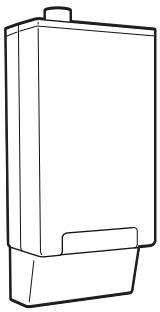
Installation and operation manual

Daikin Altherma hybrid heat pump – gas boiler module



EHYKOMB33AA

Installation and operation manual
Daikin Altherma hybrid heat pump – gas boiler module

English

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

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

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

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

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

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

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

Daikin Europe N.V.

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

EHYKOMB33AA,

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

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 držiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Low Voltage 2006/95/EC
Gas Appliances 2009/142/EC
Boiler Efficiency requirements 92/42/EEC
Electromagnetic Compatibility 2004/108/EC

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

AD130276-1

DAIKIN

Shigeki Morita
Director
Ostend, 17th of July 2013

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

Table of contents

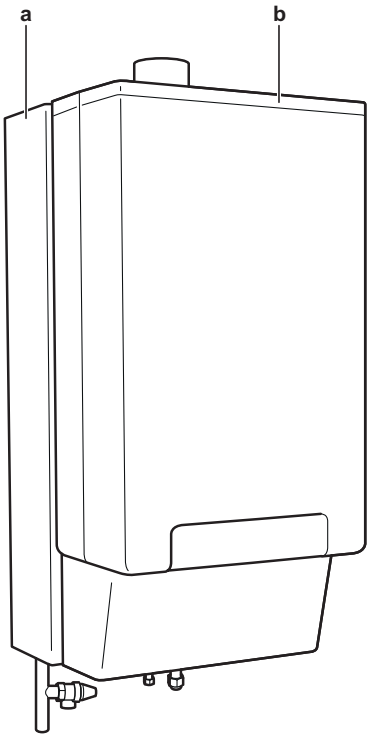
1 About the product

Especially for UK:
The Benchmark Scheme
Benchmark places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.
Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the Scheme. Visit www.centralheating.co.uk for more information.

The product (hybrid system) combines the following 2 parts:

- heat pump module,
- gas boiler module.

The modules MUST always be installed and used together.



a Heat pump module
b Gas boiler module

2 About the documentation

2.1 About this document

Target audience

Authorised installers

Documentation set

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

Document	Contains…	Format
General safety precautions	Safety instructions that you must read before installing	Paper (in the box of the indoor unit)
Heat pump module installation manual	Installation instructions	
Gas boiler module installation manual	Installation and operation instructions	Paper (in the box of the gas boiler unit)
Outdoor unit installation manual	Installation instructions	Paper (in the box of the outdoor unit)
Installer reference guide	Preparation of the installation, technical specifications, reference data,…	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	Paper (in the box of the indoor unit) Digital files on http://www.daikineurope.com/support-and-manuals/product-information/.

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

3 General safety precautions

3.1 About the documentation

- The original documentation is written in English. All other languages are translations.
- The precautions described in this document cover very important topics, follow them carefully.
- All activities described in the installation manual must be performed by an authorized installer.

3.1.1 Meaning of warnings and symbols

DANGER
Indicates a situation that results in death or serious injury.

DANGER: RISK OF ELECTROCUTION
Indicates a situation that could result in electrocution.

DANGER: RISK OF BURNING

Indicates a situation that could result in burning because of extreme hot or cold temperatures.

WARNING

Indicates a situation that could result in death or serious injury.

CAUTION

Indicates a situation that could result in minor or moderate injury.

NOTICE

Indicates a situation that could result in equipment or property damage.

INFORMATION

Indicates useful tips or additional information.

DANGER: RISK OF EXPLOSION

Indicates a situation that could result in explosion.

DANGER: RISK OF POISONING

Indicates a situation that could result in poisoning.

WARNING: PROTECT AGAINST FROST

Indicates a situation that could result in equipment or property damage.

3.2 For the installer

3.2.1 General

If you are not sure how to install or operate the unit, contact your dealer.

NOTICE

Improper installation or attachment of equipment or accessories could result in electric shock, short-circuit, leaks, fire or other damage to the equipment. Only use accessories, optional equipment and spare parts made or approved by Daikin.

WARNING

Make sure installation, testing and applied materials comply with applicable legislation (on top of the instructions described in the Daikin documentation).

CAUTION

Wear adequate personal protective equipment (protective gloves, safety glasses,…) when installing, maintaining or servicing the system.

WARNING

Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.

DANGER: RISK OF BURNING

- Do NOT touch the refrigerant piping, water piping or internal parts during and immediately after operation. It could be too hot or too cold. Give it time to return to normal temperature. If you must touch it, wear protective gloves.
- Do NOT touch any accidental leaking refrigerant.

NOTICE

Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.

CAUTION

Do NOT touch the air inlet or aluminum fins of the unit.

NOTICE

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

In accordance with the applicable legislation, it might be necessary to provide a logbook with the product containing at least: information on maintenance, repair work, results of tests, stand-by periods,…

Also, at least, following information must be provided at an accessible place at the product:

- Instructions for shutting down the system in case of an emergency
- Name and address of fire department, police and hospital
- Name, address and day and night telephone numbers for obtaining service

In Europe, EN378 provides the necessary guidance for this logbook.

3.2.2 Installation site

- Provide sufficient space around the unit for servicing and air circulation.
- Make sure the installation site withstands the unit's weight and vibration.
- Make sure the area is well ventilated.
- Make sure the unit is level.
- Make sure walls sensitive to heat (e.g. wood) are protected by suitable insulation.
- ONLY operate the gas boiler if a sufficient supply of combustion air is ensured. In case of a concentric air/flue gas system dimensioned according to the specifications of this manual, this is fulfilled automatically and there are no other conditions for the equipment installation room. This method of operation applies exclusively.
- This gas boiler is NOT designed for room air dependent operation.

Do NOT install the unit in the following places:

- In potentially explosive atmospheres.
- In places where there is machinery that emits electromagnetic waves. Electromagnetic waves may disturb the control system, and cause malfunction of the equipment.
- In places where there is a risk of fire due to the leakage of flammable gases (example: thinner or gasoline), carbon fibre, ignitable dust.
- In places where corrosive gas (example: sulphurous acid gas) is produced. Corrosion of copper pipes or soldered parts may cause the refrigerant to leak.
- In bathrooms.
- In places where frost is possible. The ambient temperature around the indoor unit should be >5°C.

3.2.3 Water

NOTICE

Make sure water quality complies with EU directive 98/83 EC.

Avoid damages caused by deposits and corrosion. To prevent corrosion products and deposits, observe the applicable regulations of technology.

Measures for desalination, softening or hardness stabilization are necessary if the filling and top-up water have a high total hardness (>3 mmol/l–sum of the calcium and magnesium concentrations, calculated as calcium carbonate).

Using filling water and top-up water which does NOT meet the stated quality requirements can cause a considerably reduced service life of the equipment. The responsibility for this is entirely that of the user.

3.2.4 Electrical

DANGER: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Disconnect the power supply for more than 1 minute, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage MUST be less than 50 V DC before you can touch electrical components. For the location of the terminals, see the wiring diagram.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.

WARNING

If NOT factory installed, a main switch or other means for disconnection, having a contact separation in all poles providing full disconnection under overvoltage category III condition, shall be installed in the fixed wiring.

WARNING

- ONLY use copper wires.
- All field wiring must be performed in accordance with the wiring diagram supplied with the product.
- NEVER squeeze bundled cables and make sure they do not come in contact with the piping and sharp edges. Make sure no external pressure is applied to the terminal connections.
- Make sure to install earth wiring. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earth may cause electrical shock.
- Make sure to use a dedicated power circuit. NEVER use a power supply shared by another appliance.
- Make sure to install the required fuses or circuit breakers.
- Make sure to install an earth leakage protector. Failure to do so may cause electric shock or fire.
- When installing the earth leakage protector, make sure it is compatible with the inverter (resistant to high frequency electric noise) to avoid unnecessary opening of the earth leakage protector.

Install power cables at least 1 meter away from televisions or radios to prevent interference. Depending on the radio waves, a distance of 1 meter may not be sufficient.

WARNING

- After finishing the electrical work, confirm that each electrical component and terminal inside the electrical components box is connected securely.
- Make sure all covers are closed before starting up the unit.

3.2.5 Gas

The gas boiler is factory set to:

- the type of gas quoted on the type identification plate or on the setting type identification plate,
- the quitted gas pressure.

Operate the unit ONLY with the gas type and gas pressure indicated on these type identification plates.

Installation and adaptation of the gas system MUST be conducted by:

- personnel qualified for this work,
- in compliance with valid gas installation related guidelines,
- in accordance with applicable regulations of the gas supply company,
- In accordance with local and national regulations.

Boilers that use natural gas MUST be connected to a governed meter,

Boilers that use liquid petroleum gas (LPG) MUST be connected to a regulator.

The size of the gas supply pipe should under no circumstance be less than 22 mm.

The meter or regulator and pipe work to the meter MUST be checked preferably by the gas supplier. This is to ensure that the equipment works good and meets the gas flow and pressure requirements.

DANGER

If you smell gas:

- call immediately your local gas supplier and your installer,
- call the suppliers's number on the side of the LPG tank (if applicable),
- turn off the emergency control valve at the meter/ regulator,
- do NOT turn electrical switches ON or OFF,
- do NOT strike matches or smoke,
- put out naked flames,
- open doors and windows immediately,
- keep people away from the affected area.

3.2.6 Gas exhaust

Flue systems must NOT be modified or installed in any way other than as described in the fitting instructions. Any misuses or unauthorized modifications to the appliance, flue or associated components and systems could invalidate the warranty. The manufacturer accepts no liability arising from any such actions, excluding statutory rights.

It is NOT allowed to combine flue system parts purchased from different suppliers.

3.2.7 Local legislation

Local regulations for UK

It is law that all gas appliances are installed by a gas safe registered competent engineer and in accordance with the following recommendations:

- Current Gas Safety (Installation and Use) Regulations
- All current building regulations
- Building Standards (Scotland) Consolidated
- This appliance MUST be installed in accordance with the Gas (Safety and Use) Regulations, current Building Regulations, Building Standards (Scotland), I.S.813 Installation of Gas Appliances (Ireland), IEE Wiring Regulations (BS 7671), Health and Safety Document No. 635 (Electricity at Work Regulations) and Local Water Authority Bye Laws
- UK Water Regulations and Bye Laws
- Health & Safety

The installation MUST comply with the following British Standards codes of practice:

- BS 5440: Flues and Ventilation for gas appliances of rated input NOT exceeding 70 kW (Part 1 Flues)
- BS 5440: Flues and Ventilation for gas appliances of rated input NOT exceeding 70 kW (Part 2 Air Supply)
- BS 5546: 2000 Installation of gas hot water supplies for domestic pur poses.
- BS 5549: 1990 Forced circulation hot water systems.
- BS 6700: 1997 Design, Installation, testing and maintenance of services supplying hot water
- BS 6798: 2000 Specification for installation of gas fired hot water boilers of rated input NOT exceeding 70 kW
- BS 6891: 1998 Installation of low pressure gas pipe-work installation up to 35 mm (RI)
- BS 7593: 1992 Code of practice for treatment of water in heating systems
- BS 7671: 2001 Requirements for electrical installations, IEE Wiring regulations
  - BS7074:1 Code of practice for domestic and hot water supply
  - EN12828 Central heating for domestic premises

Potable water: all seals, joints and compounds (including flux and solder) and components used as part of the secondary domestic water system MUST be approved by WRAS.

Approvals

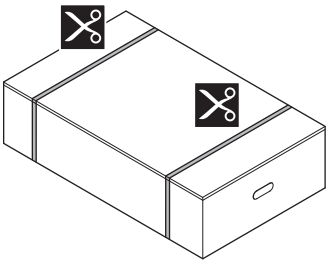
British Gas Service listing:
EHYKOMB33AA: G.C.N. 47-464-01

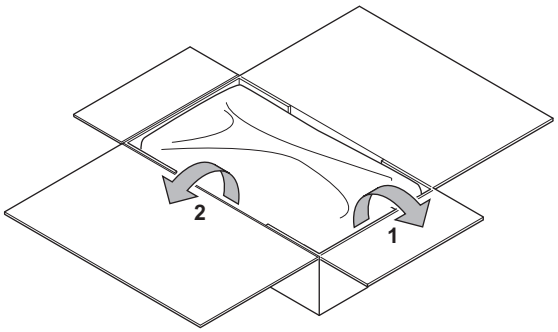
4 About the box

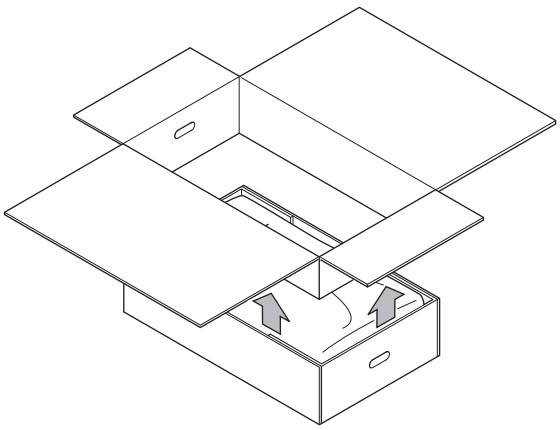
4.1 Gas boiler

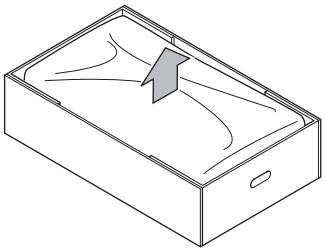
4.1.1 To unpack the gas boiler

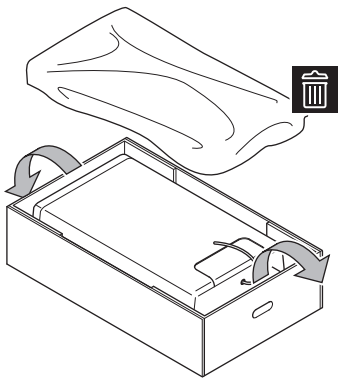
ALWAYS move the gas boiler in the original delivery packaging to its nearest installation position.

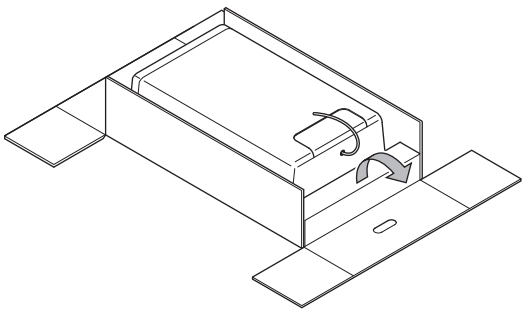










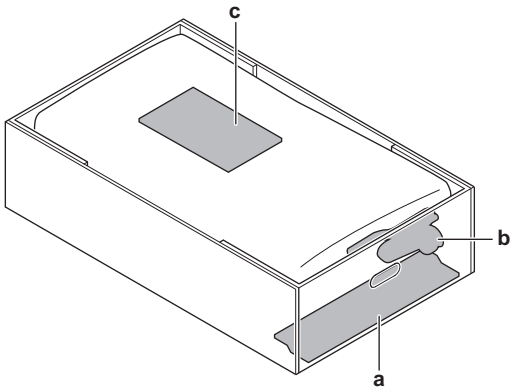


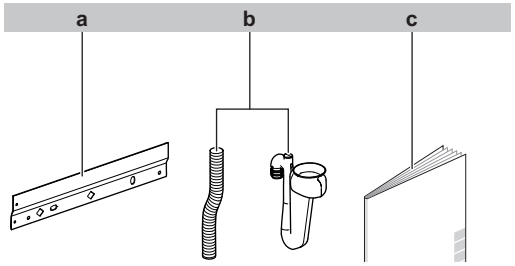
WARNING

Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.

