CAUTION

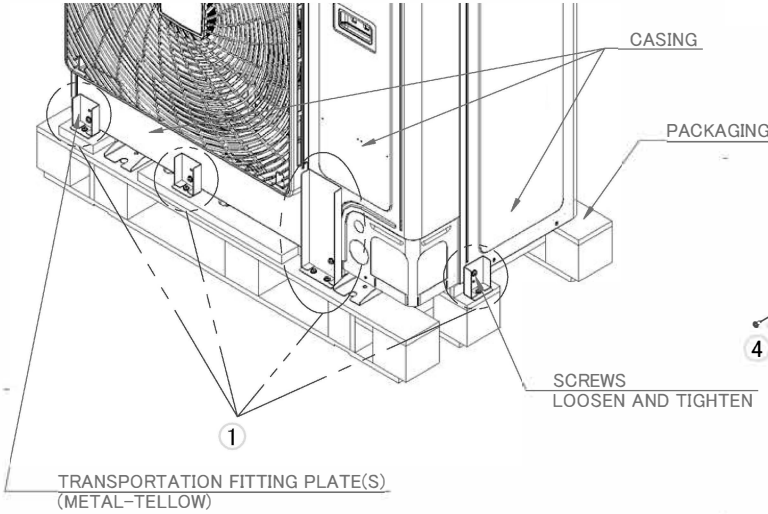
DO NOT OPERATE THIS OUTDOOR UNIT
BEFORE REMOVE TRANSPORTATION
FITTING PLATE(S).

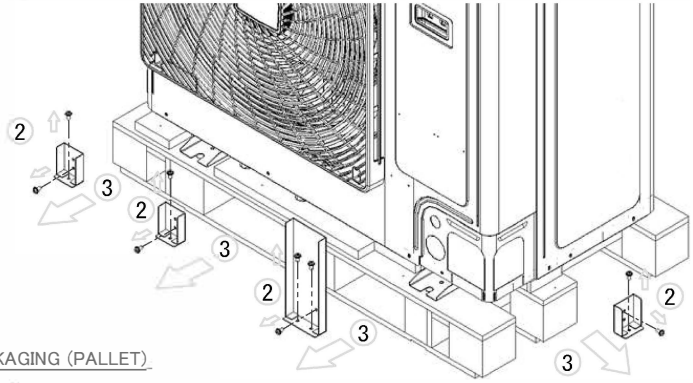
OUTSIDE OUTDOOR UNIT INCLUDES TRANSPORTATION
FITTING PLATE(S) AT CASING.
ENSURE REMOVE THIS PLATE(S)
BEFORE REMOVE PACKAGING (PALLET).

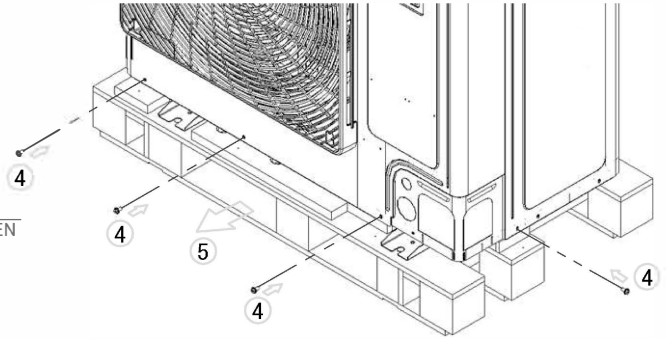
To those who install the unit

Method of REMOVE the Transportation fitting plate(s)

1. Check all outside the unit.
2. If there is the Transportation fitting plate(s), Loosen screws with a suitable tool.
3. Take off the Transportation fitting plate(s) carefully.
4. After removing the Transportation fitting plate(s), re-tighten screws to the original position (only casing).
5. Remove packaging (pallet) before installation.







PROTECT THE ENVIORNMENT FROM E-WASTE (GUIDELINES)

Meaning of E-waste under E-waste (Management) Rules, 2022 (E-waste rules) - Waste, electrical and electronic equipment, whole or in part of reject from their manufacturing and repair process, which are intended to be discarded.

Our product is RoHS compliant.



Don’t dump, electrical and electronic products in garbage bins.

DO'S & DONT'S

DO'S	
Run and maintain the air-conditioner as per the instructions given in the operation/instruction manual	✓
Ensure that an authorised person repairs your air-conditioner	✓
Call our local authorised dealer or our toll-free number to dispose your air-conditioner	✓
Contact an authorised dealer in case or installation or de-installation	✓
Consult our local authorised dealer or our toll free number on the lifespan of the air-conditioner	✓

DONT'S	
Do not try to repair your air conditioner on your own	×
Do not sell or dispose your air-conditioner or parts to an unauthorised Kabaadi Wala/Scrap dealer/Rigpickers.	×
Do not dismantle your air-conditioner on your own.	×
Do not get your air conditioner or any parts repaired by an unauthorised person.	×
Do not dispose off the E-waste in landfills.	×
Do not use the air-conditioner as furniture after its use	×

Customer contact number: 011–4031 9300/1860–180–3900

For further information, visit us at www.daikinindia.com

DAIKIN

OPERATION MANUAL

VRV System air conditioner

RXMQ10BRY1(6)
RXMQ12BRY1(6)
RXYMQ10BRY1(6)
RXYMQ12BRY1(6)
RXYMQ8BYFK

Thank you for purchasing this Daikin air conditioner. Carefully read this operation manual before using the air conditioner. It will tell you how to use the unit properly and help you if any trouble occurs. After reading the manual, keep it in your custody for future reference.
See also the operation manual included with the indoor unit for details on the indoor unit.
Store the operation manual included with the indoor unit together with this operation manual in a safe place.
After receiving the warranty card from the dealer, store it in a safe place.

Operation manual

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1. Definitions

1.1. Meaning of warnings and symbols

Warnings in this manual are classified according to their severity and probability of occurrence.

DANGER
Indicates an imminently hazardous situation, which if not avoided, will result in death or serious injury.

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, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE
Indicates situations that may result in equipment or property-damage accidents only.

INFORMATION
This symbol identifies useful tips or additional information.
Some types of danger are represented by special symbols:

Electric current.

Danger of burning and scalding.

1.2. Meaning of used terms

Installation manual:
Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Operation manual:
Instruction manual specified for a certain product or application, explaining how to operate it.

Maintenance instructions:
Instruction manual specified for a certain product or application, which explains (if relevant) how to install, configure, operate and/or maintain the product or application.

Dealer:
Sales distributor for products as per the subject of this manual.

Installer:
Technical skilled person who is qualified to install products as per the subject of this manual.

User:
Person who is owner of the product and/or operates the product.

Service company:
Qualified company which can perform or coordinate the required service to the unit.

Applicable legislation:
All international, European, national and local directives, laws, regulations and/or codes which are relevant and applicable for a certain product or domain.

Accessories:
Equipment which is delivered with the unit and which needs to be installed according to instructions in the documentation.

Optional equipment:
Equipment which can optionally be combined to the products as per the subject of this manual.

Field supply:
Equipment which needs to be installed according to instructions in this manual, but which are not supplied by Daikin.

1.3. Safety precautions

To gain full advantage of the air conditioner's functions and to avoid malfunction due to mishandling, we recommend that you read this instruction manual carefully before use.
Read the precautions thoroughly to avoid misuse of the equipment.
This air conditioner is classified under "appliances not accessible to the general public".

- The precautions described herein are classfied as WARNING and CAUTION. They both contain important information regarding safety.
  Be sure to observe all precautions without fail.
- There are three kinds of safety precaution and tips listed in the following.

⚠ **WARNING**..... • Failure to follow these instructions properly may result in personal injury or loss of life.
• This unit contains electrical and hot parts.
• Before operating the unit, be sure the installation has been carried out correctly by an installer. If you feel unsure about operation, contact your installer for advice and information.

⚠ **CAUTION**..... • Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- After reading, keep this manual in a convenient place so that you can refer to it whenever necessary. If the equipment is transferred to a new user, be sure also to hand over the manual.

⚠ **WARNING**

- **Do not place objects in direct proximity of the outdoor unit and do not let leaves and other debris accumulate around the unit.**
  Leaves are a hotbed for small animals which can enter the unit.
  Once in the unit, such animals can cause malfunctions, smoke or fire when making contact with electrical parts.

- **Consult your local dealer about installation work.**
  Doing the work yourself may result in water leakage, electric shocks or fire hazards.

- **Do not insert fingers, rods or other objects into the air inlet or outlet.**
  When the fan is rotating at high speed, it will cause injury.

- **Never let the indoor unit or the user interface get wet.**
  It may cause an electric shock or a fire.

- **Do not put user interface in risk to wet place.**
  If water enter into controller, risk to electric leakage and cause to electronics parts damaged.
- **Be sure to use fuses with the correct ampere reading.**
  Do not use improper fuses, copper or other wires as a substitute, as this may result in electric shock, fire, injury or damage to the unit.

- **Consult your local dealer regarding what to do in case of refrigerant leakage.**
  When the air conditioner is to be installed in a small room, it is necessary to take proper measures so that the amount of any leaked refrigerant does not exceed the concentration limit in the event of leakage. Otherwise, this may lead to an accident due to oxygen depletion.

- **Beware of fire in case of refrigerant leakage.**
  If the air conditioner is not operating correctly, i.e. not generating cool or warm air, refrigerant leakage could be the cause.
  Consult your dealer for assistance. The refrigerant within the air conditioner is safe and normally does not leak. However, in the event of a leakage, contact with a naked burner, heater or cooker may result in generation of noxious gas. Do not longer use air conditioner until a qualified service person confirms that the leakage has been repaired.

- **Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaks happened is repaired.**

- **Turn off any combustible heating devices, ventilate the room and contact the dealer where you purchased the unit.**

- **Improper installation or attachment of equipment or accessories could result in electric shock, short circuit, leaks, fire or other damage to the equipment.**

- **Consult your local dealer regarding modification, repair and maintenance of the air conditioner.**
  Improper workmanship may result in water leakage, electric shocks or fire hazards.

- **Consult your local dealer regarding relocation and reinstallation of the air conditioner.**
  Improper installation work may result in leakage, electric shocks or fire hazards.

- **Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord.**
  Otherwise, an electric shock and injury may result.

- **Do not operate the air conditioner with wet hands.**
  An electric shock may result.

- **Do not wash the air conditioner with water, as this may result in electric shocks or fire.**

- **Be sure to install an earth leakage breaker.**
  Failure to install an earth leakage breaker may result in electric shocks or fire.
  In order to avoid electric shock or fire, make sure that an earth leak detector is installed.

- **Consult the dealer if the air conditioner submerges owing to a natural disaster, such as a flood or typhoon.**
  Do not operate the air conditioner in that case, or otherwise a malfunction, electric shock or fire may result.

- **Do not start or stop operating the air conditioner with the power supply breaker turned ON or OFF.**
  Otherwise, fire or water leakage may result. Furthermore, the fan will rotate abruptly if power failure compensation is enabled, which may result in injury.

- **Do not use the product in the atmosphere contaminated with oil vapor, such as cooking oil or machine oil vapor.**
  Oil vapor may cause crack damage, electric shocks or fire.

- **Do not install the air conditioner at any place where there is a danger of flammable gas leakage.**
  In case of a gas leakage, build-up of gas near the air conditioner may result in fire hazards.

- **Contact professional personnel about attachment of accessories and be sure to use only accessories specified by the manufacturer.**
  If a defect results from your own workmanship, it may result in water leaks, electric shock or fire.

- **Do not use the product in places with excessive oily smoke, such as cooking room, or in places with flammable gas, corrosive gas, or metal dust.**
  Using the product in such places may cause fire or product failures.

- **When the air conditioner is malfunctioning (giving off a burning odour, etc.) turn off power to the unit and contact your local dealer.**
  Continued operation under such circumstances may result in a failure, electric shocks or fire hazards.

- **Do not place flammable sprays or operate spray containers near the unit as this may result in fire.**

- **Do not clean the product with organic solvents such as paint thinner.**
  The use of organic solvents may cause crack damage to the product, electric shocks or fire.

- **Be sure to use a dedicated power supply for the air conditioner.**
  The use of any other power supply may cause heat generation, fire or product failures.

- **Consult your dealer regarding cleaning the inside of the air conditioner.**
  Improper cleaning may cause breakage of plastic parts, water leakage and other damage as well as electric shocks.

- **Be sure the air conditioner is electrically earthed.**
  In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.

- **Do not place a flower vase or anything containing water on the unit. Water may enter the unit, causing an electric shock or fire.**

- **Avoid placing the controller in a spot which can be splashed with water. Water entering the machine may cause an electric leak or may damage the internal electronic parts.**

- **Be aware that prolonged, direct exposure to cool or warm air from the air conditioner or to air that is too cool or too warm can be harmful to your physical condition and health.**

⚠ **CAUTION**

- **Do not remove the outdoor unit's fan guard.**
  The guard protects against the unit's high speed fan, which may cause injury.

- **Do not place objects that are susceptible to moisture directly beneath the indoor or outdoor units.**
  Under certain conditions, condensation on the main unit or refrigerant pipes, air filter dirt or drain blockage may cause dripping, resulting in fouling or failure of the object concerned.

- **To avoid oxygen depletion, ensure that the room is adequately ventilated if equipment such as a burner is used together with the air conditioner.**

- **Do not place flammable sprays near the unit as this can cause explosions.**

- **Do not place appliances that produce naked flames in places exposed to the air flow from the unit as this may impair combustion of the burner.**

- **Do not place burners or heaters in places exposed to the air flow from the unit as this may impair combustion of the burner or heater.**

- **Do not place heaters directly below the unit, as resulting heat can cause deformation.**

- **Do not allow a child to mount on the outdoor unit or avoid placing any object on it.**
  Falling or tumbling may result in injury.

- **Do not block air inlets or outlets.**
  Impaired air flow may result in insufficient performance or trouble.

- **Arrange the drain hose to ensure smooth drainage.**
  Imperfect drainage may cause wetting of the building, furniture etc.

- **Arrange the drain hose to ensure smooth drainage.**
  Imperfect drainage may cause wetting.

- **Be sure that children, plants or animals are not exposed directly to air flow from the unit, as adverse effects may ensue.**

- **Do not wash air conditioner or user interface, causing an electric shock or fire.**

- **Do not put flammable containers, such as spray cans, within 1 m from the blow-off mouth.**
  The containers may explode because the warm air output of the outdoor unit will affect them.

- **Arrange the drain to ensure complete drainage.**
  If proper drainage from the outdoor drain pipe does not occur during air conditioner operation, there could be a blockage due to dirt and debris build-up in the pipe.
  This may result in a water leakage from the indoor unit. Under these circumstances, stop air conditioner operation and consult your dealer for assistance.

- **The appliance is not intended for use by unattended young children or infirm persons.**
  Impairment of bodily functions and harm to health may result.

