



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

INSTALLER'S INSTRUCTION & USER'S MANUAL

Medium Static Pressure Recessed Fan Coil Indoor Unit
SYMPHONY SOLO DC INVERTER (59)4 EF
18k-24k Cooling and Heat Pump

Model Numbers:

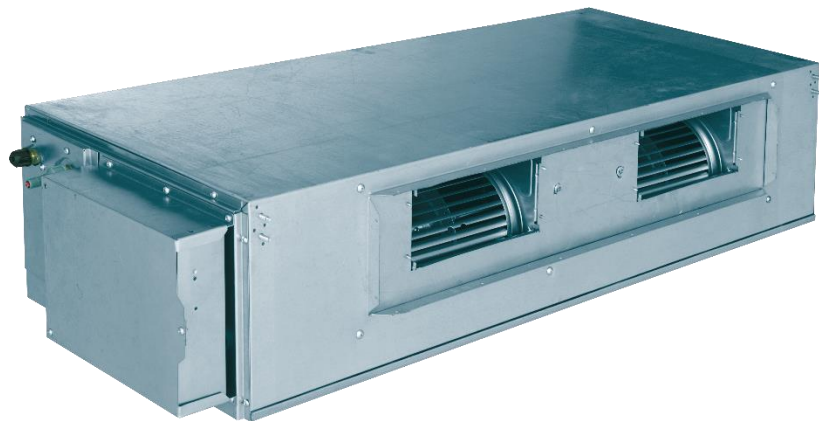
WMMS-09EF-M2B(59)4

WMMS-12EF-M2B(59)4

WMMS-18EF-M2B(59)4

WMMS-21EF-M2B(59)4

WMMS-24EF-M2B(59)4



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

NOTICE

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

Installer: Currently licensed/certified HVAC technicians only. Must Read the manual and all provided documents prior to installation.

Complete and fill out all required information on the warranty registration card.

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

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

SAFETY WARNING

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



TABLE OF CONTENTS

Introduction3

Note From YMGI – **Must Read**5

Installing Technician/Contractor's Responsibilities7

Limited Product Warranty8

Limited Product Warranty Registration Card 10

Why Does YMGI Group Require Installation and Service to Be Performed

100% By Currently Licensed or Certified HVAC Technicians/Contractors 11

Suggestions to Aid You in Hiring an HVAC Contractor 11

Introduction to Recessed Fan Coil Indoor Units..... 14

Unit Clearances 15

Wiring Requirements..... 16

Recommended Tools for Installation 17

Unit Dimensions 18

Hanging the Indoor Unit 19

Refrigerant Pipe Connection 21

Drainage Pipe Connection..... 21

Testing the Drainage System 24

Installation of the Air Duct 25

Installation of the Return Air Duct 27

Installation of the Fresh Air Pipe..... 28

Wiring Connections 29

Setting the External Static Pressure 31

Routine Maintenance 32

Error Codes..... 33

Troubleshooting Prior To Contacting Your Technician..... 34

User Notes and Installation/Service/Maintenance Notes 35



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. YMG Group advocates for the responsible handling of all refrigerants including industry replacements for CFCs such as HCFCs and HFCs.

Responsible Refrigerant Practices

YMG 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

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

⚠ WARNING

- Instructions for installation and use of this product are provided by the manufacturer.
- Installation must be performed by authorized and licensed personnel only and in accordance with all the requirements of this manual, the NEC, CEC and any state 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 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
	Installation Invoice Attached to the Registration Card	Hired YMGI Recommended HVAC Contractor/Technician?	Warranty Approved
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.	15) Where is the outdoor unit located?	Is the outdoor unit anchored to ground or secured onto wall bracket?
Yes No % of installation done by you (HVAC technician).	Ground wall balcony roof other location or pad	Yes No
2) What had been done, prior to your arrival?	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?	
3) Did you read the User Manual and Installation Instructions before starting the installation?	17) Were the refrigerant pipe ends capped or sealed, prior to running them through structures to keep debris from entering the copper lines?	
Yes No	18) Have you checked both cooling and heating on all indoor units individually to ensure proper function?	Yes No
4) Who unpacked the unit and accessory boxes to check for damage?	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
5) Supply electrical power V/Ph/Hz measured at wiring terminal block of	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?	
Indoor unit: Outdoor unit:	21) Did you check the compressor's start and stop sequences to determine proper functionality?	Yes No
6) Incoming electrical power V/Ph/Hz measured at terminal blocks of	22) If copper length were not made to the supplied or recommended refrigerant pipe length, how much refrigerant added or deducted?	
Indoor unit: Outdoor unit:	23) Measured refrigerant pressures at outdoor service suction valve, when unit was stabilized.	Heat pump (PSI): Cooling (PSI): Outdoor Ambient Temp. (°F):
7) Wire gauge, length and terminal colors between circuit breaker/disconnect switch to outdoor unit.	24) What were the measured temperatures (probe not touching any metal):	At cooling: indoor return air °F Discharge air °F and outdoor °F
8) Wire gauge, length and terminal colors between each indoor and outdoor unit:	At heating: indoor return air °F Discharge air °F and outdoor °F	
Unit A Unit B Unit C Unit D	25) Have you checked all unit functions with customer present, and all functions are working correctly?	Yes No
9) The size of HVAC circuit breaker/fuse or disconnect switch to the outdoor unit.	26) Did you show the user how to operate the unit? Did he/she understand you?	Yes No Yes No
10) Are the inter-connecting wires and copper lines between indoor and outdoor units installed/covered/protected by line set covers, or anything else?	27) Do you provide regular one-year free technical service for this installation?	Yes No
11) What is the refrigerant pipe length between each indoor unit and the outdoor unit?	28) Do you list the working details in the invoice and leave a copy to the customer?	Yes No
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		

Installation Finished and Unit Works Successfully. Print Name of Installation HVAC Technician: Signature: Date and time:	Installation Finished and Unit Works Successfully. Print Name of Owner: Signature: Date and time:
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By signing above, I acknowledge the liability and responsibility for any false statement or 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.

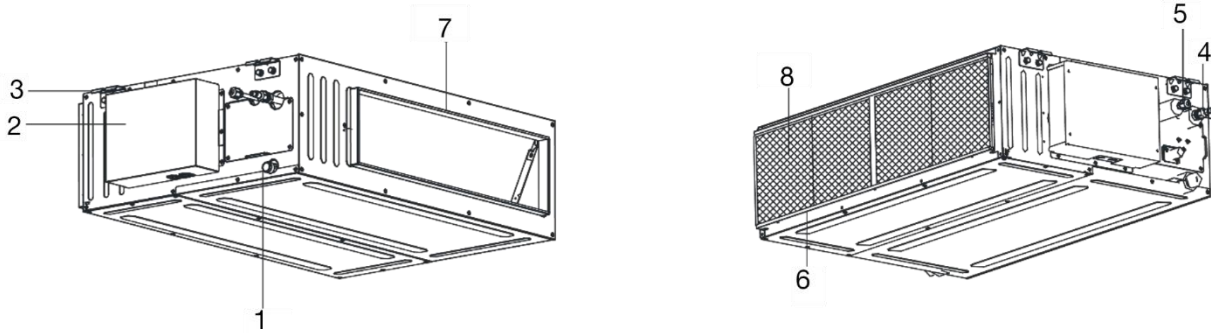
DO NOT store or install the units near food, paint, or other chemicals.

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.

