8. APPLICATION DATA

Models SRK17ZMP-S, 20ZMP-S

RLC012A001C

• While install the unit, be sure to check the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage etc.) and installation spaces.

WALL TYPE AIR-CONDITIONER
R410A REFRIGERANT USED

SAFETY PRECAUTIONS

- Before installation, read the "SAFETY PRECAUTIONS" carefully and strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, ⚠ **WARNING** and ⚠ **CAUTION**.
  ⚠ **WARNING** : Wrong installation would cause serious consequences such as injuries or death.
  ⚠ **CAUTION** : Wrong installation might cause serious consequences depending on circumstances.
  Both mention the important items to protect your health and safety so strictly follow them by any means.
- Be sure to confirm no anomaly on the equipment by commissioning after completing installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user.
- Before starting the installation work, proper precautions (using suitable protective clothing, groves etc.) should be taken by qualified installer.
- Pay attention not to fall down the tools, etc. when installing the unit at the high position.
- If unusual noise can be heard during operation, consult the dealer.
- The meanings of "Marks" used here are shown as follows:

⊘	Never do it under any circumstances.	❗ ⏚	Always do it according to the instruction.

⚠ WARNING

❗

- **Installation must be carried out by the qualified installer.**
  If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction. Do not carry out the installation and maintenance work except the by qualified installer.
- **Install the system in full accordance with the installation manual.**
  Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- **Be sure to use only for household and residence.**
  If this appliance is installed in inferior environment such as machine shop etc., it can cause malfunction.
- **Use the original accessories and the specified components for installation.**
  If parts other than those prescribed by us are used, It may cause water leaks, electric shocks, fire and personal injury.
- **Install the unit in a location with good support.**
  Unsuitable installation locations can cause the unit to fall resulting in material damage and personal injury.
- **Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds.**
  Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
- **Ventilate the working area well in the event of refrigerant leakage during installation.**
  If the density of refrigerant exceeds the limit, consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident.
- **When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with ISO5149).**
  If the density of refrigerant exceeds the limit, consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident.
- **After completing installation, check that no refrigerant leaks from the system.**
  If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.
- **Use the prescribed pipes, flare nuts and tools for R410A.**
  Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.
- **Tighten the flare nuts by torque wrench with specified method.**
  If the flare nut were tightened with excess torque, this may cause burst and refrigerant leakage after a long period.
- **Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation.**
  If the compressor is operated in state of opening service valves before completing connection of refrigerant piping work, air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.
- **The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit.**
  Power source with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire.
- **Be sure to shut off the power before starting electrical work.**
  Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.
- **Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work.**
  Unconformable cables can cause electric leak, anomalous heat production or fire.
- **This appliance must be connected to main power source by means of a circuit breaker or switch (fuse:16A) with a contact separation of at least 3mm.**
- **When plugging this appliance, a plug conforming to the norm IEC60884-1 must be used.**
- **Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks.**
  Loose connections or cable mountings can cause anomalous heat production or fire.
- **Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly.**
  Incorrect installation may result in overheating and fire.
- **Be sure to fix up the service panels.**
  Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.
- **Be sure to switch off the power source in the event of installation, inspection or servicing.**
  If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.
- **Stop the compressor before removing the pipe after shutting the service valve on pump down work.**
  If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.
- **Only use prescribed option parts. The installation must be carried out by the qualified installer.**
  If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- **Be sure to wear protective goggles and gloves while at work.**
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause electric shocks.

⊘

- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulphide gas can occur.**
  Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.
- **Ensure that no air enters in the refrigerant circuit when the unit is installed and removed.**
  If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.
- **Do not process or splice the power cord, or share the socket with other power plugs.**
  This may cause fire or electric shock due to defecting contact, defecting insulation and over-current etc.
- **Do not bundle or wind or process the power cord. Do not deform the power cord by treading it.**
  This may cause fire or heating.
- **Do not vent R410A into the atmosphere : R410A is a fluorinated greenhouse gas, covered by the Kyoto Protocol with Global Warming Potential (GWP)=1975.**
- **Do not run the unit with removed panels or protections.**
  Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
- **Do not perform any change of protective device itself or its setup condition.**
  The forced operation by short-circuiting protective device of pressure switch and temperature control or the use of non specified component can cause fire or burst.

