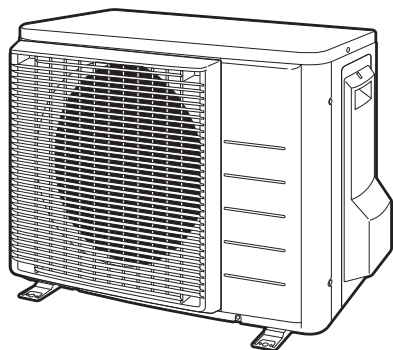


DAIKIN

INSTALLATION MANUAL

R410A Split Series

INVERTER



Models
ERWQ02AAV3

CE - DECLARATION-OF-CONFORMITY
CE - KONFORMITÄTSPRÄKLÄRUNG
CE - DECLARATION-DE-CONFORMITE
CE - CONFORMITEITSVERKLARING

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

CE - DECLARACÃO-DE-CONFORMIDADE
CE - ЗАЯВЛЕНИЕ-О-СОТВЕТСТВИИ
CE - OVERENSTEMMELSESERKLÄRING
CE - FÖRSÄKRAN-OM-ÖVERENSTEMMELSE

CE - IZJAVA-O-USKLABENOSTI
CE - MEGFELELŐSÉG-NYILATKOZAT
CE - DEKLARACJA-ZGODNOŚCI
CE - DECLARAȚIE-DE-CONFORMITATE

CE - АТТИΚΙΤΗΣ-ΔΕΚΛΑΡΑCΙΑ
CE - АТБІЛІСТІБ-ДЕКЛАРАЦІА
CE - VYHLÁSENIE-ZHODY
CE - UYGUNLUK-BEYANI

CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARATSIOON
CE - ДЕКЛАРАЦІЯ-ЗА-СЪОТВѢТСТВІЕ

Daikin Industries Czech Republic s.r.o.

- 01 (GB) declares under its sole responsibility that the equipment to which this declaration relates;
- 02 (D) erklärt auf seiner alleinigen Verantwortung das die Ausrüstung für die diese Erklärung bestimmt ist;
- 03 (E) déclare sous sa seule responsabilité que l'équipement visé par la présente déclaration;
- 04 (NL) verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de apparatuur waarop deze verklaring betrekking heeft;
- 05 (E) declara bajo su única responsabilidad que el equipo al que hace referencia la declaración;
- 06 (I) dichiara sotto la propria responsabilità che gli apparecchi a cui è riferita questa dichiarazione;
- 07 (GR) δηλώνει με αποκλειστική της ευθύνη ότι ο εξοπλισμός στον οποίο αναφέρεται η παρούσα δήλωση;
- 08 (C) declara sub sua exclusiva responsabilitate que os equipamentos a que esta declaração se refere;

ERWQ02AAV3,

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 der/den folgenden Norm(en) oder einem anderen Normdokument oder -dokumenten entsprochen, unter der Voraussetzung, dass sie gemäß unseren Anweisungen eingesetzt werden;
- 03 sont conformes à la(s) norm(e) 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) ακόλουθ(ο) ή ακόλουθ(α) πρότυπο(α) ή άλλα έγγραφο(α) κανονιστικού ή προτυποποιούσ(α) τύπου, 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/την/των διατάξεων/των:
- 08 de acordo com o previsto em:
- 09 в соответствии с положениями:

- 10 under tegtagelse af bestemmelserne i:
- 11 enligt villkoren i:
- 12 gitt i henhold til bestemmelserne i:
- 13 noudatteen määräyksiä:
- 14 za dovození nariadení prečíslo:
- 15 prema odredbama:
- 16 követeli által:
- 17 zgodnie z postanowieniami Dyrektywy:
- 18 in urma prevederilor:

- 06 Nota * as set out in <A> and judged positively by
- 07 Znakčujom * wie in <A> aufgeführt und von positiv beurteilt
- 08 Nota * tel que défini dans <A> et évalué positivement par conformément au Certificat <C>
- 09 Примечание * zoals vermeld in <A> en positief beoordeeld door overeenkomstig Certificat <C>
- 10 Bemerk * como se establece en <A> y es valorado positivamente por de acuerdo con el Certificado <C>

