

Installer's Manual

Split System (R-410A)

Инверторная сплит-система

Multi Split Inverter System

09,000 Btu/h to 24,000 Btu/h

Модель:

4MXX8509A10N0AA

4MXX8512A10N0AA

4MXX8518A10N0AA

4MXX8524A10N0AA

CONFORMS TO
UL STD. 1995
CERTIFIED TO
CSA STD. C22.2
Intertek
307844



© 2012 Trane All rights reserved.

Literature Order Number MS-SVNH A-EN
Date March 2013
Supersedes

March 2013

MS-SVNH A-EN

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice. Only qualified technicians should perform the installation and servicing of equipment referred to in this manual.



661299 1XXXX

Warnings and Cautions

Warnings and Cautions. Notice that warnings and cautions appear at appropriate intervals throughout this manual. Warnings are provided to alert installing contractors to potential hazards that could result in personal injury or death, while cautions are designed to alert personnel to conditions that could result in equipment damage.

Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

Attention: Warnings and Cautions appear at appropriate sections throughout this literature. Read these carefully.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE: Indicates a situation that could result in equipment or property-damage only accidents.



WARNING

This equipment is to be serviced by professionally trained personnel **ONLY**. Under **NO** circumstances should an unqualified person service it. This equipment contains refrigerant under **PRESSURE** and operates at **HIGH VOLTAGE**. Improperly installed, adjusted or altered equipment by an unqualified person poses safety hazards including **FIRE, ELECTROCUTION, or EXPLOSION**, which could result in death or serious injury.



WARNING

Electrocution and Fire Hazards with Improperly Installed and Grounded Field Wiring!

Improperly installed and grounded field wiring poses **FIRE & ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in the National Electrical Codes (NEC) and your local/state electrical codes. All field wiring **MUST** be performed by qualified personnel.

Failure to follow these requirements could result in death or serious injury.

Notice

- ◆ The total capacity of the indoor units which runs at the same time can not exceed 150% of that of outdoor units; otherwise, the cooling (heating) effect of each unit would be reduced.
- ◆ A breaker (or fuse) needs to be installed in every indoor unit, and the capacity should be in accordance with indoor unit's electrical parameter; all indoor units are required to be controlled by a main switch, this switch can cut off the electric power supply in case of emergency. The breaker (or fuse) on each indoor unit has the function of preventing a short circuit and avoiding abnormal overload, it should be connected in a normal situation. The main switch controls the power supply to all of the indoor units. Before cleaning and maintaining the indoor units, it is very important to turn off the main power supply switch.
- ◆ In order to turn on the units successfully, the main power switch should be applied 8 hours before the operation.
- ◆ It is normal for the indoor unit to still run for 20- 70 seconds after the indoor unit receives the "stop" signal so as to make full use of any remaining heated or cooled air.
- ◆ When the running modes of the indoor and outdoor units conflict, it will be indicated on the display of the control panel for five seconds and the indoor unit will stop. At this time, change the operation mode of the indoor unit to the one that would not conflict with the outdoor operating mode to make the operation normal. The HEAT mode will conflict with the COOL mode, DRY mode and FAN mode, while the COOL mode, DRY mode and FAN mode are compatible between each other.
- ◆ The appliance shall not be installed in moist places, such as the laundry, kitchen or bathroom.
- ◆ Power supply fluctuating range (+/-10%, +/-1Hz) .
- ◆ Humidity range: 30%~95%.
- ◆ Main switch is provided by the end user: and must comply with National, State and/or Local Codes.
- ◆ The instruction of the main power switch should be included in the user manual
- ◆ The cooling range of the unit is the outdoor ambient temp 0-110 F(-17~43 °C) DB, the heating range of the unit (only for the heat pump type unit) is the outdoor ambient temp. 5-75 F (-15~24°C) DB.

- ◆ This appliance 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 concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.



This product must not be disposed with domestic waste. This product must be disposed at an authorized place for recycling of electrical and electronic appliances.

Thank you for selecting this product. Before use of this product, please read this instruction manual carefully and keep it for future reference.


Contents

1 Safety Precautions	1
2 Installation Precautions and Location Choosing	2
2.1 Installation Precautions.....	2
2.2 Location Choosing	2
2.3 Inappropriate Location	2
3 Installation of Floor and Ceiling Type Indoor Unit.....	3
3.1 Space Dimension for Unit Installation	3
3.2 Important Notice.....	3
3.3 Installation Description.....	3
3.4 Electrical Wiring	6
3.5 Drainpipe Installation	7
3.6 Install the Connection Pipes	8
4 Part Names of Floor and Ceiling Type Indoor Unit.....	10
5 Working Temperature Range.....	11
6 Maintenance Method	12
6.1 Cleaning the Air Filters.....	12
6.2 Cleaning the Unit	12
6.3 At the Start of the Season	12
6.4 During the off Season	12
7 Operating Instructions	13
8 Error Analysis ..	15
8.1 Service Center	15
8.2 After-sales Service	16

1 Safety Precautions

Read this manual carefully before using this unit, and operate it correctly according to the instructions in this manual.

Pay special attention to the meaning of these two marks:

 **Warning!:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **Notice!:** Indicates a situation that could result in equipment or property-damage.

