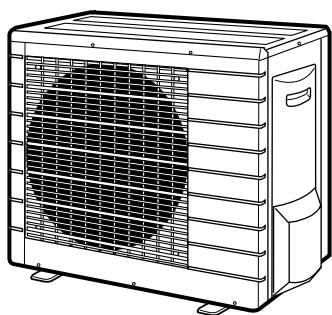




INSTALLATION MANUAL

R410A Split Series



Models

RXS60F3V1B	RKS60F3V1B
RXS50G2V1B	RKS50G2V1B
RXS60F2V1B	RKS60F2V1B
RYN50E3V1B	RN50E3V1B
RYN60E3V1B	RN60E3V1B
RX50G2V1B	ARXS50G2V1B
RX60G2V1B	ARXS50E3V1B

Installation manual
R410A Split series

English

Installationsanleitung
Split-Baureihe R410A

Deutsch

Manuel d'installation
Série split R410A

Français

Montagehandleiding
R410A Split-systeem

Nederlands

Manual de instalación
Serie Split R410A

Español

Manuale d'installazione
Serie Multiambienti R410A

Italiano

Εγχειρίδιο εγκατάστασης
διαιρούμενης σειράς R410A

Ελληνικά

Manual de Instalação
Série split R410A

Portugues

Руководство по монтажу
Серия R410A с раздельной установкой

Русский

Montaj kılavuzları
R410A Split serisi

Türkçe

CE - DECLARATION-OF-COMFORMITY
CE - KONFORMITÄTSERKLÄRUNG
CE - DECLARATION-DE-CONFORMITE
CE - CONFORMITEITS/VERKLARING

CE - DECLARACION-DE-CONFORMIDAD
CE - DICHIARAZIONE-DI-CONFORMITA
CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ

CE - DECLARAÇÃO-DE-CONFORMIDADE
CE - ЗАРЯБЛЕННЕ-О-СОТВЕТСТВИИ
CE - ÖPFLYDELSESERKLÄRING
CE - FÖRSÄKRAN-OM ÖVERENSSTÄMMELSE

CE - ERKLÆRING OM-SAMSVAR
CE - ІЛМОУТЎ-ҲДЕНМУКАІСУДЕСТА
CE - DEKLARACJA-ZGODNOSCІ
CE - DECLARAȚIE-DE-CONFORMITATE

CE - IZJAVA-O-USKLADENOSTI
CE - MEGFELELŐSÉGI-NYILATKOZAT
CE - DEKLARACJA-ZGODNOSCІ
CE - DECLARAȚIE-DE-CONFORMITATE

CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARACIJA
CE - DEKLAPEIPIPIPIPI-3A-COTBETCTBME
CE - UYUMLULUK-BILDIRİSİ

CE - ATTIKTIES-DEKLARACIJA
CE - ATBILSTIBAS-DEKLARACIJA
CE - VYHLÁSENIE-ZHODY
CE - UYUMLULUK-BILDIRİSİ

DAIKIN INDUSTRIES, LTD.

- 01 ㊦ declares under its sole responsibility that the air conditioning models to which this declaration relates:
02 ㊦ erklärt auf seine alleinige Verantwortung daß die Modelle der Klimageräte für die diese Erklärung bestimmt ist:
03 ㊦ déclare sous sa seule responsabilité que les appareils d'air conditionné visés par la présente déclaration:
04 ㊦ verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de airconditioning units waarop deze verklaring betrekking heeft:
05 ㊦ declara bajo su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración:
06 ㊦ dichiara sotto sua responsabilità che i condizionatori modello a cui è riferita questa dichiarazione:
07 ㊦ δηλώνει με αποκλειστική της ευθύνη ότι τα μοντέλα των κλιματιστικών ομοειδών στο οποίο αναφέρεται η παρούσα δήλωση:
08 ㊦ заявляє про свою єксклюзивну відповідальність, що моделі де кондиціонеровоздуху, я котрим відноситься настанове заявлення:
09 ㊦ заявляет, исключительного под своей ответственностью, что модели кондиционеров воздуха, к которым относится настоящее заявление:

RX560F3V1B, RK560F3V1B, RX550G2V1B, RK550G2V1B, ARXS0G2V1B, ARXS0E3V1B,
RX560F2V1B, RK560F2V1B, RYN50E3V1B, RYN60E3V1B, RN50E3V1B, RN60E3V1B,
RX50G2V1B, RX60G2V1B

01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:

02 werden folgenden Normen) oder einem anderen Normdokument oder -dokumenten entsprechend/entsprechend, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:

03 sont conformes à la(s) norme(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
04 conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies:

05 están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones:

06 sono conformi all(i) seguente(i) standard(i) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
07 είναι σύμφωνα με το(ι) ακόλουθο(ι) πρότυπο(ι) ή άλλο(ι) έγγραφο(ι) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:

EN60335-2-40,

- 01 following the provisions of:
02 gemäß den Vorschriften der:
03 conformément aux stipulations des:
04 overeenkomstig de bepalingen van:
05 siguiendo las disposiciones de:
06 secondo le prescrizioni per:
07 με τη(ν) εντολή(ν) των διατάξεων των:
08 de acordo com o previsto em:
09 в соответствии с положениями:

- 01 Note * as set out in <A> and judged positively by
according to the Certificate <C>:
02 Hinweis * wie in der <A> aufgeführt und von positiv beurteilt gemäß Zertifikat <C>:
03 Remarque * tel que défini dans <A> et jugé positivement par conformément au Certificat <C>:
04 Bemerk * zoals vermeld in <A> en positief beoordeeld door overeenkomstig Certificaat <C>:
05 Nota * como se establece en <A> y es valorado positivamente por de acuerdo con el Certificado <C>:
06 Nota * delimitado nel <A> e giudicato positivamente da secondo il Certificato <C>:
07 Σημείωση * όπως καθορίζεται στο <A> και κρίνεται θετικά από το σύμφωνα με το πιστοποιητικό <C>:
08 Nota * tal como estabelecido em <A> e com o parecer positivo de de acordo com o Certificado <C>:
09 Πίλησηση * как указано в <A> и в соответствии с положительным решением согласно Сертификату <C>:
10 Bemerk * como se definiu em <A> e foi positivamente avaliado por de acordo com o Certificado <C>:
11 Information * enligt <A> och godkännt av enligt Certifikat <C>:
12 Merk * som det framkommer i <A> og gjennom positiv bedømmelse av ifølge Serifikat <C>:
13 Huom * jotta on esittely asiasajassa <A> ja jotta on mykäsytty Serifikatim <C> mukaisesti.
14 Poznámka * jak bylo uvedeno v <A> a pozitivně zjištěno v souladu s ověřením <C>:
15 Napomena * kako je izloženo u <A> i pozitivno odobreno od strane prema Certifikatu <C>:
16 Megjegyzás * a(z) <A> alapján, a(z) igazolta a megjelölt, a(z) <C> tanúsítvány szerint.
17 Uwaga * zgodnie z dokumentacją <A>, pozytywną opinią i Świadectwem <C>:
18 Nota * asa om este stabilit în <A> și apreciat pozitiv de în conformitate cu Certificatul <C>:
19 Opomba * kot je obdano v <A> in odobreno s strani v skladu s ovrednotenjem <C>:
20 Märkus * nagu on näidatud dokumentis <A> ja heaks kiidetud järgi vastavalt sertifikaadile <C>:
21 Забелюка * както е изложено в <A> и оценено положително от съгласно Сертификата <C>:
22 Pastaba * kas nodstaba <A> ir kap leģatā inspekcija pagal Serifikāciju <C>:
23 Pzīmies * ka norādīts <A> ir atbilstoš pozitīvajam vērtējumam saskaņā ar <A> s pozitīvu ziņšē v salīdzinā ar <C> sertifikāta <C>:
24 Poznamka * ako bilo uvedeno v <A> s pozitivnim zisnē v salidu s ovēdēnim <C>:
25 Not * gōre brafinan oimtu dōrak degerlendirildi gōi.

- 10 ㊦ erklærer under eneansvar, at klimaanlægsmodelerne, som denne deklaration vedrører:
11 ㊦ deklarerer i egenkap av huudansvarig, att luftkonditioneringsmodellerna som berörs av denna deklaration innebär att:
12 ㊦ erklærer et fuldstændigt ansvar for at de luftkonditioneringsmodeller som berøres af denne deklaration indebærer at:
13 ㊦ ilmoittaa yksinomaan vastuullaan, että läänän ilmoituksen tarkoitamat ilmastointilaitteiden mallit:
14 ㊦ prohlásuje ve své plné odpovědnosti, že modely klimatizace, k nimž se tato prohlášení vztahují:
15 ㊦ izjavljue pod isključivo vlastitom odgovornostu da su modeli klima uređaja na koje se ova izjava odnosi:
16 ㊦ teljes felelősséggel tudatában kijelenti, hogy a klímaberendezés modellek, melyekre e nyilatkozat vonatkozik:
17 ㊦ deklarije na vlastoj, izjavljajući odgovornost, da su modeli klimatizatorov, kojih dotiču izjava deklaracije:
18 ㊦ deklará de proprie răspundere că aparatele de aer condițional la care se referă această declarație:

08 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) documento(s) normativo(s), desde que estes sejam utilizados de acordo com as nossas instruções:

09 conformeront aux normes standards ou autres documents normatifs, sous réserve qu'ils soient utilisés conformément à nos instructions:

10 overholder følgende standard(er) eller andre/andere retningsgivende dokument(er), boudst at disse anvendes i henhold til vore instruktioner:

11 respektive utsträttning är i överensstämmelse med och följer följande standard(er) eller andra normgivande dokument, under förutsättning att användaren sker i överensstämmelse med våra instruktioner:

12 respektive utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forudsætning af at disse bruges i henhold til vore instrukser:

13 respektive seuraavien standardien ja muiden ohjeellisten dokumenttien vaatimuksissa edellytään, että niitä käytetään ohjeiden mukaisesti:

14 za predpkladu, že jsou využívány v souladu s našimi pokyny, odpovídá následujícím normám nebo normativním dokumentům:
15 v skladu sa slijedećim standardom(na) ili drugim normativnim dokumentom(na), uz uvjet da se oni koriste u skladu s našim uputama:

Low Voltage 2006/95/EC
Electromagnetic Compatibility 2004/108/EC *

- 01 Directives, as amended.
02 Direktiven, gemäß Änderung.
03 Directives, telles que modifiées.
04 Richtlijnen, zoals gearandeerd.
05 Directivas, según lo emendado.
06 Direktive, come da modifica.
07 Ohjyöv, muut Euvon pironnointiel.
08 Directivas, conforme alteração em.
09 Директиве, со всеми поправами.

- 10 Direktiver, med senere ændringer.
11 Direktiv, med foretagne ændringer.
12 Direktiver, c revizore korekciene.
13 Direktiiv, selätsira kun ne ova muutetuiira.
14 plānen znieh.
15 Snienica, kako je izmijenjeno.
16 irānyvel(ek) és mōdosiāsk rendelekezései.
17 z pōznejšijm popravkami.
18 Direktivelor, cu amendamentele respective.

- 19 Direktive z vsemi spremembami.
20 Direktivd koos muudatustega.
21 Direktiven, c revizore korekciene.
22 Direktivose su poplāmaīs.
23 Direktīvas un to papildinājums.
24 Snemica, v platnom zneni.
25 Degisitrināš hālenīye i Yoreimeliker.