Product Introduction

Key Components



NO.	1	2	3	4	5	6	7	8
Name	Drain Pipe	Control box	Pothook	Gas pipe	Liquid pipe	Air-return Opening	Air Outlet	Filter

Rated Working Conditions

	Indoor Side Condition		Outdoor Side Condition	
	Dry Bulb Temp °F (°C)	Wet Bulb Temp °F (°C)	Dry Bulb Temp °F (°C)	Wet Bulb Temp °F (°C)
Rated Cooling	80.0 (26.7)	67.0 (19.4)	95.0 (35)	75.0 (23.9)
Rated Heating	70.0 (21.1)	60.0 (15.6)	47.0 (8.3)	43.0 (6.1)

Preparation for Installation

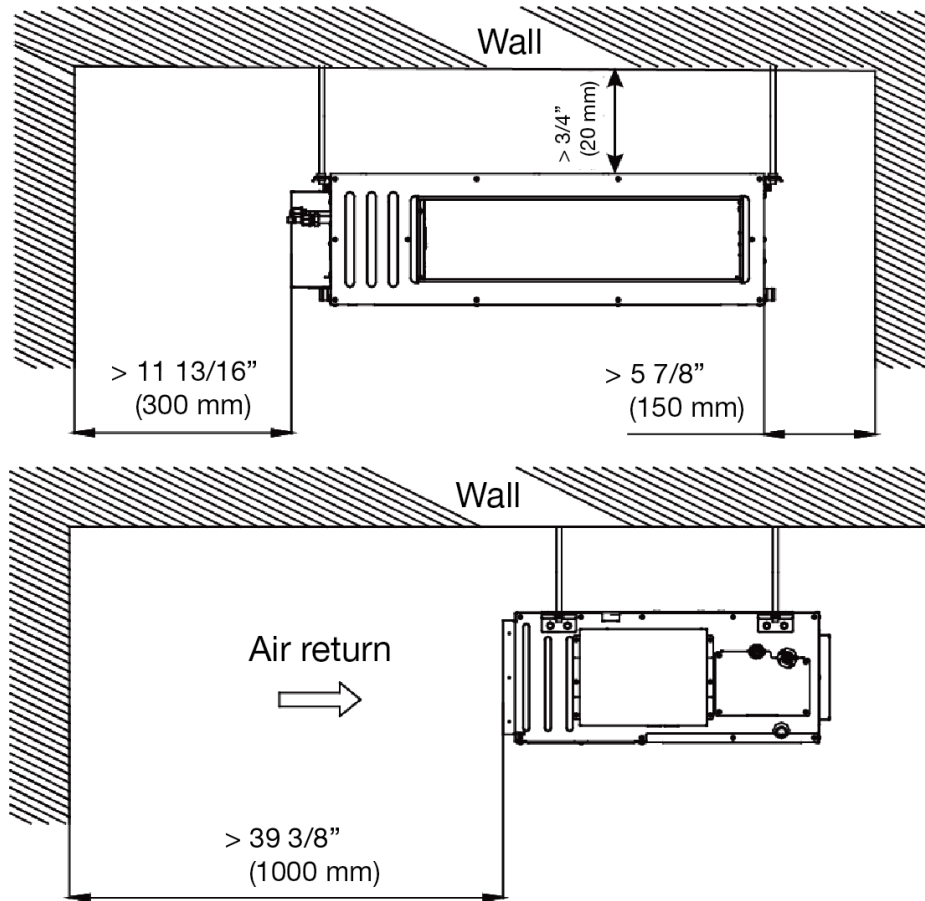
NOTICE

Product graphics are only for reference. Please refer to actual products. Unspecified measure unit is in. (mm).

Locations for Installation

1. The appliance shall not be installed in the laundry.
2. The top holder must be strong enough to support unit's weight.
3. Drain pipe can drain water out easily.
4. There is no obstacle at inlet or outlet. Please ensure good air circulation.
5. In order to make sure the space for maintenance, please install the indoor unit according to the dimension described below.
6. Keep the unit away from heating source, inflammable gas or smoke.
7. This is a concealed ceiling type unit.
8. Indoor unit, outdoor unit, power cord and electric wire should stay at least 39-3/8 in. (1m) from the TV set and radio. Otherwise, these electrical appliances may have image interference and noise. (Even if the distance is 39-3/8 in. (1m), when there is strong electric wave, noise may still occur.)

Unit Clearances



NOTICE

1. Installation of the unit must be in accordance with National Electric Codes and local regulations.
2. Improper installation will affect unit's performance, so do not install the unit by yourself. Please contact local dealer to arrange professional technicians for the installation.
3. Do not connect power until all installation work is finished.

Wiring Requirements

Power Cord Size and Air Switch Capacity

Model	Power Supply	Fuse Capacity(A)
WMMS-09EF-M2B(59)4	208/230V-1ph-60Hz	5
WMMS-12EF-M2B(59)4		5
WMMS-18EF-M2B(59)4		5
WMMS-21EF-M2B(59)4		5
WMMS-24EF-M2B(59)4		5

NOTICE

1. Use copper wire only as unit's power cord. Operating temperature should be within it value.
2. If the power cord is more than 49-1/4 ft. (15 m) long, please increase the sectional area of power cord to avoid overload, which may result in an accident.
3. Selection requirements: Power cord size is based on BV single-core wire (2~4pc) at 104°F (40°C) ambient temperature when laying across plastic pipe. Air switch is D type and used at 104°F (40°C). If actual installation condition varies, please lower the capacity appropriately according to the specifications of power cord and air switch provided by manufacturer.
4. Install cut-off device near the unit. The minimum distance between each stage of cut-off device should be 1/8 in. (3 mm) (The same for both indoor unit and outdoor unit).

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

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

4) Trial Running Units and Inspection

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

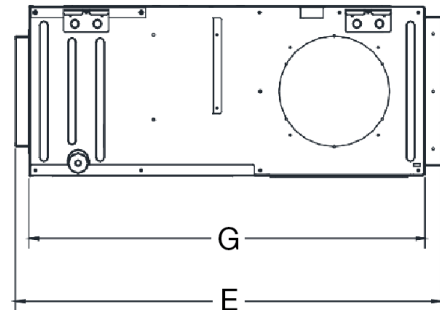
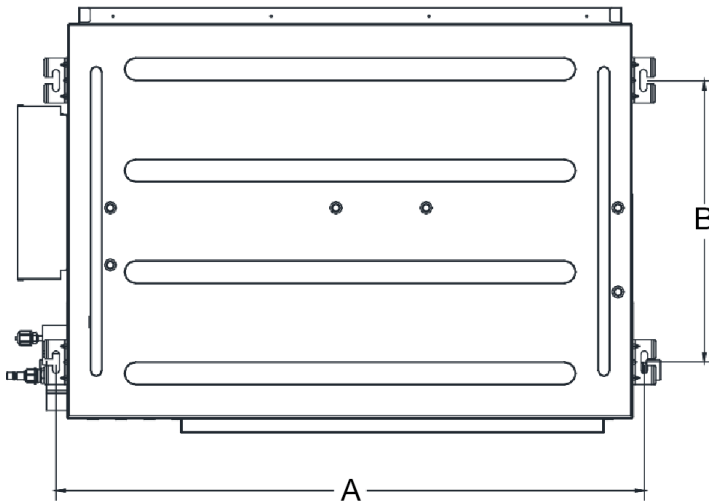
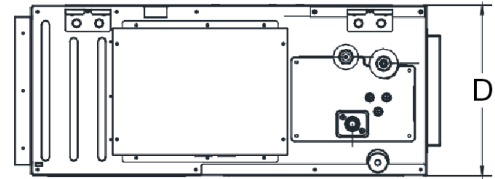
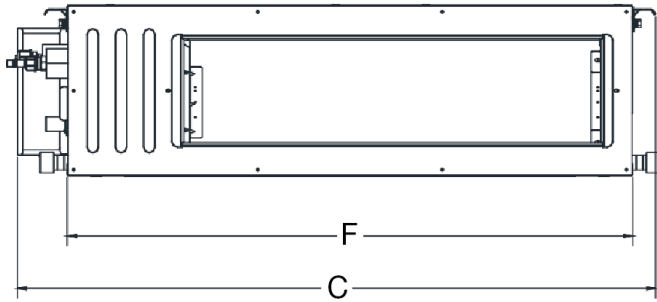


NOTICE

Duct type indoor units are intended to be installed for use in a single room.

