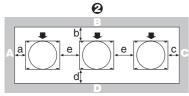


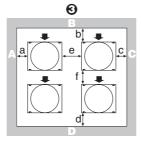
INSTALLATION MANUAL

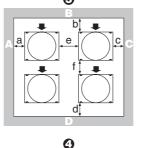
IJヲリⅢ System air conditioner

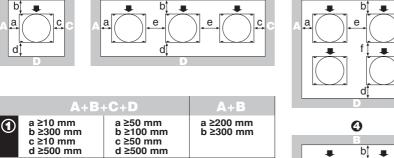
REYQ8P9Y1B REYQ10P8Y1B REYQ12P9Y1B REYQ14P8Y1B REYQ16P8Y1B





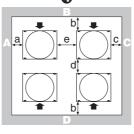




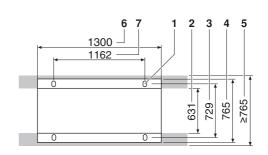


1 0 0 2 1500 (mm)

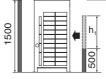




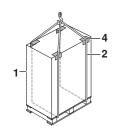
2

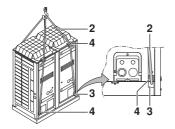


e ≥20 mm f ≥600 mm e ≥100 mm f ≥500 mm a ≥10 mm b ≥300 mm c ≥10 mm d ≥500 mm a ≥50 mm b ≥100 mm c ≥50 mm d ≥500 mm 4 e ≥20 mm e ≥100 mm

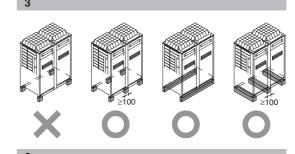


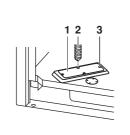
 $h_1>0 \rightarrow b \ge b + \frac{h_1}{2}$ $h_2>0 \rightarrow d \ge d + \frac{h_2}{2}$

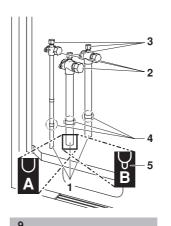


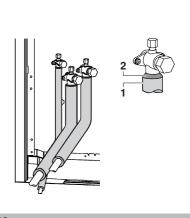




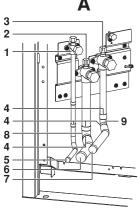


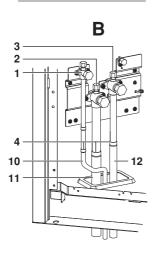


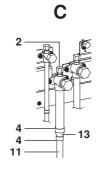


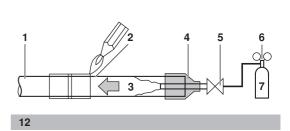


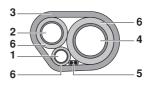
A











11 13

E - DECLARATION-OF-CONFORMITY
E - KONFORMITÀTSERKLÄRUNG
E - DECLARATION-DE-CONFORMITE
E - CONFORMITEITSVERKLARING ម៉ូម៉ូម៉ូម៉ូ

DECLARACION-DE-CONFORMIDAD
DICHIARAZIONE-DI-CONFORMITA
ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ $\dot{\Theta}\dot{\Theta}\dot{\Theta}\dot{\Theta}$

CE - DECLARAÇÃO-DE-CONFORMIDADE CE - 3ARBJIEHÍNE-O-COOTBETCTBUN CE - OPFYLDELSESERKLÆRING CE - FORSÁKRAN-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-3A-CЪOTBETCTBИE

CE - ATTIKTIES-DEKLARACIJA CE - ATBIL STIBAS-DEKLARĀCIJA CE - VYHLÁSENIE-ZHODY CE - UYUMLULUK-BILDIRISI

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:

66 Το dichiara sotto sua responsabilità che i condizionatori modello a cui è riterita questa dichiarazione: 07 (68) δηλώνει με αποκλαστική της ευθύνη ότι τα μοντέλα των κλιμαπατικών ουσκαμών 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:

99 («чъ» заявляет, ижиличительно под свою ответственность, что модели кондиционеров воздуха, к которым отножится настоящее заявление: 10 (DK) erklærer under eneansvar, at klimaanlægmodellerne, som denne deklaration vedrører:

12 (N) erklærer et fullstendig ansvar for at de luftkondisjoneringsmodeller som berøres av denne deklarasjon innebærer at:

15 (HB) izjavljuje pod isključivo vlastitom odgovomošću da su modeli klima uređaja na koje se ova izjava odnosi 14 (CZ) prohlašuje ve své plné odpovědnosti, že modely klimatizace, k nímž se toto prohlášení vztahuje:

16 (н) teljes felelőssége tudatában kijelenti, hogy a klímaberendezés modellek, melyekre e nyilatkozat vonatkozik.

17 🖭 deklaruje na własną i wyłączną odpowiedzialność, że modele klimatyzatorów, których dotyczy niniejsza deklaracja: 18 (RO) declară pe proprie răspundere că aparatele de aer condiționat la care se referă această declarație:

19 (st.) z vso odgovomostjo izjavlja, da so modeli klimatskih naprav, na katere se izjava nanaša:

21 (вс) декларира на своя отговорност, че моделите климатична инсталация, за които се отнася тази декларация:

23 👿 ar pilnu atbildību apliecina, ka tālāk uzskaitīto modeļu gaisa kondicionētāji, uz kuriem attiecas šī deklarācija:

25 (тв) tamamen kendi sorumluluğunda olmak üzere bu bildirinin ilgili olduğu klima modellerinin aşağıdaki gibi olduğunu beyan eder.

11 (S) deklarerar i egenskap av huvudansvarig, att luftkonditioneringsmodellerna som berörs av denna deklaration innebår att: 13 (Fin) ilmoittaa yksinomaan omalla vastuullaan, että tämän ilmoituksen tarkoittamat ilmastointilaitteiden mallit:

22 (T) visiška savo atsakomybe skelbia, kad oro kondicionavimo prietaisų modeliai, kuriems yra taikoma ši deklaracija: 24 (SR) vyhlasuje na vlastnú zodpovednosť, že tieto klimatizačné modely, na ktoré sa vzťahuje toto vyhlásenie: 20 (EST) kinnitab oma täielikul vastutusel, et käesoleva deklaratsiooni alla kuuluvad kliimaseadmete mudelid:

REYQ10P8Y1B*, REYQ14P8Y1B*, REYQ16P8Y1B*, REYQ8P9Y1B*, REYQ12P9Y1B*, '= , ,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:

Normdokument oder -dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen 02 der/den folgenden Norm(en) oder einem anderen

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

04 conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt 06 sono conformi al(i) seguente(i) standard(s) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in overeenkomstig onze instructies:

Os están en conformidad con látj si guiente(s) normat(s) u otrot(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones: conformità alle nostre istruzioni:

ohjeidemme mukaisesti: нормативным документам, при условии их использования 08 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) couchmento(s) tormativo(s), desete que estites sejam ulitados de acordo com as notases instruções.

08 coorsentresyor cnegyyou,ms crayaparam mm gaymm

cornacuo нашим инструкциям:
10 overholder folgende standardjen eller anderlandre
retingsgivende dokument(en), forudsat at disse anvendes i
henhold ili voe instrukser:

11 respektiva ir vol internacio: respektiva intristini gi rutifori i overensstämmelse med och föjer föjande standardjer) 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 14 za předpokladu, že jsou využívány v souladu s našími pokyny, odpovídaji následujícím normám nebo normatívním dokumentúm: 15 u skladu sa slijedećim standardom(ima) ili drugim normativnim dokumentom(ima), uz uvjet da se oni koriste u skladu s našim

16 megfelelnek az alábbi szabványlok)nak vagy egyéb irányadó odkumentuníkolhak, ha azakat előírás szemín hazralják. 17 spehiaja wymogi nastepujących nomi innych dokumentów normalizacyjnych, pod warunkiem że używane są zgodnie z naszymi instrukcjami:

18 sunt în conformitate cu umătorul (următoarele) standard(e) sau

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 23 tad, ja lietoti atbilstoši ražotāja norādījumiem, atbilst sekojošiem

dokumentus su salyga, kad yra naudojami pagal mūsų

standartiem un citiem normatīviem dokumentiem: 24 sú v zhode s nasledovnou(ými) normou(ami) alebo iným(i)

19 skladni z naslednjimi standardi in drugimi normativi, pod pogolem, da se uporabligo v skladu z našimi navoditi. 20 on vastavuses jagniskipe standardi(lega ov ilatse normatilivsele dokumentidega, ku in edi kasutataka svastavati att(e) document(e) normativ(e), cu condiția ca acestea să fie utilizate în conformitate cu instrucțiunile noastre: meie iuhenditele:

nomatívnym(i) dokumentom ami), za predpokladu, že sa používajú v súlade s našim návodom: 25 úrūnůn, talimatlarım iza göre kullanılması koşuluyla aşağıdaki 19 Direktive z vsemi spremembami. standartlar ve norm belirten belgelerle uyumludur:

21 Директиви, стехните изменения. 20 Direktiivid koos muudatustega. 10 Direktiver, med senere ændringer. 11 Direktiv, med företagna ändringar.

02 Direktiven, gemäß Änderung.

01 Directives, as amended.

23 Direktīvās un to papildinājumos. 22 Direktyvose su papildymais. 24 Smernice, v platnom znení.

 Direktivejä, sellaisina kuin ne ovat muutettuina. 12 Direktiver, med foretatte endringer. 15 Smiernice, kako je izmijenjeno. 14 v platném znění. 07 Οδηγιών, όπως έχουν τροποποιηθεί. 08 Directivas, conforme alteração em. 03 Directives, telles que modifiées. 04 Richtlijnen, zoals geamendeerd. 05 Directivas, según lo enmendado.

16 irányelv(ek) és módosításaik rendelkezéseit. 18 Directivelor, cu amendamentele respective 17 z późniejszymi poprawkami.

25 Değiştirilmiş halleriyle Yönetmelikler.

01 *as set out in <A> and judged positively by according to the Certificate <C>

** as set out in the Technical Construction File **<b** and judged positively by **<b** (Applied module **<F**). **<6>**. Risk category **<H>**. Also refer to next page.

von <E> (Angewandtes Modul <F>) positiv ausgezeichnet gem\(\bar{a}\). Risikoart <H>. Siehe auch n\(\bar{a}\); siehe au 02 *wie in der <A> aufgeführt und von positiv beurteilt gemäß Zertifikat <C>. ** wie in der Technischen Konstruktionsakte <D> aufgeführt und

03 *tel que défini dans <A> et évalué positivement par

** tel que stipulé dans le Fichier de Construction Technique <0> et jugé positivement par <E> (Module appliqué <F>). <G>. conformément au Certificat <C>.

Catégorie de risque <h>. Se reporter également à la page suivante. 04 *zoals vermeld in <h> en positief beoondeeld door > overeenkomstig Certificaat < C>.

**zoals vermeld in het Technisch Constructiedossier < D> en in orde

05 *como se establece en <A> y es valorado positivamente por de acuerdo con el Certificado <C>.

** tal como se expone en el Archivo de Construcción Técnica <D⊳ y juzgado positivamente por <E> (Modulo aplicado <F>). <G>. Categoría de riesco <H>. Consulte también la siquiente páqina. bevonden door <E> (Toegepaste module <F>). <G>. Risicocategorie < H - Zie ook de volgende pagina.

DAIKIN

2PW40200-9F

* delineato nel File Tecnico di Costruzione

- e giudicato posifivamente da <- (Modulo <- γ- applicab), <- (Ca. Categoria di rischio <- (H-). Fare riferimento anche alla pagina successiva. 07° ότιως καθορίζεται στο <- Α-> και κρίνεται θετικά από το <- (Β-). 06 *delineato nel <A> e giudicato positivamente da secondo il Certificato <C>.

σύμφωνα με το **Ποτοποιητικό «ζ».** ** όπως προσδορίζεται στο Αργείο Γεχνικής Κατασκευής **«** \mathbf{J} » και κρίνεται θε τικό από το **«Ε»** (Κορομοποισμένη υπομονάδα **«** \mathbf{F} »). « \mathbf{G} ». 08 'tal como estabelecido em <A> e com o parecer positivo de de acordo com o Certificado <C>. Ανατρέξτε επίσης στην επόμενη σελίδα. Κατηγορία επικινδυνότητας <Η.

решением **** согласно **Свидетельству <C>**.

* как указано в Досъе технического толкования **<**D> и в соответствии с parecer positivo de <5> (Módulo aplicado <5>). <6>. Categoria de risco <15. Consultar também a página seguinte. Ą 09 *как указано в <A> и в соответствии с положительным положительным решением <Б> (Прикладной модуль <Б>).

* jak bylo uvedeno v souboru technické konstrukce <D> a pozitivně

14 * jak bylo uvedeno v <A> a pozitívně zjištěno v souladu s osvědčením <C>.

Katso myös seuraava sivu.

** tal como estabelecido no Ficheiro Técnico de Construção < D> e com o

žijštěro <E> (použitý modul <F>). <6>. Kategorie rízik <H>. Vz také následující strana. 15*kako je izloženo u <A> i pozitívno odjenjeno od strane

* som anført i den Tekniske Konstruktionsfil <D> og positivt vurderet af Категория риска <Н>. Также смотрите следующую страницу. <E> (Arvendt modul <F>). <G>. Risikoklasse <H>. Se også næste side. 10 *som anført i <A> og positivt vurderet af i henhold til Certifikat <C>.

16*a(z) <4> ataján. a(z) <4> igazolta a megfelelést. a(z) <C> tanústvány szemt.

**a(z) <-D műszak konstrukciós dokumentáció akapján. a(z) <-E> igazotta a **a(z) <-D műszak konstrukciós dokumentáció akapján. a(z) <-E> igazotta a megfelelést (alkalmazott modul: 45), <6. Veszélyességi kategória <4b. Lásd még a következő oldalon. 17 *zgodnie z dokumeniacją <A>, pozytywną opinią i Świadectwem <C>. Se åren nästa sida. 12 *som det fremkommer i <A> og gjennom positiv bedømmelse av ifølge Ser tiffkat <C>.

11*enigt <A> och godkänts av enigt Certifikatet <C>. **i i enlighet med den Tekniska Konstruktionsfilen <D> som positivt

intygats av <E> (Fastsatt modul <F>). <G>. Riskkategori <H>.

** както е запожено в Акта за техническа конструкция <D> и оценено

21 *както е изложено в <A> и оценено положително от съпасно Сертификата <C>.

09 Директив со всеми поправками.

06 Direttive, come da modifica.

Pressure Equipment 97/23/EC **

Electromagnetic Compatibility 2004/108/EC

23 ievērojot prasības, kas noteiktas:

22 laikantis nuostatų, pateikiamų:

21 следвайки клаузите на:

19 ob upoštevaniu določb:

10 under iagttagelse af bestemmelserne i:

11 enligt villkoren i: 12 gitt i henhold til bestemmelsene i: 14 za dodržení ustanovení předpisu: noudattaen määräyksiä;

> 03 conformément aux stipulations des: 04 overeenkomstig de bepalingen van:

02 gemäß den Vorschriften der:

01 following the provisions of:

EN60335-2-40.

05 siguiendo las disposiciones de:

06 secondo le prescrizioni per:

20 vastavalt nõuetele:

25 bunun koşullarına uygun olarak:

17 zgodnie z postanowieniami Dyrektyw:

15 prema odredbama:

16 követi a(z):

07 με τήρηση των διατάξεων των:

08 de acordo com o previsto em:

18 în urma prevederilor:

з соответствии с положениями:

24 održiavajúc ustanovenia:

ow Voltage 2006/95/EC Machinery 98/37/EC Категория риск <Н>. Вижте също на следващата страница.