- 11 Information * enfiat <A> och godkants av enligt Certificat <C>
- 12 Merk * som det framkommer i <A> og gjennom positiv bedømmelse av ifølge Sertifikaat <C>
- 13 Huom * jotta on esitetty asiakirjassa <A> ja jolla on hyväksynyt Sertifikaatin <C> mukaisesti.
- 14 Poznámka * jak bylo uvedeno v <A> a pozitivně zjištěno v souladu s ověřovacími <C>
- 15 Napomena * kako je izloženo u <A> pozitivno ocijenjeno od strane prema Certificatu <C>

- 16 Megjegyzés * a)z <A> alapján, a)z igazolta a megjelölést, a)z <C> tanúsítvány szerint.
- 17 Uwaga * zgodnie z dokumentacją <A>, pozytywną opinię i Swiadczeniem <C>
- 18 Note * așa cum este stabilit în <A> și apreciat pozitiv în veștigium susținut de Certificat <C>
- 19 Opomba * kolji doobčeno v <A> p pozitivno zjetoeno v skladu s ověřovacími <C>
- 20 Märlus * naku on määratud dokumentis <A> ja heaks kiidetud järgi vastavalt sertifikaadile <C>

- 01 Directives, as amended.
- 02 Direktiven, gemäß Änderung.
- 03 Directives, telles que modifiées.
- 04 Richtlijnen, zoals gewijzigd.
- 05 Directivas, según lo emendado.
- 06 Direktive, come da modifica.
- 07 Önyvadás, ómuk íróvadás módosítással.
- 08 Directives, conforme alteraço em.
- 09 Директиве, со всеми поправками.

- 10 Direktivet, med senere ændringer.
- 11 Direktiv, med foretagne ændringer.
- 12 Direktivet, med foretatte endringer.
- 13 Direktiiveti, selgitised kuni te ovat muudetud.
- 14 v plámení znění.
- 15 Smernice, kako je izmjenjeno.
- 16 irányelvek és módosítások rendelkezései.
- 17 z poznejšimi popravkami.
- 18 Direktivelor, cu amendamentele respective.

- 21 Zabeleška * karto e izdatoveno s <A> i oduereno porokovratno or carazano Сertifikat <C>
- 22 Pastaba * kaip nurodyta <A> ir kaip bijgama nusipjesa pagal Sertifikaat <C>
- 23 Pezimes * ka noradisi <A> un atibistisi pozitivajam vešigium suskatin ar Sertifikaat <C>
- 24 Poznámka * ako bolo uvedeno v <A> a pozitivne zistené v súlade s overovacími <C>
- 25 Not * <A> da beifolgti gih ve <C> Sertifikaana góre larilandin olumtu otarak deđerenditit gih.

- 09 (GB) заявляет исключительно под свою ответственность, что оборудование, к которому относится настоящая заявка;
- 10 (D) erklärt unter eigenverantwortung, auf derlyst, som er omfattet af denne erklaring;
- 11 (S) deklarerar i egenansvarlig, att utrustningen som berörs av denna deklaration innebär att:
- 12 (N) deklarerar i fullständig ansvar för att det utstyr som berörs av denna deklaration innebär att:
- 13 (NL) imoottaa yksinomaan omalla vastuullaan, että tänään ilmoituksen sisältöä koskevat tiedot:
- 14 (CZ) prohlašuje ve své plné odpovědnosti, že zařízení, k němuž se tato prohlášení vztahuje:
- 15 (GR) δηλώνει υπό έκλειστη ευθύνη ότι ο εξοπλισμός στον οποίο αναφέρεται η παρούσα δήλωση;
- 16 (H) teljes felelősséggel tudatában kijelenti, hogy a bejelentések, melyekre a nyilatkozati vonatkozik:

- 17 (PL) deklaruje na własną odpowiedzialność, że urządzenie, których ta deklaracja dotyczy;
- 18 (E) declara pe proprie răspundere că echipamentele la care se referă această declarație:
- 19 (CZ) z viso odgovorností izjavim, da je oprema naprav, na katero se izjava nanaša:
- 20 (E) kinnitab oma täieliku vastutuse, et käesoleva deklaratsiooni alla kuuluv varustus:
- 21 (E) deklariira na oora oovõnduse, et oopordaverno, ze kooro ce ometas nam deklaratsio:
- 22 (LT) visiška savo atsakomybe skelbiu, kad įranga, kuriai laikoma ši deklaracija:
- 23 (LV) piniu atbildību apliecinu, ka tālāk aprakstītās iekārtas, uz kurām attiecas šī deklarācija:
- 24 (SK) vyhlasuje na vlastnu zodpovednost, že zaradenie, na ktoré sa vzťahuje toto vyhlásenie:
- 25 (TR) lanamen kendii sorumluluğunda olnak izere bu bildiriini ilgili olgulu donanimin asğıdaki gih olguluunu beyan eder:

- 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 соответствует следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям;
- 10 overholder følgende standard(er) eller andre andre tekningsviede dokument(er), forudsat at disse anvendes i henhold til vore instrukser;
- 11 respektive utrustning är utförd i överensstämmelse med och följer följande standard(er) eller andra normgivande dokument, under förutsättning att användning sker i överensstämmelse med våra instruktioner;
- 12 respektive usúry er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forudsætning af at disse bruges i henhold til våre instruksjoner;
- 13 vastaavat seuraavien standardien ja muiden ohjeistettujen dokumenttien vaatimuksia edellytellen, että niitä käytetään ohjeidemme mukaisesti;
- 14 za preopoklad, že jsou využívány v souladu s našimi pokyny, odpovídají následujícím normám nebo normativním dokumentům;
- 15 u skladu sa sljedecim standardom(ima) ili drugim normativnim dokumentom(ima), uz uvjet da se oni koriste u skladu s našim uputama;

- 16 megfelelnek az alábbi szabvány(ok)nak vagy egyéb irányadó dokumentum(ok)nak, ha azokat előírás szerint használják;
- 17 spełniają wymogi następujących norm i innych dokumentów normalizacyjnych, pod warunkiem że używane są zgodnie z naszymi instrukcjami;
- 18 sunt în conformitate cu următorii (următoare) standard(e) sau alte documente(n) normative, cu condiția ca acestea să fie utilizate în conformitate cu instrucțiunile noastre;
- 19 skladni z naslednjih standardi in drugim normativni, pod pogojem, da se uporabljajo v skladu z našimi navodili;
- 20 on vastausseis järgmistä standardeista ja muista normatiivisista dokumenteista, kun nei käytetään vastavasti niiden ohjeita;
- 21 conformeraz na srednje standardi drugi normativni dokumenti, pri uporabi, če se kolikoraj ometasno namure instrukcijami;
- 22 atitinka žemiau nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus;
- 23 tad, ja teikti atbilstošā ražotājam norādījumiem, atbilsti šķērsotiem standartiem un citiem normatīviem dokumentiem;
- 24 su v zhdze s nasledovny(m) normom(ami) alebo inymi(n) normativny(m) dokumentom(ami), za predpokladu, že sa používajú v súlade s našimi návodmi;
- 25 inunin, latmatarizma góre kulanimas kosulujata asğıdaki standartar ve norm beliften beğelerle uyumludur;

- 21 Zabeleška * karto e izdatoveno s <A> i oduereno porokovratno or carazano Сertifikat <C>
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- 19 Opomba * kolji doobčeno v <A> p pozitivno zjetoeno v skladu s ověřovacími <C>
- 20 Märlus * naku on määratud dokumentis <A> ja heaks kiidetud järgi vastavalt sertifikaadile <C>





Tetsuya Baba
Managing Director
Plzen, 1st of September 2015

DAIKIN INDUSTRIES CZECH REPUBLIC s.r.o.
U Nové Hospody 1/1155, 301 00 Plzeň Skvrňany,
Czech Republic




3P403988-4B

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 domestic hot water heat pump and take care of it with the aid of the operation manual.
- The English text is the original instruction. Other languages are translations of the original instructions.