 **Warning!**

- ◆ Do not adopt fuse with unsuitable capacity or adopt iron thread instead of fuse, otherwise malfunction or fire may happen.
- ◆ Turn off the main power switch immediately if a malfunction is detected.
- ◆ Keep good ventilation in the room to avoid oxygen deficit.
- ◆ Do not insert finger or stick like things into discharge vent or outlet grill.
- ◆ Wall structure must be adequate to support the weight of the unit. Failure to ensure adequate structural support could result in the unit falling from its location which could result in death, serious injury, or equipment and/or property damage.
- ◆ Do not apply sprays, paints, or insecticides to the surface of the unit as this is a fire hazard.
- ◆ Do not attempt to repair, replace or relocate the unit. Contact your authorized dealer or installation professional for service, replacement or relocation of the unit.

Install a separate disconnect at the outdoor unit. The power supply, wiring and grounding of equipment must comply with National, State and/or Local Codes. The power supply must agree with the equipment nameplate.

 **Notice!**

- ◆ Before using the unit, please check to ensure the piping and wiring are correct to avoid water leakage, refrigerant leakage, electric shock, or fire, etc.
- ◆ The main power supply must be grounded to avoid hazard of electric shock. Never connect this ground wire to the gas pipe, running water pipe, lightning rod or phone cable's ground lead.
- ◆ Turn off the unit after it runs at least five minutes; otherwise its service life will be shortened.
- ◆ Do not allow children to operate the air conditioner.
- ◆ Do not operate the unit while wet or if standing in water.
- ◆ Please turn off the main power to the unit before cleaning the unit or changing the filter.
- ◆ Please cut off the main power if the unit will not be used for an extended time.

2 Installation Precautions and Location Choosing

2.1 Installation Precautions

The installation of this unit must comply with National, State and/or Local Codes.

Installation quality will directly affect the normal use of air conditioner. Do not attempt to install the air conditioner by yourself. This unit should only be installed and serviced by licensed technicians and electricians. Please contact your installing or servicing dealer for assistance.

Do not connect to power until all installation work is completed.

2.2 Location Choosing

- * Select a place where cool air can be distributed throughout the room.
- * Select a place where condensate water can be easily drained out.
- * Select a location where the structure can withstand 4 times the weight of the indoor unit to avoid vibration, noise and possible structure or equipment damage.
- * Select a location allowing enough room for routine maintenance.
- * Select a place where it is easy to connect with the outdoor unit.
- * Select a place where it is 3.5 feet (1 m) or more away from other electric appliances such as, television or audio devices, etc.
- * Avoid a location where there is heat source, high humidity or flammable gas.
- * Do not use the unit in moist surroundings, such as a laundry, bath, shower or swimming pool.
- * Be sure that the installation conforms to the installation drawings.

2.3 Inappropriate Location

- * Where there is too much oil.
- * Where it is an acid or base area.
- * Where there is irregular electrical supply.

3 Installation of Floor and Ceiling Type Indoor Unit

3.1 Space Dimension for Unit Installation

The space around the unit is adequate for ventilation. (Refer to Fig.1)

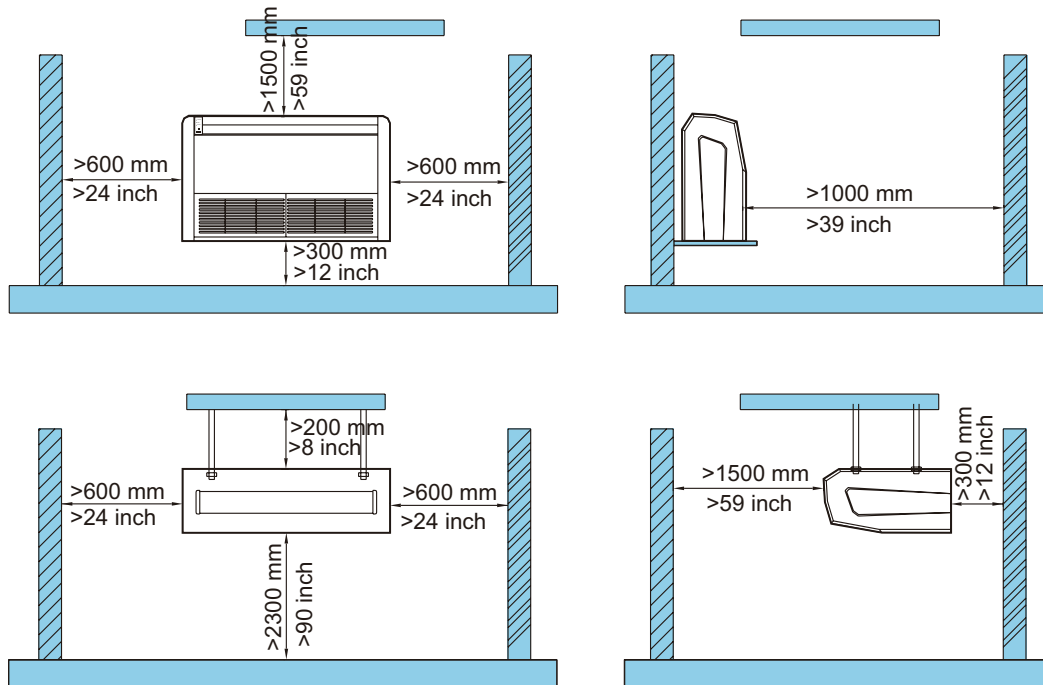


Fig.1

3.2 Important Notice

(1). To guarantee optimum performance, the unit must be installed by a qualified service technician according to the instructions in this installer's manual.

This equipment is to be installed and serviced by professionally trained personnel ONLY. Under NO circumstances should an unqualified person install or service it. Any malfunction caused by improper installation or service may void all warranties.