4.1.2 To remove the accessories from the gas boiler

1 Remove the accessories.





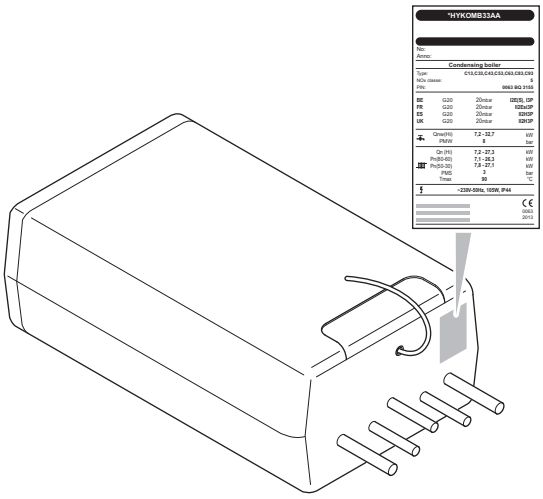
a Mounting strip
b Condensate trap
c Installation manual and operation manual

5 About the units and options

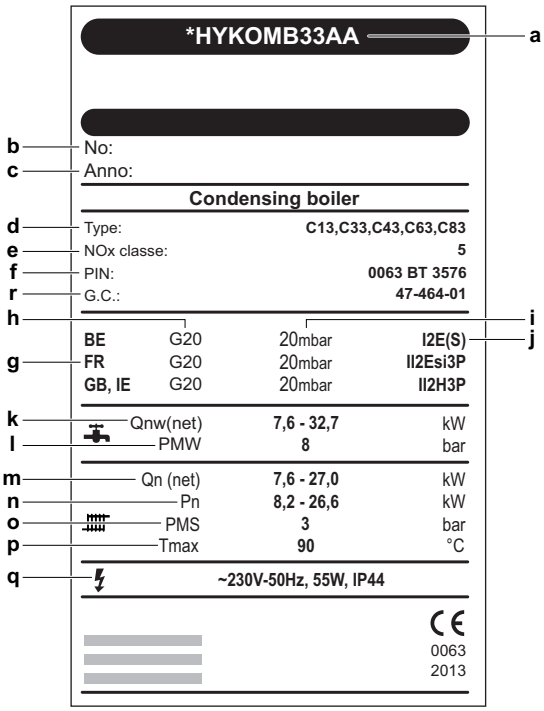
5.1 Identification

5.1.1 Identification label: gas boiler

Location



Model identification

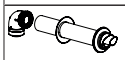
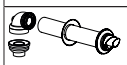
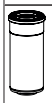
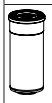
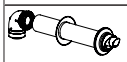
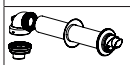
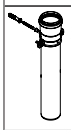
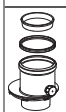


a Model
b Serial number
c Production year
d Appliance type
e NOx class
f PIN number
g Destination country
h Gas type
i Gas supply pressure (mbar)
j Appliance category
k Domestic hot water heat output (kW)
l Maximum domestic hot water pressure (bar)
m Heat output (space heating) (kW)
n Nominal power (kW)
o Maximum space heating pressure (bar)
p Maximum flow temperature (°C)
q Electrical supply
r GCN gas council number

5.2 Possible combinations of units and options

5.2.1 List of options for gas boiler

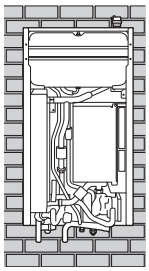
Accessories	Part number	Description
	EKFGP6837	Roof Terminal PP/GLV 60/100 AR460
	EKFGS0518	Weather Slate Steep Pb/GLV 60/100 18°-22°
	EKFGS0519	Weather Slate Steep Pb/GLV 60/100 23°-17°
	EKFGP7910	Weather Slate Steep PF 60/100 25°-45°
	EKFGS0523	Weather Slate Steep Pb/GLV 60/100 43°-47°
	EKFGS0524	Weather Slate Steep Pb/GLV 60/100 48°-52°
	EKFGS0525	Weather Slate Steep Pb/GLV 60/100 53°-57°

Accessories	Part number	Description
	EKFGP1296	Weather Slate Flat Alu 60/100 0°-15°
	EKFGP6940	Weather Slate Flat Alu 60/100
	EKFGP2978	Wall Terminal Kit PP/GLV 60/100
	EKFGP2977	Wall Terminal Kit low profile PP/GLV 60/100
	EKFGP4651	Extension PP/GLV 60/100×500 mm
	EKFGP4652	Extension PP/GLV 60/100×1000 mm
	EKFGP4664	Elbow PP/GLV 60/100 30°
	EKFGP4661	Elbow PP/GLV 60/100 45°
	EKFGP4660	Elbow PP/GLV 60/100 90°
	EKFGP4667	Meas. Tee with Inspection Panel PP/GLV 60/100
	EKFGP4631	Wall Bracket Dn.100
	EKFGP1292	Wall Terminal Kit PP/GLV 60/100
	EKFGP1293	Wall Terminal Kit low profile PP/GLV 60/100
	EKFGP1294	Plume Management Kit 60 (UK only)
	EKFGP1295	Flue Deflector 60 (UK only)
	EKFGP1284	PMK Elbow 60 90 (UK only)
	EKFGP1285	PMK Elbow 60 45° (2 pieces) (UK only)
	EKFGP1286	PMK Extension 60 L=1000 includes bracket (UK only)
	EKHY075517	Propane set
	EKHY090557	Concentric connection set 80/125
	EKHY90707	Dual pipe conversion set
	EKHY093107	Cover plate for boiler

6 Preparation

6.1 Preparing the gas boiler installation

Make sure that the hydrobox is already mounted to the wall.



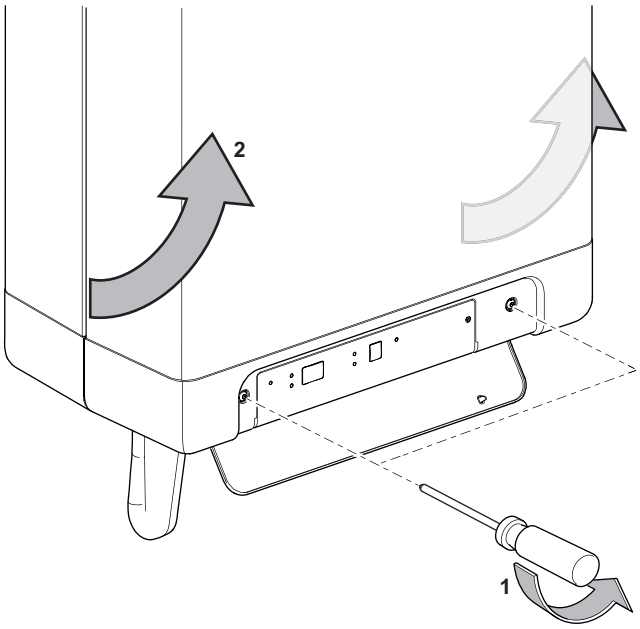
It is recommended to first install:

- the water piping,
- the refrigerant piping,
- the electrical connection to the heat pump module.

7 Installation

7.1 Opening the units

7.1.1 To open the gas boiler



1 Open the display cover.

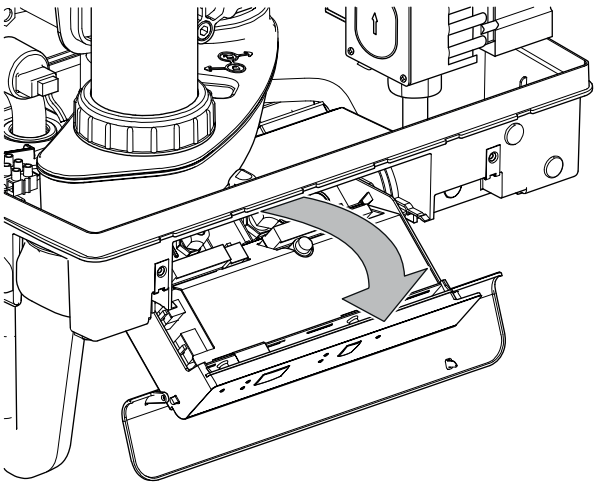
2 Unscrew both screws.

3 Tilt the front panel towards you and remove the front panel.

7.1.2 To open the switch box cover of the gas boiler

1 Open the gas boiler, see "7.1.1 To open the gas boiler" on page 9.

2 Pull the boiler controller unit forwards. The boiler controller will tip downwards to provide access.



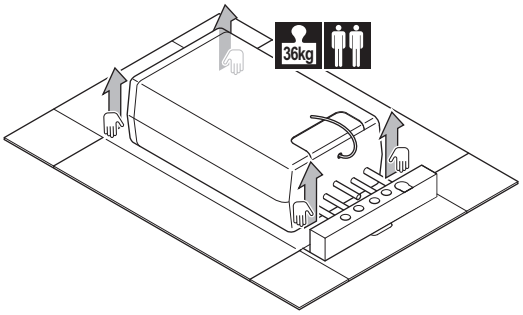
7.2 Mounting the gas boiler

INFORMATION

Removing the top plate of the indoor unit makes it easier to install the gas boiler.

7.2.1 To install the gas boiler

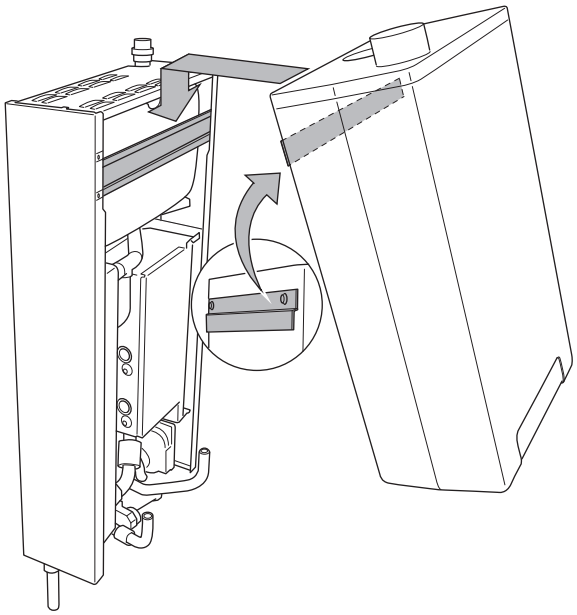
1 Lift the unit from the package.



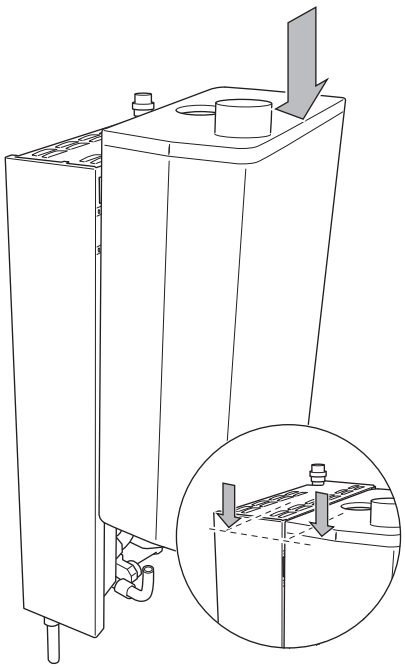
2 The bracket to mount the boiler on the heat pump module is already mounted to the backside of the gas boiler.

3 Lift the boiler. One person lifts the gas boiler on the left side (left hand on the top and right hand on the bottom) and another person lift the gas boiler on the right side (left hand on the bottom and right hand on the top).

4 Tilt the top of the unit at the position of the indoor unit mounting bracket.



5 Slide the boiler downwards to fix the boiler bracket onto the indoor unit mounting bracket.



6 Make sure the gas boiler is fixed properly and well aligned with the indoor unit.

7.2.2 To install the condensate trap

INFORMATION

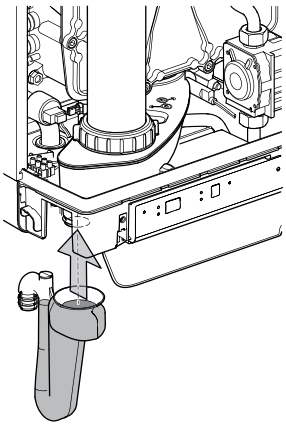
The boiler is provided with a 25 mm flexible pipe on the condensate trap.

Prerequisite: The boiler MUST be opened before installing the condensate trap.

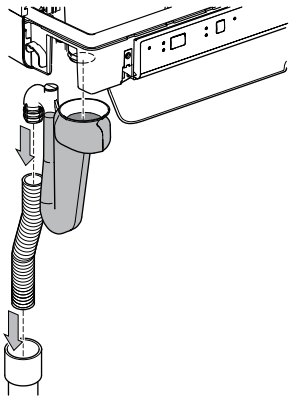
1 Fit the flexible tube (accessory) to the condensate trap outlet.

2 Fill the condensate trap with water.

3 Slide the condensate trap as far as possible upwards onto the condensate drain connector below the gas boiler.

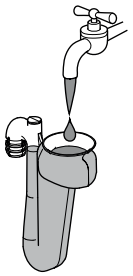


4 Connect the flexible tube (where applicable with the overflow pipe from the pressure relief valve) to the drain via an open connection.



WARNING

- ALWAYS fill the condensate trap with water and place it on the boiler before powering up the boiler. See illustration below.
- NOT placing or filling up the condensate trap may cause flue gases to come into the installation room and can lead to dangerous situations!
- In order to place the condensate trap, the front cover MUST be pulled forward or removed entirely.



NOTICE

It is recommended that any external condensate pipe is insulated and increased to Ø32 mm in order to prevent the condensate from freezing.

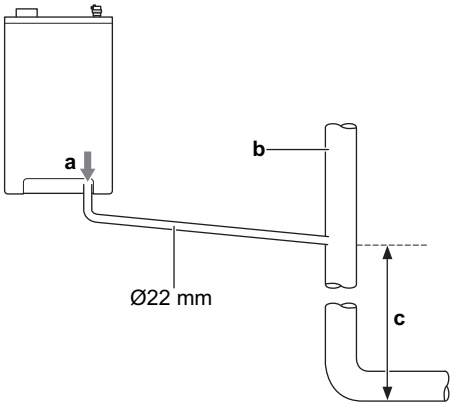
7.3 Condensate pipe work

INFORMATION

The condensate discharge system MUST be made of plastic, no other materials may be used. The discharge duct MUST have a minimum gradient of 5~20 mm/m. Condensate discharge via the gutter is NOT allowed due to risk of frost and the possible damage to the materials.

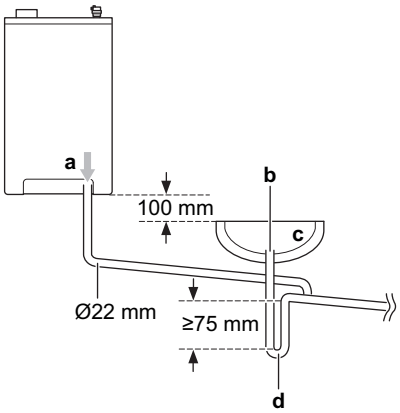
7.3.1 Internal connections

If possible, the condensate drain pipe should be routed and terminated so that the condensate drains away from the boiler under gravity to a suitable internal foul water discharge point such as an internal soil and vent stack. A suitable permanent connection to the foul waste pipe should be used.



a Condensate discharge from boiler
b Soil and vent stack
c Minimum 450 mm and up to 3 storeys

If the first option is NOT possible, an internal kitchen or bathroom waste pipe, washing machine pipe can be used. Make sure that the condensate drain pipe is connected downstream of the waste trap.

