

Floor-standing condensing oil boiler

GTU C 220



Installation and Service Manual

Declaration of conformity CE

The appliance complies with the standard model described in declaration of compliance **CE**. It is manufactured and distributed pursuant to the requirements of european directives. The original of the declaration of compliance is available from the manufacturer.

**DÉCLARATION DE CONFORMITÉ CE
EG - VERKLARING VAN OVEREENSTEMMING
EC - DECLARATION OF CONFORMITY
EG - KONFORMITÄTSERKLÄRUNG**

Fabricant/Manufacturer/Hersteller/Fabrikant : DE DIETRICH THERMIQUE
Adresse/Adres/Adress : 57 rue de la gare
Ville, pays Stad, Land/City, Country/Land, Ort : F-67580 MERTZWILLER

- déclare ici que les produit(s) suivant(s) : GTUC 225
- verklaart hiermede dat de toestel(len) : GTUC 226
- this is to declare that the following product(s) : GTUC 227
- erklärt hiermit das die Produk(te) :

produit (s) par : DE DIETRICH THERMIQUE
: 57, rue de la Gare
: F-67580 MERTZWILLER

répond/répondent aux directives CEE suivantes:
voldoet/voldoen aan de bepalingen van de onderstaande EEG-richtlijnen:
is/are in conformity with the following EEC-directives:
den Bestimmungen der nachfolgenden EG-Richtlinien entspricht/entsprechen:

CEE-Directive: 92/42/CEE normes appliquées
EEG-Richtlijn: 92/42/EEG toegepaste normen:
EEC-Directive: 92/42/EEC verwendete Normen:
EG-Richtlinie: 92/42/EWG tested and examined to the following norms:
EN 303.2 EN 304, EN 15034

2006/95/CE EN 60335-1
2006/95/EG EN 60335-2-102
2006/95/EC EN 62333
2006/95/EG

2004/108/CE EN 55014-1
2004/108/EG EN 55014-2
2004/108/EC
2004/108/EG

97/23/CE (art.3 section 3)
97/23/EG (art. 3, lid 3)
97/23/EC (article 3, sub 3)
97/23/EG (Art. 3, Absatz 3)

CE
1312

Mertzwiller, le 28 novembre 2011



Jean-Yves OBERLE
R&D Floor Standing Boiler manager

A000939-B


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1 Introduction

1.1 Symbols used

1.1.1 Symbols used in the manual

 **Caution danger**
Risk of injury and damage to equipment. Attention must be paid to the warnings on safety of persons and equipment.

 **Specific information**
Information must be kept in mind to maintain comfort.

 **Reference**
Refer to another manual or other pages in this instruction manual.

1.1.2 Symbols used on the equipment



M002628-A

Disconnect the mains power prior to any operations.



Before installing and commissioning the device, read carefully the instruction manuals provided.



Dispose of the used products in an appropriate recovery and recycling structure.

1.2 Abbreviations

DHW: Domestic hot water

Hi: Lower heating value LHV (Nett)

PPs: Polypropylene hardly inflammable

1.3 General

1.3.1 Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various applicable European Directives. They are therefore delivered with **CE** marking and all relevant documentation.

In the interest of customers, we are continuously endeavouring to make improvements in product quality. All the specifications stated in this document are therefore subject to change without notice.

Our liability as the manufacturer may not be invoked in the following cases:

- ▶ Failure to abide by the instructions on using the appliance.
- ▶ Faulty or insufficient maintenance of the appliance.
- ▶ Failure to abide by the instructions on installing the appliance.

1.3.2 Installer's liability

The installer is responsible for the installation and initial start up of the appliance. The installer must respect the following instructions:

- ▶ Read and follow the instructions given in the manuals provided with the appliance.
- ▶ Carry out installation in compliance with the prevailing legislation and standards.
- ▶ Perform the initial start up and carry out any checks necessary.
- ▶ Explain the installation to the user.
- ▶ If a maintenance is necessary, warn the user of the obligation to check the appliance and maintain it in good working order.
- ▶ Give all the instruction manuals to the user.

1.4 Regulations for France

■ Residential buildings

Statutory terms and conditions of installation and maintenance:

The installation and maintenance of the appliance must be carried out by a qualified professional in compliance with the statutory texts of the codes of conduct in force, particularly:

- Order of 27 April 2009 amending the Order of 2 August 1977 Technical and safety rules applicable to combustible gas and liquefied hydrocarbon installations situated inside residential buildings and their annexes.
- Local Sanitary Regulations.

For appliances connected to the electricity network:

- NF C 15-100 standards Low voltage electrical installation - Rules..

■ Establishments open to the public (Statutory terms and conditions of installation)

The installation and maintenance of the appliance must be carried out in compliance with the statutory texts and rules of the codes of conduct in force, particularly:

Safety regulations against fire and panic in establishments open to the public:

- General regulations:
 - For all appliances: Articles GZ - Installations operating on combustible gases and liquefied hydrocarbons.
 - Then, depending on use: Articles CH-Heating, ventilation, refrigeration, air conditioning and production of steam and domestic hot water.
- Instructions specific to each type of establishment open to the public (hospitals, stores, etc.).

1.5 Regulations for other countries


Installation and maintenance of the boiler must be carried out by a qualified professional in compliance with prevailing local and national regulations.

1.6 Homologations

■ In general

- ▶ **CE identification no 1312CN5689**
- ▶ **User country:** This product may be sold in the member states of the European Union as well as in Switzerland, Iceland and Norway.
- ▶ **97/23/EC Directive:**

Gas and oil boilers with a maximum operating temperature of 110°C and hot water tanks with a maximum operating pressure of 10 bar pertain to article 3.3 of the directive, and therefore, cannot be CE-marked to certify compliance with the directive 97/23 EC.

 The compliance of De Dietrich boilers and DHW calorifiers with the codes of practice required by Article 3.3 of Directive 97/23/EEC is certified by the CE marking concerning Directives 92/42/EEC, 2006/95/EC and 2004/108/EC.

■ In particular for Belgium

The appliances comply with the requirements and standards laid down in the Royal Decree of 8 January 2004 and in the 17 July 2009.

**Déclaration de conformité à l'Arrêté royal du 17/07/2009 - BE
Konformitätserklärung - Königlicher Erlass vom 17/07/2009 - BE
Conformiteitsverklaring - Koninklijk Besluit van 17/07/2009 - BE**

Fabricant : **De Dietrich Thermique**
Hersteller: **57 rue de la gare**
Fabrikant: **F-67580 MERTZWILLER**

certifié par la présente que le(s) produit(s) suivant(s) : **GTUC 220**
erklärt hiermit, dass das(die) folgende(n) Produkt(e):
verklaart hierbij dat het(de) volgende product(en):

est conforme aux exigences de l'Arrêté royal du 17/07/2009 et aux exigences des normes suivantes :
die Anforderungen des Königlichen Erlasses vom 17/07/2009 sowie die Anforderungen der
folgenden Normen erfüllt:
beantwoord(en) aan de eisen van het Koninklijk Besluit van 17/07/2009 en aan de eisen van de
volgende normen:

EN 15034(2007)

Les valeurs NOx et CO ci-après, mesurées sur chaque chaudière mentionnée :
Die nachstehenden NOx- und CO-Werte, gemessen an jedem der genannten Heizkessel:
De volgende NOx- en CO-waarden, gemeten op iedere vermelde verwarmingsketel:

EN 267 <11/2011

GTUC 225	NOx : 90 mg/kWh	CO: 4 mg/kWh
GTUC 226	NOx : 85 mg/kWh	CO: 5 mg/kWh
GTUC 227	NOx : 98 mg/kWh	CO: 3 mg/kWh

EN 267 >11/2011

GTUC 225	NOx : 62 mg/kWh	CO: 4 mg/kWh
GTUC 226	NOx : 57 mg/kWh	CO: 5 mg/kWh
GTUC 227	NOx : 70 mg/kWh	CO: 3 mg/kWh

ont été certifiées par l'organisme certificateur suivant :
wurden von der folgenden Zertifizierungseinrichtung zertifiziert:
zijn door de volgende certificeringsinstantie gecertificeerd:

GWI Hafenstrasse 101 D-45356 ESSEN


Les appareils mentionnés ci-dessus sont de classe NOx :
Die oben genannten Geräte gehören der folgenden NOx-Klasse an: } 3
De hierboven vermelde apparaten zijn van de klasse NOx:

La documentation technique relative à la gamme précitée est conservée par le responsable des essais.

Die technische Dokumentation zur vorgenannten Produktreihe wird vom Zuständigen für die Prüfungen aufbewahrt.

De technische documentatie met betrekking tot het vernoemde assortiment wordt bewaard door de voor de tests verantwoordelijke persoon.

Mertzwiller, le 15 février 2012


Jean-Yves OBERLE
R&D Floor Standing Boiler manager

A000941-B

■ In particular for Germany

GTU C 220 Boilers comply with the 1. BImSchV prescription, version 2010



57, rue de la Gare - B.P.30
F - 67580 Mertzwiller
Tél. : 03.88.80.27.00
Fax : 03.88.80.27.99

Herstellerbescheinigung gemäß 1.BImSchV, § 6: Absatz 1,

Wir

DE DIETRICH THERMIQUE
57 rue de la gare
F-67580 MERTZWILLER
Tél : +33 3 88 80 27 00

erklären, dass die nachfolgend aufgeführten heiztechnischen Produkte ab Baujahr 2010 den Anforderungen der 1. BImSchV, in der Fassung vom 26.01.2010 hinsichtlich **NOx-Grenzwerte < 110 mg/kWh** entsprechen, jeweils bestimmt nach Anlage 3 und EN 267 :

Brennwertheizkessel mit Brenner	Leistung (80/60°C)	
GTUC 225	37,7 - 47,1 kW	1)
GTUC 226	47,1 - 63,3 kW	1)
GTUC 227	63,1 - 80,6 kW	1)

1) Brennwertheizkessel gemäß § 2, Abs. 11 der EnEV vom 29-04-2009

Mertzwiller den 31/01/2012


Jean-Yves OBERLE
Forschung- und Entwicklungsmanager

M002794-A

2 Safety instructions and recommendations

2.1 Safety instructions

■ Fire hazard

 Do not stock products of an inflammable nature close to the appliance.


■ Risk of intoxication


 Do not obstruct the air inlets in the room (even partially).

 If you smell flue gases:

1. Switch the appliance off.
2. Open the windows.
3. Evacuate the premises.
4. Contact a qualified professional.

■ Risk of being burnt


 Avoid direct contact with the flame viewport.

 Depending on the settings of the appliance:

- The temperature of the flue gas conduits may exceed 60°C.
- The temperature of the radiators may reach 95°C.
- The temperature of the domestic hot water may reach 65°C.


■ Risk of damage


 Do not stock chloride or fluoride compounds close to the appliance.

 Install the appliance in frost-free premises.

Do not neglect to service the appliance: Contact a qualified professional or take out a maintenance contract for the annual servicing of the appliance.

2.2 Recommendations

 Only qualified professionals are authorised to work on the appliance and the installation.

 Before any work, switch off the mains supply to the appliance.


Check regularly that the installation contains water and is pressurised.

Keep the appliance accessible at all times.

Avoid draining the installation.

The appliance should be on Summer or Antifreeze mode rather than switched off to guarantee the following functions:

- Anti blocking of pumps
- Frost protection

 The condensates in oil-fired condensing boilers are acidic ($2 < \text{pH} < 3$): The installation of a condensates neutralisation system is recommended (Wear protective gloves and goggles).

3 Description

3.1 General

GTU C 220 boilers have the following characteristics:

- Hot water condensing boilers - Boiler **** CE.
- Boiler to be connected with leakproof, condensate-resistant flue gas conduits in configuration B23P (Ø 125 mm flue gas pipes). Use only conduits covered by technical instructions.
- Atomisation burner using domestic fuel oil.
- **DIEMATIC 3** or **B2** control panel.

i The boiler, the condenser and the burner can be used with the following fuel oils:

- Standard fuel oil.
- Oil with low sulphur content.

3.2 Composition of the range

GTU C 220 B2	Boiler with B2 basic electronic control panel for controlling a 2-stage burner
GTU C 220 D + AD217	Boiler with DIEMATIC 3 control panel for controlling a 2-stage burner.

3.3 Technical specifications

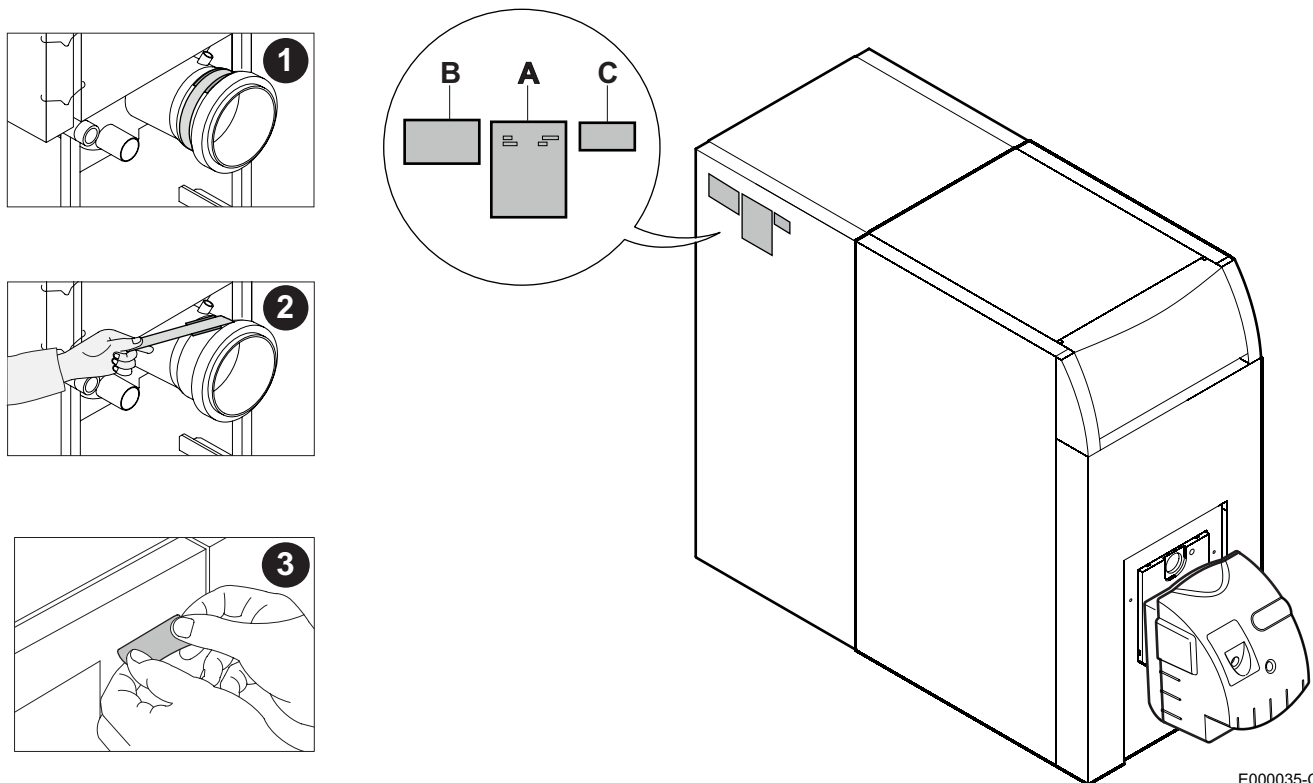
The following specifications are given at nominal stage (high boiler output for CO₂ of: 13%.