22 *kaip nustatyta < A> ir kaip teigiamai nuspresta < B> положително от <Б (Приложен модул <Б>). <С.

pagal Sertifikata <C>
**kaip nurodyta Techninėje konstrukcijos byloje <D> ir patvirtinta <E>

zgodnie z archiwalną dokumentacją konstrukcyjną <D> i pozytywną opinią **<b. (Zastosowany modul **<b**.). **<6**. Kategonia zagrożenia **<h**. Patrz także nasłępna strona.

** som det fremkommer i den Tekniske Konstruksjonsfilen <D> og gjennom

positiv bedømmelse av < (Anvendt modul < /> (<). < (&).

13 *jotka on esitetty asiakirjassa < A> ja jotka < B> Risikokategori < H>. Se også neste side.

on hyváksynyt **Sertifikadin «C»** mukaisesti. ** jotka on esitetty Teknisessä Asiakriassa «**D»** ja jotka «**E»** on hyväksynyt (Sovellettu moduli «F»), «**G»**. Vaaratuokka «H».

18 *spa cum este stabili în <A> și apreciat pozitiv de
in conformitate cu Certificatul <C>.
**conformitate cu Cartificatul in conformitate cu Certificatul in conformitate cu Certificatul in Cosarul tehnic de construcție <D> și apreciate

pozitiv de <B. (Modul aplicat <P.), <B., Categorie de riso <HP. Consultaţi de asemenea pagina următoare.
19 *kot je določeno v <A> in odobreno s strani v skladu s certifikatom <C>.

20*nagu on naidatud dokumendis <A> ja heaks kiidetud jargi vastavalt sertifikaadile <C> ** kot je določeno v tehnični mapi <D> in odobreno s strani <E> Kategorija tveganja < H>. Glej te tudi na naslednji strani. (Uporabljen modul <5). <6>.

"nagu on näidatud tehnilises obkumentatsioonis **D**> ja heaks kiidetud **E**> järgi (lisamoodul **<**F>) **<©**. Riskiikategoonia **<**H>.

Vaadake ka järgmist lehekülge

tarafından olumlu olarak değerlendirildiği gibi. * 4D> Teknik Yapı Dosyasında belirtidiği gibi ve ≮E> tarafından olumlu olarak (Uygularan modül ∢E>) değerlendirilmiştir. ∢G>. ** ako je to stanovené v Súbore technickej konštrukcie <D> a kladne posudené & Aplikovaný modul ∢P), ∢Gs. Kategória nebezpečia «Hs. Viď tiež nasledovnú stranu. 25 *∢A> da belirtildígi gibi ve ∢C> Sertifikasına göre ∢B>

s osvedčením <C>.

DAIKIN.TCF.024D2/08-2008 AIB Vincotte (NB0026) Daikin.TCFP.001 TÜV (NB1856) 0510260101 5 Ą ¥ ô ပ္စ် ŕ ĝ ê (takomas modulis <F>) <6⊳. Rizikos kategorija <H>. Taip pat žūrėkide ir kritą puslapį. 23 *kká norādīts <A> un atbilstoši pozufivajam vērējumam saskaņā ar sertifikātu <C>
** kā noteiks tehniskajā dokumentācijā <D>, albilstoši <E> pozitīvajam ēmumam (piekritīgā sadaļa: <F>). <G>. Riska kategorija <H>. Skat. arī nākošo lappusi. 24*ako bolo uvedené v <A> a pozitívne zistené v súlade

DAIKIN EUROPE N.V.

=

ŧ

Risk kategorisi < H>. Avrıca bir sonraki savfava bakın.

Ostend, 1st of October 2008 Director Quality Assurance

Jiro Tomita

Zandvoordestraat 300, B-8400 Oostende, Belgium

CE-ATTIKTIES-DEKLARACIJA CE-ATBILSTIBAS-DEKLARĀCIJA CE-VYHLĀSENIE-ZHODY CE-UYUMLULUK-BILDIRISI	22 (T) anksteenio puslapio tęsinys. 23 (W) iepriekčējās lappuses turpinājums: 24 (S) pokračovanie z predchádzajúcej strany: 25 (T) örceki sayfadan devam	20 Deklaratsiooni alla kuuluvate mudelite disainispetsifikatsioonid: 21 Проектни спецификации на моделите, за които се отнася декларацията: 22 Konstrukcinės specifikacijos modelių, kurie susiję su šia deklaracija: 23 To modelių užaina specifikācijas, uz kuriam attleses ši deklaracija: 24 Konstrukcinė špecifikācie modelu, ktorėho sa tyka toto vyhlásenie: 25 Bu bildirinin ligili oldugu modellerin Tasarım Özellikleri:	- Maximality porobeny tak (PS); 44b (tar) - Minimalitamizmanita proceed about (187); - Minimalitamizmanita proceed about (187); - TSmax Nasylena' legicle kroe'spondylicas s maximalnym - Chladiouc, 4b - Nasslenenie takkowly obstanno PS; 44b (*C) - TSmax Nasylena' legicle kroe'spondylicas s maximalnym - prodenym ledicho Zariadenia; 4b (*C) - TSmax Nasylena' legicle kroe'spondylicas s maximalnym - Lizh verilen maximam hasen, PS; 4ch (*C) - TSmax Sinvakilen maximam lesin, PS; 14b (*C) - TSmax Sinvakilen maximam agen: 4ch (*C) - Sassure permyed utzennin agen: 4ch (*C) - Massin permyed utzennin agen: 4ch (*C) - TSmin — —30 ° C - TSmin — —30 ° C - TSmin — —30 ° C - TSmax — R410A - TSmax — B410A	24 Nazov a adresa cerfficacheho undu, ktory klartne posudi zhodu so smerricou pre tiskove zariadenia: Qo- 25 Basınçi Teçhizat Drek'fine ungunluk hasusunda dumu olarak değerlendirlen Oraylarmış kunluşun adı ve adresi: Qo- <q> AIB VINÇOTTE INTERNATIONAL Avenue du Roi 157 Avenue du Roi 157 B-1190 Brussels, Belgium</q>
CE - IZJAVA O SKLADNOSTI CE - VASTAVUSDEKLARATSIOON CE - ДЕКЛАРАЦИН-ЗА-СЪОТВЕТСТВИЕ E	19 (a.) nadaļevarije s prejēnje strani: 20 (as) eelmise leheklije jārg; 21 (a.) продължение от предходната страница:	20 22 22 22 23 43 43 declarație: 25 44 deklaracija:	19 • Maskmaini dovoleni tisk (PS): 44- (pa) **Manimalamismaliar dia copoleni tisk (PS): 44- (pa) **Manimalamismaliar dia copoleni tisk (PS): 44- (**) • Hadino. 44- • Hadino. 44- • Hadino. 45- • Hadino. 45- • Massingian entorien atoma racketabrio strain: 43- (**) • Instance Massingiane motion and a massingiane policitism of moralisas selvida in field protection (FS): 44- (**) • Massingiane function and belaute dimeraturi (FS): 45- (**) • Manimalamier demperaturi (FS): 44- (**) • Surve turnessame seadistis. 47- (**) • Tisma: Massingiane partial partial selvidation (FS): 44- (**) • Tisma: Massingiane partial partial selvidation (FS): 44- (**) • Ourgativer: 48- • Tisma: Massingiane partial selvidation (FS): 44- (**) • Ourgativer: 48- • Ourgativer: 48- • Ourgativer: 48- • All anomaliam selvidation and a more solution of the selvidation	ine in raskov organa za ugolavjanje skladnosti, ki je pozitivno cenili 24 h Bavitalud ogram: ~Qh Si Jevesbahre Direktivaga tihiduvust 12 Beavlatud ogram; ine ishtras Soviessadhre ib Direktivaga tihiduvust 12 B Dosilivskii, miri a aadress. ~Qh Hawkenozawe va agnee, ra yru, hanchouquewa ograw, xovino ce e posilivskii, miri a aadress. ~Qh Hawkonze man aa odogypaane mgd, aarmarae. ~Qh Akskingos istatudiss, kui dae leigama sprendina pagali slėginės filmogs diektykną paradinimas ir adressi. ~Qh Sentikadajas istiludios, kura ir devus pozitivu siedzbenu par atbilistitu Spiederia lekklut. Direktivai, nasaukums un adressi. ~Qh
CE - IZJAVA-O-USKLAĐENOSTI ESTA CE - MEGFELELOŠEGI-NYILATKOZAT CE - DEKLARACJA-ZGODNOŠCI CE - DECLARAŢIE-DE-CONFORMITATE	15 (HB) nastavak s prethodne stranice: 16 (H) folytatás az előző oldatról: 17 (EL) ciag dakzy z poprzedniej strony: 18 (RB) continuarea paginii anterioare:	13 Tătă ilmottusta koskevien mailien rakennemăarittely: 14 Specifikacie designu modelui, ke kterým se vztahuje toto prohlášení: 15 Specifikacije dizajna za modele na koje se ova izjava odnosi: 16 A jelen uylatkozat targyat képezo modellek tervezási jellatuzói: 17 Specyfikacje konstrukcyjne modeli, których dotyczy dekktracja: 18 Specificaţiile de prolectare ale modelelor la care se referă această declarație: 19 Specifikacjie tehničnega načrta za modele, na katere se nanaša ta deklaracija:	ik (PS): <pre> ik (PS</pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	monareho orgánu, klarý výdal pozitivní 19 snérncí o tlakových zařízeních: «Φ ilejínot plela kových zařízeních: «Φ micom za tlázhu opremí « O deže skie vondakoz řáznjehnek való zob bejlenneti szavezet neve šcí ne» «C szíkí notříňcovane), klora wydala pozytývna ahrenia wymogów Dyrákywy dot. Urzążeń żyski notříňcovanej, klora wydala pozytývy sorganismului notřícat care a apreciat pozitív sorganismului notřícat care a apreciat pozitív zo organismului notřícat care a spreciat pozitív stva právinť echipameniele sub presilure: «C
DE CE-ERKLÆRING OM-SAMSVAR 1 CE-ILMOTTUŞ-YHDENMUKAISUUDESTA CE-PROHLÅŠENI-O-SHODË LSE	12 (N) britsettelse fra fornge side: 13 (N) jakoa edelliseltä sivulta: 14 (② pokračování z předdrozí strany:	тап ў будаот; 13 declaração: 14 5я 15 drorer: 17 gäller: 18	siden: 15 siden: 16 re il make: illiadie tryk (PS): se modelens lazikeskint for se modelens namplät ar: se modelens namplät for med maksmalt tilläuet for med maksmalt tillatet for	har brelaget en positiv 14 sne i PED (Dieskiv br. 15 mgodkant upplyflandet 16 es som positivt bedomte 17 sus EQuipment 17 ki mydnteisen päätöksen 18
CE - DECLARAÇÃO-DE-CONFORMIDADE CE - 3ARBJIEHÚE-O-COOTBETCTBUU CE - OPPYLDELSESERKLÆRING CE - FÖRSÄKRAN-OM-ÖVERENSTAMMELSE	08 (Р.) conrinuação da página anterior: 09 (ж.) продрижение предыдущей страницы: 10 (இ) fortsat fra forrige side: 11 (S.) fortsattung fran föregående sida:	 προδιαγραφές Σχεδιασμού των μοντέλων με το οποία σχεπίζεται η δήλωση: 86 Especificações de projecto dos modelos a que se aplica esta declaração: 87 Проектные характеристики моделей, к которым относится настоящее заявление: 10 Typespecificationer for de modeller, som denne erklæring vedrører: 11 Designspecifikationer för de modeller som denna dekkaration gäller: 12 Konstruksjonsspesifikasjoner for de modeller som berøres av denne dekkarasjon 	In pressione: It	10 11 11 12 12 12 12 12 12 12 12 12 12 12
CE - DECLARACION-DE-CONFORMIDAD CE - DICHIARAZIONE-DI-CONFORMITA CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ	66 (E) continuación de la página anterior: 66 (T) continua dalla pagina precedente: 07 (GR) ouvézera anó try riponyroúpevn ceklőa:	09 01 17 17 17 17 17 17 17 17 17 17 17 17 17	1. Temperatura minimarian consential PS; -K4- (bar) 1. Temperatura minimarians consential 1SY; 1. TiSmir: Emperatura minimarians consential 1SY; 1. TiSmir: Emperatura minimarian consential 1SY; 1. TiSmir: Emperatura minima nel tior of bassa pressione: 1. TiSmir: Emperatura minima nel tior of bassa pressione: 1. TiSmir: Emperatura minima nel tior of bassa pressione: 1. TiSmir: Emperatura minima nel minima	Of Nome e Indirezo dell'Ente riconoscutio che ha risconitato la conformità alla Direthia sulle apparaecchiature a pressione: «CD Option stato disolatorio not Novomonitato dell'Apparatorio opyroviapoù mou orrespondi Bernari, van mouutopouvon proc, my Odmica Egnikapiavo unf Tsan; «CD Bi Name e morada do grafismo nolificado que avaliou e Regulamentias orromente a conformidate com a directiva sobre equipamentias pressumenta a appec grana reximencos accinentamentos pressumentos a pressumentos e pressumentos contra resimulatorio accinentamentos processimicano contra resimulatorio accinentamentos presentantes del presente o contra resum Aprientamentos processimicano del presentante del presenta del processimica del presenta del p
CE - DECLARATION-OF-CONFORMITY CE - KONFORMITATSERILÂRUNG CE - DECLARATION-DE-CONFORMITE CE - CONFORMITEITSVERKLARING	01 (6B) continuation of previous page: 02 (D) Fortsetzung der vorherigen Seite: 03 (P) suite de la page précédente: 04 (4L) vernolg van vorige pagina:	or Design Specifications of the models to which this declaration relates: 22 Konstruktionsdaten der Modelle auf die sich diese Erklärung bezieht: 23 Specifications de conception des modeles auxquels se rapporte cette declaration: 24 Ontwenspecificaties van de modellen waarop deze verklaring betrekking heeti; 25 Especificacions de diseño de los modelos a los cuales hace referencia 25 specificacions de diseño de los modellos a los cuales hace referencia 26 Specifiche di progetto dei modelli cui fa riferimento la presente dichiarazione:	10 • Maximum altowable pressure (TS): -(Ab. (Dar) • Minimum maximum altowable pressure (TS): -(TS) • Sumin per persons expected by the maximum altowable emperature to weezers expected. • Refrigaratt: -(Ab(C)) • Refrigaratt: -(Ab(C)) • Refrigaratt: -(Ab(C)) • Remain zulässige Duck (TS): -(Ab. (Bar)) • Minmalmania zulässige lengeautt (TS): -(TS) • Minmalmania zulässige lengeautt (TS): -(TS) • TSma: Sättlungsbruge de lengeautt (TS): -(TS) • TSma: Sättlungsbruge expected be eine maximal zulässigen Duck (TS) expected by the deen maximal zulässigen maximal edmissigen (TS): -(TS) • TSma: memperature much herselbungspirt: siehe Typerachid des Berglebung der Duck (TS) expected by the deen maximal bedaute explicit expected by the deen maximal bedaute expected by the deen maximal bedaute expected by the deen maximal bedaute expected by the deen entire de tablication er med bedaute entire de tablication: se reporter à la pession maximal expected expected per pession: -(Ab. (C)) • TSma: température minima en el lado de baja pression: -(Ab. (C)) • TSma: (Emperatura minima en el lado de baja pression: -(Ab. (C)) • TSma: (Emperatura minima en el lado de baja pression: -(Ab. (C)) • TSma: (Emperatura minima en el lado de baja pression: -(Ab. (C)) • Refrigaratte: -(TS) •	01 Name and address of the Notified body that judged positively on compliance with the Pressure Equipment Directive. CD 02 Name and Addressed the Destination Selbie, the positiv uniter Eminaturing der Durckantagen-Rechtline unteiler. CD 03 Nome at adresses dei Organismen norlife qui a évaluie positivement la conformité à la directive sui fraquemente de pression. CD 04 Name en addres van de sangemede instanté de positiving Double de l'adment et de conformité intel de Richtlijn Durkapparatur. CD 05 Nombre y dirección del Organismo Netificado que juzgó possitivamente el comprimitation de la Directiva en materia de Equipos de Presión. CD 05 Nombre y dirección del Organismo Netificado que juzgó possitivamente el comprimitation don la Directiva en materia de Equipos de Presión. CD 05 Nombre y dirección del Organismo Netificado que juzgó possitivamente el comprimitation don la Directiva en materia de Equipos de Presión. CD 05 Nombre y dirección del Organismo Netificado que juzgó possitivamente el comprimitation de la Directiva en materia de el Equipos de Presión. CD 06 Nombre y dirección del Organismo Netificado que juzgó possitivamente el comprimitation de l'administration de l'adminis

	40	-30	63	R410A	40
	PS	<l> TSmin</l>	<m>→</m> TSmax		
	<k></k> PS	Ą	₩ >	Ş	Ą,
(A) (bar)	as. 77 (var) ai: žiūrėkite modelio	(PS): < K> (bar) peratūra (TS*):	ā spiediena pusē: <l> (°C) skaņā ar maksimālo</l>	a: ⟨Þ⟩ (bar)	nnas gads: skat. modela

DAIKIN EUROPE N.V.