⚠ CAUTION

- **Carry out the electrical work for ground lead with care.**
  Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting.

- **Use the circuit breaker for all pole correct capacity. Circuit breaker should be able to disconnect all poles under over current.**
  Using the incorrect one could cause the system failure and fire.
- **Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations.**
  The isolator should be locked in OFF state in accordance with EN60204-1.
- **Be sure to install indoor unit properly according to instruction manual so that drainage can run off smoothly.**
  Improper installation of indoor unit can cause dropping water into the room and damaging personal property.
- **Install the drainage pipe to run off drainage securely according to the installation manual.**
  Incorrect installation of the drainage pipe can cause dropping water into the room and damaging personal property.
- **Be sure to install the drainage pipe with descending slope of 1/100 or more, and not to make traps and air-bleedings.**
  Check if the drainage runs off securely during commissioning and ensure the space for inspection and maintenance.
- **After maintenance, all wiring, wiring ties and the like, should be returned to their original state and wiring route, and the necessary clearance from all metal parts should be secured.**
- **Secure a space for installation, inspection and maintenance specified in the manual.**
  Insufficient space can result in accident such as personal injury due to falling from the installation place.
- **Take care when carrying the unit by hand.**
  If the unit weights more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.
- **Dispose of any packing materials correctly.**
  Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.
- **For installation work, be careful not to get injured with the heat exchanger, piping flare portion or screws etc.**
- **Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them.**
  Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.
- **When perform the air-conditioner operation (cooling or dehumidifying operation) in which ventilator is installed in the room. In this case, using the air-conditioner in parallel with the ventilator, there is the possibility that drain water may backflow in accordance with the room lapse into the negative pressure status. Therefore, set up the opening port such as incorporate the air into the room that may appropriate to ventilation (For example; Open the door a little). In addition, just as above, so set up the opening port if the room lapse into negative pressure status due to register of the wind for the high rise apartment etc.**
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.**
  If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents.

- **Do not install the unit in the locations listed below.**
  - Locations where carbon fiber, metal powder or any powder is floating.
  - Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur.
  - Vehicles and ships.
  - Locations where cosmetic or special sprays are often used.
  - Locations with direct exposure of oil mist and steam such as kitchen and machine plant.
  - Locations where any machines which generate high frequency harmonics are used.
  - Locations with salty atmospheres such as coastlines.
  - Locations with heavy snow (If installed, be sure to provide base flame and snow hood mentioned in the manual).
  - Locations where the unit is exposed to chimney smoke.
  - Locations at high altitude (more than 1000m high).
  - Locations with ammonic atmospheres (e.g. organic fertilizer).
  - Locations with calcium chloride (e.g. snow melting agent).
  - Locations where heat radiation from other heat source can affect the unit.
  - Locations without good air circulation.
  - Locations with any obstacles which can prevent inlet and outlet air of the unit.
  - Locations where short circuit of air can occur (in case of multiple units installation).
  - Locations where strong air blows against the air outlet of outdoor unit.
  - Locations where something located above the unit could fall.

  It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation).**
  - Locations with any obstacles which can prevent inlet and outlet air of the unit.
  - Locations where vibration can be amplified due to insufficient strength of structure.
  - Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam (in case of the infrared specification unit).
  - Locations where an equipment affected by high harmonics is placed (TV set or radio receiver is placed within 1m).
  - Locations where drainage cannot run off safely.

  It can affect performance or function and etc.
- **Do not install the outdoor unit in the locations listed below.**
  - Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood.
  - Locations where outlet air of the outdoor unit blows directly to plants. The outlet air can affect adversely to the plant etc.
  - Locations where vibration can be amplified and transmitted due to insufficient strength of structure.
  - Locations where vibration and operation sound generated by the outdoor unit can affect seriously (on the wall or at the place near bed room).
  - Locations where an equipment affected by high harmonics is placed (TV set or radio receiver is placed within 1m).
  - Locations where drainage cannot run off safely.

