

FOR SERVICE PERSONNEL ONLY

HITACHI
INVERTER SYSTEM MULTI TYPE
INDOOR UNIT
INSTALLATION MANUAL

MODEL **RAU-25NH5**
RAU-35NH5

- Carefully read through the procedures of proper installation before starting installation work.
- The sales agent should inform customers regarding the correct operation of installation.
- Explanation for outdoor unit is in the "How To Use" (Instruction Manual) that packed with outdoor unit.

Tools Needed For Installation Work
 (Mark ⊕ is exclusive use tool for R410A) ⊕ ⊖ ⊕ ⊖
 • Screwdriver • Measuring Tape • Knife • Saw
 • ø65mm Power Drill • Hexagonal Wrench Key (2.0, 4mm) • Wrench (14,17,22,26mm) ⊕ Gas leakage Detector • Pipe Cutter • Putty • Vinyl Tape • Pliers
 • Flare Tool • Vacuum Pump Adapter • Manifold Valve
 • Charge Hose • Vacuum Pump

SAFETY PRECAUTION

- Read the safety precautions carefully before operating the unit.
 - The contents of this section are vital to ensure safety. Please pay special attention to the following sign.
 - WARNING** Incorrect methods of installation may cause death or serious injury.
 - CAUTION** Improper installation may result in serious consequence.
 - Make sure to connect earth line.
 - This sign in the figures indicates prohibition.
- Be sure that the unit operates in proper condition after installation. Explain to customer the proper way of operating the unit as described in the user's guide.

WARNING

- Please request your sales agent or qualified technician to install your unit. Water leakage, short circuit or fire may occur if you do the installation work yourself.
- Please observe the instructions stated in the installation manual during the process of installation. Improper installation may cause water leakage, electric shock and fire.
- Make sure that the units are mounted at locations which are able to provide full support to the weight of the units. If not, the units may collapse and impose danger.
- Observe the rules and regulations of the electrical installation and the methods described in the installation manual when dealing with the electrical work. Use wire which are approved official in your country. A short circuit and fire may occur due to the use of low quality wire or improper work.
- Be sure to use the specified wire for connecting the indoor and outdoor units. Please ensure that the connections are tight after the conductors of the wire are inserted into the terminals. Improper insertion and loose contact may cause over-heating and fire.
- Please use the specified components for installation work. Otherwise, the unit may collapse or water leakage, electric shock and fire may occur.
- When installing or transferring an air conditioner to another location, make sure that air other than the specified refrigerant (R410A) does not enter the refrigeration cycle. If other air should enter, the pressure level of the refrigeration cycle may increase abnormally which could result in a rupture and injury.
- Be sure to use the specified piping set for R410A. Otherwise, this may result in broken copper pipes or faults.
- When installing or removing an air conditioner, do not allow air or moisture to remain in the refrigeration cycle. Otherwise, pressure in the refrigeration cycle may become abnormally high so that a rupture may be caused.
- Be sure to ventilate fully if a refrigerant gas leak while at work. If the refrigerant gas comes into contact with fire, a poisonous gas may occur.
- After completion of installation work, check to make sure that there is no refrigeration gas leakage. If the refrigerant gas leaks into the room, coming into contact with fire in the fan-driven heater, space heater, etc., a poisonous gas may occur.
- Unauthorized modifications to the air conditioner may be dangerous. If a breakdown occurs please call a qualified air conditioner technician or electrician. Improper repairs may result in water leakage, electric shock and fire, etc.
- Be sure to connect the earth line from the power supply wire to the outdoor unit and between the outdoor and indoor unit. Improper earthing may cause electric shock.

CAUTION

- A circuit breaker must be installed in the house distribution box for the direct connected power supply wire to the outdoor unit. In case of other installations a main switch with a contact gap of more than 3mm has to be installed. Without a circuit breaker, the danger of electric shock exists.
- Do not install the unit near a location where there is flammable gas. The outdoor unit may catch fire if flammable gas leaks around it. Piping shall be suitable supported with a maximum spacing of 1m between the supports.
- Please ensure smooth flow of water when installing the drain hose.
- An IEC approved power cord should be used. Power cord type: NYM.

THE CHOICE OF MOUNTING SITE

(Please note the following matters and obtain permission from customer before installation.)

WARNING

- The unit should be mounted at stable, non-vibratory location which can provide full support to the unit.

