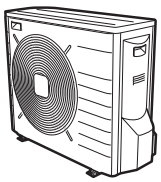
DAIKIN

altherma

Installation manual

Daikin Altherma hybrid heat pump – outdoor unit



EVLQ05CAV3
EVLQ08CAV3

Installation manual
Daikin Altherma hybrid heat pump – outdoor unit

English

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

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

CE - DECLARAÇÃO-DE-CONFORMIDADE
CE - ЗАЯВЛЕНИЕ-О-СООТВЕТСТВИИ
CE - OVERENSSTEMMELSESERKLÆRING
CE - FÖRSÄKRAN-OM-ÖVERENSTÄMMELSE

CE - ERKLÆRING OM-SAMSVAR
CE - ILMOITUS-YHDENMUKAISUUDESTA
CE - PROHLÁŠENÍ-O-SHODĚ

CE - IZJAVA-O-USKLAĐENOSTI
CE - MEGFELELŐSÉGI-NYILATKOZAT
CE - DEKLARACJA-ZGODNOŚCI
CE - DECLARAŢIE-DE-CONFORMITATE

CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARATSIOON
CE - ДЕКЛАРАЦИЯ-ЗА-СЪОТВЕТСТВИЕ

CE - ATITIKTIES-DEKLARACIJA
CE - ATBILSTĪBAS-DEKLARĀCIJA
CE - VYHLÁSENIE-ZHODY
CE - UYGUNLUK-BEYANI

Daikin Europe N.V.

01 declares under its sole responsibility that the equipment to which this declaration relates:
02 erklärt auf seine alleinige Verantwortung daß die Ausrüstung für die diese Erklärung bestimmt ist:
03 déclare sous sa seule responsabilité que l'équipement visé par la présente déclaration:
04 verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de apparatuur waarop deze verklaring betrekking heeft:
05 declara bajo su única responsabilidad que el equipo al que hace referencia la declaración:
06 dichiara sotto la propria responsabilità che gli apparecchi a cui è riferita questa dichiarazione:
07 δηλώνει με αποκλειστική της ευθύνη ότι ο εξοπλισμός στον οποίο αναφέρεται η παρούσα δήλωση:
08 declara sob sua exclusiva responsabilidade que os equipamentos a que esta declaração se refere:
09 заявляет, исключительно под свою ответственность, что оборудование, к которому относится настоящее заявление:
10 erklærer under eneansvarlig, at udstyret, som er omfattet af denne erklæring:
11 deklarerar i egenskap av huvudansvarig, att utrustningen som berörs av denna deklaration innebär att:
12 erklærer et fullstendig ansvar for at det utstyr som berøres av denne deklarasjon innebærer at:
13 ilmoittaa yksinomaan omalla vastuullaan, että tämän ilmoituksen tarkoittamat laitteet
14 prohlašuje ve své plné odpovědnosti, že zařízení, k němuž se toto prohlášení vztahuje:
15 izjavljuje pod isključivo vlastitom odgovornošću da oprema na koju se ova izjava odnosi:
16 teljes felelőssége tudatában kijelenti, hogy a berendezések, melyekre e nyilatkozat vonatkozik:
17 deklaruje na własną i wyłączną odpowiedzialność, że urządzenia, których ta deklaracja dotyczy:
18 declară pe proprie răspundere că echipamentele la care se referă această declaraţie:
19 z vso odgovornostjo izjavlja, da je oprema naprav, na katero se izjava nanaša:
20 kinnitab oma täielikul vastutusel, et käesoleva deklaratsiooni alla kuuluv varustus:
21 декларира на своя отговорност, че оборудването, за което се отнася тази декларация:
22 visiška savo atsakomybe skelbia, kad įranga, kuriai taikoma ši deklaracija:
23 ar pilnu atbildību apliecina, ka tālāk aprakstītās iekārtas, uz kurām attiecas šī deklarācija:
24 vyhlasuje na vlastnú zodpovednosť, že zariadenie, na ktoré sa vzťahuje toto vyhlásenie:
25 tamamen kendi sorumluluğunda olmak üzere bu bildirinin ilgili olduğu donanımının aşağıdaki gibi olduğunu beyan eder:

EVLQ05CAV3, EVLQ08CAV3,

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 entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
03 sont conformes à la/aux 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 al(i) seguente(i) standard(s) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
07 είναι σύμφωνα με το(α) ακόλουθο(α) πρότυπο(α) ή άλλο έγγραφο(α) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:
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 соответствуют следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям:
10 overholder følgende standard(er) eller andet/andre retningsgivende 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 utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forutsetning av at disse brukes i henhold til våre instrukser:
13 vastaavat seuraavien standardien ja muiden ohjeellisten dokumenttien vaatimuksia edellyttäen, että niitä käytetään ohjeidemme mukaisesti:
14 za předpokladu, že jsou využívány v souladu s našimi pokyny, odpovídají následujícím normám nebo normativním dokumentům:
15 u skladu sa slijedećim 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 următorul (următoarele) standard(e) sau alt(e) document(e) normativ(e), cu condiţia ca acestea să fie utilizate în conformitate cu instrucţiunile noastre:
19 skladni z naslednjimi standardi in drugimi normativi, pod pogojem, da se uporabljajo v skladu z našimi navodili:
20 on vastavuses järgmis(t)e standardi(te)ga või teiste normatiivsete dokumentidega, kui neid kasutatakse vastavalt meie juhenditele:
21 съответстват на следните стандарти или други нормативни документи, при условие, че се използват съгласно нашите инструкции:
22 atitinka žemiau nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
23 tad, ja lietoti atbilstoši ražotāja norādījumiem, atbilst sekojošiem standartiem un citiem normatīviem dokumentiem:
24 sú v zhode s nasledovnou(ými) normou(ami) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v súlade s našim návodom:
25 ürünün, talimatlarımıza göre kullanılması koşuluyla aşağıdaki standartlar ve norm belirten belgelerle uyumludur:

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 τήρηση των διατάξεων των:
08 de acordo com o previsto em:
09 в соответствии с положениями:
10 under iagttagelse af bestemmelserne i:
11 enligt villkoren i:
12 gitt i henhold til bestemmelsene i:
13 noudattaen määräyksiä:
14 za dodržení ustanovení předpisu:
15 prema odredbama:
16 követi a(z):
17 zgodnie z postanowieniami Dyrektyw:
18 în urma prevederilor:
19 ob upoštevanju določb:
20 vastavalt nõuetele:
21 съгласно клаузите на:
22 laikantis nuostatų, pateikiamų:
23 ievērojot prasības, kas noteiktas:
24 održiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Low Voltage 2014/35/EU
Electromagnetic Compatibility 2014/30/EU *

01 Directives, as amended.
02 Direktiven, gemäß Änderung.
03 Directives, telles que modifiées.
04 Richtlijnen, zoals geamendeerd.
05 Directivas, según lo enmendado.
06 Direttive, come da modifica.
07 Οδηγιών, όπως έχουν τροποποιηθεί.
08 Directivas, conforme alteração em.
09 Директив со всеми поправками.
10 Direktiver, med senere ændringer.
11 Direktiv, med företagna ändringar.
12 Direktiver, med foretatte endringer.
13 Direktiivejä, sellaisina kuin ne ovat
14 muutettuina.
15 v platném znění.
16 Smjernice, kako je izmijenjeno.
17 irányelv(ek) és módosításaik rendelkezéseit.
09 Директив со всеми поправками.
18 Directivelor, cu amendamentele respective.
19 Direktive z vsemi spremembami.
20 Direktiivid koos muudatustega.
21 Директиви, с техните изменения.
22 Direktyvose su papildymais.
23 Direktīvās un to papildinājumos.
24 Smernice, v platnom znení.
25 Değiştirilmiş halleriyle Yönetmelikler.