  It can affect surrounding environment and cause a claim.
- **Do not install the unit near the location where leakage of combustible gases can occur.**
  If leaked gases accumulate around the unit, it can cause fire.
- **Do not install the unit where corrosive gas (such as sulfurous acid gas etc.) or combustible gas (such as thinner and petroleum gases) can accumulate or collect, or where volatile combustible substances are handled.**
  Corrosive gas can cause corrosion of heat exchanger, breakage of plastic parts and etc. And combustible gas can cause fire.
- **Do not use the indoor unit at the place where water splashes may occur such as in laundries.**
  Since the indoor unit is not waterproof, it can cause electric shocks and fire.
- **Do not install nor use the system close to the equipment that generates electromagnetic fields or high frequency harmonics.**
  Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.
- **Do not place any variables which will be damaged by getting wet under the indoor unit.**
  When the relative humidity is higher than 80% or drainage pipe is clogged, condensation or drainage water can drop and it can cause the damage of valuables.
- **Do not install the remote control at the direct sunlight.**
  It can cause malfunction or deformation of the remote control.
- **Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art.**
  It can cause the damage of the items.
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
  Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.
- **Do not use the base flame for outdoor unit which is corroded or damaged due to long periods of operation.**
  Using an old and damage base flame can cause the unit falling down and cause personal injury.
- **Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used.**
  Connecting the circuit with copper wire or other metal thread can cause unit failure and fire.
- **Do not touch any buttons with wet hands.**
  It can cause electric shocks.
- **Do not touch any refrigerant pipes with your hands when the system is in operation.**
  During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury.
- **Do not touch the suction or aluminum fin on the outdoor unit.**
  This may cause injury.
- **Do not put anything on the outdoor unit and operating unit.**
  This may cause damage the objects or injury due to falling to the object.
- **Do not wash the inside of the air-conditioner.**
  Water leakage and permanent damage may result. Electrical hazard exists.

Check before installation work

• Model name and power source • Refrigerant piping length • Piping, wiring and miscellaneous small parts

Standard accessories (installation kit) Accessories for indoor unit		Q'ty
①	Installation board (Attached to the rear of the indoor unit)	1
②	Wireless remote control	1
③	Remote control holder	1
④	Tapping screws (for installation board ø4 X 25mm)	5
⑤	Wood screws (for remote control holder ø3.5 X 16mm)	2
⑥	Battery [R03 (AAA, Micro) 1.5V]	2

Accessories for outdoor unit		Q'ty
⑦	Grommet	1
⑧	Drain elbow (Heat pump type only)	1

Locally procured parts		Q'ty
ⓐ	Sealing plate	1
ⓑ	Sleeve	1
ⓒ	Inclination plate	1
ⓓ	Putty	1
ⓔ	Drain hose (extension hose)	1
ⓕ	Piping cover (for insulation of connection piping)	1

Necessary tools for the installation work			
1	Plus headed driver	10	Vacuum pump
2	Knife	11	Vacuum pump adapter (Anti-reverse flow type) (Designed specifically for R410A)
3	Saw	12	Gauge manifold (Designed specifically for R410A)
4	Tape measure		
5	Hammer	13	Charge hose (Designed specifically for R410A)
6	Spanner wrench	14	Flaring tool set (Designed specifically for R410A)
7	Torque wrench [14.0~62.0N·m (1.4~6.2kgf·m)]	15	Gas leak detector (Designed specifically for R410A)
8	Hole core drill (65mm in diameter)	16	Gauge for projection adjustment (Used when flare is made by using conventional flare tool)
9	Wrench key (Hexagon) [4m/m]	17	Pipe bender

SELECTION OF INSTALLATION LOCATION

(Install at location that meets the following conditions, after getting approval from the customer)

Indoor unit

○Where there is no obstructions to the air flow and where the cooled and heated air can be evenly distributed.
○A solid place where the unit or the wall will not vibrate.
○A place where there will be enough space for servicing. (Where space mentioned right can be secured)
○Where wiring and the piping work will be easy to conduct.
○The place where receiving part is not exposed to the direct rays of the sun or the strong rays of the street lighting.
○A place where it can be easily drained.
○A place separated at least 1m away from the TV or the radio. (To prevent interference to images and sounds.)
○Places where this unit is not affected by the high frequency equipment or electric equipment.
○Avoid installing this unit in place where there is much oil mist.
○Places where there is no electric equipment or household under the installing unit.
○Install the indoor unit on the wall where the height from the floor to the bottom of the unit is more than 1.8m.