Zandvoordestraat 300, B-8400 Oostende, Belgium

DAIKIN

Ostend, 1st of October 2008 Director Quality Assurance Jiro Tomita



Co	NTENTS	Page
1.	Introduction	1
	1.1. Indoor capacity range	2
	1.2. Standard supplied accessories	2
	1.3. Optional accessories	
_	1.4. Technical and Electrical specifications	
	Main components	
	Selection of location	
	Inspecting and handling the unit	
5.	Unpacking and placing the unit	4
6.	Refrigerant piping	4
	6.1. Installation tools	
	6.2. Selection of piping material	
	6.3. Pipe connection	5
	6.4. Connecting the refrigerant piping 6.5. Protection against contamination when installing pipes	5
	6.6. Example of connection	5
7.	Leak test and vacuum drying	
	Field wiring	
٥.	8.1. Internal wiring – Parts table	
	8.2. Optional parts connector	
	8.3. Power circuit and cable requirements	11
	8.4. General cautions	
	8.5. System examples	
	8.7. Field line connection: transmission wiring	
	8.8. Field line connection: power wiring	
	8.9. Wiring example for wiring inside unit	14
9.	Pipe insulation	14
10.	Checking of unit and installation conditions	14
11.	Charging refrigerant	14
	11.1. Important information regarding the refrigerant used	
	11.2. Precautions when adding R410A	15
	11.3. Stop valve operation procedure	15
	11.4. How to check how many units are connected	16
	11.6. Procedure for inputting the additional refrigerant charge weight	
	into the PCB	, 19
	11.7. Checks after adding refrigerant	20
12.	Before operation	20
	12.1. Service precautions	20
	12.2. Checks before initial start-up	
	12.3. Field setting	
	12.5. Final check after installation	
13.	Service mode operation	



READ THIS MANUAL ATTENTIVELY BEFORE STARTING UP THE UNIT. DO NOT THROW IT AWAY. KEEP IT IN YOUR FILES 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.

DAIKIN EQUIPMENT IS DESIGNED FOR COMFORT APPLICATIONS. FOR USE IN OTHER APPLICATIONS, PLEASE CONTACT YOUR LOCAL DAIKIN DEALER.

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

THIS AIR CONDITIONER COMES UNDER THE TERM "APPLIANCES NOT ACCESSIBLE TO THE GENERAL PUBLIC".

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



The refrigerant R410A requires strict cautions for keeping the system clean, dry and tight.

Clean and dry

Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting mixed into the system.

Tight

R410A does not contain any chlorine, does not destroy the ozone layer and does not reduce the earth's protection against harmful ultraviolet radiation. R410A can contribute slightly to the greenhouse effect if it is released. Therefore we should take special attention to check the tightness of the installation.

Read "6. Refrigerant piping" on page 4 carefully and follow these procedures correctly.



Since design pressure is 4.0 MPa or 40 bar (for R407C units: 3.3 MPa or 33 bar), pipes of larger wall thickness may be required. The wall thickness of piping must be carefully selected, refer to paragraph "6.2. Selection of piping material" on page 5 for more details.

1. INTRODUCTION

This installation manual concerns VRV inverters of the Daikin REYQ-P series. These units are designed for outdoor installation and used for cooling and heat pump applications. The REYQ8~16P system is a single outdoor system and can not be combined with other outdoor units in a multi outdoor system. This unit has rated cooling capacities ranging from 22.4 to 45.0 kW and rated heating capacities ranging from 25.0 to 50.0 kW.

For changing the refrigerant flow to indoor units, the REYQ-P system can be combined with BS units of the types BSVQ100P, BSVQ160P and BSVQ250P only. Other BS unit types will cause malfunctions when combined with the REYQ-P system.

The REYQ-P units can be combined with Daikin VRV indoor units for air conditioning purposes suitable for R410A.

The present installation manual describes the procedures for unpacking, installing and connecting the REYQ-P units. Installation of the indoor units is not described in this manual. Always refer to the installation manual supplied with these units for their installation.

1.1. Indoor capacity range

The indoor units can be installed in the following range.

- Always use appropriate indoor units compatible with R410A. To learn which models of indoor units are compatible with R410A, refer to the product catalogs.
- Total capacity of indoor units

Outdoor unit	Total capacity of indoor units
REYQ8	100~260
REYQ10	125~325
REYQ12	150~390
REYQ14	175~455
REYQ16	200~520

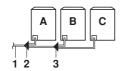


If the total capacity of the connected indoor units exceeds the capacity of the outdoor unit, cooling and heating performance may drop when running the indoor units.

Refer to the section on performance characteristics in the Engineering Data Book for details.

There are restrictions on the refrigerant pipe connection order between outdoor units during installation in case of a multiple outdoor unit system.

Install according to the following restrictions. The capacities of outdoor units A, B, and C must fulfill the following restriction conditions: $A \ge B \ge C$.



- To indoor units
- Multi outdoor unit connection piping kit (first branch)
- 3 Multi outdoor unit connection piping kit (second branch)

1.2. Standard supplied accessories

See location 1 in figure 18 for reference to where following accessories are supplied with the unit.

Installation manual	1x
Operation manual	1x
Additional refrigerant charge label	1x
Installation information sticker	1x
Fluorinated greenhouse gases label	1x
Multilingual fluorinated greenhouse gases label	1x

See location 2 in figure 18 for reference to where following accessories are supplied with the unit.

			REYQ			
		8	10	12	14	16
Liquid accessory pipe (1)		1x	1x	1x	1x	1x
Liquid accessory pipe (2)		1x	1x	1x	1x	1x
	Ø22.2	1x	_	_	_	_
Suction gas accessory pipe (1)	Ø22.2	_	1x	_	_	_
	Ø28.6	_	_	1x	1x	1x
	Ø19.1	1x	_	_	_	_
Suction gas accessory pipe (2)	Ø22.2	_	1x	_	_	_
	Ø28.6	_	_	1x	1x	1x
	Ø15.9	1x	_	_	_	_
High pressure/low pressure accessory pipe (1)	Ø19.1	_	1x	1x	_	_
	Ø19.1	_	_	_	1x	1x
	Ø15.9	1x	_	_	_	_
High pressure/low pressure accessory pipe (2)	Ø19.1		1x	1x	_	_
	Ø22.2	_	_	_	1x	1x
Accessory joint (angle of 90°) (1)	Ø25.4	1x	1x	1x	1x	1x
Accessory joint (angle of 90°) (2)	Ø19.1	1x	1x	1x	1x	1x
Accessory joint		1x	_	_	_	_

1.3. Optional accessories

To install the above outdoor unit, the following optional parts are also required.

Refrigerant branching kit (for R410A only: Always use an appropriate kit dedicated for your system.)

Refnet header				
3 pipes 2 pipes				
KHRQ23M29H	KHRQ22M29H			
KHRQ23M64H	KHRQ22M64H			
KHRQ23M75H	KHRQ22M75H			

Refnet joint				
3 pipes		2 pipes		
KHRQ23I	M20T	KHRQ22M20T		
KHRQ23I	M29T9	KHRQ22M29T		
KHRQ23I	M64T	KHRQ22M64T		
KHRQ23I	M75T	KHRQ22M75T		

To select an optimum refrigerant branching kit, refer to "6. Refrigerant piping" on page 4.

1.4. Technical and Electrical specifications

Refer to the Engineering Data Book for the complete list of specifications.

2. MAIN COMPONENTS

For main components and function of the main components, refer to the Engineering Data Book.

3. SELECTION OF LOCATION

This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment.

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



- Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.
- Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.

Obtain the customer's permission before installing.

The inverter units should be installed in a location that meets the following requirements:

1 The foundation is strong enough to support the weight of the unit and the floor is flat to prevent vibration and noise generation.



If not, the unit may fall over and cause damage or injury.

2 The space around the unit is adequate for servicing and the minimum space for air inlet and air outlet is available. (Refer to figure 1 and choose one of the possibilities).

A B C D Sides along the installation site with obstacles

- Suction side
- In case of an installation site where sides A+B+C+D have obstacles, the wall heights of sides A+C have no impact on service space dimensions. Refer to figure 1 for impact of wall heights of sides B+D on service space dimensions.
- In case of an installation site where only the sides A+B have obstacles, the wall heights have no influence on any indicated service space dimensions.
- The installation space required as shown in figure 1 is a reference for cooling operation when the outdoor temperature is 35°C.

If the outdoor temperature exceeds 35°C or the heat load exceeds the maximum capacity of the outdoor unit, increase the distances on the air intake side.

- 3 Make sure that there is no danger of fire due to leakage of inflammable gas.
- 4 Ensure that water cannot cause any damage to the location in case it drips out the unit (e.g. in case of a blocked drain pipe).
- 5 The piping length between the outdoor unit and the indoor unit may not exceed the allowable piping length. (Refer to "6.6. Example of connection" on page 7)
- 6 Select the location of the unit in such a way that neither the discharged air nor the sound generated by the unit disturbs anyone.
- 7 Make sure that the air inlet and outlet of the unit are not positioned towards the main wind direction. Frontal wind will disturb the operation of the unit. If necessary, use a windscreen to block the wind.
- 8 Do not install or operate the unit on locations where air contains high levels of salt, like e.g. in the vicinity of oceans. (Refer for further information to the engineering databook).
- 9 During installation, avoid the possibility that anybody can climb on the unit or place objects on the unit.

Falls may result in injury.

10 When installing the unit in a small room, take measures in order to keep the refrigerant concentration from exceeding allowable safety limits in the event of a refrigerant leak.



Excessive refrigerant concentrations in a closed room can lead to oxygen deficiency.

- 11 To prevent dripping water to form a puddle underneath the unit, install a drain pan (available as option kit).
- 12 The equipment is not intended for use in a potentially explosive atmosphere.



The equipment described in this manual may cause electronic noise generated from radio-frequency energy. The equipment complies to specifications that are designed to provide reasonable protection against such interference. However, there is no guarantee that interference will not occur in a particular installation. It is therefore recommended to install the equipment and electric wires keeping proper distances away from stereo equipment, personal computers, etc... (See figure 2).

- Personal computer or radio
- 2 Fuse
- 3 Earth leakage breaker
- 4 Remote controller
- 5 Cool/heat selector
- 6 Indoor unit

In places with weak reception, keep distances of 3 m or more to avoid electromagnetic disturbance of other equipment and use conduit tubes for power and transmission lines.

- In heavy snowfall areas, select an installation site where snow will not affect the operation of the unit.
- The refrigerant R410A itself is nontoxic, nonflammable and is safe. If the refrigerant should leak however, its concentration may exceed the allowable limit depending on room size. Due to this, it could be necessary to take measures against leakage. Refer to the chapter "15. Caution for refrigerant leaks" on page 25.
- Do not install in the following locations.
 - Locations where sulphurous acids and other corrosive gases may be present in the atmosphere.
 Copper piping and soldered joints may corrode, causing refrigerant to leak.
 - Locations where a mineral oil mist, spray or vapour may be present in the atmosphere.
 - Plastic parts may deteriorate and fall off or cause water leakage.
 - Locations where equipment that produces electromagnetic waves is found.
 - The electromagnetic waves may cause the control system to malfunction, preventing normal operation.
 - Locations where flammable gases may leak, where thinner, gasoline and other volatile substances are handled, or where carbon dust and other incendiary substances are found in the atmosphere.
 - Leaked gas may accumulate around the unit, causing an explosion.
- When installing, take strong winds, typhoons or earthquakes into account. Improper installation may result in the unit turning over.

4. Inspecting and handling the unit

At delivery, the packing should be checked and any damage should be reported immediately to the carrier claims agent.

When handling the unit, take into account the following:



Fragile, handle the unit with care.



Keep the unit upright in order to avoid compressor damage.

- 2 Choose on beforehand the path along which the unit is to be brought in.
- 3 Bring the unit as close as possible to its final installation position in its original package to prevent damage during transport as shown in figure 4.
 - 1 Packaging material
 - 2 Belt sling
 - 3 Opening
 - 4 Protector
- 4 Lift the unit preferably with a crane and 2 belts of at least 8 m long as shown in figure 4.

Always use protectors to prevent belt damage and pay attention to the position of the unit's centre of gravity.



Use a belt sling of ≤20 mm wide that adequately bears the weight of the unit.

A forklift can only be used for transport as long as the unit remains on its pallet as shown in figure 5.

5 For placing the unit on its final position, a crane and 2 belts must be used. These belts must be pulled through the small openings on the bottom of the unit as shown in figure 4.

5. UNPACKING AND PLACING THE UNIT

- Remove the four screws fixing the unit to the pallet.
- Make sure the unit is installed level on a sufficiently strong base to prevent vibration and noise.



Do not use stands to only support the corners. (See figure 6)

- X Not allowed
- O Allowed (units: mm)
- The height of the foundation must at least be 150 mm from the floor
- The unit must be installed on a solid longitudinal foundation (steelbeam frame or concrete) and make sure the base under the unit is larger than the grey marked area as indicated in figure 3.
 - 1 Hole for foundation bolt
 - 2 Inner dimension of the base
 - 3 Distance between foundation bolt holes
 - 4 Depth of unit
 - 5 Outher dimension of the base
 - 6 Longitudinal foundation dimension
 - 7 Distance between foundation bolt holes
- Fasten the unit in place using four foundation bolts M12. It is best to screw in the foundation bolts until their length remains 20 mm above the foundation surface.





- Prepare a water drainage channel around the foundation to drain waste water from around the unit.
- If the unit is to be installed on a roof, check the strength of the roof and its drainage facilities first.
- If the unit is to be installed on a frame, install the waterproofing board within a distance of 150 mm under the unit in order to prevent infiltration of water coming from under the unit.
- When installed in a corrosive environment, use a nut with plastic washer (1) to protect the nut tightening part from rust.



6. REFRIGERANT PIPING



Do not insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury.



Use R410A to add refrigerant.

All field piping must be installed by a licensed refrigeration technician and must comply with relevant local and national regulations.

Caution to be taken when brazing refrigerant piping

Do not use flux when brazing copper-to-copper refrigerant piping. (Particularly for the HFC refrigerant piping) Therefore, use the phosphor copper brazing filler metal (BCuP) which does not require flux.

Flux has extremely harmful influence on refrigerant piping systems. For instance, if the chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will damage the refrigerant oil.

Be sure to perform a nitrogen blow when brazing. Brazing without releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.

After completing the installation work, check that the refrigerant gas does not leak.

Do not open stop valves until all field wiring is according to the specifications (refer to "8. Field wiring" on page 9), the checking of the unit has been completed and all installation conditions are fulfilled (refer to "10. Checking of unit and installation conditions" on page 14).

Toxic gas may be produced if the refrigerant gas leaks into the room and comes in contact with a source of fire.

Ventilate the area immediately in the event of a leak.