01 **Note*** as set out in <A> and judged positively by <B> according to the **Certificate <C>**.
02 **Hinweis*** wie in <A> aufgeführt und von <B> positiv beurteilt gemäß **Zertifikat <C>**.
03 **Remarque*** tel que défini dans <A> et évalué positivement par <B> conformément au **Certificat <C>**.
04 **Bemerk*** zoals vermeld in <A> en positief beoordeeld door <B> overeenkomstig **Certificaat <C>**.
05 **Nota*** como se establece en <A> y es valorado positivamente por <B> de acuerdo con el **Certificado <C>**.
06 **Nota*** delineato nel <A> e giudicato positivamente da <B> secondo il **Certificato <C>**.
07 **Σημείωση*** όπως καθορίζεται στο <A> και κρίνεται θετικά από το <B> σύμφωνα με το **Πιστοποιητικό <C>**.
08 **Nota*** tal como estabelecido em <A> e com o parecer positivo de <B> de acordo com o **Certificado <C>**.
09 **Примечание*** как указано в <A> и в соответствии с положительным решением <B> согласно **Свидетельству <C>**.
10 **Bemærk*** som anført i <A> og positivt vurderet af <B> i henhold til **Certifikat <C>**.
11 **Information*** enligt <A> och godkänts av <B> enligt **Certifikatet <C>**.
12 **Merk*** som det fremkommer i <A> og gjennom positiv bedømmelse av <B> ifølge **Sertifikat <C>**.
13 **Huom*** jotka on esitetty asiakirjassa <A> ja jotka <B> on hyväksynyt **Sertifikaatin <C>** mukaisesti.
14 **Poznámka*** jak bylo uvedeno v <A> a pozitivně zjištěno <B> v souladu s **osvědčením <C>**.
15 **Napomena*** kako je izloženo u <A> i pozitivno ocijenjeno od strane <B> prema **Certifikatu <C>**.
16 **Megjegyzés*** a(z) <A> alapján, a(z) <B> igazolta a megfelelést, a(z) <C> **tanúsítvány** szerint.
17 **Uwaga*** zgodnie z dokumentacją <A>, pozytywną opinią <B> i **Świadectwem <C>**.
18 **Notă*** aşa cum este stabilit în <A> şi apreciat pozitiv de <B> în conformitate cu **Certificatul <C>**.
19 **Opomba*** kot je določeno v <A> in odobreno v strani <B> v skladu s **certifikatom <C>**.
20 **Märkus*** nagu on näidatud dokumendis <A> ja heaks kiidetud <B> järgi vastavalt **sertifikaadile <C>**.
21 **Забележка*** както е изложено в <A> и оценено положително от <B> съгласно **Сертификата <C>**.
22 **Pastaba*** kaip nustatyta <A> ir kaip teigiamai nuspręsta <B> pagal **Sertifikatą <C>**.
23 **Piezīmes*** kā norādīts <A> un atbilstoši <B> pozitīvajam vērtējumam saskaņā ar **sertifikātu <C>**.
24 **Poznámka*** ako bolo uvedené v <A> a pozitívne zistené <B> v súlade s **osvedčením <C>**.
25 **Not*** <A>'da belirtildiği gibi ve <C> **Sertifikasına** göre <B> tarafından olumlu olarak değerlendirildiği gibi.

<A>	DAIKIN.TCF.015P14/04-2013
<B>	DEKRA (NB0344)
<C>	74736-KRQ/EMC97-4957

3P344908-1B

DAIKIN

Shigeki Morita
Director
Ostend, 1st of April 2016

DAIKIN EUROPE N.V.
Zandvoordestraat 300, B-8400 Oostende, Belgium

Table of contents

1 About the documentation

1.1 About this document

Target audience

Authorised installers

Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
  - Safety instructions that you must read before installing
  - Format: Paper (in the box of the indoor unit)
- **Heat pump module installation manual:**
  - Installation instructions
  - Format: Paper (in the box of the indoor unit)
- **Gas boiler module installation manual:**
  - Installation and operation instructions
  - Format: Paper (in the box of the gas boiler unit)
- **Outdoor unit installation manual:**
  - Installation instructions
  - Format: Paper (in the box of the outdoor unit)
- **Installer reference guide:**
  - Preparation of the installation, technical specifications, reference data,…
  - Format: Digital files on http://www.daikineurope.com/support-and-manuals/product-information/
- **Addendum book for optional equipment:**
  - Additional info about how to install optional equipment
  - Format: Paper (in the box of the indoor unit) + Digital files on http://www.daikineurope.com/support-and-manuals/product-information/

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

The original documentation is written in English. All other languages are translations.

