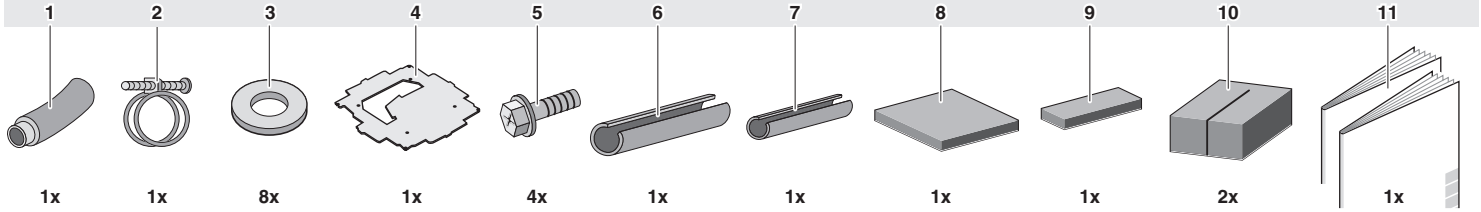
DAIKIN

INSTALLATION MANUAL

Split System air conditioners

FFQ25B9V1B
FFQ35B9V1B
FFQ50B9V1B
FFQ60B9V1B



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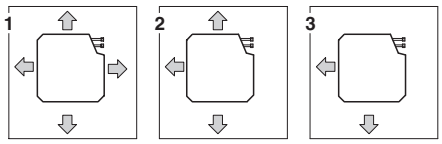

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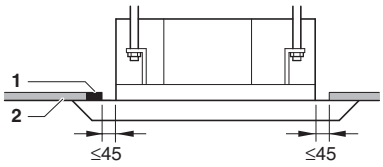

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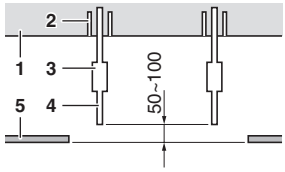

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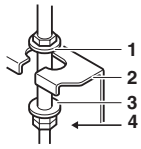

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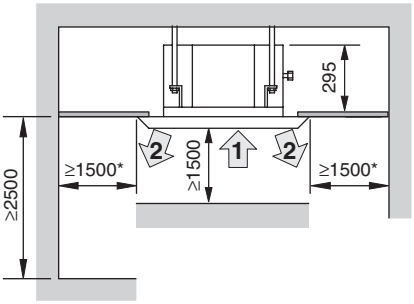

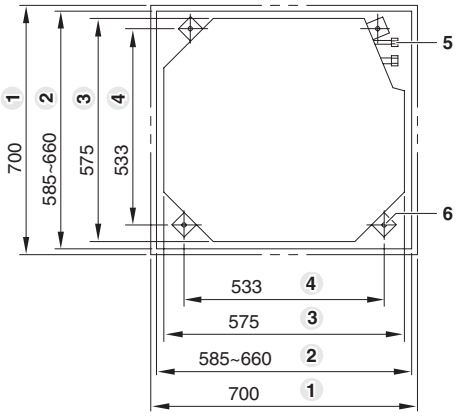

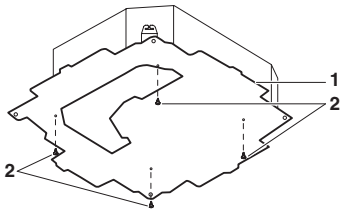

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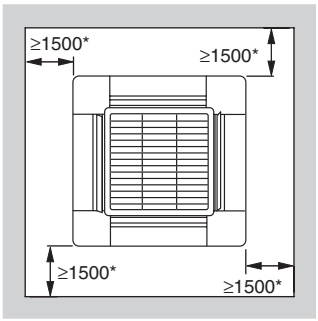

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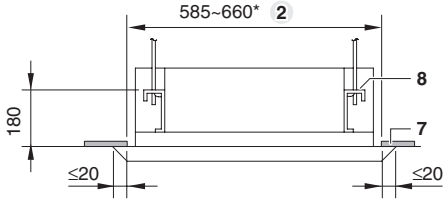

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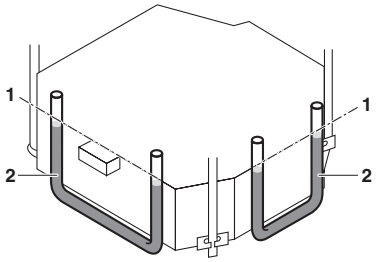

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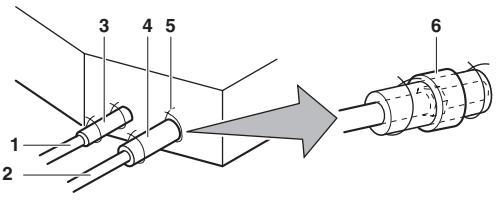

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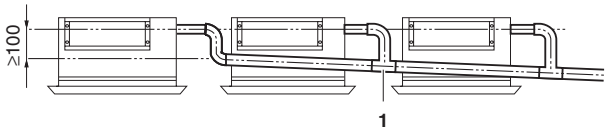

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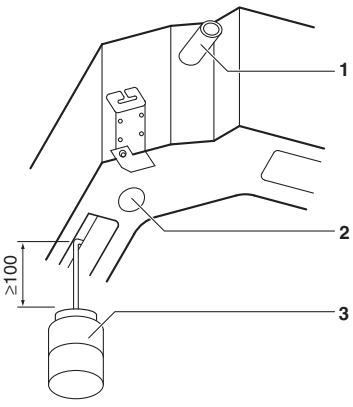

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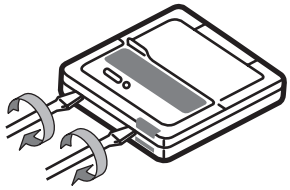

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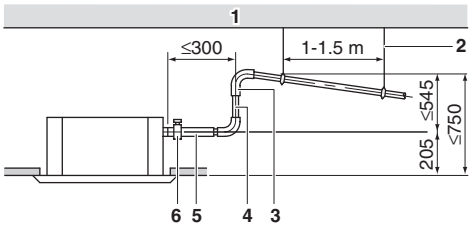

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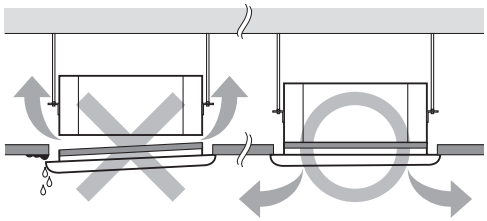

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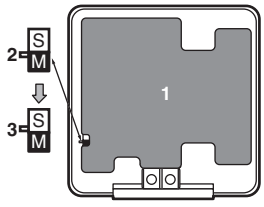

16

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 - OPFYLDELSESERKLÆRING
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 - UYUMLULUK-BİLDİRİSİ

Daikin Europe N.V.