- 16 megfeleleek az alábbi szabvány(ok)nak vagy egyéb iránvado dokumentum(ok)nak, ha azokat előírás szerint használják:
17 स्पेनहण, वमणय नसपेकुणयच नमः । ननयच दकुमेन्तुव नमलतसयनयच, च वतुकनम ते उचयने सण डगुनने z रसयनय नसुतुकनः
18 sunt în conformitate cu următor (următoare) standard(e) (sau alte) document(e) normative), cu condiția ca acestea să fie utilizate în conformitate cu instrucțiunile noastre
19 skādz z nāsekojnyjā standārt(i)em, ch pōggem, ch se uporābājo v sklādu z nāšim nāvodim:
20 on deklaras jāpmis(i)je standārt(i)em, atbist sekojošiem standārtiem, ku neid kasulāse vāstāst mēle iehāndele:
21 cōtvetstvat ch nāsekojnyjā standārt(i)em, ch pōggem, ch se uporābājo v sklādu z nāšim nāvodim:
22 atlika zema nurodyjū standartus t(ies) kils normuvis dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
23 tad, je lietoji atbistosi rādājā norādījumiem, atbist sekojošiem standārtiem un citiem normatīviem dokumentiem:
24 su v zādo s nāsekojojojym) normoc(ām) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v sklade s našim zhadom:
25 určin, dāimālamzā gōre kulāimāis kosulūya āspūjākā standārti ve norm beliten belgelerle uyumludur:

- 20 Direktiver, med senere ændringer.
11 Direktiv, med foretagne ændringer.
12 Direktiver, c revizore korekciene.
13 Direktiiv, selätsira kun ne ova muutetuiira.
14 plānen znieh.
15 Snienica, kako je izmijenjeno.
16 irānyvel(ek) és mōdosiāsk rendelekezései.
17 z pōznejšijm popravkami.
18 Direktivelor, cu amendamentele respective.

- 19 Direktive z vsemi spremembami.
20 Direktivd koos muudatustega.
21 Direktiven, c revizore korekciene.
22 Direktivose su poplāmaīs.
23 Direktīvas un to papildinājums.
24 Snemica, v platnom zneni.
25 Degisitrināš hālenīye i Yoreimeliker.

- 16 megfeleleek az alábbi szabvány(ok)nak vagy egyéb iránvado dokumentum(ok)nak, ha azokat előírás szerint használják:
17 स्पेनहण, वमणय नसपेकुणयच नमः । ननयच दकुमेन्तुव नमलतसयनयच, च वतुकनम ते उचयने सण डगुनने z रसयनय नसुतुकनः
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23 tad, je lietoji atbistosi rādājā norādījumiem, atbist sekojošiem standārtiem un citiem normatīviem dokumentiem:
24 su v zādo s nāsekojojojym) normoc(ām) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v sklade s našim zhadom:
25 určin, dāimālamzā gōre kulāimāis kosulūya āspūjākā standārti ve norm beliten belgelerle uyumludur:

<A>	DAIKIN:TCF.015 M18/11+2009
	KEMA Quality B.V.
<C>	74736-KRO/EMC97-4957



Shinri Sada
Manager Quality Control Department
25th. of Nov. 2009

Shinri Sada

DAIKIN INDUSTRIES, LTD.
Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan

Safety Precautions

- The precautions described herein are classified as WARNING and CAUTION. They both contain important information regarding safety. Be sure to observe all precautions without fail.
- Meaning of WARNING and CAUTION notices

 **WARNING Failure to follow these instructions properly may result in personal injury or loss of life.**

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

- The safety marks shown in this manual have the following meanings:

 Be sure to follow the instructions.	 Be sure to establish an earth connection.	 Never attempt.
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- After completing installation, conduct a trial operation to check for faults and explain to the customer how to operate the air conditioner and take care of it with the aid of the operation manual.

WARNING

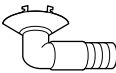
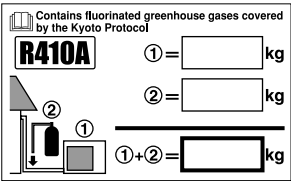
- Ask your dealer or qualified personnel to carry out installation work.
Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shocks or fire.
- Install the air conditioner in accordance with the instructions in this installation manual.
Improper installation may result in water leakage, electric shocks or fire.
- Be sure to use only the specified accessories and parts for installation work.
Failure to use the specified parts may result in the unit falling, water leakage, electric shocks or fire.
- Install the air conditioner on a foundation strong enough to withstand the weight of the unit.
A foundation of insufficient strength may result in the equipment falling and causing injury.
- Electrical work must be performed in accordance with relevant local and national regulations and with instructions in this installation manual. Be sure to use a dedicated power supply circuit only.
Insufficiency of power circuit capacity and improper workmanship may result in electric shocks or fire.
- Use a cable of suitable length.
Do not use tapped wires or an extension lead, as this may cause overheating, electric shocks or fire.
- Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires.
Improper connections or securing of wires may result in abnormal heat build-up or fire.
- When wiring the power supply and connecting the wiring between the indoor and outdoor units, position the wires so that the control box lid can be securely fastened.
Improper positioning of the control box lid may result in electric shocks, fire or over heating terminals.
- If refrigerant gas leaks during installation, ventilate the area immediately. 
Toxic gas may be produced if the refrigerant comes into contact with fire.
- After completing installation, check for refrigerant gas leakage. 
Toxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker.
- When installing or relocating the air conditioner, be sure to bleed the refrigerant circuit to ensure it is free of air, and use only the specified refrigerant (R410A).
The presence of air or other foreign matter in the refrigerant circuit causes abnormal pressure rise, which may result in equipment damage and even injury.
- During installation, attach the refrigerant piping securely before running the compressor.
If the compressor is not attached and the stop valve is open when the compressor is run, air will be sucked in, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- During pump-down, stop the compressor before removing the refrigerant piping.
If the compressor is still running and the stop valve is open during pump-down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.
- Be sure to earth the air conditioner. 
Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shocks.
- Be sure to install an earth leakage breaker.
Failure to install an earth leakage breaker may result in electric shocks or fire.