Unit Dimensions

Equip with an inspection hatch after lifting the unit. For the convenience of maintenance, the service port should be on one side of the electric box and below unit's lower level.



Below are dimensions for different models:

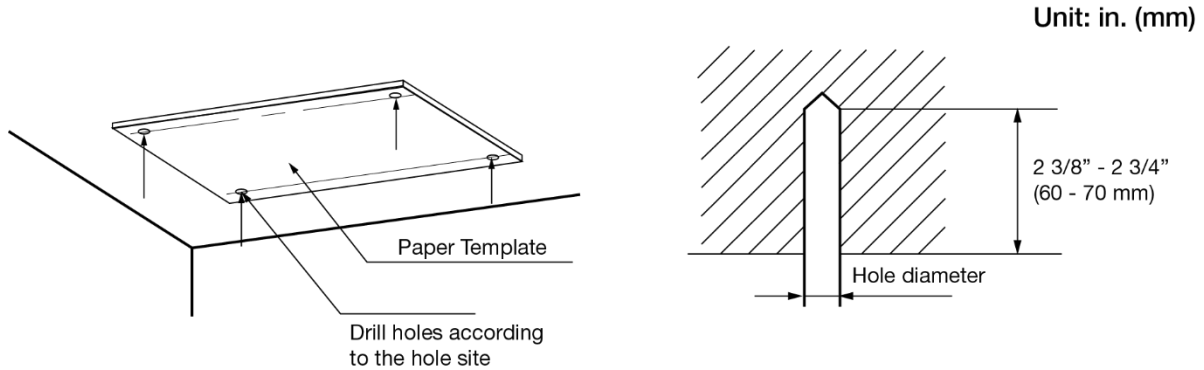
Unit: in. (mm)

Model	A	B	C	D	E	F	G
WMMS-09EF-M2B(59)4	29-1/8"	19-11/16"	32-11/16"	11-13/16"	29-11/16"	27-9/16"	27-9/16"
WMMS-12EF-M2B(59)4	(740)	(500)	(830)	(300)	(754)	(700)	(700)
WMMS-18EF-M2B(59)4	40-15/16"	19-11/16"	44-1/2"	11-13/16"	29-11/16"	39-3/8"	27-9/16"
WMMS-21EF-M2B(59)4	(1040)	(500)	(1130)	(300)	(754)	(1000)	(700)
WMMS-24EF-M2B(59)4							

Hanging the Indoor Unit

1. Drill bolt holes and install bolts

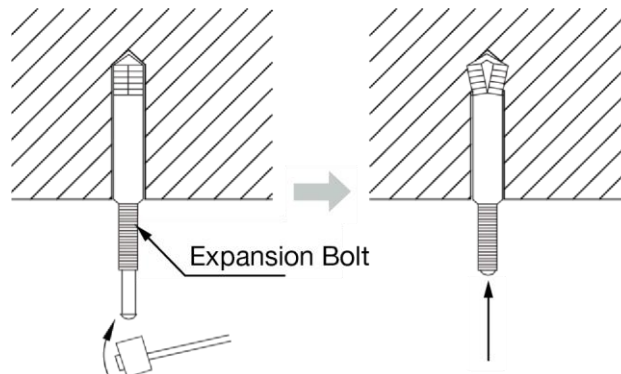
- A. Stick the reference cardboard onto the installation position; drill 4 holes according to the marked hole sites on the template as shown in illustration below. The diameter of drilling hole is according to the diameter of expansion bolt and the depth is 2 3/8 in.~ 2 3/4 in. (60-70mm), as shown in illustration below:



- B. Insert the M10 expansion bolt into the hole and then knock the nail into the bolt, as shown in fig 4.1.5, and then remove the paper pattern.

NOTICE

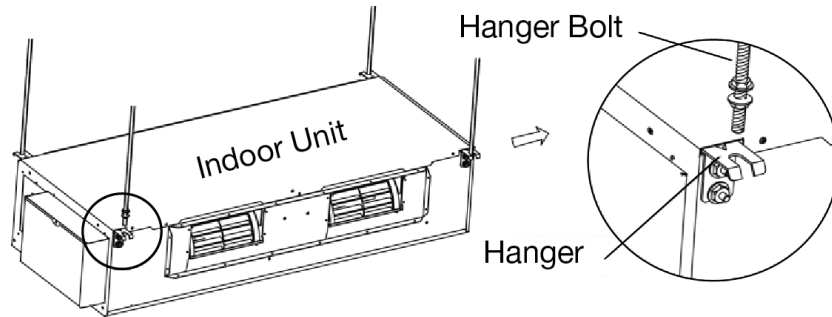
The length of bolt depends on the installation height of the unit, bolts are field supplied



2. Install the indoor unit temporarily

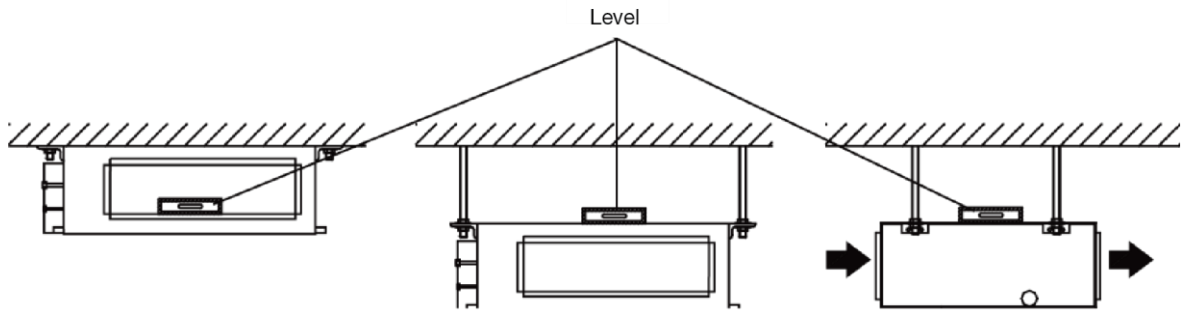
Assemble suspension bolt on the expansion bolt, attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from upper and lower sides of the hanger bracket. The washer fixing plate will prevent the washer from falling.

09K-24K are as follows:



NOTICE	
1.	Before operation, please prepare all pipelines (connection pipe, drainage hose) and wires (connection wire for wired controller, connection wire for indoor unit).
2.	When drilling holes on ceiling (air return outlet or air outlet), you may need to reinforce the ceiling to prevent vibration. For details, please consult user or builder.
3.	If the strength of the ceiling is not sufficient, please install a beam bracket, and then put the unit on the beam bracket.

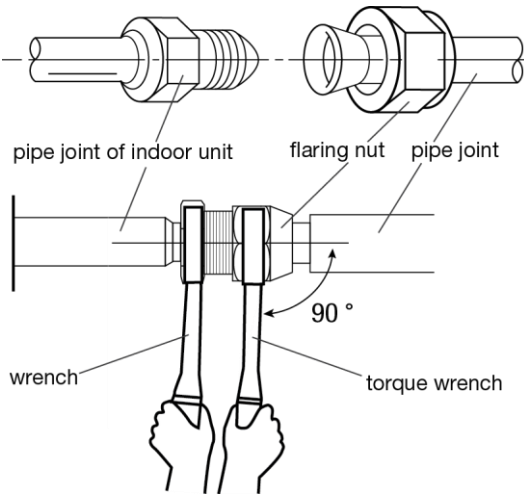
3. Adjust the unit to the right position.
4. Check the level of the unit
 After the indoor unit is installed, remember to check the horizontal status of the whole unit. It should be horizontal from front to back and slant 1% from left to right, following the drainage direction.