01 (GB) declares under its sole responsibility that the air conditioning models to which this declaration relates:
02 (D) erklärt auf seine alleinige Verantwortung daß die Modelle der Klimageräte für die diese Erklärung bestimmt ist:
03 (F) déclare sous sa seule responsabilité que les appareils d'air conditionné visés par la présente déclaration:
04 (NL) verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de airconditioning units waarop deze verklaring betrekking heeft:
05 (E) declara baja su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración:
06 (I) dichiara sotto sua responsabilità che i condizionatori modello a cui è riferita questa dichiarazione:
07 (GR) δηλώνει με αποκλειστική της ευθύνη ότι τα μοντέλα των κλιματιστικών συσκευών στα οποία αναφέρεται η παρούσα δήλωση:
08 (P) declara sob sua exclusiva responsabilidade que os modelos de ar condicionado a que esta declaração se refere:
09 (RUS) заявляет, исключительно под свою ответственность, что модели кондиционеров воздуха, к которым относится настоящее заявление:
10 (DK) erklærer under eneansvar, at klimaanlægmodellerne, som denne deklaration vedrører:
11 (S) deklarerar i egenskap av huvudansvarig, att luftkonditioneringsmodellerna som berörs av denna deklaration innebär att:
12 (N) erklærer et fullstendig ansvar for at de luftkondisjoneringsmodeller som berøres av denne deklarasjon innebærer at:
13 (FIN) ilmoittaa yksinomaan omalla vastuullaan, että tämän ilmoituksen tarkoittamat ilmastointilaitteiden mallit:
14 (CZ) prohlašuje ve své plné odpovědnosti, že modely klimatizace, k nimž se toto prohlášení vztahuje:
15 (HR) izjavljuje pod isključivu vlastitom odgovornošću da su modeli klima uređaja na koje se ova izjava odnosi:
16 (H) teljes felelősségе tudatában kijelenti, hogy a klímaberendezés modellek, melyekre e nyilatkozat vonatkozik:
17 (PL) deklaruje na własną i wyłączną odpowiedzialność, że modele klimatyzatorów, których dotyczy niniejsza deklaracja:
18 (RO) declară pe proprie răspundere că aparatele de aer condiţionat la care se referă această declaraţie:
19 (SLO) z vso odgovornostjo izjavlja, da so modeli klimatskih naprav, na katere se izjava nanaša:
20 (EST) kinnitab oma täielikul vastutusel, et käesoleva deklaratsiooni alla kuuluvad kliimaseadmete mudelid:
21 (BG) декларира на своя отговорност, че моделите климатична инсталация, за които се отнася тази декларация:
22 (LT) visiška savo atsakomybe skelbia, kad oro kondicionavimo prietaisų modeliai, kuriems yra taikoma ši deklaracija:
23 (LV) ar pilnu atbildību apliecina, ka tālāk uzskaitīto modeļu gaisa kondicionētāji, uz kuriem attiecas šī deklarācija:
24 (SK) vyhlasuje na vlastnú zodpovednosť, že tieto klimatizačné modely, na ktoré sa vzťahuje toto vyhlásenie:
25 (TR) tamamen kendi sorumluluğunda olmak üzere bu bildirinin ilgili olduğu klima modellerinin aşağıdaki gibi olduğunu beyan eder:

FFQ25B9V1B*, FFQ35B9V1B*, FFQ50B9V1B*, FFQ60B9V1B*,
* = , , 1, 2, 3, ..., 9

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 forutssetning 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 следвайки клаузите на:
22 laikantis nuostatų, pateikiamų:
23 ievērojot prasības, kas noteiktas:
24 održiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Low Voltage 2006/95/EC
Machinery 2006/42/EC **
Electromagnetic Compatibility 2004/108/EC *

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

<A>	DAIKIN.TCF.021F29/09-2011
<B>	DEKRA (NB0344)
<C>	2024351-QUA/EMC02-4565

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04 ** Daikin Europe N.V. is bevoegd om het Technisch Constructiedossier samen te stellen.
05 ** Daikin Europe N.V. está autorizado a compilar el Archivo de Construcción Técnica.
06 ** Daikin Europe N.V. è autorizzata a redigere il File Tecnico di Costruzione.
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10 ** Daikin Europe N.V. er autoriseret til at udarbejde de tekniske konstruktionsdata.
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13 ** Daikin Europe N.V. on valtuutettu laatimaan Teknisen asiakirjan.
14 ** Společnost Daikin Europe N.V. má oprávnění ke kompilaci souboru technické konstrukce.
15 ** Daikin Europe N.V. je ovlašten za izradu Datoteke o tehničkoj konstrukciji.
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17 ** Daikin Europe N.V. ma upoważnienie do zbierania i opracowywania dokumentacji konstrukcyjnej.
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3PW71102-1A

DAIKIN

Jean-Pierre Beuselinck
Director
Ostend, 1st of December 2011

DAIKIN EUROPE N.V.
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CONTENTS

The English text is the original instruction. Other languages are translations of the original instructions.

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION. KEEP THIS MANUAL IN A HANDY PLACE FOR FUTURE REFERENCE.

IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO THE EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DAIKIN DEALER FOR ADVICE AND INFORMATION.

