



## **EASY MRV Connection Kit Operation & Installation Manual**

**MS1-036A**

**MS3-036A**

*Design may vary by model number.*

*Some models may have an additional  
letter after the model number.*



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## RECORD KEEPING

Thank you for purchasing this Haier product. This user manual will help you get the best performance from your new air conditioner.

Model number \_\_\_\_\_

For future reference, record the model and serial number located on the label on the side of your air conditioner, and the date of purchase.

Serial number \_\_\_\_\_

Staple your proof of purchase to this manual to aid in obtaining warranty service if needed.

Date of purchase \_\_\_\_\_

## SAFETY INFORMATION

- This manual shall be given to the new owner if the system ownership is transferred.
- Read safety considerations in this manual before installation.
- Safety considerations stated in this manual are divided into "Warning" and "Caution." Items that could cause severe accidents from incorrect installations, which are likely to lead to death or serious injury are listed as "Warning." Matters listed with "Caution" are also likely to cause severe injury. **All items marked as "Caution" or "Warning" are**

### **important and should be strictly adhered to.**

- Always run a performance test after the installation is complete to make sure everything is operating normally. Always operate and maintain the connection kit in accordance with the user manual. The user manual should be delivered to the owner for reference.

### **⚠ WARNING**

- This equipment should always be installed and maintained by qualified personnel. Water leakage, electric shocks, or fire may result from improper or poor installation.
- The installation location should be able to support the weight of the equipment. Mounting failure or collapse may lead to equipment damage and personal injuries.
- The installation should comply with building codes that regulate necessary support for seismic activity or weather conditions.
- All electrical wiring should conform with local or national building codes. Check all connections for reliability and sustainability. Improper connections may cause damage or personnel injury
- This equipment requires a dedicated electrical circuit. Wire used for installation should conform to this installation guide. Failure to use specified wire can cause reliability issues as well as personal and property damage.
- Use the necessary precautions to keep air or any other noncondensable gasses from entering the system. Always use prescribed evacuation techniques to evacuate the system prior to charging with refrigerant.
- Always use the parts provided with the equipment for installation. All field supplied parts should conform to specifications provided in the manual.
- Insure that adequate ventilation is available during the installation in the event a refrigerant leak should occur. Refrigerant gasses displace oxygen and could be toxic when introduced to a flame.
- Always check for refrigerant leaks before commissioning the equipment. Refrigerant can be a health hazard.
- Do not install this equipment in areas where open flames exist. Refrigerant can become harmful when burned.
- Refrigerant lines should be properly insulated in accordance to this manual. Uninsulated lines can cause condensation leaks and reduce equipment performance.
- Proper grounding is crucial for equipment operation and safety. Utilizing gas lines, water pipes, telephone ground or conduit is not adequate. Use of a dedicated circuit with an earth ground connection in the electrical panel is required.
- Supply power must have a properly sized circuit breaker to prevent personal or property damage.
- Be sure to isolate all power to the equipment during installation and service. Failure to isolate the power supply can result in personnel injury, property damage or death.
- This equipment is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction regarding its use by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with this equipment.
- This equipment is not intended to be operated by means of an external timer or separate control system.
- Keep the appliance and its supply power wiring out of reach of children.
- The connection kit must be effectively grounded. Electric shocks may occur if the connection kit is ungrounded or inappropriately grounded. The ground wire should not be connected to the gas pipe, water pipe, lightning rod, or telephone wiring.

## READ AND SAVE THESE INSTRUCTIONS

# SAFETY INFORMATION

## ⚠ CAUTION

- The installed connection kit should be checked for electricity leakage during commissioning.
- All refrigerant connections should be thoroughly checked prior to concealment.
- All refrigerant lines connected to this kit should be properly braced and secured.
- Condensate drains must be properly maintained and kept clear. Water damage may result if drains are restricted especially during periods of high humidity (over 80%). Air filters must be maintained so as not to restrict air flow through coils.
- Keep the connection kit and power supply wiring at least 4 feet away from television and radio (as well as antenna wires and cables) to avoid image interference and noise.
- Television and radio interference is still possible under certain circumstances depending on the radio frequencies and conditions that exist.
- Avoid installing this equipment near florescent light fixtures.
- Wireless devices such as controllers can be affected by fluorescent light fixtures and operating ranges can be limited.

## Prohibitions

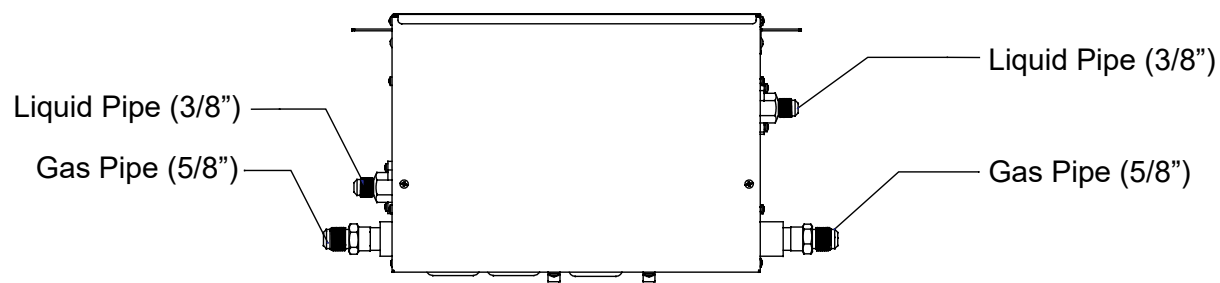
- Use only properly sized branch circuit protection, wire and fuses. Improperly sized circuit protection or bypassing circuit protection may cause personal injury or death and also cause property damage including fire.
- Be sure to isolate electrical circuits to the equipment while performing maintenance and cleaning.
- Do not install the connection kit near water heaters or boilers. Water leakage or excessive moisture can cause electrical damage.

# PARTS AND FUNCTIONS

## MS1-036A

Indoor unit side (2 pipes)

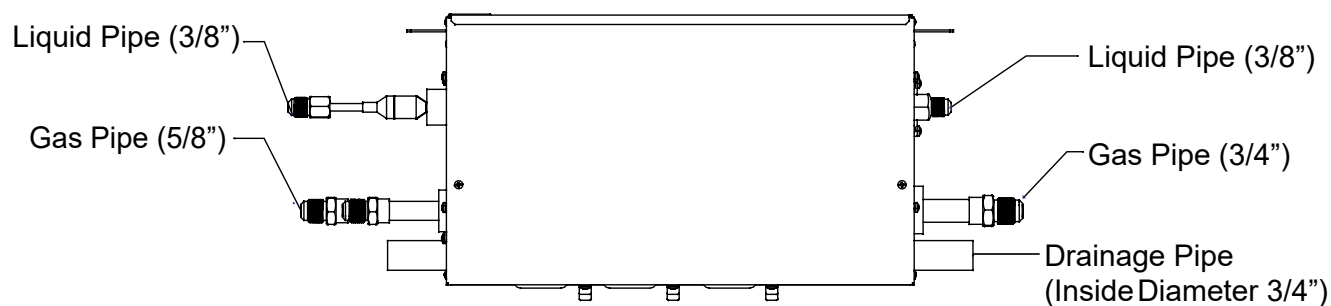
Outdoor unit side (2 pipes)



## MS3-036A

Indoor unit side (2 pipes)

Outdoor unit side (2 pipes)



# INSTALLATION INSTRUCTIONS

## Avoid Installation In the following areas:

- Oily or greasy environments such as kitchens or bakeries.
- Corrosive environments such as hair coloring salons, chemical storage areas, or swimming pool equipment and storage rooms.
- Areas in close proximity to radio transmitters. Factories with equipment that may product high levels of electromagnetic waves.
- Areas that may contain combustible gasses, combustible powders or chemical solvents.
- Areas accessible by rodents or small animals.
- Coastal areas with high salinity.

## Attention Items:

This equipment runs on R410A refrigerant only. Do not substitute refrigerant.

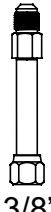
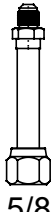
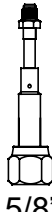







- Use the lifting handles to move the connection kit both before and after unpacking. Do not apply force to other parts of the kit; especially the refrigerant tubes and the electrical cabinet.

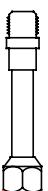

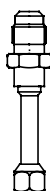
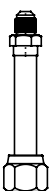
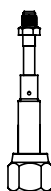
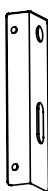
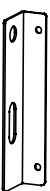





- Refer to the appropriate install guides for the indoor and outdoor units.