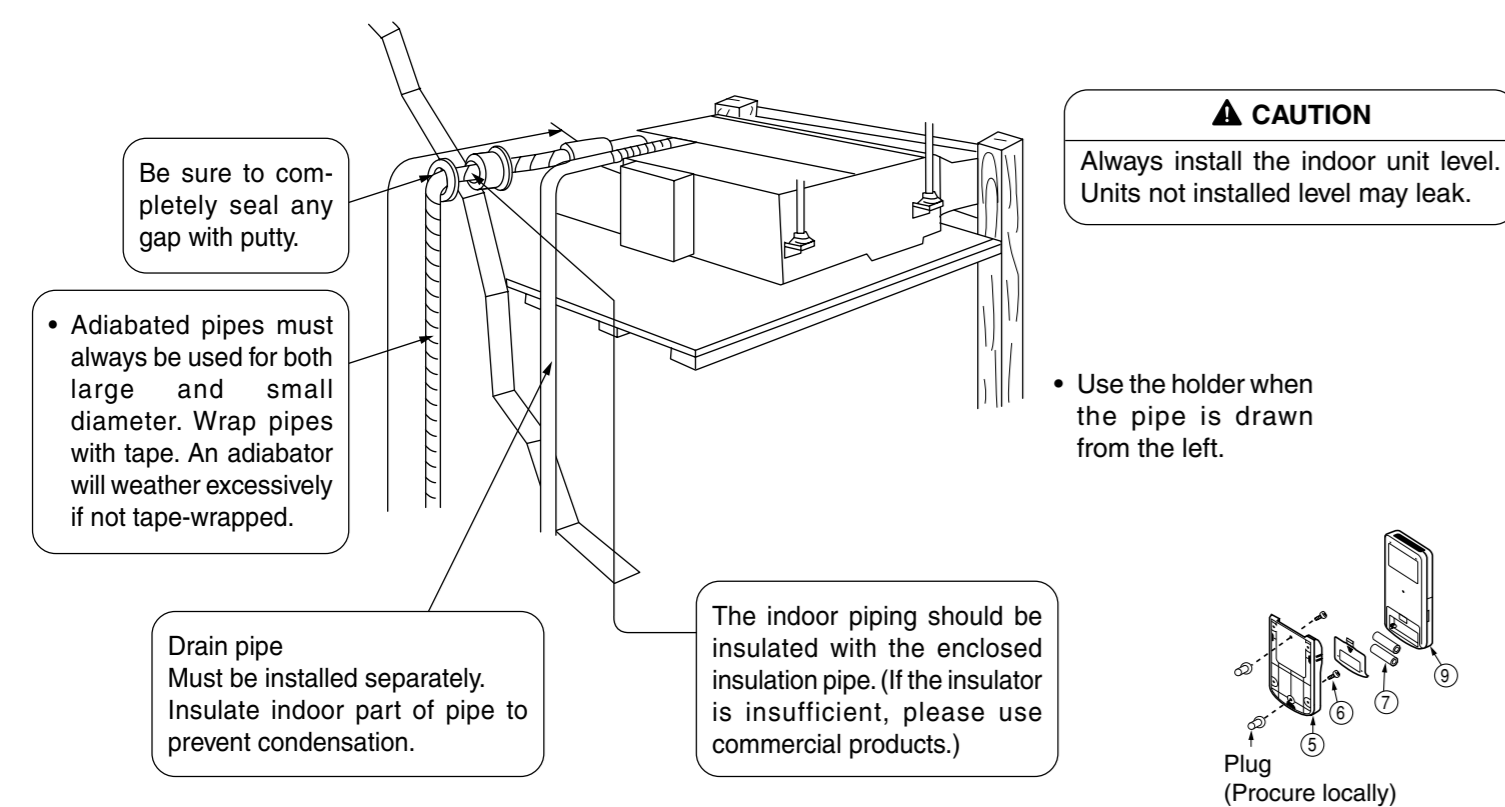
CAUTION

- No nearby heat source and no obstruction near the air outlet is allowed.
- The clearance distances from top, right and left are specified in figure below.
- The location must be convenient for water drainage and pipe connection with the outdoor unit.
- To avoid interference from noise, please place the unit and its remote controller at least 1m from the radio and television.
- To avoid any error in signal transmission from the remote controller, please put the controller far away from high-frequency machines and high-power wireless systems.

Accessories to Indoor Unit:

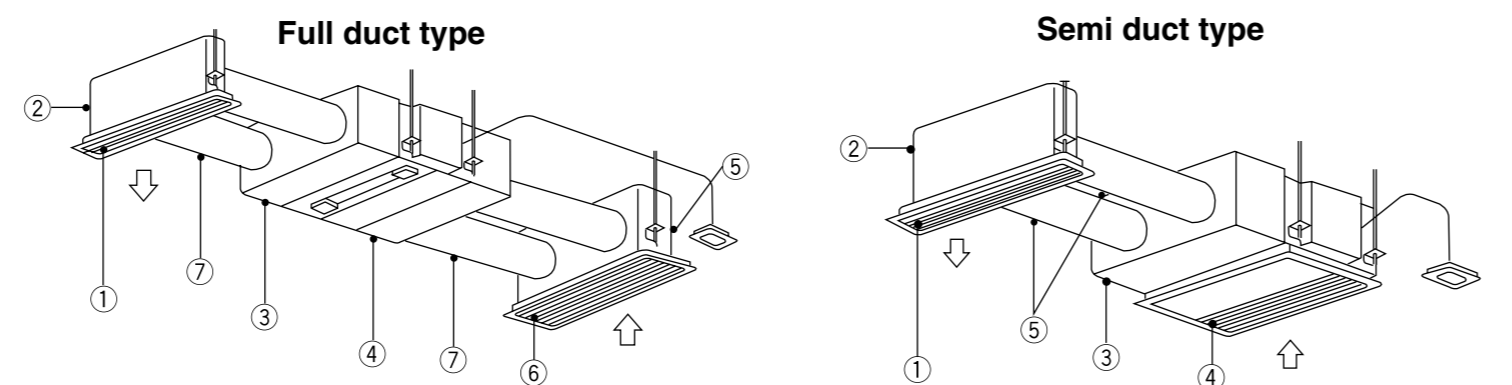
No.	Item	Quantity
①	Flare Insulator	1
②	Binder	2
③	4.0 × 10 Screw	2
④	Insulation Pipe	1
⑤	Holder for Remote Controller	1
⑥	3.1 × 16 Screw	2
⑦	AAA Size Battery	2
⑧	Aluminium Tape (large)	1
⑨	Remote Controller	1
⑩	Band	1
⑪	Suspension Clamp (right, left) each	2
⑫	4.0 × 10 Screw	8
⑬	Panel Installation Plate	1
⑭	Panel Cover	1