(2). Do not attempt to repair, replace or relocate the unit. Contact your authorized dealer or installation professional for service, replacement or relocation of the unit.

3.3 Installation Description

* **Ceiling type**

* **Floor type**

These two types of units have similar installation procedures as follows:

- (1). Determine the mounting position on ceiling or wall by using the installation template to indicate indoor template frame. Mark the pattern and pull out the installation template.(Refer to Fig.2)
- (2). Remove the return grill, the side panel and the hanger bracket from the indoor unit as per procedure below.

* Press the fixing knob of the air intake grills, the grilles will be opened wider then pull them out from the indoor unit.

* Loosen the side panel fixing screw and remove the side panel. (Refer to Fig.3)

* Loosen two hanger bracket setting bolts (M8) on each side for less than 0.4 inches (10 mm).

Remove two hanger bracket fixing bolts (M6) on the rear side. Detach the hanger bracket by pulling it backward.

(Refer to Fig.5).

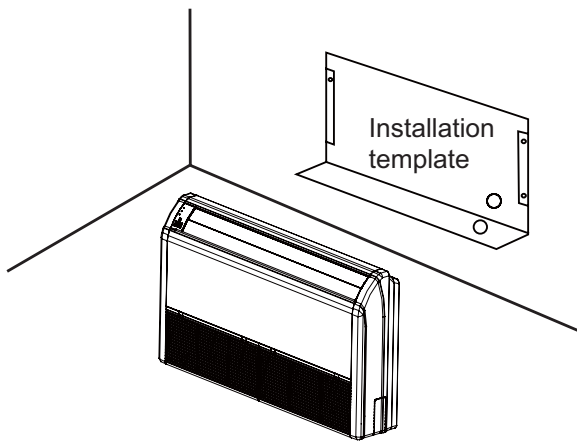


Fig.2

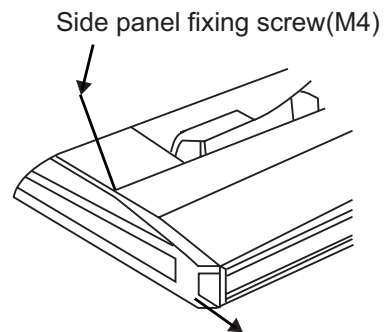


Fig.3

(3). Set the suspension bolt. (Use W3/8 or M10 size suspension bolts)

* Adjust the distance from the unit to the ceiling slab beforehand. (Refer to Fig.4)

(4). Fix the hanger bracket to the suspension bolt.

⚠ Warning!

* Make sure that the extended suspension bolt from the ceiling stays inside the appointed position. Readjust the hanger bracket when it is out of the appointed position. (Refer to Fig.6)

* Suspension bolt is fixed in the cap of indoor unit. Never remove the cap.

(5). Lift the unit and slide forward until the unit is in place. (Refer to Fig.7)

(6). Tighten both hanger bracket-setting bolts (M8). (Refer to Fig.5)

(7). Tighten both hanger bracket-fixing bolts (M6) to prevent the displacement of the indoor unit. (Refer to Fig.5)

(8). Adjust the height so that rear side of the drain pipe slightly declines to improve drainage.

⚠ Caution!

* Adjust the height by rotating the nut with a spanner.

* Insert the spanner into the hanger bracket through the interspace. (Refer to Fig.8)

In case of hanging

It is possible to install hanger brackets by not removing the brackets from the indoor unit. (Refer to Fig.9)

Only the specified accessories and parts for installation work should be used.