2 About the box

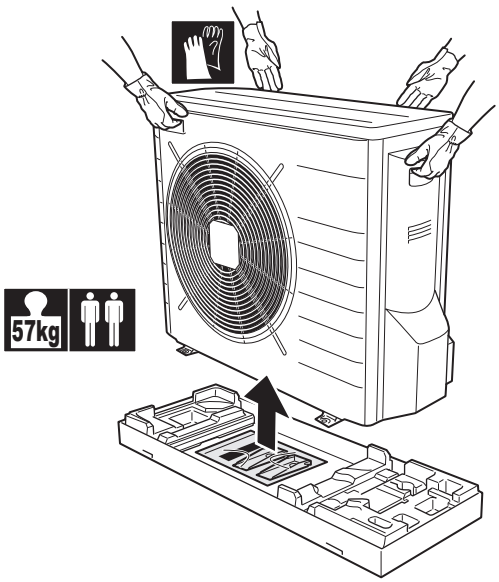
2.1 Outdoor unit

2.1.1 To remove the accessories from the outdoor unit

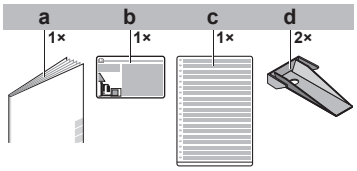
1 Lift the outdoor unit.

CAUTION

Only handle the outdoor unit as follows:



2 Remove the accessories at the bottom of the package.



a Outdoor unit installation manual
b Fluorinated greenhouse gases label
c Multilingual fluorinated greenhouse gases label
d Unit mounting plate

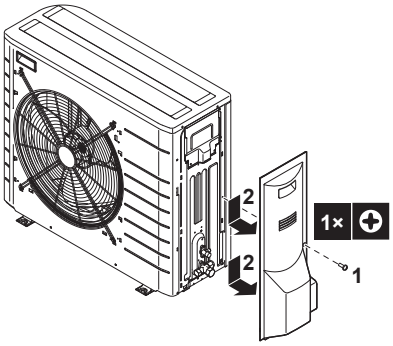
3 Installation

3.1 Opening the units

3.1.1 To open the outdoor unit

DANGER: RISK OF ELECTROCUTION

DANGER: RISK OF BURNING



3.2 Mounting the outdoor unit

3.2.1 To provide the installation structure

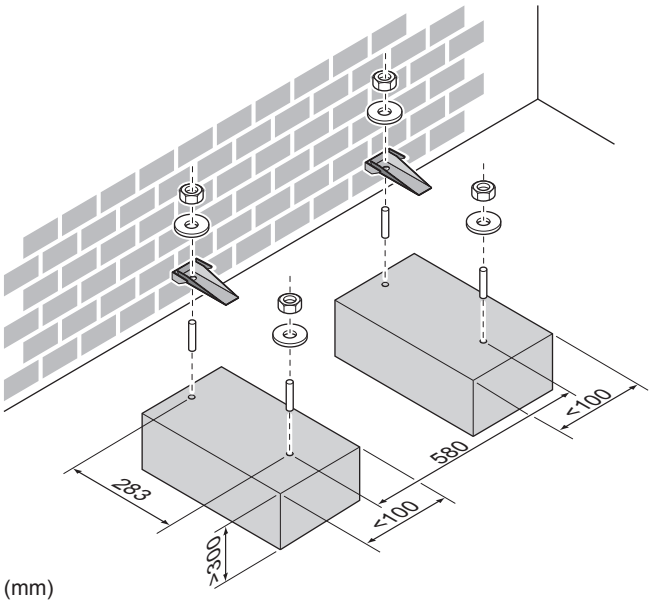
If the unit is installed directly on the floor, prepare 4 sets of M8 or M10 anchor bolts, nuts and washers (field supply) as follows:

INFORMATION

The maximum height of the upper protruding part of the bolts is 15 mm.