# INSTALLATION INSTRUCTIONS

## Accessories

Confirm that the accessories below are packed together.

MS1-036A	Variable diameter			suspending		clip	screw	Thermal insulation pipe		Nut	Specifi cation
Quantity	2	2	2	1	1	8	4	2	2	6	1
Drawing	 1/4" 3/8"	 1/2" 5/8"	 3/8" 5/8"								

MS3-036A	Variable diameter					suspending		clip	screw	Thermal insulation pipe		Nut	Specifi cation
Quantity	1	1	3	3	3	1	1	16	4	4	4	7	1
Drawing	 1/2" 3/8"	 5/8" 3/4"	 3/8" 1/4"	 1/2" 5/8"	 3/8" 5/8"								

Be sure to keep all accessories until the installation is complete.



# INSTALLATION INSTRUCTIONS

## Combinations:

- This connection kit is used for super match indoor units that are unconnected with other indoor units.
- This connection kit can match with MRV III-S, MRV III-C systems.
- See the unit literature for a list of indoor units that are compatible with your outdoor unit.
- See table 1 for capacity and quantity limitations of the connection kit.

**Table 1: Each Capacity of Connection Kit**

Connection Kit	Each Capacity of indoor unit (kBtu/h)	Quantity of indoor unit
MS1-036A	Less than 36 (10.5kW)	1
MS3-036A	Less than 36 (10.5kW)	3

## Check List

Pay close attention to the following during installation. Check this list again before system commissioning and again after completion.

### 1. Inspection items after installation

Inspection Item	Defect	Inspection Column
Is the Installation of the connection kit secure?	Falling off, vibration and noise	
Leak test inspection is completed?	No heating/cooling	
Are all refrigerant lines insulated? (refrigerant piping and tubing connections)	water leakage	
Power supply voltage consistent with the nameplate?	Out of service, burnt	
All wiring and piping correct and secure?	Out of service, burnt	
Proper equipment and building ground?	Danger in electric leakage	
Wire size correct per electrical code?	Out of service, burnt	

### 2. Inspection upon delivery

Inspection Item	Inspection Column
Is the electric box cover installed?	
All installation and equipment literature given to the customer?	

# INSTALLATION INSTRUCTIONS

## 1. Pre-Installation

The installation location selected shall meet the following conditions and be approved by users.

- The strength shall be sufficient to withstand the weight of the connection kit
- Ensure that there is enough space for installation and maintenance.
- There is space for inspection on the side and top of the electric box.
- The length of piping between the indoor and outdoor units shall be within the permissible range (referring to the specification attached to the outdoor unit).

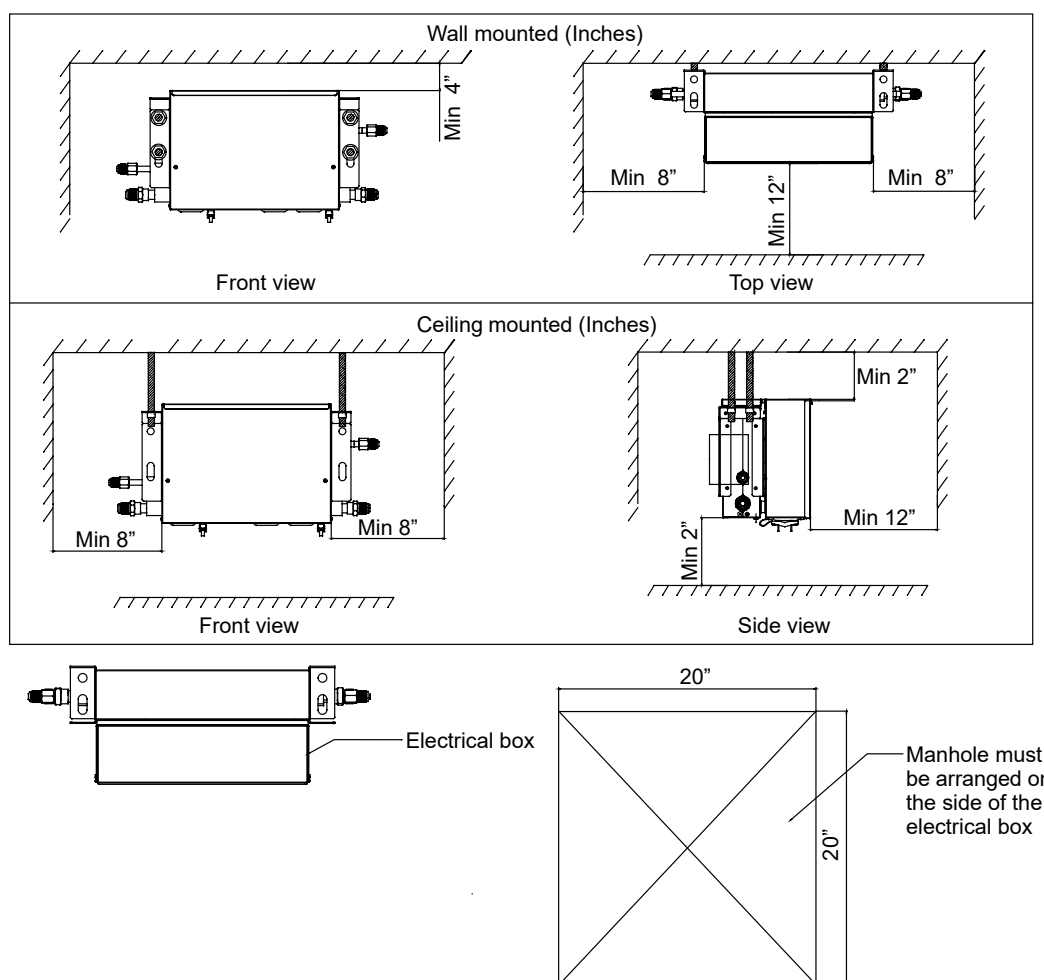
- Please install the connection kit in places where noise will not influence the customers (such as washroom, passageway, warehouse, equipment room, etc.). Places with low noise level are not suggested for installation, such as bedroom, drawing room, meeting room, office, etc.

### NOTES:

- The electrical box can be changed as shown in item 3 of the connection kit installation.
- Noise may be emitted by the connection kit during operation or stopping of an indoor unit. Take adequate precautions with the installation location.

## Clearances

- Inspect whether the installation location can sufficiently withstand the weight of connection kit and set the hoisting bolts by reinforcing the beam if necessary. Use hoisting bolts in installation (referring to 2 for the preparation before installation).
- Install the power wiring and power line of the connection kit at more than 1 m away from TV and radio to prevent the image clutter and noise. But, there may be noise even if it is more than 1 m according to the different waves.

