## FOR SERVICE PERSONNEL ONLY

# HITACHI **INDOOR UNIT** INSTALLATION MANUAL

MODEL

**RAK-DJ25PHAT RAK-DJ35PHAT RAK-DJ50PHAT** 

#### Carefully read through the procedures of proper installation before starting installation work.

The sales agent should inform customers regarding the correct operation of installation.

Mark (a) is exclusive use tool for R410A, R32) ⊕ ∈ Detector • PipeCutter • Putty • Vinyl Tape • Pliers Charge HoseVacuum 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 operation and maintenance of the unit as described in the user's guide. Ask a customer to keep this installation manual together with the instruction manual.

### **▲** 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
- Please observe the installation stated in the installation manual during the process of installation. Improper installation may cause
- 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
- Observe the rules and regulations of the electrical installation and the methods described in the installation manual when dealing with the electrical work. Use cables which are approved official in your country. Be sure to use the specified circuit. A short circuit and fire may occur due to the use of low quality wire or improper work.
- Be sure to use the specified cables 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 to prevent the external force is being applied to the connection section of the terminal base. 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, fire or stronger vibration may occur.
- Be sure to use the specified piping set for R32. Otherwise, this may result in broken copper pipes or faults
- When installing or transferring an air conditioner to another location, make sure that air other than the specified refrigerant(R32) 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 ventilate fully if a refrigerant gas leak while at work. If the refrigerant gas comes into contact with fire, a poisonous gas may
- 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 conditione 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. Do not connect the earth line to the gas tube, water pipe, lighting rod or the earth line of the
- telephone unit. Improper earthing may cause electric shocks. When finishing the refrigerant collection (pumping down), stop the compressor and then remove the coolant pipe.
- If you remove the refrigerant pipe while the compressor is operating and the service valve is released, air is sucked and a
- pressure in the freezing cycle system will build up steeply, causing an explosion or injury.
- When installing the unit, be sure to install the refrigerant pipe before starting the compressor If the refrigerant pipe is not installed and the compressor is operated with the service valve released, air is sucked and the
- pressure level of the refrigeration cycle may increase abnormally which could result in a rupture and injury.
- The electric cables should neither be reworked nor added.
- Make sure to use an exclusive circuit breaker.
- Otherwise fire or electric shock might occur by connection failure, isolation failure or over current Make sure to connect cables to terminal properly and terminal cover should close firmly
- Otherwise, over heating at terminal contact, fire or electric shock might occur.
- Make sure that there is no dust on any connected points of electric cables and fix firmly Otherwise, fire or electric shock might occur.

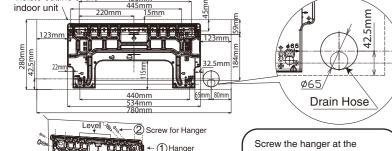
### 1 Installation of Hanger , Wall Penetration and Installation of Protection Pipe

### **A** CAUTION

• The draining of the water container inside the Indoor unit can be done from the left. Therefore the hanger must be fixed horizontally or slightly tilted towards the side of drain hose. Otherwise, condensed water may overflow the water container.

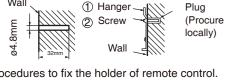
### **Direct Mounting On The Wall**

Please use hidden beams in the wall to hold the hanger.



#### **Procedures of Installation and Precautions** Procedures to fix the hanger

1. Drill holes on wall. 2. Push plug into the holes. 3. Fix the hanger on wall (As shown below) (As shown below) with 4.1 x 32 screw. (As shown in figure below)



· Procedures to fix the holder of remote control.

1. Drill holes on wall. (As shown below) 2. Push plug into the holes. (As shown below)





#### **Tools Needed For Installation Work**

Screwdriver • Measuring Tape • Knife • Saw ø65mm PowerDrill • Hexagonal Wrench Key Table 2 (14,17,19,22mm) ● Gas leakage Flare Tool ⊙ Vacuum Pump Adapter⊙Manifold Valve

Installation Of Remote Controller

Empty gap in the sleeve of protection

pipe should be completely sealed with

putty to avoid dripping of rain water into

when installing the drain hose. Improper

An IEC approved power cord should be

installing may wet your funiture.

used. Power cord type: NYM.