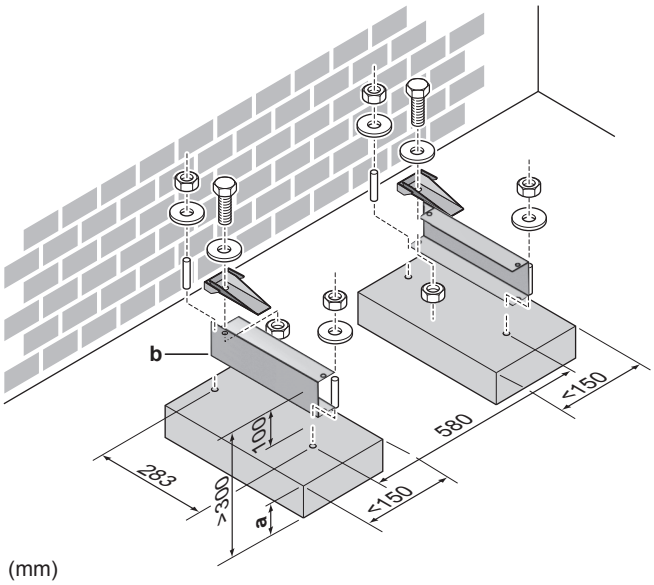
NOTICE

Fix the outdoor unit to the foundation bolts using nuts with resin washers (a). If the coating on the fastening area is stripped off, the nuts rust easily.



(mm)

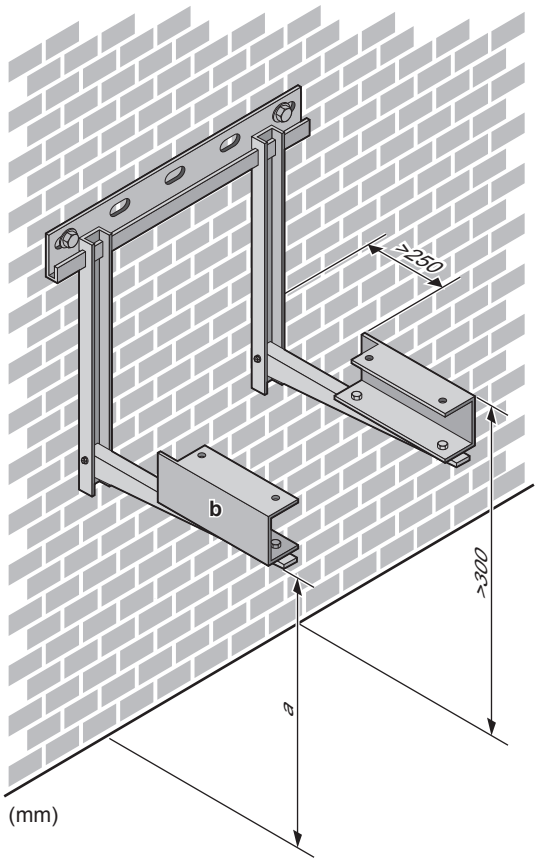
In any case, provide at least 300 mm of free space below the unit. Additionally, make sure the unit is positioned at least 100 mm above the maximum expected level of snow. In this case, it is recommended to construct a pedestal, and on this pedestal install the EKFT008CA option kit.



(mm)

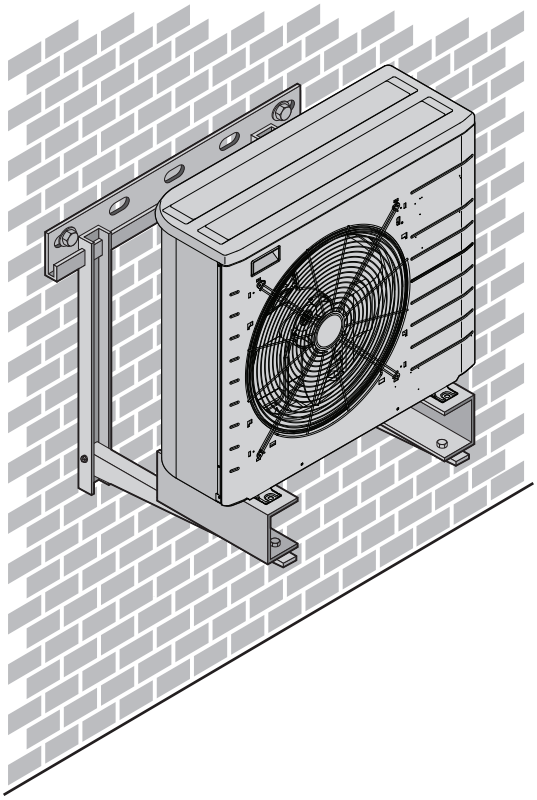
a Maximum snowfall height
b EKFT008CA option kit

If the unit is installed on brackets to the wall, it is recommended to use the EKFT008CA option kit and to install the unit as follows:



(mm)

a Maximum snowfall height
b EKFT008CA option kit



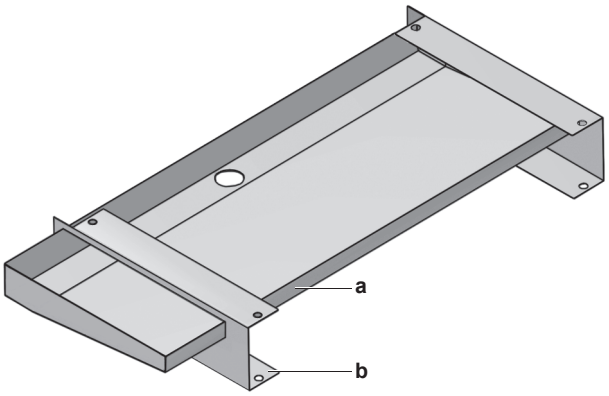
3.2.2 To provide drainage

Make sure that condensation water can be evacuated properly.

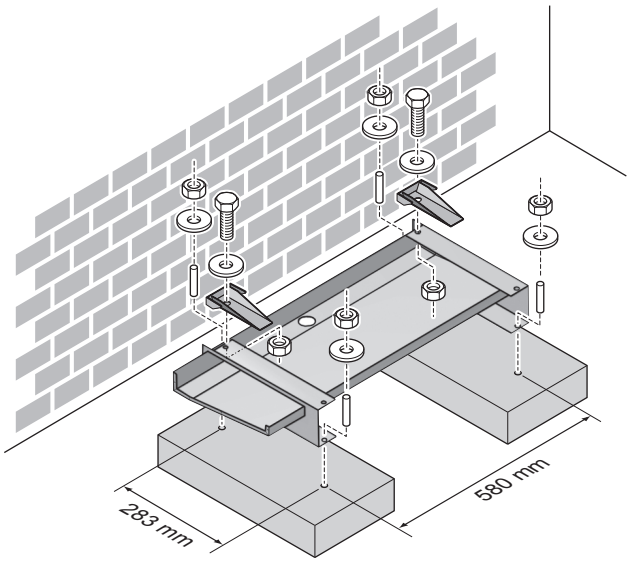
NOTICE

If the drain holes of the outdoor unit are blocked up, provide space of at least 300 mm below the outdoor unit.

An additional drain pan kit (EKDP008CA) can be used to gather the drain water. The drain pan kit consists of:



a Drain pan
b U-beams



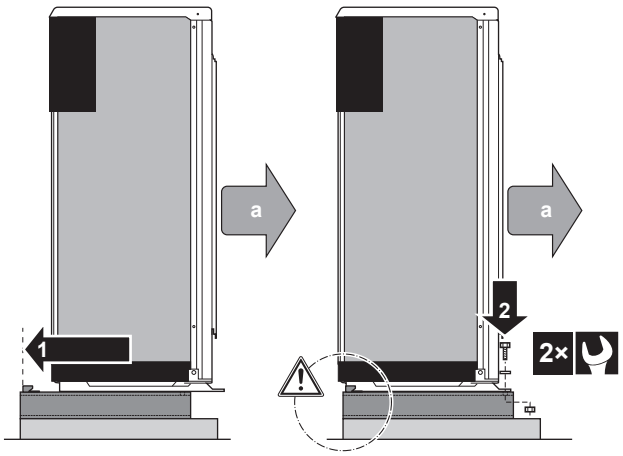
3.2.3 To install the outdoor unit

CAUTION

Do NOT remove the protective cardboard before the unit is installed properly.

1 Lift the outdoor unit as described in "2.1.1 To remove the accessories from the outdoor unit" on page 3.

2 Install the outdoor unit as follows:

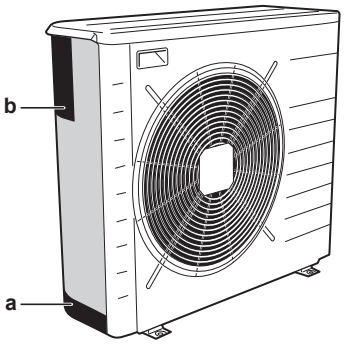


a Air outlet

NOTICE

The pedestal MUST be aligned with the backside of the U-beam.