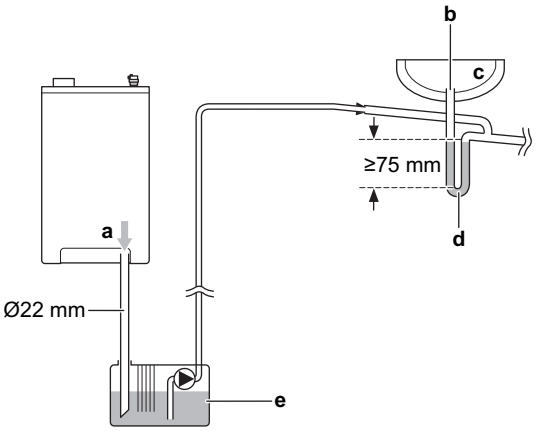


a Condensate discharge from boiler
b Soil and vent stack
c Sink or basin with integrate overflow
d 75 mm waste trap and air break

Condensate pump

Where gravity discharge to an internal termination is NOT physically possible or where very long internal runs of drainage pipe would be required to reach a suitable discharge point, condensate should be removed by using a proprietary condensate pump (field supply).

The pump outlet pipe should discharge to a suitable internal foul water discharge point such as an internal soil and vent stack, internal kitchen, bathroom waste pipe, or washing machine waste pipe. A suitable permanent connection to the foul waste pipe should be used.



a Condensate discharge from boiler
b Soil and vent stack
c 75 mm waste trap and air break
d Condensate pump

7.3.2 External connections

If an externally condensate drainage pipe is used, following measures should be made to prevent freezing:

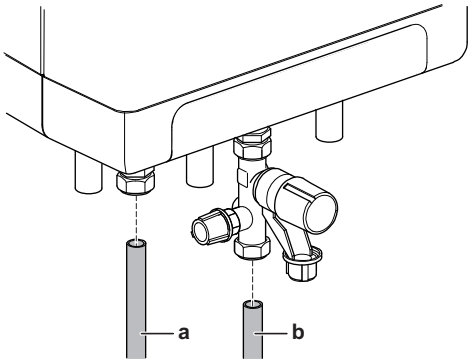
- The pipe should be run internally as far as possible before going to the outside. The pipe diameter should be increased to a minimum inner diameter of 30 mm (typically outer diameter of 32 mm) before it goes through the wall.
- The external run should be kept as short as possible, taking the most vertical route possible to the discharge point. Take into account that there are no horizontal section in which condensate might collect.
- The external pipe should be insulated. Use a suitable waterproof and weather proof insulation ("Class O" pipe insulation is suitable for this purpose).
- The use of fittings and elbows should be kept to a minimum. Any internal burrs should be removed so that the internal pipe section is as smooth as possible.

7.4 Connecting the water piping

7.4.1 Connecting the water piping of the gas boiler

To connect the water piping for domestic hot water

1 Flush the installation thoroughly to clean.



a Domestic hot water outlet
b Cold water inlet
c Pressure relief valve (field supply)

2 Install a pressure relief valve.

3 Connect the hot water connection (Ø15 mm).

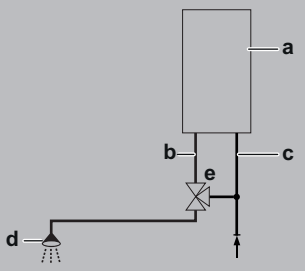
4 Connect the main cold water connection (Ø15 mm).

DANGER: RISK OF BURNING

In case of high leaving water set points for space heating (either a high fixed set point or a high weather-dependent set point at low ambient temperatures), the heat exchanger of the boiler can be very hot, for example 70°C.

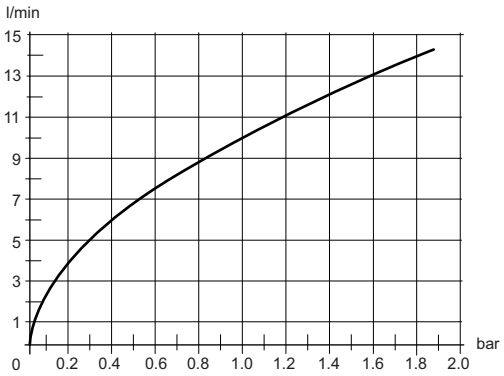
Beware that in case of a tapping demand, the water can initially have this high temperature instead of the requested lower temperature, for example 50°C.

In this case, it is recommended to install a thermostatic valve to prevent scalding. This can be done according to the schematics below.



a=boiler, **b**=DHW from boiler, **c**=cold water inlet, **d**=shower, **e**=thermostatic valve (field supply)

Flow resistance graph for appliance domestic hot water circuit



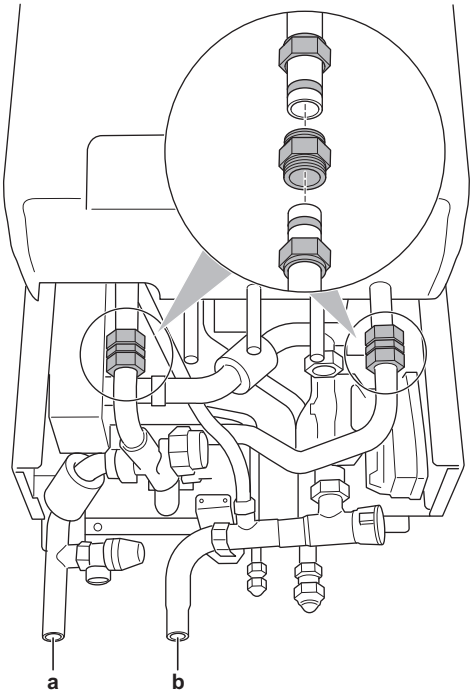
To connect the water piping for space heating

Use the straight brass fitting connections (accessory of the heat pump unit).

1 The space heating piping of the boiler will be connected to the indoor unit.

2 Install the straight brass fitting connections so that they perfectly match the connection of both modules.

3 Tighten the straight brass fitting connections.



a Outlet space heating
b Inlet space heating

NOTICE

Make sure that the straight brass fitting connections are tightened thoroughly to prevent leakage. Maximum torque is 30 N·m.

To fill the domestic water circuit of the gas boiler

1. Open the main tap to pressurize the hot water section.
2. Vent the exchanger and the pipe system by opening a hot water tap.
3. Leave the tap open until all air has disappeared from the system.
4. Check all connections for leaks including internal connections.

7.4.2 To fill the space heating circuit

1. Flush the installation thoroughly to clean the circuit.
2. Connect the water supply hose to the drain point (field supply).
3. Power up the gas boiler to see the pressure indication on the boiler display.
4. Make sure that the air purge valves of the gas boiler and the heat pump module are open (at least 2 turns).
5. Fill the circuit with water until the boiler display indicates a pressure of ±2 bar (with a minimum of 0.5 bar).
6. Purge air from the water circuit as much as possible.
7. Disconnect the water supply hose from the drain point.

7.5 Connecting the electrical wiring

DANGER: RISK OF ELECTROCUTION

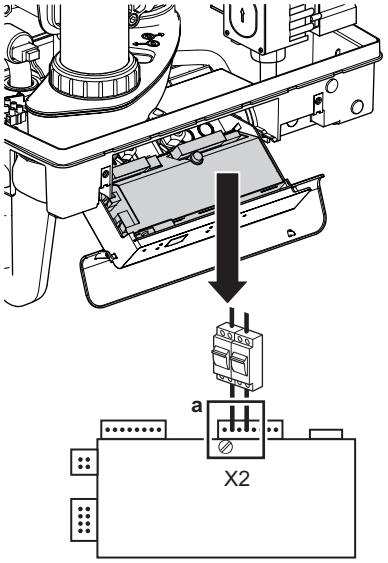
WARNING

ALWAYS use multicore cable for power supply cables.

7.5.1 To connect the main power supply of the gas boiler

1. Connect the power supply cable of the gas boiler to a fuse (a) (L: X2-2 (BRN), N: X2-4 (BLU)).
2. Connect the earthing of the gas boiler to an earthing terminal.

Result: The gas boiler performs a test. 2 appears on the service display. After the test, - appears on the service display (wait mode). The pressure in bar is shown on the main display.



DANGER: RISK OF ELECTROCUTION

A fused spur or an unswitched socket MUST be located no more than 1 m from the appliance.

CAUTION

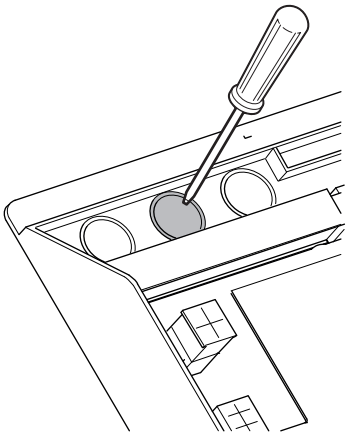
For installation in damp rooms, a fixed connection is obligatory. When working on the electrical circuit ALWAYS isolate the electric supply.

7.5.2 To connect the communication cable between gas boiler and indoor unit

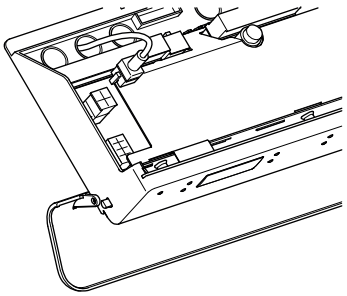
1 Open the gas boiler.

2 Open the switch box cover of the gas boiler.

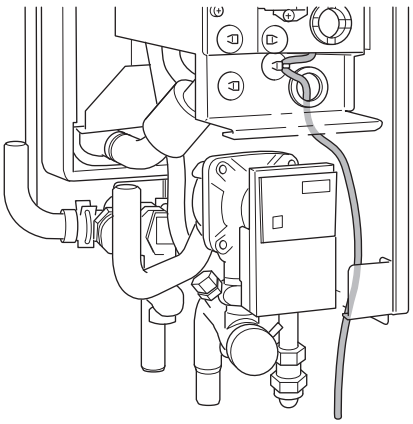
3 Remove a knockout hole in the switch box of the gas boiler.



4 The (larger) boiler connector of the cable is too large to fit through the knockout hole. Therefore, put the (smaller) indoor unit connector through the backside of the knockout hole and slide the cable all the way through, so that the gas boiler connector is near the PCB of the gas boiler.

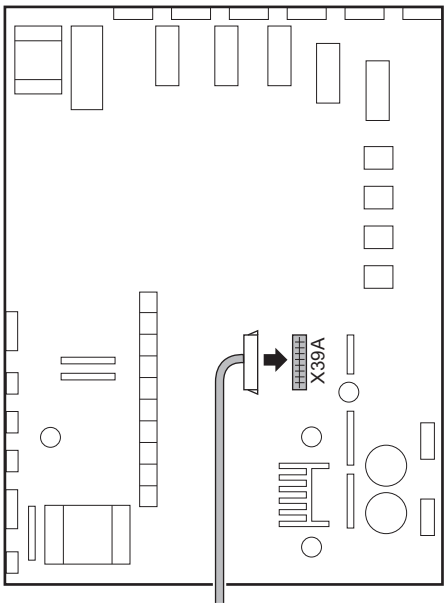


5 Route the communication cable from the gas boiler to the indoor unit as in figure below.



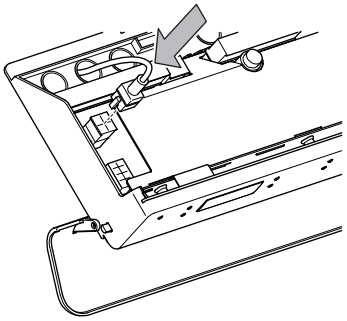
6 Open the switch box cover of the indoor unit.

7 Plug the indoor unit connector into X39A of the indoor unit PCB.



8 Close the switch box cover of the indoor unit.

9 Plug the gas boiler connector into the gas boiler PCB.



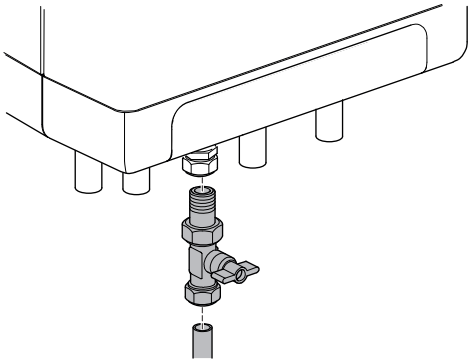
10 Close the switch box cover of the gas boiler.

11 Close the gas boiler.

7.6 Connecting the gas piping

7.6.1 To connect the gas pipe

1 Install a gas valve between the gas supply and the gas boiler. Use a Ø22 mm connection.



2 Install a gas mesh filter in the gas connection if the gas may be contaminated.

3 Connect the gas boiler to the gas supply.

4 Check all parts for gas leaks on a pressure of maximum 50 mbar (500 mm H_2O). There may be no stress on the gas supply connection.

7.7 Connecting the boiler to the flue gas system

The gas boiler is designed ONLY for operation independent of room air.

The gas boiler is delivered with a 60/100 concentric flue gas/air intake connection. An adapter piece 80/125 concentric connection is also available.

The air supply and the flue pipe can also be connected separately as a dual pipe connection. An option to change the gas boiler from a concentric to a dual pipe connection is available.

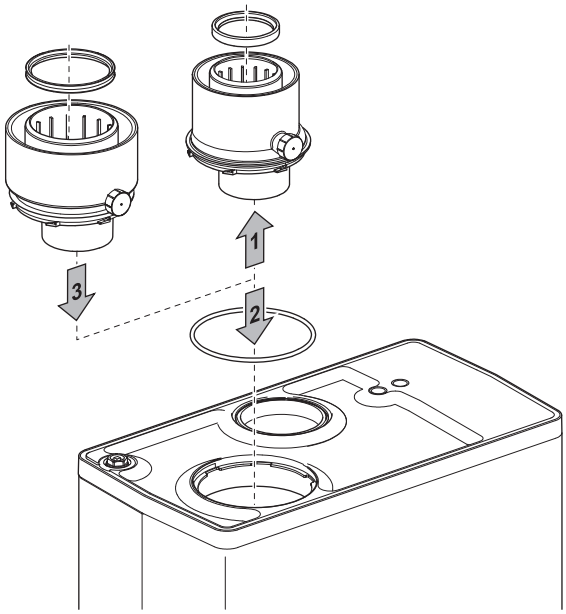
NOTICE

When installing the gas exhaust take the installation of the outdoor unit into account. Make sure the exhaust gases are not sucked into the evaporator.

7.7.1 To change the gas boiler to 80/125 concentric connection

The concentric connection can be changed from Ø60/100 to Ø80/125 by an adapter set.

