EN

Oil-fired condensing boiler

GTU C 330

Installation and Service Manual

300016152-001-C

De Dietrich

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/Addres/Adress	: 57 rue de la gare
Ville, pays Stad,Land/City,Country/Land,Ort	: F-67580 MERTZWILLER Tel : +33 (0)3 88 80 27 00 Fax : +33 (0)3 88 80 27 99
- déclare ici que les produit(s) suivant(s) - verklaart hiermede dat de toestel(len) - this is to declare that the following product(s) - erklärt hiermit das die Produk(te)	: GTUC 330
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: EEG-Richtlijn: EEC-Directive: EG-Richtlinie:	92/42/CEE 92/42/EEG 92/42/EEC 92/42/EWG 73/23/CEE 73/23/EEG 73/23/EEC 73/23/EWG	normes appliquées, toegepaste normen: tested and examined to the following norms: verwendete Normen: EN 303.2(1999), EN 304(1993, EN 15034(2007), DIN EN 50165(2001) EN 50165 (1997+A1:2001) DIN EN 60335-1(2003), EN 60335-1(2002)
	89/336/CEE 89/336/EEG 89/336/EEC 89/336/EWG	EN 55014-1(2000+A1:2001) EN 55014-2(1997+A1:2001) EN 61000-3-2(2000), EN 61000-3-3(1995+A1:2001) EN55022 classe B (1998+A1 :2000)
	97/23/CEE 97/23/EEG 97/23/EEC 97/23/EWG	(art.3 section 3) (art. 3, lid 3) (article 3, sub 3) (Art. 3, Absatz 3)

CE
1312

Mertzwiller, 26 juin 2008

Jean-Claude GIRARDIN
Directeur des opérations industrielles
Recherche et développement

C001950

Contents

1 Introduction

1.1 Symbols and abbreviations

In these instructions, various markings and pictograms are used to draw your attention to particular information. In so doing, De Dietrich Thermique S.A.S. wishes to safeguard the user's safety, obviate hazards and guarantee correct operation of the boiler.

Danger
Risk of a dangerous situation causing serious physical injury.

Warning
Risk of a dangerous situation causing slight physical injury.

Caution
Risk of material damage.

Specific information.

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

- **DHW**: Domestic hot water.

1.2 General

1.2.1 Manufacturer's liability

De Dietrich Thermique S.A.S. manufactures products in compliance with the standard CE. Products are delivered with CE marking and all documents required.

In the interest of customers, **De Dietrich Thermique S.A.S.** are continuously endeavouring to make improvements in product quality. All the specifications stated in this document are therefore subject to change without notice.

The liability of **De Dietrich Thermique S.A.S.** as the manufacturer may not be invoked in the following cases:

- Incorrect use of the appliance.
- Faulty or insufficient maintenance of the appliance.
- Incorrect installation of the appliance.

1.2.2 Installer's liability

The installer is responsible for the installation and inital 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.
- 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.

1.2.3 User's liability

To guarantee optimum operation of the appliance, the user must respect the following instructions:

- Read and abide by the instructions given in the user manual.
- Call on qualified professionals to carry out installation and initial start up.
- Get your fitter to explain your installation to you.
- Have the required checks and services done.
- Keep the instruction manuals in good condition close to the appliance.

1.3 Homologations

■ In general

CE identification no: 1312BT175R

■ In particular for Germany

GTU C 330 boilers comply with Regulation 1. BImSchV.

2 Safety instructions and recommendations

2.1 Safety instructions

For a proper operating of the boiler, follow carefully the instructions.

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

Incorrect use or unauthorised modifications to the installation or the equipment itself invalidate any right to claim.

The condensates in oil-fired condensing boilers are acidic (2 < pH < 3): The installation of a condensates neutralisation system is recommended.

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

Keep to the polarity shown on the terminals: phase (L), neutral (N) and earth ⏚.

Keep children away from the boiler.

■ Fire hazard

It is forbidden to store inflammable products and materials in the boiler room or close to the boiler, even temporarily.

■ 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

Depending on the settings of the appliance:

- The temperature of the flue gas conduits may exceed 65°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 premises sheltered from rain, snow and frost.

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

- Check regularly that the installation contains water and is pressurised.
- Keep the appliance accessible at all times.
- Avoid draining the installation.
- Use only original spare parts.
- Never remove or cover labels and rating plates affixed to the appliance.
- The appliance should be on Summer or Antrifreeze mode rather than switched off to guarantee the following functions:
  - Cleaning the pumps
  - Antifreeze protection
  - Protection against corrosion on domestic hot water tanks fitted with a titanium anode

3 Technical description

3.1 General description

GTU C 330 boilers are intended for central heating using radiators or underfloor heating. These boilers have the following characteristics:

- Hot water condensing boilers,
- Heating body in cast iron,
- Condenser
- Pressurised boiler,
- Connecting to a chimney
- **S3, B3, K3** or **DIEMATIC-m3** control panel (See below)
- Boiler delivered with a preset atomisation burner, using fuel oil
- Production of domestic hot water can be ensured by a separate hot water calorifier.

The boiler, condenser and burner enable the use of all types of oil :

- Standard fuel oil
- Oil with low sulphur content.

3.2 Technical characteristics

Conditions of use:

Maximum operating temperature: 90 °C

Maximum operating pressure: 4 bar

Thermostat adjustable from 30 to 90°C

Safety thermostat: 110 °C

80°C limiter thermostat - Condenser

Flue gas temperature safety thermostat: 120 °C

Test conditions:

CO_2 Fuel oil = 13%

Ambient temperature: 20 °C

Boiler	GTU C		334	335	336	337	338	339
Nominal output Pn	by 50/30°C	**kW**	93.4	120.3	157.3	192.7	239.7	291.2
PCI efficiency - 100 % Pn - Average temperature: 70 °C		%	97.8	96.9	96.4	98.1	97.7	97.6
PCI efficiency - 30 % Pn - Return temperature: 50 °C		%	101.5	101.4	101.1	102.2	101.8	101.5
PCI efficiency - 30 % Pn - Return temperature: 30 °C		%	103.0	102.8	103.0	104.7	104.0	103.8
Nominal water flow (Nominal output) - ΔT = 20K		m^3/h	4.019	5.178	6.769	8.293	10.312	12.530
Stand-by losses (1) , ΔT = 30K		**W**	315	335	350	495	500	510
Losses through the outer casing (2)		%	69	73	78	83	87	93
Auxiliary electrical power (3)		**W**	325	435	650	625	625	1100
Useful output range	by 50/30°C	**kW**	56.7-93.4	93.7-120.3	120.2-157.3	155.4-192.7	191.7-239.7	238.4-291.2
Useful output range	by 80/60°C	**kW**	55-90	90-115	115-150	150-185	185-230	230-280
Water content		**l**	113	133	153	177	197	217
Loss of load hydraulic circuit	ΔT = 10K (1)	**mbar**	11	18	31	46	68	105
	ΔT = 15K (1)	**mbar**	4.6	7.4	14.2	19.5	30.1	46
	ΔT = 20K (1)	**mbar**	2.6	4.2	8.0	11	17	26
Combustion chamber	Inscribed diameter	**mm**	377	377	377	377	377	377
	Length	**mm**	613	718	854	993	1117	1245
	Volume	m^3	0.096	0.122	0.148	0.174	0.200	0.226
Number of sections			4	5	6	7	8	9
Number of baffle plates			6	10	10	10	12	12
Mass flue gas flow rate (3) - by 50/30°C		**Kg/h**	149	191	248	306	381	463
Flue gas temperature (3)		**°C**	50	55	61	62	63	65
Pressure available at the flue gas nozzle		**mbar**	1.0	0.6	1.8	1.9	1.6	1.7
Loss of load flue gas side		**mbar**	0.45	0.8	1.0	1.3	1.6	2.3
Maintenance consumption (4)	Δ T = 30K	%	0.38	0.32	0.25	0.28	0.23	0.19
Burner type	GTU C 330		M202-2S	M302-1S	M302-3S	M302-3S	M302-4S	M302-5S
Weight (empty)		**kg**	678	802	912	1117	1239	1366

(1) Stand-by losses, according to the standard EN 304

(2) as a % of stand-by losses

(3) At nominal output

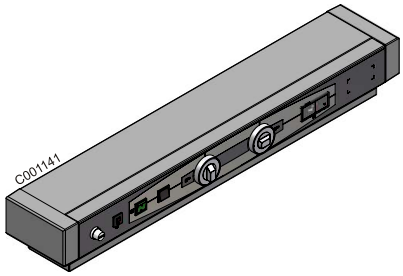
(4) Maintenance consumption, as a % of the input - according to the standard EN15034

1 mbar = 10 mmCE = 10 daPa.

3.3 Main parts

3.3.1 Control panels

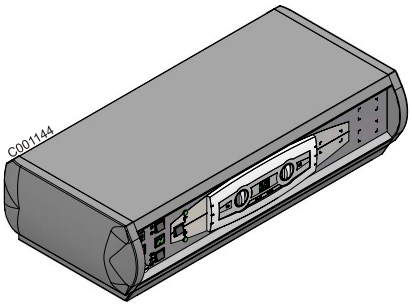
■ **GTU C 330 S3: Boiler with basic control panel**



Standard panel to be fitted
Panel comprising the settings, control and safety devices allowing the boiler to operate autonomously, without regulation.

The standard panel is used to connect the boiler to the boiler room control cabinet.
This cabinet can be fitted with control units.

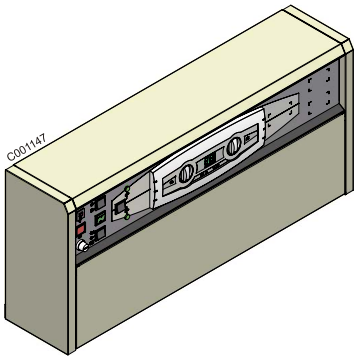
■ **GTU C 330 B3 : Boiler with electronic control panel.**



Separate panel

Top of the range electronic control panel with digital display, comprising the settings, control and safety devices allowing the boiler to operate autonomously.

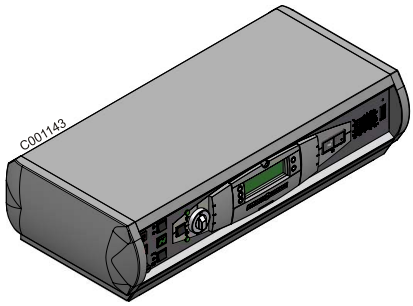
The control panel is used to control boilers with 1 or 2-stage burners. This panel makes it possible to give priority to DHW.

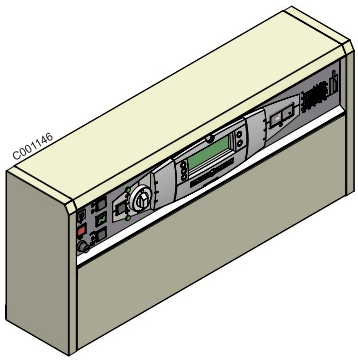


Side panel

A version of the B3 control panel with lateral attachment is also available.

■ GTU C 330 DIEMATIC-m3 Boiler with DIEMATIC-m3 electronic control panel





Separate panel

Top of the range electronic control panel with digital display, comprising the settings, control and safety devices allowing the boiler to operate autonomously.

The DIEMATIC-m3 panel is fitted as standard with a control unit which operates according to the outside temperature.

The control panel enables the operation of a boiler fitted with a 1 stage, 2 stage or modulating burner.

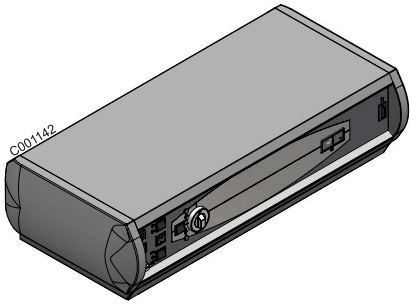
The DIEMATIC-m3 panel also allows the boiler to be used as a "master" boiler for installations with 2 to 10 boilers in cascade.

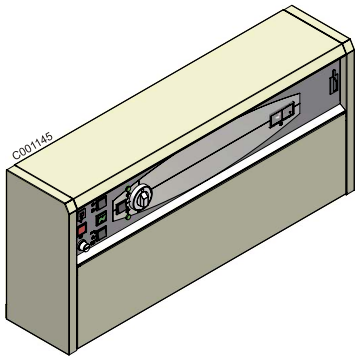
The other boilers (1 to 9) must be fitted with a "K3" control panel.

Side panel

A version of the DIEMATIC-m3 control panel with lateral attachment is also available.

■ GTU C 330 K3: Boiler with K3 control panel





Separate panel

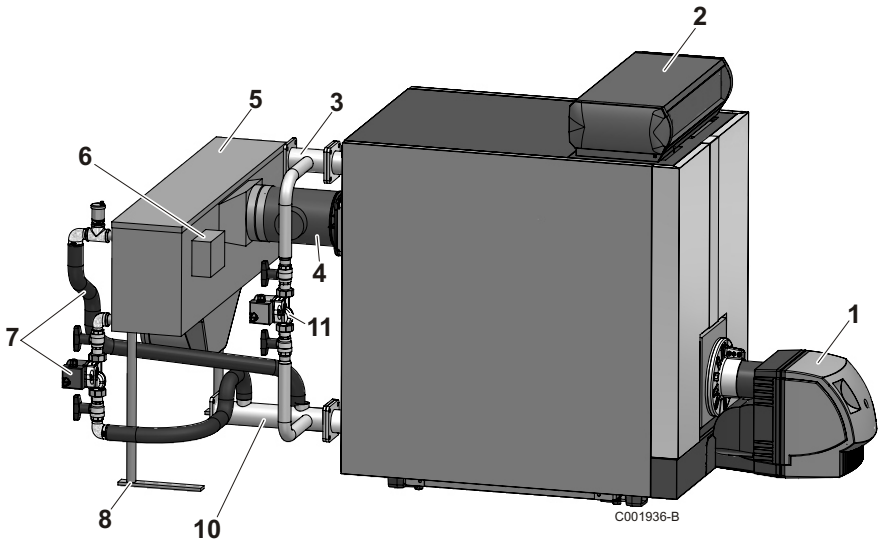
The K3 control panel is fitted only in association with a boiler fitted with a DIEMATIC-m3 control panel as part of a cascade installation (2 to 10 boilers can be connected in a cascade).

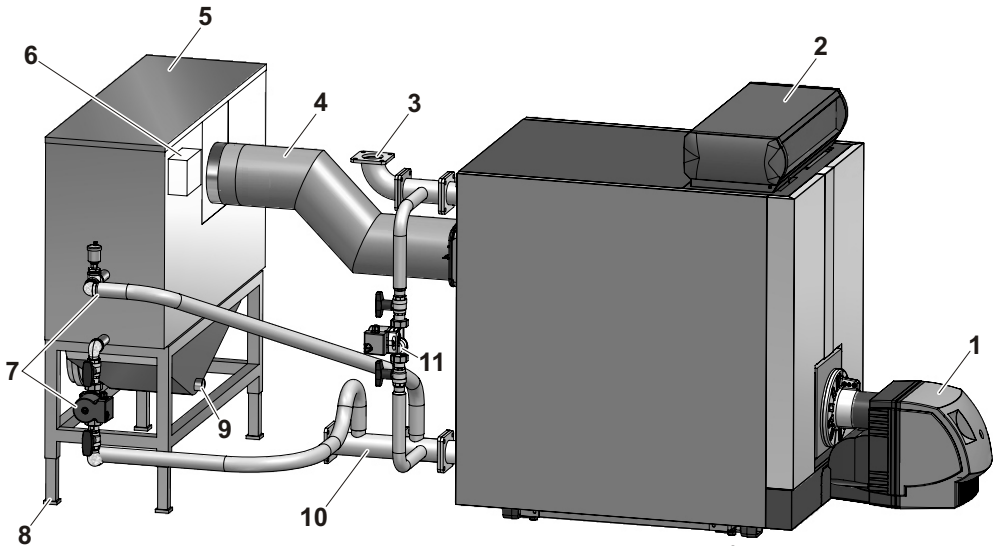
The control panel enables the operation of a boiler fitted with a 1 stage, 2 stage or modulating burner.