5. Remove the washer locating plate and then tighten the nut on it.

Refrigerant Pipe Connection

1. Aim the flaring port of copper pipe at the center of screwed joint and then tighten the flaring nut with hand as shown in the illustration to the right.
2. Tighten the flaring nut with torque wrench.



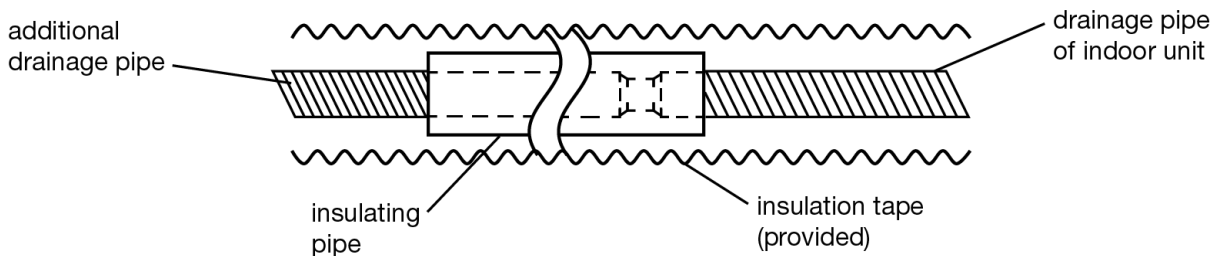
Pipe diameter in.(mm)	Torque(N·m)
Φ1/4" (6.35 mm)	15~30
Φ3/8" (9.52 mm)	35~40
Φ1/2" (12.7 mm)	45~50
Φ5/8" (15.9 mm)	60~65
Φ3/4" (19.05 mm)	70~75

3. Use a pipe bender when bending the refrigerant pipe and make sure the bending angle is not too small.
4. Wrap the connection pipe and joint with insulation and then secure them firmly with tape.

Drainage Pipe Installation and Drainage System Testing

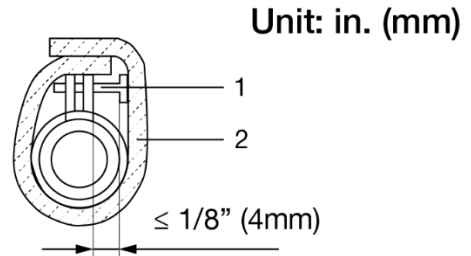
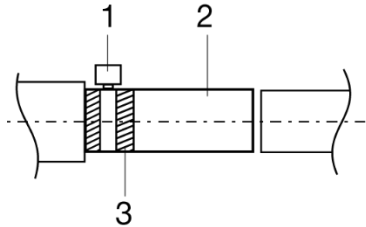
Notice for Installation of Drain Pipe

1. The drainage pipe should be short and the slope downwards should be at least 1%~2% in order to drain condensation water smoothly.
2. The diameter of drainage hose should be bigger or equal to the diameter of drainage pipe joint.
3. Install drainage pipe according to the following fig and arrange insulation to the drainage pipe. Improper installation may lead to water leakage and damp the furniture and other things in the room.
4. You can buy normal hard PVC pipe used as the drainage pipe. During connection, insert the end of PVC pipe into the drainage hole and then tighten it with drainage hole and wire binder. Can't connect the drainage hole and drainage hole with glue.
5. When the drainage pipelines are used for several units, the position of pipeline should be about 4 in. (100mm) lower than the drainage port of each unit. In this case, thicker pipes should be applied.

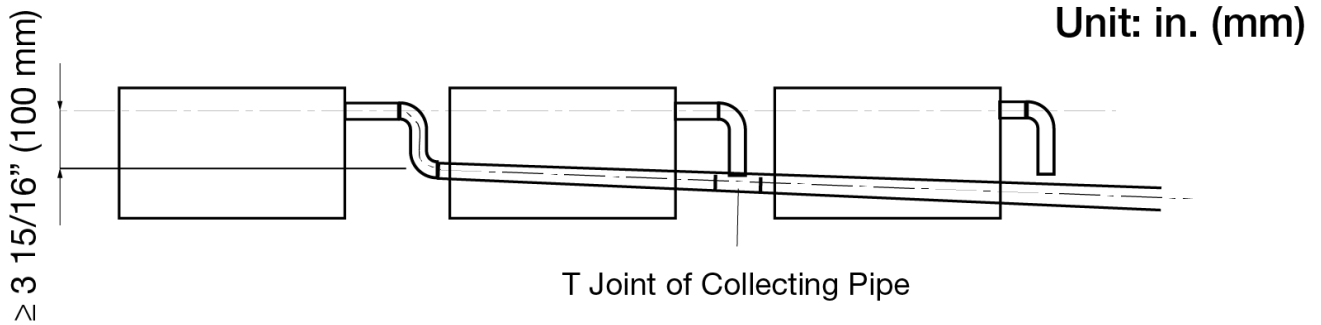


Drainage pipe installation

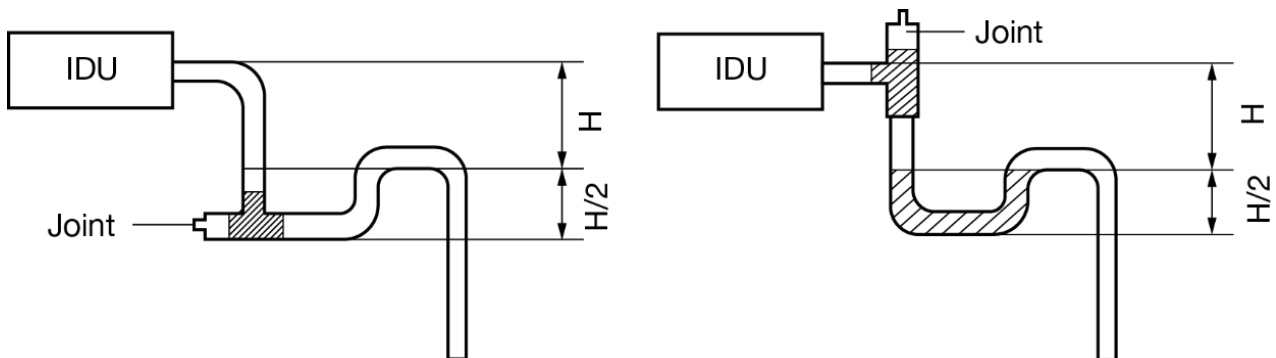
1. Insert the drain hose into the drain hole and tighten it with tapes, as shown in the first illustration below.
2. Tighten the pipe clamp, with the distance between screw nut and hose smaller than 1/8 in. (4 mm).
 - a. metal clamp(accessory)
 - b. drain hose(accessory)
3. Use sealing plate to make the pipe clamp and hose insulated, as shown in the second illustration below.
 - a. metal clamp(accessory)
 - b. thermal sponge(accessory)



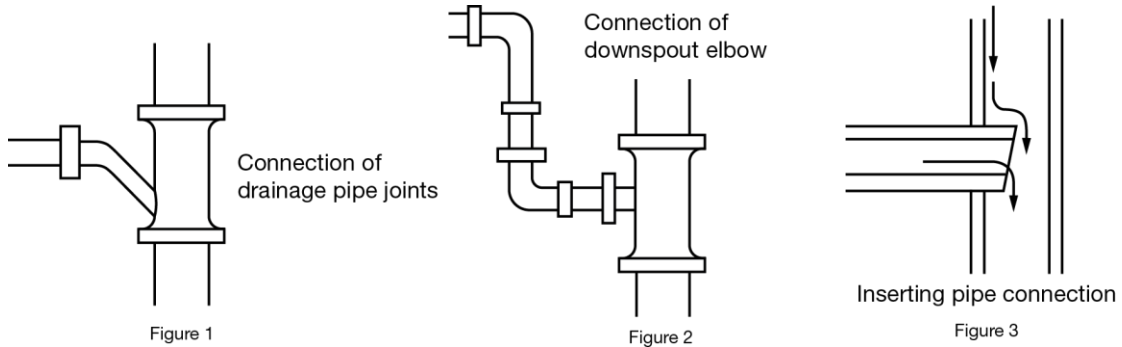
4. When connecting several drain pipes, follow the instruction as indicated in the illustration below. Choose the drain collecting pipe that matches with unit capacity.