CAUTION

- Do not install the air conditioner at any place where there is a danger of flammable gas leakage. 
In the event of a gas leakage, build-up of gas near the air conditioner may cause a fire to break out.
- While following the instructions in this installation manual, install drain piping to ensure proper drainage and insulate piping to prevent condensation.
Improper drain piping may result in indoor water leakage and property damage.
- Tighten the flare nut according to the specified method such as with a torque wrench.
If the flare nut is too tight, it may crack after prolonged use, causing refrigerant leakage.
- Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.
Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.
- The temperature of refrigerant circuit will be high, please keep the inter-unit wiring away from copper pipes that are not thermally insulated.

Accessories

Accessories supplied with the outdoor unit:

(A) Installation manual	1	(B) Drain plug (Heat pump models)  There is on the bottom packing case.	1
(C) Refrigerant charge label 	1		
(D) Multilingual fluorinated greenhouse gases label 	1		

Precautions for Selecting the Location

- 1) Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- 2) Choose a location where the hot air discharged from the unit or the operation noise will not cause a nuisance to the neighbors of the user.
- 3) Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- 4) There must be sufficient spaces for carrying the unit into and out of the site.
- 5) There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- 6) The site must be free from the possibility of flammable gas leakage in a nearby place.
- 7) Install units, power cords and inter-unit wiring at least 3m away from television and radio sets. This is to prevent interference to images and sounds. (Noises may be heard even if they are more than 3m away depending on radio wave conditions.)
- 8) In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the air conditioner.
- 9) Since drain flows out of the outdoor unit, do not place under the unit anything which must be kept away from moisture.

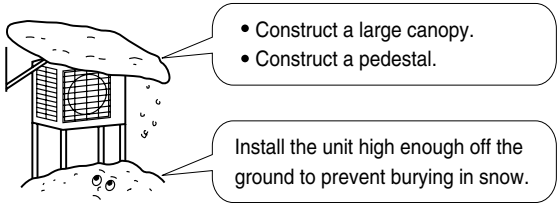
NOTE

Cannot be installed hanging from ceiling or stacked.

CAUTION

When operating the air conditioner in a low outdoor ambient temperature, be sure to follow the instructions described below.

- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, it is recommended to install a baffle plate on the air discharge side of the outdoor unit.
- In heavy snowfall areas, select an installation site where the snow will not affect the unit.



Outdoor Unit Installation Drawings

Max. allowable length	30m
** Min. allowable length	1.5m
Max. allowable height	20m
* Additional refrigerant required for refrigerant pipe exceeding 10m in length.	20g/m
Gas pipe	O.D. 12.7mm
Liquid pipe	O.D. 6.4mm

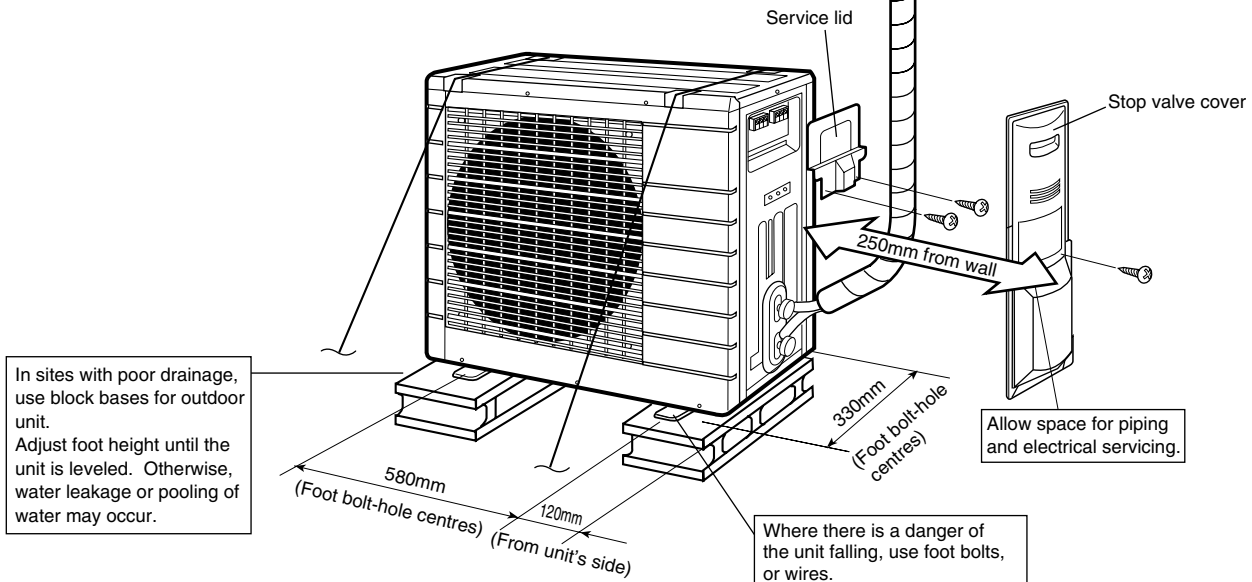
* Be sure to add the proper amount of additional refrigerant.
Failure to do so may result in reduced performance.

** The suggested shortest pipe length is 1.5m, in order to avoid noise from the outdoor unit and vibration.
(Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.)
When connecting the FVXS indoor unit, the shortest piping length should be no less than around 2.5m.

Wrap the insulation pipe with the finishing tape from bottom to top.

