Required tools for Installation Works

2 Level gauge 3 Electric drill, hole core drill (ø70 mm) 1 Urseconst wrench (4 mm)

65 N•m (6.6 kgf.m) 100 N•m (10.2 kgf.m)

SAFETY PRECAUTIONS

Read the following "SAFETY PRECAUTIONS" carefully before installation.

Electrical work must be installed by a licensed electrician. Be sure to use the correct rating of the power plug and main circuit for the model to be installed the three caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below. Incorrect installation due to ignoring of the instruction will cause harm or damage, and the seriousness is classified by the following indications.

⚠ WARNING This indication shows the possibility of causing death or serious injury. ⚠ CAUTION This indication shows the possibility of causing injury or damage to properties only. The items to be followed are classified by the symbols: Symbol with white background denotes item that is PROHIBITED. Symbol with dark background denotes item that must be carried out.

t test running to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated ctions. Please remind the customer to keep the operating instructions for future reference.

⚠ WARNING

Do not install outdoor unit near handrail of veranda. When installing air-conditioner unit on veranda of a high rise building, child may climb up to outdoor unit and cross over the handrail causing an accident.

Do not use unspecified cord, molified cord, joint cord or extension cord for power supply cord. Do not share the single outlet with other electrical appliances. Poor contact, poor insulation or over current will cause electrical shock or fire.

Do not tie up the power supply cord into a bundle by band. Abnormal temperature rise on power supply cord may happen Do not insert your fingers or other objects into the unit, high speed rotating fan may cause injury.

Do not sit or step on the unit, you may fall down accidentally.

Keep plastic bag (packaging material) away from small children, it ma
When installing or relocating air conditioner, do not let any substance
Mixing of air etc will cause abnormal high pressure in refrigeration cyc Keep plastic bag (packaging material) away from small children, it may cling to nose and mouth and prevent breathing.

When installing or relocating air conditioner, do not let any substance other than the specified refrigerant, eg. air etc. mix into refrigeration cycle (piping). Mixing of air etc will cause abnormal high pressure in refrigeration cycle and result in explosion, injury etc.

Mixing of air eto will cause abnormal high pressure in refrigeration cycle and result in explosion, injury etc.

• For R410A model, use piping, flare nut and tools which is specified for R410A refrigerant. Using of existing (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.

• Trickness or copper pipes used with R410A must be more than 0.8mm. Never use copper pipes thinner than 0.8mm.

• It is desirable that the amount of residual oil is less than 40mg/10m.

Engage authorized dealer or specialist for installation. If installation done by the user is incorrect, it will cause water leakage, electrical shock or fire.

stall according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire. cories narts and specified parts for installation. Otherwise, it will cause the set to fall, water leakage, fire or electrical sho

stall at a strong and firm location which is able to withstand the set's weight. If the strength is not enough or installation is not properly done, the set will

ing and cause figury
or installation work, follow all electrical, building, plumbing, local codes, regulations and these installation instructions. If electrical circuit capacity is not nough or a deflect is bund in electrical work, it will cause electrical shock or fire.

o not use spliced wires for indoor / outdoor connection cable. Use the specified indoor / outdoor connection cable, refer to instruction
INDOOR/
UTDOOR UNIT ELECTRICAL WIRING and connect tightly for indoor/outdoor connection. Clamp the cable so that no external force will have impact on the terminal. If connection or fixing is not perfect, little fuse heat-up or fire at the connection.

If or outling must be properly arranged so that control board cover is fixed properly. If control board cover is not fixed perfectly, it will cause fire or electricated.

The control of the property arranged as the company of the control of the control

fentilate if there is refrigerant gas leakage during operation. It may cause toxic gas when the refrigerant comes into contact with fire. his equipment must be properly earthed. Earth line must not be connected to gas pipe, water pipe, earth of lightning rod and telephone. Otherwise, it may

⚠ CAUTION

Indoor/Outdoor Unit Installation Diagram

ulation of piping connections

Attaching the remote control holder to the wall

ections

or
and

× Vinyl tape

A RECO

Installation parts you should purchase (*)

-Bushing-Sleeve (X

-Putty (×) (Gum Type Sealer)

Conduit (Connecting cable)

- Liauid side piping (*)

— Gas side piping (※)

Control Board cover

Do not install the unit at place where leakage of fammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.

Do not release refrigerant during piping work for installation, re-installation and during repairing a refrigeration parts. Be careful with the liquid refrigerant, it may cause freshite.

Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.

Do not touch the sharp aluminium fin, sharp parts may cause injury.

Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture Select an installation location which is easy for maintenance.

ielect an installation location written to warp your memory to make your memory to make your memory to mem

some countries, permanent connection of this air condutioner to the power supply is profitable. I power supply connection to a circuit breaker for permanent connection. e NRTL approved fuse or circuit breaker (rating refers to name plate) for permanent connection

0 t may need two people to carry out the installation work.

Ħ 0 `*&*^ (9)⊕ ⊖) Piping size

Applicable piping kit CZ-3F5, 7BP 3/8" (9.52 mm)
CZ-4F5, 7, 10BP 1/2" (12.7 mm)
CZ-52F5, 7, 10BP 5/8" (15.88 mm) SELECT THE BEST LOCATION

INDOOR UNIT Do not install the unit in excessive oil fume areas such as

Recommended installation height for indoor unit shall be at least 2.5 m.

OUTDOOR UNIT

If an awning is buil over the unit to prevent direct sunlight or rain, be careful that heat radiation from the condenser is not obstructe. There should not be any aimfail or plant near the unit which could be affected by not air discharged.

Keep the spaces indicated by arrows from wall, ceiling, lence or other obstacles.

Do not place any obstacles near the unit which may cause a should be approximated to the condense of the

r obstacles.
ot place any obstacles near the unit which may cause a short it of the discharged air. circuit of the discharged air. If a principle of the discharged air. If piping length is over the [piping length is over the [piping length is additional gas], additional refrigerant should be added as shown in the table Recommended installation height for outdoor unit should be the seasonal snow level.

Example: For E18NKK If the unit is installed at 12.5 m distance, the quantity of additional refrigeran should be $50 \ g$ (12.5-10) m x $20 \ g/m = 50 \ g$.

INDOOR UNIT

SELECT THE BEST LOCATION

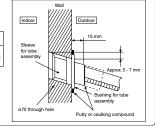
HOW TO FIX INSTALLATION PLATE

1 2 3 4 5 6 585 mm 82 mm 165 mm 158 mm 169 mm 219 mm E18NKK, E22NKK

TO DRILL A HOLE IN THE WALL AND **INSTALL A SLEEVE OF PIPING**

nsert the piping sleeve to the hole. Fix the bushing to the sleeve.
 Cut the sleeve until it extrudes about 15 mm from the wall.

♠ CAUTION



CONNECT THE CABLE TO THE INDOOR

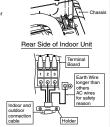
I. The inside and outside connection cable can be connected without removing the front grille. Unscrew the conduit over and fix the conduit connector to conduit cover with lock nut, then secure it against chassis. 3. Connection cable between indoor unit and outdoor unit should be UL listed or CSA approved 4 conductor wires minimum AWG16 in accordance with local electric codes.

 Ensure the colour of wires of outdoor unit and terminal number are the same as the indoor's repectively. are the same as the indoor's repectively.

Terminals on the indoor unit 1 2 3

Colour of wires (connection cable)

Terminals on the outdoor unit 1 2 3 This equipment must be properly earthed Earth lead wire shall be Yellow/Green (Y/G) in colour and shall be longer than other lead wires as shown in the figure for electrical safety in case of the slipping.



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-®]

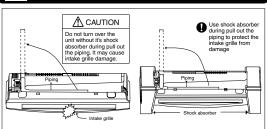
Conduit Cover

WIRE STRIPPING AND CONNECTING REQUIREMENT

CUTTING AND FLARING THE PIPING



4 INDOOR UNIT INSTALLATION



1. FOR THE RIGHT REAR PIPING Right Rear piping Step-1 Pull out the Indoor piping Step-2 mentioned in Fig. below. nstall the Indoor Unit Step-3 Step-4 Insert the connection cable How to keep the cover

Step-1 Pull out the Indoor piping

Step-2 Install the Indoor Unit

Step-4 Secure the Indoor Unit

3. FOR THE EMBEDDED PIPING

Use a spring bender or equivalent to bend the piping s that the piping is not crushed.

ull the connection cable

to Indoor Unit

ut and flare the

ded piping

When determining the dimensions of the piping, slide the unit all the way to the left or the installation plate.

efer to the section "Cutting nd flaring the piping".

nnect the piping

ate and finish the

Please refer to "Piping and finishing" column of outdoor section and "Insulation of piping connection" column as mentioned in indoor/outdoor unit installation.

How to pull the piping and drain hose out, in case of the embedded piping.