 WARNING
<ul style="list-style-type: none"> • This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
<ul style="list-style-type: none"> • If NOT factory installed, a main switch or other means for disconnection, having a contact separation in all poles providing full disconnection under overvoltage category III condition, shall be installed in the fixed wiring.
<ul style="list-style-type: none"> • Make sure to observe the dimensions for the space required for correct installation of the unit.
<ul style="list-style-type: none"> • 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.
<ul style="list-style-type: none"> • Ask your dealer or qualified personnel to carry out installation work. Do not attempt to install the domestic hot water heat pump yourself. Improper installation may result in water leakage, electric shocks or fire.
<ul style="list-style-type: none"> • Install the domestic hot water heat pump in accordance with the instructions in this installation manual. Improper installation may result in water leakage, electric shocks or fire.
<ul style="list-style-type: none"> • 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.
<ul style="list-style-type: none"> • Install the domestic hot water heat pump 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.
<ul style="list-style-type: none"> • Use a cable of suitable length. Do not use tapped wires or an extension lead, as this may cause overheating, electric shocks or fire.
<ul style="list-style-type: none"> • 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.

<ul style="list-style-type: none"> When wiring the power supply and connecting the wiring between the domestic hot water tank and the outdoor unit, 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. 	
<ul style="list-style-type: none"> If refrigerant gas leaks during installation, ventilate the area immediately. Toxic gas may be produced if the refrigerant comes into contact with fire. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> When installing or relocating the domestic hot water heat pump, 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. 	
<ul style="list-style-type: none"> During installation, attach the refrigerant piping securely before running the compressor. If the refrigerant pipes are 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. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> Be sure to earth the domestic hot water heat pump. Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shocks. 	
<ul style="list-style-type: none"> Be sure to install an earth leakage breaker. Failure to install an earth leakage breaker may result in electric shocks or fire. 	

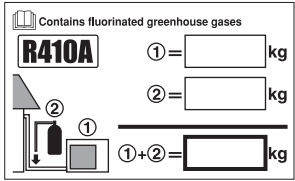


 **CAUTION**

<ul style="list-style-type: none"> Do not install the domestic hot water heat pump 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 domestic hot water heat pump may cause a fire to break out. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> Take adequate steps to prevent the outdoor unit being 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. 	
<ul style="list-style-type: none"> The temperature of refrigerant circuit will be high, please keep the inter-unit wire away from copper pipes that are not thermally insulated. 	
<ul style="list-style-type: none"> This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial and household use by lay persons. 	
<ul style="list-style-type: none"> Sound pressure level is less than 70 dB(A). 	

N002

Accessories

Accessories supplied with the outdoor unit:

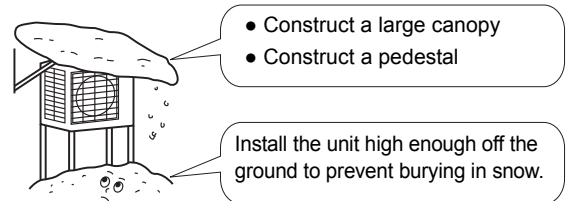
(A) Installation manual	1		
(C) Refrigerant charge label 	1	(B) Drain socket  It is on the bottom of the packing case.	1
(D) Multilingual fluorinated greenhouse gases label 	1		

Precautions for Selecting the Location

⚠ CAUTION

When operating the domestic hot water heat pump 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.



- 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 neighbours 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 wire 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 domestic hot water heat pump.
- 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.

Outdoor Unit Installation Drawings

⚠ WARNING

Make sure to observe the dimensions for the space required for correct installation of the unit.

Max. allowable piping length	20m
* Min. allowable piping length	1.5m
Max. allowable piping height	15m
Gas pipe	O.D. 9.5mm
Liquid pipe	O.D. 6.4mm

* 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.)

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

⚠ CAUTION
**Set the piping length from 1.5m to 20m.

Allow 300mm of work space below the ceiling surface

Allow space for piping and electrical servicing.

250mm from wall

In sites with poor drainage, use block bases for outdoor unit. Adjust foot height until the unit is leveled. Otherwise, water leakage or pooling of water may occur.

