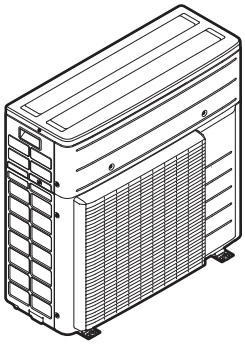
DAIKIN

altherma

Installation manual

Daikin Altherma H Hybrid – Heat pump module



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Daikin Industries Czech Republic s.r.o.

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

EJHA04AAV3,

01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:
02 der/den folgenden Norm(en) oder einem anderen Normdokument oder - dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
03 sont conformes à la/aux norme(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
04 conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies:
05 están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones:
06 sono conformi al(i) seguente(i) standard(s) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
07 είναι σύμφωνα με το(α) ακόλουθο(α) πρότυπο(α) ή άλλο έγγραφο(α) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:
08 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) documento(s) normativo(s), desde que estes sejam utilizados de acordo com as nossas instruções:
09 соответствуют следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям:
10 overholder følgende standard(er) eller andet/andre retningsgivende dokument(er), forudsat at disse anvendes i henhold til vore instrukser:
11 respektive utrustning är utförd i överensstämmelse med och följer följande standard(er) eller andra normgivande dokument, under förutsättning att användning sker i överensstämmelse med våra instruktioner:
12 respektive utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forutsetning av at disse brukes i henhold til våre instrukser:
13 vastaavat seuraavien standardien ja muiden ohjeellisten dokumenttien vaatimuksia edellyttäen, että niitä käytetään ohjeidemme mukaisesti:
14 za předpokladu, že jsou využívány v souladu s našimi pokyny, odpovídají následujícím normám nebo normativním dokumentům:
15 u skladu sa slijedećim standardom(ima) ili drugim normativnim dokumentom(ima), uz uvjet da se oni koriste u skladu s našim uputama:
16 megfelelnek az alábbi szabvány(ok)nak vagy egyéb irányadó dokumentum(ok)nak, ha azokat előírás szerint használják:
17 spełniają wymogi następujących norm i innych dokumentów normalizacyjnych, pod warunkiem że używane są zgodnie z naszymi instrukcjami:
18 sunt în conformitate cu următorul (următoarele) standard(e) sau alt(e) document(e) normativ(e), cu condiţia ca acestea să fie utilizate în conformitate cu instrucţiunile noastre:
19 skladni z naslednjimi standardi in drugimi normativi, pod pogojem, da se uporabljajo v skladu z našimi navodili:
20 on vastavuses järgmis(t)e standardi(te)ga või teiste normatiivsete dokumentidega, kui neid kasutatakse vastavalt meie juhenditele:
21 съответстват на следните стандарти или други нормативни документи, при условие, че се използват съгласно нашите инструкции:
22 atitinka žemiau nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
23 tad, ja lietoti atbilstoši ražotāja norādījumiem, atbilst sekojošiem standartiem un citiem normatīviem dokumentiem:
24 sú v zhode s nasledovnou(ými) normou(ami) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v súlade s našim návodom:
25 ürünün, talimatlarımıza göre kullanılması koşuluyla aşağıdaki standartlar ve norm belirten belgelerle uyumludur:

EN60335-2-40,

01 following the provisions of:
02 gemäß den Vorschriften der:
03 conformément aux stipulations des:
04 overeenkomstig de bepalingen van:
05 siguiendo las disposiciones de:
06 secondo le prescrizioni per:
07 με τήρηση των διατάξεων των:
08 de acordo com o previsto em:
09 в соответствии с положениями:
10 under iagttagelse af bestemmelserne i:
11 enligt villkoren i:
12 gitt i henhold til bestemmelsene i:
13 noudattaen määräyksiä:
14 za dodržení ustanovení předpisu:
15 prema odredbama:
16 követi a(z):
17 zgodnie z postanowieniami Dyrektyw:
18 în urma prevederilor:
19 ob upoštevanju določb:
20 vastavalt nõuetele:
21 следвайки клаузите на:
22 laikantis nuostatų, pateikiamų:
23 ievērojot prasības, kas noteiktas:
24 održiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Low Voltage 2014/35/EU
Electromagnetic Compatibility 2014/30/EU *
Pressure Equipment 2014/68/EU **

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

01 * as set out in <A> and judged positively by <B> according to the **Certificate <C>**.
** as set out in the Technical Construction File <D> and judged positively by <E> (Applied module <F>) according to the **Certificate <G>**. Risk category <H>. Also refer to next page.
02 * wie in <A> aufgeführt und von <B> positiv beurteilt gemäß **Zertifikat <C>**.
** wie in der Technischen Konstruktionsakte <D> aufgeführt und von <E> (Angewandtes Modul <F>) positiv ausgezeichnet positiv ausgezeichnet gemäß **Zertifikat <G>**. Risikoart <H>. Siehe auch nächste Seite.
03 * tel que définis dans <A> et évalué positivement par <B> conformément au **Certificat <C>**.
** tel que stipulé dans le Fichier de Construction Technique <D> et jugé positivement par <E> (Module appliqué <F>) conformément au **Certificat <G>**. Catégorie de risque <H>. Se reporter également à la page suivante.
04 * zoals vermeld in <A> en positief beoordeeld door <B> overeenkomstig **Certificaat <C>**.
** zoals vermeld in het Technisch Constructiedossier <D> en in orde bevonden door <E> (Toegepaste module <F>) overeenkomstig **Certificaat <G>**. Risicocategorie <H>. Zie ook de volgende pagina.
05 * como se establece en <A> y es valorado positivamente por <B> de acuerdo con el **Certificado <C>**.
** tal como se expone en el Archivo de Construcción Técnica <D> y juzgado positivamento por <E> (Modulo aplicado <F>) según el **Certificado <G>**. Categoría de riesgo <H>. Consulte también la siguiente página.
06 * delineato nel <A> e giudicato positivamente da <B> secondo il **Certificato <C>**.
** delineato nel File Tecnico di Costruzione <D> e giudicato positivamente da <E> (Modulo <F> applicato) secondo il **Certificato <G>**. Categoria di rischio <H>. Fare riferimento anche alla pagina successiva.
07 * όπως καθορίζεται στο <A> και κρίνεται θετικά από το <B> σύμφωνα με το **Πιστοποιητικό <C>**.
** όπως προσδιορίζεται στο Αρχείο Τεχνικής Κατασκευής <D> και κρίνεται θετικά από το <E> (Χρησιμοποιούμενη υπομονάδα <F>) σύμφωνα με το **Πιστοποιητικό <G>**. Κατηγορία επικινδυνότητας <H>. Ανατρέξτε επίσης στην επόμενη σελίδα.
08 * tal como estabelecido em <A> e com o parecer positivo de <B> de acordo com o **Certificado <C>**.
** tal como estabelecido no Ficheiro Técnico de Construção <D> e com o parecer positivo de <E> (Módulo aplicado <F>) de acordo com o **Certificado <G>**. Categoria de risco <H>. Consultar também a página seguinte.
09 * как указано в <A> и в соответствии с положительным решением <B> согласно **Свидетельству <C>**.
** как указано в Досье технического толкования <D> и в соответствии с положительным решением <E> (Прикладной модуль <F>) согласно **Свидетельству <G>**. Категория риска <H>. Также смотрите следующую страницу.
10 * som anført i <A> og positivt vurderet af <B> i henhold til **Certifikat <C>**.
** som anført i den Tekniske Konstruktionsfil <D> og positivt vurderet af <E> (Anvendt modul <F>) i henhold til **Certifikat <G>**. Risikoklasse <H>. Se også næste side.
11 * enligt <A> och godkänts av <B> enligt **Certifikatet <C>**.
** i enlighet med den Tekniska Konstruktionsfilen <D> som positivt intygats av <E> (Fastsatt modul <F>) vilket också framgår av **Certifikat <G>**. Riskkategori <H>. Se även nästa sida.
12 * som det fremkommer i <A> og gjennom positiv bedømmelse av <B> ifølge **Sertifikat <C>**.
** som det fremkommer i den Tekniske Konstruksjonsfilen <D> og gjennom positiv bedømmelse av <E> (Anvendt modul <F>) ifølge **Sertifikat <G>**. Risikokategori <H>. Se også neste side.
13 * jotka on esitetty asiakirjassa <A> ja jotka <B> on hyväksynyt **Sertifikaatin <C>** mukaisesti.
** jotka on esitetty Teknisessä Asiakirjassa <D> ja jotka <E> on hyväksynyt (Sovellettu moduli <F>) **Sertifikaatin <G>** mukaisesti. Vaaraluokka <H>. Katso myös seuraava sivu.
14 * jak bylo uvedeno v <A> a pozitivně zjištěno <B> v souladu s **osvědčením <C>**.
** jak bylo uvedeno v souboru technické konstrukce <D> a pozitivně zjištěno <E> (použitý modul <F>) v souladu s **osvědčením <G>**. Kategorie rizik <H>. Viz také následující strana.
15 * kako je izloženo u <A> i pozitivno ocijenjeno od strane <B> prema **Certifikatu <C>**.
** kako je izloženo u Datoteci o tehničkoj konstrukciji <D> i pozitivno ocijenjeno od strane <E> (Primijenjen modul <F>) prema **Certifikatu <G>**. Kategorija opasnosti <H>. Također pogledajte na slijedećoj stranici.
16 * a(z) <A> alapján, a(z) <B> igazolta a megfelelést, a(z) **<C> tanúsítvány** szerint.
** a(z) <D> műszaki konstrukciós dokumentáció alapján, a(z) <E> igazolta a megfelelést (alkalmazott modul: <F>), a(z) **<G> tanúsítvány** szerint. Veszélyességi kategória <H>. Lásd még a következő oldalon.
17 * zgodnie z dokumentacją <A>, pozytywną opinią <B> i **Świadectwem <C>**.
** zgodnie z archiwalną dokumentacją konstrukcyjną <D> i pozytywną opinią <E> (Zastosowany moduł <F>) zgodnie ze **Świadectwem <G>**. Kategoria zagrożenia <H>. Patrz także następna strona.
18 * aşa cum este stabilit în <A> şi apreciat pozitiv de <B> în conformitate cu **Certificatul <C>**.
** conform celor stabilite în Dosarul tehnic de construcţie <D> şi apreciate pozitiv de <E> (Modul aplicat <F>) în conformitate cu **Certificatul <G>**. Categorie de risc <H>. Consultaţi de asemenea pagina următoare.
19 * kot je določeno v <A> in odobreno s strani <B> v skladu s **certifikatom <C>**.
** kot je določeno v tehnični mapi <D> in odobreno s strani <E> (Uporabljen modul <F>) v skladu s **certifikatom <G>**. Kategorija tveganja <H>. Glejte tudi na naslednji strani.
20 * nagu on näidatud dokumendis <A> ja heaks kiidetud <B> järgi vastavalt **sertifikaadile <C>**.
** nagu on näidatud tehnilises dokumentatsioonis <D> ja heaks kiidetud <E> järgi (lisamoodul <F>) vastavalt **sertifikaadile <G>**. Riskikategooria <H>. Vaadake ka järgmist lehekülge.
21 * както е изложено в <A> и оценено положително от <B> съгласно **Сертификата <C>**.
** както е заложено в Акта за техническа конструкция <D> и оценено положително от <E> (Приложен модул <F>) съгласно **Сертификат <G>**. Категория риск <H>. Вижте също на следващата страница.
22 * kaip nustatyta <A> ir kaip teigiamai nuspręsta <B> pagal **Sertifikatą <C>**.
** kaip nurodyta Techninėje konstrukcijos byloje <D> ir patvirtinta <E> (taikomas modulis <F>) pagal **pažymėjimą <G>**. Rizikos kategorija <H>. Taip pat žiūrėkite ir kitą puslapį.
23 * kā norādīts <A> un atbilstoši <B> pozitīvajam vērtējumam saskaņā ar **sertifikātu <C>**.
** kā noteikts tehniskajā dokumentācijā <D>, atbilstoši <E> pozitīvajam lēmumam (piekrītīgā sadaļa: <F>), ko apliecina **sertifikāts <G>**. Riska kategorija <H>. Skat. arī nākošo lappusi.
24 * ako bolo uvedené v <A> a pozitívne zistené <B> v súlade s **osvedčením <C>**.
** ako je to stanovené v Súbore technickej konštrukcie <D> a kladne posúdené <E> (Aplikovaný modul <F>) podľa **Certifikátu <G>**. Kategória nebezpečia <H>. Vid tiež nasledovnú stranu.
25 * <A>'da belirtildiği gibi ve <C> **Sertifikasına** göre <B> tarafından olumlu olarak değerlendirildiği gibi.
** <D> Teknik Yapı Dosyasında belirtildiği gibi ve <G> **Sertifikasına** göre <E> tarafından olumlu olarak (Uygulanan modül <F>) değerlendirilmiştir. Risk kategorisi <H>. Aynca bir sonraki sayfaya bakın.

<A>	DAIKIN.TCF.034A1/09-2018
<B>	DEKRA (NB0344)
<C>	2192529.0551-EMC
<D>	DAIKIN.TCFP.006
<E>	VINÇOTTE nv (NB0026)
<F>	D1
<G>	—
<H>	II

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01 (GB) continuation of previous page:
02 (D) Fortsetzung der vorherigen Seite:
03 (F) suite de la page précédente:
04 (NL) vervolg van vorige pagina:

05 (E) continuación de la página anterior:
06 (I) continua dalla pagina precedente:
07 (GR) συνέχεια από την προηγούμενη σελίδα:

08 (P) continuação da página anterior:
09 (RUS) продолжение предыдущей страницы:
10 (DK) fortsat fra forrige side:
11 (S) fortsättning från föregående sida:

12 (N) fortsettelse fra forrige side:
13 (FIN) jatkoa edelliseltä sivulta:
14 (CZ) pokračování z předchozí strany:

15 (HR) nastavak s prethodne stranice:
16 (H) folytatás az előző oldalról:
17 (PL) ciąg dalszy z poprzedniej strony:
18 (RO) continuarea paginii anterioare:

19 (SLO) nadaljevanje s prejšnje strani:
20 (EST) eelmise leheküljе järg:
21 (BG) продължение от предходната страница:

22 (LT) ankstesnio puslapio tęsinys:
23 (LV) iepriekšējās lappuses turpinājums:
24 (SK) pokračovanie z predchádzajúcej strany:
25 (TR) önceki sayfadan devam:

01 Design Specifications of the models to which this declaration relates:
02 Konstruktionsdaten der Modelle auf die sich diese Erklärung bezieht:
03 Spécifications de conception des modèles auxquels se rapporte cette déclaration:
04 Ontwerpspecificaties van de modellen waarop deze verklaring betrekking heeft:
05 Especificaciones de diseño de los modelos a los cuales hace referencia esta declaración:
06 Specifiche di progetto dei modelli cui fa riferimento la presente dichiarazione:

07 Προδιαγραφές Σχεδιασμού των μοντέλων με τα οποία σχετίζεται η δήλωση:
08 Especificações de projecto dos modelos a que se aplica esta declaração:
09 Проектные характеристики моделей, к которым относится настоящее заявление:
10 Typespecifikationer for de modeller, som denne erklæring vedrører:
11 Designspecifikationer för de modeller som denna deklaration gäller:
12 Konstruksjonsspesifikasjoner for de modeller som berøres av denne deklarasjonen:

13 Tätä ilmoitusta koskevien mallien rakennemäärittely:
14 Specifikace designu modelů, ke kterým se vztahuje toto prohlášení:
15 Specifikacije dizajna za modele na koje se ova izjava odnosi:
16 A jelen nyilatkozat tárgyát képező modellek tervezési jellemzői:
17 Specyfikacje konstrukcyjne modeli, których dotyczy deklaracja:
18 Specificaţiile de proiectare ale modelelor la care se referă această declaraţie:
19 Specifikacije tehničnega načrta za modele, na katere se nanaša ta deklaracija:

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 modeļu dizaina specifikācijas, uz kurām attiecas šī deklarācija:
24 Konštrukčné špecifikácie modelu, ktorého sa týka toto vyhlásenie:
25 Bu bildirinin ilgili olduğu modellerin Tasarım Özellikleri:

---

01 · Maximum allowable pressure (PS): **<K>** (bar)
· Minimum/maximum allowable temperature (TS*):
* TSmin: Minimum temperature at low pressure side: **<L>** (°C)
* TSmax: Saturated temperature corresponding with the maximum allowable pressure (PS): **<M>** (°C)
· Refrigerant: **<N>**
· Setting of pressure safety device: **<P>** (bar)
· Manufacturing number and manufacturing year: refer to model nameplate

02 · Maximal zulässiger Druck (PS): **<K>** (Bar)
· Minimal/maximal zulässige Temperatur (TS*):
* TSmin: Mindesttemperatur auf der Niederdruckseite: **<L>** (°C)
* TSmax: Sättigungstemperatur die dem maximal zulässigen Druck (PS) entspricht: **<M>** (°C)
· Kältemittel: **<N>**
· Einstellung der Druck-Schutzvorrichtung: **<P>** (Bar)
· Herstellungsnummer und Herstellungsjahr: siehe Typenschild des Modells

03 · Pression maximale admise (PS): **<K>** (bar)
· Température minimum/maximum admise (TS*):
* TSmin: température minimum côté basse pression: **<L>** (°C)
* TSmax: température saturée correspondant à la pression maximale admise (PS): **<M>** (°C)
· Réfrigérant: **<N>**
· Réglage du dispositif de sécurité de pression: **<P>** (bar)
· Numéro de fabrication et année de fabrication: se reporter à la plaquette signalétique du modèle

04 · Maximaal toelaatbare druk (PS): **<K>** (bar)
· Minimaal/maximaal toelaatbare temperatuur (TS*):
* TSmin: Minimumtemperatuur aan lagedrukzijde: **<L>** (°C)
* TSmax: Verzadigde temperatuur die overeenstemt met de maximaal toelaatbare druk (PS): **<M>** (°C)
· Koelmiddel: **<N>**
· Instelling van drukbeveiliging: **<P>** (bar)
· Fabricagenummer en fabricagejaar: zie naamplaat model

05 · Presión máxima admisible (PS): **<K>** (bar)
· Temperatura mínima/máxima admisible (TS*):
* TSmin: Temperatura mínima en el lado de baja presión: **<L>** (°C)
* TSmax: Temperatura saturada correspondiente a la presión máxima admisible (PS): **<M>** (°C)
· Refrigerante: **<N>**
· Ajuste del presostato de seguridad: **<P>** (bar)
· Número de fabricación y año de fabricación: consulte la placa de especificaciones técnicas del modelo

06 · Pressione massima consentita (PS): **<K>** (bar)
· Temperatura minima/massima consentita (TS*):
* TSmin: temperatura minima nel lato di bassa pressione: **<L>** (°C)
* TSmax: temperatura satura corrispondente alla pressione massima consentita (PS): **<M>** (°C)
· Refrigerante: **<N>**
· Impostazione del dispositivo di controllo della pressione: **<P>** (bar)
· Numero di serie e anno di produzione: fare riferimento alla targhetta del modello

07 · Μέγιστη επιτρεπόμενη πίεση (PS): **<K>** (bar)
· Ελάχιστη/μέγιστη επιτρεπόμενη θερμοκρασία (TS*):
* TSmin: Ελάχιστη θερμοκρασία για την πλευρά χαμηλής πίεσης: **<L>** (°C)
* TSmax: Κορεσμένη θερμοκρασία που αντιστοιχεί με τη μέγιστη επιτρεπόμενη πίεση (PS): **<M>** (°C)
· Ψυκτικό: **<N>**
· Ρύθμιση της διάταξης ασφάλειας πίεσης: **<P>** (bar)
· Αριθμός κατασκευής και έτος κατασκευής: ανατρέξτε στην πινακίδα αναγνώρισης του μοντέλου