[Indoor unit installation]



* "Height difference" and "Piping length" of Indoor and Outdoor unit are different by Outdoor unit. Please refer to the installation manual in Outdoor unit.

TYPE OF INDOOR UNIT



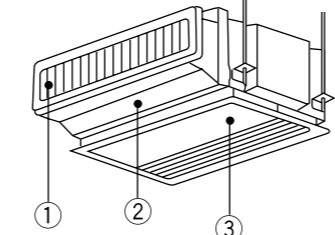
Need optional parts when install full duct type

①	Discharge grille	RAU-FG2
②	Chamber of discharge grille ø150mm	RAU-GD2
③	Chamber of discharge of unit side ø150mm	RAU-DU2
④	Chamber of suction of unit side ø150mm	RAU-DU1
⑤	Chamber of suction grille ø150mm	RAU-GD1
⑥	Suction grille	RAU-FG1
⑦	Flexible duct ø150mm 1m Flexible duct ø150mm 2m	RAU-FD1 RAU-FD2

Need optional parts when install semi duct type

①	Discharge grille	RAU-FG2
②	Chamber of discharge grille ø150mm	RAU-GD2
③	Chamber of discharge of unit side ø150mm	RAU-DU2
④	Suction grille	RAU-FG1
⑤	Flexible duct ø150mm 1m Flexible duct ø150mm 2m	RAU-FD1 RAU-FD2

Non duct type



Need optional parts when install non duct type

①	Discharge grille	RAU-FG21
②	Discharge duct	RAD-BD
③	Suction grille	RAU-FG11

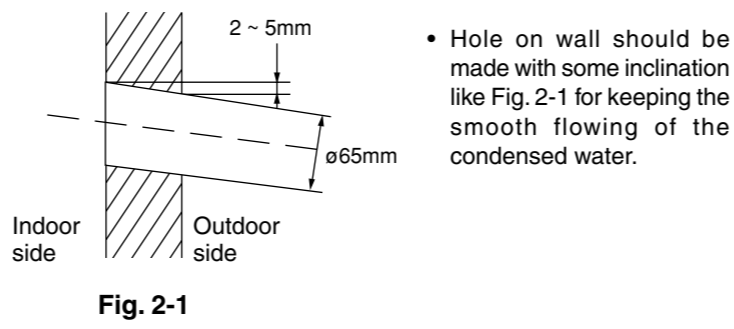
1. Proper place for installation

1.1 Indoor unit
 Refrigerating pipes can be drawn from the back, the under the left side of the indoor unit. In the case that refrigerating pipes are drawn from the left side, confirm the smooth flowing of condensed water. If not, the condensed water will overflow into the room. When the pipes are drawn from the right or the left side, the pipes can be connected easily by configuring the pipes before installation.

2. Installation procedure and notice

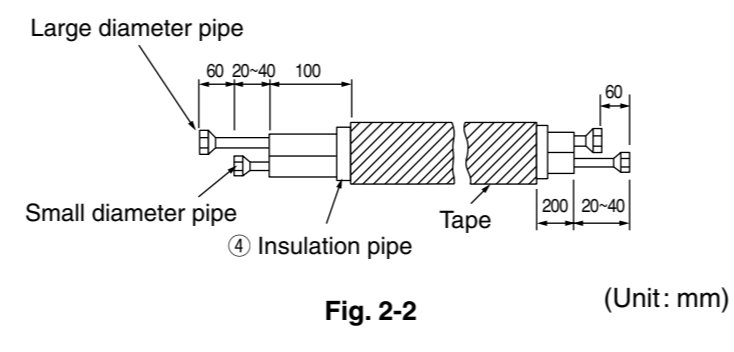
Especially, the selection of installation place need great care for the split type air conditioner, because it is very difficult to move from place to place after the first installation.