Please ensure smooth flow of water pipe

**A** WARNING

Be sure that the wire is not in contact with any metal in the wall.

Please use the protection pipe as wire passing through the

damaged by mouse. Unless it seals completely, any air with high

hollow part of the wall so as to prevent the possibility of

humidity flows from outdoor and any dew may drop.

of the holder

the room.

The remote controller can be placed in its holder which is fixed on

• To operate the remote controller at its holder, please ensure that the

unit can receive signal transmitted from the controller at the place where

the holder is to be fixed. The unit will beep when signal is received from

the remote controller. The signal transmission is weaken by the fluorescent

light. Therefore, during the installation of the remote control holder, please

switch on the light, even during day time, to determine the mounting location

holder, in the direction

must be slide in Remote Thus be side in Controller the remote controller

**A** CAUTION

A circuit breaker must be installed in the house distribution box for the direct

connected power supply cables to the outdoor unit. In case of other installations

Please ensure smooth flow of water when installing the drain hose. Improper

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

An IEC approved power cord should be used. Power cord type: NYM.

a main switch with a contact gap or more than 3mm has to be installed.

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.

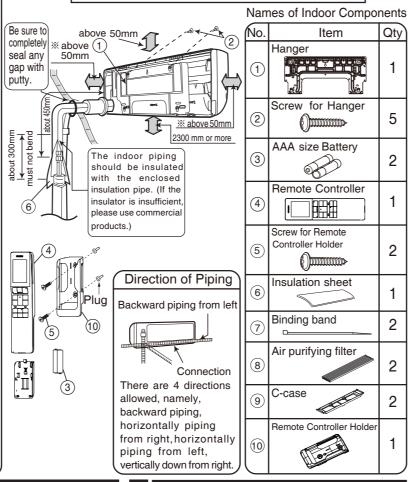
Without a circuit breaker, the danger of electric shock exists.

THE CHOICE OF MOUNTING SITE

installing may wet your furniture.

- **▲** 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.
- No nearby leakage risk of flammable gas, and no nearby source of vapor or oil smoke.
- 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
- The installation height should be at least 2300 mm or more from the floor.
- The distance from the air outlet to the fire alarm must be at least 1500mm and there must be no fire alarm in the front direction of the indoor unit.

### Figure showing the Installation of Indoor Unit.



### Installation Of The Indoor Unit

### **Cutting Low Cover bush**

 While installing the pipe from the right, left or bottom side, use a knife to cut openings as shown in figure Then smoothen the edges of openings with a file.

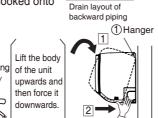


# (BACKWARD, DOWNWARD, HORIZONTAL)

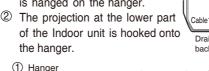
### Installation

Insert the pipe through the wall hole.

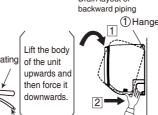
the hanger.

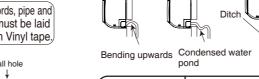


1) The upper part of the Indoor unit is hanged on the hanger.



Drain Hose Connecting Cord





CAUTION

Indoor and Outdoor units

You are free to choose the side (left or right) for the installation of drain hose. Please ensure the smooth flow of condensed water of the Indoor unit during installation. (Careless may result in water leakage.)

2 PIPING FROM THE LEFT SIDE (BACKWARD, DOWNWARD, HORIZONTAL)

The rubber strap used for fixing the insulator should not

be tied with great force.Otherwise, this will damage heat

Please pull the lower part of the Indoor unit outwards to

Transform the piping while holding down the lower portion

check if the unit is hooked onto the hanger. Improper

insulation and causes water condensation

installation may cause vibration and noise

· The refrigerating pipe should be adjusted to fit into

the hole on the wall and then ready for further

• The terminals of 2 connected pipes must be covered

Connect the connecting cord after removing low

· After adjustment, fit the connecting cord and pipes

into the space available under the unit. Use holder to

THE INSTALLATION OF INDOOR UNIT

Hang the indoor unit onto the hanger. Use the temporary stand

at the back of the Indoor unit to push its lower part 15cm

· Wrap the refrigerating pipes with insulation pipe after

After adjustment, the connecting cord and refrigerating pipes

are placed into the space available under the Indoor unit.