- **Children should be supervised to ensure that they do not play with the unit or its user interface.**
  Accidental operation by a child may result in impairment of bodily functions and harm health.

- **To avoid injury, do not touch the air inlet or aluminium fins of the unit.**
  These fins are sharp and could result in cutting injuries.

- **Never touch the internal parts of the controller.**
  Do not remove the front panel. Touching certain internal parts will cause electric shocks and damage to the unit. Please consult your dealer about checking and adjustment of internal parts.

- **Do not leave user interface wherever there is a risk of wetting.**
  If water gets into the remote controller there is a risk of electrical leakage and damage to electronic components.

- **Turn off the main power switch when the air conditioner is not to be used for prolonged periods.**
  When the main power switch is left on, some electric power (watts) is still consumed even if the air conditioner is not operating. Therefore, switch off the main power switch to save energy. When resuming operation, to ensure smooth running, turn on the main power switch 6 hours before operating the air conditioner again.

- **Watch your steps at the time of air filter cleaning or inspection.**
  High-place work is required, to which utmost attention must be paid.
  If the scaffold is unstable, you may fall or topple down, thus causing injury.

- **Take care of scaffolding and exercise caution when working high above ground level.**

- **Do not operate with the control panel lid open.**
  If water gets inside the panel, it may result in equipment failure or electric shock.

- **Do not sit or place objects on the outdoor unit**
  Falling yourself of objects could cause injury.

- **Do not let children play on or around the outdoor unit.**
  If they touch the unit carelessly, injury may be caused.

- **Never operate user interface buttons with hard, pointed objects.**
  This may result in remote controller damage.

- **Do not pull or twist user interface cord.**
  This may cause malfunctioning.

- **Do not use the air conditioner for purposes other than those for which it is intended.**
  Do not use the air conditioner for cooling precision instruments, food. plants, animals or works of art as this may adversely affect the performance, quality and/or longevity of the object concerned

- **After prolonged use, check the unit stand and its mounts for damage.**
  If left in a damaged condition, the unit may fall and cause injury.

- **Do not place items which might be damaged by moisture under the indoor unit.**
  Condensation may form if the humidity is above 80%, if the drain outlet is blocked or the filter is polluted.

- **Ensure that user interface is not exposed to direct sunlight.**
  This will cause discoloration of the LCD display with resulting loss of readability.

- **Do not wipe the controller panel with benzene or other organic solvent.**
  This will cause discoloration and/or peeling. If the panel needs cleaning, use a damp cloth with some water-diluted neutral detergent. Wipe with a dry cloth afterwards.

- **Do not operate the air conditioner when using a room fumigation type insecticide.**
  Fumigation chemicals deposited in the unit could endanger the health of those who are hyper-sensitive to touch chemicals.

Installation Site

Regarding places for installation

- **Install the air conditioner in a well-ventilated place that is free of obstructions**
- **Do not use the air conditioner in the following kinds of places:**
  a. Where there is considerable use of mineral oil such as cutting oil.
  b. Where there is much salt such as a beach area.
  c. Where there is sulphur gas such as in a hot-spring resort.
  d. Where there are considerable voltage fluctuations such as a factory.
  e. Where there are motor vehicles or marine vessels.
  f. Where there is considerable atmospheric oil such as in cooking areas.
  g. Where there are machines generating electromagnetic radiation.
  h. Where the air contains acidic or alkaline steam or a vapour.

Wiring

- **All wiring must be performed by an authorized electrician.**
  Always consult your dealer about wiring.
  Never do it by yourself.
- **Only use the dedicated power supply circuit provided for this air conditioner.**

Also pay attention to operating noise.

- **Select the following kinds of location:**
  a. A place that can sufficiently withstand the weight of the air conditioner with less running noises and vibrations.
  b. A place where warm airflow from the air outlet of the outdoor unit and operating noise do not cause a nuisance to neighbours.
- **Be sure there are no obstructions near the air outlet of the outdoor unit.**
- **Obstructions may result in poor performance and increased operating noise.**
  If abnormal noise occur, ask your dealer for advise.
- **Make sure that the piping is heat insulated.**
  If the piping is frozen and broken, scalding or water leakage may result.
  Consult your installer.

System relocation

- **Consult your Daikin about remodelling and relocation.**

2. Introduction

2.1. General information

The indoor unit part of VRV heat pump system can be used for heating/cooling applications. The type of indoor unit which can be used depends on the outdoor units series.

NOTICE

For future modifications or expansions of your system:

A full overview of allowable combinations (for future system extensions) is available in technical engineering data and should be consulted. Contact your installer to receive more information and professional advice.

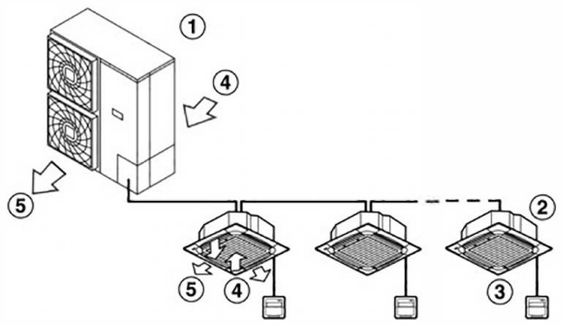
In general following type of indoor units can be connected to a VRV system (not exhaustive list, depending on outdoor unit model and indoor unit model combinations):

- VRV direct expansion indoor units (air to air applications).
- RA direct expansion indoor units (air to air applications).

Combination of VRV direct expansion indoor units with RA direct expansion units is allowed.
For more specifications, see technical engineering data.

2.2. System layout

Your VRV-S Heat pump/Cooling only RXYMQ/ RXMQ series outdoor is a single unit and can't combine with multiple outdoor unit.
Depending on the type of outdoor unit which is chosen, some functionality will or will not exist.



• Names and functions of parts (Refer to figure 1)

1. Outdoor unit
2. Indoor unit
3. Remote controller
4. Air inlet
5. Air outlet

3. Before operation

This operation manual is for the following systems with standard control. Before initiating operation, contact your dealer for the operation that corresponds to your system type and mark. If your installation has a customized control system, ask your dealer for the operation that corresponds to your system.

Operation modes(depending on indoor/outdoor unit type):

- Heating (air to air).
- Cooling Only (air to air).
- Fan only operation (air to air).
- Dry operation.
- Automatic operation.

For Indoor unit

Dedicated functions exist depending on the type of indoor unit, refer to dedicated installation/operation manual for more information.

4. User interface

This operation manual will give a non-exhaustive overview of the main functions of the system.

Detailed information on required actions to achieve certain functions can be found in the dedicated installation and operation manual of the indoor unit.

Refer to the operation manual of the installed user interface.

5. Operation range

Use the system in the following temperature and humidity ranges for safe and effective operation.

Outdoor temperature	0~49°C DB	0~15.5°C WB
Indoor temperature	14~28°C WB	10~27°C DB
Indoor humidity	≤80%(a)	

(a) To avoid condensation and water dripping out of the unit. If the temperature or the humidity is beyond these conditions, safety devices may be put in action and the air conditioner may not operate.

Above operation range is only valid in case direct expansion indoor units are connected to the VRV system.

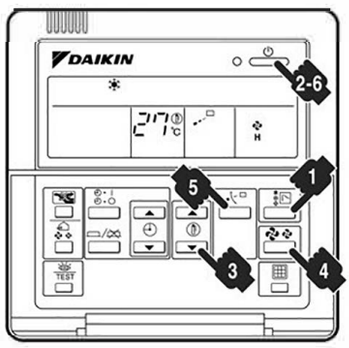
6. Operation procedure

- Operation procedure varies according to the combination of outdoor unit and user interface. Read the chapter 3 “Before operation”
- To protect the unit, turn on the main power switch 6 hours before operation. And do not turn off the power supply during the air conditioning season because of smoothly start up.
- If the main power supply is turned off during operation, operation will restart automatically after the power turns back on again.

6.1 Cooling, heating, fan only, automatic operation and dry operation

- The operation mode cannot be changed with the remote controller whose display shows “ ” (change over under centralized control). Change the operation mode with user interface whose display dose not show “ ”.
- When the display “change over under centralized control” flashes, refer to “6.4. Setting the master user interface”
- The fan may keep on running for about 1 minute after the heating operation stops for removing the heat in the indoor unit.
- The air flow rate may adjust itself depending on the room temperature or the fan may stop immediately. This is not a malfunction.

STARTING THE SYSTEM



1 Press the operation mode selector button several times and select the operation mode of your choice
- “ ” Cooling operation
- “ ” Heating operation
- “ ” Fan only operation
- “ ” Dry operation
- “ ” Automatic operation.

2 Press the ON/OFF button.
The operation lamp lights up and the system starts operation.

ADJUSTMENT

For adjustment the desired temperature, fan speed and air flow direction (only for the remote controller, follow the procedure shown below.)

☛ Press the temperature setting button



Each time this button is pressed, the temperature setting rises or lowers 1°C.

NOTE

- Set the temperature within the operation range.
- The temperature setting is impossible for fan only operation.

☛ Press the fan speed control button and select the fan speed of your preference.

☛ Press air flow direction adjust button. Refer to the chapter "6.3 Adjusting the air flow direction" for details.

STOPPING THE SYSTEM

☛ Press the ON/OFF button once again. The operation lamp goes off and the system stops operation.

NOTICE

- Do not turn off the power immediately after the unit stops, but wait for at least 5 minutes.
- The system need at least 5 minutes for residual operation of drain pump device. Turning off the power immediately will cause water leak or trouble.

Explanation of heating operation

It may take longer to reach the set temperature for general heating operation than for cooling operation.

The following operation is performed in order to prevent the heating capacity from dropping or cold air from blowing.

Defrost operation

- In heating operation, freezing of the outdoor unit's air cooled coil increases over time, restricting the energy transfer to the outdoor unit's coil. Heating capability decreases and the system needs to go into defrost operation to be able to deliver enough heat to the indoor units:
- When a RX(Y)MQ outdoor unit is installed, the indoor unit will stop fan operation, the refrigerant cycle will reverse and energy from inside the building will be used to defrost the outdoor unit coil.
- The indoor unit will indicate defrost operation on the displays .

Hot start

- In order to prevent cold air from blowing out of an indoor unit at the start of heating operation, the indoor fan is automatically stopped. The display of the user interface shows . It may take some time before the fan starts. This is not a malfunction.

INFORMATION

- The heating capacity drops when the outside temperature falls. If this happens, use another heating device together with the unit. (When using together with appliances that produce open fire, ventilate the room constantly).
  Do not place appliances that produce open fire in places exposed to the air flow from the unit or under the unit.
- It takes some time to heat up the room from the time the unit is started since the unit uses a hot-air circulating system to heat the entire room.
- If the hot air rises to the ceiling, leaving the area above the floor cold, we recommend that you use the circulator (the indoor fan for circulating air). Contact your dealer for details.

6.2 Program dry operation

- The function of this program is to decrease the humidity in your room with minimal temperature decrease (minimal room cooling).
- The microcomputer automatically determines temperature and fan speed (cannot be set by the user interface).
- The system does not go into operation if the room temperature is low (<20°C).



Starting the system

1. Select cooling operation mode with the remote control switch.
2. Press the operation mode selector button several times and select (program dry operation).
3. Press the ON/OFF button of the user interface. The operation lamp lights up and the system starts operating.
4. Press the air flow direction adjust button (only for Double-flow, Multi-flow, Corner, Ceiling-suspended and Wall-mounted). Refer to "6.3 Adjusting the air flow direction".

Stopping the system

5. Press the ON/OFF button of the user interface once again. The operation lamp goes off and the system stops operating.

NOTICE

Do not turn off power immediately after the unit stops, but wait for at least 5 minutes.

6.3 Adjusting the air flow direction



1 Press the air flow direction button to select the air direction.
The air flow flap display swings as shown right and the air flow direction continuously varies. (Automatic swing setting)



2 Press the air flow direction adjust button to select the air direction of your choice.

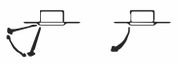


The air flow flap display stops swinging and the air flow direction is fixed.
(Fixed air flow direction setting)



Movement of the air flow flap


Double flow+multi-flow units


Corner units


Ceiling suspended units


Wall-mounted units

For the following conditions, a microcomputer controls the air flow direction which may be different from the display.

COOLING	HEATING
• When the room temperature is lower than the set temperature.	• When starting operation. • When the room temperature is higher than the set temperature. • At defrost operation.
• When operating continuously at horizontal air flow direction. • When continuous operation with downward air flow is performed at the time of cooling with a ceiling-suspended or a wall-mounted unit, the microcomputer may control the flow direction, and then the user interface indication will also change.	

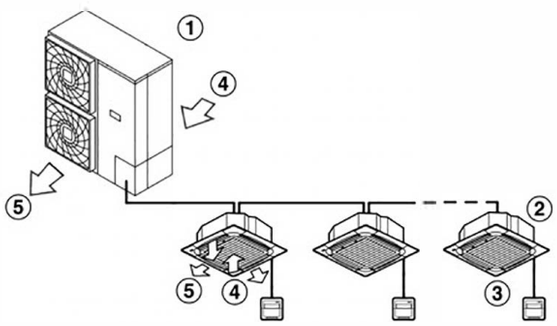
The air flow direction can be adjusted in one of the following ways:

- The air flow flap itself adjusts its position.
- The air flow direction can be fixed by the user.
  Automatic or desired position

NOTICE

- The movable limit of the flap is changeable. Contact your dealer for details. (only for double-flow, multiflow, corner, ceiling-suspended and wall-mounted).
- Avoid operating in the horizontal direction. It may cause dew or dust to settle on the ceiling or flap.

6.4 Setting the master user interface



- **Names and functions of parts (Refer to figure 1)**

1. Outdoor unit
2. Indoor unit
3. Remote controller
4. Air inlet
5. Air outlet

When the system is installed as shown in the figure above, it is necessary to designate one of the user interfaces as the master user interface.

The displays of slave user interfaces show (change over under centralized control) and slave user interfaces automatically follow the operation mode directed by the master user interface.

Only the master user interface can select heating or cooling or fan only mode.

How to designate the master user interface



1. Press the operation mode selector button of the current master user interface for 4 seconds. In case this procedure was not yet performed, the procedure can be executed on the first user interface operated. The display showing (change over under centralized control) of all slave user interfaces connected to the same outdoor unit flashes.

2. Press the operation mode selector button of the controller that you wish to designate as the master user interface. Then designation is completed.
   This user interface is designated as the master user interface and the display showing (change over under centralized control) vanishes.
   The displays of other user interfaces show (change over under centralized control).

6.5 Precautions for group control system or two user interface control system

This system provides two other control systems beside individual control system (one user interface controls one indoor unit). Confirm the following if your unit is of the following control system type:

- **Group control system**
  One user interface controls up to 16 indoor units. All indoor units are equally set.
- **Two user interface control system**
  Two user interfaces control one indoor unit (in case of group control system, one group of indoor units). The unit is individually operated.