08 · Pressão máxima permitida (PS): **<K>** (bar)
· Temperaturas mínima e máxima permitidas (TS*):
* TSmin: Temperatura mínima em baixa pressão: **<L>** (°C)
* TSmax: Temperatura de saturação correspondente à pressão máxima permitida (PS): **<M>** (°C)
· Refrigerante: **<N>**
· Regulação do dispositivo de segurança da pressão: **<P>** (bar)
· Número e ano de fabrico: consultar a placa de especificações da unidade

09 · Максимально допустимое давление (PS): **<K>** (бар)
· Минимально/Максимально допустимая температура (TS*):
* TSmin: Минимальная температура на стороне низкого давления: **<L>** (°C)
* TSmax: Температура кипения, соответствующая максимально допустимому давлению (PS): **<M>** (°C)
· Хладагент: **<N>**
· Настройка устройства защиты по давлению: **<P>** (бар)
· Заводской номер и год изготовления: смотрите паспортную табличку модели

10 · Maks. tilladt tryk (PS): **<K>** (bar)
· Min./maks. tilladte temperatur (TS*):
* TSmin: Min. temperatur på lavtrykssiden: **<L>** (°C)
* TSmax: Mættet temperatur svarende til maks. tilladte tryk (PS): **<M>** (°C)
· Kølemiddel: **<N>**
· Indstilling af tryksikringsudstyr: **<P>** (bar)
· Produktionsnummer og fremstillingsår: se modellens fabriksskilt

11 · Maximalt tillåtet tryck (PS): **<K>** (bar)
· Min/max tillåten temperatur (TS*):
* TSmin: Minimumtemperatur på lågtrycksidan: **<L>** (°C)
* TSmax: Mättnadstemperatur som motsvarar maximalt tillåtet tryck (PS): **<M>** (°C)
· Köldmedel: **<N>**
· Inställning för trycksäkerhetsenhet: **<P>** (bar)
· Tillverkningsnummer och tillverkningsår: se modellens namnplåt

12 · Maksimalt tillatt trykk (PS): **<K>** (bar)
· Minimalt/maksimalt tillatt temperatur (TS*):
* TSmin: Minimumstemperatur på lavtrykksiden: **<L>** (°C)
* TSmax: Metningstemperatur i samsvar med maksimalt tillatt trykk (PS): **<M>** (°C)
· Kjølemedium: **<N>**
· Innstilling av sikkerhetsanordning for trykk: **<P>** (bar)
· Produksjonsnummer og produksjonsår: se modellens merkeplate

13 · Suurin sallittu paine (PS): **<K>** (bar)
· Pienin/suurin sallittu lämpötila (TS*):
* TSmin: Alhaisin matalapainepuolen lämpötila: **<L>** (°C)
* TSmax: Suurinta sallittua painetta (PS) vastaava kyllästyslämpötila: **<M>** (°C)
· Kylmäaine: **<N>**
· Varmuuspainelaitteen asetus: **<P>** (bar)
· Valmistusnumero ja valmistusvuosi: katso mallin nimikilpi

14 · Maximální přípustný tlak (PS): **<K>** (bar)
· Minimální/maximální přípustná teplota (TS*):
* TSmin: Minimální teplota na nízkotlaké straně: **<L>** (°C)
* TSmax: Saturovaná teplota odpovídající maximálnímu přípustnému tlaku (PS): **<M>** (°C)
· Chladivo: **<N>**
· Nastavení bezpečnostního tlakového zařízení: **<P>** (bar)
· Výrobní číslo a rok výroby: viz typový štítek modelu

15 · Najveći dopušten tlak (PS): **<K>** (bar)
· Najniža/najviša dopuštena temperatura (TS*):
* TSmin: Najniža temperatura u području niskog tlaka: **<L>** (°C)
* TSmax: Standardna temperatura koja odgovara najvećem dopuštenom tlaku (PS): **<M>** (°C)
· Rashladno sredstvo: **<N>**
· Postavke sigurnosne naprave za tlak: **<P>** (bar)
· Proizvodni broj i godina proizvodnje: pogledajte natpisnu pločicu modela

16 · Legnagyobb megengedhető nyomás (PS): **<K>** (bar)
· Legkisebb/legnagyobb megengedhető hőmérséklet (TS*):
* TSmin: Legkisebb megengedhető hőmérséklet a kis nyomású oldalon: **<L>** (°C)
* TSmax: A legnagyobb megengedhető nyomásnak (PS) megfelelő telítettségi hőmérséklet: **<M>** (°C)
· Hűtőközeg: **<N>**
· A túlnyomás-kapcsoló beállítása: **<P>** (bar)
· Gyártási szám és gyártási év: lásd a berendezés adattábláján

17 · Maksymalne dopuszczalne ciśnienie (PS): **<K>** (bar)
· Minimalna/maksymalna dopuszczalna temperatura (TS*):
* TSmin: Minimalna temperatura po stronie niskociśnieniowej: **<L>** (°C)
* TSmax: Temperatura nasycenia odpowiadająca maksymalnemu dopuszczalnemu ciśnieniu (PS): **<M>** (°C)
· Czynnik chłodniczy: **<N>**
· Nastawa ciśnieniowego urządzenia bezpieczeństwa: **<P>** (bar)
· Numer fabryczny oraz rok produkcji: patrz tabliczka znamionowa modelu

18 · Presiune maximă admisibilă (PS): **<K>** (bar)
· Temperatură minimă/maximă admisibilă (TS*):
* TSmin: Temperatură minimă pe partea de presiune joasă: **<L>** (°C)
* TSmax: Temperatură de saturaţie corespunzând presiunii maxime admisibile (PS): **<M>** (°C)
· Agent frigorific: **<N>**
· Reglarea dispozitivului de siguranţă pentru presiune: **<P>** (bar)
· Numărul de fabricaţie şi anul de fabricaţie: consultaţi placa de identificare a modelului

19 · Maksimalni dovoljeni tlak (PS): **<K>** (bar)
· Minimalna/maksimalna dovoljena temperatura (TS*):
* TSmin: Minimalna temperatura na nizkotlačni strani: **<L>** (°C)
* TSmax: Nasičena temperatura, ki ustreza maksimalnemu dovoljenemu tlaku (PS): **<M>** (°C)
· Hladivo: **<N>**
· Nastavljanje varnostne naprave za tlak: **<P>** (bar)
· Tovarniška številka in leto proizvodnje: glejte napisno ploščico

20 · Maksimaalne lubatud surve (PS): **<K>** (bar)
· Minimaalne/maksimaalne lubatud temperatuur (TS*):
* TSmin: Minimaalne temperatuur madalsurve küljel: **<L>** (°C)
* TSmax: Maksimaalsele lubatud survele (PS) vastav küllastunud temperatuur: **<M>** (°C)
· Jahutusaine: **<N>**
· Surve turvaseadme seadistus: **<P>** (bar)
· Tootmisnumber ja tootmisaasta: vaadake mudeli andmeplaati

21 · Максимално допустимо налягане (PS): **<K>** (bar)
· Минимално/максимално допустима температура (TS*):
* TSmin: Минимална температура от страната на ниското налягане: **<L>** (°C)
* TSmax: Температура на насищане, съответстваща на максимално допустимото налягане (PS): **<M>** (°C)
· Охладител: **<N>**
· Настройка на предпазното устройство за налягане: **<P>** (bar)
· Фабричен номер и година на производство: вижте табелката на модела

22 · Maksimalus leistinas slėgis (PS): **<K>** (bar)
· Minimali/maksimali leistina temperatūra (TS*):
* TSmin: Minimali temperatūra žemo slėgio pusėje: **<L>** (°C)
* TSmax: Prisotinta temperatūra, atitinkamti maksimalų leistiną slėgį (PS): **<M>** (°C)
· Šaldymo skystis: **<N>**
· Apsauginio slėgio prietaiso nustatymas: **<P>** (bar)
· Gaminio numeris ir pagaminimo metai: žiūrėkite modelio pavadinimo plokštelę

23 · Maksimālais pieļaujamais spiediens (PS): **<K>** (bar)
· Minimālā/maksimālā pieļaujamā temperatūra (TS*):
* TSmin: Minimālā temperatūra zemā spiediena pusē: **<L>** (°C)
* TSmax: Piesātinātā temperatūra saskaņā ar maksimālo pieļaujamo spiedienu (PS): **<M>** (°C)
· Dzesinātājs: **<N>**
· Spiediena drošības ierīces iestatīšana: **<P>** (bar)
· Izgatavošanas numurs un izgatavošanas gads: skat. modeļa izgatavotājuzņēmuma plāksnītie

24 · Maximálny povolený tlak (PS): **<K>** (bar)
· Minimálna/maximálna povolená teplota (TS*):
* TSmin: Minimálna teplota na nízkotlakovej strane: **<L>** (°C)
* TSmax: Nasýtená teplota korešpondujúca s maximálnym povoleným tlakom (PS): **<M>** (°C)
· Chladivo: **<N>**
· Nastavenie tlakového poistného zariadenia: **<P>** (bar)
· Výrobné číslo a rok výroby: nájdete na výrobnom štítku modelu

25 · İzin verilen maksimum basınç (PS): **<K>** (bar)
· İzin verilen minimum/maksimum sıcaklık (TS*):
* TSmin: Düşük basınç tarafındaki minimum sıcaklık: **<L>** (°C)
* TSmax: İzin verilen maksimum basınca (PS) karşı gelen doyma sıcaklığı: **<M>** (°C)
· Soğutucu: **<N>**
· Basınç emniyet düzeninin ayarı: **<P>** (bar)
· İmalat numarası ve imalat yılı: modelin ünite plakasına bakın

<K>	PS	**41.7 bar**
<L>	TSmin	**–35 °C**
<M>	TSmax	**63.8 °C**
<N>		**R32**
<P>		**41.7 bar**

---

01 Name and address of the Notified body that judged positively on compliance with the Pressure Equipment Directive: **<Q>**
02 Name und Adresse der benannten Stelle, die positiv unter Einhaltung der Druckanlagen-Richtlinie urteilte: **<Q>**
03 Nom et adresse de l'organisme notifié qui a évalué positivement la conformité à la directive sur l'équipement de pression: **<Q>**
04 Naam en adres van de aangemelde instantie die positief geoordeeld heeft over de conformiteit met de Richtlijn Drukapparatuur: **<Q>**
05 Nombre y dirección del Organismo Notificado que juzgó positivamente el cumplimiento con la Directiva en materia de Equipos de Presión: **<Q>**
06 Nome e indirizzo dell'Ente riconosciuto che ha riscontrato la conformità alla Direttiva sulle apparecchiature a pressione: **<Q>**
07 Όνομα και διεύθυνση του Κοινοποιημένου οργανισμού που απεφάνθη θετικά για τη συμμόρφωση προς την Οδηγία Εξοπλισμών υπό Πίεση: **<Q>**
08 Nome e morada do organismo notificado, que avaliou favoravelmente a conformidade com a directiva sobre equipamentos pressurizados: **<Q>**
09 Название и адрес органа технической экспертизы, принявшего положительное решение о соответствии Директиве об оборудовании под давлением: **<Q>**
10 Navn og adresse på bemyndiget organ, der har foretaget en positiv bedømmelse af, at udstyret lever op til kravene i PED (Direktiv for Trykbærende Udstyr): **<Q>**
11 Namn och adress för det anmälda organ som godkänt uppfyllandet av tryckutrustningsdirektivet: **<Q>**
12 Navn på og adresse til det autoriserte organet som positivt bedømte samsvar med direktivet for trykkutstyr (Pressure Equipment Directive): **<Q>**
13 Sen ilmoitetun elimen nimi ja osoite, joka teki myönteisen päätöksen painelaitedirektiivin noudattamisesta: **<Q>**
14 Název a adresa informovaného orgánu, který vydal pozitivní posouzení shody se směrnicí o tlakových zařízeních: **<Q>**
15 Naziv i adresa prijavljenog tijela koje je donijelo pozitivnu prosudbu o usklađenosti sa Smjernicom za tlačnu opremu: **<Q>**
16 A nyomástartó berendezésekre vonatkozó irányelvnek való megfelelőséget igazoló bejelentett szervezet neve és címe: **<Q>**
17 Nazwa i adres Jednostki notyfikowanej, która wydała pozytywną opinię dotyczącą spełnienia wymogów Dyrektywy dot. Urządzeń Ciśnieniowych: **<Q>**
18 Denumirea şi adresa organismului notificat care a apreciat pozitiv conformarea cu Directiva privind echipamentele sub presiune: **<Q>**
19 Ime in naslov organa za ugotavljanje skladnosti, ki je pozitivno ocenil združljivost z Direktivo o tlačni opremi: **<Q>**
20 Teavitatud organi, mis hindas Surveseadmete Direktiiviga ühilduvust positiivselt, nimi ja aadress: **<Q>**
21 Наименование и адрес на упълномощения орган, който се е произнесъл положително относно съвместимостта с Директивата за оборудване под налягане: **<Q>**
22 Atsakingos institucijos, kuri davė teigiamą sprendimą pagal slėginės įrangos direktyvą pavadinimas ir adresas: **<Q>**
23 Sertifikācijas institūcijas, kura ir devusi pozitīvu slēdzienu par atbilstību Spiediena lekārtu Direktīvai, nosaukums un adrese: **<Q>**
24 Názov a adresa certifikačného úradu, ktorý kladne posúdil zhodu so smernicou pre tlakové zariadenia: **<Q>**
25 Basınçlı Teçhizat Direktifine uygunluk hususunda olumlu olarak değerlendirilen Onaylanmış kuruluşun adı ve adresi: **<Q>**

<Q> VINÇOTTE nv
Jan Olieslagerslaan 35
1800 Vilvoorde, Belgium

2P530608-1B

DAIKIN

Yasuto Hiraoka
Managing Director
Pilsen, 1st of November 2018

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

Table of contents

1 About the documentation

1.1 About this document

WARNING

This appliance is not intended for use by persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

Cleaning and user maintenance must not be carried out by children without supervision.

Target audience

Authorised installers

Documentation set

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

- **General safety precautions:**
  - Safety instructions that you must read before installing
  - Format: Paper (in the box of the outdoor unit)
- **Operation manual:**
  - Quick guide for basic usage
  - Format: Paper (in the box of the outdoor unit)
- **User reference guide:**
  - Detailed step-by-step instructions and background information for basic and advanced usage
  - Format: Digital files on http://www.daikineurope.com/support-and-manuals/product-information/
- **Installation manual – Heat pump module:**
  - Installation instructions
  - Format: Paper (in the box of the outdoor unit)
- **Installation and operation manual – Gas boiler module:**
  - Installation and operation instructions
  - Format: Paper (in the box of the gas boiler)
- **Installer reference guide:**
  - Preparation of the installation, good practices, reference data,…
  - Format: Digital files on http://www.daikineurope.com/support-and-manuals/product-information/
- **Addendum book for optional equipment:**
  - Additional info about how to install optional equipment
  - Format: Paper (in the box of the outdoor unit) + Digital files on http://www.daikineurope.com/support-and-manuals/product-information/

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

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

Technical engineering data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin Business Portal (authentication required).

2 About the box

2.1 Outdoor unit

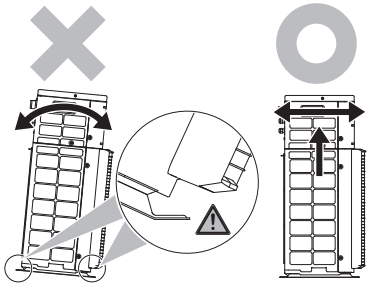
2.1.1 To handle the outdoor unit

CAUTION

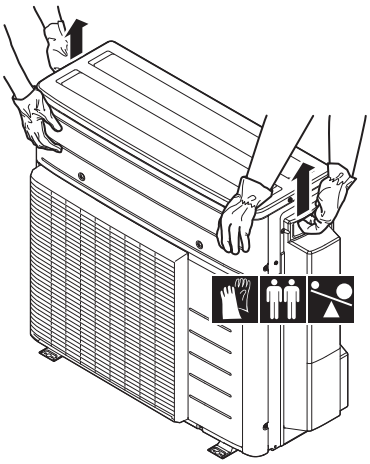
To avoid injury, do NOT touch the air inlet or aluminium fins of the unit.

NOTICE

To prevent damage to the supporting feet, do NOT tilt the unit sideways in any way:



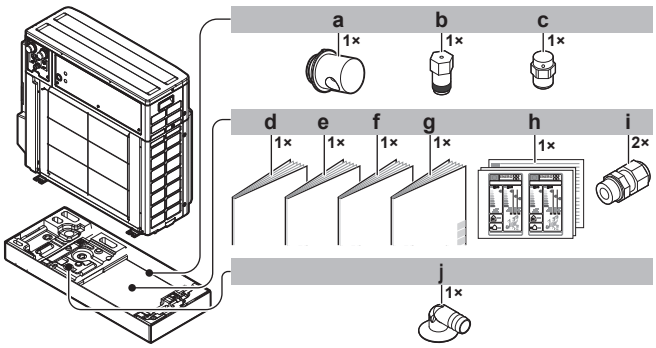
Carry the unit slowly as shown:



2.1.2 To remove the accessories from the outdoor unit

1 Lift the outdoor unit. See "2.1.1 To handle the outdoor unit" [▶ 5].

2 Remove the accessories at the bottom of the package.



a Connection piece (with O-ring) for freeze protection valve inside the outdoor unit
b Freeze protection valve (for inside the outdoor unit)
c Vacuum breaker (for outside the outdoor unit)
d General safety precautions
e Addendum book for optional equipment
f Outdoor unit installation manual
g Operation manual
h Energy label
i Cable gland
j Drain plug

3 About the system

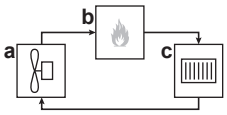
3.1 Possible system layouts

INFORMATION

This topic contains basic information about the possible system layouts. For more information, see the installer reference guide.

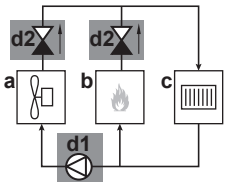
The system layout differs depending on the gas boiler. You can combine the outdoor unit (=EJHA04AAV3) with either a dedicated or a third-party gas boiler.

Dedicated gas boiler



a Outdoor unit
b Gas boiler
c Space heating circuit

Third-party gas boiler



a Outdoor unit
b Gas boiler
c Space heating circuit
d Parts of mandatory options EKADDONJH and EKADDONJH2 (= connection kit for third-party gas boiler):
d1: External pump (EKADDONJH)
d2: Non-return valve EKADDONJH2)

3.1.1 Dedicated gas boiler

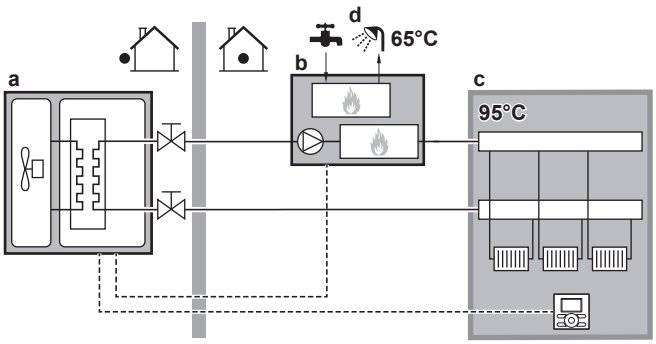
The dedicated gas boiler (=*HY2KOMB28+32AA) is recommended for new installations.