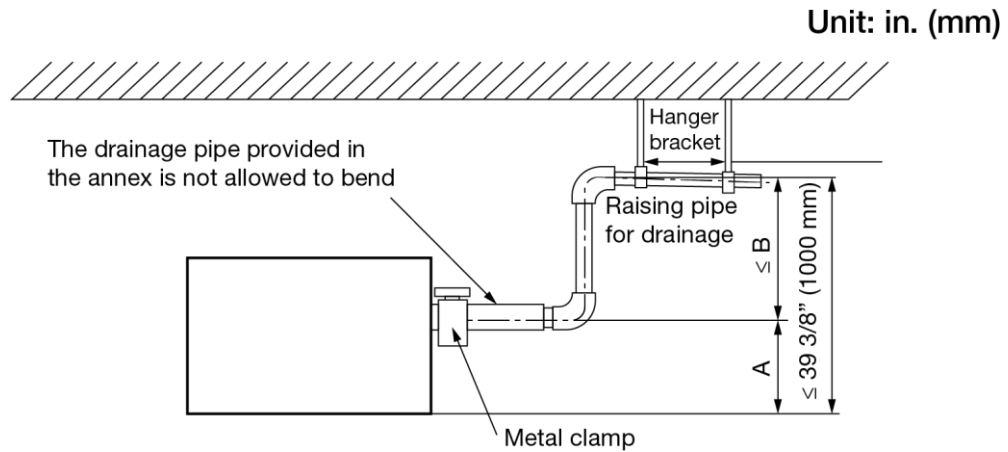
5. Install the trap as shown in the illustration below.
6. Install one trap for each unit.
7. Convenience for cleaning trap in the future should be considered when installing it.



8. The horizontal pipe can be connected to vertical pipe in the same level; please select the connection way as shown in following fig.
 - a. NO1: Connection of drainage pipe joints. Figure 1
 - b. NO2: Connection of downspout elbow. Figure 2
 - c. NO3: Inserting pipe connection. Figure 3

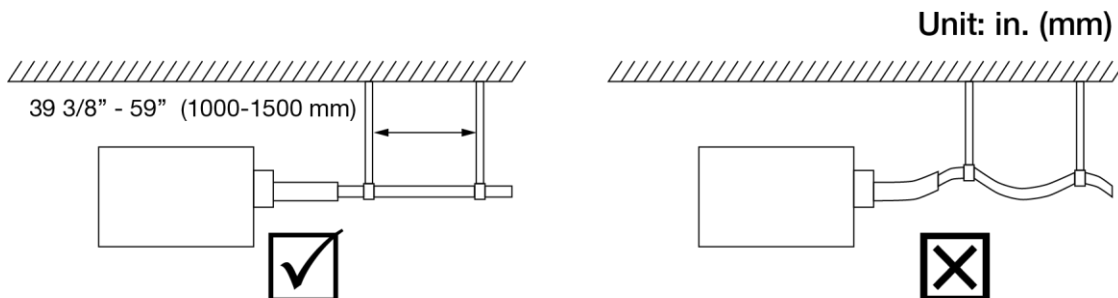


9. The installation height of raising pipe for drainage should be lower than B. The slope from raising pipe towards drainage direction should be at least 1%~2%. If the raising pipe is vertical with the unit, the raising height should be less than C.



Model	A	B	C
WMMS-09EF-M2B(59)4	5-7/8" (150mm)	33-1/2" (850 mm)	31-1/2" (800 mm)
WMMS-12EF-M2B(59)4			
WMMS-18EF-M2B(59)4			
WMMS-21EF-M2B(59)4			
WMMS-24EF-M2B(59)4			

10. Drain pipes should have a downward slope of at least 1%~2%, in order to prevent pipes from sagging, install hanger bracket at intervals of 39-3/8~59 in. (1000~1500 mm).



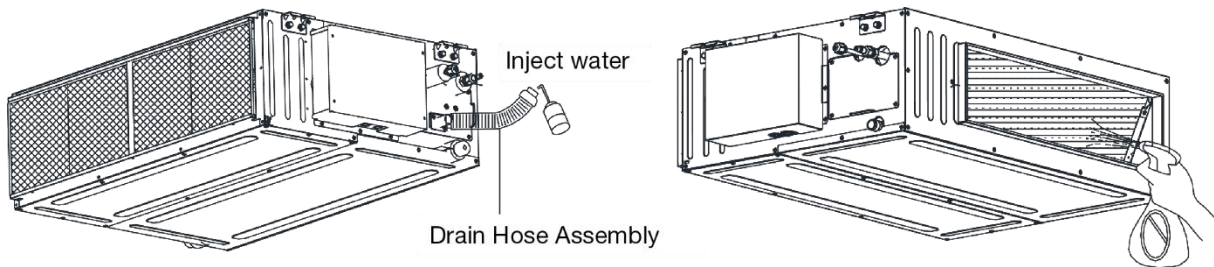
Testing the Drainage System

- **Models with water pump**

1. Please test drainage system after electric work is finished.
Inject approximately 1L purified water to drain pan from air vent, ensure that not to splash the water over the electrical components (e.g. water pump. etc.).
 - a. Spray 1L water onto evaporator with sprayer.
 - b. When the commissioning is finished, please energize the IDUs and switch to cooling or dry mode, meanwhile, the water pump operates, you can check the draining through the transparent part of drain socket.
 - c. If communication wire is not connected, communication malfunction “E6” will occur after 3 minutes of energizing. In this case, the water pump will operate automatically. Check if the water pump drains normally through drainage port. The water pump will stop automatically after running for 1 minute.
2. During the test, carefully check the drainage joint, make sure no any leakage occur.
3. It is strongly recommend to do the drain test before painting or decoration the ceiling

- **Models without water pump**

1. Inject some water to the water tray of indoor unit as following:
 - a. Connect the drain hose to the other drain connection pipe of water tray and inject approximately 1L water. (Remove the drain hose after finishing testing and then install the plug of water tray.)
 - b. Spray 1L water on evaporator with sprayer.