NOTICE

Contact your dealer in case of changing the combination or setting of group control and two user interface control systems.

INFORMATION

For another user interfaces refer to the operation manual of the operation procedured user interface.

7. Energy saving and optimum operation

Observe the following precautions to ensure the system operates properly.

- Adjust the air outlet properly and avoid direct air flow to room inhabitants.
- Adjust the room temperature properly for a comfortable environment. Avoid excessive heating or cooling.
- Prevent direct sunlight from entering a room during cooling operation by using curtains or blinds.
- Ventilate often.
  Extended use requires special attention to ventilation.
- Keep doors and windows closed. If the doors and windows remain open, air will flow out of your room causing a decrease in the cooling or heating effect.
- Be careful not to cool or heat too much. To save energy, keep the temperature setting at a moderate level.
- Never place objects near the air inlet or the air outlet of the unit.
  It may cause deterioration in the effect or stop the operation.
- Turn off the main power supply switch to the unit when the unit is not used for longer periods of time. If the switch is on, it consumes electricity. Before restarting the unit, turn on the main power supply switch 6 hours before operation to ensure smooth running. (Refer to "Maintenance" in the indoor unit manual.)
- When the display shows  (time to clean the air filter), ask a qualified service person to clean the filters. (Refer to "Maintenance" in the indoor unit manual.)
- Keep the indoor unit and user interface at least 1 m away from televisions, radios, stereos, and other similar equipment. Failing to do so may cause static or distorted pictures.
- Do not place items under the indoor unit, they may be damaged by water.
- Do not use other heating devices directly beneath the indoor unit.
  Othetwise , the unit might be get deformed by the heat.
- Condensation may form if the humidity is above 80% or if the drain outlet gets blocked.

Your system is equipped with advanced energy saving functionality. Depending on the priority emphasises can be put on energy saving or comfort level. Several parameters can be selected, resulting in the optimal balance between energy consumption and comfort for your particular application.

Several patterns are available and roughly explained below. Contact your installer or dealer for advice or to modify the parameters to the needs of your building.

Detailed information is given for the installer in the installation manual. He can help you to realize the best balance between energy consumption and comfort.

8. Maintenance

CAUTION

Pay attention to the fan.
It is dangerous to inspect the unit while the fan is running.

Be sure to turn off the main switch and to remove the fuses from the control circuit located in the outdoor unit.

8.1 Maintenance after a long stop period (e.g., at the beginning of the season)

- Check and remove everything that might be blocking inlet and outlet vents of indoor units and outdoor units.
- Clean air filters and casings of indoor units.[(b)] Refer to the operation manual supplied with the indoor units for details on how to proceed and make sure to install for details on how to proceed and make sure to install cleaned air filters back in the same position.
- Turn on the power at least 6 hours before operating the unit in order to ensure smoother operation. As soon as the power is turned on, the user interface display appears.

(b) Contact your installation or maintenance person to clean air filters and casings of the indoor unit. Maintenance tips and procedures for cleaning are provided in the installation/ operation manuals of dedicated indoor units.

8.2 Maintenance before a long stop period (e.g., at the end of the season)

- Let the indoor units run in fan only operation for about half a day in order to dry the interior of the units.
  Refer to "6.1. Cooling, heating, fan only, automatic operation and dry operation".
- Turn off the power. The user interface display disappears.
- When the power supply is on, the unit consumes up to several dozen watts of power. Turn off the power supply to save energy.
- Clean air filters and casings of indoor units. Refer to the operation manual supplied with the indoor units for details on how to proceed and make sure to install cleaned air filters back in the same position.

9. Symptoms that are not air conditioner troubles

Following symptoms are not air conditioner troubles:

9.1 The system does not operate

- The air conditioner does not start immediately after the ON/OFF button on the user interface is pressed. If the operation lamp lights, the system is in normal condition. To prevent overloading of the compressor motor, the air conditioner starts 5 minutes after it is turned ON again in case it was turned OFF just before.
  The same starting delay occurs after the operation mode selector button was used.
- If "Under Centralized Control" is displayed on the user interface and pressing the operation button causes the display to blink for a few seconds indicating that the central device is controlling the unit. The blinking display indicates that the user interface cannot be used.
- The system does not start immediately after the power supply is turned on. Wait one minute until the microcomputer is prepared for operation.

9.2 Cool/Heat cannot be changed over

- When the display shows [icon] (change-over under centralized control), it shows that this is a slave user interface.
- When the cool/heat changeover remote control switch is installed and the display shows [icon] (change-over under centralized control). This is because cool/heat changeover is controlled by the cool/heat changeover remote control switch. Ask your dealer where the remote control switch is installed.

9.3 Fan operation is possible, but cooling/ heating do not work

- Immediately after the power is turned on. The microcomputer is getting ready to operate and is performing a communication check with all indoor units. Please wait 12 minutes (max.) till this process is finished.

9.4 The fan strength does not correspond to the setting

- The fan speed does not change even if the fan speed adjustment button in pressed. During heating operation, when the room temperature reaches the set temperature, the outdoor unit goes off and the indoor unit changes to whisper fan speed. This is to prevent cold air blowing directly on occupants of the room. The fan speed will not change even if the button is pressed, when another indoor unit is in heating operation.

9.5 The fan direction does not correspond to the setting

- The fan direction does not correspond with the user interface display. The fan direction does not swing. This is because the unit is being controlled by the microcomputer.

9.6 White mist comes out of a unit

1.) Indoor unit

- When humidity is high during cooling operation
  If the interior of an indoor unit is extremely contaminated, the temperature distribution inside a room becomes uneven. It is necessary to clean the interior of the indoor unit. Ask your dealer for details on cleaning the unit. This operation requires a qualified service person.
- Immediately after the cooling operation stops and if the room temperature and humidity are low. This is because warm refrigerant gas flows back into the indoor unit and generates steam.

2.) Indoor unit, outdoor unit

- When the system is changed over to heating operation after defrost operation. Moisture generated by defrost becomes steam and is exhausted.

9.7 The user interface display reads "U4" or "U5" and stops, but then restarts after a few minutes

- This is because the user interface is intercepting noise from electric appliances other than the air conditioner. The noise prevents communication between the units, causing them to stop. Operation automatically restarts when the noise ceases.

9.8 Noise of air conditioners

1.) Indoor unit

- A “zeen” sound is heard immediately after the power supply is turned on.
  The electronic expansion valve inside an indoor unit starts working and makes the noise. Its volume will reduce in about one minute.
- A continuous low “shah” sound is heard when the system is in cooling operation or at a stop. When the drain pump (optional accessories) is in operation, this noise is heard.
- A low “sah”, “choro-choro” sound is heard while the indoor unit is stopped.
  When the other indoor unit is in operation, this noise is heard. In order to prevent oil and refrigerant from remaining in the system, a small amount of refrigerant is kept flowing.
- A “pishi-pishi” squeaking sound is heard when the system stops after heating operation. Expansion and contraction of plastic parts caused by temperature change make this noise.

2.) Indoor unit, outdoor unit

- A continuous low hissing sound is heard when the system is in cooling or defrost operation. This is the sound of refrigerant gas flowing through both indoor and outdoor units.
- A hissing sound which is heard at the start or immediately after stopping operation or defrost operation. This is the noise of refrigerant caused by flow stop or flow change.

3.) Outdoor unit

- When the tone of operating noise changes. This noise is caused by the change of frequency.

9.9 Dust comes out of the unit

- When the unit is used for the first time in a long time.
  This is because dust has gotten into the unit.

9.10 The units can give off odours

- The unit can absorb the smell of rooms, furniture, cigarettes, etc., and then emit it again.

9.11 The outdoor unit fan does not spin

- The speed of the fan is controlled in order to optimise product operation.

9.12 The display shows “ 88 ”

- This is the case immediately after the main power supply switch is turned on and means that the user interface is in normal condition. This continues for one minute.

9.13 The compressor in the outdoor unit does not stop after a short heating operation.

- This is to prevent oil and refrigerant from remaining in the compressor. The unit will stop after 5 to 10 minutes.

9.14 The inside of an outdoor unit is warm even when the unit has stopped

- This is because the crankcase heater is warming the compressor so that the compressor can start smoothly.

9.15 Does not cool very well

- Program dry operation.
  Program dry operation is designed to lower the room temperature as little as possible refer to “6.2 Program dry operation”

9.16 Hot air can be felt when the indoor unit is stopped

- Several different indoor units are being run on the same system. When another unit is running, some refrigerant will still flow through the unit.

10. Troubleshooting

If one of the following malfunctions occur, take the measures shown below and contact your dealer.

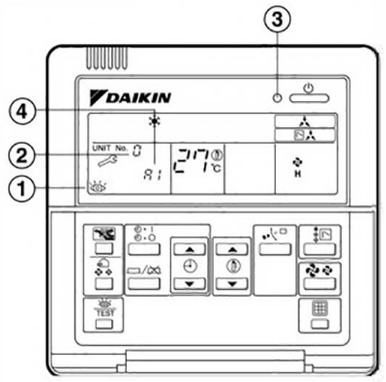
⚠ WARNING

Stop operation and shut off the power if anything unusual occurs (burning smells etc.)

Leaving the unit running under such circumstances may cause breakage, electric shock or fire. Contact your dealer.

The system must be repaired by a qualified service person :

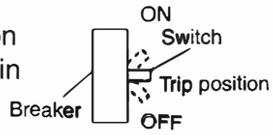
- If a safety device such as a fuse, a breaker or an earth leakage breaker frequently actuates or the ON/OFF switch does not properly work.
  Measure: Turn off the main power switch.
- If water leaks from the unit.
  Measure: Stop the operation.
- The operation switch does not work well.
  Measure: Turn off the power.
- If the user interface display indicates the unit number, the operation lamp flashes and the malfunction code
  Measure: Notify your installer and report the malfunction code.



If the system does not properly operate except for the above mentioned cases and none of the above mentioned malfunctions is evident, investigate the system according to the following procedures. If it is impossible to fix the problem yourself after checking all the above items, contact your dealer.
Let him know the symptoms, system name and model name (listed on the warranty card).

1. If the system does not operate at all:
   - Check if there is no power failure.
     Wait unit power is restored. If power failure occurs during operation, the system automatically restarts immediately after the power supply is recovered.
   - Check if no fuse has blown or breaker has worked. Change the fuse or reset the breaker if necessary.

     Turn the power on with the breaker switch in the off position.
     Do not turn the power on with the breaker switch in the trip position.
     (Contact your dealer.)



2. If the system goes into fan only operation, but as soon as it goes into cooling operation, the system stops:
   - Check if air inlet or outlet of outdoor or indoor unit is not blocked by obstacles. Remove any obstacle and make it well-ventilated. Check if the user interface display shows (time to clean the air filter).
     Refer to “the operation manual of the indoor unit And clean the air fitter”.
3. The system operates but cooling or heating is insufficient:
   - Check if air inlet or outlet of outdoor or indoor unit is not blocked by obstacles.
   - Remove any obstacle and make it well-ventilated.
   - Check if the air filter is not clogged (refer to “Maintenance” in the indoor unit manual).
   - Check the temperature setting.
   - Check the fan speed setting on your user interface.
   - Check for open doors or windows. Shut doors and windows to prevent wind from coming in.
   - Check if there are too many occupants in the room during cooling operation. Check if the heat source of the room is excessive.
   - Check if direct sunlight enters the room. Use curtains or blinds.
   - Check if the air flow angle is proper.

If the checking all above items, it is impossible to fix the problem your self, contact your installer and state the symptoms, the complete model name of the air conditioner (with manufacturing number if possible) and the installation date (possibly listed on the warranty card).

11. After-sales service and warranty

11.1 Warranty period

- This product includes a warranty card that was filled in by the dealer at the time of installation. The completed card has to be checked by the customer and stored carefully.
- If repairs to the air conditioner are necessary within the warranty period, contact your dealer and keep the warranty card at hand.

11.2. After-sales service

11.2.1 Recommendations for maintenance and inspection

Since dust collects when using the unit for several years, performance of the unit will deteriorate to some extent. As taking apart and cleaning interiors of units requires technical expertise and in order to ensure the best possible maintenance of your units, we recommend to enter into a maintenance and inspection contract on top of normal maintenance activities. Our network of dealers has access to a permanent stock of essential components in order to keep your air conditioner in operation as long as possible. Contact your dealer for more information.
When asking your dealer for an intervention, always state :

- The complete model name of the air conditioner.
- The manufacturing number (stated on the name plate of the unit).
- The installation date.
- The symptoms or malfunction and details of the defect.

⚠ WARNING

- Do not modify, disassemble, remove, reinstall or repair the unit yourself as incorrect dismantling or installation may cause an electric shock or fire. Contact your dealer.
- In case of accidental refrigerant leaks, make sure there are no naked flames. The refrigerant itself is entirely safe, non-toxic and non-combustible, but it will generate toxic gas when it accidentally leaks into a room where combustible air from fan heaters, gas cookers, etc. is present. Always have qualified service personnel confirm that the point of leakage has been repaired or corrected before resuming operation.

- Do not remove or reinstall the unit by yourself. Incorrect installation may cause electrical shock or fire.
  Contact your dealer.

11.2.2 Recommended inspection and maintenance cycles

Be aware that the mentioned maintenance and replacement cycles do not relate to the warranty period of the components.

Table 1 assumes the following conditions of use:

- Normal use without frequent starting and stopping of the unit.
  Depending on the model, we recommend not starting and stopping the machine more than 6 times/hour.
- Operation of the unit is assumed to be 10 hours/day and 2,500 hours/year.

Table 1: "Inspection Cycle" and "Maintenance Cycle" list

Component	Inspection cycle	Maintenance cycle (replacements and/or repairs)
Electric motor (fan, damper, etc.)	1 year	20,000 hours
PCB boards		25,000 hours
Heat exchanger		5 years
Sensor (thermistor, etc.)		5 years
User interface and switches		25,000 hours
Drain pan		8 years
Expansion valve		20,000 hours
Electromagnetic valve		20,000 hours

NOTICE

1 Table 1 indicates main components. Refer to your maintenance and inspection contract for more details.

2 Table 1 indicates recommended intervals of maintenance cycles. However, in order to keep the unit operational as long as possible, maintenance work may be required sooner. Recommended intervals can be used for appropriate maintenance design in terms of budgeting maintenance and inspection fees. Depending on the content of the maintenance and inspection contract, inspection and maintenance cycles may in reality be shorter than listed.

11.3 Shortening of "maintenance cycle" and "replacement cycle" needs to be considered in following situations

The unit is used in locations where:

- Heat and humidity fluctuate out of the ordinary.
- Power fluctuation is high (voltage, frequency, wave distortion, etc.) (the unit cannot be used if power fluctuation is outside the allowable range).
- Bumps and vibrations are frequent.
- Dust, salt, harmful gas or oil mist such as sulphurous acid and hydrogen sulfide may be present in the air.
- The machine is started and stopped frequently or operation time is long (sites with 24 hour air conditioning).

