the unit.
2. The unit air inlet and outlet should never be blocked, so that the airflow can reach every corner of the room.
3. Leave service space around the unit as required in Fig. 1.

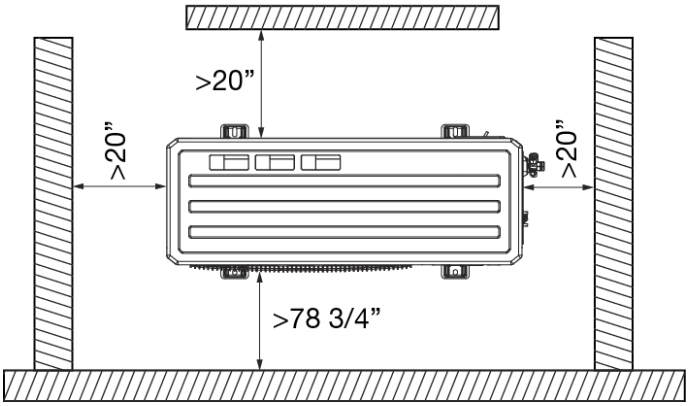


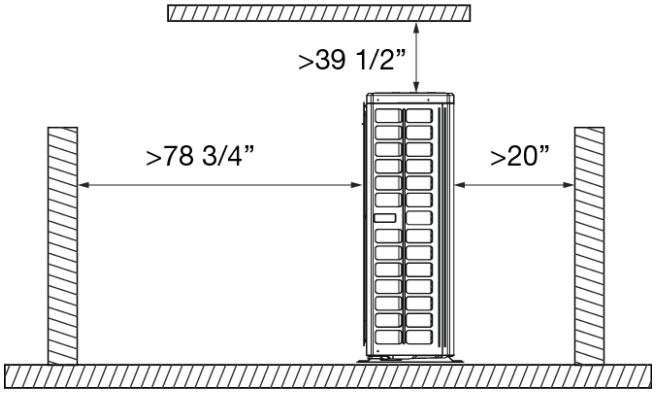
4. Install the unit where the drain pipe can be easily installed.
5. Keep as much space between the unit and the ceiling as possible so as for more convenient servicing.

Outdoor Unit

1. Install the unit where it will not be tilted by more than 5°.
2. During installation, if the outdoor unit has to be exposed to strong wind, it must be mounted securely.
    a. If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)
    b. Install the outdoor unit in a place where it will be free from dirt or getting wet from rain as much as possible.
    c. Install the outdoor unit where it is convenient to connect the indoor unit.
    d. Install the outdoor unit where the condensate water can drain freely during heating operation. Do not place animals and plants in the path of the warm air.
    e. Install the outdoor unit where is capable of withstanding the weight of the unit and generates as little noise and vibration as possible.
    f. Provide the minimal amount of space shown in Fig. 2, so that the air flow is not blocked. Also for efficient operation, leave at least three of the four directions open and not facing peripheral construction.

Outdoor Unit Clearances





Connection Pipe Requirements

⚠ CAUTION

The maximum length of the connection pipe is listed in the table below.
Do not place the units were the distance exceeds the maximum length of the connection pipe.

Item Model	Size of Fitting Pipe inch (mm)		Max. Pipe Length feet (m)	Max. Height Difference between Indoor Unit and Outdoor Unit feet (m)	Drainage pipe (Outer Diameter × wall thickness) inch (mm)
	Liquid	**Gas**			
WMMS-18EF-V2B(58)2 WMMS-18C-V2B(58)2	1/4 (6)	1/2 (12.7)	50(164)	49-1/5 (15)	Φ1-1/8×3/50 (Φ30×1.5)
WMMS-24EF-V2B(58)2 WMMS-24C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-30EF-V2B(58)2 WMMS-30C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-36EF-V2B(58)2 WMMS-36C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-42EF-V2B(58)2 WMMS-42C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-48EF-V2B(58)2 WMMS-48C-V2B(58)2	3/8 (9.5)	5/8 (16)	70(230)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)

Notes:

1. The connection pipe should be insulated with proper water-proof insulating material.
2. The pipe wall thickness should be 1/50~1/25 inch (0.5~1.0mm) and the pipe wall should be able to withstand the pressure of 6.0MPa (870psig). The longer the connecting pipe, the lower the cooling and heating performance.

Electrical Requirements

Electric Wire Size and Fuse Capacity.

Indoor Units	Power Supply	Fuse Capacity	Minimum Circuit Ampacity	Maximum Overcurrent Protection
	V/Ph/Hz	A	A	A
WMMS-18EF-V2B(58)2	208V/230V~60Hz	5	1	15
WMMS-24EF-V2B(58)2	208V/230V ~60Hz	5	2	15
WMMS-30EF-V2B(58)2	208V/230V ~60Hz	5	2	15
WMMS-36EF-V2B(58)2	208V/230V ~60Hz	5	3	15
WMMS-42EF-V2B(58)2	208V/230V ~60Hz	5	3	15
WMMS-48EF-V2B(58)2	208V/230V ~60Hz	5	5	15

Outdoor Units	Power Supply	Fuse Capacity	Minimum Circuit Ampacity	Maximum Overcurrent Protection
	V/Ph/Hz	A	A	A
WMMS-18C-V2B(58)2	208V/230V ~60Hz	**5**	**15.9**	**25**
WMMS-24C-V2B(58)2	208V/230V ~60Hz	**5**	**23.4**	**40**
WMMS-30C-V2B(58)2	208V/230V ~60Hz	**5**	**23.4**	**40**
WMMS-36C-V2B(58)2	208V/230V ~60Hz	**5**	**27.7**	**45**
WMMS-42C-V2B(58)2	208V/230V ~60Hz	**5**	**29.7**	**50**
WMMS-48C-V2B(58)2	208V/230V ~60Hz	**5**	**36.5**	**60**

Notes:

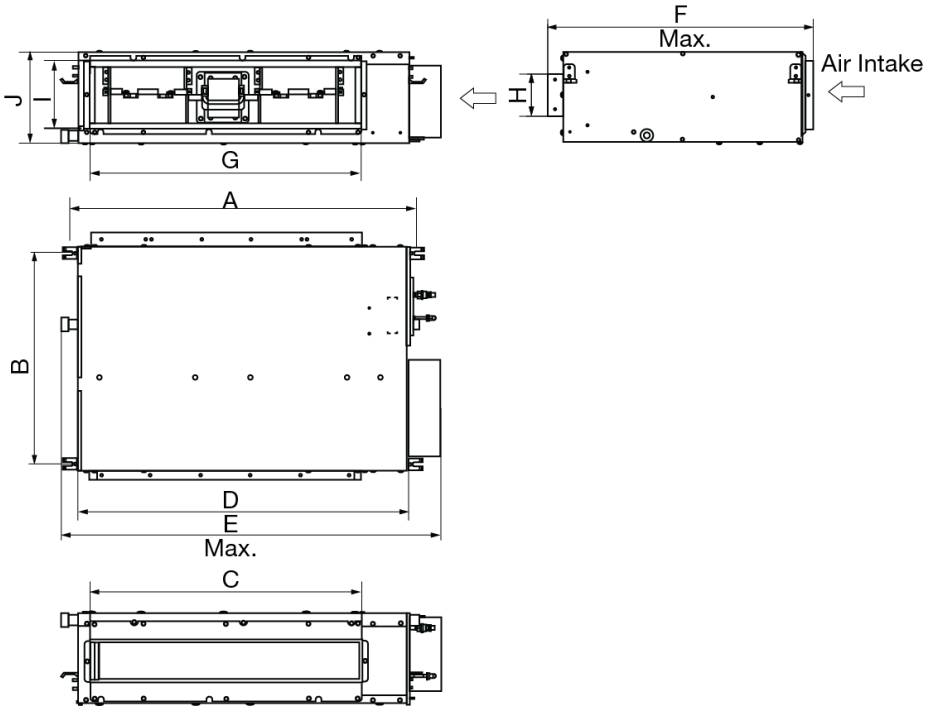
1. The fuse is located on the main board.
2. Install the disconnect device with a contact gap of at least 1/8inch (3mm) in all poles nearby the units (Both indoor unit and outdoor unit).The unit must be positioned so that the plug is accessible.
3. Take 2 pieces of power cord of 0.75mm2 (AWG18) as the communication lines between indoor and outdoor unit, with their longest lengths of 164feet (50m). Please adjust wires to the appropriate length as is necessary for the installation conditions. The communication lines cannot be twisted together.
   For units ≤30k, using a 26-1/4feet (8m) long communication line is recommended.
4. Take 2 sections of power cord of 0.75mm2 (AWG18) as the communication lines between the wired controller and the indoor unit, with their longest lengths of 98-1/4 feet (30m). Select the appropriate line length as per the actual installation conditions. The communication lines cannot be twisted together. Using a 26-1/4 feet (8m) long communication line is recommended.
5. The wire size of the communication line should be no less than 0.75mm2
6. (AWG18). It's recommended to take 0.75mm2 (AWG18) power cords as the communication line.

Indoor unit dimensions

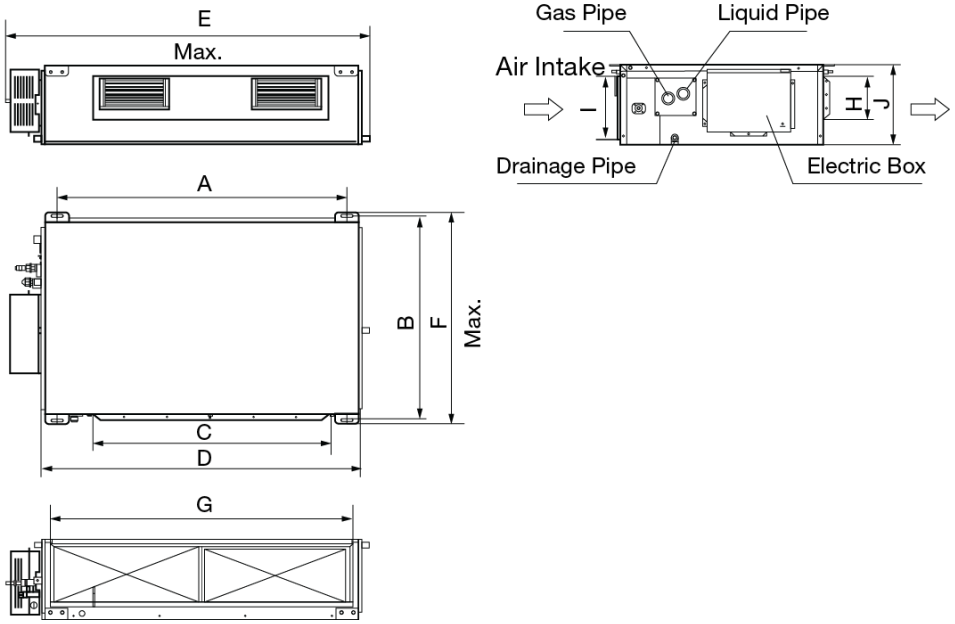
⚠WARNING

- Install the indoor unit in a location that can withstand a load of at least five times the weight of the main unit and will not amplify sound or vibration.
- If the installation location is not strong enough, the indoor unit can fall and cause injuries.
- If the installation is done using the panel frame only, there is a risk that the unit can come loose. Please use caution.