- Min flow temperature: 30 °C.
- Min. return temperature: 20 °C.
- Maximum operating pressure: 3 bar.
- Maximum operating temperature: 100 °C.
- Boiler thermostat setting: 30 - 90 °C.
- Setting the safety thermostat: 110 °C.
- Homologation: B23P

Boiler type			GTU C 225		GTU C 226		GTU C 227	
			40 (min.)	50 (max)	50 (min.)	67 (max)	67 (min.)	85 (max)
Power input (Hi)		kW	39.1	49.0	48.8	65.6	65.2	83.6
Nominal output (Pn) at 40/30°C		kW	40.2	50.1	50.2	67.4	67.4	85.8
Nominal output (Pn) at 50/30°C		kW	40.0	50.0	50.0	67.0	67.0	85.0
Nominal output (Pn) at 80/60°C		kW	37.7	47.1	47.1	63.3	63.1	80.6
LHV efficiency	100% PN 80/60	%	96.2	96.1	96.5	96.6	96.7	96.4
	100% PN 50/30	%	102.2	102.0	102.5	102.2	102.7	101.7
	100% 40/30	%	102.8	102.3	103	102.8	103.3	102.7
Number of cast iron parts			5		6		7	
Nominal water flow (Nominal output)	Δ T = 20K	m ³ /h	1.721	2.151	2.151	2.883	2.883	3.657
Stand-by losses	Δ T = 30K	W	198		215		237	
Losses through the outer casing	Δ T = 30K	%	84		86		88	
Auxiliary electrical power (Nominal output - Ex circulating pump)		W	60		90		120	
Burner	EU		M225 N/P		M226 N/P		M227 N/P	
	CH		OEN 265 LSV-P		OEN 266 LSV-P		OEN 267 LSV-P	
Length		mm	1362		1489		1616	
Width		mm	522		522		522	
Height		mm	1102		1102		1102	
Water content		litres	50		60		67	
Water resistance	Δ T = 10K	mbar*	43	66	66	119	119	192
	Δ T = 15K	mbar*	19	30	30	53	53	85
	Δ T = 20K	mbar*	11	17	17	30	30	48
Flue gas circuit volume		litres	78		96		110	
Mass flue gas flow rate		Kg/h	75		101		129	
Weight (empty)	GTU C 220	kg	297		347		386	

* 1 mbar = 10 mmWG = 10 daPa = 100 Pa / 1 K = 1 °C

3.4 Data plate



A. Warning label.

B. The rating plate identifies the product and provides information on:

- The date of manufacture: XX (Year) - XX (Week).
- The serial number.

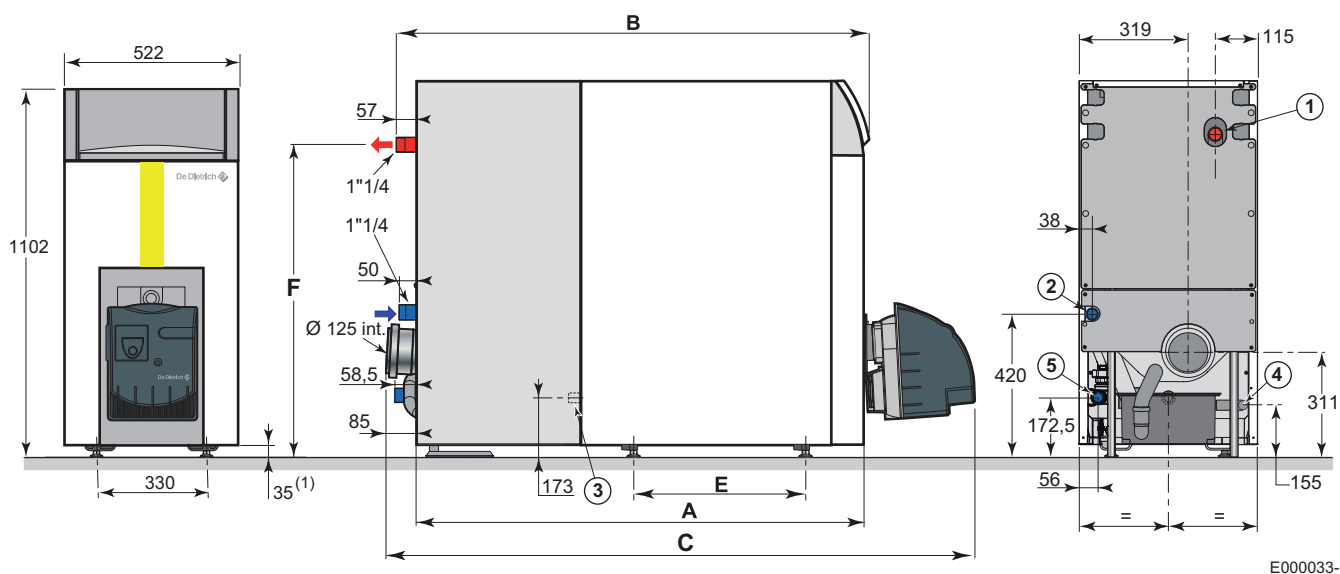
i The rating plate is delivered in the documentation package.

C. The condenser rating plate provides the serial number of the condenser. The rating plate is delivered with the condenser flue gas nozzle (Affixed with adhesive tape).

- 1 2 3** Remove the rating plate from the condenser nozzle and stick it on the side panel.

3.5 Main dimensions

3.5.1 Boiler dimensions



E000033-G

	GTU C 225	GTU C 226	GTU C 227
A	1310	1437	1564
B	1382	1509	1636
C	1734	1921	2068
E	507	634	761
F	953	959	959

1. **Heating flow**
R 1" 1/4
2. **Heating return**
R 1" 1/4
3. **Drainage / filling orifice**
Rp 3/4"
4. **Siphon outlet**
Ø 26
5. **Second heating return (only if the ME117 option is connected)**

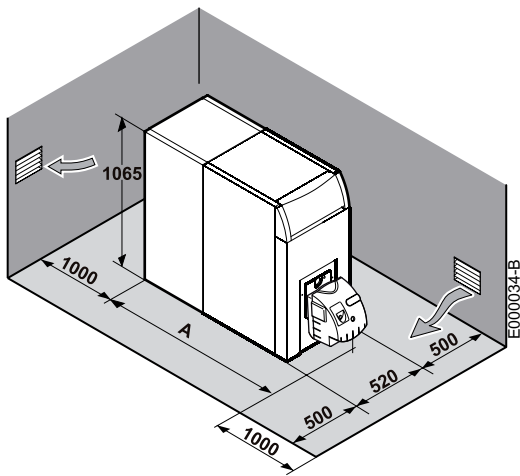
R = Thread


(1) Adjustable feet: Basic dimension 35 mm. Can be adjusted from 35 mm to 50 mm.

3.5.2 Installation dimensions

Keep space free around the boiler to ensure good accessibility to the appliance.

Minimum recommended dimensions (in mm):




 The left side of the appliance is recommended for carrying out condenser and flue gas nozzle maintenance.

Boiler	A (mm)
GTU C 225	1734
GTU C 226	1921
GTU C 227	2068

4 Installation

4.1 Location

GTU C 220 boilers must be installed in a frost-free room.

 In order to avoid damage to the boiler, it is necessary to prevent the contamination of combustion air by chlorine and/or fluoride compounds, which are particularly corrosive. These compounds are present, for example, in aerosol sprays, paints, solvents, cleaning products, washing products, detergents, glues, snow clearing salts, etc.


Therefore:

- Do not pull in air evacuated from premises using such products: hairdressing salons, dry cleaners, industrial premises (solvents), premises containing refrigeration systems (risk of refrigerant leakage), etc.
- Do not stock such products close to the boilers.

If the boiler and/or peripheral equipment are corroded by such chloride or fluoride compounds, the contractual guarantee cannot be applied.

When installing the boiler, it is necessary to comply with degree of protection IP21.

4.2 Mounting

 See assembly instructions.

4.3 Ventilation

i Condensing boilers require a flue gas discharge system or a fresh air inlet specially adapted to the method of operation. Installation must be carried out in accordance with current laws.

Position the air inlets in relation to the high ventilation vents in order that the air is refreshed throughout the boiler room.

 **Do not obstruct the air inlets in the room (even partially).**

The minimum cross sections and the emplacement of the fresh air inlet and the air discharge are governed by the order of 21/03/1968 amended by the orders of 26/02/1974 and 03/03/1976.

■ Generator installed in a building for collective use (installations less than 70 kW)

- ▶ The fresh air inlet must:
 - Come out in the lower section of the premises,
 - Have a free minimum cross section calculated on the basis of 0.03 dm² per kilowatt installed output and at least equal to 2.5 dm².
- ▶ The air discharge must:
 - Be located in the upper section of the premises,
 - Rise above the roof (unless using an equivalent system which does not cause a nuisance to neighbours),
 - Have a free cross section (corresponding to 2/3 of that of the air inlet and at least equal to 2.5 dm²).

■ Generator installed in a building for individual use

- ▶ An adequate supply of fresh air must be provided as close as possible to the appliances. Its cross section must be at least 0.5 dm².
- ▶ In the upper section of the premises, an air outlet must ensure effective ventilation.

■ Establishments open to the public

- ▶ New establishment: Refer to the order of 25/06/1980 (installations of more than 20 kW and less than or equal to 70 kW).
- ▶ Existing establishment: Refer to the order of 25/06/1980 (installations less than 70 kW).

4.4 Flue gas system connections

- The horizontal sections on the flue gas side will be constructed with a gradient to the boiler of 3 %.
- The pressurised type B_{23P} chimney conduits must be installed either out of doors or in a ventilated indoor masonry sheath. Ventilation must be ensured:
 - by an opening located in the lower section, taking the air either from the common ventilated areas or directly from outside, and
 - by an opening in the upper section connected directly with the outside. The minimum cross section of the air vent and the

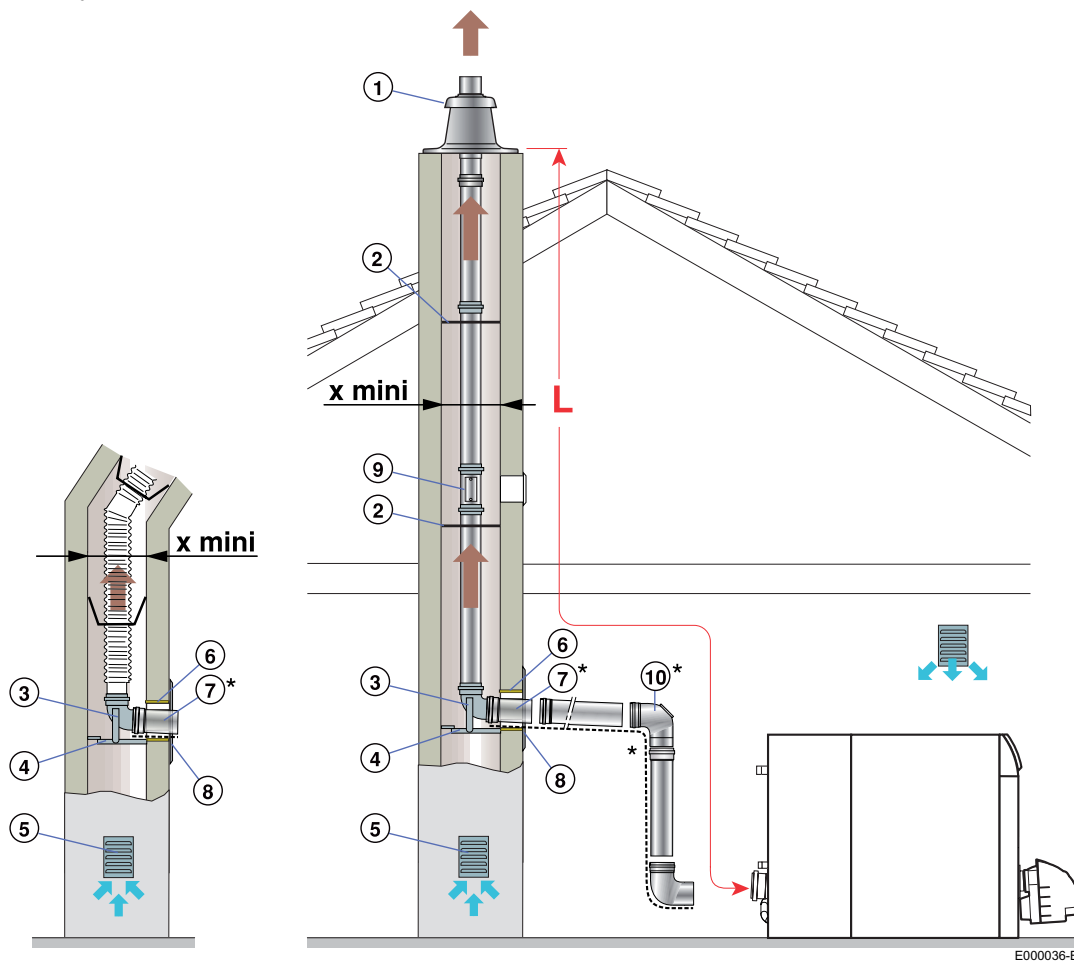
openings to be provided must be 100 cm² (clear cross section). The parts of this sheath which can be dismantled must allow for inspection of the flue gas conduit along its entire length.

Comply with the installation instructions and the information on the authorised lengths of the flue gas pipes.

- ▶ Assemble the flue gas conduit as per the assembly instructions.
- ▶ Check that it is leak proof in compliance with the prevailing regulations.

4.4.1 Air/flue gas connection

Configuration type B_{23P}: Connection to a chimney (combustive air taken from the boiler room).



E000036-B

- 1 Terminal with flashing
- 2 Centring stars (2 pieces)
- 3 Elbow 87°
- 4 Support rail
- 5 Ventilation grate
- 6 Sleeve
- 7 0.5 m extension

- 8 Closing plate
- 9 Right inspection tube
- 10 Inspection elbow

* For Belgium: The nature of the conduit connecting the chimney and the boiler must be in compliance with the NBN B 61-002 standard.

⚠ The flue gas connection pipes must not be bricked into the chimney.

4.4.2 Lengths of the air/flue gas pipes

Calculation of the equivalent lengths must be done according to the model of flue gas system selected.

For example:


		Ø 125 mm Rigid	Ø 125 mm Flexible
L _{max}		20	17
	Ø	160	160
X _{mini}	Cross section	140x140	140x140

⚠ L_{max} is measured by adding the lengths of the air/flue gas pipes and the equivalent lengths of the other elements:


Equivalent conduit lengths PPS (m)	Ø 125
Elbow 87°	2.2
Elbow 45°	1.5
Right inspection tube	0.6
87° inspection elbow	2.2


4.5 Hydraulic connections

Installation must be carried out in accordance with the prevailing regulations, the codes of practice and the recommendations in these instructions.


 See assembly instructions.