BEFORE INSTALLATION

- When moving the unit while removing it from the carton box, be sure to lift it by holding on to the four lifting lugs without exerting any pressure on other parts, especially on the swing flap, the refrigerant piping, drain piping, and other resin parts.
- Leave the unit inside its packaging until you reach the installation site. Where unpacking is unavoidable, use a sling of soft material or protective plates together with a rope when lifting, this to avoid damage or scratches to the unit.
- Especially, do not unfasten the packing case (top) guarding the switch box until suspending the unit.
- Refer to the installation manual of the outdoor unit for items not described in this manual.
- Caution concerning refrigerant series R410A:
  The connectable outdoor units must be designed exclusively for R410A.

Precautions

- Do not install or operate the unit in rooms mentioned below.
  - Places with mineral oil, or filled with oil vapour or spray like in kitchens. (Plastic parts may deteriorate.)
  - Where corrosive gas like sulphurous gas exists. (Copper tubing and brazed spots may corrode.)
  - Where volatile flammable gas like thinner or gasoline is used.
  - The equipment is not intended for use in a potentially explosive atmosphere.
  - Where machines generating electromagnetic waves exist. (Control system may malfunction.)
  - Where the air contains high levels of salt such as air near the ocean and where voltage fluctuates a lot (e.g. in factories). Also in vehicles or vessels.
- When selecting the installation site, use the supplied paper pattern for installation.
- Do not install accessories on the casing directly. Drilling holes in the casing may damage electrical wires and consequently cause fire.

Accessories

Check if the following accessories are included with your unit.

See figure 1

1	Drain hose
2	Metal clamp
3	Washer for hanger bracket
4	Paper pattern for installation
5	Srews (M5) for paper pattern for installation
6	Insulation for gas pipe fitting
7	Insulation for liquid pipe fitting
8	Large sealing pad
9	Small sealing pad
10	Sealing material
11	Installation manual and operation manual

Optional accessories

- There are two types of remote controllers: wired and wireless. Select a remote controller according to customers request and install in an appropriate place.
  Refer to catalogues and technical literature for selecting a suitable remote controller.
- A decoration panel is also required for this indoor unit.

For the following items, take special care during construction and check after installation is finished

Tick ✓ when checked	
☐	Is the indoor unit fixed firmly? The unit may drop, vibrate or make noise.
☐	Is the gas leak test finished? It may result in insufficient cooling.
☐	Is the unit fully insulated? Condensate water may drip.
☐	Does drainage flow smoothly? Condensate water may drip.
☐	Does the power supply voltage correspond to that shown on the name plate? The unit may malfunction or components may burn out.
☐	Are wiring and piping correct? The unit may malfunction or components may burn out.
☐	Is the unit safely grounded? Dangerous at electric leakage.
☐	Is the wiring size according to specifications? The unit may malfunction or components may burn out.
☐	Is nothing blocking the air outlet or inlet of either the indoor or outdoor units? It may result in insufficient cooling.
☐	Are refrigerant piping length and additional refrigerant charge noted down? The refrigerant charge in the system might not be clear.

Notes to the installer

- Read this manual carefully to ensure correct installation. Be sure to instruct the customer how to properly operate the system and show him/her the enclosed operation manual.
- Explain to the customer what system is installed on the site. Be sure to fill out the appropriate installation specifications in the chapter "What to do before operation" of the outdoor unit operation manual.

SELECTING INSTALLATION SITE

When the conditions in the ceiling are exceeding 30°C and a relative humidity of 80%, or when fresh air is inducted into the ceiling, an additional insulation is required (minimum 10 mm thickness, polyethylene foam).

For this unit you can select different air flow directions. It is necessary to purchase an optional blocking pad kit to discharge the air in 2 or 3 directions.

1 Select an installation site where the following conditions are fulfilled and that meets your customer's approval.

- Where optimum air distribution can be ensured.
- Where nothing blocks air passage.
- Where condensate water can be properly drained.
- Where the false ceiling is not noticeably on an incline.
- Where sufficient clearance for maintenance and service can be ensured.
- Where piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual of the outdoor unit.)
- Keep indoor unit, outdoor unit, power supply wiring and transmission wiring at least 1 meter away from televisions and radios. This is to prevent image interference and noise in those electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 meter is kept.)

2 Ceiling height

Install this unit where the height of bottom panel is more than 2.5 m so that the user cannot easily touch.

3 Air flow directions

Select the air flow directions best suited to the room and point of installation. (For air discharge in 2 or 3 directions, it is necessary to make field settings by means of the remote controller and to close the air outlet(s). Refer to the installation manual of the optional blocking pad kit and to "Field setting" on page 7. (See figure 2) (⇧ : air flow direction)

1 Air discharge in 4 directions
2 Air discharge in 3 directions
3 Air discharge in 2 directions

4 Use suspension bolts for installation. Check whether the ceiling is strong enough to support the weight of the indoor unit. If there is a risk, reinforce the ceiling before installing the unit.

(The installation pitch is marked on the paper pattern for installation. Refer to it to check for points requiring reinforcing.)
Space required for installation see figure 6 (⇧ : air flow direction)

1 Air inlet
2 Air outlet

NOTE Leave 200 mm or more space where marked with *, on sides where the air outlet is closed.

PREPARATIONS BEFORE INSTALLATION

1 Relation of ceiling opening to unit and suspension bolt position. (See figure 7)

1 Decoration panel dimensions
2 Ceiling opening dimensions
3 Indoor unit dimensions
4 Suspension bolt pitch dimensions
5 Refrigerant piping
6 Suspension bolt (x4)
7 False ceiling
8 Hanger bracket

NOTE Installation is possible with a ceiling dimension of 660 mm (marked with *). However, to achieve a ceiling-panel overlapping dimension of 20 mm, the spacing between the ceiling and the unit should be 45 mm or less. If the spacing between ceiling and the unit is over 45 mm, attach sealing material in the part marked ■ or recover the ceiling.