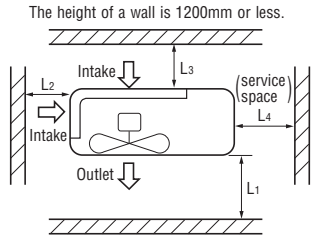
Wireless remote control

○A place where the air-conditioner can be received the signal surely during operating the wireless remote control.
○Places where there is no affected by the TV and radio etc.
○Do not place where exposed to direct sunlight or near heat devices such as a stove.

Outdoor unit

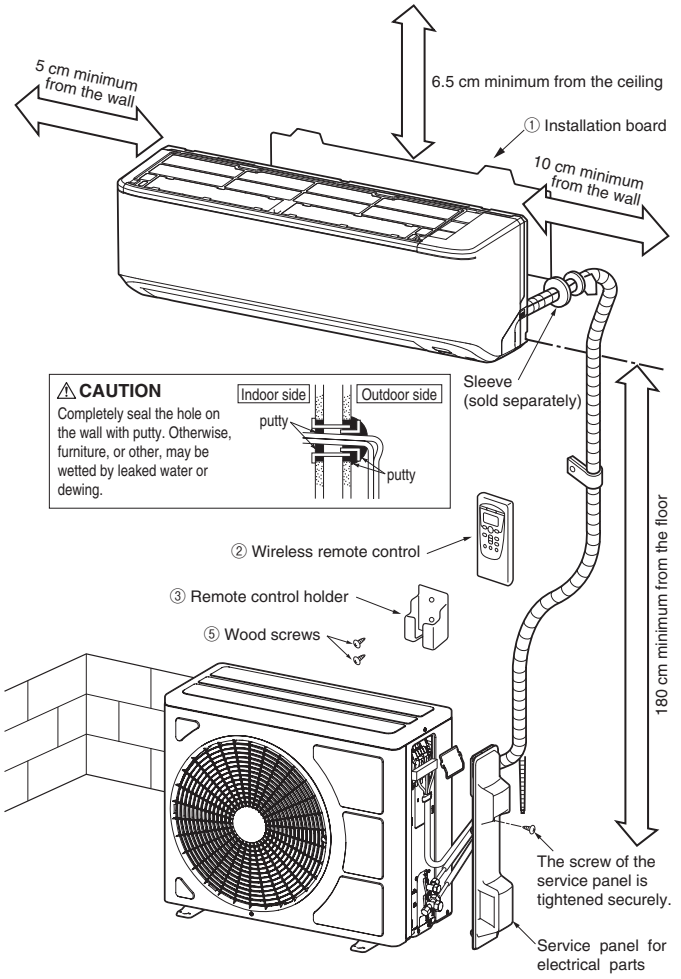
○Where air is not trapped.
○Where the installation fittings can be firmly installed.
○Where wind does not hinder the intake and outlet pipes.
○Out of the heat range of other heat sources.
○A place where stringent regulation of electric noises is not applicable.
○Where it is safe for the drain water to be discharged.
○Where noise and hot air will not bother neighboring residents.
○Where snow will not accumulate.
○Where strong winds will not blow against the outlet pipe.
○When the unit is installed, the space of the following dimension and above shall be secured.
(In case the barrier is 1.2m or above in height, or is overhead, the sufficient space between the unit and wall shall be secured.)

Do not install the unit in places which exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent), exposed to ammonia substance (e.g. organic fertilizer).



(mm)

Size \ Example installation	I	II	III	IV
L1	Open	280	280	180
L2	100	100	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open



Limitation of the piping length

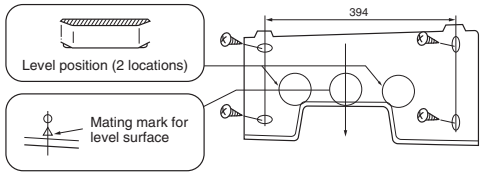
Model	SRK17-25, DXK05-09	SRK35, DXK12	SRK45, DXK15
Total one way length	MAX. 15m	MAX. 15m	MAX. 25m
Vertical height difference	MAX. 10m	MAX. 10m	MAX. 15m
Additional refrigerant	Less than 10m : Not required More than 10m: 20g/m	Not required	Less than 15m : Not required More than 15m: 20g/m

INSTALLATION OF INDOOR UNIT

Installation of installation board

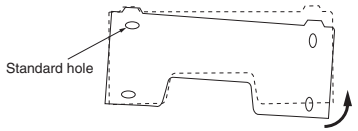
Fixing of installation board

Look for the inside wall structures (Intermediate support or pillar and firmly install the unit after level surface has been checked.)