4.5.1 Important recommendations for connecting the boiler to the heating circuit

 **There must be no total or partial closing mechanism between the boiler and the safety valves (France: DTU - 65.11, § 4.22 - NF P 52-203).**

 **Heating installations must be designed and implemented to prevent heating circuit water and products contained in it returning to the drinking water system (article 16-7 Departmental Health Regulations). A CB disconnecter (area disconnecter for different uncontrollable pressures) must be installed for filling the heating circuit according to the NF P 43-011 standard.**

Before making the water connections of the heating circuit and domestic hot water tank heat exchanger, it is imperative to rinse the circuits to remove any particles which might damage the components (safety valve, pumps, valves, ...).

 **When using installations with thermostatic protection, only safety valves marked H may be connected, and only to the boiler outlet safety measurement tap. Their drainage capacity must correspond to the boiler's maximum nominal useful output (Germany: DIN EN 12828).**

4.5.2 Typical systems

The following diagrams are given by way of an example. Other connections may be made.

■ Key to the diagrams

1	Heating flow
2	Heating return
3	3-bar safety valve
4	Pressure gauge
7	Automatic air vent
9	Valve
10	3-way mixing valve
11	Heating pump
16	Expansion vessel
17	Draining valve
18	Filling the heating circuit
21	Exterior temperature sensor
	No sensor with panel B2
	Delivered as standard with panel D
22	Boiler control sensor
23	Mixing valve outlet temperature sensor
24	DHW calorifier exchanger primary inlet
25	DHW calorifier heat exchanger primary outlet
26	DHW load pump
27	Non-return valve
28	Domestic cold water inlet
29	Pressure reducer
30	Sealed safety unit calibrated to 7 bar
31	Independent domestic hot water tanks
32	Domestic hot water loop pump (optional)
33	Domestic hot water temperature sensor (Option)
34	Primary pump
44	Thermostat limiting the temperature to 65°C with manual reset for underfloor heating (France: DTU 65.8, NF P 52-303-1)
50	Disconnecter
51	Thermostatic valve
52	Differential valve
56	DHW circulation loop return
57	Domestic hot water outlet
65	Low temperature circuit (radiators or underfloor heating)
75	Pump for DHW use
77	Heating circuit actuator
118	Boiler flow
119	Boiler return
154	Heating circuit
155	Condenser pump
156	Condenser flow
157	Condenser return
158	Output sensor
159	DHW exchanger

■ Options

EA 54	Hydraulic safety kit
EA 59	Collector for 2 circuits
EA 60	Collector for 3 circuits
EA 61	Hydraulic module for 1 direct circuit with 3-speed pump
EA 63	Hydraulic module for 1 circuit with valve with 3-speed pump
EA 65	Hydraulic module for 1 circuit with valve with electronic pump
EA 67	Hydraulic module for 1 direct circuit with electronic pump
ME 117	Second return

■ Installation with 1 direct radiator heating circuit (without mixing valve)

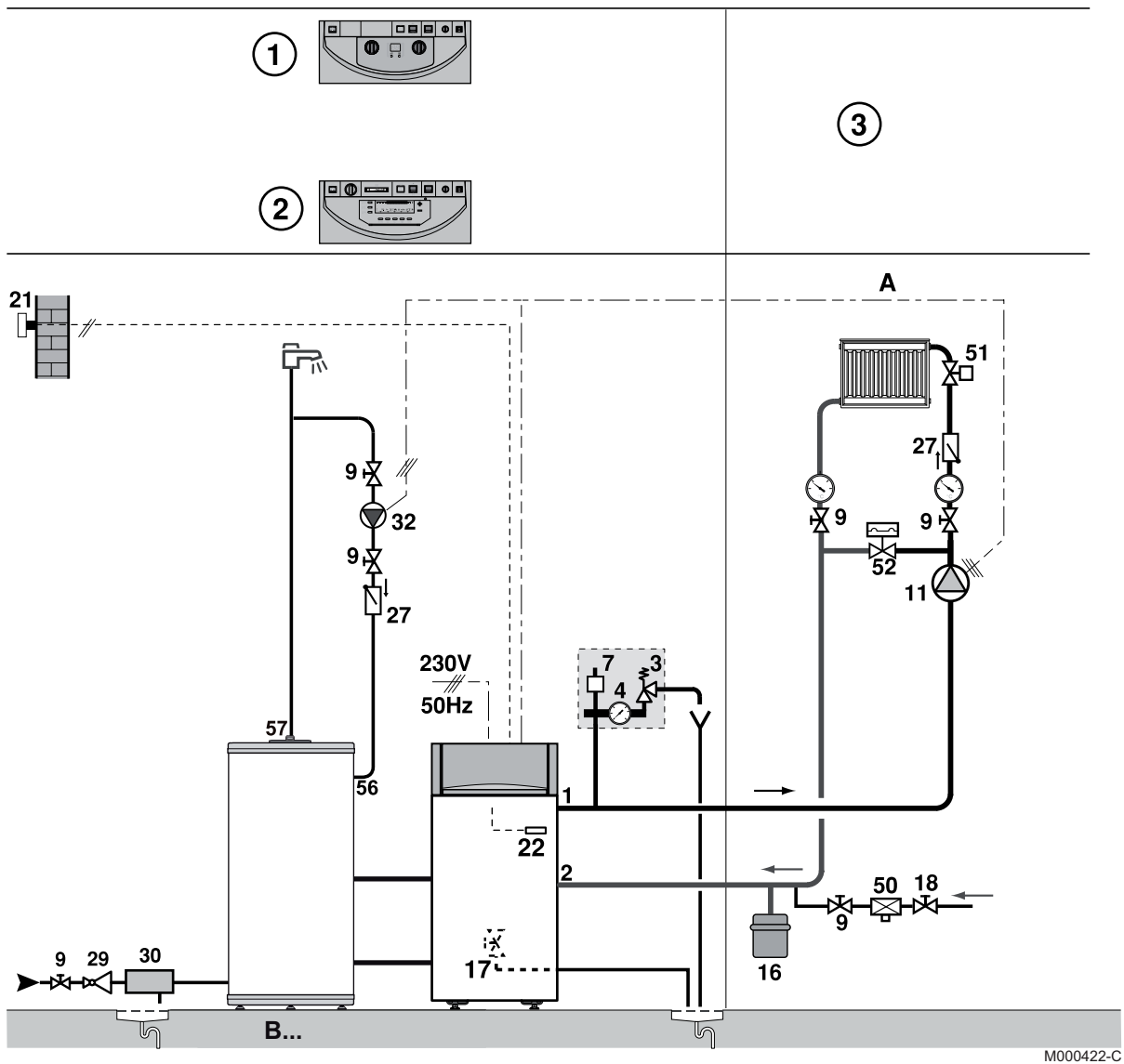
Control panels possible for this type of installation:

- ① B2 control panel.
- ② D (DIEMATIC 3) control panel.

Optional equipment required:

- ③ No optional equipment required.

i Panel B2 is fitted as standard to control a second direct circuit (Room temperature thermostats optional).



■ Installation with 1 direct heating circuit (radiator) and 1 circuit with mixing valve (radiators or underfloor heating)

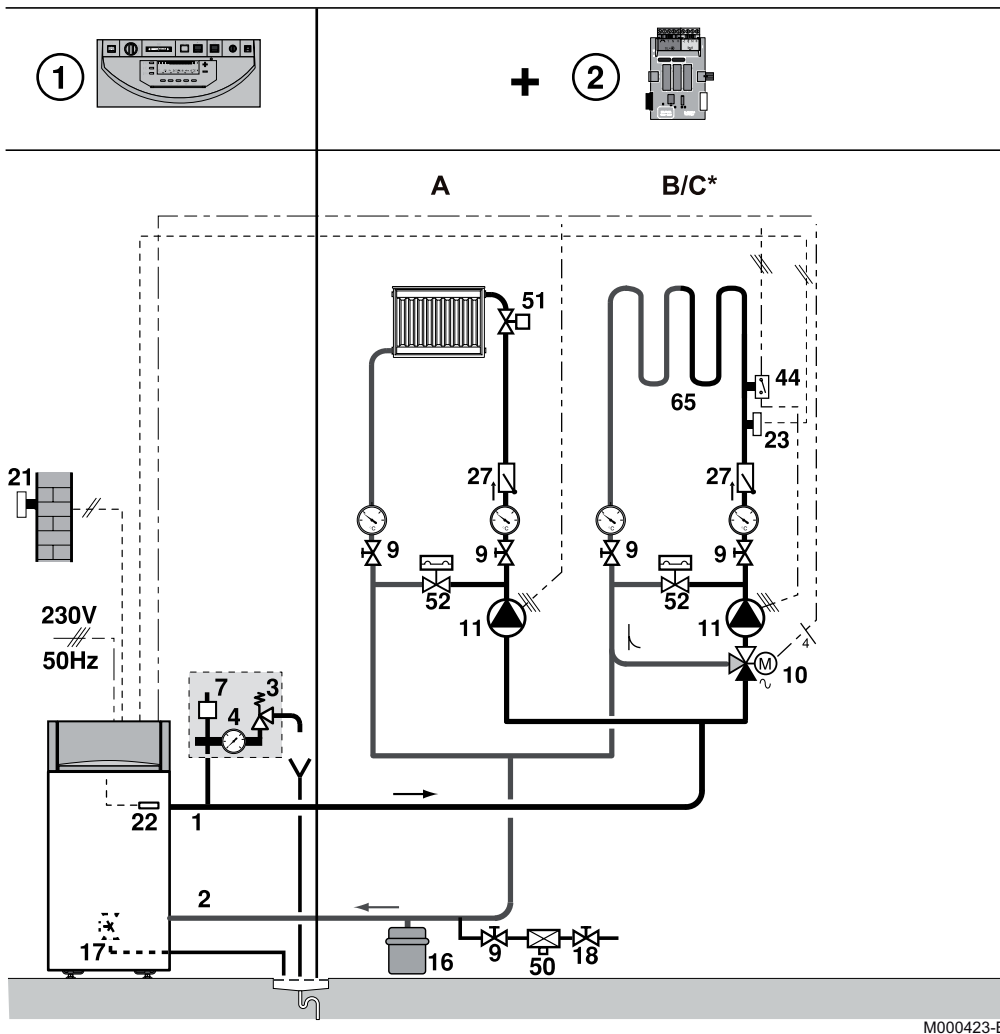
Control panels possible for this type of installation:

① D (DIEMATIC 3) control panel.

Optional equipment required:

② 1 PCB option with outlet sensor FM48.

i Circuit A may not be present.



M000423-B

■ Installation with 1 swimming pool heating circuit and 1 circuit with mixing valve (radiators or underfloor heating)

Control panels possible for this type of installation:

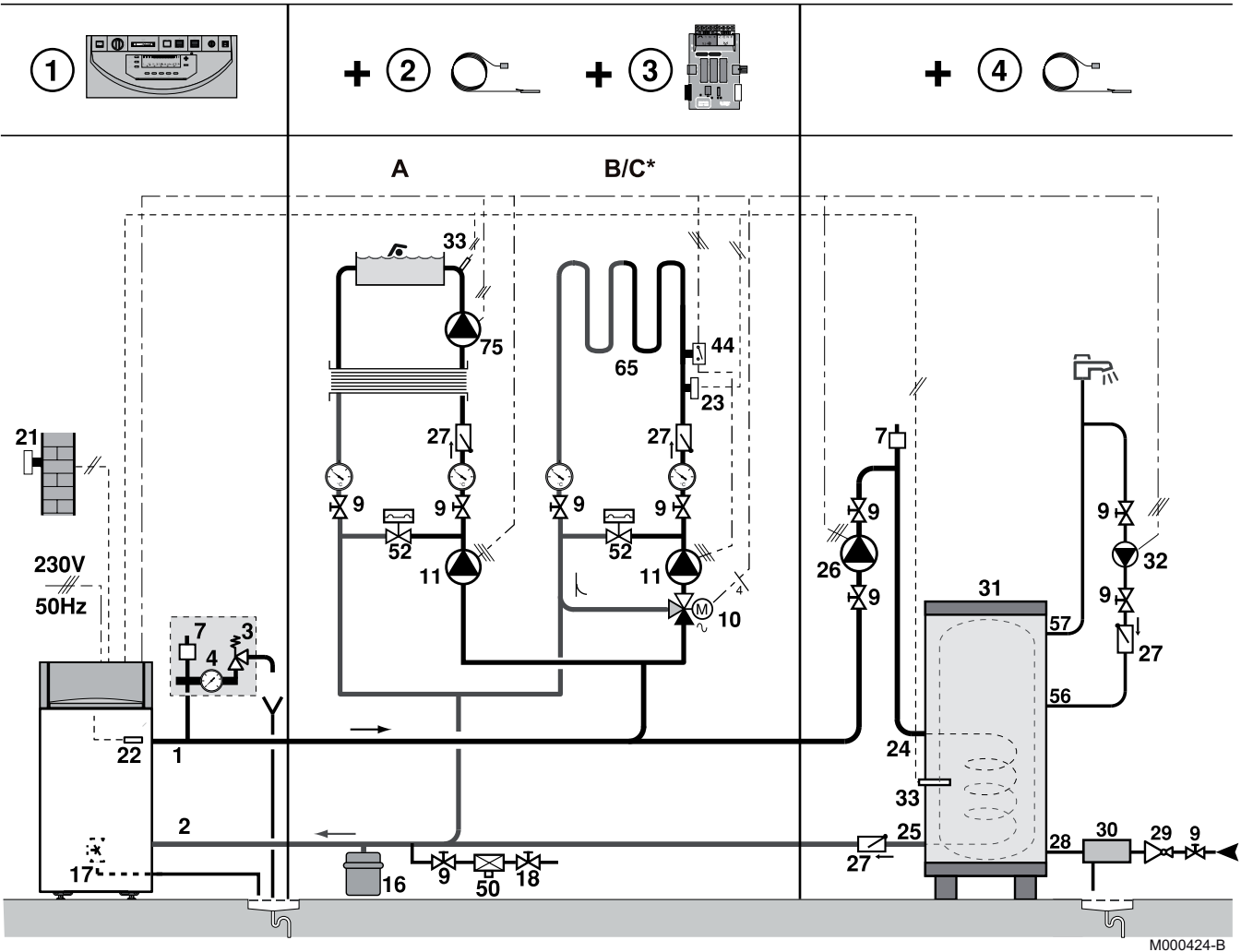
① D (DIEMATIC 3) control panel.

Optional equipment required:

② 1 DHW sensor option - Package AD212.

③ 1 PCB option with outlet sensor FM48.

④ 1 DHW sensor option - Package AD212.