In the event of a leak, do not touch the leaked refrigerant directly. Frostbite may be caused.

6.1. Installation tools

Make sure to use installation tools (gauge manifold charge hose, etc.) that are exclusively used for R410A installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils such as SUNISO and moisture) from mixing into the system.

(The screw specifications differ for R410A and R407C.)

Use a 2-stage vacuum pump with a non-return valve which can evacuate to $-100.7~\mathrm{kPa}$ (5 Torr, $-755~\mathrm{mm}$ Hg).



Make sure the pump oil does not flow oppositely into the system while the pump is not working.

6.2. Selection of piping material

- Foreign materials inside pipes (including oils for fabrication) must be 30 mg/10 m or less.
- 2. Use the following material specification for refrigerant piping:
 - Size: determine the proper size referring to chapter "6.6. Example of connection" on page 7.
 - Construction material: phosphoric acid deoxidized seamless copper for refrigerant.
 - Temper grade: use piping with temper grade in function of the pipe diameter as listed in the table below.

Pipe Ø	Temper grade of piping material
≤15.9	0
≥19.1	1/2H

O = Annealed 1/2H = Half hard

■ The pipe thickness of the refrigerant piping should comply with relevant local and national regulations. The minimal pipe thickness for R410A piping must be in accordance with the table below.

Pipe Ø	Minimal thickness t (mm)
6.4	0.80
9.5	0.80
12.7	0.80
15.9	0.99
19.1	0.80

Pipe Ø	Minimal thickness t (mm)
22.2	0.80
28.6	0.99
34.9	1.21
41.3	1.43
	•

- Make sure to use the particular branches of piping that have been selected referring to chapter "6.6. Example of connection" on page 7.
- 4. In case the required pipe sizes (inch sizes) are not available, it is also allowed to use other diameters (mm sizes), taken the following into account:
 - select the pipe size nearest to the required size.
 - use the suitable adapters for the change-over from inch to mm pipes (field supply).

6.3. Pipe connection

Be sure to perform a nitrogen blow when brazing and to read the paragraph "Caution to be taken when brazing refrigerant piping" on page 4 first.

NOTE



The pressure regulator for the nitrogen released when doing the brazing should be set to 0.02 MPa or less. (See figure 12)

- 1 Refrigerant piping
- 2 Location to be brazed
- 3 Nitrogen
- 4 Taping
- 5 Manual valve
- 6 Regulator
- 7 Nitrogen



Do not use anti-oxidants when brazing the pipe joints.

Residue can clog pipes and break equipment.

6.4. Connecting the refrigerant piping

1 Front connection or side connection

Installation of refrigerant piping is possible as front connection or side connection (when taken out from the bottom) as shown in figure 7.

- 1 Left-side connection
- 2 Front connection
- 3 Right-side connection

NOTE

Precautions when knocking out knockout holes

- Be sure to avoid damaging the casing
- After knocking out the knockout holes, we recommend you remove the burrs and paint the edges and areas around the edges using repair paint to prevent rusting.
- When passing electrical wiring through the knockout holes, wrap the wiring with protective tape to prevent damage as shown in figure 8.
 - Large knockout hole
 - 2 Drill
 - 3 Points for drilling

2 Removing the pinched piping (See figure 9)



Any gas or oil remaining inside the stop valve may blow off the pinched piping. Failure to observe the instructions in procedure below properly may result in property damage or personal injury, which may be serious depending on the circumstances.



Use the following procedure to remove the pinched piping:

1. Remove the valve lid and make sure that the stop valves are fully closed.



- Connect a charge hose to service ports of all stop valves.
- 3. Recover gas and oil from the pinched piping by using a recovery unit.



Do not vent gases into the atmosphere.

- 4. When all gas and oil is recovered from the pinched piping, disconnect the charge hose and close the service ports.
- In case the pinched piping lower parts looks like detail A in figure 9, proceed with procedure step 8.
 - In case the pinched piping lower part looks like detail B in figure 9, follow instructions as per procedure steps 6-7-8.
- 6. Cut off the lower part of the smaller pinched piping with an appropriate tool (e.g. a pipe cutter, a pair of nippers,...) so that a cross-section is open allowing remaining oil to drip out in case the recovery was not complete.
- 7. Wait until all oil is dripped out.
- Dissolve the brazing using a burner and remove the pinched piping or cut the pinched piping off with a pipe cutter.

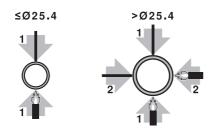
See figure 9.

- 1 Pinched piping
- 2 Stop valve
- 3 Service port
- 4 Point of melting the brazing metal
- 5 Small lower piece of pipe



Precautions when connecting field piping.

Add brazing material as shown in the figure.





- Be sure to use the supplied accessory pipes when carrying out piping work in the field.
- Be sure that the field installed piping does not touch other pipes, the bottom panel or side panel. Especially for the bottom and side connection, be sure to protect the piping with suitable insulation, to prevent it from coming into contact with the casing.

3 Connecting refrigerant piping to the outdoor unit



All local interunit piping are field supplied except the accessory pipes.

Front connection:

Remove the stop valve cover to connect. (See figure 11) (A)

■ Bottom connection:

Remove the knockout holes on the bottom frame and route the piping under the bottom frame. (See figure 11) (B)

- In case of REYQ8, use the accessory joint for connecting the suction gas accessory pipe (2) to the suction gas stop valve. (See figure 11) (C)
 - Liquid pipe stop valve
 - 2 Suction gas pipe stop valve
 - 3 High pressure/low pressure gas pipe stop valve
 - 4 Brazing
 - 5 Liquid accessory pipe (1)
 - 6 Suction gas accessory pipe (1)
 - 7 High pressure/low pressure gas accessory pipe (1)
 - 8 Accessory joint (angle 90°) (1)
 - 9 Accessory joint (angle 90°) (2)
 - 10 Liquid accessory pipe (2)
 - 11 Suction gas accessory pipe (2)
 - 12 High pressure/low pressure gas accessory pipe (2)
 - 13 Accessory joint

NOTE

Make sure that the onsite piping does not come in contact with other piping, the bottom frame or side panels of the unit.

4 Branching the refrigerant piping

For installation of the refrigerant branching kit, refer to the installation manual delivered with the kit.

(See figure 14)

1 Horizontal surface

Follow the conditions listed below:

- Mount the refnet joint so that it branches either horizontally or vertically.
- Mount the refnet header so that it branches horizontally.

5 Piping length restrictions

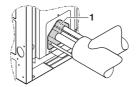
Make sure to perform the piping installation within the range of the maximum allowable pipe length, allowable level difference and allowable length after branching as indicated in "6.6. Example of connection" on page 7.

6.5. Protection against contamination when installing pipes

- Take measures to prevent foreign materials like moisture and contamination from mixing into the system.

	Installation period	Protection method
^	More than a month	Pinch the pipe
•11	Less than a month	Pinch or tape the pipe
	Regardless of the period	

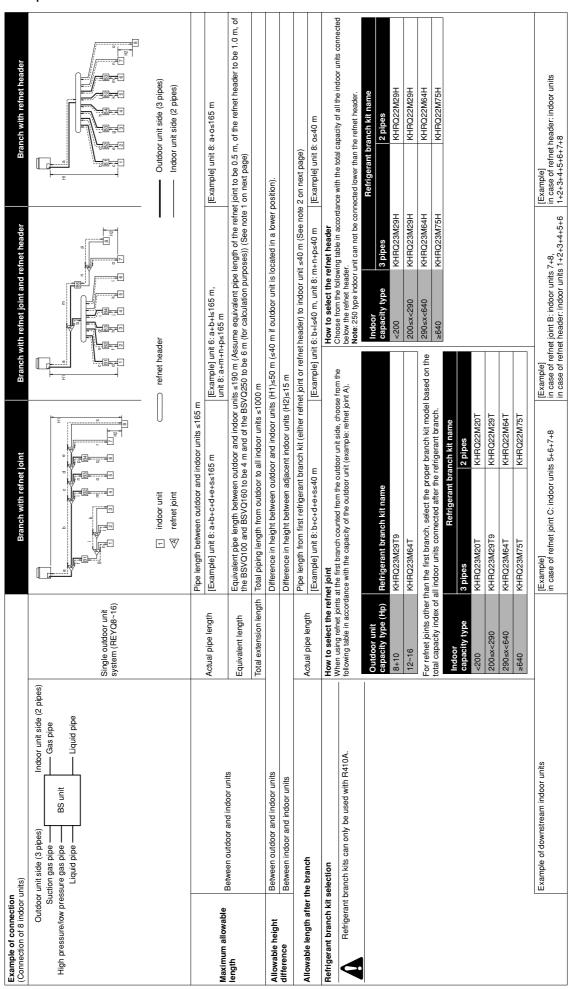
- Great caution is needed when passing copper tubes through walls.
- Block all gaps in the holes for passing out piping and wiring using sealing material (field supply). (The capacity of the unit will drop and small animals may enter the machine.)
 Example: passing piping out through the front



Plug the areas marked with
" ".
(When the piping is routed from the front panel.)



After all the piping has been connected, make sure there is no gas leak. Use nitrogen to perform a gas leak check.



Ø9.5 → Ø12.7 Ø12.7 → Ø15.9 Ø15.9 **→** Ø19.1 Ø19.1 **J** Ø22.2 B. Plping between refrigerant branch kit and BS unit
Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit.
Choose from the following table in accordance with the indoor unit total capacity type, connected iquid side 9.5 12.7 15.9 19.1 19.1 9.5 9.5 First refrigerant Refnet joints (a~g) Indoor units (1~8) Indoor unit branch kit BS unit 2 HP/LP gas pipe Increase only liquid 19.1 15.9 28.6 28.6 28.6 Ø25.4^(a) 12.7 19.1 Ø28.6 → Ø31.8^(a) If not available, increase is not allowed **1** Ø55 Outdoor unit Main pipes pipe size Gas side Ø19.1 Ø22.2 Ø28.6 " **[**[@ N e Increase the pipe size as follows Increase is not allowed u u Suction gas 22.2 15.9 28.6 34.9 41.3 19.1 REYQ12+14 Allowable length after the first refrigerant branch kit to indoor units is 40 m or less, however it can be extended up to 90 m if all the following conditions are fulfilled. REYQ8 REYQ10 **0.5** kg (a REYQ16 4 2 6 >100% ≤130% Indoor unit capacity type 200sx<290 420sx<640 150sx<200 290sx<420 640sx<920 The most remote indoor unit 8
The nearest indoor unit 1
(a+b+c+d+e+f+g+p)−(a+h)≤40 m <150 ≥920 a+b*2+c*2+d*2+e*2+f*2+g*2 +h+i+j+k+l+m+n+p≤1000 m × 1.02 + 3.6 + A 9.5 → 12.7 indoor unit 8: b+c+d+e+f+g+p≤90 m increase the pipe size Ø Example drawings A. Piping between outdoor unit and refrigerant branch kit Choose from the following table in accordance with the outdoor unit total capacity type, connected h, i, j...... p≤40 m Choose from the following table in accordance with the capacity type of the connected indoor unit. iquid pipe of b, c, d, e, f, g 8+10 12~16 9.5 9.5 12.7 12.7 운 $\mathbf{R} = \overline{[(X1 \times \emptyset 22.2) \times 0.37] + [(X2 \times \emptyset 19.1) \times 0.26] + [(X3 \times \emptyset 15.9) \times 0.18] + [(X3 \times \emptyset 1$ $(X4 \times \emptyset12.7) \times 0.12] + [(X5 \times \emptyset9.5) \times 0.059] + [(X6 \times \emptyset6.4) \times 0.022]$ the main liquid pipe needs to be increased as well.

If the increased suction gas pipe size is larger than the pipe size of the main suction gas pipe, then the allowable length after the first refrigerant branch kit may not be increased to 90 m.

Size-up of the main suction gas pipe may affect a good oil return to the outdoor unit due to influence of the HP/LP gas pipe. For calculation of total extension length, the actual length of above pipes must be doubled (except length of main pipes and of pipes which do not have an increased pipe size). It is necessary to increase the pipe size of the liquid and suction gas pipe if the pipe length between the first and the final branch kit is over 40 m (reducers must be procured on site). Increasing the HP/LP gas pipe size is not allowed.

If the increased liquid pipe size is larger than the pipe size of the main liquid pipe, then the pipe size of The difference between the distance of the outdoor unit to the farthest indoor unit and the distance of the outdoor unit to the nearest indoor unit $\pm 40~\mathrm{m}$ Piping outer diameter size When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main flight pipe must be increased. Never increase suction gas pipe and HP/LP gas pipe sizes. Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main liquid pipe. $X_{1..6}$ = Total length (m) of liquid piping size at \emph{Oa} \emph{A} = Weight according to table A in function of indoor unit connection ratio HP/LP gas pipe Piping between refrigerant branch kit or BS unit and indoor unit Liquid pipe Piping outer diameter size (mm) 15.9 9.1 22.2 19.1 6.4 9.5 9.5 Suction gas pipe Suction gas 28.6 15.9 28.6 22.2 12.7 19.1 22.2 19.1 capacity type (Hp) 25, 32, 40, 50 20, 25, 32, 40, 50 63, 80, 100, 125 capacity type Outdoor unit Indoor unit to the nearest branch kit ≤40 m Indoor unit downstream 14+16 200 Pipe size selection
For an outdoor unit, select the pipe size in accordance with the following figure. How to calculate the additional refrigerant to be charged Additional refrigerant to be charged R (kg)
R should be rounded off in units of 0.1 kg Required conditions Note 2 an I Note 1

7. LEAK TEST AND VACUUM DRYING

The units were checked for leaks by the manufacturer.

After connecting the field piping, perform the following inspections.

1 Preparations

Referring to figure 22, connect a nitrogen tank, a refrigerant tank and a vacuum pump to the outdoor unit and perform the leak test and the vacuum drying.

The refrigerant tank and the charge hose connected to the refrigerant charge port or valve A are needed to perform refrigerant charging.

- Gauge manifold
- 2 Nitrogen
- 3 Measuring instrument
- 4 Refrigerant R410A tank (siphon system)
- 5 Vacuum pump
- 6 Charge hose
- 7 Refrigerant charge port
- 8 High pressure/low pressure pipe stop valve
- 9 Suction gas pipe stop valve
- 10 Liquid pipe stop valve
- 11 Valve A
- 12 Valve B
- 13 Valve C
- 14 Outdoor unit
- 15 To BS unit or indoor unit
- 16 Stop valve
- 17 Service port
- 18 Field piping
- 19 Gas flow
- 2 Leak test and vacuum drying



Make sure to perform leak test and vacuum drying using the service ports of the stop valves of the high pressure/ low pressure gas pipe, suction gas pipe and liquid pipe. (For the service port location, refer to the "Caution" label attached on the front panel of the outdoor unit.)



- See "11.3. Stop valve operation procedure" on page 15 for details on handling the stop valve.
- To prevent entry of any contamination and to prevent insufficient pressure resistance, always use the special tools dedicated for working with R410A refrigerant.
- Leak test:

NOTE

Make sure to use nitrogen gas.



Pressurize the liquid pipe, the suction gas pipe and the high pressure/low pressure gas pipe from the service ports of each stop valve to 4.0 MPa (40 bar) (do not pressurize more than 4.0 MPa (40 bar)). If the pressure does not drop within 24 hours, the system passes the test. If the pressure drops, check where the nitrogen leaks from.

- Vacuum drying: Use a vacuum pump which can evacuate to -100.7 kPa (5 Torr, -755 mm Hg)
- 1. Evacuate the system from the liquid pipe, the suction gas pipe and the high pressure/low pressure gas pipe stop valve service ports by using a vacuum pump for more than 2 hours and bring the system to -100.7 kPa. After keeping the system under that condition for more than 1 hour, check if the vacuum gauge rises or not. If it rises, the system may either contain moisture inside or have leaks.
- 2. Following should be executed if there is a possibility of moisture remaining inside the pipe (if piping work is carried out during the raining season or over a long period of time, rainwater may enter the pipe during work).