Floor and Ceiling Type Air Handler

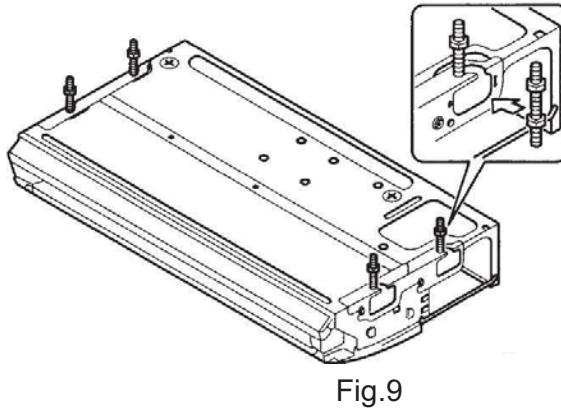
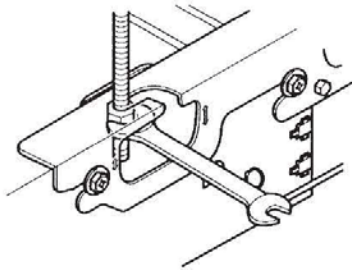
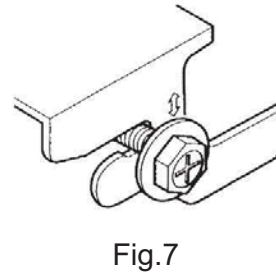
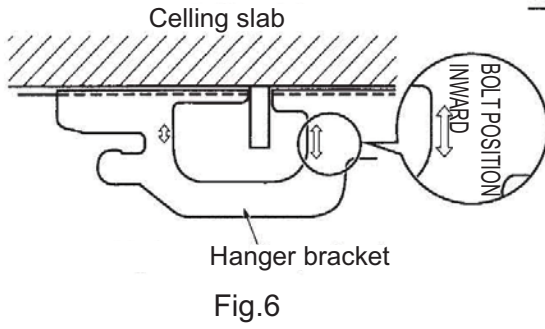
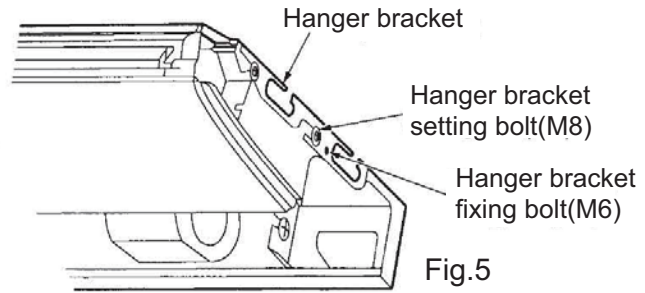
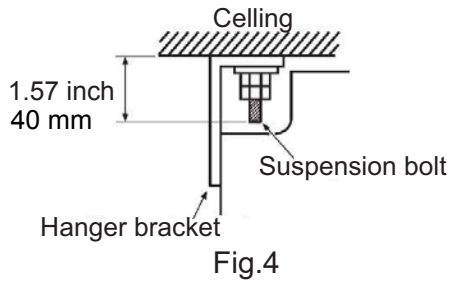
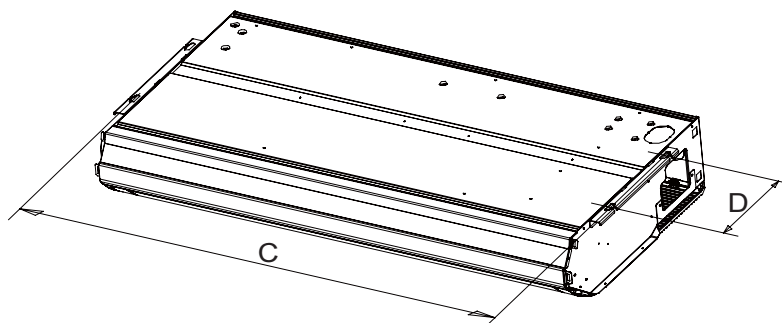


Fig.8

Fig.9

When installing the indoor unit, you can refer to the installation template for reference. Make sure that the drainage side must be 0.4 inches (10 mm) lower than the other side in order to drain the condensate water easily.



Unit:inch

Model	A	B	H	C	D
4MXX8509A10N0AA	1220 (mm) 48 (Inch)	225 (mm) 8.9 (Inch)	700 (mm) 27.6 (Inch)	1158 (mm) 45.6 (Inch)	280 (mm) 11 (Inch)
4MXX8512A10N0AA					
4MXX8518A10N0AA					
4MXX8524A10N0AA					

3.4 Electrical Wiring

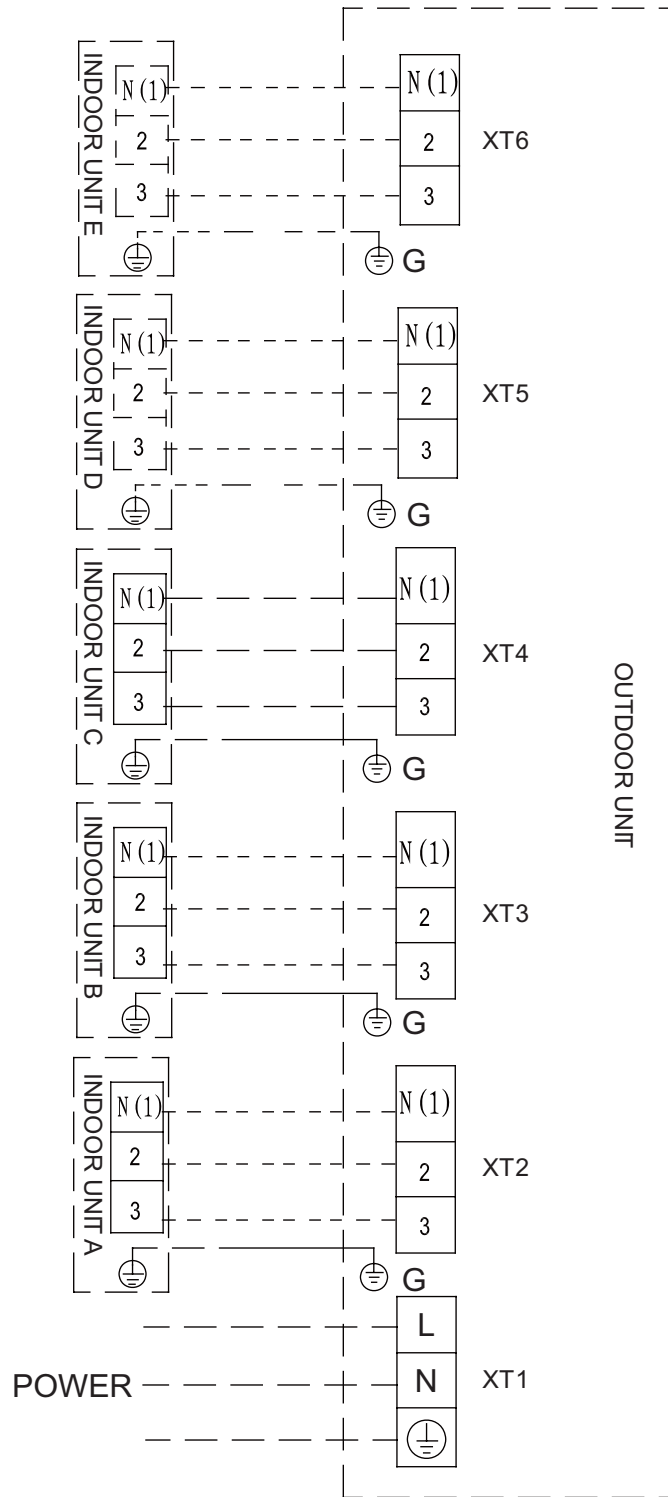
 **Caution:**

The power of every indoor unit should be connected in outdoor unit.