Using this gas boiler, you can produce domestic hot water as follows:

- Domestic hot water by tank

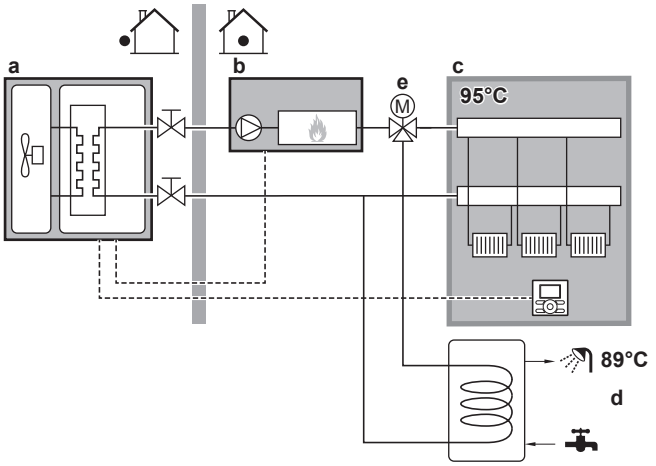
- Instant domestic hot water by gas boiler

Dedicated gas boiler + Instant domestic hot water



a Outdoor unit
b Gas boiler
c Space heating circuit
d Instant domestic hot water

Dedicated gas boiler + Domestic hot water via tank



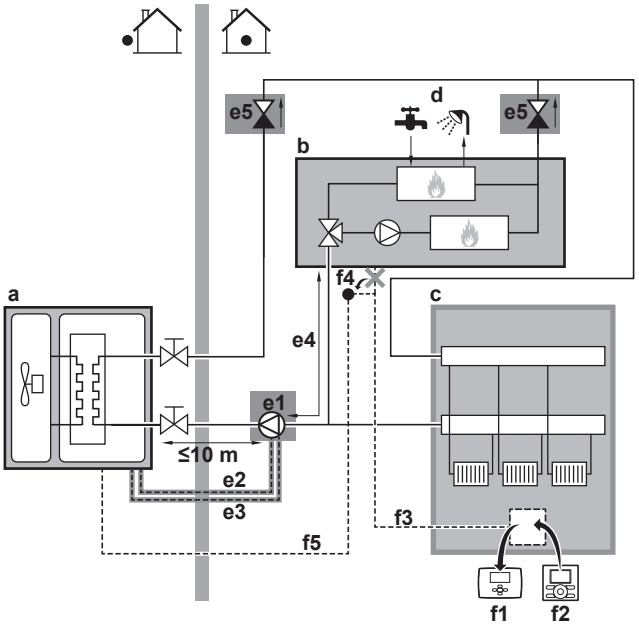
a Outdoor unit
b Gas boiler
c Space heating circuit
d Domestic hot water via tank
e Motorised 3-way valve

3.1.2 Third-party gas boiler

For existing installations, you do not need to buy a new gas boiler. You can reuse the existing gas boiler, and the wiring of the old thermostat.

Using this gas boiler, you can only produce domestic hot water as instant domestic hot water by gas boiler.

Third-party gas boiler + Instant domestic hot water



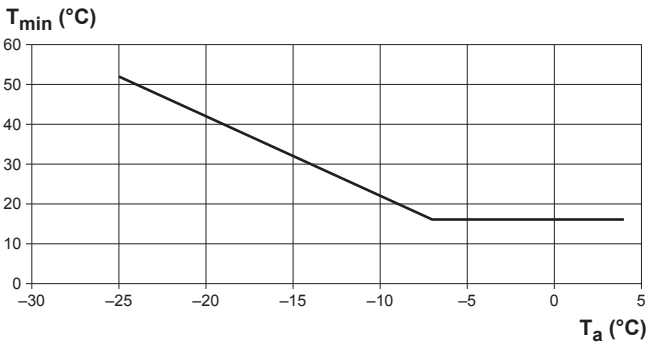
a Outdoor unit
b Gas boiler
c Space heating circuit
d Instant domestic hot water
e1~e5 Parts of mandatory options EKADDONJH and EKADDONJH2 (= connection kit for third-party gas boiler). For installation instructions, see the installation manual of the connection kit.
e1: External pump (EKADDONJH)
e2: External pump cable – Power supply (EKADDONJH2)
e3: External pump cable – Pulse-width modulation (PWM) signal (EKADDONJH2)
e4: Distance between external pump and gas boiler must be as short as possible
e5: Non-return valve (EKADDONJH2)
f1~f5 Connection of user interface (you can reuse old wiring):
f1: Remove old thermostat
f2: Install new user interface
f3: Reuse old wiring
f4: Disconnect old wiring from the gas boiler, and connect it to new wiring
f5: Connect new wiring to the outdoor unit

Third-party gas boiler + Domestic hot water via tank

Not possible.

Setpoint of the third-party gas boiler

To prevent freeze-up of the water piping, the third-party gas boiler must have a fixed setpoint ≥55°C, or a weather-dependent setpoint ≥T_{min}.



T_a Outdoor temperature
T_{min} Minimum weather-dependent setpoint for third-party gas boiler

3.2 Freeze protection

You must protect the system against freezing. This involves:

- Choosing between glycol and freeze protection valves
- Installing the bottom plate heater

3.2.1 Glycol or freeze protection valves

Frost can damage the system. To prevent the hydraulic components from freezing, the software is equipped with special frost protection functions, that include the activation of pump in case of low temperatures.

However, in case of a power failure, these functions cannot guarantee protection.

Do one of the following to protect the water circuit against freezing:

- Add glycol to the water. Glycol lowers the freezing point of the water.
- Install freeze protection valves. Freeze protection valves drain the water from the system before it can freeze.

NOTICE

If you add glycol to the water, do NOT install freeze protection valves. **Possible consequence:** Glycol leaking out of the freeze protection valves.

INFORMATION

For more information about glycol and freeze protection valves, see "5.3.3 To protect the water circuit against freezing" [▸ 13].

3.2.2 Bottom plate heater

To prevent freeze-up of the bottom plate you can install the optional bottom plate heater. In certain circumstances this is required.

Bottom plate heater (EKBPHT04JH)

- Prevents freeze-up of the bottom plate.
- Required in areas with ambient temperature <–5°C and high relative humidity for at least 3 consecutive days.
- For installation instructions, see the installation manual of the bottom plate heater.

NOTICE

- If you install the bottom plate heater, you may lower the operation range of the heat pump to Ta≥–14°C using field setting [8-0E]=–14°C.
- If you do not install the bottom plate heater, keep [8-0E]=–5°C.

4 Preparation

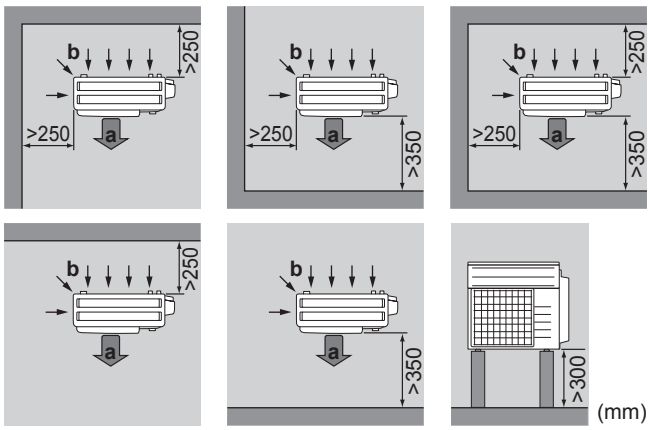
4.1 Preparing the installation site

WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

4.1.1 Installation site requirements of the outdoor unit

Mind the following spacing guidelines:



a Air outlet
b Air inlet

NOTICE

The height of the wall on the outlet side of the outdoor unit MUST be ≤1200 mm.

The outdoor unit is designed for outdoor installation only, and for the following ambient temperatures:

Space heating operation	–14~25°C
Domestic hot water production	–14~35°C

Special requirements for R32

The outdoor unit contains an internal refrigerant circuit (R32), but you do NOT have to do any refrigerant field piping, or refrigerant charging.

The total refrigerant charge in the system is ≤1.842 kg, so the system is NOT subjected to any requirements to the installation room. However, mind the following requirements and precautions:

WARNING

- Do NOT pierce or burn.
- Do NOT use means to accelerate the defrosting process or to clean the equipment, other than those recommended by the manufacturer.
- Be aware that R32 refrigerant does NOT contain an odour.

WARNING

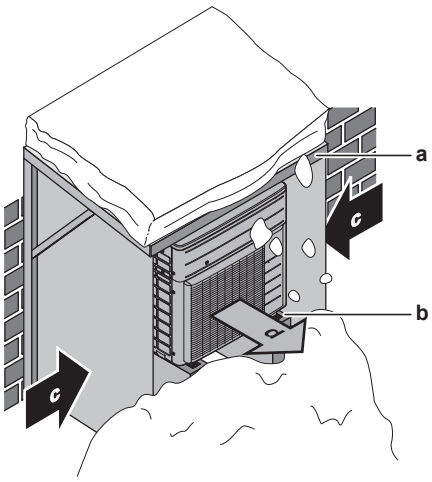
The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

WARNING

Make sure installation, servicing, maintenance and repair comply with instructions from Daikin and with applicable legislation (for example national gas regulation) and are executed only by authorised persons.

4.1.2 Additional installation site requirements of the outdoor unit in cold climates

Protect the outdoor unit against direct snowfall and take care that the outdoor unit is NEVER snowed up.



a Snow cover or shed
b Pedestal
c Prevailing wind direction
d Air outlet

In any case, provide at least 300 mm of free space below the unit. Additionally, make sure the unit is positioned at least 100 mm above the maximum expected level of snow. See "5.2 Mounting the outdoor unit" [▸ 10] for more details.

In heavy snowfall areas it is very important to select an installation site where the snow will NOT affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is NOT affected by the snow. If necessary, install a snow cover or shed and a pedestal.

4.2 Preparing water piping

NOTICE

In case of plastic pipes, make sure they are fully oxygen diffusion tight according to DIN 4726. The diffusion of oxygen into the piping can lead to excessive corrosion.

NOTICE

Expansion vessel. Make sure that an expansion vessel is installed in the water circuit (at the space heating water inlet of the boiler).

In case of *HY2KOMB28+32AA gas boiler, the expansion vessel is available as option.

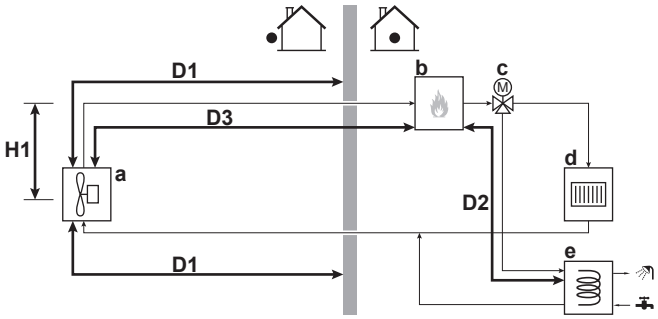
In case of third-party gas boiler, the expansion vessel is field supplied.

For more information about the expansion vessel, see the installer reference guide.

- **Filter.** It is strongly recommended to install an additional filter on the heating water circuit. Especially to remove metallic particles from foul heating piping, it is recommended to use a magnetic or cyclone filter, which can remove small particles. Small particles may damage the unit and will NOT be removed by the standard filter of the heat pump system.

4.2.1 Water piping lengths and height difference

In case of *HY2KOMB28+32AA gas boiler



a Outdoor unit
b *HY2KOMB28+32AA
c 3-way valve
d Space heating circuit
e DHW tank (if applicable)

	What?	Distance
H1	Maximum height difference between outdoor unit and *HY2KOMB28+32AA gas boiler	Depends on the expansion vessel (option on *HY2KOMB28+32AA gas boiler). A distance of 10 m is recommended.
—	Maximum total length of the water piping (indoor part + outdoor part)	Depends on the external static pressure (ESP) of the system.
D1	Maximum length of the outdoor part of the water piping (to prevent freeze-up of the water piping)	10 m[(a)]
D2	Maximum distance between *HY2KOMB28+32AA gas boiler and DHW tank (if applicable)	10 m
D3	Maximum distance between outdoor unit and *HY2KOMB28+32AA gas boiler	See table below.

[(a)] Only for NHY2KOMB28+32AA: a distance of up to 30 m is allowed in case the water circuit is protected against freezing by glycol, or when a domestic hot water tank (e) is installed.

If...			Then D3...	
Glycol?	**Ø**	**Condition[(a)]**	**ESP[(b)] 25 kPa**	**ESP[(b)] 35 kPa**
Water (without glycol)	3/4"	ΔT 5°C → 11.5 l/min	16 m	8.5 m
		ΔT 8°C → 7.2 l/min	63 m	45 m
	1"	ΔT 5°C → 11.5 l/min	89 m	54 m
		ΔT 8°C → 7.2 l/min	304 m	224 m
Water + glycol	1"	Start-up with glycol at –15°C → 7.0 l/min	38 m	25 m
		ΔT 5°C with glycol at 20°C → 12.8 l/min	2 m	—
		ΔT 8°C with glycol at 20°C → 8.0 l/min	134 m	85 m

[(a)] Based on capacity of 4 kW
[(b)] External static pressure calculated with 10×(90° elbow)

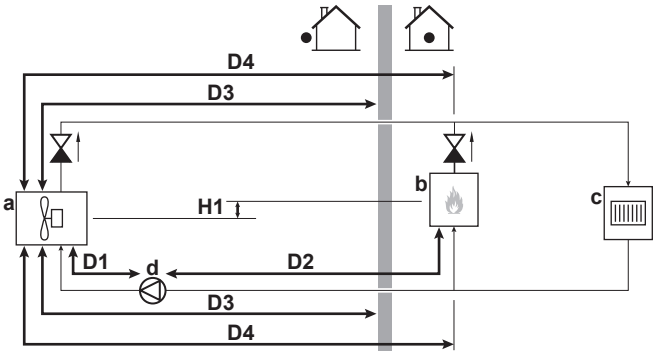
Hydronic Piping Calculation tool

For other cases the maximum water piping length can be determined using the Hydronic Piping Calculation tool. The Hydronic Piping Calculation tool is part of the Heating Solutions Navigator which can

be reached via https://professional.standbyme.daikin.eu. Please contact your dealer if you have no access to Heating Solutions Navigator.

This recommendation ensures good operation of the unit, however, local regulations may differ and shall be followed.

In case of third-party gas boiler



a Outdoor unit
b Third-party gas boiler
c Space heating circuit
d External pump

What?		Distance
H1	Maximum height difference between outdoor unit and third-party gas boiler	Depends on the expansion vessel in the third-party gas boiler. A distance of 10 m is recommended.
—	Maximum total length of the water piping (indoor part + outdoor part)	Depends on the external static pressure (ESP) of the system.
D1	Maximum distance between outdoor unit and external pump	10 m
D2	Distance between external pump and gas boiler	As short as possible.
D3	Maximum length of the outdoor part of the water piping (to prevent freeze-up of the water piping)	10 m[a] [b]
D4	Maximum distance between outdoor unit and third-party gas boiler	See table below.

[a] A distance of up to 30 m is allowed in case the water circuit is protected against freezing by glycol.
[b] Please confirm boiler ON delay timer settings.

If...			Then D4...	
Glycol?	**Ø**	**Condition[a]**	**ESP[b] 25 kPa**	**ESP[b] 35 kPa**
Water (without glycol)	3/4"	ΔT 5°C → 11.5 l/min	20 m	13 m
		ΔT 8°C → 7.2 l/min	68 m	50 m
	1"	ΔT 5°C → 11.5 l/min	123 m	88 m
		ΔT 8°C → 7.2 l/min	340 m	260 m
Water + glycol	1"	Start-up with glycol at –15°C → 7.0 l/min	44 m	30 m
		ΔT 5°C with glycol at 20°C → 12.8 l/min	36 m	14 m
		ΔT 8°C with glycol at 20°C → 8.0 l/min	170 m	120 m

[a] Based on capacity of 4 kW
[b] External static pressure calculated with 10×(90° elbow)

4.2.2 To check the water volume and flow rate

Minimum water volume

Check that the total water volume in the installation is minimum 20 litre, the internal water volume of the outdoor unit NOT included.

INFORMATION

In critical processes, or in rooms with a high heat load, extra water might be required.

NOTICE

When circulation in each space heating loop is controlled by remotely controlled valves, it is important that the minimum water volume is guaranteed, even if all of the valves are closed.

Minimum flow rate

A minimum flow rate must be guaranteed so that the outdoor unit does not go in high pressure error (A5). For guidelines on flow rates, see the tables in "4.2.1 Water piping lengths and height difference " [▸ 8].

NOTICE

When circulation in each or certain space heating loops is controlled by remotely controlled valves, it is important that the minimum flow rate is guaranteed, even if all valves are closed. In case the minimum flow rate cannot be reached, the heat pump generates a high pressure error (A5).

Minimum required flow rate
7 l/min[a]

(a) Below this value, no stable operation can be guaranteed.

4.3 Preparing electrical wiring

4.3.1 Overview of electrical connections for external and internal actuators

NOTICE

Field wiring – Temperature. Make sure that all field wiring withstands 90°C.

In case of system with *HY2KOMB28+32AA **gas boiler**

Connections to outdoor unit:

Item	Description	Wires	Maximum running current
Power supply			
1	Power supply for outdoor unit	2+GND	(a)
User interface			
2	User interface	2	(b)
Optional equipment			
3	Bottom plate heater	2+GND	(c)
4	Outdoor ambient temperature sensor	2	(d)
5	LAN adapter	2	(e)
Field supplied components			
6	Domestic hot water pump	2+GND	(d)

(a) See the name plate on the outdoor unit.
(b) Cable section 0.75 mm² till 1.25 mm²; maximum length: 200 m.
(c) Part of optional equipment
(d) Minimum cable section 0.75 mm².

(e) Cable section 0.75 mm² till 1.25 mm²; maximum length: 200 m. These wires MUST be sheathed. Recommended strip length: 6 mm.

NOTICE

More technical specifications of the different connections are indicated on the inside of the outdoor unit.

Connections to *HY2KOMB28+32AA gas boiler:

Item	Description	Wires	Maximum running current
Power supply			
1	Power supply gas boiler	2+GND	(a)
Interconnection cable			
2	Interconnection cable between outdoor unit and gas boiler	2	(b)
Optional equipment			
3	3-way valve	3	100 mA(c)
4	Domestic hot water tank thermistor	2	(d)
5	Room thermostat/heat pump convector	2	100 mA(c)

(a) See the name plate on the gas boiler.
(b) Cable section 0.75 mm² till 1.25 mm²; maximum length: 200 m. This cable is field supplied.
(c) Cable section 0.75 mm² till 1.25 mm².
(d) The thermistor and connection wire (11 m) are available as option (EKTH3 or EKTH4).

NOTICE

More technical specifications of the different connections are indicated on the inside of the gas boiler.

In case of system with third-party gas boiler

Connections to outdoor unit:

Item	Description	Wires	Maximum running current
Power supply			
1	Power supply for outdoor unit	2+GND	(a)
User interface			
2	User interface	2	(b)
External pump + bivalent signal			
3	External pump	2 and 2+GND	(c)
4	Bivalent signal for third-party gas boiler(g)	2	(d)
Optional equipment			
5	Bottom plate heater	2+GND	(e)
6	Outdoor ambient temperature sensor	2	(d)
7	LAN adapter	2	(f)

(a) See the name plate on the outdoor unit.
(b) Cable section 0.75 mm² till 1.25 mm²; maximum length: 200 m.
(c) The external pump is part of mandatory option EKADDONJH; the 2 external pump cables (PWM signal and power supply) are part of mandatory option EKADDONJH2.
(d) Minimum cable section 0.75 mm².
(e) Part of optional equipment
(f) Cable section 0.75 mm² till 1.25 mm²; maximum length: 200 m. These wires MUST be sheathed. Recommended strip length: 6 mm.
(g) Field supplied

NOTICE

More technical specifications of the different connections are indicated on the inside of the outdoor unit.