(See figure 3)

1 Sealing material
2 False ceiling

2 Make the ceiling opening needed for installation where applicable. (For existing ceilings.)

- Refer to the paper pattern for installation for the ceiling opening dimensions.
- Create the ceiling opening required for installation. From the side of the opening to the casing outlet, implement the refrigerant and drain piping and wiring for remote controller (unnecessary for wireless type). Refer to each piping or wiring section.
- After making an opening in the ceiling, it may be necessary to reinforce ceiling beams to keep the ceiling level and to prevent it from vibrating. Consult the builder for details.

3 **Install the suspension bolts.** (Use either a M8~M10 size bolt.)

Use anchors for existing ceilings, and a sunken insert, sunken anchors or other field supplied parts for new ceilings to reinforce the ceiling in order to bear the weight of the unit. Adjust clearance from the ceiling before proceeding further.
Installation example. (See figure 4)

1 Ceiling slab
2 Anchor
3 Long nut or turn-buckle
4 Suspension bolt
5 False ceiling

NOTE
- All the above parts are field supplied.
- For other installation than standard installation, contact your Daikin dealer for details.

INDOOR UNIT INSTALLATION

When installing optional accessories, read also the installation manual of the optional accessories. Depending on the field conditions, it may be easier to install optional accessories before the indoor unit is installed. However, for existing ceilings, install fresh air inlet component kit and branch duct before installing the unit.

1 **Install the indoor unit temporarily.**
- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.
- Securing the hanger bracket (See figure 5)

1 Nut (field supply)
2 Hanger bracket
3 Washer (supplied with the unit)
4 Tighten (double nut)

2 **Fix the paper pattern for installation.** (For new ceilings only.)
- The paper pattern for installation corresponds with the measurements of the ceiling opening. Consult the builder for details.
- The centre of the ceiling opening is indicated on the paper pattern for installation. The centre of the unit is indicated on the paper pattern for installation.
- After removing the packaging material from the paper pattern for installation, attach the paper pattern for installation to the unit with the attached screws as shown in figure 8.

1 Paper pattern for installation (supplied with the unit)
2 Screws (supplied with the unit)

3 **Adjust the unit to the right position for installation.**

(See "Preparations before installation" on page 2.)

4 **Check if the unit is horizontally levelled**.
- Do not install the unit tilted. The indoor unit is equipped with a built-in drain pump and float switch. (If the unit is tilted against condensate flow, the float switch may malfunction and cause water to drip.)
- Check if the unit is levelled at all four corners with a water level or a water-filled vinyl tube as shown in figure 9.

1 Water level
2 Vinyl tube

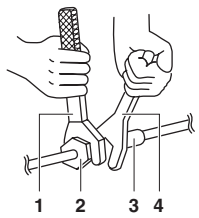
5 **Remove the paper pattern for installation.** (For new ceilings only.)

REFRIGERANT PIPING WORK

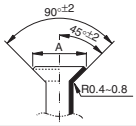
All field piping must be provided by a licensed refrigeration technician and must comply with the relevant local and national codes.

- For refrigerant piping of outdoor unit, refer to the installation manual supplied with the outdoor unit.
- Execute heat insulation work completely on both sides of the gas piping and the liquid piping. Otherwise, this can sometimes result in water leakage.
  (When using a heat pump, the temperature of the gas piping can reach up to approximately 120°C. Use insulation which is sufficiently resistant.)
- Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 30°C or RH 80%, reinforce the refrigerant insulation (20 mm or thicker). Condensation may form on the surface of the insulating material.
- Before rigging tubes, check which type of refrigerant is used.
- Use a pipe cutter and flare suitable for the used refrigerant.
- Apply ether oil or ester oil around the flare portions before connecting.
- To prevent dust, moisture or other foreign matter from infiltrating the tube, either pinch the end, or cover it with tape.
- Use copper alloy seamless pipes (ISO 1337).
- The outdoor unit is charged with refrigerant.
- Be sure to use both a spanner and torque wrench together when connecting or disconnecting pipes to/from the unit.

1 Torque wrench
2 Flare nut
3 Piping union
4 Spanner



- Do not mix anything other than the specified refrigerant, such as air, etc.., inside the refrigerant circuit.
- Refer to the table below for the dimensions of flare nuts and the appropriate tightening torque. (Overtightening may damage the flare and cause leaks.)

Pipe gauge	Tightening torque	Flare dimension A (mm)	Flare shape
Ø6.4	15~17 N•m	8.7~9.1	
Ø9.5	33~39 N•m	12.8~13.2	
Ø12.7	50~60 N•m	16.2~16.6	

NOTE

Not recommended but in case of emergency.

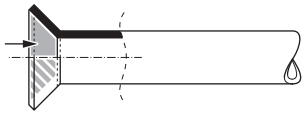
You must use a torque wrench but if you are obliged to install the unit without a torque wrench, you may follow the installation method mentioned below.

After the work is finished, make sure to check that there is no gas leak.

When you keep on tightening the flare nut with a spanner, there is a point where the tightening torque suddenly increases. From that position, further tighten the flare nut within the angle shown below.

Pipe size	Further tightening angle	Recommended arm length of tool
Ø6.4	60~90°	±150 mm
Ø9.5	60~90°	±200 mm
Ø12.7	30~60°	±250 mm

- When connecting the flare nut, coat the flare inner surface with ether oil or ester oil and initially tighten 3 or 4 turns by hand before tightening firmly.



- Check the pipe connector for gas leaks, then insulate it as shown in figure 10.

1 Liquid pipe
2 Gas pipe
3 Insulation for fitting of liquid line (supplied with the unit)
4 Insulation for fitting of gas line (supplied with the unit)
5 Clamps (use 2 clamps per insulation)
6 Small sealing pad (supplied with the unit)

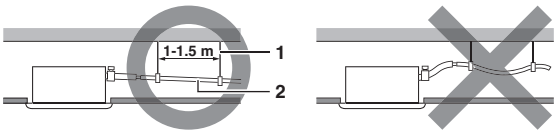
- Wrap the sealing pad only around the insulation for the joints on the gas piping side.