- ① . Open front panel.
- ② . Remove the electrical box cover.
- ③ . Route the power connection cord from the back of the indoor unit and pull it toward the front through the wiring hole upward.
- ④ . Put the 4-core cable through the hole of the chassis and the bottom of the appliance upward, and then connect the power line and the communication line from the outdoor unit to the corresponding terminals N(1), 2, 3 , and grounding terminal of the indoor unit. Wiring shall be done properly as per the wiring diagram. (Note: Be sure the wiring terminals A/B/C/D and piping joints A/B/C/D of the indoor unit match with that of the outdoor unit respectively).
- ⑤ . Reassemble the electrical box cover.
- ⑥ . Reinstall the front panel.
- ⑦ . Do not use copper tube at interconnection part as the temperature of refrigerant circuit is high.

Floor and Ceiling Type Air Handler

For example: wiring connection for 4TXM6542A1050BA



⚠ Caution!

- ① . Incorrect wiring connections would lead to malfunction of some of the electric parts.
- ② . Be sure to leave some space between the connecting end and the clamp end after the wiring is fixed.
- ③ . The installing operation should conform to National, State and/or Local Codes..

3.5 Drainpipe Installation

Make sure the drain flows out

- (1). Drain piping.

Floor and Ceiling Type Air Handler

- * Either the right rear or right side of the unit is suitable for fixing the drainpipe.
 - * The diameter of the drainpipe should be equal to or greater than that of the connecting pipe.
 - * The drainpipe should be as short as possible and slope downward at a gradient of at least 1/100 to prevent air pockets. (Refer to Fig.10)
 - * Use the attached drain hose ④ and clamp ⑤ .
 - * Insert drain pipe into opposite end of drain hose and clamp securely (this clamp supplied by installer). Do not use adhesive at this joint.
 - * Insert the drain hose completely into the drain socket. Tighten the clamp within the range of gray tape until the screw head is less than 0.2 inches (4 mm) from the hose. (Refer to Fig.11, Fig.12)
 - * Wrap the attached foam wrap ⑤ over the clamp and drain hose to insulate. (Refer to Fig.12)
 - * No folding of drain hose inside the indoor unit. (Refer to Fig.13)
- (2). Confirm that smooth drainage is achieved after the piping work.
 Pour 20 oz. (600 cc) of water into the drain pan from the air outlet for confirming drainage. (Refer to Fig.14)