■ Heating installation with 1 direct heating circuit (radiator) and 2 circuits with mixing valve (radiators or underfloor heating)

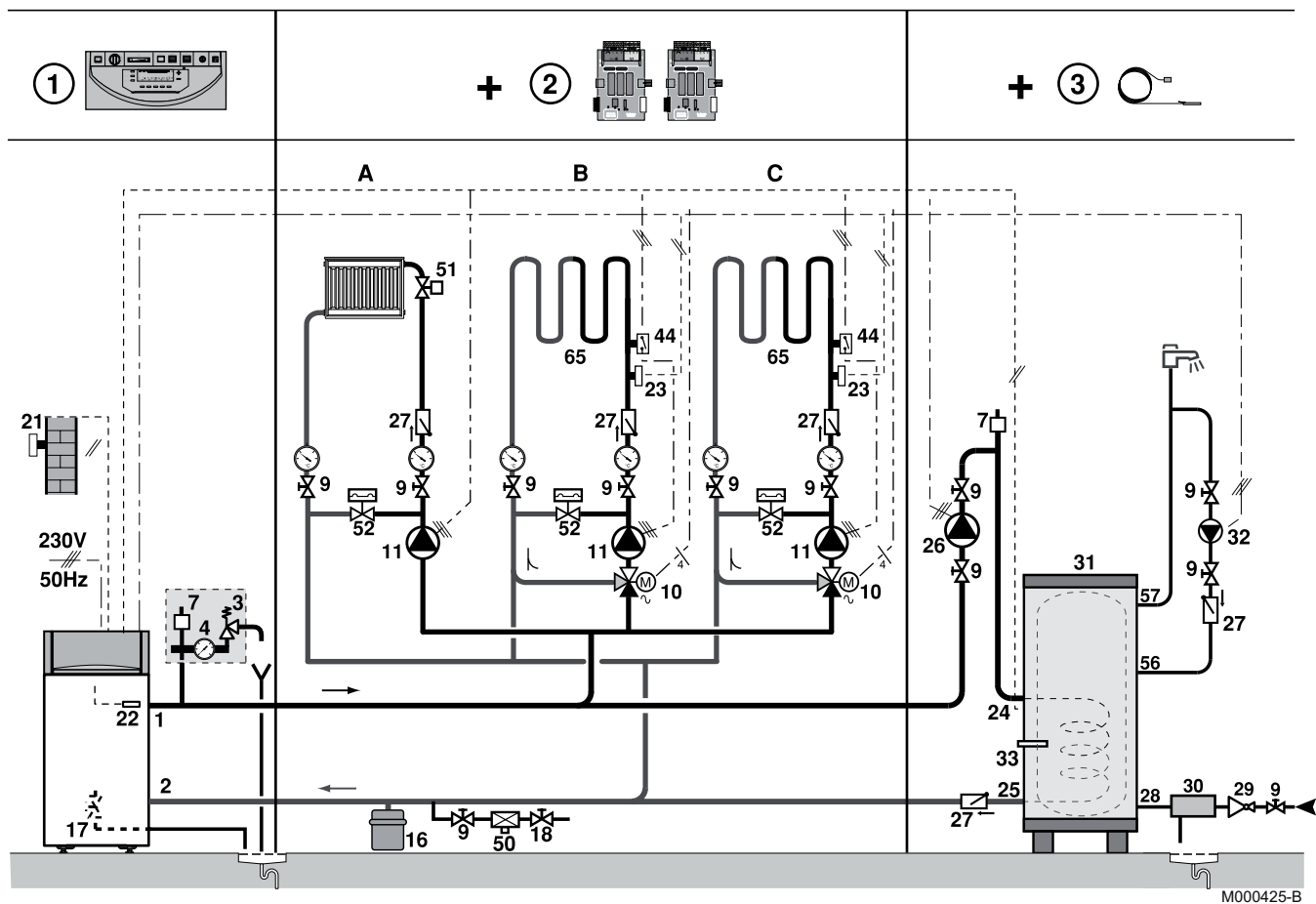
Control panels possible for this type of installation:

① D (DIEMATIC 3) control panel.

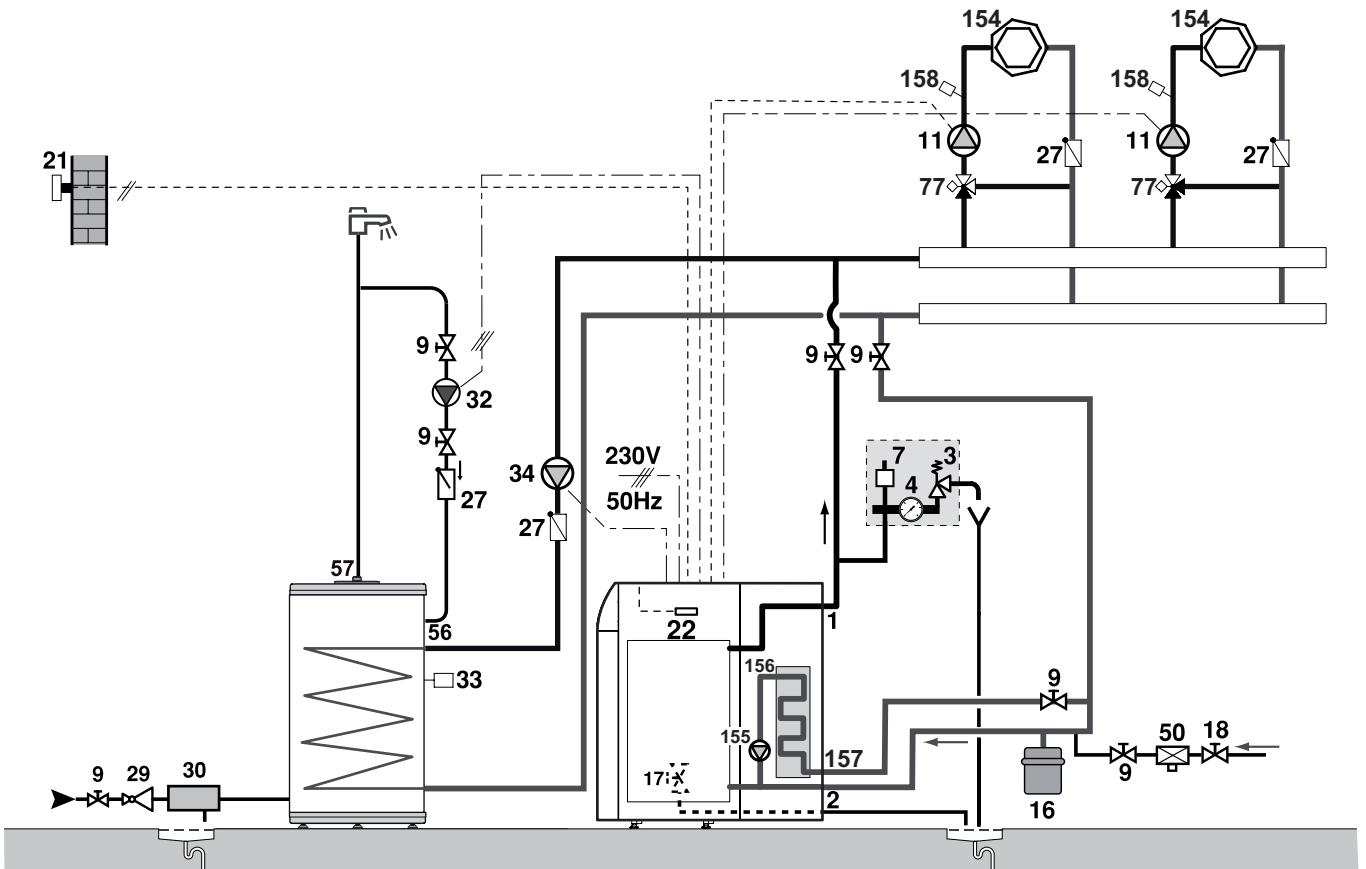
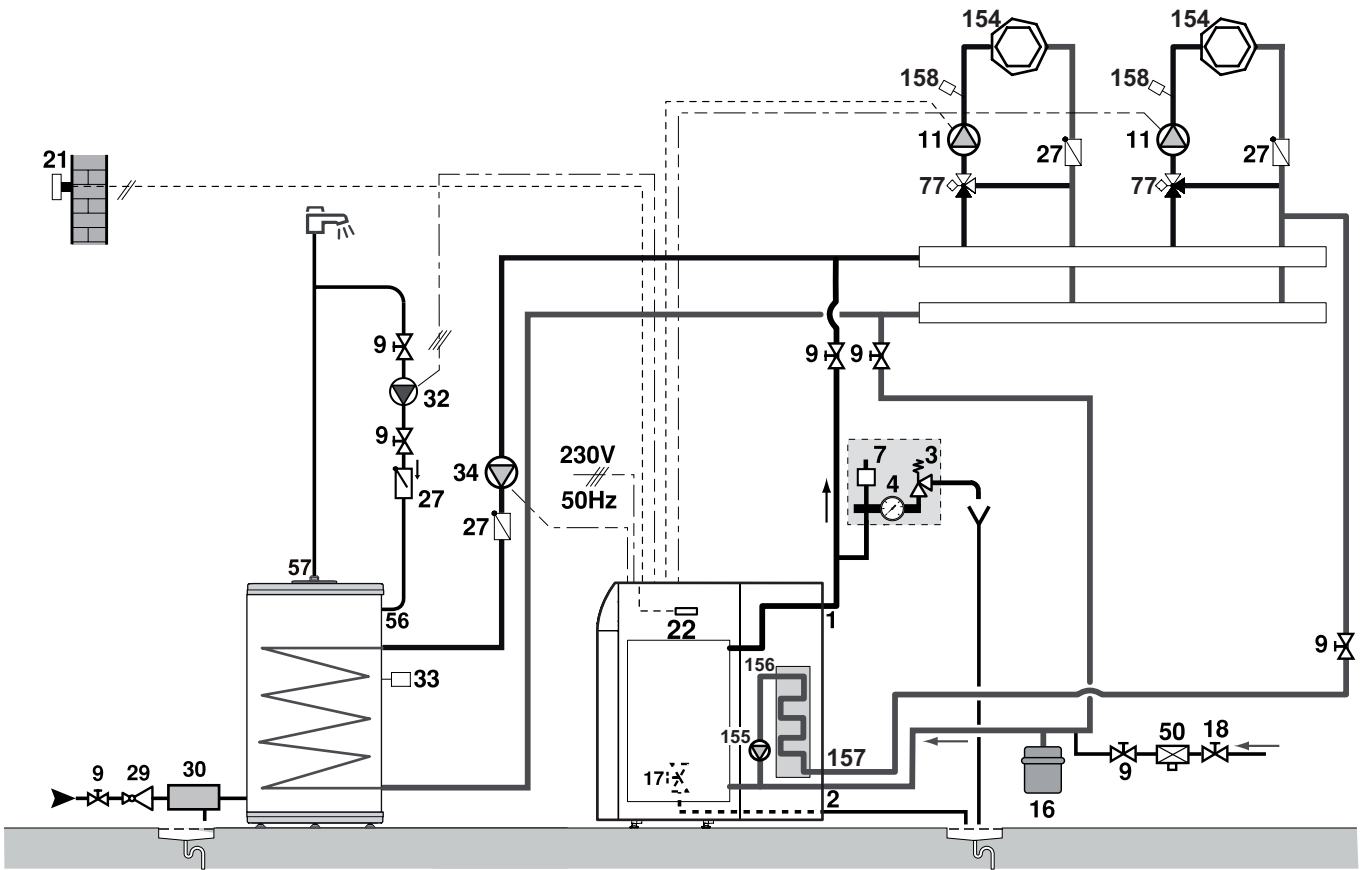
Optional equipment required:

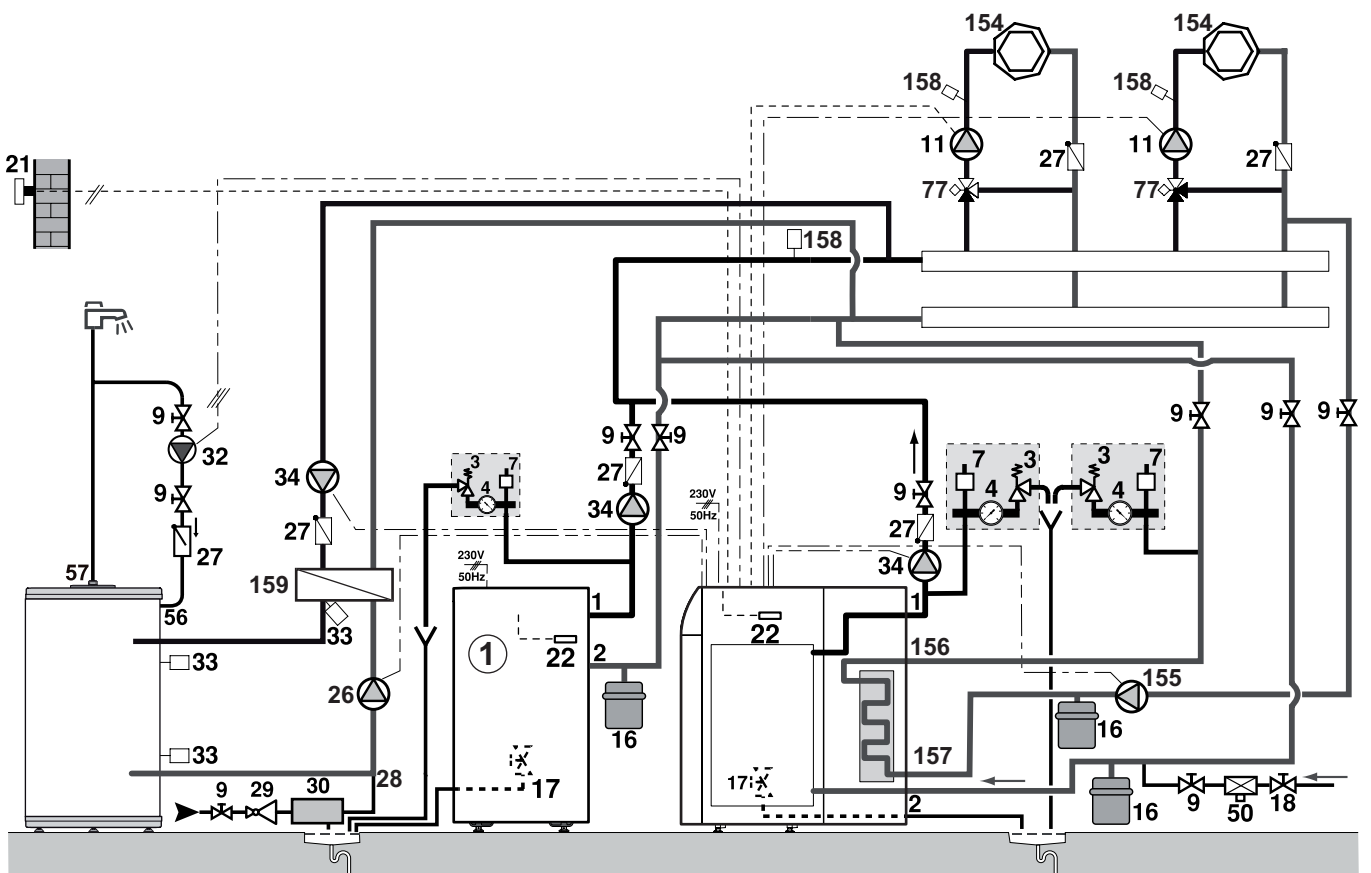
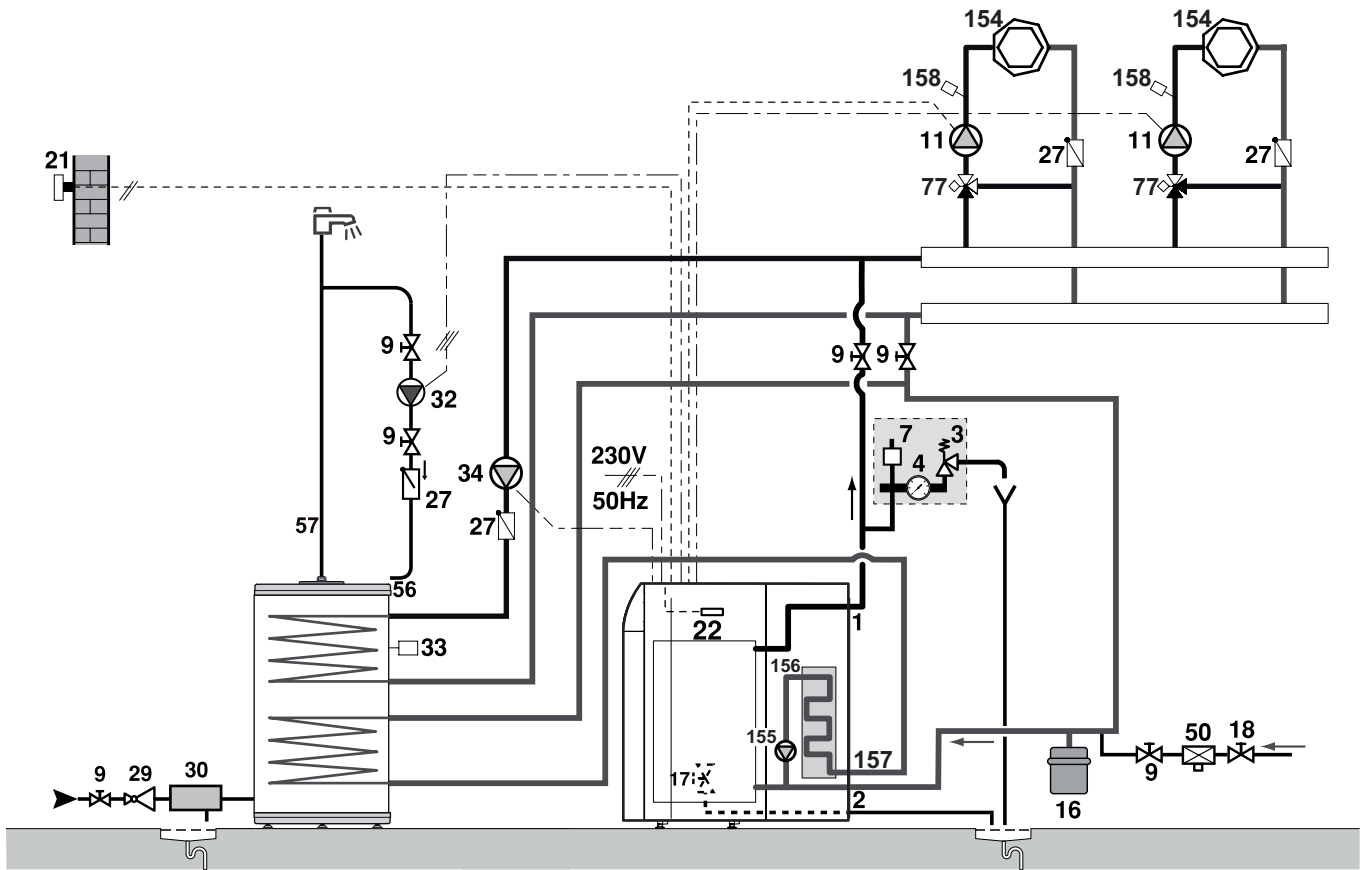
② 2 PCBs with outlet sensor FM48.