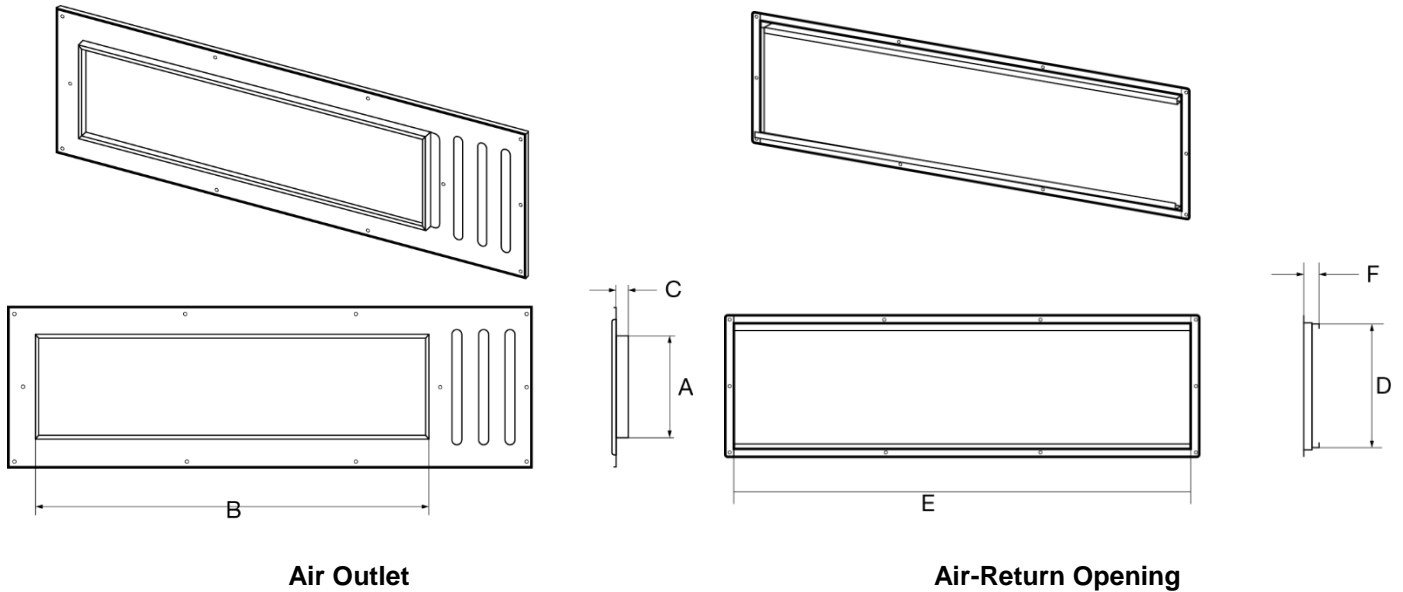
2. Check if the water drains smoothly from the drain pipe and check if there is water leakage on the connection pipe.
3. Arrange insulation of drain hose and pipe clamp after checking the drain system.

Installation of Air Duct

NOTICE

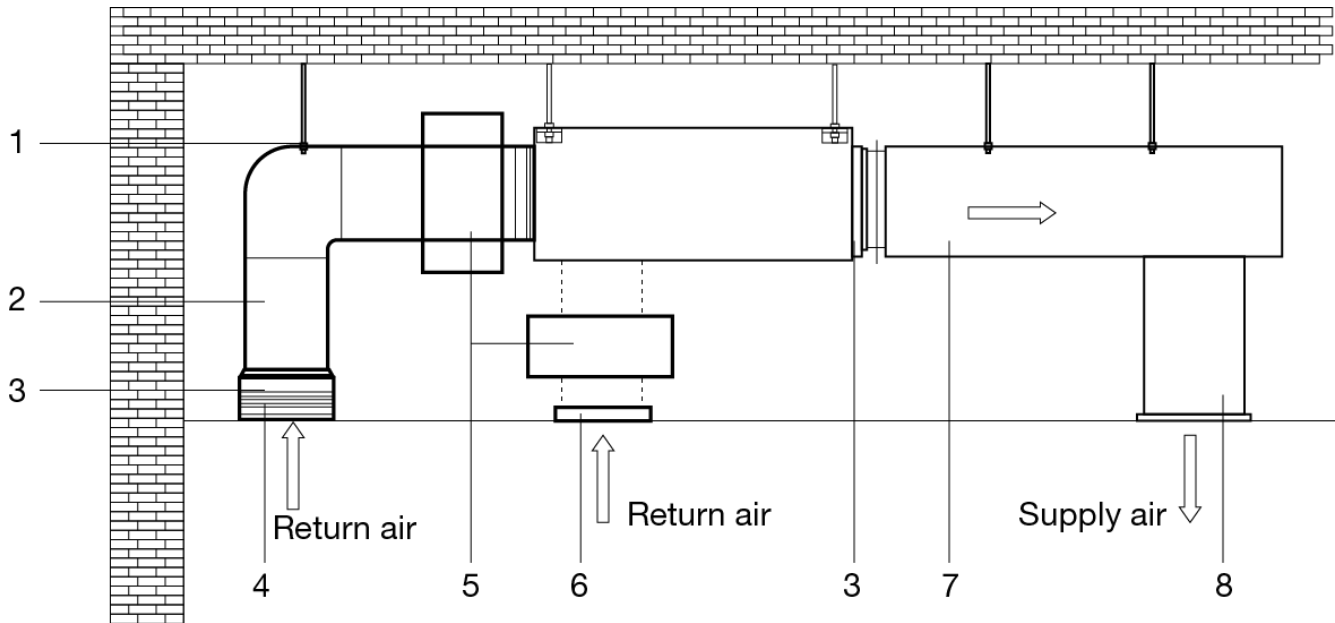
1. There should be an insulating layer on air-out duct, air-return duct and fresh air duct to avoid heat loss and moisture. Adhere a nail on the air duct and then add thermal sponge with a layer of tin. Fasten it with a nail cover and then seal the junction with tin tapes. You can also use other materials that have good insulation quality.
2. Each air-out duct and air-return duct should be fixed on a pre-made board with iron frame. The junction of air duct should be well-sealed in order to prevent air leakage.
3. The design and construction of air duct should comply with national requirements.
4. The edge of air-return duct is suggested to be more than 5-7/8 in. (150mm) away from the wall. Add a filter to the air-return opening.
5. Please consider noise-damping and vibration damping for the design and construction of air duct. Besides, noise source must be away from people. For instance, do not have the air-return opening installed on top of the user (Offices, rest area, etc.).

Shape and Size of Air Outlet and Air-return Opening



Model	Size of Air Outlet			Size of Air-return Opening		
	A	B	C	D	E	F
WMMS-09EF-M2B(59)4 WMMS-12EF-M2B(59)4	7-5/8" (195 mm)	17-3/4" (451 mm)	1" (25 mm)	10-3/8" (264 mm)	26" (660 mm)	1-1/8" (29 mm)
WMMS-18EF-M2B(59)4 WMMS-21EF-M2B(59)4 WMMS-24EF-M2B(59)4	7-5/8" (195 mm)	29-9/16" (751 mm)	1" (25 mm)	10-3/8" (264 mm)	37-3/4" (960 mm)	1-1/8" (29 mm)