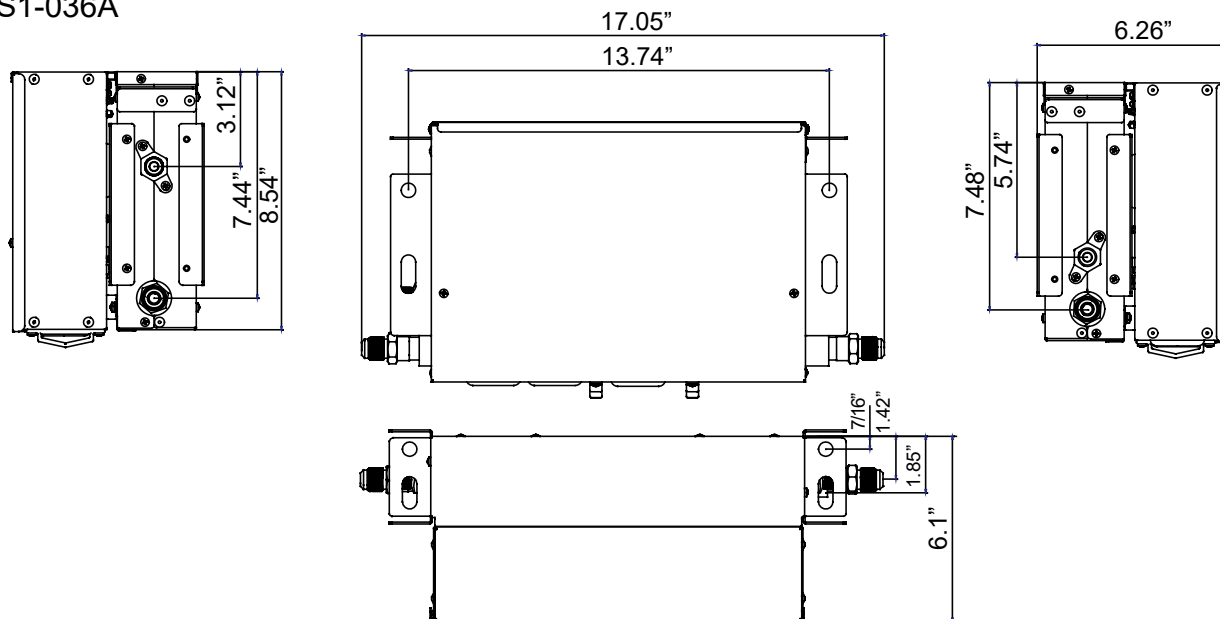


# INSTALLATION INSTRUCTIONS

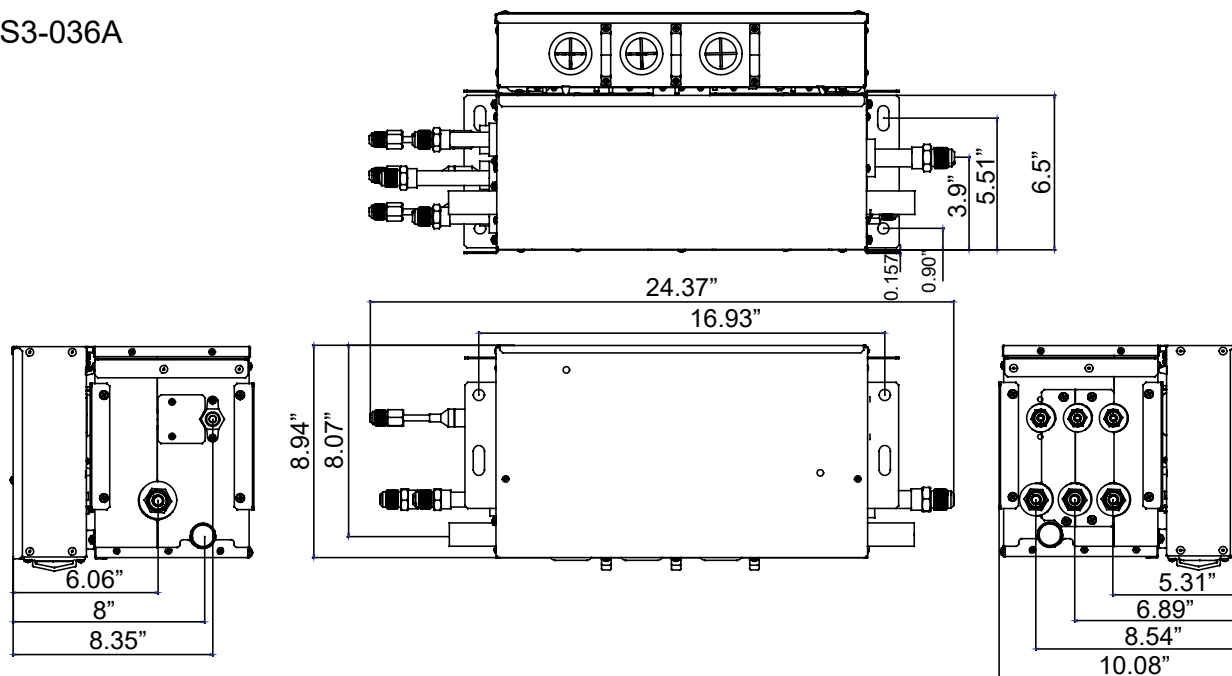
## 2. Preparation Before Installation

### A. Connection kit dimension (inches)

#### MS1-036A



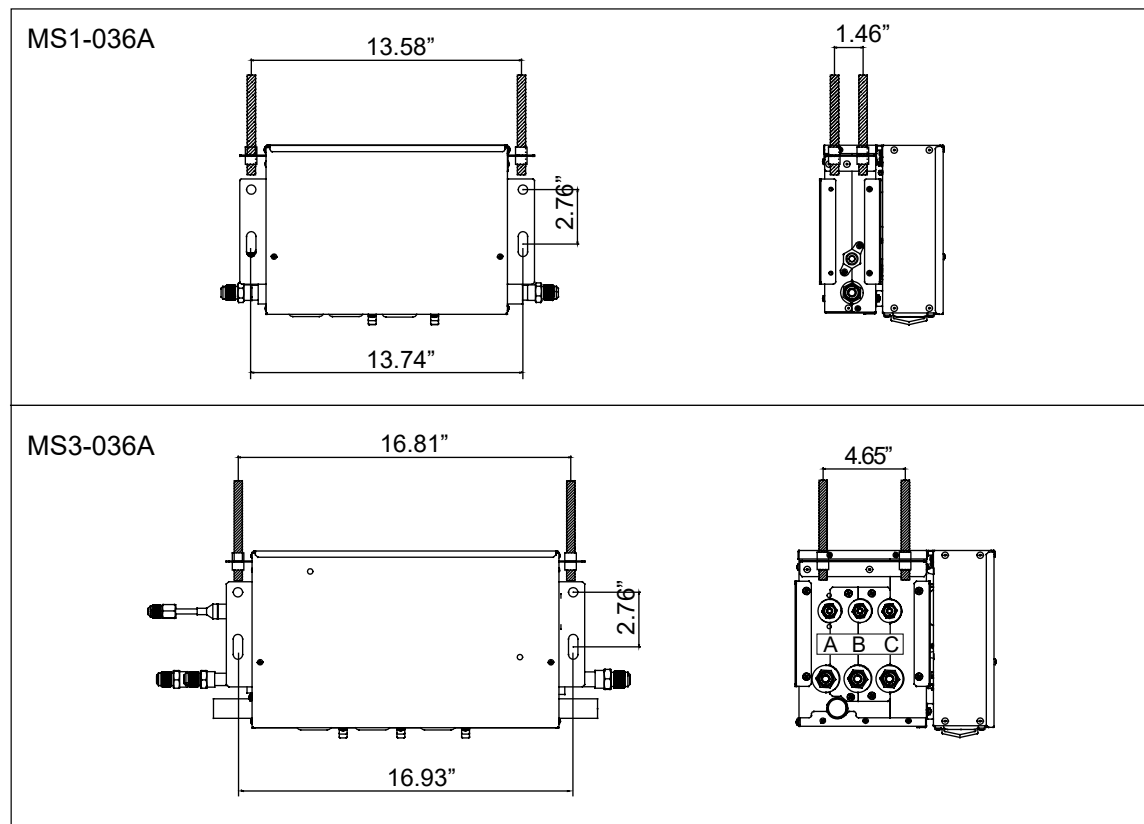
#### MS3-036A



# INSTALLATION INSTRUCTIONS

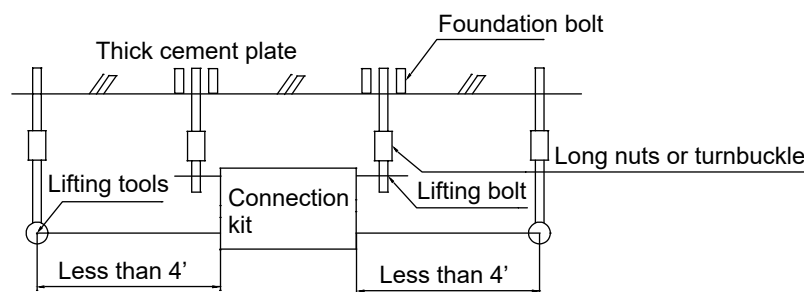
## 2. Preparation Before Installation

### B. Lifting dimension of connection kit (inches)



### NOTE:

- When three indoor units are connected to MS3-036A; please connect indoor units according to the label A, B, and C.
- When only one or two indoor units are connected to MS3-036A; please remove all the plastic caps first. Unused connection ports of valve box need to be sealed using a brass flare cap to prevent refrigerant leakage.



Note: All the parts in the figure are purchased locally.

See the figures above to install the lifting bolts and hoisting tools.

- Use the lifting bolts with the size of M8~M10
- Press insert for new settings. Press hole in anchor if set. Ensure that it can sufficiently withstand the weight of the connection kit before installation.