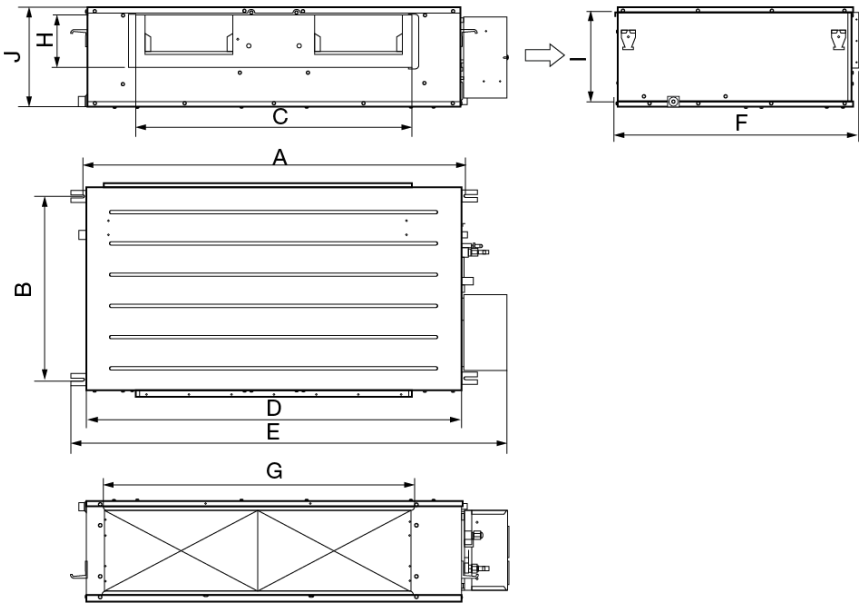
18k



24k-42k



48k



Unit: inch (mm)

Model	A	B	C	D	E	F	G	H	I	J
WMMS-18EF-V2B(58)2	37-1/4” (945)	24-3/8” (620)	29” (740)	35-1/8” (890)	40-7/8” (1035)	28-3/8” (720)	29” (740)	4-7/8” (125)	8“ (205)	10-1/2” (265)
WMMS-24EF- V2B(58)2	43-3/8” (1100)	20-3/8” (515)	32-1/4” (820)	45-5/8” (1160)	50-3/8” (1280)	22” (560)	39-1/2” (1000)	6-1/4” (160)	9-1/4” (235)	10-1/2” (270)
WMMS-30EF- V2B(58)2										
WMMS-36EF- V2B(58)2	39-3/4” (1010)	29-1/2” (750)	32-1/4” (820)	43-7/8” (1115)	48-1/4” (1225)	30-1/2” (775)	38-1/2” (980)	6-1/4” (160)	9-1/8” (230)	11-3/8” (290)
WMMS-42EF- V2B(58)2										
WMMS-48EF- V2B(58)2	46-3/8” 1170	25-3/8” (645)	33-1/2” (850)	45-1/4” (1150)	52-3/4” (1340)	29-1/2” (750)	37-1/2” (950)	7-1/2” (190)	12-1/2” (315)	13-3/4” (350)

Installation of the Indoor Unit

Drilling Holes for Bolts and Installing the Bolts

Using the installation template, drill holes for bolts (four holes) (Fig. 2).

Installing the Suspension Bolts

1. Install the bolts into the ceiling in a location strong enough to hang the unit. Mark the bolt positions using the installation template. With a concrete drill, drill for 1/2 inch (12.7 mm) diameter holes (Fig. 3).
2. Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer (Fig. 4).
3. Install the hanger to the unit (Fig. 5).
4. Pass the unit hangers over the bolts installed to the ceiling and install the unit with the special nut (Fig. 6).

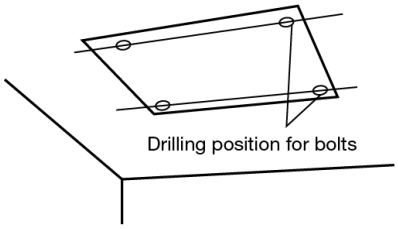


Fig. 2

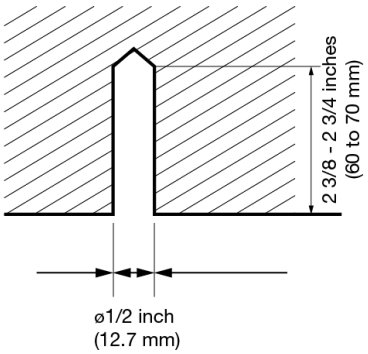


Fig. 3

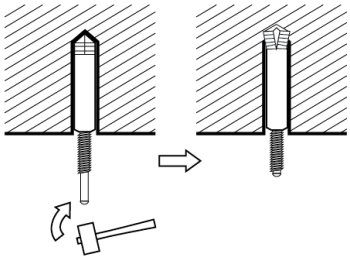


Fig.4

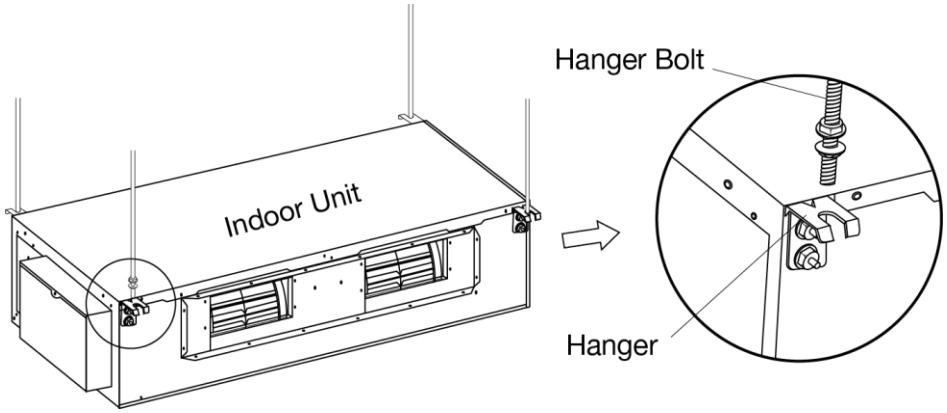


Fig. 5

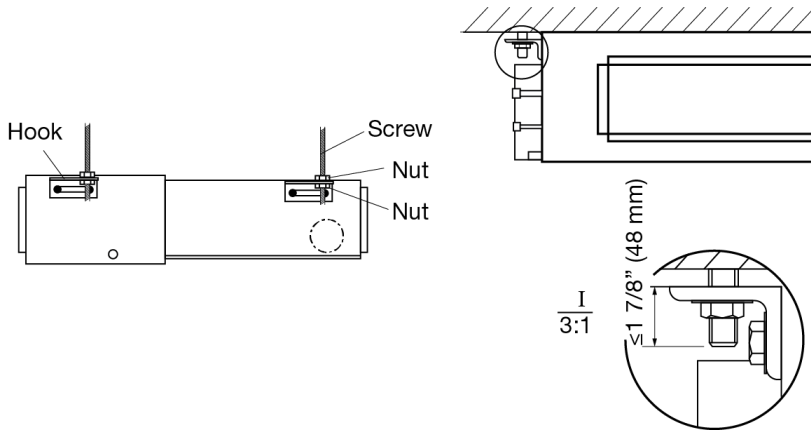
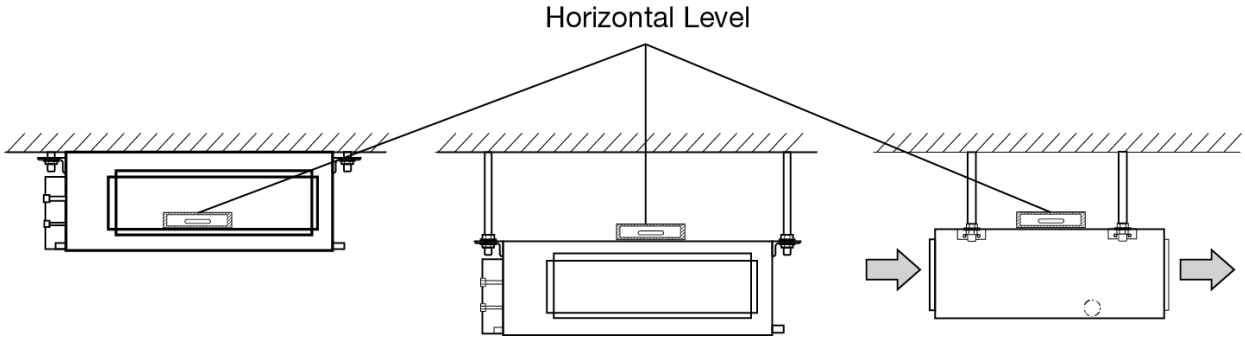


Fig. 6

Leveling

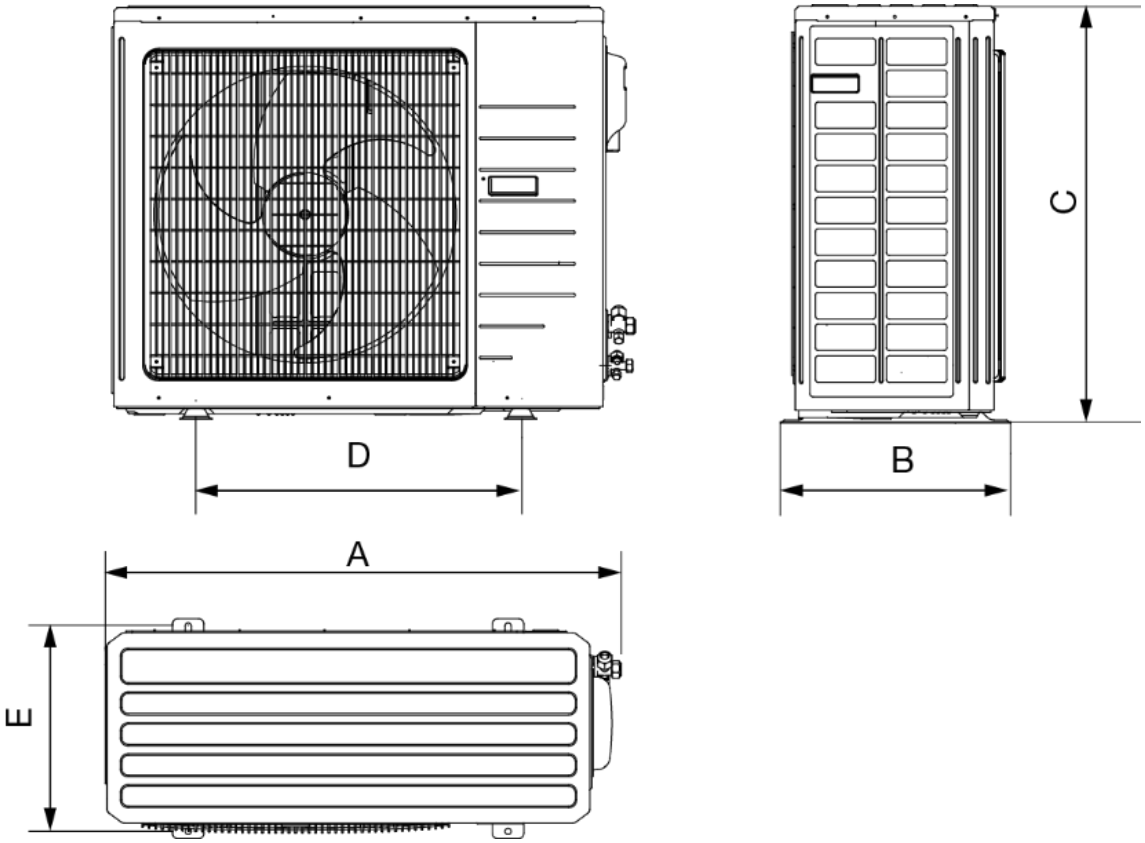
The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.



Outdoor Unit Dimensions

⚠WARNING

- Install the unit where it will not be tilted more than 5°.
- During installation, if the outdoor unit has to be exposed to strong wind, make sure it is fixed securely.