Recommended replacement cycle of wear parts

Table 2: "Replacement Cycle" list

Component	Inspection cycle	Maintenance cycle (replacements and/or repairs)
Air filter	1 year	5 years
High efficiency filter (Optional accessory)		1 year
Fuse		10 years
Crankcase heater		8 years

NOTICE

- Table 2: "Replacement Cycle" list indicates main components. Refer to your maintenance and inspection contract for more details.
- Table 2: "Replacement Cycle" list indicates recommended intervals of replacement cycles. However, in order to keep the unit operational as long as possible maintenance work may be required sooner. Recommended intervals can be used for appropriate maintenance design in terms of budgeting maintenance and inspection fees. Contact your dealer for details.

INFORMATION

Damage due to taking apart or cleaning interiors of units by anyone other than our authorized dealers may not by included in the warranty.

Moving and discarding the unit

- Contact your dealer for removing and reinstalling the total unit. Moving units requires technical expertise.
- This unit uses hydrofluorocarbon. Contact your dealer when discarding this unit. It is required by law to collect, transport and discard the refrigerant in accordance with the "hydrofluorocarbon collection and destruction" regulations.

11.4 Malfunction codes

In case a malfunction code appears on the indoor unit user interface display, contact your installer and inform the malfunction code, the unit type and serial number (you can find this information on the nameplate of the unit).
For your reference, a list with malfunction codes is provided. You can, depending on the level of the malfunction code, reset the code by pushing the ON/OFF button. If not, ask your installer for advice.
There may be possibility that malfunction code display on user interface different from, below list.

Malfunction code Main code	Contents
A0	External protection device was activated
A1	EEPROM failure (indoor)
A3	Drain system malfunction (indoor)
A6	Fan motor malfunction (indoor)
A7	Swing flap motor malfunction (indoor)
A9	Expansion valve malfunction (indoor)
AF	Drain malfunction (indoor unit)
AH	Filter dust chamber malfunction (indoor)
AJ	Capacity setting malfunction (indoor)
C1	Transmission malfunction between main PCB and sub PCB (indoor)
C4	Heat exchanger thermistor malfunction (indoor; liquid)
C5	Heat exchanger thermistor malfunction (indoor; gas)
C9	Suction air thermistor malfunction (indoor)
CA	Discharge air thermistor malfunction (indoor)
CE	Movement detector or floor temperature sensor malfunction (indoor)
CJ	User interface thermistor malfunction (indoor)
E1	PCB malfunction (outdoor)
E2	Current leakage detector was activated (outdoor)
E3	High pressure switch was activated
E4	Low pressure malfunction (outdoor)
E5	Compressor lock detection (outdoor)
E7	Fan motor malfunction (outdoor)
E9	Electronic expansion valve malfunction (outdoor)
F3	Discharge temperature malfunction (outdoor)
F4	Abnormal suction temperature (outdoor)

Malfunction code Main code	Contents
F6	Refrigerant overcharge detection
H3	High pressure switch malfunction
H4	Low pressure switch malfunction
H7	Fan motor trouble (outdoor)
H9	Ambient temperature sensor malfunction (outdoor)
J1	Pressure sensor malfunction
J2	Current sensor malfunction
J3	Discharge temperature sensor malfunction (outdoor)
J4	Heat exchanger gas temperature sensor malfunction (outdoor)
J5	Suction temperature sensor malfunction (outdoor)
J6	De-icing temperature sensor malfunction (outdoor)
J7	Liquid temperature sensor (after subcool HE) malfunction (outdoor)
J8	Liquid temperature sensor (coil) malfunction (outdoor)
J9	Gas temperature sensor (after subcool HE) malfunction (outdoor)
JA	High pressure sensor malfunction (S1NPH)
JC	Low pressure sensor malfunction (S1NPL)
L1	INV PCB abnormal
L4	Fin temperature abnormal
L5	Inverter PCB faulty
L8	Compressor over current detected
L9	Compressor lock (startup)
LC	Transmission outdoor unit - inverter: INV transmission trouble
P1	INV unbalanced power supply voltage
P2	Autocharge operation related
P4	Fin thermistor malfunction
P8	Autocharge operation related
P9	Autocharge operation related
PE	Autocharge operation related
PJ	Capacity setting malfunction (outdoor)
U0	Abnormal low pressure drop, faulty expansion valve
U1	Open phase
U2	INV voltage power shortage
U3	System test run not yet executed
U4	Faulty wiring indoor/outdoor
U5	Abnormal user interface - indoor communication
U7	Faulty wiring to Q1/Q2
U8	Abnormal main-sub user interface communication
U9	System mismatch. Wrong type of indoor units combined. Indoor unit malfunction.
UA	Connection malfunction over indoor units or type mismatch
UC	Centralized address duplication
UE	Malfunction in communication centralized control device - indoor unit
UF	Auto address malfunction (inconsistency)
UH	Auto address malfunction (inconsistency)

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3P785207-1A

DAIKIN 2P565691-1

Installation Manual (2)

Be sure to read this manual before installation and follow the instructions contained in it.

Installation location

<Precautions to side-by-side installation>

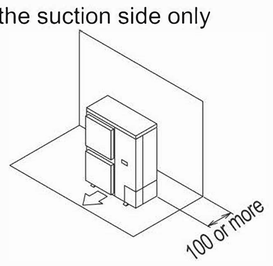
- In the figure below, the connection piping is lead out from the front and the bottom when installing side by side.
  To lead out the piping from the back, the interspace over 250mm should be kept on the right side of the outdoor unit.
  (Figures in mm)

(A) Where there is an obstacle on the suction side:

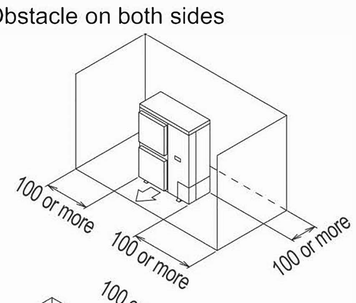
● No obstacle above

① **Stand-alone installation**

- Obstacle on the suction side only

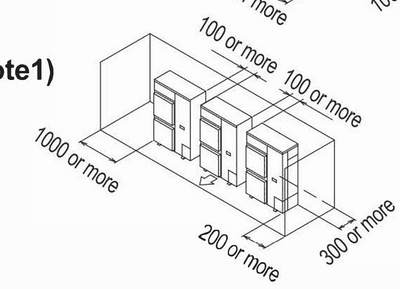


- Obstacle on both sides



② **Series installation (2 or more)(note1)**

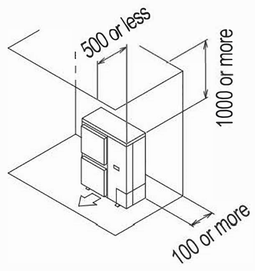
- Obstacle on both sides



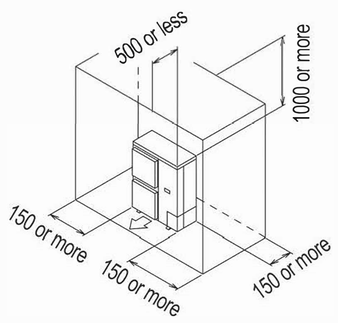
● Obstacle above,too

① **Stand-alone installation**

- Obstacle on the suction side,too

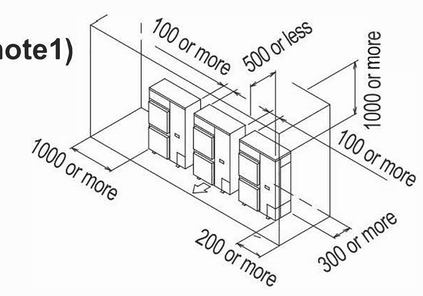


- Obstacle on the suction side and both sides



② **Series installation (2 or more)(note1)**

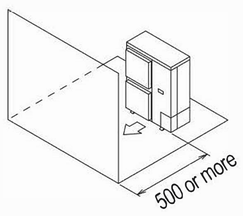
- Obstacle on the suction side and both sides



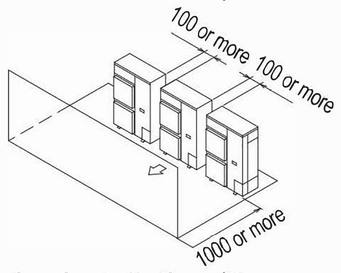
(B) Where there is an obstacle on the discharge side:

● No obstacle above

① **Stand-alone installation**

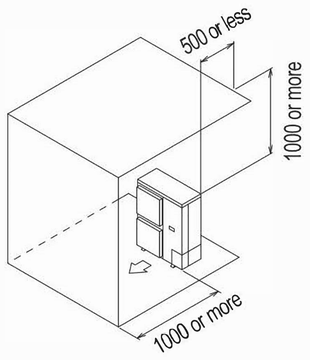


② **Series installation (2 or more)(note1)**

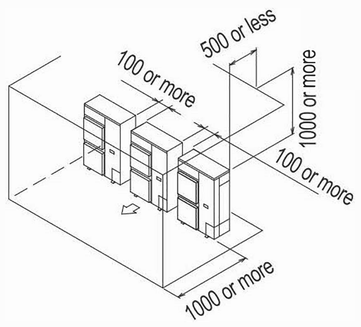


● Obstacle above,too

① **Stand-alone installation**



② **Series installation (2 or more)(note1)**



(D) Double-decker installation

① **Obstacle on the discharge side (note1)**

(Note 1) Do not stack more than two unit.
(Note 2) To prevent the drainage of the upper outdoor unit from being frozen at the bottom, put the flap (field supply) as A part.
(Note 3) Adequate space should be kept between the upper outdoor unit's bottom plate and the flap.
(Note 4) Close the gap A(the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.

② **Obstacle on the suction side (note1)**

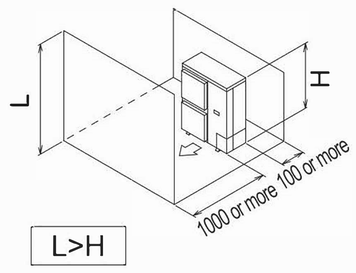
(Note 1) Do not stack more than two unit.
(Note 2) To prevent the drainage of the upper outdoor unit from being frozen at the bottom, put the flap (field supply) as A part.
(Note 3) Adequate space should be kept between the upper outdoor unit's bottom plate and the flap.
(Note 4) Close the gap A(the gap between the upper and lower outdoor units) to prevent the discharged air from being bypassed.

(C) Where there are obstacles on both suction and discharge sides:

Pattern 1 Where the obstacles on the discharge side is higher than the unit:
(There is no height limit for obstructions on the intake side.)

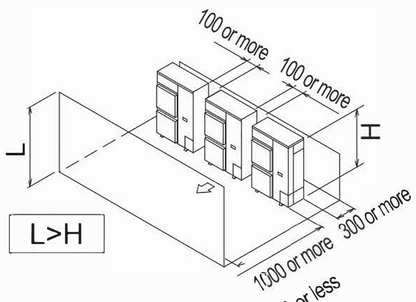
● No obstacle above

① **Stand-alone installation**



L>H

② **Series installation (2 or more)(note1)**



L>H

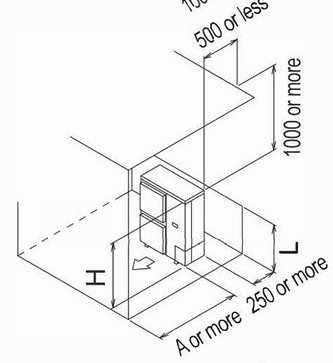
● Obstacle above,too

① **Stand-alone installation**

The relations between H, A and L are as follows:

	L	A
L≤H	0<L≤1/2H	750
	1/2H<L≤H	1000
H<L	Set the stand as: L≤H.	

(Note) Close the bottom of the installation frame to prevent the discharged air from being bypassed.

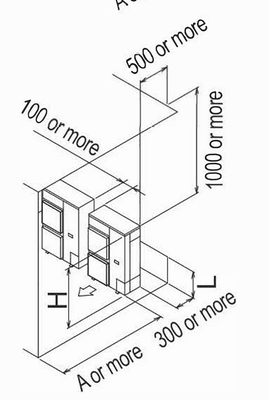


② **Series installation (2 or more)(note1)**

The relations between H, A and L are as follows:

	L	A
L≤H	0<L≤1/2H	1000
	1/2H<L≤H	1250
H<L	Set the stand as: L≤H.	

(Note1) Close the bottom of the installation frame to prevent the discharged air from being bypassed.
(Note2) Only two units can be installed for this series.

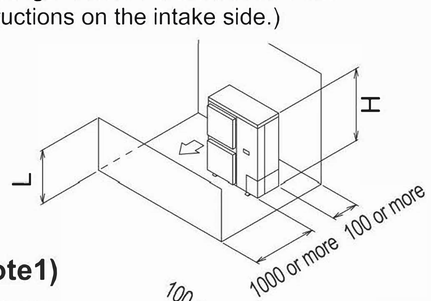


Pattern 2 Where the obstacles on the discharge side is lower than the unit:
(There is no height limit for obstructions on the intake side.)

● No obstacle above

① **Stand-alone installation**

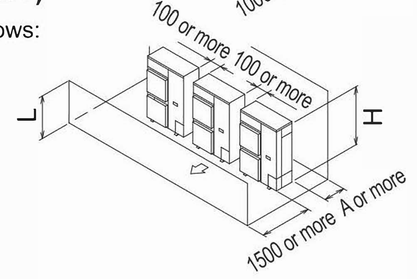
L≤H



② **Series installation (2 or more)(note1)**

The relations between H, A and L are as follows:

L	A
0<L≤1/2H	250
1/2H<L≤H	300



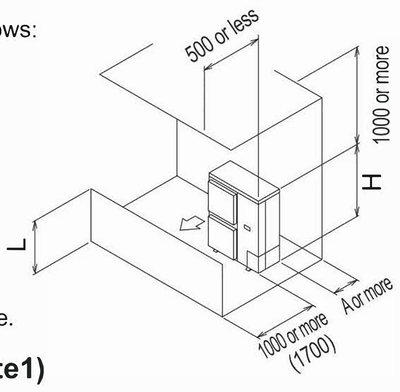
● Obstacle above,too

① **Stand-alone installation**

The relations between H, A and L are as follows:

	L	A
L≤H	0<L≤1/2H	100
	1/2H<L≤H	200
H<L	Set the stand as: L≤H.	

(Note1) Close the bottom of the installation frame to prevent the discharged air from being bypassed.
(Note2) If the distance exceeds that within the ( ), even L>H, there is no need to set the base.