# INSTALLATION INSTRUCTIONS

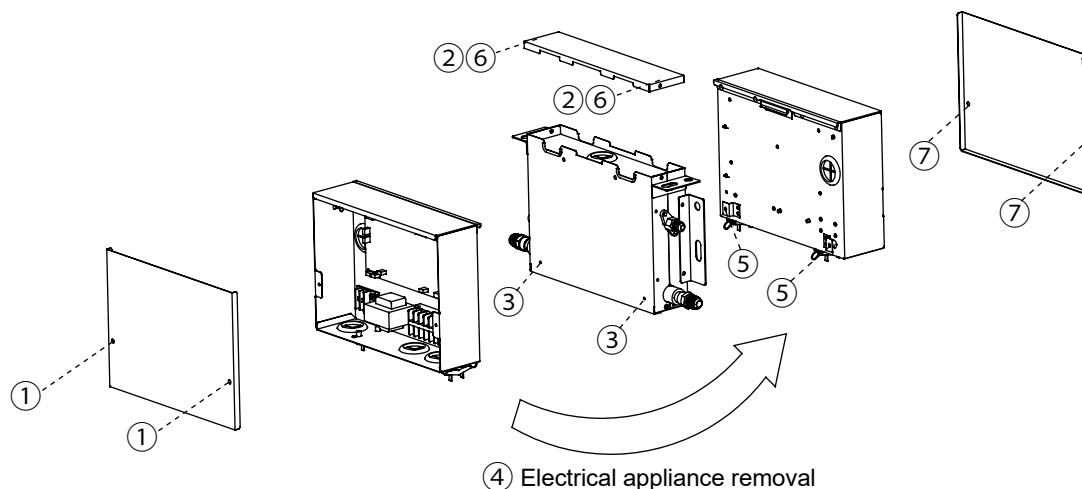
## 3. Installation of Connection Kit

Use parts and components specified for installing the installation components.

A. Change the installation direction of electric box according to requirements following the steps below.

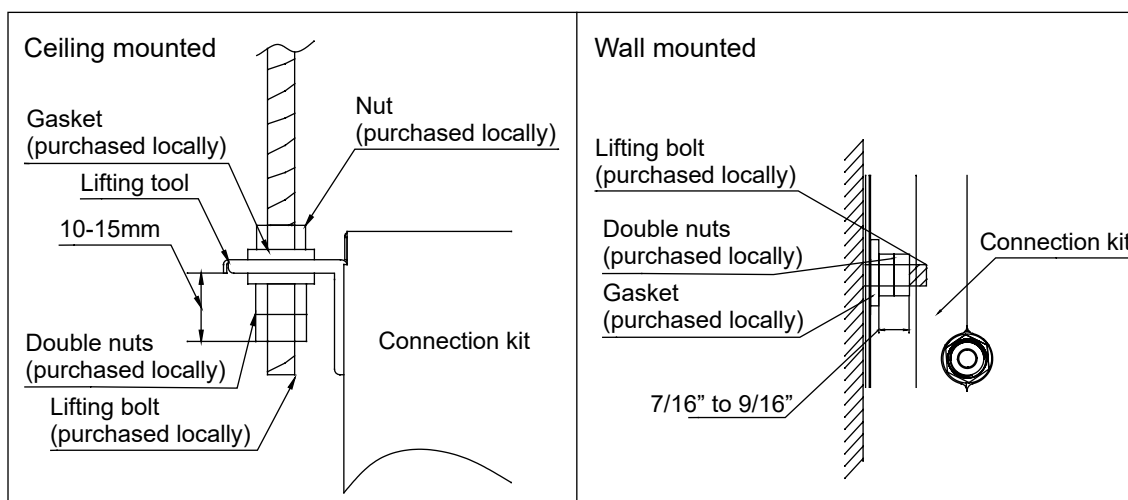
1. Remove the cover of the electrical appliance box; (2 screws)
2. Remove the top plate; (2 screws)
3. Remove the electrical appliance box; (2 screws)
4. Change the outgoing direction of wiring (electric valve coil) between the equipment and the electrical appliance box.
5. Rotate 180° to install the top plate;
6. Install the electrical appliance box;
7. Install the cover of the electrical appliance box.

Install the lifting tools on the lifting bolts according to the instruction below. Be sure to follow the stipulations on products locally purchased to use nuts (M8 or M10 of 3 pieces for 4 positions) and gaskets (M8 with the outer diameter of 1" to 1-1/8" and M10 with that of 1-1/8" to 1-5/16" of 2 pieces for 4 positions) on the upper and lower sides of the lifting tools.



### NOTES:

- Be sure that the product must be installed with the top surface (the oblique surface in the figure below) upward, or it will not work well and increase the working noise.



# INSTALLATION INSTRUCTIONS

## 4. Refrigerant Pipe Installation

- Pipes between the outdoor unit and connection kit, selection of refrigerant branching suite, and the pipe between refrigerant branching suites and the indoor units, please refer to the installation instructions or equipment design data attached to the outdoor unit.
- Before Installation, make sure the type of the refrigerant to be used is R410A. (If a refrigerant other than this type is used, it cannot run properly)
- Please provide thermal insulation at gas pipe, liquid pipe and the connections between these pipes. In the absence of thermal insulation, liquid leakage and scalding may happen. Please provide thermal insulation material that can sustain temperature over 120 °C.
- Enhance the thermal insulation material based on the installation environment. The indicators are shown below.  
For RH75%–80% at 86°F: over 5/8" thick.  
For over 80% at 86°F: over 3/4" thick.  
If not reinforced, the thermal insulation material surface is prone to condensation. Please refer to the equipment design data for further details.

The outdoor unit is already filled with refrigerant.

To connect the pipes to connection kit or remove them from connection kit, do use both spanner and torque wrench.

Apply oil to inside and outside of the flare. Make hand tight and then complete with a torque wrench.

Determine the tightening torque. (Excessive tightening may damage the nuts or tubing and cause leakage)

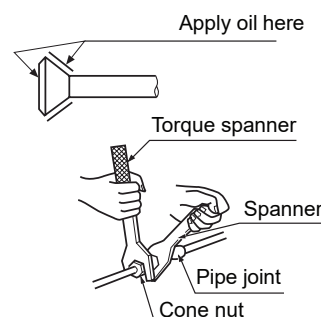
Check the connecting pipes for refrigerant leakage and then fix the thermal insulation.

Only use sealing gasket to wrap the part jointing between the gas pipe and thermal insulation.

For pipe cutter and flare tool, please use R410A special tools.

### NOTES:

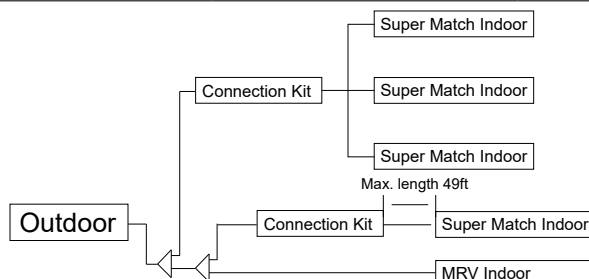
- Please do not let any type of gas other than the specified refrigerant go into the refrigeration system;
- In case of refrigerant leakage during operation, please replace the gas. (Fill the refrigerant at the outdoor unit)



## Select Piping Materials

- Make sure both the internal surface and external surface of the pipes are intact and are free from harmful contaminants such as sulphur, oxide, foreign matter, cutting powder, grease and water.
- Please use the following materials for the refrigerant pipe.
- The branch pipe for the pipe must have refrigerant branching suite. For selection of refrigerant branching suite and max. height drop between indoor units, please refer to the installation instructions or technical data attached to the outdoor unit.

Connection kit		MS1-036A	MS3-036A
Connection kit - Indoor max. single pipe length (ft)		49	49
Single way total pipe length		refer to outdoor	
Single way pipe length		refer to outdoor	
Main pipe between outdoor to 1st branch		refer to outdoor	
Pipe length between outdoors		refer to outdoor	
Height difference between indoor and outdoor	Outdoor is upper	refer to outdoor	
	Outdoor is lower	refer to outdoor	
Height difference between outdoors (in the same system)		refer to outdoor	
Height difference between indoors		refer to outdoor	



# INSTALLATION INSTRUCTIONS

## Piping Maintenance

During installation, provide maintenance as specified in the table in order to prevent water, foreign matter and dust from entering the pipes.

Location	Work Period	Maintenance Method
Outdoors	More than 1 month	Screw
	Less than 1 month	Screw or Strap
Indoors		

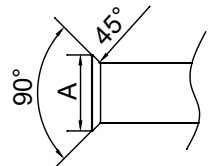
**NOTE:** Be sure foreign matter cannot enter the piping, especially when the pipe penetrates a wall or a floor.

## Attention Item for Piping Connection

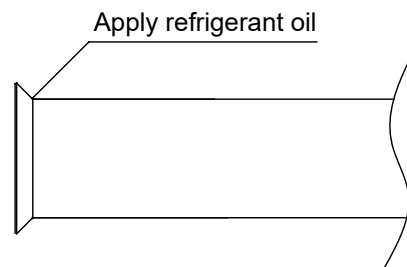
- Only use properly sized wrenches and torque wrenches for installing and removing piping from the connection kit.
- Be sure to properly strap all piping and electrical cables with installing the connection kit.
- For the sizes of the flares, please refer to the following table.