60

oiping

Step-8 Secure the Indoor Unit

Rear view for left piping installa-

Replace the drain hose

The inside and outside

Step-1 Replace the drain hose

•

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Step-3

•

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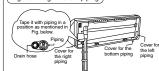
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Step-5

Step-6

(Left and 2 bottom covers for piping.) 2 FOR THE RIGHT BOTTOM

Right and Right Bottom piping



Install the indoor unit



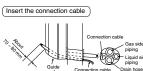
Secure the Indoor Unit Press the lower left and

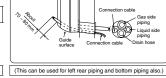
right side of the unit agains the installation plate until hooks engages with their slot (sound click).

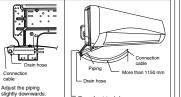


To take out the unit, push the with marking at the bottom unit, and pull it slightly towards you to disengage the hooks from the unit.

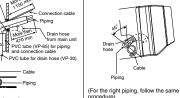
Unit's Installa







In case of left piping how to insert the connection cable and drain hos



OUTDOOR UNIT $oldsymbol{3}$ connect the piping

SELECT THE BEST LOCATION

INSTALL THE OUTDOOR UNIT

After selecting the best location, start installation to Indoor/Outdoor Unit Installation Diagram

- Lal- -

E18NKK, E22NKK 613 mm 131 mm 16 mm 360.5 mm

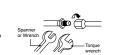
Connect the piping

Align the center of piping and sufficiently tighten the flare nut with fingers.

Further tighten the flare nut with torque wrench in specified torque as stated in the table. 3/8" (9.52 mm) [42 N•m (4.3 kgf.m)] 1/2" (12.7 mm) [55 N•m (5.6 kgf.m)] Fix the unit on concrete or rigid frame firmly and horizontally with a bolt nut (ø10 mm). When installing at roof, please consider strong wind and earthquake. Please fasten the installation stand firmly with bolt or nails. 5/8" (15.88 mm) Connecting The Piping to Outdoor Decide piping length and then cut by using pipe cutter.
Remove burrs from cut edge.
Make flare after inserting the flare nut (locate at valve) onto Model A B C D the copper pipe.

Align center of piping to valve and then tighten with torque wrench to the specified torque as stated in the table.

Connecting The Piping to Indoor Please make flare after inserting flare nut (locate at joir portion of tube assembly) onto the copper pipe. (In case of using long piping)



CONNECT THE CABLE TO THE OUTDOOR UNIT

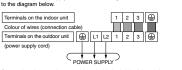
Remove plugs

Fix the conduit connectors to the knockout holes with lock-nuts, then secure them against the side

All wires pass through conduits & particular plate's opening hole

All wires pass through conduits & particular plate's opening hole.
Connecting wire between indoor unit and outdoor unit should be UL listed or CSA approved 4 conductor wires minimum AWOIS file in accordance with local electric codes.
Wire connection to the power supply (208230V 60Hz) through circuit breaker.

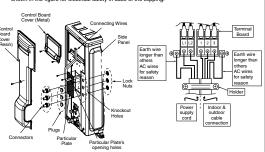
Connect the UL listed or CSA approved wires minimum AWOI12 to the terminal board, and connect the other end of the wires to ELCB / GFCI.
Connect the power supply cord and connecting wire between indoor unit and outdoor unit according to the diagram below.



ure the wire onto the control board with the holder (clamper).
r completing wiring connections, reattach the particular plate and control board cover (Metal and After completing wiring connections, reattach Resin) to the original position with the screws. 1. For wire stripping and connection requirement, refer to instruction (5) of indoor unit

This equipment must be properly earthed.

Earth lead wire shall be Yellow/Green (Y/G) in colour and shall be longer than other lead wires as shown in the figure for electrical safety in case of the slipping.



4 EVACUATION OF THE EQUIPMENT

Close $|| \bigcirc |$ CLOSE

HEN INSTALLING AN AIR CONDITIONER, BE SURE TO EVACUATE THE AIR INSIDE THE INDO IIT AND PIPES in the following procedure

Connect a charging hose with a push pin to the Low side of a charging set and the service port of the

1. Connect a charging hose with a push pin to the Low side of a charging set and the service port of the 3-way valve.

• Be sure to connect the end of the charging so the with the push pin to the service port.

2. Connect the center hose of the charging set to a vacuum pump.

3. Turn on the power switch of the vacuum pump and make sure that the needle in the gauge moves from 0 mHg (0 MPa) to -76 cmHg (-0.1 MPa). Then evacuuate the air for approximately ten minutes.

4. Close the Low side valve of the charging set and turn off the vacuum pump. Make sure that the needle in the gauge does not move after approximately five minutes.