2.1 Make a hole on the wall such the place as shown in Fig. 2-1, in order to keep the flow condensed water smooth.



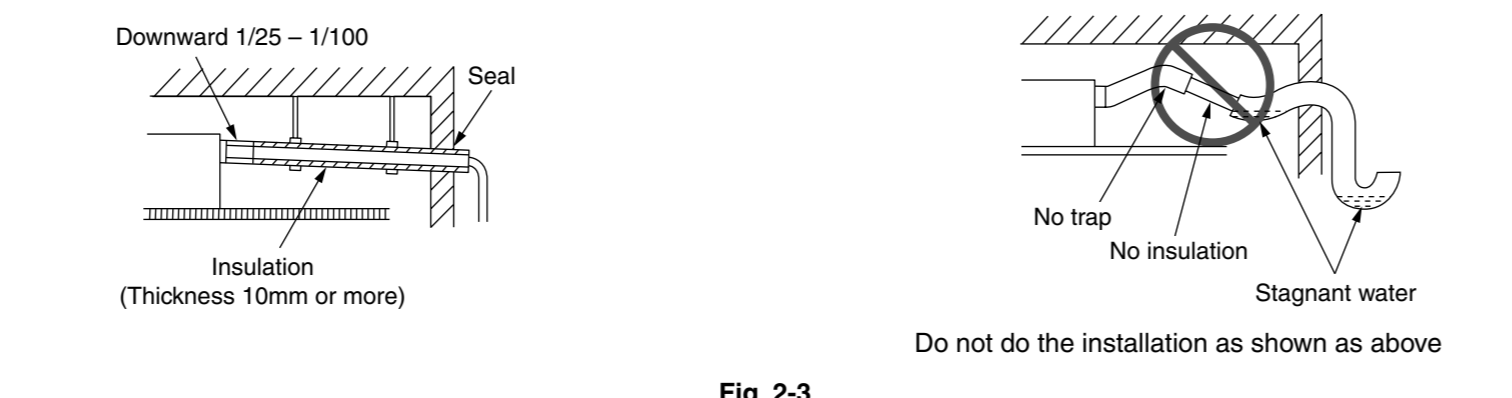
2.2 Connecting pipe installation

Seal the end of pipes to prevent from moisture and water.



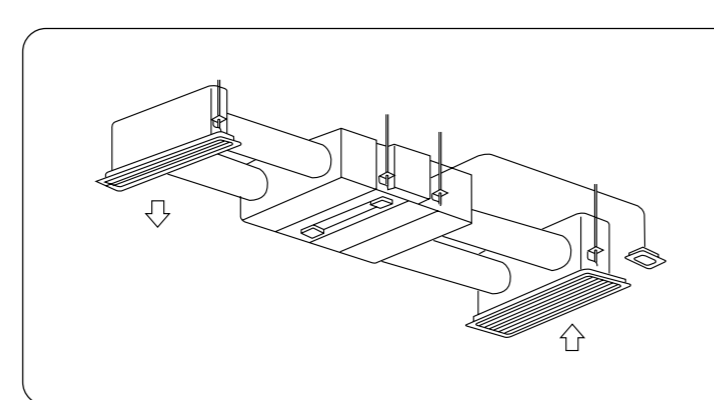
2.3 Drain pipe installation

- Use PVC pipe VP20 (O.D. 25mm) for drain pipe.
- Be sure to roll a insulation (thickness 10mm or more) for the drain pipe at indoor side.
- Draw the drain pipe that makes always downward for the water flow smoothly. And fix it (ex. by hanger) not to make a peak and trap.