③ 1 DHW sensor option - Package AD212.




■ Examples of installations equipped with the ME117 second return kit






① Low temperature boiler

4.6 Electrical connections

 See: Control panel instructions.


5 Commissioning

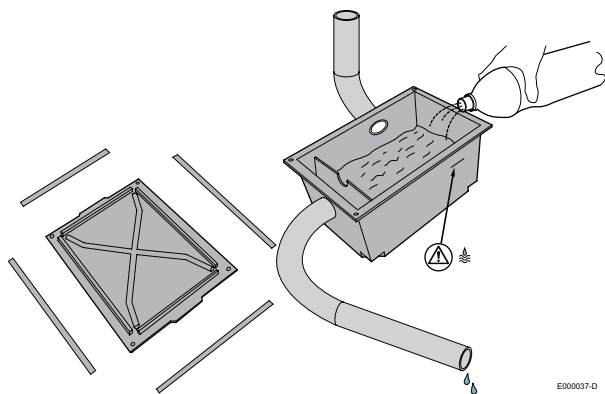
5.1 Check points before commissioning

 **The first start-up is to be performed by your installation/ commissioning engineer.**

Before start-up, the heating installation must be completely emptied and rinsed.

5.2 Filling the siphon

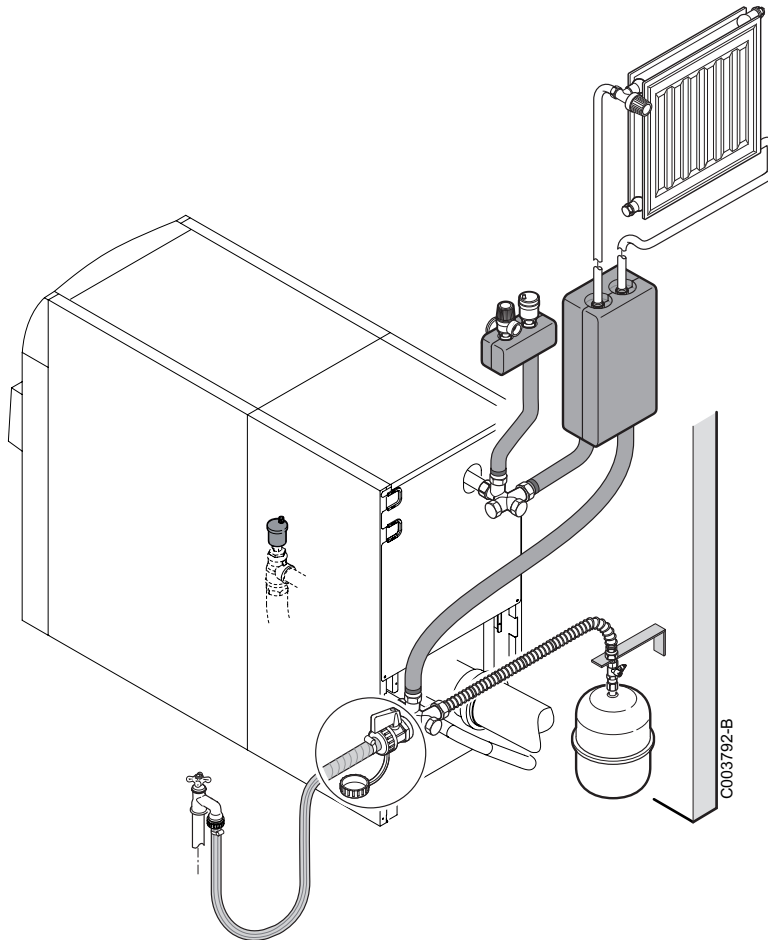
 **If operating with the siphon empty, combustion products will escape into the premises in which the boiler is installed. Danger of being poisoned!**



- ▶ To fill the siphon:
 - Remove the siphon. Remove the hood.
 - Fill the siphon with water until the water flows from the discharge pipe.
 - Refit the cover.
 - Re-assemble the siphon.
- ▶ Alternative filling method:
 - Remove the siphon. Leave the cover in place.
 - Fill the siphon via the condensates flow pipe. When the pipe overflows, the siphon is full.


5.3 Filling the installation with water

■ Heating circuit GTU C 220



1. Fill slowly via the low point on the heating installation:



- Either via the filling and draining valve (see drawing above). In this case, the pipe (internal Ø 14 mm) must be disconnected after filling.
- Or via the disconnector put in place by the fitter (see mark 50 principle diagrams above).

 Typical systems, page 17.

2. Vent the heating installation.

The installation is bled of air from the top by opening one or more bleed valves. Close the bleed valve(s) when water comes out.


3. Final checks:

-  Check that connectors are leak tight.
-  Check the operation of the heating safety valve.

5.4 Commissioning

 See:

- Control panel instructions.
- Burner instructions.
- Domestic hot water calorifier instructions.


 **The filling, bleeding and leak tightness checks for the DHW (if needed) and heating circuits must be done in compliance with the DHW tank and boiler instructions.**

6 Maintenance

6.1 Checking and cleaning the main components

6.1.1 Pressure

Regularly check the level of water in the installation (Pressure). Top it up, if need be, avoiding the abrupt input of cold water into the hot boiler. If this operation is repeated several times per season, locate the leak and repair it.

 **Do not drain the installation, except in cases of absolute necessity. For example: Several months' absence with the risk of ice in the building.**


6.1.2 Safety devices

Check that the safety devices are operating correctly (particularly the heating circuit valve).

6.2 Boiler

The boiler will only operate efficiently if the exchange surfaces are kept clean.

The boiler must be cleaned as often as necessary and, like the chimney, **at least once a year** or more in accordance with the prevailing regulations and the insurance contract taken out.

 **Cleaning operations are always to be done with the boiler and the electricity supply switched off.**

To access the various parts to be serviced and checked, it is necessary to remove the front panel/cover of the boiler.

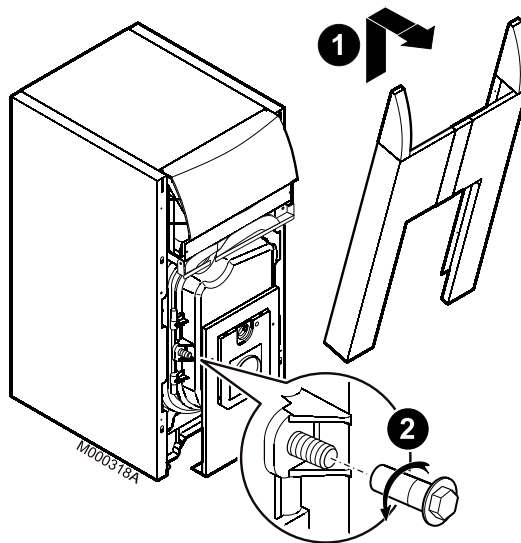
Cleaning operations: See following pages.

After cleaning and servicing:

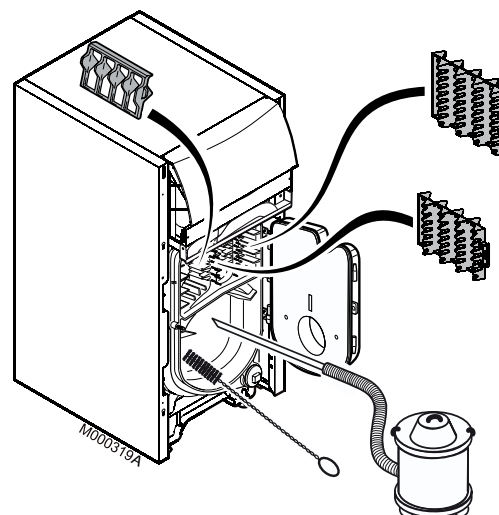
- Close the door of the combustion chamber.
- Service the burner.
- Replace the front cover.
- Carry out tests to ensure correct operation and make combustion measurements.


6.2.1 Sweeping (Front of the boiler)

- 1 Remove the front panel.
- 2 Unscrew the 2 flanged nuts with flat washers. Open the door of the combustion chamber.



- Remove the baffle plates (number variable depending on the boiler model).
- Carefully sweep the flue ways with the brush supplied for that purpose. Also sweep the combustion chamber.
- Remove soot from the bottom of the flue ways and the combustion chamber using a vacuum cleaner with a nozzle with a diameter less than 40 mm.
- Replace the baffle plates.
- Close the door of the combustion chamber.
- Replace the front panel.




 Inspection hatch: see chapter: Sweeping the boiler (Inspection hatch), page: 29.


6.2.2 Cleaning the casing and the window


- Use a soapy solution and a sponge only.
- Rinse with clean water.
- Dry with a soft cloth or a chamois leather.


6.3 Burner

 See: Burner instructions.


6.4 Condenser

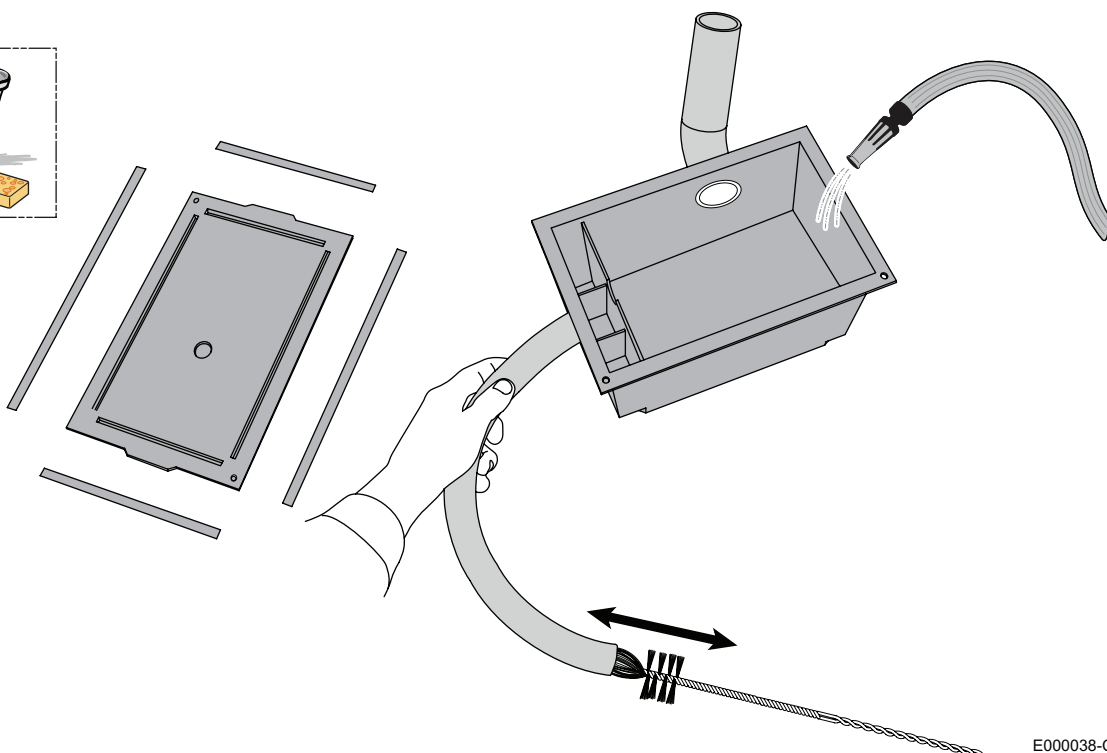
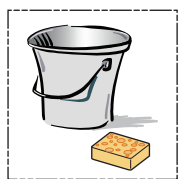
 Condenser maintenance must be done at least once a year by a qualified professional.

 Cleaning operations are always to be done with the boiler and the electricity supply switched off.