Be sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

- If the refrigerant gas leaks during the work, ventilate the area. A toxic gas is emitted by the refrigerant gas being exposed to a fire.
- Finally make sure there is no refrigerant gas leak. A toxic gas may be released by the refrigerant gas leaking indoor and being exposed to flames from an area heater, cooking stove, etc.

DRAIN PIPING WORK

Rig the drain piping as shown in figure and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.

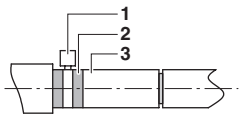


1 Hanging bar
2 ≥1/100 gradient

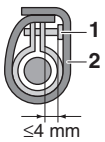
1 Install the drain pipes.

- Keep piping as short as possible and slope it downwards so that air may not remain trapped inside the pipe.
- Keep pipe size equal to or greater than that of the connecting pipe (PVC pipe, nominal diameter 20 mm, outside diameter 26 mm).
- Insert the drain hose into the drain socket up to the base, and tighten the clamp securely within the portion of a grey tape.
- Tighten the clamp until the screw head is less then 4 mm from the hose.

1 Metal clamp (supplied with the unit)
2 Grey tape (field supply)
3 Drain hose (supplied with the unit)



- Insulate the drain hose inside the building.
- If the drain hose cannot be sufficiently set on a slope, fit the hose with drain raising piping (field supply).
- Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.
  - Indoor drain pipe
  - Drain socket
- Wrap the supplied sealing pad over the clamp and drain hose to insulate.



1 Metal clamp (supplied with the unit)
2 Large sealing pad (supplied with the unit)

How to perform piping (See figure 14)

1 Ceiling slab
2 Hanger bracket
3 Drain raising pipe
4 Raising section
5 Drain hose (supplied with the unit)
6 Metal clamp (supplied with the unit)

Precautions

- Install the drain raising pipes at a height of less than 545 mm.
- Install the drain raising pipes at a right angle to the indoor unit and no more than 300 mm from the unit.

NOTE

- The incline of attached drain hose should be 75 mm or less so that the drain socket does not have to stand additional force.
- To ensure a downward slope of 1:100, install hanging bars every 1 to 1.5 m.
- If unifying multiple drain pipes, install the pipes as shown in figure 11. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.

1 T-joint converging drain pipes

1 After piping work is finished, check if drainage flows smoothly.

- Open the water inlet lid, add approximately 2 l of water gradually and check the drainage flow.
  Method of adding water. See figure 12.

1 Drain pipe
2 Service drain outlet with rubber plug. Use this outlet to drain water from the drain pan.
3 Plastic container for pouring

- Drain piping connections
  Do not connect the drain piping directly to sewage pipes that smell of ammonia. The ammonia in the sewage might enter the indoor unit through the drain pipes and corrode the heat exchanger.
- Keep in mind that it will become the cause of getting drain pipe blocked if water collects on drain pipe.

When electric wiring work is finished

Check drainage flow during COOL running, explained in "Test operation" on page 7.

When electric wiring work is not finished

- Remove the switch box lid and connect the power supply to the terminals.
  See figure 17.

  1 Switch box lid

  2 Remove the switch box lid (take off 2 screws)

  3 Power supply terminal block

  4 DO NOT CONNECT
  The drain pump will not work in this case.

- After confirming drainage, turn off the power and disconnect the single phase power supply.
- Note that the fan also starts rotating.
- Attach the switch box lid as before.

ELECTRIC WIRING WORK

General instructions

- All field wiring and components must be installed by an installer and must comply with the applicable legislation.
- Use copper wire only.
- Follow the 'Wiring diagram' attached to the unit body to wire the outdoor unit, indoor units and the remote controller. For details on hooking up the remote controller, refer to the "Installation manual of the remote controller".
- A circuit breaker capable of shutting down power supply to the entire system must be installed.
- Note that the operation will restart automatically if the main power supply is turned off and then turned back on again.
- Refer to the installation manual attached to the outdoor unit for the size of power supply electric wire connected to the outdoor unit, the capacity of the circuit breaker and switch, and wiring instructions.
- Be sure to ground the air conditioner.
- Do not connect the ground wire to gas pipes, water pipes, lightning rods, or telephone ground wires.
  - Gas pipes: might cause explosions or fire if gas leaks.
  - Water pipes: no grounding effect if hard vinyl piping is used.
  - Telephone ground wires or lightning rods: might cause abnormally high electric potential in the ground during lightning storms.

Electrical characteristics

NOTE For details, refer to "Electrical data".

Specifications for field wire

	Wire	Size (mm^2)	Length
Between indoor units	H05VV-U4G(1)(2)	2,5	—
Unit-Remote controller	Vinyl cord with sheath or cable (2 wires)(3)	0.75~1.25	Max. 500 m(4)
Wiring to ground terminal	Ground wire conform with local regulations	2.0	—

(1) Shows only in case of protected pipes. Use H07RN-F in case of no protection.
(2) Run transmission wiring between the indoor and outdoor units through a conduit to protect against external forces, and feed the conduit through the wall together with refrigerant piping.
(3) For European and Asian market: Vinyl cord with sheath or cable (insulated thickness: 1 mm or more)
For Australian regular: Shield wire (insulated thickness: 1 mm or more)
(4) This length shall be the total extended length in the system of the group control.

WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

How to connect wiring (See figure 22)

A Wiring remote controller cord

B Wiring between units

C How to connect power supply terminal block (4P) with ground wire

D How to attach sealing material

1 Control box lid

2 Wiring diagram label (on the backside of the control box lid)

3 Remote controller cord (Ground the shield part of the shielded wire.)

4 Terminal block for remote controller (6P)

5 Wiring between units

6 Power supply terminal block

7 Big clamp (field supply)

8 Small clamp (field supply)

9 Clamp material

10 Outdoor unit

11 Indoor unit

12 Sealing material (supplied with the unit)

13 Wiring to outside

14 Outside

15 Inside

- Wiring between units and ground wire
  Remove the control box lid and connect wires of matching number to the power supply terminal block (4P) inside. (See C). And connect the ground wire to the terminal block. In doing this, pull the wires inside through the hole and fix the wires securely with a field supplied clamp. (See B).
- Give enough slack to the wires between the clamp and power supply terminal block. (Use the figure as a guide and allow at least 80 mm for removing the sheath.)
- Pull the wires inside through the hole and connect to the terminal block for remote controller (6P). (See A). (no polarity) Securely fix the remote controller cord with a field supplied clamp.
- Give enough slack to the wires between the clamp and the terminal block for the remote controller.
- After connection, attach sealing material. (See D).
- Be sure to attach the sealing material to prevent the infiltration of water, as well as of any insects or other small creatures. Otherwise a short circuit may occur inside the control box. (See D).