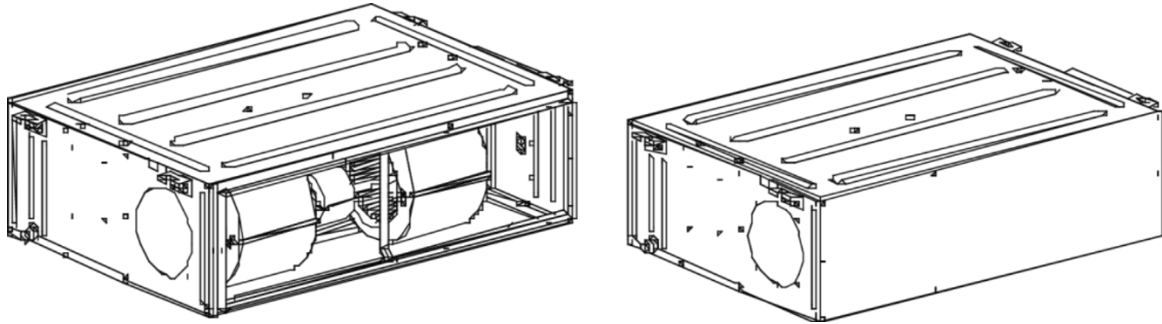
Installation of Air-out Duct



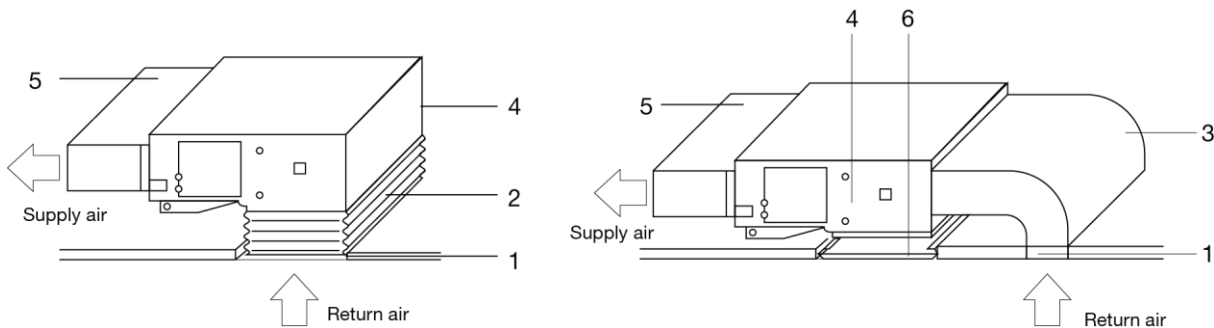
No.	Name	No.	Name
1	Hanger Rod	5	Static Pressure Box
2	Return Air Duct	6	Filter
3	Canvas Duct	7	Main Supply Air Duct
4	Return Air Inlet	8	Supply Air Outlet

Installation of the Return Air Duct

1. The default installation location of the rectangular flange is at the back and the return air cover plate is at the bottom, as shown in the illustration below.



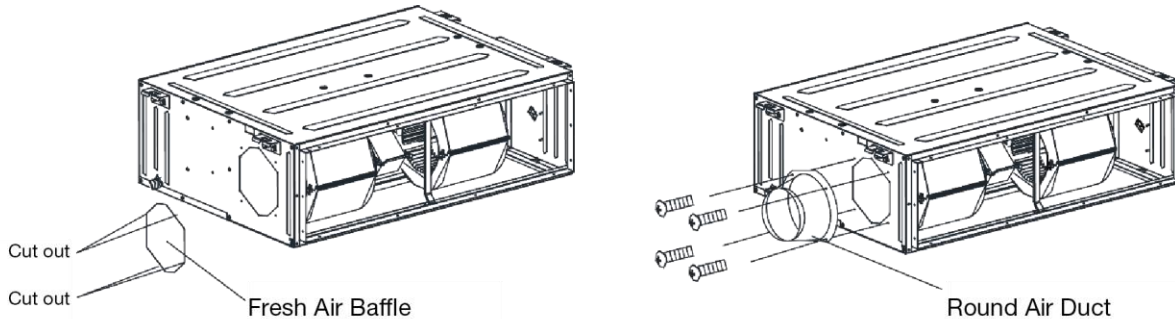
2. If a bottom return air is desired, just change the placement of the rectangular flange and the return air cover plate.
3. Connect one end of the return air duct to the return air outlet of the unit with rivets, and the other to the return air louver. For the sake of convenience and to be able to freely adjust the height, cutting a canvas duct will be helpful, which can be reinforced and folded using #8 iron wire.
4. More noise is likely to be produced using the bottom return air mode than the rear return air mode, so it is recommended that you install a silencer and a static pressure box to minimize noise.
5. The installation method can be chosen with considering the conditions of the building and maintenance etc., as shown in the illustration below.



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

Installation of the Fresh Air Pipe

1. When the fresh air pipe needs to be connected, cut the fresh air baffle as shown in the illustration below. Plug up the gap of the fresh air baffle with sponge if the fresh air duct is not be used.
2. Install a round flange so that the fresh air duct can be connected as shown in the illustration.
3. Sealing and heat preservation should be done for both the air pipe and round flange pipe.
4. Fresh air should be treated via the air filter.



Installation of Wired Controller

Please refer to User Manual of Wired Controller for the installation details.

NOTICE

When installation is finished, the unit must be tested and debugged before operation.
Please refer to Instruction Manual of ODU for auto addressing and debugging details.

Wiring

⚠ WARNING

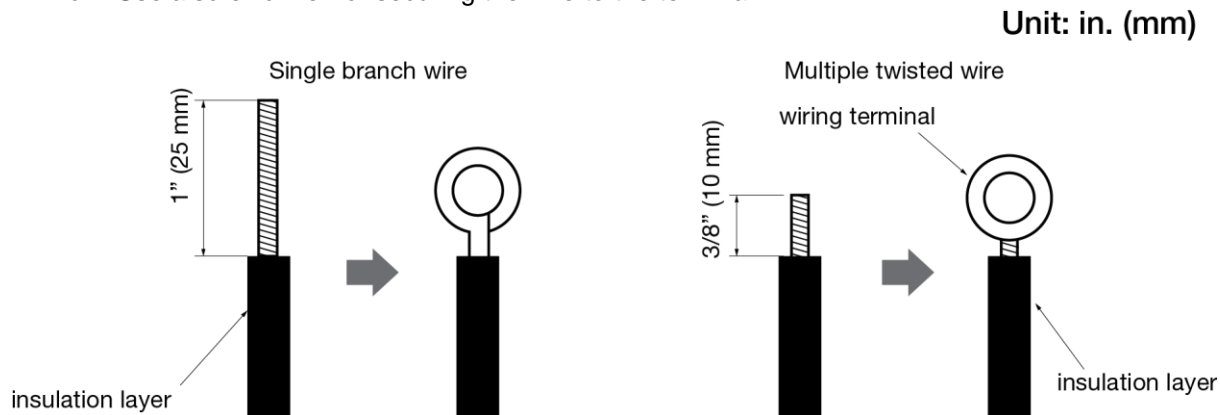
Before obtaining access to terminals, all supply circuits must be disconnected.

NOTICE

1. Units must be grounded securely. Failure to do so may result in electric shock.
2. Please carefully read the wiring diagram before performing wiring work. Incorrect wiring can cause malfunction or damage to the unit.
3. The unit should be powered by an independent circuit and specific socket.
4. The wiring should be done in accordance with NEC code and local regulations in order to ensure the unit's reliable performance.
5. Install a circuit breaker for branch circuits according to NEC code and local regulations and electrical standards.
6. Keep all cables away from refrigerant piping, compressor and fan motor.
7. The communication wires should be separated from power cord and connection wire between indoor unit
8. Adjust the static pressure via wired controller according to site requirements.