 Wear protective gloves and goggles. Risk of being burnt.


6.4.1 Condensates discharge


 To ensure safe operation of the boiler: The siphon and the condensates evacuation conduit must imperatively be checked and cleaned at least once a year. Without an annual service, the siphon could clog up and the condensates will no longer be able to flow off and will fill the flue gas discharge pipe causing a boiler dysfunction.



E000038-C

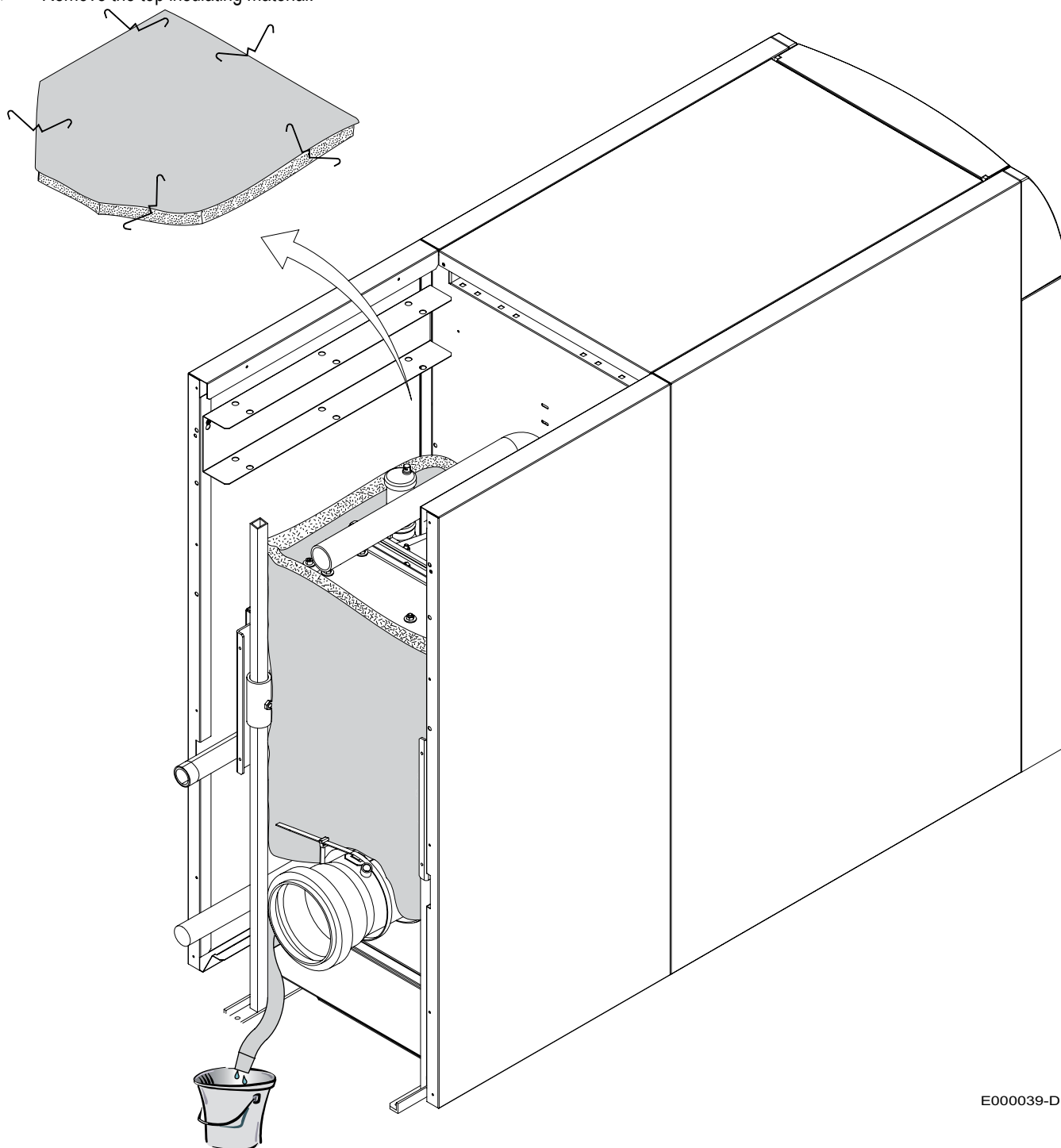
- ▶ Remove the siphon and rinse with water to prevent the formation of plugs. The siphon allows the condensates to run off. Rinse the siphon and the pipes thoroughly to remove any residues, then put everything back in place and fill the siphon with water. Put the cover back in place. Check the siphon and replace it if necessary.

 Filling the siphon, page: 25.

 When the siphon is disconnected, connect the connection opening to the run-off pipe or put a recipient in place to collect the water.

6.4.2 Cleaning of the condenser

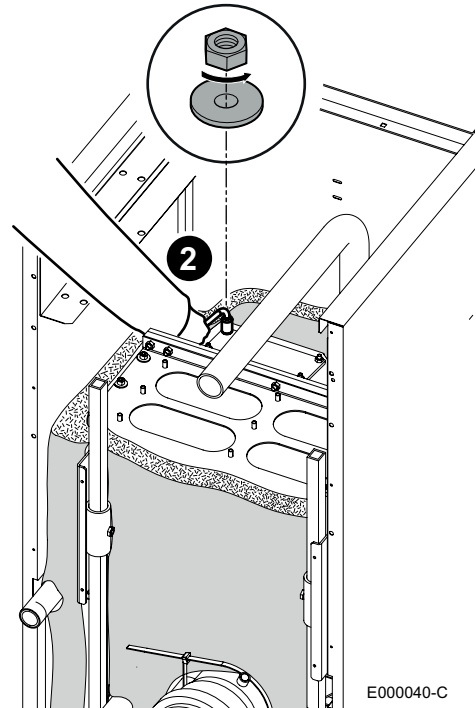
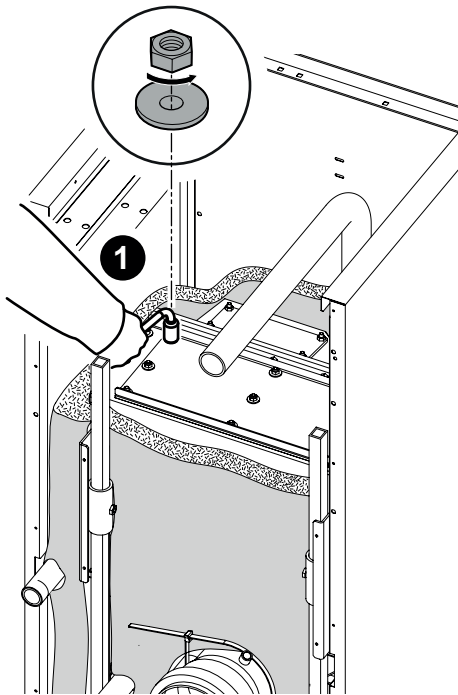
- ▶ Remove the siphon.
- ▶ Remove the back top panel.
- ▶ Remove the top and bottom back panels.
- ▶ Remove the top insulating material.



E000039-D

! When the siphon is disconnected, connect the connection opening to the run-off pipe or put a recipient in place to collect the water.

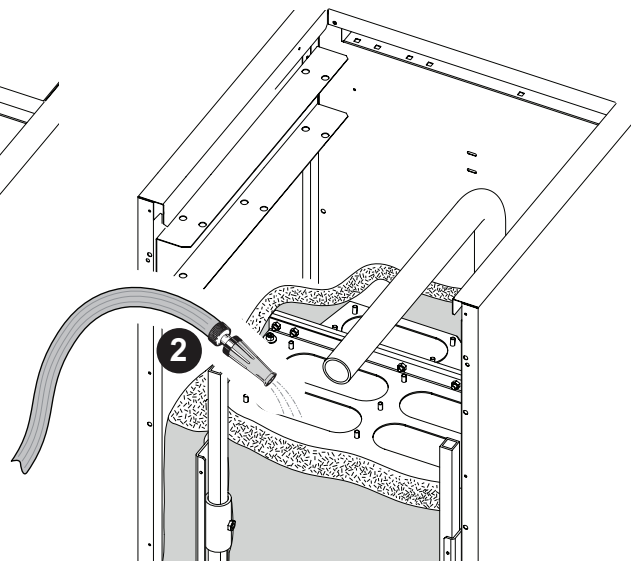
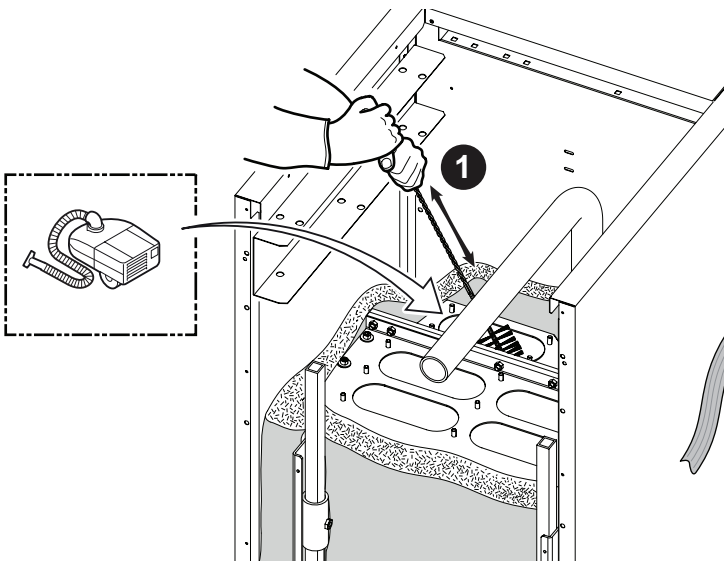
- ▶ Dismantle the hatches on the exchanger (Remove the nuts + washers).



E000040-C

- ▶ Clean the heat exchanger using the tool provided.
 - 1 For this compartment, use the cleaning brush provided.
 - 2 For the other compartment, rinse with water.

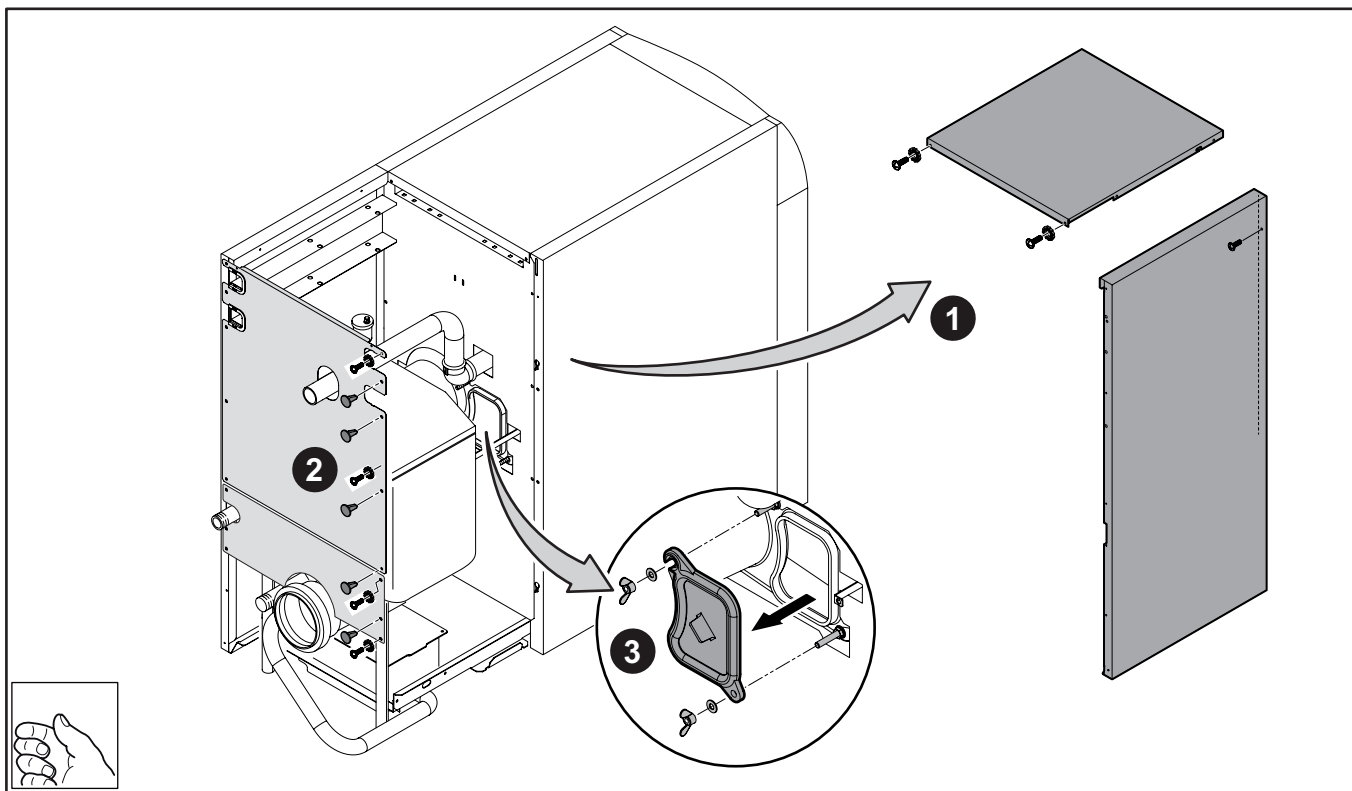
! The ceramic pipes in the heat exchanger are fragile and must be handled with care.