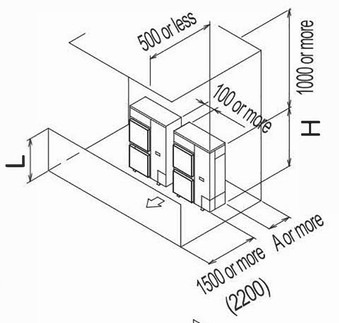


② **Series installation (2 or more)(note1)**

The relations between H, A and L are as follows:

	L	A
L≤H	0<L≤1/2H	250
	1/2H<L≤H	300
H<L	Set the stand as: L≤H.	

(Note1) Close the bottom of the installation frame to prevent the discharged air from being bypassed.
(Note2) Only two units can be installed for this series.
(Note3) If the distance exceeds that within the ( ), even L>H, there is no need to set the base.



(E) Multiple rows of series installation (on the rooftop, etc.)

① **One row of stand-alone installation**

② **Rows of series installation (2 or more)**

The relations between H, A and L are as follows:

	L	A
L≤H	0<L≤1/2H	250
	1/2H<L≤H	300
H<L	Cannot be installed.	

(Note 1) When install the indoor units side by side, space more than 100mm needs to be kept around them.

2P565691-1

DAIKIN

1P784974-1B

Installation Manual (1)

RX(Y)MQ10.12BRY1(6)

Be sure to read this manual before installation and follow the instructions contained in it.

1.This series air conditioner uses R410A (new) refrigerant. Strictly observe the precautions under the 7 Refrigerant piping connection as there are strict requirements for how to prevent entry of impurities (mineral oils such as specialized lubricating oil and moisture) for R410A.
2.Since the design pressure is 4.0MPa, refer to the 7 Refrigerant piping connection for selection of pipe thickness.
3.Since R410A is a mixed refrigerant, it must be charged in liquid phase. (If the refrigerant is charged in gaseous phase, its composition can change and the system may not work properly.)
4.Be sure to connect a special indoor unit for R410A. Refer to the product catalog for the model names of the indoor units which can be connected with this unit. (If connected with other indoor units, the air conditioning system will not operate normally.)
5.Power voltage of this series producis three-phase 380-415V (50/60Hz).

Before installing this air conditioner, carefully read these "Safety Precautions" to ensure proper installation.

- The precautions described herein are classified as Warning and Caution, following which is the important safety information, it is strongly recommended to observe.

⚠Warning	Improper handling may result in major accidents such as death and serious injury.
⚠Caution	Improper handling may result in injury or property damage, or even serious consequence under some circumstances.

- After completing installation, perform a test run to check for normal operation and explain to the customer how to operate and maintain the air conditioner.
  In addition, ask the customer to keep this installation manual together with the operation manual for future reference.

⚠Warning

Ask the dealer or specialized personnel to carry out the installation work.
Do not install the machine by yourself. Otherwise, it may result in water leakage, electric shocks or fire hazards.

Perform installation work following the instructions contained in this manual.
Improper installation may result in water leakage, electric shocks or fire hazards.

When installing the units in a small room, take proper measures to ensure the amount of any leaked refrigerant under the concentration limit in the event of refrigerant leakage. Contact your dealer for appropriate measures.
Excessive refrigerant concentration in a closed ambient space may result in oxygen deficiency.

Be sure to use the specified accessories and parts for installation.
Failure to use the specified parts may result in water leakage, electric shocks, fire hazards or the unit failing to operate normally.

Install the unit on a solid foundation which can withstand the weight of the unit.
A foundation of insufficient strength may result in the unit falling and causing injuries.

Install the unit at designated places by taking into consideration strong winds such as typhoons and earthquakes.
Improper installation may result in the unit falling and causing accidents.

Make sure that all electrical work is carried out by the specialized personnel in accordance with local laws and regulations and this manual, and a special power supply circuit is provided for the unit.
An insufficient power supply circuit capacity or improper electrical operation may lead to electric shocks or fire hazards.

Use the specified wires and attach them securely, with no external forces acting on the terminal connections or wires.
Improper wiring or installation may cause fire hazards.

When connecting the indoor and outdoor units and the power supply wiring, to avoid the service lid being protruded and deformed, lay the wires in a smooth and regular way to attach the shell plate properly.
Otherwise, the terminals will give out heat and may result in electric shocks and fire hazards.

If refrigerant leakage occurs during installation, immediately open the windows and doors for ventilation.
Gaseous refrigerant will produce toxic gas if it comes into contact with fire.

After installation is completely finished, check for refrigerant leakage.
If the refrigerant leaks inside the room, it may generate noxious gas if in contact with the fire of an air heater, burner or cooker, etc.

Do not touch the electrical parts when the unit is powered on.

After completing installation, make sure that no residual voltage exists on the live parts (such as the terminals of earth leakage circuit breakers and terminal blocks) before operating the breakers such as changing.

⚠Caution

Be sure to earth the unit.
Do not connect the earth wire to gas pipes, water pipes, lightning rods or telephone earth wires.
- Gas pipes -- gas leaks can cause explosion or fire.
- Water pipes -- cannot be grounded if hard vinyl pipes are used.
- Lighting rods or telephone earth wires -- the ground potential when struck by lightning gets extremely high.

Be sure to install a branch circuit breaker, overcurrent circuit breaker (fuse) and earth leakage circuit breaker.
Failure to do so may result in electric shocks and fire hazards.

Install the drain piping according to the installation manual to ensure proper drainage, then insulate the piping to prevent condensation from accumulating.
Improper drain piping installation may result in water leakage and household items wet.

Keep the indoor unit, outdoor unit, power wiring and transmission wiring at least 1m away from televisions and radios to prevent image or noise interference.
(A distance of 1m or more may not be sufficient to eliminate the noise in the case of strong radio wave.)

Don't install the air conditioner in the following locations:
(a) Where mineral oil mist, oil spray or vapor is produced, for example, in a kitchen.
Plastic parts may be aged and damaged, and result in water leakage.
(b) Where corrosive gas, such as sulfurous acid gas, is produced.
Corroding copper pipes or soldered parts may result in refrigerant leakage.
(c) Near machinery emitting electromagnetic waves.
Electromagnetic waves may disturb the operation of the control system and cause the unit malfunction.
(d) Where flammable gas may leak, where there is air borne carbon fiber or ignitable dust, or where volatile flammables such as gasoline or thinner are placed.
Operating the unit in such conditions may result in fire hazards.
(e) Don't install the outdoor unit at the place where there is a shelter of the small animals.
Once in the unit, leaves and small animals making contact with the electrical parts can cause malfunction, smoke or fire. Ask the customer to maintain a clean and tidy environment around the outdoor unit.

Do not climb up the outdoor unit or place objects on it.
Falling or tumbling may result in injury.

Do not wash the outdoor or indoor units with water.
Otherwise, it may cause electric shocks and fire hazards.

Note
- **For how to install the indoor unit and the remote controller, refer to the installation manual of the indoor unit.**

1 Preface

The indoor units can be connected in the following range.

Combination

- **Be sure to install the dedicated indoor units.**
  Refer to the product catalog for the model names of the indoor units which can be connected with this unit.
- Total capacity and number of the indoor units

<Outoor unit>		<Capacity ratio(%)>	<Total number>
RXMQ10BRY1(6)	.....	50 ~ 130	16
RXMQ12BRY1(6)	.....	50 ~ 130	19
RXYMQ10BRY1(6)	.....	50 ~ 130	16
RXYMQ12BRY1(6)	.....	50 ~ 130	19

Technical specifications

Model			RXYMQ10BRY1(6)	RXYMQ12BRY1(6)	RXMQ10BRY1(6)	RXMQ12BRY1(6)
Refrigerant			R410A	R410A	R410A	R410A
Power supply			3N~380~415V 50/60Hz	3N~380~415V 50/60Hz	3N~380~415V 50/60Hz	3N~380~415V 50/60Hz
Cooling capacity		(kW)	28.0	33.5	28.0	33.5
Heating capacity		(kW)	28.0	30.4	-	-
Cooling power		(kW)	6.72	8.93	6.72	8.93
Heating power		(kW)	6.72	8.93	-	-
Dimensions (H × L × W)		(mm)	1627x940x460	1627x940x460	1627x940x460	1627x940x460
Connection piping	Gas side	(inch) (mm)	7/8 Φ22.2	1 Φ25.4	7/8 Φ22.2	1 Φ25.4
	Liquid side	(inch) (mm)	3/8 Φ9.5	1/2 Φ12.7	3/8 Φ9.5	1/2 Φ12.7

Electrical specifications

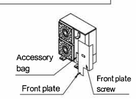
Model			RXYMQ10BRY1(6)	RXYMQ12BRY1(6)	RXMQ10BRY1(6)	RXMQ12BRY1(6)
Power supply	Phase		3N~	3N~	3N~	3N~
	Frequency	(Hz)	50/60	50/60	50/60	50/60
	Voltage	(V)	380-415	380-415	380-415	380-415
	Allowable voltage fluctuation	(%)	±10	±10	±10	±10
	Fuse rated current	(A)	25	30	25	30
Compressor	Phase		3~	3~	3~	3~
	Voltage	(V)	380	380	380	380
Outdoor unit maximum running current		(A)	22	24	22	24

Optional accessories

Check if the following accessories are supplied with the unit.
(Remove the front plate and they are in the accessory bag)

Operation manual	Clamps	Others
(1)	(5)	• Installation manual

Gas side accessory piping (1)	Gas side accessory piping (2)
1	1



Optional accessories

- **Refrigerant piping branch kit**

REFNET joint	KHRP26A22T6	KHRP26A33T6

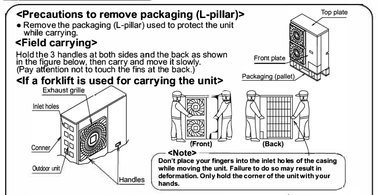
※For selection of the refrigerant branch piping kit, refer to the 7 Refrigerant piping connection.

2 Before installation

<Precautions to remove packaging (L-pillar)>
- Remove the packaging (L-pillar) used to protect the unit while carrying.

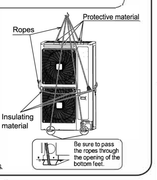
<Field carrying>
Hold the 3 handles at both sides and the back as shown in the figure below, then carry and move it slowly.
(Pay attention not to touch the fins at the back.)

<If a forklift is used for carrying the unit>



<Note>
Don't place your fingers into the inlet holes of the casing while moving the unit. Failure to do so may result in deformation. Only hold the corner of the unit with your hands.

- After removing the packaging, lift the unit with the ropes able to bear its weight (it is recommended to lift the unit up with two Φ20mm ropes of at least 8m long. Since the right side (compressor side) is heavier, bind a rope to the unit laterally and fix this rope together with the other two to the lifting hook before lifting to prevent the unit from dumping rightward. Refer to the right figure)
- In order to prevent the casing from being damaged or scratched put rags or soft materials where the ropes contact the casing.



Warning
Since the unit is heavy and its center of gravity deviates to the right, failure to follow the recommended lifting methods may result in dumping, property damage or personal injury.

◎ Use the accessories or the specified parts to install the required parts.

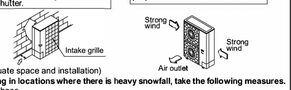
3 Selecting installation location

① **Select a location for installation that meets the following conditions and get the customer's approval.**
- Good ventilation.
- Not disturbing the neighbors.
- No shelters of the small animals.
- Solid enough to support the weight and vibration of the unit which can be placed horizontally.
- Able to avoid raining as much as possible.
- Adequate space kept around the unit for installation.
- Outdoor piping and wiring within the allowable length range.
- No risk of flammable gas leaks.

② **When installing in locations where there is a possibility of strong wind, take the following measures.**
- If the strong wind with speed over 5m/s blowing to the exhaust side of the outdoor unit, the decreased air flow rate and re-absorbed exhausted gas (short circuit) etc. by the outdoor unit will lead to
  - Decreased capability
  - Increased frost during heating
  - Operation stopped as high pressure increases
- Excessive strong wind continually blowing to the front exhaust side of the outdoor unit will result in the fun reversing at a high speed and being damaged. Refer to the figure below for installation.

Install the outdoor unit with the air outlet facing the building wall, closure or wind shutter.

Make the exhaust direction perpendicular to the wind direction.



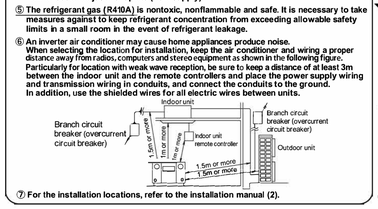
(Keep adequate space and installation)

③ **When installing in locations where there is heavy snowfall, take the following measures.**
- Block up the base.
- Install snow hoods (field supply).
- Remove the rear suction grille to prevent snow from accumulating on the fins.

④ **If there is a risk of short circuit for the outdoor unit in the ambient environment, use air flow direction adjustment plate (field supply).**

⑤ **The refrigerant gas (R410A) is nontoxic, nonflammable and safe. It is necessary to take measures against to keep refrigerant concentration from exceeding allowable safety limits in a small room in the event of refrigerant leakage.**

⑥ **An inverter air conditioner may cause home appliances produce noise.**
When selecting the location for installation, keep the air conditioner and wiring a proper distance away from radios, computers and stereo equipment as shown in the following figure.
Particularly for location with weak wave reception, be sure to keep a distance of at least 3m between the indoor unit and the remote controllers and place the power supply wiring and transmission wiring in conduits, and connect the conduits to the ground.
In addition, use the shielded wires for all electric wires between units.



⑦ **For the installation locations, refer to the installation manual (2).**

4 Precautions during installation

Note
- To decrease vibration and noise and prevent personnel injury, check the base, ground or support is solid and level.
- It is not recommended to hang it on the wall as the unit is heavy.
- If it is necessary to hang it on the wall, be sure to ask Daikin dealer to perform installation, and strictly meet the following requirements. Improper installation may result in the unit tumbling, even personnel injury.

<When installing on the ground or high foundation>:
a. No matter where the unit is installed, make sure the shaded area in figure 1 is surely on the weight-bearing surface instead of suspending;
b. As shown in the figure 1, be sure to secure the 4 mounting feet of the unit firmly to the base using bolts (Prepare four sets of field-supply W12 anchor bolts equipped with proper nuts and washers);
c. To decrease noise and vibration, put vibration-proof material (field supply) where the unit contacts with the base;
d. The section of the foundation bolts above the base 20mm in length is the most appropriate (refer to figure 2).

Shape of the bottom feet and position of the foundation bolts

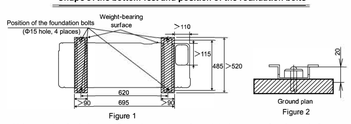


Figure 1 Figure 2

- Make sure the shaded area in figure 1 is surely on the weight-bearing surface instead of suspending.
- Use the base larger than the unit feet (90mm wide, 520mm long) to support the air conditioner (refer to figure 1), and apply rubber mat to cover the whole weight-bearing surface of the base.
- The height of the base should be at least 150mm from the floor.