Stop valve cover

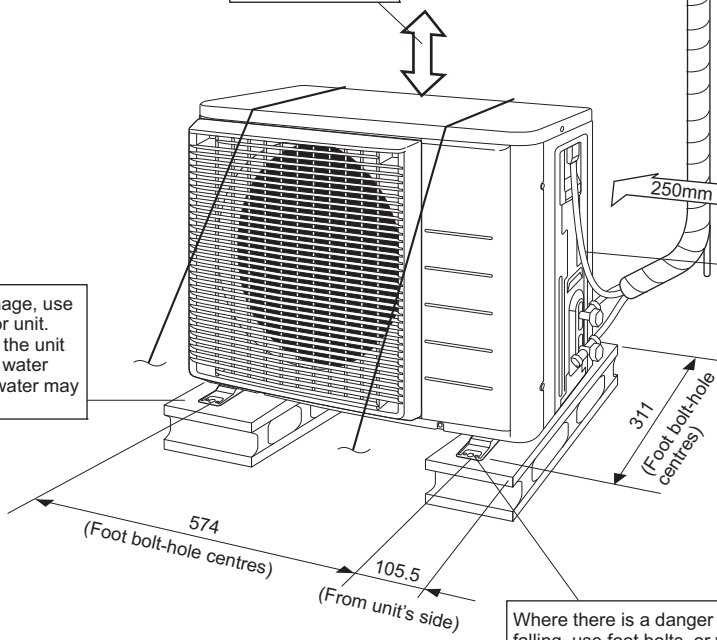
■ How to remove the stop valve cover

- Remove the screw on the stop valve cover.
- Slide the cover downward to remove it.

■ How to attach the stop valve cover

- Insert the upper part of the stop valve cover into the outdoor unit.
- Tighten the screws.

Where there is a danger of the unit falling, use foot bolts, or wires.



unit: mm

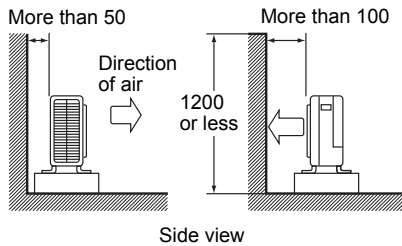
Installation Guidelines

⚠ WARNING

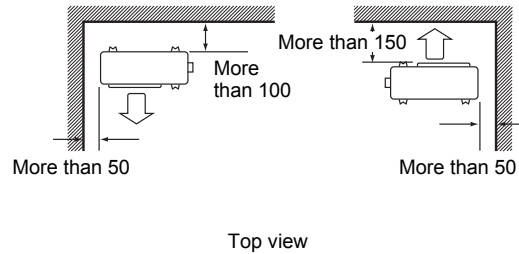
Make sure to observe the dimensions for the space required for correct installation of the unit.

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

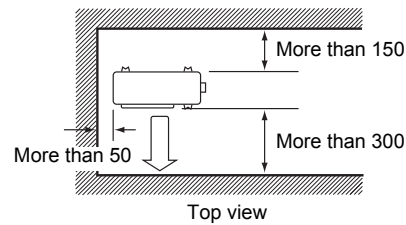
Wall facing one side



Wall facing two sides



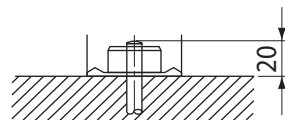
Wall facing three sides



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 ends are 20mm from the foundation surface.



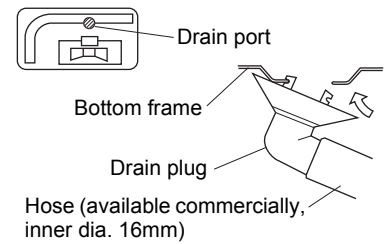
Outdoor Unit Installation

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.)



3. Flaring the pipe end

⚠ 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.
- Never install a dryer 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.

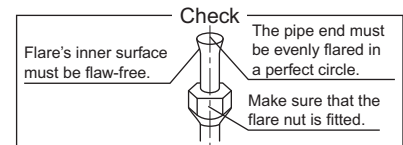
- 1) Cut the pipe end with a pipe cutter.
- 2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
- 3) Put the flare nut on the pipe.
- 4) Flare the pipe.
- 5) Check that the flaring is properly made.



Flaring

Set exactly at the position shown below.