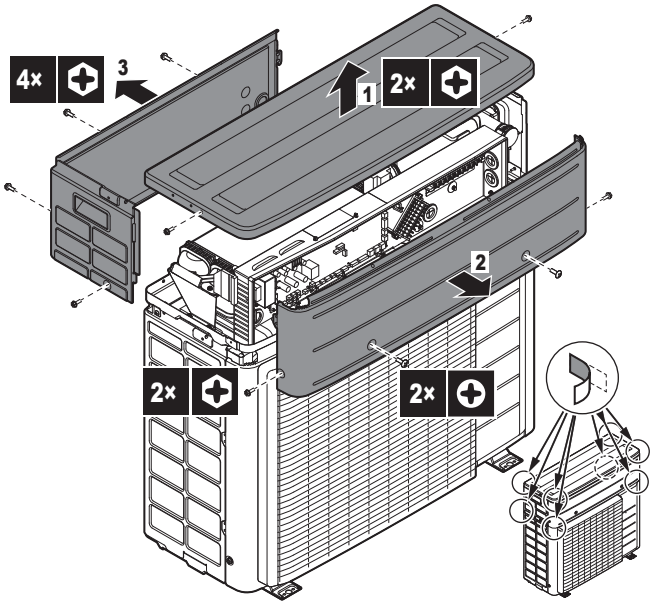
5 Installation

5.1 Opening the units

5.1.1 To open the outdoor unit

DANGER: RISK OF ELECTROCUTION

DANGER: RISK OF BURNING



1 Open the top plate.

2 Open the front plate.

3 If necessary, open the rear plate. This is, for example, necessary in the following cases:

- When you install the freeze protection valve inside the outdoor unit.
- When you install the bottom plate heater.

5.2 Mounting the outdoor unit

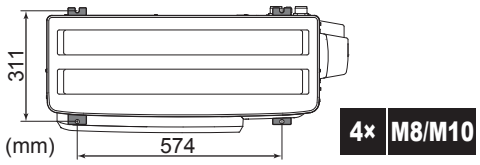
5.2.1 To provide the installation structure

This topic shows different installation structures. For all, use 4 sets of M8 or M10 anchor bolts, nuts and washers. In any case, provide at least 300 mm of free space below the unit. Additionally, make sure the unit is positioned at least 100 mm above the maximum expected level of snow.

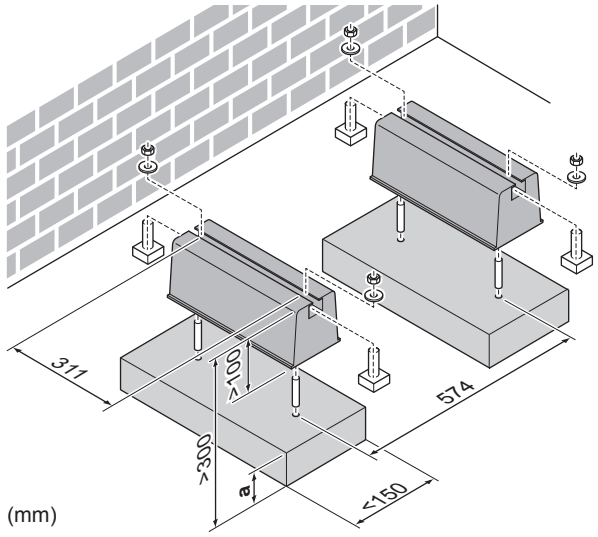
INFORMATION

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

Anchor points

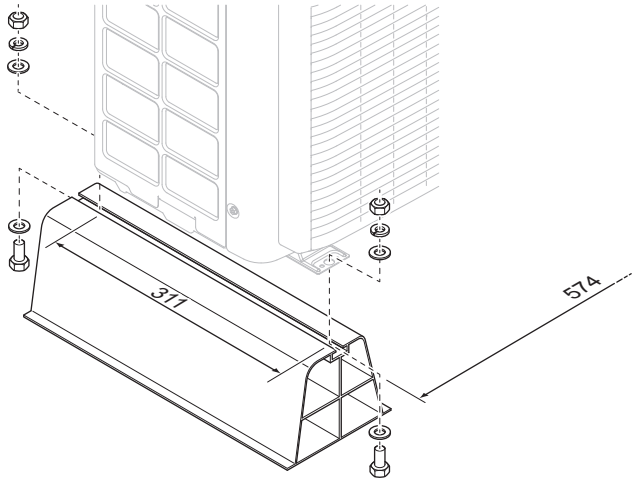


Option 1: On mounting feet "flexi-foot with strut"

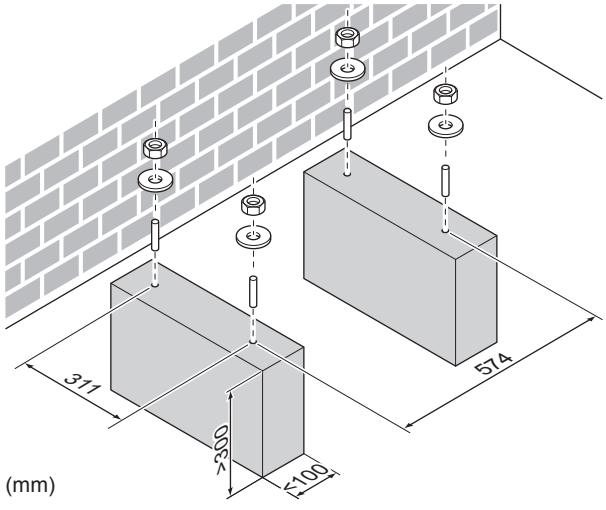


a Maximum snowfall height

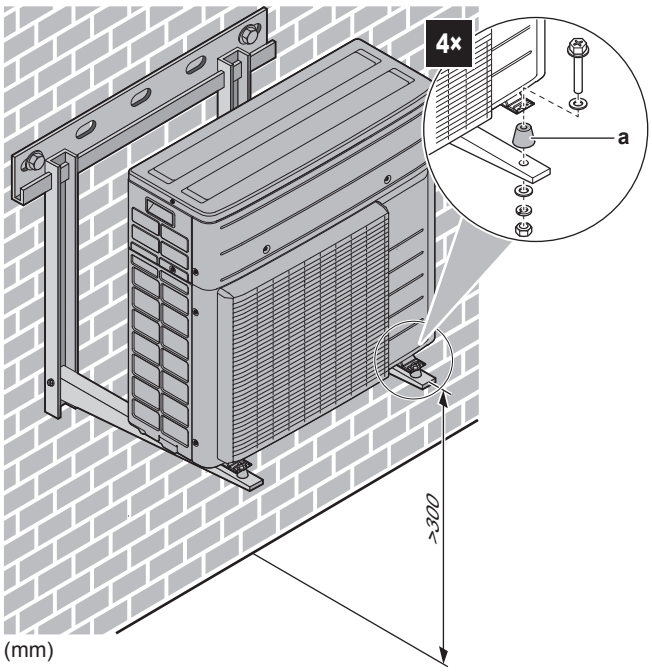
Option 2: On plastic mounting feet



Option 3: On a pedestal

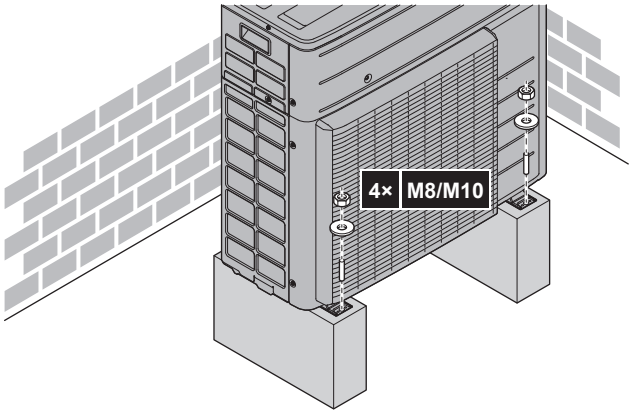


Option 4: On brackets to the wall



a Anti-vibration rubber (field supply)

5.2.2 To install the outdoor unit



5.2.3 To provide drainage

Make sure that condensation water can be evacuated properly.

NOTICE

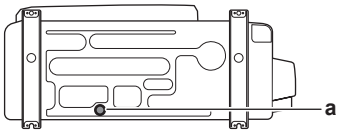
Cold climates. If the unit is installed in a cold climate:

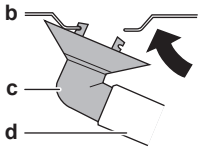
- Take adequate measures so that the evacuated condensate CANNOT freeze.
- Do NOT use the drain plug and drain hose with the outdoor unit. **Possible consequence:** Drain water might freeze, decreasing the heating capacity.

NOTICE

Provide at least 300 mm of free space below the unit. Additionally, make sure the unit is positioned at least 100 mm above the expected level of snow.

Except in cold climates, use the drain plug and a hose for drainage.



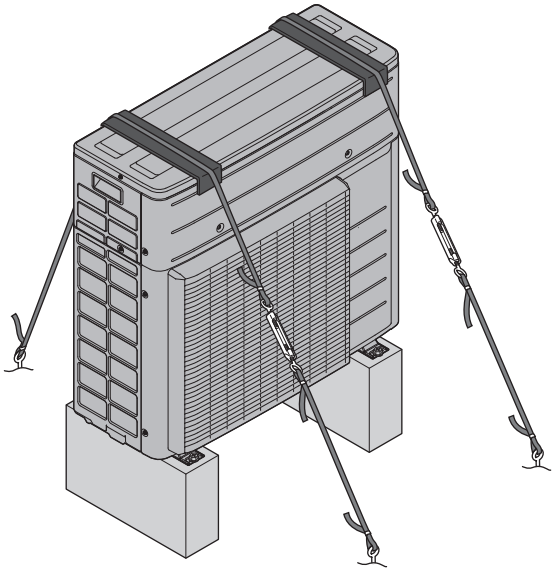


a Drain hole
b Bottom frame
c Drain plug (delivered as accessory)
d Hose (field supply)

5.2.4 To prevent the outdoor unit from falling over

In case the unit is installed in places where strong wind can tilt the unit, take following measure:

1 Prepare 2 cables as indicated in the following illustration (field supply).
2 Place the 2 cables over the outdoor unit.
3 Insert a rubber sheet between the cables and the outdoor unit to prevent the cables from scratching the paint (field supply).
4 Attach the ends of the cables.
5 Tighten the cables.



5.3 Connecting water piping

5.3.1 To connect the water piping

NOTICE

In case of old heating installations, it is recommended to use a dirt separator. Dirt or sediment from the heating installation can damage the unit and reduce its lifetime.

NOTICE

Do NOT use excessive force when connecting the piping. Deformation of the piping can cause malfunctioning of the unit. Make sure that the tightening torque does NOT exceed 30 N•m.

NOTICE

Shut-off valves. We recommend to connect shut-off valves to facilitate service and maintenance. They are available as option (EKBALLV1). If you do not install shut-off valves, make sure to install air purge valves on the water inlet and outlet.

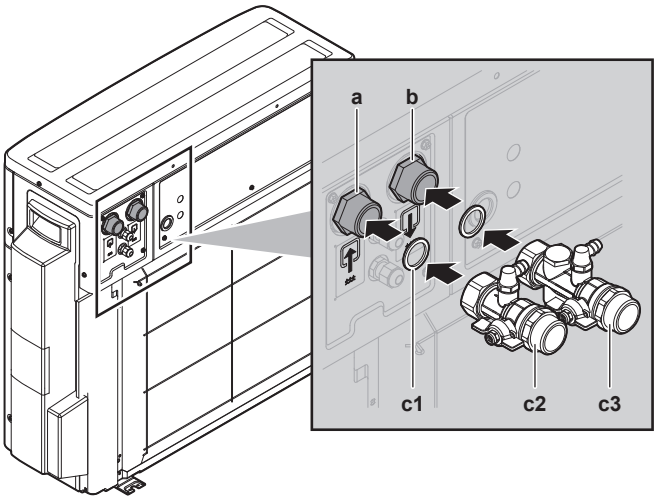
NOTICE

Drain/fill point. Foresee a drain/fill point to drain or fill the space heating circuit. The fill/drain point can be:

- Field supplied
- In case of *HY2KOMB28+32AA gas boiler: Part of option EKFL1A (filling loop kit)
- In case of third-party gas boiler: Part of the existing installation

NOTICE

Do NOT install valves to shut down the entire emitter system (radiators, floor heating loops, fan coil units, ...) instantly if this can result in an immediate short circuit of the water flow between the outlet and the inlet of the unit (for example via a bypass valve). This may trigger an error.



a Water inlet (G1")(coming from the heat emitters)
b Water outlet (G1")(going to the gas boiler in case of *HY2KOMB28+32AA gas boiler)
c1~c3 Parts of option EKBALLV1
c1: O-rings
c2: Shut-off valve
c3: Shut-off valve with integrated connection for the vacuum breaker (if applicable)

1 Connect the O-rings and shut-off valves.
2 Connect the field piping on the shut-off valves.
3 In case of connection with the optional domestic hot water tank, see the installation manual of the domestic hot water tank.

NOTICE

In case of a third-party gas boiler: Install a manometer in the system.

NOTICE

Install air purge valves at all local high points.

NOTICE

In case an optional domestic hot water tank is installed: A pressure relief valve (field supply) with an opening pressure of maximum 10 bar (= 1 MPa) must be installed on the domestic cold water inlet connection in accordance with the applicable legislation.

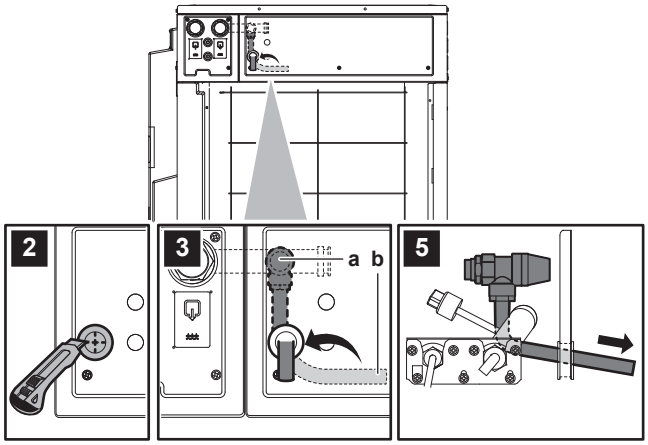
5.3.2 To provide drainage for the pressure relief valve

NOTICE

If overpressure occurs, the system will release some of the liquid through the pressure relief valve. The pressure relief valve of the outdoor unit is designed to open at 3 bar.

If glycol was added to the system, take adequate measures to safely recover it when the pressure relief valve opens.

In any case, make sure that the flexible hose of the pressure relief valve is ALWAYS free to release pressure.



a Pressure relief valve
b Flexible hose (drain)

1 Open the top plate, front plate, and rear plate. See "5.1.1 To open the outdoor unit" [▶ 10].

2 Make a cross-cut in the rubber grommet on the rear plate.

3 Route the flexible hose through the grommet.

4 Close the rear plate.

5 Pull the flexible hose with a light force to make sure that the flexible hose slopes down. This prevents water from staying and/or freezing inside the hose.

6 Close the front plate and top plate.

7 If glycol was added to the system, take adequate measures to safely recover it when the pressure relief valve opens.

5.3.3 To protect the water circuit against freezing

About freeze protection

Frost can damage the system. To prevent the hydraulic components from freezing, the software is equipped with special frost protection functions, that include the activation of pump in case of low temperatures.

However, in case of a power failure, these functions cannot guarantee protection.

Do one of the following to protect the water circuit against freezing:

- Add glycol to the water. Glycol lowers the freezing point of the water.
- Install freeze protection valves. Freeze protection valves drain the water from the system before it can freeze.

NOTICE

If you add glycol to the water, do NOT install freeze protection valves. **Possible consequence:** Glycol leaking out of the freeze protection valves.

Freeze protection by glycol

Adding glycol to the water lowers the freezing point of the water.

The required concentration depends on the lowest expected outdoor temperature, and on whether you want to protect the system from bursting or from freezing. To prevent the system from freezing, more glycol is required. Add glycol according to the table below.

INFORMATION

- Protection against bursting: the glycol will prevent the piping from bursting, but NOT the liquid inside the piping from freezing.
- Protection against freezing: the glycol will prevent the liquid inside the piping from freezing.

Lowest expected outdoor temperature	Prevent from bursting	Prevent from freezing
–5°C	10%	15%
–10°C	15%	25%
–15°C	20%	35%
–20°C	25%	—
–25°C	30%	—
–30°C	35%	—

NOTICE

- The required concentration might differ depending on the type of glycol. ALWAYS compare the requirements from the table above with the specifications provided by the glycol manufacturer. If necessary, meet the requirements set by the glycol manufacturer.
- The added concentration of glycol should NEVER exceed 35%.
- If the liquid in the system is frozen, the pump will NOT be able to start. Mind that if you only prevent the system from bursting, the liquid inside might still freeze.
- When water is at standstill inside the system, the system is very likely to freeze and get damaged.

The types of glycol that can be used depend on whether the system contains a domestic hot water tank:

If…	Then…
The system contains a domestic hot water tank	Only use propylene glycol[(a)]
The system does NOT contain a domestic hot water tank	You can use either propylene glycol[(a)] or ethylene glycol

[(a)] Propylene glycol, including the necessary inhibitors, classified as Category III according to EN1717.

WARNING

Ethylene glycol is toxic.

NOTICE

Glycol absorbs water from its environment. Therefore do NOT add glycol that has been exposed to air. Leaving the cap off the glycol container causes the concentration of water to increase. The glycol concentration is then lower than assumed. As a result, the hydraulic components might freeze up after all. Take preventive actions to ensure a minimal exposure of the glycol to air.

WARNING

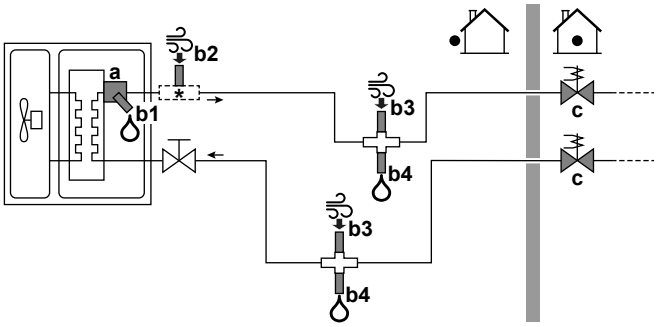
Due to the presence of glycol, corrosion of the system is possible. Uninhibited glycol will turn acidic under the influence of oxygen. This process is accelerated by the presence of copper and high temperatures. The acidic uninhibited glycol attacks metal surfaces and forms galvanic corrosion cells that cause severe damage to the system. Therefore it is important that:

- the water treatment is correctly executed by a qualified water specialist,
- a glycol with corrosion inhibitors is selected to counteract acids formed by the oxidation of glycols,
- no automotive glycol is used because their corrosion inhibitors have a limited lifetime and contain silicates which can foul or plug the system,
- galvanized pipes are NOT used in glycol systems since the presence may lead to the precipitation of certain components in the glycol's corrosion inhibitor.

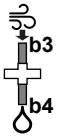
Adding glycol to the water circuit reduces the maximum allowed water volume of the system. For more information, see the manual of the expansion vessel.