Use the following procedure when no torque wrench is available:

1. Use a spanner to tighten the nut of the flare to a position where the tightening torque sharply increases.
2. The tightening angle for the position where the tightening torque sharply increases.
3. After the work, make sure there is no air leakage.

Tube size	Tightening torque (ft. lbs)	Machined flare size A (in.)	Flare shape
1/4"	8.7~10.1	11/32 ~ 23/64	
3/8"	18.1~21.7	1/2 ~ 33/64	
1/2"	36.2~39.8	41/64 ~ 21/32	
5/8"	57.9~72.3	49/64 ~ 25/32	
3/4"	72.3~86.9	15/16	

Pipe size	Tightening angle	Recommended tool length (in.)
1/4	60°~90°	6
3/8	60°~90°	8
1/2	30°~60°	10
5/8	30°~60°	12
3/4	20°~35°	18



# INSTALLATION INSTRUCTIONS

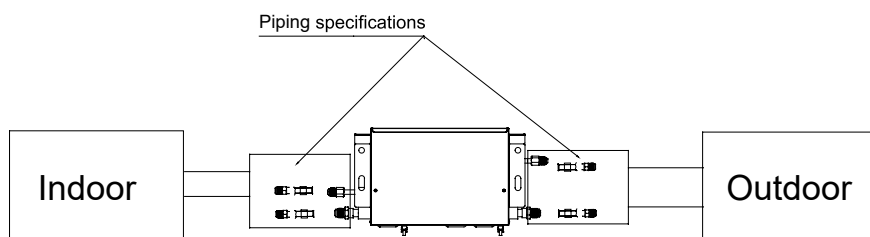
## Selection of Piping Dimensions

Select refrigerant branching dimensions between outdoor units and connection kit, between connection kit and indoor units according to the Operation & Installation Manual of outdoor units and indoor units.

Dimensions (mm) of connection pipe of the valve box

Type of Connection kit	Dimension (outer diameter)			
	Gas pipe of outdoor units / Conversion specifications	Gas pipe of indoor units / Conversion specifications	Liquid pipe of outdoor units / Conversion specifications	Liquid pipe of indoor units / Conversion specifications
MS1-036A	5/8-1/2-3/8	5/8-1/2-3/8	3/8-1/4	3/8-1/4
MS3-036A	3/4-5/8	5/8-1/2-3/8	3/8-1/2	1/4-3/8

## Pipe Connection



Use pipe size adapters with the refrigerant piping and connection kit sizes are different. (See accessories)

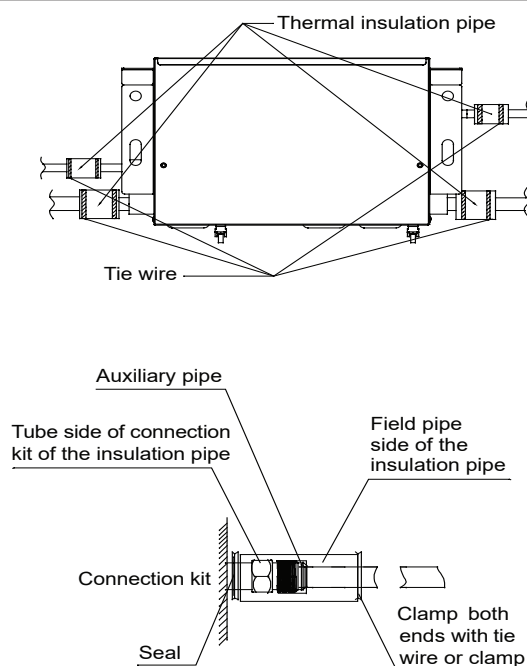
## Pipe Insulation

Use insulation to bridge any gaps (see Fig. 1) on the pipe insulation after the leak test is complete.

**NOTE:** The connection kit liquid and gas pipes must be insulated after leak testing.

Notes regarding insulation of the flare nuts and connections at the connection kit:

1. Please use torque specifications given in the install manual for all flare connections.
2. Do not over tighten clamps used to hold the insulation on the piping.
3. Place seams in the insulation facing upward to prevent condensate leakage.
4. Place seams in joint insulation facing upwards to prevent condensate leakage.

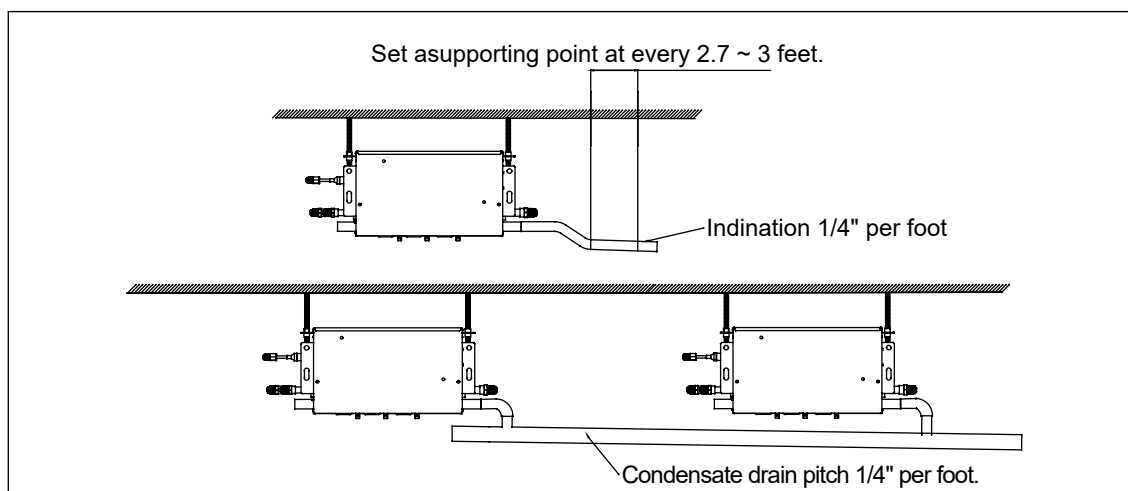




# INSTALLATION INSTRUCTIONS

## Installation and Drain Hose (For MS3-036A)

1. Drain hose must be wrapped up with insulation and tightened with wire or strap to prevent condensate from leaking.
2. Drain line shall pitch toward building drain with a slope greater than 1/4" per foot. Prevent drain line and hoses from sagging so that proper pitch is maintained.
3. Drain hose and line should be adequately supported every 2'7" ~ 3' to prevent sagging.
4. Drain lines should terminate no less than 2 inches above the ground. Condensate drains that are connected to the building DWV system should be trapped per local or national plumbing codes. Drains that are run to condensate pumps should not terminate below the maximum water level of the tank to avoid double trapping.



## Additional Refrigerant Charging

Charge the additional refrigerant of the liquid pipe between outdoor units and connection kits, between connection kits and indoor units according to the Operation and Installation Manual of outdoor unit.

# ELECTRICAL WIRING

## ⚠ WARNING

- Electrical wiring should be made with the proper wire size and branch circuit protection by qualified personnel according to the installation instructions. Property damage and personal injury may result if the wiring and electrical connections are not done properly.
- Wire size is based on full load current of the load and distance from load to the circuit breaker. Work should be done by a professional. Improper connections may lead to personal injury or property damage.
- There must be a ground connection that complies with local or national codes. Unreliable grounding may cause electrical shocks. Do not connect the grounding line to the gas pipe, water pipe, conduit, lightening rods or telephone lines.

## ⚠ CAUTION

- Only copper wire should be used.
- The wiring for the branch circuit line is type Y. The 240 volt electrical supply should be connected to the N and L terminals while  $\oplus$  should be connected to the ground wire. Electrical repairs should be done by trained professionals.
- Connection kit power lines should be arranged according to the installation instruction.
- The electrical wiring should be out of contact with any high-temperature sections of tubing to avoid melting insulation.
- Controller wiring and refrigerant tubing may be arranged and fixed together.
- All power should be isolated before performing any maintenance.
- Openings in the connection kit casing should be sealed with caulking to avoid condensate leakage.
- Signal line and power line must be separate and independent. Note the power line and signal line are provided by the installer. Specifications for power lines are: 14-2 w/ground parameters for signal line: 16-2 twisted-shielded with ground.
- Connection kits and outdoor units should be connected to the power source separately. All connection kits must share one single electrical source, but its capacity and specifications should be calculated. Indoor & outdoor units should be equipped with properly sized branch circuit protection.
- Multiple connection kits may be installed. Take proper measures not to cross wiring and piping between connection kits and outdoor units.
- Power up and commissioning should not be done before all wiring and piping connections are verified and the connection kit is completely installed.