2.4 Installation method of unit type

INSTALLATION OF FULL DUCT TYPE

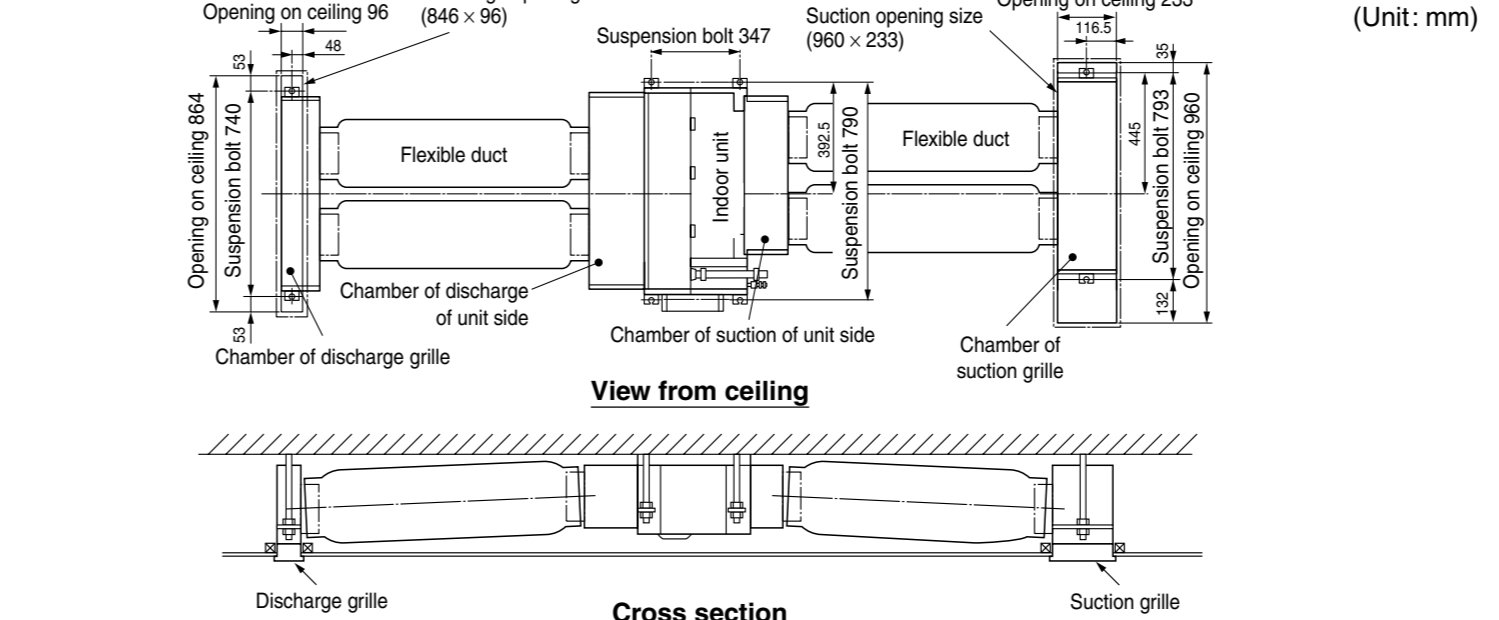


• Permissible length and bending of duct.

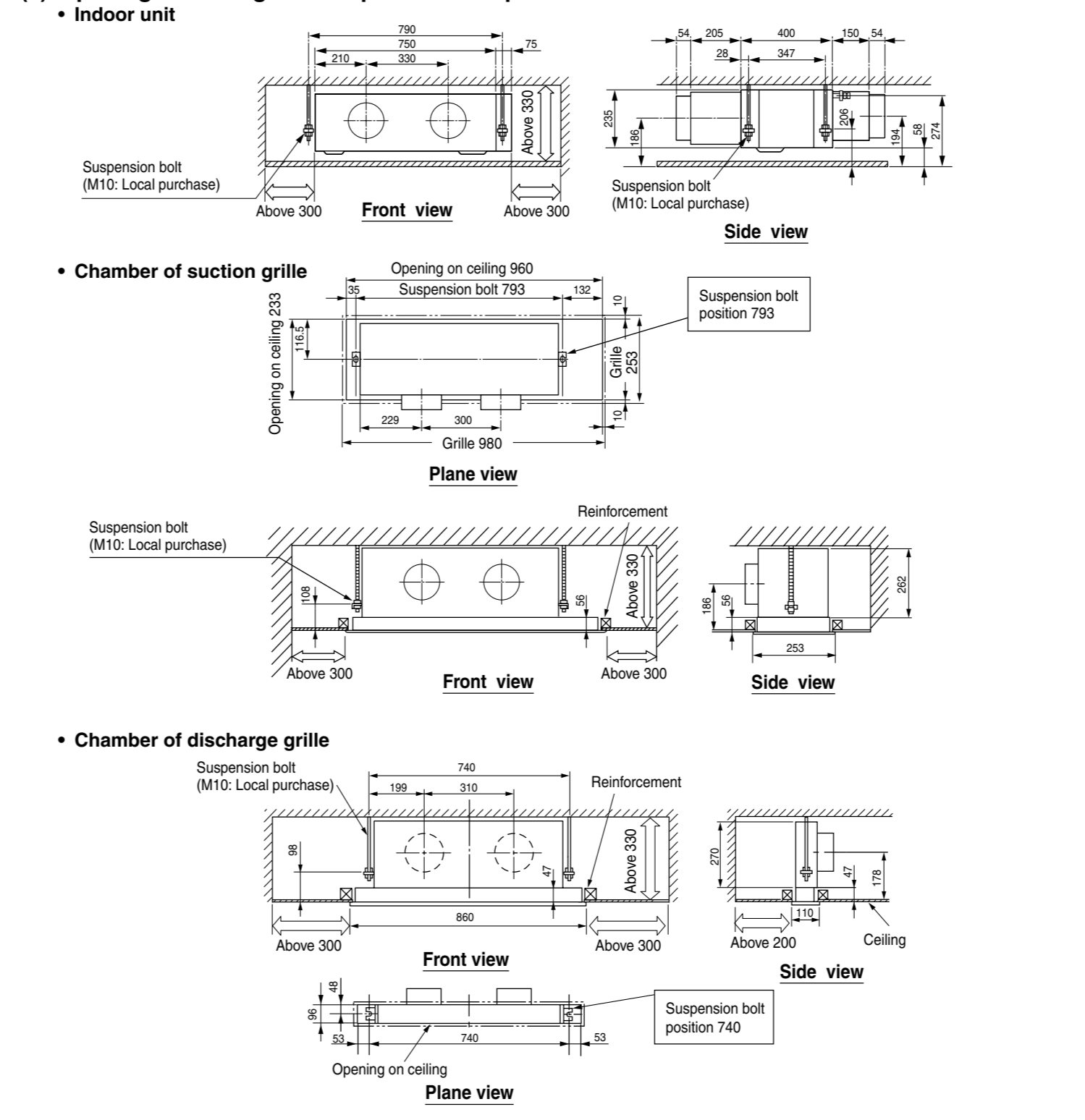
	Permissible length	Bending
Discharging side duct	4m or less added to suction side	90° or less, 1 section
Suction side duct	1m or less	45° or less, 1 section

- Secure the space for installation, inspection or servicing.
- Apply water-proof treatment to back surface of ceiling under the indoor unit, to prevent water drop.
- Do not allow any obstacle to block air flow within 1m of suction grille.