Flare tool for R410A	Conventional flare tool		
	Clutch-type	Clutch-type (Rigid-type)	Wing-nut type (Imperial-type)
A	0-0.5mm	1.0-1.5mm	1.5-2.0mm

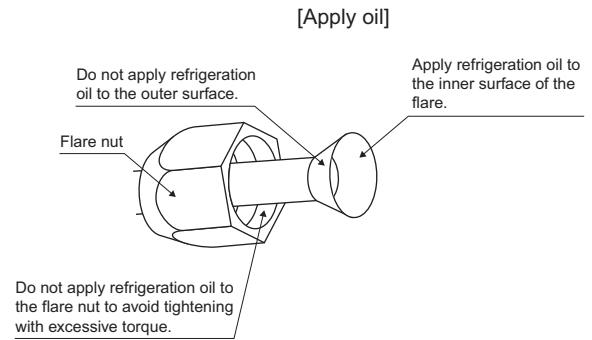


4. Refrigerant piping work

⚠ 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
3/8 inch	1/4 inch
32.7-39.9N • m (333-407kgf • cm)	14.2-17.2N • m (144-175kgf • cm)

Valve cap tightening torque	
Gas side	Liquid side
3/8 inch	1/4 inch
21.6-27.4N • m (220-280kgf • cm)	21.6-27.4N • m (220-280kgf • cm)

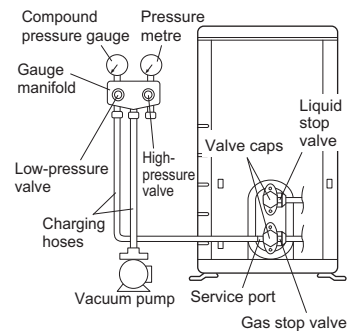
Service port cap tightening torque
10.8-14.7N • m (110-150kgf • cm)

5. Evacuating the air with a vacuum pump and checking 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.

- When piping work is completed, it is necessary to evacuate the air with a vacuum pump and check for gas leakage.
- If using additional refrigerant, perform air evacuating from the refrigerant pipes and the domestic hot water tank 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.



- Connect projection side of charging hose (which comes from gauge manifold) to gas stop valve's service port.
- Fully open gauge manifold's low-pressure valve (Lo) and completely close its high-pressure valve (Hi). (High-pressure valve subsequently requires no operation.)
- Do vacuum pumping and make sure that the compound pressure gauge reads -0.1MPa (-76cmHg).*1
- 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
- Remove caps 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 the domestic hot water tank 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). _

6. Refilling the refrigerant

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

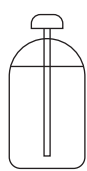
Precautions when adding R410A

Fill from the gas 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.

Do not vent gases into the atmosphere.

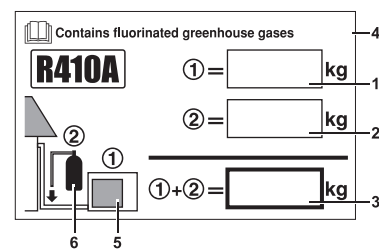
Refrigerant type: **R410A**

GWP⁽¹⁾ value: **2087.5** ⁽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).



- 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
- 5 outdoor unit
- 6 refrigerant cylinder and manifold for charging

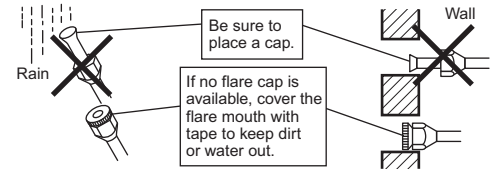
NOTE

National implementation of EU regulation on certain fluorinated greenhouse gases may require to provide the appropriate official national language on the unit. Therefore 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 Cautions 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.