Note: 3E SURE TO PERFORM THIS PROCEDURE IN ORDER TO AVOID REFRIGERANT GAS LEAKAGE.

5. Injoine the charging hose from the vacuum pump and from the service port of the 3-way valve.

6. Tighten the service port caps of the 3-way valve at a torque of 18 N+m with a torque wrench.

7. Remove the valve caps of both of the 2-way valve and 3-way valve. Position both of the valves to "OPEN" using a hexagonal wrench (4 mm).

8. Mount valve caps onto the 2-way valve and 1-way valve.

• Be sure to check for gas leakage.

⚠ CAUTION

If gauge needle does not move from 0 cmHg (0 MPa) to -76 cmHg (-0.1 MPa), in step ③ above take the following measure:

the tollowing measure. If the leak steps where it if the leak steps when the piping connections are tightened further, continue working from step ③. If the leak does not stop when the connections are relightened, repair location of leak. Do not release refrigerant during piping work for installation and reinstallation. Be careful with the liquid refrigerant, it may cause frostbite.

PIPING INSULATION

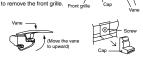
arry out insulation at pipe connection portion as mentioned in Indoor/Outdoor Unit Ir

garam. Please wrap the insulated piping end to prevent water from going inside the piping, drain hose or connecting piping is in the room (where dew may form), please increase the in sing POLY-E FOAM with thickness 6 mm or above.

INSTALLATION OF ANTI-BACTERIAL FILTER Open the front panel.



When reinstalling the front grille, first set the vertical airflow direction louver to the horizontal position and then carry out above steps 2 - 3 in the reverse order.



AUTO SWITCH OPERATION

The below operations will be performed by pressing the "AUTO" switch. AUTO OPERATION MODE

The Auto operation will be activated immediately once the Auto Switch is pressed and release before 5 sec..
TEST RUN OPERATION (FOR PUMP DOWN/SERVICING PURPOSE)

The Test Run operation will be activated if the Auto Switch is pressed continuously for more than 5 sec. to below 8 sec..

A "pep" sound will occur at the fifth sec., in order to identify the starting of Test

HEATING TRIAL OPERATION HEATING I HIAL OPERATION

Press the "AUTO" switch continuously for more than 8 sec. to below 11 sec. and release when a
"pep pep" sound is occured at eight sec. (However, a "pep" sound is heard at fifth sec..) then press

Remote controller "A/C Reset" button once. Remote controller signal will activate operation force

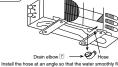
REMOTE CONTROLLER RECEIVING SOUND ON/OFF HEMOLE CONTROLLER HECELINDES SOURCE OWN can can be changed by the following steps: 1he ONIOPF of Remote controller receiving sound can be changed by the following steps: a) Press "AUTO" switch continuously for more than 16 sec. to below 21 sec.. A "pep", "pep", "pep", "pep" sound will occur at the sixteenth sec.. b) Press the "AC Reset" button once. Remote controller signal will activate the Remote controller by Press the "AC Reset" button once. Remote controller signal will activate the Remote controller.

sourid setting mode.

c) Press the "AUTO" switch once to select Remote controller receiving sound ON/OFF. A "pep" sound indicates receiving sound ON, and a "pep" sound indicates receiving sound OFF.

DISPOSAL OF OUTDOOR UNIT DRAIN WATER

If a drain elbow is used, the unit should be placed or a stand which is taller than 3 cm.
If the unit is used in an area where temperature falls below 0°C for 2 or 3 days in succession, it is ecommended not to use a drain elbow, for the drain ater freezes and the fan will not rotate.



CHECK THE DRAINAGE

Open front panel and remove air filters.

(Drainage checking can be carried out without removing the front grille.)

in gime.)
It a glass of water into the drain tray-styrofoam.
It is glass of the indoor unit.



EVALUATION OF THE PERFORMANCE Operate the unit at cooling/heating operation mode for

titteen minutes or more. Measure the temperature of the intake and discharge air. Ensure the difference between the intake temperature and the discharge is more than 8°C during Cooling operation or more than 14°C during Heating operation.



CHECK ITEMS

Is there any gas leakage at flare nut Has the heat insulation been carried out at flare

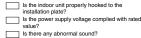
Is the connection cable being fixed to terminal board firmly?

Is the drainage ok?
(Refer to "Check the drainage" section)

Is the earth wire connection properly done?

Is the cooling/heating operation normal?

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Is the thermostat operation normal? Is the remote control's LCD operation normal?

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