Unit: inch (mm)

Model	A	B	C	D	E
WMMS-18C-V2B(58)2	37-5/8” (955)	15-1/2” (395)	27-1/2” (700)	22” (560)	14-1/8” (360)
WMMS-24C- V2B(58)2	38-5/8” (980)	16-3/4” (425)	31-1/8” 790)	24” (610)	15-1/2” (395)
WMMS-30C- V2B(58)2					
WMMS-36C- V2B(58)2	43-5/8” (1105)	17-3/8” (440)	43-1/4” (1100)	24-7/8” (630)	15-3/4” (400)
WMMS-42C- V2B(58)2	37-3/4” (960)	16-1/4” (410)	53-1/8” (1350)	22-1/2” (570)	14-3/4” (375)
WMMS-48C- V2B(58)2					

Installation of the Outdoor Unit
Condensate Drainage of the Outdoor Unit

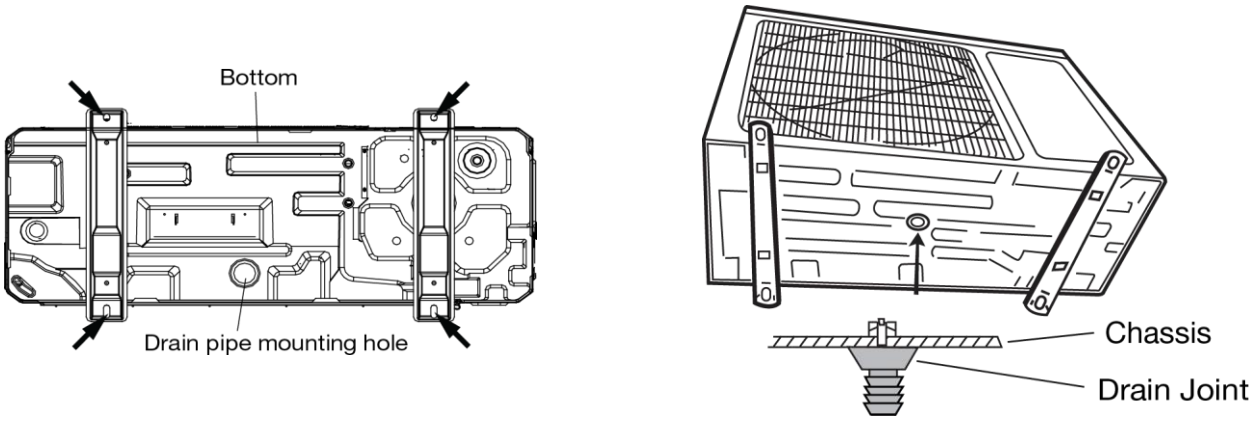


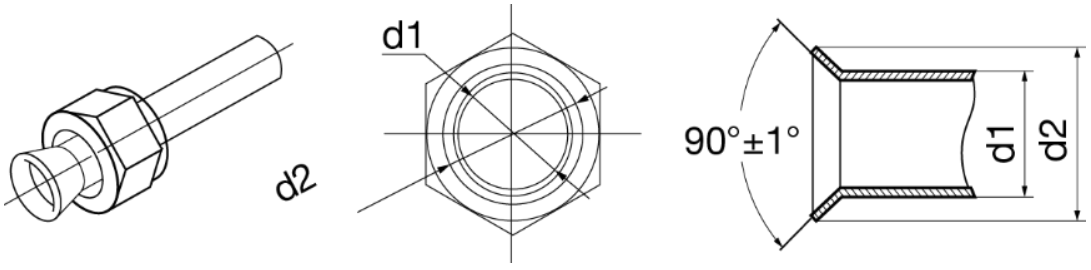
Fig. 9

1. Installing a drain pipe for the outdoor unit is required to drain the condensate water during heating operation (only for the heat pump unit).
2. When installing the drain pipe, apart from the drain pipe mounting hole, all other holes should be plugged, to avoid water leakage (only for the heat pump unit).
3. To install: Insert the pipe joint into the 1 inch (Φ25mm) hole located at the base plate of the unit and then connect the drain pipe to the pipe joint.

Installation of the Connection Pipes

Flare Processing

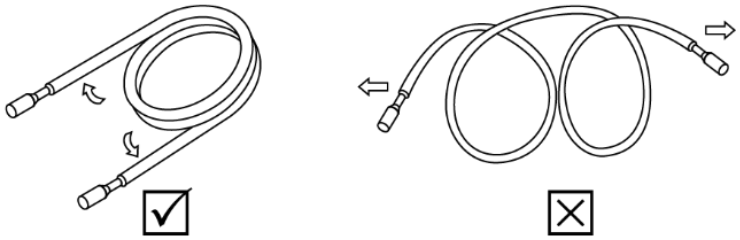
1. Cut the connection pipe with the pipe cutter and remove the burrs.
2. Hold the pipe downward to prevent cuttings from entering the pipe.
3. Remove the flare nuts on the stop valve of the outdoor unit, and inside the accessory bag of the indoor unit. Insert the connection pipe. Then, flare the connection pipe with a flaring tool.
4. Check if the flare part is spread evenly and there are no cracks (see Fig. 10).



Bending Pipes

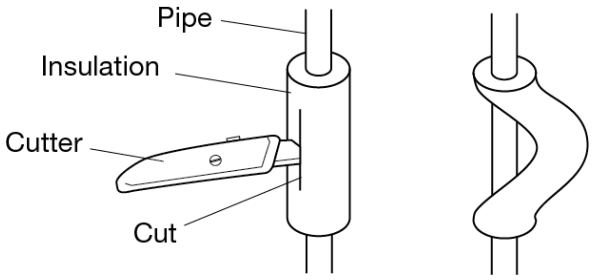
1. Shape the pipes using your hands. Be careful not to kink or collapse them.

   Extend the refrigerant pipe by unwinding it.



2. Do not bend the pipes at an angle more than 90°.
3. When pipes are repeatedly bent or stretched, the material will become brittle, making it difficult to bend or stretch them again. Try not to bend or stretch the pipes more than three times.
4. When bending the pipe, do not bend it with the insulation on the pipe. The pipe could kink or collapse, and the insulation will make it impossible to see.

   Cut the heat insulating pipe with utility knife as shown in Fig. 12, and bend it once the pipe is exposed. After bending the pipe as needed, be sure to replace the heat insulation back onto the pipe, and secure it with tape.



⚠ CAUTION
1. To prevent breaking of refrigerant pipes, avoid sharp bends. Bend the pipe with a radius of curvature of 5-7/8 inch (150mm) or greater.
2. If the pipe is bent repeatedly at the same place, it will become brittle and break.

Connecting the Pipe to the Indoor Unit Side

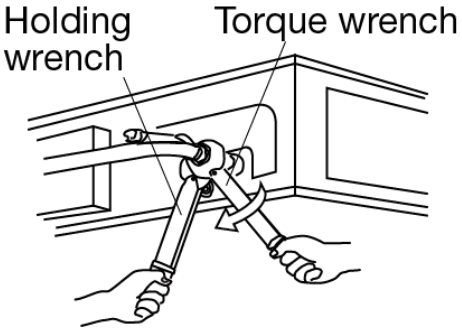
Detach the caps and plugs from the pipes.

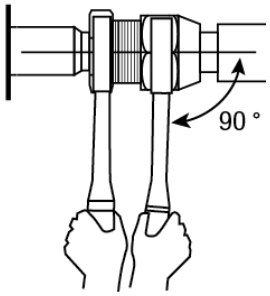
⚠ CAUTION
1. Be sure to install the pipe against the port on the indoor unit correctly. If the pipe is off-center, the flare nut cannot be tightened smoothly. If the flare nut is forced to tighten, the threads will be damaged.
2. To prevent dust or debris from entering the pipe system, DO NOT remove the flare nut until the connection pipe is to be connected.

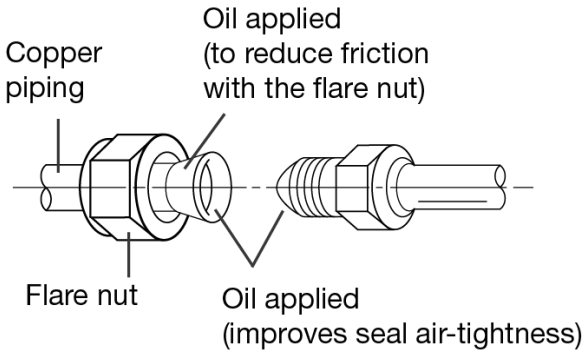
Center the pipe against port on the indoor unit turn the flare nut with your hand

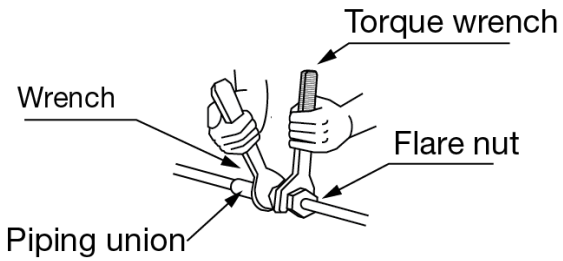
⚠ CAUTION
1. Be sure to install the pipe against the port on the indoor unit correctly. If the pipe is off-center, the flare nut cannot be tightened smoothly. If the flare nut is forced to tighten, the threads will be damaged.
2. To prevent dust or debris from entering the pipe system, DO NOT remove the flare nut until the connection pipe is to be connected.

When the flare nut is tightened properly by hand, use a torque wrench to finish tightening it.









Flare Nut Tightening Torque

Pipe Diameter	Tightening Torque
1/4inch (6mm)	15~30N·m (11~22ft.-1b.)
3/8inch (9.5mm)	35~40N·m (26~29ft.-1b.)
1/2inch (12.7mm)	45~50N·m (33~37ft.-1b.)
5/8inch (16mm)	60~65N·m (44~48ft.-1b.)

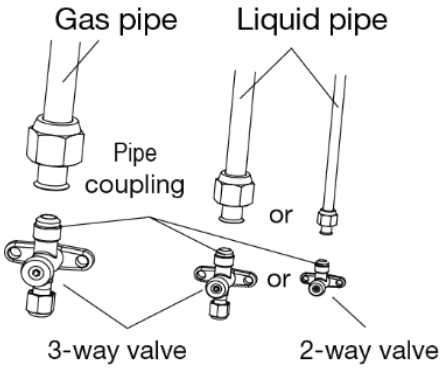
⚠ CAUTION

1. Connect the liquid pipe completely before connecting the gas pipe.

Connecting the Pipe to the Outdoor Unit

Tighten the flare nut of the connection pipe at the outdoor unit valve connector.

The tightening method is the same as that as at the indoor side.

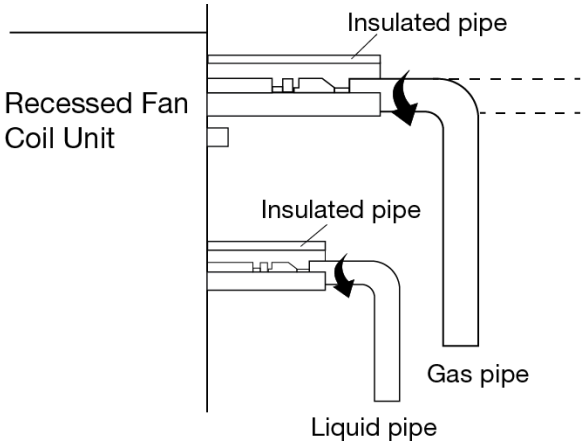


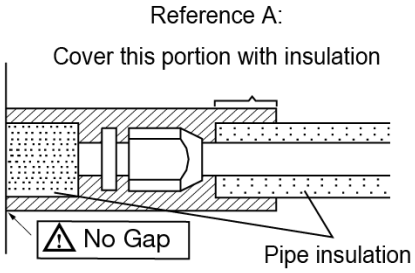
Checking the Pipe Connections for Gas Leaking

For both indoor and outdoor unit side, check the joints for gas leaking by the use of a gas leakage detector without fail when the pipes are connected.

Heat Insulation on the Pipe Joints (Indoor Side Only)

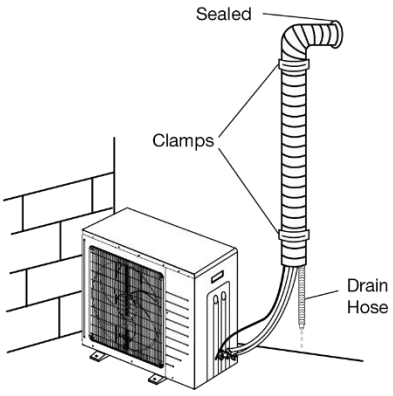
Stick coupler heat insulation (large and small) to the place where connecting pipes.