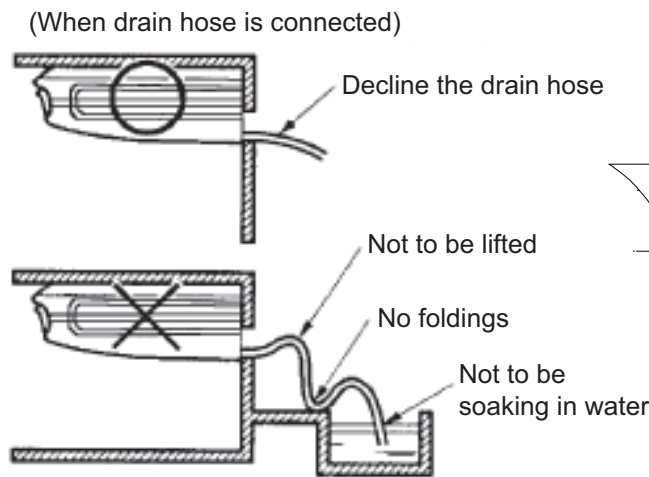


Fig.10

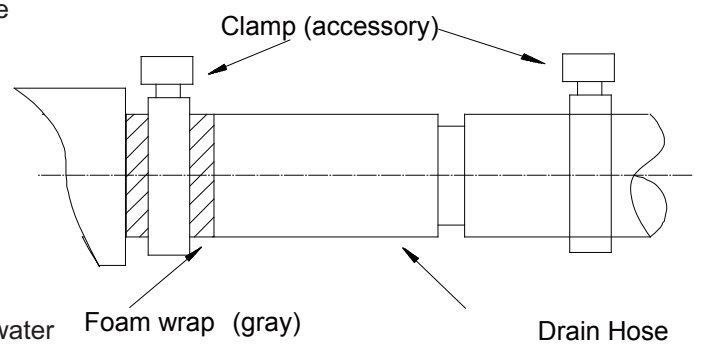


Fig.11

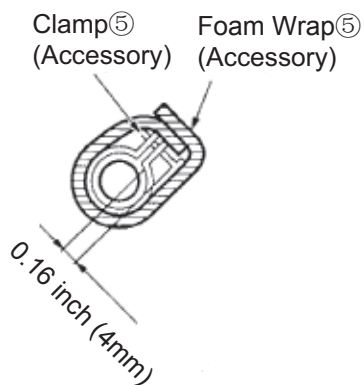


Fig.12



Fig.13

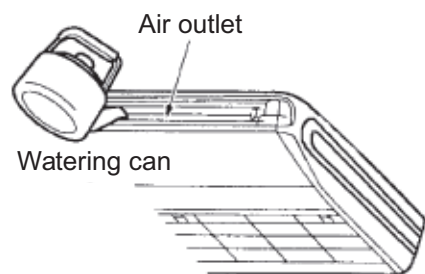
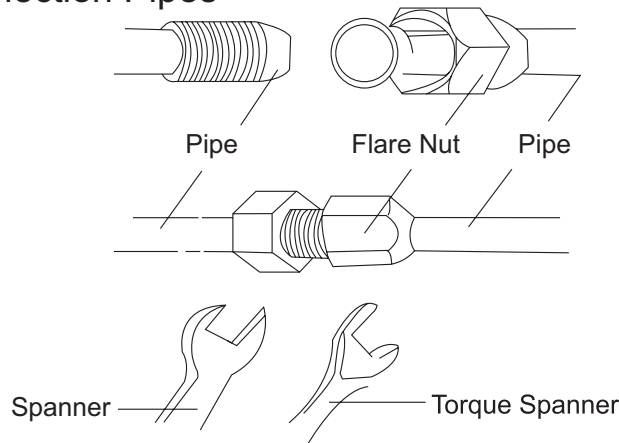


Fig.14

3.6 Install the Connection Pipes



Nut-Required Torque

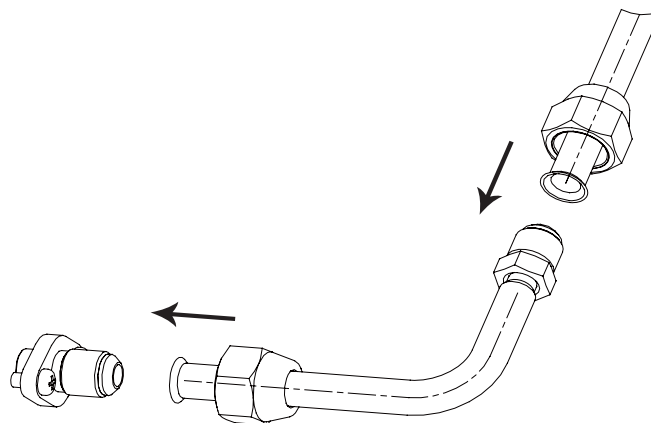
Pipe Diameter	Required Torque
$\phi 6.35$ (mm) / $\phi 1/4$ (inch)	15-30 (N-m) / 20-40.7 (ft-lbf)
$\phi 9.52$ (mm) / $\phi 3/8$ (inch)	35-40 (N-m) / 47.5-54.4 (ft-lbf)
$\phi 12$ (mm) / $\phi 1/2$ (inch)	45-50 (N-m) / 61-67.8 (ft-lbf)
$\phi 15.9$ (mm) / $\phi 5/8$ (inch)	60-65 (N-m) / 81.4-88.1 (ft-lbf)

- (1). Align the flared end of the copper tube with the threaded connector, and then hand-tighten the flared nut.
- (2). The bending of the pipe shall not be too small, otherwise the pipe may crack. A pipe bender must be used when bending the pipe.
- (3). Wrap the thermally untreated pipe and connectors with foam wrap and then secure the foam wrap with plastic tape.

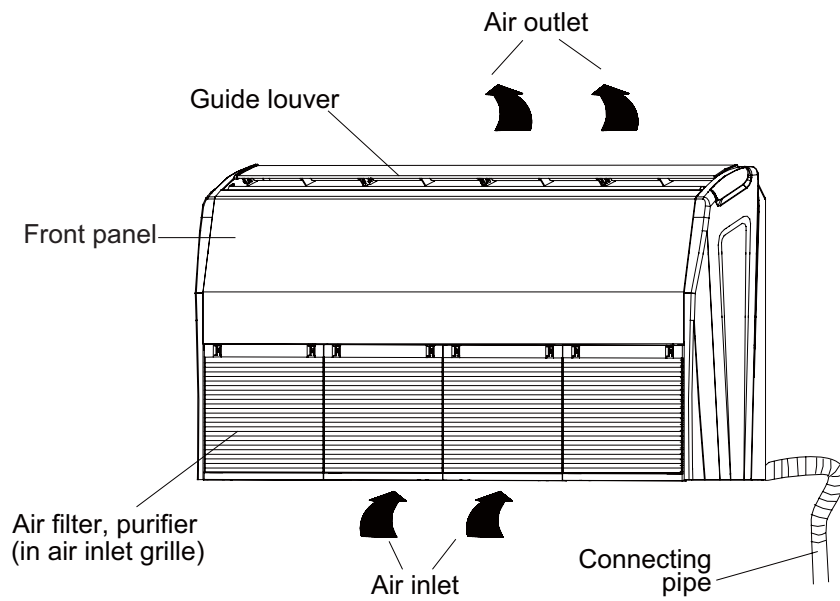
Notes:

- ① . During the piping, do not pull any connector forcefully to prevent the capillary and other pipes from cracking, which then would result in leakage.
- ② . The pipe should be properly supported in the way that its weight will not be placed on the unit.

If the specification of the outdoor unit pipe joint does not conform to that of the indoor unit, then the joint specification of the outlet pipe of the indoor unit takes precedence. A reducing nipple shall be installed at the joint of the outdoor unit so as to make the joint of the outdoor unit compatible with that of the indoor unit.



4 Part Names of Floor and Ceiling Type Indoor Unit



Suitable model:

4MXX8509A10N0AA

4MXX8512A10N0AA

4MXX8518A10N0AA

4MXX8524A10N0AA

Note: Different models of air conditioners as shown above have the same appearances.