(1) Installation figure



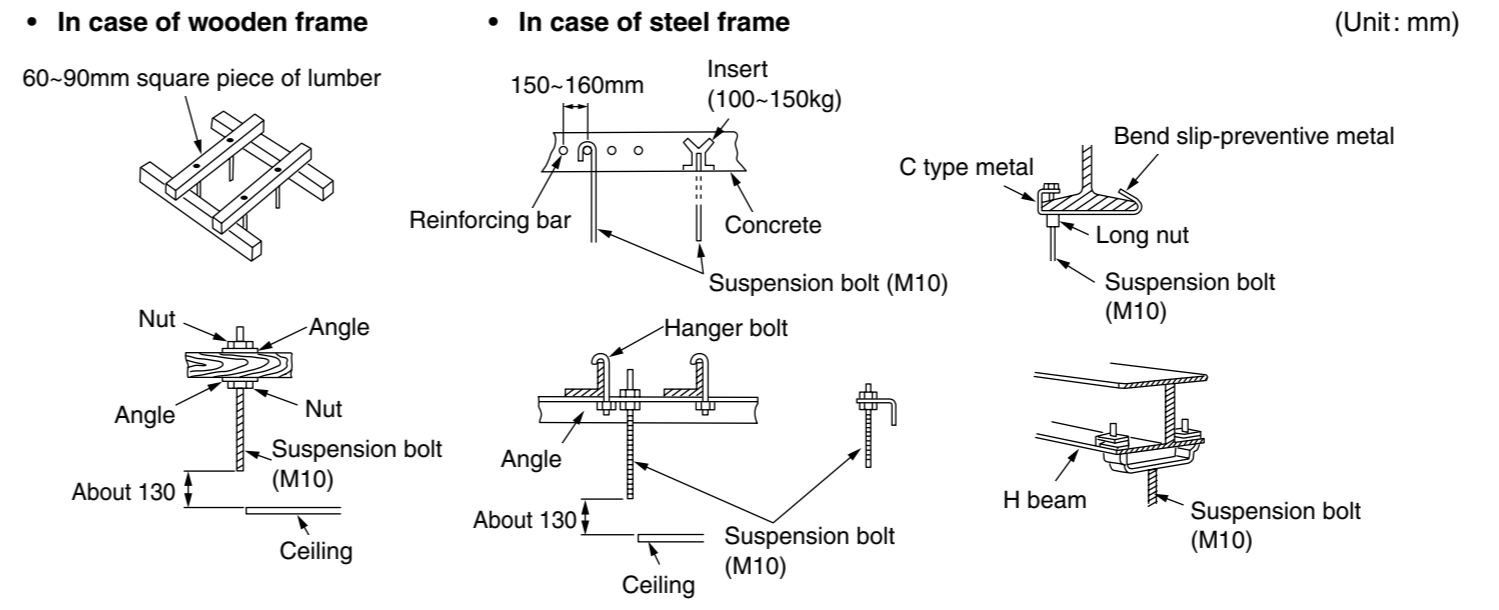
(2) Opening on ceiling and suspension bolt position



- Arrange drain pipe, refrigerant pipe and connecting cord in their installation position.
- For finishing of opening on ceiling, arrange with builder in detail.

(3) Installation of suspension bolt

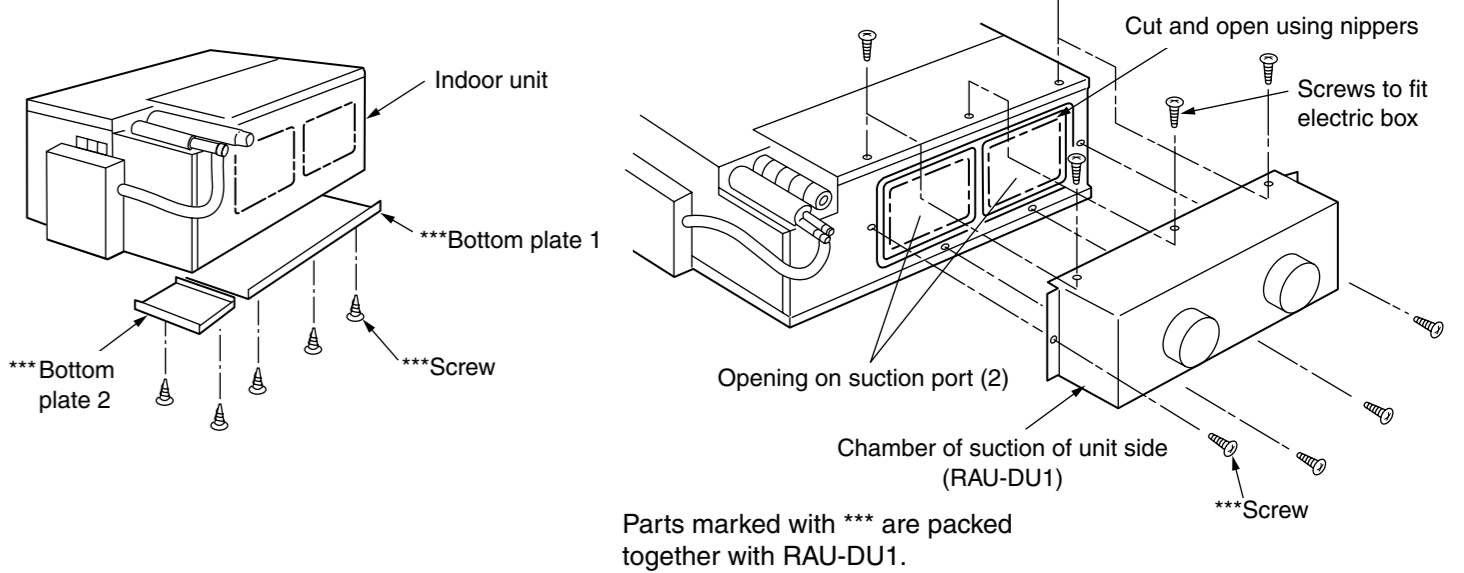
- Be sure to reinforce furring of ceiling (frame: ceiling joint and supporter) to maintain level of ceiling and prevent vibration of ceiling plate.
- Suspension bolts should be purchased in the field.
- Refer to diagrams shown below for length of suspension bolts.