· Connect the connecting cord after removing low cover.

The projection of Indoor unit must hook to the hanger.

pipe Heat

Connecting

Heat Insulation and Finish of the Piping

· Do not tie the terminals with the tape too tight.

The connected terminals should be completed sealed

with heat insulator and then tied up with rubber strap.

If any clearance or over-tightening may cause

Please tie the pipe and power line together with vinyl

tape as shown in the figure showing the installation of

• The refrigerating pipes and connecting cord

· Place the drain hose through the hole on the wall.

(Otherwise, it may result in abnormal noise or dewfall.) it on the right side

THE CONNECTION OF REFRIGERATING PIPE DURING

Please bend at a small

radius to form an arc

Pull this to the front during

insulation pipe | pipe to ease task.

the connection of refrigerating

protection pipe

(Refer to "CONNECTION OF POWER CORD")

pipes are wrapped with insulation pipe.

• Be sure to cut the extra binding band.

(Preparation To Install Refrigerating Pipes)

transform and are attached.

connecting refrigerating pipe.

(Refer to "Connection of Power Cord")

with insulator used for terminal connection. Then the

of pipe-support by hand.

hold them tight.

(Installation)

Wall hole

Pipe Cable

Drain layout of

backward piping

Drain Hose

**A** CAUTION

**INSTALLATION AFTER CONNECTION OF REFRIGERATING PIPES** 

· Exchange the location of drain hose and drain cap while installing the pipe from the left side as

shown in below. Be sure to plug in the drain hose until the insulating material folds upon itself.

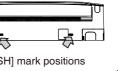
Changed of Drain Hose and Installation Procedures.

Please use pliers to pull out the drain cap.

Hexagonal wrench

(This is an easier way to remove the drain

and pull the bottom plate towards you. Then the claws are released from the stationary plate.



# INSTALLATION OF REFRIGERATING PIPES AND AIR REMOVAL

exclusive tool for

R32.

refrigerant R410A,

### 1 Preparation of Pipe

**▲** CAUTION

Insufficient insert may

result in water leakage.

Push the pipe deeply until the insulating

section of the drain hose end gets over

Pipe Rubber strap tied

with great force

bending downward

Connecting cord

nsulation pipe (must be

below اح

wrapped with vinvl tape

 $\bowtie$ 

The end of the refrigerating pipes are at

(Refer to installation hanger drawing)

the rib at the indoor unit side.

. Insert drain cap up to the location securely till the cap stops

(This is an easier way to install the drain cap.)

 $\bullet$  Please use hexagonal wrench key( $\!\Phi\!$  4mm) to insert the drain cap.

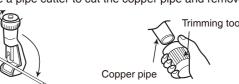
(7) Binding band

Binding band can be

side of the installation

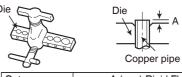
commended to attach

Use a pipe cutter to cut the copper pipe and remove burr.



### **▲** CAUTION

- Remove burr and jagged edge will cause leakage. Point the side to be trimmed downwards during trimming to prevent copper chips from entering the pipe.
- Before flaring, please put on the flare nut.



Outer	A (mm) Rigid Flaring Tool		
Diameter (Ø)	For R410A,R32 tool	For R22 tool	
6.35 (1/4")	0 - 0.5	1.0	
9.52 (3/8")	0 - 0.5	1.0	
12.7 (1/2")	0 - 0.5	1.0	

### 2 Pipe Connection

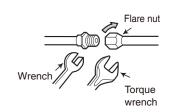
In case of removing flare nut of a indoor unit, first remove a nut of small diameter side, or a seal cap of big diameter side will fly out. Free from water into the piping when working

**A** CAUTION

Be sure to tighten the flare nut to the specified torque with a torque wrench. If the flare nut is overtightened, the nut may be split after a

long period has passed, and may cause a refrigerant leak.