3 Remove the protective cardboard and instruction sheet.



a Protective cardboard
b Instruction sheet

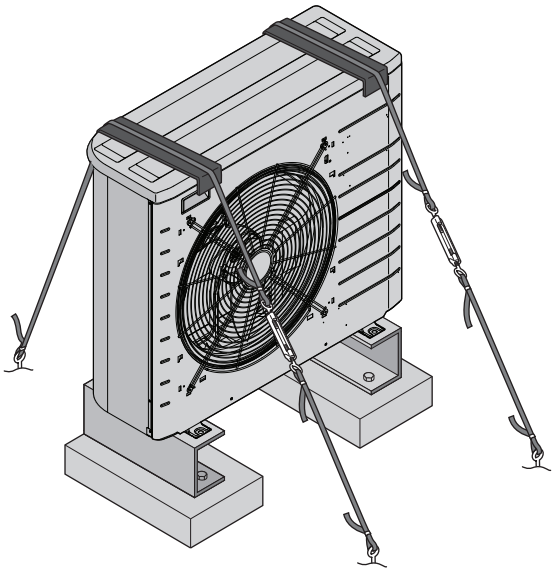
3.2.4 To prevent the outdoor unit from falling over

1 Prepare 2 cables as indicated in the following illustration (field supply).

2 Place the 2 cables over the outdoor unit.

3 Insert a rubber sheet between the cables and the outdoor unit to prevent the cable from scratching the paint (field supply).

4 Attach the cable's ends. Tighten those ends.

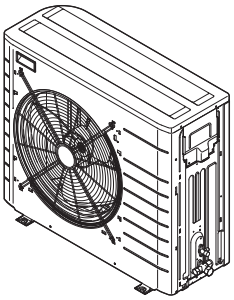


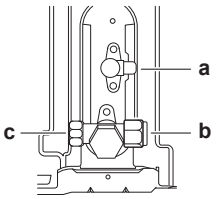
3.3 Connecting the refrigerant piping

DANGER: RISK OF BURNING

3.3.1 To connect the refrigerant piping to the outdoor unit

1 Connect the liquid refrigerant connection from the indoor unit to the liquid stop valve of the outdoor unit.





a Liquid stop valve
b Gas stop valve
c Service port

2 Connect the gas refrigerant connection from the indoor unit to the refrigerant stop valve of the outdoor unit.

3.4 Checking the refrigerant piping

3.4.1 To check for leaks

NOTICE

Do NOT exceed the unit's maximum working pressure (see "PS High" on the unit name plate).

NOTICE

Make sure to use a recommended bubble test solution from your wholesaler. Do not use soap water, which may cause cracking of flare nuts (soap water may contain salt, which absorbs moisture that will freeze when the piping gets cold), and/or lead to corrosion of flared joints (soap water may contain ammonia which causes a corrosive effect between the brass flare nut and the copper flare).

1 Charge the system with nitrogen gas up to a gauge pressure of at least 200 kPa (2 bar). It is recommended to pressurize to 3000 kPa (30 bar) in order to detect small leaks.

2 Check for leaks by applying the bubble test solution to all connections.

3 Discharge all nitrogen gas.

3.4.2 To perform vacuum drying

1 Vacuum the system until the pressure on the manifold indicates −0.1 MPa (−1 bar).

2 Leave as is for 4-5 minutes and check the pressure:

If the pressure…	Then…
Does not change	There is no moisture in the system. This procedure is finished.
Increases	There is moisture in the system. Go to the next step.

3 Evacuate for at least 2 hours to a pressure on the manifold of −0.1 MPa (−1 bar).

4 After turning OFF the pump, check the pressure for at least 1 hour.

5 If you do NOT reach the target vacuum or cannot maintain the vacuum for 1 hour, do the following:

- Check for leaks again.
- Perform vacuum drying again.

NOTICE

Be sure to open the gas stop valve after piping installation and vacuuming. Running the system with the valve closed, the compressor may break down.

3.5 Charging refrigerant

3.5.1 To determine the additional refrigerant amount

If the total liquid piping length is…	Then…
≤10 m	Do NOT add additional refrigerant.
>10 m	R=(total length (m) of liquid piping–10 m)×0.020 R=Additional charge (kg)(rounded in units of 0.1 kg)

INFORMATION

Piping length is the one way length of liquid piping.