Side panel

A version of the K3 control panel with lateral attachment is also available.

3.3.2 Boiler and Condenser





1	Burner
2	Control panel
3	Heating flow pipe
4	Boiler flue gas system / condenser connection pipe
5	Condenser
6	Condenser safety control box. The box comprises ; - 80°C limiter thermostat - Safety thermostat with manual reset, set to 120 °C. This thermostat monitors the temperature of the combustion products.
7	Boiler / condenser hydraulic connecting kit
8	Adjustable feet
9	Condensates evacuation pipe
10	Heating return pipe
11	Recycling kit (Option). Used to read the return temperature.

3.4 Operating principle

Boiler operation is managed by the control panel according to the outside temperature and the heating request.

When the burner is operating, the combustion products pass through the boiler where an initial heat transfer is made to the heating water.

The combusted gases then pass through the condesner where a second heat transfer is made. The heat recycled from the condenser by the exchanger is reinjected into the heating circuit.

The condenser is protected by 2 thermostats:

- The manual reset safety thermostat, which monitors the temperature of the combustion products at the condenser outlet. This thermostat cuts the mains supply to the burner if the temperature reaches 120°C.
- The automatic reset limiter thermostat, which monitors the heating water temperature in the condenser. This thermostat cuts the mains supply to the burner if the temperature reaches 80°C.

The combustion products are discharged through the flue gas nozzle on the condenser.

The condensates are collected in the bottom of the condenser whence they are discharged to a siphon and then to a neutralisation station. The siphon, which has a large water storage capacity, ensures the tightness of the combustion products discharge pipe.

The condensates in oil-fired condensing boilers are acidic. We recommend the installation of a condensates neutralisation system to protect the pipes and the environment.

The neutralisation station must include an adapted filter with granules and activated carbon. The neutralisation station that we provide includes this kind of filter (Package MD225).
The neutralised condensates can then be discharged into the waste water network.

4 Installation

4.1 Regulations governing installation

4.1.1 In general

The installation and maintenance of the boiler must be done by a qualified professional in compliance with the prevailing local and national regulations.

Caution

In the case of installation on an old network, we strongly recommend carrying out "desludging" and careful rinsing of the installation before you install the new boiler. Install a sludge decanting pot on the return pipe, very close to the boiler.

When assembling and installing the appliance, abide by the following directives.

4.1.2 In particular for France

DTU 24.1 and DTU 65.4 define the technical terms and conditions with which the boiler room installation work must comply.

■ 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 2 August 1977

Technical and safety rules applicable to combustible gas and liquefied hydrocarbon installations situated inside residential buildings and their annexes.

- NF P 45-204 standards

Gas installation, (formerly DTU 61-1, gas installations: April 1982, addendum no 1: July 1984).

- 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:

a. 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.

b. Instructions specific to each type of establishment open to the public (hospitals, stores, etc.).

■ Certificate of compliance

For the application of article 25 of the modified decree dated 02/08/1977 and of article 1 of the modifed decree dated 05/02/1999, the installation engineer must be in possession of the certificates of compliance approved by the Ministries in charge of construction and gas safety:

- Different forms (forms 1, 2 or 3) for a new gas installation
- "Model 4" in particular after replacing a furnace with a new one

4.1.3 In particular for Germany

Respect the following standards, regulations and directives when installing and commissioning condensing boilers:

- Regulations on construction and combustion equipment
- DIN EN 12828 (June 2003 edition): heating systems in buildings. Planning of hot water heating installations (up to a maximum operating temperature of 105°C and a maximum output of 1 MW)
- DIN 4753: drinking and industrial water heating installations
- DIN 1988: technical rules on drinking water installations (TRW)
- Water REsources Act - chapter 19

4.2 Package list

See assembly instructions

■ Options

- Recycling kit- Package MD218

Used to raise the boiler return temperature. If using a condenser on exclusively low temperature heating circuits (e.g. underfloor heating), we recommend the use of a recycling kit to ensure a rise in the return temperature.

- Siphon for condensates discharge - Package MD217

We strongly recommend using this siphon for the following reasons:

- The siphon, which has a large water storage capacity, ensures the tightness of the combustion products discharge pipe
- To ensure that the boiler / condenser unit works correctly
- The siphon absorbs the excess burner start-up pressure thanks to its appropriate water volume and water storage capacity.
- The capacity of the siphon prevents it being blocked by the accumulation of any combustion residues.

- Condensates neutralisation system - Package MD225

The condensates in oil-fired condensing boilers are acidic ($2 < pH < 3$): We recommend the installation of a condensates neutralisation system to protect the pipes and the environment.

The condensates flow successively through compartments filled with active carbon and granules and are thus duly neutralised (pH higher than 6.5). The neutralised condensates can then be discharged into the waste water network.

Granule and activated carbon refill kits are available - Package MD226

- **Lifting pump for the discharge of condensates to a higher sewer conduit,** Maximum lift height: 3.5 m - Package **FM158**

Refer to the applicable price list for the other optional features (control units etc.) which may be used with these boilers.

4.3 Mounting

4.3.1 Position of the boiler

■ Location of the installation

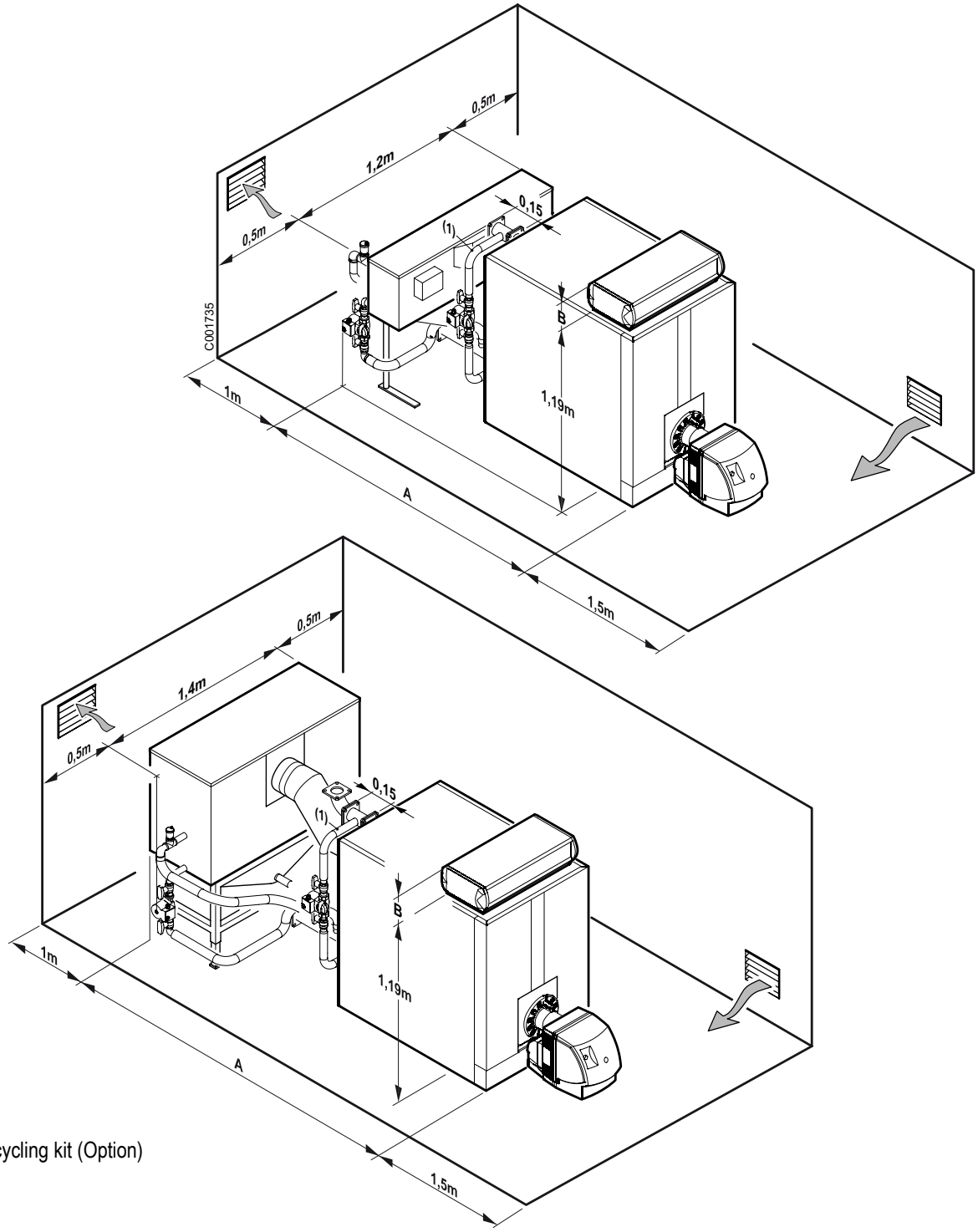
GTU C 330 boilers must be installed in a frost-free room.

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 suck 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.

The warranty does not apply to damage to the boiler caused by these instances. If the heating device is installed in residential premises where people are present all the time, it is necessary to use a concentric ambient air inlet / combustion gas evacuation installation. When installing the boiler, it is necessary to comply with degree of protection IP21.

■ Position of the boiler

The dimensions (in mm) correspond to the minimum recommended dimensions needed to ensure adequate accessibility around the boiler.:



(1) Recycling kit (Option)

Boiler GTU C			334	335	336	337	338	339
Size A		mm	1748	1908	2068	2748	2908	3068
B	Standard panel S3	mm	105	105	105	105	105	105
	Panel K3 B3 DIEMATIC-m3	mm	190	190	190	190	190	190

Pay attention to the overall volume of the burner when the door is open. To install several boilers in cascade, these dimensions should be adapted accordingly.

4.3.2 Aeration

To allow the input of combustive air, sufficient ventilation must be provided in the boiler room, for which the cross section and emplacement must satisfy regulations in force in the country in which the boiler is installed.

Caution:

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 suck 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.

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 builing for individual use

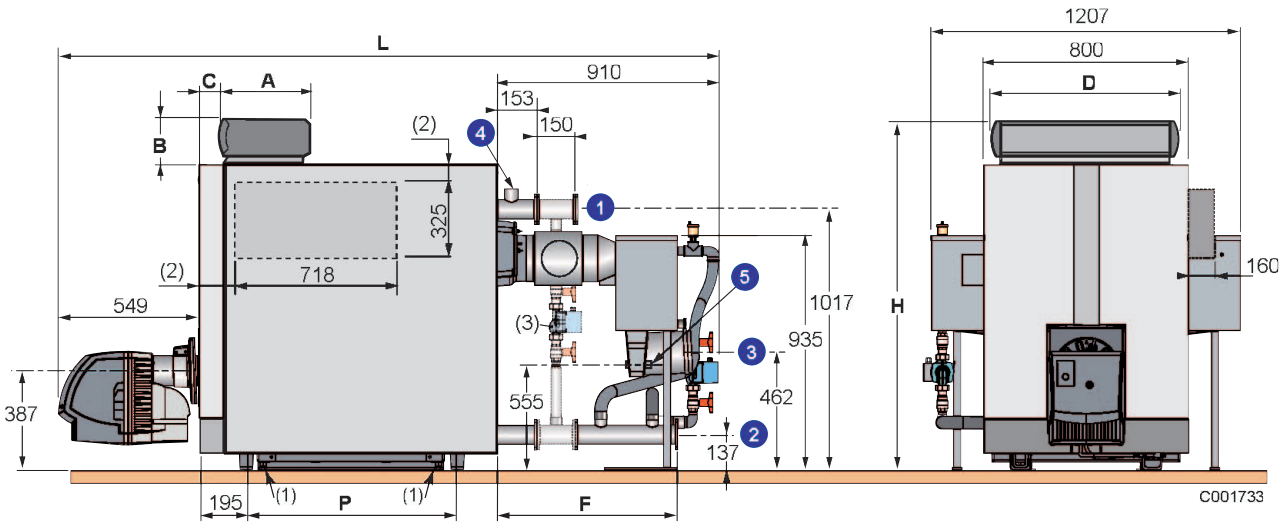
- An adequate supply of fresh air must be provided as close as possible to the appliances. Its cross section must be at least 0.5 dm².
- In the upper section of the premises, an air outlet must ensure effective ventilation.

■ Establishments open to the public

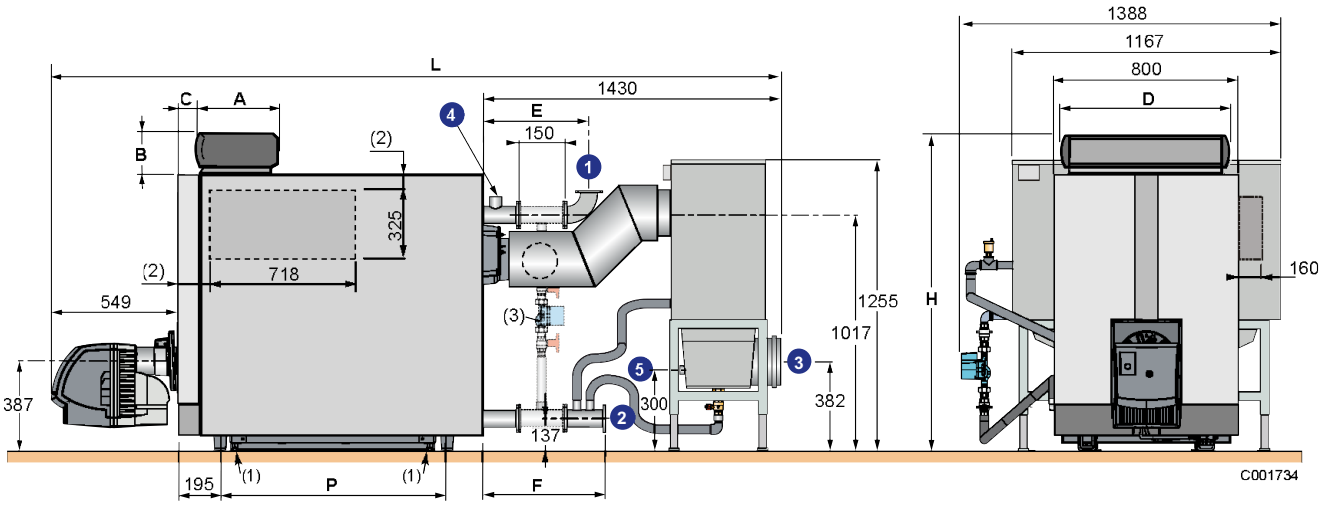
- New establishment: Refer to the order of 25/06/1980 (installations of more than 20 kW and less than or equal to 70 kW).
- Existing establishment: Refer to the order of 25/06/1980 (installations less than 70 kW).

4.3.3 Main dimensions

■ GTU C 330 - 4 to 6 sections



■ GTU C 330 - 7 to 9 sections



(1)Adjustable feet: Basic dimension 0 mm. Can be adjusted from 0 mm to 40 mm
(2) The lateral control panel can be mounted to the right or left of the boiler. Exact height positioning defined by the fitter during assembly.
(3) Recycling kit (Option).