Please be careful when bending the copper pipe. Screw in manually while adjusting the center. After that, use a torque wrench to tighten the



		Outer diameter of pipe (ø)	Torque N·m (kgf·cm)
Small diameter side		6.35 (1/4")	13.7-18.6 (140 - 190)
Large diameter side		9.52 (3/8")	34.3-44.1 (350 - 450)
Large ula	meter side	12.7 (1/2")	44.1-53.9 (450 - 550)
Valve head cap	Small diameter side	6.35 (1/4")	19.6-24.5 (200 - 250)
	Large diameter side	9.52 (3/8")	19.6-24.5 (200 - 250)
		12.7 (1/2")	29.4-34.3 (300 - 350)
Valve core cap			12.3-15.7 (125 - 160)

### Gas leakage inspection

Please use gas leakage detector to check if leakage occurs at connection of Flare nut as shown in below. If gas leakage occurs, further tighten the connection to stop leakage.

Method to remove the low cover

How to connect the optional parts

(WiFi Adapter, H-LINK RAC Adapter, Dry contact,

For cable connection to control P.W.B., you need to

Please check and confirm manuals attached to each

Please check service manual about how to set from

You can refer to this installation manual how to remove

Wired Remote Controller, Run status and alarm output

remove front cover and electrical box cover

optional parts for more connection details.

Each connecting location is as below.

③ Wired Remote Controller : CN20

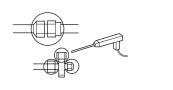
② H-LINK RAC Adapter: CN7B

and re-attach the front cover.

Pull at the 1 and 2 in

the directions as shown

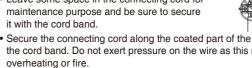
by arrows to remove the



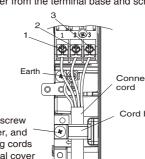
# **CONNECTION OF POWER CORD**

THIS APPLIANCE MUST BE EARTHED. WARNING Detail of Cutting the Connecting Cord

### Connecting cord



### Wiring of The Indoor Unit

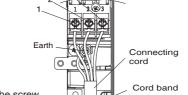


## **A WARNING**

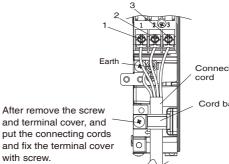
Leave some space in the connecting cord for

### Secure the connecting cord along the coated part of the wire using the cord band. Do not exert pressure on the wire as this may cause

For wire connection of the Indoor unit, you need to remove the front



- cover, the low cover under the body of the unit and terminal cover
  - Remove the cover from the terminal base and screw the cable.

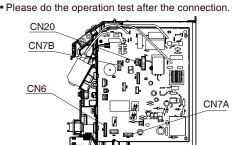


 Please be careful not to damage lead wires by edge of plate when connecting the optional parts.

remote controller.

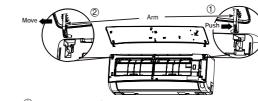
① Dry contact: CN6

4 WiFi Adapter: CN7A



# **HOW TO REMOVE OR ATTACH THE FRONT COVER**

# How to remove the front cover



- ① Push the end of the right-side arm outward to release the
- 2 Move the left-side arm outward to release the left tab, and then pull the panel towards you.
- 2 Remove the filters.

with screw

- 3 After removing 1 screw, remove the cover of electric box, towards you and release the claws.
- 4 Pull the side faces (lower sections) of the front cover towards 4 Install the filter. you as shown in the figure and remove the cover



#### 1 After installing the front cover onto the unit, hook three claws at upper side of the cover securely. Then, push the center of

How to Attach the Front Cover

2 Tighten the 2 screws.

the front cover to lock the claws.

- then remove the 2 screws, pull the center of the front cover 3 Assemble the cover of electric box, then tighten the screw.

  - 5 Attaching the Front Panel
  - Securely insert the shaft of the right arm along the step on

  - close the front panel.