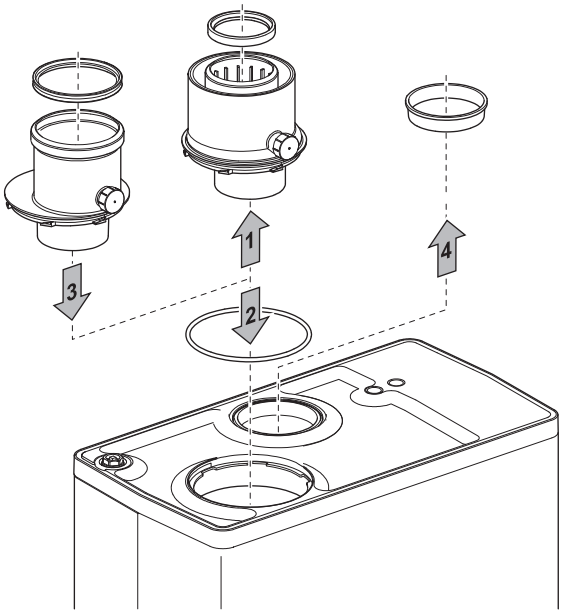
1. Remove the concentric pipe from the air supply and combustion gas pipe at the top of the gas boiler by turning counterclockwise.
2. Remove the O-ring from the concentric pipe and fit it around the flange of the concentric adapter Ø80/125.
3. Place the concentric adapter in the top of the appliance and turn it clockwise so that the measurement nipple points straight forward.
4. Fit the concentric pipe for the air supply and combustion gas flue into the adapter. The integral sealing ring ensures an airtight connection.
5. Check the connection of the internal flue pipe and the condensate collector. Make sure it is properly connected.



7.7.2 To change the 60/100 concentric connection to a dual pipe connection

The concentric connection can be changed from Ø60/100 to Ø80/125 by an adapter set.

1. Remove the concentric pipe from the air supply and combustion gas pipe at the top of the gas boiler by turning counterclockwise.
2. Remove the O-ring from the concentric pipe and fit it around the flange of the dual pipe adapter Ø80.
3. Place the combustion gas connection (Ø80) in the top of the appliance and turn it clockwise so that the measurement nipple points straight forward. The integral sealing ring ensures an airtight connection.
4. Remove the lid from the air supply connection. Make sure to properly connect the air intake. Room air dependent installation is NOT allowed.
5. Check the connection of the internal flue pipe and the condensate collector. Make sure it is properly connected.



7.7.3 Calculate the total piping length

When the resistance of the flue pipe and air supply pipe increase, the appliance power will decrease. The maximum permitted reduction in power is 5%.

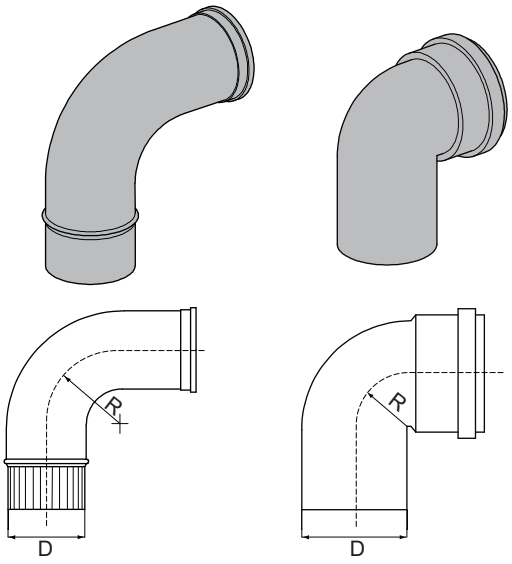
The resistance of the air supply pipe and combustion gas flue depends on:

- the length,
- the diameter,
- all components (bends, elbows,…).

The total permitted pipe length of the air supply and the combustion gas flue is indicated for each appliance category. For dual pipe connection, the indication of pipe length is based on Ø80 mm.

Equivalent length

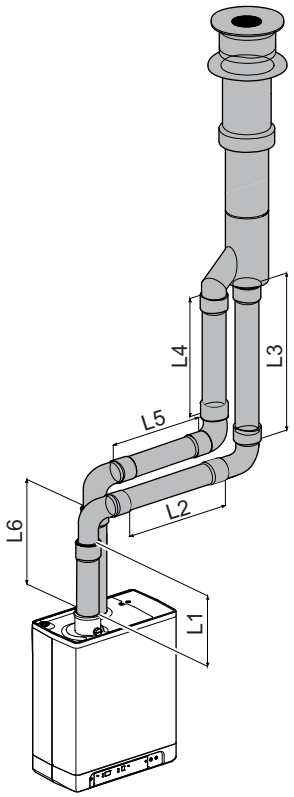
		Length
Bend 90°	R/D=1	2 m
Bend 45°		1 m
Elbow 90°	R/D=0.5	4 m
Elbow 45°		2 m



For a dual pipe connection, all defined lengths assume a diameter of 80 mm. In case of smaller or larger pipe diameters, the permissible pipe length is respectively smaller or larger. In case of smaller diameter, the following applies:

- Ø70: 0.59 × the permissible pipe length for Ø80
- Ø60: 0.32 × the permissible pipe length for Ø80
- Ø50: 0.15 × the permissible pipe length for Ø80

Contact the manufacturer to check the calculations for the resistance of the air supply and combustion gas flue pipe and the wall temperature at the end of the combustion gas flue pipe.



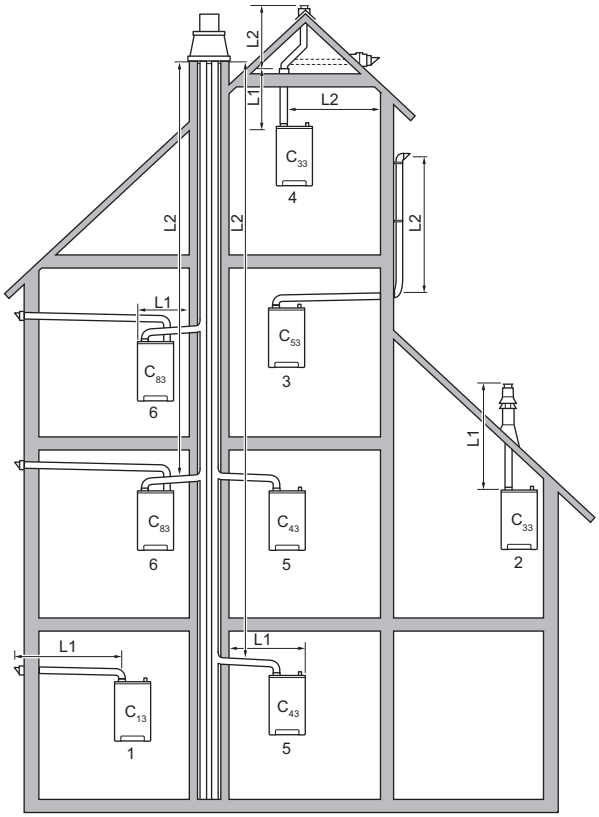
Sample calculation for dual pipe application

Pipe	Pipe length	Total pipe length
Flue pipe	(L1+L2+L3+2) × 2 m	13 m
Air supply	(L4+L5+L6+2) × 2 m	12 m

Total piping length = sum of the straight pipe lengths + sum of the equivalent pipe length of bends/elbows.

7.7.4 Appliance categories and pipe lengths

Following installation methods are supported by the manufacturer.



C_{13} (1)	C_{33} (2)	C_{13} (1)	C_{33} (2)
60/100	60/100	Twin-80	Twin-80
L1 (m)	L1 (m)	L1 (m)	L1 (m)
9.7	10	21.3	21.3

C_{13} (1)	C_{33} (2)	C_{33} (4)		C_{53} (3)	
80/125	80/125	60/100	80	60/100	60
L1 (m)	L1 (m)	L1 (m)	L2 (m)	L1 (m)	L2 (m)
29	29	9	1	6	1
		1	30	1	10

7.7.5 Applicable materials

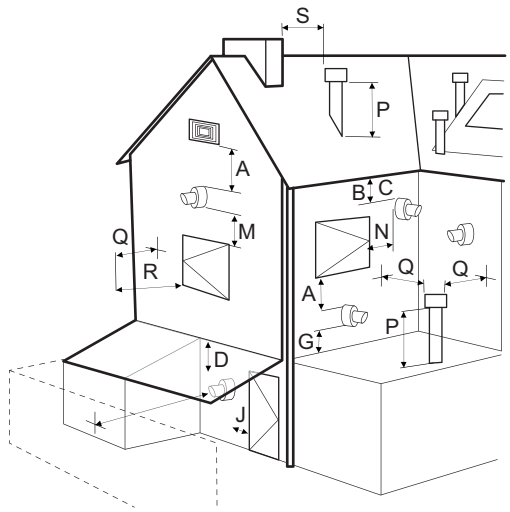
Only use the materials specified in the following table.

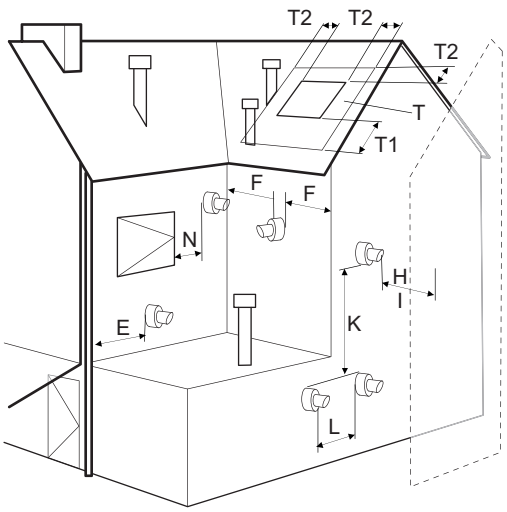
Device category	Material	Supplier per country			
		UK	B	F	SP
C_{13}	All materials	Daikin	Daikin	▪ Daikin ▪ 3rd party(b)	▪ Daikin ▪ 3rd party(b)
C_{33}					
C_{53}					
C_{43}	▪ All materials ▪ CLV systems	(a)	(a)	(a)	
C_{83}	▪ Inlet grille ▪ Main pipe ▪ Other parts	(a)	(a)	(a)	

(a) Contact your local Daikin dealer for advise on the applicable materials and the installation requirements.
(b) All parts purchased from an external supplier MUST comply with EN14471.

7.7.6 Flue pipe position

Especially for UK:
Only use flue products approved by the boiler manufacturer, which can be bought from the supplier of your boiler.
Refer to the field supplied accessories for all available accessories.





	Terminal position	Minimum distance
A	Directly below an open able window or other opening (e.g. air brick)	300 mm
B	Below gutters, soil pipes or drain pipes	75 mm
C	Below eaves	200 mm
D	Below balconies or car front roofs	200 mm
E	From vertical drain pipes and soile pipe	150 mm
F	From internal or external corners	300 mm
G	Above ground, roof or balcony level	300 mm
H	From a surface facing a terminal	600 mm
I	From a terminal discharging towards another terminal	1200 mm
J	From an opening in a car port (e.g. door, window) into a dwelling	1200 mm
K	Vertically from a terminal on the same wall	1500 mm
L	Horizontally from a terminal on the same wall	300 mm
M	Above an opening, air brick, opening windows, etc.	300 mm
N	Horizontally to an opening, air brick, opening windows, etc.	300 mm
P	Above roof level (to base of terminal)	300 mm
Q	From adjacent wall to flue	300 mm
R	From an adjacent opening window	1000 mm
S	From another roof terminal	600 mm
-	From an external boundary. Note: If the terminal is facing a boundary, it is recommended that an anti-plume kit be fitted.	600 mm
T	Terminals adjacent to windows or openings on pitched and flat roofs: The flue should NOT penetrate this area.	
T1		2000 mm
T2		600 mm

NOTICE
The boiler manufacturer cannot be held responsible for atmospheric conditions when siting flue terminals.

CAUTION
Once the flue system has been installed and the appliance commissioned, the installer should observe the plume direction. Particular attention should be drawn to plume vapour re-entering the boiler via the air intake. If this occurs, it is highly possible the flue is fitted with a negative pressure area and therefore a plume management kit MUST be fitted.

7.7.7 Insulation of the gas exhaust and air intake

Condensation may occur on the outside of the pipe material when the material temperature is low and the environment temperature is high with a high humidity. Use 10 mm damp-proof insulation material when there is a risk of condensation.

7.7.8 Fitting a horizontal flue system

The 60/100 mm horizontal flue system may be extended up to a maximum length as specified in the table indicating the maximum pipe lengths. Calculate the equivalent length according to the specifications in this manual.

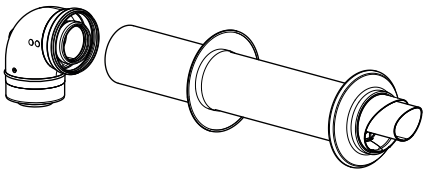
CAUTION

Read the installation manuals of the field supplied parts.

The horizontal flue MUST be installed under a 3° fall towards the boiler (50 mm per meter) and MUST be supported with a minimum of 1 bracket at each meter length. Best recommended position of the bracket is just before the joint.

INFORMATION

Flexible flue gas lines may NOT be used in horizontal connection sections.

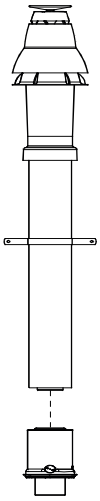


7.7.9 Fitting a vertical flue system

A vertical 60/100 mm flue kit is also available. By using additional components available from your boiler supplier, the kit can be extended up to a maximum length as specified in the table indicating the maximum pipe lengths (excluding the initial boiler connection).

CAUTION

Read the installation manuals of the field supplied parts.



7.7.10 Plume management kit

Especially for UK:

The plume management kit comprises of a 710 mm horizontal section elbow to connect the 1 m vertical condensing tube, which has a horizontal or vertical terminal dependant on your requirements. The maximum length of the horizontal flue including the terminal but excluding the initial elbow from the boiler and 1 metre vertical condensing tube is 7 m.

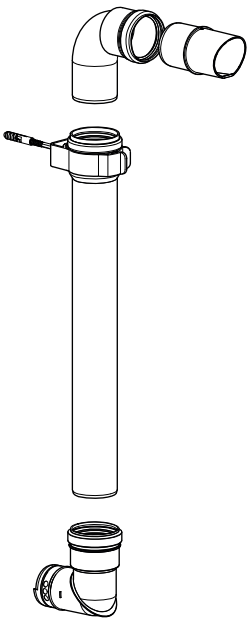
NOTICE

For each additional 90° elbow used the maximum flue length MUST be reduced by 1.5 m whilst the use of 2× 45° bends warrants a reduction of 2 m.

The horizontal part of the flue MUST be installed under a 3° fall towards the boiler (5 mm per m) and MUST be supported with a minimum of 1 bracket at each 1 m length. Best recommended position of the bracket is just before the joint.

CAUTION

- Sealing rings should ONLY be moisturized with water before use. Do NOT use soap or other detergents.
- When installing flues in voids, make sure that they are connected and fixed correctly. If in an existing situation a visual inspection is NOT possible, the boiler must NOT be commissioned and remain disconnected from the gas supply until suitable access has been realised.
- Make sure to follow the manufacturer's instructions regarding maximum length of the flue system, the appropriate flue material, correct jointing methods and the maximum distance between flue support.
- Make sure that all joints and seams are gastight and watertight.
- Make sure that the flue system has a uniform gradient back to the boiler.