5 Working Temperature Range

Working Temperature Range

	OutdoorsideDB(°F)
Maximum cooling	110
Minimum cooling	0
Maximum heating	75
Minimum heating	5

6 Maintenance Method

Warning!

① . Turn off the unit and cut off the power supply when cleaning the air conditioner, otherwise, electric shock may happen.

② . Do not let the air conditioner get wet, or it will cause electric shock. Ensure that the air conditioner will not be cleaned by water rinse under any circumstances.

③ . Volatile liquid like thinner or gasoline would damage the appearance of air conditioner. (Note: Only soft cloth and wet cloth moistened by neutral cleaning fluid should be used to clean the front panel of air conditioner.)

6.1 Cleaning the Air Filters

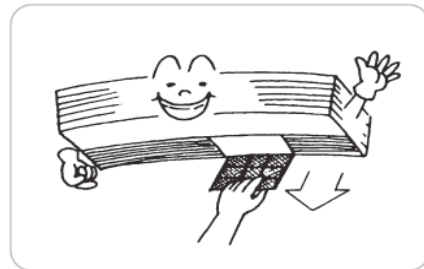
Warning!

Air filters should be cleaned by professionals with proper training to ensure personal safety.

Suggestion:

If the air filter is dirty, it will obstruct normal airflow. As a result, the unit will be overloaded and consume additional energy.

Regular cleaning is necessary.



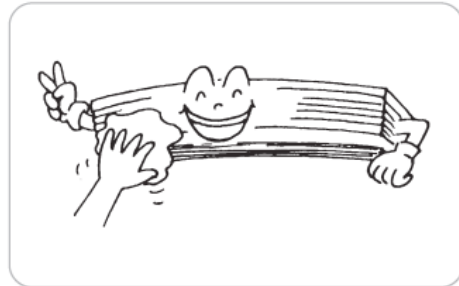
6.2 Cleaning the Unit

Clean the air conditioner and the remote control with dry cloth or a vacuum cleaner. If damp cloth is used, remove moisture by using dry cloth afterward.

Caution !

① . Do not use benzine solvent, gasoline, thinners or polishing products for cleaning.

② . Do not wash with hot water (above 104 F). Some parts of the unit may be deformed.



6.3 At the Start of the Season

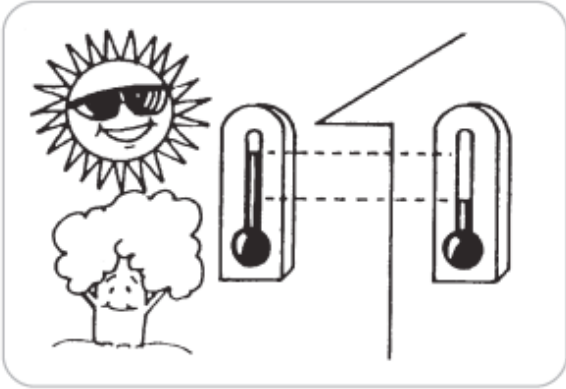
- * Check if there is blockage at inlet and outlet of the air conditioner.
- * Check if the batteries in wireless remote controller have been changed.
- * Check if the air filter has been installed correctly.
- * In order to start up the air conditioner after long idle period, switch on the main power supply 8 hours before turning on the air conditioner.

6.4 During the off Season

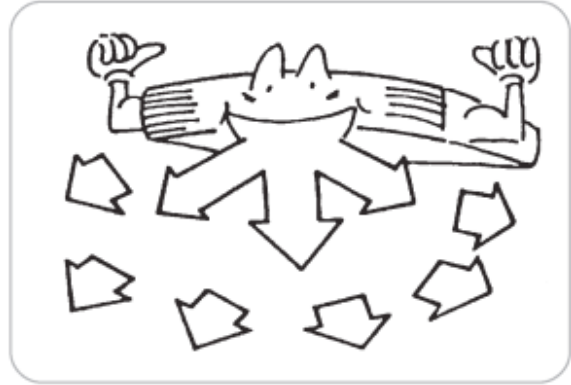
- * Switch off the main power supply.
- * Clean the air filters and other parts according to the instructions above.
- * Keep the fan running for 2-3 hours before shutting power off to dry out the inside of the unit.

7 Operating Instructions

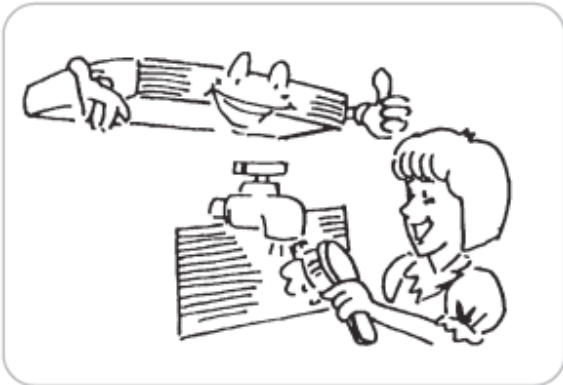
* The expected temperature should be set at a moderate level to avoid unnecessary energy consumption.