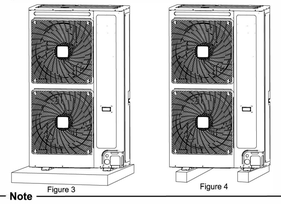


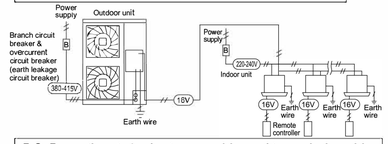
Figure 3 Figure 4

Note
- Leave the connective location in advance before leading the connection piping out from the beneath locally.
- Make sure the shaded area (weight-bearing surface) in figure 4 is surely on the mounting surface.

5 Electrical wiring

Caution To those doing electrical work
- **Don't operate the unit before completing refrigerant piping connection. (Failure to do so will result in compressor malfunction.)**
- **Install the earth leakage circuit breaker. (Since this unit is equipped with an inverter, to prevent malfunction of the earth leakage circuit breaker itself, select the breaker that be capable of handling high harmonics.)**

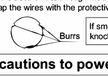
5-1. Example of whole system wiring connection



5-2. Precautions to lead out power wiring and transmission wiring

Lead out the power wiring (including the earth wire) from the power wiring outlets at the sides, front or back of the units.
Lead out the electric wires between units from the wiring outlet, piping outlet or knockout holes in the front of the units.

<Precautions when punching through the knockout holes>
- Punch through the knockout holes with a hammer.
- After punching through the holes, it is recommended to coat the holes at the edge and the area around them with anti-corrosion paint to prevent rusting.
- Before leading the electric wires through knockout holes, scrap the burrs around the holes and wrap the wires with the protective tape.



If small animals might enter the unit, block off the knockout holes with sealing material (field supply)

5-3. Precautions to power wiring connection

Install the earth leakage circuit breaker.
- Be sure to install the earth leakage circuit breaker to prevent electric shock and fire hazard, etc.

Model	Phase & frequency	Voltage	Fuse rated current	Outdoor unit maximum running current
RX(Y)MQ10BRY1(6)	3N ~ 50/60Hz	380-415V	25A	22A
RX(Y)MQ12BRY1(6)	3N ~ 50/60Hz	380-415V	30A	24A

⚠ Warning:
After the fuse is blown, ask the serving agency to replace it. Don't replace the fuse by yourself. Otherwise, it may cause accidents such as electric shock.

<Note>
- Select the power wiring in accordance with the local and national regulations in your area by referring to the above table.
- Specifications of the field power wiring should be in compliance with IEC60245.
- Use wire type H05VV when the conduits are used for the power wiring.
- Use wire type H07RNF when the conduits are not used.
- Only proceed with wiring work after turning off all the power.
- Always earth the unit in accordance with the local and national regulations in your area.
- Install the earth leakage circuit breaker.
  (Since this unit is equipped with an inverter, to prevent malfunction of the earth leakage circuit breaker itself, select the breaker that be capable of handling high harmonics.)

- The electrical wiring must be installed by the trained electricians.
- Perform wiring connection in accordance with "Electrical Wiring Diagram Label". Only conduct the wiring connection after turning off the branch circuit breaker and the overcurrent circuit breaker.
- The grounding impedance must be 4Ω or less.
- Set the earth leakage circuit breaker.
- Earth the indoor and outdoor units.
- Do not connect the earth wire to the gas pipes, water pipes, lightning rods or telephone earth wires.
  - Gas pipes -- gas leaks can cause explosion or fire.
  - Water pipes -- cannot be grounded if hard vinyl pipes are used.
  - Telephone earth wires or lighting rods-- the ground potential when struck by lightning may get extremely high.
- Only use the copper wires.
- Be sure to turn off the power supply before performing the electrical wiring work. Don't switch on the breakers until all wiring work being completed.

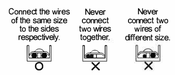
- The unit is equipped with an inverter. Always connect the earth wire to discharge the unit and eliminate the impact on other devices by reducing the noise generated from the inverter, and to prevent the unit casing from being live due to electric leakage.
- Never install a phase advancing capacitor to improve the power factor. (Installing a phase advancing capacitor will not improve the power factor, but may cause the capacitor abnormal heating and accidents.)
- For the wiring, use the designated electric wires and connect firmly, then secure them with the accessory clamps to prevent outside force from being applied to the terminal area (terminals of the transmission wiring, earth wire and power wiring connected on site) and touching the piping and stop valves.
  For details, please refer to 5-3. Precautions to power wiring connection.
- Don't tie the remaining wires in a bunch and tuck into the unit.
- Place the electric wires in the conduits or plastic sleeves to prevent them from being scratched by the edge of the knockout hole.

<Note>
- **Use the sheathed wires for the power wiring.**
- **Don't route the weak electric wiring (remote controller wire and wiring between units) together with the strong one outside the air conditioner, keeping them at least 50mm apart. Otherwise, being affected by the electrical noise (external noise) may result in malfunction or breakdown.**
- **Be sure to connect the power wiring to the power supply terminal blocks and hold it in place in accordance with 5-3. Precautions to power wiring connection.**
- **Hold the wiring between air conditioner units in place in accordance with 5-4. Precautions to wiring connection between units.**
- **Secure the electric wires using the accessory clamps to prevent it from touching the piping, etc.**
- **After connecting the electric wires, lay the wires in a smooth and regular way to avoid the front plate being protruded, then close the cover tightly.**

<Precautions for routing power wiring>
- Never connect two electric wires of different sizes to one power supply terminal. (Phenomenons such as loose electric wire connection may cause abnormal heating.)
- For the electric wires connected to the power supply terminals, use the crimp-style terminal with insulation sleeve. Otherwise, connect the wires of the same size to the sides respectively as shown in the figure.



Phenomenons such as loose electric wire connection may cause abnormal heating. Strictly follow the instructions below.



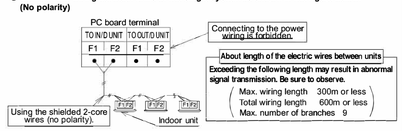
- Use the specified electric wires and secure them firmly without applying external stress to the terminal block.
- Tighten the terminal screws with a suitable screwdriver. Use of small screwdriver would damage the screw head and could not achieve the proper tightening effect.
- Secure the terminal screws overtight may break them.
- Refer to the table below for the tightening torque of the terminal screws.

Tightening torque (N・m)	
M8 (power supply terminal)	5.5~7.3
M8 (terminal connector)	
M4	0.53~0.63
M3	0.80~0.96

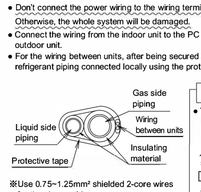
<Note>
After the electrical work is completed, check to make sure there are no loose connections for the connectors of each electrical component in the electrical component box and the terminals.

5-4. Precautions to wiring connection between units

- **Connect the wiring between units of the single system as shown in the figure below.**
  (No polarity)

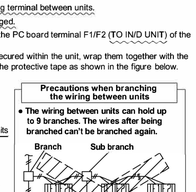


Precautions to wiring connection between units
- Don't connect the power wiring to the wiring terminal between units.
  Otherwise, the whole system will be damaged.
- Connect the wiring from the indoor unit to the PC board terminal F1/F2 (TO IN/D UNIT) of the outdoor unit.
- For the wiring between units, after being secured within the unit, wrap them together with the refrigerant piping connected locally using the protective tape as shown in the figure below.



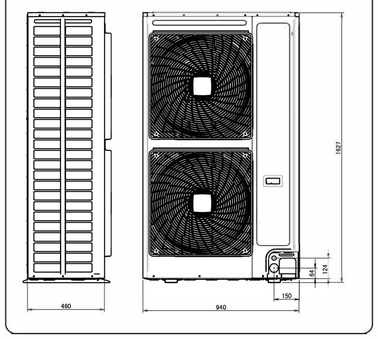
※Use 0.75~1.25mm² shielded 2-core wires for the above wiring.
※All wiring between units are supplied locally.

Precautions when branching the wiring between units
- **The wiring between units can hold up to 9 branches. The wires after being branched can't be branched again.**



6 Dimension of outdoor unit

RX(Y)MQ10.12BRY1(6)



7 Refrigerant piping connection

7-1. Installation tools

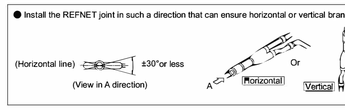
To withstand the pressure and prevent entry of any impurities into the air conditioning system, always use the special installation tools for R410A.

Multi-purpose gauge hose	● **To withstand the pressure and prevent entry of any impurities (mineral oils such as specialized lubricating oil and moisture), be sure to use the special installation tools for R410A. (Screw specifications for R410A and R407C are different.)**
Vacuum pump	● **Make sure that the engine oil in the pump will not flow backward into the air conditioning system when the pump stops.** ● **Use the vacuum pump able to lower the pressure to -100.7Pa (5Torr,-755mmHg).**

7-2. Selecting piping material

- Don't use the pipes covered with sufur, iron oxide, dust, cutting oil, moisture or other contamination inside. (Better not to exceed 30mg/10m for the oil inside the pipes).
- Select a thickness for the refrigerant piping in accordance with the local laws and regulations. For R410A, the design pressure is 4.0 MPa.
- Use the refrigerant piping made of the following material.Material: phosphor-deoxidized seamless copper pipe.
- Thickness and size: determine them based on the precautions for piping size selection on the back.
- Be sure to use REFNET joint (KHRP26A22T) for the piping branches.
- While performing the piping work, make sure that the piping is within the maximum allowable ranges for length, height in difference and branch piping length listed on the back.
- When using REFNET joint, pay attention to the following items and install it by referring to the installation manual included with the kits.

- Install the REFNET joint in such a direction that can ensure horizontal or vertical branch.



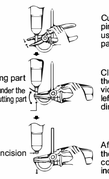
7-3. Piping protection

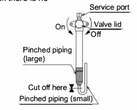
- Maintain and protect the piping to prevent moisture from getting into and the entry of the impurities and dust, etc.
- Pay special caution when penetrating the copper pipes through the walls till outside.

Location	Installation schedule	Protection measure
Outdoor	More than a month	Pinch
	Less than a month	Pinch or seal with tape
Indoor	Random	

7-4. Pipe connection

- **Before removing the pinched piping (large)**
  ① Remove the valve lid, and check the stop valve is completely closed.
  ② Connect a vacuum gauge to the service port, and check there is no residual pressure.
  ③ Cut off the pinched piping (small) with a vice, and check there is no residual pressure again.





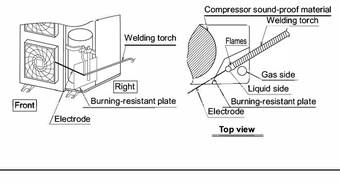
⚠ Warning
While removing the pinched piping (large), the residual gas and oil remained in the piping of the valvebody may cause the stop valve cracks, and the flames of the latter may result in burns also.

④ Remove the pinched piping (large).

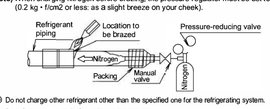
- **Before brazing the removed pinched piping (large) and field piping connection**
  Take cooling measures for the stop valves (such as wrapping a wet and dripless cloth to them). Failure to do so will result in damage to the valve body and cause the system leaks.

- **Brazing piping locally (liquid side and gas side)**
  ① Remove the two piping cover plates under the unit.
  ② When brazing, it is necessary to penetrate the electrode from the front of the unit and the welding torch from the right side to braze with the flames facing outside and avoid the compressor sound-proof material and other piping. (Refer to the figure below)

Note) 1. Before brazing, peel off the caution label and check there is no residual tape. Otherwise, it will adversely affect the brazing.
2. Braze the liquid side piping (thin) and the gas side piping (thick) in order. Brazing methods are same for the two.



- **Be sure to charge nitrogen into the pipe when brazing.**
  (Be sure to perform nitrogen purge or nitrogen charge when brazing. Failure to do this will create large quantities of oxide film on the inside surface of the pipes, which would adversely affect the valves and compressors in the refrigerating system and prevent the normal operation.)
  Note) When charging nitrogen before brazing, the pressure regulator must be set to 0.02 MPa (0.2 kg・f/cm2 or less: as a slight breeze on your cheek).



◎ Do not charge other refrigerant other than the specified one for the refrigerating system.
◎ Do not charge the air for the refrigerating system.

<Note>
Do not use flux when brazing the refrigerant piping.
Use the phosphor copper electrode which does not require flux (BCuP or equivalent).
Residue can clog the pipes and damage the equipment.
Flux has extremely harmful influence on refrigerant piping system. If the chlorine based flux is used, it will cause pipe corrosion or in particular if the flux contains fluorine, it will damage the refrigerant oil and adversely affect the refrigerant piping system.

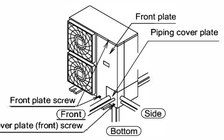
- **After finishing the piping connection and evacuation,**

be sure to open the stop valves

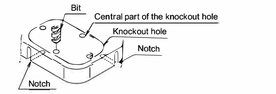
Operation with the stop valve closed will result in the compressor malfunction. Under some circumstances, the sound of sizzling will not be heard even the stop valves have been opened. This is not malfunction.

7-5. Precautions to refrigerant piping connection

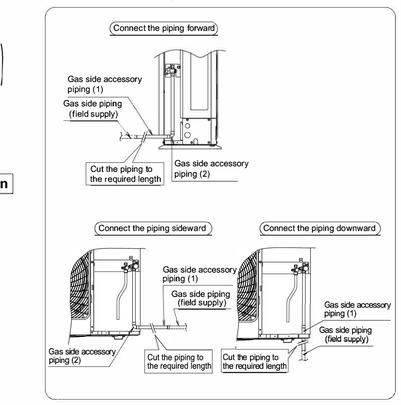
◎ The field piping can be connected in 4 directions.



◎ While connecting downward, open up round holes (knockout holes) by drilling through the central parts of the knockout holes (4 places) with a Φ6mm bit.



◎ After drilling through the knockout holes, it is recommended to coat the notches at the edge and the area around them with anti-corrosion paint to prevent rusting.
◎ When leading the electric wires through the knockout hole, wrap the wires with the protective tape to avoid damage.



Continued on the back page

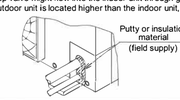
7 Refrigerant piping connection

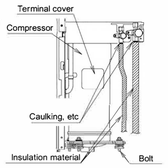
Precautions to piping connection

- Make sure the connection pipe of the indoor and outdoor units dose not come into contact with the terminal cover of the compressor.
  Adjust the height as shown in the right figure to prevent the insulation material on the liquid side piping from contacting with the cover.
  In addition, make sure the connection pipe does not come into contact with the compressor's bolts and shell plate.
- If there is a possibility that the condensed water on the stop valve might flow into the indoor unit through gaps between the insulation material and piping because the outdoor unit is located higher than the indoor unit, caulk the gaps at the connection.