After evacuating the system for 2 hours, pressurize the system to 0.05 MPa (vacuum break) with nitrogen gas and evacuate the system again using the vacuum pump for 1 hour to -100.7 kPa (vacuum drying). If the system cannot be evacuated to -100.7 kPa within 2 hours, repeat the operation of vacuum break and vacuum drying.

Then, after leaving the system in vacuum for 1 hour, confirm that the vacuum gauge does not rise.

8. FIELD WIRING



All field wiring and components must be installed by a licensed electrician and must comply with relevant local and national regulations.

The field wiring must be carried out in accordance with the wiring diagrams and the instructions given below.

Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance. This can lead to electric shock or fire.

Be sure to install an earth leakage circuit breaker.

(Because this unit uses an inverter, install an earth leakage circuit breaker that is capable of handling high harmonics in order to prevent malfunctioning of the earth leakage breaker itself.)

Do not operate until refrigerant piping work is completed. (If operated before completion of the piping work, the compressor may break down.)

Never remove a thermistor, sensor, etc., when connecting power wiring and transmission wiring.

(If operated without thermistor, sensor, etc., the compressor may break down.)

The reversed phase protection detector of this product only functions when the product starts up. Consequently reversed phase detection consequently is not performed during normal operation of the product.

The reversed phase protection detector is designed to stop the product in the event of an abnormality when the product is started up.

Replace two of the three phases (L1, L2, and L3) during reverse-phase protection circuit operation.

If there exists the possibility of reversed phase after an momentary black out and the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase can break the compressor and other parts.

Means for disconnection must be incorporated in the field wiring in accordance with the wiring rules.

(An all-pole disconnection switch must be available on the unit.)

8.1. Internal wiring - Parts table

Refer to the wiring diagram sticker on the unit. The abbreviations used are listed below:

A1P~A8P	. Printed	circuit	board	(main,	sub 1,	sub 2,	noise
	filter, inv	erter, f	an, curr	ent sen	isor)		

BS1~BS5.....Push button switch (mode, set, return, test, reset)

C1,C63,C66 Capacitor

E1HC~E3HC...... Crankcase heater

F1U Fuse (DC 650 V, 8 A)

F1U Fuse (T, 3.15 A, 250 V)

F1U,F2U.....Fuse (T, 3.15 A, 250 V)

F5U Field fuse (field supply)

F400U Fuse (T, 6.3 A, 250 V)

H1P~H8P Pilot lamp

H2P: Under preparation or in test operation when

blinking

H2P: Malfunction detection when light up

HAP.....Pilot lamp (service monitor - green)

K1,K3 Magnetic relay

K1R Magnetic relay (K2M, Y4S)

K2,K4 Magnetic contactor (M1C)

K2R Magnetic relay (Y5S)

K3R Magnetic relay (Y1S)

K4R Magnetic relay (Y8S)

K5R Magnetic relay (Y2S)

K5R Magnetic relay (for option)

K6R Magnetic relay (Y7S)

K7R,K8R Magnetic relay (E1HC, E2HC)

K11R Magnetic relay (Y3S)

L1R.....Reactor

M1C,M2C Motor (compressor)

M1F,M2F Motor (fan)

PS Switching power supply

Q1DI..... Earth leakage breaker (field supply)

Q1RP Phase reversal detection circuit

R1T Thermistor (air, fin)

R2T~R15T......Thermistor (H/E gas 1, H/E de-icer 1, sub cool H/E gas 1, sub cool H/E liquid, H/E liquid 1, suction 1, liquid 1, suction 2, H/E gas 2, H/E de-icer 2, sub

cool H/E gas 2, liquid 2, H/E liquid 2)

R10.....Resistor (current sensor)

R31T,R32T Thermistor (discharge) (M1C,M2C)

R50,R59 Resistor

R90.....Resistor (current sensor)

R95.....Resistor (current limiting)

S1NPH Pressure sensor (high) S1NPL Pressure sensor (low)

 $S1PH{\sim}S3PH Pressure switch (high)$

SD1 Safety devices input

T1A.....Current sensor

V1R Diode bridge V1R,V2R Power module

X1A~X9A......Connector

X1M.....Terminal strip (power supply)

X1M.....Terminal strip (control)

Y1E~Y5E..... Electronic expansion valve (main 1, sub cool 1,

main 2, charge, sub cool 2)

Y1S~Y7S......Solenoid valve (RMTG, 4 way valve–H/E gas 1, RMTL, hot gas, EV bypass 1, RMTT, RMTO, 4 way

valve-H/E gas 2, EV bypass 2)

71C~710C	Noise filter (ferrite core)
	Noise filter (with surge absorber)
L1,L2,L3	,
N	
	Field wiring
	Terminal strip
00	Connector
-0	Terminal
+	Protective earth (screw)
BLK	Black
BLU	Blue
BRN	Brown
GRN	Green
GRY	Grey
ORG	Orange
PNK	Pink
RED	Red
WHT	White

NOTE

YLWYellow

- This wiring diagram only applies to the outdoor unit
- When using the option adaptor, refer to the installation manual.
- Refer to the installation manual, for connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2 and on how to use BS1~BS5.
- Do not operate the unit by short-circuiting protection device S1PH,S2PH.

8.2. Optional parts connector

X7A.....Operation output
X9A,X37A......Power supply (adapter)

NOTE

- Use copper conductors only.
- For connection wiring to the central remote controller, refer to the installation manual of the central remote controller.
- Use insulated wire for the power cord.

8.3. Power circuit and cable requirements

A power circuit (see table below) must be provided for connection of the unit. This circuit must be protected with the required safety devices, i.e. a main switch, a slow blow fuse on each phase and an earth leakage breaker.

	Phase and frequency	Voltage	Minimum circuit ampere	Recommended fuses	Transmission line section
REYQ8	3N~ 50 Hz	380~415 V	17.1 A	20 A	0.75~1.25 mm ²
REYQ10	3N~ 50 Hz	380~415 V	22.1 A	25 A	0.75~1.25 mm ²
REYQ12	3N~ 50 Hz	380~415 V	22.3 A	25 A	0.75~1.25 mm ²
REYQ14	3N~ 50 Hz	380~415 V	32.8 A	40 A	0.75~1.25 mm ²
REYQ16	3N~ 50 Hz	380~415 V	33.0 A	40 A	0.75~1.25 mm ²

When using residual current operated circuit breakers, be sure to use a high-speed type 300 mA rated residual operating current.

Point for attention regarding quality of the public electric power supply

This equipment complies with respectively:

- EN/IEC 61000-3-11 $^{(1)}$ provided that the system impedance Z_{sys} is less than or equal to Z_{max} and
- EN/IEC 61000-3-12 $^{(2)}$ provided that the short-circuit power S_{sc} is greater than or equal to the minimum S_{sc} value

at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with respectively:

- Z_{svs} less than or equal to Z_{max} and
- \blacksquare S_{sc} greater than or equal to the minimum S_{sc} value.

	$Z_{max}\left(\Omega\right)$	Minimum S _{sc} value
REYQ8	_	889 kVA
REYQ10	0,27	842 kVA
REYQ12	0,27	850 kVA
REYQ14	_	2045 kVA
REYQ16	_	2035 kVA

Be sure to install a main switch for the complete system.



- Select the power supply cable in accordance with relevant local and national regulations.
- Wire size must comply with the applicable local and national code.
- Specifications for local wiring power cord and branch wiring are in compliance with IEC60245.
- WIRE TYPE H05VV(*)
 *Only in protected pipes (use H07RN-F when protected pipes are not used).

8.4. General cautions A

- Make sure to connect the power source wire to the power source terminal block and to clamp it as shown in figure 24 and described in chapter "8.8. Field line connection: power wiring" on page 13.
- For conditional connections, refer to the Technical Data.
- As this unit is equipped with an inverter, installing a phase advancing capacitor not only will deteriorate power factor improvement effect, but also may cause a capacitor abnormal heating accident due to high-frequency waves. Therefore, never install a phase advancing capacitor.
 - European/International Technical Standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipmen with rated current ≤75 A.
 - (2) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.

- Keep power imbalance within 2% of the supply rating.
 - Large imbalance will shorten the life of the smoothing capacitor.
 - As a protective measure, the product will stop operating and an error indication will be made, when power imbalance exceeds 4% of the supply rating.
- Follow the "electrical wiring diagram" supplied with the unit when carrying out any electrical wiring.
- Only proceed with wiring work after all power is shut off.
- Always ground wires. (In accordance with national regulations of the pertinent country.)
- Do not connect the ground wire to gas pipes, sewage pipes, lightning rods or telephone ground wires. This may cause electric shock.
 - Combustion gas pipes: can explode or catch fire if there is a gas leak.
 - Sewage pipes: no grounding effect is possible if hard plastic piping is used.
 - Telephone ground wires and lightning rods: dangerous when struck by lightning due to abnormal rise in electrical potential in the grounding.
- This unit uses an inverter and therefore generates noise, which will have to be reduced to avoid interfering with other devices. The outer casing of the product may take on an electrical charge due to leaked electrical current, which will have to be discharged with the grounding.
- Be sure to install an earth leakage breaker. (One that can handle high-frequency electrical noise.)
 (This unit uses an inverter, which means that an earth leakage breaker capable of handling high-frequency electrical noise must be used in order to prevent malfunctioning of the earth leakage breaker itself.)
- Earth leakage breakers that are especially designed for protecting ground-faults must be used in conjunction with main switch and fuse for use with wiring.
- Never connect the power supply in reversed phase. The unit can not operate normally in reversed phase. If you connect in reversed phase, replace two of the three phases.
- This unit has a reverse phase detection circuit. (If it is activated, only operate the unit after correcting the wiring.)
- Power supply wires must be attached securely.
- If the power supply has a missing or wrong N-phase, equipment will break down.
- Make sure that all wiring is secure, the specified wires are used, and no external forces act on the terminal connection or wires.
- Improper connections or installation may result in fire.
- When wiring the power supply and connecting the remote controller wiring and transmission wiring, 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 overheating of the terminals.

8.5. System examples

(See figure 15)

1	Field power supply	5	Outdoor unit
2	Main switch	6	Cool/heat selector
3	Earth leakage circuit	7	Remote controller
	breaker	8	Indoor unit
4	Fuse	9	BS unit

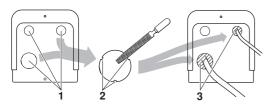
- Power supply wiring (sheathed cable) (380~415 V)
- Transmission wiring (sheathed cable) (16 V)

8.6. Leading power line and transmission line

- Be sure to let the power line and the transmission line pass through a conduit hole.
- Lead the power line from the upper hole on the left side plate, from the front position of the main unit (through the conduit hole of the wiring mounting plate) or from a knock out hole to be made in the unit's bottom plate. (See figure 16)
 - Electric wiring diagram. Printed on the back of the electric component box lid.
 - Power wiring and ground wiring (inside conduit). (When the wiring is routed out through the lateral panel.)
 - 3 Transmission wiring
 - 4 Pipe opening
 - 5 Conduit
 - 6 Power wiring and ground wiring
 - 7 Cut off the shaded zones before use.
 - 8 Through hole cover
 - 9 Electric component box (1)
 - 10 Electric component box (2)

Precautions when knocking out knockout holes

- To punch a knockout hole, hit on it with a hammer.
- After knocking out the holes, we recommend you paint the edges and areas around the edges using repair paint to prevent rusting.
- When passing electrical wiring through the knockout holes, remove any burrs from the knockout hole edges. Wrap the wiring with protective tape in order to prevent damage to the wires, put the wires through field supplied protective wire conduits at that location, or install suitable field supplied wire nipples or rubber bushings into the knockout holes.



- 1 Knockout hole
- 2 Burr
- 3 If there are any possibilities that small animals enter the system through the knockout holes, plug the holes with packing materials (to be prepared on-site).



- Use a power wire pipe for the power wiring.
- Outside the unit, make sure the low voltage electric wiring (i.e. for the remote control, between units, etc.) and the high voltage electric wiring do not pass near each other, keeping them at least 50 mm apart. Proximity may cause electrical interference, malfunctions, and breakage.
- Be sure to connect the power wiring to the power wiring terminal block and secure it as described under "8.8. Field line connection: power wiring" on page 13.
- Inter-unit wiring should be secured as described in "8.7. Field line connection: transmission wiring" on page 12.
 - Secure the wiring with the accessory clamps so that it does not touch the piping and no external force can be applied to the terminal.
 - Make sure the cover and wiring are in their correct place and close the cover firmly.

8.7. Field line connection: transmission wiring

(See figure 17)

- 1 Electric component box (1)
- 2 Electric component box (2)
- 3 Never connect the power supply wire
- 4 To outdoor unit of other system
- 5 Use duplex wires (no polarity)
- 6 BS unit
- 7 Indoor unit
- 8 Indoor unit (cooling only)
- The Q1 and Q2 (to multi unit) terminals of the electric component box (1) are connected to the Q1 and Q2 terminals of the electric component box (2) by internal transmission wiring. Do not remove the internal transmission wiring.
- The wiring to other systems must be connected to the F1/F2 (Out-Out) terminals of the P-board in the outdoor unit to which the interconnecting wiring for the BS unit or indoor units is connected.

Fixing transmission wiring (See figure 21)

Inside switchbox

- 1 Fix to the indicated plastic brackets using field supplied clamping material
- 2 Wiring between the units (Outdoor outdoor) (F1+F2 right)
- 3 Wiring between the units (Indoor outdoor) (F1+F2 left)
- 4 Internal transmission wiring (Q1+Q2)
- 5 Plastic bracket
- 6 Field supplied clamps

When connecting wires to the terminal block on the PC-board, too much heat or tightening could damage the PC-board. Attach with care.

See the table below for the tightening torque of the transmission wiring terminals.

Screw size	Tightening torque (N·m)
M3.5 (A1P)	0.80~0.96



Be sure to follow the limits below. If the unit-to-unit cables are beyond these limits, it may result in malfunction of transmission.

Maximum wiring length: 1000 mTotal wiring length: 2000 m

Maximum number of branches: 16

- Maximum number of independent interconnectable systems (TO OUT/D UNIT F1-F2):10.
- Up to 16 branches are possible for unit-to unit cabling.
 No branching is allowed after branching.
 (See figure 20)
 - Outdoor unit
 - 2 Indoor unit
 - 3 Main line
 - 4 Branch line 1
 - 5 No branch is allowed after branch
 - Transmission wiring between outdoor unit and indoor unit(s)
- Never connect the power supply to transmission wiring terminal block. Otherwise the entire system may break down.
- Never connect 400 V to the terminal block of the interconnecting wiring. Doing so will break the entire system.
 - The wiring from the indoor units must be connected to the F1/F2 (In-Out) terminals on the PC board in the outdoor unit.
 - After installing the interconnecting wires inside the unit, wrap them along with the on-site refrigerant pipes using finishing tape, as shown in figure 13.
 - 1 Liquid pipe
 - 2 High pressure/low pressure gas pipe
 - 3 Finishing tape
 - 4 Suction gas pipe
 - 5 Transmission wiring
 - 6 Insulation material

For the above wiring, always use vinyl cords with 0.75 to 1.25 mm² sheath or cables (2-core wires).



- Be sure to keep the power line and transmission line apart from each other.
- Be careful about polarity of the transmission line.
- Make sure that the transmission line is clamped as shown in figure 19.
- Check that wiring lines do not make contact with refrigerant piping.
- Firmly close the lid and arrange the electrical wires as to prevent the lid or other parts from coming loose.
- When you do not use a wire conduit, be sure to protect the wires with vinyl tubes etc, to prevent the edge of the knock-out hole from cutting the wires.

8.8. Field line connection: power wiring

The power cord must be clamped to the plastic bracket using field supplied clamp material.