7.7.11 Flues in voids

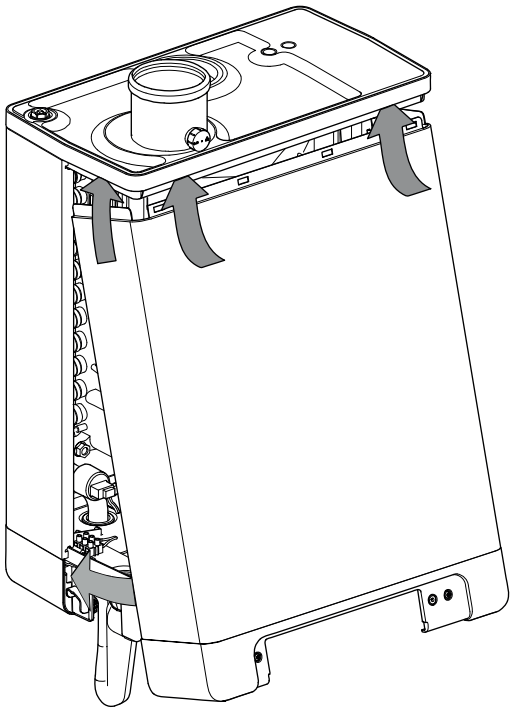
Specially for UK:
The flue system must be connected in accordance with the manufacturers instructions before firing the boiler.
The term void includes ceiling voids, floor voids, purpose built enclosures, service risers, roof spaces or any other enclosure that will restrict access to inspect the flue.
To allow visual inspection, without reliance on devices such as endoscopes, cameras and mirrors, inspection hatches must be provided along the entire length of the flue.
Hatches must be a minimum of 300 mm × 300 mm and positioned with the edge of the inspection hatch to 1.5 m of any joint and at changes of direction. Bends should be viewable from both directions where the inspection hatch cannot be positioned at the bend.
Where suitable access is not provided the appliance must NOT be commissioned and must be disconnected from the gas supply.
Additionally the entire flue and all flue seals must be installed in accordance with the requirements of BS5440:

- Check if the condensate trap is filled with water and correctly connected to the boiler.
- All flue joints are correctly made, unstressed and adequately supported.
- All parts of the flue can be visually inspected. Ensure suitable access where flue is positioned within voids.

7.8 Finishing the gas boiler installation

7.8.1 To close the gas boiler

1 Hook the top of the front panel into the top of the gas boiler.

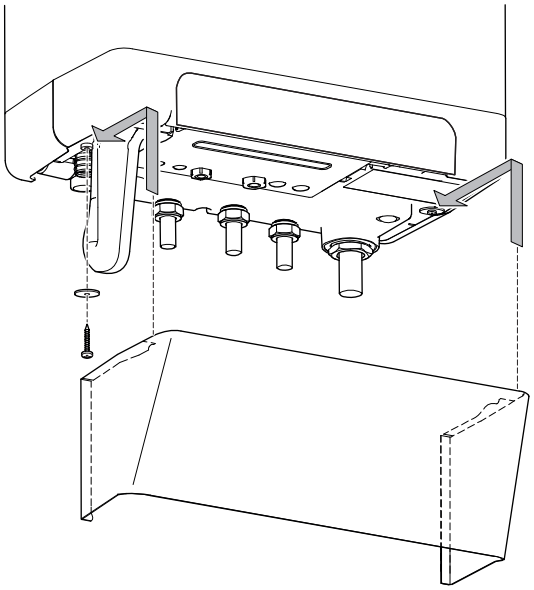


2 Tilt the bottom side of the front panel towards the gas boiler.

3 Screw both screws of the cover.

4 Close the display cover.

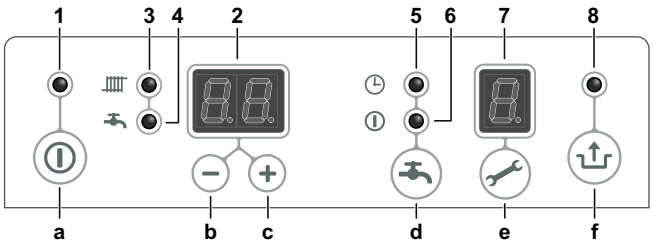
7.8.2 To install the cover plate



8 Configuration

8.1 Gas boiler

8.1.1 Overview: Configuration



Read out

1 On/off
2 Main display
3 Space heating operation
4 Domestic hot water operation
5 Domestic hot water comfort function eco
6 Domestic hot water comfort function on (continuous)
7 Service display
8 Flashes to indicate a fault

Operation

a On/off button
b − button
c + button
d Domestic hot water function off/eco/on
e Service button
f Reset button

8.1.2 Basic configuration

To turn on/off the gas boiler

1 Push the ⏻ button.

Result: The green LED above the ⏻ button will light up when the boiler is ON.

When the gas boiler is OFF, - is displayed on the service display to indicate that the power is ON. In this mode, the pressure in the space heating installation will also be displayed on the main display (bar).

Domestic hot water comfort function

This function can be operated with the domestic hot water comfort key (🚿). The following functions are available:

- On: The ⏻ LED lights up. The domestic hot water comfort function is switched on. The heat exchanger will be kept on temperature to assure instant delivery of hot water. At first start-up, the boiler is factory set to Eco. At next start-ups the boiler will remember the previous setting.
- Eco: The ⌛ LED lights up. The domestic hot water comfort function is self-learning. The appliance will learn to adapt to the pattern of use of hot tap water. For example: the temperature of the heat exchanger will NOT be maintained during the night or in case of long absence.
- Off: Both LED's are OFF. The temperature of the heat exchanger is NOT maintained. For example: It will take a while to deliver hot water to the hot water taps. If there is no need for hot tap water or there is no need for immediate hot water delivery, the domestic hot water comfort function can be turned OFF.

To reset the gas boiler

Resetting is only possible when an error occurs.

Prerequisite: Flashing LED above the ↺ button and an error code on the main display.

Prerequisite: Check the meaning of the error code (see "Error codes of the gas boiler" on page 29) and resolve the cause.

1 Press ↺ to restart the gas boiler.

Maximum space heating supply temperature

See the user reference guide of the indoor unit for more details.

Domestic hot water temperature

See the user reference guide of the indoor unit for more details.

To set the parameters via the service code

The gas boiler is factory set in accordance with the default settings. Take into account the remarks in the table below when changing the parameters.

1 Press simultaneously on 🔧 and ↺ until 0 appears on the main and the service display.

2 Use the + and − buttons to set 15 (service code) on the main display.

3 Press the 🔧 button to set the parameter on the service display.

4 Use the + and − buttons to set the parameter to the desired value on the service display.

5 When all settings are done, press ↺ until P appears on the service display.

Result: The gas boiler has now been reprogrammed.

INFORMATION

- Press the ⏻ button to exit the menu without storing the parameter changes.
- Press the 🔧 button to load the default settings of the gas boiler.

Parameters on the gas boiler

Parameter	Setting	Range	Default settings	Description
0	Service code	—	—	To access the installer settings, enter the service code (=15)
1	Installation type	0~3	0	▪ 0=Combi ▪ 1=Heating only + external domestic hot water tank ▪ 2=Domestic hot water only (no heating system required) ▪ 3=Heating only It is recommended not to modify this setting.
2	Space heating pump continuous	0~3	0	▪ 0=Post purge period only ▪ 1=Pump continuously active ▪ 2=Pump continuously active with MIT switch ▪ 3=Pump on with external switch This setting has no effect.
3	Maximum space heating power set	c~85%	70%	Maximum power in heating. This is a percentage of the maximum set in parameter h. We strongly recommend not modifying this setting.
4	Maximum domestic hot water power set	d~100%	100%	Maximum power in instant domestic hot water. This is a percentage of the maximum set in parameter h. We strongly recommend not modifying this setting.
5	Minimum supply temperature of the heat curve	10°C~25°C	15°C	Do NOT modify this setting on the boiler. Use the user interface instead.
5.	Maximum supply temperature of the heat curve	30°C~90°C	90°C	Do NOT modify this setting on the boiler. Use the user interface instead.
6	Minimum outside temperature of the heat curve	–9°C~10°C	–7°C	Do NOT modify this setting on the boiler. Use the user interface instead.
7	Maximum outside temperature of the heat curve	15°C~30°C	25°C	Do NOT modify this setting on the boiler. Use the user interface instead.
8	Space heating pump post purge period	0~15 min	1 min	Changing this setting has no effect on the operation of the unit.
9	Space heating pump post purge period after domestic hot water operation	0~15 min	1 min	Changing this setting has no effect on the operation of the unit.
A	Position 3-way valve or electric valve	0~3	0	▪ 0=Powered during space heating ▪ 1=Powered during domestic hot water ▪ 2=Powered during every heat demand (space heating, domestic hot water, eco/comfort) ▪ 3=Zone regulation
b	Booster	0~1	0	Changing this setting has no effect on the operation of the unit.
C	Step modulation	0~1	1	▪ 0=OFF during space heating operation ▪ 1=ON during space heating operation It is recommended not to modify this setting.
c	Minimal space heating rpm	23%~50%	23%	Adjustment range 23~50% (40= propane). It is recommended not to modify this setting in case of natural gas.

Parameter	Setting	Range	Default settings	Description
d	Minimal domestic hot water rpm	23%~50%	23%	Adjustment range 23~50% (40= propane). It is recommended not to modify this setting in case of natural gas.
E	Minimal supply temperature during OT demand. (OpenTherm thermostat)	10°C~16°C	40°C	Changing this setting has no effect on the operation of the unit.
E.	OT response	0~2	1	Changing this setting has no effect on the operation of the unit.
F	Start rpm space heating	50%~99%	50%	This is the fan rpm before heating ignition. It is recommended not to modify this setting.
F.	Start rpm domestic hot water	50%~99%	50%	This is the fan rpm before instant domestic hot water ignition. It is recommended not to modify this setting.
h	Maximum fan rpm	45~50	48	Use this parameter to set the maximum fan rpm. It is recommended not to modify this setting.
n	Set point space heating (flow temperature) during heating external domestic hot water tank	60°C~90°C	85°C	Do NOT modify this setting on the boiler. Use the user interface instead.
n.	Comfort temperature	0°C / 40°C~65°C	0°C	Temperature used for eco/comfort function.
o.	Waiting time after a space heating demand from a thermostat.	0 min~15 min	0 min	Changing this setting has no effect on the operation of the unit.
o	Waiting time after a domestic hot water demand before a space heating demand is answered.	0 min~15 min	0 min	Amount of time the boiler waits before answering a space heating demand after a domestic hot water demand.
o.	Number of eco days.	1~10	3	Number of eco days.
P	Anti-cycling period during space heating operation	0 min~15 min	5 min	Minimal switch-off time in space heating operation. It is recommended not to modify this setting.

Maximum space heating power setting

The maximum space heating power setting (3) is factory set to 70%. If more or less power is required, you can change the fan rpm. The table below shows the relationship between the fan rpm and the appliance power. It is strongly recommended NOT to modify this setting.

Desired power (kW)	Setting on service display (% of max. rpm)
26.2	83
25.3	80
22.0	70
19.0	60
15.9	50
12.7	40
9.6	30
7.0	25

Note that for the gas boiler the power during burning is increased slowly and is reduced as soon as the supply temperature is reached.

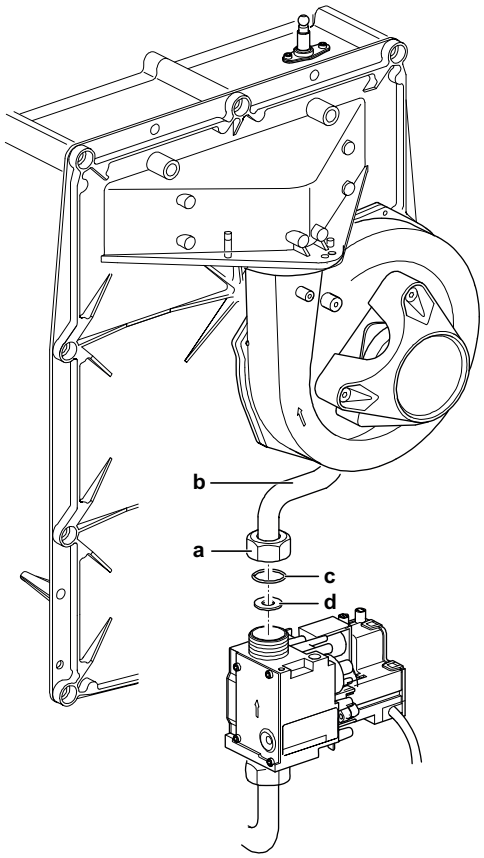
Frost protection function

The boiler is equipped with an internal frost protection function that automatically operates when necessary, even if the boiler is turned off. If the heat exchanger temperature drops too low, the burner will switch on until the temperature is sufficiently high again. When frost protection is active, 7 is displayed on the service display.

To change to a different type of gas

If a different type of gas is connected to the appliance than that for which the appliance has been set by the manufacturer, the gas metering MUST be replaced. Conversion sets for other types of gas are available to order. See "5.2.1 List of options for gas boiler" on page 8.

1. Switch the boiler off and isolate the boiler from the mains power.
2. Close the gas tap.
3. Remove the front panel from the appliance.
4. Unscrew the coupling (a) above the gas valve and twist the gas mixing tube towards the rear (b).
5. Replace the O-ring (c) and the gas restriction (d) with the rings from the conversion set.
6. Reassemble in reverse sequence.
7. Open the gas tap.
8. Check the gas connections before the gas valve for gastightness.
9. Switch on the mains power.
10. Check the gas connections after the gas valve for gastightness (during operation).
11. Now check the setting of the CO_2 percentage at high setting (H in display) and low setting (L in display).
12. Put a sticker indicating the new gas type on the bottom of the gas boiler, next to the nameplate.
13. Put a sticker indicating the new gas type next to the gas valve, over the existing one.
14. Put the front panel back in its place.



a Coupling
b Gas mixing tube
c O-ring
d Gas metering ring

CAUTION

Work on gas carrying parts may ONLY be carried out by a qualified competent person. ALWAYS comply with local and national regulations.

About the carbon dioxide setting

The CO_2 setting has been set in the factory and in principle requires no adjustments. The setting can be checked by measuring the CO_2 percentage in the combustion gases. In case of possible disturbance of the adjustment, replacement of the gas valve or conversion to another gas type the adjustment must be checked and if necessary set according to the instructions below.

Always check the CO_2 percentage when the cover is open.

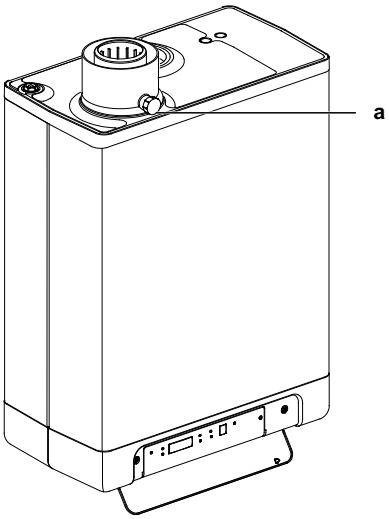
To check the carbon dioxide setting

1 Switch off the heat pump module with the user interface.

2 Switch off the gas boiler with the ⏻ button. - appears on the service display.

3 Remove the front panel from the gas boiler.

4 Remove the sampling point (a) and insert a suitable flue gas analyser probe.



INFORMATION

Make sure the start-up procedure of the analyser is completed before inserting the probe into the sampling point.

5 Switch on the gas boiler with the ⏻ button and create a space heating demand.

6 Select High setting by simultaneously pressing 🔧 and + twice. Capital H will appear on the service display. The user interface will display Busy. Do NOT test when lowercase h is displayed. If this is the case, press 🔧 and + again.

7 Allow readings to stabilise. Wait for at least 3 minutes and compare the CO_2 percentage with the values in the table below.

CO_2 value at maximum power	Natural gas G20	Propane P G31
Maximum value	9.6	10.8
Minimum value	8.6	9.8

8 Note down the CO_2 percentage at maximum power. This is important with regard to the next steps.

CAUTION

It is NOT possible to adjust the CO_2 percentage when test program H is running. When the CO_2 percentage deviates from the values in the table above, please contact your local service department.