[How to prevent entry of small animals]

- Caulk the piping through holes with putty or insulation material (field supply) as shown in the right figure to prevent gaps.
  (For the outdoor unit, entry by insects could cause short circuit of the electrical component box.)





7-6. Piping insulation

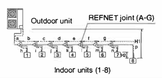
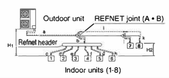
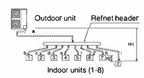
- If temperature within the ceiling exceeds 30℃ and the humidity over HR80%, thicken the insulation material of the refrigerant piping. (Thickness at least 20mm)
  (Condensation might form on the surface of the insulation material.)
- The connection piping (liquid side, gas side) and the refrigerant branch kit must be insulated.
  (Otherwise, it may cause water dripping.)

(Be sure to use the insulation material with high-heat-resistance performance as the gas side piping can reach temperature of about 120℃ during heating operation.)

⚠ **For piping connected locally, wrap the insulation material till the root segment of the stop valve. The naked piping may result in condensation and burns.**

Example of connection

(Connecting 8 indoor units)

			Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header
					
Max. allowable length	Between outdoor unit and indoor unit	Actual piping length	Pipe length between outdoor and indoor units ≤120m		
		Equivalent length	Example unit 8: a + b + c + d + e + f + g + p ≤120m	Example unit 6: a + b + h≤120m, unit 8: a + i + k ≤120m	Example unit 8: a + i ≤120m
		Total piping length	Equivalent pipe length between outdoor and indoor units ≤150m (assume equivalent pipe length of refnet joint to be 0.5m, that of refnet header to be 1m, calculation purposes)		
Allowable height difference	Between outdoor unit and indoor unit	Difference in height	Total piping length from outdoor unit to all indoor units ≥ 10m, ≤300m		
	Between indoor units	Difference in height	Difference in height between outdoor and indoor units (H1) ≤50m (Max 40m. if the outdoor unit is below)		
Allowable length after the branch		Actual piping length	Difference in height between adjacent indoor units (H2) ≤15m		
			Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤ 40m		
			Example unit 8: b + c + d + e + f + g + p ≤40m	Example unit 6: b + h ≤ 40m, unit 8:i + k ≤40m	Example unit 8: i ≤40m

Selecting refrigerant branch kit

Refrigerant branch kit can only be used with R410A

How to select REFNET joint
- REFNET joint is used at the first branch counting from the outdoor unit

Select from the following table based on the outdoor unit capacity and type.

Outdoor unit capacity type	Branch piping kit
10HP type	KHRP26A33T6
12HP type	KHRP26A72T6

Select the REFNET joints other than the first branch from the following table based on the total capacity index of all the indoor units downstream the REFNET joint.

Total indoor unit capacity index	Branch piping kit
< 200	KHRP26A22T6
200 ≤ x < 290	KHRP26A33T6
290 ≤ x < 640	KHRP26A72T6

How to select the REFNET header
- choose from the following table based on the total capacity index of all the indoor units downstream the REFNET header.

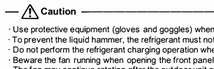
Total indoor unit capacity index	Branch piping kit
< 200	KHRP26M22H(Max. 4 branch)
200 ≤ x < 290	KHRP26M33H(Max. 8 branch)
290 ≤ x < 640	KHRP26M72H(Max. 8 branch)

Selecting the piping size

<Precautions to select connection piping>

- If the equivalent piping length between outdoor and indoor units is over 90m, size of the main pipe on the gas side and liquid side must be increased.
  In addition, depending on the distance of the refrigerant piping, size of the main pipe also can be increased if capability decreased.

Model	Gas side	Liquid side
10HP	Φ25.4	Φ12.7
12HP	Φ28.6	Φ15.9



Note)
To increase the size of the piping joint, connect it using joints of different apertures (field supply). In addition, connection part should be set beside the outdoor unit (behind the 1st bending outside the unit).

Piping between outdoor unit and refrigerant branch kit
- Should correspond to the size of the connection piping of outdoor unit.

Size of the piping connected to outdoor unit (Unit: mm)

Outdoor unit capacity	Piping size (outer diameter)	
	Gas side piping	Liquid side piping
10HP	Φ22.2	Φ9.5
12HP	Φ25.4	Φ12.7

Hardness and wall thickness of piping (Unit: mm)

Copper tube O.D.	Copper tube W. T. (Minimum requirement)	Temper grade
Φ6.4	0.80	O type
Φ9.5	0.80	
Φ12.7	0.80	
Φ15.9	0.99	
Φ19.1	0.80	1/2H type
Φ22.2	0.80	
Φ25.4	0.88	
Φ28.6	0.99	

(Conforming to JIS H 3300 is required)

Piping between refrigerant branch kits
- Select from the following table based on the total capacity index of all the indoor units upstream the refrigerant branch kit.
- Connection piping shall not be larger than the size of the main refrigerant piping. If the connection piping selected from the table below is larger than the main refrigerant piping, determine the size following either procedure given below.
  ①Reduce the connection piping size to the same size of the main refrigerant piping.
  ②Increase the main refrigerant piping size by one grade to the same size of the connection piping.

(Unit: mm)

Total indoor unit capacity index	Piping size (outer diameter)	
	Gas side piping	Liquid side piping
< 150	Φ15.9	Φ9.5
150 ≤ x < 200	Φ19.1	
200 ≤ x < 290	Φ22.2	
290 ≤ x < 420	Φ28.6	Φ12.7
420 ≤ x < 640		Φ15.9

How to select the PPM header
- Choose from below model.

BHF8RHP6 max. 6 unit can connect
BHF10RHP6 max. 6 unit can connect
BHF16RHP6 max. 6 unit can connect

Selection of header based on outdoor and indoor pipe size.
For size selection Refer installation manual of PPM header

Piping between refrigerant branch kit and indoor unit
- Should correspond to the size of the connection piping of indoor unit.

Size of the piping connected to indoor unit (Unit: mm)

Indoor unit capacity	Piping size (outer diameter)	
	Gas side piping	Liquid side piping
50 or before	Φ12.7	Φ6.4
56 or later	Φ15.9	Φ9.5

How to calculate the additional refrigerant to be charged

Additional refrigerant to be charged: R(kg)
(R should be rounded off in units of 0.1 kg.)

$$R = \left(\begin{array}{l}\text{Total length of liquid}\\ \text{side piping size at}\Phi15.9\end{array}\right)\times0.17 + \left(\begin{array}{l}\text{Total length of liquid}\\ \text{side piping size at}\Phi12.7\end{array}\right)\times0.11 + \left(\begin{array}{l}\text{Total length of liquid}\\ \text{side piping size at}\Phi9.5\end{array}\right)\times0.057 + \left(\begin{array}{l}\text{Total length of liquid}\\ \text{side piping size at}\Phi6.4\end{array}\right)\times0.022 +$$

For refrigerant branch piping with REFNET joint

Example: $R = \underset{a+b}{(30\times0.17)} + \underset{c+d}{(20\times0.11)} + \underset{e+f}{(16\times0.057)} + \underset{g}{(5\times0.022)} + 8.3$

a: Φ15.9×15m	d: Φ12.7×10m	g: Φ6.4×5m
b: Φ15.9×15m	e: Φ9.5×8m	
c: Φ12.7×10m	g: Φ9.5×8m	

7-7. Air tight test and vacuum drying

Check the following after piping connection is finished.

● **Air tight test** - Always use nitrogen. (Refer to **Stop valve operation procedure** for service port's position.)

【Procedure】Pressurize the liquid side piping and the gas side piping to 4.0MPa (do not exceed 4.0 MPa). If the pressure does not drop within 24 hours, the system passes the test. If there is a pressure drop, check for leaks. (Discharge the nitrogen after confirming there is no leakage.)

● **Vacuum drying** - Use a vacuum pump able to evacuate the system to -100.7 kPa (5Torr, -755mmHg) or less.

【Procedure】Evacuate the system from the liquid side piping and gas side piping using a vacuum pump for more than 2 hours to -100.7 kPa or less.
Keep the system under this condition for more than 1 hour, check if the vacuum gauge indication rises or not.
(If it rises, the system may either contain moisture inside or have gas leak.)

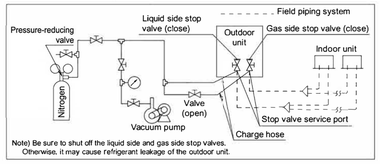
If moisture might enter the piping (e.g. if doing work during the rainy season, if the actual work takes long enough that condensation may form on the inside of the pipes, if rain might enter the pipes during work, etc.)

After performing the vacuum drying for 2 hours, pressurize to 0.05 MPa (vacuum breakdown) with nitrogen gas, then depressurize down to -100.7 kPa or less and hold for an hour using the vacuum pump (vacuum drying).
(If the pressure does not reach -100.7 kPa even after depressurizing for at least 2 hours, repeat the vacuum breakdown-vacuum drying process.) After vacuum drying, maintain the vacuum for an hour and make sure the pressure does not rise by monitoring with a vacuum gauge.

Preparation

<Tools required>

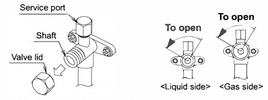
Multi-tube pressure gauge charge hose valve	● To prevent entry of any impurities and insure sufficient pressure resistance, always use the special tools dedicated for R410A. ● To connect to the service port of the stop valves or the refrigerant charge port, use the charge hose with a pushing stick.
Vacuum pump	● Use a vacuum pump able to evacuate the system to -100.7 kPa (5Torr, -755mmHg) or less for vacuum drying. ● Take care the pump oil never flows backward into the refrigerant pipe during the pump stops.



Note) Be sure to shut off the liquid side and gas side stop valves.
Otherwise, it may cause refrigerant leakage of the outdoor unit.

Stop valve operation procedure

Precautions to stop valve operation
- Name of each part should be known before operating the stop valve (as shown in the right figure). When shipped, the stop valve is left closed.
- Use proper tools.
  Since the stop valve of this unit is not flaring sealed type, remove it forcibly may result in damage to the valve body.
- When using the service port, adopt charge hose.
- After tightening the cap, check if the refrigerant leaks.



[Shutoff valve operation procedure]

Prepare two inner hexagon wrenches (4mm and 8mm).

To open
1.Put the inner hexagon wrench to the valve shaft and turn it counterclockwise.
2.Turn it until the shaft stops. The valve is opened.

To close
1.Put the inner hexagon wrench to the valve shaft and turn it clockwise.
2.Turn it until the shaft stops. The valve is closed.

About valve lid
- Be sure to tighten the valve lid after valve operation is completed.

About service port
- Operate with the charge hose with a pushing stick.
- Be sure to tighten the valve lid after operating.

Tightening torque
- Look through the table below for the stop valve tightening torque.

<Specifications>

Liquid side stop valve	Φ12.7
Gas side stop valve	Φ25.4

<Tightening torque>

Size of the stop valves	Tightening torque N · m (turn clockwise to close)			
	Shaft (stop valve body)		Cap (valve lid)	Service port
Φ12.7	8.1～9.9	Inner hexagon wrench 4mm	18.0～22.0	11.5～13.9
Φ25.4	27.0～33.0	Inner hexagon wrench 8mm	22.5～27.5	

8 Charging refrigerant

⚠ **Warning** ⚠ ● **Be sure to inform other installers or attach the front panel well before you leaving with the power supply turned on for the outdoor unit. (Raise the front panel as high as possible during installation to clamp it with the top panel.)**

8-1. Before charging refrigerant

- Check the following works are completed in accordance with the installation manual.
  · Piping work · Electrical work · Air tight test and vacuum drying

8-2. About refrigerant tank

- Check whether the tank has a siphon pipe before charging and place the tank properly so that the refrigerant is charged in the liquid phase (see the right figure).

Charge refrigerant using tank with siphon pipe
Stand the tank upright and charge.
(Due to the siphon pipe within the tank, there's no need to turn over the tank to charge).

Charge refrigerant using other tanks
Stand the tank upside-down and charge.

8-3. Charging refrigerant

— ⚠ Warning ⚠ Electric shock warning —

· Never touch other parts excluding the push buttons of the PC board (A1P) during setting.
· There is a risk of electric shock if you touch wrong, since this operation must be performed with the power on.

— ⚠ Caution —

· Use protective equipment (gloves and goggles) when charging the refrigerant.
· To prevent the liquid hammer, the refrigerant must not be charged over the allowable maximum amount.
· Do not perform the refrigerant charging operation when indoor unit is under construction.
· Beware the fan running when opening the front panel.
  The fan may continue rotating after the outdoor unit stops.

Note

· To power up the crankcase heater, be sure to turn on the power supply 6 hours before starting operation.
· In order to ensure uniform refrigerant distribution, it may take around 10 minutes for the compressor to start up after the unit starting operating. This is not malfunction.

<About refrigerant charging>

· The refrigerant charge port is connected to the unit piping.
  When shipped, the unit's piping is charged with refrigerant, take care when attaching the charge hose.
· After refrigerant charging is completed, secure the refrigerant charge port cap tightly, to a tightening torque of 11.5-13.9 N · m.
· See Stop valve operation procedure under "7 Refrigerant piping connection" for **details on operating the stop valve** .
· When the refrigerant charging operation is completed or paused, close the valve of the refrigerant tank immediately. If the tank valve is left open, the amount of refrigerant which is properly charged may be off the point. Because even if the air conditioner stops, the refrigerant will be charged into the unit under the residual pressure.
· Charge the refrigerant after checking works of piping, wiring, air tight test, vacuum drying and indoor unit installation are completed.

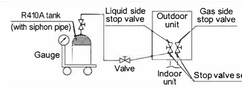
[Refrigerant charging procedure]

1.Calculate the "additional charge" according to "How to calculate the additional refrigerant to be charged" in "7 Refrigerant piping connection".
2.Open the valve (Refer to the below figure. The liquid side and gas side stop valves must be closed) and charge the refrigerant of the "additional charge" from the liquid side stop valve service port.

Note

· If the "additional charge" is overcharged, recover the excessive refrigerant to bring it to the required amount, then close the valve and perform test run.
· If the "additional charge" is charged fully, close the valve and perform test run.
· If the "additional charge" is not charged fully, refill to the required amount. Please charge refrigerant automatically during this procedure.

State of the stop valves and valve



- For operation instructions of the stop valves, refer to **Stop valve operation procedure** in " 7 Refrigerant piping connection ".

【ON/OFF state of the valve and stop valves】	Valve	Liquid side stop valve	Gas side stop valve
Before starting charging	OFF	OFF	OFF
During charging operation	ON	OFF	OFF

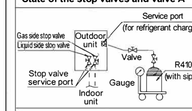
<Manual refrigerant charging>

· After starting field setting [2-20]=1, the unit will start manual refrigerant charging.
· Open the valve to charge the remaining refrigerant.
· Close the valve and press BS3 to stop manual charging.
· Fill in the amount on the additional refrigerant charging label.
· Perform test run.
  ① "Ƭ2δ" will blink and press BS2 to restart the operation.
  ② Malfunction code "P2" will be displayed. Press BS1 to end and restart the operation.