❶ Heating outlet (Flange + Counter flange with collar to be welded) orifice Ø 2" 1/2 (*)

❷ Heating return (Flange + Counter flange with collar to be welded) orifice Ø 2" 1/2 (*)

❸ Flue gas outlet

❹ Rp 1 1/2 socket for the safety control unit

❺ **Condensates discharge - (connection for 40 mm interior diameter pipe)**

(*) Ø 2" (Option)

Mk: Tapped connection

R: Thread

Boiler		GTU C 334	GTU C 335	GTU C 336	GTU C 337	GTU C 338	GTU C 339
Standard panel S3	A	130	130	130	130	130	130
	B	105	105	105	105	105	105
	C	45	45	45	45	45	45
	D	738	738	738	738	738	738
	H	1297	1297	1297	1297	1297	1297
Table K3 +DIEMATIC-m3 + B3	A	335	335	335	335	335	335
	B	190	190	190	190	190	190
	C	45	45	45	45	45	45
	D	755	755	755	755	755	755
	H	1387	1387	1387	1387	1387	1387
P (mm)		490	650	810	970	1130	1290
E (mm)	With (3)	-	-	-	407	407	407
	Without (3)	-	-	-	257	257	257
F (mm)	With (3)	704	704	704	554	554	554
	Without (3)	554	554	554	304	304	304
L (mm)		2297	2457	2617	3297	3457	3617
Flue gas outlet ❸		DN160	DN160	DN160	DN200	DN200	DN200

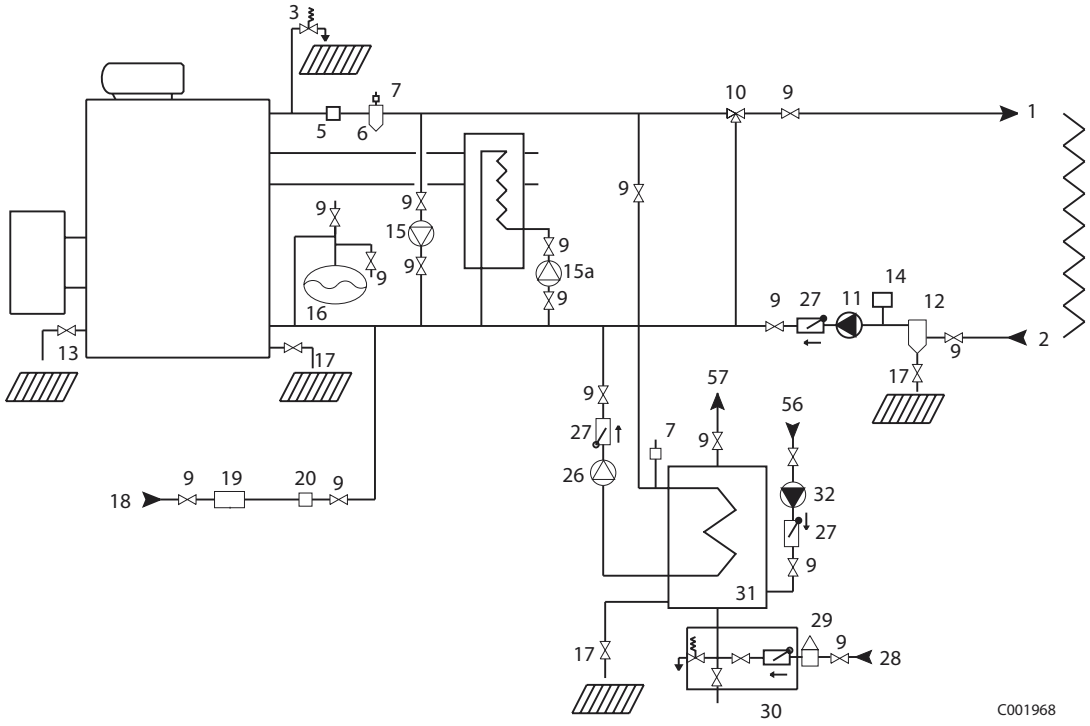
4.3.4 Assembling the appliance

See assembly instructions

4.4 Example of an installation

The example of an installation shown below does not cover every possible configuration. Its sole aim is to draw your attention to the basic rules to be respected.

GTU C 330 boiler with domestic hot water production using an independent tank



1 Heating outlet

2 Heating return

3 3-bar safety valve + Pressure gauge

5 Flow switch

6 Air separator

7 Automatic air vent

9 Isolating valve

10 3-way mixing valve

11 Boiler pump

12 Sludge decanting pot (particularly recommended on older installations)

13 Flush valve

14 Water low safety pressure-sensitive switch

15 Shunt pump

15a DHW pump - Condenser

16 Expansion vessel

17 Drain cock

18 Heating circuit filling (with disconnector depending on prevailing regulations)

19 Water treatment

20 Water meter

26 DHW load pump

27 one-way valve

28 Domestic cold water inlet

29 Pressure reducer (if mains pressure 5.5 bar)

30 Sealed safety unit calibrated to 7 bar with indicator type discharge

31 Independent domestic hot water tanks

32 Domestic hot water loop pump (optional)

56 Domestic hot water circulation loop return

57 Domestic hot water outlet

4.5 Hydraulic connections

4.5.1 Regulations

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

France: Heating installations must be designed and constructed in such a way as to prevent the return of water from the heating circuit and products put into it into the drinking water network located upstream; the installation must not be in direct relation with the drinking water network (Article 16-7 of the departmental health Directive).

When these installations are fitted with a filling system connected to the drinking water network, they comprise a CB disconnector (disconnector for zones with non-controllable pressure differences) which satisfy the functional requirements of the NF P 43-011 standard.

4.5.2 Hydraulic connection of the heating circuit

■ Water flow in the boiler :

The water flow in the boiler when the burner is operating must correspond with the following formulae:

- Nominal water flow Qn = 0.86 Pn/20
(see chapter: Technical characteristics)

Qn = flow in m^3/h

Pn = Nominal output (full boiler output) in kW.

- Minimum flow Qmin = 0.86 Pn/45
(this flow also corresponds with the minimum recycle flow in the boiler)
- Maximum water flow Qmax = 0.86 Pn/5
- Example of calculation:
Pn = 93,4 kW
Qn = 0,86 x 93,4 : 20 = 4 m^3/h
Qmax = 0,86 x 93,4 : 5 = 16 m^3/h

■ Water flow rate in the heat pump condenser :

- Nominal water flow / Maximum water flow: 1/3 of the boiler's water flow rate
- Minimum water flow : 1/10 of the boiler's water flow rate

■ Operation in cascade

After stopping the burner:

- Timeout required before the order to close a butterfly valve: 3 min
- Switch a possible shunt pump (located between the boiler and a butterfly valve) off via the end of run contact of the butterfly valve

■ Operation with 2-stage burner

- The water temperature in the boiler is maintained at 50°C or more ; the first stage must be set to a minimum of 30% of the nominal stage
- Operation at modulated low temperature (minimum outlet temperature: 30°C) ; the first stage must be set to a minimum of 50% of the nominal stage

4.5.3 Hydraulic connection of the water circuit for domestic use

See: Domestic hot water calorifier instructions

4.5.4 Water discharge connection (Sludge removal)

A tapped Ø Rp 2 1/2 hole with a plug has been provided on the bottom of the front of the boiler.. Fit a 1/4 turn valve (not supplied) on the opening to remove the sludge.

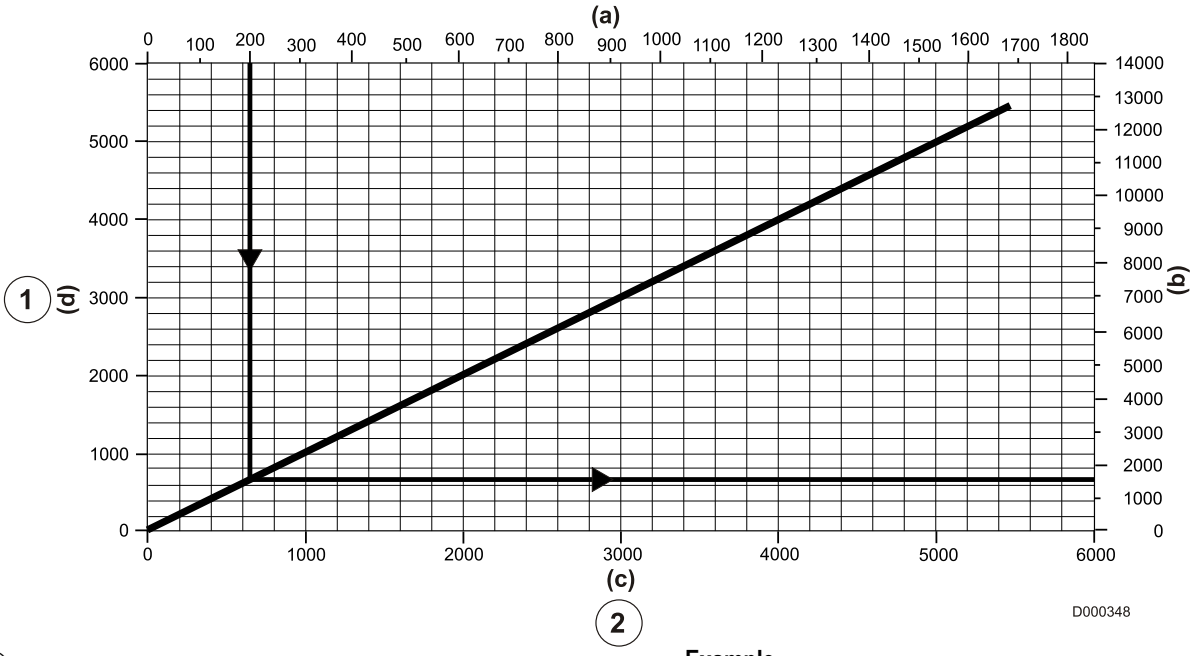
Sludge removal leads to the draining of large quantities of water, so remember to refill the system after the operation.

In the case of installation on an old network, we strongly recommend carrying out "desludging" and careful rinsing of the installation before you install the new boiler. Install a sludge decanting pot on the return pipe, very close to the boiler.

4.5.5 Safety valve

The safety valve must be connected to the boiler outlet and no other valve or flap must be interposed between it and the boiler.

▸ **Minimum safety valve flowrate as a function of maximum boiler nominal output :**



① Minimum relieving capacity

② Maximum gross boiler output

(a) = kW, (b) = Kg/h, (c) = MBtu/h, (d) = lb/h

Example

Maximum boiler nominal output is 200 kW.

Minimum safety valve flowrate must be 1500 Kg/h

4.5.6 Connecting the condensates discharge conduit

It is imperative that a siphon (optional equipment) be connected to the condensates discharge pipe to prevent any leakage of combustion products.

The condensates in oil-fired condensing boilers are acidic. We recommend the installation of a condensates neutralisation system to protect the pipes and the environment.

4.5.7 Water treatment

■ Introduction

Treat the water in the installation to limit corrosion, calcium and limescale deposits, sludge, microbiological contamination, etc.

Warning:

An uncleaned installation or an installation using water of unsuitable quality may bring about the cancellation of the warranty.

For an optimum functioning of the boiler, the water of the installation must comply with following characteristics:

		Output ≤ 70 kW	Output >70 kW or Installation working in constant temperature
		Heating body Cast iron / steel	Heating body Cast iron / steel
Degree of acidity (pH)		8,5 - 10	8,5 - 10
Conductivity to 25 °C	µS/cm	≤ 800	≤ 800
Chlorides	mg/l	≤ 150	≤ 150
Other components	mg/l	< 1	< 1
Hardness of the water of the installation for a capacity of water < 6 l/kW	°f	1 - 20	1 - 5
	°dH	0,5 - 11,2	0,5 - 2,8
	mmol/l	0,1 - 2	0,1 - 0,5
Hardness of the water of the installation for a capacity of water > 6 l/kW	°f	1 - 15	1 - 5
	°dH	0,5 - 8,4	0,5 - 2,8
	mmol/l	0,1 - 1,5	0,1 - 0,5

■ Recommendations

- Reduce the quantity of oxygen in the heating circuit to the minimum
- Limit the annual quantity of water added to the circuit to 5% of the total water volume in the installation.
- New installation:
  - Completely clean the installation of all residues (plastic waste, installation parts, oils, etc.)
  - Use an inhibitor in combination with a softener
- Existing installation:

  If the water quality in the installation is insufficient, several options are possible
  - Install one or more filters
  - Completely clean the installation to evacuate any impurities and deposits in the heating circuit. To do this, a considerable and controlled flow rate is required
  - Clean the boiler (dirt, deposits, calcium, etc.)
- De Dietrich Thermique S.A.S. recommends the following products:

Warning
In all cases:
Check the compatibility of the product with the materials used in the installation.
Respect the manufacturer's instructions (use, dose, etc.) to obviate any hazards (corporal, material, environmental).

.

Manufacturer	The products	Function
Fernox	Restorer	Universal cleaner for existing installations
	Protector	protective product
	Alphi 11	protective product and antifreeze agent
GE-Water / Betzdearborn	Sentinel X100	protective product
	Sentinel X200	Limescale remover
	Sentinel X300	protective product for new installations
	Sentinel X400	Inhibitor for existing installations
	Sentinel X500	protective product and antifreeze agent

Other manufacturers propose similar products.

4.5.8 Refilling the installation

Filling shall be performed with a low flow rate from a low point in the boiler room in order to ensure that all the air in the boiler is bled from the high point of the system.

All the pumps must be stopped before filling (included shunt pump(s)).

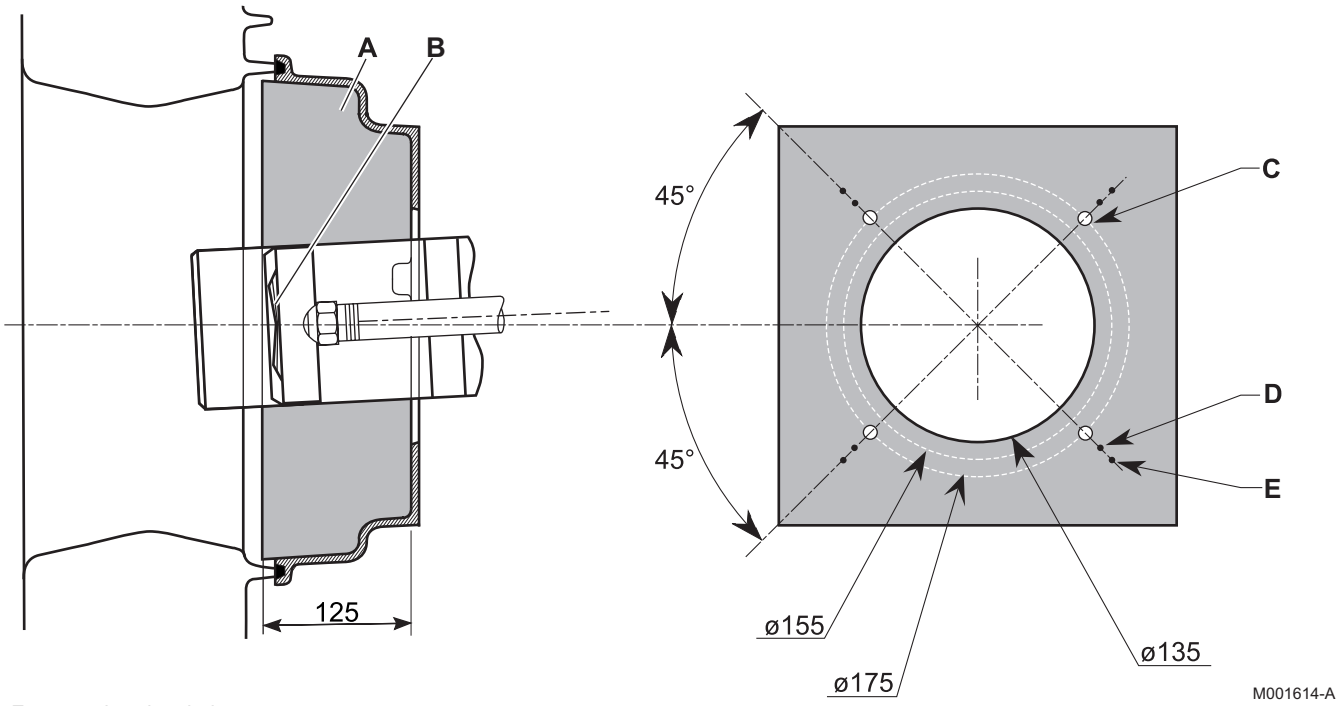
VERY IMPORTANT : Instructions for starting up the boiler for the first time after the system is fully or partly drained : If all the air is not bled naturally to an expansion vessel which opens out onto the air, the system must include manual bleeder valves, in addition to automatic bleeder valves with the capability to bleed the system by themselves when it is operating; the manual bleeder valves are used to bleed all the high points of the system and to make sure that the filled system is free of air before the burner is turned on.