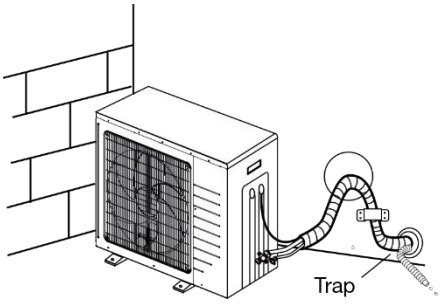


Liquid Pipe and Drain Pipe

1. **If the outdoor unit is installed lower than the indoor unit (See Fig. 17)**
   a. A drain pipe should be above ground, and the end of the pipe should not rest in drained water. All pipes must be secured to a wall by clamps.
   b. Taping pipes should be done from bottom to top.
   c. All pipes must be bound together using insulation tape, and secured to a wall with clamps.



2. **If the outdoor unit is installed higher than the indoor unit (See Fig. 18)**
   a. Taping should be done from lower to the upper part.
   b. All pipes are bound and taped together and also should be trapped to prevent water from returning to the room.
   c. Secure all pipes to the wall with clamps.



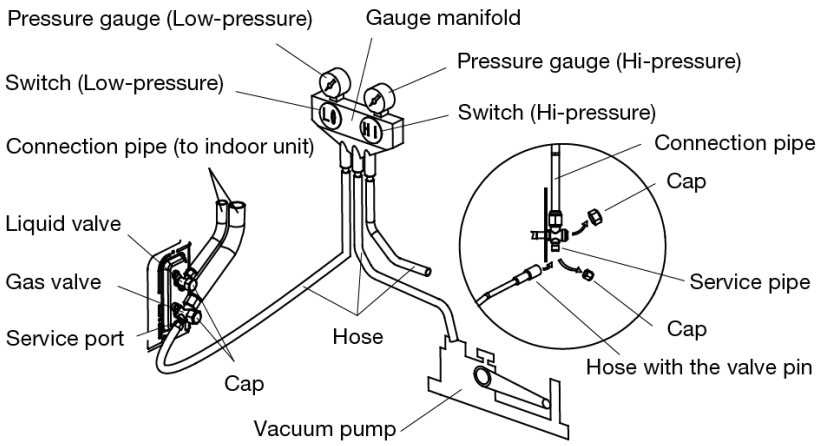
Vacuum and Gas Leakage Inspection

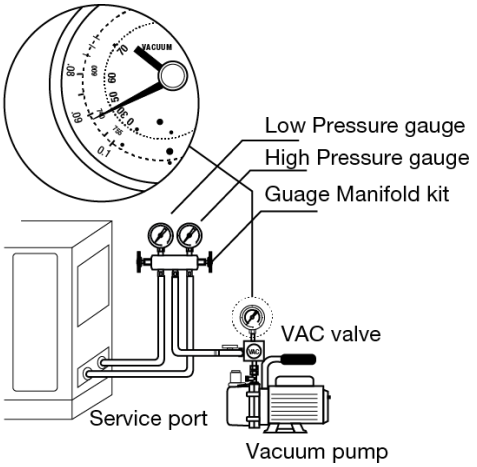
⚠ CAUTION

Do not purge the air using refrigerants. Use a vacuum pump to vacuum the installation!
There is no extra refrigerant in the outdoor unit for air purging!

Vacuum

1. Remove the caps of the liquid valve, gas valve and the service port.
2. Connect the hose at the low pressure side of the manifold valve assembly to the service port of the unit's gas valve, and meanwhile the gas and liquid valves should be kept closed in case of refrigerant leak.
3. Connect the evacuation hose to the vacuum pump.
4. Open the switch at the low pressure side of the manifold valve assembly and start the vacuum pump. Meanwhile, the switch at the high pressure side of the manifold valve assembly should be kept closed, otherwise evacuation would fail.
5. The evacuation duration depends on the unit's capacity, generally, 20 minutes for the 18k units, 30 minutes for the 24k/30k/36k units, 45 minutes for the 42k/48k units. Verify that the pressure gauge at the low pressure side of the manifold valve assembly reads -1.0MPa (145psig). If not, it indicates there is leak somewhere. Once this is completed, close the switch fully and then stop the vacuum pump.
6. Wait for several minutes to see if the system pressure remains unchanged. We recommend waiting 3 minutes for the 18k/24k units, 10 minutes for the 30k/36k/42k/48k units. During this time, the reading of the pressure gauge on the low pressure side cannot be greater than 0.005MPa (0.72psig).
7. Open the liquid valve slightly, and let some refrigerant go to the connection pipe to balance the pressure inside and outside of the connection pipe, so that air will not come into the connection pipe when removing the hose. **Note: The gas and liquid valve can be opened fully only after the manifold valve assembly has been removed.**
8. Place back the caps of the liquid valve, gas valve and also the service port.





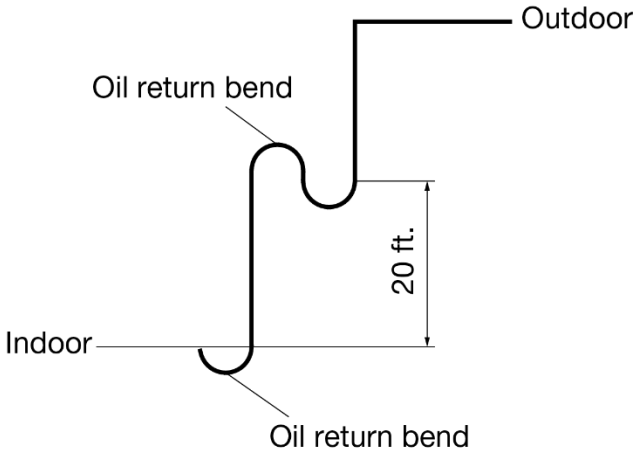
Note: Large-sized units have a service port for both the gas valve and the liquid valve. During evacuation, it is possible to connect two hoses of the manifold valve assembly to two service ports to quicken the evacuation.

Additional Refrigerant Charge

The outdoor unit comes charged from the factory with enough refrigerant suitable for a piping length of 25 feet (7.6m). When the piping is longer than 25 feet (7.6m), additional charging is necessary.
For the additional amount, see Table below.

Item Model	Additional Refrigerant Amount for Extra Pipe
18k	**1.6 ounce per 5 feet (45g per 1.5m)**
24k~48k	**3.2 ounce per 5 feet (90g per 1.5m)**

When the height difference between the indoor unit and outdoor unit is larger than 32-4/5 feet (10m), an oil bend should be employed for every 19-2/3 feet (6m).



Drain Hose Installation

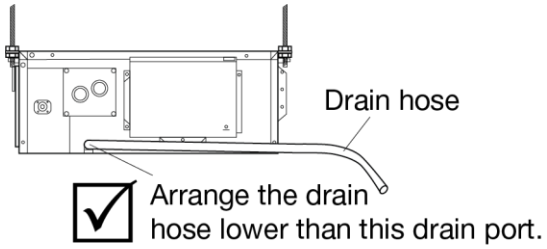
1. Do NOT connect the condensate drain pipe to waste pipes or other pipelines that are likely to produce offensive odors or potentially corrosive gases, to prevent the smell from entering indoors or cause damage to the unit.
2. Do NOT connect the condensate drain pipe to rain pipes, to prevent rain water from pouring in and cause property loss or personal injury.
3. Condensate drain pipe should only be connected to a drain system exclusively for the air conditioner.

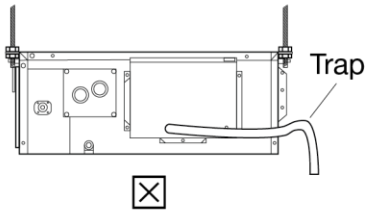
Installation of Drain Piping

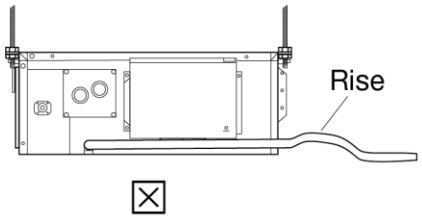
⚠ CAUTION

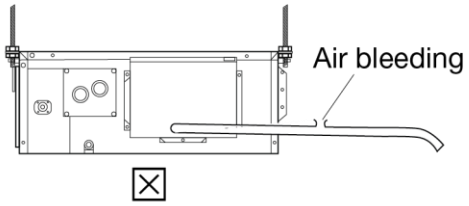
Install the drain hose according to the instructions in this installation manual. Keep the area warm enough to prevent condensation. Problems with the piping may lead to water leaks.

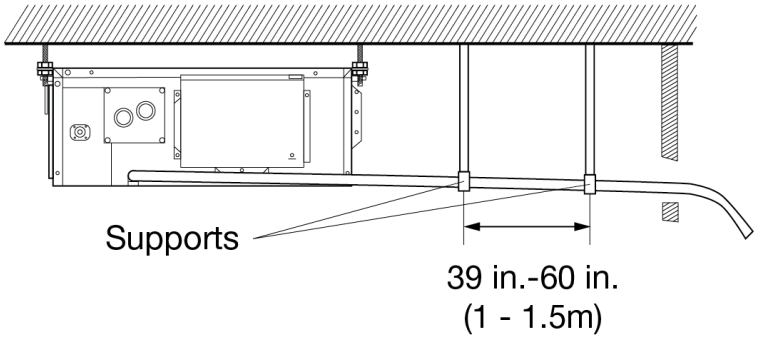
1. Install the drain hose with downward gradient (1/50 to 1/100) with no risers or traps being used for the hose
2. Be sure there are no cracks or leaks in the drain hose to avoid the formation of air pocket.
3. When the hose is long, install appropriate supports.
4. Always use a drain hose that has been insulated properly.

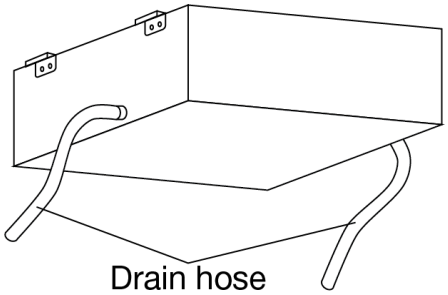


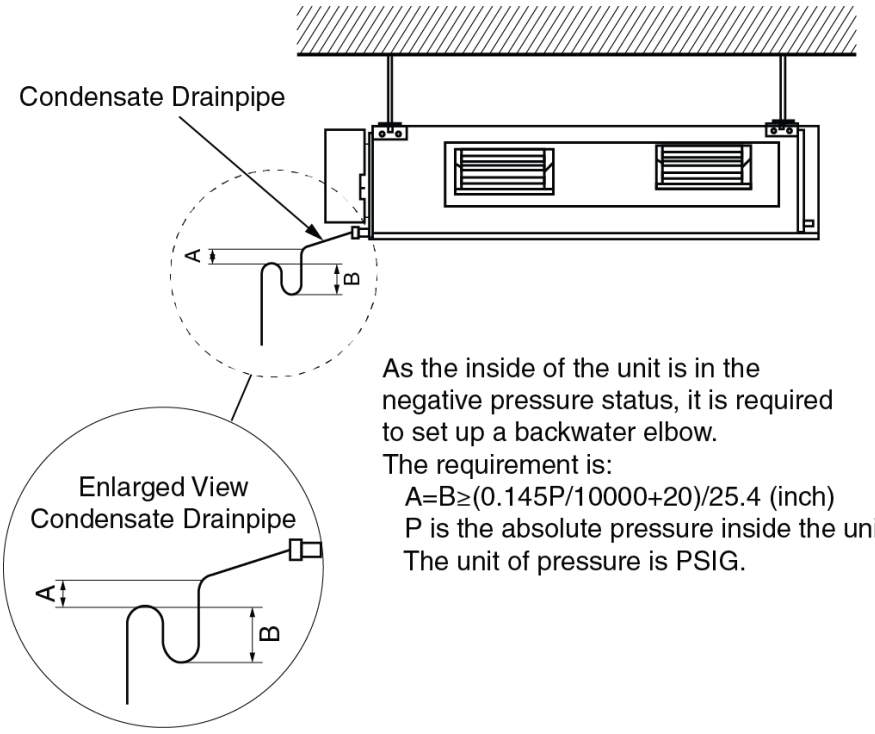






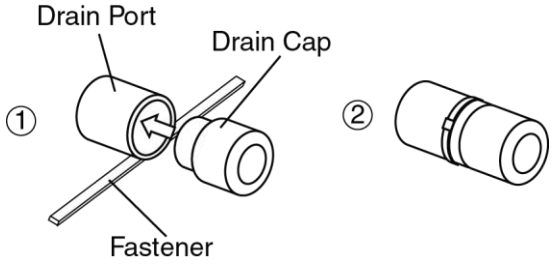






As the inside of the unit is in the negative pressure status, it is required to set up a backwater elbow.
The requirement is:
A=B≥(0.145P/10000+20)/25.4 (inch)
P is the absolute pressure inside the unit.
The unit of pressure is PSIG.