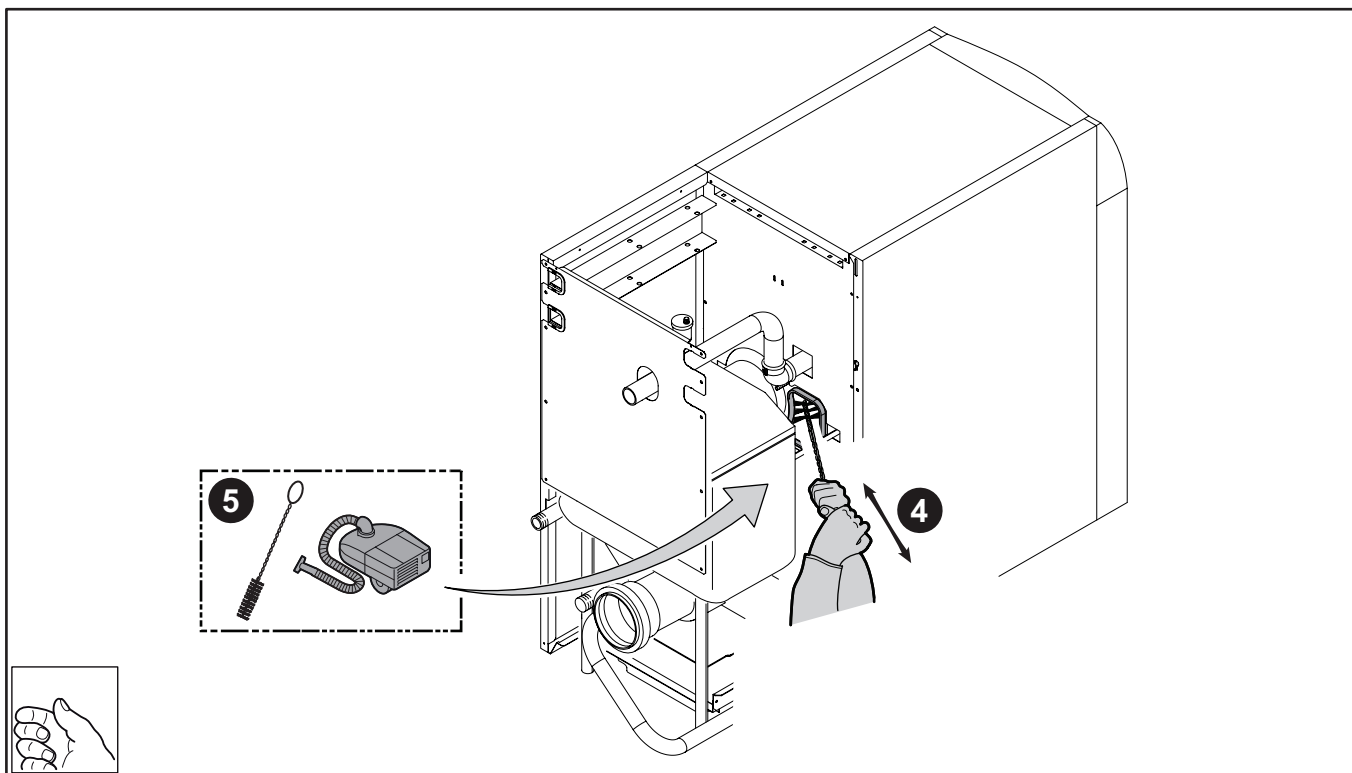
- ▶ Fill the siphon with water.
- i** Once the siphon has been put in place, it can also be filled with water through the exchanger trap.
- ▶ Re-assemble the siphon.
- ▶ Check the seals on the hatch (Replace if necessary).
- i** This hatch guarantees that the exchanger is leak proof.
- ▶ Refit the hatches to the exchanger.
- ▶ Refit the insulation material .
- ▶ Refit the back panels.

- ▶ Replace the top.
 - !** The gas tank and the gas outlet must be checked and cleaned if necessary.
 - !** Check the tightness of the cleaning hatches to prevent gas leaks. Risk of asphyxiation!

6.4.3 Sweeping the boiler (Inspection hatch)



C003894-A



C003895-A

- Remove the rear panels and the top panel from the condenser.
- Remove the side panel.
- Unscrew the nuts on the inspection hatch on the heating body.
- Open the inspection trap and clean using a brush and a vacuum cleaner.
- Close the inspection trap.

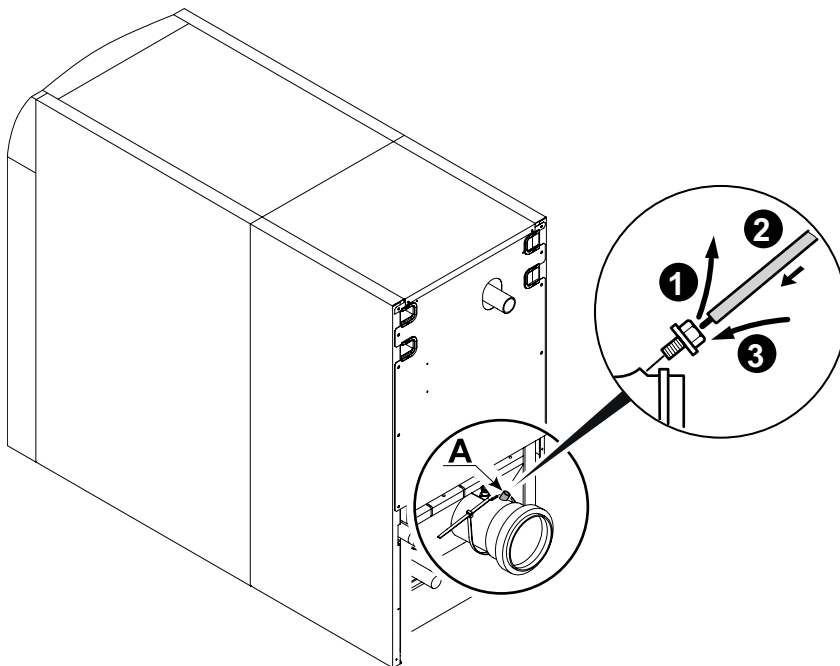
- Put the side panel back in place on the condenser, followed by the rear panels and the top panel.

⚠ The left side of the appliance is recommended for carrying out condenser and flue gas nozzle maintenance.

7 Chimney sweep instructions



- ▶ Check the safety thermostat: Press the **TEST STB** button until the boiler switches off.
- ▶ Unscrew the plug on the air/flue gas measurement point.
- ▶ Run the hygiene measurements.
- ▶ Put the flue gas sampling plug back in place. Check the seal.
- ▶ Check the flue gas system and clean it.



E000041-C

i A: Flue gas measuring point.

8 Switching off the boiler

■ Precautions to take if there is a danger of frost

- Drain the siphon.

Heating circuit:

Use a correctly dosed antifreeze to prevent the heating water freezing. If this cannot be done, drain the system completely. In all cases, consult the fitter.

■ Precautions to take in the event of prolonged shutdown (one year or more)

- The boiler and the chimney must be swept carefully.
- Close the door of the boiler to prevent the internal circulation of air.
- Remove the pipe connecting the boiler to the chimney and plug the nozzle.

9 Spare parts - GTU C 220

16/10/2012 - 300027715-002-A

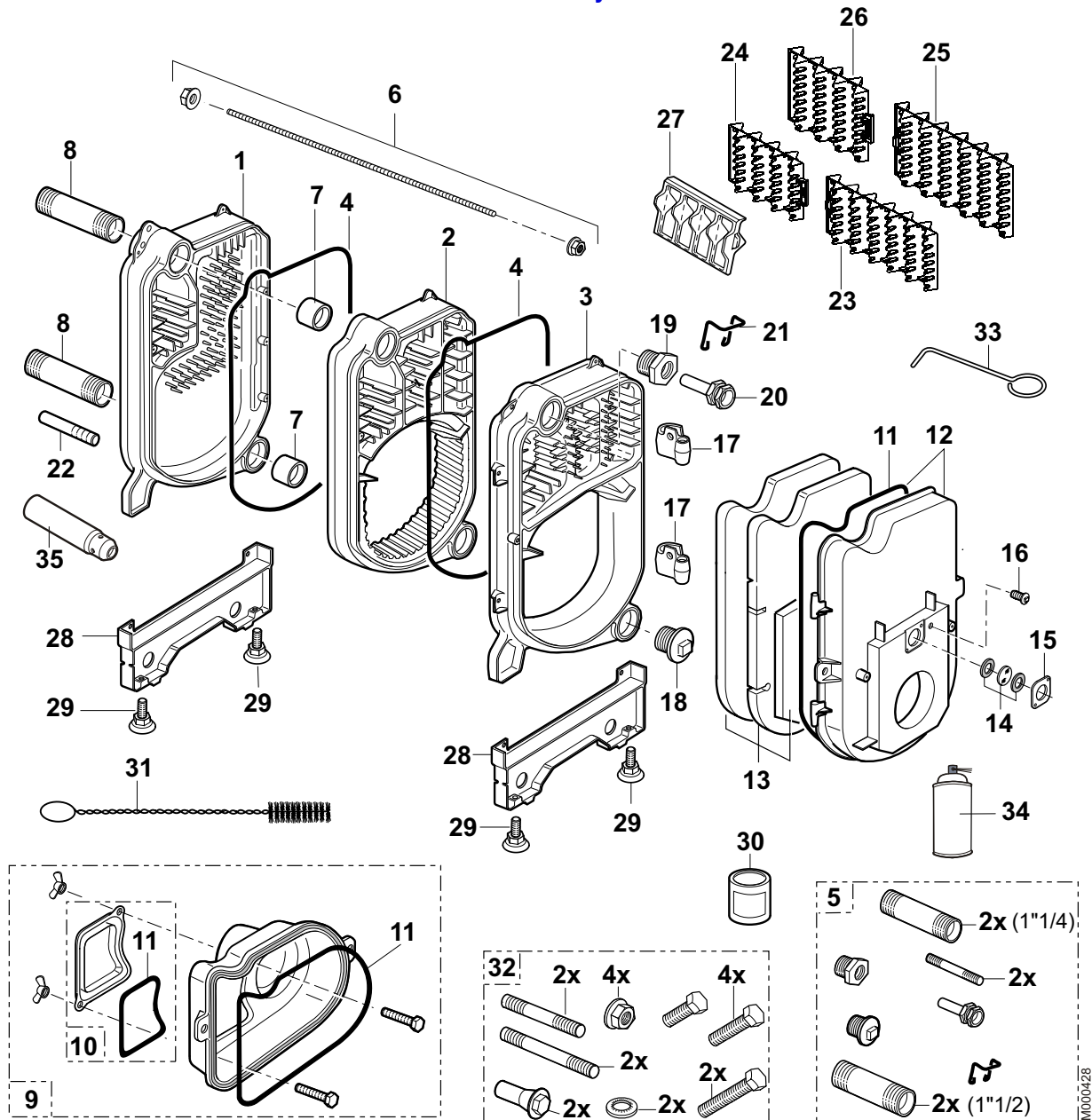


The code number on the list next to the required piece must be stated when ordering replacement parts.

See also:

- Control panel instructions
- Burner instructions

Boiler body



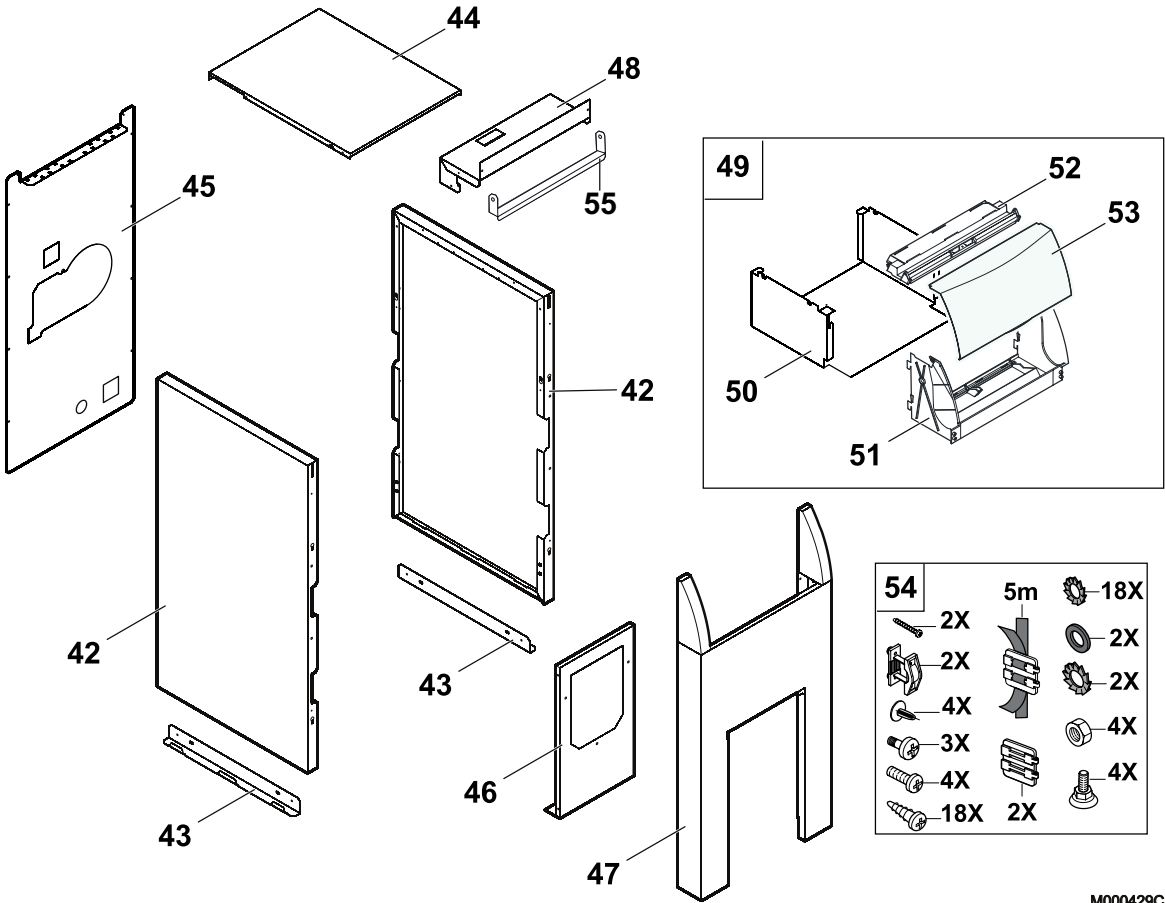
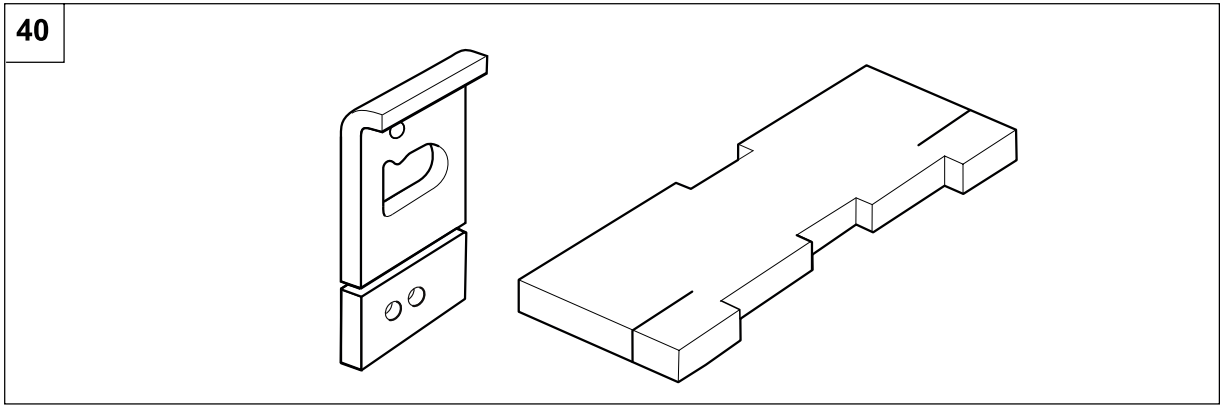
DE DIETRICH THERMIQUE S.A.S. - Spare parts centre