Do not add cold water suddenly into the boiler when it is hot.

4.6 Connecting the burner

Refer to the instructions supplied with the burner.

The burner head deflector must be flush with the insulation of the burner door.



A : Furnace door insulation

B : Turbulence generator

C : 4 markings on Ø 170

D : 4 markings on Ø 200

E : 4 markings on Ø 220

4.7 Flue gas system connections

GTU C 330 condensing boilers are characterised by the following points :

- High performance, leading to the acquisition of very low flue gas temperatures (< 65 °C).
- Boiler with a positive pressure at the condenser nozzle (see: Technical characteristics, page 9).

To protect the conduits and the chimney:

- Use conduits which allow no flue gas leakage
- Use conduits resistant to acidic condensates (PPs).

4.7.1 Flue size

Refer to applicable regulations while determining the size of the flue.

Boiler with a positive pressure at the condenser nozzle (see: Technical characteristics, page 9).

4.7.2 Connection to the flue gas pipe

Horizontal flue gas conduits must be fitted with a minimum gradient of 3° to the boiler to allow the condensates which form in the chimney and the conduits to flow to the condenser.

The connection shall be removable, and offer minimum load losses, i.e. it must be as short as possible with no sudden change in section.

Its diameter shall always be at least equal to that of the boiler outlet, i.e.:

Ø 160 mm : for 4 to 6 sections

Ø 200 mm : for 7 to 9 sections

Fit a gastight measurement outlet (diameterØ 10 mm) to the flue gas connection between the boiler and the condenser to adjust the burner (Checking the combustion in the boiler).

4.8 Electrical connections

4.8.1 Electrical connection of the safety control box on the condenser and the recycling pump

Connections must be made by a qualified technician

Do not modify the connections inside the control panel.

Separate the sensor cables from the 230 V cables.
In the boiler: Use the boiler's 2 grommets:
Use 2 cableways at least 10 cm apart.

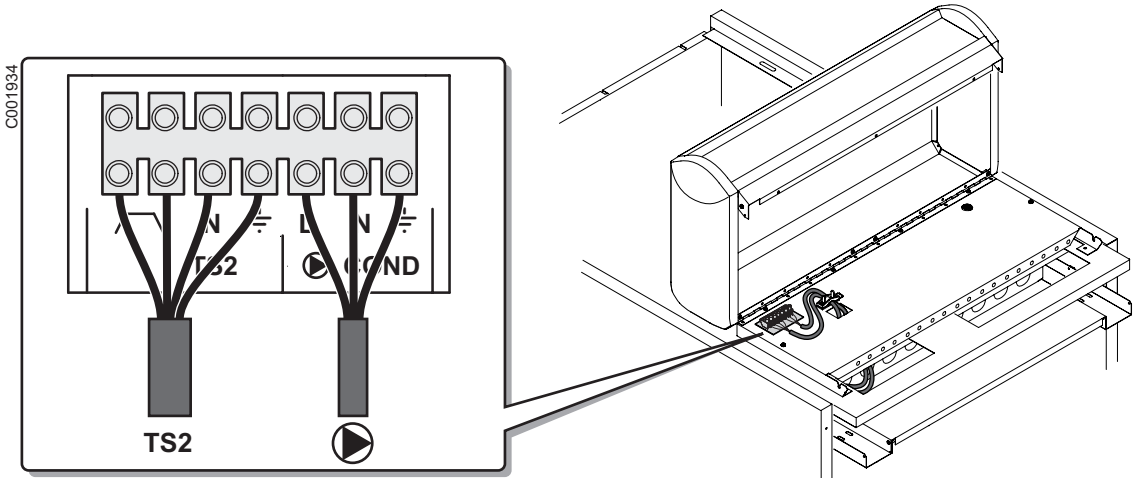
Attach the cables to the cable clamps provided for this purpose.

For the 230 V electrical connections, use 3-wire cables with a cross-section of 1,5 mm².

Keep to the polarity shown on the terminals: phase (L), neutral (N) and earth (⏚).

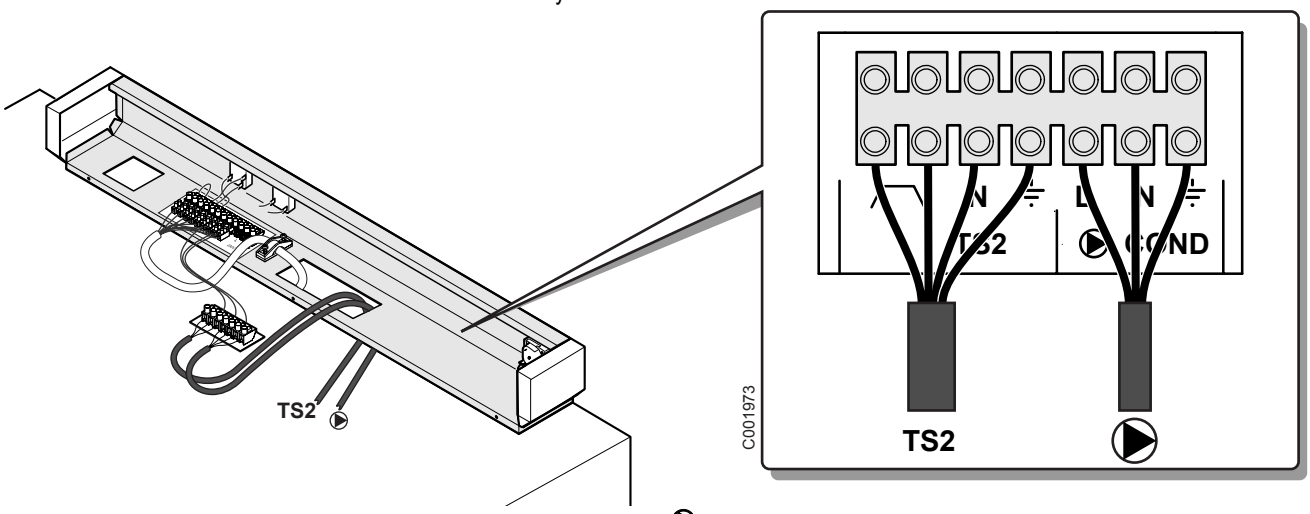
■ Control panels Diematic-m3, K3 and B3

Connection terminal block to be fitted in the control panel (delivered with the documentation package)



■ Control panel Standard S3

The connection terminal block is delivered from the factory connected to the burner cable harness



TS2 Condenser safety control box

Shunt pump

4.8.2 Other electrical connections

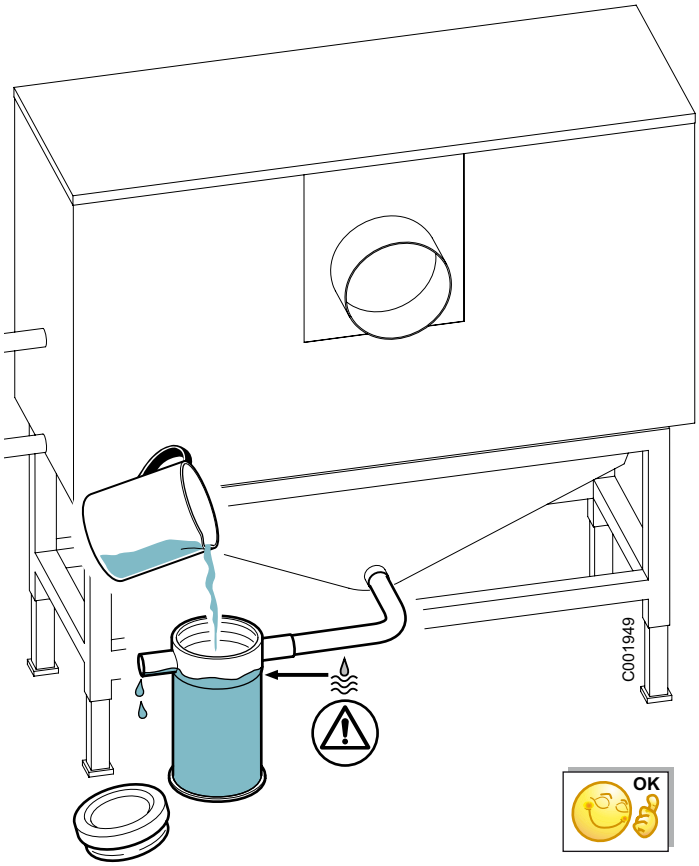
Refer to the connection instructions supplied with the control panel.

5 Commissioning

5.1 Filling the siphon (Option)

- Before commissioning: Fill the siphon with water

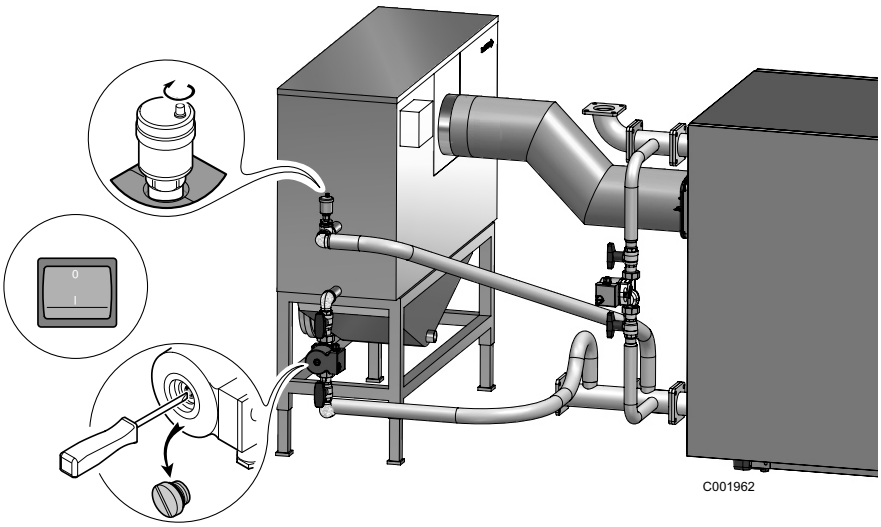
If operating with the siphon empty, combustion products will escape into the premises in which the boiler is installed.



5.2 Check points before commissioning

1. Check that the installation and the boiler are full of water and correctly vented:

- 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.
- Air vent on the condenser
- Degum the pump if necessary
- Checking the hydraulic pressure. The hydraulic pressure must be a minimum of 0.8 bars. Adjust the pressure if necessary, avoiding a sudden influx of cold water into the boiler when it is hot.



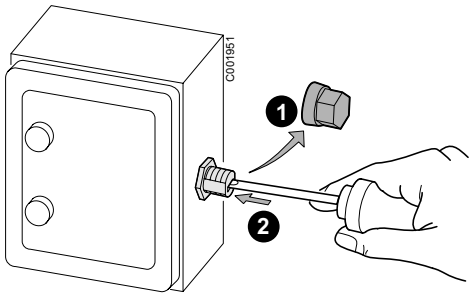
2. Check that connectors are leak tight

3. Check the operation of the heating safety valve

4. Check that the heating pumps are working correctly

5. Check that the safety thermostat on the condenser is switched on ;

- Unscrew the protection cap
- Press the resetting button of the burner



6. If necessary, adjust the installation parameters and the control unit programming

7. Check that all settings and safety devices are working correctly

8. Check that the valves on the heating flow and return are open

9. Check the opening on the burner valves

10. Check if the siphon is filled with water

11. Check that the admission of air is guaranteed

5.3 Commissioning

- Switch on the appliance
- Open the fuel supply
- Provoke a heating request: see below (depending on the type of control panel)
- The boiler starts to operate

■ Control panel S3

- Set the boiler thermostats **3** to the desired position. The 2nd stage thermostat must be set to a value at least 5°C lower than the 1st stage thermostat.

If there is no control unit, we advise you never to set the boiler thermostat below mark 4 (approx. 40°C) in order to avoid the risk of combustion products condensing on the walls of the boiler.

- **Control unit in boiler room electrical cabinet:**
  - See the instructions supplied with the control unit and any remote control unit used.
- **Set the On/Off switch to 1.**

■ Control panel B3

- Place the boiler thermostat 7 in the required position.

See:

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

- When preparing domestic hot water, Place thermostat 11 on the required setting. Setting 6 (approx 60° C) recommended.

This value must always be below the temperature limiter for the domestic hot water load.

- Set the On/Off switch to **1**.

■ Control panel K3

Place the boiler thermostat 7 in the required position.

■ Control panel DIEMATIC-m3

- Set switch **3** to the **AUTO** position.
- Check that safety thermostat 4 is properly set. To do so, unscrew the hexagonal cap and press the reset button with a screwdriver.
- Set main On/Off switch **1** to ⏽.

When the boiler is switched on, the tank exchanger is purged for one minute if a tank is connected and its temperature is lower than 25°C.
If disgassing has already taken place, press the **MODE** key to suspend disgassing.

6 Stopping the boiler

6.1 Placing the plant out of service

■ **Control panels DIEMATIC-m3 and K3: The panel must always be supplied with 230V voltage:**

- to ensure the anti-grip of the heating pump,
- to ensure Titan Active System® operation when a titanium anode is protecting the DHW tank.

Use the mode:

- "summer" to shut down the heating.
- "antifreeze" to shut down the boiler if you are to be absent.

■ **Control panels S3 and B3**

1. Set the On/Off switch to **O**.

See: Control panel instructions

See: Burner instructions

2. Switch off the boiler electrical power supply
3. Close the fuel supply.

6.2 Antifreeze protection

6.2.1 Precautions required in the case of long boiler stops (one or more years)

- The boiler and the chimney must be swept carefully.
- Close all the doors of the boiler to prevent air from circulating inside the boiler.
- We advise removing the pipe which connects the boiler to the chimney and to close off the nozzle with a cover.

6.2.2 Precautions required if the heating is stopped when there is a risk of freezing

We recommend the use of a correctly dosed antifreeze agent to prevent to the heating circuit from freezing.

If this cannot be done, drain the system completely.

7 Checking and maintenance

7.1 Checks

Make the following checks at least 1 time a year:

- Safety devices
- System pressure
- Checking burner safety
- Checking the safety thermostat
- Checking condensates discharge
- Condensates neutralisation system

Carry out the following maintenance at least 1 time a year:

- Cleaning the burner
- Cleaning of the heating body
- Cleaning of the condenser
- Cleaning the flue gas circuit
- Cleaning the siphon

7.2 Hydraulic pressure

Checking the hydraulic pressure. The hydraulic pressure must be a minimum of 0.8 bars. Adjust the pressure if necessary, avoiding a sudden influx of cold water into the boiler when it is hot.
This operation should be required only a few times in each heating season, with very low quantities of water; otherwise, look for the leak and repair it.

7.3 Draining

We advise you against draining the system unless it is absolutely necessary.