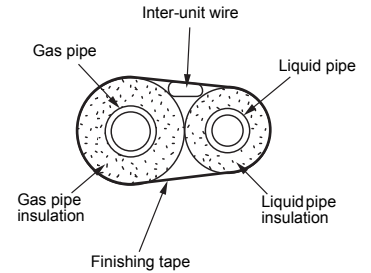
7-2 Selection of copper and heat insulation materials

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. 9.5mm	O.D. 6.4mm	I.D. 12-15mm	I.D. 8-10mm
Minimum bend radius		Thickness 10mm Min.	
30mm or more			
Thickness 0.8mm (C1220T-O)			

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



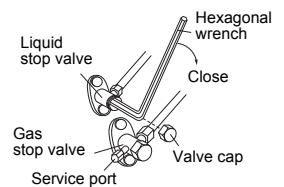
Pump Down Operation

⚠ CAUTION

- When pressing the switch, do not touch the terminal block. It has a high voltage, so doing so may cause electric shock.
- After closing the liquid stop valve, close the gas stop valve within 3 minutes, then stop the 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 pump down operation.
- 3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench.
- 4) After 2 to 3 minutes, close the gas stop valve and stop pump down operation.

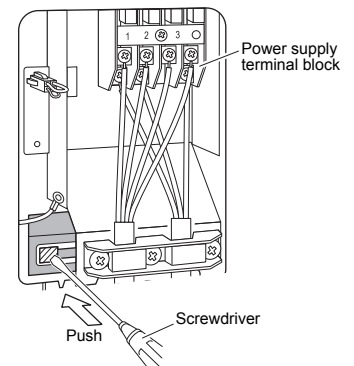


Pump down operation

■ Using the outdoor unit pump down operation switch

Push on " " (SW1) with a screwdriver. (The operation will start.)

- Pump down operation will stop automatically after around 15 minutes.
To stop the operation, press the switch (SW1).



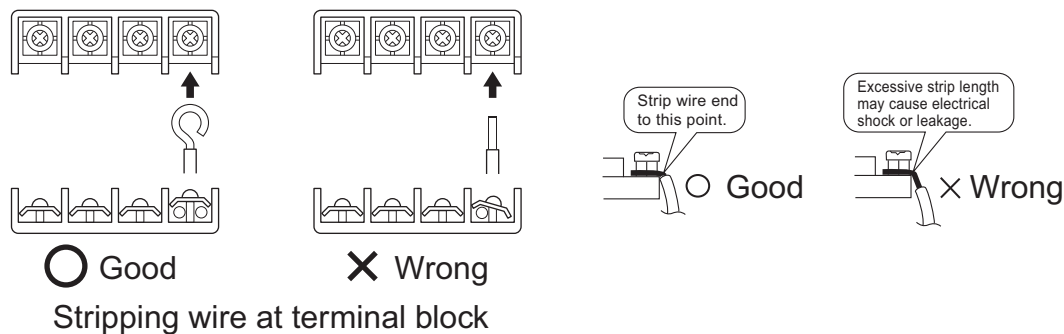
Wiring

⚠ WARNING

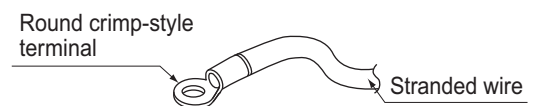
- Do not use tapped wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire.
- Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block.) Doing so may cause electric 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 an earth leak detector capable of handling higher harmonics must be used, in order to prevent malfunctioning of the earth leak detector itself.)
- If NOT factory installed, a main switch or other means for disconnection, having a contact separation in all poles providing full disconnection under overvoltage category III condition, shall be installed in the fixed wiring.
- Do not connect the power wire to the domestic hot water tank. Doing so may cause electric shock or fire.