9 Select Low setting by simultaneously pressing 🔧 and ▬ buttons once. L will appear on the service display. The user interface will display Busy.

10 Allow readings to stabilise. Wait for at least 3 minutes and compare the CO_2 percentage with the values in the table below.

CO_2 value at minimum power	Natural gas G20	Propane P G31
Maximum value	(a)	(a)
Minimum value	8.4	9.4

(a) CO_2 value at maximum power recorded at High setting.

11 If the CO_2 percentage is within the range expressed in the table, the CO_2 setting of the boiler is correct. If NOT, adjust the CO_2 setting according to the instructions in the chapter below.

12 Switch off the appliance by pressing the ⏻ button and put the sampling point back in its place. Make sure it is gastight.

13 Put the front panel back in its place.

CAUTION

Work on gas carrying parts may only be carried out by a qualified competent person.

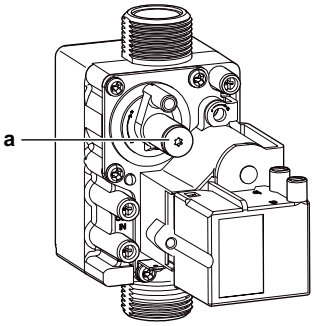
To adjust the carbon dioxide setting

INFORMATION

Only adjust the CO_2 setting when you have checked it first and are sure adjustment is necessary. No adjustment to the gas valve should be made without prior permission of your local Daikin dealer. In Belgium it is NOT allowed to adjust the gas valve. Contact your dealer.

1 Remove the cap that covers the adjustment screw. In the illustration, the cover cap is already removed.

2 Turn the screw (a) to increase (clockwise) or decrease (counterclockwise) the CO_2 percentage. See the table below for the desired value.



a Adjusting screw

Adjustment values CO_2 (%) at minimum power (front cover opened)		
Measured value at maximum power	**Natural gas 2H (G20)**	**Propane 3P (G31)**
10.8	—	10.5±0.1
10.6		10.3±0.1
10.4		10.1±0.1
10.2		9.9±0.1
10.0		9.8±0.1
9.8		9.6±0.1
9.6	9.0±0.1	—
9.4	8.9±0.1	
9.2	8.8±0.1	
9.0	8.7±0.1	
8.8	8.6±0.1	
8.6	8.5±0.1	

3 After measuring the CO_2 percentage and adjusting the setting, put the cover cap and the sampling point back in their place. Make sure they are gastight.

4 Select High setting by simultaneously pressing and + twice. Capital H will appear on the service display.

5 Measure the CO_2 percentage. If the CO_2 percentage still deviates from the values in the table indicating the CO_2 percentage at maximum power, contact your local dealer.

6 Press + and − simultaneously to exit the test program.

7 Put the front panel back in its place.

9 Operation

9.1 Overview: Operation

The gas boiler is a modulating, high-efficiency boiler. This means that the power is adjusted in line with the desired heat requirement. The aluminium heat exchanger has 2 separate copper circuits. As a result of the separately constructed circuits for space heating and domestic hot water, the heating and the hot water supply can operate independently of each other.

The gas boiler has an electronic boiler controller which does the following when heating or hot water supply is required:

- starting the fan,
- opening the gas valve,
- igniting the burner,
- constantly monitoring and controlling the flame.

It is possible to use the boiler's domestic hot water circuit without connecting and filling the central heating system.

9.2 Heating

Heating is controlled by the indoor unit. The boiler will start-up the heating process when there is a request from the indoor unit.

9.3 Domestic hot water

Because supplying hot water has priority over heating, the boiler will switch to domestic hot water mode whenever there is a hot water demand. When a simultaneous heating demand occurs:

- during heat pump only operation, the heat pump will provide heat and the boiler will be bypassed,
- during period boiler only operation, and with the boiler in domestic hot water mode, space heating will NOT be provided,
- during heat pump and boiler operation, the heat pump will provide heat and the boiler will be bypassed and switch to domestic hot water mode.

Hot water supply has priority above heating. The 2 systems cannot operate simultaneously.

9.4 Operation modes

The following codes on the service display indicate the following operating modes.

- Off

The gas boiler is out of operation but is supplied with electric power. There will be no response on space heating and/or domestic hot water demands. Frost protection is active. This means that the exchanger is heated up if the water temperature in the gas boiler is too low.

If frost protection is activated, ⅂ will be displayed (heating the exchanger). In this mode, the pressure (bar) in the space heating installation can be read on the main display.

Waiting mode (blank service display)

The LED at the ⏻ button is lit and possibly also one of the LEDs for the domestic hot water comfort function. The gas boiler is waiting for a space heating and/or domestic hot water demand.

Pump overrun of space heating

After each space heating operation, the pump continues to run. This function is controlled by the heat pump.

1 Boiler shutdown when the required temperature is reached

The controller can temporarily stop the requested space heating demand. The burner will stop. The shutdown occurs because the requested temperature is reached. When the temperature drops too fast and the anti-cycle time has passed, the shutdown will be cancelled.

2 Self-test

The sensors check the boiler controller. During the check-up, the boiler controller does NOT perform any other tasks.

3 Ventilation

When the appliance is started, the fan goes to starting speed. When the starting speed is reached, the burner is lit. The code will also be visible when post-ventilation is taking place after the burner has stopped.

4 Ignition

When the fan has reached its starting speed, the burner is ignited by means of electric sparks. During ignition the code will be visible on the service display. If the burner does NOT ignite, a new ignition attempt occurs after 15 seconds. If after 4 ignition attempts the burner is NOT yet burning, the boiler will go into fault mode.

5 space heating operation

When a space heating request is received from the indoor module, the fan is started, followed by the ignition, and the space heating operation mode. During the space heating operation, the fan speed and hence the appliance power are controlled by the gas boiler controller so that the space heating water temperature reaches the desired space heating supply temperature. During the space heating operation, the requested space heating supply temperature is indicated on the operating panel.

The space heating supply temperature must be set on the user interface of the hybrid module. See the user reference guide for more details.

6 Domestic hot water operation

The domestic hot water supply has priority over space heating performed by the gas boiler. If the flow switch detects a domestic hot water demand of more than 2 l/min, space heating by the gas boiler will be interrupted. After the fan has reached speed code and ignition is done, the boiler controller goes into domestic hot water mode.

During the domestic hot water operation, the fan speed and hence the appliance power are controlled by the gas boiler controller so that the domestic hot water temperature reaches the domestic hot water temperature setting.

The space heating supply temperature must be set on the user interface of the hybrid module. See the user reference guide for more details.

7 Pre-heating facility

To enable fast delivery of domestic hot water, the boiler controller is provided with a domestic hot water comfort function. This function maintains the temperature of the heat exchanger to a pre-defined temperature. The following settings are provided:

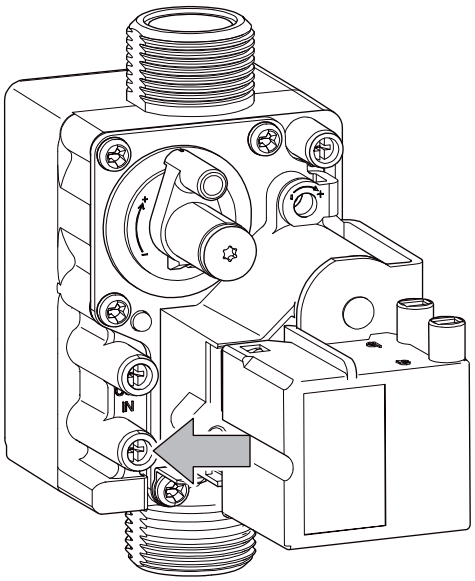
- On: (① LED on) The domestic hot water comfort function is switched on continuously. The heat exchanger will be kept on temperature to assure instant delivery of domestic hot water.
- Eco: (⧗ LED on) The domestic hot water function is self-learning. The appliance will learn to adapt to the pattern of use of the hot water tap. As a result, the temperature of the heat exchanger will NOT be maintained during the night or in case of long periods of absence.
- Off: (both LEDs off) The temperature of the heat exchanger is NOT maintained.

10 Commissioning

Especially for UK:
At the time of commissioning, complete all relevant sections of the Benchmark Checklist on the backpages of this document.

10.1 To perform an air purge on the gas supply

1 Connect a suitable gauge on the gas valve. Static pressure MUST be 20 mbar.



2 Select test program "H". See "10.2 To perform a test run on the gas boiler" on page 25. Static pressure MUST be 20 mbar (+ or – 1 mbar). If the working pressure is <19 mbar, the gas boiler output will be reduced and the correct combustion reading may NOT be obtained. Do NOT adjust the air and/or gas ratio. To obtain sufficient working pressure, gas supply MUST be correct.

INFORMATION

Make sure the working inlet pressure does NOT interfere with other gas appliances installed.

10.2 To perform a test run on the gas boiler

The gas boiler has a test run function. Activation of this function will result in starting the operation at a fixed fan speed, without the control functions being actuated. The safety functions remain active. The test run can be stopped by pressing + and – simultaneously or will end automatically after 10 minutes. To perform a test run, switch off the system with the user interface.

Program	Button combination	Display
Burner ON at minimum power	🔧 and –	L
Burner ON, maximum space heating power setting	🔧 and + (1×)	h
Burner ON, maximum domestic hot water setting	🔧 and + (2×)	H
Stop test program	+ and –	Actual situation

11 Maintenance and service

Especially for UK:
After servicing, complete the relevant Service Interval Record section of the Benchmark Checklist located on the backpages of this document.

NOTICE

Maintenance should preferably be carried out yearly by an installer or service agent.

11.1 Maintenance safety precautions

DANGER: RISK OF ELECTROCUTION

DANGER: RISK OF BURNING

NOTICE: Risk of electrostatic discharge

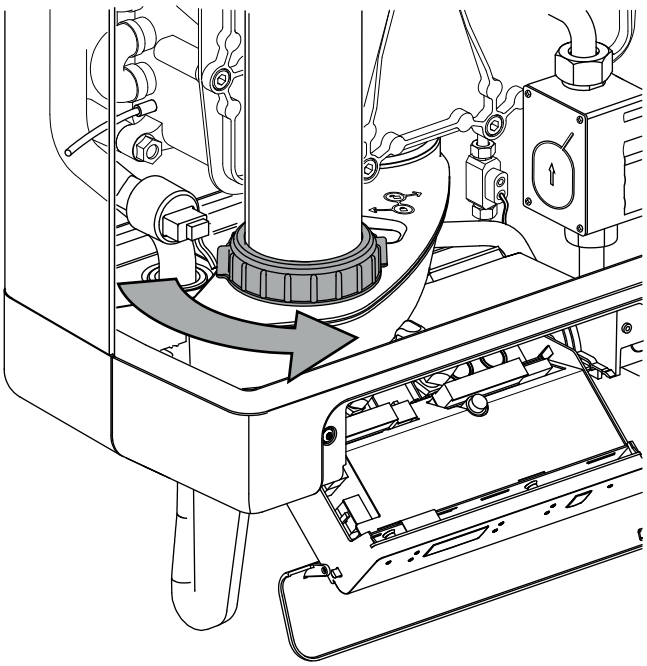
Before performing any maintenance or service work, touch a metal part of the unit in order to eliminate static electricity and to protect the PCB.

11.1.1 Opening the gas boiler

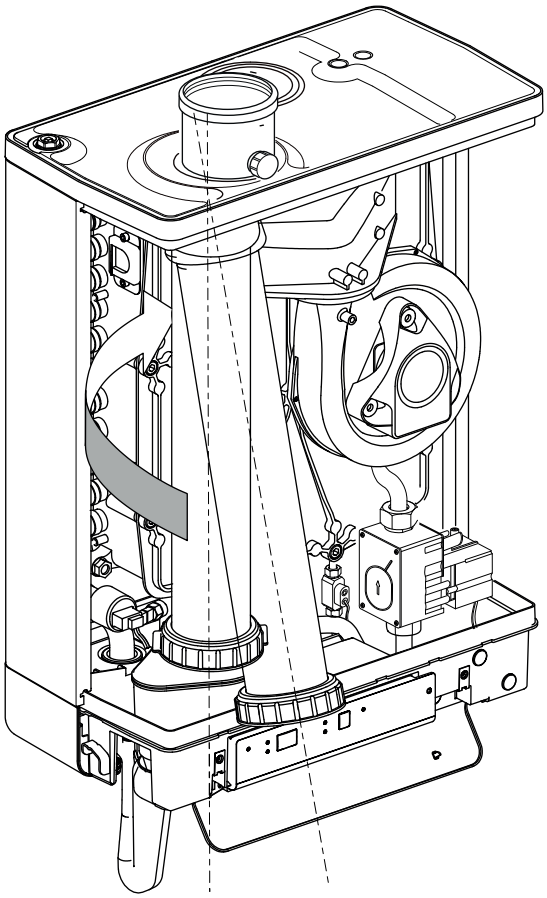
See "7.1.1 To open the gas boiler" on page 9.

11.2 To disassemble the gas boiler

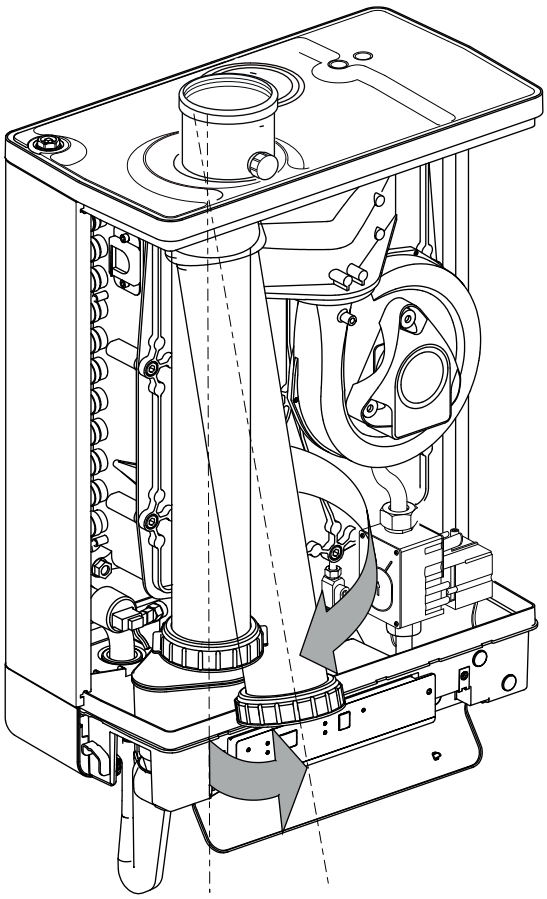
1 Turn off the appliance.
2 Turn off the main power supply of the appliance.
3 Close the gas tap.
4 Remove the front panel.
5 Wait until the appliance has cooled down.
6 Unscrew the coupling nut at the base of the flue pipe by turning counterclockwise.