7.4 Maintenance

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

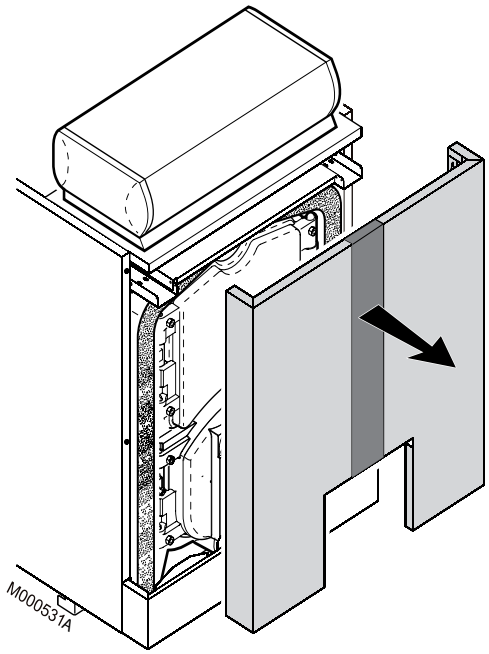
Have the required checks and services done.

- The boiler must be serviced and fully cleaned and the flue gas conduit swept by a qualified professional at least 1 times per year.
- The condenser and the condensates neutralisation station must serviced at least once a year by a qualified professional.
- The siphon and the condensates evacuation conduit must imperatively be checked and cleaned at least once a year.

The operations described below shall only be performed with the boiler and power supply off.

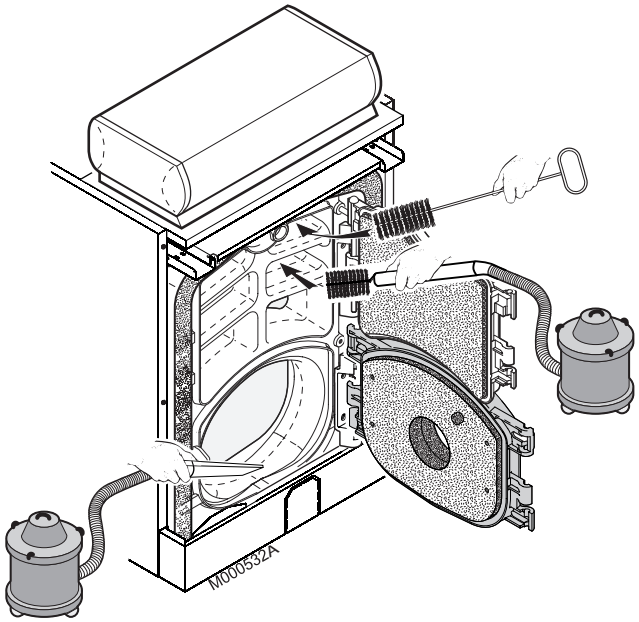
7.4.1 Boiler

■ Cleaning of the heating body



- Unhook the front panel.
- Open the cleaning door (top door) by unscrewing the 4 closing nuts (17 mm spanner),
- Remove the baffle plates,
- Carefully sweep the flue ways with the brush supplied for that purpose,
- Also sweep the baffle plates and the front panel,
- If possible, use a vacuum cleaner,
- Replace the baffle plates,
- Close the door.

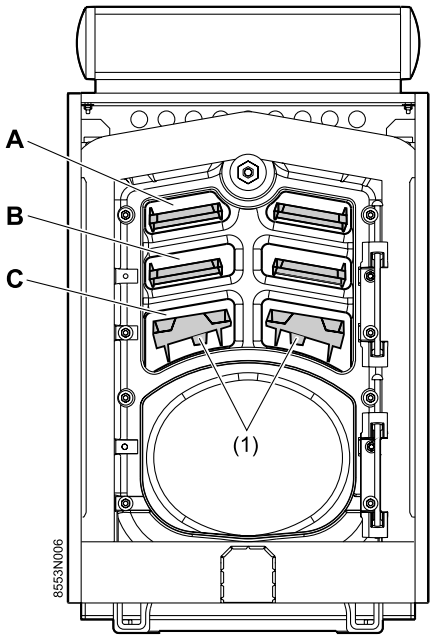
■ Cleaning the combustion chamber



- Unscrew the 4 closing nuts and open the furnace door
- Brush out the inside of the furnace
- Use a vacuum cleaner to remove any soot which has accumulated in the combustion chamber
- Close the door and replace the front panel.
- Replace the burner door gasket if necessary.

■ Positioning of the baffle plates

The first two baffle plates in the 2 lower flue ways are fitted with stops allowing them to be positioned in the required emplacement.



(1) Stop

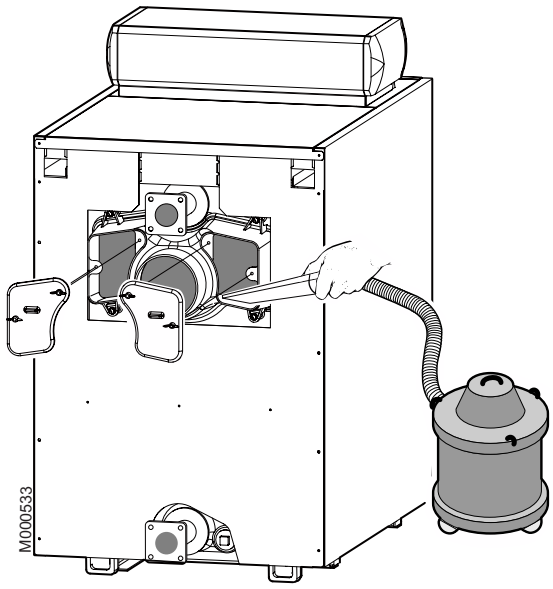
Boilers for following countries: France, Germany, Belgium, Switzerland, Spain, Austria, Poland, Slovenia, Czech Republic

Baffles		Flue ways	GT... 334	GT... 335	GT... 336	GT... 337	GT... 338	GT... 339
Upper	- Length: 410 mm	A + B		8	8	4		
	- Length: 570 mm	A + B	4			4	8	8
Lower	- Length : 412 mm	C	2	2	2	2	4	2
	- Length: 572 mm	C						2

Boilers for following countries: Canada, China, Greece, Romania, Tunisia, United States, Russia

Baffles		Flue ways	GT... 334	GT... 335	GT... 336	GT... 337	GT... 338	GT... 339
Upper	- Length: 410 mm	A + B		8	8			
	- Length: 570 mm	A + B	4			4	4	4
Lower	- Length : 412 mm	C	2	2	2	2	2	2

■ Cleaning the flue gas box



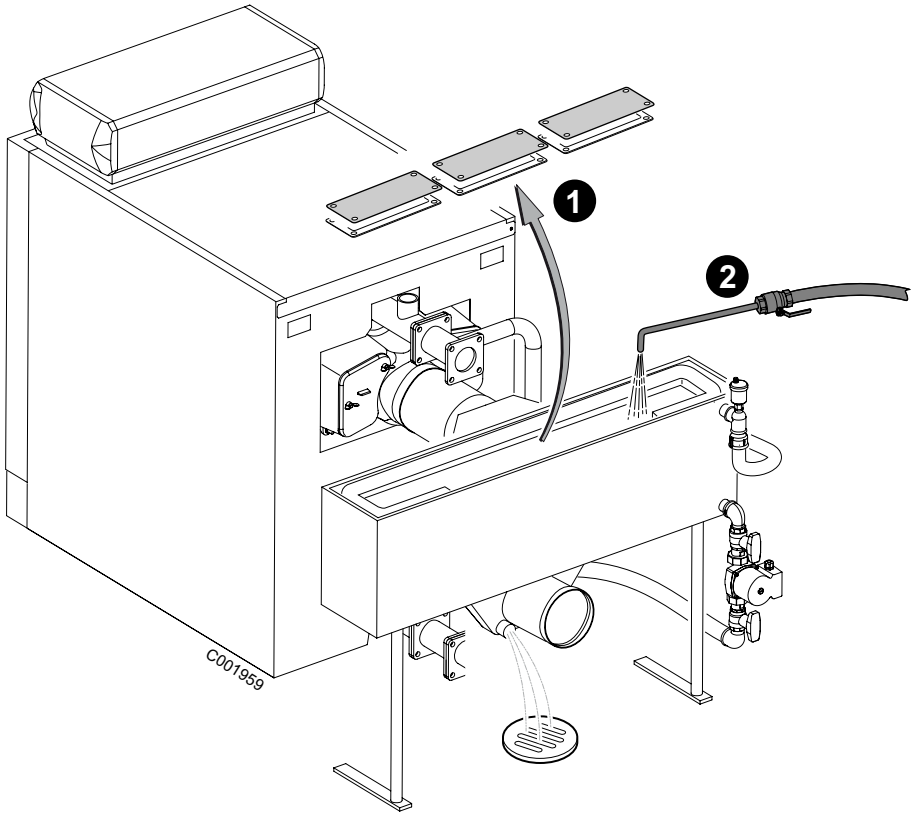
- Remove the left and right cleaning hatches from the flue gas box (2 butterfly screws) and use a vacuum cleaner to remove any soot which has accumulated
- Replace the cleaning hatches.
- Replace the gaskets if necessary.

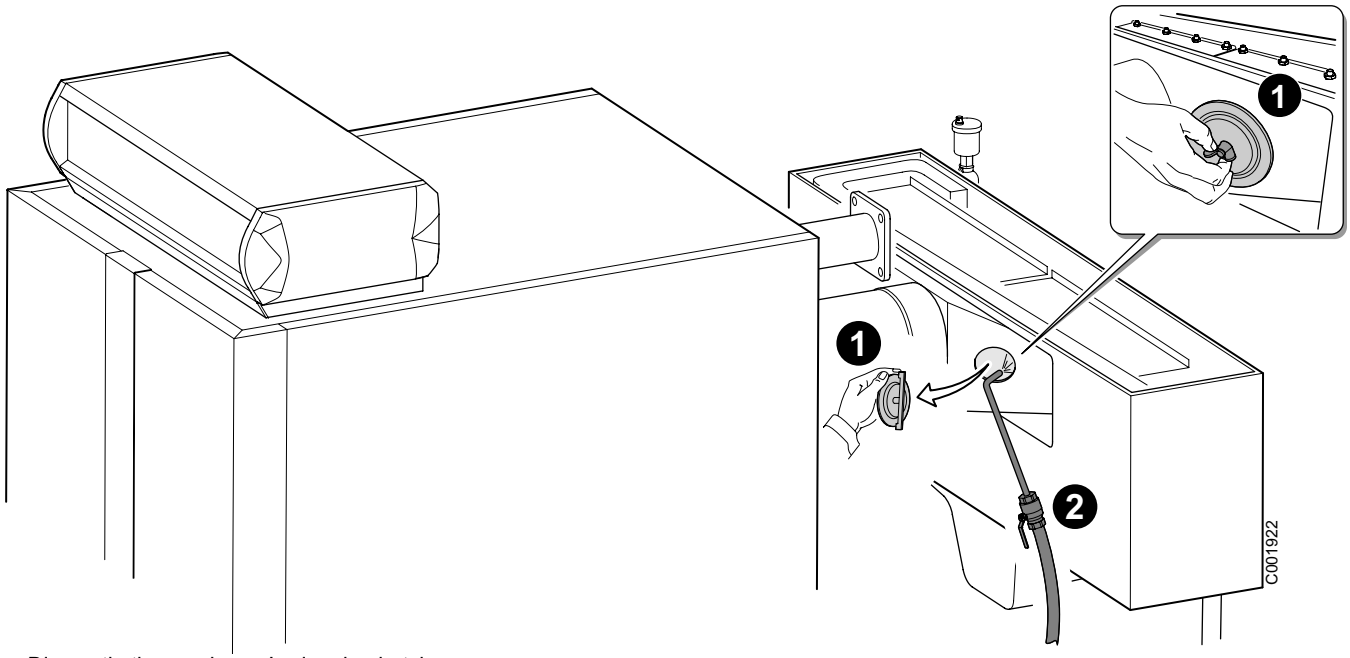
7.4.2 Condenser maintenance

The condenser and the condensates neutralisation station must serviced at least once a year by a qualified professional.

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

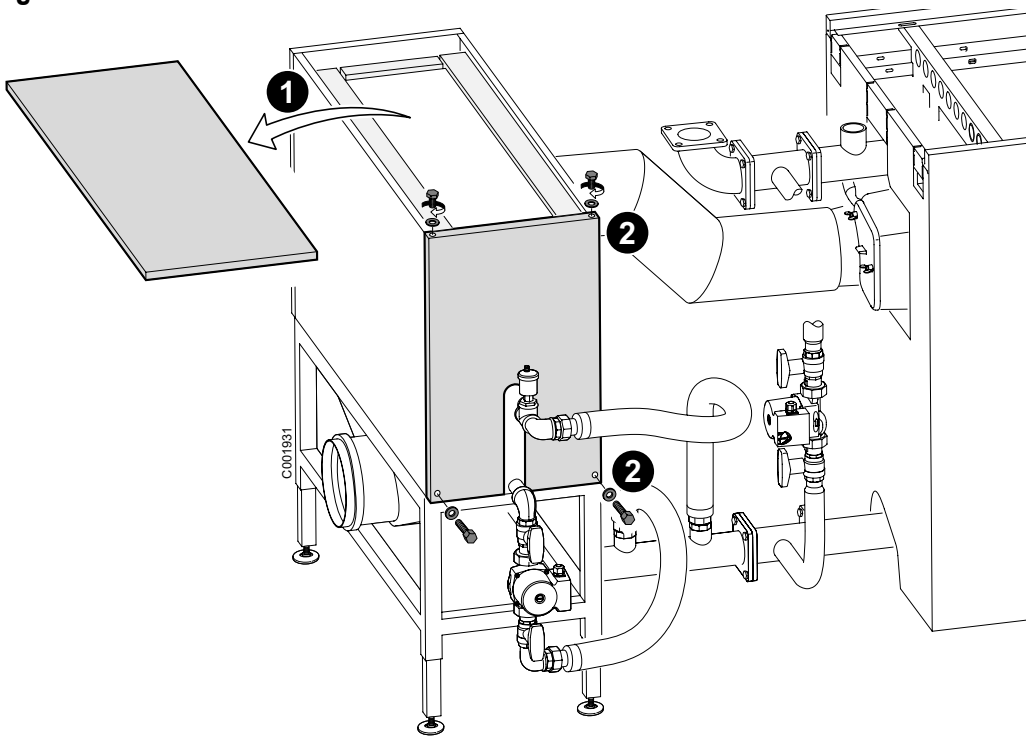
■ Cleaning of the condenser - RCF 301



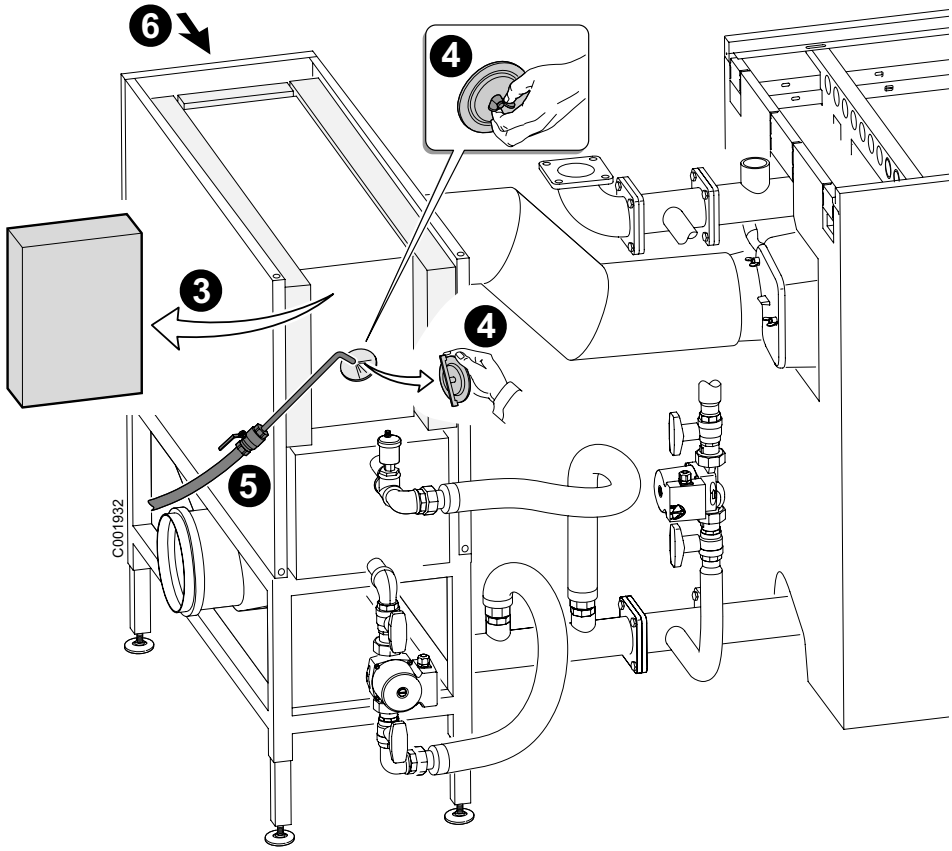


1. Dismantle the condenser's cleaning hatches,
2. Use the special hose provided to clean the condenser body with water spray