Connection of Wire and Patch Board Terminal

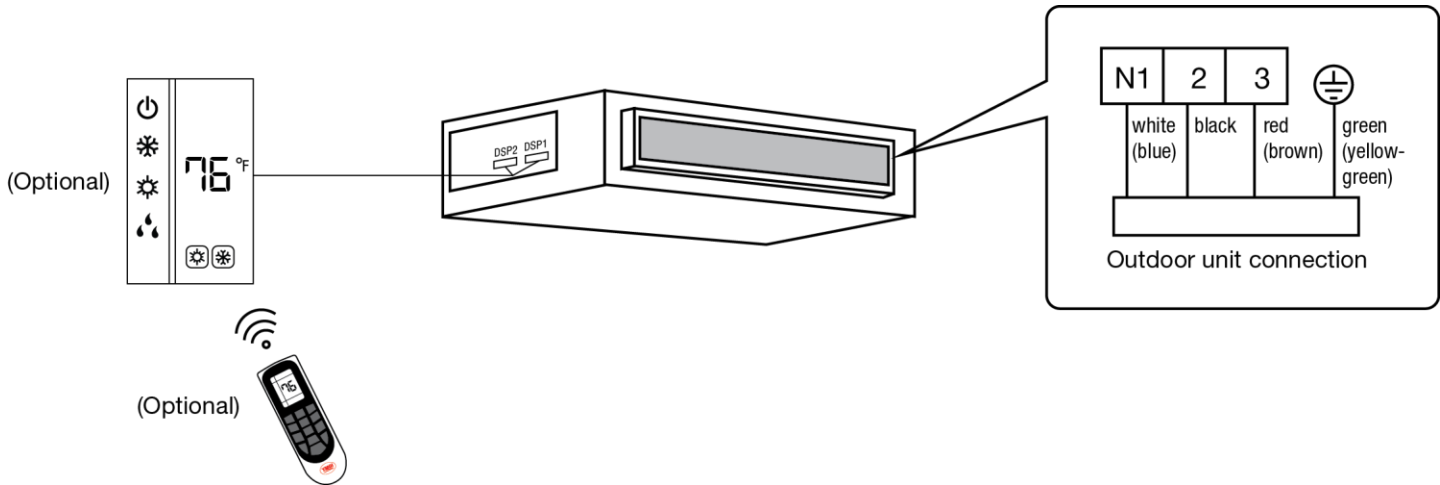
1. The connection of wire (as shown in illustration below)
 - a. Strip about 1 in. (25mm) of insulation off the wire end using a stripping and cutting tool.
 - b. Remove the wiring screws on the terminal board.
 - c. Shape the tail of wire into ring using needle nose pliers, and keep the gauge of ring in accordance with the size of the screw.
 - d. Use the screwdriver for tightening the wire to the terminal.
2. The connection of stranded wire (as shown in the second illustration below)
 - a. Strip about 3/8 in. (10mm) of insulation off the end of stranded wire by stripping and cutting tool.
 - b. Loosen the wiring screws on terminal board.
 - c. Insert the wire into the ring tongue terminal and tighten with a crimping tool.
 - d. Use a screwdriver for securing the wire to the terminal.



Power Cord Connection

NOTICE

1. Each unit should be equipped with a circuit breaker for short-circuit and overload protection.
2. During operation, all indoor units connected to the same outdoor unit system must be kept in an energized status. If they are not, the unit cannot operate normally.



NOTICE

1. Indoor unit quantity n is according to the outdoor unit capacity.

• For units with a single-phase power supply.

1. Detach the electric box lid.
2. Let the power cord pass through the wiring access holes.
3. Fix the power cord with a wiring clamp.
4. The wire diameter of power cord should not be less than 18AWG.

Wiring of the Signal Line of the Wired Controller

1. Open the cover of the electric box of the indoor unit.
2. Place the signal line going through the rubber ring.
3. Insert the signal line to the four-pin socket on the printed circuit board of the indoor unit.
4. Secure the signal line with the binding wire.

Setting of External Static Pressure

Working range for external static pressure of this series of duct type unit is 0 Pa~275 Pa. For corresponding external static pressure to the respective static pressure notch please see table below.

The setting of static pressure for indoor fan can be done via wired controller and our debugging software.

For specific setting method please see the Wired Controller Instruction Manual or Our Debugging Software Instruction Manual.

Applicable to: 09K/12K								
Static pressure notch for indoor fan	2	3	4	5	6	7	8	9
External static pressure (Pa/wcin.)	0	20	40	60	80	100	120	150
External static pressure (wc)	0"	0.08"	0.16"	0.24"	0.32"	0.40"	0.48"	0.60"
Applicable to: 18K/21K/24K								
Static pressure notch for indoor fan	2	3	4	5	6	7	8	9
External static pressure (Pa)	0	30	60	90	120	150	180	200
External static pressure (wc)	0"	0.12"	0.24"	0.36"	0.48"	0.60"	0.72"	0.80"

Routine Maintenance

NOTICE

1. Turn OFF the unit and cut off the main power supply when cleaning the air conditioner to avoid electrical shock or injury.
2. Stand on a solid platform when cleaning the unit.
3. Do not clean the unit with water that is hotter than 113°F to prevent fading or warping of components.
4. Do not dry the filters near a heat source. Filters may catch fire or warp.
5. Clean filter with a wet cloth dipped in mild detergent.
6. Please contact after-sales service staff if anything is operating abnormally.

Cleaning the Filter

1. Remove the filters from inlet of IDU. Use a vacuum cleaner to remove any dust. If the filters are dirty, wash them with warm water and mild detergent, and dry the filters in the shade.
2. If the unit used in the environment with an excessive amount of dust, we recommend cleaning it regularly. (We recommend once every two weeks).

Maintenance before Seasonal Use

1. Check if the air inlet and air outlet of indoor and outdoor unit are blocked.
2. Check if securely grounded.
3. Check if all the power cord and communication cable are securely connected.
4. Check if any error code displayed after energized.

Maintenance after Seasonal Use

1. Set the unit to Fan mode for half a day on a sunny day to dry the inner parts of unit.
2. If the unit will not be used for a prolonged period of time, please cut off power supply at the circuit breaker to save energy. Characters and icons on the wired controller screen will disappear after turning off the power supply.

Table of Error Codes for Indoor Unit

Number	Error code	Error
1	E1	Compressor high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant colleting mode
4	E4	Compressor high discharge temperature protection
5	E5	AC over-current protection
6	E6	Communication error
7	E7	Mode conflict
8	E8	Anti-high temperature protection
9	E9	Full water protection
10	F1	Indoor ambient temperature sensor is open/short circuited
11	F2	Indoor evaporator temperature sensor is open/short circuited
12	F3	Outdoor ambient temperature sensor is open/short circuited
13	F4	Outdoor condenser temperature sensor is open/short circuited
14	F5	Outdoor discharge temperature sensor is open/short circuited
15	H5	IPM Module protection, could be caused by over-charged refrigerant/high pressure (bad manifold gauge), restricted refrigerant flow or kinks on refrigerant pipes.
16	H6	No feedback of indoor fan motor
17	U8	Zero-crossing protection
18	C5	Jumper cap malfunction protection
19	EE	Loading EEPROM malfunction

Troubleshooting

This air conditioner is not designed to be serviced by users. Incorrect repair can cause electric shock or fire. Please contact an authorized service center for professional service. The following checks prior to contact may save you time and money.

Phenomenon	Troubleshooting
The unit will not start	<ol style="list-style-type: none"> 1. Power supply is not connected. 2. Circuit breaker tripping caused by electrical short. 3. Input voltage is too low. 4. Defect of main PC-board.
The unit stops after running for a short period of time.	<ol style="list-style-type: none"> 1. The air inlet or outlet of ODU or IDU are blocked by obstacle.
Poor cooling performance	<ol style="list-style-type: none"> 1. The filter is dirty. 2. Too heavy heat load of room (e.g. too many people) 3. Door or windows is open. 4. Inlet and outlet of IDU are blocked. 5. Setting temperature is too high. 6. Refrigerant is insufficient (e.g. refrigerant leakage)
Poor heating performance	<ol style="list-style-type: none"> 1. The filter is dirty. 2. Door or window is open. 3. Set temperature is too low. 4. Refrigerant is insufficient (e.g. refrigerant leakage)
Indoor fan doesn't start up during heating	<ol style="list-style-type: none"> 1. During start up, the IDU fan could not operate till the heat exchanger gets warm. The system is designed to do this to prevent the delivery of cool air. 2. During defrosting, the IDU fan is stopped when the system switches to cooling mode. The system is designed to do this to prevent delivering cold air. The fan will resume operation after the defrosting cycle is completed.

NOTICE

If air conditioner fails to work normally after checking and performing the steps described above, please turn the system off immediately and contact a local service center for assistance.



YMGI: Your Modern Green Idea



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





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

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

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