# ELECTRICAL WIRING

## Connection Kit Power and Control Wiring

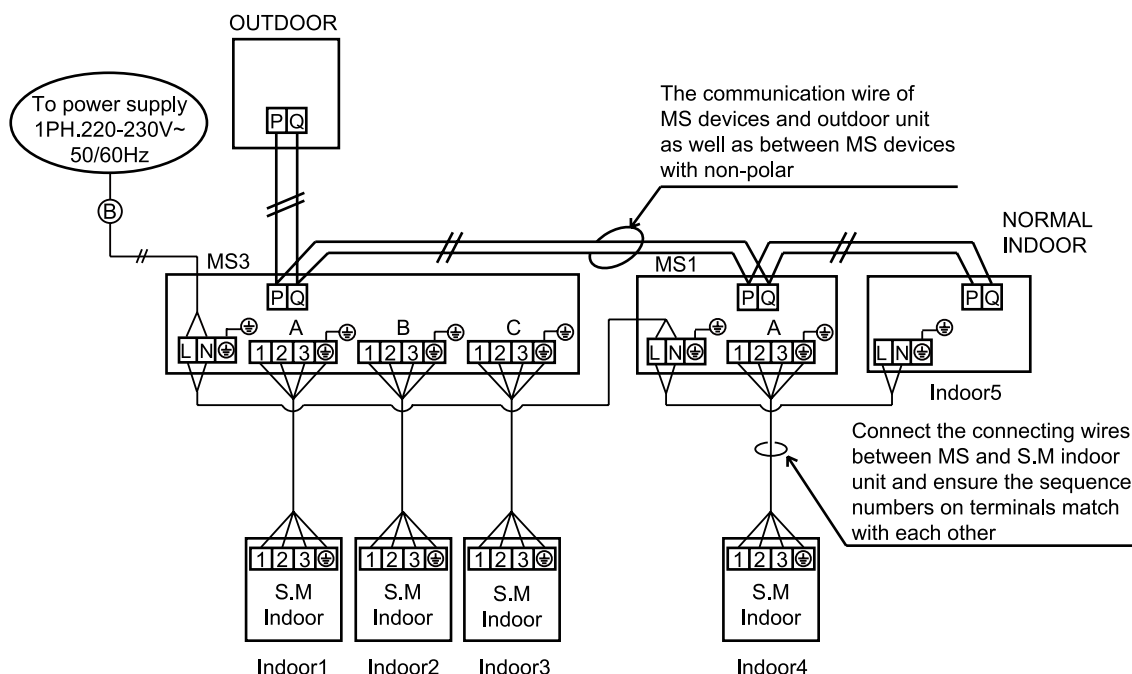
Power and control wire specifications

Total Current of valve boxes (A)	Cross Section (gauge)	Length (ft)	Rated Current of Overflow Breaker (A)	Rated Current of Power Leakage Breaker (A) Leaking Current (mA) Operating Period (S)	Cross Sectional Area of Signal Line	
					Outdoor - connection kit (ga)	Connection kit - connection kit (ga)
<10	14	20	20	20A,30mA,0.1S or below	16 twisted-shielded with ground	
≥10 and <15	12	25	30	30A,30mA, 0.1S or below		
≥15 and <22	10	30	40	40A,30mA, 0.1S or below		
≥22 and <27	8	40	50	50A,30mA, 0.1S or below		

- The current rating of the connection kit is 0.15A (not including indoor units)
- Power and communication wiring must be properly secured
- All connection kits must have a proper earth ground.
- Increase power wiring size per NEC code requirements according to length.
- Communication ground should only be grounded at the outdoor unit and should not come in contact with ground at any other point.
- Communication wire total length cannot exceed 3280 ft.

## Wiring Diagram

Communication wires should be connected at the outdoor unit terminal block on terminals P and Q. Communication wires may "daisy Chain" to other connections kits in this manner.

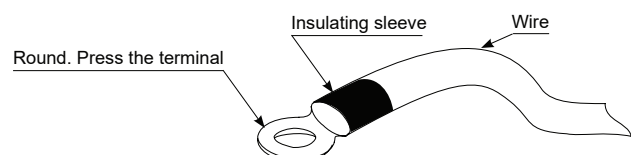


# ELECTRICAL WIRING

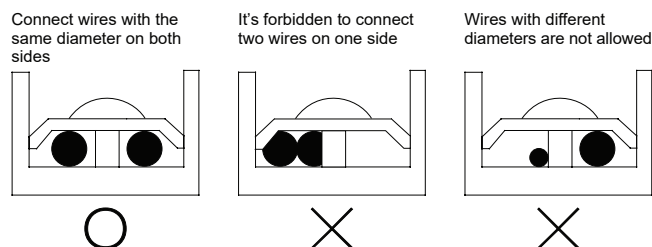
## Wiring Diagram

### NOTES:

1. The wiring diagram shown above is for reference purposes only. The number of connection kits and indoor units shall be subject to the field installation.
2. Two conductor non-polar communication line with shield shall be adopted for communication lines between the connection kit and the indoor/outdoor unit. The wire size for indoor unit and connection kit is 16ga twisted-shielded.



3. All connection kits within one system may share one circuit breaker for power supply. Wire size should be increased per the NEC for longer distances.
4. Power connections to the connection kit power terminals should be an eyelet type. (Refer to the following figure).
  1. Multiple wire connections using one connector should contain the same size wire.
  2. Refer to the following figure for crimping wires with the same diameter.



5. Tighten terminal screws with proper size screw driver.
6. Over-tightening terminal screws will cause damage. Refer to the following table for tightening torques of terminal screws.

Dimension of terminal screw	Tightening torque (in/lbs)
M3.5 (terminal block for communication line)	7.08 ~ 8.5
M4 (terminal block for power line)	10.44 ~ 12.75
M4 (terminal block for ground wire)	13.45 ~ 16.46

7. Connecting line voltage to communication terminals will damage the circuit board.
8. Communication wiring shall conform to the following specifications:
  1. The maximum wiring length between the outdoor machine and the valve cage, the valve cage and the indoor machine, and between valve cages is 3280 feet at most.
  2. The maximum wiring length between the valve cage and the wire controller for switching working modes is 1640 feet maximum.

## Wiring Connection

Refer to the following figure – Diagram of electrical wiring of a connection kit – for wiring connection of connection kit.

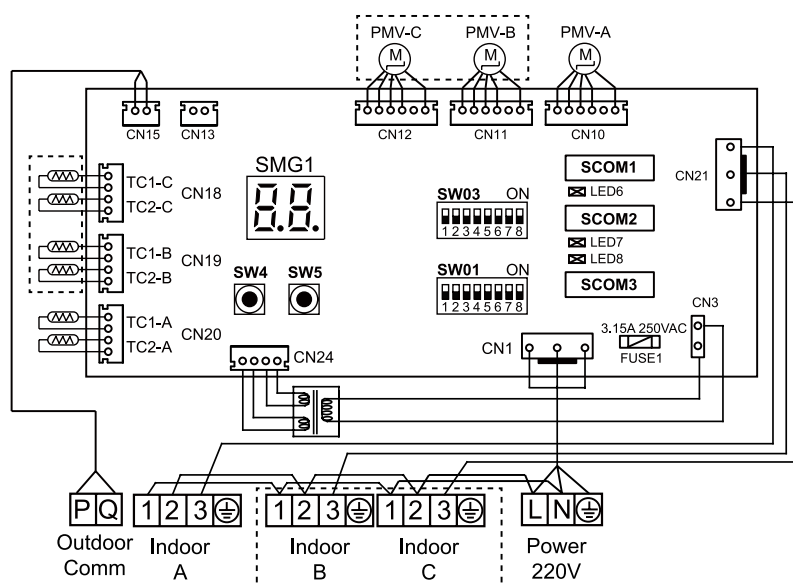
### 1. Communication connections

Remove the cover of the electrical cabinet of the valve cage. Introduce communication lines for outdoor and indoor units through the holes at the lower right of the electrical cabinet and crimp them on the communication terminal block respectively. Then fix the lead wires with crimping pliers to prevent the communication line from falling off under the effect of external force.

### 2. Connection of power line and ground wire

Remove the cover of the electrical cabinet of the connection kit. Introduce power lines through the openings at the lower left of the electrical cabinet and crimp them on the power terminal block. Then fix the power lines with crimping pliers to prevent them from falling off under the effect of external force.