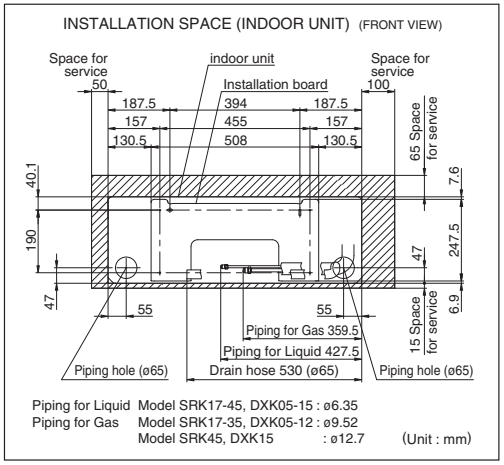


○Adjustment of the installation board in the horizontal direction is to be conducted with four screws in a temporary tightened state.

○Adjust so the board will be level by turning the board with the standard hole as the center.



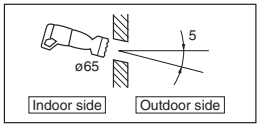
Relation between setting plate and indoor unit



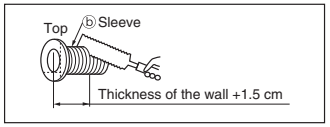
Piping for Liquid Model SRK17-45, DXK05-15 : ø6.35
Piping for Gas Model SRK17-35, DXK05-12 : ø9.52
Model SRK45, DXK15 : ø12.7 (Unit : mm)

Drilling of hole and fixture of sleeve (Locally procured parts)

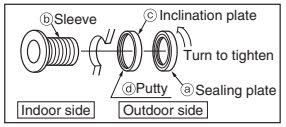
When drilling the wall that contains a metal lath, wire lath or metal plate, be sure to use pipe hole sleeve sold separately.

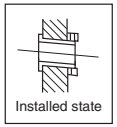


○ Drill a hole with whole core drill.



○ In case of rear piping draw out, cut off the lower and the right side portions of the sleeve collar.





Preparation of indoor unit

In case of faulty wiring connection, indoor unit dose not operate. Then, run lamp turns on and timer lamp blinks.

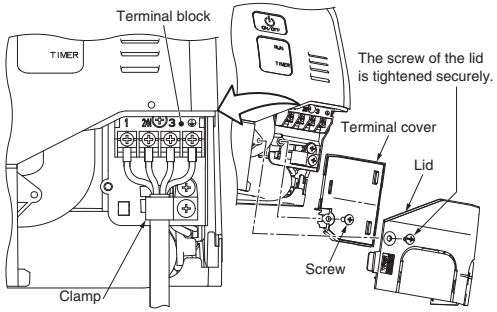
Mounting of connecting wires

① Remove the lid.
② Remove the terminal cover.
③ Remove the wiring clamp.
④ Connect the connecting wire securely to the terminal block.
1) Connect the connection wire securely to the terminal block. If the wire is not affixed completely, contact will be poor, and it is dangerous as the terminal block may heat up and catch fire.
2) Take care not to confuse the terminal numbers for indoor and outdoor connections.
⑤ Fix the connecting wire by wiring clamp.
⑥ Attach the terminal cover.

Use cables for interconnection wiring to avoid loosening of the wires. CENELEC code for cables Required field cables.

H05RNR4G1.5 (Example) or 245ICE57

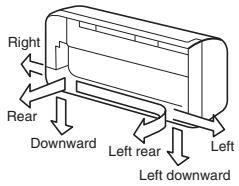
H	Harmonized cable type
05	300/500 volts
R	Natural-and/or synch. rubber wire insulation
N	Polychloroprene rubber conductors insulation
R	Stranded core
4 or 5	Number of conductors
G	One conductor of the cable is the earth conductor (yellow/green)
1.5	Section of copper wire (mm^2)



○Perform wiring, take care of connecting the terminal number of outdoor unit terminal block.