The green and yellow striped wrapped wires must be used for grounding. (See figure 24)

- 1 Power supply (380~415 V, 3N~ 50 Hz)
- 2 Earth leakage breaker
- 3 Fuse
- 4 Grounding wire
- 5 Power supply terminal block
- 6 Connect each power wire RED to L1, WHT to L2, BLK to L3 and BLU to N
- 7 Ground wire (GRN/YLW)
- 8 Clamp the power wire to the plastic bracket using a field supplied clamp to prevent external force being applied to the terminal.
- 9 Clamp (field supply)
- 10 Cup washer
- When connecting the earth wire, it is recommended to perform curling.
- 12 Electric component box (1)
- 13 Electric component box (2)
 It is not required to open electric component box (2) for installation.



- When routing ground wires, secure clearance of 50 mm or more away from compressor lead wires. Failure to observe this instruction properly may adversely effect correct operation of other units connected to the same ground.
- When connecting the power supply cord, the earth connection must be made before the current-carrying connections are established. When disconnecting the power supply cord, the current-carrying connections must be separated before the earth connection is. The length of the conductors between the power supply cord anchorage and the terminal block itself must be such that the current-carrying conductors are tautened before the earthing conductor is in case the power supply cord is pulled loose from the cord anchorage.



Precautions when laying power wiring

- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will damage the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.
- See the table below for tightening torque for the terminal screws.

Tightening torque (N⋅m)						
M8 (Power terminal block)	5.5~7.3					
M8 (Ground)	5.5~7.3					



Recommendations when connecting the ground

When pulling the ground wire out, wire it so that it comes through the cut out section of the cup washer. (An improper ground connection may prevent a good ground from being achieved.) (See figure 24)

8.9. Wiring example for wiring inside unit

See figure 25.

- 1 Power wiring
- Wiring between units
- 3 Clamp to the electric component box with field supplied clamps.
- 4 When routing out the power/ground wires from the right side:
 - When routing the remote control cord and inter-unit wiring, secure clearance of 50 mm or more from the power wiring. Ensure that the power wiring does not contact any heated sections (ZZZ).
- 6 Clamp to the back of the column support with field supplied clamps.
- 7 When routing out the inter-unit wirings from the opening for piping or from the front:
- 8 When routing out the power/ground wires from the front:
- 9 When routing out the power/ground wires from the left side:
- 10 Grounding wire
- When wiring, pay attention not to detach the acoustic insulators from the compressor.



Wire so that the ground wiring does not come into contact with the compressor lead wiring. If they touch, this may have an adverse effect on other devices.

9. PIPE INSULATION

After finishing the leak test and vacuum drying, the piping must be insulated. Take into account the following points:

- Make sure to insulate the connection piping and refrigerant branch kits entirely.
- Be sure to insulate liquid and gas piping (for all units).
- Use heat resistant polyethylene foam which can withstand a temperature of 70°C for liquid piping and polyethylene foam which can withstand a temperature of 120°C for gas piping.
- Reinforce the insulation on the refrigerant piping according to the installation environment.

Ambient temperature	Humidity	Minimum thickness
≤30°C	75% to 80% RH	15 mm
>30°C	≥80% RH	20 mm

Condensation might form on the surface of the insulation.

- If there is a possibility that condensation on the stop valve might drip down into the indoor unit through gaps in the insulation and piping because the outdoor unit is located higher than the indoor unit, this must be prevented by sealing up the connections. See figure 10.
 - 1 Insulation material
 - 2 Caulking, etc.



Be sure to insulate local pipes, as touching them can cause burns.

10. CHECKING OF UNIT AND INSTALLATION CONDITIONS

Be sure to check the following:

The piping work

- Make sure piping size is correct.
 See "6.2. Selection of piping material" on page 5.
- 2 Make sure insulation work is done.

See "9. Pipe insulation" on page 14.

3 Make sure there is no faulty refrigerant piping.
See "6. Refrigerant piping" on page 4.

The electrical work

- Make sure there is no faulty power wiring or loose nuts. See "8. Field wiring" on page 9.
- 2 Make sure there is no faulty transmission wiring or loose nuts. See "8. Field wiring" on page 9.
- 3 Make sure the insulation resistance of the main power circuit is not deteriorated.

Measure the insulation resistance and check if the value is in accordance with relevant local and national regulations.

11. CHARGING REFRIGERANT

The outdoor unit is factory charged, but depending on the length of the piping when installed, the outdoor unit may require additional charging.

For charging the additional refrigerant follow the procedure as described in this chapter.



Refrigerant cannot be charged until all field wiring and field piping has been completed.

Refrigerant may only be charged after performing the leak test and the vacuum drying.

11.1. Important information regarding the refrigerant used

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

Refrigerant type: R410A GWP⁽¹⁾ value: 1975

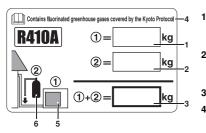
(1) GWP = global warming potential

Please fill in with indelible ink,

- ① the factory refrigerant charge of the product,
- ② the additional refrigerant amount charged in the field and
- ①+② the total refrigerant charge

on the fluorinated greenhouse gases label supplied with the product.

The filled out label must be adhered on the inside of the product and in the proximity of the product charging port (e.g. on the inside of the service cover).



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



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.

11.2. Precautions when adding R410A

Be sure to charge the specified amount of refrigerant in liquid state. Since this refrigerant is a mixed refrigerant, adding it in gas form may cause the refrigerant composition to change, preventing normal operation.

■ Before charging, check whether the refrigerant cylinder is equipped with a siphon tube or not.

Charge the liquid refrigerant with the cylinder in upright position.



Charge the liquid refrigerant with the cylinder in up-side-down position.

Be sure to use tools exclusively for R410A to ensure required pressure resistance and to prevent foreign materials from mixing into the system.



Charging with an unsuitable substance may cause explosions and accidents, so always make sure that the appropriate refrigerant (R410A) is charged.

Refrigerant containers must be opened slowly.

11.3. Stop valve operation procedure

Size of stop valve

The sizes of the stop valves connected to the system are as listed in the table below.

Type of stop valve	8 Hp	10 Hp	12 Hp	14 Hp	16 Hp
Liquid pipe		Ø9.5 ^(a)		Ø1	2.7
Suction gas pipe			Ø25.4 ^(b)		
High pressure/low pressure gas pipe			Ø19.1 ^(c)		

- (a) The 12 Hp model supports field piping of Ø12.7 on the accessory pipe supplied with the unit.
- (b) The 8 Hp model supports field piping of Ø19.1 on the accessory pipe supplied with the unit.

The 10 Hp model supports field piping of Ø22.2 on the accessory pipe supplied with the unit.

The 12-16 Hp models support field piping of Ø28.6 on the accessory pipe supplied with the unit.

(c) The 8 Hp model supports field piping of Ø15.9 on the accessory pipe supplied with the unit.

The 14 and 16 Hp models support field piping of Ø22.2 on the accessory pipe supplied with the unit.



- Do not open the stop valve until all piping and electrical steps of "10. Checking of unit and installation conditions" on page 14 are completed. If the stop valve is left open without turning on the power, it may cause refrigerant to build up in the compressor, leading to insulation degradation.
- Always use a charge hose for service port connection.
- After tightening the cap, check that no refrigerant leaks are present.

Opening stop valve (See figure 19)

- Service port
- 2 Cap
- 3 Hexagon hole
- 4 Shaft
- 5 Seal
- Remove the cap and turn the valve counterclockwise with the hexagon wrench.
- 2. Turn it until the shaft stops.



Do not apply excessive force to the stop valve. Doing so may break the valve body.

3. Make sure to tighten the cap securely. Refer to the table below.

	Tighte	ning torque N·m	(Turn clockwise	twise to close)	
	Shaft				
Stop valve size Valve body		Hexagonal wrench	Cap (valve lid)	Service port	
Ø9.5	5.4~6.6	4	13.5~16.5		
Ø12.7	8.1~9.9	4 mm	18.0~22.0	11.5~13.9	
Ø22.2	27.0~33.0	8 mm	22.5~27.5	11.5-15.8	
Ø25.4	27.0~33.0		22.5~27.5		

Closing stop valve (See figure 19)

- Remove the cap and turn the valve clockwise with the hexagon wrench.
- Securely tighten the valve until the shaft contacts the main body seal.
- Make sure to tighten the cap securely.For the tightening torque, refer to the table above.

11.4. How to check how many units are connected

It is possible to find out how many indoor units are active and connected by operating the push-button switch on the printed circuit board (A1P) of the working outdoor unit.

Make sure that all the indoor units connected to the outdoor unit are active.

Follow the 5-step procedure as explained below.

■ The LEDs on the A1P shows the operating status of the outdoor unit and the number of indoor units that are active.

OFF

→ ON

▶ Blinking

■ The number of units that are active can be read from the LED display in the "Monitor Mode" procedure below.

Example: in the following procedure there are 22 units active:

NOTE

Wherever during this procedure, press the BS1 MODE button if something becomes unclear.

You will return to setting mode 1 (H1P= ● "OFF").

1 Setting mode 1 (default system status)

Default status (normal)

H1P	H2P	Н3Р	H4P	H5P	H6P	H7P
•	•	₩	•	•	•	•

Press the **BS1 MODE** button to switch from setting mode 1 to monitor mode.

2 Monitor mode

Default status display

H1P	H2P	H3P	H4P	H5P	H6P	H7P
₩	•	•	•	•	•	•

To check the number of indoor units, press the BS2 SET button 5 times

3 Monitor mode

Selection status of how many connected indoor units to display.

H1P	H2P	НЗР	H4P	Н5Р	H6P	Н7Р
₩	•	•	•	₩	•	₩

Pressing the **BS3 RETURN** button causes the LED display to show the data on the number of indoor units that are connected.

4 Monitor mode

Displaying the number of connected indoor units

H1P	H2P	НЗР	H4P	H5P	Н6Р	Н7Р
₩	•	₩	•	₩	₩	•
	20	16				-

Calculate the number of connected indoor units by adding the values of all (H2P~H7P) blinking (\mathfrak{F}) LEDs together.

In this example: 16+4+2=22 units

Press the **BS1 MODE** button to return to step 1, setting mode 1 (H1P= ullet "OFF").

11.5. Additional refrigerant charge



Adding refrigerant using the automatic refrigerant charging function is recommended.

Follow the procedures below.



- When charging a system, charging over the permissible quantity can cause liquid hammer.
- Always use protective gloves and protect your eyes when charging refrigerant.
- When the refrigerant charging procedure is done or when pausing, close the valve of the refrigerant tank immediately.
 - The refrigerant charge port has a electric expansion valve and will be closed at the end of the refrigerant charging. However, the valve will be opened when operating the unit after refrigerant charging.
 - If the tank is left with the valve open, the amount of refrigerant which is properly charged may get off point. More refrigerant may be charged by any remaining pressure after the unit has stopped.



Electric shock warning

- Close the electric component box lid before turning on the main power.
- Perform the settings on the circuit board (A1P) of the outdoor unit and check the LED display after the power is on via the service lid which is in the lid of the electric component box.

Operate switches with an insulated stick (such as a ball-point pen) to avoid touching the life parts.

Make sure to re-attach the inspection cover into the switch box cover after the job is finished.



- If the power of some units is turned off, the charging procedure can not be finished properly.
- Make sure to turn ON the power 6 hours before starting the operation. This is necessary to warm the crankcase by the electric heater.
- If operation is performed within 12 minutes after the indoor units, BS units and outdoor unit are turned on, the H2P-LED will be lit and the compressor will not operate.



- See "11.3. Stop valve operation procedure" on page 15 for details on how to handle stop valves.
- The refrigerant charging port is connected to the piping inside the unit.
 - The unit's internal piping is already factory charged with refrigerant, so be careful when connecting the charge hose.
- After adding the refrigerant, do not forget to close the lid of the refrigerant charging port.

 The tightening torque for the lid is 11.5 to 13.9 N•m.
- In order to ensure uniform refrigerant distribution, it may take the compressor ±10 minutes to start up after the unit has started operation. This is not a malfunction.

Procedure for additional refrigerant charge

The automatic refrigerant charging has limits as described below.

At out of limit, the system can not operate the automatic refrigerant charging.

Outdoor temperature : 0°C DB~43°C DB Indoor temperature : 10°C DB~32°C DB

Total indoor unit capacity :≥80%

Pre-charging

To speed up the process of charging refrigerant for large systems, it is recommended to first manually charge a portion of the refrigerant first before performing automatic charging.

- 1 Calculate how much refrigerant to be added using the formula explained in the chapter "How to calculate the additional refrigerant to be charged" on page 8.
- 2 The amount of pre-charging is 10 kg less than the calculated amount
- 3 Open valve B (the valves A and C, the liquid pipe, the suction gas pipe and the high pressure/low pressure gas pipe stop valves must be left closed) and charge the refrigerant in liquid form via the liquid pipe stop valve service port.

(See figure 23)

- 1 Measuring instrument
- 2 Refrigerant tank (R410A, siphon system)
- 3 Charge hose
- 4 Refrigerant charge port
- 5 High pressure/low pressure gas pipe stop valve
- 6 Suction gas pipe stop valve
- 7 Liquid pipe stop valve
- 8 Valve A
- 9 Valve B
- 10 Valve C
- 11 Outdoor unit
- 12 To BS unit, indoor unit
- 13 Stop valve
- 14 Service port
- 15 Field piping
- 16 Refrigerant flow when pre-charging through the liquid stop valve service port (refer to step 3 on page 17)
- 17 Refrigerant flow when automatic charging through the charge port (refer to step 5 on page 17)
- 4 If the calculated amount of pre-charging is reached, close valve B.



At least the unit should be charged with its original amount of refrigerant (refer to the nameplate on the unit), before starting the automatic charging.

NOTE

When the leak detection function is not required, complete charging when using the previous described method (unit is not operating) can be done.

If it is not possible to charge the entire quantity through the service port of the liquid pipe stop valve with the unit not operating, refer to "14. Additional refrigerant charging method" on page 25. After pre-charging, perform the refrigerant charge operation as shown below and charge the remaining refrigerant of the additional charging amount through valve A. (See figure 23)

NOTE

The refrigerant will be charged with ±30 kg in 1 hour time at an outdoor temperature of 30°C DB or with ±12 kg at an outdoor temperature of 0°C DB.

During the automatic charging operation, you can force the operation to a halt by pushing the BS1 MODE button.

1. Start of automatic charging refrigerant

- Open the liquid pipe, suction gas pipe and high pressure/low pressure gas pipe stop valves and the service port stop valve. (Valves A, B and C must be closed.)
- Close all front panels except the electric component box front panel and turn the power ON.
- Make sure all indoor units are connected, refer to "11.4. How to check how many units are connected" on page 16.
- If the H2P LED is not flashing (in 12 minutes time after turning on the power), make sure it is displayed as shown in the "2 Normal system display" on page 19.
 If the H2P LED is flashing, check the malfunction code on the remote controller "3 Remote controller malfunction code



- If you perform the refrigerant charging operation within the refrigerant system with one or more units with power OFF, the refrigerant charging operation can not be accomplished properly. For confirming the number of indoor units with power ON, refer to "11.4. How to check how many units are connected" on page 16.
- To energize the crankcase heater, make sure to turn the power ON at least 6 hours before starting operation.
- 2. Press the BS1 MODE button once if the LEDs combination is not as in the figure below.



3. Press the BS4 TEST button once.

display" on page 19.



4. Hold the BS4 TEST button down for 5 seconds or more.

5. Charging mode judgement

However, if the indoor temperature is 10°C DB or lower, in some cases the unit will charge in heating mode to increase the indoor temperature.

The unit will automatically select the cooling mode or heating mode for charging.



- When charging in cooling mode, the unit will stop operating when the required amount of refrigerant is charged.
- During charging in heating mode, a person must manually close valve A before complete charging is finished. The required amount is the calculated amount (see "6.6. Example of connection" on page 7), therefore, the weight must be monitored constantly.

Charging in heating mode

6. Start up

Wait while the unit is preparing for charging in heating mode.