- 1) Don't route communication lines and power lines together. Otherwise, it may cause malfunction or fault due to electrical disturbance.
- 2) Make sure that ground wires are properly crimped. Otherwise, grounding may be ineffective.



# INITIAL SETTING

Operate according to the following setting as necessary after refrigerant piping construction and electrical wiring construction are completed.

1. The choice of indoor unit:

SW01 is used for INDOOR UNIT. Position 1 is on, and position 0 is off.

SW01_1	Indoor unit A	0	not present
		1	present
SW01_2	Indoor unit B	0	not present
		1	present
SW01_3	Indoor unit C	0	not present
		1	present
SW01_4 ~ SW01_8	Factory Setting	0	Default Setting

2. Code setting for the unit address of the connection kit:

SW03 is used for MS devices address setting, 1 is ON, 0 is OFF

SW03_1	Manner of set address	0				Set the address with automatism (default)				
		1				Set the address with dip switch				
SW03_2 ~ SW03_8	The communication address of first indoor unit address	[2]	[3]	[4]	[5]	[6]	[7]	[8]	Communication address	Center controller address
		0	0	0	0	0	0	0	0# (default)	0# (default)
		0	0	0	0	0	0	1	1#	1#
		0	0	0	0	0	1	0	2#	2#
		0	0	0	0	0	1	1	3#	3#
		0	0	0	0	1	0	0	4#	4#
		0	0	0	0	1	0	1	5#	5#
		0	0	0	0	1	1	0	6#	6#
		0	0	0	0	1	1	1	7#	7#
		0	0	0	1	0	0	0	8#	8#
		0	0	0	1	0	0	1	9#	9#
		0	0	0	1	0	1	0	10#	10#
		0	0	0	1	0	1	1	11#	11#
		0	0	0	1	1	0	0	12#	12#
		0	0	0	1	1	0	1	13#	13#
		0	0	0	1	1	1	0	14#	14#
		0	0	0	1	1	1	1	15#	15#
		0	0	1	0	0	0	0	16#	16#
		0	0	1	0	0	0	1	17#	17#
		0	0	1	0	0	1	0	18#	18#
		0	0	1	0	0	1	1	19#	19#
		0	0	1	0	1	0	0	20#	20#
		0	0	1	0	1	0	1	21#	21#
		0	0	1	0	1	1	0	22#	22#
		0	0	1	0	1	1	1	23#	23#
		0	0	1	1	0	0	0	24#	24#

# INITIAL SETTING

SW03_2 ~ SW03_8	The communication address of first indoor unit address	[2]	[3]	[4]	[5]	[6]	[7]	[8]	Communication address	Center controller address
		0	0	1	1	0	0	1	25#	25#
		0	0	1	1	0	1	0	26#	26#
		0	0	1	1	0	1	1	27#	27#
		0	0	1	1	1	0	0	28#	28#
		0	0	1	1	1	0	1	29#	29#
		0	0	1	1	1	1	0	30#	30#
		0	0	1	1	1	1	1	31#	31#
		0	1	0	0	0	0	0	32#	32#
		0	1	0	0	0	0	1	33#	33#
		0	1	0	0	0	1	0	34#	34#
		0	1	0	0	0	1	1	35#	35#
		0	1	0	0	1	0	0	36#	36#
		0	1	0	0	1	0	1	37#	37#
		0	1	0	0	1	1	0	38#	38#
		0	1	0	0	1	1	1	39#	39#
		0	1	0	1	0	0	0	40#	40#
		0	1	0	1	0	0	1	41#	41#
		0	1	0	1	0	1	0	42#	42#
		0	1	0	1	0	1	1	43#	43#
		0	1	0	1	1	0	0	44#	44#
		0	1	0	1	1	0	1	45#	45#
		0	1	0	1	1	1	0	46#	46#
		0	1	0	1	1	1	1	47#	47#
		0	1	1	0	0	0	0	48#	48#
		0	1	1	0	0	0	1	49#	49#
		0	1	1	0	0	1	0	50#	50#
		0	1	1	0	0	1	1	51#	51#
		0	1	1	0	1	0	0	52#	52#
		0	1	1	0	1	0	1	53#	53#
		0	1	1	0	1	1	0	54#	54#
		0	1	1	0	1	1	1	55#	55#
		0	1	1	1	0	0	0	56#	56#
		0	1	1	1	0	0	1	57#	57#
		0	1	1	1	0	1	0	58#	58#
		0	1	1	1	0	1	1	59#	59#
		0	1	1	1	1	0	0	60#	60#
		0	1	1	1	1	0	1	61#	61#
		0	1	1	1	1	1	0	62#	62#
		0	1	1	1	1	1	1	63#	63#

# INITIAL SETTING

SW03_2 ~ SW03_8	The communication address of first indoor unit address	[2]	[3]	[4]	[5]	[6]	[7]	[8]	Communication address	Center controller address
		1	0	0	0	0	0	0	0#	64#
		1	0	0	0	0	0	1	1#	65#
		1	0	0	0	0	1	0	2#	66#
		...	...	...	...	...	...	...	.....	.....
		1	1	1	1	1	1	0	62#	126#
		1	1	1	1	1	1	1	63#	127#

## NOTES:

The unit address setting is written in the chip during power up of the connection kit.

1. Make sure that the unit address code is set before the connection kit is energized.

a. Dip switch setting by hand when connected to the controller, gate way and BMS

b. Dip switch setting method as below:

SW03\_2 = OFF, central controller address = communication address + 0 = communication address

SW03\_2 = ON, central controller address = communication address + 64 = communication address

c. In the system, when PCB code of indoor unit is 0010451181A, you must use dip switches for address setting.

SW03\_1=ON, SW03\_2=OFF, SW03\_3/SW03\_4/SW03\_5/SW03\_6/ SW03\_7/SW03\_8 are address No.

d. The corresponding relation of connection kits address and indoor communication address

MS1 connection kit address= indoor communication address;

MS3 connection kit address= indoor A communication address,

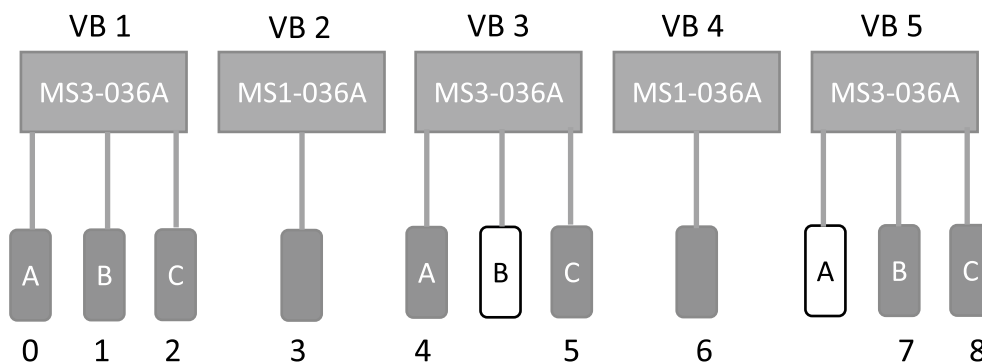
MS3 connection kit address + 1= indoor B communication address

MS3 connection kit address + 2= indoor C communication address

Example: a system contains four connection kits (such as No. 1, No. 2, No. 3, No. 4), then connection kit address can be set as follows:

MS1 No. 1	MS1 address	Indoor address		
	0#	0#		
	MS3 address	Indoor A address	Indoor B address	Indoor C address
MS3 No. 2	1#	1#	2#	3#
MS3 No. 3	4#	4#	5#	6#
MS3 No. 4	7#	7#	8#	9#

Example :



Indoor unit address :

DIP	VB 1	VB 2	VB 3	VB 4	VB 5
SW 01	11100000	10000000	10100000	10000000	01100000
SW 03	10000000	10000011	10000100	10000110	10000111
Address	0	3	4	6	7

# INITIAL SETTING

2. Be sure to close the cover of the electrical cabinet after setting.

3. Setting for LED display

## 1- SW4, SW5 button function

SW4: select the indoor unit (like SW9/10 on MRVIII-C outdoor PCB)

SW5: select the different parameter (like SW11)

## 2- The details

The LED shows 0 when the kit and indoor unit work correctly, and shows the error code if any problem happened on kit and indoor unit.

SW4: select the indoor unit (like SW9/10 on MRVIII-C outdoor PCB) Press SW4, the LED shows "A0" & "data" alternately.