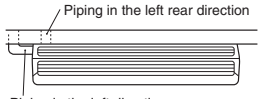
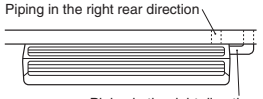
Installing the support of piping

Piping is possible in the rear, left, left rear, left downward, right or downward direction.

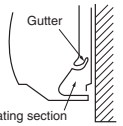


● Matters of special notice when piping from left or central/rear of the unit.

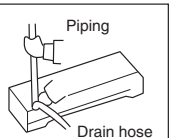
[Top view]

Left-hand-sided piping	Right-hand-sided piping
	

Since this air-conditioner has been designed to collect dew drops on the rear surface to the drain pan, do not attach the power cord above the gutter.

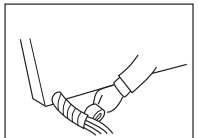


Shaping of pipings



○Hold the bottom of the piping and fix direction before stretching it and shaping it.

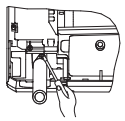
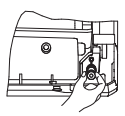
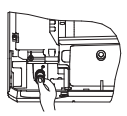
Taping of the exterior



○Tape only the portion that goes through the wall.
○Always tape the wiring with the piping.

Sufficient care must be taken not to damage the panel when connecting pipes.

[Drain hose changing procedures]

1. Remove the drain hose.	2. Remove the drain cap.	3. Insert the drain cap.	4. Connect the drain hose.
			
○Remove the screw and drain hose, making it rotate.	○Remove it with hand or pliers.	○Insert the drain cap which was removed at procedure "2" securely using a hexagonal wrench etc. Note: Be careful that If it is not inserted securely, water leakage may occur.	○Insert the drain hose securely, making rotate. And install the screw. Note: Be careful that If it is not inserted securely, water leakage may occur.

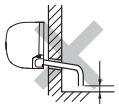
Drainage

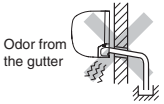
○Arrange the drain hose in a downward angle.
○Avoid the following drain piping.


Higher than specified


The drain hosetip is in water.


Wavy


The gap to the ground is 5 cm or less.

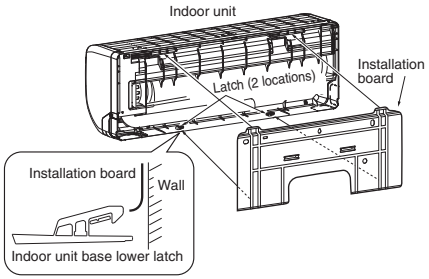


The drain hose tip is in the gutter.

⚠ CAUTION
Go through all installation steps and check if the drainage is all right. Otherwise, water leak may occur.

○Pour water to the drain pan located under the heat exchanger, and ensure that the water is discharged outdoor.
○When extended drain hose is present inside the room, insulate it securely with heat insulator available in the market.

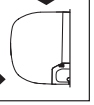
Fixing of indoor unit



Installation Steps

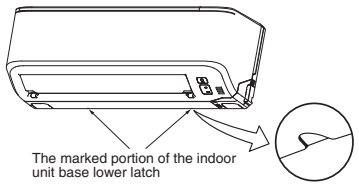
①Pass the pipe through the hole in the wall, and hook the upper part of the indoor unit to the installation board.

②Gently push the lower part to secure the unit.



● How to remove the indoor unit from the installation board

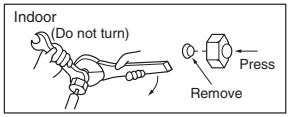
①Push up at the marked portion of the indoor unit base lower latch, and slightly pull it toward you. (both right and left hand sides) (The indoor unit base lower latch can be removed from the installation board)
②Push up the indoor unit upward so that it can be removed from the installation board.