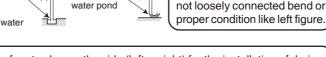
the unit into the hole. Make sure that the front panel is securely attached, and then

# • Insert the shaft of the left arm along the step on the unit into

as shown in the figure To enhance the heat insulation and to prevent water until it hooks at the condensation, please cover the outdoor part of the Preparation lower end of the remote 1 Remove the front panel drain hose and pipe with insulation pipe. Connect connecting cord. controller holder. Completely seal any gap with putty. Screw (2 pieces) Pull out the pipe, connecting 1111111111 Wall Penetration and Installation of Protection Pipe cord and drain hose. 4 Installation of Drain Hose positions possibly near the • Drill a ø65mm hole on wall which is Indoor upper and lower hooks where slightly tilted towards the outdoor side. **▲** CAUTION the indoor unit is hung. Use 4 or Drill the wall at a small angle Connecting cords, pipe and more screws to fix the hanger. Cut the protection pipe according to the Seal with drain hose must be laid Be sure that the drain hose is not loosely connected bend or together with Vinyl tape. wall thickness. water pond



[PUSH] mark positions



### **HOW TO REMOVE INDOOR UNIT**

(The [PUSH] sections are indicated by 2 arrows in the right

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MODEL HIC



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#### **Tools Needed For Installation Work**

(Mark⊚ is exclusive use tool for R410A,R32)⊕€ Screwdriver • Measuring Tape • Knife • Saw • ø65mm PowerDrill • Hexagonal Wrench Key (☼☆4mm) • Wrench(14,17,19,22mm) • Gas leakage Detector • PipeCutter • Putty • Vinyl Tape • Pliers Flare Tool 

Vacuum Pump Adapter 

Manifold Valve Charge HoseVacuum Pump

### **SAFETY PRECAUTION**

Read the safety precautions carefully before operating the unit.

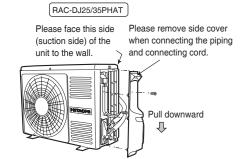
This appliance is filled with R32.

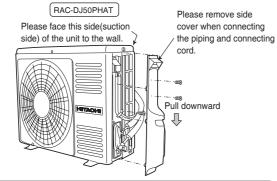
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- Make sure that the units are mounted at locations which are able to provide full support to the weight of the units. If not, the units may
- Observe the rules and regulations of the electrical installation and the methods described in the installation manual when dealing with the electrical work. Use cables which are approved official in your country. Be sure to use the specified circuit. A short circuit and fire may occur due to the use of low quality wire or improper work.
- Be sure to use the specified cables 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 to prevent the external force is being applied to the connection section of the terminal base. 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, fire or stronger vibration may occur.
- Be sure to use the specified piping set for R32. Otherwise, this may result in broken copper pipes or faults
- When installing or transferring an air conditioner to another location, make sure that air other than the specified refrigerant (R32) 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.
- Never install a drier to this R32 unit in order to guarantee its lifetime.
- 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. Do not connect the earth line to the gas tube, water pipe, lighting rod or the earth line of the
- telephone unit. Improper earthing may cause electric shocks. When finishing the refrigerant collection (pumping down), stop the compressor and then remove the coolant pipe.
- If you remove the refrigerant pipe while the compressor is operating and the service valve is released, air is sucked and a
- pressure in the freezing cycle system will build up steeply, causing an explosion or injury. • When installing the unit, be sure to install the refrigerant pipe before starting the compressor.
- If the refrigerant pipe is not installed and the compressor is operated with the service valve released, air is sucked and the pressure level of the refrigeration cycle may increase abnormally which could result in a rupture and injury.
- The electric cables should neither be reworked nor added. Make sure to use an exclusive circuit breaker.
- Otherwise fire or electric shock might occur by connection failure, isolation failure or over current
- Make sure to connect cables to terminal properly and terminal cover should close firmly Otherwise, over heating at terminal contact, fire or electric shock might occur.
- Make sure that there is no dust on any connected points of electric cables and fix firmly
- Otherwise, fire or electric shock might occur.
- Please mount the Outdoor unit of stable ground to prevent vibration and increase of noise level.
- Decide the location for piping after sorting out the different types of pipe available.
- When removing side cover, please pull the handle after undoing the hook by pulling it downward. Reinstall the side cover in the
- reverse order of the removal.



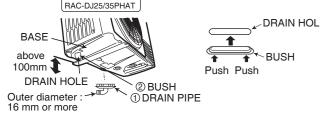


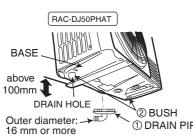
### **A** CAUTION

 Do not touch the suction port, bottom surface, or aluminum fin of the outdoor unit. Failure to do so may cause an injury.