5. Use a suitable drain hose, and see Table below for correct size.
6. There is a drain port on both the left and right sides. Select the drain port that best suits the installation locations conditions (Fig. 23).
7. When the unit is shipped from the factory, the drain port is defaulted to be on the left side (electric box side), the port on right side is been plugged.
8. If using the drain port on the right side of the unit, reinstall the drain cap to the left side drain port (Fig. 25).

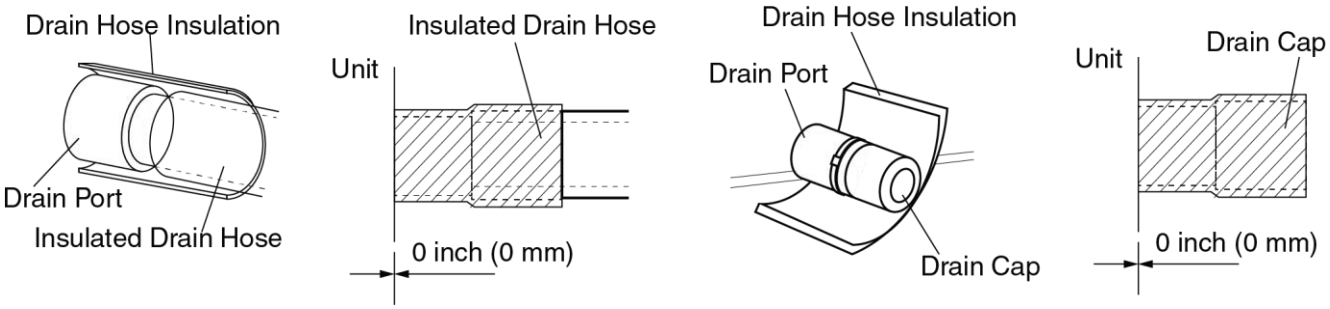


Item Model	Size of Fitting Pipe inch (mm)		Max. Pipe Length feet (m)	Max. Height Difference between Indoor Unit and Outdoor Unit feet (m)	Drainage pipe (Outer Diameter × wall thickness) inch (mm)
	Liquid	**Gas**			
WMMS-18EF-V2B(58)2 WMMS-18C-V2B(58)2	1/4 (6)	1/2 (12.7)	50(164)	49-1/5 (15)	Φ1-1/8×3/50 (Φ30×1.5)
WMMS-24EF-V2B(58)2 WMMS-24C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-30EF-V2B(58)2 WMMS-30C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-36EF-V2B(58)2 WMMS-36C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-42EF-V2B(58)2 WMMS-42C-V2B(58)2	3/8 (9.5)	5/8 (16)	50(164)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)
WMMS-48EF-V2B(58)2 WMMS-48C-V2B(58)2	3/8 (9.5)	5/8 (16)	70(230)	49-1/5 (15)	Φ3/4×6/125 (Φ20×1.2)

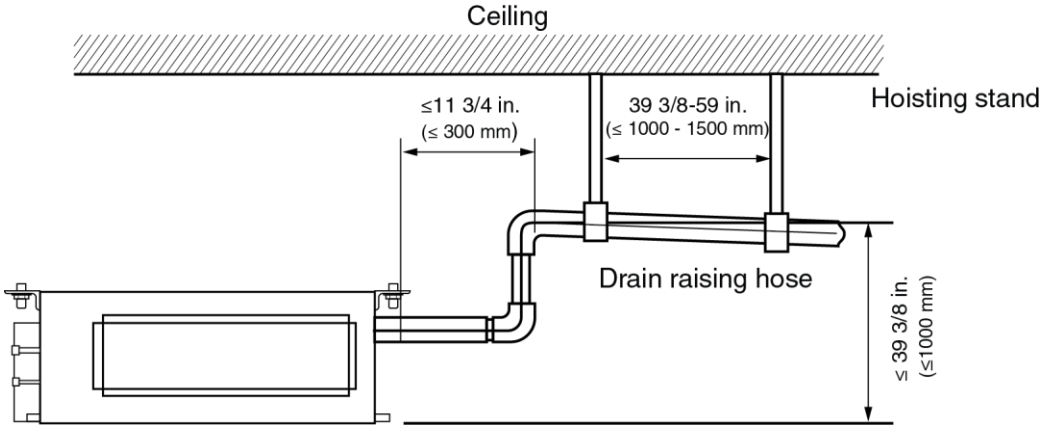
⚠ CAUTION

Make sure that the drain cap is installed into the unused drain port, and is fastened with the nylon fastener. If the drain cap is not installed, or is not securely fastened with a nylon fastener, water may drip from the unit during the cooling operation

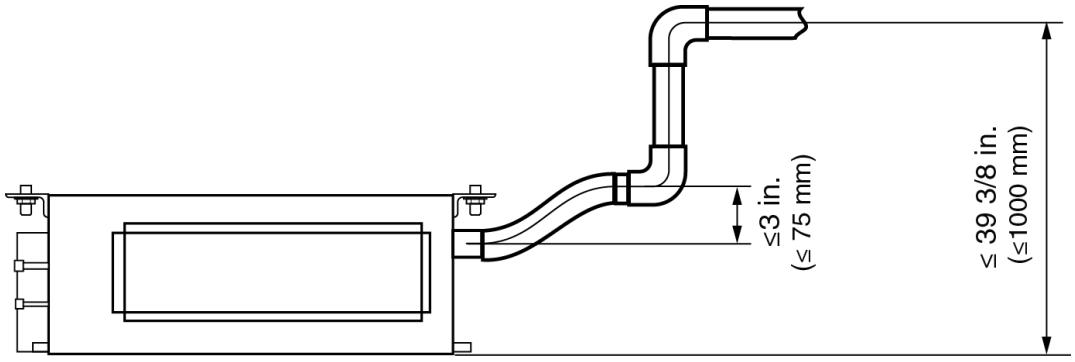
1. Be sure to insulate where the drain port and the drain hose is connected (Fig. 26).
2. The unused drain port should also be insulated properly (Fig. 27).



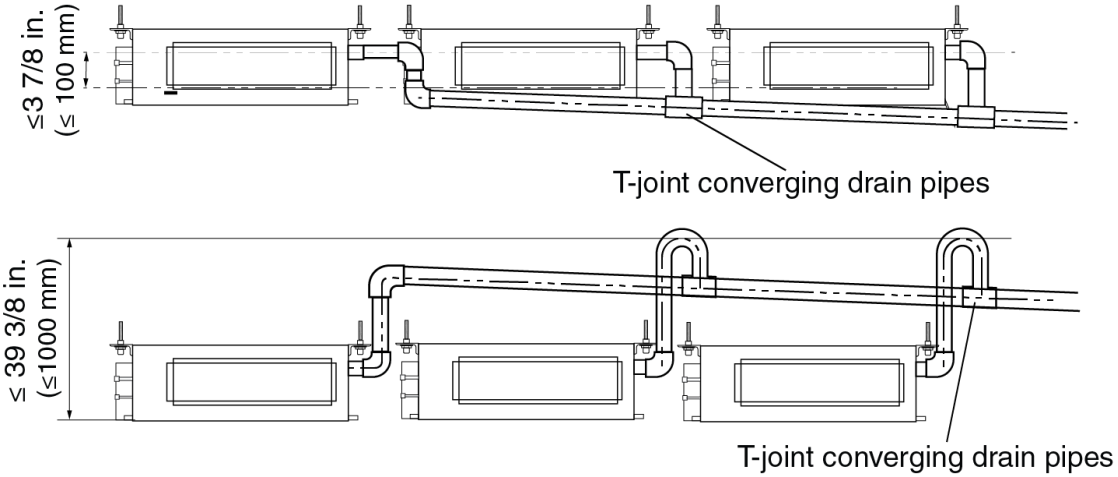
3. There is adhesive on one side of the insulation, so after removing the protective paper, the insulation can be directly attached to the drain hose.
4. Considerations for the unit with the condensate pump:
    a. For units with a condensate pump: there is only one drain port that is prepared for installation. Use the port on the side closest to the electric box to connect the drain hose during installation.
    b. See Table on the previous page for the size of the drain port of units with a condensate pump, which is different than the unit without the condensate pump.
    c. For units with a condensate pump, two drain ports located at the bottom come from the factory plugged with drain caps. After the installation of the drain hose, these two drain ports also need to be insulated properly as described above.
    d. The drain hose for the unit with the condensate pump should be installed as shown in the figure below.



- The vertical height of the drain hose should be 3 inches (75 mm) or less so that the drain port does not have to withstand any unnecessary additional force.



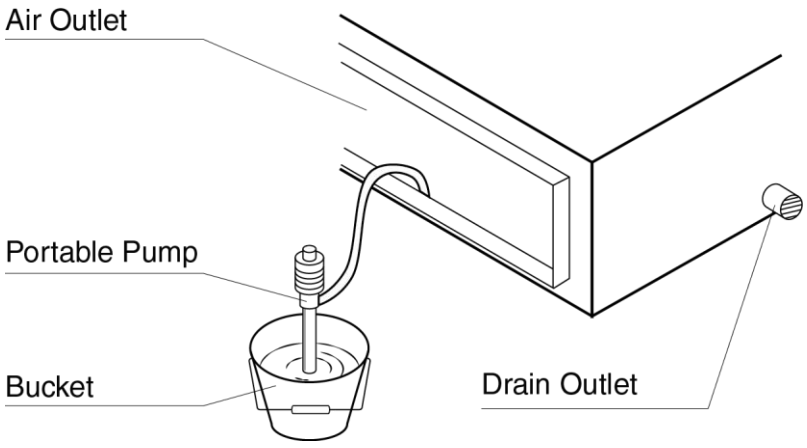
- When multiple drain hoses are used, the installation should be completed as shown in the figure below.