4 rue d'Oberbronn - F-67110 REICHSHOFFEN - ☎ +33 (0)3 88 80 26 50 - 📠 +33 (0)3 88 80 26 98

cpr@dedietrichthermique.com

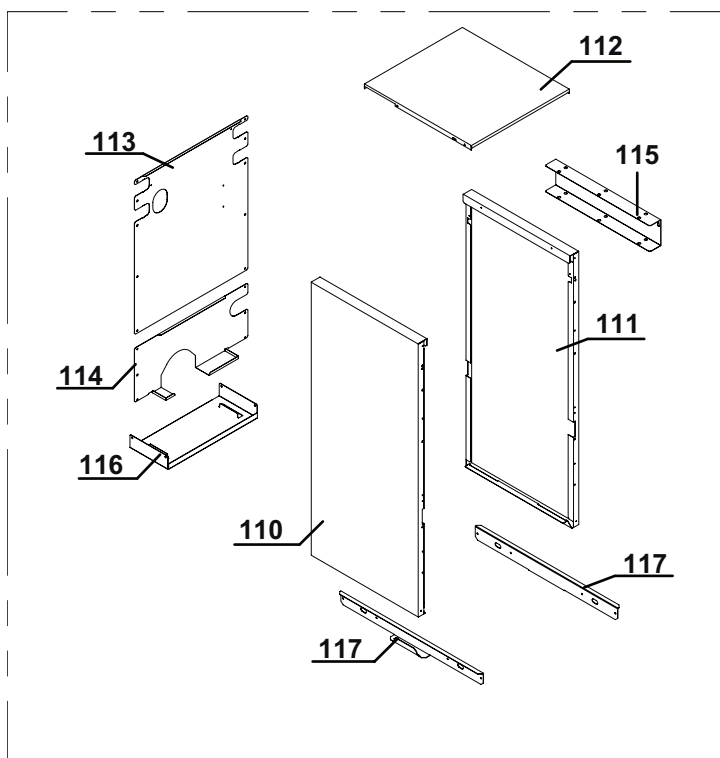
TM000428

Insulation and casing - Boiler



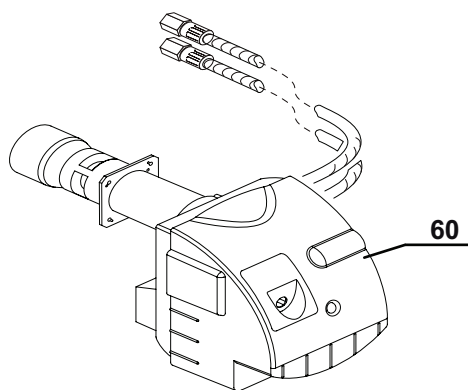
M000429C

Condenser casing



E000052-B

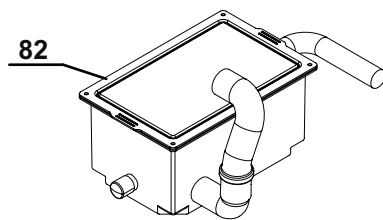
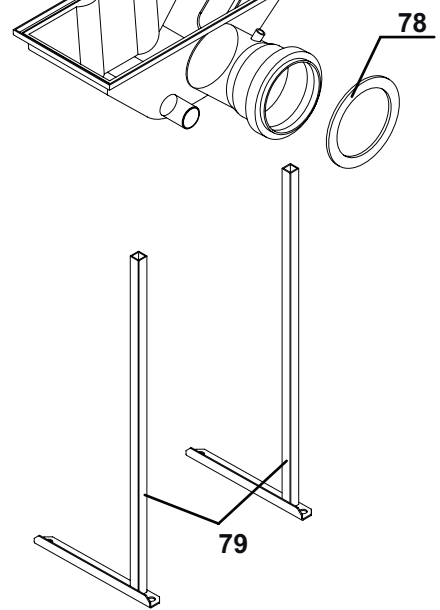
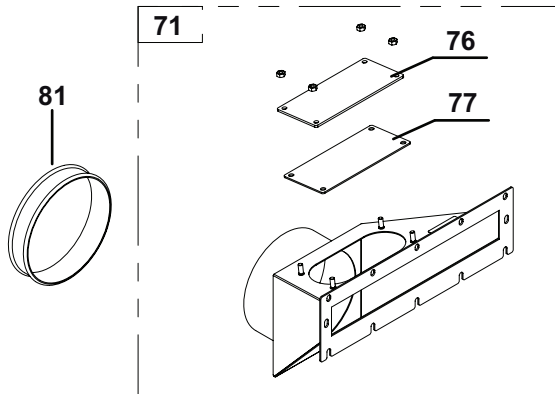
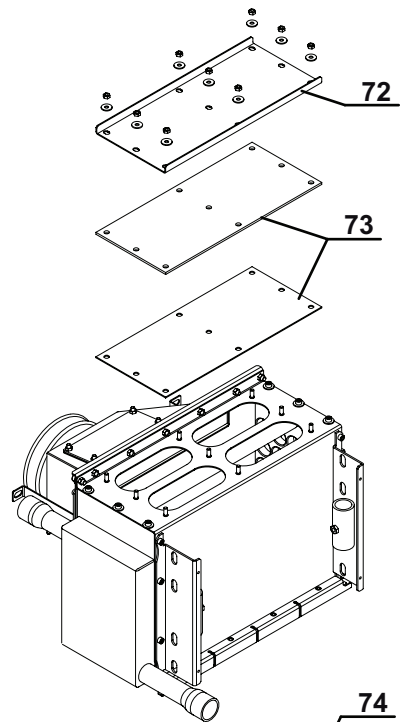
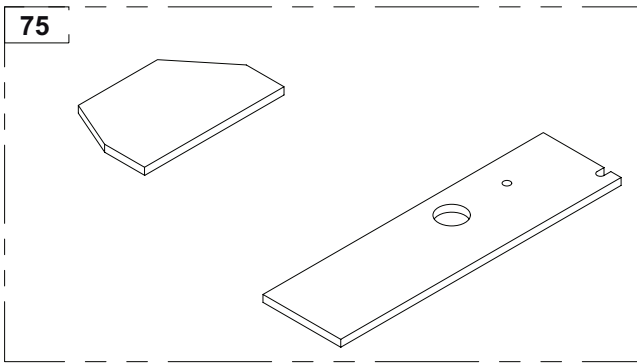
Burner



E000051-B

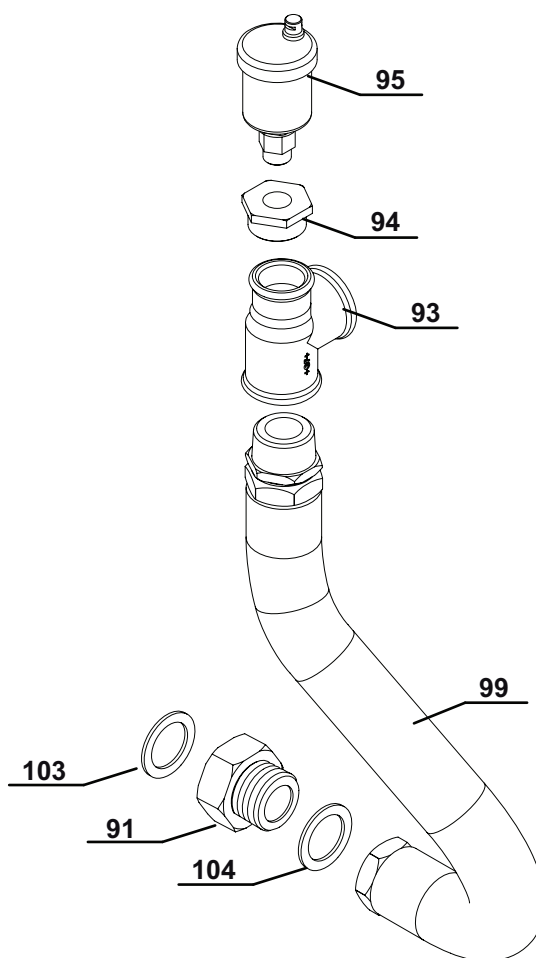
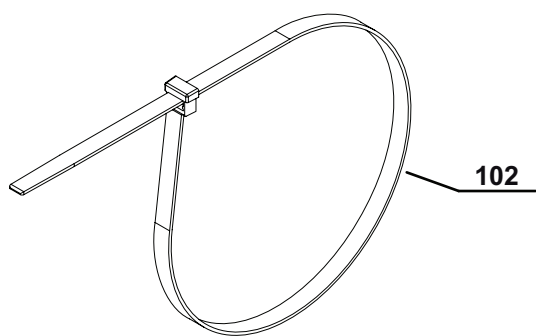
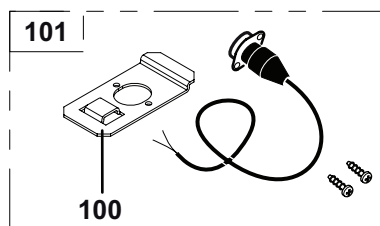
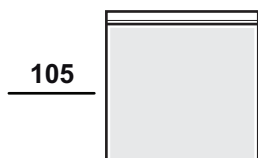
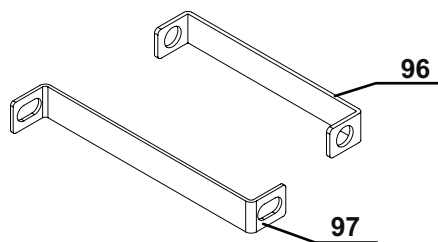
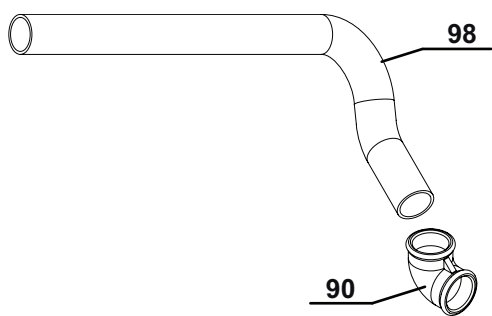
Condenser + Siphon

70



E000053-B

Accessories



E000050-B

Markers	Code no.	Description
Boiler body		
1	8227-5500	Rear section - GTU C 220
2	200004871	Intermediate section - GTU C 220
3	8227-5502	Front section - GTU C 220
4	9508-6036	8 Ø thermocord gasket
5	8227-5503	Pipe kit + Plug
6	8227-5507	Assembly rod 580 mm - M8 - GTU C 225
6	8227-5508	Assembly rod 700 mm - M8 - GTU C 226
6	8227-5509	Assembly rod 820 mm - M8 - GTU C 227
7	8336-0507	Painted nipple
8	9754-9135	Water flow/return pipe 1"1/4 - GTU C 225
8	9754-9133	Water flow/return pipe 1"1/2 - GTU C 226, GTU C 227
9	8227-8503	Nozzle Ø 150
10	8227-5511	Sweeping trap + Seal
11	9508-6032	Seal ø 10.5 - 1 m
12	8227-8531	Furnace door GTU C 225
12	8227-8532	Furnace door GTU C 226, GTU C 227
13	8227-5504	Insulation, complete combustion chamber door - GTU C 225
13	8227-5505	Insulation, complete combustion chamber door - GTU C 226, GTU C 227
14	8015-7700	Sight glass + Gasket
15	9757-0027	Inspection flange
16	9495-0050	Plug 1/4" NR290
17	8227-0201	Hinge
18	9495-0249	Plug 1"1/2
19	9494-8312	Nipple 1"1/2 - 1/2"
20	8500-0027	1/2" sensor tube, length 200
21	9758-1286	Spring for sensor tube
22	9754-9137	Drainage pipe 3/4
23	200004701	Central baffle
24	200005164	Short central baffle - GTU C 226, GTU C 227
25	200004702	Right baffle
26	200005165	Short right baffle - GTU C 226, GTU C 227
27	8227-0012	Left baffle - Length 375 mm
28	8227-0202	Body lifter
29	9786-0646	Adjustable foot M_10x35
30	9430-5027	Putty for nipple
32	8227-8502	Body screws packet
33	9602-0671	Baffle hook
34	9434-5102	Retouching spray paint - anthracite grey
34	9434-5103	Retouching spray paint - White
36	9536-5613	Contact spring for pocket
Insulation		
40	200005491	Complete insulating material for body - 5 sections
40	200005492	Complete insulating material for body - 6 sections
40	200005493	Complete insulating material for body - 7 sections
Casing		
42	200021879	Side panel - GTU C 225
42	200021893	Side panel - GTU C 226
42	200021894	Side panel - GTU C 227
43	300028071	Lower side crossbar - GTU C 225
43	300028072	Lower side crossbar - GTU C 226
43	300028073	Lower side crossbar - GTU C 227
44	200004572	Top panel - GTU C 225

Markers	Code no.	Description
44	200004573	Top panel - GTU C 226
44	200004574	Top panel - GTU C 227
45	200022006	Complete rear panel
46	200004664	Panel for furnace door
47	200004663	Complete front panel
48	200004689	Front crosspiece
49	200004691	Complete control panel support
50	200004580	Control panel bracket
51	300007010	Housing
52	300007011	Card cover
53	300007012	Flap
54	200004670	Housing screws packet
55	200015043	Insulation support
Burner		
60	100019088	M225 burner (EU)
60	100019091	OEN 265 burner (CH)
60	100019089	M226 burner (EU)
60	100019092	OEN 266 burner (CH)
60	100019090	M227 burner (EU)
60	100019093	OEN 267 burner (CH)
Condenser + Siphon		
70	100018925	Condenser + Siphon - GTU C 225
70	100018926	Condenser + Siphon - GTU C 226, GTU C 227
71	300028197	Complete nozzle - GTU C 225
71	300028198	Complete nozzle - GTU C 226, GTU C 227
72	300028200	Condenser inspection trap - GTU C 225
72	300028201	Condenser inspection trap - GTU C 226, GTU C 227
73	300028202	Gasket kit for condenser hatch - GTU C 225
73	300028203	Gasket kit for condenser hatch - GTU C 226, GTU C 227
74	300028204	Condensate receiver tank kit - GTU C 225
74	300028205	Condensate receiver tank kit - GTU C 226, GTU C 227
75	200021297	Insulation - GTU C 225
75	200021298	Insulation - GTU C 226, GTU C 227
76	300022182	Condenser inspection trap
77	300028199	Gasket kit for the condenser nozzle
78	300028206	Lip gasket
79	300027701	Condenser feet
80	300027704	Insulation fastener
81	300027702	Nozzle seal
82	300027490	Siphon
Accessories		
90	300027492	Elbow N90 1"1/4 - GTU C 225
90	300027491	Elbow N90 1"1/4 x 1"1/2 - GTU C 226, GTU C 227
91	300027495	Male/female nipple 1"1/4 Ø 26 - GTU C 225
91	300027493	Reduction nipple 1"1/2 x 1"1/4 Ø 26 - GTU C 226, GTU C 227
93	300027496	Tee N130 1"1/4 x 1"1/4 x 1"
94	300027497	Reduced nipple N241 1" x 3/8"
95	8500-0023	3/8" automatic air bleed valve - 10 bar
96	300027498	Condenser locating plate (untreated)
97	300027499	Holding bracket
98	300027500	Water flow pipe
99	300006520	1"1/4 hose - length 800 mm

Markers	Code no.	Description
100	200010640	Flue gas thermostat bracket
101	200010335	Electric circuit + Flue gas thermostat
102	300013577	Notched clamp 550/90
103	9501-3063	Green seal 38x27x2
104	9501-3064	Green seal 44x32x2
105	200021735	Condenser screws
Condenser casing		
110	200021279	Side panel, left
111	200021277	Side panel, right
112	200021280	Top panel
113	200021285	Upper rear panel
114	300028135	Lower back panel
115	200021294	Cable duct
116	300027486	Siphon bracket
117	300027483	Untreated side cross-bar
118	300024570	Cleaning brush

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