H2P **Н3Р** H4P H5P H6P H7P Pressure control 淹 \$ (for the first minute) Start up control * 淹 \$ • (for the next 2 minutes) Waiting for stable ď **(** \$ \$ heating conditions (for the next ±15 minutes (according to

It takes about 2 to 10 minutes for the system to become stable. In case of a small charging amount, the system will start charging the refrigerant before the system reaches the stable state. It may disturb a correct decision and may cause overcharging.

7. Ready

the system))

H1P	H2P	НЗР	H4P	Н5Р	Н6Р	Н7Р
₩	₩	•	•	\rightarrow	•	\rightarrow

Press the BS4 TEST button once within 5 minutes.

If the BS4 TEST button is not pushed within 5 minutes, P2 will be displayed on the remote controller. Refer to "3 Remote controller malfunction code display" on page 19.

8. Operation

When the following LED display is shown, open valve A and close the front panel. If the front panel is left open, the system can not operate properly during the refrigerant charging.



When the refrigerant tank is not connected or is left with the valve closed for 30 minutes or more, the outdoor unit will stop operation and the P2 code will be displayed on the remote controller of the indoor unit. Follow the procedure as described in "3 Remote controller malfunction code display" on page 19.



* = The state of this LED is not important.



When a malfunction occurs, check the display of the remote controller and refer to "3 Remote controller malfunction code display" on page 19.

9. Complete

If the calculated amount of refrigerant is reached, close valve A and press the BS3 RETURN button once.



Always close valve A and remove the refrigerant tank immediately after finishing the refrigerant charge operation.





Beware of the fan blades when you open the frontpanel. The fan may still rotate for a while after unit operation has stopped.

10. In case leak detection function required

Press the BS4 TEST button once for post-processing with regard to the leak detection function and press the BS1 MODE button to confirm that charging is completed.

Record the amount that was added on the additional refrigerant charge label provided with the unit and attach it on the back side of the front panel.

Perform the procedure "11.6. Procedure for inputting the additional refrigerant charge weight into the PCB" as described on page 19.

10. In case leak detection function not required

Press the **BS1 MODE** button once and the charging is complete. Record the amount that was added on the additional refrigerant charge label provided with the unit and attach it on the back side of the front panel.

Perform the procedure "11.6. Procedure for inputting the additional refrigerant charge weight into the PCB" as described on page 19.

■ Charging in cooling mode

6. Start up

Wait while the unit is preparing for charging in cooling mode.

Pressure control (for the first minute)

Start up control (for the next 2 minutes)

Waiting for stable cooling conditions (for the next ±15 minutes (according to

It takes about 2 to 10 minutes for the system to become stable. In case of a small charging amount, the system will start charging the refrigerant before the system reaches the stable state. It may disturb a correct decision and may cause overcharging.

7. Ready

the system))

H1P	H2P	НЗР	H4P	H5P	H6P	Н7Р
₩	₩	₩	•	\rightarrow	•	\rightarrow

Press the BS4 TEST button once within 5 minutes.

If the BS4 TEST button is not pushed within 5 minutes, P2 will be displayed on the remote controller. Refer to "3 Remote controller malfunction code display" on page 19.

8. Operation

When the following LED display is shown, open valve A and close the front panel. If the front panel is left open, the system can not operate properly during the refrigerant charging.



When the refrigerant tank is not connected or is left with the valve closed for 30 minutes or more, the outdoor unit will stop operation and the P2 code will be displayed on the remote controller of the indoor unit. Follow the procedure as described in "3 Remote controller malfunction code display" on page 19.



^{* =} The state of this LED is not important.



When a malfunction occurs, check the display of the remote controller and refer to "3 Remote controller malfunction code display" on page 19.

The display on the remote controller shows a flashing PE code for signalling that automatic charging will be finished in about 10 minutes.

When the unit stops operating, close valve A immediately and check the LEDs and check if the P9 code is displayed on the remote controller.



Always close valve A and remove the refrigerant tank immediately after finishing the refrigerant charge operation.

The refrigerant charge port of these units have electric expansion valves that will close automatically when refrigerant charging operation has finished. However, the electric expansion valves will be opened when other operations start after finishing refrigerant charging operation.

If the refrigerant tank is left with the valve open, the amount of refrigerant which is properly charged may be off the point.



If the LED indication is not as shown above, correct the malfunction (as indicated in the display of the remote controller) and restart the complete charging procedure. When the charging amount is little, the PE code may not be displayed, but instead the P9 code will be displayed immediately.



Beware of the fan blades when you open the front panel. The fan may still rotate for a while after unit operation has stopped.

10. In case leak detection function required

Press the BS4 TEST button once for post-processing with regard to the leak detection function and press the BS1 MODE button to confirm that charging is completed.

Record the amount that was added on the additional refrigerant charge label provided with the unit and attach it on the back side of the front panel.

Perform the procedure "11.6. Procedure for inputting the additional refrigerant charge weight into the PCB" as described on page 19.

10. In case leak detection function not required

Press the **BS1 MODE** button once and the charging is complete. Record the amount that was added on the additional refrigerant charge label provided with the unit and attach it on the back side of the front panel.

Perform the procedure "11.6. Procedure for inputting the additional refrigerant charge weight into the PCB" as described on page 19.

2 Normal system display

	Micro- computer				oling/Heat hangeove	•		
LED display (Default status before delivery)	operation monitor	Mode H1P	Ready /Error H2P	Indivi- dual H3P	Bulk (master) H4P	Bulk (slave) H5P	Low noise H6P	Demand H7P
Outdoor unit system	₩	•	•	⋫	•	•	•	•

3 Remote controller malfunction code display

Remote controller heating mode malfunction codes

Error code							
P8 recharge operation	Close valve A immediately and press the TEST OPERATION button once. The operation will restart from the charging mode judgement onwards.						
P2 charge hold	Close valve A immediately. Check following items: - Check if the gas stop valve is opened correctly - Check if the valve of the refrigerant cylinder is opened - Check if the air inlet and outlet of the indoor unit are not obstructed	After correcting the abnormality, restart the automatic charging procedure again.					

Remote controller cooling mode malfunction codes

Error code						
PE	Charging is almost finished. Ready to clos	e valve A.				
P9	Charging is finished. Close valve A and remove the refrigerant tank.					
PR, PH replace cylinder	Close valve A and replace the empty cylin After replacing the cylinder, open valve A a work (the outdoor unit will not stop operation	again and continue the				
P8 recharge operation	Close valve A immediately. Restart the automatic charging procedure again.					
P2 charge hold	Close valve A immediately. Check following items: - Check if the high pressure/low pressure gas pipe, suction gas pipe and liquid pipe stop valves are opened correctly - Check if the valve of the refrigerant cylinder is opened - Check if the air inlet and outlet of the indoor unit are not obstructed	After correcting the abnormality, restart the automatic charging procedure again.				
* abnormal stop	Close valve A immediately. Confirm the malfunction code by the remote controller and correct the abnormality by following the "Correcting after abnormal completion of the test operation" on page 24.					

11.6. Procedure for inputting the additional refrigerant charge weight into the PCB

Availability of the leak detection function feature requires input of the additional refrigerant charge amount immediately after finishing the automatic charging. The input must be executed before performing the test operation.



If a wrong value is input for the additional charged refrigerant weight, the accuracy of the leak detection function will decrease.

Procedure

- 1 Close the electric box lid and all front panels except the one on the side of the electric box.
- 2 Press and hold the BS1 MODE button for 5 seconds to enter into setting mode 2.

The H1P LED is on 🌣.

3 Press the BS2 SET button 14 times.

The LED display must be as follows:



Press the BS3 RETURN button once as confirmation of the LEDs combination.

LEDs will be blinking in function of the last entered setting (factory setting = 0 kg).

4 The weighed and already recorded amount of additional refrigerant charge (not the total amount of refrigerant present in the system) must be entered by selecting the corresponding LED display.

Scroll through the possible LED combinations by pressing the BS2 SET button until the LED combination corresponds to the weight of additional refrigerant charge you must input.

Select the required input by pressing the BS3 RETURN button and confirm the input into the PCB by pressing the BS3 RETURN button again.

Possible LED combinations in function of weight of additional refrigerant charge (= x) to input;

	kg	H1P	H2P	НЗР	H4P	H5P	H6P	Н7Р
0	x=0	₩	•	•	•	•	•	•
1	0 <x<5< th=""><th>₩</th><th>•</th><th>•</th><th>•</th><th>•</th><th>•</th><th>✡</th></x<5<>	₩	•	•	•	•	•	✡
2	5≤x<10	⋫	•	•	•	•	\$	•
3	10≤x<15	₩	•	•	•	•	\$	✡
4	15≤x<20	₩	•	•	•	\$	•	•
5	20≤x<25	⋫	•	•	•	\$	•	✡
6	25≤x<30	₩	•	•	•	\$	\$	•
7	30≤x<35	⋫	•	•	•	\$	\$	✡
8	35≤x<40	\$	•	•	₩	•	•	•
9	40≤x<45	₩	•	•	\$	•	•	✡
10	45≤x<50	₩	•	•	\$	•	\$	•
11	50≤x<55	\$	•	•	₩	•	₩	✡
12	55≤x<60	₩	•	•	\$	\$	•	•
13	60≤x<65	✡	•	•	₩	₩	•	✡
14	65≤x<70	\$	•	•	⋫	⋫	⋫	•
15	70≤x<75	✡	•	•	₩	₩	₩	✡
16	75≤x<80	✡	•	⋫	•	•	•	•
17	80≤x<85	\$	•	⋫	•	•	•	\$
18	85≤x<90	₩	•	⋫	•	•	\$	•
19	90≤x<95	₩	•	⋫	•	•	\$	✡
20	95≤x<100	₩	•	⋫	•	\$	•	•
21	100≤x	\$	•	\rightarrow	•	\$	•	✡

5 Return to setting mode 1 (= initial state) by pressing the BS1 MODE button.

NOTE

If you get confused in the middle of the input process, press the **BS1 MODE** button to return to setting mode 1 (= initial state).

The H1P LED is off ●

Resume the input procedure from step 2 onwards.

Perform a test operation as described in "12.4. Test operation" on page 23.

11.7. Checks after adding refrigerant

- Are the stop valves for both liquid and gas open?
- Is the amount of refrigerant, that has been added, recorded on the refrigerant charge label?



Make sure to open the stop valves after charging the refrigerant.

Operating with the stop valves closed will damage the compressor.

12. Before operation

12.1. 🛕

Service precautions



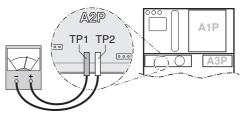
WARNING: ELECTRIC SHOCK



Caution when performing service to inverter equipment

- 1 Do not open the electric component box cover for 10 minutes after the power supply is turned off.
- Measure the voltage between terminals on the terminal block for power supply with a tester and confirm that the power supply is shut off.

In addition, measure the points, as shown in the figure below, with a tester and confirm that the voltage of the capacitor in the main circuit is less than 50 V DC.



- 3 To prevent damaging the PC-board, touch a non-coated metal part to eliminate static electricity before pulling out or plugging in connectors.
- Pull out junction connectors X1A, X2A, X3A, X4A (X3A and X4A of REYQ14+16P are inside the electric component box (2), refer to the wiring diagram) for the fan motors in the outdoor unit before starting service operation on the inverter equipment. Be careful not to touch the live parts.
 - (If a fan rotates due to strong wind, it may store electricity in the capacitor or in the main circuit and cause electric shock.)
- 5 After the service is finished, plug the junction connecter back in. Otherwise the error code E7 will be displayed on the remote controller and normal operation will not be performed.

For details refer to the wiring diagram labelled on the back of the electric component box cover.

Pay attention to the fan. It is dangerous to inspect the unit while the fan is running. Be sure to turn off the main switch and to remove the fuses from the control circuit located in the outdoor unit.

NOTE

Play it safe!



For protection of the PCB, touch the switch box casing by hand in order to eliminate static electricity from your body before performing service.

12.2. Checks before initial start-up

NOTE

Remark that during the first running period of the unit, required power input may be higher than stated on the nameplate of the unit. This phenomenon originates from the compressor that needs elapse of a 50 hours run in period before reaching smooth operation and stable power consumption.



- Make sure that the circuit breaker on the power supply panel of the installation is switched off.
- Attach the power wire securely.
- Introducing power with a missing N-phase or with a mistaken N-phase will break the equipment.

After the installation, check the following before switching on the circuit breaker:

- 1 The position of the switches that require an initial setting Make sure that switches are set according to your application needs before turning the power supply on.
- 2 Power supply wiring and transmission wiring

Use a designated power supply and transmission wiring and make sure that it has been carried out according to the instructions described in this manual, according to the wiring diagrams and according to local and national regulations.

3 Pipe sizes and pipe insulation

Make sure that correct pipe sizes are installed and that the insulation work is properly executed.

4 Air tight test and vacuum drying

Make sure the air tight test and vacuum drying were completed.

5 Additional refrigerant charge

The amount of refrigerant to be added to the unit should be written on the included "Added Refrigerant" plate and attached to the rear side of the front cover.

6 Insulation test of the main power circuit

Measure the insulation resistance and check if the value is in accordance with relevant local and national regulations..

7 Installation date and field setting

Be sure to keep record of the installation date on the sticker on the rear of the upper front panel according to EN60335-2-40. and keep record of the contents of the field setting.

12.3. Field setting

If required, carry out field settings according to the following instructions. Refer to the service manual for more details.

Opening the switch box and handling the switches

When carrying out field settings, remove the inspection cover (1).

Operate the switches with an insulated stick (such as a ball-point pen) to avoid touching live parts.





Make sure to re-attach the inspection cover (1) into the switch box cover (2) after the job is finished.

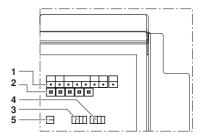
NOTE

Make sure that all outside panels, except for the panel on the electric component box (1), are closed while working.

Close the lid of the electric component box firmly before turning on the power.

Location of the DIP switches. LEDs and buttons

- 1 LED H1~8P
- 2 Push button switches BS1~BS5
- 3 DIP switch 1 (DS1: 1~4)
- 4 DIP switch 2 (DS2: 1~4)
- 5 DIP switch 3 (DS3: 1~2)



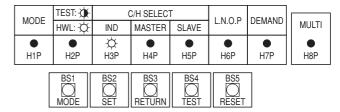
LED state

Throughout the manual the state of the LEDs is indicated as follows:

- OFF
- Blinking

Setting the push button switch (BS1~5)

Function of the push button switch which is located on the outdoor unit PCB (A1P):



BS1 MODE For changing the set mode

BS2 SET For field setting
BS3 RETURN For field setting
BS4 TEST For test operation

BS5 RESET For resetting the address when the wiring is changed or

when an additional indoor unit is installed

The figure shows state of the LED indications when the unit is shipped from the factory.

Check operation procedure

- 1 Turn the power on for the outdoor unit and the indoor unit.
 Be sure to turn the power on at least 6 hours before operation in order to have power running to the crankcase heater.
- 2 Make sure that transmission is normal by checking the LED display on the outdoor unit circuit board (A1P). (If transmission is normal, each LED will be displayed as shown below.)

	Micro- computer				oling/Heat hangeove	•		
LED display (Default status	operation monitor	Mode	Ready /Error	Indivi- dual	Bulk (master)	` ′	Low	Demand
before delivery)	HAP	H1P	H2P	НЗР	H4P	H5P	H6P	H7P
Outdoor unit system	₩	•	•	✡	•	•	•	•

Setting the mode

The set mode can be changed with the BS1 MODE button according to the following procedure:

- For setting mode 1: Press the BS1 MODE button once, the H1P LED is off ●. This mode is not available for heat recovery units.
- For setting mode 2: Press the BS1 MODE button for 5 seconds, the H1P LED is on ☆.

If the H1P LED is blinking 🌣 and the BS1 MODE button is pushed once, the setting mode will change to setting mode 1.