Freeze protection by freeze protection valves

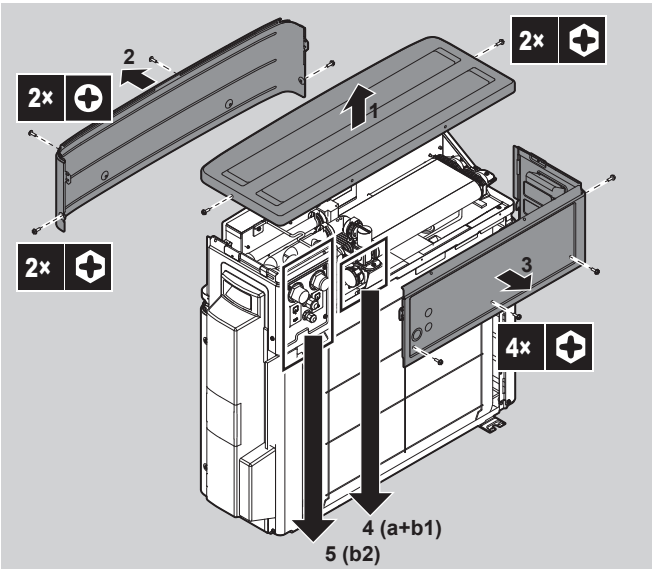
When no glycol is added to the water, you can use freeze protection valves to drain the water from the system before it can freeze. To do so, install the following parts:



a+b1+b2 Protection for the outdoor unit (*: there are 2 possibilities to connect **b2**; see below)
b3+b4 Protection for the field piping
c Isolation of water inside the house when there is a power interruption

Part	Description
a+b1+b2	(Mandatory – Delivered as accessory). **a** Connection piece for **b1** **b1** Freeze protection valve (for water drainage) **b2** Vacuum breaker (head-up for air supply) These parts are necessary to protect the piping inside the outdoor unit against freezing. **Note:** These parts do NOT protect the field piping against freezing.
b3+b4	Use AFVALVEHY2. It is the installer's responsibility to protect the field piping against freezing. One possibility is to install freeze protection valves at all lowest points of the field piping. If you do so, always install the freeze protection valves in pair:  **b3** Vacuum breaker (head-up for air supply) **b4** Freeze protection valve (head-down for water drainage)
c	**c** Normally closed valves (Recommended – Field supply). Normally closed valves can prevent that all water from the system is drained when the freeze protection valves open. ▪ **When there is a power interruption:** The normally closed valves close and isolate the water inside the house. If the freeze protection valves open, only the water outside the house is drained. ▪ **In other circumstances** (example: when there is a pump failure): The normally closed valves remain open. If the freeze protection valves open, the water from inside the house is also drained.

To connect a+b1+b2



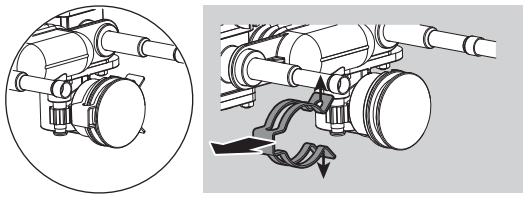
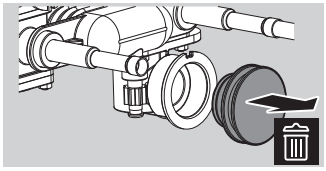
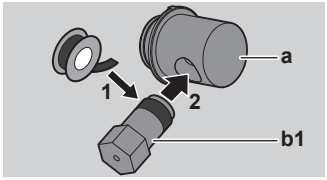
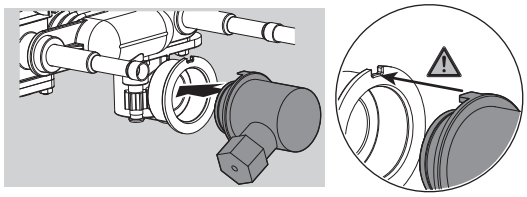
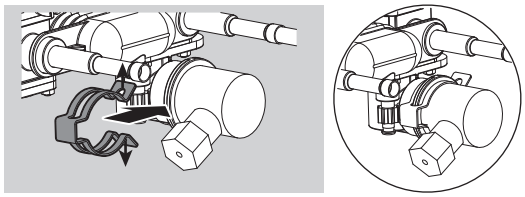
a Connection piece for **b1**
b1 Freeze protection valve (for water drainage)
b2 Vacuum breaker (head-up for air supply)

1 Open the top plate.

2 Open the front plate.

3 Open the rear plate.

4 Connect **a+b1** as follows:

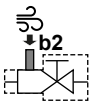
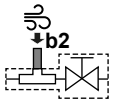
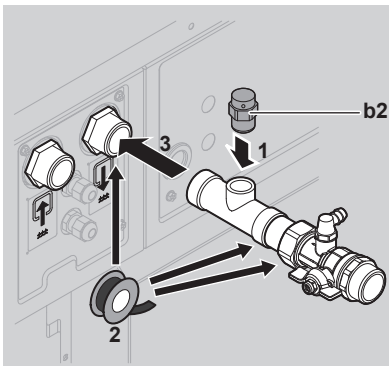
1	Remove the clip. 
2	Remove and discard the stop with the sealing. 
3	Attach the freeze protection valve (**b1**) to the connection piece (**a**), using thread sealant. 
4	Attach the connection piece to the outdoor unit. 
5	Attach the clip. 
6	Close the rear plate, front plate and top plate.

5 Do one of the following to connect **b2** (2 possibilities):

NOTICE

Vacuum breaker (b2). To make proper drainage through the freeze protection valve inside the outdoor unit possible, the vacuuum breaker must be installed correctly:

- Directly at the water outlet of the unit, without any field piping or valve in between.
- Head-up for air supply.

Possibility 1 	With option EKBALLV1 (shut-off valves with integrated connection for the vacuum breaker). For installation instructions, see the installation manual of the shut-off valves.
Possibility 2 	With T-joint (field supply) + shut-off valve (field supply). 

5.3.4 To fill the space heating circuit

In case of dedicated gas boiler

INFORMATION

Air purge valves. In case of *HY2KOMB28+32AA gas boiler, the following air purge valves are possible:

- Manual air purges valves on the shut-off valves (option EKBALLV1).
- Manual air purge valve inside the *HY2KOMB28+32AA gas boiler.
- Manual or automatic field-supplied air purge valves.
- **Note:** Automatic air purge valves are NOT allowed if glycol is used.

Before filling the space heating circuit, the gas boiler MUST be installed.

1 Flush the installation thoroughly to clean the circuit.

2 Connect the water supply hose to the fill/drain point.

Note: The fill/drain point can be:
- Field supplied
- Part of option EKFL1A (filling loop kit for the *HY2KOMB28+32AA gas boiler)

3 Power up the gas boiler to see the pressure indication on the boiler display.

4 If an automatic air purge valve was installed, make sure it is open.

5 Fill the circuit with water until the boiler display indicates a pressure of ±2 bar (with a minimum of 0.5 bar).

Note: The pressure relief valve of the outdoor unit is designed to open at 3 bar.

6 Purge air from all manual air purge valves in the system (open, purge air, close).

7 Check the pressure. If it is too low, repeat from step 5.

8 Turn ON the pump, and check if you can still hear air in the circuit. After ±1 min, turn it OFF.

Note: To turn the pump ON and OFF, use the air purge function on the outdoor unit's user interface. See "7.2.1 To perform an air purge" [▶ 28].

9 Purge air again from all manual air purge valves in the system (especially if you heard air in the circuit).

10 Check the pressure again. If it is too low, repeat from step 5.

11 Disconnect the water supply hose from the fill/drain point.

In case of third-party gas boiler

INFORMATION

Air purge valves. In case of third-party gas boiler, the following air purge valves are possible:

- Manual air purge valves on the shut-off valves (option EKBALLV1).
- Manual or automatic air purge valve inside the third-party gas boiler.
- Manual or automatic field-supplied air purge valves.
- **Note:** Automatic air purge valves are NOT allowed if glycol is used.

Before filling the space heating circuit, the gas boiler MUST be installed.

1 Flush the installation thoroughly to clean the circuit.

2 Connect the water supply hose to the fill/drain point.

Note: The fill/drain point can be:
- Field supplied
- Part of the existing installation

3 Power up the gas boiler, and make sure you can read out the pressure indication.

Note: The pressure indication can be:
- On the boiler display of the third-party gas boiler
- On a field-supplied manometer

4 If an automatic air purge valve was installed, make sure it is open.

5 Fill the circuit with water until the boiler display indicates a pressure of ±2 bar (with a minimum of 0.5 bar).

Note: The pressure relief valve of the outdoor unit is designed to open at 3 bar.

6 Purge air from all manual air purge valves in the system (open, purge air, close).

7 Check the pressure. If it is too low, repeat from step 5.

8 Turn ON the pump, and check if you can still hear air in the circuit. After ±1 min, turn it OFF.

Note: To turn the pump ON and OFF, use the air purge function on the outdoor unit's user interface. See "7.2.1 To perform an air purge" [▸ 28].

9 Turn ON the bivalent signal test, and check if you can still hear air in the circuit. After ±1 min, turn it OFF.

Note: To turn the bivalent signal test, see "7.2.3 To perform an actuator test run" [▸ 28].

10 Purge air again from all manual air purge valves in the system (especially if you heard air in the circuit).

11 Check the pressure again. If it is too low, repeat from step 5.

12 Disconnect the water supply hose from the fill/drain point.

5.3.5 To fill the domestic hot water tank

See the installation manual of the domestic hot water tank.

5.3.6 To insulate the water piping

The piping in the complete water circuit MUST be insulated to prevent condensation and reduction of the heating capacity.

To prevent the freezing of the outdoor water piping during winter time, the thickness of the sealing material MUST be at least 13 mm (with λ=0.039 W/mK).

During winter, protect the water piping and shut-off valves against freezing by adding heat tape (field supply). If the outdoor temperature can drop below –20°C and no heat tape is used, it is recommended to install the shut-off valves indoors.

5.4 Connecting the electrical wiring

DANGER: RISK OF ELECTROCUTION

WARNING

ALWAYS use multicore cable for power supply cables.

WARNING

Prevent hazards due to inadvertent resetting of the thermal cut-out: power to this appliance MUST NOT be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly turned ON and OFF by the utility.

NOTICE

Safety thermostat (normally closed contact). The outdoor unit does not contain a safety thermostat. Make sure to install a field-supplied safety thermostat in the heat emitter system according to the applicable legislation.

However, you cannot connect the feedback signal from the safety thermostat to the outdoor unit or gas boiler because there are no terminals for the feedback signal. Because of this, you also do not have to do any configuration on the outdoor unit or gas boiler.

In any case, to prevent unnecessary tripping of the safety thermostat, we recommend the following:

- The safety thermostat is automatically resettable.
- The safety thermostat has a maximum temperature variation rate of 2°C/min.
- There is a minimum distance of 2 m between the safety thermostat and the motorized 3-way valve delivered with the domestic hot water tank.
- The safety thermostat setpoint is at least 15°C greater than the maximum leaving water temperature setpoint.

5.4.1 In case of dedicated gas boiler

To connect the electrical wiring to the outdoor unit

NOTICE

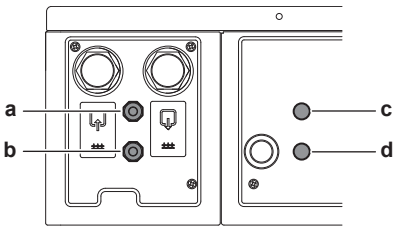
The distance between the high voltage and low voltage cables should be at least 50 mm.

CAUTION

Do NOT push or place redundant cable length in the unit.

1 Open the top plate and the front plate. See "5.1.1 To open the outdoor unit" [▸ 10].

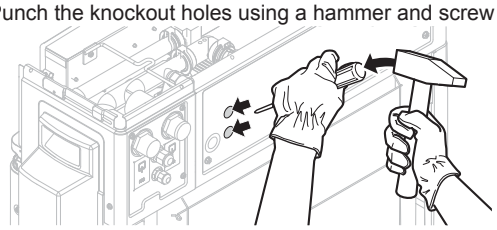
2 Insert the wiring at the back of the unit:



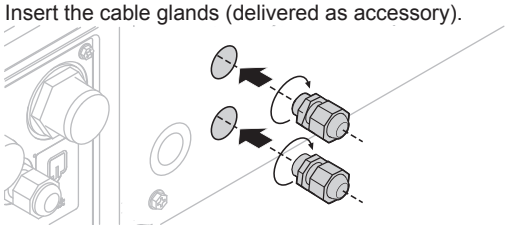
a~d See below

3 If you insert cables through the knockout holes **c** and **d**:

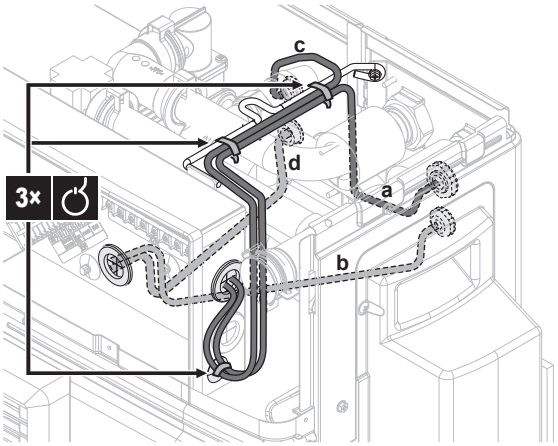
- Punch the knockout holes using a hammer and screw driver.



- Insert the cable glands (delivered as accessory).



4 Inside the unit, route the wiring to the switch box as follows:



a~d See below

5 Inside the switch box, connect the wires to the appropriate terminals.

6 After connecting all wiring, close the front plate and the top plate.

Connections in case of dedicated gas boiler

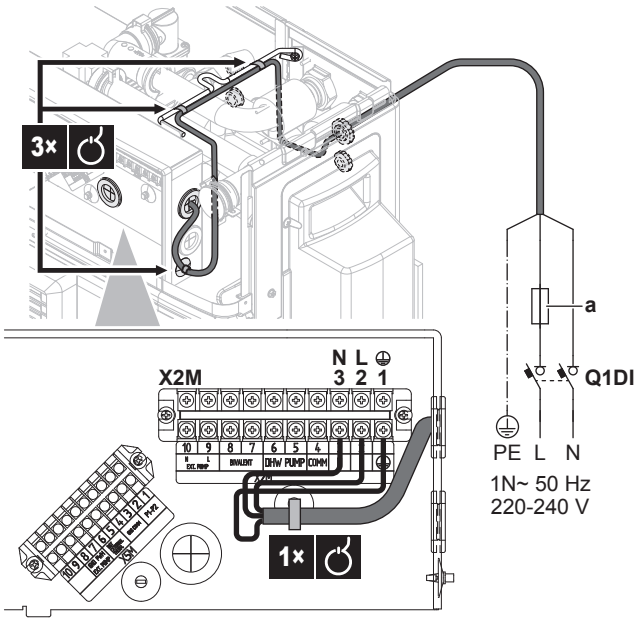
Routing	Possible cables (depends on the installed options)
a Main power supply (high voltage)	Main power supply
b User interface (low voltage)	User interface (mandatory option)
c High voltage	Domestic hot water pump (field supply)
d Low voltage	▪ Interconnection cable between outdoor unit and gas boiler ▪ External outdoor temperature sensor (option) ▪ LAN adapter (option)

INFORMATION

Bottom plate heater (option). For the routing, see the installation manual of the bottom plate heater.

To connect the main power supply

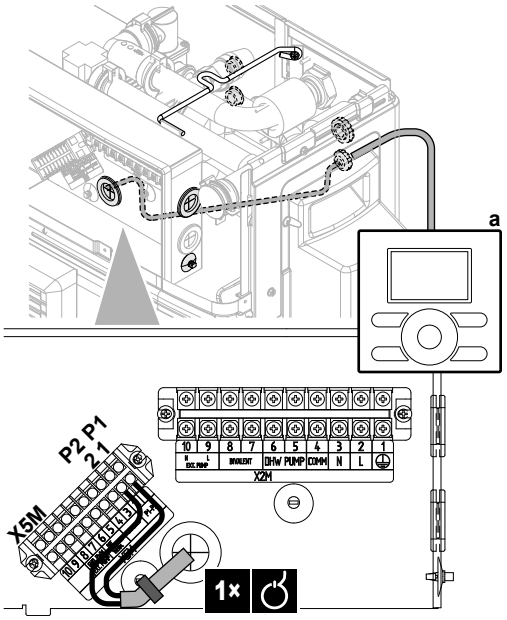
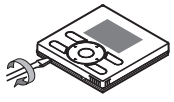
1 Connect the main power supply to the appropriate terminals as shown in the illustration below.



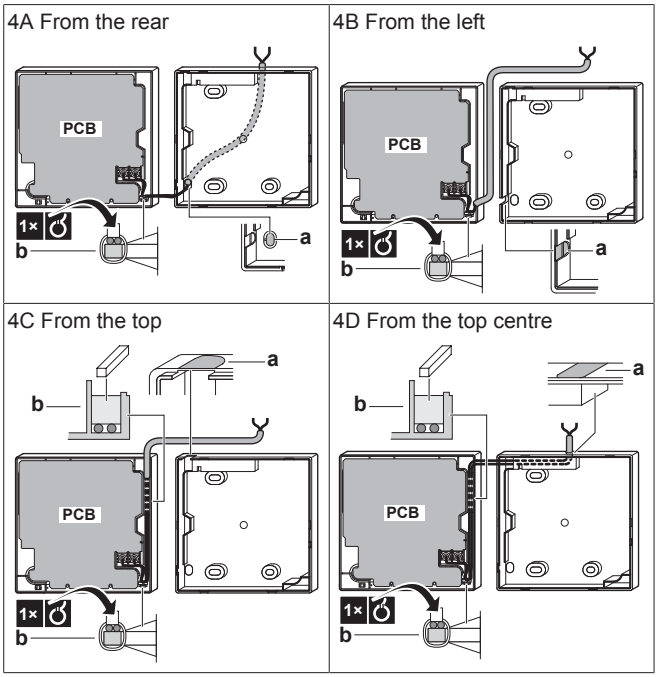
a Recommended field fuse: 20 A
Q1DI Earth leakage circuit breaker

2 Fix the cable with cable ties to the cable tie mountings.

To connect the user interface

#	Action
1	Connect the user interface cable to the outdoor unit. Fix the cable with cable ties to the cable tie mountings.  **a** User interface. The user interface is required for operation, but has to be ordered separately (mandatory option).
2	Insert a screwdriver into the slots underneath the user interface and carefully separate the faceplate from the wallplate. The PCB is mounted in the faceplate of the user interface. Be careful NOT to damage it. 
3	Fix the wallplate of the user interface to the wall.
4	Connect as shown in 4A, 4B, 4C or 4D.

#	Action
5	Reinstall the faceplate onto the wallplate. Be careful NOT to pinch the wiring when attaching the frontplate to the unit.

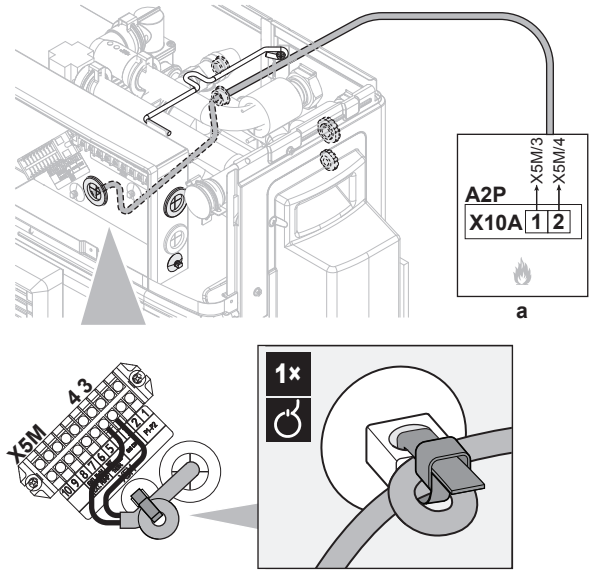


a Notch this part for the wiring to pass through with nippers etc.

b Secure the wiring to the front part of the casing using the wiring retainer and clamp.

To connect the dedicated gas boiler to the outdoor unit

1 Connect the interconnection cable between outdoor unit and gas boiler to the appropriate terminals as shown in the illustration below. The interconnection cable is field supplied.