3.5.2 To charge refrigerant

WARNING

- Only use R410A as refrigerant. Other substances may cause explosions and accidents.
- R410A contains fluorinated greenhouse gases. Its global warming potential (GWP) value is 2087.5. Do NOT vent these gases into the atmosphere.
- When charging refrigerant, always use protective gloves and safety glasses.

Prerequisite: Before charging refrigerant, make sure the refrigerant piping is connected and checked (leak test and vacuum drying).

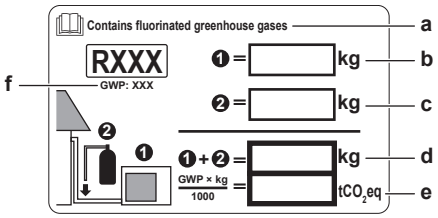
1 Connect the refrigerant cylinder to the service port.

2 Charge the additional refrigerant amount.

3 Open the gas stop valve.

3.5.3 To fix the fluorinated greenhouse gases label

1 Fill in the label as follows:



a If a multilingual fluorinated greenhouse gases label is delivered with the unit (see accessories), peel off the applicable language and stick it on top of **a**.
b Factory refrigerant charge: see unit name plate
c Additional refrigerant amount charged
d Total refrigerant charge
e **Greenhouse gas emissions** of the total refrigerant charge expressed as tonnes CO_2-equivalent
f GWP = Global warming potential

NOTICE

In Europe, the **greenhouse gas emissions** of the total refrigerant charge in the system (expressed as tonnes CO_2-equivalent) is used to determine the maintenance intervals. Follow the applicable legislation.

Formula to calculate the greenhouse gas emissions: GWP value of the refrigerant × Total refrigerant charge [in kg] / 1000

2 Fix the label on the inside of the outdoor unit near the gas and liquid stop valves.

3.6 Connecting the electrical wiring

DANGER: RISK OF ELECTROCUTION

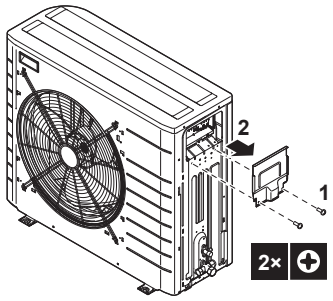
WARNING

ALWAYS use multicore cable for power supply cables.

3.6.1 To connect the electrical wiring on the outdoor unit

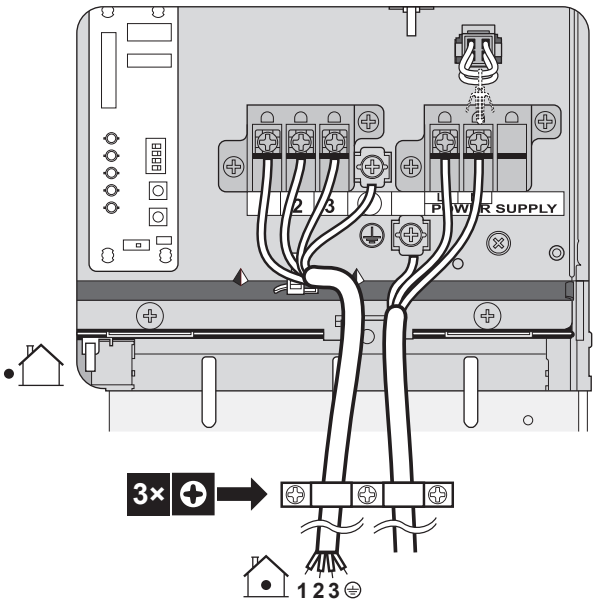
1 Remove the 2 switch box cover screws.

2 Remove the switch box cover.



3 Open the wire clamp.

4 Connect the interconnection cable and power supply as follows:

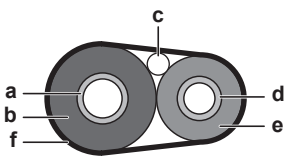


5 Install the switch box cover.

3.7 Finishing the outdoor unit installation

3.7.1 To finish the outdoor unit installation

1 Insulate and fix the refrigerant piping and interconnection cable as follows:



a Gas pipe
b Gas pipe insulation
c Interconnection cable
d Liquid pipe
e Liquid pipe insulation
f Finishing tape

2 Install the service cover.

4 Starting up the outdoor unit

See the indoor unit installation manual for configuration and commissioning of the system.

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