CAUTION

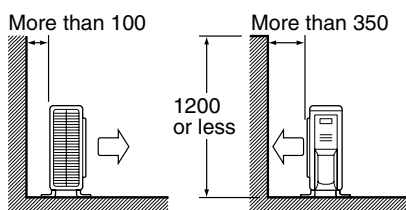
**Set the piping length from 1.5m to 30m.



Installation Guidelines

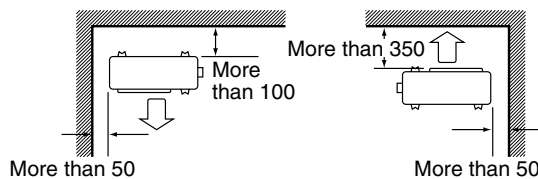
- Where a wall or other obstacle is in the path of outdoor unit's intake or exhaust airflow, follow the installation guidelines below.
- For any of the below installation patterns, the wall height on the exhaust side should be 1200mm or less.

Wall facing one side



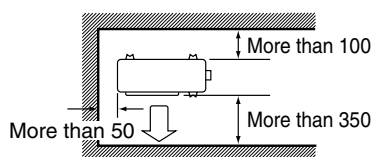
Side view

Walls facing two sides



Top view

Walls facing three sides

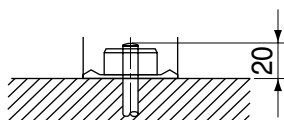


Top view

unit: mm

Precautions on Installation

- Check the strength and level of the installation ground so that the unit will not cause any operating vibration or noise after installed.
- In accordance with the foundation drawing, fix the unit securely by means of the foundation bolts. (Prepare 4 sets of M8 or M10 foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their length are 20mm from the foundation surface.



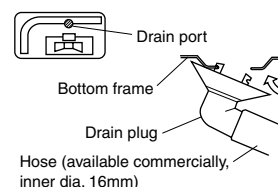
Outdoor Unit Installation

1. Installing outdoor unit

- 1) When installing the outdoor unit, refer to "Precautions for Selecting the Location" and the "Outdoor Unit Installation Drawings".
- 2) If drain work is necessary, follow the procedures below.

2. Drain work

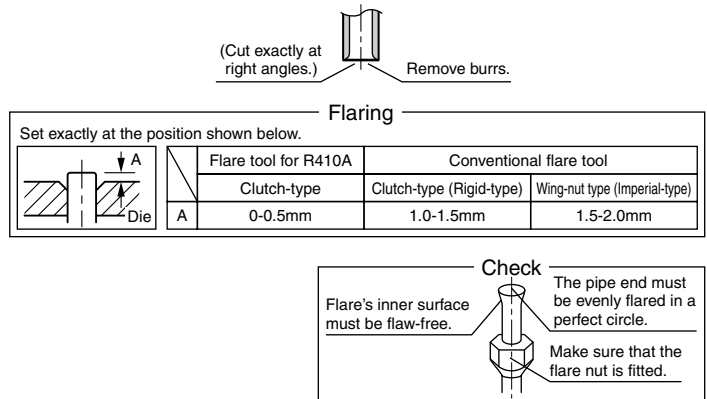
- 1) Use drain plug for drainage.
- 2) If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet.
- 3) In cold areas, do not use a drain hose with the outdoor unit.
(Otherwise, drain water may freeze, impairing heating performance.)



Outdoor Unit Installation

3. Flaring the pipe end

- 1) Cut the pipe end with a pipe cutter.
- 2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
- 3) Put the flare nut on the pipe.
- 4) Flare the pipe.
- 5) Check that the flaring is properly made.



WARNING

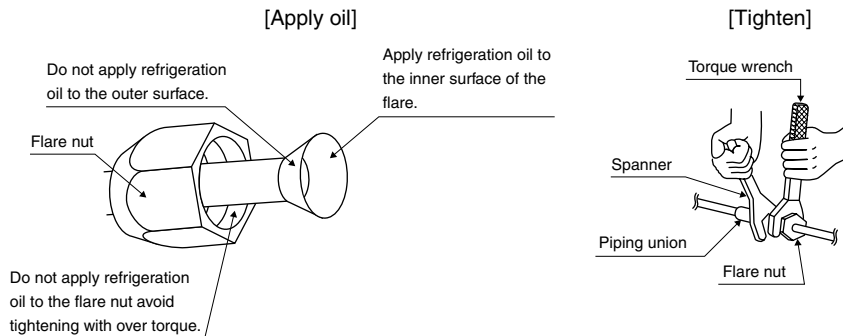
- Do not use mineral oil on flared part.
- Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
- Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- Do never install a drier to this R410A unit in order to guarantee its lifetime.
- The drying material may dissolve and damage the system.
- Incomplete flaring may cause refrigerant gas leakage.

4. Refrigerant piping

CAUTION

- Use the flare nut fixed to the main unit. (To prevent cracking of the flare nut by aged deterioration.)
- To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R410A.)
- Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.

Align the centres of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.



Flare nut tightening torque	
Gas side	Liquid side
1/2 inch	1/4 inch
49.5-60.3N • m (505-615kgf • cm)	14.2-17.2N • m (144-175kgf • cm)

Valve cap tightening torque	
Gas side	Liquid side
1/2 inch	1/4 inch
48.1-59.7N • m (490-610kgf • cm)	21.6-27.4N • m (220-280kgf • cm)

Service port cap tightening torque	10.8-14.7N • m (110-150kgf • cm)
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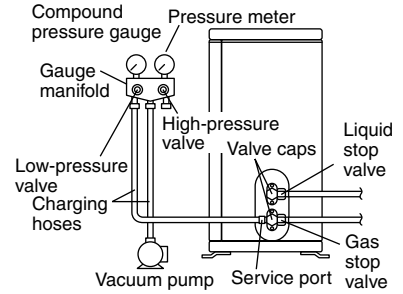
5. Purging air and checking gas leakage

- When piping work is completed, it is necessary to purge the air and check for gas leakage.