"A0" -> "data" -> "A0" -> "data"... Press SW4 once more, the LED shows "b0" & "data" alternately. Press SW4 once more, the LED shows "C0" & "data" alternately.

SW5: select the different parameter (like SW11)

Press SW5, the LED shows "A0" & "data" alternately. "A0" -> "data" -> "A0" -> "data"... Press SW5 once more, the LED shows "A1" & "data" alternately. Press SW5 once more, the LED shows "A2" & "data" alternately. You do repeat this operation till A6 displayed.

Query mode ends mode after 30 seconds automatically. The LED show the last data your queried when you entry this query mode next time.

LED Display

Code	Data content
"A0"	INDOOR UNIT A room temp(decimal)
"A1"	INDOOR UNIT A TC1 gas pipe temp. (decimal)
"A2"	INDOOR UNIT A TC2 liquid pipe temp. (decimal)
"A3"	INDOOR UNIT A Tm indoor coil temp. (decimal)
"A4"	INDOOR UNIT A physical address (hex)
"A5"	INDOOR UNIT A central address (hex)
"A6"	INDOOR UNIT A error code (decimal)
"b0"	INDOOR UNIT B room temp(decimal)
"b1"	INDOOR UNIT B TC1 gas pipe temp. (decimal)
"b2"	INDOOR UNIT B TC2 liquid pipe temp. (decimal)
"b3"	INDOOR UNIT B Tm indoor coil temp. (decimal)
"b4"	INDOOR UNIT B physical address (hex)
"b5"	INDOOR UNIT B central address (hex)
"b6"	INDOOR UNIT B error code (decimal)
"C0"	INDOOR UNIT C room temp(decimal)
"C1"	INDOOR UNIT C TC1 gas pipe temp. (decimal)
"C2"	INDOOR UNIT C TC2 liquid pipe temp. (decimal)
"C3"	INDOOR UNIT C Tm indoor coil temp. (decimal)
"C4"	INDOOR UNIT C physical address (hex)
"C5"	INDOOR UNIT C central address (hex)
"C6"	INDOOR UNIT C error code (decimal)



# COMMISSIONING

1. Confirm that the cover of the electrical cabinet of the connection kit is in place.
2. Conduct commissioning in accordance with the installation and use specification attached to the outdoor unit.

The Electric Expansion Valves will make clicking sounds for about 20 seconds at the time of powering up. This is normal and expected.

## Connection Kit Failure Code List

Failure code	Failure code definition	Resumable
1	TC1-A fault	Resumable
2	TC1-B fault	Resumable
3	TC1-C fault	Resumable
4	TC2-A fault	Resumable
5	TC2-B fault	Resumable
6	TC2-C fault	Resumable
7	Connection kit EEPROM data fault	Un-resumable
8	Communication fault between connection kit with outdoor unit	Resumable
9	Duplicate indoor unit address fault	Resumable
10	Indoor unit A fault	Resumable
11	Indoor unit B fault	Resumable
12	Indoor unit C fault	Resumable
13	Communication fault between connection kit with indoor unit A	Resumable
14	Communication fault between connection kit with indoor unit B	Resumable
15	Communication fault between connection kit with indoor unit C	Resumable
20	Outdoor unit fault	Resumable

# LIMITED WARRANTY

For the product models listed on Attachment 1 (the "Product"), this Standard Limited Warranty is provided to the Original Owner of the Product:

For The Period Of:	Haier Will Replace:
5 year limited parts warranty From the date of the original purchase	This limited warranty cover all defects in workmanship or material for the mechanical and electrical parts contained in the Product ("Defective Parts") for a period of 5 years from the Date of Purchase. Haier will provide new or refurbished parts, or a replacement for all or part of the unit, at its sole discretion, to your licensed HVAC technician installer. This warranty also covers all defects in workmanship or material for the unit controller for a period of 1 year. The remote controller is covered by 1-year accessory warranty. The ductless system is covered by standard warranty. Haier will provide a new or refurbished controller, at its sole discretion.
7 year compressor warranty from the date of the original purchase	The compressor contained in this product is warranted for a period of 7 years from the Date of Purchase. Haier will provide a new or refurbished compressor, or a replacement for all or part of the unit, at its sole discretion, to your licensed HVAC technician installer.

## WHAT IS THE DATE OF PURCHASE

The "Date of Purchase" is the date that the original installation is complete and all product start-up procedures have been properly completed and verified by the installer's invoice. If the installation date cannot be verified, then the Date of Purchase will be sixty (60) days after the manufacture date, as determined by the Product's serial number. You should keep and be able to provide your original sales receipt from the installer as proof of the Date of Purchase. In new construction, the Date of Purchase will be the date the owner purchased the residence from the builder.

## WHO IS COVERED

Owner occupied: The "Original Owner" of this product, which means the original owner (and his or her spouse) of the residence where the Product was originally installed. Subject to the law of the state or province where the Product is installed, this warranty is not transferable to subsequent owners or if the product is moved to a different residence after the initial installation. Non-owner occupied: This limited warranty is provided for product 1) installed in a) single family or multi-family non-owner occupied residential buildings, or b) non-industrial commercial applications, (such as office buildings, retail establishments, hotels/motels) where the product is not subjected to an atmosphere with corrosives or high levels of particulates (such as soot, aerosols, fumes, grease), and 2) if the product is maintained annually by a licensed HVAC technician (proof of annual maintenance is required). The "Original Owner" of the product, means the original owner of the building where the product was originally installed. For new construction, the purchaser of the building from the builder will also be considered an original owner. This warranty is not transferable to subsequent owners or if the product is moved to a different location after the initial installation.

## HOW CAN YOU GET SERVICE

Contact your licensed HVAC technician installer. All installation and service must be performed by a licensed HVAC technician. Failure to use a licensed HVAC technician for installation of this Product voids all warranty on this Product..

## THIS WARRANTY DOES NOT COVER

- Damage from improper installation.
- Damage in shipping.
- Defects other than from manufacturing (i.e., workmanship or materials).
- Damage from misuse, abuse, accident, alteration, lack of proper care and/or regular maintenance, or incorrect electrical voltage or current.
- Damage resulting from floods, fires, wind, lightning, accidents or similar conditions.
- Damage from installation or other services performed by other than a licensed HVAC technician.
- Labor and related services for repair or installation of the Product.
- A Product purchased from an online retailer.
- Damage as a result of subjecting Product to an atmosphere with corrosives or high levels of particulates (such as soot, aerosols, fumes, grease).
- A Product sold and/or installed outside of the 50 United States, the District of Columbia, or Canada.
- Batteries for the controller and other accessories provided with the Product for installation (e.g., plastic hose).
- Normal maintenance, such as cleaning of coils, cleaning filters, and lubrication.
- For Product installed in non-owner occupied applications, Product that has not been maintained annually by a licensed HVAC technician (proof required).

Staple your receipt here. Proof of the original purchase date is needed to obtain service under the warranty.

# LIMITED WARRANTY

## 10 YEAR STANDARD REGISTERED LIMITED WARRANTY

All "Indoor and Outdoor Products," identified in Attachment 1, registered by the installer or the Original Owner within 60 days of the Date of Purchase shall receive a Standard Registered Limited Warranty, which shall be identical to the Standard Base Warranty, except that the Limited Parts Warranty shall be for a term of 10 Years and the Limited Compressor Warranty shall be for a term of 10 years. All Product not registered within 60 days of the Date of Purchase shall be subject to the Standard Base Warranty. Some states and provinces do not allow warranty terms to be subject to registration; in those states and provinces the longer terms for Limited Parts Warranty and the Limited Compressor Warranty apply.

## **THIS LIMITED WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

The remedy provided in this warranty is exclusive and is granted in lieu of all other remedies. This warranty does not cover incidental or consequential damages. Some states and provinces do not allow the exclusion of incidental or consequential damages, so this limitation may not apply to you. Some states and provinces do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary by state and province. This warranty covers units within the 50 United States, the District of Columbia and Canada. This warranty is provided by GE Appliances a Haier company, Louisville, KY 40225.

## ATTACHMENT 1

The "Product" is defined as Haier brand Ductless Split Units. The "Product" contains 2 sub-categories of goods: "Indoor and Outdoor Products" and "Selected Installation Products," which are further defined below: "Indoor and Outdoor Products" can further be identified by the following model number descriptions: 1U\*, 2U\*, 3U\*, 4U\*, AB\*, AD\*, AL\*, AM\*, AW\*, AF\*, MVA\* MVH\* "Selected Installation Products," identified by the following model number descriptions: PB-\* FQG-\*, AH1-\*, MS1-\* and MS3-\*