The marked portion of the indoor unit base lower latch

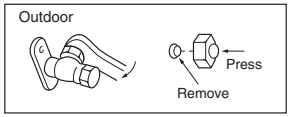
CONNECTION OF REFRIGERANT PIPINGS

Preparation

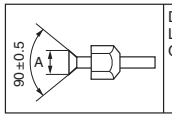
Keep the openings of the pipes covered with tapes etc. to prevent dust, sand, etc. from entering them.



○Remove the flared nuts.
(on both liquid and gas sides)



○Remove the flared nuts.
(on both liquid and gas sides)

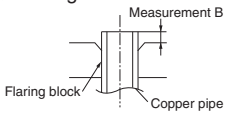


Dimension A	(Unit : mm)
Liquid side : 9.1	
Gas side Model SRK17-35, DXK05-12 : 13.2	
Model SRK45, DXK15 : 16.6	

○Install the removed flared nuts to the pipes to be connected, then flare the pipes.

⚠ CAUTION Do not apply refrigerating machine oil to the flared surface.

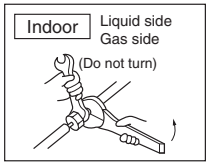
● Flaring work

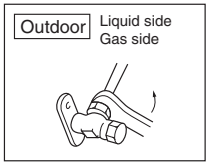


Copper pipe diameter	Measurement B (mm)		
	Clutch type flare tool for R410A	Conventional (R22) flare tool	
		Clutch type	Wing nut type
φ6.35	0.0-0.5	1.0-1.5	1.5-2.0
φ9.52	0.0-0.5	1.0-1.5	1.5-2.0
φ12.7	0.0-0.5	1.0-1.5	2.0-2.5

Use a flare tool designed for R410A or a conventional flare tool. Note that measurement B (protrusion from the flaring block) will vary depending on the type of a flare tool in use. If a conventional flare tool is used, use a copper pipe gauge or a similar instrument to check protrusion so that you can keep measurement B to a correct value.

Connection



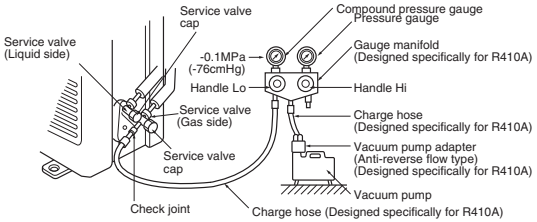


○Connect the pipes on both liquid and gas sides.
○Tighten the nuts to the following torque.
Liquid side(φ6.35) : 14.0 - 18.0 N·m (1.4-1.8 kgf·m)
Gas side (φ9.52) : 34.0 - 42.0 N·m (3.4-4.2 kgf·m)
(φ12.7) : 49.0 - 61.0 N·m (4.9-6.1 kgf·m)

⚠ CAUTION
Do not apply excess torque to the flared nuts.
Otherwise, the flared nuts may crack.

Air purge

① Tighten all flare nuts in the pipings both indoor and outside wall so as not to cause leak.
② Connect service valve, charge hose, manifold valve and vacuum pump as is illustrated right.
③ Open manifold valve handle Lo to its full width, and perform vacuum or evacuation.
Continue the vacuum or evacuation operation for 15 minutes or more and check to see that the vacuum gauge reads -0.1MPa.
④ After completing vacuum operation, close the Lo handle and stop operation of the vacuum pump.
⑤ After completing vacuum operation, fully open service valve (Both gas and liquid sides) with hexagon headed wrench.
⑥ Check for possible leakage of gas in the connection parts of both indoor and outdoor.



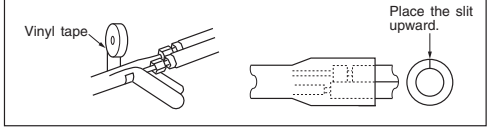
Securely tighten the service valve cap and the check joint blind nut after adjustment.

Service valve size (mm)	Service valve cap tightening torque (N·m)	Check joint blind nut tightening torque (N·m)
φ6.35 (1/4")	20–30	10–12
φ9.52 (3/8")		
φ12.7 (1/2")	25–35	

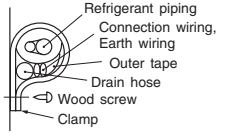
● Since the system uses check joints differing in diameter from those found on the conventional models, a charge hose (for R22) presently in use is not applicable. Use one designed specifically for R410A.
● Use an anti-reverse flow type vacuum pump adapter so as to prevent vacuum pump oil from running back into the system. Oil running back into an air-conditioning system may cause the refrigerant cycle to break down.