⚠ WARNING

- Do not mix any substance other than the specified refrigerant (R410A) into the refrigeration cycle.
- When refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- R410A, as well as other refrigerants, should always be recovered and never be released directly into the environment.
- Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

- If using additional refrigerant, perform air purging from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench (4mm) to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench at the specified tightening torque.



1) Connect projection side of charging hose (which comes from gauge manifold) to gas stop valve's service port.



2) Fully open gauge manifold's low-pressure valve (Lo) and completely close its high-pressure valve (Hi).
(High-pressure valve subsequently requires no operation.)



3) Do vacuum pumping and make sure that the compound pressure gauge reads -0.1MPa (-76cmHg).*1.



4) Close gauge manifold's low-pressure valve (Lo) and stop vacuum pump.
(Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.)*2.



5) Remove covers from liquid stop valve and gas stop valve.



6) Turn the liquid stop valve's rod 90 degrees counterclockwise with a hexagonal wrench to open valve.
Close it after 5 seconds, and check for gas leakage.
Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods.
After the check is complete, wipe all soapy water off.



7) Disconnect charging hose from gas stop valve's service port, then fully open liquid and gas stop valves.
(Do not attempt to turn valve rod beyond its stop.)



8) Tighten valve caps and service port caps for the liquid and gas stop valves with a torque wrench at the specified torques.

*1. Pipe length vs. vacuum pump run time

Pipe length	Up to 15m	More than 15m
Run time	Not less than 10 min.	Not less than 15 min.

*2. If the compound pressure gauge pointer swings back, refrigerant may have water content or a loose pipe joint may exist.
Check all pipe joints and retighten nuts as needed, then repeat steps 2) through 4).

Outdoor Unit Installation

6. Refilling the refrigerant

Check the type of refrigerant to be used on the machine nameplate.

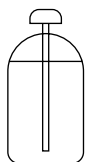
Precautions when adding R410A

Fill from the liquid pipe in liquid form.

It is a mixed refrigerant, so adding it in gas form may cause the refrigerant composition to change, preventing normal operation.

- 1) Before filling, check whether the cylinder has a siphon attached or not. (It should have something like "liquid filling siphon attached" displayed on it.)

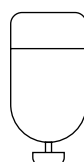
Filling a cylinder with an attached siphon



Stand the cylinder upright when filling.

(There is a siphon pipe inside, so the cylinder need not be upside-down to fill with liquid.)

Filling other cylinders



Turn the cylinder upside-down when filling.

- Be sure to use the R410A tools to ensure pressure and to prevent foreign objects entering.

Important information regarding the refrigerant used

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent gases into the atmosphere.

Refrigerant type: **R410A**

GWP⁽¹⁾ value: **1975** ⁽¹⁾ GWP = global warming potential

Please fill in with indelible ink,

- ① the factory refrigerant charge of the product,
 - ② the additional refrigerant amount charged in the field and
 - ①+② the total refrigerant charge
- on the refrigerant charge label supplied with the product.

The filled out label must be adhered in the proximity of the product charging port (e.g. onto the inside of the stop valve cover).

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

R410A

① = kg

② = kg

①+② = kg

4

1

2

3

6

5

- 1 factory refrigerant charge of the product: see unit name plate
- 2 additional refrigerant amount charged in the field
- 3 total refrigerant charge
- 4 Contains fluorinated greenhouse gases covered by the Kyoto Protocol
- 5 outdoor unit
- 6 refrigerant cylinder and manifold for charging

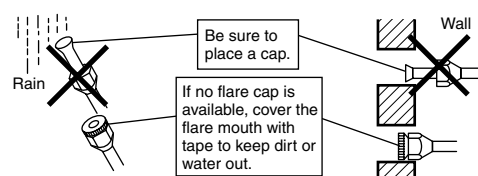
NOTE

National implementation of EU regulation on certain fluorinated greenhouse gases may require to provide the appropriate official national language on the unit. Therefor an additional multilingual fluorinated greenhouse gases label is supplied with the unit. Sticking instructions are illustrated on the backside of that label.

7. Refrigerant piping work

7-1 Caution on pipe handling

- 1) Protect the open end of the pipe against dust and moisture.
- 2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.



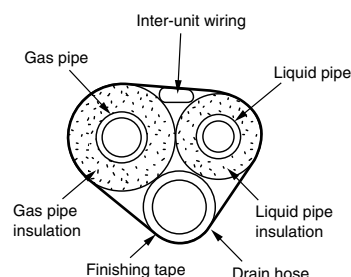
7-2 Selection of copper and heat insulation materials

When using commercial copper pipes and fittings, observe the following:

- 1) Insulation material: Polyethylene foam
Heat transfer rate: 0.041 to 0.052W/mK (0.035 to 0.045kcal/mh°C)
Refrigerant gas pipe's surface temperature reaches 110°C max.
Choose heat insulation materials that will withstand this temperature.
- 2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

Gas side	Liquid side	Gas pipe thermal insulation	Liquid pipe thermal insulation
O.D. 12.7mm	O.D. 6.4mm	I.D. 14-16mm	I.D. 8-10mm
Minimum bend radius		Thickness 10mm Min.	
40mm or more	30mm or more		
Thickness 0.8mm (C1220T-O)			

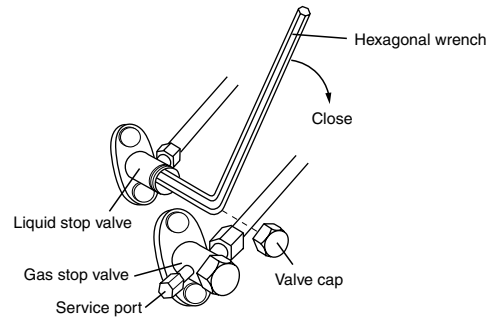
- Use separate thermal insulation pipes for gas and liquid refrigerant pipes.