(4) Preparation for installing indoor unit

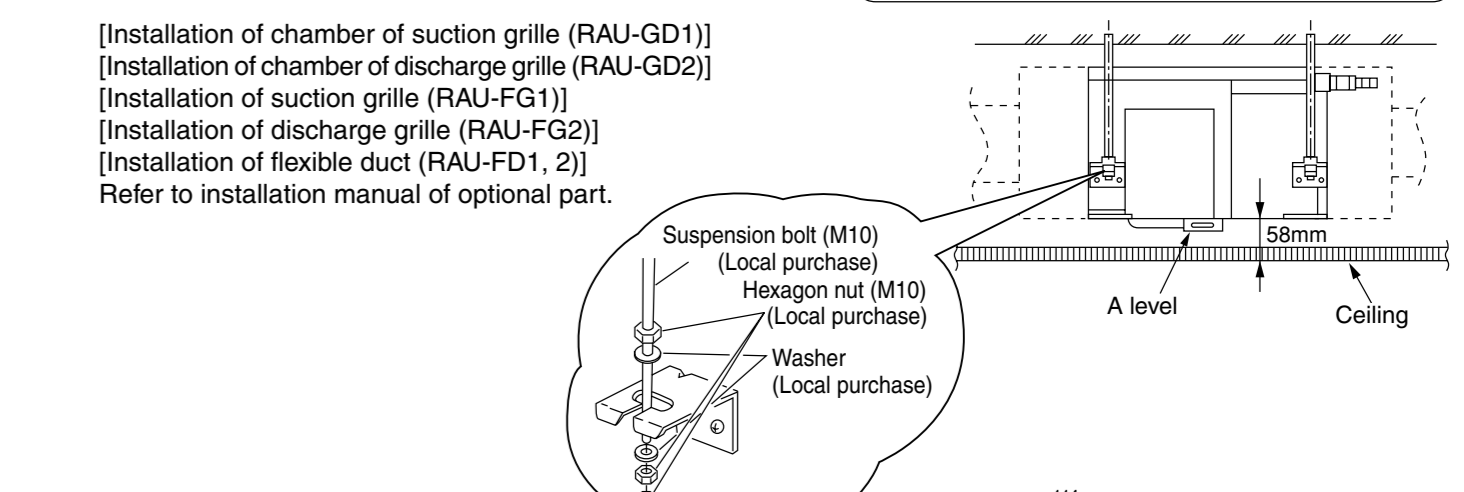
- Remove 1 screw by which electric box is installed, and then remove electric box.
- Turn removed electric box with lead wires kept connected so that wire lead out section is positioned at the upper side, and hook the claw of electric box to side plate. Then fix the electric box to the bottom of the indoor unit using 1 screw.
- Install 4 suspension clamps at both sides of indoor unit, 2 clamps at each side, using 8 tapping screws. (Since size of left and right clamps are different for certain parts, refer to diagram on the right.)
- Chamber of discharge of unit side (optional part: RAU-DU2) on the indoor unit using 10 tapping screws.

- Install bottom plates 1 and 2 on the bottom of the indoor unit using 9 tapping screws. (Install bottom plate 1 first, followed by plate 2.)
- Cut and open dotted line section for suction port at the back of the indoor unit, using nippers (2 locations).
- Remove 2 screws at top plate end of indoor unit and chamber of suction of unit side (RAU-DU1) using 7 screws.



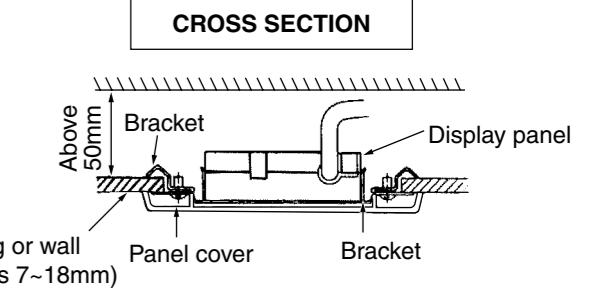
(5) Installation of indoor unit

- Set nut and washer on suspension bolt and hook it to suspend clamp by lifting the indoor unit.
- Make sure that indoor unit is kept level using a level or vinyl hose with water.
- Fix the indoor unit so that the space between bottom surfaces of ceiling and indoor unit is 58mm.