### **CONDENSED WATER DISPOSAL OF OUTDOOR UNIT**

- There is holes on the base of Outdoor unit for condensed water to exhaust.
- In order to flow condensed water to the drain, the unit is installed on a stand or a block so that the unit is 100mm above the ground as shown figure. Join the drain pipe to one hole.
- After installation, check whether the drain pipe clings to the base firmly.





- Install the outdoor unit horizontally and make sure that condensate drains away.
- In case of using in chilly area. Especially, in case that there are many snows by very cold in chilly area, condensed water freezes on the base and may result not to drain. In this case, please remove the bush and the drain pipe at the bottom of unit.(Left and center near discharge portion of air, each 1 place).It becomes smooth drain.Ensure that the distance from the drain hole to the ground is 250 mm or more.

#### **A** CAUTION

- A circuit breaker must be installed in the house distribution box for the direct connected power supply cables to the outdoor unit. In case of other installations a main switch with a contact gap or 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.
- Please ensure smooth flow of water when installing the drain hose. Improper installing may wet your furniture.
- 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.)

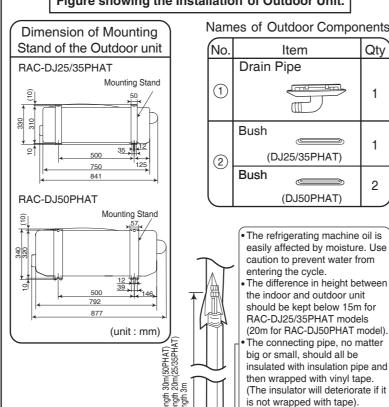
#### **▲** WARNING

The Outdoor unit must be mounted at a location which can support heavy weight. Otherwise, noise and vibration will increase

#### **A** CAUTION

- Selecting the installation location: Suitable location that will reduce the impact from rain and direct sun that may affect the unit performance. Besides, ventilation must be good and clear of obstruction.
- The air blown out of the unit should not point directly to animals or plants The clearances of the unit from top left right and front are specified in figure below. At least three of the above sides must be open air
- Be sure that the hot air blown out of the unit and noise do not disturb the neighbourhood.
- Do not install at a location where there is flammable gas, steam, oil and smoke The location must be convenient for water drainage.
- Place the Outdoor unit and its connecting cord at least 1m away from the antenna or signal line of television, radio or telephone. This is to avoid noise interference.

### Figure showing the Installation of Outdoor Unit.



#### should be kept below 15m for (20m for RAC-DJ50PHAT model) The connecting pipe, no matter nsulated with insulation pipe and then wrapped with vinyl tape. The insulator will deteriorate if is not wrapped with tape). The connection of insulated drain hose give clearance as wide as possible Inner diameter 16mm The clearances of the above 200mm unit from top, left, right Please use insulated drain and front are specifie hose for the indoor pipin in figure below. At leas (commercial product) three of the above sides must be open air. above 150mm as possible above 200mm

For outdoor unit installation, allow at least 2 sides of space around the unit to ensure ventilation flue.

### Drain hose

Drains the dehumidified water from the indoor unit to the outdoor during "cooling" or "dehumidifying" operation.

### Piping and Wiring

Air inlets (Rear and left sides)

#### Air outlet When "heating" operation is performed,

cool air blows and when "cooling" or "dehumidifying" operation is performed, warm air blows.

#### About the outdoor unit: When "Stop" is selected during operation

- of the indoor unit, the fan of the outdoor unit continues turning for 10 to 60 seconds to cool the electric parts down. In heating operation, condensate of
- water due to defrosting will flow. Do not cover the drain port of the outdoor unit because such water may freeze ir the chilly area.
- When the outdoor unit is hung on the ceiling, install the bush and drain pipe on the drain port and drain water.

### Preparation of Pipe

REMOVAI

**ERATING PIPES AND AIR** 

REFRIGI

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INSTALLATION

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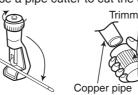
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**5** 

Use a pipe cutter to cut the copper pipe and remove burr.



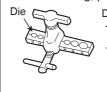


pipe

# **A** CAUTION

#### Remove burr and jagged edge will cause leakage. Point the side to be trimmed downwards during trimming to prevent copper chips from entering the pipe.