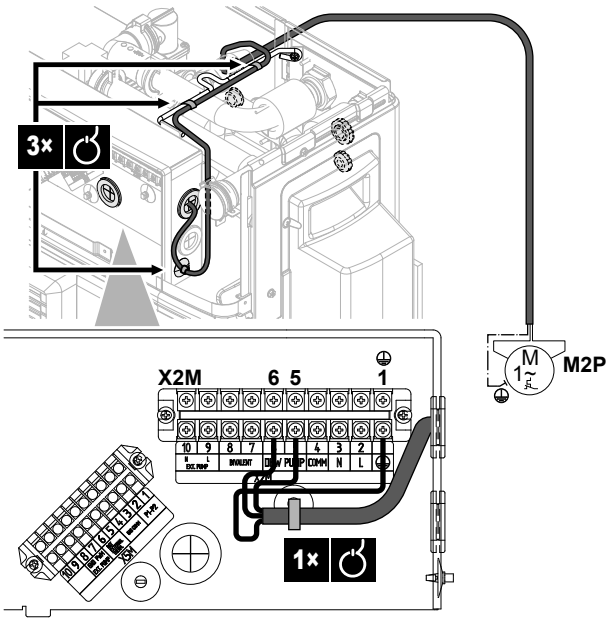


a *HY2KOMB28+32AA gas boiler

2 Fix the cable with cable ties to the cable tie mountings.

To connect the domestic hot water pump

1 Connect the domestic hot water pump cable to the appropriate terminals as shown in the illustration below.



2 Fix the cable with cable ties to the cable tie mountings.

5.4.2 In case of third-party gas boiler

To connect the electrical wiring to the outdoor unit

NOTICE

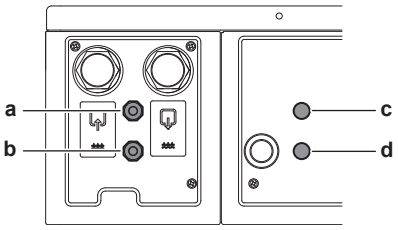
The distance between the high voltage and low voltage cables should be at least 50 mm.

CAUTION

Do NOT push or place redundant cable length in the unit.

1 Open the top plate and the front plate. See "5.1.1 To open the outdoor unit" [▸ 10].

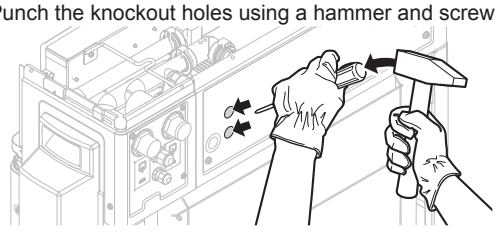
2 Insert the wiring at the back of the unit:



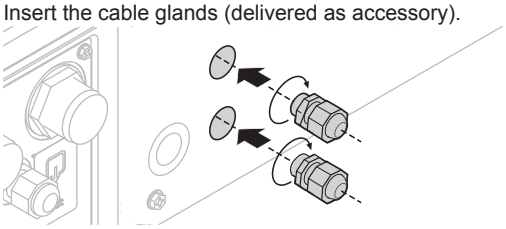
a~d See below

3 If you insert cables through the knockout holes **c** and **d**:

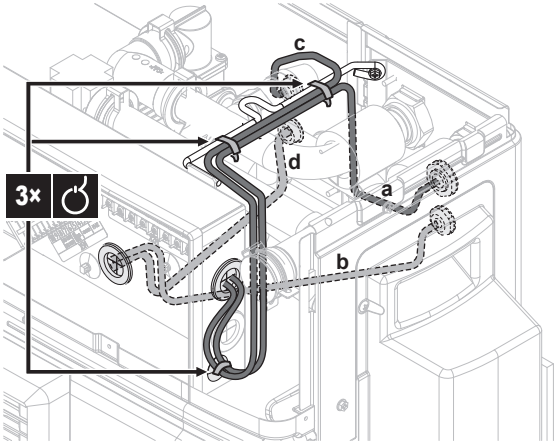
- Punch the knockout holes using a hammer and screw driver.



- Insert the cable glands (delivered as accessory).



4 Inside the unit, route the wiring to the switch box as follows:



a~d See below

5 Inside the switch box, connect the wires to the appropriate terminals.

6 After connecting all wiring, close the front plate and the top plate.

Connections in case of third-party gas boiler

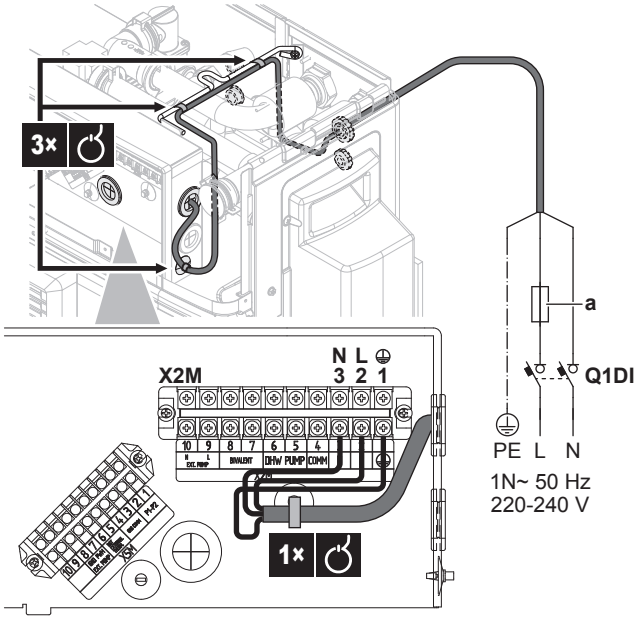
Routing	Possible cables (depends on the installed options)
a Main power supply (high voltage)	Main power supply
b User interface (low voltage)	User interface (mandatory option)
c High voltage	▪ Bivalent signal for third-party gas boiler (field supply) ▪ External pump cable – Power supply (mandatory option)
d Low voltage	▪ External outdoor temperature sensor (option) ▪ LAN adapter (option) ▪ External pump cable – PWM signal (mandatory option)

INFORMATION

Bottom plate heater (option). For the routing, see the installation manual of the bottom plate heater.

To connect the main power supply

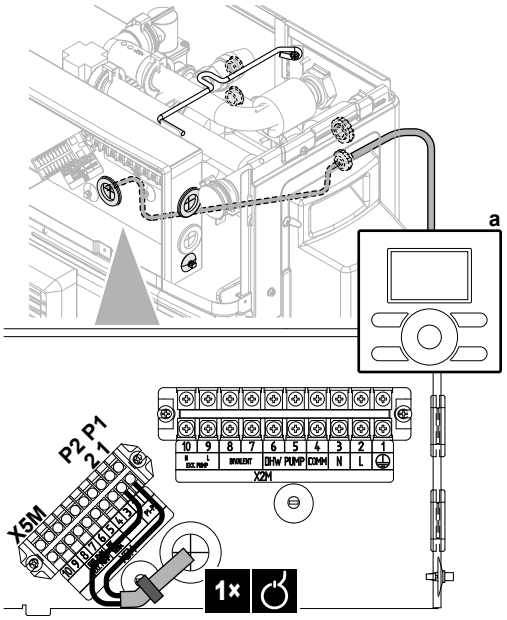
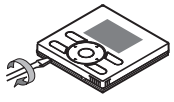
1 Connect the main power supply to the appropriate terminals as shown in the illustration below.



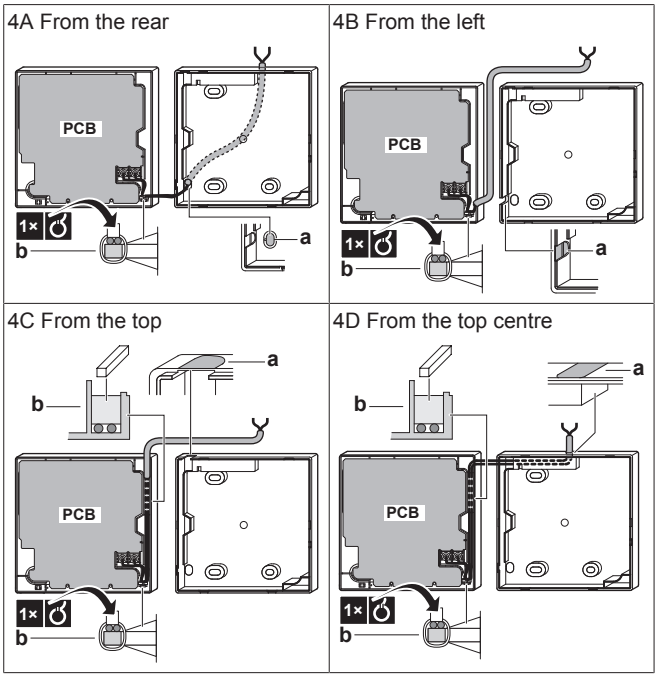
a Recommended field fuse: 20 A
Q1DI Earth leakage circuit breaker

2 Fix the cable with cable ties to the cable tie mountings.

To connect the user interface

#	Action
1	Connect the user interface cable to the outdoor unit. Fix the cable with cable ties to the cable tie mountings.  **a** User interface. The user interface is required for operation, but has to be ordered separately (mandatory option).
2	Insert a screwdriver into the slots underneath the user interface and carefully separate the faceplate from the wallplate. The PCB is mounted in the faceplate of the user interface. Be careful NOT to damage it. 
3	Fix the wallplate of the user interface to the wall.
4	Connect as shown in 4A, 4B, 4C or 4D.

#	Action
5	Reinstall the faceplate onto the wallplate. Be careful NOT to pinch the wiring when attaching the frontplate to the unit.

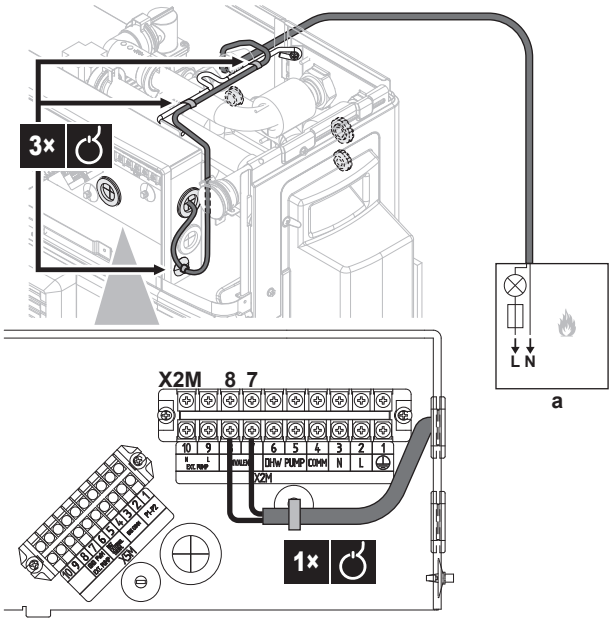


a Notch this part for the wiring to pass through with nippers etc.

b Secure the wiring to the front part of the casing using the wiring retainer and clamp.

To connect the bivalent signal for third-party gas boiler

1 Connect the bivalent signal for third-party gas boiler to the appropriate terminals as shown in the illustration below.



a Bivalent signal for third-party gas boiler

2 Fix the cable with cable ties to the cable tie mountings.

To connect the external pump

NOTICE

External pump. In case of third-party gas boiler, you must install the mandatory options EKADDONJH and EKADDONJH2 (= connection kit for third-party gas boiler). This includes connecting the external pump to the outdoor unit. For installation instructions, see the installation manual of the connection kit.

6 Configuration

6.1 Overview: Configuration

This chapter describes what you have to do and know to configure the system after it is installed.

NOTICE

This chapter explains only the basic configuration. For more detailed explanation and background information, see the installer reference guide.

INFORMATION

Gas boiler. Depending on the installed gas boiler, settings will be visible/invisible.

- By default, only the settings applicable for the third-party gas boiler are displayed.
- When the unit detects communication from the *HY2KOMB28+32AA gas boiler, all settings applicable for the *HY2KOMB28+32AA gas boiler are automatically displayed.

Why

If you do NOT configure the system correctly, it might NOT work as expected. The configuration influences the following:

- The calculations of the software
- What you can see on and do with the user interface

How

You can configure the system via the user interface.

- **First time – Quick wizard.** When you turn ON the user interface for the first time (via the outdoor unit), a quick wizard starts to help you configure the system.
- **Afterwards.** If necessary, you can make changes to the configuration afterwards.

INFORMATION

When the installer settings are changed, the user interface will request to confirm. When confirmed, the screen will shortly turn OFF and "busy" will be displayed for several seconds.

Accessing settings – Legend for tables

You can access the installer settings using two different methods. However, NOT all settings are accessible via both methods. If so, the corresponding table columns in this chapter are set to N/A (not applicable).

Method	Column in tables
Accessing settings via the breadcrumb in the **menu structure**.	**#** For example: [A.2.1.7]
Accessing settings via the code in the **overview settings**.	**Code** For example: [C-07]

See also:

- "To access the installer settings" [▶ 21]
- "6.4 Menu structure: Overview installer settings" [▶ 26]

6.1.1 To access the most used commands

To access the installer settings

1 Set the user permission level to `Installer`.

2 Go to [A]: ☰ > `Installer settings`.

To access the overview settings

1 Set the user permission level to `Installer`.

2 Go to [A.8]: ☰ > `Installer settings` > `Overview settings`.

To set the user permission level to Installer

Prerequisite: Your user permission level is `Adv. end user`.

1 Go to [6.4]: ☰ > `Information` > `User permission level`.

2 Press ☰ for more than 4 seconds.

Result: Your user permission level is now `Installer`. The home pages display 🔧.

INFORMATION

The `Installer` permission level switches automatically back to `End user` in the following cases:

- If you press ⓘ again for more than 4 seconds, or
- If you do NOT press any button for more than 1 hour

To set the user permission level to Advanced end user

1 Go to the main menu or any of its submenus: ☰.

2 Press ⓘ for more than 4 seconds.

Result: Your user permission level is now `Adv. end user`. The user interface displays additional information and a "+" is added to the menu title. The user permission level stays in `Adv. end user` until manually set otherwise.

To set the user permission level to End user

1 Press ⓘ for more than 4 seconds.

Result: Your user permission level is now `End user`. The user interface displays the default home page.

To modify an overview setting

Example: Modify [1-01] from 15 to 20.

1 Go to [A.8]: ☰ > `Installer settings` > `Overview settings`.

2 Go to the corresponding screen of the first part of the setting (in this example [**1**-01]) by using the ▲ and ▼ button.

INFORMATION

An additional 0-digit is added to the first part of the setting when you access the codes in the overview settings.

Example: [1-01]: "1" will result in "**0**1".

Overview settings				
		01		
00	01	15	02	03
04	05		06	07
08	09		0a	0b
0c	0d		0e	0f
OK Confirm		▲▼ Adjust		◀▶ Scroll

3 Go to the corresponding second part of the setting (in this example [1-**01**]) by using the ◀ and ▶ button.

Overview settings				
		01		
00	01	15	02	03
04	05		06	07
08	09		0a	0b
0c	0d		0e	0f
OK Confirm		▲▼ Adjust		◀▶ Scroll

Result: The value to be modified is now highlighted.

4 Modify the value by using the ▲ and ▼ button.

Overview settings				
		01		
00	01	20	02	03
04	05		06	07
08	09		0a	0b
0c	0d		0e	0f
OK Confirm		▲▼ Adjust		◀▶ Scroll

5 Repeat previous steps if you have to modify other settings.

6 Push OK to confirm the modification of the parameter.

7 At installer settings menu, press OK to confirm the settings.

Installer settings		
The system will restart.		
OK		Cancel
OK Confirm	◀▶ Adjust	

Result: The system will restart.

6.2 Basic configuration

6.2.1 Quick wizard: Language / time and date

#	Code	Description
[A.1]	N/A	Language
[1]	N/A	Time and date

6.2.2 Quick wizard: Standard

Space heating settings

#	Code	Description
[A.2.1.7]	[C-07]	Unit temperature control: ▪ 0 (`LWT control`): Unit operation is decided based on the leaving water temperature. ▪ 1 (`Ext RT control`): Unit operation is decided by the external thermostat. This is only applicable in case of *HY2KOMB28+32AA gas boiler. ▪ 2 (`RT control`): Unit operation is decided based on the ambient temperature of the user interface.

#	Code	Description
[A.2.1.9]	[F-0D]	Pump operation: ▪ 0 (Continuous): Continuous pump operation, regardless of thermo ON or OFF condition. ▪ 1 (Sample): When thermo OFF condition occurs, the pump runs every 5 minutes and the water temperature is checked. If the water temperature is below target, unit operation can start. ▪ 2 (Request): Pump operation based on request. **Example:** Using a room thermostat and thermostat creates thermo ON/OFF condition.
[A.2.1.C]	[E-0D]	Glycol present: ▪ 0 (No) ▪ 1 (Yes)
[A.2.1.D]	[4-04]	Pipe freeze prevention: ▪ 1 (cont. pump). This setting is read-only.
[A.2.1.E]	[C-02]	Hybrid system type: ▪ 0 (Boiler): In case of *HY2KOMB28+32AA gas boiler. ▪ 1 (Bivalent boiler): In case of third-party gas boiler. By default, this setting is set to 1, and only the settings applicable for the third-party gas boiler are displayed. When the unit detects communication from the *HY2KOMB28+32AA gas boiler, the unit automatically changes this setting to 0, and all settings applicable for the *HY2KOMB28+32AA gas boiler are displayed.

6.2.3 Quick wizard: Options

Domestic hot water settings

Only applicable in case of *HY2KOMB28+32AA gas boiler.

#	Code	Description
[A.2.2.1]	[E-05]	Domestic hot water preparation: ▪ 0 (No): NOT possible ▪ 1 (Yes): Possible
[A.2.2.2]	[E-06]	Domestic hot water production: ▪ 0 (Type 1): by boiler ▪ 1 (Type 2): by tank **Note:** For Switzerland, setting MUST be "1".
[A.2.2.3]	[E-07]	Domestic hot water tank: ▪ 0 (Type 1): EKHWS*D* or third-party tank (see below). ▪ 4 (Type 5). EKHWP. ▪ 6 (Type 7) Third-party tank. Range: 0~6
[A.2.2.A]	[D-02]	Domestic hot water pump (not applicable for Switzerland): In case of [E-06]=1 ▪ 0 (No): NOT installed ▪ 1 (Secondary rtrn): Installed for instant hot water ▪ 2 (Disinf. shunt): Installed for disinfection See also illustrations below.

INFORMATION

The tank can be heated via the gas boiler or heat pump.

INFORMATION

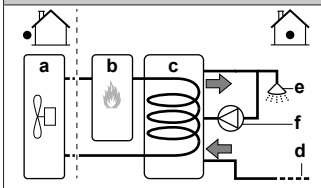
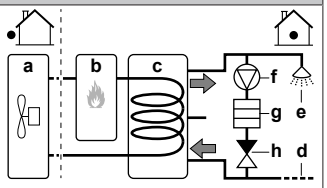
If a third-party tank is present in the system, and heat pump operation is...

...required and allowed, set [E-07] to "0".

...NOT allowed, set [E-07] to "6". If [E-07]=6, the unit limits the maximum setpoint to 60°C.

If a third-party tank is present in the system ([E-07]=6), it is recommended to set [6-0D] to "0" (i.e. Reheat only).

In case of [E-06]=1

Domestic hot water pump installed for…	
Instant hot water	Disinfection
	

a	Outdoor unit
b	Gas boiler
c	Tank
d	Cold water
e	Shower
f	Domestic hot water pump
g	Heater element
h	Non-return valve

INFORMATION

The correct domestic hot water default settings become only applicable when domestic hot water operation is activated ([E-05]=1).

Thermostats and external sensors

External room thermostat control is only applicable in case of *HY2KOMB28+32AA gas boiler.

#	Code	Description
[A.2.2.4]	[C-05]	External room thermostat for the **main** zone: ▪ 1 (Thermo ON/OFF): When the used external room thermostat or heat pump convector can only send a thermo ON/OFF condition. ▪ 2 (H/C request): Because only heating is possible, the used external room thermostat can only send a thermo ON/OFF condition.