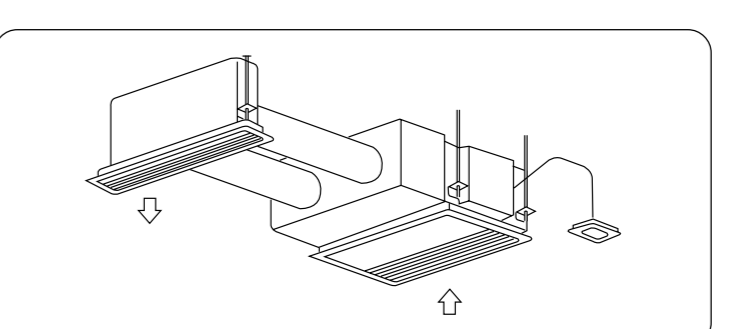


(6) Installation of display panel

- Select an installation position on ceiling or wall where there is no obstacle to interrupt signal reception.
- Loosen screws of panel installation plate so that bracket can be slightly moved.
- Match the display panel to panel installation plate so the fixing claws on the panel are securely hooked.
- Match brackets to the opening on ceiling or wall and tighten screws until bracket is firmly secured to ceiling material.
- Install the panel cover so inside claws are securely hooked to the panel installation plate.
- Conduct the indoor unit side housing of display panel cord to the electric box of the indoor unit and connect it with the housing at the side of the unit.



INSTALLATION OF SEMI DUCT TYPE

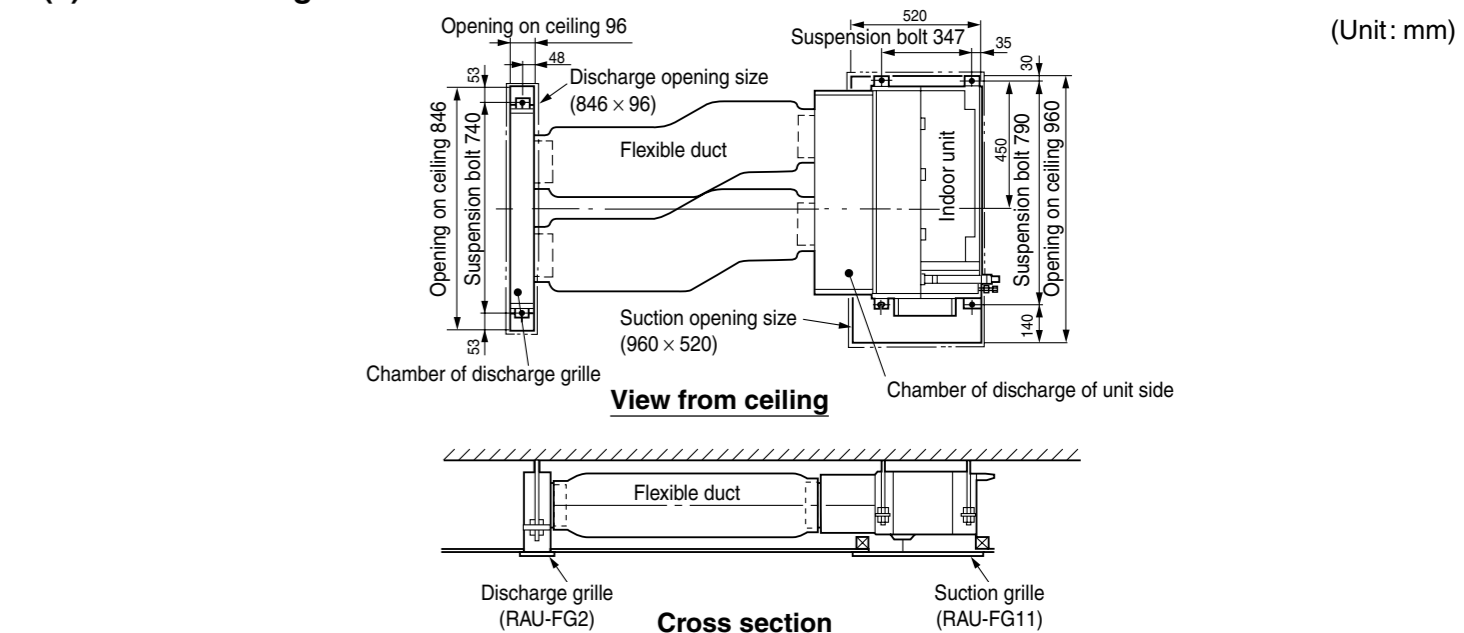


- Select the indoor unit position, fixing direction of air outlet so that cool/hot air reaches all the room. Standard position of the indoor unit is on wall side.
- Permissible length and bending of duct.

	Permissible length	Bending
Discharging side duct	4m or less	90° or less, 1 section

- Secure the space for installation, inspection or servicing.
- Apply waterproof treatment to back surface of ceiling under the indoor unit, to prevent water drop.
- Do not allow any obstacle to block air flow within 1m of suction grille.

(1) Installation figure



(2) Opening on ceiling and suspension bolt position