PRECAUTIONS

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

- Do not connect wires of different gauge to the same power supply terminal. (Looseness in the connection may cause overheating.)
- When connecting wires of the same gauge, connect them according to the figure.

Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal. (Tightening torque: 1.31 N•m±10%).

2 Keep total current of crossover wiring between indoor units less than 12 A. Branch the line outside the terminal board of the unit in accordance with electrical equipment standards, when using two power wiring of a gauge greater than 2 mm^2 (Ø1.6).

The branch must be sheathed in order to provide an equal or greater degree of insulation as power supply wiring itself.

3 Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate the protection.

4 Remote controller cords and wires connecting the units should be located at least 50 mm away from power supply wiring. Not following this guideline may result in malfunction due to electrical noise.

5 For the remote controller wiring, refer to the "Installation manual of the remote controller" supplied with the remote controller.

6 Never connect the power supply wiring to the terminal board for transmission wiring. This mistake could damage the entire system.

7 Use only specified wires and tightly connect wires to the terminals. Be careful that wires do not place external stress on the terminals. Keep wiring in neat order so that they do not obstruct other equipment such as popping open the service cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in the worst case, electric shock or fire.

WIRING EXAMPLE

For the wiring of outdoor units, refer to the installation manual attached to the outdoor units.

Confirm the system type:

- **Pair type or multi system**: 1 remote controller controls 1 indoor unit (standard system). (See figure 18)
- **Multi system**: 1 to 4 indoor units connected to 1 outdoor unit. The indoor unit is controlled by a remote controller connected to each indoor unit. However, the group control is not expected. (See figure 19)
- **Group control**: 1 remote controller controls up to 16 indoor units (All indoor units operate according to the remote controller). (See figure 20)
- **2 remote controller control**: 2 remote controllers control 1 indoor unit. (See figure 21)

Figures 18, 19, 20 and 21

1	Main power supply
2	Main switch
3	Fuse
4	Outdoor unit
5	Indoor unit
6	Remote controller (optional accessories)
7	Master indoor unit
8	Slave indoor unit

NOTE It is not necessary to designate indoor unit address when using group control. The address is automatically set when the power is activated.

PRECAUTIONS

1 All transmission wiring except for the remote controller wiring is polarized and must match the terminal symbol.

2 In case of group control, perform the remote controller wiring to the master unit when connecting to the simultaneous operation system (wiring to the slave unit is unnecessary).

3 For group control remote controller, choose the remote controller that suits the indoor unit which has the most functions (as attached swing flap).

4 Do not ground the equipment on gas pipes, water pipes, lightning rods or crossground with telephones. Improper grounding could result in electric shock.

5 In case a shielding wire is to be used, connect a shielded portion with the ⏚ of a remote controller terminal board. (Also, connect the ground for the remote control to a grounded metal part.)

FIELD SETTING

Field setting must be made from the remote controller in accordance with the installation condition.

- Setting can be made by changing the "Mode number", "FIRST CODE No." and "SECOND CODE No.".
- For setting and operation, refer to "Field setting" in the installation manual of the remote controller.

Setting air discharge direction

For changing air discharge direction (2 or 3 directions), refer to the option handbook of the optional blocking pad kit. (SECOND CODE No. is factory set to "01" for air discharge in 4 directions.)

Settings for options

For settings of options, see the installation instructions provided with the option.

Setting air filter sign

Remote controllers are equipped with liquid crystal air filter signs to display the time to clean the air filter.

Change the SECOND CODE No. Depending on the amount of dirt or dust in the room. (SECOND CODE No. is factory set to "01" for air filter contamination-light)

Air Filter contamination

Setting	Display interval	Mode n°	1st code n°	2nd code n°
Light	±2500 hrs	10 (20)	0	01
Heavy	±1250 hrs	10 (20)	0	02

When using wireless remote controllers it is necessary to use address setting. Refer to the installation manual attached to the wireless remote controller for the setting instructions.

Control by 2 Remote Controllers (Controlling 1 indoor unit by 2 remote controllers)

When using 2 remote controllers, one must be set to "MAIN" and the other to "SUB".

Main/sub changeover

1 Insert a wedge-head screwdriver into the recess between the upper and lower part of the remote controller and, working from the 2 positions, pry off the upper part. (See figure 13)

(The remote controller PC board is attached to the upper part of the remote controller.)

2 Turn the main/sub changeover switch on one of the two remote controller PC boards to "S". (See figure 16)

(Leave the switch of the other remote controller set to "M".)

1 Remote controller PC board
2 Factory setting
3 Only one remote controller needs to be changed

INSTALLATION OF THE DECORATION PANEL

Read the chapter "Test operation" on page 7 before making a test run without attaching the decoration panel.

Refer to the installation manual attached to the decoration panel.

After installing the decoration panel, ensure that there is no space between the unit body and decoration panel. Otherwise air may leak through the gap and cause dewdrop. (See figure 15)

TEST OPERATION

Make sure the control box lids are closed on the indoor and outdoor units.

Refer to "For the following items, take special care during construction and check after installation is finished" on page 2.

After finishing the construction of refrigerant piping, drain piping, and electric wiring, conduct test operation accordingly to protect the unit.

TEST OPERATION AFTER INSTALLING DECORATION PANEL

1 Open the gas side stop valve.

2 Open the liquid side stop valve.

3 Electrify crank case heater for 6 hours.

4 Set to cooling operation with the remote controller and start operation by pushing ON/OFF button.

5 Press Inspection/Test Operation button 4 times (2 times for wireless remote controller) and operate at Test Operation mode for 3 minutes.