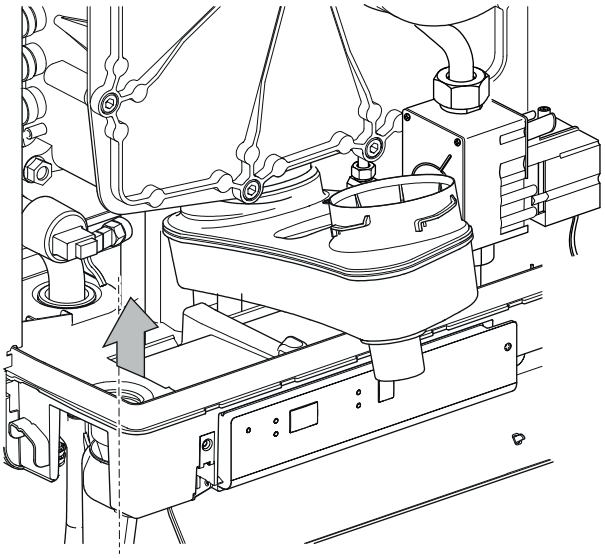
7 Slide the flue pipe upwards by turning it clockwise until the bottom of the pipe is above the condensate drain pan connection.



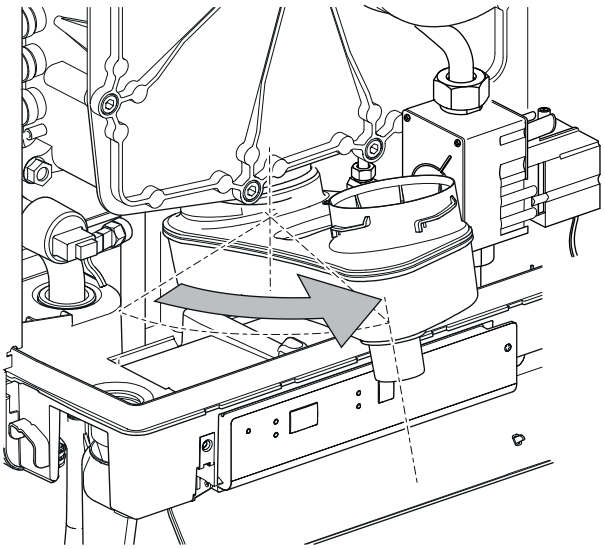
8 Pull the bottom of the pipe forwards and remove the pipe downwards by turning the pipe alternately clockwise and counterclockwise.



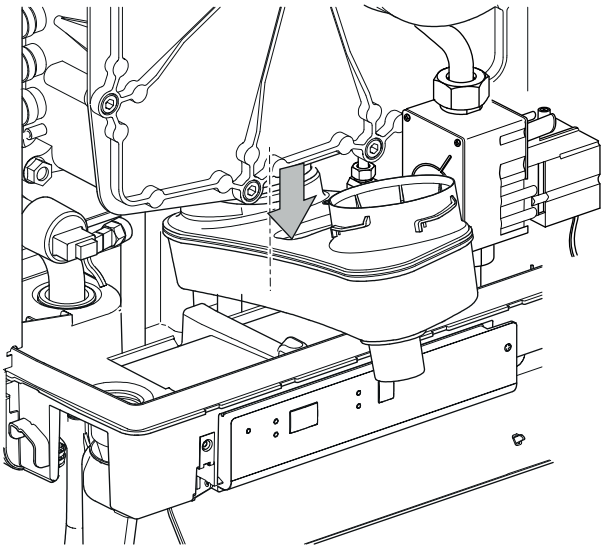
9 Lift the condensate drain pan on the left-hand side from the connection to the condensate trap.



10 Turn it to the right with the condensate trap connection over the edge of the base tray.



11 Push the backside of the condensate drain pan downwards from the connection to the heat exchanger and remove it.



12 Remove the connector from the fan and the ignition unit from the gas valve.

13 Unscrew the coupling below the gas valve.

14 Unscrew the socket head screws from the front cover and remove the socket complete with gas valve and fan to the front.

NOTICE

Make sure that the burner, insulation plate, gas valve, gas supply and fan do NOT get damaged.

11.3 To clean the inside of the gas boiler

1 Clean the heat exchanger from top to bottom with a plastic brush or compressed air.

2 Clean the underside of the heat exchanger.

3 Clean the condensate drain pan with water.

4 Clean the condensate trap with water.

11.4 To assemble the gas boiler

CAUTION

- When fitting the various seals, check them for damage, hardening, tears or hairline tears, and/or discolouration. Replace them when necessary.
- Check the position of the seals.
- Failure to fit the sensors S1 and/or S2 or to fit them correctly can result in serious damage
- Warranty will be void by NOT correctly replacing the removed parts.

1 Check the correct position of the seal around the front cover.

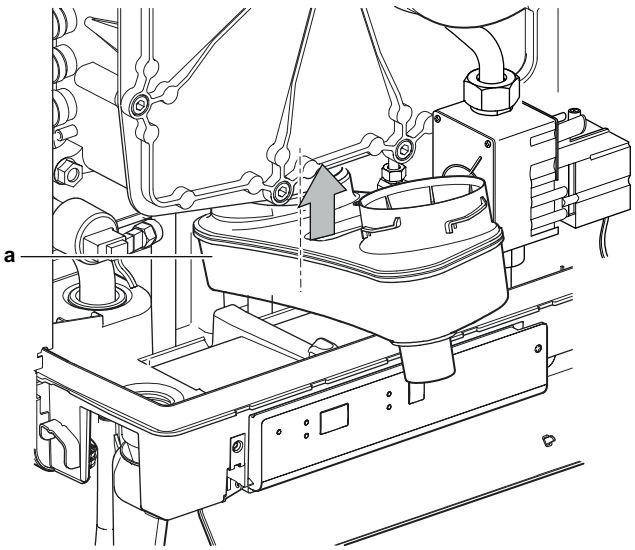
2 Place the front cover on the heat exchanger and secure by using the socket head screws plus serrated lock washers.

3 Tighten the socket head screws equally hand-tight by turning the hex key clockwise.

4 Fit the gas connection below the gas valve.

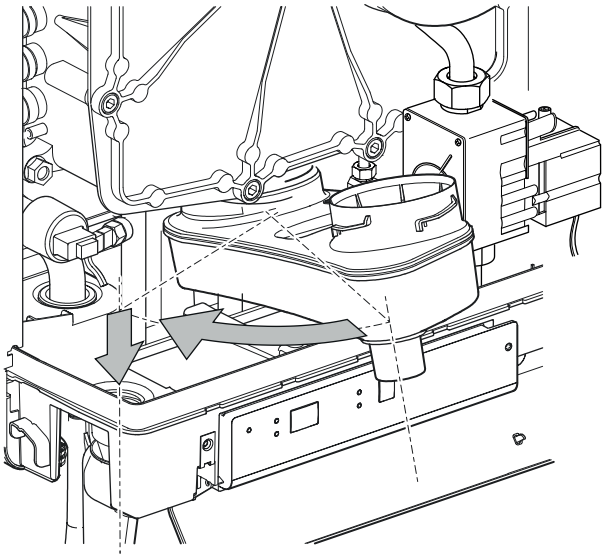
5 Fit the connector to the fan and the ignition unit to the gas valve.

6 Fit the condensate drain by sliding on the exchanger outlet stump with the condensate trap connection still in front of the base tray.



a Base tray

7 Turn the condensate drain to the left and push it downwards into the condensate trap connection. Make sure in doing this that the back of the condensate drain pan comes to rest on the lug of the back of the base tray.



8 Fill the condensate trap with water and fit it to the connection below the condensate drain pan.

9 Slide the flue pipe, turning it counterclockwise, with the top around the flue adapter into the top cover.

10 Insert the bottom into the condensate drain pan and tighten the coupling nut clockwise.

11 Open the gas tap and check the gas connections below the gas valve and on the mounting bracket for leakage.

12 Check the space heating and the water pipes for leakages.

13 Turn on the main power supply.

14 Turn on the appliance by pushing on the ⏻ button.

15 Check the front cover, the fan connection on the front cover and the flue pipe components for leakage.

16 Check the gas/air adjustment.

17 Fit the casing, tighten the 2 screws on the left and right side of the display.

18 Close the display cover.

19 Check the heating and hot water supply.

12 Troubleshooting

12.1 General guidelines

Before starting the troubleshooting procedure, carry out a thorough visual inspection of the unit and look for obvious defects such as loose connections or defective wiring.

WARNING

- When carrying out an inspection on the switch box of the unit, always make sure that the unit is disconnected from the mains. Turn off the respective circuit breaker.
- When a safety device was activated, stop the unit and find out why the safety device was activated before resetting it. NEVER bridge safety devices or change their values to a value other than the factory default setting. If you are unable to find the cause of the problem, call your dealer.

DANGER: RISK OF ELECTROCUTION

WARNING

Prevent hazard due to the inadvertent resetting of the thermal cut-out: 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.

DANGER: RISK OF BURNING

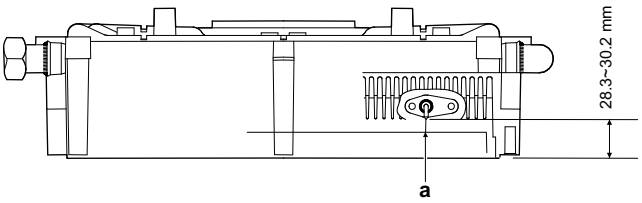
12.2 Solving problems based on symptoms

12.2.1 Symptom: The burner does NOT ignite

Possible causes	Corrective action
Gas tap is closed.	Open the gas tap.
Air in the gas tap.	Remove air from the gas pipe.
Gas supply pressure too low.	Contact the gas supply company.
No ignition.	Replace the ignition electrode.
No spark. Ignition unit on gas valve faulty.	▪ Check the cabling. ▪ Check the spark plug cap. ▪ Replace the ignition unit.
Gas/air adjustment NOT correctly set.	Check the adjustment. See "To check the carbon dioxide setting" on page 23.
Fan faulty.	▪ Check the wiring. ▪ Check the fuse. If necessary, replace the fan.
Fan dirty.	Clean the fan.
Gas valve faulty.	▪ Replace the gas valve. ▪ Re-adjust the gas valve, see "To check the carbon dioxide setting" on page 23.

12.2.2 Symptom: The burner ignites noisily

Possible causes	Corrective action
Gas supply pressure too high.	The house pressure switch may be faulty. Contact the gas company.
Incorrect ignition gap.	▪ Replace the ignition pin. ▪ Check the ignition electrode gap.
Gas/air adjustment NOT correctly set.	Check the setting. See "To check the carbon dioxide setting" on page 23.
Weak spark.	Check the ignition gap. Replace the ignition electrode. Replace the ignition unit on the gas valve.



a Spark gap (±4.5 mm)

12.2.3 Symptom: The burner resonates

Possible causes	Corrective action
Gas supply pressure too low.	The house pressure switch may be faulty. Contact the gas company.
Recirculation of combustion gasses.	Check the flue gas and the air supply.
Gas/air adjustment NOT correctly set.	Check the adjustment. "See To check the carbon dioxide setting" on page 23.

12.2.4 Symptom: No space heating

Possible causes	Corrective action
Heat pump error	Check the user interface.
Communication problem with the heat pump.	Make sure the communication cable is properly installed.
Incorrect heat pump settings.	Check the settings in the heat pump manual.
The service display displays "-", the gas boiler is switched off.	Switch on the gas boiler with ⏻.
No current (24 V)	▪ Check the wiring. ▪ Check the connector X4. ▪ Replace the faulty pump.
The burner does NOT fire on space heating: sensor S1 or S2 faulty.	Replace sensor S1 or S2. See "Error codes of the gas boiler" on page 29.
Burner does NOT ignite.	See "12.2.1 Symptom: The burner does NOT ignite" on page 28.

12.2.5 Symptom: The power is reduced

Possible causes	Corrective action
At high rpm, the power has fallen by more than 5%.	▪ Check the appliance and flue system for fouling. ▪ Clean the appliance and flue system.

12.2.6 Symptom: Space heating does NOT reach the temperature

Possible causes	Corrective action
Weather-dependent setpoint setting is incorrect.	Check the setting on the user interface and adjust if necessary.
Temperature is too low.	Increase the space heating temperature.
No circulation in the installation.	Check whether there is circulation. At least 2 or 3 radiators MUST be open.
The boiler power has NOT been correctly set for the installation.	Adjust the power. See "Maximum space heating power setting" on page 22.
No heat transfer as a result of lime scale or fouling in the heat exchanger.	Descale or flush the heat exchanger on the space heating side.

12.2.7 Symptom: No domestic hot water

Possible causes	Corrective action
No current at the flow switch (5 V DC).	Check the wiring according to the diagram.
The burner is NOT firing on domestic hot water: S3 faulty.	Replace S3.
The burner does NOT ignite.	See "12.2.1 Symptom: The burner does NOT ignite" on page 28.

12.2.8 Symptom: Hot water does NOT reach the temperature

Possible causes	Corrective action
Domestic hot water flow is too high.	Adjust the inlet assembly.
Temperature setting for water circuit is too low.	Set the hot water circuit on the heat pump user interface, depending on the desired temperature.
No heat transfer as a result of lime scale or fouling in the heat exchanger domestic hot water side.	Descale or flush the exchanger domestic hot water side.
Cold water temperature <10°C.	The water inlet temperature is too low.

12.3 Solving problems based on error codes

When a problem happens, an error code appears on the user interface. It is important to understand the problem and to take countermeasure before resetting the error code. This should be done by a licensed installer or by your local dealer.

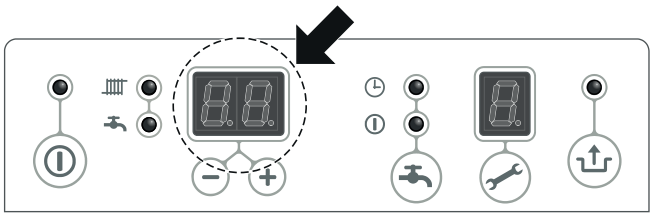
This chapter gives you an overview of all error codes and the content of the error code as it appears on the user interface.

For a more detailed troubleshooting guideline for each error, please see the service manual.

12.3.1 Error codes: Overview

Error codes of the gas boiler

The controller on the gas boiler detects faults and indicates them on the display by error codes.



If the LED is flashing, the controller has detected a problem. Once the problem is rectified, the controller can be restarted by pressing the ⏻ button.

Following table shows a list of error codes and the possible solutions.

Error code	Cause	Possible solution
10, 11, 12, 13, 14	Sensor fault S1	▪ Check wiring ▪ Replace S1
	Flow sensor cannot close	Check flow switch
20, 21, 22, 23, 24	Sensor fault S2	▪ Check wiring ▪ Replace S2
0	Sensor fault after self-check	Replace S1 and/or S2
1	Temperature too high	▪ Air in installation ▪ Pump is NOT running ▪ Insufficient flow in installation ▪ Radiators are closed ▪ Pump setting is too low ▪ Flow switch is sticcking
2	S1 and S2 interchanged	▪ Check cable set ▪ Replace S1 and S2
4	No flame signal	▪ Gas tap is closed ▪ No or incorrect ignition gap ▪ Gas supply pressure is too low or fails ▪ Gas valve or ignition unit is NOT powered
5	Poor flame signal	▪ Condensate drain blocked ▪ Check adjustment of gas valve
6	Flame detection fault	▪ Replace ignition cable and spark plug cap ▪ Replace ignition unit ▪ Replace boiler controller
8	Incorrect fan speed	▪ Fan catching on casing ▪ Wiring between fan and casing ▪ Check wiring for poor wire contact ▪ Replace fan
29, 30	Gas valve relay fault	Replace boiler controller

13 Glossary

Dealer

Sales distributor for the product.

Authorized installer

Technical skilled person who is qualified to install the product.

User

Person who is owner of the product and/or operates the product.

Applicable legislation

All international, European, national and local directives, laws, regulations and/or codes that are relevant and applicable for a certain product or domain.

Service company

Qualified company which can perform or coordinate the required service to the product.