Testing of Drain Piping

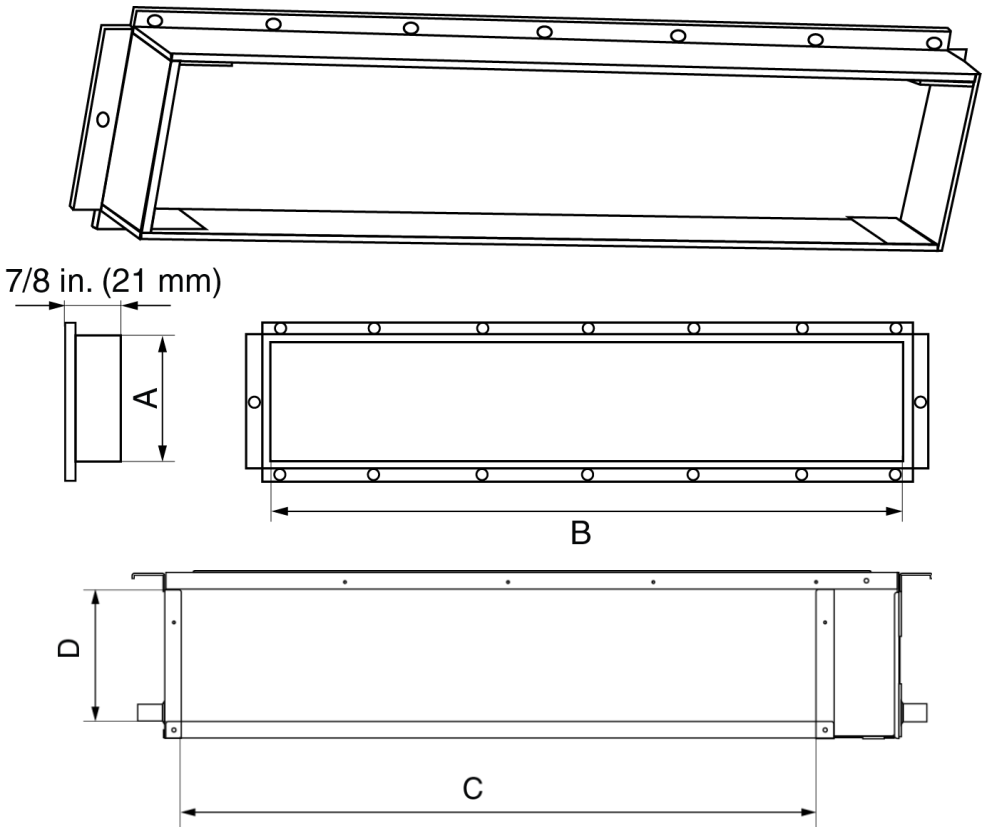
After piping work is finished, check to make sure drainage flows smoothly.

As shown in the figure, add approximately 1 liter of water slowly into the drain pan and check drainage flow while the system is running in COOL mode.



Duct Installation

Dimensions of the Supply Air Outlet/Return Air Inlet

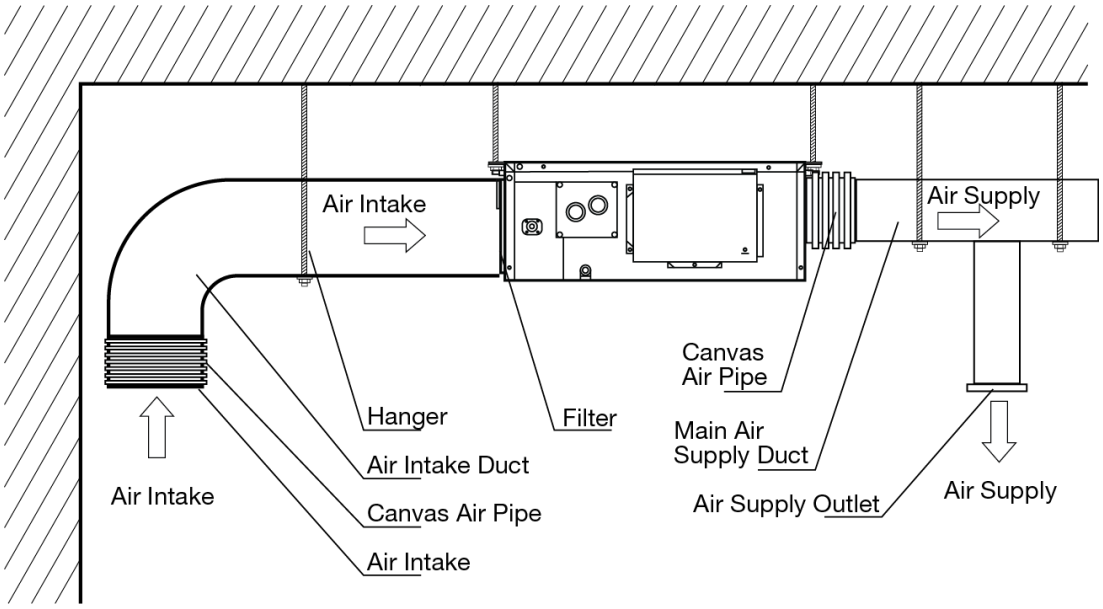


Unit: inch (mm)

Item Model	Supply Air Outlet		Return Air Inlet	
	A	B	C	D
WMMS-18EF-V2B(58)4	4-7/8” (123)	29” (736)	28” (710)	6-1/2” (166)
WMMS-24 EF-V2B(58)4	6-1/4” (158)	32-1/4” (818)	39-1/8” (994)	7-5/8” (195)
WMMS-30 EF-V2B(58)4	6-1/4” (158)	32-1/4” (818)	39-1/8” (994)	7-5/8” (195)
WMMS-36 EF-V2B(58)4	6-1/4” (158)	32-1/4” (818))	39-3/8” (1000)	8-1/8” (206)
WMMS-42 EF-V2B(58)4	6-1/4” (158)	32-1/4” (818)	39-3/8” (1000)	8-1/8” (206)
WMMS-48 EF-V2B(58)4	7-1/2” (190)	33-1/2” (850)	37” (940)	11-1/4” (286)

Installation of the Supply Air Duct

1. **Installation of the Rectangular Duct.**

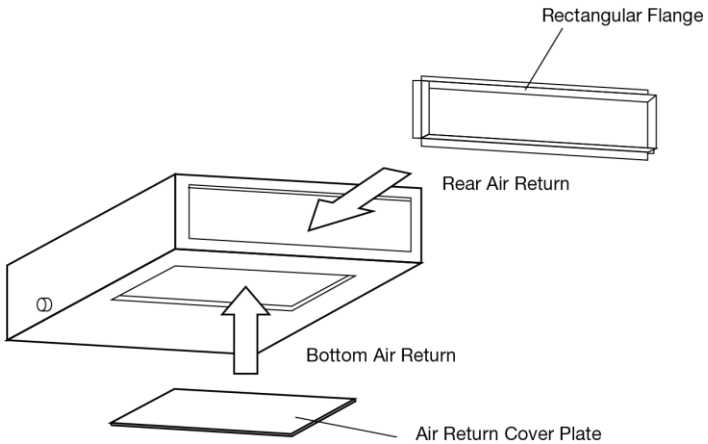


⚠ CAUTION

- The maximum length of the duct is calculated by defined as:
  the maximum length of the supply air duct plus the maximum length of the return air duct.
- The duct is rectangular and connected with the air inlet/outlet of the indoor unit. At least one should be kept open at all times.

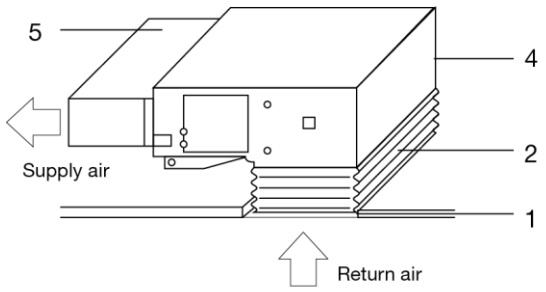
Bottom Return Air Installation only for the 18k Units.

2. **The default installation location of the rectangular flange is at the rear of the unit, and the return air cover plate is located at the bottom, as shown in Fig. 35.**

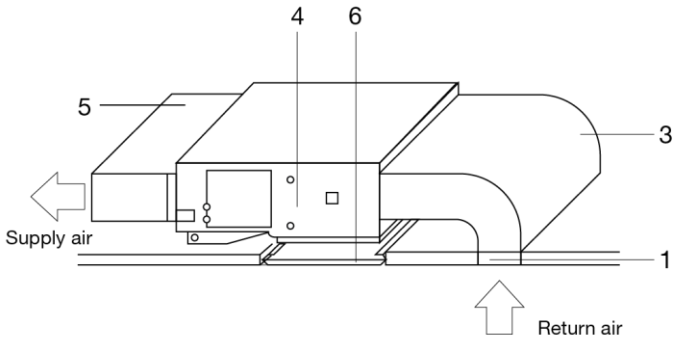


3. If the bottom air return is required, change the location of the rectangular flange and the return air cover plate.

4. Connect one end of the return air duct to the unit's return air outlet using rivets, and the other to the return air louver. For convenience and to be able to easily adjust the height, a canvas duct will be helpful, which can be reinforced and folded using #8 iron wire.
5. Increased noise will be produced when the unit is installed using the bottom return air mode. It is recommended that to a silencer and a static pressure box be installed to help minimize the noise.
6. The installation method should be chosen after considering the installation location in the building and ease of servicing and maintenance, as shown in Fig. 36.



Installation of the Return Air Duct (A)



Installation of the Return Air Duct (B)

Installation of the return air duct

No.	Name	No.	Name
1	Return Air Inlet (with filter)	4	Indoor unit
2	Canvas Duct	5	Supply Air Duct
3	Return Air Duct	6	Grille

Electrical Wiring

Wiring Precautions

⚠WARNING
• Disconnect all supply circuits before obtaining access to terminals.
• The rated voltage of the unit is as shown as Table 4 and Table 5.
• Before powering on, verify that the voltage is within the 187~252V range (for single phrase units).
• Always use a dedicated branch circuit and install a special receptacle to supply power to the air conditioner.
• Use a dedicated branch circuit breaker and receptacle matched to the capacity of the air conditioner.
• The dedicated branch circuit breaker must be installed with permanent wiring. Always use a circuit that can trip all the poles of the wiring, and has an isolation distance of at least 1/8 inch (3mm) between the contacts of each pole.
• Perform wiring work in accordance with standards so the air conditioner can be operated safely.
• Install a ground fault dedicated branch circuit breaker in accordance with the related laws and regulations and electric company standards.

⚠ CAUTION
• The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.

Electrical Wiring

1. **For solid core wiring (Fig. 37)**
   a. Cut the wire end using a pair of wire cutters, then strip the insulation about 1 inch (25 mm).
   b. Using a screwdriver, remove the terminal screw(s) on the terminal board.
   c. Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
   d. Shape the loop wire properly, then place it on the terminal board and tighten securely with the terminal screw using a screwdriver.
2. **For strand wiring (Fig. 37)**
   a. Cut the wire end with a pair of wire cutters, then strip the insulation about 3/8 inch (10 mm).
   b. Using a screwdriver, remove the terminal screw(s) on the terminal board.
   c. Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
   d. Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver (Fig. 38).