Before flaring, please put on the flare nut.



exclusive tool for refrigerant R410A, 9.52 (3/8") R32 Copper

▲ WARNING • THIS APPLIANCE MUST BE EARTHED.

Detail of Cutting the Connecting Cord

Outdoor Unit

160mm

,10mm

meet the standard of the electrical installation.

be sure to remove the plug from its socket.

AC 220-240V

Connecting cord

**A** WARNING

The naked part of the wire core should be 10mm fix it to the terminal tightly. Then

try to pull the individual wire to check if the contact is tight. Improper insertion may

Please refer to the manual for wire connection and the wiring technique should

There is an AC voltage drop between the LN terminal if the power is on. Therefore,

When the fuse (F5 or F6) has been blown out by the improper connection of power

Please exchange the blown-out fuse after making sure the right connection.

cable, it can be restored by exchanging the fuse (service part No.HWRAC-50NX2 A52).

A (mm) Rigid Flaring Tool For R410A,R32 tool For R22 tool Diameter (Ø) 6.35 (1/4") 1.0 0 - 0.5 1.0 1.0 12.7 (1/2") 0 - 0.5

Outer diameter

### 2 Pipe Connection

# **▲** CAUTION

- In case of removing flare nut of a indoor unit, first remove a nut of small diameter side, or a seal cap of big diameter side will fly out. Free from water into the piping when working.
- Be sure to tighten the flare nut to the specified torque with a torque wrench. If the flare nut is overtightened, the nut may be split after a long period has passed, and may cause a refrigerant leak.
- Please be careful when bending the copper pipe.
- Screw in manually while adjusting

the center. After that, use a wrench to tighten the conne

**Procedures of Wiring** 

11213

Strip

wires

Green +

Yellow

djusting			of pipe (ø)	(kgf·cm)
a torque ection.	Small diameter side		6.35 (1/4")	13.7-18.6 (140 - 190)
	Large diameter side		9.52 (3/8")	34.3-44.1 (350 - 450)
			12.7 (1/2")	44.1-53.9 (450 - 550)
	Valve	Small diameter side	6.35 (1/4")	19.6-24.5 (200 - 250)
e ch	head cap	Large diameter side	9.52 (3/8")	19.6-24.5 (200 - 250)
			12.7 (1/2")	29.4-34.3 (300 - 350)
	Valve core cap			12.3-15.7 (125 - 160)

### -24.5 (200 - 250) 1-34.3 (300 - 350) -15.7 (125 - 160)

Torque N·m

Leave some space in the connecting cord for maintenance purpose and be sure to secure it with the cord band.

WARNING • Secure the connecting cord along the coated part of the wire using the cord band. Do not exert pressure on the wire as this may cause overheating or fire.

3 Remove of Air From The Pipe And Gas Leakage Inspection

As shown in right figure, remove the cap

of valve core. Then, connect the charge

hose. Remove the cap of valve head.

Connect the vacuum pump adapter to the

vacuum pump and connect the charge

Fully tighter the "Hi" shuttle of the manifold

valve and completely unscrew the "Lo"

shuttle. Run the vacuum pump for about

10-15 minutes, then completely tighten the

"Lo" shuttle and switch off the vacuum

Loosen the spindle of the service valve

with small diameter by 1/4 turn and

tighten the spindle immediately after 5

• Remove the charging hose from the

Completely unscrew the spindle of the

service valve (at 2 places) in anticlockwise

direction to allow the flow of refrigerant

Tighten the cap of valve head. Check the

cap's periphery if there is any gas leakage.

Please use gas leakage detector to check if leakage occurs at

If gas leakage occurs, further tighten the connection to stop leakage.

(using Hexagonal Wrench key).

The task is then completed.

connection of Flare nut as shown on the right.

hose to the adapter

to 6 seconds.

service valve

Gas leakage inspection

**Procedures of using Vacuum Pump for Air Removal** 

When the meter reaches - 101KPa

-76cmHg) during pumping fully

Valve<sup>\*</sup>

When pumping starts, slightly

loosen the flare nut to check of

air sucked in. Then tighten the

Q

Hexagonal wrench Key

Cap of valve head

Cap of val

flare nut.

body of service valve,

Cap of

valve core

Meter showing

Closed

- Vacuum

adapter

R410A,R3

Closed R410A,R Manifold

tighten the shuttle.