#	Code	Description
[A.2.2.B]	[C-08]	External sensor: ▪ 0 (No): NOT installed. ▪ 1 (Outdoor sensor): Connected to the outdoor unit measuring the outdoor temperature. ▪ 2 (Room sensor): NOT applicable.

Savings mode

The user can choose whether switching between operation modes is either economically or ecologically optimised. Set to Economical, the system will in all operating conditions select the energy source (gas or electricity) based on energy prices, resulting in a minimisation of energy costs. Set to Ecological, the heat source will be selected based on ecological parameters, resulting in a minimisation of primary energy consumption.

#	Code	Description
[A.6.7]	[7-04]	Defines whether switching between operation modes is either economically or ecologically optimised. ▪ 0 (Economical): reduction of energy costs ▪ 1 (Ecological): reduction of primary energy consumption, but not necessarily energy costs

Primary energy factor

The primary energy factor indicates how many units of primary energy (natural gas, crude oil, or other fossil fuels, prior to undergoing any human-made conversions or transformations) are needed to obtain 1 unit of a certain (secondary) energy source, such as electricity. The primary energy factor for natural gas is 1. Assuming an average electricity production efficiency (including transportation losses) of 40%, the primary energy factor for electricity equals 2.5 (=1/0.40). The primary energy factor allows you to compare 2 different energy sources. In this case, the primary energy use of the heat pump is compared to the natural gas use of the gas boiler.

#	Code	Description
N/A	[7-03]	Compares the primary energy use of the heat pump with that of the boiler. Range: 0~6

INFORMATION

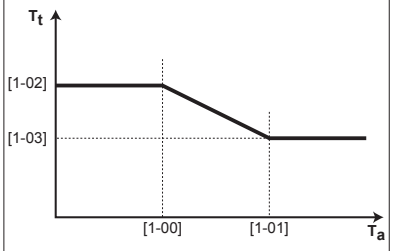
- The primary energy factor can always be set, but is only used in case the savings mode is set to Ecological.
- To set electricity price values, do NOT use overview settings. Set them in the menu structure instead ([7.4.5.1], [7.4.5.2], and [7.4.5.3]). For more information on how to set the energy prices, see the operation manual and the user reference guide.

INFORMATION

Solar panels. If solar panels are used, set the electricity price value very low to promote the use of the heat pump.

6.2.4 Space heating control

Leaving water temperature: Main zone

#	Code	Description
[A.3.1.1.1]	N/A	Set point mode: ▪ 0 (Fixed): Absolute ▪ 1 (Weather dep.): Weather-dependent ▪ 2 (Fixed/scheduled): Absolute + scheduled (only for leaving water temperature control) ▪ 3 (WD/scheduled): Weather-dependent + scheduled (only for leaving water temperature control)
[7.7.1.1]	[1-00] [1-01] [1-02] [1-03]	Weather-dependent curve (heating):  ▪ T_t: Target leaving water temperature (main) ▪ T_a: Outdoor temperature

INFORMATION

In order to optimise comfort as well as running costs, it is recommended to choose weather-dependent setpoint operation. Set the settings carefully; they have significant influence on heat pump as well as boiler operation. Too high leaving water temperature can result in constant boiler operation.

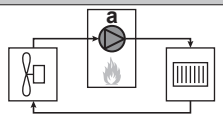
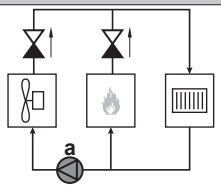
NOTICE

In case of third-party gas boiler:

If you use weather-dependent operation, make sure to set the values for the weather-dependent curves twice for correct operation:

- Once on the user interface of the outdoor unit
- Once on the third-party gas boiler

Pump control

*HY2KOMB28+32AA gas boiler	Third-party gas boiler
 **a** Main pump (= inside the gas boiler)	 **a** Main pump (= external pump)

If...		Then the main pump runs...
Space heating is done by...	And...	
Outdoor unit only	[C-0B]=1	According to ΔT control (see below).
	[C-0B]=0	At maximum pump speed.

If...		Then the main pump runs...
Space heating is done by...	And...	
Gas boiler only (only applicable in case of *HY2KOMB28+32AA gas boiler)		At maximum pump speed.
Combination of outdoor unit and gas boiler (only applicable in case of *HY2KOMB28+32AA gas boiler)		

Field setting [C-0B] defines whether ΔT control is enabled. The main pump will only run according to ΔT control if [C-0B] is set to 1 and space heating is done by the outdoor unit only. If the pump runs according to ΔT control:

If `Emitter type` [2-0C]=...	Then the target ΔT in heating is...
0: Underfloor heating	Variable according to [1-0B].
1: Fancoil unit	
2: Radiator	Fixed (10°C).

INFORMATION

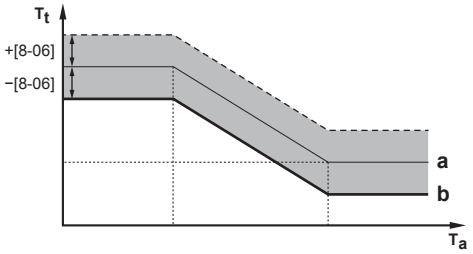
Changing these settings can result in discomfort. Refer to the installer reference guide for more information.

Leaving water temperature: Modulation

#	Code	Description
[A.3.1.1.5]	[8-05]	Leaving water temperature modulation: ▪ 0 (`No`): Disabled ▪ 1 (`Yes`): Enabled. The leaving water temperature is calculated according to the difference between desired and actual room temperature. This allows better matching of the heat pump capacity to actual required capacity and results in less start/stop cycles of the heat pump and more economic operation. This function is only applicable in case of room thermostat control ([C-07]=2).
N/A	[8-06]	Leaving water temperature maximum modulation: Range: 0°C~10°C Requires modulation to be enabled. This is the value by which the desired leaving water temperature is increased or lowered.

INFORMATION

When leaving water temperature modulation is enabled, the weather-dependent curve needs to be set to a higher position than [8-06] plus the minimum leaving water temperature setpoint required to reach a stable condition on the comfort setpoint for the room. To increase efficiency, modulation can lower the leaving water setpoint. By setting the weather-dependent curve to a higher position, it cannot drop below the minimum setpoint. See the illustration below.



a Weather-dependent curve
b Minimum leaving water temperature setpoint required to reach a stable condition on the comfort setpoint for the room.

Leaving water temperature: Emitter type

#	Code	Description
[A.3.1.1.7]	[9-0B]	`Emitter type`: Reaction time of the system: ▪ 0: (`Quick`) **Example:** Small water volume and fan coils. ▪ 1: (`Slow`) **Example:** Large water volume, floor heating loops. Depending on the system water volume and the heat emitters type, the heat up of a space can take longer. This setting can compensate for a slow or a quick heating system by adjusting the unit capacity during the heat up cycle.

Quick heat up function

#	Code	Description
N/A	[C-0A]	Indoor quick heat up function: ▪ 0: `OFF`. ▪ 1: `On`. Only applicable in case of room thermostat control. The function will start up the gas boiler when the actual room temperature is 3°C lower than the desired room temperature. The large boiler capacity can quickly boost up the room temperature to the desired temperature. This can be useful after long periods of absence or after a breakdown of the system.

Leaving water temperature: Delta T source

#	Code	Description
[A.3.1.3.1]	[1-0B]	`Heating`: required temperature difference between entering and leaving water. In case a minimum temperature difference is required for the good operation of the heat emitters in heating mode. Range: 3°C~10°C

6.2.5 Domestic hot water control

Only applicable in case of *HY2KOMB28+32AA gas boiler, and an optional domestic hot water tank is installed.

This is always applicable for Switzerland.

#	Code	Description
[A.4.1]	[6-0D]	Domestic hot water Type: ▪ 0 (Reheat only): Only reheat operation is allowed. ▪ 1 (Reheat + sched.): Same as 2, but between the scheduled heatup cycles, reheat operation is allowed. ▪ 2 (Scheduled only): The domestic hot water tank can ONLY be heated according to a schedule.
[A.4.5]	[6-0E]	The maximum temperature that users can select for the domestic hot water. You can use this setting to limit the temperature at the hot water taps. In case of [E-06]=1 (tank installed): ▪ If [E-07]=0: 40°C~70°C ▪ If [E-07]=4: 40°C~75°C ▪ If [E-07]=6: 40°C~60°C In case of [E-06]=0 (no tank installed): 40°C~65°C

INFORMATION

There is a risk of a space heating capacity shortage/ comfort problem when selecting [6-0D]=0 ([A.4.1] Domestic hot water Type=Reheat only).

In case of frequent domestic hot water operation, frequent and long space heating interruption will happen.

INFORMATION

If a third-party tank is present in the system, and heat pump operation is...

...required and allowed, set [E-07] to "0".

...NOT allowed, set [E-07] to "6". If [E-07]=6, the unit limits the maximum setpoint to 60°C.

If a third-party tank is present in the system ([E-07]=6), it is recommended to set [6-0D] to "0" (i.e. Reheat only).

6.2.6 Contact/helpdesk number

#	Code	Description
[6.3.2]	N/A	Number that users can call in case of problems.

6.3 Advanced configuration/ optimization

6.3.1 Heat source settings

Equilibrium temperature

#	Code	Description
N/A	[5-00]	Defines if gas boiler operation is allowed when the ambient temperature exceeds the set equilibrium temperature during space heating operation. ▪ 0: allowed. ▪ 1: NOT allowed.
[A.5.2.2]	[5-01]	Equilibrium temp. When the ambient temperature is higher than this temperature, the gas boiler is NOT allowed to work. Only applicable if [5-00] is set to 1. Range: –14°C~35°C

NOTICE

In case of third-party gas boiler:

- To allow more heat pump operation, it is highly recommended NOT to change the default setting of [5-00], and keep the value at "1".
- If there is a capacity shortage, you can allow more gas boiler operation by increasing [5-01].
- Make sure to set the value of [5-01] at least 1°C higher than the value of [C-03].

Boiler only ambient temperature

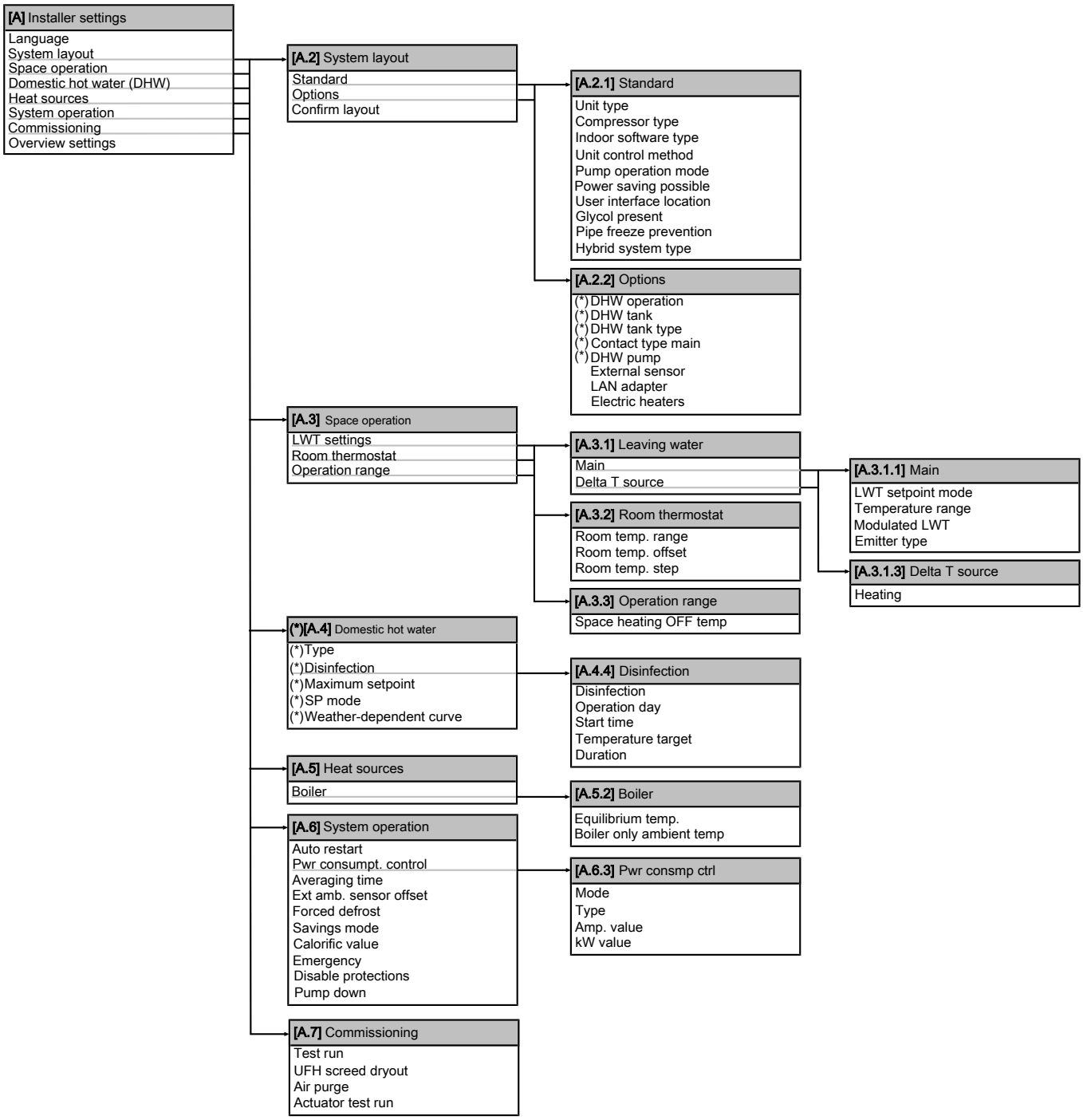
#	Code	Description
[A.5.2.3]	[8-0E]	Boiler only ambient temp When the ambient temperature is lower than this temperature, the heat pump is NOT allowed to work. Range: –14°C~25°C

NOTICE

- If you install the bottom plate heater, you may lower the operation range of the heat pump to Ta≥–14°C using field setting [8-0E]=–14°C.
- If you do not install the bottom plate heater, keep [8-0E]=–5°C.

For more information about the bottom plate heater, see "3.2.2 Bottom plate heater" [▶ 7].

6.4 Menu structure: Overview installer settings



(*) Only applicable in case of *HY2KOMB28+32AA gas boiler.

INFORMATION

Depending on the selected installer settings and unit type, settings will be visible/invisible.

7 Commissioning

NOTICE

ALWAYS operate the unit with thermistors and/or pressure sensors/switches. If NOT, burning of the compressor might be the result.

INFORMATION

Protective functions – "Installer-on-site mode". The software is equipped with protective functions, such as room antifrost. The unit automatically runs these functions when necessary. (If the user interface home pages are off, the unit will not operate automatically.)

During installation or service this behaviour is undesired. Therefore, the protective functions can be disabled:

- **At first power-on:** The protective functions are disabled by default. After 12 h they will be automatically enabled.
- **Afterwards:** An installer can manually disable the protective functions by setting [A.6.D]: `Disable protections=On`. After his work is done, he can enable the protective functions by setting [A.6.D]: `Disable protections=OFF`.

7.1 Checklist before commissioning

After the installation of the unit, first check the items listed below. Once all checks are fulfilled, the unit must be closed. Power-up the unit after it is closed.

Depending on the system layout, not all components may be available.

☐	You read the complete installation instructions, as described in the **installer reference guide**.
☐	The **outdoor unit** is properly mounted.
☐	The **gas boiler** is properly mounted.
☐	In case of *HY2KOMB28+32AA gas boiler: The following **field wiring** has been carried out according to the available documentation and the applicable legislation: ▪ Between the outdoor unit and the local supply panel ▪ Between the gas boiler and the local supply panel ▪ Between the outdoor unit and the gas boiler (communication) ▪ Between the gas boiler and the room thermostat (if applicable) ▪ Between the gas boiler and the domestic hot water tank (if applicable)
☐	In case of third-party gas boiler: The following **field wiring** has been carried out according to the available documentation and the applicable legislation: ▪ Between the outdoor unit and the local supply panel ▪ Between the gas boiler and the local supply panel ▪ Between the outdoor unit and the gas boiler (bivalent signal) ▪ Between the outdoor unit and the external pump
☐	The system is properly **earthed** and the earth terminals are tightened.
☐	The **fuses** or locally installed protection devices are installed according to this document, and have NOT been bypassed.
☐	The **power supply voltage** matches the voltage on the identification label of the unit.
☐	There are NO **loose connections** or damaged electrical components in the switch box.
☐	There are NO **damaged components** or **squeezed pipes** on the inside of the outdoor unit.
☐	The correct pipe size is installed and the **pipes** are properly insulated.
☐	There are no **water leaks** inside the outdoor unit.
☐	There is NO **water leak** inside the gas boiler.
☐	There is NO **water leak** in the connection between the gas boiler and the outdoor unit.
☐	The **shut-off valves** are properly installed and fully open.
☐	The **manual air purge valves** are closed, and the **automatic air purge valves** (if applicable) are open.
☐	The **pressure relief valve** purges water when opened. Clean water must come out.
☐	The **gas boiler** is switched ON.
☐	Setting E. is correctly set on the gas boiler. The setting must be 0.
☐	The **minimum water volume** is guaranteed in all conditions. See "To check the water volume" in "4.2 Preparing water piping" [▸ 8].
☐	If **glycol** was added to the system, confirm the correct glycol concentration, and check if glycol setting [E-0D]=1.

NOTICE

- Make sure glycol setting [E-0D] matches the liquid inside the water circuit (0=water only, 1=water+glycol). If the glycol setting is NOT set correctly, the liquid inside the piping can freeze.
- When glycol is added to the system, but the glycol concentration is lower than prescribed, the liquid inside the piping can still freeze.

7.2 Checklist during commissioning

☐	The **minimum flow rate** is guaranteed in all conditions. See "To check the water volume and flow rate" in "4.2 Preparing water piping" [▸ 8].
☐	To perform an **air purge**.
☐	To perform a **test run**.
☐	To perform an **actuator test run**.
☐	**Underfloor screed dryout function** The underfloor screed dryout function is started (if necessary).
☐	To perform a gas pressure test.
☐	To perform a test run on the **gas boiler**.

7.2.1 To perform an air purge

NOTICE

The air purge procedure requires manual action. See "5.3.4 To fill the space heating circuit" [▶ 15].

Prerequisite: Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

1 Go to [A.7.3]: ☰ > `Installer settings` > `Commissioning` > `Air purge`.

2 Set the type.

3 Select `Start air purge` and press OK.

4 Select `OK` and press OK.

Result: The air purge starts. It stops automatically when done. To stop it manually, press ⏻, select `OK` and press OK.

Air purging heat emitters or collectors

We recommend to purge air with the unit's air purge function (see above). However, if you purge air from the heat emitters or collectors, mind the following:

WARNING

Air purging heat emitters or collectors. Before you purge air from heat emitters or collectors, check if an error or ⓘ is displayed on the home pages of the user interface.

- If not, you can purge air immediately.
- If yes, make sure that the room where you want to purge air is sufficiently ventilated. **Reason:** Refrigerant might leak into the water circuit, and subsequently into the room when you purge air from the heat emitters or collectors.

7.2.2 To perform a test run

Prerequisite: Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

1 Set the user permission level to Installer. See "To set the user permission level to Installer" [▶ 21].

2 Go to [A.7.1]: ☰ > `Installer settings` > `Commissioning` > `Test run`.

3 Select a test and press OK. **Example:** `Heating`.

4 Select `OK` and press OK.

Result: The test run starts. It stops automatically when done (±30 min). To stop it manually, press ⏻, select `OK` and press OK.

INFORMATION

In case of third-party gas boiler:

When starting up the system in a cold climate, it may be required to start up with a small water volume. To do this, gradually open the heat emitters. As a result, the water temperature will gradually rise. Monitor the inlet water temperature ([6.1.6] in the menu structure) and make sure it does NOT drop below 15°C.