Pump Down Operation

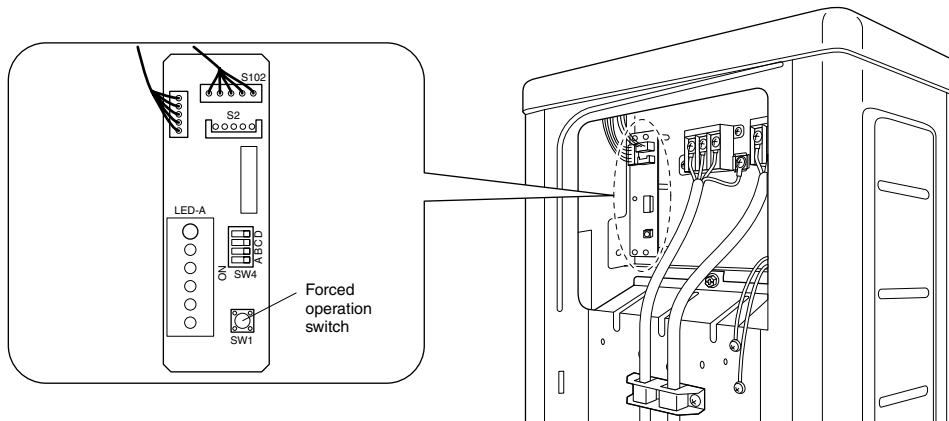
In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

- 1) Remove the valve cap from liquid stop valve and gas stop valve.
- 2) Carry out forced cooling operation.
- 3) After five to ten minutes, close the liquid stop valve with a hexagonal wrench.
- 4) After two to three minutes, close the gas stop valve and stop forced cooling operation.



Forced cooling operation

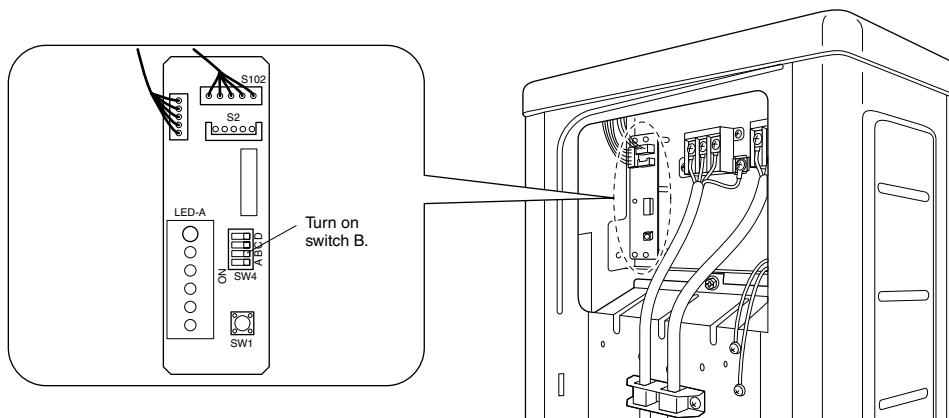
- 1) Press the forced operation switch (SW1) to begin forced cooling. Press the forced operation switch (SW1) again to stop forced cooling.



Facility Setting Switch (RKS60F3V1B, RKS50G2V1B, RKS60F2V1B only) (cooling at low outdoor temperature)

This function is limited only for facilities (the target of air conditioning is equipment (such as computer)). Never use it in a residence or office (the space where there is a human).

- 1) You can expand the operation range to -15°C by turning on switch B (SW4) on the PCB. If the outdoor temperature falls to -20°C or lower, the operation will stop. If the outdoor temperature rises, the operation will start again.



CAUTION

- If the outdoor unit is installed where the heat exchanger of the unit is exposed to direct wind, provide a windbreak wall.
- Intermittent noises may be produced by the indoor unit due to the outdoor fan turning on and off when using facility settings.
- Do not place humidifiers or other items which might raise the humidity in rooms where facility settings are being used. A humidifier might cause dew jumping from the indoor unit outlet vent.
- Use the indoor unit at the highest level of airflow rate.

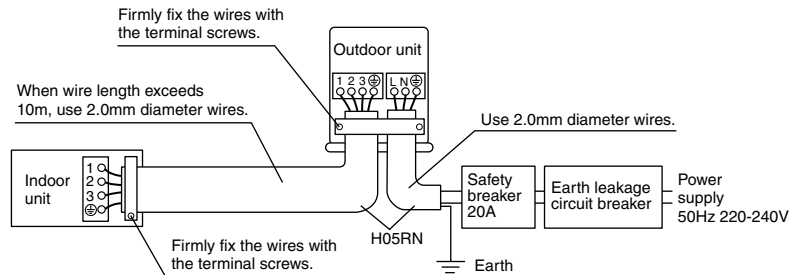
Wiring

⚠ WARNING

- Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block.) Doing so may cause electric shock or fire.
- Be sure to install an earth leak detector. (One that can handle higher harmonics.)
(This unit uses an inverter, which means that it must be used an earth leak detector capable handling harmonics in order to prevent malfunctioning of the earth leak detector itself.)
- Use an all-pole disconnection type breaker with at least 3mm between the contact point gaps.