6 Push air flow direction adjust button to make sure the unit is in operation.

7 Press Inspection/Test Operation button and operate normally.

8 Confirm function of unit according to the operation manual.

TEST OPERATION BEFORE INSTALLING DECORATION PANEL (See NOTE 3. on page 8)

1 Open the gas side stop valve.

2 Open the liquid side stop valve.

3 Electrify crank case heater for 6 hours.

4 Set to cooling operation with the wired remote controller and start operation by pushing ON/OFF button. "RT" appears on the display.

5 Press Inspection/Test Operation button on the remote controller and operate at Test Operation mode for 3 minutes.

6 Press Inspection/Test Operation button and operate normally.

7 Confirm function of unit according to the operation manual.

8 Turn off the main power supply after operation.

PRECAUTIONS

1 Refer to the installation manual attached to the outdoor unit in case of Individual Operation System type.

2 Conduct test operation after installing decoration panel if the wireless remote controller is used.

WIRING DIAGRAM

FIELD WIRING	
TERMINAL	
CONNECTOR	
PROTECTIVE EARTH (SCREW)	

BLK	BLACK
GRN	GREEN
RED	RED
WHT	WHITE
YLW	YELLOW

A1P ..... PRINTED CIRCUIT BOARD
C1 ..... CAPACITOR (FAN MOTOR)
F1U ..... FUSE (250 V/5 A)
HAP ..... LIGHT EMITTING DIODE (SERVICE MONITOR - GREEN)
KPR ..... MAGNETIC RELAY (DRAIN PUMP)
M1F ..... MOTOR (INDOOR FAN)
M1P ..... MOTOR (DRAIN PUMP)
M1S ..... MOTOR (SWING FLAP)
Q1M ..... THERMO SWITCH (M1F EMBEDDED)
R1T ..... THERMISTOR (AIR)
R2T ..... THERMISTOR (COIL-1)
R3T ..... THERMISTOR (COIL-2)
RC ..... SIGNAL RECEIVER CIRCUIT
S1L ..... FLOAT SWITCH
T1R ..... TRANSFORMER (220~240 V, 22 V)
TC ..... SIGNAL TRANMISSION CIRCUIT
V1TR ..... PHASE CONTROL CIRCUIT
X1M,X2M ..... TERMINAL STRIP

WIRED REMOTE CONTROLLER

R1T ..... THERMISTOR (AIR)
SS1 ..... SELECTOR SWITCH (MAIN/SUB)

RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)

A3P,A4P ..... PRINTED CIRCUIT BOARD
BS1 ..... ON/OFF BUTTON
H1P ..... LIGHT EMITTING DIODE (ON - RED)
H2P ..... LIGHT EMITTING DIODE (TIMER - GREEN)
H3P ..... LIGHT EMITTING DIODE (FILTER SIGN - RED)
H4P ..... LIGHT EMITTING DIODE (DEFROST - ORANGE)
SS1 ..... SELECTOR SWITCH (MAIN/SUB)
SS2 ..... SELECTOR SWITCH (WIRELESS ADDRESS SET)

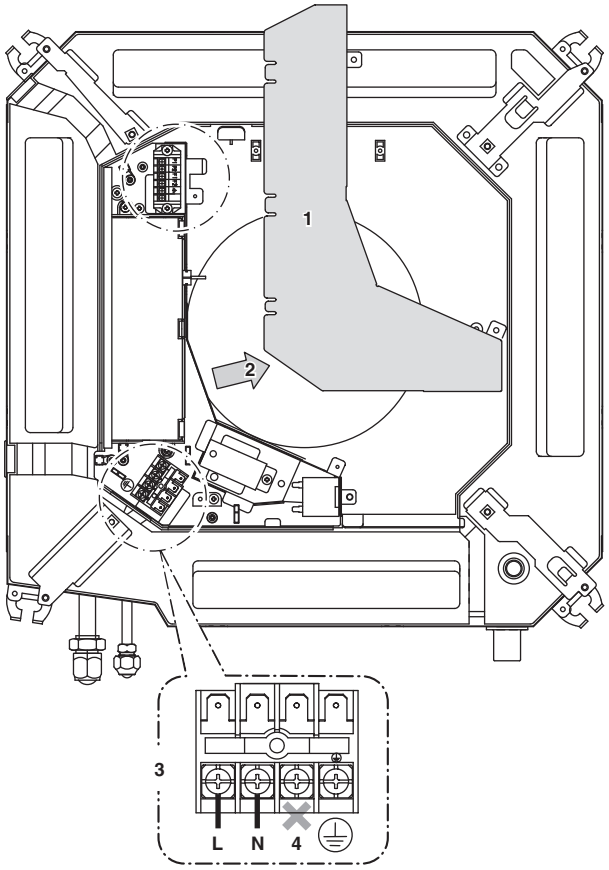
CONNECTOR FOR OPTIONAL PARTS

X33A ..... CONNECTOR (ADAPTOR FOR WIRING)
X35A ..... CONNECTOR (GROUP CONTROL ADAPTOR)
X40A ..... CONNECTOR (REMOTE ON/OFF, FORCED OFF)
X60A,X61A ..... CONNECTOR (INTERFACE ADAPTOR FOR SKY AIR SERIES)

TO OUTDOOR UNIT	:
IN CASE OF SIMULTANEOUS OPERATION SYSTEM	:
INDOOR UNIT (MASTER)	:
INDOOR UNIT (SLAVE)	:
REMOTE CONTROLLER	:
WIRED REMOTE CONTROLLER	:
SWITCH BOX	:
COLOR OF PCB CONNECTOR	:
COLOR OF WIRE	:
(MARKED) COLOR OF WIRE CONNECTOR	:
COLOUR	:

NOTE

1. WHEN USING THE CENTRAL REMOTE CONTROLLER, SEE MANUAL FOR CONNECTION TO UNIT.
2. X24A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS USED.
3. THE REMOTE CONTROLLER MODEL VARIES ACCORDING TO THE COMBINATION SYSTEM. SEE TECHNICAL DATA AND CATALOGS, ETC. BEFORE CONNECTING.
4. IN CASE OF USING SHIELDED WIRE, GROUND THE SHIELD OF THE REMOTE CONTROLLER CORD TO THE INDOOR UNIT.