Note

· The refrigerant will be charged about 22kg in one hour at outdoor temperature of 30℃ DB (About 6kg at 0℃ DB)
· If system maintenance has been performed and there's no refrigerant in the outdoor unit, field piping and indoor unit (such as, after refrigerant recovery), original amount should be charged into with pre-charge operation before automatic refrigerant charging started.
· If malfunction code displayed during automatic refrigerant charging, the unit will stop operation with "Ƭ2δ" blinking. Press BS2 to restart the operation.
· If charging amount is less, "P2" may not be displayed, however, "P9" will be indicated immediately. If required additional refrigerant amount (calculated number) has been charged before indication of "P2" or "P9", close valve A and wait for indication of "P9".
· Malfunction code will be displayed if error (such as, if stop valve closed) detected during operation. In this case, refer to the malfunction code table and take relevant remedial actions. Press BS3 to reset malfunction code or stop refrigerant charging. The unit will stop running and return to the standby mode.

State of the stop valves and valve A



- For operation instructions of the stop valves, refer to **Stop valve operation procedure** in " 7 Refrigerant piping connection ".
- The service port (for refrigerant charging) is within the outdoor unit. Since the unit is filled with refrigerant when shipped out of the factory, take care while installing the charge hose.
- Be sure to close the service port cover (for refrigerant charging) after completing refrigerant charging. Tightening torque of the service port cover is 11.5 ~ 13.9 N m.

【ON/OFF state of the valve and stop valves】	Valve A	Liquid side stop valve	Gas side stop valve
Before starting charging	OFF	ON	ON
During charging operation	ON	ON	ON

· The malfunction codes may be displayed during additional refrigerant charging:

Malfunction code	Solution
P8: Freeze-up prevention indoor unit	Close valve A immediately. Push BS1 to reset. Retry autocharge procedure.
P2: Unusual low pressure on suction line	Close valve A immediately. Push BS1 to reset. Check following items before retrying autocharge procedure: (1)Check if the gas side stop valve is opened correctly. (2)Check if the valve of the refrigerant cylinder is opened. (3)Check if the air inlet and outlet of the indoor unit are not obstructed.
E-2: indoor temperature out of range	
E-3: outdoor temperature out of range	
E-5: Indicates an indoor unit which is not compatible with leak detection functionality is installed	
Others malfunction code	Close the valve immediately. Refer to "malfunction code table" to take relevant remedial actions.

· Make sure to open all valves after refrigerant charging. Operation with the stop valve closed will cause compressor damaged.

9 After installation completed

Be sure to check the following after installation

① Connection of the drainage piping → Refer to **4 Precautions during installation** .
② Incorrect power wiring and loose screws → Refer to 5-3. Precautions to power wiring connection .
③ Incorrect connection wiring and loose screws → Refer to 5-4. Precautions to wiring connection between units .
④ Incorrect refrigerant piping → Refer to **7 Refrigerant piping connection** .
⑤ Piping size and insulation → Refer to 7-2. Selecting piping material , 7-6. Piping insulation .
⑥ Stop valves → Check if the liquid side and gas side stop valves are opened .
⑦ Record refrigerant charge → Keep a record in the "Refrigerant charge" in the "Service Precautions" label .
⑧ Insulation test on main power circuit → ● Use 500V insulation tester.
● Do not use it in low voltage circuit less than 220V.
(Connection wiring between outdoor and indoor units)

⚠ **Caution** **To those doing piping work** ● **Be sure to open the stop valves after completing wiring connection. (Operation with the stop valve closed will result in compressor malfunction.)**

10 About test run

To start smoothly, a crankcase heater is equipped to the unit. To power up the crankcase heater in advance, be sure to turn on the power supply 6 hours before operation.

⚠ **Warning** ⚠ **Be sure to inform other installers or attach the front panel well before leaving with the power supply turned on for the outdoor unit. (Raise the front panel as high as possible during installation to clamp it with the top panel.)**

Before powering on

- **All indoor units connected with the outdoor unit will operate automatically after powering on.**
  To ensure safety, ensure the indoor unit installation has been completed.

10-1. Powering on ~ test run

- Make sure to perform a test run first after installation. (If the unit is operated with the indoor unit's remote controller but without performing test run, the malfunction code "U3" will be indicated on the display of the remote controller and the unit will not operate normally.)
- After turning on the power supply, do not touch any parts excluding button switches and changeover switches when setting the outdoor unit's PC board (A1P).

(For positions of the button switches (BS1~3) and changeover switches (DS1-1~4) on PC board, refer to "Service Precautions" label.)

- Check the state of the outdoor units and fault wiring with this operation.

① ● Attach the front panel of the outdoor unit.
● Turn on the power supply of the outdoor and indoor units.

⚠ **Caution** To power up the crankcase heater in advance, be sure to turn on the power supply 6 hours before operation.

② ● Remove the front panel of the outdoor unit.
● Check LED display of the outdoor unit's PC board (A1P), to observe whether data transmission is normal.
When turning on the power supply: blinking. Check if the power is up (1-2 minutes) first.



No malfunction: on (8-10 minutes).



Ready: blank display.



About LED display:
Off Blinking On

Check the LED display of outdoor unit for malfunction code if above conditions can not be confirmed after 12 minutes, then correct relevant error in accordance with the malfunction code. Communication wiring should be checked first.

Don't touch the switches other than button switches and changeover switches of the PC board (A1P) during setting. Failure to do so may result in electric shock.

③ ● If customer wishes to perform LOW NOISE operation or DEMAND operation, performing setting with the push buttons (BS1 ~ 3) on outdoor unit's PC board (A1P). (Refer to "Service Precautions" label for details.)

⚠ Power supply has been turned on for outdoor unit, be careful to avoid electric shock.
● Set the push buttons (BS1 ~3) after making sure the microcomputer normal monitoring lamp has been ON.
● For setting method, see the "Service Precautions" label attached to the front panel of the outdoor unit.
(Be sure to keep a record of the setting items in the "Service Precautions" label.)

④ ● Check whether the gas side and liquid side stop valves have been opened. Open them if they are closed.

Caution Operation with the stop valve closed may result in compressor malfunction.

⑤ **Perform test run based on the "Service Precautions" label attached to the front panel. The air conditioning system will automatically stop after about 40-minute operation. If there is no malfunction code on the display of the remote controller, test run is completed. The unit can perform normal operation 5 minutes later.**

⑥ Be sure to attach the front panel of the outdoor unit after test run is completed.

<About test run>

- In order to ensure uniform refrigerant distribution, it may take up to around 10 minutes for the compressor to start up after the unit starting operation. This is not malfunction.
- Be sure to perform malfunction check for all indoor units. After completing operation check, operate the system normally with the remote controller.
- Test run can't be performed when the unit is in other modes such as refrigerant recycling mode.
- Never perform test run with suction pipe thermistor (R3T), discharge pipe thermistor (R21T) and pressure sensor (S1NPH, S1NPL) removed. Failure to do so will result in compressor damaged.

10-2. For normal operation

<Set the master unit (the indoor unit with cooling and heating option rights).>

For wired remote controller
- After test run is completed, symbol " ⊟ 人 " flashes on all remote controllers connected here.
- Set the master unit as customer's request.
  (It is recommended to set the indoor unit with highest frequency of use as the master unit.)
- Press the operation mode changeover button on the remote controller of the master unit.
- Conduct cool/heat changeover with this remote controller and the symbol " ⊟ 人 " vanishes.
- For other remoter controllers excluding the above, symbol " ⊟ 人 " lights up.

For wireless remote controller
- After test run is completed, timer lamps flash on all indoor units connected here.
- Set the master unit as customer's request.
  (It is recommended to set the indoor unit with highest frequency of use as the master unit.)
- Press the operation mode changeover button on the remote controller of the master unit. Then a sound of beeps can be heard and the timer lamps on all indoor units go out.
- The indoor unit has the option rights to change over to cooling/heating operation.

For details, refer to the installation manual included with the indoor unit.

- After test run is completed, operate the unit normally.
  (Heating may not possible if the outdoor temperature is 20℃ or higher. Refer to the operation manual.)
  ① Check the indoor and outdoor units are in normal operation.
  (If a knocking sound can be heard produced by liquid compression of the compressor, stop the unit immediately. Operate again after powering up the crankcase heater completely.)
  ② Operate each indoor unit one by one and check the corresponding outdoor unit is also in operation.
  ③ Check to see if cold (or hot) air is coming out from the indoor unit.
  ④ Press the fan direction and strength buttons of the indoor unit to see if they operate properly.

<About normal operation check>

- The compressor will not restart in about 5 minutes even if the ON/OFF button of the remote controller is pressed.
- When the system operation is stopped by the remote controller, the outdoor unit may continue operating for further 1 minute at maximum.
- If any check operation was not performed through test run at first installation, the malfunction code "U3" will be displayed. In this case, perform check operation in accordance with **10-1. Powering on ~ test run**.

11 Malfunction codes and remedial actions

Malfunction code		Contents	Solution
Main	Sub		
E3	01	High pressure switch was actived (S1PH)-A1P (X4A)	Check the stop valves or (field) piping for abnormity or the airflow above the cooling coil.
	02	· Refrigerant is overcharged. · Stop valves are closed.	· Check refrigerant amount + Charge it for the unit again · Open stop valves
	13	Liquid stop valve is closed	Open liquid stop valve
	18	· Refrigerant is overcharged. · Stop valves are closed.	· Check refrigerant amount + Charge it for the unit again · Open stop valves
E4	01	Low pressure malfunctions: · Stop valve closed. · Refrigerant shortage. · Indoor unit malfunction	· Open stop valves · Check refrigerant amount + Charge it for the unit again · Check display of the user screen or · transmission wiring between outdoor and indoor units
E8	01	Electronic expansion valve malfunction (subcool) (Y2E)-A1P (X21A)	Check connection on PCB board or actuator
	04	Electronic expansion valve malfunction (main) (Y1E)-A1P (X23A)	Check connection on PCB board or actuator
F3	01	Discharge temperature too high (R21T): · Stop valve closed. · Refrigerant shortage.	· Open stop valves · Check refrigerant amount + Charge it for the unit again
	20	Discharge temperature too high (R21T): · Stop valve closed. · Refrigerant shortage.	· Open stop valves · Check refrigerant amount + Charge it for the unit again
F6	02	· Refrigerant overcharge. · Stop valve closed.	· Open stop valves · Check refrigerant amount + Charge it for the unit again
H8	01	Ambient temperature sensor malfunction (R1T) – A1P (X18A)	Check connection on PCB or actuator
J3	16	Discharge temperature sensor malfunction (R21T): open circuit – A1P (X29A)	Check connection on PCB or actuator
	17	Discharge temperature sensor malfunction (R21T): short circuit – A1P (X29A)	Check connection on PCB or actuator
	47	Compressor casing temperature sensor malfunction (R8T): open circuit - A1P (X29A)	Check connection on PCB or actuator
	48	Compressor casing temperature sensor malfunction (R8T): short circuit - A1P (X29A)	Check connection on PCB or actuator
J5	01	Suction temperature sensor malfunction (R3T) - A1P (X30A)	Check connection on PCB or actuator
J6	01	Deicing temperature sensor malfunction (R7T) - A1P (X30A)	Check connection on PCB or actuator
J7	06	Liquid temperature sensor malfunction (after subcool H/E) (R5T) - A1P (X30A)	Check connection on PCB or actuator
J8	01	Liquid temperature sensor malfunction (coil) (R4T) - A1P (X30A)	Check connection on PCB or actuator
J9	01	Gas temperature sensor malfunction (after subcool H/E)(R6T)-A1P (X30A)	Check connection on PCB or actuator
JA	06	High pressure sensor malfunction (S1NPH): open circuit - A1P (X32A)	Check connection on PCB or actuator
	07	High pressure sensor malfunction (S1NPH): short circuit - A1P (X32A)	Check connection on PCB or actuator
JC	06	Low pressure sensor malfunction (S1NPL): open circuit - A1P (X31A)	Check connection on PCB or actuator
	07	Low pressure sensor malfunction (S1NPL): short circuit - A1P (X31A)	Check connection on PCB or actuator

Malfunction code		Contents	Solution
Main	Sub		
LC	14	Transmission outdoor unit-inverter:INV1 transmission trouble – A1P (X20A, X28A, X40A)	Check connection
	19	Transmission outdoor unit-inverter:FAN1 transmission trouble – A1P (X20A, X28A, X40A)	Check connection
	24	Transmission outdoor unit-inverter:FAN2 transmission trouble – A1P (X20A, X28A, X40A)	Check connection
P1	01/02/03	INV1 unbalanced power supply voltage	Check if power supply is within range
U1	01	Reversed power supply phase malfunction	Correct phase order
	04	Reversed power supply phase malfunction	Correct phase order
U2	01	INV1 voltage power shortage	Check if power supply is within range
	02	INV1 power phase loss	Check if power supply is within range
U3	03	Malfunction code: System test run not yet executed (system operation not possible)	Execute system test run
U4	04	System test run abnormal ending	Execute test run again
	01	Faulty wiring to Q1/Q2 or indoor - outdoor	Check (Q1/Q2) wiring
	03	Faulty wiring to Q1/Q2 or indoor - outdoor	Check (Q1/Q2) wiring
U7	01	Warning: faulty wiring to Q1/Q2	Check Q1/Q2 wiring
	02	Malfunction code: faulty wiring to Q1/Q2	Check Q1/Q2 wiring
	11	· Too many indoor units are connected to F1/F2 line · Bad wiring between outdoor and indoor units	Check indoor unit amount and total capacity connected
U8	01	System mismatch. Wrong type of indoor units combined (R410A, R407C, RA, Hydrobox, etc.). Indoor unit malfunction.	Check if other indoor units have malfunction and confirm indoor unit mix is allowed.
U9	03	Connection malfunction over indoor units or type mismatch (R410A, R407C, RA, Hydrobox, etc.)	Check if other indoor units have malfunction and confirm indoor unit mix is allowed.
	18	Connection malfunction over indoor units or type mismatch (R410A, R407C, RA, Hydrobox, etc.)	Check if other indoor units have malfunction and confirm indoor unit mix is allowed.
UA	31	Wrong unit combination (multi system)	Check if unit types are compatible
	49	Wrong unit combination (multi system)	Check if unit types are compatible
UC	01	Auto address malfunction (inconsistency)	Check if transmission wired unit amount matches with powered unit amount (by monitor mode) or wait till initialisation is finished.
UE	01	Auto address malfunction (inconsistency)	Check if transmission wired unit amount matches with powered unit amount (by monitor mode) or wait till initialisation is finished.
	05	Stop valve closed or wrong (during system test run)	Open stop valves