⚠ CAUTION

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

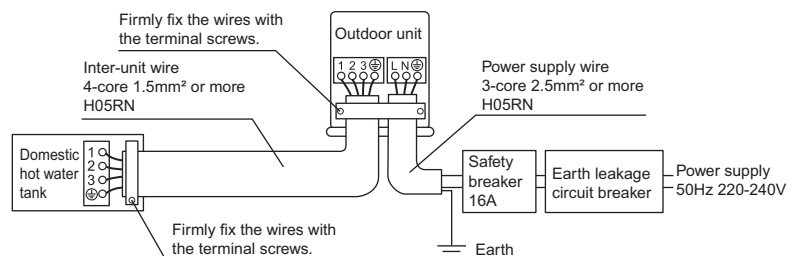


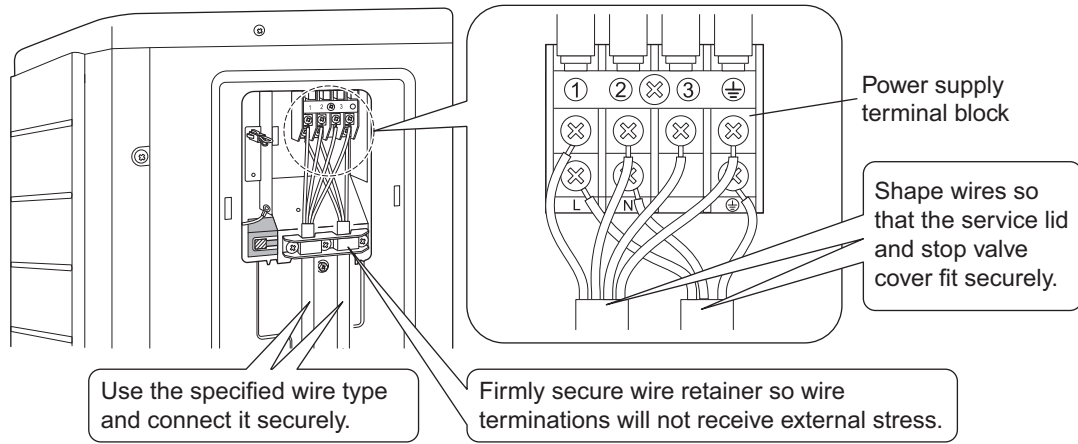
- If the stranded wires must be used, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.



- 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 domestic hot water tank and the outdoor unit so that the terminal numbers match. Tighten the terminal screws securely. We recommend a flathead screwdriver be used to tighten the screws. The screws are packed with the terminal block.





Observe the notes mentioned below when wiring to the power supply terminal block.
 Precautions to be taken for power supply wiring.

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



Wiring diagram

	: Terminal strip		: Field wiring
	: Connector		: Relay connector
	: Connection		: Terminal

BLK	: Black	ORG	: Orange
BLU	: Blue	RED	: Red
BRN	: Brown	WHT	: White
GRN	: Green	YLW	: Yellow

Notes	: Refer to the nameplate of the unit for power requirements.	
	: TO INDOOR UNIT	To domestic hot water tank
	: POWER SUPPLY	Power supply
	: IN CASE OF COOLING ONLY TYPE	In case of cooling only type
	: OUTDOOR	Outdoor
	: CONDENSER	Condenser
	: DISCHARGE	Discharge

Wiring diagram parts table

C7,C8.....	Capacitor	PCB1,PCB2	Printed circuit board
DB1,DB3.....	Diode bridge	S10,S11,S12,S20, S40,S70,S80,S90,	
FU1,FU2,FU3	Fuse	HL3,HN3,X11A.....	Connector
FU4	Field fuse	R1T,R2T,R3T	Thermistor
IPM	Intelligent power module	SA1	Surge absorber
L.....	Live	V1,V2,V3.....	Varistor
L803,L804.....	Reactor	X1M.....	Terminal strip
M1C	Compressor motor	Y1E	Electronic expansion valve coil
M1F.....	Fan motor	Y1S	Reversing solenoid valve
MRCW,MRM10, MRM20,MR30.....	Magnetic relay	Z1C~Z4C	Noise filter (ferrite core)
N	Neutral		Protective earth
Q1L	Overload protector		Earth
Q1DI	Earth leak detector		

Trial Operation and Testing

1. Trial operation and testing

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

1-2 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.

- If the circuit breaker trips to shut off the power to the domestic hot water heat pump, the system will restore the original operation mode when the circuit breaker is opened again.

2. Test items

Test items	Symptom	Check
Domestic hot water tank and outdoor unit are installed properly on solid bases.	Fall, vibration, noise	
No refrigerant gas leaks.	Incomplete cooling/heating function	
Refrigerant gas and liquid pipes 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.	Inoperative or burn damage	
The outdoor unit's air inlet or air outlet has clear path of air. Stop valves are opened.	Incomplete cooling/heating function	
The domestic hot water tank properly receives remote control commands.	Inoperative	

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