### Wiring of the Outdoor Unit Please remove the side cover for wire connection.

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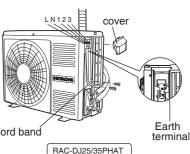
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- If you cannot attach the side plate due to the connection cord, please press the connecting cord in the direction to the front panel to fix it
- Be sure that the hooks of the side cover fixed in certainly. Otherwise water leakage may occur **WARNING** and this causes short circuit or faults.
  - The connecting cord should not touch to service valve and pipes. (it becomes high temperature in heating operation.)

### Checking for the electric source and the voltage range

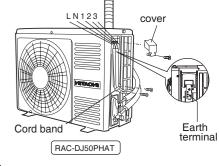
· Before installation, the power source must be checked and necessary wiring work must be completed. To make the wiring capacity proper, use the wire gauge list below for the wiring from house distribution fuse box to the outdoor unit in consideration of the blocked rotor current.



Investigate the power supply capacity and other electrical conditions at the installing location.

Depending on the model of room air conditioner to installed, request the customer to make arrangemer for the necessary electrical work etc. The electrical work includes the wiring work up the

outdoor unit. In localities where electrical conditions are poor, use of a voltage regulation is recommended. Install outdoor for the room air conditioner within the reaching range of the line cord.



### **IMPORTANT**

be	Fuse Capacity		
nts	RAC-DJ25/35PHAT	15A time delay fuse	
	RAC-DJ50PHAT	25A time delay fuse	
ho			

Wire length	Wire cross-section	
up to 6m	1.5mm <sup>2</sup>	
up to 15m	2.5mm <sup>2</sup>	
up to 20m	4.0mm <sup>2</sup>	

### **Power Source And Operation Test**

### **Power Source**

burn the terminal

### **▲** WARNING

Be sure to use only wire specified for the use of air-conditioner

- Never remodel the power plug nor extend the long-distance cord. Keep additional length for the power cord and do not render the plug under
- external force as this may cause poor contact. Do not fix the power cord with U-shape nail.
- The power cable easily generates heat. Do not bring the cable together with a wire or vinyl tie.

### Operation test

- Please be sure to measure the supply voltage before operation test. Please ensure that the air conditioner is in normal operating condition
- during the operation test. 1. Operate with Cooling Mode(in summer) or Heating Mode(in winter). 2. Press Temperature Button on the remote controller to set the desired temperature to 16.0°C for Cooling Mode or 32.0°C for Heating Mode.
- **STA**( Set the desired fan speed to " % " (High). 3. Operate the air conditioner for 20 minutes at least and make sure that AL the air from the air conditioner is cool or warm.
  - 4. Press On/Off Button on the remote controller and make sure that the air conditioner stops the operation. If the indication lamps of the indoor unit flash with sounding of the buzzer during the operation test, perform a check following the procedures below.

# Indication lamps flashing

### All indication lamps flash three times repeatedly.

Make sure that the spindles of both service valves are open. (Outdoor fan might operate for near 15 minutes after the operation stop for remove the protection. For the reoperation at that case, do it after outdoor fan will stop.)

- Befor the check and the reoperation, reset the power supply by turning off and on the circuit breaker only after
- waiting for at least 5 mintes; or
- · pressing the Temporary Switch Button only once while the power is OFF.

### **▲** CAUTION

- Don't operate for over 5 minutes with the situation that the spindle of the service valve is closed. This will cause the defect. Don't operate by Cool Mode or Dry Mode with the door and windows
- time. Water will condense and drip down occasionally. This will wet your furniture. • Explain to your customer the proper operation procedures as
- described in the user's manual.
- If the indoor unit won't operate, check the cable for correct
- . Turn on the lamp in the room where the indoor unit is installed and check the remote controller for normal operation.

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### (kg) RAC-DJ25PHA 32:0.870 | 675 | 0.587 **RAC-DJ35PHAT** RAC-DJ50PHAT R32:1.050 675 0.709



Refrigerant

frigerant GWP t CO2 eq

0

opened, (the room humidity is always above 80%) for a long period of