■ Cleaning of the condenser - RCF302



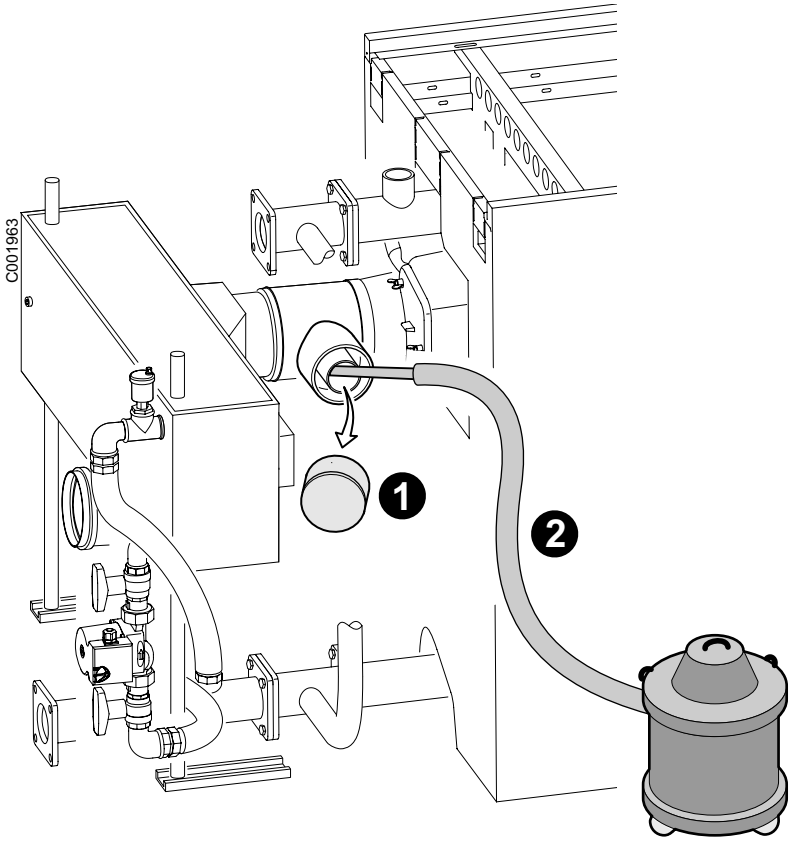
1. Remove the top panel
2. Remove the side panel



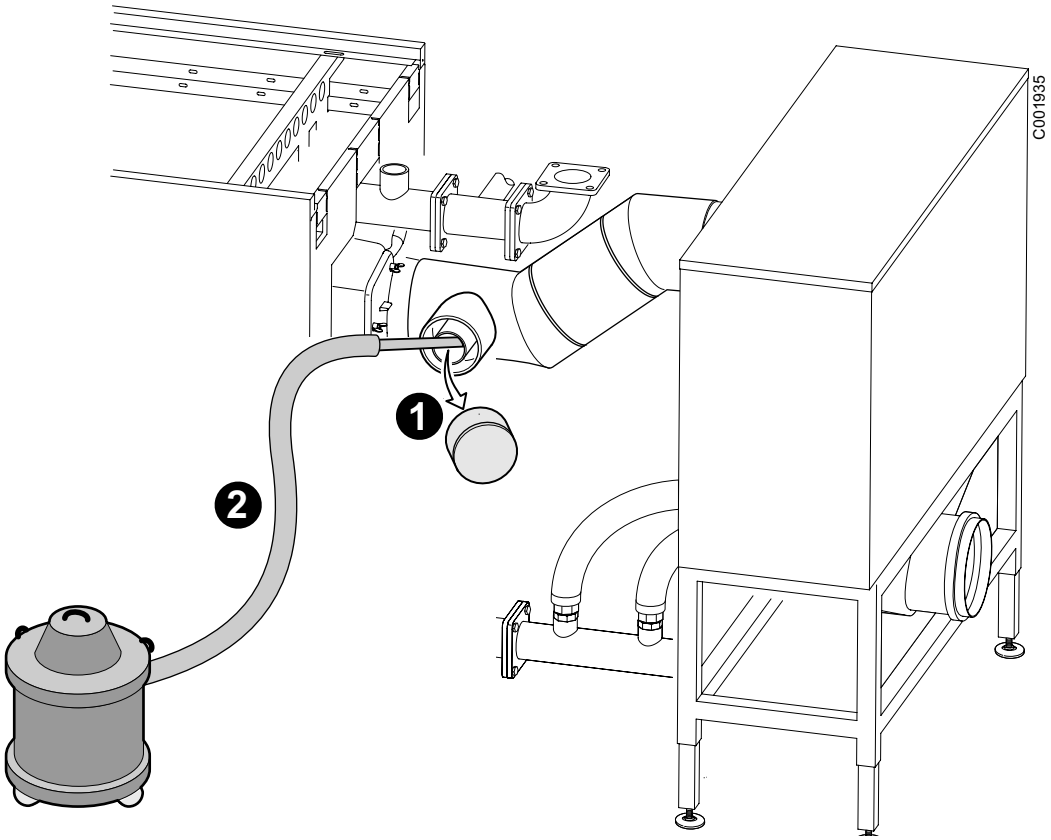
3. Remove the side insulation
4. Remove the cleaning hatch
5. Use the special hose provided to clean the condenser body with water spray.
   Reassemble the parts.
6. Proceed in the same way for the other side of the condenser.

7.4.3 Flue gas system maintenance

■ **RCF301**



■ **RCF302**



7.4.4 Maintenance of the burner

Refer to the instructions supplied with the burner

7.4.5 Siphon maintenance - (Option)

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 is in danger of becoming blocked and the condensates will no longer be able to flow off and will fill the flue gas discharge pipe causing the boiler to malfunction.

7.4.6 Condensates neutralisation system - (Option)

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

The neutralisation station must be checked at least 1 time per year.

The effectiveness of aggregrate neutralisation can be checked by verifying the pH of the neutralised condensates at the appliance outlet (using litmus paper).

If the pH is less than 6.5, the neutralisation station must be cleaned and the aggregate replaced. The latter is not harmful to the environment and can be disposed of with household waste without any risk.

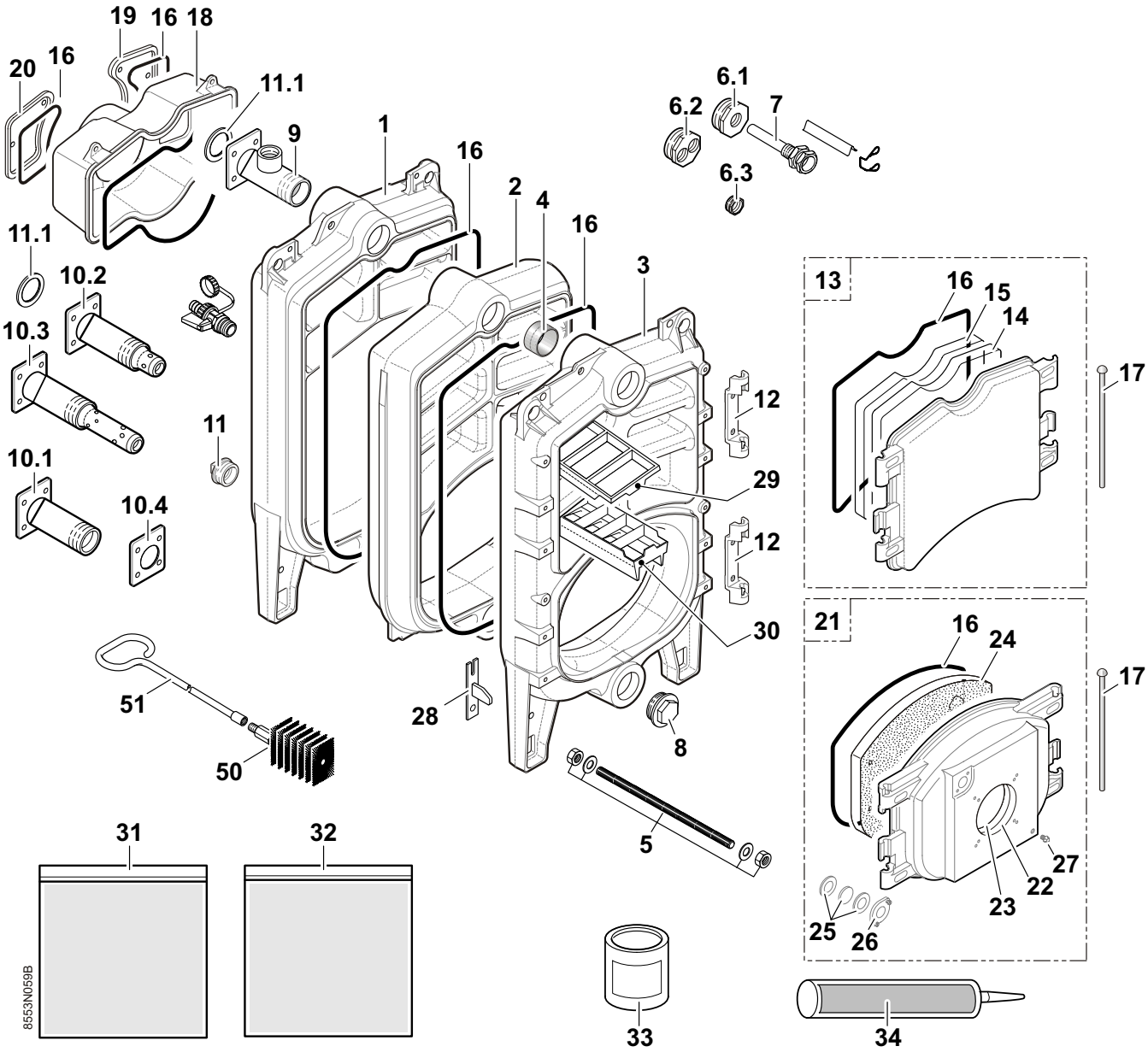
Granule and activated carbon refill kits are available - Package MD226, Reference: 100012685.

8 Spare parts - GTU C 330

To order a spare part, quote the reference number next to the part required.

07/04/2009 - 300016152-002-B

Boiler body



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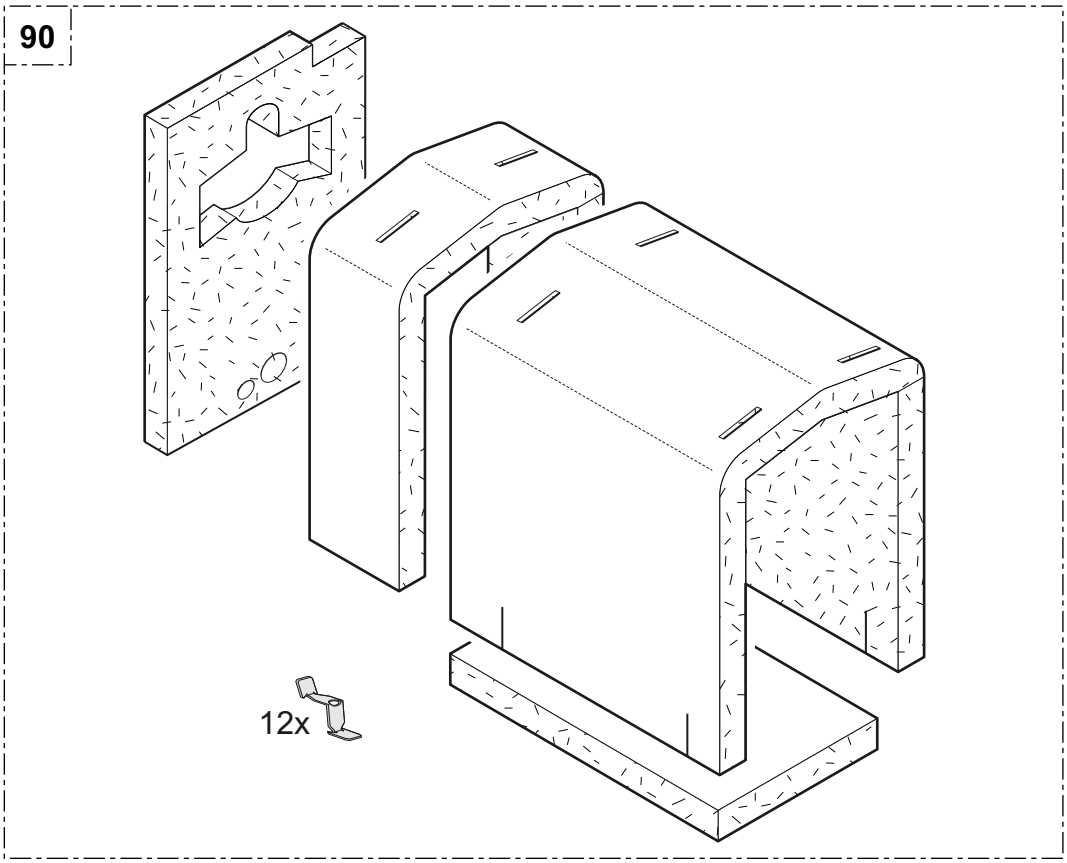
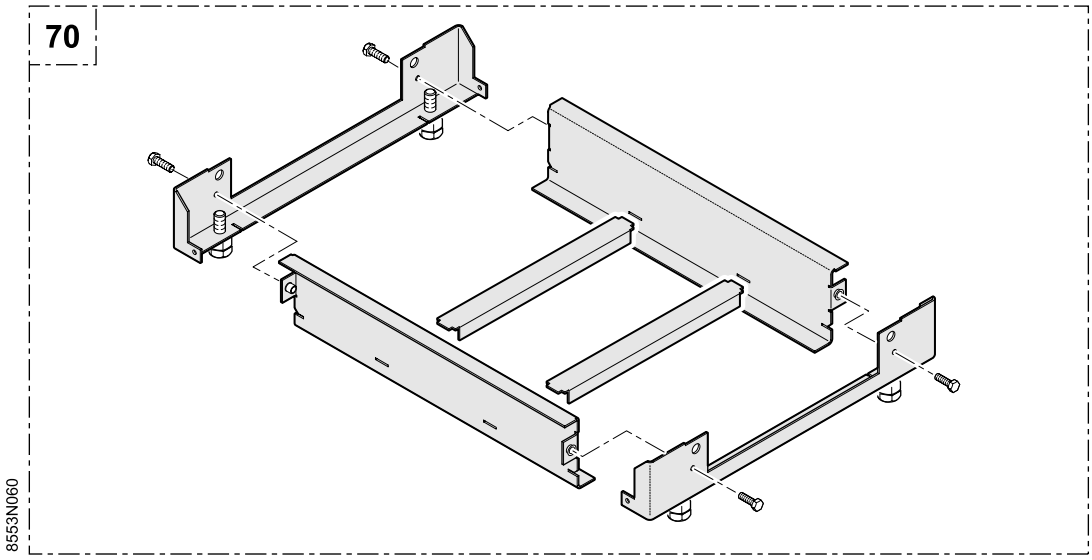
cpr@dedietrichthermique.com