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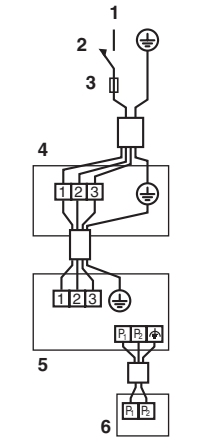

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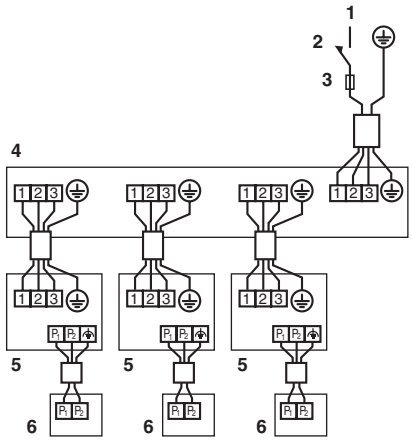

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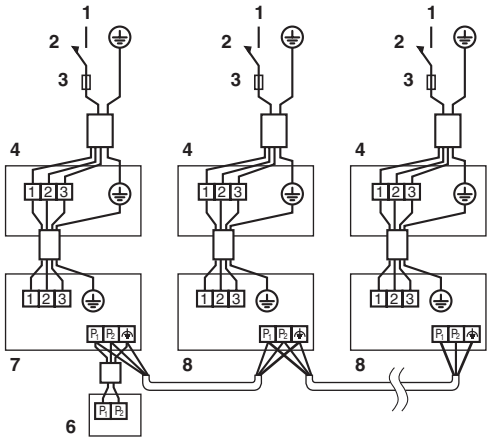

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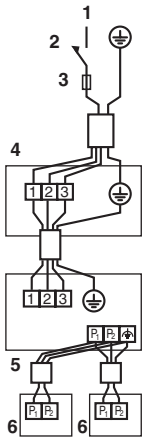

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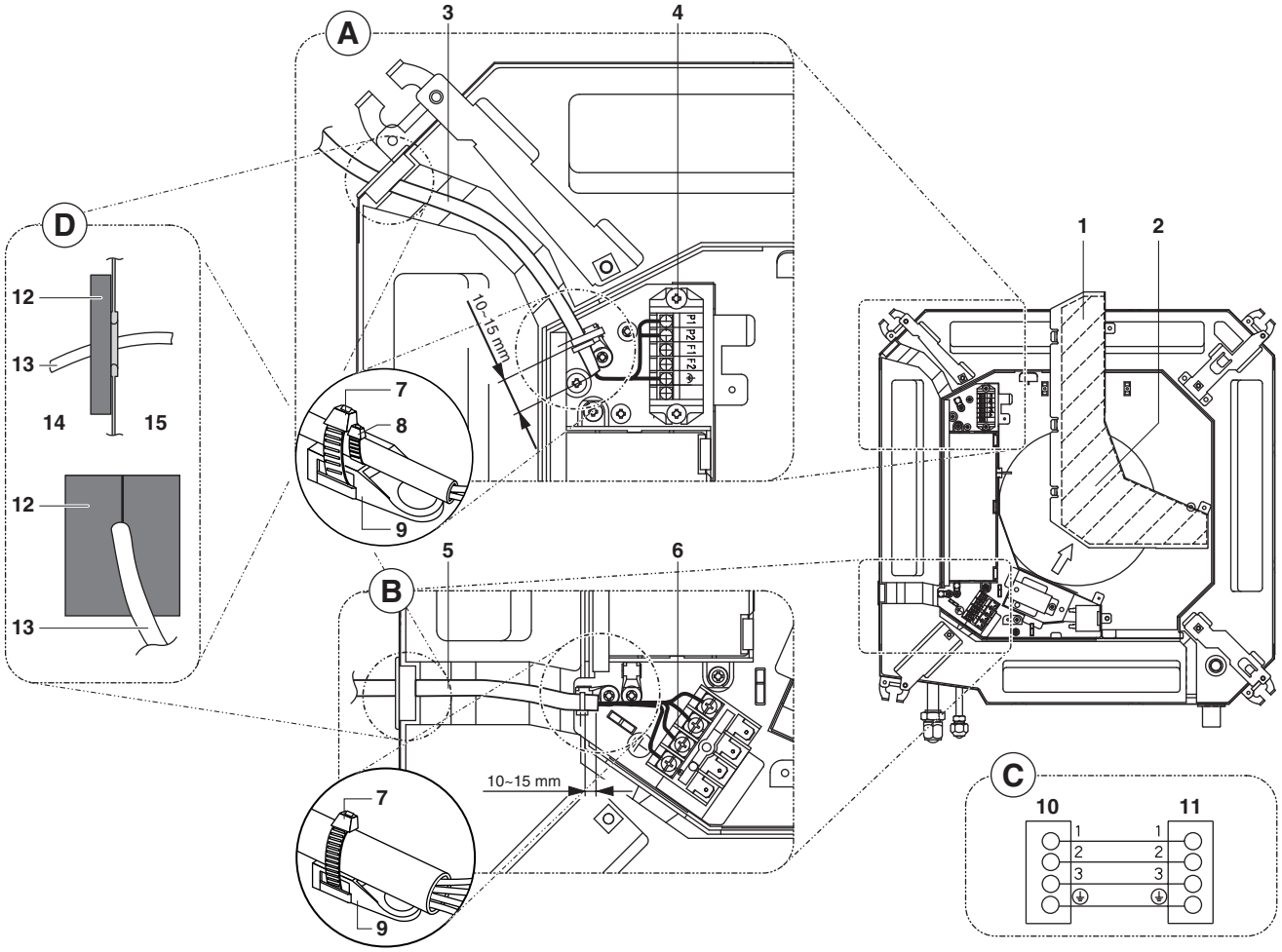

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