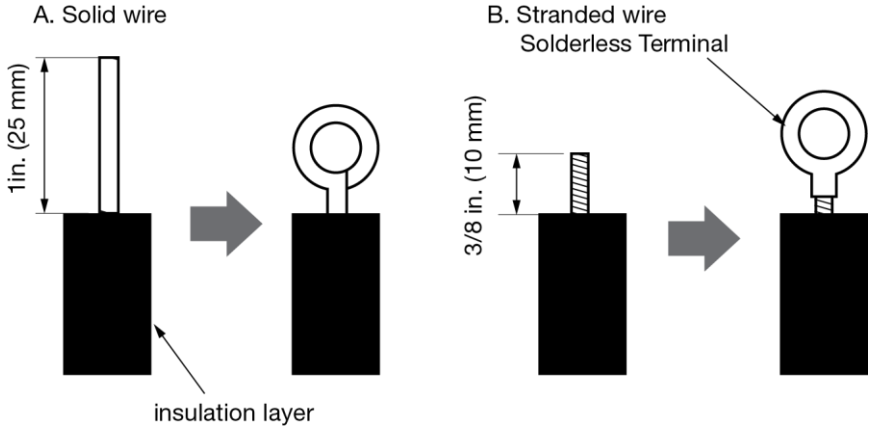


Fig. 37

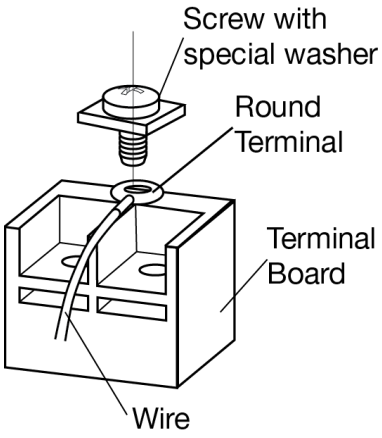
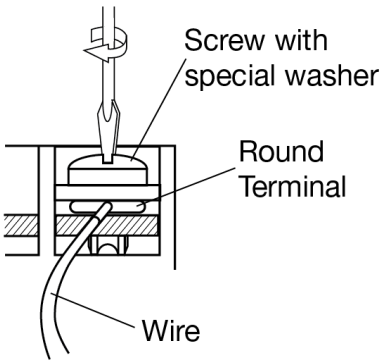


Fig.38



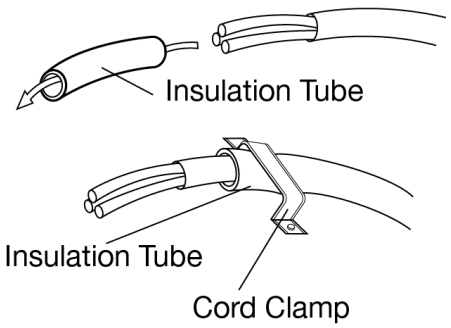


Fig. 39

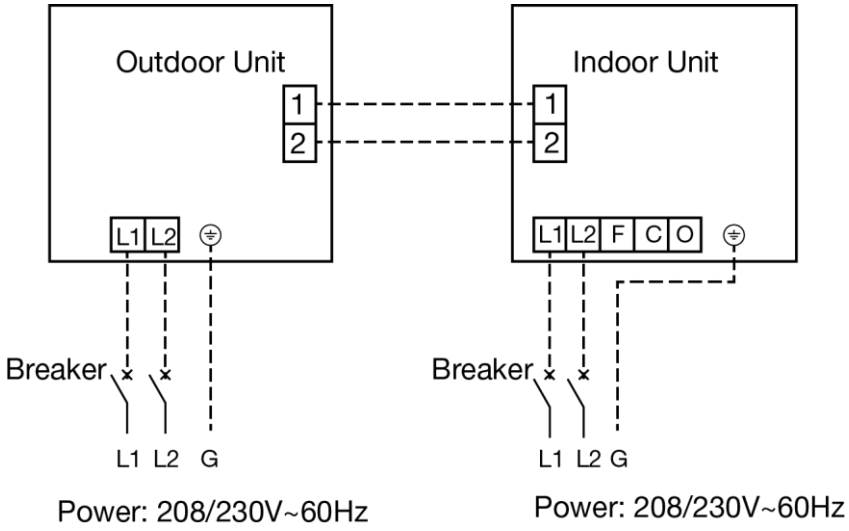
3. How to secure the connection cord and power cord using a cord clamp

After passing the connection cord and power cord through the insulation tube, secure the bundle using a cord clamp (Fig. 39).

⚠WARNING
• Before beginning work, check that power is turned off to the indoor unit and outdoor unit.
• Match the terminal block numbers and connection cord colors with those of the indoor unit side. Incorrect wiring may cause damage to the electric parts.
• Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
• Always fasten the outside covering of the connection cord with cord clamps. (If the insulator is not clamped, an electrical short may occur.)
• Always connect the ground wire.

4. **Electric wiring between the indoor and outdoor units**

Single-phase units (18k-30k)



Single-phase units (36k-48k)

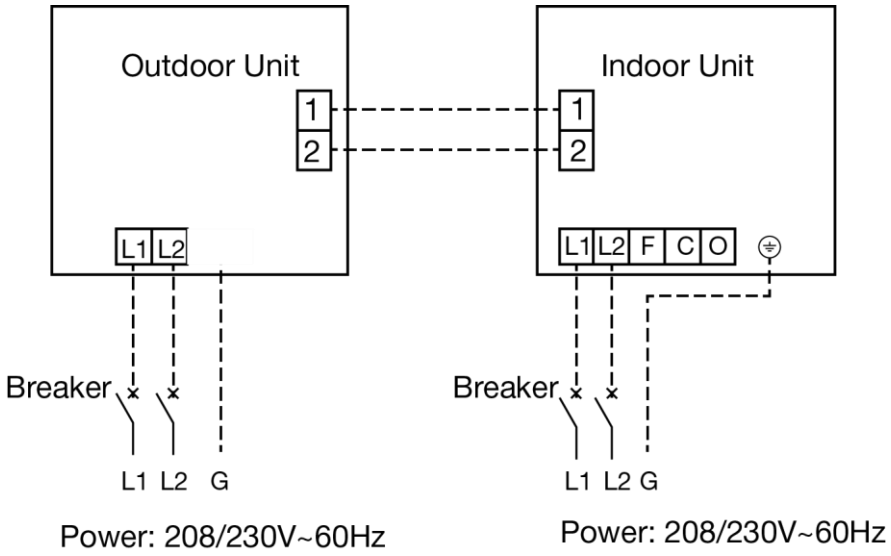


Fig. 40

5. Electric wiring of indoor unit side

Remove the electric box cover from the electric box sub-assembly and then connect the wire.

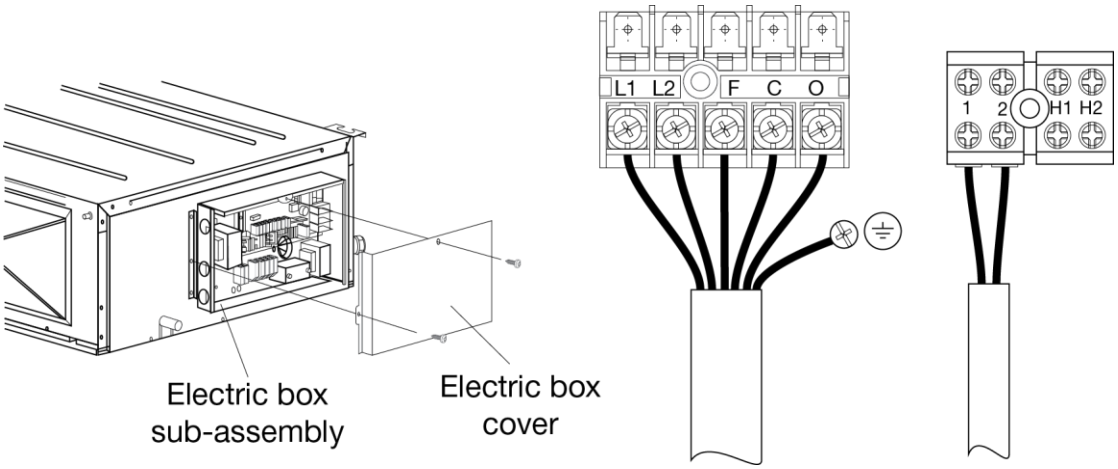


Fig. 41

The F, C, O connect to the COMMON, CLOSE and OPEN terminal of the fresh air valve respectively.

⚠ CAUTION
• The power cable and the wire of the fresh air valve are high-voltage, while the communication cable and connection wire of the wired controller are low-voltage. They should be run separately to avoid electromagnetic interference.
• The high-voltage and low-voltage lines should pass through the rubber rings at different electric box covers.
• Do not bundle the connection wire of the wired controller and the communication cable together, or arrange them in parallel, otherwise improper operation will occur.

⚠ CAUTION
• The high-voltage and low-voltage lines should be attached separately and securely, with large internal clamps for the former and small clamps for the latter.
• Tighten the indoor/outdoor communication cable and power cable on the terminal boards with screws. Faulty connections can cause a fire.
• If the indoor unit communication cable (to the outdoor unit) and power supply are wired incorrectly, the air conditioner may be damaged.
• Connect the indoor unit communication cable properly based on the corresponding marks as shown in Fig. 40.
• Ground both the indoor and outdoor units by attaching a ground wire.
• Unit should be grounded in compliance with the applicable local and national codes.

6. Electric wiring of outdoor unit side

NOTICE!

When connecting the power supply cord, make sure that the phase of the power supply matches with the exact terminal board. If not, the compressor will rotate in reverse and run improperly.

Remove the large handle (18k~30k) / front panel (36k~48k) of the outdoor unit and install the end of the communication cable and the power cable into the terminal board.

Single phase:

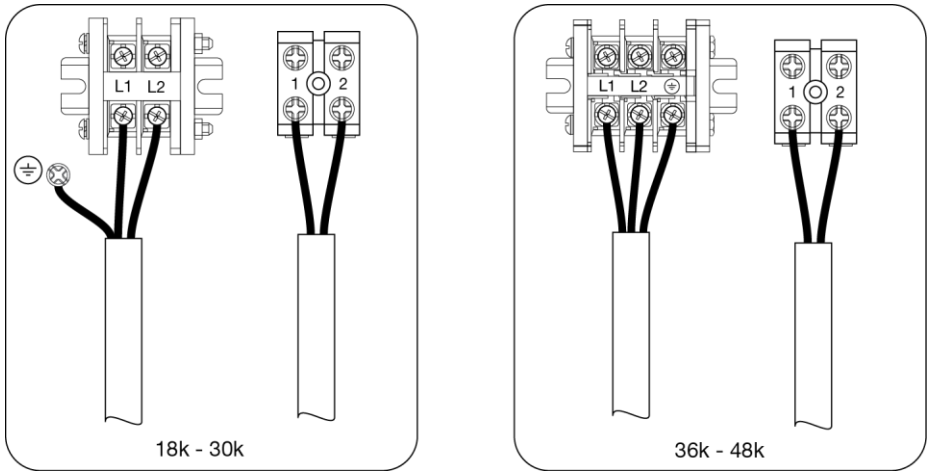


Fig. 42

Power lines should go along the right side plate. Communication lines between indoor and outdoor units also should go along the right side plate and be kept away from power lines.

Installation of Controllers

Refer to the Installation Manual of the controller for more details.

Error Codes

Trial Operation and Testing

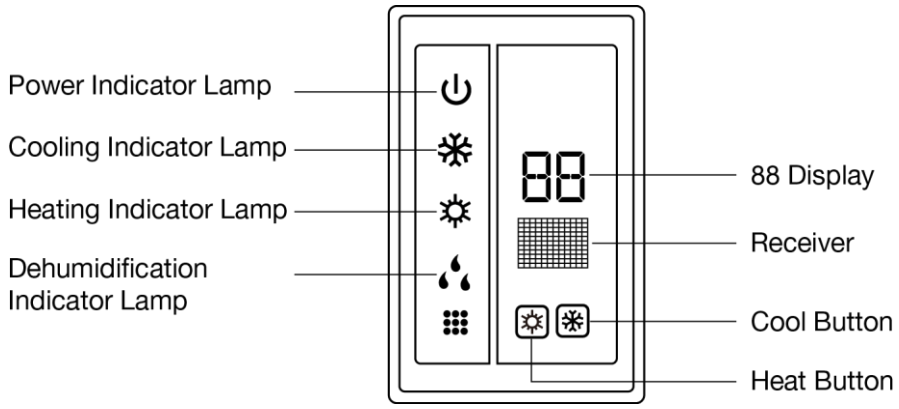
Error codes and definitions shown below.

No.	Error code	Error
1	E1	Compressor high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	Compressor low pressure protection, lack of refrigerant protection and refrigerant collecting mode
4	E4	Compressor high discharge temperature protection
5	E6	Communication error
6	E8	Indoor fan motor error
7	E9	Full water protection
8	F0	Indoor ambient temperature sensor error
9	F1	Evaporator temperature sensor error
10	F2	Condenser temperature sensor error
11	F3	Outdoor ambient temperature sensor error
12	F4	Discharge temperature sensor error
13	F5	Temperature sensor error of wired controller
14	C5	Capacity code error
15	EE	Outdoor memory chip error
16	PF	Electric box sensor error
17	H3	Compressor overload protection
18	H4	Overloading
19	H5	IPM protection
20	H6	DC fan motor error
21	H7	Drive desynchronizing protection
22	HC	PFC protection
23	Lc	Activation failure
24	Ld	Compressor phase sequence protection
25	LE	Compressor stalling protection
26	LF	Power protection
27	Lp	Indoor and outdoor mismatch
28	U7	4-way valve direction changing protection
29	P0	Drive reset protection
30	P5	Over-current protection
31	P6	Communication error between control and drive main
32	P7	Drive module sensor error
33	P8	Drive module over temperature protection
34	P9	Zero passage protection
35	PA	AC current protection
36	Pc	Drive current error
37	Pd	Sensor connecting protection
38	PE	Temperature drift protection
39	PL	Bus low voltage protection
40	PH	Bus high voltage protection
41	PU	Charge loop error
42	PP	Input voltage abnormality
43	ee	Drive memory chip error

NOTICE!