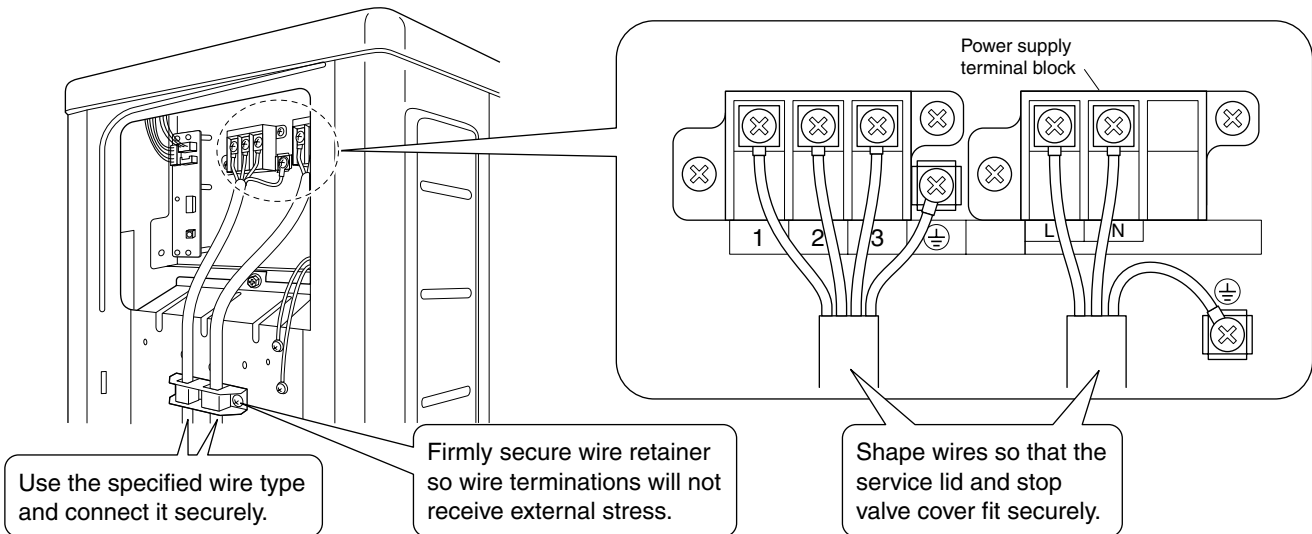
- Equipment complying with EN/IEC 61000-3-12⁽¹⁾
- Do not turn on the safety breaker until all work is completed.

- 1) Strip the insulation from the wire (20mm).
- 2) Connect the connection wires between the indoor and outdoor units **so that the terminal numbers match**. Tighten the terminal screws securely. We recommend a flathead screwdriver be used to tighten the screws.



NOTE

- ⁽¹⁾ European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.

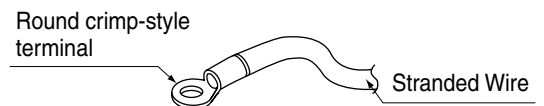


Observe the notes mentioned following when wiring to the power supply terminal board.

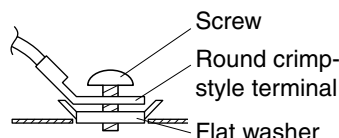
Precautions to be taken for power supply wiring.

Use a round crimp-style terminal for connection to the power supply terminal board. In case it cannot be used due to unavoidable reasons, be sure to observe the following instruction.

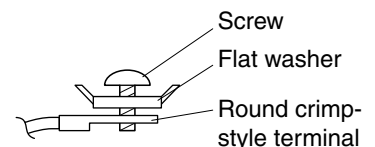
Place the round crimp-style terminals on the wires up to the covered part and secure in place.



- Ground terminal installation
Use the following method when installing the round crimp-style terminal.



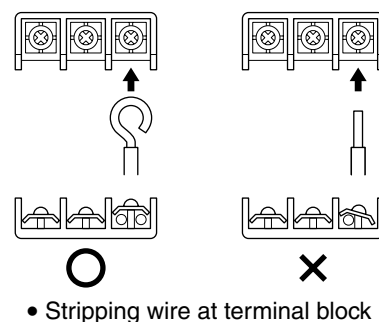
○ Good



✗ Wrong

⚠ CAUTION

- When connecting the connection wires to the terminal board using a single core wire, be sure to perform curling. Problems with the work may cause heat and fires.



- Pull the wire and make sure that it does not disconnect. Then fix the wire in place with a wire stop.

Test Run and Final Check

1. Trial operation and testing

1-1 Measure the supply voltage and make sure that it falls in the specified range.

1-2 Trial operation should be carried out in either cooling or heating mode.

■ For heat pump

- In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.
 - Trial operation may be disabled in either mode depending on the room temperature.
 - After trial operation is complete, set the temperature to a normal level (26°C to 28°C in cooling mode, 20°C to 24°C in heating mode).
 - For protection, the system disables restart operation for 3 minutes after it is turned off.

■ For cooling only

- Select the lowest programmable temperature.
 - Trial operation in cooling mode may be disabled depending on the room temperature.
 - After trial operation is complete, set the temperature to a normal level (26°C to 28°C).
 - For protection, the system disables restart operation for 3 minutes after it is turned off.

1-3 Carry out the test operation in accordance with the operation manual to ensure that all functions and parts, such as louver movement, are working properly.

- The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.

2. Test items

Test Items	Symptom	Check
Indoor and outdoor units are installed properly on solid bases.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling/heating function	
Refrigerant gas and liquid pipes and indoor drain hose extension are thermally insulated.	Water leakage	
Draining line is properly installed.	Water leakage	
System is properly earthed.	Electrical leakage	
The specified wires are used for inter-unit wiring connections.	Inoperative or burn damage	
Indoor or outdoor unit's air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote control commands.	Inoperative	

DAIKIN INDUSTRIES, LTD.

Head office:

Umeda Center Bldg., 2-4-12, Nakazaki-Nishi,
Kita-ku, Osaka, 530-8323 Japan

Tokyo office:

JR Shinagawa East Bldg., 2-18-1, Konan,
Minato-ku, Tokyo, 108-0075 Japan
http://www.daikin.com/global_ac/

DAIKIN EUROPE NV

Zandvoordestraat 300, B-8400 Oostende, Belgium



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