If you get confused in the middle of the setting process, push the **BS1 MODE** button. Then it returns to setting mode 1 (H1P LED is off).

Setting mode 2

The H1P LED is on.

Setting procedure

1 Push the BS2 SET button according to the required function (A~H). The LED indication that matches the required function is shown below in the field marked _____:

Possible functions

- A additional refrigerant charging operation.
- B refrigerant recovery operation/vacuuming operation.
- **C** automatic low noise operation setting at nighttime.
- D low noise operation level setting (L.N.O.P) via the external control adapter.
- E power consumption limitation setting (DEMAND) via the external control adapter.
- F enabling function of the low noise operation level setting (L.N.O.P) and/or power consumption limitation setting (DEMAND) via the external control adapter (DTA104A61/62).
- G high static pressure setting
- H evaporating temperature setting

	H1P	H2P	Н3Р	H4P	H5P	H6P	H7P
A	⋫	•	\$	•	\rightarrow	•	•
В	⋫	•	\rightarrow	•	\rightarrow	•	\rightarrow
С	⋫	•	\$	•	\rightarrow	\$	•
D	⋫	•	\rightarrow	\rightarrow	•	•	\dot{\phi}
E	⋫	•	\rightarrow	\rightarrow	\rightarrow	\rightarrow	•
F	₩	•	•	\rightarrow	\rightarrow	•	•
G	⋫	•	\rightarrow	•	•	\rightarrow	•
Н	⋫	•	•	\$	•	•	•

- When the BS3 RETURN button is pushed, the current setting is defined.
- Push the BS2 SET button according to the required setting possibility as shown below in the field marked _____.
- 3.1 Possible settings for function A, B, F, and G are ON (ON) or OFF (OFF).

	H1P	H2P	НЗР	H4P	H5P	H6P	Н7Р
ON	⋫	•	•	•	•	*	•
OFF (a)	\rightarrow	•	•	•	•	•	₩

(a) This setting = factory setting

3.2 Possible settings for function C

The noise of level 3 < level 2 < level 1 (1).

	H1P	H2P	НЗР	H4P	H5P	H6P	Н7Р
OFF (a)		•					
_ 1	\rightarrow	•	•	•	•	•	₩
2	\	•	•	•	•	₩	•
3	⋫	•	•	•	•	₩	₩

(a) This setting = factory setting

3.3 Possible settings for function D and E

For function D (L.N.O.P) only: the noise of level $3 < \text{level } 2 < \text{level } 1 \text{ (} \longrightarrow 1 \text{)}.$

For function E (DEMAND) only: the power consumption of level 1 < level 2 < level 3 ($\longrightarrow 3$).

		H1P	H2P	Н3Р	H4P	H5P	H6P	H7P
- 1					•			
-	2 (a)	\$	•	•	•	•	₩	•
_	3	⋫	•	•	•	₩	•	•

(a) This setting = factory setting

3.4 Possible settings for function H

The evaporating temperature level H (high) < level M (medium) < level L (low) (\longrightarrow L).

	H1P	H2P	Н3Р	H4P	H5P	H6P	H7P
⊿ H	\	•	•	•	•	•	₩
✓ M ^(a)	\rightarrow	•	•	•	•	₩	•
⊿ L	⋫	•	₩	•	•	•	•

(a) This setting = factory setting

- 4 Push the BS3 RETURN button and the setting is defined.
- 5 When the BS3 RETURN button is pushed again, the operation starts according to the setting.

Refer to the service manual for more details and for other settings.

Confirmation of the set mode

The following items can be confirmed by setting mode 1 (H1P LED is off)

Check the LED indication in the field marked

- 1 Indication of the present operation state
 - ●, normal
 - \psi, abnormal

					H6P	
•	•	\rightarrow	•	•	•	•

- 2 Indication of low noise operation state L.N.O.P
 - standard operation (= factory setting)
 - China L.N.O.P operation



- 3 Indication of power consumption limitation setting **DEMAND**
 - standard operation (= factory setting)
 - DEMAND operation

H1P	H2P	Н3Р	H4P	H5P	H6P	H7P
•	•	⋫	•	•	•	•



Do not insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury.



Do not perform the test operation while working on the indoor units.

When performing the test operation, not only the outdoor unit, but the connected indoor unit will operate as well. Working on a indoor unit while performing a test operation is dangerous.

- In case the unit is operated with the leak detection function available:
 - the outdoor temperature must be 0°C DB~43°C DB
 - the indoor temperature must be 20°C DB~32°C DB

In case the unit is operated out of the temperature range as instructed above, the display of the remote controller shows U3 and the unit operates without the availability of the leak detection function.

- In the test operation, the following checks and judgement will be performed:
 - Check of the stop valve opening
 - Check for wrong wiring
 - Check of refrigerant overcharge
 - Initial refrigerant detection
- In case the leak detection function is available, the check operation will last 2 hours, otherwise it takes between 40 and 60 minutes to complete the check operation.
- Make sure to carry out the test operation after the first installation. Otherwise, the malfunction code U3 will be displayed on the remote controller and normal operation can not be carried out.
- Abnormalities on indoor units can not be checked for each unit individual. After the test operation is finished, check the indoor units one by one by performing a normal operation using the remote controller.



A test operation can not be carried out when the outdoor temperature is less than -5 °C.

Test operation procedure

- 1 Close all front panels except the front panel of the electric component box.
- 2 Turn ON the power to the outdoor unit and the connected indoor

Be sure to turn on the power 6 hours before operation in order to have power running to the crankcase heater and to protect the compressor.

- 3 Make the field setting as described in the paragraph "12.3. Field setting" on page 21.
- 4 Press the BS1 MODE button once, and set to the SETTING MODE (H1P LED = OFF).
- 5 In case the leak detection function is required, press and hold the BS4 TEST button down for 5 seconds or more. The unit will start the test operation.

In case the leak detection function is not required, go into setting mode 2 by pressing the BS1 MODE button for 5 seconds. The H1P LED is on \diamondsuit . Perform following steps.

1. Press the BS2 SET button 3 times.



2. Press the BS3 RETURN button once to confirm.



Press the BS2 SET button in order to change the LED display to the following display.



- Press the BS3 RETURN button once to confirm.
- 5. Press the BS3 RETURN button a second time to start the test operation. The unit will start the test operation.
- The test operation is automatically carried out in cooling mode, the H2P LED will light up and the messages "Test operation" and "Under centralized control" will display on the remote controller.
- It may take 10 minutes to bring the state of the refrigerant uniform before the compressor starts.
- During the test operation, the refrigerant running sound or the magnetic sound of a solenoid valve may become loud and the LED display may change, but these are not malfunctions.
- During the test operation, it is not possible to stop the unit operation from a remote controller. To abort the operation, press the BS3 RETURN button. The unit will stop after ±30 seconds.
- 6 Close the front panel in order to let it not be the cause of misjudgement.
- 7 Check the test operation results by the LED display on the outdoor unit.

 H1P
 H2P
 H3P
 H4P
 H5P
 H6P
 H7P

 Normal completion
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 ♠
 <

8 When the test operation is fully completed, normal operation will be possible after 5 minutes.

Otherwise, refer to "Correcting after abnormal completion of the test operation" on page 24 to take actions for correcting the abnormality.

DAIKIN

Correcting after abnormal completion of the test operation

The test operation is only completed if there is no malfunction code displayed on the remote controller. In case of a displayed malfunction code, perform the following actions to correct the abnormality:

Confirm the malfunction code on the remote controller

Installation error	Error code	Remedial action
The stop valve of an outdoor unit is left closed.	63 64 F3 F6 UF	Open the stop valve.
The phases of the power to the outdoor unit is reversed.	Ul	Exchange two of the three phases (L1, L2, L3) to make a positive phase connection.
No power is supplied to an outdoor or indoor unit (including phase interruption).	LC U1 U4	Check if the power wiring for the outdoor unit is connected correctly.
Incorrect interconnections between units.	UF	Check if the refrigerant line piping and the unit wiring are consistent with each other.
Refrigerant overcharge.	63 F6 UF	Recalculate the required amount of refrigerant from the piping length and correct the refrigerant charge level by recovering any excessive refrigerant with a refrigerant recovery machine.
Insufficient refrigerant.	E4 F3	Check if the additional refrigerant charge has been finished correctly. Recalculate the required amount of refrigerant from the piping length and add an adequate amount of refrigerant.
The refrigerant was not charged using the automatic charging function.	PT	Availability of the leak detection function requires the refrigerant to be charged using the automatic charging function. In case the leak detection function is required: see "Procedure for additional refrigerant charge" on page 17. In case the leak detection function is not required: see "12.4. Test operation" on page 23.
The added amount of refrigerant was not inputted after automatic charging.	PF	Availability of the leak detection function feature requires input of the additional refrigerant charge amount immediately after finishing the automatic charging. Refer to "11.6. Procedure for inputting the additional refrigerant charge weight into the PCB" on page 19.
In case the test operation was interrupted or the unit was operating out of the instructed temperature range, the initial refrigerant detection has failed.	U3	In case the the test operation was interrupted, perform the test operation again. In case the unit was operating out of the instructed temperature range, the unit can still be operated normally, but the leak detection function will not be available. Perform the test operation again within the instructed temperature range.

- After correcting the abnormality, press the BS3 RETURN button and reset the malfunction code.
- Carry out the test operation again and confirm that the abnormality is properly corrected.

12.5. Final check after installation

After all installation works are completed, operate the unit normally and check the following:

- Make sure the indoor units and outdoor unit are operating normally.
- Operate each indoor unit separately and make sure the corresponding outdoor unit is also operating properly.
- Check if cold or hot air is coming out from the indoor unit.
- Push the fan direction and fan strength buttons on the remote controller to check if they are operating properly.

NOTE

- Heating is not possible if the outdoor temperature is 24°C or higher. Refer to the operation manual.
- If a knocking sound is heard in the liquid compression of the compressor, stop the unit immediately and then energize the crankcase heater for a sufficient length of time before restarting the operation.
- Once stopped, the compressor will not restart in about 5 minutes, even if the ON/OFF button on the remote controller is pushed.
- When the system operation is stopped by the remote controller, the outdoor unit may continue operation for a maximum of 5 minutes.
- The outdoor fan may rotate at low speeds in the night-time low noise setting or the external low noise level setting is made; but this is not a malfunction.

13. SERVICE MODE OPERATION



Do not shut off the power and do not reset the setting of mode 2 when vaccuuming or recovering refrigerant. Otherwise the expansion valves will close making it impossible to vaccuum the system or to recover the refrigerant.

Vacuuming method

At the first installation, this vacuuming is not required. It is required only for repair purposes.

- When the unit is at standstill and under the setting mode 2, set the required function B (refrigerant recovery operation/ vacuuming operation) to ON (ON).
 - The indoor units, BS units and the outdoor unit expansion valves will fully open.
 - The H1P LED is on and the remote controller indicates TEST (test operation) and (external control) and the operation will be prohibited.
- 2 Evacuate the system with a vacuum pump.
- 3 Press the BS1 MODE button and reset the setting mode 2.

Refrigerant recovery operation method

by a refrigerant reclaimer

- When the unit is at standstill and under the setting mode 2, set the required function B (refrigerant recovery operation/ vacuuming operation) to ON (ON).
 - The indoor units, BS units and the outdoor unit expansion valves will fully open.
 - The H1P LED is on and the remote controller indicates
 TEST (test operation) and (external control) and the operation will be prohibited.
- 2 Recover the refrigerant by a refrigerant reclaimer. For details, see the operation manual delivered with the refrigerant reclaimer.
- 3 Press the BS1 MODE button and reset the setting mode 2.

14. Additional refrigerant charging METHOD

When the leak detection function is not required and the entire refrigerant quantity can not be charged through the liquid pipe stop valve service port with the unit not operating (refer to "Pre-charging" on page 17), make sure to charge the remaining charging quantity using the following procedure:

- 1 Turn the power of the indoor unit, the BS unit and the outdoor unit on.
- 2 Make sure to open the stop valves of the suction gas pipe, the high pressure/low pressure gas pipe and the liquid pipe completely.
- 3 Connect the refrigerant charge hose to the refrigerant charging port (for additional charging).
- 4 When the unit is not operating, push the BS2 SET button until the additional refrigerant charging operation function A in setting mode 2 can be defined (refer to "Setting the mode" on page 22), the H1P LED is on (☆).
- 5 The operation starts automatically.

The H2P LED will start flashing (♣) and the messages "Test operation" and "Under centralized control" will display on the remote controller.

6 After charging the specified quantity of refrigerant, press the BS3 RETURN button to stop the operation.

The operation will stop within 30 minutes

- If charging is not completed after 30 minutes, set and perform the additional refrigerant charging operation again.
- If the additional refrigerant charging operation stops before the passing of 30 minutes, the system may be overcharged.



Never charge extra refrigerant.

- 7 Disconnect the refrigerant charge hose.
- 8 Perform "11.7. Checks after adding refrigerant" as explained on page 20.

15. Caution for refrigerant leaks

Introduction

The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.

This system uses R410A as refrigerant. R410A itself is an entirely safe non-toxic, non-combustible refrigerant. Nevertheless care must be taken to ensure that air conditioning facilities are installed in a room which is sufficiently large. This assures that the maximum concentration level of refrigerant gas is not exceeded, in the unlikely event of major leak in the system and this in accordance to the local applicable regulations and standards.

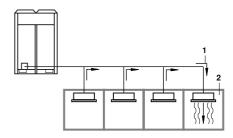
Maximum concentration level

The maximum charge of refrigerant and the calculation of the maximum concentration of refrigerant is directly related to the humanly occupied space in to which it could leak.

The unit of measurement of the concentration is kg/m³ (the weight in kg of the refrigerant gas in 1 m³ volume of the occupied space).

Compliance to the local applicable regulations and standards for the maximum allowable concentration level is required.

According to the appropriate European Standard, the maximum allowed concentration level of refrigerant to a humanly space for R410A is limited to 0.44 kg/m³.



- direction of the refrigerant flow
- 2 room where refrigerant leak has occurred (outflow of all the refrigerant from the system)

Pay special attention to places, such as a basements, etc. where refrigerant can stay, since refrigerant is heavier than air.

Procedure for checking maximum concentration

Check the maximum concentration level in accordance with steps 1 to 4 below and take whatever action is necessary to comply.

1 Calculate the amount of refrigerant (kg) charged to each system separately.

amount of refrigerant in a single unit system (amount of refrigerant with which the system is charged before leaving the factory)

additional charging amount (amount of refrigerant added locally in accordance with the length or diameter of the refrigerant piping)

total amount of refrigerant (kg) in the system

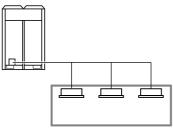


Where a single refrigerant facility is divided into 2 entirely independent refrigerant systems, use the amount of refrigerant with which each separate system is charged.

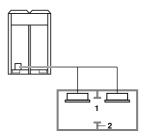
2 Calculate the smallest room volume (m³)

In a case such as the following, calculate the volume of (A), (B) as a single room or as the smallest room.

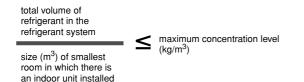
A. Where there are no smaller room divisions



B. Where there is a room division but there is an opening between the rooms sufficiently large to permit a free flow of air back and forth.



- 1 opening between rooms
- partition (Where there is an opening without a door or where there are openings above and below the door which are each equivalent in size to 0.15% or more of the floor area.)
- 3 Calculating the refrigerant density using the results of the calculations in steps 1 and 2 above.



If the result of the above calculation exceeds the maximum concentration level then make similar calculations for the second then third smallest room and so until the result falls short of the maximum concentration.

4 Dealing with the situations where the result exceeds the maximum concentration level.

Where the installation of a facility results in a concentration in excess of the maximum concentration level then it will be necessary to revise the system.

Please consult your supplier.

16. DISPOSAL REQUIREMENTS

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.

Notes