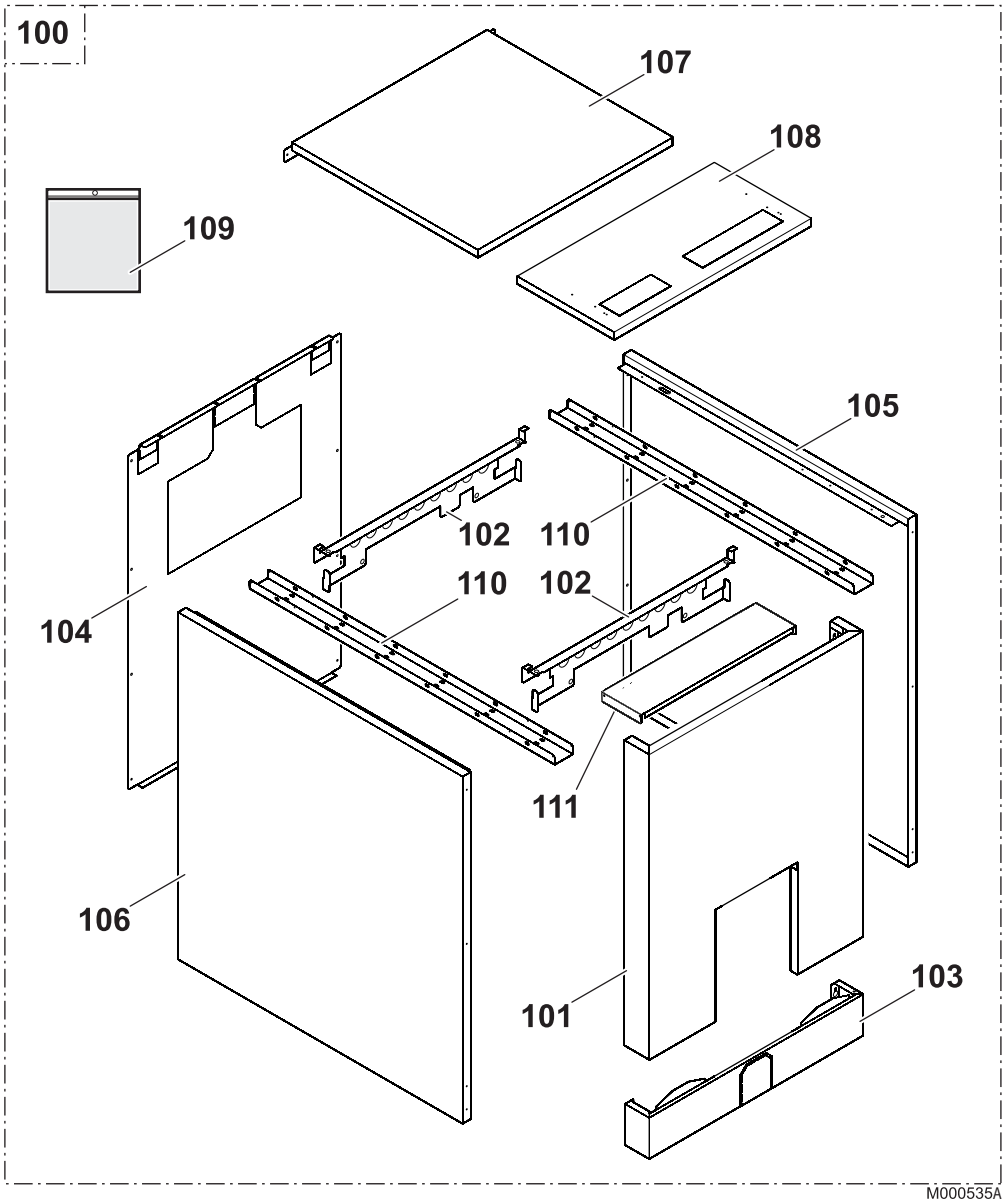
Insulation



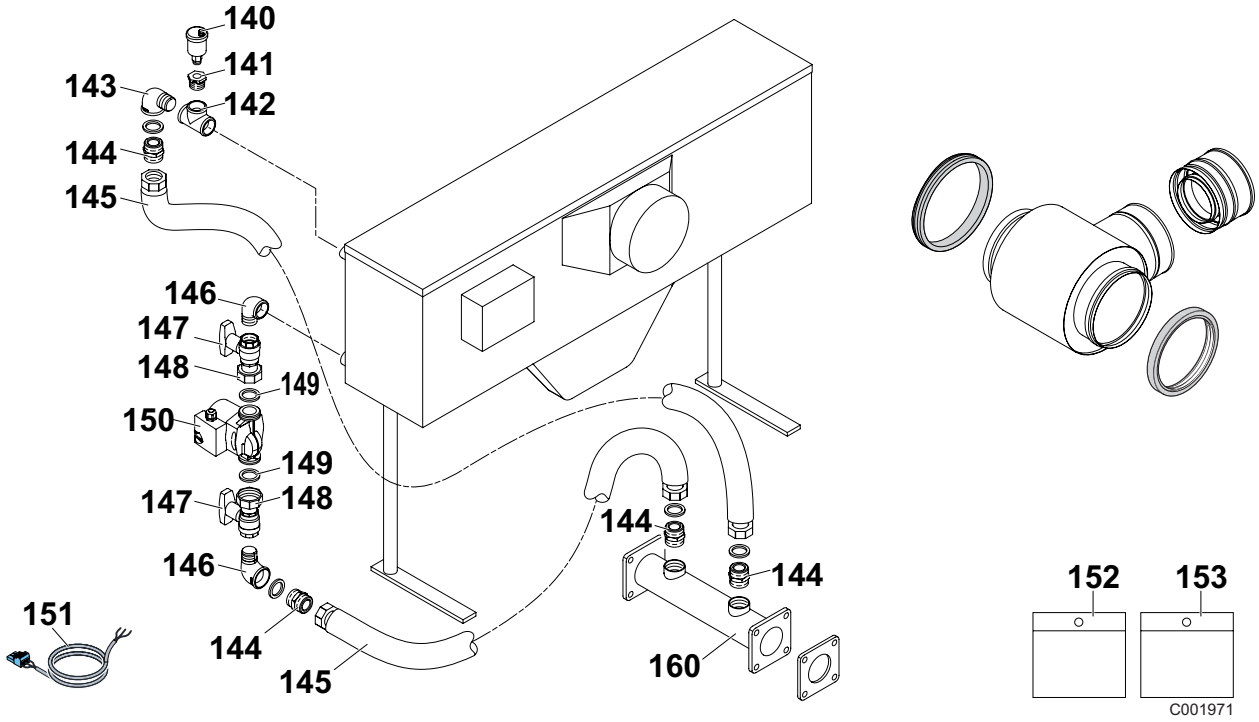
Base frame



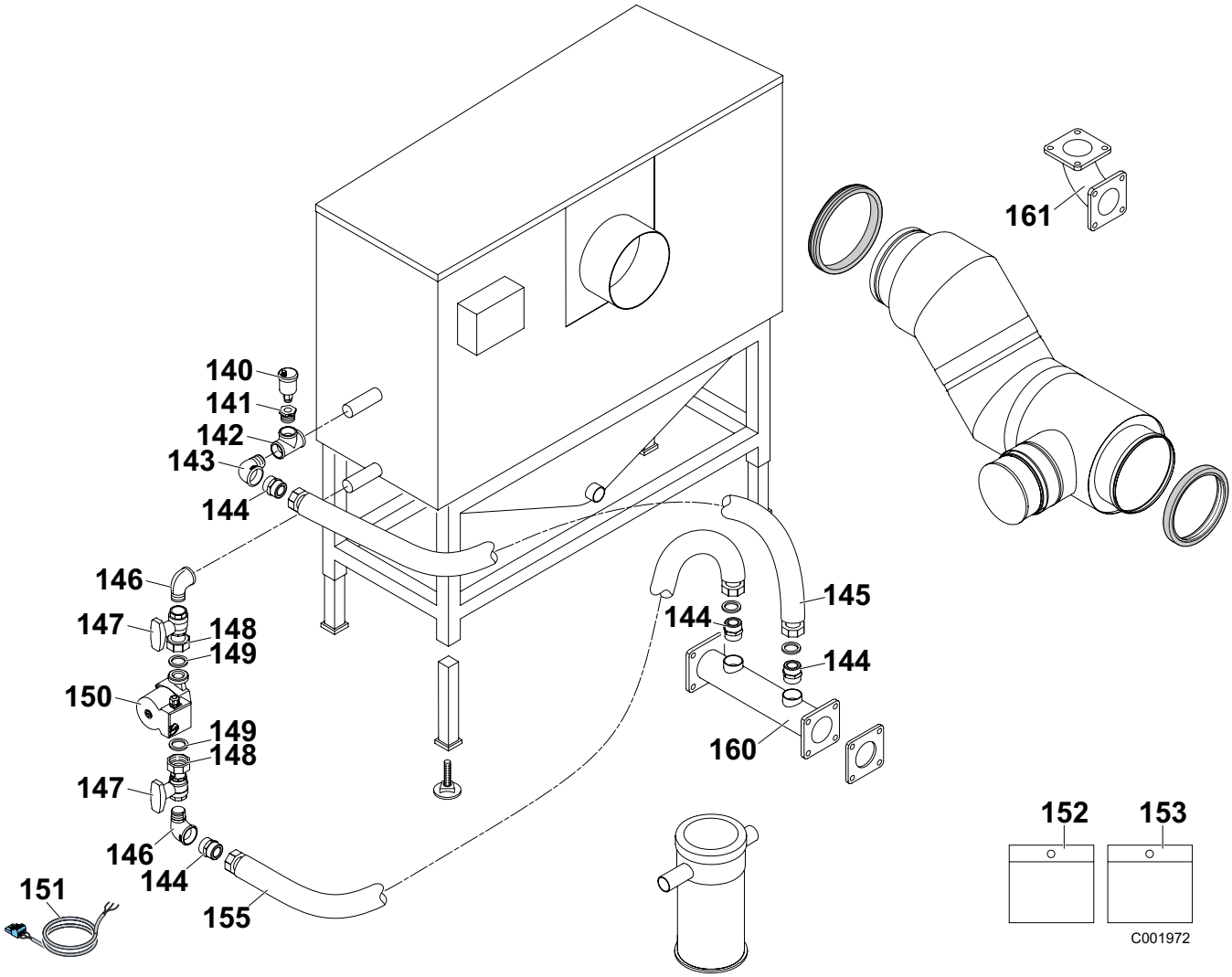
Casing (Boiler)



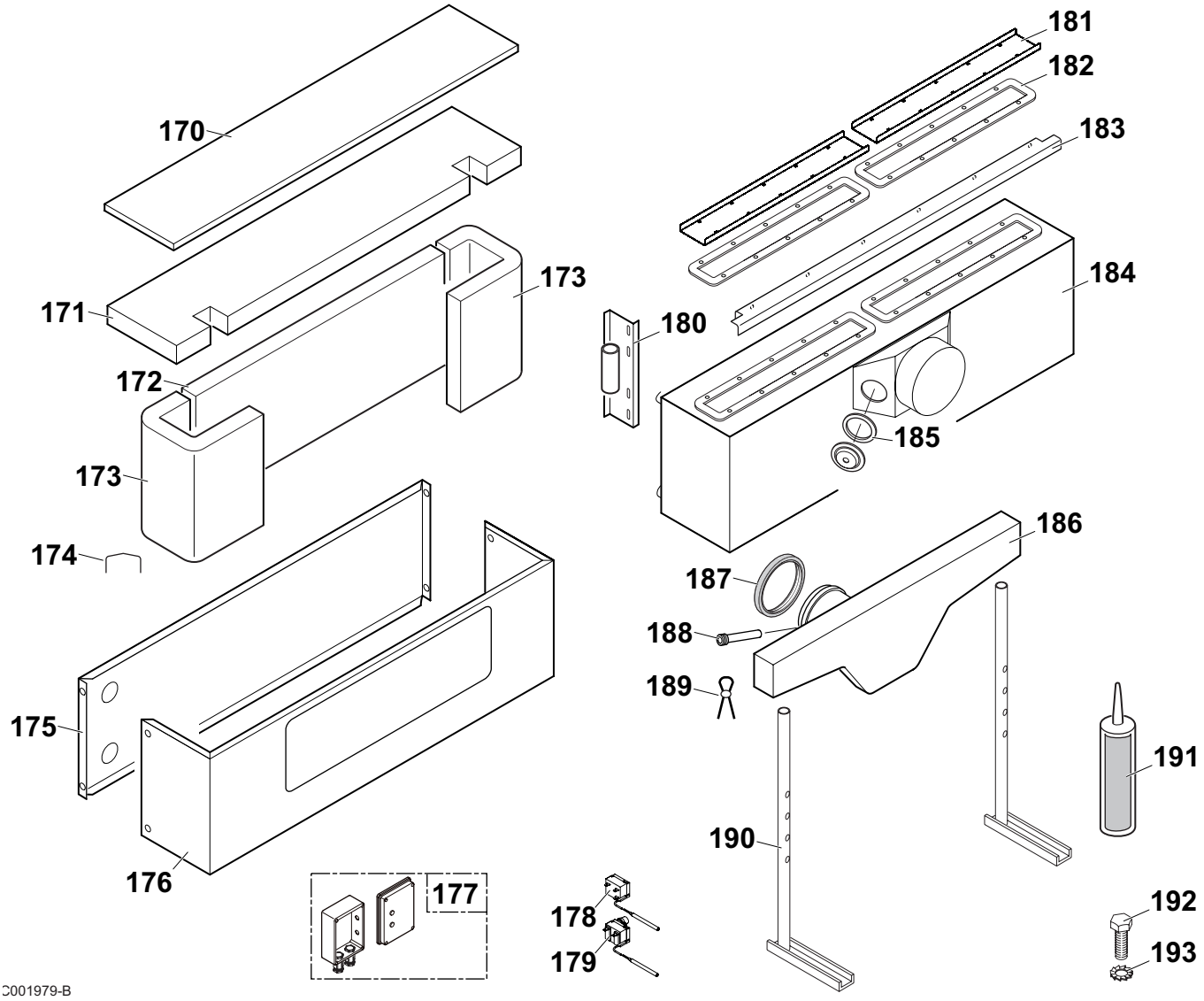
Boiler / condenser hydraulic connecting kit - RCF301