Installation manual

Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Operation manual

Instruction manual specified for a certain product or application, explaining how to operate it.

Accessories

Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

Optional equipment

Equipment made or approved by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

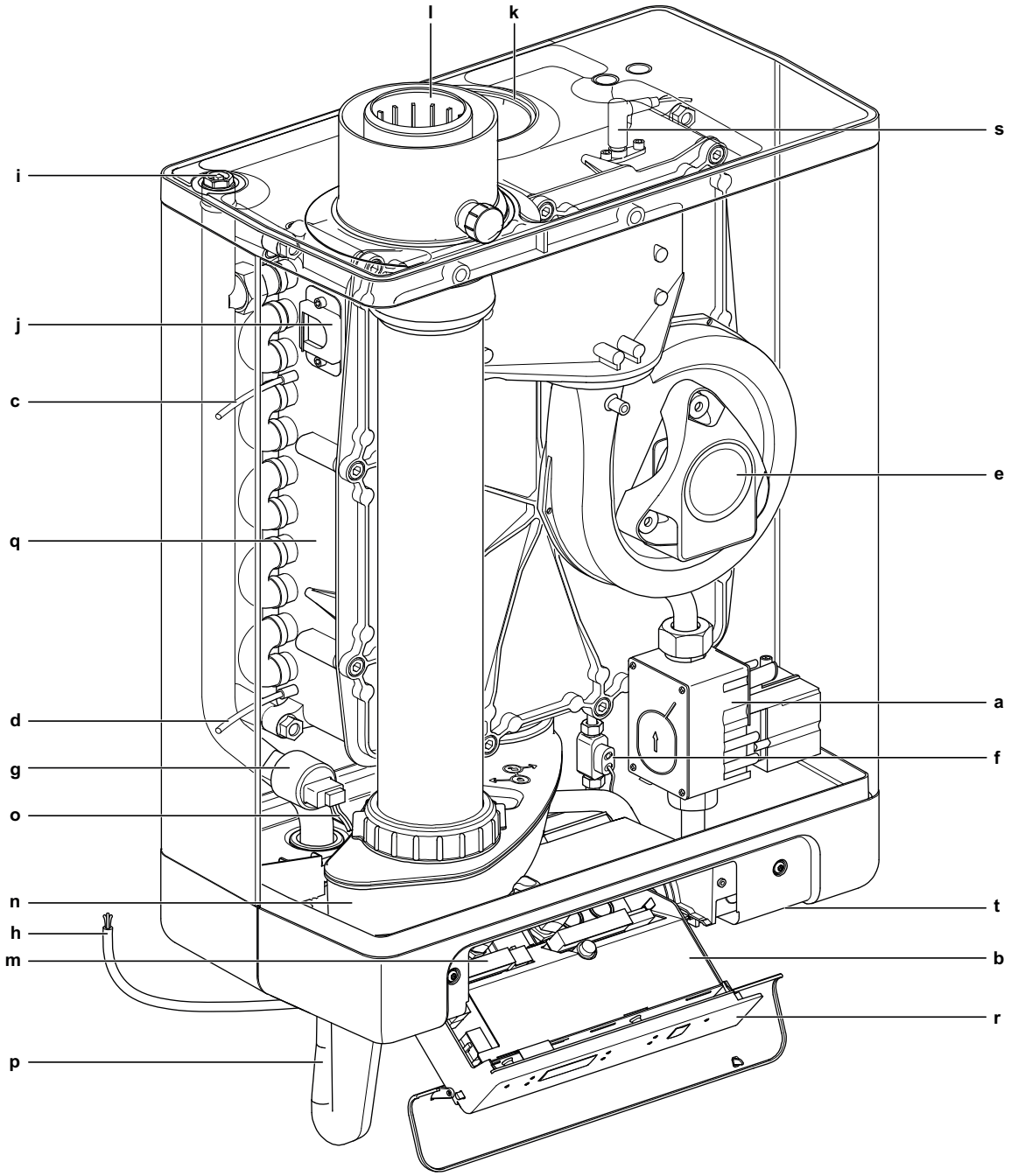
Field supply

Equipment not made by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

14 Technical data

14.1 Components

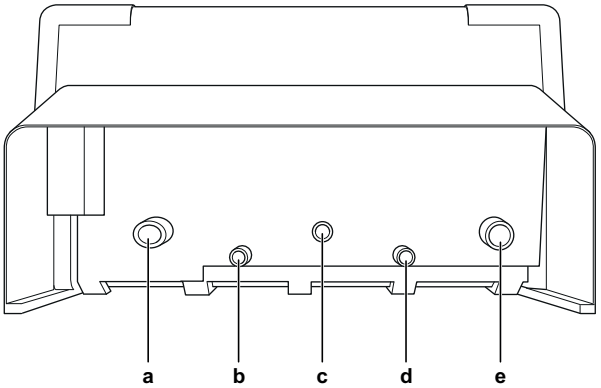
14.1.1 Components: Gas boiler



a Gas valve
b Boiler control panel
c Sensor S1
d Sensor S2
e Fan
f Flow sensor
g Space heating pressure sensor
h Mains lead 230 V AC without plug (stripped)
i Manual air bleed
j Sight glass
k Air supply cap
l Flue pipe adapter (use ONLY in combination with the accompanying elbow in flue sets)
m Connection block/terminal strip X4

n Condensate drain pan
o Hot water sensor S3
p Condensate S3
q Heat exchanger
r Operating panel and read-out
s Ionisation/ignition electrode
t Position of data plate

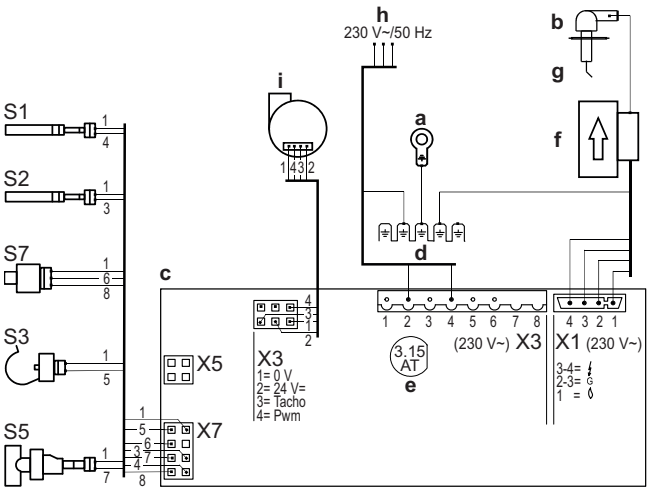
Bottom view



a Space heating outlet
b Domestic hot water outlet
c Gas inlet
d Domestic hot water inlet
e Space heating inlet

14.2 Wiring diagram

14.2.1 Wiring diagram – components: Gas boiler



a	Earth connections heat exchanger
b	Spark plug cover
c	Boiler controller
d	Earth connections boiler controller
e	Fuse (3.15 A T)
f	Gas valve and ignition unit
g	Ionisation/ignition probe
h	Main voltage
i	Fan
S1	Flow sensor
S2	Return sensor
S3	Domestic hot water sensor
S5	Flow switch
S7	Space heating water pressure sensor

X2 (1-3)	Room thermostat 230 V AC (1=Switch live, 3=Live (fused))
X2 (1-3)	Frost thermostat 230 V AC (1=Switch live, 3=Live (fused))
X2 (3-6)	Power supply (230 V) fan
X2 (2-4)	Mains (2=L (BRN), 4=N (BLU))
S5	Boiler communication cable

14.3 Technical specifications

14.3.1 Technical specifications: Gas boiler

	EHYKOMB33AA
Function	Heating only
Heat pump module	EHYHBH05
	EHYHBH08
Device category	C13, C33, C43, C53, C63, C83
Destination country – Gas supply pressure	GB – G20 (20 mbar), G31 (30~37 mbar)
	FR – G20 (20 mbar), G31 (30 mbar)
	BE – G20 (20 mbar), G25 (25 mbar), G31 (37 mbar)
	DE – G20 (20 mbar)
	IT – G20 (20 mbar)
Destination country – Gas category	GB – II2H3P
	FR – II3Esi3P
	BE – II2E(s)3P
	DE – II2ELL3P
	IT – 2H3P
Gas	
Gas consumption (G20)	0.78~3.39 m^3/h
Gas consumption (G25)	0.90~3.93 m^3/h
Gas consumption (G31)	0.30~1.29 m^3/h
Nox class	5
Central heating	
Thermal load (Hi)	7.6~27.0 kW
Heating power space heating (80/60)	8.2~26.6 kW
Efficiency space heating (net calorific value 80/60)	98%
Efficiency space heating (net calorific value 40/30 (30%))	107%
Operation range	15~80°C
External static pressure	See installer reference guide
Nominal external static pressure(1)	32 kPa
Domestic hot water	
Heating power domestic hot water	7.6~32.7 kW
Efficiency domestic hot water (net calorific value)	105%
Operation range	40~65°C
Domestic hot water flow rate (setpoint 60°C)	9 l/min
Domestic hot water flow rate (setpoint 40°C)	15 l/min
Casing	
Colour	White – RAL9010
Material	Pre-coated sheet metal
Dimensions	
Packing (H × W × D)	820 × 490 × 270 mm
Unit (H × W × D)	710 × 450 × 240 mm
Machine net weight	36 kg
Packed machine weight	37 kg
Packing material	Carton/PP (straps)
Packing material (weight)	1 kg
Main components	
Water side heat exchanger	Aluminium
Space heating water circuit	
Space heating piping connections	Ø22 mm
Piping material	Cu
Safety valve	See manual indoor unit
Manometer	Yes
Drain/fill valve	No
Shut-off valve	No
Air purge valve	Yes
Maximum pressure space heating circuit	3 bar
Domestic hot water circuit	
Domestic hot water piping connections	Ø15 mm
Piping material	Cu
Gas connection	Ø15 mm
Flue gas/combustion air connection	Concentric connection Ø60/100 mm
Electrical	
Power supply voltage	230 V
Power supply phase	1~
Power supply frequency	50 Hz
IP class	IP44
Maximum electrical power consumption	55 W
Electrical power consumption (standby)	2 W

(1) 20 kW, temperature drop over the emitter=20°C, boiler not bypassed.

Only for Belgium

Déclaration de conformité A.R. 8/1/2004-BE
Verklaring van overeenstemming K.B. 8/1/2004-BE
Konformitätserklarung K.E. 8.1.2004-BE

Daikin Europe N.V.
Zandvoordestraat 300
B-8400 Oostende, Belgium

Nous certifions par la présente que la série des appareils spécifiée ci-après est conforme au modèle type décrit dans la déclaration de conformité CE, qu'il est fabriqué et mis en circulation conformément aux exigences définies dans l'A.R. du 8 janvier 2004.

Met deze verklaren we dat de reeks toestellen zoals hierna vermeld, in overeenstemming zijn met het type model beschreven in de CE-verklaring van overeenstemming, geproduceerd en verdeeld volgens de eisen van het K.B. van 8 januari 2004.

Wir bestätigen hiermit, dass die nachstehende Geräteserie dem in der CE-Konformitätserklärung beschriebenen Baumuster entspricht und dass sie im Übereinstimmung mit den Anforderungen des K.E. vom 8. Januar 2004 hergestellt und in den Verkehr gebracht wird.

Type du produit / Type product / Produktart mit:	: Chaudière de gaz haut rendement Gasgestookte hoog rendement CV-ketel Gas brennwert Heizungskessel
Modèle / Model / Modell	: EHYKOMB33AA
Organisme de contrôle / Keuringsorganisme / Kontrollorganismus	: Gastec, Apeldoorn, NL CE 0063 BT 3576
Valeurs mesurées / Gemeten waarde / Messwerte	: CO: 28.53 mg/kWh NOx: 58.26 mg/kWh

GAS BOILER SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the boiler as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission according to the manufacturer's instructions and complete this Benchmark Commissioning Checklist will invalidate the warranty. This does not affect the customer's statutory rights.

Customer Name _____ Telephone Number _____

Adress _____

Boiler Make and Model _____

Commissioned by *(print name)* _____ Gas Safe Register Number _____

Company Name _____ Telephone Number _____

Company Adress _____

_____ Commissioning Date _____

To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:

Buiding Regulations Notification Number *(if applicable)*

CONTROLS Tick the appropriate boxes

Time and Temperature Control to Heating	Room Thermostat and Programmer/Timer ☐	Programmable Room Thermostat ☐	Load/Weather Compensation ☐	Optimum Start Control ☐
Time and Temperature Control to Hot Water		Cylinder Thermostat and Programmer/Timer ☐		Combination Boiler ☐
Heating Zone Valves			Fitted ☐	Not Required ☐
Hot Water Zone Valves			Fitted ☐	Not Required ☐
Thermostatic Radiator Valves			Fitted ☐	Not Required ☐
Automatic Bypass to System			Fitted ☐	Not Required ☐
Boiler Interlock				Provided ☐

ALL SYSTEMS

The system has been flushed and cleaned in accordance with BS7593 and boiler manufacturer's instructions — Yes ☐

What system cleaner was used?

What inhibitor was used? — Quantity ☐ litres

CENTRAL HEATING MODE Measure and record:

Gas Rate	☐ m^3/hr	OR		☐	ft^3/hr
Burner Operating Pressure (if applicable)	☐ mbar	OR	Gas Inlet Pressure	☐	mbar
Central Heating Flow Temperature				☐	°C
Central Heating Return Temperature				☐	°C

COMBINATION BOILERS ONLY

Is the installation in a hard water area (above 200ppm)? — Yes ☐ No ☐

If yes, and if required by the manufacturer, has a water scale reducer been fitted? — Yes ☐ No ☐

What type of scale reducer has been fitted?

DOMESTIC HOT WATER MODE Measure and Record:

Gas Rate	☐ m^3/hr	OR		☐	ft^3/hr
Burner Operating Pressure (at maximum rate)	☐ mbar	OR	Gas inlet Pressure (at maximum rate)	☐	mbar
Cold Water Inlet Temperature				☐	°C
Hot water has been checked at all outlets			Yes ☐ Temperature	☐	°C
Water Flow Rate				☐	l/min

Condensing Boilers Only

The Condensate drain has been installed in accordance with the manufacturer's instructions and/or BS5546/BS6798 — Yes ☐

If the condensate pipe terminates externally has the pipe diameter been increased and waterproof insulation fitted? — Yes ☐

ALL INSTALLATIONS

If required by the manufacturer, record the following — CO_2 ☐ % OR CO ☐ *ppm* OR co/co_2 ratio ☐

The heating and hot water system complies with the appropriate Building Regulations — Yes ☐

The boiler and associated products have been installed and commissioned in accordance with the manufacturer's instructions — Yes ☐

The operation of the boiler and system controls have been demonstrated to and understood by the customer — Yes ☐

The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the the customer — Yes ☐

Commissioning Engineer's Signature

Customer's Signature

(To confirm satisfactory demonstration and receipt of manufacturer's literature)

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme.
A Building Regulations Compliance Certificate will then be issued to the customer.

benchmark
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS
www.centralheating.co.uk

Service Record

It is recommended that your heating system is serviced regularly and that the appropriate Service Interval Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

Always use the manufacturer's specified spare part when replacing controls.

Service 1 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 2 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 3 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 4 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 5 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 6 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 7 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 8 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 9 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

Service 10 Date:
Engineer Name:
Company Name:
Telephone No.
Gas Safe Register No.
Comments:

Signature:

DAIKIN EUROPE N.V.

Zandvoordestraat 300, B-8400 Oostende, Belgium

4P353067-1 2013.07