Insulation of the connection portion

Cover the coupling with insulator and then cover it with tape.



Finishing work and fixing



Cover the exterior portion with outer tape and shape the piping to match with the contours of the route that the piping will take. Also fix the wiring and pipings to the wall with clamps.

INSTALLATION TEST CHECK POINTS

Check the following points again after completion of the installation, and before turning on the power. Conduct a test run again and ensure that the unit operates properly.
At the same time, explain to the customer how to use the unit and how to take care of the unit following the instruction manual.

After installation

☐ The power source voltage is correct as the rating.
☐ No gas leaks from the joints of the service valve.
☐ Power cables and crossover wires are securely fixed to the terminal board.
☐ The screw of the lid is tightened securely.
☐ The screw of the service panel is tightened securely.
☐ Service valve is fully open.
☐ The pipe joints for indoor and outdoor pipes have been insulated.

Test run

☐ Air-conditioning operation is normal.
☐ No abnormal noise.
☐ Water drains smoothly.
☐ Protective functions are not working.
☐ The wireless remote control is normal.

☐ Operation of the unit has been explained to the customer.

(Three-minute restart preventive timer)
When the air-conditioner is restarted or when changing the operation, the unit will not start operating for approximately 3 minutes. This is to protect the unit and it is not a malfunction.

INSTALLATION OF THE OUTDOOR UNIT

Fixing of outdoor

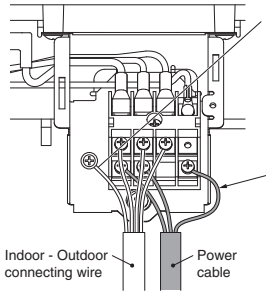
○Make sure that the unit is stable in installation. Fix the unit to stable base.

○When installing the unit at a higher place or where it could be toppled by strong winds, secure the unit firmly with foundation bolts, wire, etc.

Electric wiring work

○Perform wiring, making wire terminal numbers conform to terminal numbers of indoor unit terminal block.

○Connect using ground screw located near ⏚ mark.



power cable, indoor - outdoor connecting wire circuit diagram

⚠ CAUTION

Connect the earthed line of indoor and outdoor connecting wire to a bracket part of the illustration.

Earth wire shall be Yellow/Green (Y/G) in color and longer than other AC wires for safety reason.

Main fuse specification

Specification	Part No.
250V 15A	SSA564A136

○Always perform grounding system installation work with the power cord unplugged.

○Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.

○In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.

○Grounding terminals are provided in the terminal block.

⚠ CAUTION Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

Phase	Earth leakage breaker	Switchgear or Circuit Breaker		Power source (minimum)	Interconnecting and grounding wires (minimum)
		Switch breaker	Over current protector rated capacity		
Single -phase	15A, 30mA, 0.1sec or less	30A	16A	2.0mm^2	1.5mm^2 X 4

○The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.

○Switchgear or Circuit breaker capacity which is calculated from maximum over current should be chosen along the regulations in each country.

○The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

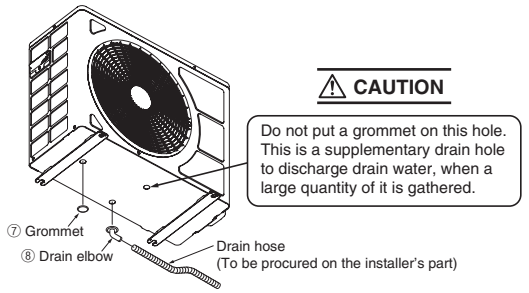
Drain piping work

○Execute drain piping by using a drain elbow and drain grommets supplied separately as accessories, where water drained from the outdoor unit is a problem.

○Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.

○Condensed water may flow out from vicinity of service valve or connected pipes.

○Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)



⚠ CAUTION

Do not put a grommet on this hole. This is a supplementary drain hole to discharge drain water, when a large quantity of it is gathered.

○When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as a locally procecured part) or concrete blocks. Then, secure space for the drain elbow and the drain hose.