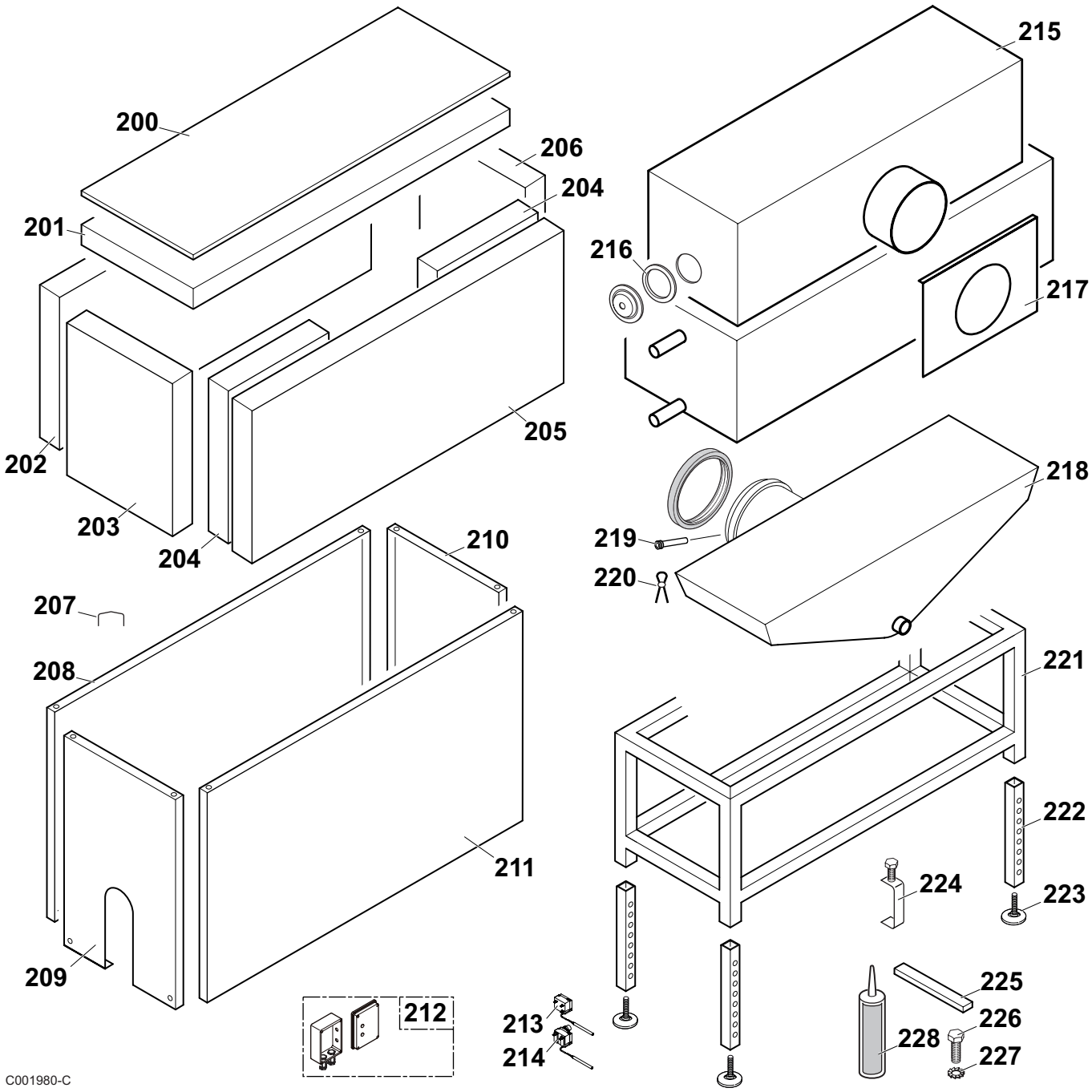
Boiler / condenser hydraulic connecting kit - RCF302



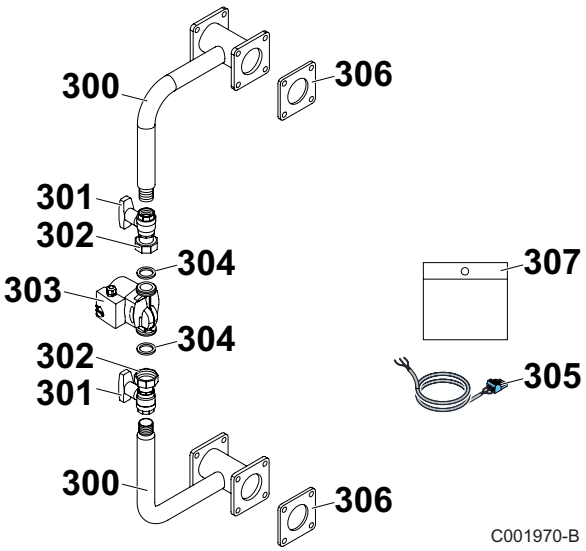
Condenser RCF301



Condenser RCF302



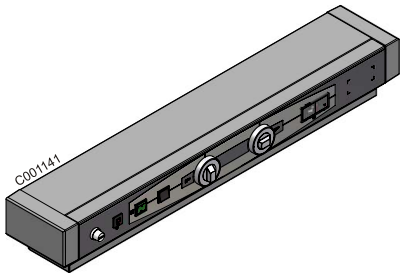
Recycling kit - MD218 (Option)



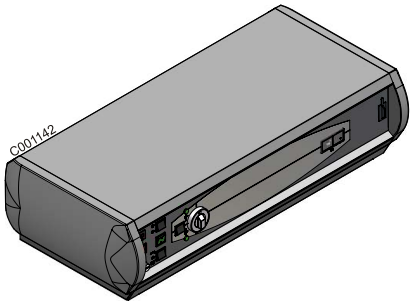
Control panels

Refer to the Spare Parts list in the panel instructions

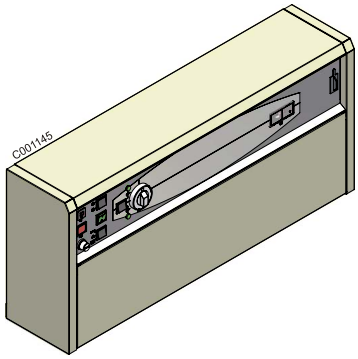
Control panel S3 - Package MD4



Control panel K3

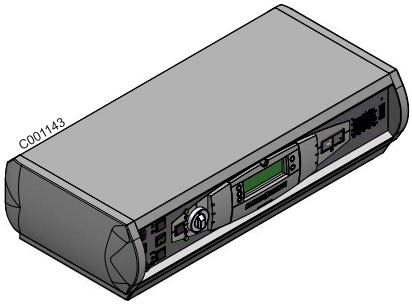


Separate panel - Package **MD2**

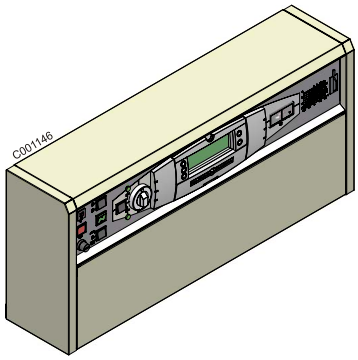


Side panel - Package **MD139**

Control panel DIEMATIC-m3

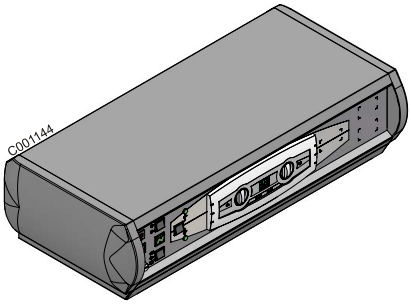


Separate panel - Package **MD1**

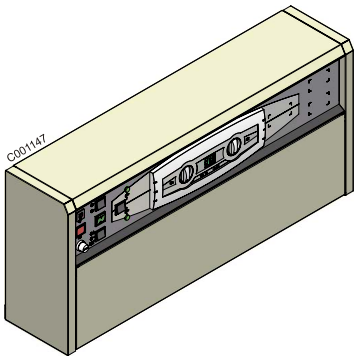


Side panel - Package **MD138**

Control panel B3



Separate panel - Package **MD3**



Side panel - Package **MD140**

Markers	Code no.	Description
		Boiler body
1	82198912	Complete rear section
2	8219-8966	Special intermediate section
3	8219-8976	Complete front section
4	8116-0571	Nipple
5	8219-8968	Complete assembly rod, 4 sections
5	8219-8969	Complete assembly rod, 5 sections
5	8219-8970	Complete assembly rod, 6 sections
5	8219-8971	Complete assembly rod, 7 sections
5	8219-8972	Complete assembly rod, 8 sections
5	8219-8973	Complete assembly rod, 9 sections
6.1	8202-0028	Plug 2 1/2" - 1/2"
6.2	8209-0049	Plug 2 1/2" - 1/2" - NL
6.3	94948080	Nipple N 241 - 1/2"x1/4"
7	9536-5611	Rp 1/2 sensor tube
8	8013-0028	Plug 2 1/2" - 1/2"
9	8553-5513	Flow flange, 4 to 9 sections
10.1	8553-5514	Return flange, 4 to 5 sections
10.2	8553-5515	Return flange + distribution pipe, 6 to 8 sections
10.3	8553-5516	Return flange + distribution pipe, 9 sections
10.4	9754-9178	Counter flange
11	9495-0249	Male plug 290 T9 - R 1 1/2
11.1	9501-4122	Flange gasket
12	8104-8984	Hinge
13	8219-8916	Sweeping door
14	9425-0306	Inner protection, sweeping door
15	9425-0305	Insulation, sweeping door
16	9508-6032	10 Ø thermocord gasket
17	9756-0203	Pin Ø 12x350
18	8219-8913	Ø 180 complete nozzle
18	8219-8914	Ø 200 complete nozzle
19	8219-0206	Right hand nozzle cover
20	8219-0207	Left hand nozzle cover
21	8219-8953	Complete combustion chamber door, ø 135
22	9425-0303	Internal protection, combustion chamber door
23	9425-0302	Furnace door guard
24	9425-0301	Furnace door insulation
25	8015-7700	Sight glass + gaskets
26	9757-0027	Inspection flange
27	9495-0050	Plug 1/4"
28	8219-0539	Guide rail for combustion chamber door
29	8219-0017	Upper baffle plate, 410

Markers	Code no.	Description
29	8219-0018	Upper baffle plate, 570
30	8219-0019	Lower baffle plate, 412
30	8219-0020	Lower baffle plate, 572
31	8219-7724	Body screws packet
32	8219-8957	Bag of screws for furnace door
33	9430-5027	0.3 kg can nipple lubricant
34	9428-5095	Mastic Novasil S 17
		Miscellaneous
50	9750-5025	Brush
51	9750-5076	1000 mm brush rod
51	9750-5060	1300 mm brush rod
		Base frame
70	8553-7060	Complete frame 4 sections Package FD 30
70	8553-7061	Complete frame 5 sections Package FD 31
70	8553-7062	Complete frame 6 sections Package FD 32
70	8553-7063	Complete frame 7 sections Package FD 33
70	8553-7064	Complete frame 8 sections Package FD 34
70	8553-7065	Complete frame 9 sections Package FD 35
		Insulation
90	8553-5507	Complete boiler body insulation, 4 sections
90	8553-5008	Complete boiler body insulation, 5 sections
90	8553-5509	Complete boiler body insulation, 6 sections
90	8553-5510	Complete boiler body insulation, 7 sections
90	8553-5511	Complete boiler body insulation, 8 sections
90	8953-5512	Complete boiler body insulation, 9 sections
		Casing
100	200005572	GT 334 casing
100	200005573	GT 335 casing
100	200005574	GT 336 casing
100	200005575	GT 337 casing
100	200005576	GT 338 casing
100	200005577	GT 339 casing

Markers	Code no.	Description
101	200005570	Front panel
102	200004840	Upper crosspiece
103	200005571	Lower cap
104	200005032	Complete rear panel
105	200005033	Complete side panel right, 4 sections
105	200005034	Complete side panel right, 5 sections
105	200005035	Complete side panel right, 6 sections
105	200005036	Complete side panel right, 7 sections
105	200005037	Complete side panel right, 8 sections
105	200005038	Complete side panel right, 9 sections
106	200005039	Complete side panel left, 4 sections
106	200005040	Complete side panel left, 5 sections
106	200005041	Complete side panel left, 6 sections
106	200005042	Complete side panel left, 7 sections
106	200005043	Complete side panel left, 8 sections
106	200005044	Complete side panel left, 9 sections
107	200004830	Complete rear cover, 4 sections
107	200004831	Complete rear cover, 5 sections
107	200004832	Complete rear cover, 6 sections
107	200004833	Complete rear cover, 7 sections
107	200004834	Complete rear cover, 8 sections
107	200004835	Complete rear cover, 9 sections
108	200005045	Complete front cover
109	200005046	Screw bag
		Cable channel
110	200004849	4-section cable way
110	200004850	5-section cable way
110	200004851	6-section cable way
110	200004852	7-section cable way
110	200004853	8-section cable way
110	200004854	9-section cable way
111	200004841	Cable protection
		Control panel
112	OP100004299	Standard panel - S3
112	OP100004298	Panel B3 - MD3
112	OP100004296	Panel K3 - MD2
112	OP100004295	Panel DIEMATIC-M3
		Boiler / condenser hydraulic connecting kit - MD171 / MD172
140	8500-0023	Air vent OVENT. 1088303 - 3/8"
141	9494-8212	Nipple 1" X 3/8"
142	9492-6120	Tee 1"

Markers	Code no.	Description
143	9492-0297	Elbow 1"
144	300017340	Fittings - G 1"1/4"- R 1"1/4"
145	300006519	Pipe 1"1/4 - lg 1200 - MD171 / MD172
146	9492-2623	Elbow N92 1"1/4 X 1"
147	300015464	Valve 1" - 1"
148	9495-2084	N374 1" X 1"1/2 nut
149	9755-0181	Gasket 44X32X3
150	300003268	Circulator UPS 25-70 130
151	200013851	Pump cable
152	200013375	Screw bag
153	200013374	Seal bag
155	300017728	Pipe 1"1/4 - lg 1500 - MD172
160	300016716	Condenser return pipe RCF301 / RCF302
161	300016718	Connecting elbow - MD172
		Condenser RCF301
170	300018182	Cover 1024-32
171	300018174	Upper insulation 1024-32 II
172	300018175	Rear insulation 1024-32 II
173	300018173	Insulating material for body 1024-32 II
174	300018206	Attachment clip - Insulation
175	300018180	Front panel 1024-32
176	300018183	Rear panel
177	300018236	Condenser safety control box
178	300018238	80°C limiter thermostat
179	300018237	Flue gas thermostat , 120 °C
180	300018207	Fastening piece 524-32 / 1024-32
181	300018077	Square gasket support
182	300018076	Inspection hatch seal
183	300018205	Terminal block 1024-32
184	300018235	Base module 1024-32
185	300018075	Round hatch gasket
186	300018184	Condensates tank 1024-32
187	300018074	Seal, condensates collector 1024/32
188	300018209	Sensor tube D6.5X95 mm
189	300018230	Solder
190	300018181	Adjustable foot
191	300012077	Tube of silicone graphite mastic
192	300018170	Screw D.4,2 X 13
193	300018078	Serrated washer D 5,3
		Condenser RCF302
200	300018200	Top protection 1064
201	300018179	Cover insulation 1064
202	300018176	Insulation 990x280x50 (glass fibre)

Markers	Code no.	Description
203	300018171	Distributor insulation 1064A
204	300018177	Insulation 350x250x50 (glass fibre)
205	300018178	Insulation 1150x350x50 (glass fibre)
206	300018172	Distributor insulation 1064 U
207	300018206	Attachment clip - Insulation
208	300018188	Back protection 1064
209	300018186	Side protection (oblong hole)
210	300018185	Side protection
211	300018187	Front protection 1064
212	300018236	Condenser safety control box
213	300018238	80°C limiter thermostat
214	300018237	Flue gas thermostat , 120 °C
215	300018234	Base module 1064
216	300018075	Inspection hatch seal
217	300018189	Nozzle protection
218	300018204	Condensates tank 1064
219	300018209	Sensor tube D6.5X95 mm
220	300018230	Solder
221	300018201	Base frame 1064
222	300018231	Supporting frame 32
222	300018203	Foot - 450
222	300018232	Adjustable foot - Black - 615
223	300018208	Adjustable foot M12X35
224	300018233	Black mounting
225	300018072	adhesive gasket 5 X 15
226	300018170	Screw D.4,2 X 13
227	300018078	Serrated washer D 5,3
228	300012077	Tube of silicone graphite mastic
		Boiler flue gas system / condenser connection pipe RCF301 - Package MD173
		Boiler flue gas system / condenser connection pipe RCF302 - Package MD174
		Recycling kit (Option) - MD218
300	300017390	Flange - Recycling kit
301	300015464	Valve 1" - 1"
302	9495-2084	N374 1" nut
303	300003268	Circulator UPS 25-70 130
304	9755-0181	Gasket 44X32X3
305	200013851	Pump cable
306	95014122	Neoprene gasket 116X70X4
307	200013375	Screw bag

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