7.2.3 To perform an actuator test run

Perform an actuator test run to confirm the operation of the different actuators. For example, when you select `Pump`, a test run of the pump will start.

Prerequisite: Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

1 Set the user permission level to Installer. See "To set the user permission level to Installer" [▶ 21].

2 Go to [A.7.4]: ☰ > `Installer settings` > `Commissioning` > `Actuator test run`.

3 Select an actuator and press OK. **Example:** `Pump`.

4 Select `OK` and press OK.

Result: The actuator test run starts. It automatically stops when finished. To stop it manually, press ⏻, select `OK` and press OK.

Possible actuator test runs

- Pump test

INFORMATION

Make sure that all air is purged before executing the test run. Also avoid disturbances in the water circuit during the test run.

- 3-way valve test
- Bottom plate heater test
- Bivalent signal test (in case of third-party gas boiler)
- Circulation pump test
- Gas boiler test (in case of *HY2KOMB28+32AA gas boiler)

INFORMATION

The setpoint during a boiler test run is 40°C. Keep in mind the 5°C overshoot that is possible during boiler operation, especially in combination with floor heating loops.

7.2.4 To perform an underfloor heating screed dryout

Prerequisite: Make sure there is only 1 user interface connected to your system to perform an underfloor heating screed dryout.

Prerequisite: Make sure that the leaving water temperature home page, room temperature home page, and domestic hot water home page are turned OFF.

1 Go to [A.7.2]: ☰ > `Installer settings` > `Commissioning` > `UFH screed dryout`.

2 Set a dryout program.

3 Select `Start dryout` and press OK.

4 Select `OK` and press OK.

Result: The underfloor heating screed dryout starts. It stops automatically when done. To stop it manually, press ⏻, select `OK` and press OK.

NOTICE

To perform an underfloor heating screed dryout, room frost protection needs to be disabled ([2-06]=0). By default, it is enabled ([2-06]=1). However, due to the "installer-on-site" mode (see "Commissioning"), room frost protection will be automatically disabled for 12 hours after the first power-on.

If the screed dryout still needs to be performed after the first 12 hours of power-on, manually disable room frost protection by setting [2-06] to "0", and KEEP it disabled until the screed dryout has finished. Ignoring this notice will result in cracking of the screed.

NOTICE

For the underfloor heating screed dryout to be able to start, make sure the following settings are met:

- [4-00]=1
- [D-01]=0
- [4-08]=0
- [4-01]≠1

8 Hand-over to the user

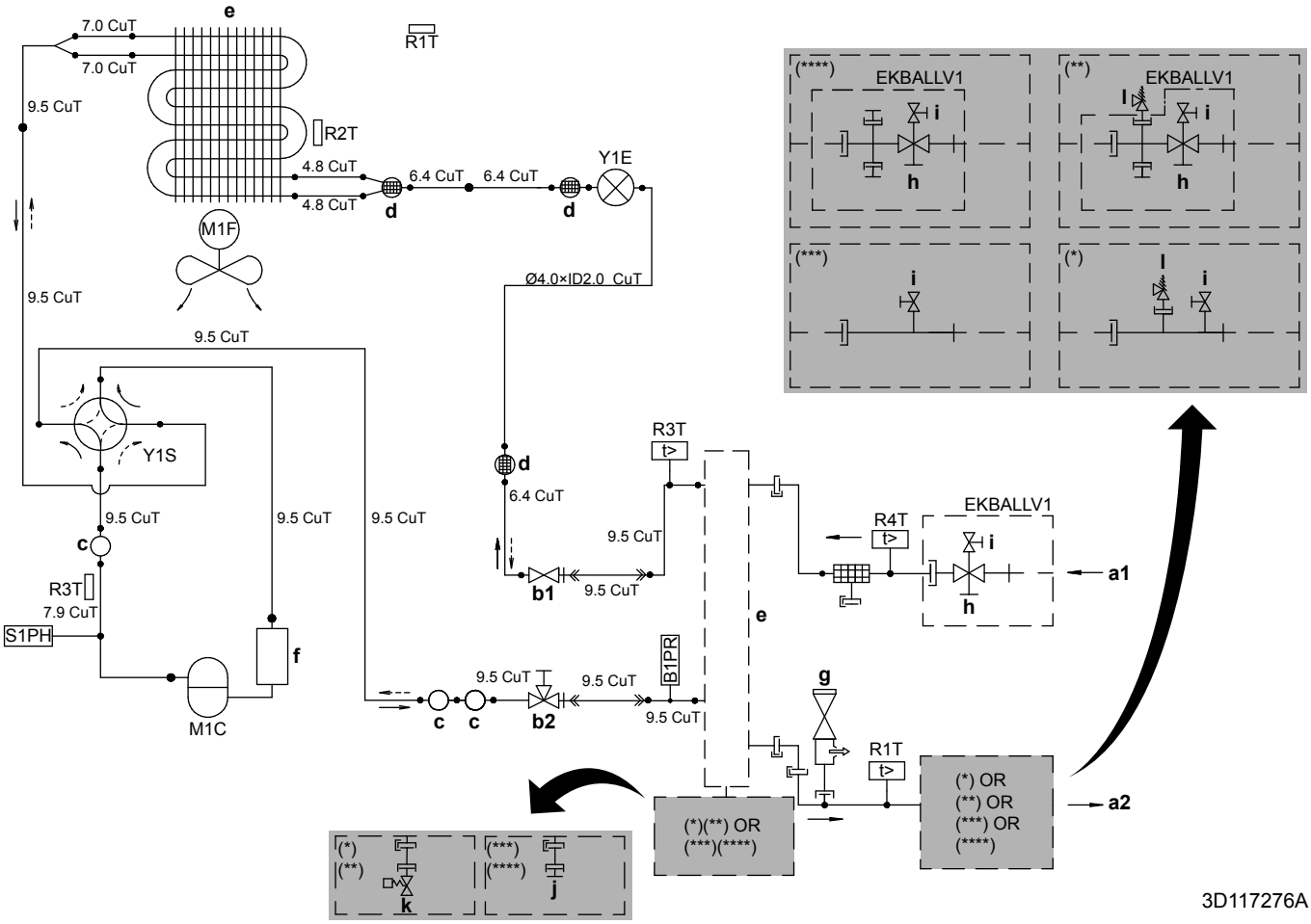
Once the test run is finished and the unit operates properly, please make sure the following is clear for the user:

- Fill in the installer setting table (in the operation manual) with the actual settings.
- Make sure that the user has the printed documentation and ask him/her to keep it for future reference. Inform the user that he can find the complete documentation at the URL mentioned earlier in this manual.
- Explain the user how to properly operate the system and what to do in case of problems.
- Show the user what to do for the maintenance of the unit.
- Explain the user about energy saving tips as described in the operation manual.

9 Technical data

A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible). The **full set** of latest technical data is available on the Daikin Business Portal (authentication required).

9.1 Piping diagram: Outdoor unit



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(*) In case of water without glycol (without option EKBALLV1)
(**) In case of water without glycol + option EKBALLV1
(***) In case of water with glycol (without option EKBALLV1)
(****) In case of water with glycol + option EKBALLV1
Heating
Cooling (only pump down)
a1 Water IN
a2 Water OUT
b1 Stop valve (liquid refrigerant)
b2 Stop valve with service port (gas refrigerant)
c Muffler
d Muffler with filter
e Heat exchanger
f Accumulator
g Safety valve
h Shut-off valve
i Air purge
j Stop
k Freeze protection valve
l Vacuum breaker

B1PR Refrigerant pressure sensor
EKBALLV1 Option EKBALLV1
M1C Compressor
M1F Fan
R1T Thermistor (outdoor air)
R1T (t>) Thermistor (water OUT)
R2T Thermistor (heat exchanger)
R3T Thermistor (compressor discharge)
R3T (t>) Thermistor (liquid refrigerant)
R4T (t>) Thermistor (water IN)
S1PH High pressure switch
Y1E Electronic expansion valve
Y1S Solenoid valve (4-way valve)(ON: cooling)
Screw connection
Flare connection
Quick coupling
Brazed connection

9.2 Wiring diagram: Outdoor unit

See the internal wiring diagram supplied with the unit (on the inside of the front plate). The abbreviations used are listed below.

Outdoor unit: hydro module

(1) Connection diagram

English	Translation
Connection diagram	Connection diagram
Bivalent	Bivalent signal
Boiler box	Boiler box
Bottom plate heater option	Bottom plate heater
Continuous	Continuous current
DHW pump	Domestic hot water pump
DHW pump output	Domestic hot water pump output
External outdoor ambient sensor option	External outdoor temperature sensor
Hydro switch box	Hydro switch box
Indoor	Indoor
Inrush	Inrush current
LAN adapter	LAN adapter
Max. load	Maximum load
Normal kWh rate power supply	Normal kWh rate power supply
Only for dedicated gas boiler	Only in case of *HY2KOMB28+32AA gas boiler
Only for third-party gas boiler	Only in case of third-party gas boiler
Outdoor	Outdoor
Remote user interface	User interface

(2) Hydro switch box layout

English	Translation
Hydro switch box layout	Hydro switch box layout

(3) Notes

English	Translation
Notes	Notes
User installed options	User installed options
☐ LAN adapter	☐ LAN adapter
☐ Main supply pump	☐ Main supply pump (= external pump)
☐ Ext outdoor thermistor	☐ External outdoor temperature sensor
☐ Bottom plate heater	☐ Bottom plate heater
X2M	Main terminal
—·—·—·—	Earth wiring
15	Wire number 15
– – – – – – –	Field supply
①	Several wiring possibilities
	Option
	Wiring depending on model
	Switch box
	PCB

1 Colours: BLK: black; RED: red; BLU: blue; WHT: white; GRN: green; ORG: orange; YLW: yellow; GRY: grey; BRN: brown

(4) Legend

Legend	Legend
A1P		Main PCB
A13P	*	LAN adapter
A14P	#	User interface PCB
E2H	*	Bottom plate heater
FU3	*	Fuse
M1P	*	Main supply pump (= external pump)
M2P	#	Domestic hot water pump
Q1DI	#	Earth leakage circuit breaker
R6T	*	External outdoor temperature sensor
X*A		Connector
X*M		Terminal strip

* Optional
\# Field supply

Outdoor unit: compressor module

(1) Connection diagram

English	Translation
Connection diagram	Connection diagram
Hydro switch box	Hydro switch box
Outdoor	Outdoor

(2) Layout

English	Translation
Layout	Layout

(3) Notes

English	Translation
Notes	Notes
	Connection
X1M	Main terminal
—·—·—·—	Earth wiring
– – – – – – –	Field supply
	Protective earth
	Option
	Switch box
	PCB
	Wiring depending on model
	Earth

NOTES:

1 When operating, do not short-circuit protection device S1PH.

2 Colours: BLK: black; RED: red; BLU: blue; WHT: white; GRN: green; ORG: orange; YLW: yellow; GRY: grey; BRN: brown

(4) Legend

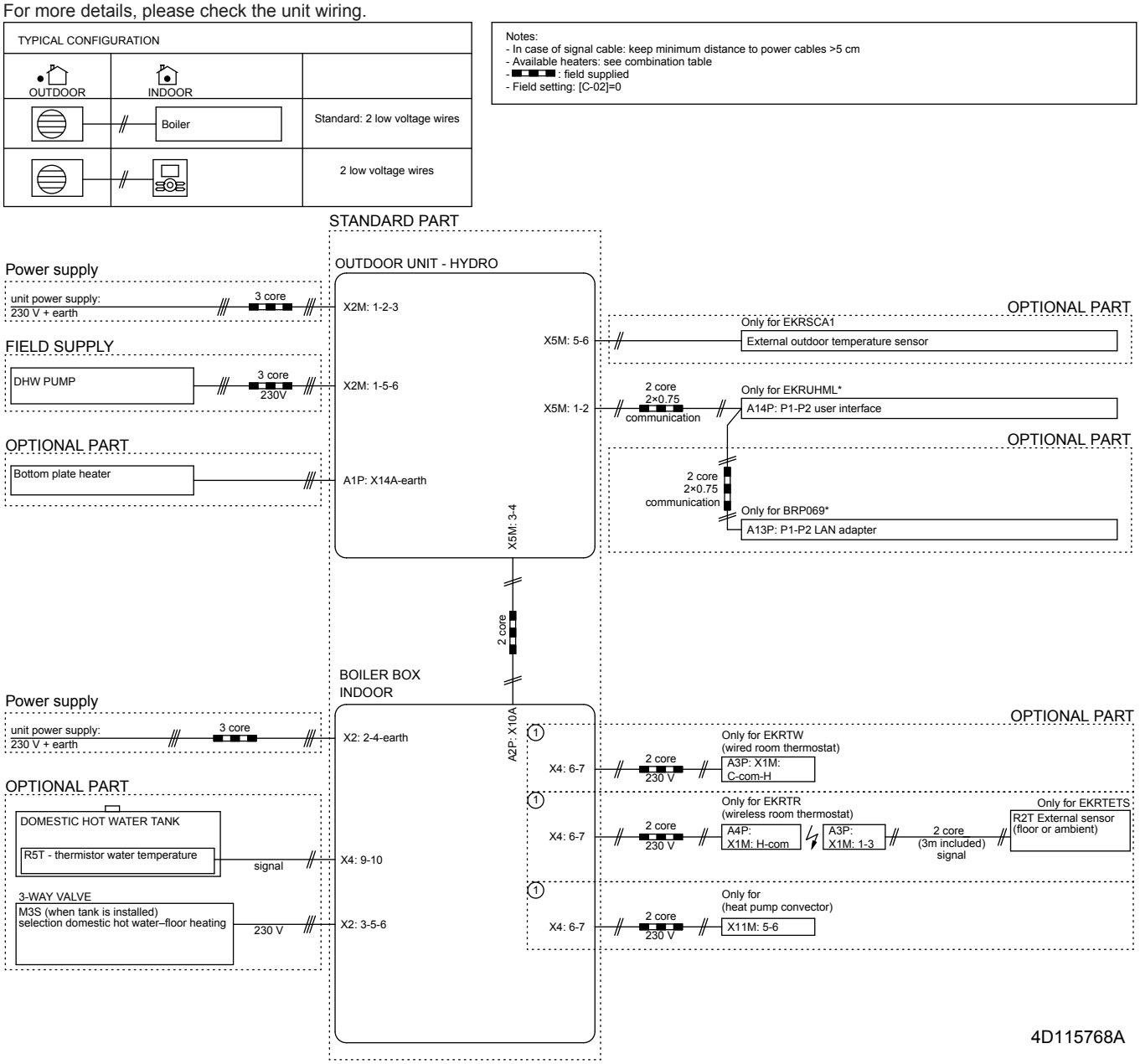
Legend	Legend
C7 (PCB1)	Capacitor
DB1 (PCB1)	Rectifier bridge
E1, E2 (PCB1)	Connector
FU1 (PCB1)	Fuse T 3.15 A 250 V
FU2 (PCB1)	Fuse T 3.15 A 250 V
FU3 (PCB1)	Fuse T 20 A 250 V
H*1 (PCB1)	Connector
IPM1 (PCB1)	Intelligent power module
MRCW (PCB1)	Magnetic relay (Y1S)

MRM*, MR30 (PCB1)	Magnetic relay
M1C	Compressor motor
M1F	Fan motor
PAM (PCB1)	Pulse-amplitude modulation
PCB1	Printed circuit board (main)
PS (PCB1)	Switching power supply
Q1L	Thermal protector
R1T	Thermistor (outdoor air)
R2T	Thermistor (heat exchanger)
R3T	Thermistor (compressor discharge)

S1PH	High pressure switch
SA1 (PCB1)	Surge arrestor
S* (PCB1)	Connector
U, V, W (PCB1)	Connector
V* (PCB1)	Varistor
X11A	Connector
X*M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Solenoid valve (4-way valve)
Z*C	Noise filter (ferrite core)
Z1F (PCB1)	Noise filter

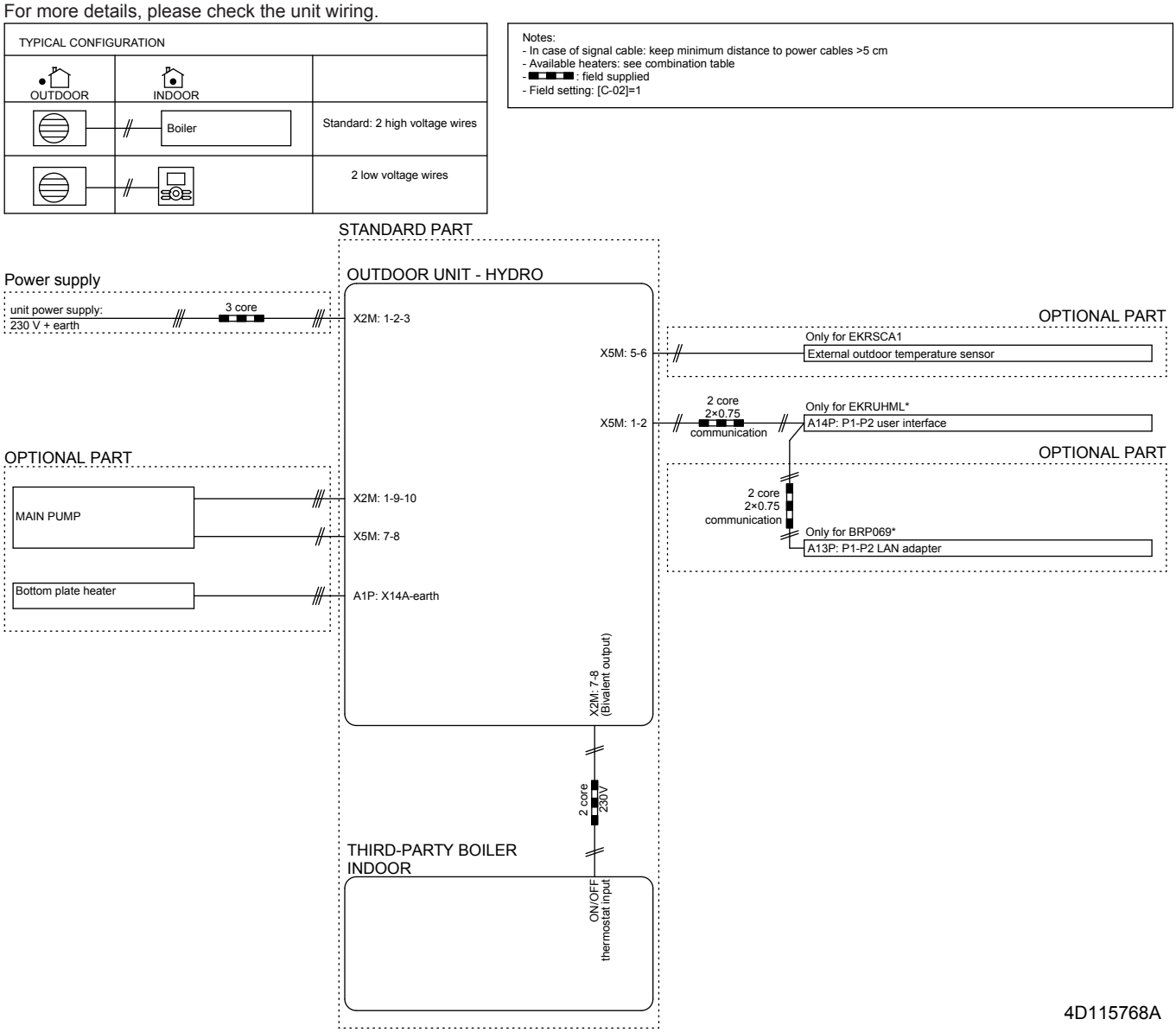
Electrical connection diagram in case of *HY2KOMB28+32AA gas boiler

For more details, please check the unit wiring.



Electrical connection diagram in case of third-party gas boiler

For more details, please check the unit wiring.



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