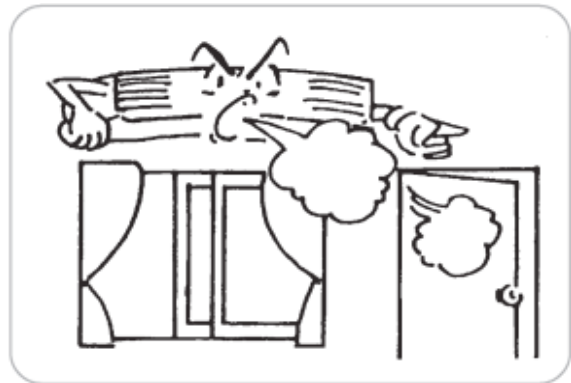
* Airflow direction can be changed by adjusting the louvers and flaps as shown, this will allow for better temperature distribution..



* Clean the air filter every week for higher efficiency by professional.



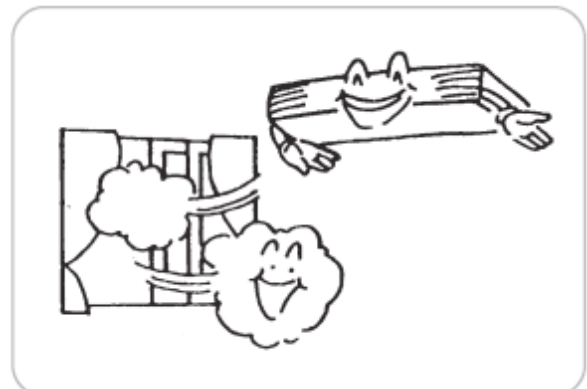
* Close the window and door while operating the unit for saving energy.



* Cover windows with a blind or a curtain to prevent heat source from sunlight when the unit is cooling, which helps to reduce energy consumption.



* In case of ineffective ventilation, open the window to ventilate room air occasionally,



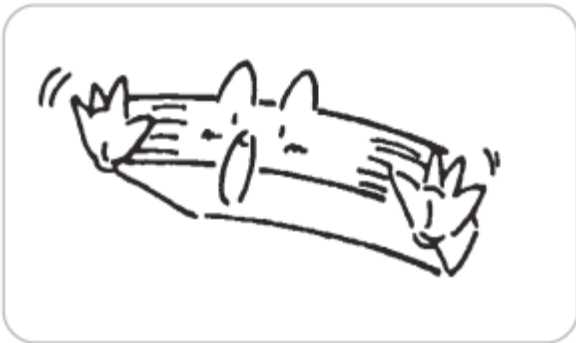
* Check electrical system (voltage and frequency). Use the power supply indicated on the nameplate of the unit to operate the air conditioner and only fuses with specified capacity should be done by technicians. Do not use pieces of wire instead of fuse.



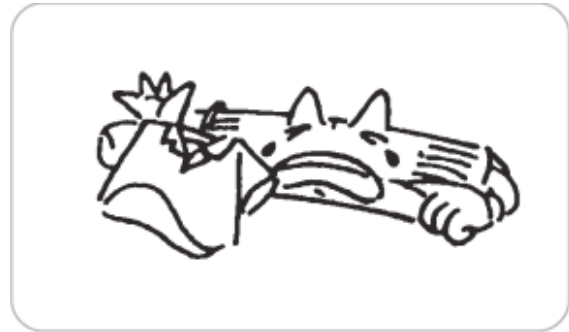
* If electric shock suddenly happens, turn off the unit. If the unit is not to be used for a long period, cut off the main power supply.



* Do not insert objects into the air inlet or outlet when the air conditioner is running as it may cause damage or personal injury. Also pay special attention when children are around.



* Do not place any obstacles around the indoor and outdoor unit to avoid inefficient performance or malfunction.



* Never expose infants, aged persons or patients directly to the air flow.



* Do not locate a heater or any other heat source close to the unit. The heat may deform plastic parts.



8 Error Analysis

Warning!

Repair or service work should be done by qualified technicians. Please check the following information before contacting your installing/servicing dealer. .

Error	Possible Cause
After turning off the air conditioner, the unit could not restart immediately.	The overload protection switch of the unit needs 3 minutes before restarting.
Odor is discharged when the unit turns on.	When air conditioning, odor or smoke that was sucked in is discharged again.
Slight noise is heard when the unit is running.	The refrigerant flows in the liquid pipe will make some noise.
There is mist coming from air outlet under cooling mode.	Indoor temperature declines too fast.
Sound is heard when the unit is running or shut down.	When the ambient temperature changes, the panel and other parts expand or shrink, which might cause some grating sound.
The air conditioner could not run.	The unit is powered off. The unit is disconnected from the power supply. The circuit breaker is tripped off. The voltage is too high or too low. The TIMER has been set in the wireless remote controller.
The cooling (heating) effect of the air conditioner is not good.	The temperature is not set properly. The inlet or outlet of the unit is blocked. The air filter is too dirty causing blockage. The windows and doors are closed. The airflow volume is set at low speed. There is excessive heat source in the room.
Wireless remote controller doesn't work.	If the wireless remote controller doesn't work with new batteries, remove the back cover and press "ACL" button to reset the remote. The air conditioner is under abnormal disturbance or changing function too frequently, Cut off main power supply and re-electrify could resume normal operation. There is controller is within the signal receiving area; There is blockage; Check if the batteries in wireless remote controller are worn out, otherwise change the batteries.

8.1 Service Center

When the following malfunction appears, stop operating immediately, cut off the power supply and contact service center for help.

- * Harsh sound is heard when the unit is running.
- * When the fuse melts or the circuit breaker trips off frequently.
- * When objects or water is sucked in the unit accidentally.

- * When there is water leakage from indoor unit.
- * When the power cord is overheating.
- * Odor is expelled when the unit is running.

8.2 After-sales Service

Please contact the dealer if the air conditioner has any quality problems.