When the unit is connected using the wall mounted wired controller, any error codes will be simultaneously shown on the wall mount controller.

Instructions to the Error Indicating Lamps on the Panel of the Recessed Fan Coil Unit.



Working Temperature Range

Test Condition	Indoor Side		Outdoor Side	
	DB(°C/°F)	WB(°C/°F)	DB(°C/°F)	WB(°C/°F)
Nominal Cooling	26.7(80.0)	19.4(67.0)	35.0(95.0)	23.9(75.0)
Nominal Heating	21.1(70.0)	15.6(60.0)	8.33(47.0)	6.11(43.0)
Rated Cooling	26.7(80.0)	19.4(67.0)	46.1(115.0)	23.9(75.0)
Low Temp. Cooling	19.4(67.0)	13.9(57.0)	-18.0(0)	–
Rated Heating	26.7(80.0)	–	23.9(75.0)	18.3(65.0)
Low Temp. Heating	20.0(68.0)	–	-18.0(0)	-

Notes:

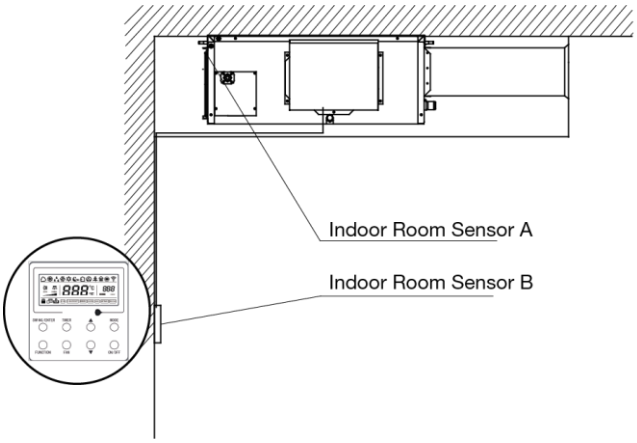
1. **The design of this unit conforms to the requirements of ARI 210/240-2008 standard.**
2. **The air volume is measured at the relevant standard external static pressure.**
3. **Cooling (heating) capacity stated above is measured under nominal working conditions corresponding to standard external static pressure. The parameters are subject to change with the improvement of products, in which case the values on nameplate should be used.**

Unit Functions

Setting of Double Indoor Room Sensors

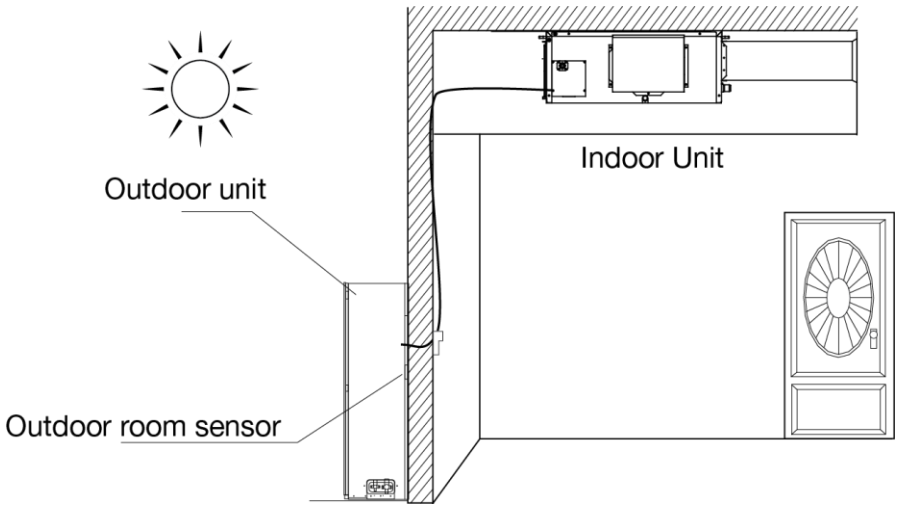
This series of ducted air-conditioning unit has two indoor room sensors. One is located at the air intake of the indoor unit and the other is located inside the wall mounted wired controller.

User can select one from the two indoor room sensors on the basis of their engineering requirement.
(Refer to the section of wire controller instructions for detailed operation.)



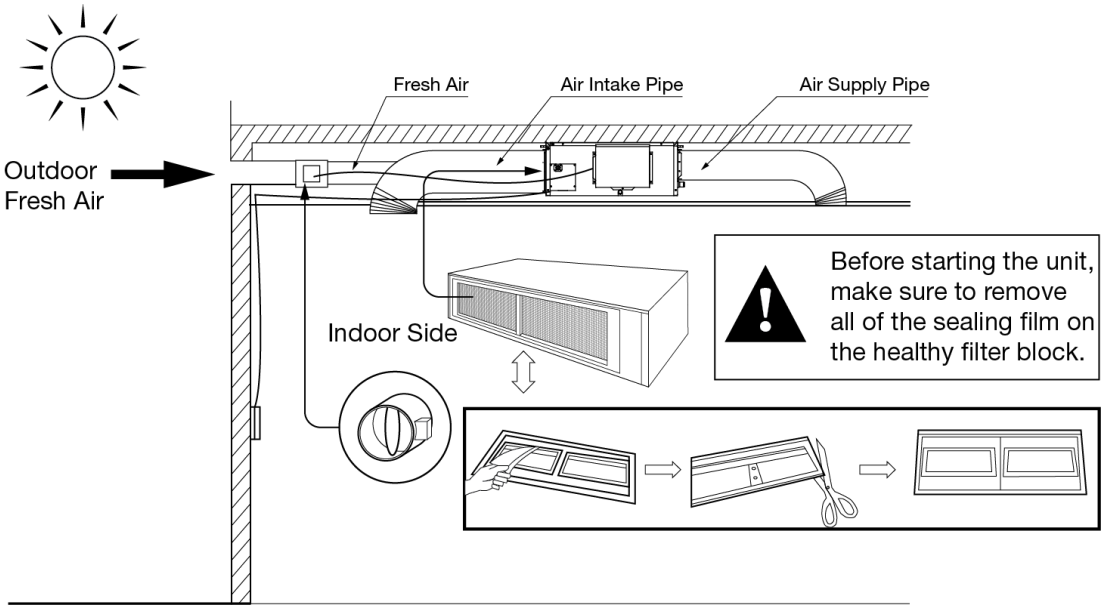
Checking of Outdoor Ambient Temperature

The outdoor ambient temperature can be checked on the wire controller for the convenience of users before going out.
(Refer to the section of wired controller instructions for detailed operation.)



Fresh Air Control

11 different settings control the amount of fresh air taken in. The function not only facilitates the health of users, but also controls the electricity consumption loss caused by circulating fresh air. The wired controller allows you to adjust the settings for this function. The function can set at any time, can be turned on or off at any time, and features very simple operation. (Refer to the section of wire controller instructions for details about operation.)



Troubleshooting

If your air-conditioning unit suffers from abnormal operation or failure, please first check the following points before repair:

Failure	Possible Reasons
The unit will not start.	1. **The power supply is not connected.** 2. **Electrical short in the air conditioning unit causes the breaker to trip.** 3. **The operating keys on the remote or wall mount controller are locked.** 4. **The control loop has failure.**
The unit operates for a while and then stops.	1. **There is obstacle in front of the condenser blocking air flow.** 2. **The control loop is abnormal.** 3. **Cooling operation is selected when the outdoor ambient temperature is above 115°F (46.1°C).**
Poor cooling performance.	1. **The air filter is dirty or blocked.** 2. **There is a heat source, or too many people inside the room.** 3. **A door or window is open.** 4. **There is an obstacle blocking the air intake or outlet.** 5. **The temperature is set too high.** 6. **There is refrigerant leakage.** 7. **The room temperature sensor needs replacement.**
Poor heating effect.	1. **The air filter is dirty or clogged.** 2. **A door or window is not completely closed.** 3. **The room temperature is set too low.** 4. **There is refrigerant leakage.** 5. **The outdoor ambient temperature is lower than 23°F (-5°C).** 6. **Control loop is abnormal.**

After checking all of the above items and taking relevant measures to resolve the issue, if the air conditioners performance does not improve, or the issue is not resolved found, please stop the operation of the unit immediately, and contact a local HVAC technician. Only use a professional HVAC service technician to diagnose and repair the unit.

Maintenance

Only a qualified service person is allowed to perform maintenance.

Before accessing to terminal devices, all power supply circuits must be disconnected.
Do not use water or air of 122°F (50°C) or higher for cleaning air filters and outside panels.

NOTES
• Do not operate the air conditioner with the filter uninstalled, otherwise dust will be pulled into the unit.
• Do not remove the air filter except for cleaning. Unnecessary handling may damage the filter.
• Do not clean the unit with gasoline, benzene, thinner, polishing powder or liquid insecticide. It can cause discoloration and deformation of the unit.

⚠WARNING
• Do not get water or other liquids in or near the indoor unit. Moisture contact with the indoor unit can cause electric shock or create a fire hazard.

If the unit is installed in a room where the air is extremely contaminated increase the frequency of cleaning. The units filter should be cleaned at least once every six months.

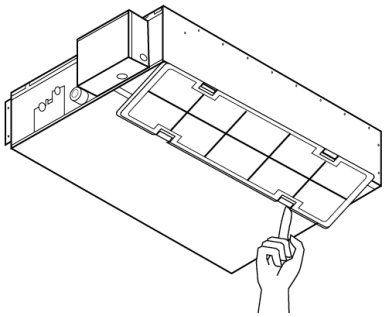
If the filters become impregnated with dirt, and it is not possible to clean them, replace the air filters.

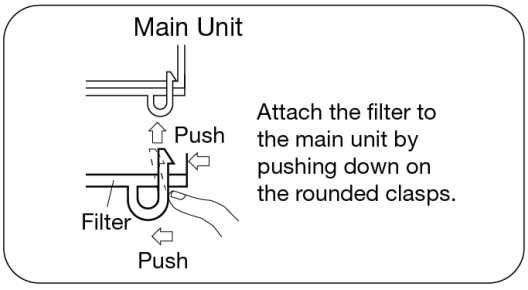
1. Removing the air filter from the unit.
2. Proper cleaning the of the air filter.

   Using a vacuum cleaner, gently remove as much dust as possible from the air filter.

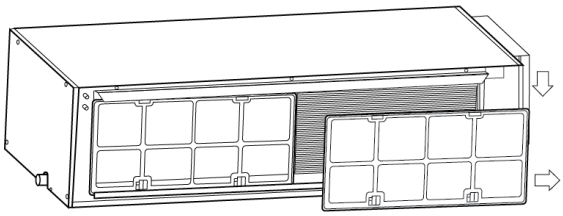
   Once excess dust has been removed, gently rinse them in cool water. Do not use detergent or hot water to avoid filter shrinking or deformation. After cleaning dry them in the shade.

18k:





24k - 48k:



Press the return air inlet filter downward against the guide groove sponge and remove it off along the arrow indicated direction.

There are two return air inlet filters.

3. Replacing the air filter Reinstall the filter as before.

INSTALLATION NOTES

Record any questions or problems you may have seen as a unit history:

No.	Date	Notes	Asked Your Technician for Help?	Did You Ask YMGI Tech. for Help?

USER NOTES

Record any questions you have or problems may you have seen as a unit history:

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

SERVICE / MAINTENANCE NOTES

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

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

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

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